Throughput Test

2025-05-21-23-16-05

Objective

The Candela Client Capacity test is designed to measure an Access Point's client capacity and performance when handling different amounts of Real clients like android, Linux, windows, and IOS. The test allows the user to increase the number of clients in user-defined steps for each test iteration and measure the per client and the overall throughput for this test, we aim to assess the capacity of network to handle high volumes of traffic while each trial. Along with throughput other measurements made are client connection times, Station 4-Way Handshake time, DHCP times, and more. The expected behavior is for the AP to be able to handle several stations (within the limitations of the AP specs) and make sure all Clients get a fair amount of airtime both upstream and downstream. An AP thatscales well will not show a significant overall throughput decrease as more Real clients are added.

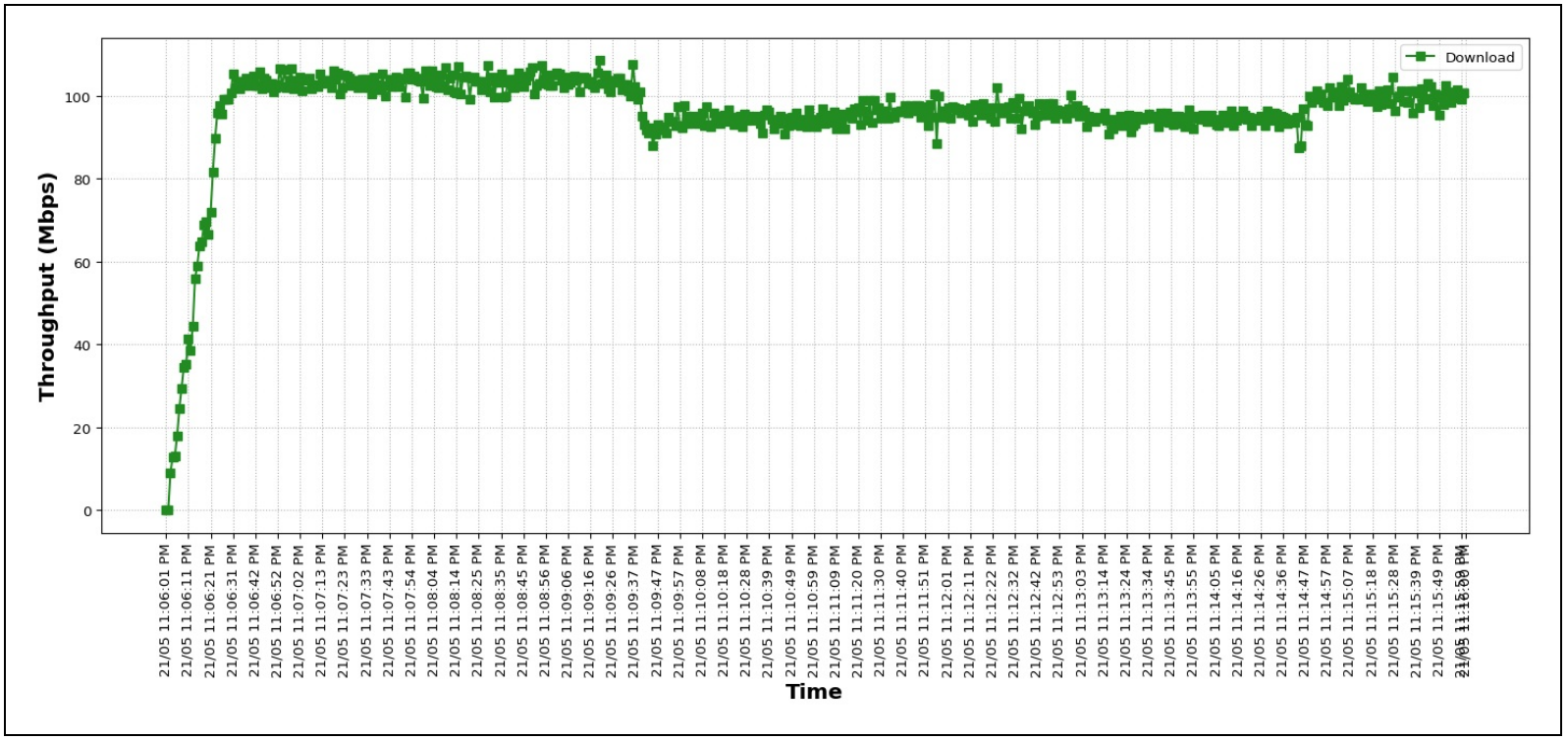
Input Parameters

The below tables provides the input parameters for the test

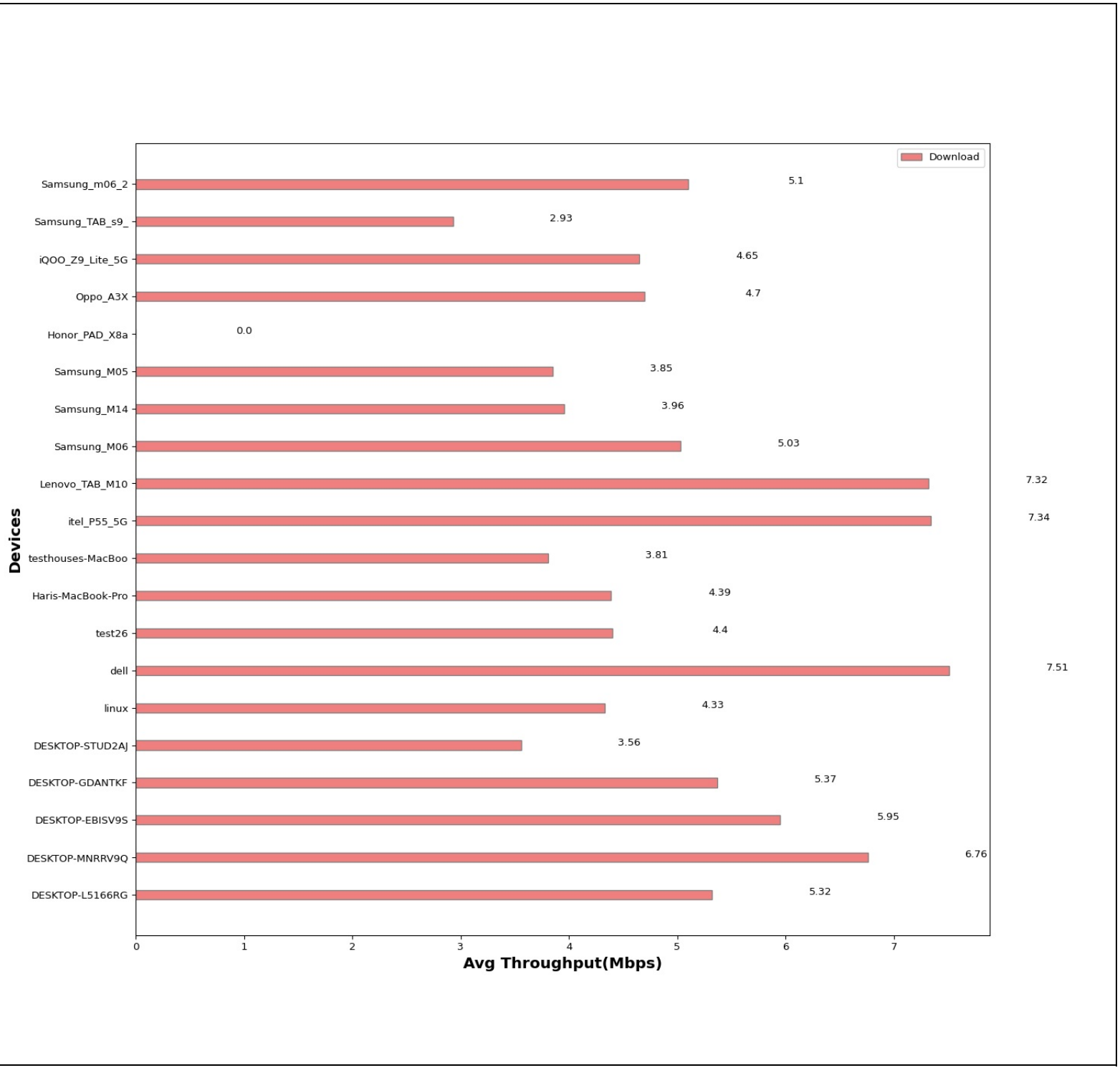
Test Configuration	Test name	Throughput_20clients_Test
	Device List	DESKTOP-L5166RG(Windows), DESKTOP-MNRRV9Q(Windows), DESKTOP-EBISV9S(Windows), DESKTOP-GDANTKF(Windows), DESKTOP-STUD2AJ(Windows), linux(Linux), dell(Linux), test26(Linux), Haris-MacBook-Pro.local(Mac), testhouses-MacBook-Air.local(Mac), itel_P55_5G(Android), Lenovo_TAB_M10(Android), Samsung_M06(Android), Samsung_M14(Android), Samsung_M05(Android), Honor_PAD_X8a(Android), Oppo_A3X(Android), iQOO_Z9_Lite_5G(Android), Samsung_TAB_s9_(Android), Samsung_m06_2(Android)
	No of Devices	Total(20) Android(10) Windows(5) Linux(3) Mac(2)
	Increment	No Incremental values provided
	Traffic Duration in minutes	10.0
	Traffic Type	TCP
	Traffic Direction	Download
	Upload Rate(Mbps)	0.0Mbps
	Download	

Rate(Mbps)	10.0Mbps
Load Type	Per Client Load
Packet Size	1500 Bytes

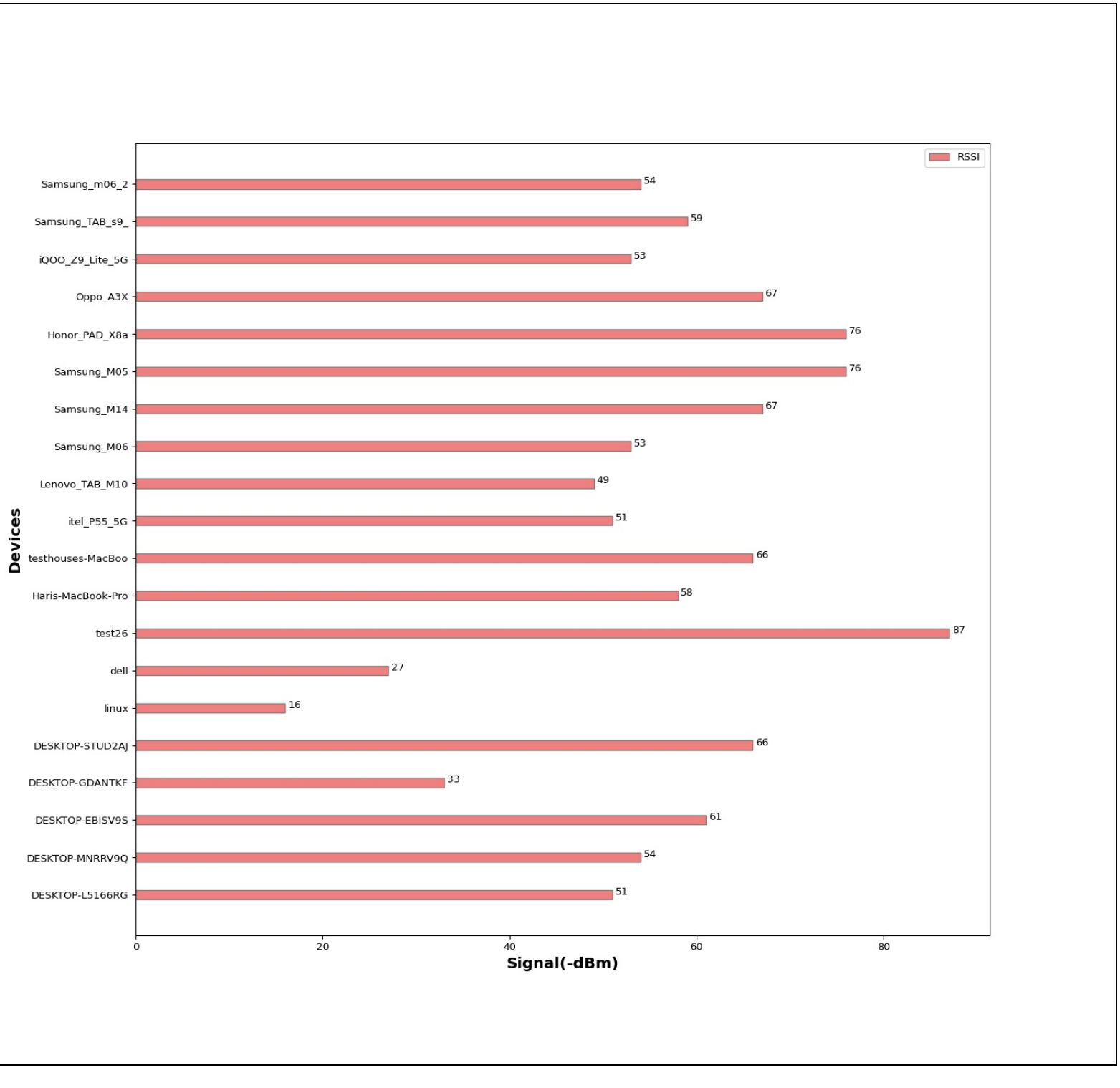
Real Time Throughput: Achieved Throughput: Download : 96.28 Mbps



Per Client Avg-Throughput

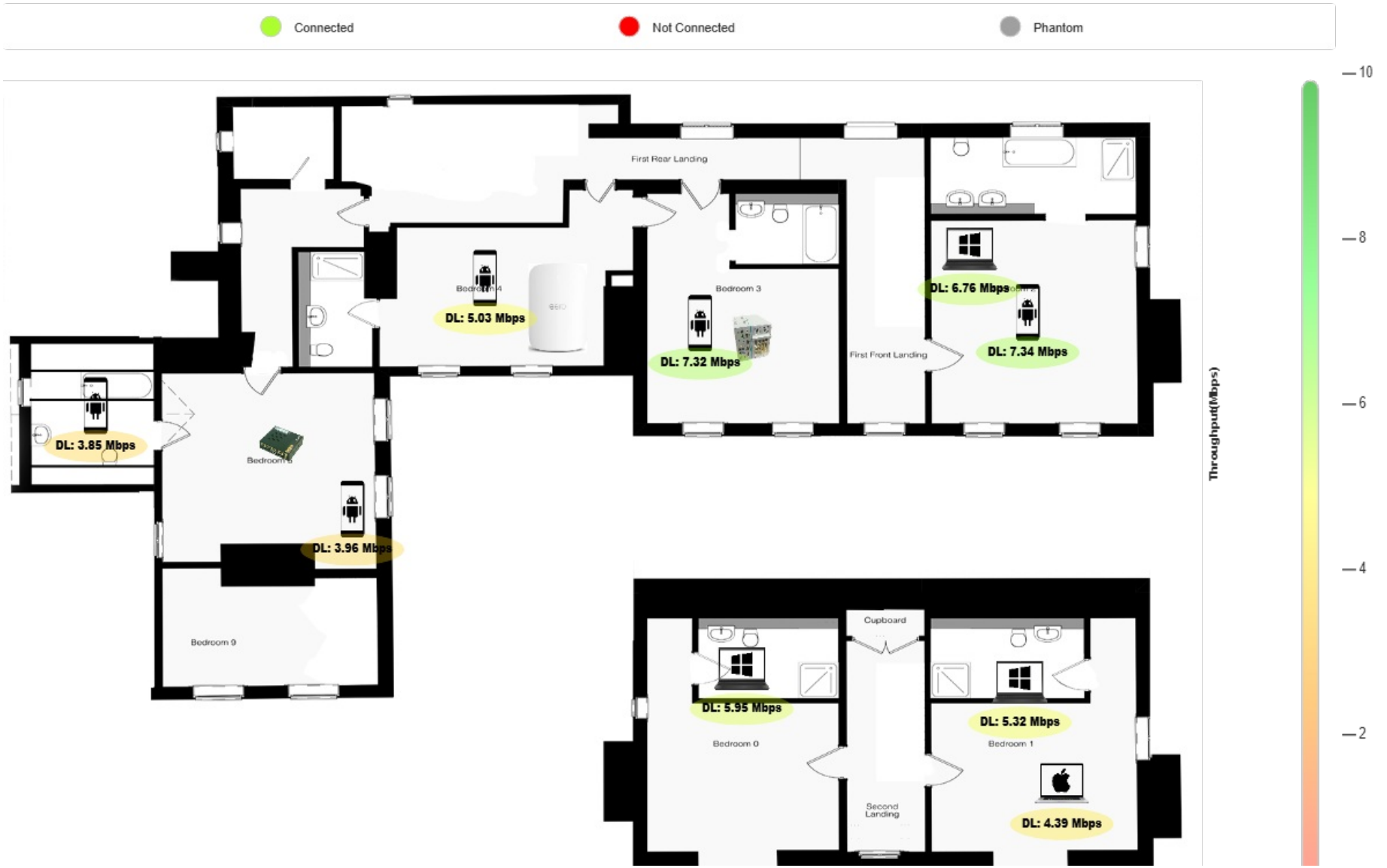

Download
Samsung_m06_2
Samsung_TAB_s9_
iQOO_Z9_Lite_5G
Oppo_A3X
Honor_PAD_X8a
Samsung_M05
Samsung_M14
Samsung_M06
Lenovo_TAB_M10
itel_P55_5G
testhouses-MacBoo
Haris-MacBook-Pro
test26
dell
linux
DESKTOP-STUD2AJ
DESKTOP-GDANTKF
DESKTOP-EBISV9S
DESKTOP-MNRRV9Q
DESKTOP-L5166RG
5.1
2.93
4.65
4.7
0.0
3.85
3.96
5.03
7.32
7.34
3.81
4.39
4.4
7.51
4.33
3.56
5.37
5.95
6.76
5.32
Devices
0
1
2
3
4
5
6
7
Avg Throughput(Mbps)

RSSI Of The Clients Connected


RSSI
Samsung_m06_2
Samsung_TAB_s9_
iQOO_Z9_Lite_5G
Oppo_A3X
Honor_PAD_X8a
Samsung_M05
Samsung_M14
Samsung_M06
Lenovo_TAB_M10
itel_P55_5G
testhouses-MacBoo
Haris-MacBook-Pro
test26
dell
linux
DESKTOP-STUD2AJ
DESKTOP-GDANTKF
DESKTOP-EBISV9S
DESKTOP-MNRRV9Q
DESKTOP-L5166RG
54
59
53
67
76
76
67
53
49
51
66
58
87
27
16
66
33
61
54
51
Devices
0
20
40
60
80
Signal(-dBm)

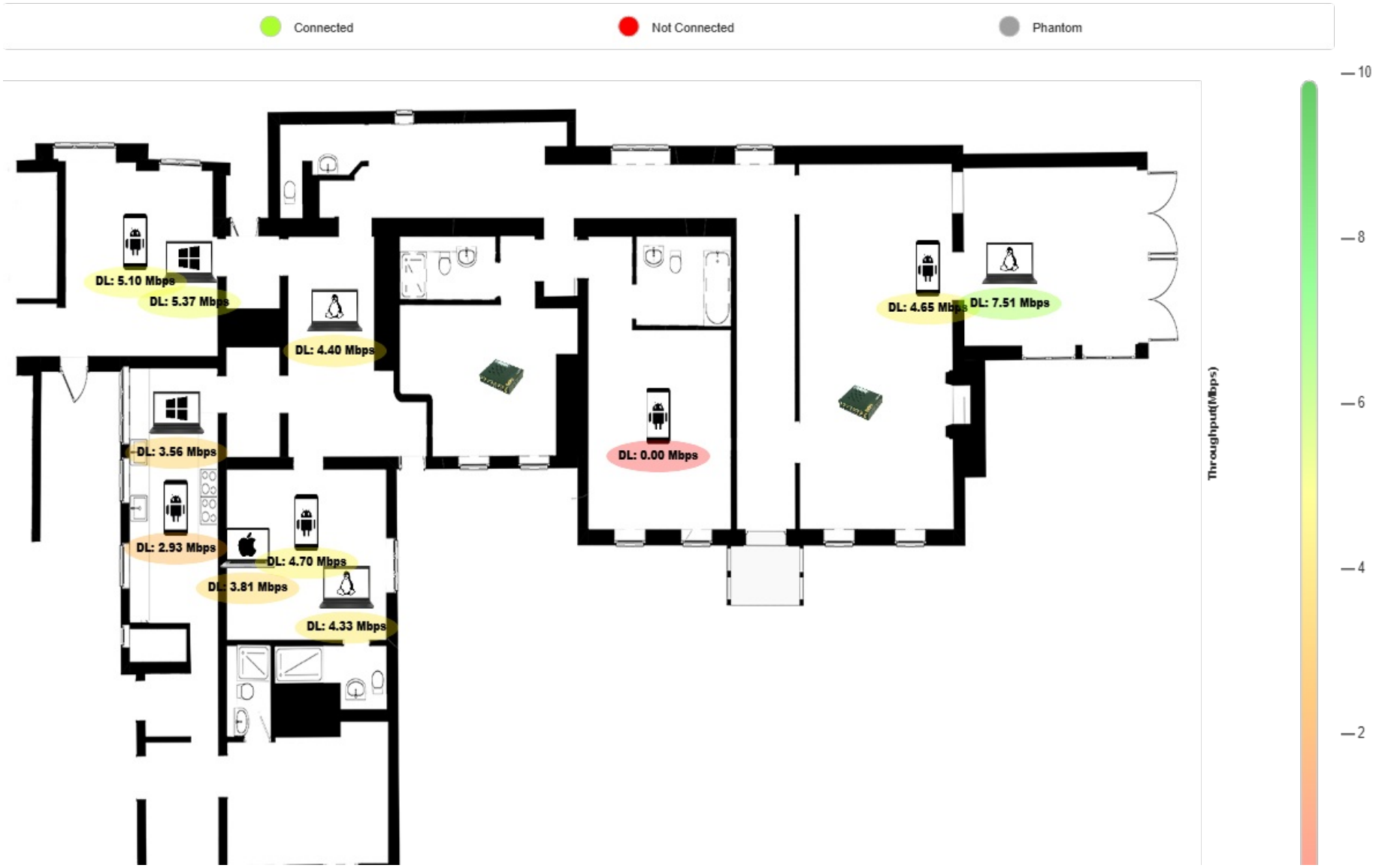
Average Throughput

Ground_and_1stfloor



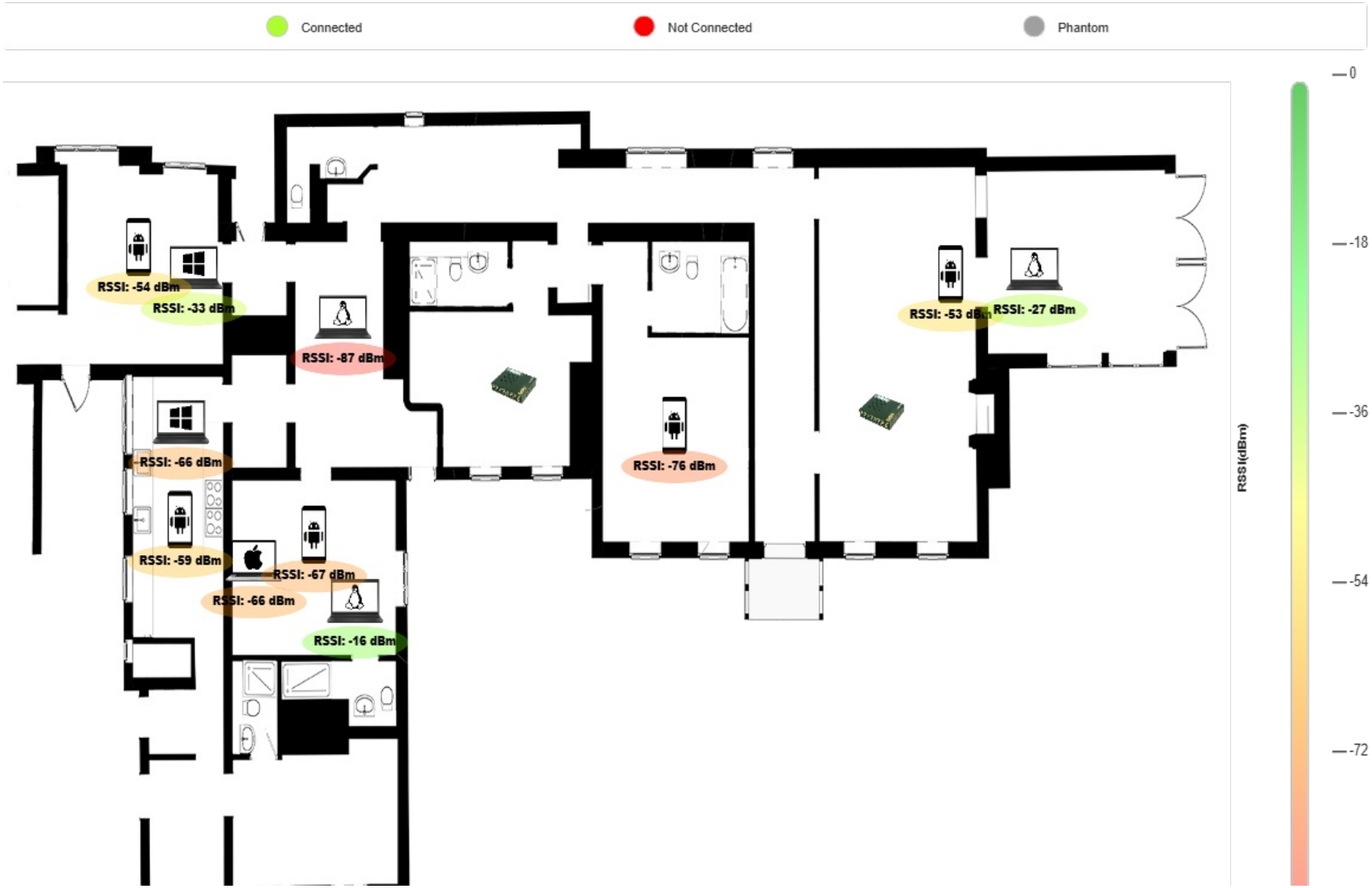
Average Throughput

2nd_Floor



Average RSSI

2nd_Floor



Detailed Result Table

The below tables provides detailed information for the throughput test on each device.

						Offered		Offered	Observed				

Device Type	Username	SSID	MAC	Channel	Mode	download rate	Observed Average download rate	upload rate	Average upload rate	RSSI	Packet Size(Bytes)	Average Rx Drop A%	Average Rx Drop B%
Windows	DESKTOP-L5166RG	Flynn	70:15:fb:0f:e9:ac	100	802.11abgn-AX 20 1x1	10.0Mbps	5.32 Mbps	0.0Mbps	0 Mbps	-51 dbm	1500	0.32	0.0
Windows	DESKTOP-MNRRV9Q	Flynn	70:15:fb:0f:e8:b	100	802.11abgn-AX 20 1x1	10.0Mbps	6.76 Mbps	0.0Mbps	0 Mbps	-54 dbm	1500	0.22	0.0
Windows	DESKTOP-EBISV9S	Flynn	70:15:fb:0f:ea:5b	100	802.11abgn-AX 20 1x1	10.0Mbps	5.95 Mbps	0.0Mbps	0 Mbps	-61 dbm	1500	0.26	0.0
Windows	DESKTOP-GDANTKF	Flynn	00:03:7f:58:42:27	100	802.11abgn-AX 20 1x1	10.0Mbps	5.37 Mbps	0.0Mbps	0 Mbps	-33 dbm	1500	0.17	0.0
Windows	DESKTOP-STUD2AJ	Flynn	58:a0:23:44:5d:d6	100	802.11abgn-AC 20 1x1	10.0Mbps	3.56 Mbps	0.0Mbps	0 Mbps	-66 dbm	1500	0.26	0.0
Linux	linux	Flynn	c:ba:ef:86:19:7	100	802.11an-AC 80 2x2	10.0Mbps	4.33 Mbps	0.0Mbps	0 Mbps	-16 dbm	1500	0.49	0.0
Linux	dell	Flynn	dc:1b:a1:ae:61:d3	100	802.11an-AC 80 2x2	10.0Mbps	7.51 Mbps	0.0Mbps	0 Mbps	-27 dbm	1500	0.04	0.0
Linux	test26	Flynn	4:6e:e0:ae:61:e	1	802.11bgn-AX 160 2x2	10.0Mbps	4.4 Mbps	0.0Mbps	0 Mbps	-87 dbm	1500	0.15	0.0
Mac	Haris-MacBook-Pro.local	Flynn	a4:cf:99:5b:1c:a7	100	802.11abgn-AX 80 2x2	10.0Mbps	4.39 Mbps	0.0Mbps	0 Mbps	-58 dbm	1500	0.36	0.0
Mac	testhouses-MacBook-Air.local	Flynn	b2:a8:a5:86:4a:f	-1	802.11abgn-AX 20 1x1	10.0Mbps	3.81 Mbps	0.0Mbps	0 Mbps	-66 dbm	1500	0.26	0.0
Android	itel_P55_5G	Flynn	a:28:56:a8:db:1e	100	802.11abgn-AC 80	10.0Mbps	7.34 Mbps	0.0Mbps	0 Mbps	-51 dbm	1500	0.02	0.0
Android	Lenovo_TAB_M10	Flynn	b6:37:c0:69:24:1c	100	802.11abgn-AC 80	10.0Mbps	7.32 Mbps	0.0Mbps	0 Mbps	-49 dbm	1500	0.01	0.0
Android	Samsung_M06	Flynn	6:09:7f:3c:11:	100	802.11abgn-AC 80	10.0Mbps	5.03 Mbps	0.0Mbps	0 Mbps	-53 dbm	1500	0.07	0.0
Android	Samsung_M14	Flynn	8a:65:9d:b4:8e:0f	6	802.11abgn 20	10.0Mbps	3.96 Mbps	0.0Mbps	0 Mbps	-67 dbm	1500	0.10	0.0
Android	Samsung_M05	Flynn	ea:4e:e0:50:e3:d6	100	802.11abgn-AC 80	10.0Mbps	3.85 Mbps	0.0Mbps	0 Mbps	-76 dbm	1500	0.13	0.0
Android	Honor_PAD_X8a	Flynn	92:e5:45:37:f0:c0	100	802.11abgn-AC 80	10.0Mbps	0.0 Mbps	0.0Mbps	0 Mbps	-76 dbm	1500	88.81	0.0
Android	Oppo_A3X	Flynn	fa:63:96:1a:07:d7	6	802.11abgn 20	10.0Mbps	4.7 Mbps	0.0Mbps	0 Mbps	-67 dbm	1500	13.81	0.0
Android	iQOO_Z9_Lite_5G	Flynn	b2:78:f0:13:47:b3	6	802.11abgn 20	10.0Mbps	4.65 Mbps	0.0Mbps	0 Mbps	-53 dbm	1500	0.11	0.0

Android	Samsung_TAB_s9_	Flynn	82:ba:9c:b3:e2:57	6	802.11abgn-AX 80	10.0Mbps	2.93 Mbps	0.0Mbps	0 Mbps	-59 dbm	1500	0.26	0.0
Android	Samsung_m06_2	Flynn	aa:02:a0:50:58:ed	100	802.11abgn-AC 80	10.0Mbps	5.1 Mbps	0.0Mbps	0 Mbps	-54 dbm	1500	0.04	0.0