IOT REPORT

Software used for analysis: wireshark

- Two types of packets are found when data was analyzed:
  1)packet with data
  2)acknowledgement packet
- These packets are in 802.15.4 frame format.
- The packet carrying data contains beacon field,data field,command field,network field,application field and footer field.
- The acknowledgement packet consists of frame control field,frame sequence number field and frame checksum.
- Upon doing packet analysis we can concur that given below sequence number packets have not been acknowledged:

0x29	Unacknowledged
0x2F	Unacknowledged
0x35	Unacknowledged
0x36	Unacknowledged
0x3B	Unacknowledged
0xA0	Unacknowledged
0x3D	Unacknowledged
0x42	Unacknowledged
0x46	Unacknowledged
0x44	Unacknowledged
0x4A	Unacknowledged
0xc9	Unacknowledged

- There is no encryption performed on data.
- The ZigBee Coordinator has network address 0x0000.

- Two ZigBee coordinators can exist on the same channel with network address 0x0000, because they are on different PAN IDs.

- If the network destination address is set to 0xFFFF then a broadcast message is sent to all modules on any given PAN (Personal Area Network)
- Broadcast message is sent once and then repeated by the neighboring Coordinator/Router(s).
- By analysing packets we can presume that this is tree topology network
- Total 497 packets were transferred to and fro
- PAN ID compression concept is set to “True” in some packets(It is provided to omit PAN ID completely from frames).
- Maximum possible packet size of zigbee is 128 bytes, including a variable payload of up to 104 bytes.