Wireshark IP packet analysis

1. Packet Capture

```
Frame 5: 89 bytes on wire (712 bits), 89 bytes captured (712 bits) on interface \Device\NPF_{5BCE9CAA-4B63-48A1-B253-1E0B7928A2EF}, id 0
Ethernet II, Src: Intel_59:ec:9b (68:54:5a:59:ec:9b), Dst: Sichuantiany_04:40:b3 (b4:cf:e0:04:40:b3)
Internet Protocol Version 4, Src: 192.168.1.11, Dst: 192.168.1.1
User Datagram Protocol, Src Port: 65154, Dst Port: 53
Domain Name System (query)
```

2. Hexadecimal Data

```
0000  b4 cf e0 04 40 b3 68 54  5a 59 ec 9b 08 00 45 00
0010  00 4b 53 51 00 00 80 11  00 00 c0 a8 01 0b c0 a8
0020  01 01 fe 82 00 35 00 37  83 a5 49 65 01 00 00 01
0030  00 00 00 00 00 00 03 76  31 30 06 65 76 65 6e 74
0040  73 04 64 61 74 61 09 6d  69 63 72 6f 73 6f 66 74
0050  03 63 6f 6d 00 00 01 00  01
```

3. IP Header (20 bytes; IPv4)

45 00 00 4b 53 51 00 00 80 11 00 00 c0 a8 01 0b c0 a8 01 01

```
Internet Protocol Version 4, Src: 192.168.1.11, Dst: 192.168.1.1
    0100 .... = Version: 4
    .... 0101 = Header Length: 20 bytes (5)
  > Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
    Total Length: 75
    Identification: 0x5351 (21329)
  > 000. .... = Flags: 0x0
    ...0 0000 0000 0000 = Fragment Offset: 0
    Time to Live: 128
    Protocol: UDP (17)
    Header Checksum: 0x0000 [validation disabled]
    [Header checksum status: Unverified]
    Source Address: 192.168.1.11
    Destination Address: 192.168.1.1
```

4. IP Header Field Analysis

Field	Hex Value	Decoded Value	Explanation
Version	4	4	IPV4
IHL	5	5	Header Length 20 bytes
TOS	00	0	No special priority
Total Length	00 4b	75	Packet Size
Identification	53 51	21329	Packet Identifier
Flags and Fragment Offset	00 00	0	No fragmentation
TTL	80	128	Max hops before discard
Protocol	11	17	Next level protocol
Header Checksum	00 00	0	Error check (validation disabled)
Source IP	c0 a8 01 0b	192.168.1.11	Source Address
Destination IP	c0 a8 01 01	192.168.1.1	Destination Address