

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000000	CohdaWir_20:1d:4a	Broadcast	GeoNetworking	216	Beacon

Frame 1: 216 bytes on wire (1728 bits), 216 bytes captured (1728 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:50:43.465110529 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426643.465110529 seconds
[Time delta from previous captured frame: 0.000000000 seconds]
[Time delta from previous displayed frame: 0.000000000 seconds]
[Time since reference or first frame: 0.000000000 seconds]
Frame Number: 1
Frame Length: 216 bytes (1728 bits)
Capture Length: 216 bytes (1728 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 202
Identification: 0xf79b (63387)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0xad21 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 182
Checksum: 0xde4d [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 0.000000000 seconds]
[Time since previous frame: 0.000000000 seconds]
TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 1
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e548003800020082004a130000...
MKxIFMsg: 020082004a13000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=130, Seq=4938, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 130
Seq: 4938
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff008062faffff8f05026cded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-32768, FreqOffset=-1438, TSF=0x0005d4de6c02058f, FrameLength=0074, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -32768
FreqOffset: -1438
TSF: 0x0005d4de6c02058f
FrameLength: 74
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0000 1100 1000 .... = Sequence number: 200
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ....0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ....0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (Beacon)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
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```
Lifetime 60000 ms
  1111 00.. = Multiplier: 60
  .... ..01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0000 .... = Next Header: Any (0)
  .... 0000 = Reserved: 0
  0001 .... = Header Type: Beacon (1)
  .... 0000 = Header Subtype: Unspecified (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 0
Maximum Hop Limit: 1
Reserved: 0
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... ..00 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Timestamp: 1575764.727s (1575764727)
Latitude: 48.7871591 (48°47'13.77"N) (487871591)
Longitude: 9.2112273 (09°12'40.42"E) (92112273)
1... .... = PAI: 1
.000 0000 0000 1000 = Speed: 0x0008 (0.08 m/s) (0.29 km/h) (8)
Heading: 0.0° (0)
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No.	Time	Source	Destination	Protocol	Length	Info
2	3.500324674	CohdaWir_20:1d:4a	Broadcast	GeoNetworking	216	Beacon

Frame 2: 216 bytes on wire (1728 bits), 216 bytes captured (1728 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:50:46.965435203 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426646.965435203 seconds
[Time delta from previous captured frame: 3.500324674 seconds]
[Time delta from previous displayed frame: 3.500324674 seconds]
[Time since reference or first frame: 3.500324674 seconds]
Frame Number: 2
Frame Length: 216 bytes (1728 bits)
Capture Length: 216 bytes (1728 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 202
Identification: 0xf85c (63580)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0xac60 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 182
Checksum: 0x9660 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 3.500324674 seconds]
[Time since previous frame: 3.500324674 seconds]
TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 2
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200820091130000...
MKxIFMsg: 020082009113000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=130, Seq=5009, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 130
Seq: 5009
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff3aff83afffffb66f376cded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-198, FreqOffset=-1405, TSF=0x0005d4de6c376fb6, FrameLength=0074, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -198
FreqOffset: -1405
TSF: 0x0005d4de6c376fb6
FrameLength: 74
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0000 1100 1001 .... = Sequence number: 201
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (Beacon)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 60000 ms
  1111 00.. = Multiplier: 60
  .... ..01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0000 .... = Next Header: Any (0)
  .... 0000 = Reserved: 0
  0001 .... = Header Type: Beacon (1)
  .... 0000 = Header Subtype: Unspecified (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 0
Maximum Hop Limit: 1
Reserved: 0
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... ..00 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Timestamp: 1575767.727s (1575767727)
Latitude: 48.7871581 (48°47'13.77"N) (487871581)
Longitude: 9.2112243 (09°12'40.41"E) (92112243)
1... .... = PAI: 1
.000 0000 0000 0110 = Speed: 0x0006 (0.06 m/s) (0.22 km/h) (6)
Heading: 0.0° (0)
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No.	Time	Source	Destination	Protocol	Length	Info
3	6.820249713	CohdaWir_20:1d:4a	Broadcast	GeoNetworking	216	Beacon

Frame 3: 216 bytes on wire (1728 bits), 216 bytes captured (1728 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:50:50.285360242 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426650.285360242 seconds
[Time delta from previous captured frame: 3.319925039 seconds]
[Time delta from previous displayed frame: 3.319925039 seconds]
[Time since reference or first frame: 6.820249713 seconds]
Frame Number: 3
Frame Length: 216 bytes (1728 bits)
Capture Length: 216 bytes (1728 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 202
Identification: 0xf87a (63610)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
..1. = Don't fragment: Set
...0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0xac42 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 182
Checksum: 0x84d8 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 6.820249713 seconds]
[Time since previous frame: 3.319925039 seconds]
TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 3
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002008200d4130000...
MKxIFMsg: 02008200d413000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=130, Seq=5076, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 130
Seq: 5076
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff3affa5faffffe61a6a6cded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-198, FreqOffset=-1371, TSF=0x0005d4de6c6a1ae6, FrameLength=0074, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -198
FreqOffset: -1371
TSF: 0x0005d4de6c6a1ae6
FrameLength: 74
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0000 1100 1010 .... = Sequence number: 202
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (Beacon)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```



```
Lifetime 60000 ms
  1111 00.. = Multiplier: 60
  .... ..01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0000 .... = Next Header: Any (0)
  .... 0000 = Reserved: 0
  0001 .... = Header Type: Beacon (1)
  .... 0000 = Header Subtype: Unspecified (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 0
Maximum Hop Limit: 1
Reserved: 0
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... ..00 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Timestamp: 1575771.727s (1575771727)
Latitude: 48.7871575 (48°47'13.77"N) (487871575)
Longitude: 9.2112195 (09°12'40.39"E) (92112195)
1... .... = PAI: 1
.000 0000 0001 0110 = Speed: 0x0016 (0.22 m/s) (0.79 km/h) (22)
Heading: 0.0° (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
4	10.020299748	CohdaWir_20:1d:4a	Broadcast	GeoNetworking	216	Beacon

Frame 4: 216 bytes on wire (1728 bits), 216 bytes captured (1728 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:50:53.485410277 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426653.485410277 seconds
[Time delta from previous captured frame: 3.200050035 seconds]
[Time delta from previous displayed frame: 3.200050035 seconds]
[Time since reference or first frame: 10.020299748 seconds]
Frame Number: 4
Frame Length: 216 bytes (1728 bits)
Capture Length: 216 bytes (1728 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ...0 = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ...0 = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 202
Identification: 0xf9b3 (63923)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0xab09 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 182
Checksum: 0xad91 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 10.020299748 seconds]
[Time since previous frame: 3.200050035 seconds]
TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 4
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -46
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200820015140000...
MKxIFMsg: 020082001514000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=130, Seq=5141, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 130
    Seq: 5141
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a4ffa0ff3aff3affd0faaffffceec9a6cded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-092, PowerB=-096,
NoiseA=-198, NoiseB=-198, FreqOffset=-1328, TSF=0x0005d4de6c9aecce, FrameLength=0074, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -92
    RxPowerB: -96
    RxNoiseA: -198
    RxNoiseB: -198
    FreqOffset: -1328
    TSF: 0x0005d4de6c9aecce
    FrameLength: 74
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0000 1100 1011 .... = Sequence number: 203
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. .011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (Beacon)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 60000 ms
  1111 00.. = Multiplier: 60
  .... ..01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0000 .... = Next Header: Any (0)
  .... 0000 = Reserved: 0
  0001 .... = Header Type: Beacon (1)
  .... 0000 = Header Subtype: Unspecified (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 0
Maximum Hop Limit: 1
Reserved: 0
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... ..00 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Timestamp: 1575774.727s (1575774727)
Latitude: 48.7871571 (48°47'13.77"N) (487871571)
Longitude: 9.2112166 (09°12'40.38"E) (92112166)
1... .... = PAI: 1
.000 0000 0000 1110 = Speed: 0x000e (0.14 m/s) (0.50 km/h) (14)
Heading: 0.0° (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
5	13.460322562	CohdaWir_20:1d:4a	Broadcast	GeoNetworking	216	Beacon

Frame 5: 216 bytes on wire (1728 bits), 216 bytes captured (1728 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:50:56.925433091 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426656.925433091 seconds
[Time delta from previous captured frame: 3.440022814 seconds]
[Time delta from previous displayed frame: 3.440022814 seconds]
[Time since reference or first frame: 13.460322562 seconds]
Frame Number: 5
Frame Length: 216 bytes (1728 bits)
Capture Length: 216 bytes (1728 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 202
Identification: 0xfaa6 (64166)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0xaa16 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 182
Checksum: 0xd3bd [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 13.460322562 seconds]
[Time since previous frame: 3.440022814 seconds]
TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 5
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e548003800020082005b140000...
MKxIFMsg: 020082005b14000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=130, Seq=5211, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 130
    Seq: 5211
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ffb3faffffff870cf6cded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1357, TSF=0x0005d4de6ccf70f8, FrameLength=0074, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1357
    TSF: 0x0005d4de6ccf70f8
    FrameLength: 74
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
        .... ..00 = Version: 0
        .... 10.. = Type: Data frame (2)
        1000 .... = Subtype: 8
        Flags: 0x00
            .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
            .... .0.. = More Fragments: This is the last fragment
            .... 0... = Retry: Frame is not being retransmitted
            ...0 .... = PWR MGT: STA will stay up
            ..0. .... = More Data: No data buffered
            .0.. .... = Protected flag: Data is not protected
            0... .... = Order flag: Not strictly ordered
        .000 0000 0000 0000 = Duration: 0 microseconds
        Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
        Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
        Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
        .... .... 0000 = Fragment number: 0
        0000 1100 1100 .... = Sequence number: 204
        Qos Control: 0x0023
            .... .... 0011 = TID: 3
            [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
            .... .... .0 .... = EOSP: Service period
            .... .... .01. .... = Ack Policy: No Ack (0x1)
            .... .... 0... .... = Payload Type: MSDU
            0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
        000. 00.. = Command: Unnumbered Information (0x00)
        .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (Beacon)
    Basic Header
        0001 .... = Version: 1
        .... 0001 = Next Header: Common (1)
        Reserved: 0

```

```
Lifetime 60000 ms
  1111 00.. = Multiplier: 60
  .... ..01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0000 .... = Next Header: Any (0)
  .... 0000 = Reserved: 0
  0001 .... = Header Type: Beacon (1)
  .... 0000 = Header Subtype: Unspecified (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 0
Maximum Hop Limit: 1
Reserved: 0
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... ..00 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Timestamp: 1575777.727s (1575777727)
Latitude: 48.7871566 (48°47'13.76"N) (487871566)
Longitude: 9.2112100 (09°12'40.36"E) (92112100)
1... .... = PAI: 1
.000 0000 0000 1000 = Speed: 0x0008 (0.08 m/s) (0.29 km/h) (8)
Heading: 0.0° (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
6	16.540424983	CohdaWir_20:1d:4a	Broadcast	GeoNetworking	216	Beacon

Frame 6: 216 bytes on wire (1728 bits), 216 bytes captured (1728 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:00.005535512 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426660.005535512 seconds
[Time delta from previous captured frame: 3.080102421 seconds]
[Time delta from previous displayed frame: 3.080102421 seconds]
[Time since reference or first frame: 16.540424983 seconds]
Frame Number: 6
Frame Length: 216 bytes (1728 bits)
Capture Length: 216 bytes (1728 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 202
Identification: 0xfb70 (64368)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
..1. = Don't fragment: Set
...0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0xa94c [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 182
Checksum: 0x2fbb [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 16.540424983 seconds]
[Time since previous frame: 3.080102421 seconds]
TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 6
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)


```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200820099140000...
MKxIFMsg: 020082009914000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=130, Seq=5273, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 130
    Seq: 5273
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff3aff34ff40faffff256afe6cded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-198, NoiseB=-204, FreqOffset=-1472, TSF=0x0005d4de6cfe6a25, FrameLength=0074, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -198
    RxNoiseB: -204
    FreqOffset: -1472
    TSF: 0x0005d4de6cfe6a25
    FrameLength: 74
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0000 1100 1101 .... = Sequence number: 205
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. .011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (Beacon)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 60000 ms
  1111 00.. = Multiplier: 60
  .... ..01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0000 .... = Next Header: Any (0)
  .... 0000 = Reserved: 0
  0001 .... = Header Type: Beacon (1)
  .... 0000 = Header Subtype: Unspecified (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 0
Maximum Hop Limit: 1
Reserved: 0
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... ..00 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Timestamp: 1575780.727s (1575780727)
Latitude: 48.7871556 (48°47'13.76"N) (487871556)
Longitude: 9.2112067 (09°12'40.34"E) (92112067)
1... .... = PAI: 1
.000 0000 0001 0010 = Speed: 0x0012 (0.18 m/s) (0.65 km/h) (18)
Heading: 0.0° (0)
```



```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002008200e1140000...
MKxIFMsg: 02008200e114000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=130, Seq=5345, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 130
    Seq: 5345
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff6fff9ffffca8f346dded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1681, TSF=0x0005d4de6d348fca, FrameLength=0074, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1681
    TSF: 0x0005d4de6d348fca
    FrameLength: 74
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
        .... ..00 = Version: 0
        .... 10.. = Type: Data frame (2)
        1000 .... = Subtype: 8
        Flags: 0x00
            .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
            .... .0.. = More Fragments: This is the last fragment
            .... 0... = Retry: Frame is not being retransmitted
            ...0 .... = PWR MGT: STA will stay up
            ..0. .... = More Data: No data buffered
            .0.. .... = Protected flag: Data is not protected
            0... .... = Order flag: Not strictly ordered
        .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0000 1100 1110 .... = Sequence number: 206
    Qos Control: 0x0023
        .... .... 0011 = TID: 3
        [... .. .011 = Priority: Excellent Effort (Best Effort) (3)]
        .... .... .0 .... = EOSP: Service period
        .... .... .01. .... = Ack Policy: No Ack (0x1)
        .... .... 0... .... = Payload Type: MSDU
        0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
        000. 00.. = Command: Unnumbered Information (0x00)
        .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (Beacon)
    Basic Header
        0001 .... = Version: 1
        .... 0001 = Next Header: Common (1)
        Reserved: 0

```

```
Lifetime 60000 ms
  1111 00.. = Multiplier: 60
  .... ..01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0000 .... = Next Header: Any (0)
  .... 0000 = Reserved: 0
  0001 .... = Header Type: Beacon (1)
  .... 0000 = Header Subtype: Unspecified (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 0
Maximum Hop Limit: 1
Reserved: 0
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... ..00 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Timestamp: 1575784.727s (1575784727)
Latitude: 48.7871545 (48°47'13.76"N) (487871545)
Longitude: 9.2111962 (09°12'40.31"E) (92111962)
1... .... = PAI: 1
.000 0000 0000 1000 = Speed: 0x0008 (0.08 m/s) (0.29 km/h) (8)
Heading: 0.0° (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
8	23.670277026	CohdaWir_20:1d:4a	Broadcast	GeoNetworking	216	Beacon

Frame 8: 216 bytes on wire (1728 bits), 216 bytes captured (1728 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:07.135387555 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426667.135387555 seconds
[Time delta from previous captured frame: 3.579930026 seconds]
[Time delta from previous displayed frame: 3.579930026 seconds]
[Time since reference or first frame: 23.670277026 seconds]
Frame Number: 8
Frame Length: 216 bytes (1728 bits)
Capture Length: 216 bytes (1728 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 202
Identification: 0xfb7 (64503)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
..1. = Don't fragment: Set
...0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0xa8c5 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 182
Checksum: 0x27aa [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 23.670277026 seconds]
[Time since previous frame: 3.579930026 seconds]
TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 8
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e548003800020082002a150000...
MKxIFMsg: 020082002a15000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=130, Seq=5418, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 130
Seq: 5418
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ffd0faffffac296b6dded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1328, TSF=0x0005d4de6d6b29ac, FrameLength=0074, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -204
FreqOffset: -1328
TSF: 0x0005d4de6d6b29ac
FrameLength: 74
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0000 1100 1111 .... = Sequence number: 207
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (Beacon)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 60000 ms
  1111 00.. = Multiplier: 60
  .... ..01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
0000 .... = Next Header: Any (0)
.... 0000 = Reserved: 0
0001 .... = Header Type: Beacon (1)
.... 0000 = Header Subtype: Unspecified (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 0
Maximum Hop Limit: 1
Reserved: 0
Source Position Vector
GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... ..00 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Timestamp: 1575788.727s (1575788727)
Latitude: 48.7871542 (48°47'13.76"N) (487871542)
Longitude: 9.2111851 (09°12'40.27"E) (92111851)
1... .... = PAI: 1
.000 0000 0000 1000 = Speed: 0x0008 (0.08 m/s) (0.29 km/h) (8)
Heading: 0.0° (0)
```


No.	Time	Source	Destination	Protocol	Length	Info
9	27.320227986	CohdaWir_20:1d:4a	Broadcast	GeoNetworking	216	Beacon

Frame 9: 216 bytes on wire (1728 bits), 216 bytes captured (1728 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:10.785338515 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426670.785338515 seconds
[Time delta from previous captured frame: 3.649950960 seconds]
[Time delta from previous displayed frame: 3.649950960 seconds]
[Time since reference or first frame: 27.320227986 seconds]
Frame Number: 9
Frame Length: 216 bytes (1728 bits)
Capture Length: 216 bytes (1728 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 202
Identification: 0xfcf9 (64761)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0xa7c3 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 182
Checksum: 0xae6 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 27.320227986 seconds]
[Time since previous frame: 3.649950960 seconds]
TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 9
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200820074150000...
MKxIFMsg: 020082007415000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=130, Seq=5492, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 130
    Seq: 5492
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ffd9faffff68f9a26dded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1319, TSF=0x0005d4de6da2f968, FrameLength=0074, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1319
    TSF: 0x0005d4de6da2f968
    FrameLength: 74
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0000 1101 0000 .... = Sequence number: 208
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. .011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (Beacon)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 60000 ms
  1111 00.. = Multiplier: 60
  .... ..01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0000 .... = Next Header: Any (0)
  .... 0000 = Reserved: 0
  0001 .... = Header Type: Beacon (1)
  .... 0000 = Header Subtype: Unspecified (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 0
Maximum Hop Limit: 1
Reserved: 0
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... ..00 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Timestamp: 1575791.727s (1575791727)
Latitude: 48.7871546 (48°47'13.76"N) (487871546)
Longitude: 9.2111809 (09°12'40.25"E) (92111809)
1... .... = PAI: 1
.000 0000 0000 0100 = Speed: 0x0004 (0.04 m/s) (0.14 km/h) (4)
Heading: 0.0° (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
10	30.440391045	CohdaWir_20:1d:4a	Broadcast	GeoNetworking	216	Beacon

Frame 10: 216 bytes on wire (1728 bits), 216 bytes captured (1728 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:13.905501574 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426673.905501574 seconds
[Time delta from previous captured frame: 3.120163059 seconds]
[Time delta from previous displayed frame: 3.120163059 seconds]
[Time since reference or first frame: 30.440391045 seconds]
Frame Number: 10
Frame Length: 216 bytes (1728 bits)
Capture Length: 216 bytes (1728 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 202
Identification: 0xfe28 (65064)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
..1. = Don't fragment: Set
...0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0xa694 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 182
Checksum: 0x8180 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 30.440391045 seconds]
[Time since previous frame: 3.120163059 seconds]
TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 10
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002008200b3150000...
MKxIFMsg: 02008200b315000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=130, Seq=5555, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 130
Seq: 5555
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ffcdafafff6b83d26dded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1331, TSF=0x0005d4de6dd2836b, FrameLength=0074, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -204
FreqOffset: -1331
TSF: 0x0005d4de6dd2836b
FrameLength: 74
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0000 1101 0001 .... = Sequence number: 209
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (Beacon)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 60000 ms
  1111 00.. = Multiplier: 60
  .... ..01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0000 .... = Next Header: Any (0)
  .... 0000 = Reserved: 0
  0001 .... = Header Type: Beacon (1)
  .... 0000 = Header Subtype: Unspecified (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 0
Maximum Hop Limit: 1
Reserved: 0
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... ..00 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Timestamp: 1575794.727s (1575794727)
Latitude: 48.7871551 (48°47'13.76"N) (487871551)
Longitude: 9.2111789 (09°12'40.24"E) (92111789)
1... .... = PAI: 1
.000 0000 0000 1000 = Speed: 0x0008 (0.08 m/s) (0.29 km/h) (8)
Heading: 0.0° (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
11	33.550275589	CohdaWir_20:1d:4a	Broadcast	GeoNetworking	216	Beacon

Frame 11: 216 bytes on wire (1728 bits), 216 bytes captured (1728 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:17.015386118 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426677.015386118 seconds
[Time delta from previous captured frame: 3.109884544 seconds]
[Time delta from previous displayed frame: 3.109884544 seconds]
[Time since reference or first frame: 33.550275589 seconds]
Frame Number: 11
Frame Length: 216 bytes (1728 bits)
Capture Length: 216 bytes (1728 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 202
Identification: 0xfece (65230)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
..1. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0xa5ee [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 182
Checksum: 0x5ca6 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 33.550275589 seconds]
[Time since previous frame: 3.109884544 seconds]
TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 11
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002008200f3150000...
MKxIFMsg: 02008200f315000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=130, Seq=5619, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 130
    Seq: 5619
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff2cfbffffcf016eded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1236, TSF=0x0005d4de6e01ebcf, FrameLength=0074, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1236
    TSF: 0x0005d4de6e01ebcf
    FrameLength: 74
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0000 1101 0010 .... = Sequence number: 210
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. .011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (Beacon)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```



```
Lifetime 60000 ms
  1111 00.. = Multiplier: 60
  .... ..01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
0000 .... = Next Header: Any (0)
.... 0000 = Reserved: 0
0001 .... = Header Type: Beacon (1)
.... 0000 = Header Subtype: Unspecified (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 0
Maximum Hop Limit: 1
Reserved: 0
Source Position Vector
GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... ..00 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Timestamp: 1575797.727s (1575797727)
Latitude: 48.7871568 (48°47'13.76"N) (487871568)
Longitude: 9.2111798 (09°12'40.25"E) (92111798)
1... .... = PAI: 1
.000 0000 0000 1110 = Speed: 0x000e (0.14 m/s) (0.50 km/h) (14)
Heading: 0.0° (0)
```

```

No.      Time      Source      Destination      Protocol Length Info
 12 37.200344473  CohdaWir_20:1d:4a  Broadcast      GeoNetworking 216  Beacon
Frame 12: 216 bytes on wire (1728 bits), 216 bytes captured (1728 bits) on interface 0
  Interface id: 0 (enx00e04c6807aa)
    Interface name: enx00e04c6807aa
  Encapsulation type: Ethernet (1)
  Arrival Time: Jan  6, 2022 00:51:20.665455002 W. Europe Standard Time
  [Time shift for this packet: 0.000000000 seconds]
  Epoch Time: 1641426680.665455002 seconds
  [Time delta from previous captured frame: 3.650068884 seconds]
  [Time delta from previous displayed frame: 3.650068884 seconds]
  [Time since reference or first frame: 37.200344473 seconds]
  Frame Number: 12
  Frame Length: 216 bytes (1728 bits)
  Capture Length: 216 bytes (1728 bits)
  [Frame is marked: False]
  [Frame is ignored: False]
  [Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn]
  [Coloring Rule Name: UDP]
  [Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
  Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
    Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
    .... ..0. .... = LG bit: Globally unique address (factory default)
    .... ..0 .... = IG bit: Individual address (unicast)
  Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
    Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
    .... ..0. .... = LG bit: Globally unique address (factory default)
    .... ..0 .... = IG bit: Individual address (unicast)
  Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
  0100 .... = Version: 4
  .... 0101 = Header Length: 20 bytes (5)
  Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
    0000 00.. = Differentiated Services Codepoint: Default (0)
    .... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
  Total Length: 202
  Identification: 0xff46 (65350)
  Flags: 0x4000, Don't fragment
    0... .... = Reserved bit: Not set
    .1.. .... = Don't fragment: Set
    ..0. .... = More fragments: Not set
    ...0 0000 0000 0000 = Fragment offset: 0
  Time to live: 64
  Protocol: UDP (17)
  Header checksum: 0xa576 [validation disabled]
  [Header checksum status: Unverified]
  Source: 192.168.10.11
  Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
  Source Port: 53588
  Destination Port: 37008
  Length: 182
  Checksum: 0x5126 [unverified]
  [Checksum Status: Unverified]
  [Stream index: 0]
  [Timestamps]
    [Time since first frame: 37.200344473 seconds]
    [Time since previous frame: 3.650068884 seconds]
TZSP: IEEE 802.11 Good
  Version: 1
  Type: Received packet (0)
  Encapsulation: IEEE 802.11 (18)
  Cohda MKx Rx id header
    Option Tag: Cohda MKx Rx id header (240)
    Option Length: 1
  Cohda MKx ID: 0
  Cohda MKx Rx packet counter
    Option Tag: Cohda MKx Rx packet counter (241)
    Option Length: 4
  Cohda MKx Counter: 12
  Signal
    Option Tag: Signal (10)
    Option Length: 1
    Signal: -47
  Signal
    Option Tag: Signal (10)
    Option Length: 1
    Signal: -48
  Rate
    Option Tag: Rate (12)

```

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e548003800020082003d160000...
MKxIFMsg: 020082003d16000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=130, Seq=5693, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 130
    Seq: 5693
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff36fbffff8aaa396eded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1226, TSF=0x0005d4de6e39aa8a, FrameLength=0074, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1226
    TSF: 0x0005d4de6e39aa8a
    FrameLength: 74
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0000 1101 0011 .... = Sequence number: 211
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... 0 .... = EOSP: Service period
    .... .... 01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (Beacon)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 60000 ms
  1111 00.. = Multiplier: 60
  .... ..01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0000 .... = Next Header: Any (0)
  .... 0000 = Reserved: 0
  0001 .... = Header Type: Beacon (1)
  .... 0000 = Header Subtype: Unspecified (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 0
Maximum Hop Limit: 1
Reserved: 0
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... ..00 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Timestamp: 1575801.727s (1575801727)
Latitude: 48.7871601 (48°47'13.78"N) (487871601)
Longitude: 9.2111885 (09°12'40.28"E) (92111885)
1... .... = PAI: 1
.000 0000 0000 1000 = Speed: 0x0008 (0.08 m/s) (0.29 km/h) (8)
Heading: 0.0° (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
13	40.890311632	CohdaWir_20:1d:4a	Broadcast	GeoNetworking	216	Beacon

Frame 13: 216 bytes on wire (1728 bits), 216 bytes captured (1728 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:24.355422161 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426684.355422161 seconds
[Time delta from previous captured frame: 3.689967159 seconds]
[Time delta from previous displayed frame: 3.689967159 seconds]
[Time since reference or first frame: 40.890311632 seconds]
Frame Number: 13
Frame Length: 216 bytes (1728 bits)
Capture Length: 216 bytes (1728 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 202
Identification: 0xff6f (65391)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0xa54d [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 182
Checksum: 0x35ca [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 40.890311632 seconds]
[Time since previous frame: 3.689967159 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 13
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200820087160000...
MKxIFMsg: 020082008716000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=130, Seq=5767, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 130
    Seq: 5767
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ffe7faffff99e6716eded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1305, TSF=0x0005d4de6e71e699, FrameLength=0074, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1305
    TSF: 0x0005d4de6e71e699
    FrameLength: 74
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0000 1101 0100 .... = Sequence number: 212
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. .011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (Beacon)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 60000 ms
  1111 00.. = Multiplier: 60
  .... ..01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0000 .... = Next Header: Any (0)
  .... 0000 = Reserved: 0
  0001 .... = Header Type: Beacon (1)
  .... 0000 = Header Subtype: Unspecified (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 0
Maximum Hop Limit: 1
Reserved: 0
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... ..00 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Timestamp: 1575805.727s (1575805727)
Latitude: 48.7871640 (48°47'13.79"N) (487871640)
Longitude: 9.2112013 (09°12'40.32"E) (92112013)
1... .... = PAI: 1
.000 0000 0000 0100 = Speed: 0x0004 (0.04 m/s) (0.14 km/h) (4)
Heading: 0.0° (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
14	43.920294238	CohdaWir_20:1d:4a	Broadcast	GeoNetworking	216	Beacon

Frame 14: 216 bytes on wire (1728 bits), 216 bytes captured (1728 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:27.385404767 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426687.385404767 seconds
[Time delta from previous captured frame: 3.029982606 seconds]
[Time delta from previous displayed frame: 3.029982606 seconds]
[Time since reference or first frame: 43.920294238 seconds]
Frame Number: 14
Frame Length: 216 bytes (1728 bits)
Capture Length: 216 bytes (1728 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 202
Identification: 0xffa0 (65440)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
..1. = Don't fragment: Set
...0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0xa51c [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 182
Checksum: 0x0603 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 43.920294238 seconds]
[Time since previous frame: 3.029982606 seconds]
TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 14
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)


```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002008200c5160000...
MKxIFMsg: 02008200c516000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=130, Seq=5829, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 130
    Seq: 5829
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ffe3faffff033ca06eded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1309, TSF=0x0005d4de6ea03c03, FrameLength=0074, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1309
    TSF: 0x0005d4de6ea03c03
    FrameLength: 74
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0000 1101 0101 .... = Sequence number: 213
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... 0 .... = EOSP: Service period
    .... .... 01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (Beacon)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 60000 ms
  1111 00.. = Multiplier: 60
  .... ..01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0000 .... = Next Header: Any (0)
  .... 0000 = Reserved: 0
  0001 .... = Header Type: Beacon (1)
  .... 0000 = Header Subtype: Unspecified (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 0
Maximum Hop Limit: 1
Reserved: 0
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... ..00 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Timestamp: 1575808.727s (1575808727)
Latitude: 48.7871677 (48°47'13.80"N) (487871677)
Longitude: 9.2112127 (09°12'40.37"E) (92112127)
1... .... = PAI: 1
.000 0000 0000 0110 = Speed: 0x0006 (0.06 m/s) (0.22 km/h) (6)
Heading: 0.0° (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
15	46.990318619	CohdaWir_20:1d:4a	Broadcast	GeoNetworking	216	Beacon

Frame 15: 216 bytes on wire (1728 bits), 216 bytes captured (1728 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:30.455429148 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426690.455429148 seconds
[Time delta from previous captured frame: 3.070024381 seconds]
[Time delta from previous displayed frame: 3.070024381 seconds]
[Time since reference or first frame: 46.990318619 seconds]
Frame Number: 15
Frame Length: 216 bytes (1728 bits)
Capture Length: 216 bytes (1728 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 202
Identification: 0x0035 (53)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0xa488 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 182
Checksum: 0x7c4b [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 46.990318619 seconds]
[Time since previous frame: 3.070024381 seconds]
TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 15
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200820003170000...
MKxIFMsg: 020082000317000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=130, Seq=5891, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 130
Seq: 5891
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff50fbffffb712cf6eded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1200, TSF=0x0005d4de6ecf12b7, FrameLength=0074, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -204
FreqOffset: -1200
TSF: 0x0005d4de6ecf12b7
FrameLength: 74
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0000 1101 0110 .... = Sequence number: 214
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ....0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ....0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (Beacon)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 60000 ms
  1111 00.. = Multiplier: 60
  .... ..01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0000 .... = Next Header: Any (0)
  .... 0000 = Reserved: 0
  0001 .... = Header Type: Beacon (1)
  .... 0000 = Header Subtype: Unspecified (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 0
Maximum Hop Limit: 1
Reserved: 0
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... ..00 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Timestamp: 1575811.727s (1575811727)
Latitude: 48.7871710 (48°47'13.82"N) (487871710)
Longitude: 9.2112217 (09°12'40.40"E) (92112217)
1... .... = PAI: 1
.000 0000 0000 0010 = Speed: 0x0002 (0.02 m/s) (0.07 km/h) (2)
Heading: 0.0° (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
16	50.020245352	CohdaWir_20:1d:4a	Broadcast	GeoNetworking	216	Beacon

Frame 16: 216 bytes on wire (1728 bits), 216 bytes captured (1728 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:33.485355881 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426693.485355881 seconds

[Time delta from previous captured frame: 3.029926733 seconds]

[Time delta from previous displayed frame: 3.029926733 seconds]

[Time since reference or first frame: 50.020245352 seconds]

Frame Number: 16

Frame Length: 216 bytes (1728 bits)

Capture Length: 216 bytes (1728 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 202

Identification: 0x0153 (339)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0xa36a [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 182

Checksum: 0x6260 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 50.020245352 seconds]

[Time since previous frame: 3.029926733 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 16

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200820041170000...
MKxIFMsg: 020082004117000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=130, Seq=5953, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 130
    Seq: 5953
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff15fbffff4741fd6eded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1259, TSF=0x0005d4de6efd4147, FrameLength=0074, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1259
    TSF: 0x0005d4de6efd4147
    FrameLength: 74
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0000 1101 0111 .... = Sequence number: 215
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. .011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (Beacon)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 60000 ms
  1111 00.. = Multiplier: 60
  .... ..01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0000 .... = Next Header: Any (0)
  .... 0000 = Reserved: 0
  0001 .... = Header Type: Beacon (1)
  .... 0000 = Header Subtype: Unspecified (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 0
Maximum Hop Limit: 1
Reserved: 0
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... ..00 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Timestamp: 1575814.727s (1575814727)
Latitude: 48.7871749 (48°47'13.83"N) (487871749)
Longitude: 9.2112294 (09°12'40.43"E) (92112294)
1... .... = PAI: 1
.000 0000 0000 1000 = Speed: 0x0008 (0.08 m/s) (0.29 km/h) (8)
Heading: 0.0° (0)
```


No.	Time	Source	Destination	Protocol	Length	Info
17	53.050256221	CohdaWir_20:1d:4a	Broadcast	GeoNetworking	216	Beacon

Frame 17: 216 bytes on wire (1728 bits), 216 bytes captured (1728 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:36.515366750 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426696.515366750 seconds
[Time delta from previous captured frame: 3.030010869 seconds]
[Time delta from previous displayed frame: 3.030010869 seconds]
[Time since reference or first frame: 53.050256221 seconds]
Frame Number: 17
Frame Length: 216 bytes (1728 bits)
Capture Length: 216 bytes (1728 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 202
Identification: 0x01c9 (457)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
..1. = Don't fragment: Set
...0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0xa2f4 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 182
Checksum: 0x9d2c [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 53.050256221 seconds]
[Time since previous frame: 3.030010869 seconds]
TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 17
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e548003800020082007f170000...
MKxIFMsg: 020082007f17000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=130, Seq=6015, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 130
    Seq: 6015
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff40fbffffef922b6fdded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1216, TSF=0x0005d4de6f2b92ef, FrameLength=0074, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1216
    TSF: 0x0005d4de6f2b92ef
    FrameLength: 74
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0000 1101 1000 .... = Sequence number: 216
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (Beacon)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 60000 ms
  1111 00.. = Multiplier: 60
  .... ..01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0000 .... = Next Header: Any (0)
  .... 0000 = Reserved: 0
  0001 .... = Header Type: Beacon (1)
  .... 0000 = Header Subtype: Unspecified (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 0
Maximum Hop Limit: 1
Reserved: 0
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... ..00 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Timestamp: 1575817.727s (1575817727)
Latitude: 48.7871783 (48°47'13.84"N) (487871783)
Longitude: 9.2112385 (09°12'40.46"E) (92112385)
1... .... = PAI: 1
.000 0000 0000 1000 = Speed: 0x0008 (0.08 m/s) (0.29 km/h) (8)
Heading: 0.0° (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
18	56.490198724	CohdaWir_20:1d:4a	Broadcast	GeoNetworking	216	Beacon

Frame 18: 216 bytes on wire (1728 bits), 216 bytes captured (1728 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:39.955309253 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426699.955309253 seconds
[Time delta from previous captured frame: 3.439942503 seconds]
[Time delta from previous displayed frame: 3.439942503 seconds]
[Time since reference or first frame: 56.490198724 seconds]
Frame Number: 18
Frame Length: 216 bytes (1728 bits)
Capture Length: 216 bytes (1728 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 202
Identification: 0x02f8 (760)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
..1. = Don't fragment: Set
...0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0xa1c5 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 182
Checksum: 0xde76 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 56.490198724 seconds]
[Time since previous frame: 3.439942503 seconds]
TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 18
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002008200c4170000...
MKxIFMsg: 02008200c417000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=130, Seq=6084, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 130
Seq: 6084
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff3aff4cfaffff9412606fded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-198, FreqOffset=-1460, TSF=0x0005d4de6f601294, FrameLength=0074, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -198
FreqOffset: -1460
TSF: 0x0005d4de6f601294
FrameLength: 74
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0000 1101 1001 .... = Sequence number: 217
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (Beacon)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 60000 ms
  1111 00.. = Multiplier: 60
  .... ..01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
0000 .... = Next Header: Any (0)
.... 0000 = Reserved: 0
0001 .... = Header Type: Beacon (1)
.... 0000 = Header Subtype: Unspecified (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 0
Maximum Hop Limit: 1
Reserved: 0
Source Position Vector
GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... ..00 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Timestamp: 1575820.727s (1575820727)
Latitude: 48.7871821 (48°47'13.86"N) (487871821)
Longitude: 9.2112447 (09°12'40.48"E) (92112447)
1... .... = PAI: 1
.000 0000 0000 1000 = Speed: 0x0008 (0.08 m/s) (0.29 km/h) (8)
Heading: 0.0° (0)
```



```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e548003800020082000a180000...
MKxIFMsg: 020082000a18000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=130, Seq=6154, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 130
    Seq: 6154
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff3aff34ff95fbffffb563946fded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-198, NoiseB=-204, FreqOffset=-1131, TSF=0x0005d4de6f9463b5, FrameLength=0074, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -198
    RxNoiseB: -204
    FreqOffset: -1131
    TSF: 0x0005d4de6f9463b5
    FrameLength: 74
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0000 1101 1010 .... = Sequence number: 218
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (Beacon)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```



```
Lifetime 60000 ms
  1111 00.. = Multiplier: 60
  .... ..01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0000 .... = Next Header: Any (0)
  .... 0000 = Reserved: 0
  0001 .... = Header Type: Beacon (1)
  .... 0000 = Header Subtype: Unspecified (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 0
Maximum Hop Limit: 1
Reserved: 0
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... ..00 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Timestamp: 1575824.727s (1575824727)
Latitude: 48.7871864 (48°47'13.87"N) (487871864)
Longitude: 9.2112520 (09°12'40.51"E) (92112520)
1... .... = PAI: 1
.000 0000 0000 0010 = Speed: 0x0002 (0.02 m/s) (0.07 km/h) (2)
Heading: 0.0° (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
20	63.170218545	CohdaWir_20:1d:4a	Broadcast	GeoNetworking	216	Beacon

Frame 20: 216 bytes on wire (1728 bits), 216 bytes captured (1728 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:46.635329074 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426706.635329074 seconds

[Time delta from previous captured frame: 3.249979448 seconds]

[Time delta from previous displayed frame: 3.249979448 seconds]

[Time since reference or first frame: 63.170218545 seconds]

Frame Number: 20

Frame Length: 216 bytes (1728 bits)

Capture Length: 216 bytes (1728 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 202

Identification: 0x0499 (1177)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0xa024 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 182

Checksum: 0x4ac2 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 63.170218545 seconds]

[Time since previous frame: 3.249979448 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 20

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e548003800020082004c180000...
MKxIFMsg: 020082004c18000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=130, Seq=6220, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 130
    Seq: 6220
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff2eff34ff44fbffff0ff2c56fdded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-210, NoiseB=-204, FreqOffset=-1212, TSF=0x0005d4de6fc5f20f, FrameLength=0074, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -210
    RxNoiseB: -204
    FreqOffset: -1212
    TSF: 0x0005d4de6fc5f20f
    FrameLength: 74
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0000 1101 1011 .... = Sequence number: 219
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. .011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (Beacon)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 60000 ms
  1111 00.. = Multiplier: 60
  .... ..01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0000 .... = Next Header: Any (0)
  .... 0000 = Reserved: 0
  0001 .... = Header Type: Beacon (1)
  .... 0000 = Header Subtype: Unspecified (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 0
Maximum Hop Limit: 1
Reserved: 0
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... ..00 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Timestamp: 1575827.727s (1575827727)
Latitude: 48.7871897 (48°47'13.88"N) (487871897)
Longitude: 9.2112524 (09°12'40.51"E) (92112524)
1... .... = PAI: 1
.000 0000 0000 0100 = Speed: 0x0004 (0.04 m/s) (0.14 km/h) (4)
Heading: 0.0° (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
21	63.670276401	CohdaWir_20:1d:4a	Broadcast	ITS	465	CAM(v2)

Frame 21: 465 bytes on wire (3720 bits), 465 bytes captured (3720 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:47.135386930 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426707.135386930 seconds

[Time delta from previous captured frame: 0.500057856 seconds]

[Time delta from previous displayed frame: 0.500057856 seconds]

[Time since reference or first frame: 63.670276401 seconds]

Frame Number: 21

Frame Length: 465 bytes (3720 bits)

Capture Length: 465 bytes (3720 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 451

Identification: 0x04ac (1196)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9f18 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 431

Checksum: 0xe036 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 63.670276401 seconds]

[Time since previous frame: 0.500057856 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 21

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002007b0157180000...
MKxIFMsg: 02007b015718000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=379, Seq=6231, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 379
Seq: 6231
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff3aff34ffeafaffff9187cd6fdded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-198, NoiseB=-204, FreqOffset=-1302, TSF=0x0005d4de6fcd8791, FrameLength=0323, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -198
RxNoiseB: -204
FreqOffset: -1302
TSF: 0x0005d4de6fcd8791
FrameLength: 323
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0000 1101 1100 .... = Sequence number: 220
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ....0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ....0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 245
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575828.727s (1575828727)
  Latitude: 48.7871905 (48°47'13.89"N) (487871905)
  Longitude: 9.2112513 (09°12'40.50"E) (92112513)
  1... .... = PAI: 1
  .000 0000 0000 0010 = Speed: 0x0002 (0.02 m/s) (0.07 km/h) (2)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (6492) (0x195c, 6.492 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110043770) (11.0043770 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (4950) (49.50 m/s, 178.20 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

```
    yawRate
      yawRateValue: straight (0) (0.00 deg/sec)
      yawRateConfidence: degSec-000-01 (0)
  lowFrequencyContainer: basicVehicleContainerLowFrequency
    basicVehicleContainerLowFrequency
      vehicleRole: default (0)
      exteriorLights: 08 [bit length 8, 0000 1000 decimal value 8]
        0... .... lowBeamHeadlightsOn: False
        .0.. .... highBeamHeadlightsOn: False
        ..0. .... leftTurnSignalOn: False
        ...0 .... rightTurnSignalOn: False
        .... 1... daytimeRunningLightsOn: True
        .... .0.. reverseLightOn: False
        .... ..0. fogLightOn: False
        .... ...0 parkingLightsOn: False
      pathHistory: 23 items
        Item 0
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 1
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 2
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 3
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 4
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 5
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 6
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 7
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 8
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 9
          PathPoint
```



```
        pathPosition
          deltaLatitude: unavailable (131072)
          deltaLongitude: unavailable (131072)
          deltaAltitude: unavailable (12800)
        pathDeltaTime: Unknown (0)
Item 10
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 11
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 12
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 13
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 14
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 15
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 16
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 17
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 18
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 19
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 20
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
```

```
      pathDeltaTime: Unknown (0)
Item 21
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 22
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
22	63.690144879	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 22: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:47.155255408 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426707.155255408 seconds

[Time delta from previous captured frame: 0.019868478 seconds]

[Time delta from previous displayed frame: 0.019868478 seconds]

[Time since reference or first frame: 63.690144879 seconds]

Frame Number: 22

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x04ae (1198)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9fde [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0x9cb8 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 63.690144879 seconds]

[Time since previous frame: 0.019868478 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 22

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b30058180000...
MKxIFMsg: 0200b3005818000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6232, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6232
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff3afffdaffffdf1cd6fdded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-198, FreqOffset=-1283, TSF=0x0005d4de6fcdf1df, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -198
    FreqOffset: -1283
    TSF: 0x0005d4de6fcdf1df
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
        .... ..00 = Version: 0
        .... 10.. = Type: Data frame (2)
        1000 .... = Subtype: 8
        Flags: 0x00
            .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
            .... .0.. = More Fragments: This is the last fragment
            .... 0... = Retry: Frame is not being retransmitted
            ...0 .... = PWR MGT: STA will stay up
            ..0. .... = More Data: No data buffered
            .0.. .... = Protected flag: Data is not protected
            0... .... = Order flag: Not strictly ordered
        .000 0000 0000 0000 = Duration: 0 microseconds
        Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
        Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
        Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
        .... .... 0000 = Fragment number: 0
        0000 1101 1101 .... = Sequence number: 221
        Qos Control: 0x0023
            .... .... 0011 = TID: 3
            [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
            .... .... 0 .... = EOSP: Service period
            .... .... 01. .... = Ack Policy: No Ack (0x1)
            .... .... 0... .... = Payload Type: MSDU
            0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
        000. 00.. = Command: Unnumbered Information (0x00)
        .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
        0001 .... = Version: 1
        .... 0001 = Next Header: Common (1)
        Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575828.727s (1575828727)
  Latitude: 48.7871905 (48°47'13.89"N) (487871905)
  Longitude: 9.2112513 (09°12'40.50"E) (92112513)
  1... .... = PAI: 1
  .000 0000 0000 0010 = Speed: 0x0002 (0.02 m/s) (0.07 km/h) (2)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (6592) (0x19c0, 6.592 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110043100) (11.0043100 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (4905) (49.05 m/s, 176.58 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
23	63.790365022	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 23: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:47.255475551 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426707.255475551 seconds
[Time delta from previous captured frame: 0.100220143 seconds]
[Time delta from previous displayed frame: 0.100220143 seconds]
[Time since reference or first frame: 63.790365022 seconds]
Frame Number: 23
Frame Length: 265 bytes (2120 bits)
Capture Length: 265 bytes (2120 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 251
Identification: 0x04b1 (1201)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
..1. = Don't fragment: Set
...0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9fdb [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 231
Checksum: 0xf906 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 63.790365022 seconds]
[Time since previous frame: 0.100220143 seconds]
TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 23
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b3005b180000...
MKxIFMsg: 0200b3005b18000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6235, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6235
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff7afaffff8b54cf6fdded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1414, TSF=0x0005d4de6fcf548b, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1414
    TSF: 0x0005d4de6fcf548b
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
        .... ..00 = Version: 0
        .... 10.. = Type: Data frame (2)
        1000 .... = Subtype: 8
        Flags: 0x00
            .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
            .... .0.. = More Fragments: This is the last fragment
            .... 0... = Retry: Frame is not being retransmitted
            ...0 .... = PWR MGT: STA will stay up
            ..0. .... = More Data: No data buffered
            .0.. .... = Protected flag: Data is not protected
            0... .... = Order flag: Not strictly ordered
        .000 0000 0000 0000 = Duration: 0 microseconds
        Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
        Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
        Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
        .... .... 0000 = Fragment number: 0
        0000 1101 1110 .... = Sequence number: 222
        Qos Control: 0x0023
            .... .... 0011 = TID: 3
            [... .. .... .011 = Priority: Excellent Effort (Best Effort) (3)]
            .... .... .0 .... = EOSP: Service period
            .... .... .01. .... = Ack Policy: No Ack (0x1)
            .... .... 0... .... = Payload Type: MSDU
            0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
        000. 00.. = Command: Unnumbered Information (0x00)
        .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
        0001 .... = Version: 1
        .... 0001 = Next Header: Common (1)
        Reserved: 0

```



```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575828.727s (1575828727)
  Latitude: 48.7871905 (48°47'13.89"N) (487871905)
  Longitude: 9.2112513 (09°12'40.50"E) (92112513)
  1... .... = PAI: 1
  .000 0000 0000 0010 = Speed: 0x0002 (0.02 m/s) (0.07 km/h) (2)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
CAM
  header
    protocolVersion: 2
    messageID: cam (2)
    stationID: 1277901399 (0x4c2b3a57)
  cam
    generationDeltaTime: Unknown (6692) (0x1a24, 6.692 sec)
    camParameters
      basicContainer
        stationType: specialVehicles (10)
        referencePosition
          latitude: Unknown (490000140) (49.0000140 deg)
          longitude: Unknown (110042430) (11.0042430 deg)
          positionConfidenceEllipse
            semiMajorConfidence: unavailable (4095)
            semiMinorConfidence: unavailable (4095)
            semiMajorOrientation: unavailable (3601)
          altitude
            altitudeValue: unavailable (800001)
            altitudeConfidence: unavailable (15)
        highFrequencyContainer: basicVehicleContainerHighFrequency (0)
        basicVehicleContainerHighFrequency
          heading
            headingValue: wgs84West (2700) (270.0 deg)
            headingConfidence: equalOrWithinOneDegree (10)
          speed
            speedValue: Unknown (4868) (48.68 m/s, 175.25 km/h)
            speedConfidence: Unknown (3) (0.03 m/s)
          driveDirection: forward (0)
          vehicleLength
            vehicleLengthValue: Unknown (50) (5.0 m)
            vehicleLengthConfidenceIndication: noTrailerPresent (0)
          vehicleWidth: Unknown (18) (1.8 m)
          longitudinalAcceleration
            longitudinalAccelerationValue: Unknown (-3) (-0.3 m/s/s)
            longitudinalAccelerationConfidence: unavailable (102)
          curvature
            curvatureValue: straight (0)
            curvatureConfidence: unavailable (7)
            curvatureCalculationMode: yawRateUsed (0)
```

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```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
24	63.880144034	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 24: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:47.345254563 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426707.345254563 seconds
[Time delta from previous captured frame: 0.089779012 seconds]
[Time delta from previous displayed frame: 0.089779012 seconds]
[Time since reference or first frame: 63.880144034 seconds]
Frame Number: 24
Frame Length: 265 bytes (2120 bits)
Capture Length: 265 bytes (2120 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 251
Identification: 0x04b3 (1203)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9fd9 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 231
Checksum: 0x2ff2 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 63.880144034 seconds]
[Time since previous frame: 0.089779012 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 24
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b3005e180000...
MKxIFMsg: 0200b3005e18000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6238, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6238
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff0bfbfffffe4cbd06fded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1269, TSF=0x0005d4de6fd0cbe4, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1269
    TSF: 0x0005d4de6fd0cbe4
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0000 1101 1111 .... = Sequence number: 223
Qos Control: 0x0023
    .... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575828.727s (1575828727)
  Latitude: 48.7871905 (48°47'13.89"N) (487871905)
  Longitude: 9.2112513 (09°12'40.50"E) (92112513)
  1... .... = PAI: 1
  .000 0000 0000 0010 = Speed: 0x0002 (0.02 m/s) (0.07 km/h) (2)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (6792) (0x1a88, 6.792 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110041770) (11.0041770 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (4823) (48.23 m/s, 173.63 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
25	63.980180821	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 25: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:47.445291350 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426707.445291350 seconds
[Time delta from previous captured frame: 0.100036787 seconds]
[Time delta from previous displayed frame: 0.100036787 seconds]
[Time since reference or first frame: 63.980180821 seconds]
Frame Number: 25
Frame Length: 265 bytes (2120 bits)
Capture Length: 265 bytes (2120 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 251
Identification: 0x04b8 (1208)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9fd4 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 231
Checksum: 0x2e52 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 63.980180821 seconds]
[Time since previous frame: 0.100036787 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 25
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b30061180000...
MKxIFMsg: 0200b3006118000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6241, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 179
Seq: 6241
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff61fbffff9e3ed26fded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1183, TSF=0x0005d4de6fd23e9e, FrameLength=0123, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -204
FreqOffset: -1183
TSF: 0x0005d4de6fd23e9e
FrameLength: 123
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0000 1110 0000 .... = Sequence number: 224
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```



```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575828.727s (1575828727)
  Latitude: 48.7871905 (48°47'13.89"N) (487871905)
  Longitude: 9.2112513 (09°12'40.50"E) (92112513)
  1... .... = PAI: 1
  .000 0000 0000 0010 = Speed: 0x0002 (0.02 m/s) (0.07 km/h) (2)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (6892) (0x1aec, 6.892 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110041120) (11.0041120 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (4783) (47.83 m/s, 172.19 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-3) (-0.3 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
26	64.110318791	CohdaWir_20:1d:4a	Broadcast	ITS	465	CAM(v2)

Frame 26: 465 bytes on wire (3720 bits), 465 bytes captured (3720 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:47.575429320 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426707.575429320 seconds

[Time delta from previous captured frame: 0.130137970 seconds]

[Time delta from previous displayed frame: 0.130137970 seconds]

[Time since reference or first frame: 64.110318791 seconds]

Frame Number: 26

Frame Length: 465 bytes (3720 bits)

Capture Length: 465 bytes (3720 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 451

Identification: 0x04bc (1212)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9f08 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 431

Checksum: 0x5eda [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 64.110318791 seconds]

[Time since previous frame: 0.130137970 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 26

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002007b0165180000...
MKxIFMsg: 02007b016518000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=379, Seq=6245, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 379
    Seq: 6245
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff3aff35afffff4c4ad46fded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-198, FreqOffset=-1483, TSF=0x0005d4de6fd44a4c, FrameLength=0323, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -198
    FreqOffset: -1483
    TSF: 0x0005d4de6fd44a4c
    FrameLength: 323
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0000 1110 0001 .... = Sequence number: 225
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. .011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 245
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575828.727s (1575828727)
  Latitude: 48.7871905 (48°47'13.89"N) (487871905)
  Longitude: 9.2112513 (09°12'40.50"E) (92112513)
  1... .... = PAI: 1
  .000 0000 0000 0010 = Speed: 0x0002 (0.02 m/s) (0.07 km/h) (2)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (6992) (0x1b50, 6.992 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110040470) (11.0040470 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (4738) (47.38 m/s, 170.57 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

```
    yawRate
      yawRateValue: straight (0) (0.00 deg/sec)
      yawRateConfidence: degSec-000-01 (0)
lowFrequencyContainer: basicVehicleContainerLowFrequency
  basicVehicleContainerLowFrequency
    vehicleRole: default (0)
    exteriorLights: 08 [bit length 8, 0000 1000 decimal value 8]
      0... .... lowBeamHeadlightsOn: False
      .0.. .... highBeamHeadlightsOn: False
      ..0. .... leftTurnSignalOn: False
      ...0 .... rightTurnSignalOn: False
      .... 1... daytimeRunningLightsOn: True
      .... .0.. reverseLightOn: False
      .... ..0. fogLightOn: False
      .... ...0 parkingLightsOn: False
    pathHistory: 23 items
      Item 0
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 1
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 2
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 3
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 4
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 5
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 6
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 7
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 8
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 9
        PathPoint
```

```
        pathPosition
          deltaLatitude: unavailable (131072)
          deltaLongitude: unavailable (131072)
          deltaAltitude: unavailable (12800)
        pathDeltaTime: Unknown (0)
Item 10
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 11
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 12
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 13
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 14
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 15
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 16
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 17
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 18
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 19
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 20
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
```

```
      pathDeltaTime: Unknown (0)
Item 21
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 22
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
```


No.	Time	Source	Destination	Protocol	Length	Info
27	64.190232215	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 27: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:47.655342744 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426707.655342744 seconds

[Time delta from previous captured frame: 0.079913424 seconds]

[Time delta from previous displayed frame: 0.079913424 seconds]

[Time since reference or first frame: 64.190232215 seconds]

Frame Number: 27

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x04c2 (1218)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9fca [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0x0a49 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 64.190232215 seconds]

[Time since previous frame: 0.079913424 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 27

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -46

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b30067180000...
MKxIFMsg: 0200b3006718000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6247, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6247
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a4ffa0ff34ff34ff12fbffff907bd56fdded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-092, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1262, TSF=0x0005d4de6fd57b90, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -92
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1262
    TSF: 0x0005d4de6fd57b90
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0000 1110 0010 .... = Sequence number: 226
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... 0 .... = EOSP: Service period
    .... .... 01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575828.727s (1575828727)
  Latitude: 48.7871905 (48°47'13.89"N) (487871905)
  Longitude: 9.2112513 (09°12'40.50"E) (92112513)
  1... .... = PAI: 1
  .000 0000 0000 0010 = Speed: 0x0002 (0.02 m/s) (0.07 km/h) (2)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (7092) (0x1bb4, 7.092 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110039830) (11.0039830 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (4694) (46.94 m/s, 168.98 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
28	64.320218646	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 28: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:47.785329175 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426707.785329175 seconds
[Time delta from previous captured frame: 0.129986431 seconds]
[Time delta from previous displayed frame: 0.129986431 seconds]
[Time since reference or first frame: 64.320218646 seconds]
Frame Number: 28
Frame Length: 265 bytes (2120 bits)
Capture Length: 265 bytes (2120 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 251
Identification: 0x04cc (1228)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
..1. = Don't fragment: Set
...0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9fc0 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 231
Checksum: 0x7467 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 64.320218646 seconds]
[Time since previous frame: 0.129986431 seconds]
TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 28
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b3006b180000...
MKxIFMsg: 0200b3006b18000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6251, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6251
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff8dfaffff8d77d76fdded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1395, TSF=0x0005d4de6fd7778d, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1395
    TSF: 0x0005d4de6fd7778d
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0000 1110 0011 .... = Sequence number: 227
Qos Control: 0x0023
    .... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575828.727s (1575828727)
  Latitude: 48.7871905 (48°47'13.89"N) (487871905)
  Longitude: 9.2112513 (09°12'40.50"E) (92112513)
  1... .... = PAI: 1
  .000 0000 0000 0010 = Speed: 0x0002 (0.02 m/s) (0.07 km/h) (2)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (7192) (0x1c18, 7.192 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110039190) (11.0039190 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (4656) (46.56 m/s, 167.62 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-3) (-0.3 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```


No.	Time	Source	Destination	Protocol	Length	Info
29	64.400141745	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 29: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:47.865252274 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426707.865252274 seconds
[Time delta from previous captured frame: 0.079923099 seconds]
[Time delta from previous displayed frame: 0.079923099 seconds]
[Time since reference or first frame: 64.400141745 seconds]
Frame Number: 29
Frame Length: 265 bytes (2120 bits)
Capture Length: 265 bytes (2120 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 251
Identification: 0x04d4 (1236)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
..1. = Don't fragment: Set
...0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9fb8 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 231
Checksum: 0xd7f5 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 64.400141745 seconds]
[Time since previous frame: 0.079923099 seconds]
TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 29
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b3006e180000...
MKxIFMsg: 0200b3006e18000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6254, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6254
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff1cfbffffb1a3d86fdded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1252, TSF=0x0005d4de6fd8a3b1, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1252
    TSF: 0x0005d4de6fd8a3b1
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0000 1110 0100 .... = Sequence number: 228
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. .011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575828.727s (1575828727)
  Latitude: 48.7871905 (48°47'13.89"N) (487871905)
  Longitude: 9.2112513 (09°12'40.50"E) (92112513)
  1... .... = PAI: 1
  .000 0000 0000 0010 = Speed: 0x0002 (0.02 m/s) (0.07 km/h) (2)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (7292) (0x1c7c, 7.292 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110038560) (11.0038560 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (4617) (46.17 m/s, 166.21 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-3) (-0.3 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
30	64.470211956	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 30: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:47.935322485 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426707.935322485 seconds
[Time delta from previous captured frame: 0.070070211 seconds]
[Time delta from previous displayed frame: 0.070070211 seconds]
[Time since reference or first frame: 64.470211956 seconds]
Frame Number: 30
Frame Length: 265 bytes (2120 bits)
Capture Length: 265 bytes (2120 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 251
Identification: 0x04d9 (1241)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
..1. = Don't fragment: Set
...0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9fb3 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 231
Checksum: 0x35f9 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 64.470211956 seconds]
[Time since previous frame: 0.070070211 seconds]
TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 30
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b30070180000...
MKxIFMsg: 0200b3007018000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6256, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6256
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff2effb8faffffc8cfd96fdded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-210, FreqOffset=-1352, TSF=0x0005d4de6fd9cfc8, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -210
    FreqOffset: -1352
    TSF: 0x0005d4de6fd9cfc8
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0000 1110 0101 .... = Sequence number: 229
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. .011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575828.727s (1575828727)
  Latitude: 48.7871905 (48°47'13.89"N) (487871905)
  Longitude: 9.2112513 (09°12'40.50"E) (92112513)
  1... .... = PAI: 1
  .000 0000 0000 0010 = Speed: 0x0002 (0.02 m/s) (0.07 km/h) (2)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
CAM
  header
    protocolVersion: 2
    messageID: cam (2)
    stationID: 1277901399 (0x4c2b3a57)
  cam
    generationDeltaTime: Unknown (7392) (0x1ce0, 7.392 sec)
    camParameters
      basicContainer
        stationType: specialVehicles (10)
        referencePosition
          latitude: Unknown (490000140) (49.0000140 deg)
          longitude: Unknown (110037940) (11.0037940 deg)
          positionConfidenceEllipse
            semiMajorConfidence: unavailable (4095)
            semiMinorConfidence: unavailable (4095)
            semiMajorOrientation: unavailable (3601)
          altitude
            altitudeValue: unavailable (800001)
            altitudeConfidence: unavailable (15)
        highFrequencyContainer: basicVehicleContainerHighFrequency (0)
        basicVehicleContainerHighFrequency
          heading
            headingValue: wgs84West (2700) (270.0 deg)
            headingConfidence: equalOrWithinOneDegree (10)
          speed
            speedValue: Unknown (4572) (45.72 m/s, 164.59 km/h)
            speedConfidence: Unknown (3) (0.03 m/s)
          driveDirection: forward (0)
          vehicleLength
            vehicleLengthValue: Unknown (50) (5.0 m)
            vehicleLengthConfidenceIndication: noTrailerPresent (0)
          vehicleWidth: Unknown (18) (1.8 m)
          longitudinalAcceleration
            longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
            longitudinalAccelerationConfidence: unavailable (102)
          curvature
            curvatureValue: straight (0)
            curvatureConfidence: unavailable (7)
            curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```


No.	Time	Source	Destination	Protocol	Length	Info
31	64.600257409	CohdaWir_20:1d:4a	Broadcast	ITS	465	CAM(v2)

Frame 31: 465 bytes on wire (3720 bits), 465 bytes captured (3720 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:48.065367938 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426708.065367938 seconds

[Time delta from previous captured frame: 0.130045453 seconds]

[Time delta from previous displayed frame: 0.130045453 seconds]

[Time since reference or first frame: 64.600257409 seconds]

Frame Number: 31

Frame Length: 465 bytes (3720 bits)

Capture Length: 465 bytes (3720 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 451

Identification: 0x04e1 (1249)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9ee3 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 431

Checksum: 0x067b [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 64.600257409 seconds]

[Time since previous frame: 0.130045453 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 31

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -46

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002007b0174180000...
MKxIFMsg: 02007b017418000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=379, Seq=6260, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 379
Seq: 6260
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a4ffa0ff34ff34ffecfaffffbbafdb6fdded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-092, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1300, TSF=0x0005d4de6fdbafbb, FrameLength=0323, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -92
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -204
FreqOffset: -1300
TSF: 0x0005d4de6fdbafbb
FrameLength: 323
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0000 1110 0110 .... = Sequence number: 230
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 245
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575828.727s (1575828727)
  Latitude: 48.7871905 (48°47'13.89"N) (487871905)
  Longitude: 9.2112513 (09°12'40.50"E) (92112513)
  1... .... = PAI: 1
  .000 0000 0000 0010 = Speed: 0x0002 (0.02 m/s) (0.07 km/h) (2)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (7492) (0x1d44, 7.492 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110037320) (11.0037320 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (4534) (45.34 m/s, 163.22 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-3) (-0.3 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

```
    yawRate
      yawRateValue: straight (0) (0.00 deg/sec)
      yawRateConfidence: degSec-000-01 (0)
  lowFrequencyContainer: basicVehicleContainerLowFrequency
    basicVehicleContainerLowFrequency
      vehicleRole: default (0)
      exteriorLights: 08 [bit length 8, 0000 1000 decimal value 8]
        0... .... lowBeamHeadlightsOn: False
        .0.. .... highBeamHeadlightsOn: False
        ..0. .... leftTurnSignalOn: False
        ...0 .... rightTurnSignalOn: False
        .... 1... daytimeRunningLightsOn: True
        .... .0.. reverseLightOn: False
        .... ..0. fogLightOn: False
        .... ...0 parkingLightsOn: False
      pathHistory: 23 items
        Item 0
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 1
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 2
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 3
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 4
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 5
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 6
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 7
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 8
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 9
          PathPoint
```

```
        pathPosition
          deltaLatitude: unavailable (131072)
          deltaLongitude: unavailable (131072)
          deltaAltitude: unavailable (12800)
        pathDeltaTime: Unknown (0)
Item 10
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 11
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 12
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 13
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 14
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 15
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 16
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 17
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 18
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 19
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 20
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
```

```
      pathDeltaTime: Unknown (0)
Item 21
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 22
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
32	64.740336705	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 32: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:48.205447234 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426708.205447234 seconds

[Time delta from previous captured frame: 0.140079296 seconds]

[Time delta from previous displayed frame: 0.140079296 seconds]

[Time since reference or first frame: 64.740336705 seconds]

Frame Number: 32

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x04e7 (1255)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9fa5 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0xdec7 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 64.740336705 seconds]

[Time since previous frame: 0.140079296 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 32

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b30077180000...
MKxIFMsg: 0200b3007718000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6263, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6263
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff24faffff98dadd6fdded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1500, TSF=0x0005d4de6fddda98, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1500
    TSF: 0x0005d4de6fddda98
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
        .... ..00 = Version: 0
        .... 10.. = Type: Data frame (2)
        1000 .... = Subtype: 8
        Flags: 0x00
            .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
            .... .0.. = More Fragments: This is the last fragment
            .... 0... = Retry: Frame is not being retransmitted
            ...0 .... = PWR MGT: STA will stay up
            ..0. .... = More Data: No data buffered
            .0.. .... = Protected flag: Data is not protected
            0... .... = Order flag: Not strictly ordered
        .000 0000 0000 0000 = Duration: 0 microseconds
        Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
        Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
        Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
        .... .... 0000 = Fragment number: 0
        0000 1110 0111 .... = Sequence number: 231
        Qos Control: 0x0023
            .... .... 0011 = TID: 3
            [... .. .011 = Priority: Excellent Effort (Best Effort) (3)]
            .... .... .0 .... = EOSP: Service period
            .... .... .01. .... = Ack Policy: No Ack (0x1)
            .... .... 0... .... = Payload Type: MSDU
            0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
        000. 00.. = Command: Unnumbered Information (0x00)
        .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
        0001 .... = Version: 1
        .... 0001 = Next Header: Common (1)
        Reserved: 0

```



```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575829.728s (1575829728)
  Latitude: 48.7871909 (48°47'13.89"N) (487871909)
  Longitude: 9.2112503 (09°12'40.50"E) (92112503)
  1... .... = PAI: 1
  .000 0000 0001 0000 = Speed: 0x0010 (0.16 m/s) (0.58 km/h) (16)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (7592) (0x1da8, 7.592 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110036700) (11.0036700 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (4497) (44.97 m/s, 161.89 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-3) (-0.3 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
33	64.800213110	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 33: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:48.265323639 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426708.265323639 seconds

[Time delta from previous captured frame: 0.059876405 seconds]

[Time delta from previous displayed frame: 0.059876405 seconds]

[Time since reference or first frame: 64.800213110 seconds]

Frame Number: 33

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x04ec (1260)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9fa0 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0x3cb5 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 64.800213110 seconds]

[Time since previous frame: 0.059876405 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 33

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b3007a180000...
MKxIFMsg: 0200b3007a18000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6266, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6266
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff3aff94afffff28d7de6fded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-198, FreqOffset=-1388, TSF=0x0005d4de6fded728, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -198
    FreqOffset: -1388
    TSF: 0x0005d4de6fded728
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0000 1110 1000 .... = Sequence number: 232
Qos Control: 0x0023
    .... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575829.728s (1575829728)
  Latitude: 48.7871909 (48°47'13.89"N) (487871909)
  Longitude: 9.2112503 (09°12'40.50"E) (92112503)
  1... .... = PAI: 1
  .000 0000 0001 0000 = Speed: 0x0010 (0.16 m/s) (0.58 km/h) (16)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (7692) (0x1e0c, 7.692 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110036100) (11.0036100 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (4455) (44.55 m/s, 160.38 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
34	64.870131415	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 34: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:48.335241944 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426708.335241944 seconds

[Time delta from previous captured frame: 0.069918305 seconds]

[Time delta from previous displayed frame: 0.069918305 seconds]

[Time since reference or first frame: 64.870131415 seconds]

Frame Number: 34

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x04ee (1262)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9f9e [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0xe562 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 64.870131415 seconds]

[Time since previous frame: 0.069918305 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 34

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b3007c180000...
MKxIFMsg: 0200b3007c18000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6268, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6268
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff2eff67faffffa7e9df6fdded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-210, FreqOffset=-1433, TSF=0x0005d4de6fdfe9a7, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -210
    FreqOffset: -1433
    TSF: 0x0005d4de6fdfe9a7
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
        .... ..00 = Version: 0
        .... 10.. = Type: Data frame (2)
        1000 .... = Subtype: 8
        Flags: 0x00
            .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
            .... .0.. = More Fragments: This is the last fragment
            .... 0... = Retry: Frame is not being retransmitted
            ...0 .... = PWR MGT: STA will stay up
            ..0. .... = More Data: No data buffered
            .0.. .... = Protected flag: Data is not protected
            0... .... = Order flag: Not strictly ordered
        .000 0000 0000 0000 = Duration: 0 microseconds
        Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
        Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
        Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
        .... .... 0000 = Fragment number: 0
        0000 1110 1001 .... = Sequence number: 233
        Qos Control: 0x0023
            .... .... 0011 = TID: 3
            [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
            .... .... 0 .... = EOSP: Service period
            .... .... 01. .... = Ack Policy: No Ack (0x1)
            .... .... 0... .... = Payload Type: MSDU
            0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
        000. 00.. = Command: Unnumbered Information (0x00)
        .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
        0001 .... = Version: 1
        .... 0001 = Next Header: Common (1)
        Reserved: 0

```



```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575829.728s (1575829728)
  Latitude: 48.7871909 (48°47'13.89"N) (487871909)
  Longitude: 9.2112503 (09°12'40.50"E) (92112503)
  1... .... = PAI: 1
  .000 0000 0001 0000 = Speed: 0x0010 (0.16 m/s) (0.58 km/h) (16)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (7792) (0x1e70, 7.792 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110035490) (11.0035490 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (4410) (44.10 m/s, 158.76 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
35	65.000298022	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 35: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:48.465408551 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426708.465408551 seconds

[Time delta from previous captured frame: 0.130166607 seconds]

[Time delta from previous displayed frame: 0.130166607 seconds]

[Time since reference or first frame: 65.000298022 seconds]

Frame Number: 35

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x04f0 (1264)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9f9c [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0xdef0 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 65.000298022 seconds]

[Time since previous frame: 0.130166607 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 35

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```
    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b30080180000...
MKxIFMsg: 0200b3008018000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6272, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6272
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff25fbfff78cde16fded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1243, TSF=0x0005d4de6fe1cd78, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1243
    TSF: 0x0005d4de6fe1cd78
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
        .... ..00 = Version: 0
        .... 10.. = Type: Data frame (2)
        1000 .... = Subtype: 8
        Flags: 0x00
            .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
            .... .0.. = More Fragments: This is the last fragment
            .... 0... = Retry: Frame is not being retransmitted
            ...0 .... = PWR MGT: STA will stay up
            ..0. .... = More Data: No data buffered
            .0.. .... = Protected flag: Data is not protected
            0... .... = Order flag: Not strictly ordered
        .000 0000 0000 0000 = Duration: 0 microseconds
        Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
        Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
        Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
        .... .... 0000 = Fragment number: 0
        0000 1110 1010 .... = Sequence number: 234
        Qos Control: 0x0023
            .... .... 0011 = TID: 3
            [... .. .... .011 = Priority: Excellent Effort (Best Effort) (3)]
            .... .... .0 .... = EOSP: Service period
            .... .... .01. .... = Ack Policy: No Ack (0x1)
            .... .... 0... .... = Payload Type: MSDU
            0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
        000. 00.. = Command: Unnumbered Information (0x00)
        .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
        0001 .... = Version: 1
        .... 0001 = Next Header: Common (1)
        Reserved: 0
```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575829.728s (1575829728)
  Latitude: 48.7871909 (48°47'13.89"N) (487871909)
  Longitude: 9.2112503 (09°12'40.50"E) (92112503)
  1... .... = PAI: 1
  .000 0000 0001 0000 = Speed: 0x0010 (0.16 m/s) (0.58 km/h) (16)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (7892) (0x1ed4, 7.892 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110034900) (11.0034900 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (4368) (43.68 m/s, 157.25 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
36	65.100242038	CohdaWir_20:1d:4a	Broadcast	ITS	465	CAM(v2)

Frame 36: 465 bytes on wire (3720 bits), 465 bytes captured (3720 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:48.565352567 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426708.565352567 seconds
[Time delta from previous captured frame: 0.099944016 seconds]
[Time delta from previous displayed frame: 0.099944016 seconds]
[Time since reference or first frame: 65.100242038 seconds]
Frame Number: 36
Frame Length: 465 bytes (3720 bits)
Capture Length: 465 bytes (3720 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 451
Identification: 0x04f4 (1268)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9ed0 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 431
Checksum: 0xbe17 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 65.100242038 seconds]
[Time since previous frame: 0.099944016 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 36
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002007b0183180000...
MKxIFMsg: 02007b018318000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=379, Seq=6275, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 379
    Seq: 6275
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ffe5faffffa062e36fded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1307, TSF=0x0005d4de6fe362a0, FrameLength=0323, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1307
    TSF: 0x0005d4de6fe362a0
    FrameLength: 323
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
        .... ..00 = Version: 0
        .... 10.. = Type: Data frame (2)
        1000 .... = Subtype: 8
        Flags: 0x00
            .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
            .... .0.. = More Fragments: This is the last fragment
            .... 0... = Retry: Frame is not being retransmitted
            ...0 .... = PWR MGT: STA will stay up
            ..0. .... = More Data: No data buffered
            .0.. .... = Protected flag: Data is not protected
            0... .... = Order flag: Not strictly ordered
        .000 0000 0000 0000 = Duration: 0 microseconds
        Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
        Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
        Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
        .... .... 0000 = Fragment number: 0
        0000 1110 1011 .... = Sequence number: 235
        Qos Control: 0x0023
            .... .... 0011 = TID: 3
            [... .. .... .011 = Priority: Excellent Effort (Best Effort) (3)]
            .... .... .0 .... = EOSP: Service period
            .... .... .01. .... = Ack Policy: No Ack (0x1)
            .... .... 0... .... = Payload Type: MSDU
            0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
        000. 00.. = Command: Unnumbered Information (0x00)
        .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
        0001 .... = Version: 1
        .... 0001 = Next Header: Common (1)
        Reserved: 0

```



```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 245
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575829.728s (1575829728)
  Latitude: 48.7871909 (48°47'13.89"N) (487871909)
  Longitude: 9.2112503 (09°12'40.50"E) (92112503)
  1... .... = PAI: 1
  .000 0000 0001 0000 = Speed: 0x0010 (0.16 m/s) (0.58 km/h) (16)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (7992) (0x1f38, 7.992 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110034300) (11.0034300 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (4324) (43.24 m/s, 155.66 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

```
    yawRate
      yawRateValue: straight (0) (0.00 deg/sec)
      yawRateConfidence: degSec-000-01 (0)
  lowFrequencyContainer: basicVehicleContainerLowFrequency
    basicVehicleContainerLowFrequency
      vehicleRole: default (0)
      exteriorLights: 08 [bit length 8, 0000 1000 decimal value 8]
        0... .... lowBeamHeadlightsOn: False
        .0.. .... highBeamHeadlightsOn: False
        ..0. .... leftTurnSignalOn: False
        ...0 .... rightTurnSignalOn: False
        .... 1... daytimeRunningLightsOn: True
        .... .0.. reverseLightOn: False
        .... ..0. fogLightOn: False
        .... ...0 parkingLightsOn: False
      pathHistory: 23 items
        Item 0
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 1
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 2
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 3
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 4
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 5
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 6
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 7
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 8
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 9
          PathPoint
```

```
        pathPosition
          deltaLatitude: unavailable (131072)
          deltaLongitude: unavailable (131072)
          deltaAltitude: unavailable (12800)
        pathDeltaTime: Unknown (0)
Item 10
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 11
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 12
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 13
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 14
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 15
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 16
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 17
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 18
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 19
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 20
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
```

```
      pathDeltaTime: Unknown (0)
Item 21
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 22
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
37	65.200196861	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 37: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:48.665307390 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426708.665307390 seconds

[Time delta from previous captured frame: 0.099954823 seconds]

[Time delta from previous displayed frame: 0.099954823 seconds]

[Time since reference or first frame: 65.200196861 seconds]

Frame Number: 37

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x04fa (1274)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9f92 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0xc110 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 65.200196861 seconds]

[Time since previous frame: 0.099954823 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 37

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b30086180000...
MKxIFMsg: 0200b3008618000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6278, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6278
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff3aff56faffffebd9e46fded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-198, FreqOffset=-1450, TSF=0x0005d4de6fe4d9eb, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -198
    FreqOffset: -1450
    TSF: 0x0005d4de6fe4d9eb
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0000 1110 1100 .... = Sequence number: 236
Qos Control: 0x0023
    .... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575829.728s (1575829728)
  Latitude: 48.7871909 (48°47'13.89"N) (487871909)
  Longitude: 9.2112503 (09°12'40.50"E) (92112503)
  1... .... = PAI: 1
  .000 0000 0001 0000 = Speed: 0x0010 (0.16 m/s) (0.58 km/h) (16)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (8092) (0x1f9c, 8.092 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110033720) (11.0033720 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (4290) (42.90 m/s, 154.44 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-3) (-0.3 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

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```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```


No.	Time	Source	Destination	Protocol	Length	Info
38	65.280271328	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 38: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:48.745381857 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426708.745381857 seconds

[Time delta from previous captured frame: 0.080074467 seconds]

[Time delta from previous displayed frame: 0.080074467 seconds]

[Time since reference or first frame: 65.280271328 seconds]

Frame Number: 38

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x0501 (1281)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9f8b [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0x7378 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 65.280271328 seconds]

[Time since previous frame: 0.080074467 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 38

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b30088180000...
MKxIFMsg: 0200b3008818000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6280, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6280
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff3affb1faffff9f10e66fdded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-198, FreqOffset=-1359, TSF=0x0005d4de6fe6109f, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -198
    FreqOffset: -1359
    TSF: 0x0005d4de6fe6109f
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0000 1110 1101 .... = Sequence number: 237
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575829.728s (1575829728)
  Latitude: 48.7871909 (48°47'13.89"N) (487871909)
  Longitude: 9.2112503 (09°12'40.50"E) (92112503)
  1... .... = PAI: 1
  .000 0000 0001 0000 = Speed: 0x0010 (0.16 m/s) (0.58 km/h) (16)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (8192) (0x2000, 8.192 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110033140) (11.0033140 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (4245) (42.45 m/s, 152.82 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

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```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
39	65.410501043	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 39: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:48.875611572 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426708.875611572 seconds

[Time delta from previous captured frame: 0.130229715 seconds]

[Time delta from previous displayed frame: 0.130229715 seconds]

[Time since reference or first frame: 65.410501043 seconds]

Frame Number: 39

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x050b (1291)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9f81 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0xf92d [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 65.410501043 seconds]

[Time since previous frame: 0.130229715 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 39

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b3008c180000...
MKxIFMsg: 0200b3008c18000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6284, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6284
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff3aff6afbffffb01ee86fded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-198, FreqOffset=-1174, TSF=0x0005d4de6fe81eb0, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -198
    FreqOffset: -1174
    TSF: 0x0005d4de6fe81eb0
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
        .... ..00 = Version: 0
        .... 10.. = Type: Data frame (2)
        1000 .... = Subtype: 8
        Flags: 0x00
            .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
            .... .0.. = More Fragments: This is the last fragment
            .... 0... = Retry: Frame is not being retransmitted
            ...0 .... = PWR MGT: STA will stay up
            ..0. .... = More Data: No data buffered
            .0.. .... = Protected flag: Data is not protected
            0... .... = Order flag: Not strictly ordered
        .000 0000 0000 0000 = Duration: 0 microseconds
        Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
        Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
        Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
        .... .... 0000 = Fragment number: 0
        0000 1110 1110 .... = Sequence number: 238
        Qos Control: 0x0023
            .... .... 0011 = TID: 3
            [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
            .... .... 0 .... = EOSP: Service period
            .... .... 01. .... = Ack Policy: No Ack (0x1)
            .... .... 0... .... = Payload Type: MSDU
            0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
        000. 00.. = Command: Unnumbered Information (0x00)
        .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
        0001 .... = Version: 1
        .... 0001 = Next Header: Common (1)
        Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575829.728s (1575829728)
  Latitude: 48.7871909 (48°47'13.89"N) (487871909)
  Longitude: 9.2112503 (09°12'40.50"E) (92112503)
  1... .... = PAI: 1
  .000 0000 0001 0000 = Speed: 0x0010 (0.16 m/s) (0.58 km/h) (16)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (8292) (0x2064, 8.292 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110032560) (11.0032560 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (4201) (42.01 m/s, 151.24 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```


No.	Time	Source	Destination	Protocol	Length	Info
40	65.490209789	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 40: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:48.955320318 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426708.955320318 seconds

[Time delta from previous captured frame: 0.079708746 seconds]

[Time delta from previous displayed frame: 0.079708746 seconds]

[Time since reference or first frame: 65.490209789 seconds]

Frame Number: 40

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x0513 (1299)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9f79 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0xcbb6 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 65.490209789 seconds]

[Time since previous frame: 0.079708746 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 40

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b3008e180000...
MKxIFMsg: 0200b3008e18000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6286, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6286
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff96faffff6a5de96fdded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1386, TSF=0x0005d4de6fe95d6a, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1386
    TSF: 0x0005d4de6fe95d6a
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0000 1110 1111 .... = Sequence number: 239
Qos Control: 0x0023
    .... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575829.728s (1575829728)
  Latitude: 48.7871909 (48°47'13.89"N) (487871909)
  Longitude: 9.2112503 (09°12'40.50"E) (92112503)
  1... .... = PAI: 1
  .000 0000 0001 0000 = Speed: 0x0010 (0.16 m/s) (0.58 km/h) (16)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (8392) (0x20c8, 8.392 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110031990) (11.0031990 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (4165) (41.65 m/s, 149.94 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-3) (-0.3 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
41	65.590420118	CohdaWir_20:1d:4a	Broadcast	ITS	465	CAM(v2)

Frame 41: 465 bytes on wire (3720 bits), 465 bytes captured (3720 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:49.055530647 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426709.055530647 seconds
[Time delta from previous captured frame: 0.100210329 seconds]
[Time delta from previous displayed frame: 0.100210329 seconds]
[Time since reference or first frame: 65.590420118 seconds]
Frame Number: 41
Frame Length: 465 bytes (3720 bits)
Capture Length: 465 bytes (3720 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 451
Identification: 0x0516 (1302)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9eae [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 431
Checksum: 0x8803 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 65.590420118 seconds]
[Time since previous frame: 0.100210329 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 41
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002007b0191180000...
MKxIFMsg: 02007b019118000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=379, Seq=6289, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 379
Seq: 6289
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff91fbffff77e6a6fded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1135, TSF=0x0005d4de6feab77, FrameLength=0323, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -204
FreqOffset: -1135
TSF: 0x0005d4de6feab77
FrameLength: 323
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0000 1111 0000 .... = Sequence number: 240
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 245
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575829.728s (1575829728)
  Latitude: 48.7871909 (48°47'13.89"N) (487871909)
  Longitude: 9.2112503 (09°12'40.50"E) (92112503)
  1... .... = PAI: 1
  .000 0000 0001 0000 = Speed: 0x0010 (0.16 m/s) (0.58 km/h) (16)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (8492) (0x212c, 8.492 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110031430) (11.0031430 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (4125) (41.25 m/s, 148.50 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-3) (-0.3 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

```
    yawRate
      yawRateValue: straight (0) (0.00 deg/sec)
      yawRateConfidence: degSec-000-01 (0)
lowFrequencyContainer: basicVehicleContainerLowFrequency
  basicVehicleContainerLowFrequency
    vehicleRole: default (0)
    exteriorLights: 08 [bit length 8, 0000 1000 decimal value 8]
      0... .... lowBeamHeadlightsOn: False
      .0.. .... highBeamHeadlightsOn: False
      ..0. .... leftTurnSignalOn: False
      ...0 .... rightTurnSignalOn: False
      .... 1... daytimeRunningLightsOn: True
      .... .0.. reverseLightOn: False
      .... ..0. fogLightOn: False
      .... ...0 parkingLightsOn: False
    pathHistory: 23 items
      Item 0
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 1
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 2
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 3
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 4
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 5
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 6
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 7
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 8
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 9
        PathPoint
```



```
        pathPosition
          deltaLatitude: unavailable (131072)
          deltaLongitude: unavailable (131072)
          deltaAltitude: unavailable (12800)
        pathDeltaTime: Unknown (0)
Item 10
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 11
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 12
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 13
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 14
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 15
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 16
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 17
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 18
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 19
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 20
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
```

```
      pathDeltaTime: Unknown (0)
Item 21
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 22
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
42	65.700218353	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 42: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:49.165328882 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426709.165328882 seconds

[Time delta from previous captured frame: 0.109798235 seconds]

[Time delta from previous displayed frame: 0.109798235 seconds]

[Time since reference or first frame: 65.700218353 seconds]

Frame Number: 42

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x0518 (1304)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9f74 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0xa838 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 65.700218353 seconds]

[Time since previous frame: 0.109798235 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 42

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b30095180000...
MKxIFMsg: 0200b3009518000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6293, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6293
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff3aff67faffff937aec6fdded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-198, FreqOffset=-1433, TSF=0x0005d4de6fec7a93, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -198
    FreqOffset: -1433
    TSF: 0x0005d4de6fec7a93
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0000 1111 0001 .... = Sequence number: 241
Qos Control: 0x0023
    .... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575830.728s (1575830728)
  Latitude: 48.7871910 (48°47'13.89"N) (487871910)
  Longitude: 9.2112505 (09°12'40.50"E) (92112505)
  1... .... = PAI: 1
  .000 0000 0000 1000 = Speed: 0x0008 (0.08 m/s) (0.29 km/h) (8)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (8592) (0x2190, 8.592 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110030870) (11.0030870 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (4086) (40.86 m/s, 147.10 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-3) (-0.3 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
43	65.830193728	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 43: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:49.295304257 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426709.295304257 seconds

[Time delta from previous captured frame: 0.129975375 seconds]

[Time delta from previous displayed frame: 0.129975375 seconds]

[Time since reference or first frame: 65.830193728 seconds]

Frame Number: 43

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x051e (1310)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9f6e [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0x01d5 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 65.830193728 seconds]

[Time since previous frame: 0.129975375 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 43

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -46

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b30098180000...
MKxIFMsg: 0200b3009818000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6296, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6296
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a4ffa0ff34ff3aff2ffbf2596ee6fdded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-092, PowerB=-096,
NoiseA=-204, NoiseB=-198, FreqOffset=-1233, TSF=0x0005d4de6fee9625, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -92
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -198
    FreqOffset: -1233
    TSF: 0x0005d4de6fee9625
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
        .... ..00 = Version: 0
        .... 10.. = Type: Data frame (2)
        1000 .... = Subtype: 8
        Flags: 0x00
            .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
            .... .0.. = More Fragments: This is the last fragment
            .... 0... = Retry: Frame is not being retransmitted
            ...0 .... = PWR MGT: STA will stay up
            ..0. .... = More Data: No data buffered
            .0.. .... = Protected flag: Data is not protected
            0... .... = Order flag: Not strictly ordered
        .000 0000 0000 0000 = Duration: 0 microseconds
        Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
        Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
        Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
        .... .... 0000 = Fragment number: 0
        0000 1111 0010 .... = Sequence number: 242
        Qos Control: 0x0023
            .... .... 0011 = TID: 3
            [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
            .... .... 0 .... = EOSP: Service period
            .... .... 01. .... = Ack Policy: No Ack (0x1)
            .... .... 0... .... = Payload Type: MSDU
            0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
        000. 00.. = Command: Unnumbered Information (0x00)
        .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
        0001 .... = Version: 1
        .... 0001 = Next Header: Common (1)
        Reserved: 0

```



```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575830.728s (1575830728)
  Latitude: 48.7871910 (48°47'13.89"N) (487871910)
  Longitude: 9.2112505 (09°12'40.50"E) (92112505)
  1... .... = PAI: 1
  .000 0000 0000 1000 = Speed: 0x0008 (0.08 m/s) (0.29 km/h) (8)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (8692) (0x21f4, 8.692 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110030320) (11.0030320 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (4041) (40.41 m/s, 145.48 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
44	65.910154376	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 44: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:49.375264905 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426709.375264905 seconds
[Time delta from previous captured frame: 0.079960648 seconds]
[Time delta from previous displayed frame: 0.079960648 seconds]
[Time since reference or first frame: 65.910154376 seconds]
Frame Number: 44
Frame Length: 265 bytes (2120 bits)
Capture Length: 265 bytes (2120 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 251
Identification: 0x0521 (1313)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
..1. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9f6b [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 231
Checksum: 0xe22a [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 65.910154376 seconds]
[Time since previous frame: 0.079960648 seconds]
TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 44
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b3009b180000...
MKxIFMsg: 0200b3009b18000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6299, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 179
Seq: 6299
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff3aff34ffdbfaffff90b0ef6fded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-198, NoiseB=-204, FreqOffset=-1317, TSF=0x0005d4de6fefb090, FrameLength=0123, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -198
RxNoiseB: -204
FreqOffset: -1317
TSF: 0x0005d4de6fefb090
FrameLength: 123
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0000 1111 0011 .... = Sequence number: 243
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575830.728s (1575830728)
  Latitude: 48.7871910 (48°47'13.89"N) (487871910)
  Longitude: 9.2112505 (09°12'40.50"E) (92112505)
  1... .... = PAI: 1
  .000 0000 0000 1000 = Speed: 0x0008 (0.08 m/s) (0.29 km/h) (8)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (8792) (0x2258, 8.792 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110029770) (11.0029770 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (4000) (40.00 m/s, 144.00 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
45	65.990430057	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 45: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:49.455540586 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426709.455540586 seconds

[Time delta from previous captured frame: 0.080275681 seconds]

[Time delta from previous displayed frame: 0.080275681 seconds]

[Time since reference or first frame: 65.990430057 seconds]

Frame Number: 45

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x0527 (1319)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9f65 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0x1d15 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 65.990430057 seconds]

[Time since previous frame: 0.080275681 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 45

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b3009d180000...
MKxIFMsg: 0200b3009d18000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6301, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 179
Seq: 6301
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34fff6faffffb2fcf06fded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1290, TSF=0x0005d4de6ff0fcb2, FrameLength=0123, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -204
FreqOffset: -1290
TSF: 0x0005d4de6ff0fcb2
FrameLength: 123
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0000 1111 0100 .... = Sequence number: 244
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```



```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575830.728s (1575830728)
  Latitude: 48.7871910 (48°47'13.89"N) (487871910)
  Longitude: 9.2112505 (09°12'40.50"E) (92112505)
  1... .... = PAI: 1
  .000 0000 0000 1000 = Speed: 0x0008 (0.08 m/s) (0.29 km/h) (8)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (8892) (0x22bc, 8.892 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110029230) (11.0029230 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (3959) (39.59 m/s, 142.52 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
46	66.100211168	CohdaWir_20:1d:4a	Broadcast	ITS	465	CAM(v2)

Frame 46: 465 bytes on wire (3720 bits), 465 bytes captured (3720 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:49.565321697 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426709.565321697 seconds

[Time delta from previous captured frame: 0.109781111 seconds]

[Time delta from previous displayed frame: 0.109781111 seconds]

[Time since reference or first frame: 66.100211168 seconds]

Frame Number: 46

Frame Length: 465 bytes (3720 bits)

Capture Length: 465 bytes (3720 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 451

Identification: 0x052a (1322)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9e9a [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 431

Checksum: 0xcd25 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 66.100211168 seconds]

[Time since previous frame: 0.109781111 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 46

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002007b01a1180000...
MKxIFMsg: 02007b01a118000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=379, Seq=6305, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 379
Seq: 6305
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff77faffff0b9bf26fdded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1417, TSF=0x0005d4de6ff29b0b, FrameLength=0323, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -204
FreqOffset: -1417
TSF: 0x0005d4de6ff29b0b
FrameLength: 323
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0000 1111 0101 .... = Sequence number: 245
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 245
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575830.728s (1575830728)
  Latitude: 48.7871910 (48°47'13.89"N) (487871910)
  Longitude: 9.2112505 (09°12'40.50"E) (92112505)
  1... .... = PAI: 1
  .000 0000 0000 1000 = Speed: 0x0008 (0.08 m/s) (0.29 km/h) (8)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (8992) (0x2320, 8.992 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110028700) (11.0028700 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (3920) (39.20 m/s, 141.12 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-3) (-0.3 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

```
    yawRate
      yawRateValue: straight (0) (0.00 deg/sec)
      yawRateConfidence: degSec-000-01 (0)
lowFrequencyContainer: basicVehicleContainerLowFrequency
  basicVehicleContainerLowFrequency
    vehicleRole: default (0)
    exteriorLights: 08 [bit length 8, 0000 1000 decimal value 8]
      0... .... lowBeamHeadlightsOn: False
      .0.. .... highBeamHeadlightsOn: False
      ..0. .... leftTurnSignalOn: False
      ...0 .... rightTurnSignalOn: False
      .... 1... daytimeRunningLightsOn: True
      .... .0.. reverseLightOn: False
      .... ..0. fogLightOn: False
      .... ...0 parkingLightsOn: False
    pathHistory: 23 items
      Item 0
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 1
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 2
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 3
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 4
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 5
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 6
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 7
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 8
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 9
        PathPoint
```

```
        pathPosition
          deltaLatitude: unavailable (131072)
          deltaLongitude: unavailable (131072)
          deltaAltitude: unavailable (12800)
        pathDeltaTime: Unknown (0)
Item 10
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 11
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 12
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 13
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 14
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 15
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 16
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 17
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 18
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 19
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 20
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
```

```
      pathDeltaTime: Unknown (0)
Item 21
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 22
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
```


No.	Time	Source	Destination	Protocol	Length	Info
47	66.200203343	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 47: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:49.665313872 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426709.665313872 seconds

[Time delta from previous captured frame: 0.099992175 seconds]

[Time delta from previous displayed frame: 0.099992175 seconds]

[Time since reference or first frame: 66.200203343 seconds]

Frame Number: 47

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x0534 (1332)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9f58 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0x68b0 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 66.200203343 seconds]

[Time since previous frame: 0.099992175 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```
    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b300a4180000...
MKxIFMsg: 0200b300a418000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6308, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6308
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff64faffffa41ff46fded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1436, TSF=0x0005d4de6ff41fa4, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1436
    TSF: 0x0005d4de6ff41fa4
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0000 1111 0110 .... = Sequence number: 246
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. .011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0
```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575830.728s (1575830728)
  Latitude: 48.7871910 (48°47'13.89"N) (487871910)
  Longitude: 9.2112505 (09°12'40.50"E) (92112505)
  1... .... = PAI: 1
  .000 0000 0000 1000 = Speed: 0x0008 (0.08 m/s) (0.29 km/h) (8)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (9092) (0x2384, 9.092 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110028170) (11.0028170 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (3882) (38.82 m/s, 139.75 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-3) (-0.3 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
48	66.410324779	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 48: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:49.875435308 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426709.875435308 seconds

[Time delta from previous captured frame: 0.210121436 seconds]

[Time delta from previous displayed frame: 0.210121436 seconds]

[Time since reference or first frame: 66.410324779 seconds]

Frame Number: 48

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x0540 (1344)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9f4c [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0x7df1 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 66.410324779 seconds]

[Time since previous frame: 0.210121436 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 48

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b300a9180000...
MKxIFMsg: 0200b300a918000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6313, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6313
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ffb1faffff1557f76fdded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1359, TSF=0x0005d4de6ff75715, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1359
    TSF: 0x0005d4de6ff75715
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0000 1111 0111 .... = Sequence number: 247
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. .011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575830.728s (1575830728)
  Latitude: 48.7871910 (48°47'13.89"N) (487871910)
  Longitude: 9.2112505 (09°12'40.50"E) (92112505)
  1... .... = PAI: 1
  .000 0000 0000 1000 = Speed: 0x0008 (0.08 m/s) (0.29 km/h) (8)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (9292) (0x244c, 9.292 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110027120) (11.0027120 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (3792) (37.92 m/s, 136.51 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```


No.	Time	Source	Destination	Protocol	Length	Info
49	66.600249682	CohdaWir_20:1d:4a	Broadcast	ITS	465	CAM(v2)

Frame 49: 465 bytes on wire (3720 bits), 465 bytes captured (3720 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:50.065360211 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426710.065360211 seconds

[Time delta from previous captured frame: 0.189924903 seconds]

[Time delta from previous displayed frame: 0.189924903 seconds]

[Time since reference or first frame: 66.600249682 seconds]

Frame Number: 49

Frame Length: 465 bytes (3720 bits)

Capture Length: 465 bytes (3720 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 451

Identification: 0x0553 (1363)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9e71 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 431

Checksum: 0xb1be [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 66.600249682 seconds]

[Time since previous frame: 0.189924903 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 49

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -46

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002007b01ae180000...
MKxIFMsg: 02007b01ae18000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=379, Seq=6318, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 379
    Seq: 6318
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a4ffa0ff34ff3aff02fbffff163efa6fded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-092, PowerB=-096,
NoiseA=-204, NoiseB=-198, FreqOffset=-1278, TSF=0x0005d4de6ffa3e16, FrameLength=0323, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -92
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -198
    FreqOffset: -1278
    TSF: 0x0005d4de6ffa3e16
    FrameLength: 323
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0000 1111 1000 .... = Sequence number: 248
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. .011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 245
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575830.728s (1575830728)
  Latitude: 48.7871910 (48°47'13.89"N) (487871910)
  Longitude: 9.2112505 (09°12'40.50"E) (92112505)
  1... .... = PAI: 1
  .000 0000 0000 1000 = Speed: 0x0008 (0.08 m/s) (0.29 km/h) (8)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (9492) (0x2514, 9.492 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110026100) (11.0026100 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (3713) (37.13 m/s, 133.67 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

```
    yawRate
      yawRateValue: straight (0) (0.00 deg/sec)
      yawRateConfidence: degSec-000-01 (0)
  lowFrequencyContainer: basicVehicleContainerLowFrequency
    basicVehicleContainerLowFrequency
      vehicleRole: default (0)
      exteriorLights: 08 [bit length 8, 0000 1000 decimal value 8]
        0... .... lowBeamHeadlightsOn: False
        .0.. .... highBeamHeadlightsOn: False
        ..0. .... leftTurnSignalOn: False
        ...0 .... rightTurnSignalOn: False
        .... 1... daytimeRunningLightsOn: True
        .... .0.. reverseLightOn: False
        .... ..0. fogLightOn: False
        .... ...0 parkingLightsOn: False
      pathHistory: 23 items
        Item 0
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 1
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 2
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 3
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 4
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 5
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 6
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 7
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 8
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 9
          PathPoint
```

```
        pathPosition
          deltaLatitude: unavailable (131072)
          deltaLongitude: unavailable (131072)
          deltaAltitude: unavailable (12800)
        pathDeltaTime: Unknown (0)
Item 10
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 11
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 12
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 13
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 14
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 15
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 16
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 17
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 18
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 19
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 20
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
```

```
      pathDeltaTime: Unknown (0)
Item 21
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 22
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
50	66.800226565	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 50: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:50.265337094 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426710.265337094 seconds

[Time delta from previous captured frame: 0.199976883 seconds]

[Time delta from previous displayed frame: 0.199976883 seconds]

[Time since reference or first frame: 66.800226565 seconds]

Frame Number: 50

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x0567 (1383)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9f25 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0x872e [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 66.800226565 seconds]

[Time since previous frame: 0.199976883 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 50

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b300b3180000...
MKxIFMsg: 0200b300b318000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6323, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 179
Seq: 6323
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff31fbffff3b48fd6fded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1231, TSF=0x0005d4de6ffd483b, FrameLength=0123, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -204
FreqOffset: -1231
TSF: 0x0005d4de6ffd483b
FrameLength: 123
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0000 1111 1001 .... = Sequence number: 249
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```



```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575831.728s (1575831728)
  Latitude: 48.7871911 (48°47'13.89"N) (487871911)
  Longitude: 9.2112495 (09°12'40.50"E) (92112495)
  1... .... = PAI: 1
  .000 0000 0000 0110 = Speed: 0x0006 (0.06 m/s) (0.22 km/h) (6)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (9692) (0x25dc, 9.692 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110025100) (11.0025100 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (3629) (36.29 m/s, 130.64 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
51	66.990270841	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 51: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:50.455381370 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426710.455381370 seconds

[Time delta from previous captured frame: 0.190044276 seconds]

[Time delta from previous displayed frame: 0.190044276 seconds]

[Time since reference or first frame: 66.990270841 seconds]

Frame Number: 51

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x0576 (1398)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9f16 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0x02c9 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 66.990270841 seconds]

[Time since previous frame: 0.190044276 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 51

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b300b7180000...
MKxIFMsg: 0200b300b718000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6327, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 179
Seq: 6327
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff2eff3aff87fbffff73300070ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-210, NoiseB=-198, FreqOffset=-1145, TSF=0x0005d4de70003073, FrameLength=0123, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -210
RxNoiseB: -198
FreqOffset: -1145
TSF: 0x0005d4de70003073
FrameLength: 123
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0000 1111 1010 .... = Sequence number: 250
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575831.728s (1575831728)
  Latitude: 48.7871911 (48°47'13.89"N) (487871911)
  Longitude: 9.2112495 (09°12'40.50"E) (92112495)
  1... .... = PAI: 1
  .000 0000 0000 0110 = Speed: 0x0006 (0.06 m/s) (0.22 km/h) (6)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (9892) (0x26a4, 9.892 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110024130) (11.0024130 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (3555) (35.55 m/s, 127.98 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
52	67.190353526	CohdaWir_20:1d:4a	Broadcast	ITS	465	CAM(v2)

Frame 52: 465 bytes on wire (3720 bits), 465 bytes captured (3720 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:50.655464055 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426710.655464055 seconds

[Time delta from previous captured frame: 0.200082685 seconds]

[Time delta from previous displayed frame: 0.200082685 seconds]

[Time since reference or first frame: 67.190353526 seconds]

Frame Number: 52

Frame Length: 465 bytes (3720 bits)

Capture Length: 465 bytes (3720 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 451

Identification: 0x0583 (1411)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9e41 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 431

Checksum: 0x5d97 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 67.190353526 seconds]

[Time since previous frame: 0.200082685 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 52

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002007b01bc180000...
MKxIFMsg: 02007b01bc18000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=379, Seq=6332, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 379
    Seq: 6332
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff3affa7faffffae560370ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-198, FreqOffset=-1369, TSF=0x0005d4de700356ae, FrameLength=0323, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -198
    FreqOffset: -1369
    TSF: 0x0005d4de700356ae
    FrameLength: 323
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
        .... ..00 = Version: 0
        .... 10.. = Type: Data frame (2)
        1000 .... = Subtype: 8
        Flags: 0x00
            .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
            .... .0.. = More Fragments: This is the last fragment
            .... 0... = Retry: Frame is not being retransmitted
            ...0 .... = PWR MGT: STA will stay up
            ..0. .... = More Data: No data buffered
            .0.. .... = Protected flag: Data is not protected
            0... .... = Order flag: Not strictly ordered
        .000 0000 0000 0000 = Duration: 0 microseconds
        Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
        Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
        Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
        .... .... 0000 = Fragment number: 0
        0000 1111 1011 .... = Sequence number: 251
        Qos Control: 0x0023
            .... .... 0011 = TID: 3
            [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
            .... .... 0 .... = EOSP: Service period
            .... .... 01. .... = Ack Policy: No Ack (0x1)
            .... .... 0... .... = Payload Type: MSDU
            0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
        000. 00.. = Command: Unnumbered Information (0x00)
        .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
        0001 .... = Version: 1
        .... 0001 = Next Header: Common (1)
        Reserved: 0

```



```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 245
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575831.728s (1575831728)
  Latitude: 48.7871911 (48°47'13.89"N) (487871911)
  Longitude: 9.2112495 (09°12'40.50"E) (92112495)
  1... .... = PAI: 1
  .000 0000 0000 0110 = Speed: 0x0006 (0.06 m/s) (0.22 km/h) (6)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (10092) (0x276c, 10.092 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110023170) (11.0023170 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (3472) (34.72 m/s, 124.99 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-3) (-0.3 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

```
    yawRate
      yawRateValue: straight (0) (0.00 deg/sec)
      yawRateConfidence: degSec-000-01 (0)
  lowFrequencyContainer: basicVehicleContainerLowFrequency
    basicVehicleContainerLowFrequency
      vehicleRole: default (0)
      exteriorLights: 08 [bit length 8, 0000 1000 decimal value 8]
        0... .... lowBeamHeadlightsOn: False
        .0.. .... highBeamHeadlightsOn: False
        ..0. .... leftTurnSignalOn: False
        ...0 .... rightTurnSignalOn: False
        .... 1... daytimeRunningLightsOn: True
        .... .0.. reverseLightOn: False
        .... ..0. fogLightOn: False
        .... ...0 parkingLightsOn: False
      pathHistory: 23 items
        Item 0
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 1
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 2
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 3
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 4
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 5
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 6
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 7
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 8
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 9
          PathPoint
```

```
        pathPosition
          deltaLatitude: unavailable (131072)
          deltaLongitude: unavailable (131072)
          deltaAltitude: unavailable (12800)
        pathDeltaTime: Unknown (0)
Item 10
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 11
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 12
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 13
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 14
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 15
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 16
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 17
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 18
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 19
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 20
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
```

```
      pathDeltaTime: Unknown (0)
Item 21
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 22
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
53	67.410586030	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 53: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:50.875696559 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426710.875696559 seconds

[Time delta from previous captured frame: 0.220232504 seconds]

[Time delta from previous displayed frame: 0.220232504 seconds]

[Time since reference or first frame: 67.410586030 seconds]

Frame Number: 53

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x0588 (1416)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9f04 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0xe6bb [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 67.410586030 seconds]

[Time since previous frame: 0.220232504 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 53

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b300c2180000...
MKxIFMsg: 0200b300c218000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6338, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6338
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34fffdaffff519e0670ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1283, TSF=0x0005d4de70069e51, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1283
    TSF: 0x0005d4de70069e51
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0000 1111 1100 .... = Sequence number: 252
Qos Control: 0x0023
    .... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575831.728s (1575831728)
  Latitude: 48.7871911 (48°47'13.89"N) (487871911)
  Longitude: 9.2112495 (09°12'40.50"E) (92112495)
  1... .... = PAI: 1
  .000 0000 0000 0110 = Speed: 0x0006 (0.06 m/s) (0.22 km/h) (6)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (10292) (0x2834, 10.292 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110022240) (11.0022240 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (3388) (33.88 m/s, 121.97 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```


No.	Time	Source	Destination	Protocol	Length	Info
54	67.610336344	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 54: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:51.075446873 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426711.075446873 seconds

[Time delta from previous captured frame: 0.199750314 seconds]

[Time delta from previous displayed frame: 0.199750314 seconds]

[Time since reference or first frame: 67.610336344 seconds]

Frame Number: 54

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x0599 (1433)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9ef3 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0x5b5f [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 67.610336344 seconds]

[Time since previous frame: 0.199750314 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 54

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b300c7180000...
MKxIFMsg: 0200b300c718000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6343, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6343
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff6bfaffffb6a10970ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1429, TSF=0x0005d4de7009a1b6, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1429
    TSF: 0x0005d4de7009a1b6
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0000 1111 1101 .... = Sequence number: 253
Qos Control: 0x0023
    .... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575831.728s (1575831728)
  Latitude: 48.7871911 (48°47'13.89"N) (487871911)
  Longitude: 9.2112495 (09°12'40.50"E) (92112495)
  1... .... = PAI: 1
  .000 0000 0000 0110 = Speed: 0x0006 (0.06 m/s) (0.22 km/h) (6)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (10492) (0x28fc, 10.492 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110021330) (11.0021330 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (3312) (33.12 m/s, 119.23 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
55	67.790462373	CohdaWir_20:1d:4a	Broadcast	ITS	465	CAM(v2)

Frame 55: 465 bytes on wire (3720 bits), 465 bytes captured (3720 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:51.255572902 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426711.255572902 seconds
[Time delta from previous captured frame: 0.180126029 seconds]
[Time delta from previous displayed frame: 0.180126029 seconds]
[Time since reference or first frame: 67.790462373 seconds]
Frame Number: 55
Frame Length: 465 bytes (3720 bits)
Capture Length: 465 bytes (3720 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 451
Identification: 0x05a1 (1441)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9e23 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 431
Checksum: 0x99a4 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 67.790462373 seconds]
[Time since previous frame: 0.180126029 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 55
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002007b01cb180000...
MKxIFMsg: 02007b01cb18000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=379, Seq=6347, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 379
    Seq: 6347
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ffdefaffff73710c70ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1314, TSF=0x0005d4de700c7173, FrameLength=0323, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1314
    TSF: 0x0005d4de700c7173
    FrameLength: 323
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
        .... ..00 = Version: 0
        .... 10.. = Type: Data frame (2)
        1000 .... = Subtype: 8
        Flags: 0x00
            .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
            .... .0.. = More Fragments: This is the last fragment
            .... 0... = Retry: Frame is not being retransmitted
            ...0 .... = PWR MGT: STA will stay up
            ..0. .... = More Data: No data buffered
            .0.. .... = Protected flag: Data is not protected
            0... .... = Order flag: Not strictly ordered
        .000 0000 0000 0000 = Duration: 0 microseconds
        Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
        Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
        Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
        .... .... 0000 = Fragment number: 0
        0000 1111 1110 .... = Sequence number: 254
        Qos Control: 0x0023
            .... .... 0011 = TID: 3
            [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
            .... .... 0... = EOSP: Service period
            .... .... 01. .... = Ack Policy: No Ack (0x1)
            .... .... 0... = Payload Type: MSDU
            0000 0000 .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
        000. 00.. = Command: Unnumbered Information (0x00)
        .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
        0001 .... = Version: 1
        .... 0001 = Next Header: Common (1)
        Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 245
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575832.728s (1575832728)
  Latitude: 48.7871911 (48°47'13.89"N) (487871911)
  Longitude: 9.2112486 (09°12'40.49"E) (92112486)
  1... .... = PAI: 1
  .000 0000 0000 0100 = Speed: 0x0004 (0.04 m/s) (0.14 km/h) (4)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (10692) (0x29c4, 10.692 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110020440) (11.0020440 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (3227) (32.27 m/s, 116.17 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

```
    yawRate
      yawRateValue: straight (0) (0.00 deg/sec)
      yawRateConfidence: degSec-000-01 (0)
  lowFrequencyContainer: basicVehicleContainerLowFrequency
    basicVehicleContainerLowFrequency
      vehicleRole: default (0)
      exteriorLights: 08 [bit length 8, 0000 1000 decimal value 8]
        0... .... lowBeamHeadlightsOn: False
        .0.. .... highBeamHeadlightsOn: False
        ..0. .... leftTurnSignalOn: False
        ...0 .... rightTurnSignalOn: False
        .... 1... daytimeRunningLightsOn: True
        .... .0.. reverseLightOn: False
        .... ..0. fogLightOn: False
        .... ...0 parkingLightsOn: False
      pathHistory: 23 items
        Item 0
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 1
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 2
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 3
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 4
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 5
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 6
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 7
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 8
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 9
          PathPoint
```



```
        pathPosition
          deltaLatitude: unavailable (131072)
          deltaLongitude: unavailable (131072)
          deltaAltitude: unavailable (12800)
        pathDeltaTime: Unknown (0)
Item 10
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 11
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 12
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 13
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 14
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 15
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 16
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 17
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 18
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 19
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 20
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
```

```
      pathDeltaTime: Unknown (0)
Item 21
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 22
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
56	68.050282955	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 56: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:51.515393484 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426711.515393484 seconds
[Time delta from previous captured frame: 0.259820582 seconds]
[Time delta from previous displayed frame: 0.259820582 seconds]
[Time since reference or first frame: 68.050282955 seconds]
Frame Number: 56
Frame Length: 265 bytes (2120 bits)
Capture Length: 265 bytes (2120 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 251
Identification: 0x05b3 (1459)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9ed9 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 231
Checksum: 0x444a [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 68.050282955 seconds]
[Time since previous frame: 0.259820582 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 56
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b300d2180000...
MKxIFMsg: 0200b300d218000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6354, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 179
Seq: 6354
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff3aff3aff6ffbf8c551070ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-198, NoiseB=-198, FreqOffset=-1169, TSF=0x0005d4de7010558c, FrameLength=0123, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -198
RxNoiseB: -198
FreqOffset: -1169
TSF: 0x0005d4de7010558c
FrameLength: 123
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0000 1111 1111 .... = Sequence number: 255
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575832.728s (1575832728)
  Latitude: 48.7871911 (48°47'13.89"N) (487871911)
  Longitude: 9.2112486 (09°12'40.49"E) (92112486)
  1... .... = PAI: 1
  .000 0000 0000 0100 = Speed: 0x0004 (0.04 m/s) (0.14 km/h) (4)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (10892) (0x2a8c, 10.892 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110019570) (11.0019570 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (3150) (31.50 m/s, 113.40 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
57	68.190513983	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 57: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:51.655624512 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426711.655624512 seconds
[Time delta from previous captured frame: 0.140231028 seconds]
[Time delta from previous displayed frame: 0.140231028 seconds]
[Time since reference or first frame: 68.190513983 seconds]
Frame Number: 57
Frame Length: 265 bytes (2120 bits)
Capture Length: 265 bytes (2120 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 251
Identification: 0x05c1 (1473)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
..1. = Don't fragment: Set
...0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9ecb [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 231
Checksum: 0xdeed [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 68.190513983 seconds]
[Time since previous frame: 0.140231028 seconds]
TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 57
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b300d5180000...
MKxIFMsg: 0200b300d518000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6357, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6357
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff56faffff4961270ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1450, TSF=0x0005d4de701296f4, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1450
    TSF: 0x0005d4de701296f4
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0001 0000 0000 .... = Sequence number: 256
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... 0 .... = EOSP: Service period
    .... .... 01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```



```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575832.728s (1575832728)
  Latitude: 48.7871911 (48°47'13.89"N) (487871911)
  Longitude: 9.2112486 (09°12'40.49"E) (92112486)
  1... .... = PAI: 1
  .000 0000 0000 0100 = Speed: 0x0004 (0.04 m/s) (0.14 km/h) (4)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (11092) (0x2b54, 11.092 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110018730) (11.0018730 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (3076) (30.76 m/s, 110.74 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-3) (-0.3 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

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```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
58	68.390466940	CohdaWir_20:1d:4a	Broadcast	ITS	465	CAM(v2)

Frame 58: 465 bytes on wire (3720 bits), 465 bytes captured (3720 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:51.855577469 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426711.855577469 seconds
[Time delta from previous captured frame: 0.199952957 seconds]
[Time delta from previous displayed frame: 0.199952957 seconds]
[Time since reference or first frame: 68.390466940 seconds]
Frame Number: 58
Frame Length: 465 bytes (3720 bits)
Capture Length: 465 bytes (3720 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 451
Identification: 0x05c2 (1474)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9e02 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 431
Checksum: 0x36b6 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 68.390466940 seconds]
[Time since previous frame: 0.199952957 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 58
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002007b01da180000...
MKxIFMsg: 02007b01da18000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=379, Seq=6362, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 379
    Seq: 6362
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ffd8fbffff05a91570ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1064, TSF=0x0005d4de7015a905, FrameLength=0323, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1064
    TSF: 0x0005d4de7015a905
    FrameLength: 323
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0001 0000 0001 .... = Sequence number: 257
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... 0 .... = EOSP: Service period
    .... .... 01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0
```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 245
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575832.728s (1575832728)
  Latitude: 48.7871911 (48°47'13.89"N) (487871911)
  Longitude: 9.2112486 (09°12'40.49"E) (92112486)
  1... .... = PAI: 1
  .000 0000 0000 0100 = Speed: 0x0004 (0.04 m/s) (0.14 km/h) (4)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (11292) (0x2c1c, 11.292 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110017900) (11.0017900 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (2991) (29.91 m/s, 107.68 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

```
    yawRate
      yawRateValue: straight (0) (0.00 deg/sec)
      yawRateConfidence: degSec-000-01 (0)
lowFrequencyContainer: basicVehicleContainerLowFrequency
  basicVehicleContainerLowFrequency
    vehicleRole: default (0)
    exteriorLights: 08 [bit length 8, 0000 1000 decimal value 8]
      0... .... lowBeamHeadlightsOn: False
      .0.. .... highBeamHeadlightsOn: False
      ..0. .... leftTurnSignalOn: False
      ...0 .... rightTurnSignalOn: False
      .... 1... daytimeRunningLightsOn: True
      .... .0.. reverseLightOn: False
      .... ..0. fogLightOn: False
      .... ...0 parkingLightsOn: False
    pathHistory: 23 items
      Item 0
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 1
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 2
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 3
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 4
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 5
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 6
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 7
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 8
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 9
        PathPoint
```

```
        pathPosition
          deltaLatitude: unavailable (131072)
          deltaLongitude: unavailable (131072)
          deltaAltitude: unavailable (12800)
        pathDeltaTime: Unknown (0)
Item 10
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 11
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 12
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 13
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 14
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 15
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 16
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 17
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 18
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 19
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 20
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
```

```
      pathDeltaTime: Unknown (0)
Item 21
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 22
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
```


No.	Time	Source	Destination	Protocol	Length	Info
59	68.600386072	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 59: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:52.065496601 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426712.065496601 seconds
[Time delta from previous captured frame: 0.209919132 seconds]
[Time delta from previous displayed frame: 0.209919132 seconds]
[Time since reference or first frame: 68.600386072 seconds]
Frame Number: 59
Frame Length: 265 bytes (2120 bits)
Capture Length: 265 bytes (2120 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 251
Identification: 0x05cb (1483)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
..1. = Don't fragment: Set
...0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9ec1 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 231
Checksum: 0x3caf [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 68.600386072 seconds]
[Time since previous frame: 0.209919132 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 59
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b300e0180000...
MKxIFMsg: 0200b300e018000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6368, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6368
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff3aff34ff81faffff64bb1870ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-198, NoiseB=-204, FreqOffset=-1407, TSF=0x0005d4de7018bb64, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -198
    RxNoiseB: -204
    FreqOffset: -1407
    TSF: 0x0005d4de7018bb64
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
        .... ..00 = Version: 0
        .... 10.. = Type: Data frame (2)
        1000 .... = Subtype: 8
        Flags: 0x00
            .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
            .... .0.. = More Fragments: This is the last fragment
            .... 0... = Retry: Frame is not being retransmitted
            ...0 .... = PWR MGT: STA will stay up
            ..0. .... = More Data: No data buffered
            .0.. .... = Protected flag: Data is not protected
            0... .... = Order flag: Not strictly ordered
        .000 0000 0000 0000 = Duration: 0 microseconds
        Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
        Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
        Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
        .... .... 0000 = Fragment number: 0
        0001 0000 0010 .... = Sequence number: 258
        Qos Control: 0x0023
            .... .... 0011 = TID: 3
            [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
            .... .... 0 .... = EOSP: Service period
            .... .... 01. .... = Ack Policy: No Ack (0x1)
            .... .... 0... .... = Payload Type: MSDU
            0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
        000. 00.. = Command: Unnumbered Information (0x00)
        .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
        0001 .... = Version: 1
        .... 0001 = Next Header: Common (1)
        Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575832.728s (1575832728)
  Latitude: 48.7871911 (48°47'13.89"N) (487871911)
  Longitude: 9.2112486 (09°12'40.49"E) (92112486)
  1... .... = PAI: 1
  .000 0000 0000 0100 = Speed: 0x0004 (0.04 m/s) (0.14 km/h) (4)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (11492) (0x2ce4, 11.492 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110017100) (11.0017100 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (2915) (29.15 m/s, 104.94 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
60	68.790285934	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 60: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:52.255396463 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426712.255396463 seconds

[Time delta from previous captured frame: 0.189899862 seconds]

[Time delta from previous displayed frame: 0.189899862 seconds]

[Time since reference or first frame: 68.790285934 seconds]

Frame Number: 60

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x05cc (1484)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9ec0 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0x7109 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 68.790285934 seconds]

[Time since previous frame: 0.189899862 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 60

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b300e4180000...
MKxIFMsg: 0200b300e418000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6372, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6372
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff4cfaffffe1b41b70ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1460, TSF=0x0005d4de701bb4e1, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1460
    TSF: 0x0005d4de701bb4e1
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0001 0000 0011 .... = Sequence number: 259
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... 0 .... = EOSP: Service period
    .... .... 01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575833.728s (1575833728)
  Latitude: 48.7871909 (48°47'13.89"N) (487871909)
  Longitude: 9.2112482 (09°12'40.49"E) (92112482)
  1... .... = PAI: 1
  .000 0000 0000 0010 = Speed: 0x0002 (0.02 m/s) (0.07 km/h) (2)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (11692) (0x2dac, 11.692 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110016320) (11.0016320 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (2835) (28.35 m/s, 102.06 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```


No.	Time	Source	Destination	Protocol	Length	Info
61	69.000228388	CohdaWir_20:1d:4a	Broadcast	ITS	465	CAM(v2)

Frame 61: 465 bytes on wire (3720 bits), 465 bytes captured (3720 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:52.465338917 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426712.465338917 seconds

[Time delta from previous captured frame: 0.209942454 seconds]

[Time delta from previous displayed frame: 0.209942454 seconds]

[Time since reference or first frame: 69.000228388 seconds]

Frame Number: 61

Frame Length: 465 bytes (3720 bits)

Capture Length: 465 bytes (3720 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 451

Identification: 0x05ce (1486)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9df6 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 431

Checksum: 0xbf85 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 69.000228388 seconds]

[Time since previous frame: 0.209942454 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 61

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002007b01ea180000...
MKxIFMsg: 02007b01ea18000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=379, Seq=6378, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 379
Seq: 6378
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ffeffaffff9ed81e70ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1297, TSF=0x0005d4de701ed89e, FrameLength=0323, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -204
FreqOffset: -1297
TSF: 0x0005d4de701ed89e
FrameLength: 323
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0000 0100 .... = Sequence number: 260
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 245
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575833.728s (1575833728)
  Latitude: 48.7871909 (48°47'13.89"N) (487871909)
  Longitude: 9.2112482 (09°12'40.49"E) (92112482)
  1... .... = PAI: 1
  .000 0000 0000 0010 = Speed: 0x0002 (0.02 m/s) (0.07 km/h) (2)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (11892) (0x2e74, 11.892 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110015560) (11.0015560 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (2760) (27.60 m/s, 99.36 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

```
    yawRate
      yawRateValue: straight (0) (0.00 deg/sec)
      yawRateConfidence: degSec-000-01 (0)
  lowFrequencyContainer: basicVehicleContainerLowFrequency
    basicVehicleContainerLowFrequency
      vehicleRole: default (0)
      exteriorLights: 08 [bit length 8, 0000 1000 decimal value 8]
        0... .... lowBeamHeadlightsOn: False
        .0.. .... highBeamHeadlightsOn: False
        ..0. .... leftTurnSignalOn: False
        ...0 .... rightTurnSignalOn: False
        .... 1... daytimeRunningLightsOn: True
        .... .0.. reverseLightOn: False
        .... ..0. fogLightOn: False
        .... ...0 parkingLightsOn: False
      pathHistory: 23 items
        Item 0
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 1
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 2
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 3
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 4
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 5
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 6
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 7
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 8
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 9
          PathPoint
```

```
        pathPosition
          deltaLatitude: unavailable (131072)
          deltaLongitude: unavailable (131072)
          deltaAltitude: unavailable (12800)
        pathDeltaTime: Unknown (0)
Item 10
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 11
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 12
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 13
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 14
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 15
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 16
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 17
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 18
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 19
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 20
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
```

```
      pathDeltaTime: Unknown (0)
Item 21
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 22
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
62	69.190283354	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 62: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:52.655393883 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426712.655393883 seconds
[Time delta from previous captured frame: 0.190054966 seconds]
[Time delta from previous displayed frame: 0.190054966 seconds]
[Time since reference or first frame: 69.190283354 seconds]
Frame Number: 62
Frame Length: 265 bytes (2120 bits)
Capture Length: 265 bytes (2120 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 251
Identification: 0x05dd (1501)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9eaf [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 231
Checksum: 0x15a3 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 69.190283354 seconds]
[Time since previous frame: 0.190054966 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 62
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b300ee180000...
MKxIFMsg: 0200b300ee18000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6382, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6382
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff3aff3affcdafffff6cc62170ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-198, NoiseB=-198, FreqOffset=-1331, TSF=0x0005d4de7021c66c, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -198
    RxNoiseB: -198
    FreqOffset: -1331
    TSF: 0x0005d4de7021c66c
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0001 0000 0101 .... = Sequence number: 261
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0
```



```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575833.728s (1575833728)
  Latitude: 48.7871909 (48°47'13.89"N) (487871909)
  Longitude: 9.2112482 (09°12'40.49"E) (92112482)
  1... .... = PAI: 1
  .000 0000 0000 0010 = Speed: 0x0002 (0.02 m/s) (0.07 km/h) (2)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (12092) (0x2f3c, 12.092 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110014820) (11.0014820 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (2682) (26.82 m/s, 96.55 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-3) (-0.3 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

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```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
63	69.400214439	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 63: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:52.865324968 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426712.865324968 seconds

[Time delta from previous captured frame: 0.209931085 seconds]

[Time delta from previous displayed frame: 0.209931085 seconds]

[Time since reference or first frame: 69.400214439 seconds]

Frame Number: 63

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x05ed (1517)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9e9f [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0x9907 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 69.400214439 seconds]

[Time since previous frame: 0.209931085 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 63

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b300f4180000...
MKxIFMsg: 0200b300f418000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6388, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6388
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff06fbfffc3fd2470ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1274, TSF=0x0005d4de7024fdc3, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1274
    TSF: 0x0005d4de7024fdc3
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0000 0110 .... = Sequence number: 262
Qos Control: 0x0023
    .... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575833.728s (1575833728)
  Latitude: 48.7871909 (48°47'13.89"N) (487871909)
  Longitude: 9.2112482 (09°12'40.49"E) (92112482)
  1... .... = PAI: 1
  .000 0000 0000 0010 = Speed: 0x0002 (0.02 m/s) (0.07 km/h) (2)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (12292) (0x3004, 12.292 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110014110) (11.0014110 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (2594) (25.94 m/s, 93.38 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
64	69.590434902	CohdaWir_20:1d:4a	Broadcast	ITS	465	CAM(v2)

Frame 64: 465 bytes on wire (3720 bits), 465 bytes captured (3720 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:53.055545431 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426713.055545431 seconds
[Time delta from previous captured frame: 0.190220463 seconds]
[Time delta from previous displayed frame: 0.190220463 seconds]
[Time since reference or first frame: 69.590434902 seconds]
Frame Number: 64
Frame Length: 465 bytes (3720 bits)
Capture Length: 465 bytes (3720 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 451
Identification: 0x05fa (1530)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9dca [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 431
Checksum: 0x0d35 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 69.590434902 seconds]
[Time since previous frame: 0.190220463 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 64
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002007b01f8180000...
MKxIFMsg: 02007b01f818000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=379, Seq=6392, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 379
    Seq: 6392
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff3affa5faffff82f42770ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-198, FreqOffset=-1371, TSF=0x0005d4de7027f482, FrameLength=0323, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -198
    FreqOffset: -1371
    TSF: 0x0005d4de7027f482
    FrameLength: 323
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
        .... ..00 = Version: 0
        .... 10.. = Type: Data frame (2)
        1000 .... = Subtype: 8
        Flags: 0x00
            .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
            .... .0.. = More Fragments: This is the last fragment
            .... 0... = Retry: Frame is not being retransmitted
            ...0 .... = PWR MGT: STA will stay up
            ..0. .... = More Data: No data buffered
            .0.. .... = Protected flag: Data is not protected
            0... .... = Order flag: Not strictly ordered
        .000 0000 0000 0000 = Duration: 0 microseconds
        Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
        Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
        Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
        .... .... 0000 = Fragment number: 0
        0001 0000 0111 .... = Sequence number: 263
        Qos Control: 0x0023
            .... .... 0011 = TID: 3
            [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
            .... .... .0 .... = EOSP: Service period
            .... .... .01. .... = Ack Policy: No Ack (0x1)
            .... .... 0... .... = Payload Type: MSDU
            0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
        000. 00.. = Command: Unnumbered Information (0x00)
        .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
        0001 .... = Version: 1
        .... 0001 = Next Header: Common (1)
        Reserved: 0

```



```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 245
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575833.728s (1575833728)
  Latitude: 48.7871909 (48°47'13.89"N) (487871909)
  Longitude: 9.2112482 (09°12'40.49"E) (92112482)
  1... .... = PAI: 1
  .000 0000 0000 0010 = Speed: 0x0002 (0.02 m/s) (0.07 km/h) (2)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (12492) (0x30cc, 12.492 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110013410) (11.0013410 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (2527) (25.27 m/s, 90.97 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-3) (-0.3 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

```
    yawRate
      yawRateValue: straight (0) (0.00 deg/sec)
      yawRateConfidence: degSec-000-01 (0)
  lowFrequencyContainer: basicVehicleContainerLowFrequency
    basicVehicleContainerLowFrequency
      vehicleRole: default (0)
      exteriorLights: 08 [bit length 8, 0000 1000 decimal value 8]
        0... .... lowBeamHeadlightsOn: False
        .0.. .... highBeamHeadlightsOn: False
        ..0. .... leftTurnSignalOn: False
        ...0 .... rightTurnSignalOn: False
        .... 1... daytimeRunningLightsOn: True
        .... .0.. reverseLightOn: False
        .... ..0. fogLightOn: False
        .... ...0 parkingLightsOn: False
      pathHistory: 23 items
        Item 0
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 1
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 2
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 3
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 4
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 5
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 6
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 7
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 8
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 9
          PathPoint
```

```
        pathPosition
          deltaLatitude: unavailable (131072)
          deltaLongitude: unavailable (131072)
          deltaAltitude: unavailable (12800)
        pathDeltaTime: Unknown (0)
Item 10
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 11
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 12
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 13
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 14
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 15
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 16
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 17
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 18
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 19
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 20
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
```

```
      pathDeltaTime: Unknown (0)
Item 21
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 22
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
65	69.790384875	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 65: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:53.255495404 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426713.255495404 seconds
[Time delta from previous captured frame: 0.199949973 seconds]
[Time delta from previous displayed frame: 0.199949973 seconds]
[Time since reference or first frame: 69.790384875 seconds]
Frame Number: 65
Frame Length: 265 bytes (2120 bits)
Capture Length: 265 bytes (2120 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 251
Identification: 0x0600 (1536)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
..1. = Don't fragment: Set
...0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9e8c [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 231
Checksum: 0x0540 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 69.790384875 seconds]
[Time since previous frame: 0.199949973 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 65
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b300fd180000...
MKxIFMsg: 0200b300fd18000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6397, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 179
Seq: 6397
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff85fbffff29fc2a70ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1147, TSF=0x0005d4de702afc29, FrameLength=0123, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -204
FreqOffset: -1147
TSF: 0x0005d4de702afc29
FrameLength: 123
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0000 1000 .... = Sequence number: 264
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575834.728s (1575834728)
  Latitude: 48.7871908 (48°47'13.89"N) (487871908)
  Longitude: 9.2112475 (09°12'40.49"E) (92112475)
  1... .... = PAI: 1
  .000 0000 0000 0100 = Speed: 0x0004 (0.04 m/s) (0.14 km/h) (4)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (12692) (0x3194, 12.692 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110012740) (11.0012740 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (2445) (24.45 m/s, 88.02 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-3) (-0.3 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```


No.	Time	Source	Destination	Protocol	Length	Info
66	70.000203399	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 66: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:53.465313928 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426713.465313928 seconds

[Time delta from previous captured frame: 0.209818524 seconds]

[Time delta from previous displayed frame: 0.209818524 seconds]

[Time since reference or first frame: 70.000203399 seconds]

Frame Number: 66

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x060f (1551)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9e7d [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0x9a2b [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 70.000203399 seconds]

[Time since previous frame: 0.209818524 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 66

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b30003190000...
MKxIFMsg: 0200b3000319000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6403, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 179
Seq: 6403
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff3affccf9ffffdd202e70ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-198, FreqOffset=-1588, TSF=0x0005d4de702e20dd, FrameLength=0123, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -198
FreqOffset: -1588
TSF: 0x0005d4de702e20dd
FrameLength: 123
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0000 1001 .... = Sequence number: 265
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575834.728s (1575834728)
  Latitude: 48.7871908 (48°47'13.89"N) (487871908)
  Longitude: 9.2112475 (09°12'40.49"E) (92112475)
  1... .... = PAI: 1
  .000 0000 0000 0100 = Speed: 0x0004 (0.04 m/s) (0.14 km/h) (4)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (12892) (0x325c, 12.892 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110012090) (11.0012090 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (2362) (23.62 m/s, 85.03 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
67	70.180303869	CohdaWir_20:1d:4a	Broadcast	ITS	465	CAM(v2)

Frame 67: 465 bytes on wire (3720 bits), 465 bytes captured (3720 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:53.645414398 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426713.645414398 seconds
[Time delta from previous captured frame: 0.180100470 seconds]
[Time delta from previous displayed frame: 0.180100470 seconds]
[Time since reference or first frame: 70.180303869 seconds]
Frame Number: 67
Frame Length: 465 bytes (3720 bits)
Capture Length: 465 bytes (3720 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 451
Identification: 0x0615 (1557)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9daf [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 431
Checksum: 0x92bd [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 70.180303869 seconds]
[Time since previous frame: 0.180100470 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 67
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002007b0107190000...
MKxIFMsg: 02007b010719000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=379, Seq=6407, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 379
Seq: 6407
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff3aff34ff49fbffffdaec3070ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-198, NoiseB=-204, FreqOffset=-1207, TSF=0x0005d4de7030ecda, FrameLength=0323, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -198
RxNoiseB: -204
FreqOffset: -1207
TSF: 0x0005d4de7030ecda
FrameLength: 323
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0000 1010 .... = Sequence number: 266
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 245
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 00 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575834.728s (1575834728)
  Latitude: 48.7871908 (48°47'13.89"N) (487871908)
  Longitude: 9.2112475 (09°12'40.49"E) (92112475)
  1... .... = PAI: 1
  .000 0000 0000 0100 = Speed: 0x0004 (0.04 m/s) (0.14 km/h) (4)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (13092) (0x3324, 13.092 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110011460) (11.0011460 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (2286) (22.86 m/s, 82.30 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

```
    yawRate
      yawRateValue: straight (0) (0.00 deg/sec)
      yawRateConfidence: degSec-000-01 (0)
lowFrequencyContainer: basicVehicleContainerLowFrequency
  basicVehicleContainerLowFrequency
    vehicleRole: default (0)
    exteriorLights: 08 [bit length 8, 0000 1000 decimal value 8]
      0... .... lowBeamHeadlightsOn: False
      .0.. .... highBeamHeadlightsOn: False
      ..0. .... leftTurnSignalOn: False
      ...0 .... rightTurnSignalOn: False
      .... 1... daytimeRunningLightsOn: True
      .... .0.. reverseLightOn: False
      .... ..0. fogLightOn: False
      .... ...0 parkingLightsOn: False
    pathHistory: 23 items
      Item 0
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 1
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 2
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 3
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 4
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 5
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 6
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 7
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 8
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 9
        PathPoint
```



```
        pathPosition
          deltaLatitude: unavailable (131072)
          deltaLongitude: unavailable (131072)
          deltaAltitude: unavailable (12800)
        pathDeltaTime: Unknown (0)
Item 10
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 11
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 12
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 13
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 14
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 15
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 16
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 17
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 18
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 19
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 20
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
```

```
      pathDeltaTime: Unknown (0)
Item 21
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 22
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
68	70.410212344	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 68: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:53.875322873 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426713.875322873 seconds

[Time delta from previous captured frame: 0.229908475 seconds]

[Time delta from previous displayed frame: 0.229908475 seconds]

[Time since reference or first frame: 70.410212344 seconds]

Frame Number: 68

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x062c (1580)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9e60 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0xa082 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 70.410212344 seconds]

[Time since previous frame: 0.229908475 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 68

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b3000d190000...
MKxIFMsg: 0200b3000d1900000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6413, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 179
Seq: 6413
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff58faffffb7563470ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1448, TSF=0x0005d4de703456b7, FrameLength=0123, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -204
FreqOffset: -1448
TSF: 0x0005d4de703456b7
FrameLength: 123
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0000 1011 .... = Sequence number: 267
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575834.728s (1575834728)
  Latitude: 48.7871908 (48°47'13.89"N) (487871908)
  Longitude: 9.2112475 (09°12'40.49"E) (92112475)
  1... .... = PAI: 1
  .000 0000 0000 0100 = Speed: 0x0004 (0.04 m/s) (0.14 km/h) (4)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (13292) (0x33ec, 13.292 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110010850) (11.0010850 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (2222) (22.22 m/s, 79.99 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-2) (-0.2 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
69	70.590365509	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 69: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:54.055476038 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426714.055476038 seconds
[Time delta from previous captured frame: 0.180153165 seconds]
[Time delta from previous displayed frame: 0.180153165 seconds]
[Time since reference or first frame: 70.590365509 seconds]
Frame Number: 69
Frame Length: 265 bytes (2120 bits)
Capture Length: 265 bytes (2120 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 251
Identification: 0x0632 (1586)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9e5a [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 231
Checksum: 0x2ad6 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 70.590365509 seconds]
[Time since previous frame: 0.180153165 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 69
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -49
Rate
Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b30011190000...
MKxIFMsg: 0200b3001119000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6417, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 179
Seq: 6417
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a0ff9efff34ff34ffe8f9ffffd92e3770ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-096, PowerB=-098,
NoiseA=-204, NoiseB=-204, FreqOffset=-1560, TSF=0x0005d4de70372ed9, FrameLength=0123, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -96
RxPowerB: -98
RxNoiseA: -204
RxNoiseB: -204
FreqOffset: -1560
TSF: 0x0005d4de70372ed9
FrameLength: 123
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0000 1100 .... = Sequence number: 268
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```



```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575834.728s (1575834728)
  Latitude: 48.7871908 (48°47'13.89"N) (487871908)
  Longitude: 9.2112475 (09°12'40.49"E) (92112475)
  1... .... = PAI: 1
  .000 0000 0000 0100 = Speed: 0x0004 (0.04 m/s) (0.14 km/h) (4)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (13492) (0x34b4, 13.492 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110010260) (11.0010260 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (2139) (21.39 m/s, 77.00 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
70	70.790374805	CohdaWir_20:1d:4a	Broadcast	ITS	465	CAM(v2)

Frame 70: 465 bytes on wire (3720 bits), 465 bytes captured (3720 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:54.255485334 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426714.255485334 seconds

[Time delta from previous captured frame: 0.200009296 seconds]

[Time delta from previous displayed frame: 0.200009296 seconds]

[Time since reference or first frame: 70.790374805 seconds]

Frame Number: 70

Frame Length: 465 bytes (3720 bits)

Capture Length: 465 bytes (3720 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 451

Identification: 0x0640 (1600)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9d84 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 431

Checksum: 0x4997 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 70.790374805 seconds]

[Time since previous frame: 0.200009296 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 70

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002007b0116190000...
MKxIFMsg: 02007b011619000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=379, Seq=6422, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 379
Seq: 6422
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff3aff21fbffff21423a70ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-198, FreqOffset=-1247, TSF=0x0005d4de703a4221, FrameLength=0323, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -198
FreqOffset: -1247
TSF: 0x0005d4de703a4221
FrameLength: 323
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0000 1101 .... = Sequence number: 269
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 245
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575835.728s (1575835728)
  Latitude: 48.7871901 (48°47'13.88"N) (487871901)
  Longitude: 9.2112464 (09°12'40.49"E) (92112464)
  1... .... = PAI: 1
  .000 0000 0000 0110 = Speed: 0x0006 (0.06 m/s) (0.22 km/h) (6)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (13692) (0x357c, 13.692 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110009680) (11.0009680 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (2067) (20.67 m/s, 74.41 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

```
    yawRate
      yawRateValue: straight (0) (0.00 deg/sec)
      yawRateConfidence: degSec-000-01 (0)
  lowFrequencyContainer: basicVehicleContainerLowFrequency
    basicVehicleContainerLowFrequency
      vehicleRole: default (0)
      exteriorLights: 08 [bit length 8, 0000 1000 decimal value 8]
        0... .... lowBeamHeadlightsOn: False
        .0.. .... highBeamHeadlightsOn: False
        ..0. .... leftTurnSignalOn: False
        ...0 .... rightTurnSignalOn: False
        .... 1... daytimeRunningLightsOn: True
        .... .0.. reverseLightOn: False
        .... ..0. fogLightOn: False
        .... ...0 parkingLightsOn: False
      pathHistory: 23 items
        Item 0
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 1
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 2
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 3
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 4
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 5
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 6
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 7
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 8
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 9
          PathPoint
```

```
        pathPosition
          deltaLatitude: unavailable (131072)
          deltaLongitude: unavailable (131072)
          deltaAltitude: unavailable (12800)
        pathDeltaTime: Unknown (0)
Item 10
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 11
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 12
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 13
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 14
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 15
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 16
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 17
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 18
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 19
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 20
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
```

```
      pathDeltaTime: Unknown (0)
Item 21
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 22
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
```


No.	Time	Source	Destination	Protocol	Length	Info
71	71.000203756	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 71: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:54.465314285 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426714.465314285 seconds
[Time delta from previous captured frame: 0.209828951 seconds]
[Time delta from previous displayed frame: 0.209828951 seconds]
[Time since reference or first frame: 71.000203756 seconds]
Frame Number: 71
Frame Length: 265 bytes (2120 bits)
Capture Length: 265 bytes (2120 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 251
Identification: 0x0653 (1619)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9e39 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 231
Checksum: 0x029c [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 71.000203756 seconds]
[Time since previous frame: 0.209828951 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 71
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b3001c190000...
MKxIFMsg: 0200b3001c19000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6428, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 179
Seq: 6428
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff3aff6afbffff316e3d70ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-198, FreqOffset=-1174, TSF=0x0005d4de703d6e31, FrameLength=0123, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -198
FreqOffset: -1174
TSF: 0x0005d4de703d6e31
FrameLength: 123
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0000 1110 .... = Sequence number: 270
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575835.728s (1575835728)
  Latitude: 48.7871901 (48°47'13.88"N) (487871901)
  Longitude: 9.2112464 (09°12'40.49"E) (92112464)
  1... .... = PAI: 1
  .000 0000 0000 0110 = Speed: 0x0006 (0.06 m/s) (0.22 km/h) (6)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (13892) (0x3644, 13.892 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110009140) (11.0009140 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (1984) (19.84 m/s, 71.42 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
72	71.200208889	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 72: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:54.665319418 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426714.665319418 seconds

[Time delta from previous captured frame: 0.200005133 seconds]

[Time delta from previous displayed frame: 0.200005133 seconds]

[Time since reference or first frame: 71.200208889 seconds]

Frame Number: 72

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x0665 (1637)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9e27 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0xfe80 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 71.200208889 seconds]

[Time since previous frame: 0.200005133 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 72

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b30021190000...
MKxIFMsg: 0200b3002119000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6433, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6433
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff3aff34ff9bfaffff4f7d4070ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-198, NoiseB=-204, FreqOffset=-1381, TSF=0x0005d4de70407d4f, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -198
    RxNoiseB: -204
    FreqOffset: -1381
    TSF: 0x0005d4de70407d4f
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0001 0000 1111 .... = Sequence number: 271
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. .011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575835.728s (1575835728)
  Latitude: 48.7871901 (48°47'13.88"N) (487871901)
  Longitude: 9.2112464 (09°12'40.49"E) (92112464)
  1... .... = PAI: 1
  .000 0000 0000 0110 = Speed: 0x0006 (0.06 m/s) (0.22 km/h) (6)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (14092) (0x370c, 14.092 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110008610) (11.0008610 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (1913) (19.13 m/s, 68.87 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-4) (-0.4 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```


No.	Time	Source	Destination	Protocol	Length	Info
73	71.400281803	CohdaWir_20:1d:4a	Broadcast	ITS	465	CAM(v2)

Frame 73: 465 bytes on wire (3720 bits), 465 bytes captured (3720 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:54.865392332 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426714.865392332 seconds
[Time delta from previous captured frame: 0.200072914 seconds]
[Time delta from previous displayed frame: 0.200072914 seconds]
[Time since reference or first frame: 71.400281803 seconds]
Frame Number: 73
Frame Length: 465 bytes (3720 bits)
Capture Length: 465 bytes (3720 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 451
Identification: 0x0668 (1640)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9d5c [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 431
Checksum: 0x88cd [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 71.400281803 seconds]
[Time since previous frame: 0.200072914 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 73
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002007b0126190000...
MKxIFMsg: 02007b012619000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=379, Seq=6438, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 379
Seq: 6438
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff2eff34ffa9faffff27914370ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-210, NoiseB=-204, FreqOffset=-1367, TSF=0x0005d4de70439127, FrameLength=0323, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -210
RxNoiseB: -204
FreqOffset: -1367
TSF: 0x0005d4de70439127
FrameLength: 323
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0001 0000 .... = Sequence number: 272
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 245
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575835.728s (1575835728)
  Latitude: 48.7871901 (48°47'13.88"N) (487871901)
  Longitude: 9.2112464 (09°12'40.49"E) (92112464)
  1... .... = PAI: 1
  .000 0000 0000 0110 = Speed: 0x0006 (0.06 m/s) (0.22 km/h) (6)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
CAM
  header
    protocolVersion: 2
    messageID: cam (2)
    stationID: 1277901399 (0x4c2b3a57)
  cam
    generationDeltaTime: Unknown (14292) (0x37d4, 14.292 sec)
    camParameters
      basicContainer
        stationType: specialVehicles (10)
        referencePosition
          latitude: Unknown (490000140) (49.0000140 deg)
          longitude: Unknown (110008100) (11.0008100 deg)
          positionConfidenceEllipse
            semiMajorConfidence: unavailable (4095)
            semiMinorConfidence: unavailable (4095)
            semiMajorOrientation: unavailable (3601)
          altitude
            altitudeValue: unavailable (800001)
            altitudeConfidence: unavailable (15)
        highFrequencyContainer: basicVehicleContainerHighFrequency (0)
        basicVehicleContainerHighFrequency
          heading
            headingValue: wgs84West (2700) (270.0 deg)
            headingConfidence: equalOrWithinOneDegree (10)
          speed
            speedValue: Unknown (1844) (18.44 m/s, 66.38 km/h)
            speedConfidence: Unknown (3) (0.03 m/s)
          driveDirection: forward (0)
          vehicleLength
            vehicleLengthValue: Unknown (50) (5.0 m)
            vehicleLengthConfidenceIndication: noTrailerPresent (0)
          vehicleWidth: Unknown (18) (1.8 m)
          longitudinalAcceleration
            longitudinalAccelerationValue: Unknown (-3) (-0.3 m/s/s)
            longitudinalAccelerationConfidence: unavailable (102)
          curvature
            curvatureValue: straight (0)
            curvatureConfidence: unavailable (7)
            curvatureCalculationMode: yawRateUsed (0)
```

```
    yawRate
      yawRateValue: straight (0) (0.00 deg/sec)
      yawRateConfidence: degSec-000-01 (0)
  lowFrequencyContainer: basicVehicleContainerLowFrequency
    basicVehicleContainerLowFrequency
      vehicleRole: default (0)
      exteriorLights: 08 [bit length 8, 0000 1000 decimal value 8]
        0... .... lowBeamHeadlightsOn: False
        .0.. .... highBeamHeadlightsOn: False
        ..0. .... leftTurnSignalOn: False
        ...0 .... rightTurnSignalOn: False
        .... 1... daytimeRunningLightsOn: True
        .... .0.. reverseLightOn: False
        .... ..0. fogLightOn: False
        .... ...0 parkingLightsOn: False
      pathHistory: 23 items
        Item 0
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 1
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 2
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 3
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 4
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 5
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 6
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 7
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 8
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 9
          PathPoint
```

```
        pathPosition
          deltaLatitude: unavailable (131072)
          deltaLongitude: unavailable (131072)
          deltaAltitude: unavailable (12800)
        pathDeltaTime: Unknown (0)
Item 10
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 11
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 12
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 13
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 14
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 15
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 16
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 17
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 18
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 19
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 20
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
```

```
      pathDeltaTime: Unknown (0)
Item 21
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 22
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
74	71.590422017	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 74: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:55.055532546 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426715.055532546 seconds
[Time delta from previous captured frame: 0.190140214 seconds]
[Time delta from previous displayed frame: 0.190140214 seconds]
[Time since reference or first frame: 71.590422017 seconds]
Frame Number: 74
Frame Length: 265 bytes (2120 bits)
Capture Length: 265 bytes (2120 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 251
Identification: 0x0676 (1654)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9e16 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 231
Checksum: 0xa716 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 71.590422017 seconds]
[Time since previous frame: 0.190140214 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 74
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b3002a190000...
MKxIFMsg: 0200b3002a19000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6442, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6442
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff3aff34ffd7faffff13774670ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-198, NoiseB=-204, FreqOffset=-1321, TSF=0x0005d4de70467713, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -198
    RxNoiseB: -204
    FreqOffset: -1321
    TSF: 0x0005d4de70467713
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0001 0001 0001 .... = Sequence number: 273
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... 0 .... = EOSP: Service period
    .... .... 01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0
```



```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575835.728s (1575835728)
  Latitude: 48.7871901 (48°47'13.88"N) (487871901)
  Longitude: 9.2112464 (09°12'40.49"E) (92112464)
  1... .... = PAI: 1
  .000 0000 0000 0110 = Speed: 0x0006 (0.06 m/s) (0.22 km/h) (6)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (14492) (0x389c, 14.492 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110007610) (11.0007610 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (1771) (17.71 m/s, 63.76 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-2) (-0.2 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
75	71.790367917	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 75: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:55.255478446 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426715.255478446 seconds
[Time delta from previous captured frame: 0.199945900 seconds]
[Time delta from previous displayed frame: 0.199945900 seconds]
[Time since reference or first frame: 71.790367917 seconds]
Frame Number: 75
Frame Length: 265 bytes (2120 bits)
Capture Length: 265 bytes (2120 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 251
Identification: 0x0686 (1670)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9e06 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 231
Checksum: 0x15d7 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 71.790367917 seconds]
[Time since previous frame: 0.199945900 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 75
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b3002f190000...
MKxIFMsg: 0200b3002f19000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6447, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6447
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff4efbffff8a8b4970ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1202, TSF=0x0005d4de70498b8a, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1202
    TSF: 0x0005d4de70498b8a
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0001 0001 0010 .... = Sequence number: 274
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... 0 .... = EOSP: Service period
    .... .... 01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575836.728s (1575836728)
  Latitude: 48.7871891 (48°47'13.88"N) (487871891)
  Longitude: 9.2112455 (09°12'40.48"E) (92112455)
  1... .... = PAI: 1
  .000 0000 0000 0100 = Speed: 0x0004 (0.04 m/s) (0.14 km/h) (4)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (14692) (0x3964, 14.692 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110007140) (11.0007140 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (1698) (16.98 m/s, 61.13 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-3) (-0.3 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
76	72.000273568	CohdaWir_20:1d:4a	Broadcast	ITS	465	CAM(v2)

Frame 76: 465 bytes on wire (3720 bits), 465 bytes captured (3720 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:55.465384097 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426715.465384097 seconds
[Time delta from previous captured frame: 0.209905651 seconds]
[Time delta from previous displayed frame: 0.209905651 seconds]
[Time since reference or first frame: 72.000273568 seconds]
Frame Number: 76
Frame Length: 465 bytes (3720 bits)
Capture Length: 465 bytes (3720 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 451
Identification: 0x0687 (1671)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9d3d [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 431
Checksum: 0xf197 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 72.000273568 seconds]
[Time since previous frame: 0.209905651 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 76
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002007b0135190000...
MKxIFMsg: 02007b013519000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=379, Seq=6453, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 379
Seq: 6453
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff55fbffff3eb04c70ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1195, TSF=0x0005d4de704cb03e, FrameLength=0323, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -204
FreqOffset: -1195
TSF: 0x0005d4de704cb03e
FrameLength: 323
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0001 0011 .... = Sequence number: 275
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```



```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 245
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575836.728s (1575836728)
  Latitude: 48.7871891 (48°47'13.88"N) (487871891)
  Longitude: 9.2112455 (09°12'40.48"E) (92112455)
  1... .... = PAI: 1
  .000 0000 0000 0100 = Speed: 0x0004 (0.04 m/s) (0.14 km/h) (4)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (14892) (0x3a2c, 14.892 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110006690) (11.0006690 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (1629) (16.29 m/s, 58.64 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-2) (-0.2 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

```
    yawRate
      yawRateValue: straight (0) (0.00 deg/sec)
      yawRateConfidence: degSec-000-01 (0)
  lowFrequencyContainer: basicVehicleContainerLowFrequency
    basicVehicleContainerLowFrequency
      vehicleRole: default (0)
      exteriorLights: 08 [bit length 8, 0000 1000 decimal value 8]
        0... .... lowBeamHeadlightsOn: False
        .0.. .... highBeamHeadlightsOn: False
        ..0. .... leftTurnSignalOn: False
        ...0 .... rightTurnSignalOn: False
        .... 1... daytimeRunningLightsOn: True
        .... .0.. reverseLightOn: False
        .... ..0. fogLightOn: False
        .... ...0 parkingLightsOn: False
      pathHistory: 23 items
        Item 0
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 1
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 2
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 3
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 4
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 5
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 6
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 7
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 8
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 9
          PathPoint
```

```
        pathPosition
          deltaLatitude: unavailable (131072)
          deltaLongitude: unavailable (131072)
          deltaAltitude: unavailable (12800)
        pathDeltaTime: Unknown (0)
Item 10
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 11
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 12
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 13
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 14
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 15
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 16
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 17
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 18
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 19
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 20
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
```

```
      pathDeltaTime: Unknown (0)
Item 21
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 22
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
77	72.230192169	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 77: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:55.695302698 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426715.695302698 seconds
[Time delta from previous captured frame: 0.229918601 seconds]
[Time delta from previous displayed frame: 0.229918601 seconds]
[Time since reference or first frame: 72.230192169 seconds]
Frame Number: 77
Frame Length: 265 bytes (2120 bits)
Capture Length: 265 bytes (2120 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 251
Identification: 0x0699 (1689)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9df3 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 231
Checksum: 0x61b4 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 72.230192169 seconds]
[Time since previous frame: 0.229918601 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 77
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b3003a190000...
MKxIFMsg: 0200b3003a19000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6458, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6458
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff3aff3affff681d5070ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-198, NoiseB=-198, FreqOffset=-1288, TSF=0x0005d4de70501d68, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -198
    RxNoiseB: -198
    FreqOffset: -1288
    TSF: 0x0005d4de70501d68
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0001 0100 .... = Sequence number: 276
Qos Control: 0x0023
    .... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575836.728s (1575836728)
  Latitude: 48.7871891 (48°47'13.88"N) (487871891)
  Longitude: 9.2112455 (09°12'40.48"E) (92112455)
  1... .... = PAI: 1
  .000 0000 0000 0100 = Speed: 0x0004 (0.04 m/s) (0.14 km/h) (4)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (15092) (0x3af4, 15.092 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110006260) (11.0006260 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (1555) (15.55 m/s, 55.98 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-2) (-0.2 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```


No.	Time	Source	Destination	Protocol	Length	Info
78	72.400229700	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 78: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:55.865340229 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426715.865340229 seconds
[Time delta from previous captured frame: 0.170037531 seconds]
[Time delta from previous displayed frame: 0.170037531 seconds]
[Time since reference or first frame: 72.400229700 seconds]
Frame Number: 78
Frame Length: 265 bytes (2120 bits)
Capture Length: 265 bytes (2120 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 251
Identification: 0x06a1 (1697)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
..1. = Don't fragment: Set
...0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9deb [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 231
Checksum: 0x1854 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 72.400229700 seconds]
[Time since previous frame: 0.170037531 seconds]
TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 78
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b3003f190000...
MKxIFMsg: 0200b3003f19000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6463, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6463
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff83faffffa0d45270ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1405, TSF=0x0005d4de7052d4a0, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1405
    TSF: 0x0005d4de7052d4a0
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0001 0101 .... = Sequence number: 277
Qos Control: 0x0023
    .... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575836.728s (1575836728)
  Latitude: 48.7871891 (48°47'13.88"N) (487871891)
  Longitude: 9.2112455 (09°12'40.48"E) (92112455)
  1... .... = PAI: 1
  .000 0000 0000 0100 = Speed: 0x0004 (0.04 m/s) (0.14 km/h) (4)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (15292) (0x3bbc, 15.292 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110005860) (11.0005860 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (1480) (14.80 m/s, 53.28 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-3) (-0.3 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
79	72.600270906	CohdaWir_20:1d:4a	Broadcast	ITS	465	CAM(v2)

Frame 79: 465 bytes on wire (3720 bits), 465 bytes captured (3720 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:56.065381435 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426716.065381435 seconds
[Time delta from previous captured frame: 0.200041206 seconds]
[Time delta from previous displayed frame: 0.200041206 seconds]
[Time since reference or first frame: 72.600270906 seconds]
Frame Number: 79
Frame Length: 465 bytes (3720 bits)
Capture Length: 465 bytes (3720 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 451
Identification: 0x06b1 (1713)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9d13 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 431
Checksum: 0xd29e [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 72.600270906 seconds]
[Time since previous frame: 0.200041206 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 79
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002007b0144190000...
MKxIFMsg: 02007b014419000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=379, Seq=6468, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 379
    Seq: 6468
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff3aff3affd6fbffff4bdc5570ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-198, NoiseB=-198, FreqOffset=-1066, TSF=0x0005d4de7055dc4b, FrameLength=0323, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -198
    RxNoiseB: -198
    FreqOffset: -1066
    TSF: 0x0005d4de7055dc4b
    FrameLength: 323
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0001 0001 0110 .... = Sequence number: 278
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... 0 .... = EOSP: Service period
    .... .... 01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 245
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575836.728s (1575836728)
  Latitude: 48.7871891 (48°47'13.88"N) (487871891)
  Longitude: 9.2112455 (09°12'40.48"E) (92112455)
  1... .... = PAI: 1
  .000 0000 0000 0100 = Speed: 0x0004 (0.04 m/s) (0.14 km/h) (4)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (15492) (0x3c84, 15.492 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110005460) (11.0005460 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (1416) (14.16 m/s, 50.98 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-3) (-0.3 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

```
    yawRate
      yawRateValue: straight (0) (0.00 deg/sec)
      yawRateConfidence: degSec-000-01 (0)
lowFrequencyContainer: basicVehicleContainerLowFrequency
  basicVehicleContainerLowFrequency
    vehicleRole: default (0)
    exteriorLights: 08 [bit length 8, 0000 1000 decimal value 8]
      0... .... lowBeamHeadlightsOn: False
      .0.. .... highBeamHeadlightsOn: False
      ..0. .... leftTurnSignalOn: False
      ...0 .... rightTurnSignalOn: False
      .... 1... daytimeRunningLightsOn: True
      .... .0.. reverseLightOn: False
      .... ..0. fogLightOn: False
      .... ...0 parkingLightsOn: False
    pathHistory: 23 items
      Item 0
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 1
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 2
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 3
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 4
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 5
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 6
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 7
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 8
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 9
        PathPoint
```



```
        pathPosition
          deltaLatitude: unavailable (131072)
          deltaLongitude: unavailable (131072)
          deltaAltitude: unavailable (12800)
        pathDeltaTime: Unknown (0)
Item 10
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 11
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 12
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 13
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 14
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 15
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 16
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 17
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 18
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 19
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 20
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
```

```
      pathDeltaTime: Unknown (0)
Item 21
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 22
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
80	72.790311954	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 80: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:56.255422483 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426716.255422483 seconds

[Time delta from previous captured frame: 0.190041048 seconds]

[Time delta from previous displayed frame: 0.190041048 seconds]

[Time since reference or first frame: 72.790311954 seconds]

Frame Number: 80

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x06b9 (1721)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9dd3 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0x2b9d [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 72.790311954 seconds]

[Time since previous frame: 0.190041048 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 80

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b30048190000...
MKxIFMsg: 0200b3004819000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6472, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 179
Seq: 6472
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff12fbffffacc55870ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1262, TSF=0x0005d4de7058c5ac, FrameLength=0123, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -204
FreqOffset: -1262
TSF: 0x0005d4de7058c5ac
FrameLength: 123
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0001 0111 .... = Sequence number: 279
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575837.728s (1575837728)
  Latitude: 48.7871884 (48°47'13.88"N) (487871884)
  Longitude: 9.2112446 (09°12'40.48"E) (92112446)
  1... .... = PAI: 1
  .000 0000 0000 1100 = Speed: 0x000c (0.12 m/s) (0.43 km/h) (12)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (15692) (0x3d4c, 15.692 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110005090) (11.0005090 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (1341) (13.41 m/s, 48.28 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-3) (-0.3 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
81	73.000185232	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 81: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:56.465295761 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426716.465295761 seconds

[Time delta from previous captured frame: 0.209873278 seconds]

[Time delta from previous displayed frame: 0.209873278 seconds]

[Time since reference or first frame: 73.000185232 seconds]

Frame Number: 81

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x06c8 (1736)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9dc4 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0x09d0 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 73.000185232 seconds]

[Time since previous frame: 0.209873278 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 81

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b3004e190000...
MKxIFMsg: 0200b3004e19000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6478, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6478
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff3aff2efff1faffff11e05b70ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-198, NoiseB=-210, FreqOffset=-1295, TSF=0x0005d4de705be011, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -198
    RxNoiseB: -210
    FreqOffset: -1295
    TSF: 0x0005d4de705be011
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0001 0001 1000 .... = Sequence number: 280
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```



```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575837.728s (1575837728)
  Latitude: 48.7871884 (48°47'13.88"N) (487871884)
  Longitude: 9.2112446 (09°12'40.48"E) (92112446)
  1... .... = PAI: 1
  .000 0000 0000 1100 = Speed: 0x000c (0.12 m/s) (0.43 km/h) (12)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (15892) (0x3e14, 15.892 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110004740) (11.0004740 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (1277) (12.77 m/s, 45.97 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-2) (-0.2 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
82	73.200346498	CohdaWir_20:1d:4a	Broadcast	ITS	465	CAM(v2)

Frame 82: 465 bytes on wire (3720 bits), 465 bytes captured (3720 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:56.665457027 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426716.665457027 seconds

[Time delta from previous captured frame: 0.200161266 seconds]

[Time delta from previous displayed frame: 0.200161266 seconds]

[Time since reference or first frame: 73.200346498 seconds]

Frame Number: 82

Frame Length: 465 bytes (3720 bits)

Capture Length: 465 bytes (3720 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 451

Identification: 0x06d8 (1752)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9cec [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 431

Checksum: 0x1366 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 73.200346498 seconds]

[Time since previous frame: 0.200161266 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 82

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002007b0153190000...
MKxIFMsg: 02007b015319000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=379, Seq=6483, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 379
Seq: 6483
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff0bfbffff46085f70ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1269, TSF=0x0005d4de705f0846, FrameLength=0323, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -204
FreqOffset: -1269
TSF: 0x0005d4de705f0846
FrameLength: 323
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0001 1001 .... = Sequence number: 281
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 245
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575837.728s (1575837728)
  Latitude: 48.7871884 (48°47'13.88"N) (487871884)
  Longitude: 9.2112446 (09°12'40.48"E) (92112446)
  1... .... = PAI: 1
  .000 0000 0000 1100 = Speed: 0x000c (0.12 m/s) (0.43 km/h) (12)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (16092) (0x3edc, 16.092 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110004410) (11.0004410 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (1205) (12.05 m/s, 43.38 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-3) (-0.3 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

```
    yawRate
      yawRateValue: straight (0) (0.00 deg/sec)
      yawRateConfidence: degSec-000-01 (0)
lowFrequencyContainer: basicVehicleContainerLowFrequency
  basicVehicleContainerLowFrequency
    vehicleRole: default (0)
    exteriorLights: 08 [bit length 8, 0000 1000 decimal value 8]
      0... .... lowBeamHeadlightsOn: False
      .0.. .... highBeamHeadlightsOn: False
      ..0. .... leftTurnSignalOn: False
      ...0 .... rightTurnSignalOn: False
      .... 1... daytimeRunningLightsOn: True
      .... .0.. reverseLightOn: False
      .... ..0. fogLightOn: False
      .... ...0 parkingLightsOn: False
    pathHistory: 23 items
      Item 0
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 1
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 2
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 3
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 4
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 5
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 6
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 7
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 8
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 9
        PathPoint
```

```
        pathPosition
          deltaLatitude: unavailable (131072)
          deltaLongitude: unavailable (131072)
          deltaAltitude: unavailable (12800)
        pathDeltaTime: Unknown (0)
Item 10
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 11
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 12
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 13
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 14
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 15
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 16
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 17
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 18
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 19
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 20
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
```

```
      pathDeltaTime: Unknown (0)
Item 21
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 22
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
```


No.	Time	Source	Destination	Protocol	Length	Info
83	73.400266924	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 83: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:56.865377453 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426716.865377453 seconds

[Time delta from previous captured frame: 0.199920426 seconds]

[Time delta from previous displayed frame: 0.199920426 seconds]

[Time since reference or first frame: 73.400266924 seconds]

Frame Number: 83

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x06eb (1771)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9da1 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0xc9c2 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 73.400266924 seconds]

[Time since previous frame: 0.199920426 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 83

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b30058190000...
MKxIFMsg: 0200b3005819000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6488, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6488
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff0bfbffff59046270ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1269, TSF=0x0005d4de70620459, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1269
    TSF: 0x0005d4de70620459
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0001 0001 1010 .... = Sequence number: 282
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575837.728s (1575837728)
  Latitude: 48.7871884 (48°47'13.88"N) (487871884)
  Longitude: 9.2112446 (09°12'40.48"E) (92112446)
  1... .... = PAI: 1
  .000 0000 0000 1100 = Speed: 0x000c (0.12 m/s) (0.43 km/h) (12)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (16292) (0x3fa4, 16.292 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110004090) (11.0004090 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (1145) (11.45 m/s, 41.22 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-2) (-0.2 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
84	73.610216271	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 84: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:57.075326800 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426717.075326800 seconds
[Time delta from previous captured frame: 0.209949347 seconds]
[Time delta from previous displayed frame: 0.209949347 seconds]
[Time since reference or first frame: 73.610216271 seconds]
Frame Number: 84
Frame Length: 265 bytes (2120 bits)
Capture Length: 265 bytes (2120 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 251
Identification: 0x06fd (1789)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9d8f [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 231
Checksum: 0x5250 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 73.610216271 seconds]
[Time since previous frame: 0.209949347 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 84
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b3005d190000...
MKxIFMsg: 0200b3005d19000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6493, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6493
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff2efffdafffff1c406570ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-210, FreqOffset=-1283, TSF=0x0005d4de7065401c, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -210
    FreqOffset: -1283
    TSF: 0x0005d4de7065401c
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0001 1011 .... = Sequence number: 283
Qos Control: 0x0023
    .... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575837.728s (1575837728)
  Latitude: 48.7871884 (48°47'13.88"N) (487871884)
  Longitude: 9.2112446 (09°12'40.48"E) (92112446)
  1... .... = PAI: 1
  .000 0000 0000 1100 = Speed: 0x000c (0.12 m/s) (0.43 km/h) (12)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (16492) (0x406c, 16.492 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110003790) (11.0003790 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (1074) (10.74 m/s, 38.66 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-3) (-0.3 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```


No.	Time	Source	Destination	Protocol	Length	Info
85	73.790242241	CohdaWir_20:1d:4a	Broadcast	ITS	465	CAM(v2)

Frame 85: 465 bytes on wire (3720 bits), 465 bytes captured (3720 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:57.255352770 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426717.255352770 seconds
[Time delta from previous captured frame: 0.180025970 seconds]
[Time delta from previous displayed frame: 0.180025970 seconds]
[Time since reference or first frame: 73.790242241 seconds]
Frame Number: 85
Frame Length: 465 bytes (3720 bits)
Capture Length: 465 bytes (3720 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 451
Identification: 0x070c (1804)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9cb8 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 431
Checksum: 0xd853 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 73.790242241 seconds]
[Time since previous frame: 0.180025970 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 85
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -46
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002007b0161190000...
MKxIFMsg: 02007b016119000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=379, Seq=6497, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 379
Seq: 6497
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a4ffa0ff34ff34ffb8faafffd30d6870ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-092, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1352, TSF=0x0005d4de70680dd3, FrameLength=0323, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -92
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -204
FreqOffset: -1352
TSF: 0x0005d4de70680dd3
FrameLength: 323
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0001 1100 .... = Sequence number: 284
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 245
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575838.728s (1575838728)
  Latitude: 48.7871874 (48°47'13.87"N) (487871874)
  Longitude: 9.2112432 (09°12'40.48"E) (92112432)
  1... .... = PAI: 1
  .000 0000 0000 0110 = Speed: 0x0006 (0.06 m/s) (0.22 km/h) (6)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (16692) (0x4134, 16.692 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110003510) (11.0003510 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (1008) (10.08 m/s, 36.29 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-3) (-0.3 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

```
    yawRate
      yawRateValue: straight (0) (0.00 deg/sec)
      yawRateConfidence: degSec-000-01 (0)
  lowFrequencyContainer: basicVehicleContainerLowFrequency
    basicVehicleContainerLowFrequency
      vehicleRole: default (0)
      exteriorLights: 08 [bit length 8, 0000 1000 decimal value 8]
        0... .... lowBeamHeadlightsOn: False
        .0.. .... highBeamHeadlightsOn: False
        ..0. .... leftTurnSignalOn: False
        ...0 .... rightTurnSignalOn: False
        .... 1... daytimeRunningLightsOn: True
        .... .0.. reverseLightOn: False
        .... ..0. fogLightOn: False
        .... ...0 parkingLightsOn: False
      pathHistory: 23 items
        Item 0
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 1
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 2
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 3
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 4
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 5
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 6
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 7
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 8
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 9
          PathPoint
```

```
        pathPosition
          deltaLatitude: unavailable (131072)
          deltaLongitude: unavailable (131072)
          deltaAltitude: unavailable (12800)
        pathDeltaTime: Unknown (0)
Item 10
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 11
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 12
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 13
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 14
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 15
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 16
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 17
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 18
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 19
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 20
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
```

```
      pathDeltaTime: Unknown (0)
Item 21
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 22
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
86	74.000168960	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 86: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:57.465279489 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426717.465279489 seconds

[Time delta from previous captured frame: 0.209926719 seconds]

[Time delta from previous displayed frame: 0.209926719 seconds]

[Time since reference or first frame: 74.000168960 seconds]

Frame Number: 86

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... 0. = LG bit: Globally unique address (factory default)

.... 0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... 0. = LG bit: Globally unique address (factory default)

.... 0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x0714 (1812)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9d78 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0xd9a6 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 74.000168960 seconds]

[Time since previous frame: 0.209926719 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 86

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b30067190000...
MKxIFMsg: 0200b3006719000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6503, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6503
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff3aff34ff7afaffff4c2a6b70ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-198, NoiseB=-204, FreqOffset=-1414, TSF=0x0005d4de706b2a4c, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -198
    RxNoiseB: -204
    FreqOffset: -1414
    TSF: 0x0005d4de706b2a4c
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0001 0001 1101 .... = Sequence number: 285
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```



```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575838.728s (1575838728)
  Latitude: 48.7871874 (48°47'13.87"N) (487871874)
  Longitude: 9.2112432 (09°12'40.48"E) (92112432)
  1... .... = PAI: 1
  .000 0000 0000 0110 = Speed: 0x0006 (0.06 m/s) (0.22 km/h) (6)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (16892) (0x41fc, 16.892 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110003250) (11.0003250 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (951) (9.51 m/s, 34.24 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-2) (-0.2 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
87	74.180203099	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 87: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:57.645313628 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426717.645313628 seconds

[Time delta from previous captured frame: 0.180034139 seconds]

[Time delta from previous displayed frame: 0.180034139 seconds]

[Time since reference or first frame: 74.180203099 seconds]

Frame Number: 87

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x071b (1819)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9d71 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0x6cc2 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 74.180203099 seconds]

[Time since previous frame: 0.180034139 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 87

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b3006b190000...
MKxIFMsg: 0200b3006b19000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6507, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 179
Seq: 6507
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff35faffff07f96d70ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1483, TSF=0x0005d4de706df907, FrameLength=0123, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -204
FreqOffset: -1483
TSF: 0x0005d4de706df907
FrameLength: 123
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0001 1110 .... = Sequence number: 286
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575838.728s (1575838728)
  Latitude: 48.7871874 (48°47'13.87"N) (487871874)
  Longitude: 9.2112432 (09°12'40.48"E) (92112432)
  1... .... = PAI: 1
  .000 0000 0000 0110 = Speed: 0x0006 (0.06 m/s) (0.22 km/h) (6)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (17092) (0x42c4, 17.092 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110003000) (11.0003000 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (885) (8.85 m/s, 31.86 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-3) (-0.3 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
88	74.430205467	CohdaWir_20:1d:4a	Broadcast	ITS	465	CAM(v2)

Frame 88: 465 bytes on wire (3720 bits), 465 bytes captured (3720 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:57.895315996 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426717.895315996 seconds
[Time delta from previous captured frame: 0.250002368 seconds]
[Time delta from previous displayed frame: 0.250002368 seconds]
[Time since reference or first frame: 74.430205467 seconds]
Frame Number: 88
Frame Length: 465 bytes (3720 bits)
Capture Length: 465 bytes (3720 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 451
Identification: 0x0727 (1831)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9c9d [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 431
Checksum: 0x57c2 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 74.430205467 seconds]
[Time since previous frame: 0.250002368 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 88
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002007b0171190000...
MKxIFMsg: 02007b017119000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=379, Seq=6513, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 379
    Seq: 6513
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff32faffffbb7170ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1486, TSF=0x0005d4de7071bcfb, FrameLength=0323, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1486
    TSF: 0x0005d4de7071bcfb
    FrameLength: 323
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
        .... ..00 = Version: 0
        .... 10.. = Type: Data frame (2)
        1000 .... = Subtype: 8
        Flags: 0x00
            .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
            .... .0.. = More Fragments: This is the last fragment
            .... 0... = Retry: Frame is not being retransmitted
            ...0 .... = PWR MGT: STA will stay up
            ..0. .... = More Data: No data buffered
            .0.. .... = Protected flag: Data is not protected
            0... .... = Order flag: Not strictly ordered
        .000 0000 0000 0000 = Duration: 0 microseconds
        Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
        Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
        Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
        .... .... 0000 = Fragment number: 0
        0001 0001 1111 .... = Sequence number: 287
        Qos Control: 0x0023
            .... .... 0011 = TID: 3
            [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
            .... .... 0 .... = EOSP: Service period
            .... .... 01. .... = Ack Policy: No Ack (0x1)
            .... .... 0... .... = Payload Type: MSDU
            0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
        000. 00.. = Command: Unnumbered Information (0x00)
        .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
        0001 .... = Version: 1
        .... 0001 = Next Header: Common (1)
        Reserved: 0

```



```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 245
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575838.728s (1575838728)
  Latitude: 48.7871874 (48°47'13.87"N) (487871874)
  Longitude: 9.2112432 (09°12'40.48"E) (92112432)
  1... .... = PAI: 1
  .000 0000 0000 0110 = Speed: 0x0006 (0.06 m/s) (0.22 km/h) (6)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (17292) (0x438c, 17.292 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110002770) (11.0002770 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (827) (8.27 m/s, 29.77 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-2) (-0.2 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

```
    yawRate
      yawRateValue: straight (0) (0.00 deg/sec)
      yawRateConfidence: degSec-000-01 (0)
  lowFrequencyContainer: basicVehicleContainerLowFrequency
    basicVehicleContainerLowFrequency
      vehicleRole: default (0)
      exteriorLights: 08 [bit length 8, 0000 1000 decimal value 8]
        0... .... lowBeamHeadlightsOn: False
        .0.. .... highBeamHeadlightsOn: False
        ..0. .... leftTurnSignalOn: False
        ...0 .... rightTurnSignalOn: False
        .... 1... daytimeRunningLightsOn: True
        .... .0.. reverseLightOn: False
        .... ..0. fogLightOn: False
        .... ...0 parkingLightsOn: False
      pathHistory: 23 items
        Item 0
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 1
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 2
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 3
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 4
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 5
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 6
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 7
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 8
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 9
          PathPoint
```

```
        pathPosition
          deltaLatitude: unavailable (131072)
          deltaLongitude: unavailable (131072)
          deltaAltitude: unavailable (12800)
        pathDeltaTime: Unknown (0)
Item 10
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 11
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 12
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 13
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 14
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 15
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 16
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 17
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 18
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 19
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 20
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
```

```
      pathDeltaTime: Unknown (0)
Item 21
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 22
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
89	74.600223537	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 89: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:58.065334066 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426718.065334066 seconds
[Time delta from previous captured frame: 0.170018070 seconds]
[Time delta from previous displayed frame: 0.170018070 seconds]
[Time since reference or first frame: 74.600223537 seconds]
Frame Number: 89
Frame Length: 265 bytes (2120 bits)
Capture Length: 265 bytes (2120 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 251
Identification: 0x0738 (1848)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9d54 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 231
Checksum: 0xc9d5 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 74.600223537 seconds]
[Time since previous frame: 0.170018070 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 89
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b30076190000...
MKxIFMsg: 0200b3007619000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6518, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 179
Seq: 6518
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff98fbffffaf4f7470ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1128, TSF=0x0005d4de70744faf, FrameLength=0123, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -204
FreqOffset: -1128
TSF: 0x0005d4de70744faf
FrameLength: 123
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0010 0000 .... = Sequence number: 288
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575838.728s (1575838728)
  Latitude: 48.7871874 (48°47'13.87"N) (487871874)
  Longitude: 9.2112432 (09°12'40.48"E) (92112432)
  1... .... = PAI: 1
  .000 0000 0000 0110 = Speed: 0x0006 (0.06 m/s) (0.22 km/h) (6)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (17492) (0x4454, 17.492 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110002560) (11.0002560 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (766) (7.66 m/s, 27.58 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-2) (-0.2 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```


No.	Time	Source	Destination	Protocol	Length	Info
90	74.800180537	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 90: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:58.265291066 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426718.265291066 seconds
[Time delta from previous captured frame: 0.199957000 seconds]
[Time delta from previous displayed frame: 0.199957000 seconds]
[Time since reference or first frame: 74.800180537 seconds]
Frame Number: 90
Frame Length: 265 bytes (2120 bits)
Capture Length: 265 bytes (2120 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 251
Identification: 0x0742 (1858)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
..1. = Don't fragment: Set
...0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9d4a [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 231
Checksum: 0x824e [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 74.800180537 seconds]
[Time since previous frame: 0.199957000 seconds]
TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 90
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b3007b190000...
MKxIFMsg: 0200b3007b19000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6523, Ref=0, Reserved=0, Ret=0
Type: 2
Len: 179
Seq: 6523
Ref: 0
Reserved: 0
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff3aff4efbffff265b7770ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-198, FreqOffset=-1202, TSF=0x0005d4de70775b26, FrameLength=0123, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -198
FreqOffset: -1202
TSF: 0x0005d4de70775b26
FrameLength: 123
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0010 0001 .... = Sequence number: 289
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575839.728s (1575839728)
  Latitude: 48.7871861 (48°47'13.87"N) (487871861)
  Longitude: 9.2112424 (09°12'40.47"E) (92112424)
  1... .... = PAI: 1
  .000 0000 0000 0100 = Speed: 0x0004 (0.04 m/s) (0.14 km/h) (4)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (17692) (0x451c, 17.692 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110002360) (11.0002360 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (709) (7.09 m/s, 25.52 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-2) (-0.2 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
91	75.000225476	CohdaWir_20:1d:4a	Broadcast	ITS	465	CAM(v2)

Frame 91: 465 bytes on wire (3720 bits), 465 bytes captured (3720 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:58.465336005 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426718.465336005 seconds

[Time delta from previous captured frame: 0.200044939 seconds]

[Time delta from previous displayed frame: 0.200044939 seconds]

[Time since reference or first frame: 75.000225476 seconds]

Frame Number: 91

Frame Length: 465 bytes (3720 bits)

Capture Length: 465 bytes (3720 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 451

Identification: 0x0744 (1860)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9c80 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 431

Checksum: 0xb90c [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 75.000225476 seconds]

[Time since previous frame: 0.200044939 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 91

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002007b0180190000...
MKxIFMsg: 02007b018019000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=379, Seq=6528, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 379
    Seq: 6528
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff3aff34ffbfafffff15787a70ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-198, NoiseB=-204, FreqOffset=-1350, TSF=0x0005d4de707a7815, FrameLength=0323, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -198
    RxNoiseB: -204
    FreqOffset: -1350
    TSF: 0x0005d4de707a7815
    FrameLength: 323
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
        .... ..00 = Version: 0
        .... 10.. = Type: Data frame (2)
        1000 .... = Subtype: 8
        Flags: 0x00
            .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
            .... .0.. = More Fragments: This is the last fragment
            .... 0... = Retry: Frame is not being retransmitted
            ...0 .... = PWR MGT: STA will stay up
            ..0. .... = More Data: No data buffered
            .0.. .... = Protected flag: Data is not protected
            0... .... = Order flag: Not strictly ordered
        .000 0000 0000 0000 = Duration: 0 microseconds
        Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
        Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
        Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
        .... .... 0000 = Fragment number: 0
        0001 0010 0010 .... = Sequence number: 290
        Qos Control: 0x0023
            .... .... 0011 = TID: 3
            [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
            .... .... .0 .... = EOSP: Service period
            .... .... .01. .... = Ack Policy: No Ack (0x1)
            .... .... 0... .... = Payload Type: MSDU
            0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
        000. 00.. = Command: Unnumbered Information (0x00)
        .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
        0001 .... = Version: 1
        .... 0001 = Next Header: Common (1)
        Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 245
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575839.728s (1575839728)
  Latitude: 48.7871861 (48°47'13.87"N) (487871861)
  Longitude: 9.2112424 (09°12'40.47"E) (92112424)
  1... .... = PAI: 1
  .000 0000 0000 0100 = Speed: 0x0004 (0.04 m/s) (0.14 km/h) (4)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (17892) (0x45e4, 17.892 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110002180) (11.0002180 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (651) (6.51 m/s, 23.44 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-2) (-0.2 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

```
    yawRate
      yawRateValue: straight (0) (0.00 deg/sec)
      yawRateConfidence: degSec-000-01 (0)
  lowFrequencyContainer: basicVehicleContainerLowFrequency
    basicVehicleContainerLowFrequency
      vehicleRole: default (0)
      exteriorLights: 08 [bit length 8, 0000 1000 decimal value 8]
        0... .... lowBeamHeadlightsOn: False
        .0.. .... highBeamHeadlightsOn: False
        ..0. .... leftTurnSignalOn: False
        ...0 .... rightTurnSignalOn: False
        .... 1... daytimeRunningLightsOn: True
        .... .0.. reverseLightOn: False
        .... ..0. fogLightOn: False
        .... ...0 parkingLightsOn: False
      pathHistory: 23 items
        Item 0
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 1
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 2
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 3
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 4
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 5
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 6
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 7
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 8
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 9
          PathPoint
```



```
        pathPosition
          deltaLatitude: unavailable (131072)
          deltaLongitude: unavailable (131072)
          deltaAltitude: unavailable (12800)
        pathDeltaTime: Unknown (0)
Item 10
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 11
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 12
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 13
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 14
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 15
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 16
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 17
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 18
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 19
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 20
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
```

```
      pathDeltaTime: Unknown (0)
Item 21
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 22
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
92	75.200184672	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 92: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:58.665295201 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426718.665295201 seconds

[Time delta from previous captured frame: 0.199959196 seconds]

[Time delta from previous displayed frame: 0.199959196 seconds]

[Time since reference or first frame: 75.200184672 seconds]

Frame Number: 92

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x0745 (1861)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9d47 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0x0444 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 75.200184672 seconds]

[Time since previous frame: 0.199959196 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 92

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b30085190000...
MKxIFMsg: 0200b3008519000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6533, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6533
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff2effd7faffff486f7d70ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-210, FreqOffset=-1321, TSF=0x0005d4de707d6f48, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -210
    FreqOffset: -1321
    TSF: 0x0005d4de707d6f48
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
        .... ..00 = Version: 0
        .... 10.. = Type: Data frame (2)
        1000 .... = Subtype: 8
        Flags: 0x00
            .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
            .... .0.. = More Fragments: This is the last fragment
            .... 0... = Retry: Frame is not being retransmitted
            ...0 .... = PWR MGT: STA will stay up
            ..0. .... = More Data: No data buffered
            .0.. .... = Protected flag: Data is not protected
            0... .... = Order flag: Not strictly ordered
        .000 0000 0000 0000 = Duration: 0 microseconds
        Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
        Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
        Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
        .... .... 0000 = Fragment number: 0
        0001 0010 0011 .... = Sequence number: 291
        Qos Control: 0x0023
            .... .... 0011 = TID: 3
            [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
            .... .... 0 .... = EOSP: Service period
            .... .... 01. .... = Ack Policy: No Ack (0x1)
            .... .... 0... .... = Payload Type: MSDU
            0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
        000. 00.. = Command: Unnumbered Information (0x00)
        .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
        0001 .... = Version: 1
        .... 0001 = Next Header: Common (1)
        Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575839.728s (1575839728)
  Latitude: 48.7871861 (48°47'13.87"N) (487871861)
  Longitude: 9.2112424 (09°12'40.47"E) (92112424)
  1... .... = PAI: 1
  .000 0000 0000 0100 = Speed: 0x0004 (0.04 m/s) (0.14 km/h) (4)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (18092) (0x46ac, 18.092 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110002020) (11.0002020 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (594) (5.94 m/s, 21.38 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-3) (-0.3 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
93	75.400186151	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 93: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:58.865296680 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426718.865296680 seconds
[Time delta from previous captured frame: 0.200001479 seconds]
[Time delta from previous displayed frame: 0.200001479 seconds]
[Time since reference or first frame: 75.400186151 seconds]
Frame Number: 93
Frame Length: 265 bytes (2120 bits)
Capture Length: 265 bytes (2120 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 251
Identification: 0x074a (1866)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9d42 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 231
Checksum: 0x153a [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 75.400186151 seconds]
[Time since previous frame: 0.200001479 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 93
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b3008a190000...
MKxIFMsg: 0200b3008a19000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6538, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6538
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff2eff34ff67faffffa1938070ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-210, NoiseB=-204, FreqOffset=-1433, TSF=0x0005d4de708093a1, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -210
    RxNoiseB: -204
    FreqOffset: -1433
    TSF: 0x0005d4de708093a1
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0001 0010 0100 .... = Sequence number: 292
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... 0 .... = EOSP: Service period
    .... .... 01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```



```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575839.728s (1575839728)
  Latitude: 48.7871861 (48°47'13.87"N) (487871861)
  Longitude: 9.2112424 (09°12'40.47"E) (92112424)
  1... .... = PAI: 1
  .000 0000 0000 0100 = Speed: 0x0004 (0.04 m/s) (0.14 km/h) (4)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (18292) (0x4774, 18.292 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110001860) (11.0001860 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (545) (5.45 m/s, 19.62 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: pointOneMeterPerSecSquaredBackward (-1) (-0.1 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
94	75.610326541	CohdaWir_20:1d:4a	Broadcast	ITS	465	CAM(v2)

Frame 94: 465 bytes on wire (3720 bits), 465 bytes captured (3720 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:51:59.075437070 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426719.075437070 seconds
[Time delta from previous captured frame: 0.210140390 seconds]
[Time delta from previous displayed frame: 0.210140390 seconds]
[Time since reference or first frame: 75.610326541 seconds]
Frame Number: 94
Frame Length: 465 bytes (3720 bits)
Capture Length: 465 bytes (3720 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 451
Identification: 0x075c (1884)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9c68 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 431
Checksum: 0x2ed1 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 75.610326541 seconds]
[Time since previous frame: 0.210140390 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 94
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002007b018f190000...
MKxIFMsg: 02007b018f19000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=379, Seq=6543, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 379
    Seq: 6543
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff3affe5faffff8cbc8370ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-198, FreqOffset=-1307, TSF=0x0005d4de7083bc8c, FrameLength=0323, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -198
    FreqOffset: -1307
    TSF: 0x0005d4de7083bc8c
    FrameLength: 323
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0001 0010 0101 .... = Sequence number: 293
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0
```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 245
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575839.728s (1575839728)
  Latitude: 48.7871861 (48°47'13.87"N) (487871861)
  Longitude: 9.2112424 (09°12'40.47"E) (92112424)
  1... .... = PAI: 1
  .000 0000 0000 0100 = Speed: 0x0004 (0.04 m/s) (0.14 km/h) (4)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (18492) (0x483c, 18.492 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110001730) (11.0001730 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (494) (4.94 m/s, 17.78 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-2) (-0.2 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

```
    yawRate
      yawRateValue: straight (0) (0.00 deg/sec)
      yawRateConfidence: degSec-000-01 (0)
  lowFrequencyContainer: basicVehicleContainerLowFrequency
    basicVehicleContainerLowFrequency
      vehicleRole: default (0)
      exteriorLights: 08 [bit length 8, 0000 1000 decimal value 8]
        0... .... lowBeamHeadlightsOn: False
        .0.. .... highBeamHeadlightsOn: False
        ..0. .... leftTurnSignalOn: False
        ...0 .... rightTurnSignalOn: False
        .... 1... daytimeRunningLightsOn: True
        .... .0.. reverseLightOn: False
        .... ..0. fogLightOn: False
        .... ...0 parkingLightsOn: False
      pathHistory: 23 items
        Item 0
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 1
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 2
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 3
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 4
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 5
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 6
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 7
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 8
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 9
          PathPoint
```

```
        pathPosition
          deltaLatitude: unavailable (131072)
          deltaLongitude: unavailable (131072)
          deltaAltitude: unavailable (12800)
        pathDeltaTime: Unknown (0)
Item 10
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 11
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 12
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 13
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 14
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 15
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 16
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 17
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 18
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 19
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 20
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
```

```
      pathDeltaTime: Unknown (0)
Item 21
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 22
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
```


No.	Time	Source	Destination	Protocol	Length	Info
95	75.800206232	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 95: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:59.265316761 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426719.265316761 seconds

[Time delta from previous captured frame: 0.189879691 seconds]

[Time delta from previous displayed frame: 0.189879691 seconds]

[Time since reference or first frame: 75.800206232 seconds]

Frame Number: 95

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x076d (1901)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9d1f [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0x809c [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 75.800206232 seconds]

[Time since previous frame: 0.189879691 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 95

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b30094190000...
MKxIFMsg: 0200b3009419000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6548, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6548
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff19fbffffc0968670ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1255, TSF=0x0005d4de708696c0, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1255
    TSF: 0x0005d4de708696c0
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0001 0010 0110 .... = Sequence number: 294
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575840.728s (1575840728)
  Latitude: 48.7871848 (48°47'13.87"N) (487871848)
  Longitude: 9.2112415 (09°12'40.47"E) (92112415)
  1... .... = PAI: 1
  .000 0000 0000 0110 = Speed: 0x0006 (0.06 m/s) (0.22 km/h) (6)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (18692) (0x4904, 18.692 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110001600) (11.0001600 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (447) (4.47 m/s, 16.09 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-2) (-0.2 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
96	76.000247743	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 96: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:59.465358272 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426719.465358272 seconds

[Time delta from previous captured frame: 0.200041511 seconds]

[Time delta from previous displayed frame: 0.200041511 seconds]

[Time since reference or first frame: 76.000247743 seconds]

Frame Number: 96

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x0774 (1908)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9d18 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0x89cc [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 76.000247743 seconds]

[Time since previous frame: 0.200041511 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 96

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b30099190000...
MKxIFMsg: 0200b3009919000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6553, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6553
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff3aff12fbffff51af8970ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-198, FreqOffset=-1262, TSF=0x0005d4de7089af51, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -198
    FreqOffset: -1262
    TSF: 0x0005d4de7089af51
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
        .... ..00 = Version: 0
        .... 10.. = Type: Data frame (2)
        1000 .... = Subtype: 8
        Flags: 0x00
            .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
            .... .0.. = More Fragments: This is the last fragment
            .... 0... = Retry: Frame is not being retransmitted
            ...0 .... = PWR MGT: STA will stay up
            ..0. .... = More Data: No data buffered
            .0.. .... = Protected flag: Data is not protected
            0... .... = Order flag: Not strictly ordered
        .000 0000 0000 0000 = Duration: 0 microseconds
        Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
        Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
        Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
        .... .... 0000 = Fragment number: 0
        0001 0010 0111 .... = Sequence number: 295
        Qos Control: 0x0023
            .... .... 0011 = TID: 3
            [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
            .... .... .0 .... = EOSP: Service period
            .... .... .01. .... = Ack Policy: No Ack (0x1)
            .... .... 0... .... = Payload Type: MSDU
            0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
        000. 00.. = Command: Unnumbered Information (0x00)
        .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
        0001 .... = Version: 1
        .... 0001 = Next Header: Common (1)
        Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575840.728s (1575840728)
  Latitude: 48.7871848 (48°47'13.87"N) (487871848)
  Longitude: 9.2112415 (09°12'40.47"E) (92112415)
  1... .... = PAI: 1
  .000 0000 0000 0110 = Speed: 0x0006 (0.06 m/s) (0.22 km/h) (6)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (18892) (0x49cc, 18.892 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110001490) (11.0001490 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (397) (3.97 m/s, 14.29 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-2) (-0.2 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```


No.	Time	Source	Destination	Protocol	Length	Info
97	76.200263187	CohdaWir_20:1d:4a	Broadcast	ITS	465	CAM(v2)

Frame 97: 465 bytes on wire (3720 bits), 465 bytes captured (3720 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:59.665373716 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426719.665373716 seconds

[Time delta from previous captured frame: 0.200015444 seconds]

[Time delta from previous displayed frame: 0.200015444 seconds]

[Time since reference or first frame: 76.200263187 seconds]

Frame Number: 97

Frame Length: 465 bytes (3720 bits)

Capture Length: 465 bytes (3720 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 451

Identification: 0x0779 (1913)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9c4b [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 431

Checksum: 0xad69 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 76.200263187 seconds]

[Time since previous frame: 0.200015444 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 97

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002007b019e190000...
MKxIFMsg: 02007b019e19000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=379, Seq=6558, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 379
    Seq: 6558
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ffc1faffff16d58c70ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1343, TSF=0x0005d4de708cd516, FrameLength=0323, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1343
    TSF: 0x0005d4de708cd516
    FrameLength: 323
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0010 1000 .... = Sequence number: 296
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 245
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575840.728s (1575840728)
  Latitude: 48.7871848 (48°47'13.87"N) (487871848)
  Longitude: 9.2112415 (09°12'40.47"E) (92112415)
  1... .... = PAI: 1
  .000 0000 0000 0110 = Speed: 0x0006 (0.06 m/s) (0.22 km/h) (6)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (19092) (0x4a94, 19.092 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110001390) (11.0001390 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (362) (3.62 m/s, 13.03 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: pointOneMeterPerSecSquaredBackward (-1) (-0.1 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

```
    yawRate
      yawRateValue: straight (0) (0.00 deg/sec)
      yawRateConfidence: degSec-000-01 (0)
  lowFrequencyContainer: basicVehicleContainerLowFrequency
    basicVehicleContainerLowFrequency
      vehicleRole: default (0)
      exteriorLights: 08 [bit length 8, 0000 1000 decimal value 8]
        0... .... lowBeamHeadlightsOn: False
        .0.. .... highBeamHeadlightsOn: False
        ..0. .... leftTurnSignalOn: False
        ...0 .... rightTurnSignalOn: False
        .... 1... daytimeRunningLightsOn: True
        .... .0.. reverseLightOn: False
        .... ..0. fogLightOn: False
        .... ...0 parkingLightsOn: False
      pathHistory: 23 items
        Item 0
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 1
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 2
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 3
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 4
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 5
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 6
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 7
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 8
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 9
          PathPoint
```

```
        pathPosition
          deltaLatitude: unavailable (131072)
          deltaLongitude: unavailable (131072)
          deltaAltitude: unavailable (12800)
        pathDeltaTime: Unknown (0)
Item 10
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 11
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 12
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 13
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 14
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 15
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 16
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 17
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 18
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 19
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 20
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
```

```
      pathDeltaTime: Unknown (0)
Item 21
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 22
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
98	76.400203670	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 98: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:51:59.865314199 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426719.865314199 seconds

[Time delta from previous captured frame: 0.199940483 seconds]

[Time delta from previous displayed frame: 0.199940483 seconds]

[Time since reference or first frame: 76.400203670 seconds]

Frame Number: 98

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x077a (1914)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9d12 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0xc9ae [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 76.400203670 seconds]

[Time since previous frame: 0.199940483 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 98

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b300a3190000...
MKxIFMsg: 0200b300a319000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6563, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 179
    Seq: 6563
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ffaefaffff93be8f70ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1362, TSF=0x0005d4de708f93, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1362
    TSF: 0x0005d4de708f93
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0010 1001 .... = Sequence number: 297
Qos Control: 0x0023
    .... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```



```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575840.728s (1575840728)
  Latitude: 48.7871848 (48°47'13.87"N) (487871848)
  Longitude: 9.2112415 (09°12'40.47"E) (92112415)
  1... .... = PAI: 1
  .000 0000 0000 0110 = Speed: 0x0006 (0.06 m/s) (0.22 km/h) (6)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (19292) (0x4b5c, 19.292 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110001300) (11.0001300 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (311) (3.11 m/s, 11.20 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-3) (-0.3 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
99	76.630234683	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 99: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:52:00.095345212 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426720.095345212 seconds
[Time delta from previous captured frame: 0.230031013 seconds]
[Time delta from previous displayed frame: 0.230031013 seconds]
[Time since reference or first frame: 76.630234683 seconds]
Frame Number: 99
Frame Length: 265 bytes (2120 bits)
Capture Length: 265 bytes (2120 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 251
Identification: 0x078b (1931)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
..1. = Don't fragment: Set
...0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9d01 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 231
Checksum: 0xac96 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 76.630234683 seconds]
[Time since previous frame: 0.230031013 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 99
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b300a8190000...
MKxIFMsg: 0200b300a8190000d68d0000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6568, Ref=0, Reserved=36310, Ret=0
    Type: 2
    Len: 179
    Seq: 6568
    Ref: 0
    Reserved: 36310
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff3affd2faaffff554e9370ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-198, FreqOffset=-1326, TSF=0x0005d4de70934e55, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -198
    FreqOffset: -1326
    TSF: 0x0005d4de70934e55
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0010 1010 .... = Sequence number: 298
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 00 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575840.728s (1575840728)
  Latitude: 48.7871848 (48°47'13.87"N) (487871848)
  Longitude: 9.2112415 (09°12'40.47"E) (92112415)
  1... .... = PAI: 1
  .000 0000 0000 0110 = Speed: 0x0006 (0.06 m/s) (0.22 km/h) (6)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (19492) (0x4c24, 19.492 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110001220) (11.0001220 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (277) (2.77 m/s, 9.97 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-2) (-0.2 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
100	76.800223673	CohdaWir_20:1d:4a	Broadcast	ITS	465	CAM(v2)

Frame 100: 465 bytes on wire (3720 bits), 465 bytes captured (3720 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:52:00.265334202 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426720.265334202 seconds

[Time delta from previous captured frame: 0.169988990 seconds]

[Time delta from previous displayed frame: 0.169988990 seconds]

[Time since reference or first frame: 76.800223673 seconds]

Frame Number: 100

Frame Length: 465 bytes (3720 bits)

Capture Length: 465 bytes (3720 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 451

Identification: 0x078e (1934)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9c36 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 431

Checksum: 0xa35c [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 76.800223673 seconds]

[Time since previous frame: 0.169988990 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 100

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```
    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002007b01ad190000...
MKxIFMsg: 02007b01ad19000089470000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=379, Seq=6573, Ref=0, Reserved=18313, Ret=0
    Type: 2
    Len: 379
    Seq: 6573
    Ref: 0
    Reserved: 18313
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ffd9faffff33d89570ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1319, TSF=0x0005d4de7095d833, FrameLength=0323, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -204
    FreqOffset: -1319
    TSF: 0x0005d4de7095d833
    FrameLength: 323
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0001 0010 1011 .... = Sequence number: 299
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0
```



```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 245
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575841.728s (1575841728)
  Latitude: 48.7871832 (48°47'13.86"N) (487871832)
  Longitude: 9.2112403 (09°12'40.47"E) (92112403)
  1... .... = PAI: 1
  .000 0000 0000 1100 = Speed: 0x000c (0.12 m/s) (0.43 km/h) (12)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (19692) (0x4cec, 19.692 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110001150) (11.0001150 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (239) (2.39 m/s, 8.60 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-2) (-0.2 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

```
    yawRate
      yawRateValue: straight (0) (0.00 deg/sec)
      yawRateConfidence: degSec-000-01 (0)
  lowFrequencyContainer: basicVehicleContainerLowFrequency
    basicVehicleContainerLowFrequency
      vehicleRole: default (0)
      exteriorLights: 08 [bit length 8, 0000 1000 decimal value 8]
        0... .... lowBeamHeadlightsOn: False
        .0.. .... highBeamHeadlightsOn: False
        ..0. .... leftTurnSignalOn: False
        ...0 .... rightTurnSignalOn: False
        .... 1... daytimeRunningLightsOn: True
        .... .0.. reverseLightOn: False
        .... ..0. fogLightOn: False
        .... ...0 parkingLightsOn: False
      pathHistory: 23 items
        Item 0
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 1
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 2
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 3
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 4
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 5
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 6
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 7
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 8
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 9
          PathPoint
```

```
        pathPosition
          deltaLatitude: unavailable (131072)
          deltaLongitude: unavailable (131072)
          deltaAltitude: unavailable (12800)
        pathDeltaTime: Unknown (0)
Item 10
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 11
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 12
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 13
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 14
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 15
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 16
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 17
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 18
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 19
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 20
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
```

```
      pathDeltaTime: Unknown (0)
Item 21
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 22
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
101	77.000185437	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 101: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:52:00.465295966 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426720.465295966 seconds

[Time delta from previous captured frame: 0.199961764 seconds]

[Time delta from previous displayed frame: 0.199961764 seconds]

[Time since reference or first frame: 77.000185437 seconds]

Frame Number: 101

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x078f (1935)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9cfd [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0x4ded [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 77.000185437 seconds]

[Time since previous frame: 0.199961764 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 101

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b300b2190000...
MKxIFMsg: 0200b300b2190000ffff0000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6578, Ref=0, Reserved=65535, Ret=0
Type: 2
Len: 179
Seq: 6578
Ref: 0
Reserved: 65535
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff7afafffffb8f79870ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1414, TSF=0x0005d4de7098f7b8, FrameLength=0123, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -204
FreqOffset: -1414
TSF: 0x0005d4de7098f7b8
FrameLength: 123
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0010 1100 .... = Sequence number: 300
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575841.728s (1575841728)
  Latitude: 48.7871832 (48°47'13.86"N) (487871832)
  Longitude: 9.2112403 (09°12'40.47"E) (92112403)
  1... .... = PAI: 1
  .000 0000 0000 1100 = Speed: 0x000c (0.12 m/s) (0.43 km/h) (12)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (19892) (0x4db4, 19.892 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110001090) (11.0001090 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (214) (2.14 m/s, 7.70 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: pointOneMeterPerSecSquaredBackward (-1) (-0.1 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```


No.	Time	Source	Destination	Protocol	Length	Info
102	77.420336524	CohdaWir_20:1d:4a	Broadcast	ITS	465	CAM(v2)

Frame 102: 465 bytes on wire (3720 bits), 465 bytes captured (3720 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:52:00.885447053 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426720.885447053 seconds
[Time delta from previous captured frame: 0.420151087 seconds]
[Time delta from previous displayed frame: 0.420151087 seconds]
[Time since reference or first frame: 77.420336524 seconds]
Frame Number: 102
Frame Length: 465 bytes (3720 bits)
Capture Length: 465 bytes (3720 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 451
Identification: 0x07b3 (1971)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9c11 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 431
Checksum: 0x511e [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 77.420336524 seconds]
[Time since previous frame: 0.420151087 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 102
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -46
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002007b01bb190000...
MKxIFMsg: 02007b01bb19000082b80000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=379, Seq=6587, Ref=0, Reserved=47234, Ret=0
    Type: 2
    Len: 379
    Seq: 6587
    Ref: 0
    Reserved: 47234
    Ret: 0
MKxRxPacketData: 00000a01a4ffa0ff2eff34ff8ffa00000000000000000000000000000000...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-092, PowerB=-096,
NoiseA=-210, NoiseB=-204, FreqOffset=-1393, TSF=0x0005d4de709f50cb, FrameLength=0323, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -92
    RxPowerB: -96
    RxNoiseA: -210
    RxNoiseB: -204
    FreqOffset: -1393
    TSF: 0x0005d4de709f50cb
    FrameLength: 323
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0001 0010 1101 .... = Sequence number: 301
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... 0 .... = EOSP: Service period
    .... .... 01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0
```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 245
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575841.728s (1575841728)
  Latitude: 48.7871832 (48°47'13.86"N) (487871832)
  Longitude: 9.2112403 (09°12'40.47"E) (92112403)
  1... .... = PAI: 1
  .000 0000 0000 1100 = Speed: 0x000c (0.12 m/s) (0.43 km/h) (12)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (20292) (0x4f44, 20.292 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000140) (49.0000140 deg)
            longitude: Unknown (110000990) (11.0000990 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (154) (1.54 m/s, 5.54 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (-2) (-0.2 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

```
    yawRate
      yawRateValue: straight (0) (0.00 deg/sec)
      yawRateConfidence: degSec-000-01 (0)
lowFrequencyContainer: basicVehicleContainerLowFrequency
  basicVehicleContainerLowFrequency
    vehicleRole: default (0)
    exteriorLights: 08 [bit length 8, 0000 1000 decimal value 8]
      0... .... lowBeamHeadlightsOn: False
      .0.. .... highBeamHeadlightsOn: False
      ..0. .... leftTurnSignalOn: False
      ...0 .... rightTurnSignalOn: False
      .... 1... daytimeRunningLightsOn: True
      .... .0.. reverseLightOn: False
      .... ..0. fogLightOn: False
      .... ...0 parkingLightsOn: False
    pathHistory: 23 items
      Item 0
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 1
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 2
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 3
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 4
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 5
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 6
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 7
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 8
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 9
        PathPoint
```

```
        pathPosition
          deltaLatitude: unavailable (131072)
          deltaLongitude: unavailable (131072)
          deltaAltitude: unavailable (12800)
        pathDeltaTime: Unknown (0)
Item 10
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 11
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 12
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 13
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 14
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 15
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 16
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 17
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 18
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 19
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 20
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
```

```
      pathDeltaTime: Unknown (0)
Item 21
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 22
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
103	77.800220553	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 103: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:52:01.265331082 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426721.265331082 seconds

[Time delta from previous captured frame: 0.379884029 seconds]

[Time delta from previous displayed frame: 0.379884029 seconds]

[Time since reference or first frame: 77.800220553 seconds]

Frame Number: 103

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x07cb (1995)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9cc1 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0xa943 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 77.800220553 seconds]

[Time since previous frame: 0.379884029 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 103

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -46

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b300c4190000...
MKxIFMsg: 0200b300c419000004e50000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6596, Ref=0, Reserved=58628, Ret=0
Type: 2
Len: 179
Seq: 6596
Ref: 0
Reserved: 58628
Ret: 0
MKxRxPacketData: 00000a01a4ffa0ff34ff34ffecfaffff0a3da570ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-092, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1300, TSF=0x0005d4de70a53d0a, FrameLength=0123, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -92
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -204
FreqOffset: -1300
TSF: 0x0005d4de70a53d0a
FrameLength: 123
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0010 1110 .... = Sequence number: 302
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```



```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575842.728s (1575842728)
  Latitude: 48.7871818 (48°47'13.85"N) (487871818)
  Longitude: 9.2112389 (09°12'40.46"E) (92112389)
  1... .... = PAI: 1
  .000 0000 0000 0000 = Speed: 0x0000 (0.00 m/s) (0.00 km/h) (0)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (20692) (0x50d4, 20.692 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000420) (49.0000420 deg)
            longitude: Unknown (110000920) (11.0000920 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (116) (1.16 m/s, 4.18 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: noAcceleration (0) (0.0 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
104	78.080348359	CohdaWir_20:1d:4a	Broadcast	ITS	465	CAM(v2)

Frame 104: 465 bytes on wire (3720 bits), 465 bytes captured (3720 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:52:01.545458888 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426721.545458888 seconds
[Time delta from previous captured frame: 0.280127806 seconds]
[Time delta from previous displayed frame: 0.280127806 seconds]
[Time since reference or first frame: 78.080348359 seconds]
Frame Number: 104
Frame Length: 465 bytes (3720 bits)
Capture Length: 465 bytes (3720 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 451
Identification: 0x07d5 (2005)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9bef [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 431
Checksum: 0xec25 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 78.080348359 seconds]
[Time since previous frame: 0.280127806 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 104
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002007b01ca190000...
MKxIFMsg: 02007b01ca19000034ff0000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=379, Seq=6602, Ref=0, Reserved=65332, Ret=0
Type: 2
Len: 379
Seq: 6602
Ref: 0
Reserved: 65332
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff3aff25fbffffb26fa970ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-198, FreqOffset=-1243, TSF=0x0005d4de70a96fb2, FrameLength=0323, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -198
FreqOffset: -1243
TSF: 0x0005d4de70a96fb2
FrameLength: 323
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0010 1111 .... = Sequence number: 303
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 245
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575842.728s (1575842728)
  Latitude: 48.7871818 (48°47'13.85"N) (487871818)
  Longitude: 9.2112389 (09°12'40.46"E) (92112389)
  1... .... = PAI: 1
  .000 0000 0000 0000 = Speed: 0x0000 (0.00 m/s) (0.00 km/h) (0)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (20992) (0x5200, 20.992 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000420) (49.0000420 deg)
            longitude: Unknown (110000860) (11.0000860 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (177) (1.77 m/s, 6.37 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: pointOneMeterPerSecSquaredForward (1) (0.1 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

```
    yawRate
      yawRateValue: straight (0) (0.00 deg/sec)
      yawRateConfidence: degSec-000-01 (0)
  lowFrequencyContainer: basicVehicleContainerLowFrequency
    basicVehicleContainerLowFrequency
      vehicleRole: default (0)
      exteriorLights: 08 [bit length 8, 0000 1000 decimal value 8]
        0... .... lowBeamHeadlightsOn: False
        .0.. .... highBeamHeadlightsOn: False
        ..0. .... leftTurnSignalOn: False
        ...0 .... rightTurnSignalOn: False
        .... 1... daytimeRunningLightsOn: True
        .... .0.. reverseLightOn: False
        .... ..0. fogLightOn: False
        .... ...0 parkingLightsOn: False
      pathHistory: 23 items
        Item 0
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 1
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 2
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 3
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 4
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 5
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 6
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 7
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 8
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 9
          PathPoint
```

```
        pathPosition
          deltaLatitude: unavailable (131072)
          deltaLongitude: unavailable (131072)
          deltaAltitude: unavailable (12800)
        pathDeltaTime: Unknown (0)
Item 10
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 11
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 12
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 13
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 14
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 15
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 16
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 17
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 18
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 19
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 20
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
```

```
      pathDeltaTime: Unknown (0)
Item 21
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 22
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
```


No.	Time	Source	Destination	Protocol	Length	Info
105	78.400279524	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 105: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:52:01.865390053 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426721.865390053 seconds
[Time delta from previous captured frame: 0.319931165 seconds]
[Time delta from previous displayed frame: 0.319931165 seconds]
[Time since reference or first frame: 78.400279524 seconds]
Frame Number: 105
Frame Length: 265 bytes (2120 bits)
Capture Length: 265 bytes (2120 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 251
Identification: 0x07df (2015)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
..1. = Don't fragment: Set
...0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9cad [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 231
Checksum: 0xcb07 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 78.400279524 seconds]
[Time since previous frame: 0.319931165 seconds]
TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 105
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b300d2190000...
MKxIFMsg: 0200b300d2190000a60f0000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6610, Ref=0, Reserved=4006, Ret=0
Type: 2
Len: 179
Seq: 6610
Ref: 0
Reserved: 4006
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff86faffffa447ae70ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1402, TSF=0x0005d4de70ae47a4, FrameLength=0123, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -204
FreqOffset: -1402
TSF: 0x0005d4de70ae47a4
FrameLength: 123
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0011 0000 .... = Sequence number: 304
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575842.728s (1575842728)
  Latitude: 48.7871818 (48°47'13.85"N) (487871818)
  Longitude: 9.2112389 (09°12'40.46"E) (92112389)
  1... .... = PAI: 1
  .000 0000 0000 0000 = Speed: 0x0000 (0.00 m/s) (0.00 km/h) (0)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (21292) (0x532c, 21.292 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000420) (49.0000420 deg)
            longitude: Unknown (110000770) (11.0000770 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (240) (2.40 m/s, 8.64 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (2) (0.2 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
106	78.740268369	CohdaWir_20:1d:4a	Broadcast	ITS	465	CAM(v2)

Frame 106: 465 bytes on wire (3720 bits), 465 bytes captured (3720 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:52:02.205378898 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426722.205378898 seconds
[Time delta from previous captured frame: 0.339988845 seconds]
[Time delta from previous displayed frame: 0.339988845 seconds]
[Time since reference or first frame: 78.740268369 seconds]
Frame Number: 106
Frame Length: 465 bytes (3720 bits)
Capture Length: 465 bytes (3720 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 451
Identification: 0x07e6 (2022)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9bde [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 431
Checksum: 0x5ab8 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 78.740268369 seconds]
[Time since previous frame: 0.339988845 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 106
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002007b01d9190000...
MKxIFMsg: 02007b01d919000000000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=379, Seq=6617, Ref=0, Reserved=0, Ret=0
    Type: 2
    Len: 379
    Seq: 6617
    Ref: 0
    Reserved: 0
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff3aff34ffeffaffffa470b370ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-198, NoiseB=-204, FreqOffset=-1297, TSF=0x0005d4de70b370a4, FrameLength=0323, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -198
    RxNoiseB: -204
    FreqOffset: -1297
    TSF: 0x0005d4de70b370a4
    FrameLength: 323
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
        .... ..00 = Version: 0
        .... 10.. = Type: Data frame (2)
        1000 .... = Subtype: 8
        Flags: 0x00
            .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
            .... .0.. = More Fragments: This is the last fragment
            .... 0... = Retry: Frame is not being retransmitted
            ...0 .... = PWR MGT: STA will stay up
            ..0. .... = More Data: No data buffered
            .0.. .... = Protected flag: Data is not protected
            0... .... = Order flag: Not strictly ordered
        .000 0000 0000 0000 = Duration: 0 microseconds
        Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
        Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
        Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
        .... .... 0000 = Fragment number: 0
        0001 0011 0001 .... = Sequence number: 305
        Qos Control: 0x0023
            .... .... 0011 = TID: 3
            [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
            .... .... .0 .... = EOSP: Service period
            .... .... .01. .... = Ack Policy: No Ack (0x1)
            .... .... 0... .... = Payload Type: MSDU
            0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
        000. 00.. = Command: Unnumbered Information (0x00)
        .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
        0001 .... = Version: 1
        .... 0001 = Next Header: Common (1)
        Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 245
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575843.728s (1575843728)
  Latitude: 48.7871805 (48°47'13.85"N) (487871805)
  Longitude: 9.2112376 (09°12'40.46"E) (92112376)
  1... .... = PAI: 1
  .000 0000 0000 0010 = Speed: 0x0002 (0.02 m/s) (0.07 km/h) (2)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (21592) (0x5458, 21.592 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000420) (49.0000420 deg)
            longitude: Unknown (110000650) (11.0000650 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (300) (3.00 m/s, 10.80 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (2) (0.2 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

```
    yawRate
      yawRateValue: straight (0) (0.00 deg/sec)
      yawRateConfidence: degSec-000-01 (0)
lowFrequencyContainer: basicVehicleContainerLowFrequency
  basicVehicleContainerLowFrequency
    vehicleRole: default (0)
    exteriorLights: 08 [bit length 8, 0000 1000 decimal value 8]
      0... .... lowBeamHeadlightsOn: False
      .0.. .... highBeamHeadlightsOn: False
      ..0. .... leftTurnSignalOn: False
      ...0 .... rightTurnSignalOn: False
      .... 1... daytimeRunningLightsOn: True
      .... .0.. reverseLightOn: False
      .... ..0. fogLightOn: False
      .... ...0 parkingLightsOn: False
    pathHistory: 23 items
      Item 0
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 1
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 2
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 3
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 4
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 5
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 6
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 7
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 8
        PathPoint
          pathPosition
            deltaLatitude: unavailable (131072)
            deltaLongitude: unavailable (131072)
            deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
      Item 9
        PathPoint
```



```
        pathPosition
          deltaLatitude: unavailable (131072)
          deltaLongitude: unavailable (131072)
          deltaAltitude: unavailable (12800)
        pathDeltaTime: Unknown (0)
Item 10
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 11
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 12
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 13
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 14
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 15
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 16
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 17
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 18
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 19
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 20
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
```

```
      pathDeltaTime: Unknown (0)
Item 21
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 22
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
107	79.000310880	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 107: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:52:02.465421409 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426722.465421409 seconds
[Time delta from previous captured frame: 0.260042511 seconds]
[Time delta from previous displayed frame: 0.260042511 seconds]
[Time since reference or first frame: 79.000310880 seconds]
Frame Number: 107
Frame Length: 265 bytes (2120 bits)
Capture Length: 265 bytes (2120 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 251
Identification: 0x07fc (2044)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
..1. = Don't fragment: Set
...0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9c90 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 231
Checksum: 0x9b26 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 79.000310880 seconds]
[Time since previous frame: 0.260042511 seconds]
TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 107
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b300e0190000...
MKxIFMsg: 0200b300e019000004a000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6624, Ref=0, Reserved=74, Ret=0
Type: 2
Len: 179
Seq: 6624
Ref: 0
Reserved: 74
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff61fbffff7386b770ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1183, TSF=0x0005d4de70b78673, FrameLength=0123, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -204
FreqOffset: -1183
TSF: 0x0005d4de70b78673
FrameLength: 123
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0011 0010 .... = Sequence number: 306
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575843.728s (1575843728)
  Latitude: 48.7871805 (48°47'13.85"N) (487871805)
  Longitude: 9.2112376 (09°12'40.46"E) (92112376)
  1... .... = PAI: 1
  .000 0000 0000 0010 = Speed: 0x0002 (0.02 m/s) (0.07 km/h) (2)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (21892) (0x5584, 21.892 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000420) (49.0000420 deg)
            longitude: Unknown (110000510) (11.0000510 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (367) (3.67 m/s, 13.21 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: pointOneMeterPerSecSquaredForward (1) (0.1 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
108	79.270363997	CohdaWir_20:1d:4a	Broadcast	ITS	465	CAM(v2)

Frame 108: 465 bytes on wire (3720 bits), 465 bytes captured (3720 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:52:02.735474526 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426722.735474526 seconds
[Time delta from previous captured frame: 0.270053117 seconds]
[Time delta from previous displayed frame: 0.270053117 seconds]
[Time since reference or first frame: 79.270363997 seconds]
Frame Number: 108
Frame Length: 465 bytes (3720 bits)
Capture Length: 465 bytes (3720 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 451
Identification: 0x080e (2062)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9bb6 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 431
Checksum: 0x9515 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 79.270363997 seconds]
[Time since previous frame: 0.270053117 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 108
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -46
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002007b01e6190000...
MKxIFMsg: 02007b01e619000003000000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=379, Seq=6630, Ref=0, Reserved=3, Ret=0
    Type: 2
    Len: 379
    Seq: 6630
    Ref: 0
    Reserved: 3
    Ret: 0
MKxRxPacketData: 00000a01a4ffa0ff34ff3aff15fbffff5ba2bb70ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-092, PowerB=-096,
NoiseA=-204, NoiseB=-198, FreqOffset=-1259, TSF=0x0005d4de70bba25b, FrameLength=0323, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -92
    RxPowerB: -96
    RxNoiseA: -204
    RxNoiseB: -198
    FreqOffset: -1259
    TSF: 0x0005d4de70bba25b
    FrameLength: 323
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0011 0011 .... = Sequence number: 307
Qos Control: 0x0023
    .... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```



```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 245
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575843.728s (1575843728)
  Latitude: 48.7871805 (48°47'13.85"N) (487871805)
  Longitude: 9.2112376 (09°12'40.46"E) (92112376)
  1... .... = PAI: 1
  .000 0000 0000 0010 = Speed: 0x0002 (0.02 m/s) (0.07 km/h) (2)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (22192) (0x56b0, 22.192 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000420) (49.0000420 deg)
            longitude: Unknown (110000340) (11.0000340 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (432) (4.32 m/s, 15.55 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: Unknown (2) (0.2 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

```
    yawRate
      yawRateValue: straight (0) (0.00 deg/sec)
      yawRateConfidence: degSec-000-01 (0)
  lowFrequencyContainer: basicVehicleContainerLowFrequency
    basicVehicleContainerLowFrequency
      vehicleRole: default (0)
      exteriorLights: 08 [bit length 8, 0000 1000 decimal value 8]
        0... .... lowBeamHeadlightsOn: False
        .0.. .... highBeamHeadlightsOn: False
        ..0. .... leftTurnSignalOn: False
        ...0 .... rightTurnSignalOn: False
        .... 1... daytimeRunningLightsOn: True
        .... .0.. reverseLightOn: False
        .... ..0. fogLightOn: False
        .... ...0 parkingLightsOn: False
      pathHistory: 23 items
        Item 0
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 1
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 2
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 3
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 4
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 5
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 6
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 7
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 8
          PathPoint
            pathPosition
              deltaLatitude: unavailable (131072)
              deltaLongitude: unavailable (131072)
              deltaAltitude: unavailable (12800)
            pathDeltaTime: Unknown (0)
        Item 9
          PathPoint
```

```
        pathPosition
          deltaLatitude: unavailable (131072)
          deltaLongitude: unavailable (131072)
          deltaAltitude: unavailable (12800)
        pathDeltaTime: Unknown (0)
Item 10
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 11
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 12
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 13
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 14
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 15
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 16
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 17
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 18
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 19
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 20
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
```

```
      pathDeltaTime: Unknown (0)
Item 21
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
Item 22
  PathPoint
    pathPosition
      deltaLatitude: unavailable (131072)
      deltaLongitude: unavailable (131072)
      deltaAltitude: unavailable (12800)
    pathDeltaTime: Unknown (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
109	79.630297334	CohdaWir_20:1d:4a	Broadcast	ITS	265	CAM(v2)

Frame 109: 265 bytes on wire (2120 bits), 265 bytes captured (2120 bits) on interface 0

Interface id: 0 (enx00e04c6807aa)

Interface name: enx00e04c6807aa

Encapsulation type: Ethernet (1)

Arrival Time: Jan 6, 2022 00:52:03.095407863 W. Europe Standard Time

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1641426723.095407863 seconds

[Time delta from previous captured frame: 0.359933337 seconds]

[Time delta from previous displayed frame: 0.359933337 seconds]

[Time since reference or first frame: 79.630297334 seconds]

Frame Number: 109

Frame Length: 265 bytes (2120 bits)

Capture Length: 265 bytes (2120 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn:btp:etsiits]

[Coloring Rule Name: UDP]

[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)

.... ..0. = LG bit: Globally unique address (factory default)

.... ..0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

0000 00.. = Differentiated Services Codepoint: Default (0)

.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)

Total Length: 251

Identification: 0x0817 (2071)

Flags: 0x4000, Don't fragment

0... = Reserved bit: Not set

.1.. = Don't fragment: Set

..0. = More fragments: Not set

...0 0000 0000 0000 = Fragment offset: 0

Time to live: 64

Protocol: UDP (17)

Header checksum: 0x9c75 [validation disabled]

[Header checksum status: Unverified]

Source: 192.168.10.11

Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008

Source Port: 53588

Destination Port: 37008

Length: 231

Checksum: 0x7f77 [unverified]

[Checksum Status: Unverified]

[Stream index: 0]

[Timestamps]

[Time since first frame: 79.630297334 seconds]

[Time since previous frame: 0.359933337 seconds]

TZSP: IEEE 802.11 Good

Version: 1

Type: Received packet (0)

Encapsulation: IEEE 802.11 (18)

Cohda MKx Rx id header

Option Tag: Cohda MKx Rx id header (240)

Option Length: 1

Cohda MKx ID: 0

Cohda MKx Rx packet counter

Option Tag: Cohda MKx Rx packet counter (241)

Option Length: 4

Cohda MKx Counter: 109

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -47

Signal

Option Tag: Signal (10)

Option Length: 1

Signal: -48

Rate

Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e5480038000200b300ee190000...
MKxIFMsg: 0200b300ee19000048200000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=179, Seq=6638, Ref=0, Reserved=8264, Ret=0
    Type: 2
    Len: 179
    Seq: 6638
    Ref: 0
    Reserved: 8264
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff3aff3affd7faaffffa708c170ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-198, NoiseB=-198, FreqOffset=-1321, TSF=0x0005d4de70c108a7, FrameLength=0123, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -198
    RxNoiseB: -198
    FreqOffset: -1321
    TSF: 0x0005d4de70c108a7
    FrameLength: 123
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
    .... ..00 = Version: 0
    .... 10.. = Type: Data frame (2)
    1000 .... = Subtype: 8
    Flags: 0x00
    .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
    .... .0.. = More Fragments: This is the last fragment
    .... 0... = Retry: Frame is not being retransmitted
    ...0 .... = PWR MGT: STA will stay up
    ..0. .... = More Data: No data buffered
    .0.. .... = Protected flag: Data is not protected
    0... .... = Order flag: Not strictly ordered
    .000 0000 0000 0000 = Duration: 0 microseconds
    Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
    Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
    Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
    BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
    .... .... 0000 = Fragment number: 0
    0001 0011 0100 .... = Sequence number: 308
    Qos Control: 0x0023
    .... .... 0011 = TID: 3
    [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
    .... .... .0 .... = EOSP: Service period
    .... .... .01. .... = Ack Policy: No Ack (0x1)
    .... .... 0... .... = Payload Type: MSDU
    0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
    1010 101. = SAP: SNAP
    .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
    000. 00.. = Command: Unnumbered Information (0x00)
    .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (TSB Single Hop)
    Basic Header
    0001 .... = Version: 1
    .... 0001 = Next Header: Common (1)
    Reserved: 0

```

```
Lifetime 1000 ms
  0000 01.. = Multiplier: 1
  .... 01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0010 .... = Next Header: BTP-B (2)
  .... 0000 = Reserved: 0
  0101 .... = Header Type: TSB (5)
  .... 0000 = Header Subtype: Single Hop (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 45
Maximum Hop Limit: 1
Reserved: 0
Topology-Scoped Broadcast
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
  Timestamp: 1575843.728s (1575843728)
  Latitude: 48.7871805 (48°47'13.85"N) (487871805)
  Longitude: 9.2112376 (09°12'40.46"E) (92112376)
  1... .... = PAI: 1
  .000 0000 0000 0010 = Speed: 0x0002 (0.02 m/s) (0.07 km/h) (2)
  Heading: 0.0° (0)
Reserved (G5 DCC)
  CBR_L_0: 0
  CBR_L_1: 0
  Output power: 0 dB
  MCO: 0
Basic Transport Protocol (Type B)
  Destination Port: 2001
  Destination Port Info: 0
ETSI ITS (CAM)
  CAM
    header
      protocolVersion: 2
      messageID: cam (2)
      stationID: 1277901399 (0x4c2b3a57)
    cam
      generationDeltaTime: Unknown (22492) (0x57dc, 22.492 sec)
      camParameters
        basicContainer
          stationType: specialVehicles (10)
          referencePosition
            latitude: Unknown (490000420) (49.0000420 deg)
            longitude: Unknown (110000150) (11.0000150 deg)
            positionConfidenceEllipse
              semiMajorConfidence: unavailable (4095)
              semiMinorConfidence: unavailable (4095)
              semiMajorOrientation: unavailable (3601)
            altitude
              altitudeValue: unavailable (800001)
              altitudeConfidence: unavailable (15)
          highFrequencyContainer: basicVehicleContainerHighFrequency (0)
          basicVehicleContainerHighFrequency
            heading
              headingValue: wgs84West (2700) (270.0 deg)
              headingConfidence: equalOrWithinOneDegree (10)
            speed
              speedValue: Unknown (478) (4.78 m/s, 17.21 km/h)
              speedConfidence: Unknown (3) (0.03 m/s)
            driveDirection: forward (0)
            vehicleLength
              vehicleLengthValue: Unknown (50) (5.0 m)
              vehicleLengthConfidenceIndication: noTrailerPresent (0)
            vehicleWidth: Unknown (18) (1.8 m)
            longitudinalAcceleration
              longitudinalAccelerationValue: pointOneMeterPerSecSquaredForward (1) (0.1 m/s/s)
              longitudinalAccelerationConfidence: unavailable (102)
            curvature
              curvatureValue: straight (0)
              curvatureConfidence: unavailable (7)
              curvatureCalculationMode: yawRateUsed (0)
```

Z:\Desktop\tests\test_sim_to_hw\local\capture.pcapng 117 total packets, 117 shown

```
yawRate
  yawRateValue: straight (0) (0.00 deg/sec)
  yawRateConfidence: degSec-000-01 (0)
```


No.	Time	Source	Destination	Protocol	Length	Info
110	83.290207968	CohdaWir_20:1d:4a	Broadcast	GeoNetworking	216	Beacon

Frame 110: 216 bytes on wire (1728 bits), 216 bytes captured (1728 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:52:06.755318497 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426726.755318497 seconds
[Time delta from previous captured frame: 3.659910634 seconds]
[Time delta from previous displayed frame: 3.659910634 seconds]
[Time since reference or first frame: 83.290207968 seconds]
Frame Number: 110
Frame Length: 216 bytes (1728 bits)
Capture Length: 216 bytes (1728 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 202
Identification: 0x0868 (2152)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9c55 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 182
Checksum: 0xe960 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 83.290207968 seconds]
[Time since previous frame: 3.659910634 seconds]
TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 110
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002008200381a0000...
MKxIFMsg: 02008200381a000056010000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=130, Seq=6712, Ref=0, Reserved=342, Ret=0
Type: 2
Len: 130
Seq: 6712
Ref: 0
Reserved: 342
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff6efaffff69f4f870ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1426, TSF=0x0005d4de70f8f469, FrameLength=0074, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -204
FreqOffset: -1426
TSF: 0x0005d4de70f8f469
FrameLength: 74
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0011 0101 .... = Sequence number: 309
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (Beacon)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 60000 ms
  1111 00.. = Multiplier: 60
  .... ..01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0000 .... = Next Header: Any (0)
  .... 0000 = Reserved: 0
  0001 .... = Header Type: Beacon (1)
  .... 0000 = Header Subtype: Unspecified (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 0
Maximum Hop Limit: 1
Reserved: 0
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... ..00 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Timestamp: 1575847.728s (1575847728)
Latitude: 48.7871768 (48°47'13.84"N) (487871768)
Longitude: 9.2112352 (09°12'40.45"E) (92112352)
1... .... = PAI: 1
.000 0000 0000 1000 = Speed: 0x0008 (0.08 m/s) (0.29 km/h) (8)
Heading: 0.0° (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
111	86.440397352	CohdaWir_20:1d:4a	Broadcast	GeoNetworking	216	Beacon

Frame 111: 216 bytes on wire (1728 bits), 216 bytes captured (1728 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:52:09.905507881 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426729.905507881 seconds
[Time delta from previous captured frame: 3.150189384 seconds]
[Time delta from previous displayed frame: 3.150189384 seconds]
[Time since reference or first frame: 86.440397352 seconds]
Frame Number: 111
Frame Length: 216 bytes (1728 bits)
Capture Length: 216 bytes (1728 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]

Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... 0. = LG bit: Globally unique address (factory default)
.... 0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 202
Identification: 0x0987 (2439)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9b36 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10

User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 182
Checksum: 0xce6e [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 86.440397352 seconds]
[Time since previous frame: 3.150189384 seconds]

TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 111
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002008200781a0000...
MKxIFMsg: 02008200781a0000560b0000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=130, Seq=6776, Ref=0, Reserved=2902, Ret=0
Type: 2
Len: 130
Seq: 6776
Ref: 0
Reserved: 2902
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff47fbffffaf072971ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1209, TSF=0x0005d4de712907af, FrameLength=0074, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -204
FreqOffset: -1209
TSF: 0x0005d4de712907af
FrameLength: 74
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0011 0110 .... = Sequence number: 310
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (Beacon)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 60000 ms
  1111 00.. = Multiplier: 60
  .... ..01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0000 .... = Next Header: Any (0)
  .... 0000 = Reserved: 0
  0001 .... = Header Type: Beacon (1)
  .... 0000 = Header Subtype: Unspecified (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 0
Maximum Hop Limit: 1
Reserved: 0
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... ..00 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Timestamp: 1575850.728s (1575850728)
Latitude: 48.7871743 (48°47'13.83"N) (487871743)
Longitude: 9.2112383 (09°12'40.46"E) (92112383)
1... .... = PAI: 1
.000 0000 0001 1010 = Speed: 0x001a (0.26 m/s) (0.94 km/h) (26)
Heading: 0.0° (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
112	89.980182072	CohdaWir_20:1d:4a	Broadcast	GeoNetworking	216	Beacon

Frame 112: 216 bytes on wire (1728 bits), 216 bytes captured (1728 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:52:13.445292601 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426733.445292601 seconds
[Time delta from previous captured frame: 3.539784720 seconds]
[Time delta from previous displayed frame: 3.539784720 seconds]
[Time since reference or first frame: 89.980182072 seconds]
Frame Number: 112
Frame Length: 216 bytes (1728 bits)
Capture Length: 216 bytes (1728 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 202
Identification: 0x0a53 (2643)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
..1. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9a6a [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 182
Checksum: 0xc363 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 89.980182072 seconds]
[Time since previous frame: 3.539784720 seconds]
TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 112
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002008200c01a0000...
MKxIFMsg: 02008200c01a0000561d0000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=130, Seq=6848, Ref=0, Reserved=7510, Ret=0
Type: 2
Len: 130
Seq: 6848
Ref: 0
Reserved: 7510
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff89fbffffa30a5f71ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1143, TSF=0x0005d4de715f0aa3, FrameLength=0074, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -204
FreqOffset: -1143
TSF: 0x0005d4de715f0aa3
FrameLength: 74
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0011 0111 .... = Sequence number: 311
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (Beacon)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```



```
Lifetime 60000 ms
  1111 00.. = Multiplier: 60
  .... ..01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
0000 .... = Next Header: Any (0)
.... 0000 = Reserved: 0
0001 .... = Header Type: Beacon (1)
.... 0000 = Header Subtype: Unspecified (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 0
Maximum Hop Limit: 1
Reserved: 0
Source Position Vector
GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... ..00 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Timestamp: 1575854.728s (1575854728)
Latitude: 48.7871710 (48°47'13.82"N) (487871710)
Longitude: 9.2112450 (09°12'40.48"E) (92112450)
1... .... = PAI: 1
.000 0000 0000 0100 = Speed: 0x0004 (0.04 m/s) (0.14 km/h) (4)
Heading: 0.0° (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
113	93.360218752	CohdaWir_20:1d:4a	Broadcast	GeoNetworking	216	Beacon

Frame 113: 216 bytes on wire (1728 bits), 216 bytes captured (1728 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:52:16.825329281 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426736.825329281 seconds
[Time delta from previous captured frame: 3.380036680 seconds]
[Time delta from previous displayed frame: 3.380036680 seconds]
[Time since reference or first frame: 93.360218752 seconds]
Frame Number: 113
Frame Length: 216 bytes (1728 bits)
Capture Length: 216 bytes (1728 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 202
Identification: 0x0b30 (2864)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x998d [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 182
Checksum: 0x0948 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 93.360218752 seconds]
[Time since previous frame: 3.380036680 seconds]
TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 113
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002008200051b0000...
MKxIFMsg: 02008200051b00000562a0000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=130, Seq=6917, Ref=0, Reserved=10838, Ret=0
Type: 2
Len: 130
Seq: 6917
Ref: 0
Reserved: 10838
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff2eff2eff7efbfffffa79271ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-210, NoiseB=-210, FreqOffset=-1154, TSF=0x0005d4de7192a7ff, FrameLength=0074, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -210
RxNoiseB: -210
FreqOffset: -1154
TSF: 0x0005d4de7192a7ff
FrameLength: 74
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0011 1000 .... = Sequence number: 312
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (Beacon)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 60000 ms
  1111 00.. = Multiplier: 60
  .... ..01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0000 .... = Next Header: Any (0)
  .... 0000 = Reserved: 0
  0001 .... = Header Type: Beacon (1)
  .... 0000 = Header Subtype: Unspecified (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 0
Maximum Hop Limit: 1
Reserved: 0
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... ..00 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Timestamp: 1575857.728s (1575857728)
Latitude: 48.7871688 (48°47'13.81"N) (487871688)
Longitude: 9.2112488 (09°12'40.50"E) (92112488)
1... .... = PAI: 1
.000 0000 0000 0100 = Speed: 0x0004 (0.04 m/s) (0.14 km/h) (4)
Heading: 0.0° (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
114	97.020249186	CohdaWir_20:1d:4a	Broadcast	GeoNetworking	216	Beacon

Frame 114: 216 bytes on wire (1728 bits), 216 bytes captured (1728 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:52:20.485359715 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426740.485359715 seconds
[Time delta from previous captured frame: 3.660030434 seconds]
[Time delta from previous displayed frame: 3.660030434 seconds]
[Time since reference or first frame: 97.020249186 seconds]
Frame Number: 114
Frame Length: 216 bytes (1728 bits)
Capture Length: 216 bytes (1728 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 202
Identification: 0x0b77 (2935)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
..1. = Don't fragment: Set
...0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9946 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 182
Checksum: 0x48a8 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 97.020249186 seconds]
[Time since previous frame: 3.660030434 seconds]
TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 114
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```

    Option Length: 1
    Rate: 6 Mbit/s (12)
Frame check sequence
    Option Tag: Frame check sequence (17)
    Option Length: 1
    FCS: Frame is valid
Cohda MKx Rx (LMAC) header
    Option Tag: Cohda MKx Rx (LMAC) header (242)
    Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e548003800020082004f1b0000...
MKxIFMsg: 020082004f1b0000056230000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=130, Seq=6991, Ref=0, Reserved=9046, Ret=0
    Type: 2
    Len: 130
    Seq: 6991
    Ref: 0
    Reserved: 9046
    Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff3aff3aff10fbffff696fca71ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-198, NoiseB=-198, FreqOffset=-1264, TSF=0x0005d4de71ca6f69, FrameLength=0074, Freq=5900
    RadioID: 0
    ChannelID: 0
    MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
    FCS: 0x01
    RxPowerA: -94
    RxPowerB: -96
    RxNoiseA: -198
    RxNoiseB: -198
    FreqOffset: -1264
    TSF: 0x0005d4de71ca6f69
    FrameLength: 74
    Freq: 5900
End
    Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
    Type/Subtype: QoS Data (0x0028)
    Frame Control Field: 0x8800
        .... ..00 = Version: 0
        .... 10.. = Type: Data frame (2)
        1000 .... = Subtype: 8
        Flags: 0x00
            .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
            .... .0.. = More Fragments: This is the last fragment
            .... 0... = Retry: Frame is not being retransmitted
            ...0 .... = PWR MGT: STA will stay up
            ..0. .... = More Data: No data buffered
            .0.. .... = Protected flag: Data is not protected
            0... .... = Order flag: Not strictly ordered
        .000 0000 0000 0000 = Duration: 0 microseconds
        Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
        Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
        Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
        BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
        .... .... 0000 = Fragment number: 0
        0001 0011 1001 .... = Sequence number: 313
        Qos Control: 0x0023
            .... .... 0011 = TID: 3
            [... .. 011 = Priority: Excellent Effort (Best Effort) (3)]
            .... .... 0 .... = EOSP: Service period
            .... .... 01. .... = Ack Policy: No Ack (0x1)
            .... .... 0... .... = Payload Type: MSDU
            0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
    DSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = IG Bit: Individual
    SSAP: SNAP (0xaa)
        1010 101. = SAP: SNAP
        .... ...0 = CR Bit: Command
    Control field: U, func=UI (0x03)
        000. 00.. = Command: Unnumbered Information (0x00)
        .... ..11 = Frame type: Unnumbered frame (0x3)
    Organization Code: 00:00:00 (Officially Xerox, but
    Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (Beacon)
    Basic Header
        0001 .... = Version: 1
        .... 0001 = Next Header: Common (1)
        Reserved: 0

```

```
Lifetime 60000 ms
  1111 00.. = Multiplier: 60
  .... ..01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
0000 .... = Next Header: Any (0)
.... 0000 = Reserved: 0
0001 .... = Header Type: Beacon (1)
.... 0000 = Header Subtype: Unspecified (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 0
Maximum Hop Limit: 1
Reserved: 0
Source Position Vector
GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... ..00 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Timestamp: 1575861.728s (1575861728)
Latitude: 48.7871665 (48°47'13.80"N) (487871665)
Longitude: 9.2112492 (09°12'40.50"E) (92112492)
1... .... = PAI: 1
.000 0000 0000 1010 = Speed: 0x000a (0.10 m/s) (0.36 km/h) (10)
Heading: 0.0° (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
115	100.750221174	CohdaWir_20:1d:4a	Broadcast	GeoNetworking	216	Beacon

Frame 115: 216 bytes on wire (1728 bits), 216 bytes captured (1728 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:52:24.215331703 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426744.215331703 seconds
[Time delta from previous captured frame: 3.729971988 seconds]
[Time delta from previous displayed frame: 3.729971988 seconds]
[Time since reference or first frame: 100.750221174 seconds]
Frame Number: 115
Frame Length: 216 bytes (1728 bits)
Capture Length: 216 bytes (1728 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 202
Identification: 0x0b99 (2969)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
.1.. = Don't fragment: Set
..0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9924 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 182
Checksum: 0xa561 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 100.750221174 seconds]
[Time since previous frame: 3.729971988 seconds]
TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 115
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)


```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e548003800020082009b1b0000...
MKxIFMsg: 020082009b1b000056060000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=130, Seq=7067, Ref=0, Reserved=1622, Ret=0
Type: 2
Len: 130
Seq: 7067
Ref: 0
Reserved: 1622
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff70faffffd06a0372ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1424, TSF=0x0005d4de72036ad0, FrameLength=0074, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -204
FreqOffset: -1424
TSF: 0x0005d4de72036ad0
FrameLength: 74
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0011 1010 .... = Sequence number: 314
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (Beacon)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 60000 ms
  1111 00.. = Multiplier: 60
  .... ..01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0000 .... = Next Header: Any (0)
  .... 0000 = Reserved: 0
  0001 .... = Header Type: Beacon (1)
  .... 0000 = Header Subtype: Unspecified (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 0
Maximum Hop Limit: 1
Reserved: 0
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... ..00 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Timestamp: 1575865.728s (1575865728)
Latitude: 48.7871634 (48°47'13.79"N) (487871634)
Longitude: 9.2112501 (09°12'40.50"E) (92112501)
1... .... = PAI: 1
.000 0000 0000 0100 = Speed: 0x0004 (0.04 m/s) (0.14 km/h) (4)
Heading: 0.0° (0)
```

No.	Time	Source	Destination	Protocol	Length	Info
116	104.470229837	CohdaWir_20:1d:4a	Broadcast	GeoNetworking	216	Beacon

Frame 116: 216 bytes on wire (1728 bits), 216 bytes captured (1728 bits) on interface 0
Interface id: 0 (enx00e04c6807aa)
Interface name: enx00e04c6807aa
Encapsulation type: Ethernet (1)
Arrival Time: Jan 6, 2022 00:52:27.935340366 W. Europe Standard Time
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1641426747.935340366 seconds
[Time delta from previous captured frame: 3.720008663 seconds]
[Time delta from previous displayed frame: 3.720008663 seconds]
[Time since reference or first frame: 104.470229837 seconds]
Frame Number: 116
Frame Length: 216 bytes (1728 bits)
Capture Length: 216 bytes (1728 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame: eth:ethertype:ip:udp:tzsp:wlan:llc:gn]
[Coloring Rule Name: UDP]
[Coloring Rule String: udp]
Ethernet II, Src: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c), Dst: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Destination: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
Address: RealtekS_68:07:aa (00:e0:4c:68:07:aa)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Source: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
Address: CohdaWir_20:1d:2c (04:e5:48:20:1d:2c)
.... ..0. = LG bit: Globally unique address (factory default)
.... ..0. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 192.168.10.11, Dst: 192.168.10.10
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
0000 00.. = Differentiated Services Codepoint: Default (0)
.... ..00 = Explicit Congestion Notification: Not ECN-Capable Transport (0)
Total Length: 202
Identification: 0x0ba7 (2983)
Flags: 0x4000, Don't fragment
0... = Reserved bit: Not set
..1. = Don't fragment: Set
...0. = More fragments: Not set
...0 0000 0000 0000 = Fragment offset: 0
Time to live: 64
Protocol: UDP (17)
Header checksum: 0x9916 [validation disabled]
[Header checksum status: Unverified]
Source: 192.168.10.11
Destination: 192.168.10.10
User Datagram Protocol, Src Port: 53588, Dst Port: 37008
Source Port: 53588
Destination Port: 37008
Length: 182
Checksum: 0xf9c5 [unverified]
[Checksum Status: Unverified]
[Stream index: 0]
[Timestamps]
[Time since first frame: 104.470229837 seconds]
[Time since previous frame: 3.720008663 seconds]
TZSP: IEEE 802.11 Good
Version: 1
Type: Received packet (0)
Encapsulation: IEEE 802.11 (18)
Cohda MKx Rx id header
Option Tag: Cohda MKx Rx id header (240)
Option Length: 1
Cohda MKx ID: 0
Cohda MKx Rx packet counter
Option Tag: Cohda MKx Rx packet counter (241)
Option Length: 4
Cohda MKx Counter: 116
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -47
Signal
Option Tag: Signal (10)
Option Length: 1
Signal: -48
Rate
Option Tag: Rate (12)

```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002008200e61b0000...
MKxIFMsg: 02008200e61b000055e10000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=130, Seq=7142, Ref=0, Reserved=57685, Ret=0
Type: 2
Len: 130
Seq: 7142
Ref: 0
Reserved: 57685
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ff21fbffffd3183c72ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1247, TSF=0x0005d4de723c18d3, FrameLength=0074, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -204
FreqOffset: -1247
TSF: 0x0005d4de723c18d3
FrameLength: 74
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0011 1011 .... = Sequence number: 315
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (Beacon)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 60000 ms
  1111 00.. = Multiplier: 60
  .... ..01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0000 .... = Next Header: Any (0)
  .... 0000 = Reserved: 0
  0001 .... = Header Type: Beacon (1)
  .... 0000 = Header Subtype: Unspecified (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 0
Maximum Hop Limit: 1
Reserved: 0
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... ..00 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Timestamp: 1575868.728s (1575868728)
Latitude: 48.7871608 (48°47'13.78"N) (487871608)
Longitude: 9.2112516 (09°12'40.51"E) (92112516)
1... .... = PAI: 1
.000 0000 0000 1000 = Speed: 0x0008 (0.08 m/s) (0.29 km/h) (8)
Heading: 0.0° (0)
```



```
Option Length: 1
Rate: 6 Mbit/s (12)
Frame check sequence
Option Tag: Frame check sequence (17)
Option Length: 1
FCS: Frame is valid
Cohda MKx Rx (LMAC) header
Option Tag: Cohda MKx Rx (LMAC) header (242)
Option Length: 72
Cohda MKx Rx Packet Header: 0000480002000040000004e54800380002008200311c0000...
MKxIFMsg: 02008200311c000055b80000
MKxIFMsg Summary: tMKxIFMsg: Type=0x0002, Len=130, Seq=7217, Ref=0, Reserved=47189, Ret=0
Type: 2
Len: 130
Seq: 7217
Ref: 0
Reserved: 47189
Ret: 0
MKxRxPacketData: 00000a01a2ffa0ff34ff34ffc8faffff19597472ded40500...
MKxRxPacketData Summary: tMKxRxPacketData: Radio=00, Channel=00, MCS=10, FCS=1, PowerA=-094, PowerB=-096,
NoiseA=-204, NoiseB=-204, FreqOffset=-1336, TSF=0x0005d4de72745919, FrameLength=0074, Freq=5900
RadioID: 0
ChannelID: 0
MCS: QPSK Rate 1/2 (12/6 Mbps) (0x0a)
FCS: 0x01
RxPowerA: -94
RxPowerB: -96
RxNoiseA: -204
RxNoiseB: -204
FreqOffset: -1336
TSF: 0x0005d4de72745919
FrameLength: 74
Freq: 5900
End
Option Tag: End (1)
IEEE 802.11 QoS Data, Flags: .....
Type/Subtype: QoS Data (0x0028)
Frame Control Field: 0x8800
.... ..00 = Version: 0
.... 10.. = Type: Data frame (2)
1000 .... = Subtype: 8
Flags: 0x00
.... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
.... .0.. = More Fragments: This is the last fragment
.... 0... = Retry: Frame is not being retransmitted
...0 .... = PWR MGT: STA will stay up
..0. .... = More Data: No data buffered
.0.. .... = Protected flag: Data is not protected
0... .... = Order flag: Not strictly ordered
.000 0000 0000 0000 = Duration: 0 microseconds
Receiver address: Broadcast (ff:ff:ff:ff:ff:ff)
Transmitter address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Destination address: Broadcast (ff:ff:ff:ff:ff:ff)
Source address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
BSS Id: Broadcast (ff:ff:ff:ff:ff:ff)
.... .... 0000 = Fragment number: 0
0001 0011 1100 .... = Sequence number: 316
Qos Control: 0x0023
.... .... 0011 = TID: 3
[.... .... .011 = Priority: Excellent Effort (Best Effort) (3)]
.... .... .0 .... = EOSP: Service period
.... .... .01. .... = Ack Policy: No Ack (0x1)
.... .... 0... .... = Payload Type: MSDU
0000 0000 .... .... = TXOP Duration Requested: 0 (no TXOP requested)
Logical-Link Control (LPD)
DSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = IG Bit: Individual
SSAP: SNAP (0xaa)
1010 101. = SAP: SNAP
.... ...0 = CR Bit: Command
Control field: U, func=UI (0x03)
000. 00.. = Command: Unnumbered Information (0x00)
.... ..11 = Frame type: Unnumbered frame (0x3)
Organization Code: 00:00:00 (Officially Xerox, but
Type: ETSI GN (0x8947)
GeoNetworking_CW: Common (Beacon)
Basic Header
0001 .... = Version: 1
.... 0001 = Next Header: Common (1)
Reserved: 0
```

```
Lifetime 60000 ms
  1111 00.. = Multiplier: 60
  .... ..01 = Base: 1 s (1)
Remaining Hop Limit: 1
Common Header
  0000 .... = Next Header: Any (0)
  .... 0000 = Reserved: 0
  0001 .... = Header Type: Beacon (1)
  .... 0000 = Header Subtype: Unspecified (0)
Traffic Class: 0x02
  0... .... = Store-Carry-Forward: 0
  .0.. .... = Channel Offload: 0
  ..00 0010 = DP ID (DCC Profile Id): 2
Flags: 0x80
  1... .... = Mobile Flag: Mobile (1)
  .000 0000 = Reserved: 0x00
Payload Length: 0
Maximum Hop Limit: 1
Reserved: 0
Source Position Vector
  GN Address: 0x140004e548201d4a
  0... .... = Assignment: Initial (0)
  .001 01.. .... = Station Type: Passenger Car (5)
  .... ..00 0000 0000 = Reserved: 0
  Link-Layer Address: CohdaWir_20:1d:4a (04:e5:48:20:1d:4a)
Timestamp: 1575872.728s (1575872728)
Latitude: 48.7871588 (48°47'13.77"N) (487871588)
Longitude: 9.2112552 (09°12'40.52"E) (92112552)
1... .... = PAI: 1
.000 0000 0000 1000 = Speed: 0x0008 (0.08 m/s) (0.29 km/h) (8)
Heading: 0.0° (0)
```