

## 1. Wireshark : Ethernet и ARP (7 баллов)

### 1.3 захват и анализ Ethernet-кадров (3 балла)

1. fc:b3:bc:a6:38:ad
2. IntelCor\_a6:38:ad

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000000	IntelCor_a6:38:ad	TendaTec_d1:f2:70	0x0800	66	IPv4
2	0.020455198	TendaTec_d1:f2:70	IntelCor_a6:38:ad	0x0800	66	IPv4
3	0.749302139	IntelCor_a6:38:ad	TendaTec_d1:f2:70	0x0800	74	IPv4
4	0.955786110	TendaTec_d1:f2:70	IntelCor_a6:38:ad	0x0800	74	IPv4
5	0.956014205	IntelCor_a6:38:ad	TendaTec_d1:f2:70	0x0800	66	IPv4
6	0.956443109	IntelCor_a6:38:ad	TendaTec_d1:f2:70	0x0800	535	IPv4
7	1.159314164	TendaTec_d1:f2:70	IntelCor_a6:38:ad	0x0800	66	IPv4
8	1.159314388	TendaTec_d1:f2:70	IntelCor_a6:38:ad	0x0800	4410	IPv4
9	1.159358910	IntelCor_a6:38:ad	TendaTec_d1:f2:70	0x0800	66	IPv4
10	1.159448641	TendaTec_d1:f2:70	IntelCor_a6:38:ad	0x0800	583	IPv4

Frame 6: 535 bytes on wire (4280 bits), 535 bytes captured (4280 bits) on interface wlp0s20f3, id 0

Ethernet II, Src: IntelCor\_a6:38:ad (fc:b3:bc:a6:38:ad), Dst: TendaTec\_d1:f2:70 (50:0f:f5:d1:f2:70)

- Destination: TendaTec\_d1:f2:70 (50:0f:f5:d1:f2:70)
- Source: IntelCor\_a6:38:ad (fc:b3:bc:a6:38:ad)
- Type: IPv4 (0x0800)
- Data (521 bytes)

3. Адрес: 50:0f:f5:d1:f2:70, устройство: TendaTec\_d1:f2:70
4. Как видно на скриншоте, это действительно адрес моего компьютера

No.	Time	Source	Destination	Protocol	Length	Info
4	0.955786110	TendaTec_d1:f2:70	IntelCor_a6:38:ad	0x0800	74	IPv4
5	0.956014205	IntelCor_a6:38:ad	TendaTec_d1:f2:70	0x0800	66	IPv4
6	0.956443109	IntelCor_a6:38:ad	TendaTec_d1:f2:70	0x0800	535	IPv4
7	1.159314164	TendaTec_d1:f2:70	IntelCor_a6:38:ad	0x0800	66	IPv4
8	1.159314388	TendaTec_d1:f2:70	IntelCor_a6:38:ad	0x0800	4410	IPv4
9	1.159358910	IntelCor_a6:38:ad	TendaTec_d1:f2:70	0x0800	66	IPv4
10	1.159448641	TendaTec_d1:f2:70	IntelCor_a6:38:ad	0x0800	583	IPv4
11	1.159459273	IntelCor_a6:38:ad	TendaTec_d1:f2:70	0x0800	66	IPv4
12	1.215145233	IntelCor_a6:38:ad	IPv4mcast_7f:ff:fa	0x0800	214	IPv4
13	2.189081435	TendaTec_d1:f2:70	IntelCor_a6:38:ad	0x0800	417	IPv4

Frame 10: 583 bytes on wire (4664 bits), 583 bytes captured (4664 bits) on interface wlp0s20f3, id 0

Ethernet II, Src: TendaTec\_d1:f2:70 (50:0f:f5:d1:f2:70), Dst: IntelCor\_a6:38:ad (fc:b3:bc:a6:38:ad)

- Destination: IntelCor\_a6:38:ad (fc:b3:bc:a6:38:ad)
- Source: TendaTec\_d1:f2:70 (50:0f:f5:d1:f2:70)
- Type: IPv4 (0x0800)
- Data (569 bytes)

## 2. ARP-протокол (4 балла)

1. Src: fc:b3:bc:a6:38:ad, Dst: ff:ff:ff:ff:ff:ff

arp					
No.	Time	Source	Destination	Protocol	Length Info
72	1.521382316	IntelCor_a6:38:ad	Broadcast	ARP	42 Who has 192.168.0.1? Tell 192.168.0.104
73	1.529357883	TendaTec_d1:f2:70	IntelCor_a6:38:ad	ARP	42 192.168.0.1 is at 50:0f:f5:d1:f2:70

  

▶ Frame 72: 42 bytes on wire (336 bits), 42 bytes captured (336 bits) on interface wlp0s20f3, id 0  
 ▶ Ethernet II, Src: IntelCor\_a6:38:ad (fc:b3:bc:a6:38:ad), Dst: Broadcast (ff:ff:ff:ff:ff:ff)  
   ▶ Destination: Broadcast (ff:ff:ff:ff:ff:ff)  
   ▶ Source: IntelCor\_a6:38:ad (fc:b3:bc:a6:38:ad)  
   Type: ARP (0x0806)  
   Address Resolution Protocol (request)

## 2. Содержится в поле Sender IP address

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  Type: ARP (0x0806)
  Address Resolution Protocol (request)
    Hardware type: Ethernet (1)
    Protocol type: IPv4 (0x0800)
    Hardware size: 6
    Protocol size: 4
    Opcode: request (1)
    Sender MAC address: IntelCor_a6:38:ad (fc:b3:bc:a6:38:ad)
    Sender IP address: 192.168.0.104
    Target MAC address: 00:00:00_00:00:00 (00:00:00:00:00:00)
    Target IP address: 192.168.0.1
  
```

## 3. Поле Target MAC address

## 4. Поле Sender MAC address

```

  Address Resolution Protocol (reply)
    Hardware type: Ethernet (1)
    Protocol type: IPv4 (0x0800)
    Hardware size: 6
    Protocol size: 4
    Opcode: reply (2)
    Sender MAC address: TendaTec_d1:f2:70 (50:0f:f5:d1:f2:70)
    Sender IP address: 192.168.0.1
    Target MAC address: IntelCor_a6:38:ad (fc:b3:bc:a6:38:ad)
    Target IP address: 192.168.0.104
  
```