



# Mawlana Bhashani Science and Technology University

## Lab-Report

Report No: 05

Course code: ICT-4202

Course title: Wireless and Mobile Communication Lab

Date of Performance: 18.09.20

Date of Submission: 25.09.2020

### Submitted by

Name: Md Sohag

ID: IT-16030

4<sup>th</sup> year 2<sup>nd</sup> semester

Session: 2015-2016

Dept. of ICT

MBSTU.

### Submitted To

Nazrul Islam

Assistant Professor

Dept. of ICT

MBSTU.

## Experiment No: 05

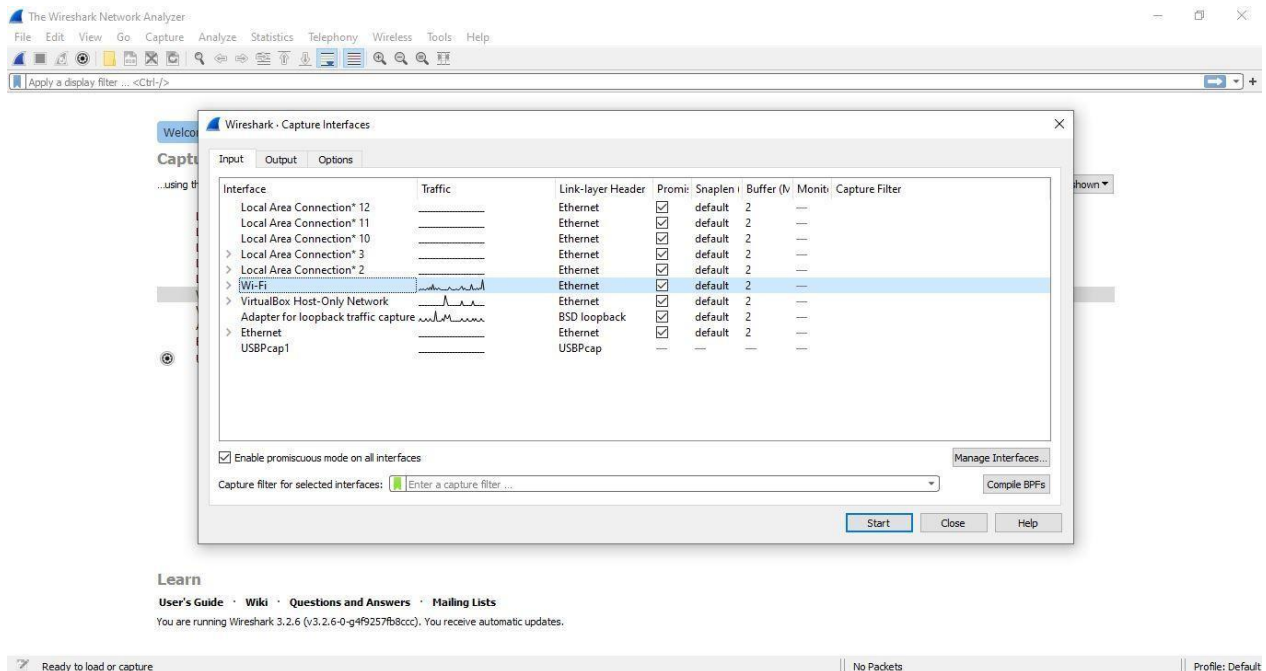
### Experiment Name: Comparative Analysis of Wired and Wireless data using Wireshark

#### Objectives:

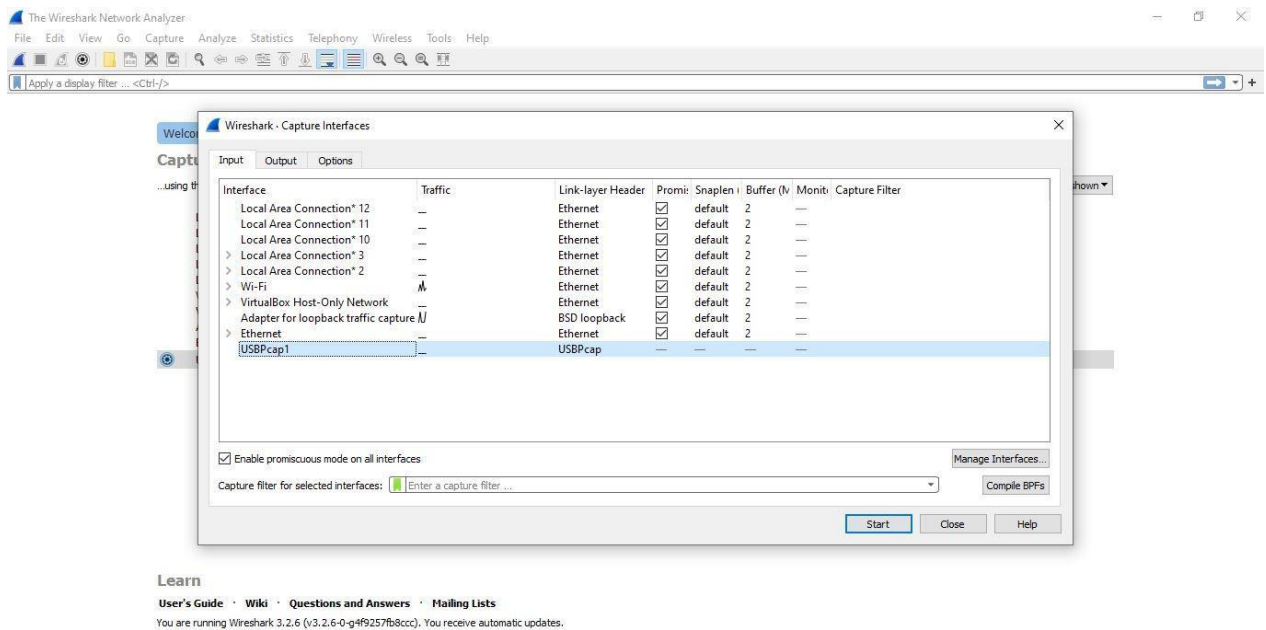
1. To find out the wired data packages using the Wireshark in order to compare with the wireless data packages.
2. Filtering the packages
3. Finding out the host, IP of the data packages
4. Showing the Statistics for both of the data packages.
5. Finally comparing the wired and wireless data packages simultaneously with the help of Wireshark.

#### Capturing Packets:

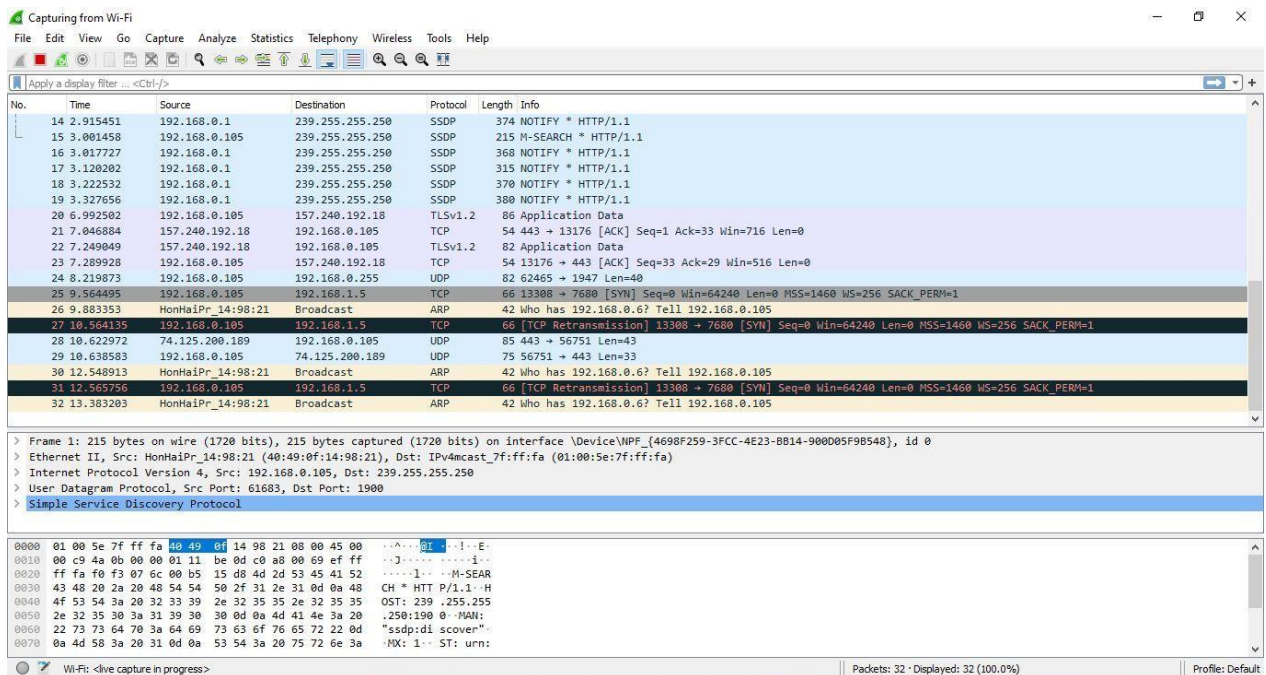
After clicking the “option” under the menu tab, we need to start capturing on interface that has IP address/Source/Host.



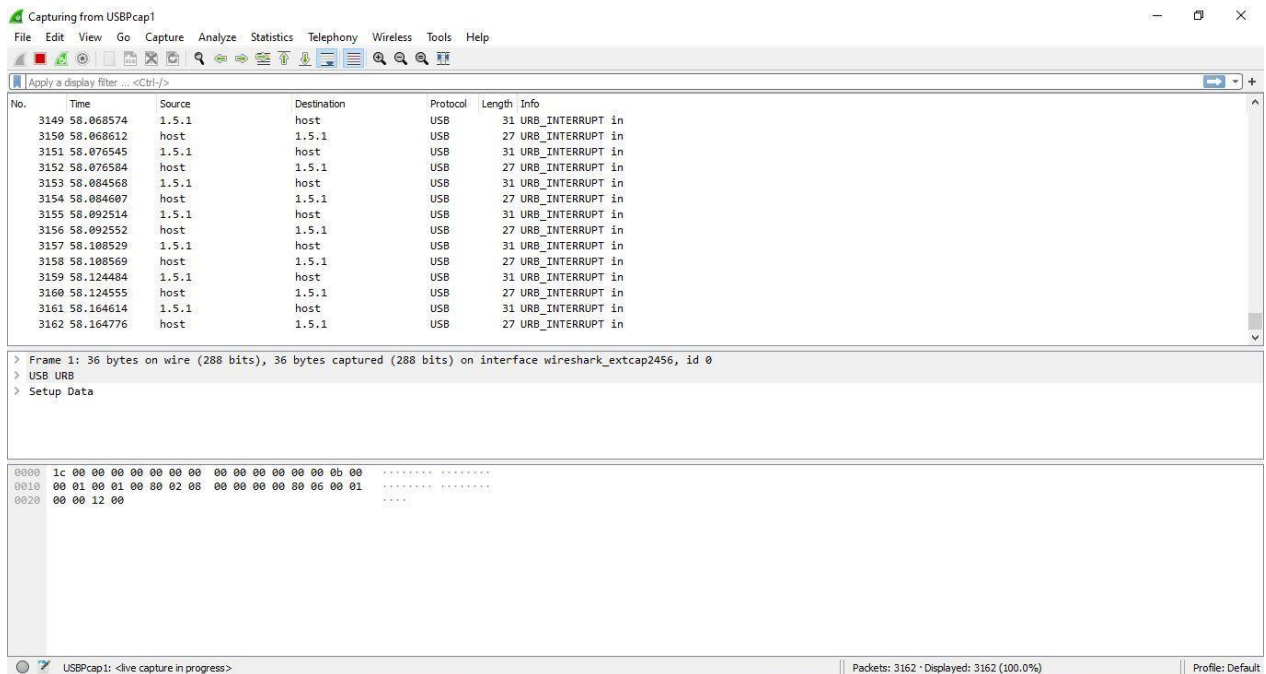
**Fig: Capturing Interface that has for Wi-Fi (Wireless)**



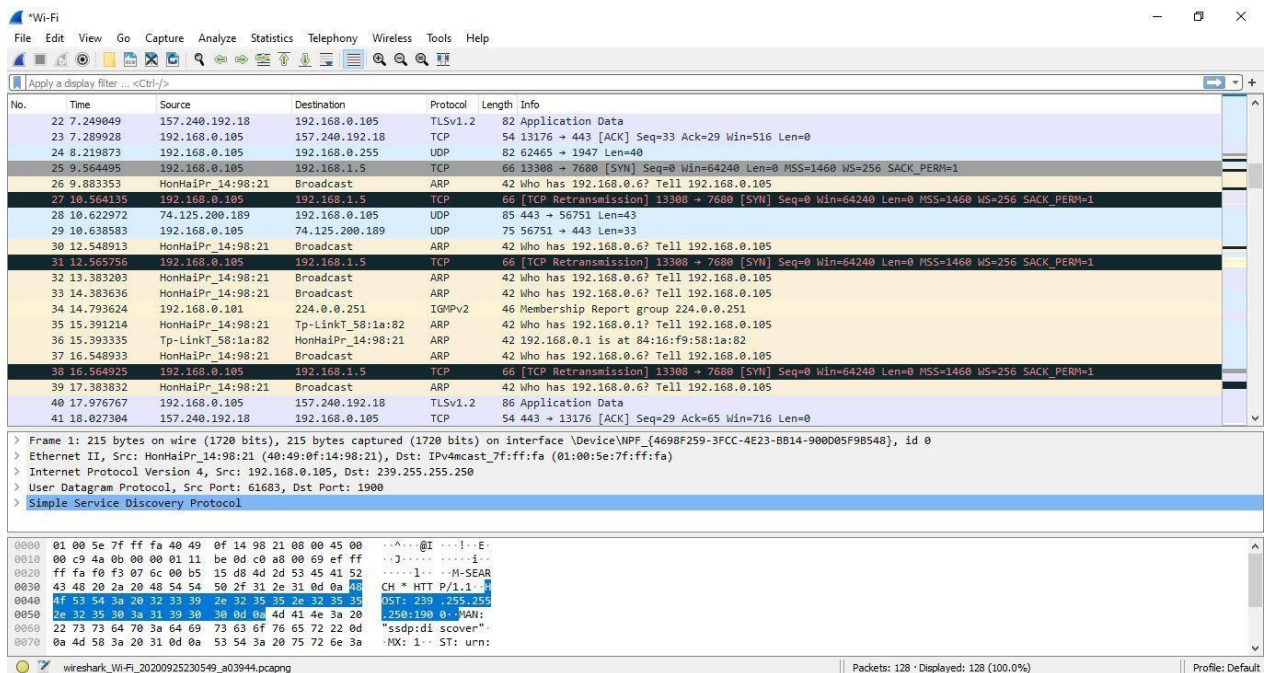
**Fig: Capturing Interface that has for USB Tethering (Wired)**



**Fig: A sample packet capture window for Wireless Data Pack**



**Fig: A sample packet capture window for Wired Data Pack**



**Fig: Stopped wireless capturing**

**\*USBpcap1**

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

Apply a display filter ... <Ctrl-F>

No.	Time	Source	Destination	Protocol	Length	Info
6281	109.908580	1.5.1	host	USB	31	URB_INTERRUPT in
6282	109.908554	host	1.5.1	USB	27	URB_INTERRUPT in
6283	109.916493	1.5.1	host	USB	31	URB_INTERRUPT in
6284	109.916549	host	1.5.1	USB	27	URB_INTERRUPT in
6285	109.924457	1.5.1	host	USB	31	URB_INTERRUPT in
6286	109.924517	host	1.5.1	USB	27	URB_INTERRUPT in
6287	109.932469	1.5.1	host	USB	31	URB_INTERRUPT in
6288	109.932523	host	1.5.1	USB	27	URB_INTERRUPT in
6289	109.948445	1.5.1	host	USB	31	URB_INTERRUPT in
6290	109.948533	host	1.5.1	USB	27	URB_INTERRUPT in
6291	109.956535	1.5.1	host	USB	31	URB_INTERRUPT in
6292	109.956599	host	1.5.1	USB	27	URB_INTERRUPT in
6293	109.964518	1.5.1	host	USB	31	URB_INTERRUPT in
6294	109.964580	host	1.5.1	USB	27	URB_INTERRUPT in
6295	109.972524	1.5.1	host	USB	31	URB_INTERRUPT in

> Frame 6283: 31 bytes on wire (248 bits), 31 bytes captured (248 bits) on interface wireshark\_extcap2456, id 0

> USB URB

Leftover Capture Data: 0000fe00

0000 1b 00 60 a5 9e 48 89 89 ff ff 00 00 00 00 00 00 ...H.....

0010 01 01 00 05 00 01 01 04 00 00 00 00 00 fe 00 ... ..

wireshark\_wireshark\_extcap2456\_2020092525359\_a10676.pcapng

Packets: 6334 · Displayed: 6334 (100.0%) · Dropped: 0 (0.0%)

Profile: Default

**Fig: Stopped wired capturing**

## Filtering:

**\*Wi-Fi**

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

udp

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	192.168.0.105	239.255.255.250	SSDP	215	M-SEARCH * HTTP/1.1
2	1.000785	192.168.0.105	239.255.255.250	SSDP	215	M-SEARCH * HTTP/1.1
3	1.003416	192.168.0.105	74.125.200.189	UDP	75	56751 → 443 Len=33
4	1.156510	74.125.200.189	192.168.0.105	UDP	67	443 → 56751 Len=25
5	2.001541	192.168.0.105	239.255.255.250	SSDP	215	M-SEARCH * HTTP/1.1
6	2.006040	192.168.0.1	239.255.255.250	SSDP	306	NOTIFY * HTTP/1.1
7	2.200891	192.168.0.1	239.255.255.250	SSDP	315	NOTIFY * HTTP/1.1
8	2.301114	192.168.0.1	239.255.255.250	SSDP	378	NOTIFY * HTTP/1.1
9	2.403471	192.168.0.1	239.255.255.250	SSDP	370	NOTIFY * HTTP/1.1
10	2.505703	192.168.0.1	239.255.255.250	SSDP	315	NOTIFY * HTTP/1.1
11	2.610811	192.168.0.1	239.255.255.250	SSDP	354	NOTIFY * HTTP/1.1
12	2.712798	192.168.0.1	239.255.255.250	SSDP	306	NOTIFY * HTTP/1.1
13	2.814882	192.168.0.1	239.255.255.250	SSDP	315	NOTIFY * HTTP/1.1
14	2.915451	192.168.0.1	239.255.255.250	SSDP	374	NOTIFY * HTTP/1.1
15	3.001458	192.168.0.105	239.255.255.250	SSDP	215	M-SEARCH * HTTP/1.1
16	3.017727	192.168.0.1	239.255.255.250	SSDP	368	NOTIFY * HTTP/1.1
17	3.120202	192.168.0.1	239.255.255.250	SSDP	315	NOTIFY * HTTP/1.1
18	3.222532	192.168.0.1	239.255.255.250	SSDP	370	NOTIFY * HTTP/1.1
19	3.327656	192.168.0.1	239.255.255.250	SSDP	300	NOTIFY * HTTP/1.1
24	8.219873	192.168.0.105	192.168.0.255	UDP	82	62465 → 1947 Len=40
28	10.633033	74.125.200.189	192.168.0.105	UDP	82	443 → 56751 Len=42

> Frame 1: 215 bytes on wire (1720 bits), 215 bytes captured (1720 bits) on interface \Device\NPF\_{4698F259-3FCC-4E23-BB14-900D05F9B548}, id 0

> Ethernet II, Src: NonHsiPr\_14:98:21 (40:49:0f:14:98:21), Dst: IPv4mcast\_7f:ff:fa (01:00:5e:7f:ff:fa)

> Destination: IPv4mcast\_7f:ff:fa (01:00:5e:7f:ff:fa)

> Source: NonHsiPr\_14:98:21 (40:49:0f:14:98:21)

Type: IPv4 (0x0800)

> Internet Protocol Version 4, Src: 192.168.0.105, Dst: 239.255.255.250

0000 01 00 5e 7f ff fa 40 49 0f 14 98 21 00 00 45 00 ...@I...E-

0010 00 c9 4a 0b 00 00 01 11 be 0d c0 a8 00 69 ef ff ... ..I-

0020 ff fa f8 f3 07 6c 00 b5 15 d8 4d 2d 53 45 41 52 ... ..M-SEAR

0030 43 48 20 2a 20 40 54 54 50 2f 31 2e 31 0d 0a 48 ... ..H

0040 4f 53 54 3a 20 32 33 39 2e 32 35 35 2e 32 35 35 ... ..M-SEAR

0050 2e 32 35 30 3a 31 39 30 30 0d 0a 4d 41 4e 3a 20 ... ..M-SEAR

0060 22 73 73 64 70 3a 64 69 73 63 6f 76 65 72 2d 00 ... ..M-SEAR

0070 0a 4d 58 3a 20 31 0d 0a 53 54 3a 20 75 72 6e 3a ... ..M-SEAR

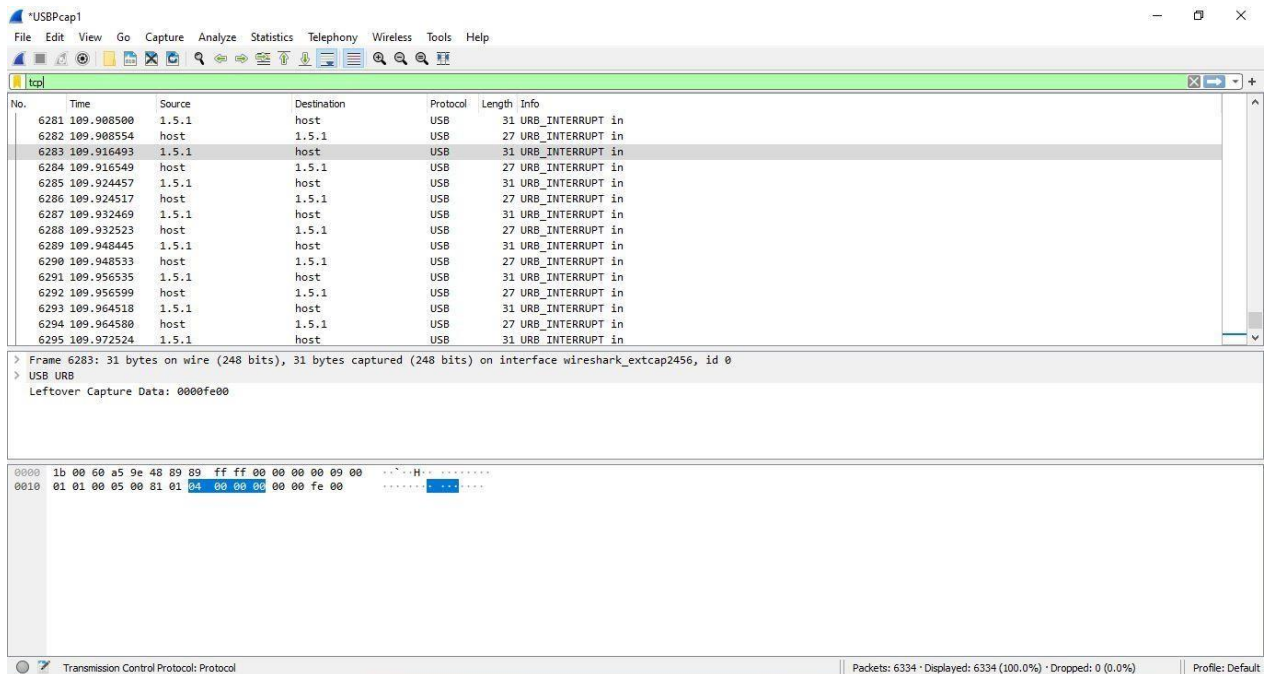
User Datagram Protocol: Protocol

Packets: 128 · Displayed: 66 (51.6%) · Dropped: 0 (0.0%)

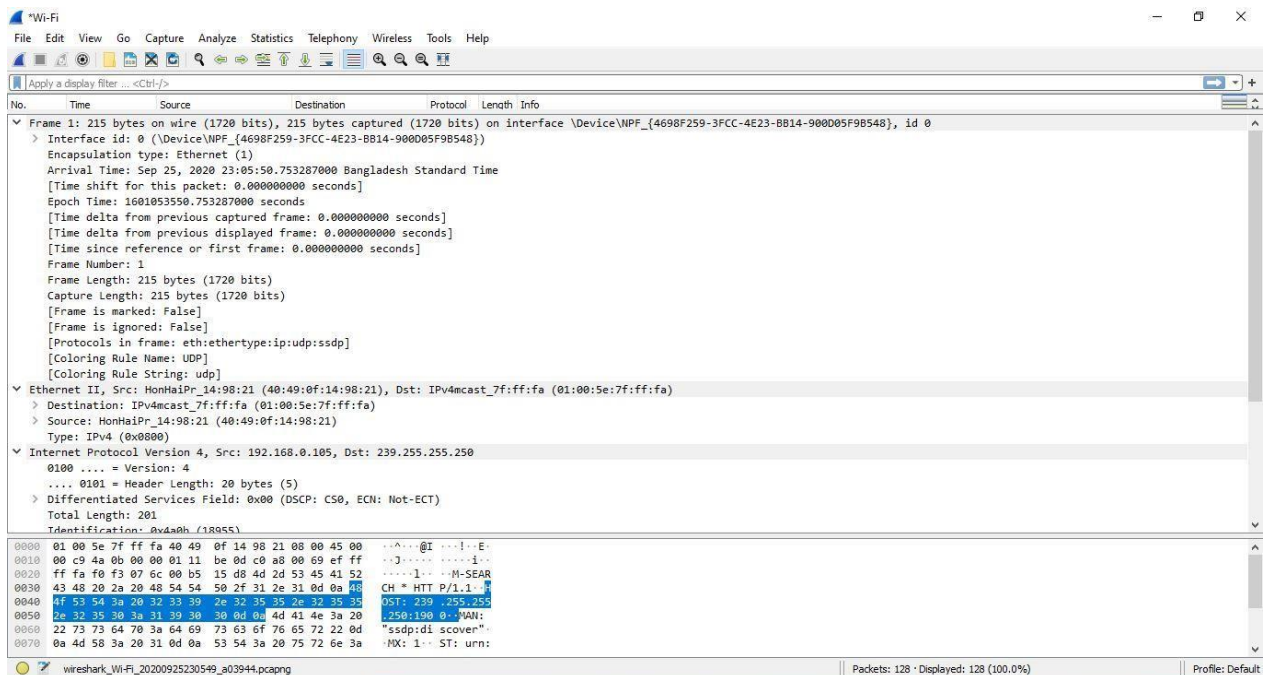
Profile: Default

**Fig: Filtered by Protocol Wireless Data Packages**

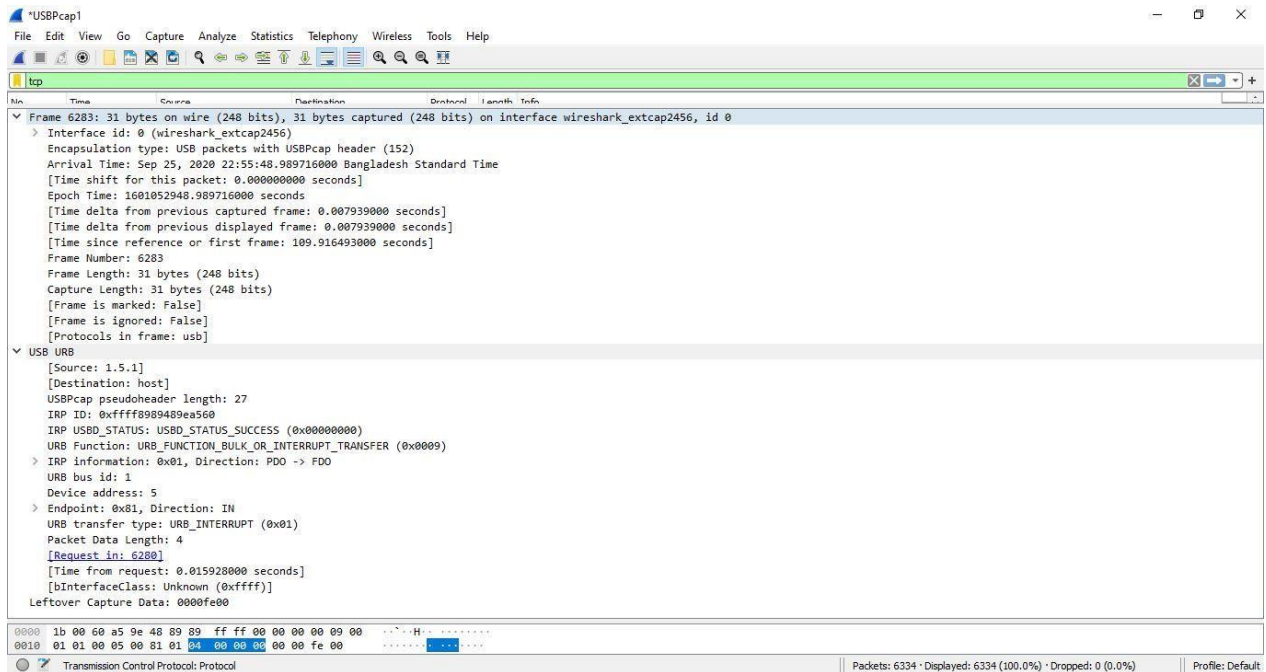




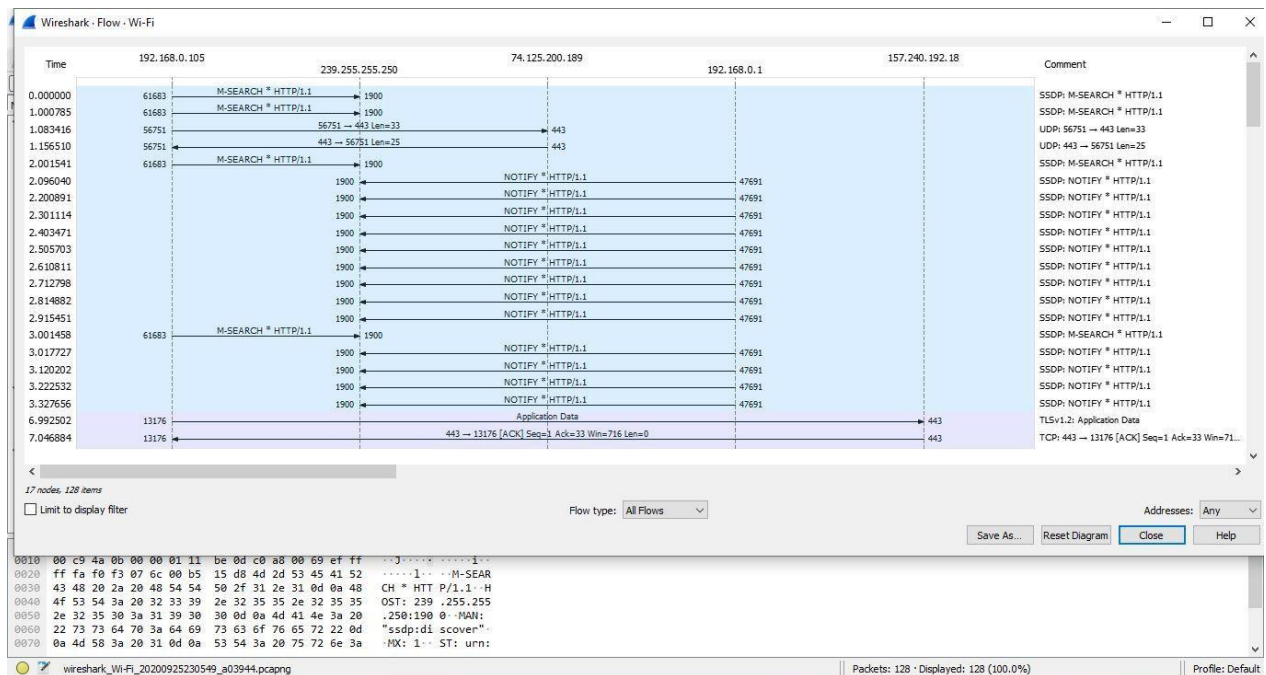
**Fig: Filtered by Protocol Wired Data Packages**



**Fig: Packet Details Pane (Frame segment) for Wireless Data Packages.**



**Fig: Packet Details Pane (Frame segment) for Wired Data Packages.**



**Fig: Statistics- Flow Graph -All Flows for Wi-Fi (Wireless Data Packages)**



**Fig: Statistics- Flow Graph -All Flows for Wi-Fi (Wired Data Packages)**

### Conclusion:

Between Wired and Wireless Network, wired network is much more efficient than wireless network. Because wired data packages transfer rate are very much smoother than Wireless.

Wired data are more secure and high speedy, On the other hand wireless data are less secure and low speedy.