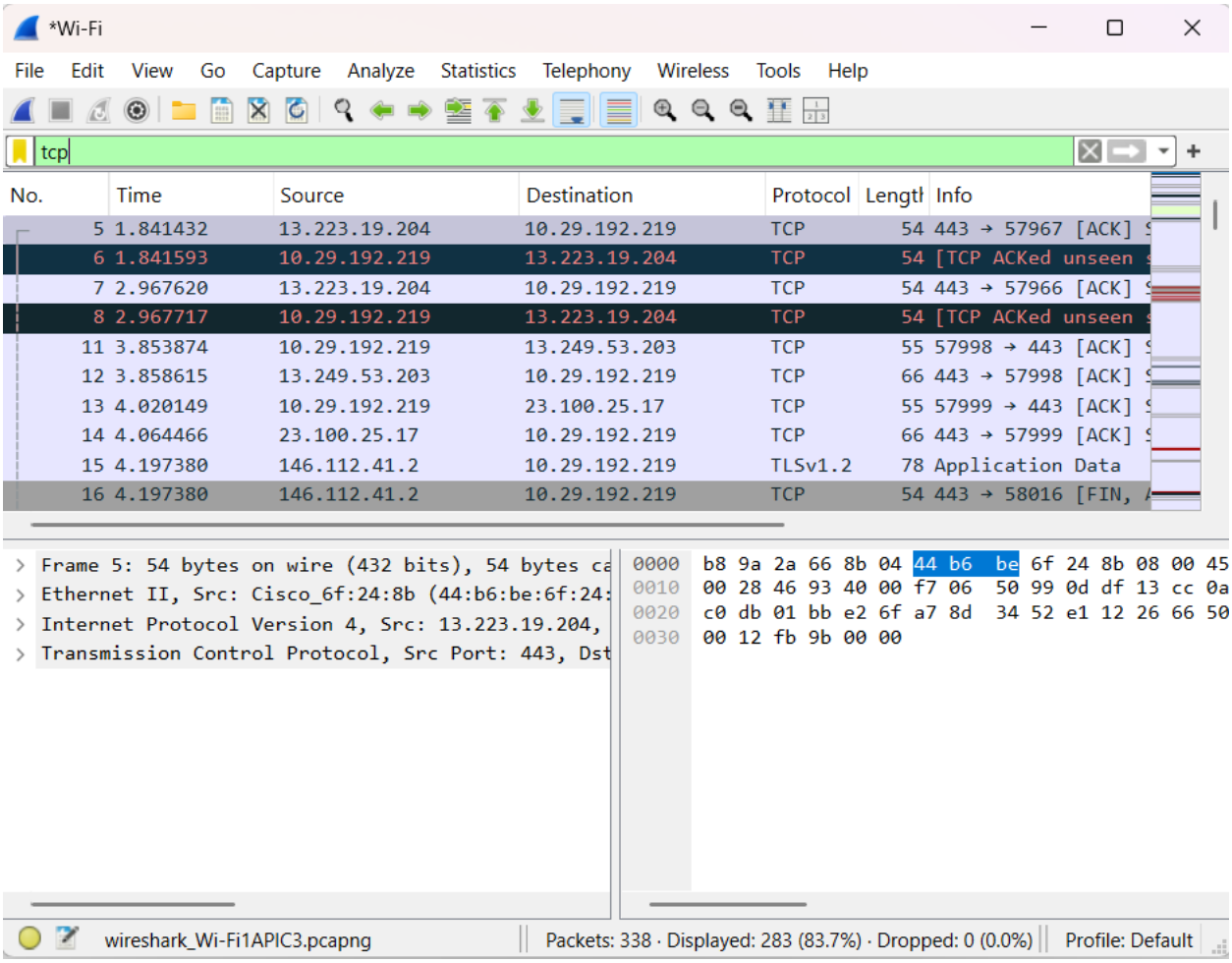
*Wi-Fi
File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help
tcp
No. Time Source Destination Protocol Lengtl Info
5 1.841432 13.223.19.204 10.29.192.219 TCP 54 443 → 57967 [ACK]
6 1.841593 10.29.192.219 13.223.19.204 TCP 54 [TCP ACKed unseen
7 2.967620 13.223.19.204 10.29.192.219 TCP 54 443 → 57966 [ACK]
8 2.967717 10.29.192.219 13.223.19.204 TCP 54 [TCP ACKed unseen
11 3.853874 10.29.192.219 13.249.53.203 TCP 55 57998 → 443 [ACK]
12 3.858615 13.249.53.203 10.29.192.219 TCP 66 443 → 57998 [ACK]
13 4.020149 10.29.192.219 23.100.25.17 TCP 55 57999 → 443 [ACK]
14 4.064466 23.100.25.17 10.29.192.219 TCP 66 443 → 57999 [ACK]
15 4.197380 146.112.41.2 10.29.192.219 TLSv1.2 78 Application Data
16 4.197380 146.112.41.2 10.29.192.219 TCP 54 443 → 58016 [FIN,
Frame 5: 54 bytes on wire (432 bits), 54 bytes ca
Ethernet II, Src: Cisco_6f:24:8b (44:b6:be:6f:24:
Internet Protocol Version 4, Src: 13.223.19.204,
Transmission Control Protocol, Src Port: 443, Dst
0000 b8 9a 2a 66 8b 04 44 b6 be 6f 24 8b 08 00 45
0010 00 28 46 93 40 00 f7 06 50 99 0d df 13 cc 0a
0020 c0 db 01 bb e2 6f a7 8d 34 52 e1 12 26 66 50
0030 00 12 fb 9b 00 00
wireshark_Wi-Fi1APIC3.pcapng
Packets: 338 · Displayed: 283 (83.7%) · Dropped: 0 (0.0%)
Profile: Default

```python
import numpy as np
import matplotlib.pyplot as plt

# Parameters
frequency = 2400 # MHz (2.4 GHz WiFi)
distances = np.linspace(0.1, 20, 100) # km
# FSPL calculation
fspl = 20*np.log10(distances) + 20*np.log10(frequency) + 32.44
# Plot
plt.figure(figsize=(8,5))
plt.plot(distances, fspl, label="FSPL at 2.4 GHz")
plt.xlabel("Distance (km)")
plt.ylabel("Path Loss (dB)")
plt.title("Free-Space Path Loss vs Distance")
plt.grid(True)
plt.legend()
plt.show()
```