# Vendor A and Vendor B

Capacity Test house comparison results

Test House Details

- 3,500 Sqft Single Level 4 Bedroom Apartment.

- 40+ Real WiFi devices comprising of Phones, Tablets and TVs

- Devices spread across 7 sections at fixed positions

- TCP-DL, TCP-UL tests are performed on all the clients.

- Same type of clients and test environment are used for both Vendor-A and Vendor-B APs.

Device Placement in the Test House – 40+ Devices

DUT Details
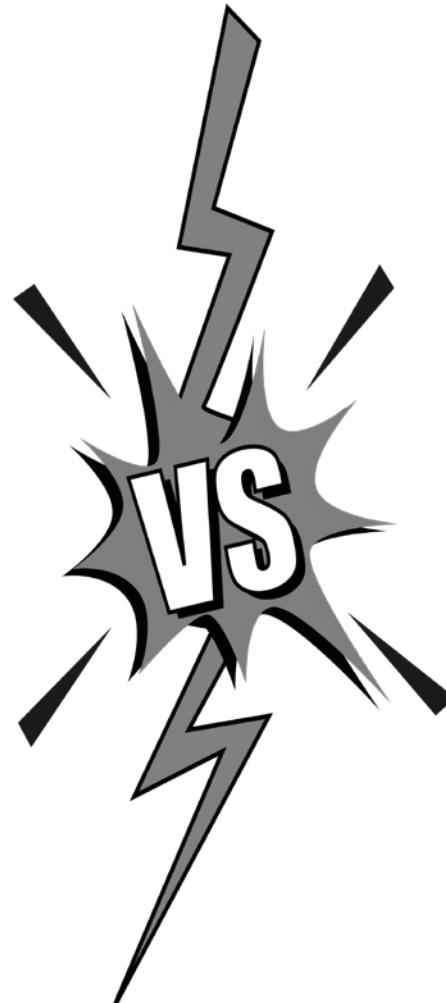
DUT1
Vendor A Mesh System

Specs
Chipset : Broadcom
Triband System
Radio1: 2.4GHz b/g/n/ax 2x2 MIMO
Radio2: 5GHz a/n/ac/ax 2x2 MIMO
Radio3 : 5GHz a/n/ac/ax 4x4 MIMO
1GE WAN/LAN
AP Mode Only

VS

DUT2
### Vendor B Mesh System
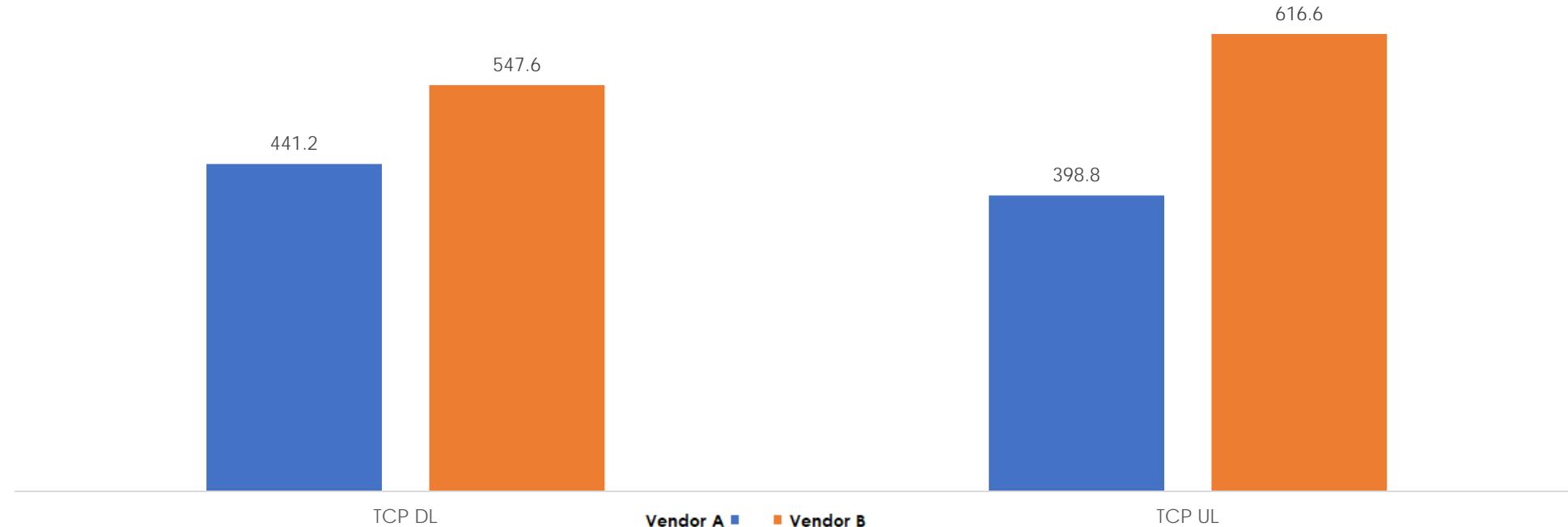
Specs
Chipset : RealTek
Triband System
Radio1: 2.4GHz b/g/n/ax 2x2 MIMO
Radio2: 5GHz a/n/ac/ax 2x2 MIMO
Radio3 : 5GHz a/n/ac/ax 4x4 MIMO
1GE WAN/LAN
Router and AP Modes

Total Mesh System Throughput Comparison


Total Throughput (Mbps) Comparison
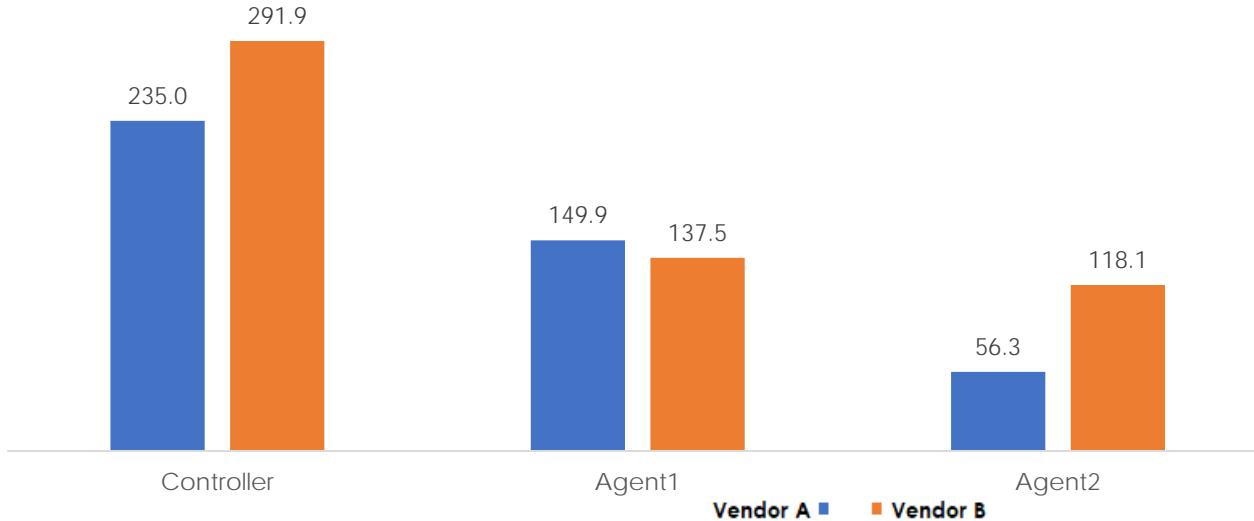
- Test run with total of 42 devices spread across 3500 sqft with devices automatically distributed across Controller and Agents and both 2.4 and 5GHz bands
- The Intended traffic load for each device was set to a Maximum of 200Mbps for both TCP Upstream and Downstream
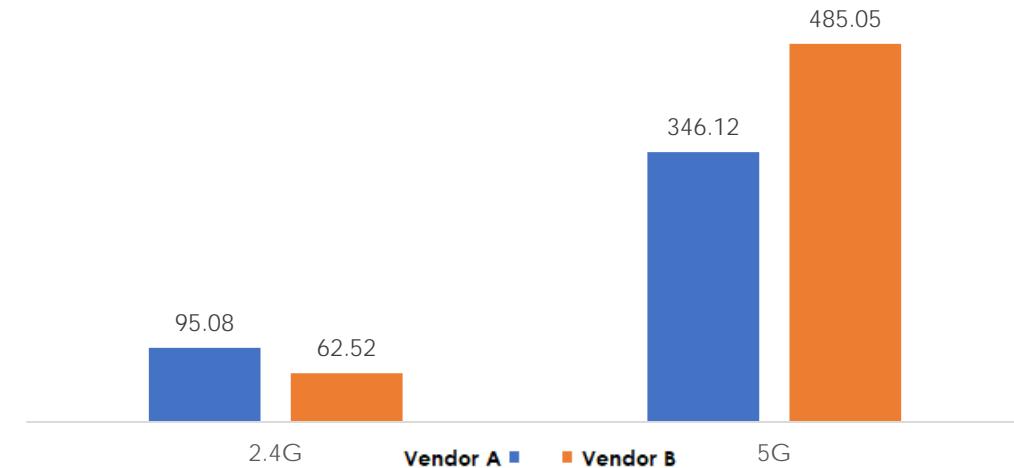
# Throughput Distribution across Nodes and Bands
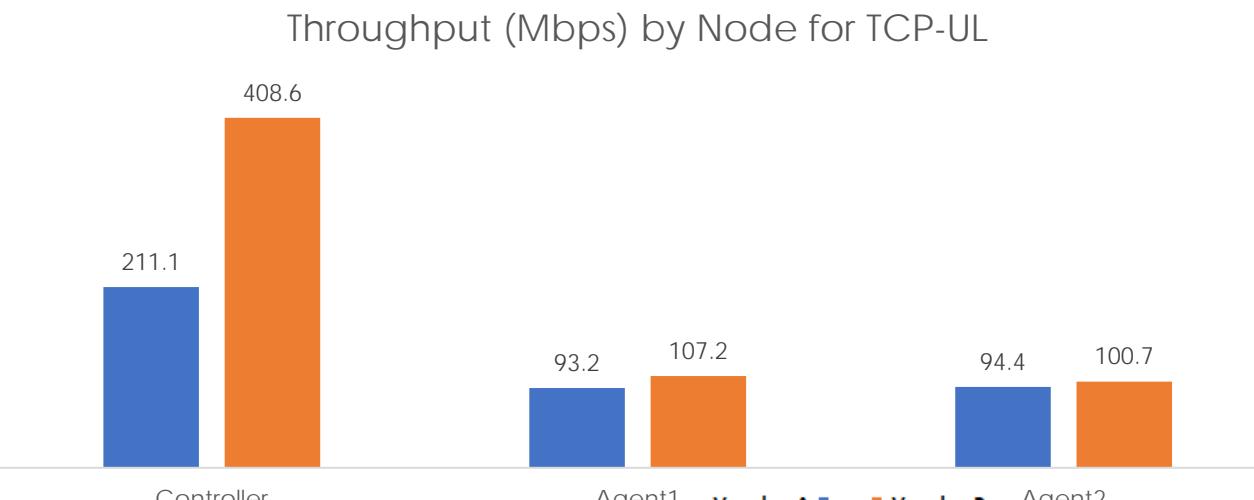

Throughput (Mbps) by Node for TCP-DL
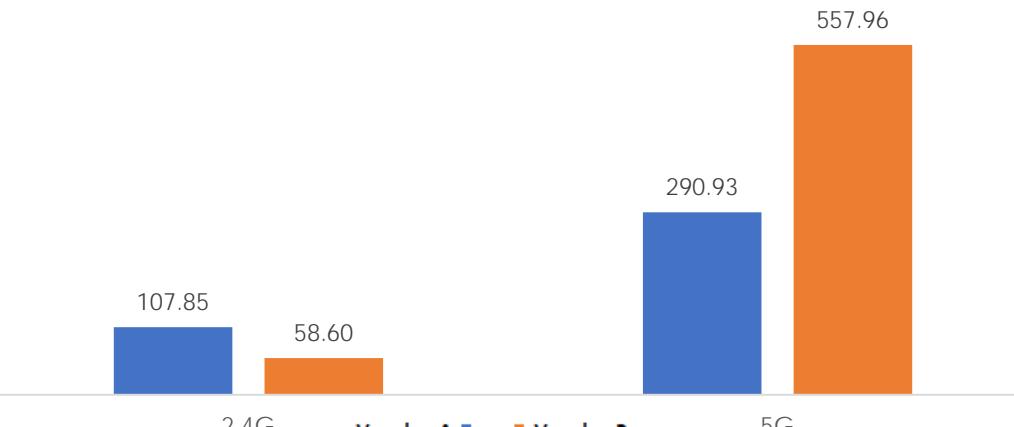
Throughput(Mbps) by Band - TCP DL
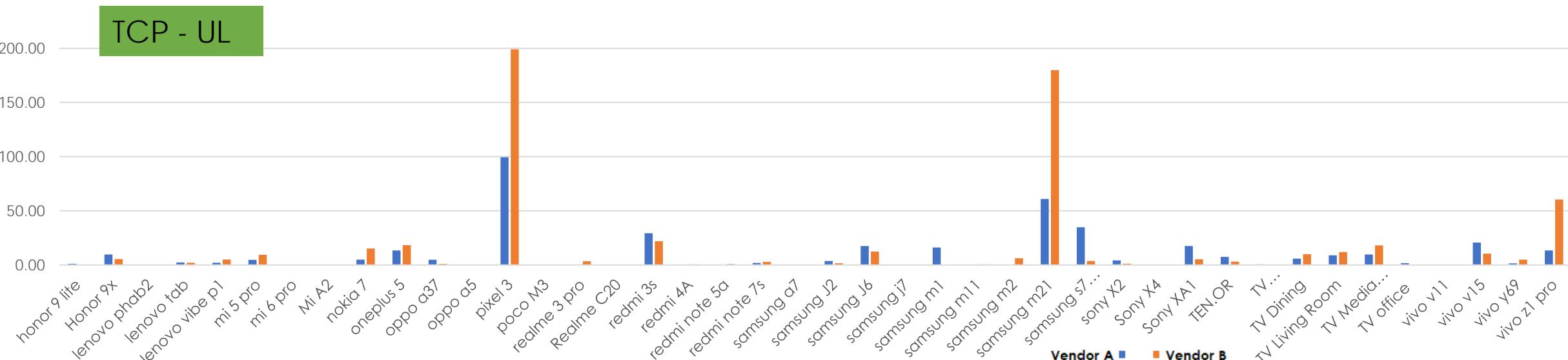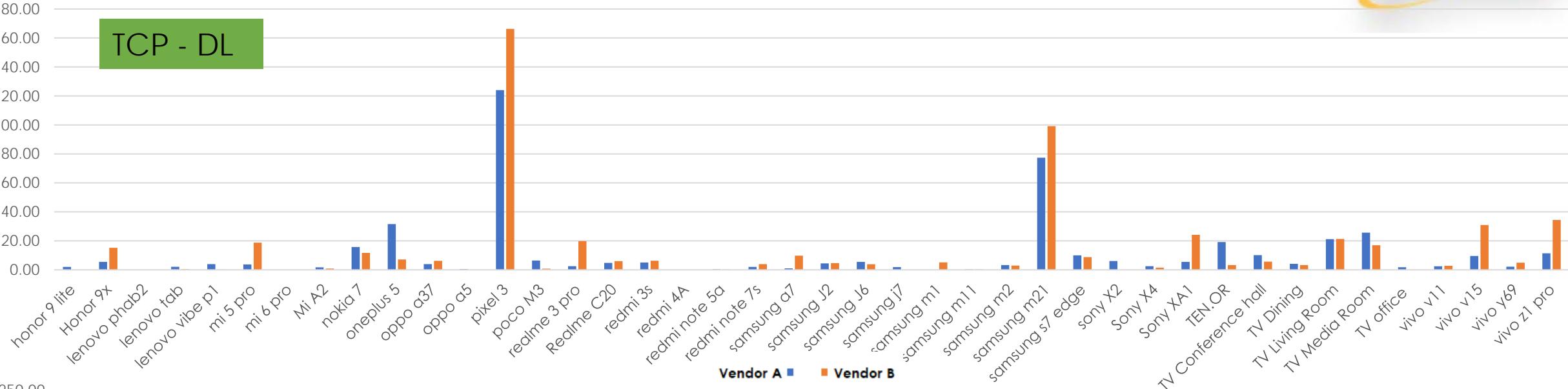
Throughput (Mbps) by Node for TCP-UL

Throughput(Mbps) by Band - TCP UL
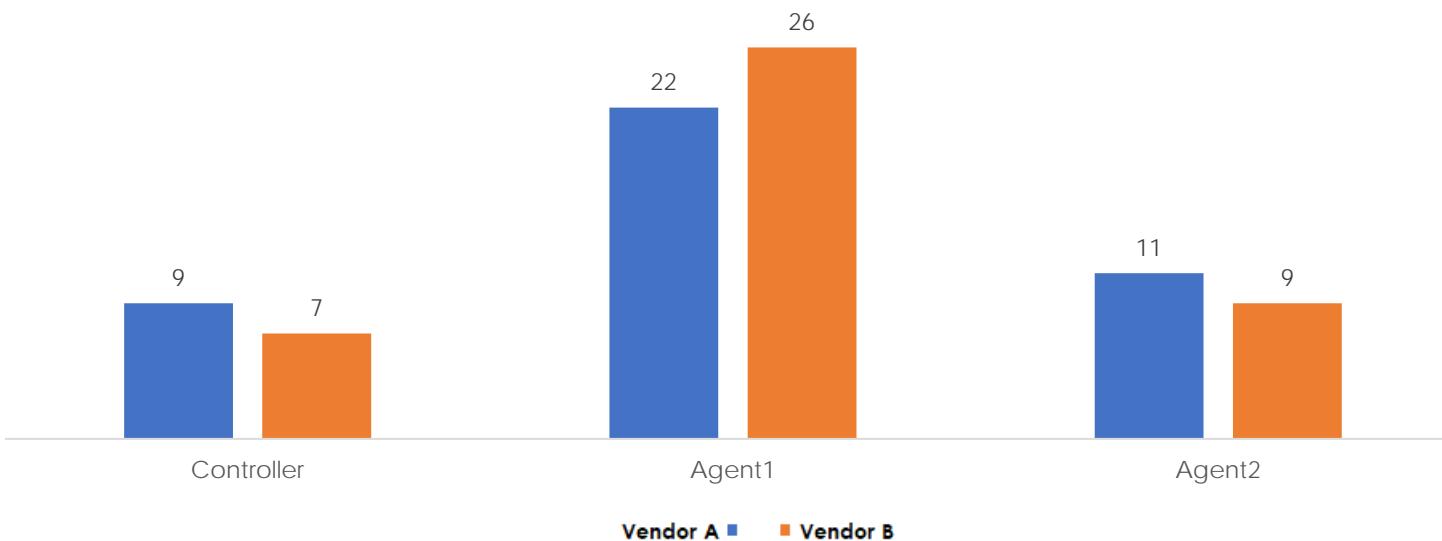
Per Device Throughput (Mbps)
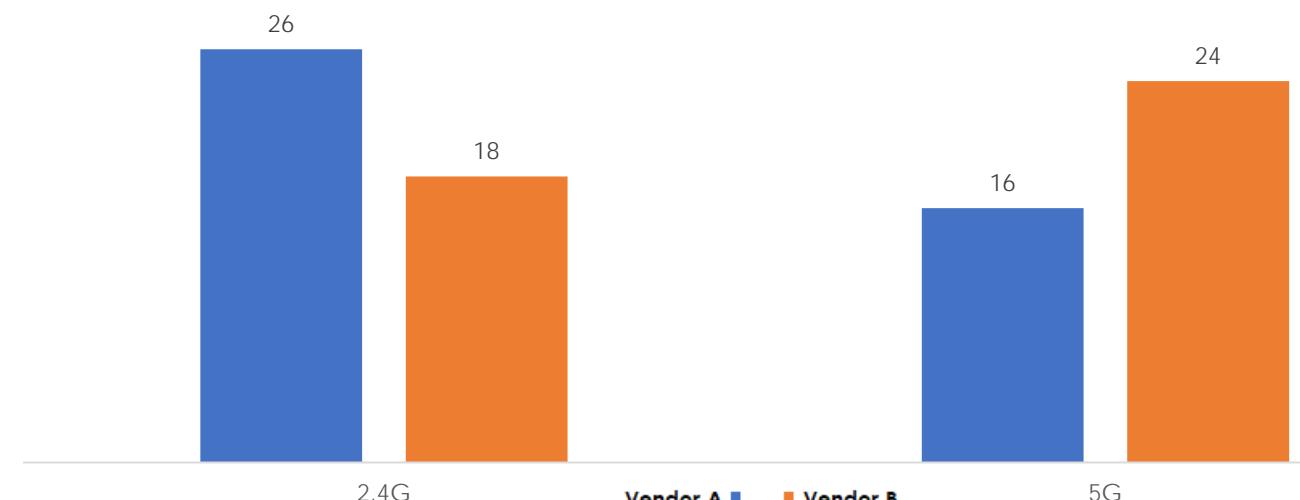
Device Connection Distribution

Device Count per Mesh Node
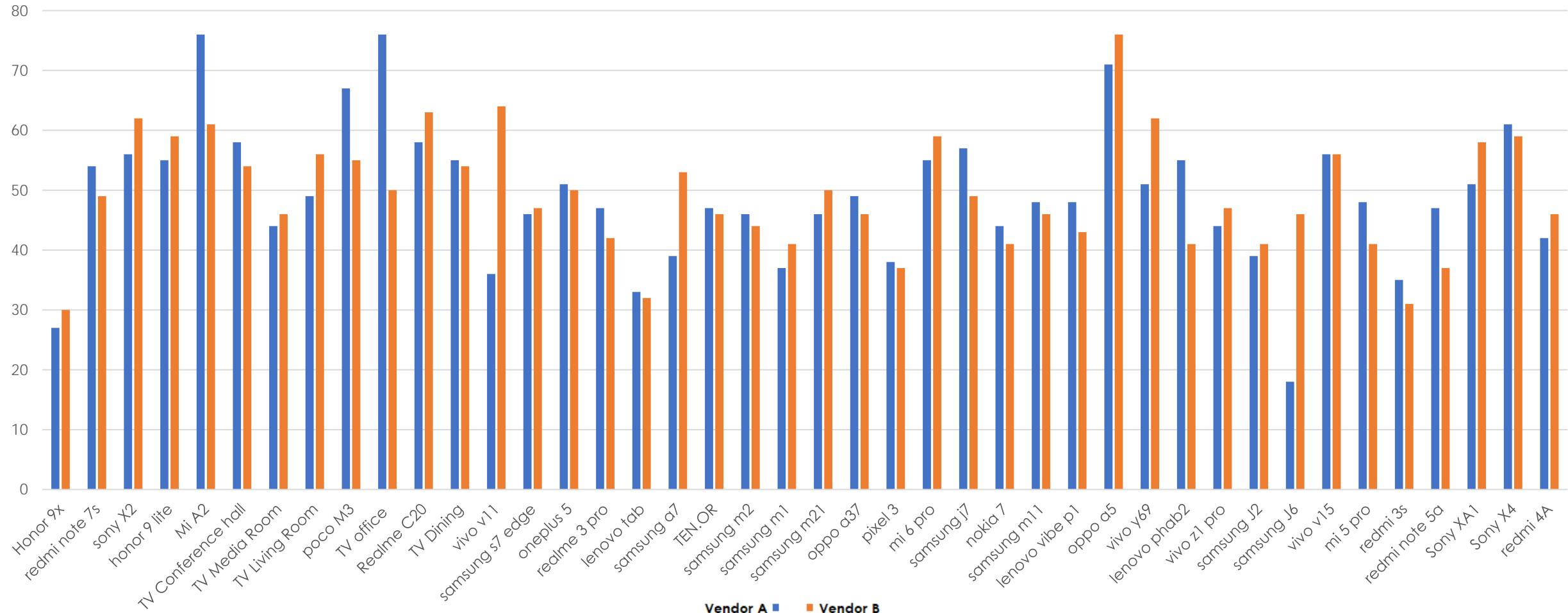
Device count per band
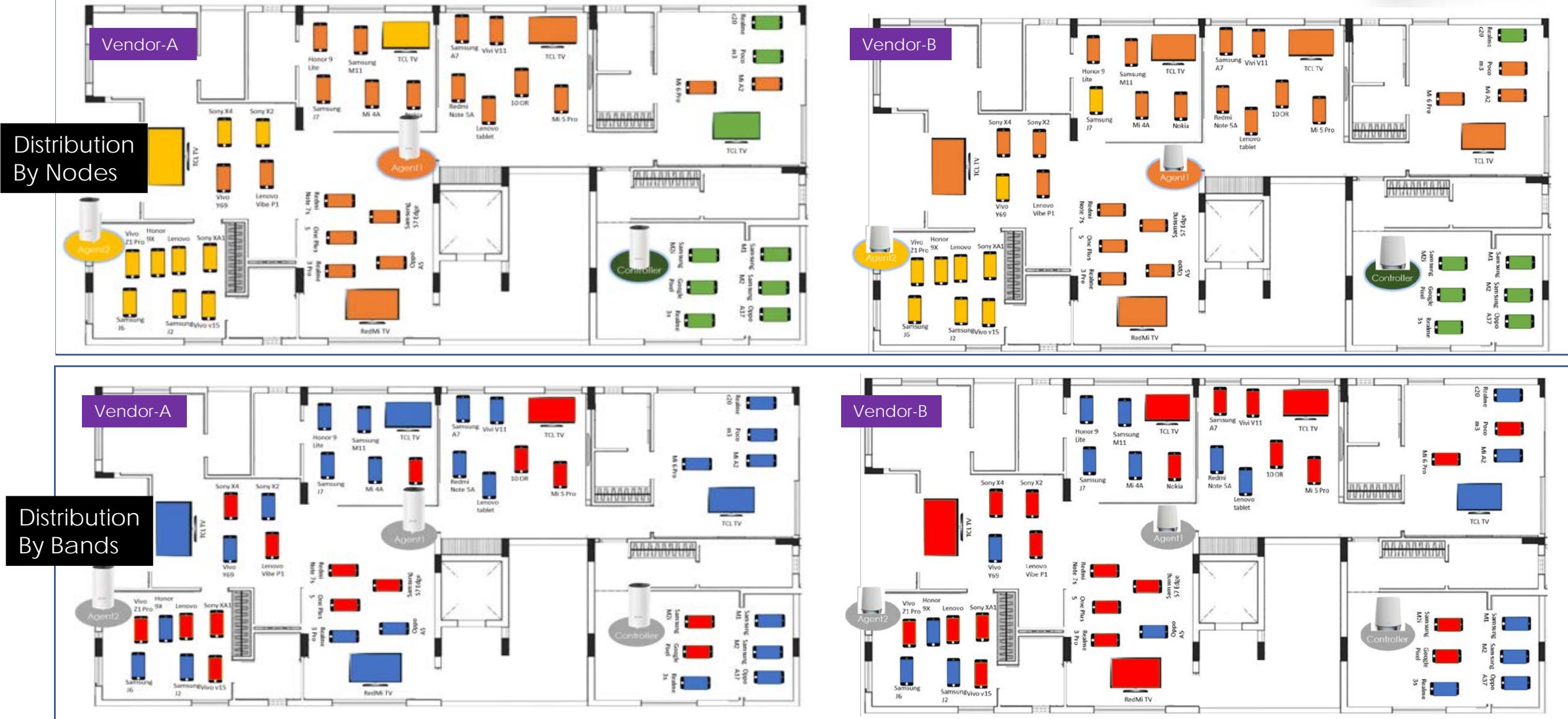
RSSI of Devices in –dBm

RSSI in -dBm

Vendor A ■ Vendor B ■

Device Distribution by Nodes and Bands
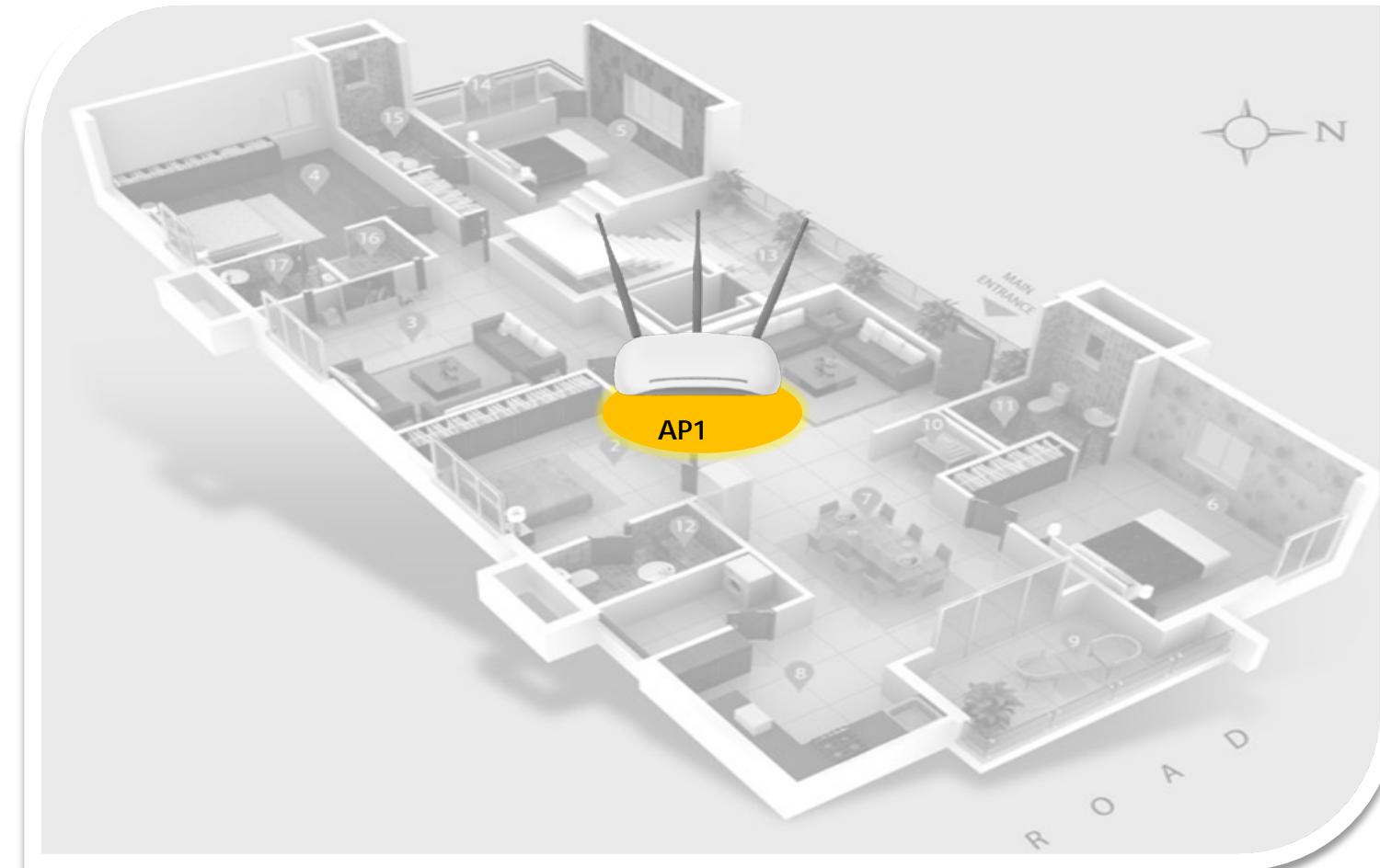
Conclusions

- Overall Throughput achieved was better with Vendor-B

- AP1 has more clients connected in 2.4GHz band than Vendor-B which is possibly the reason why the overall throughput for Vendor-A is lower.

- Overall device distribution by nodes is better with Vendor-A.

AP1 and AP2 Residential Router

Coverage comparison results
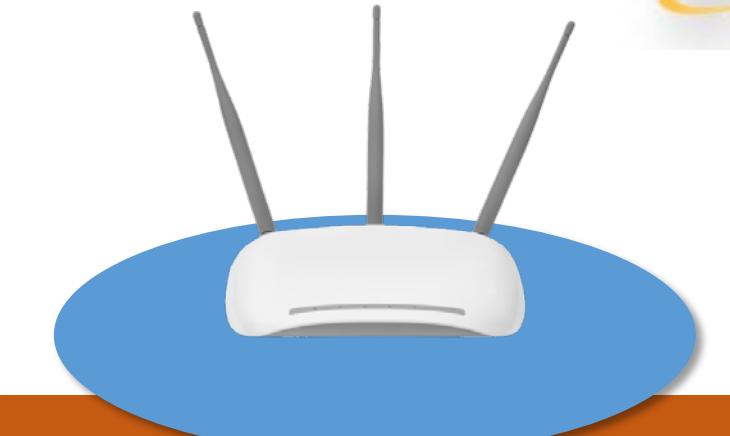
DUT Details

DUT 1
JIO411 Residential Router

VS
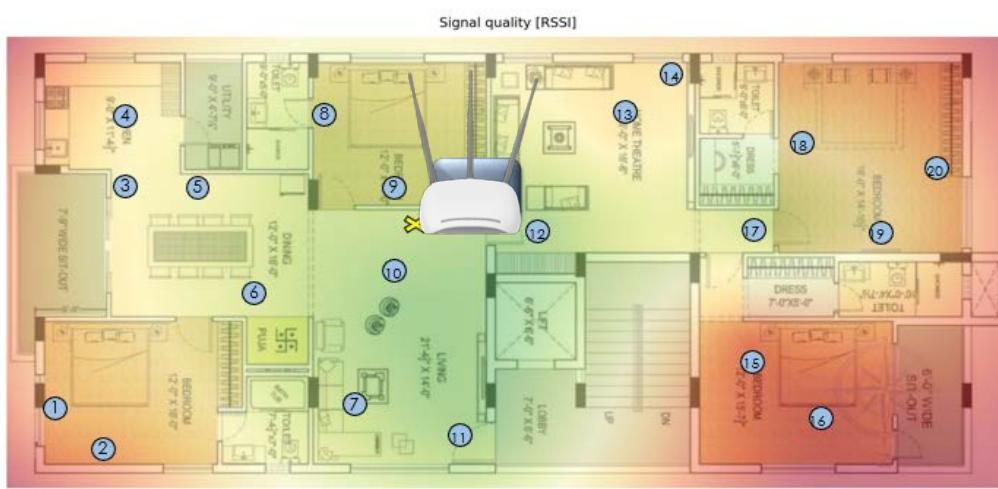
DUT2
AP2

Specs
Chipset : Broadcom
Dual band System
Radio1: 2.4 GHz 2x2 MIMO
Radio2: 5 GHz 2x2 MIMO
Router Mode
Channel for 5G: Auto(149)
Channel for 2.4G: Auto(6)
Transmit Power for 2.4G: 24 dbm
Transmit Power for 5G: 22 dbm
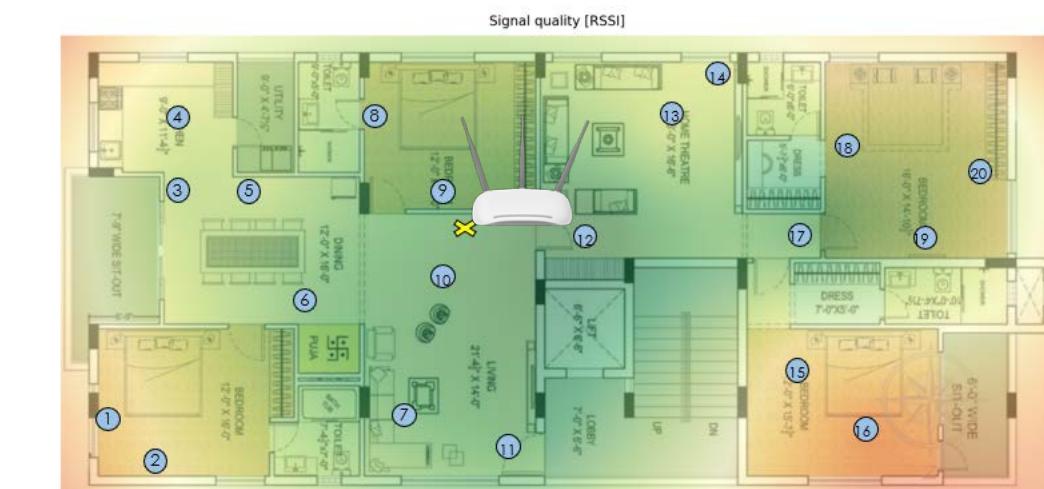
Specs
Chipset : Realtek semiconductor corp
Dual band System
Radio 1: 2.4G 2X2 MIMO 802.11 b/g/n
Radio 2: 5G 2X2 MIMIO 802.11 a/n/ac
Channel for 5G: 149
Channel for 2.4G: 6
Transmit Power for 2.4G: 20 dbm
Transmit Power for 5G: 20 dbm

RSSI 2.4G

AP1

AP2
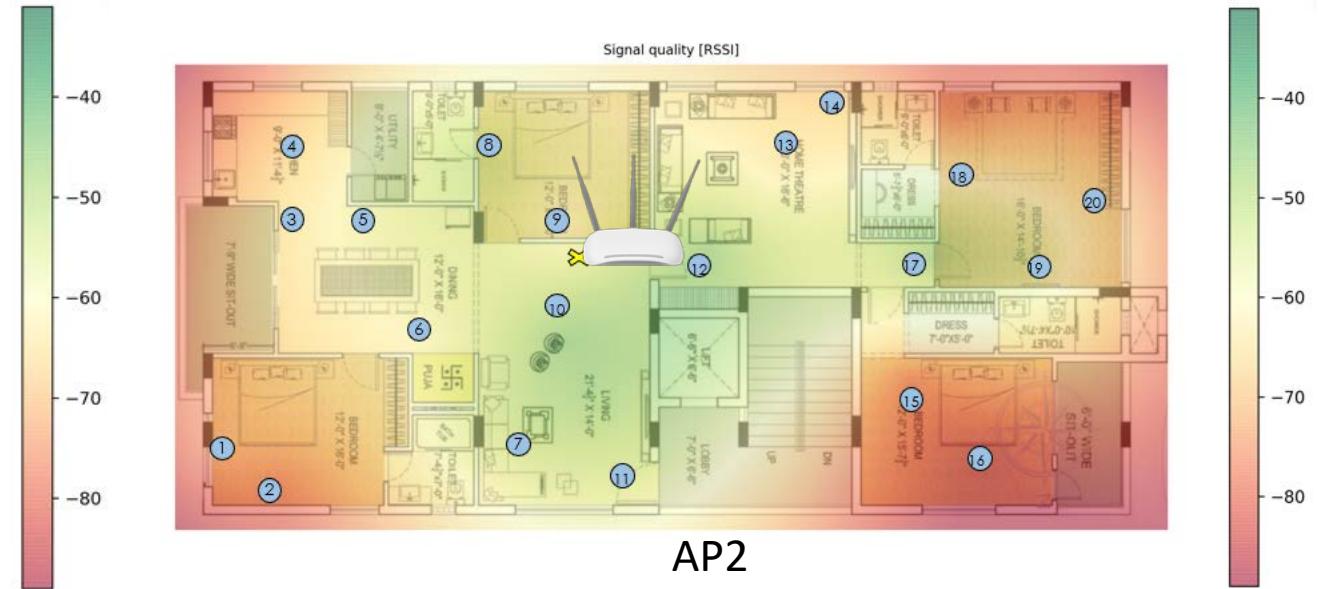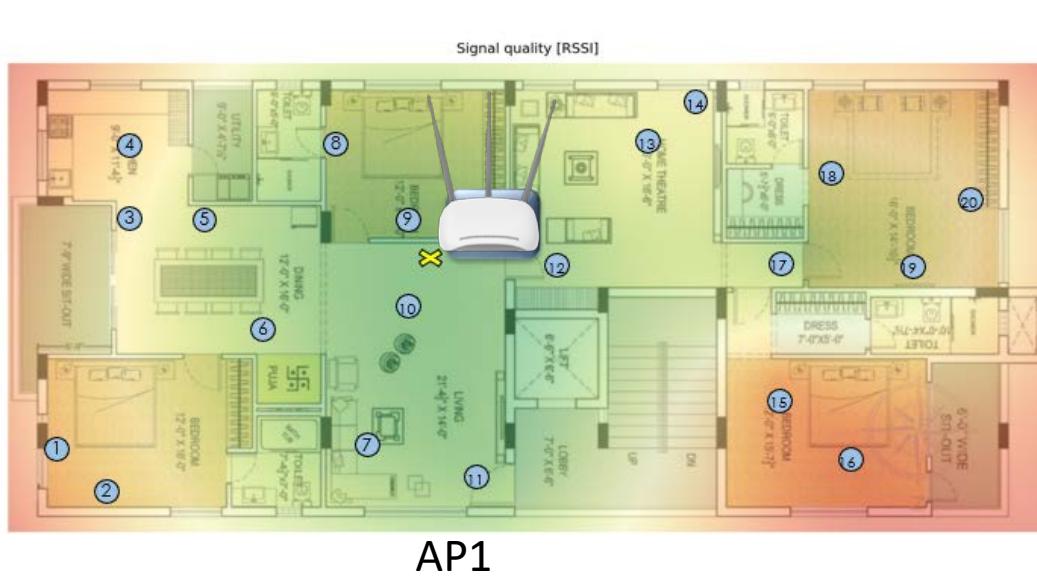
ANALYSIS:

This charts represent the RSSI of 2.4G for AP1 and AP2. From the observation the RSSI is more in AP2 than AP1 .

| Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
AP1(2.4G)	-70	-65	-62	-67	-47	-45	-41	-43	-31	-38	-40	-42	-55	-56	-75	-81	-43	-65	-51	-62
AP2 2.4G)	-66	-59	-47	-52	-48	-38	-37	-42	-37	-34	-36	-28	-49	-52	-62	-76	-34	-60	-43	-51

RSSI 5G

AP1

AP2
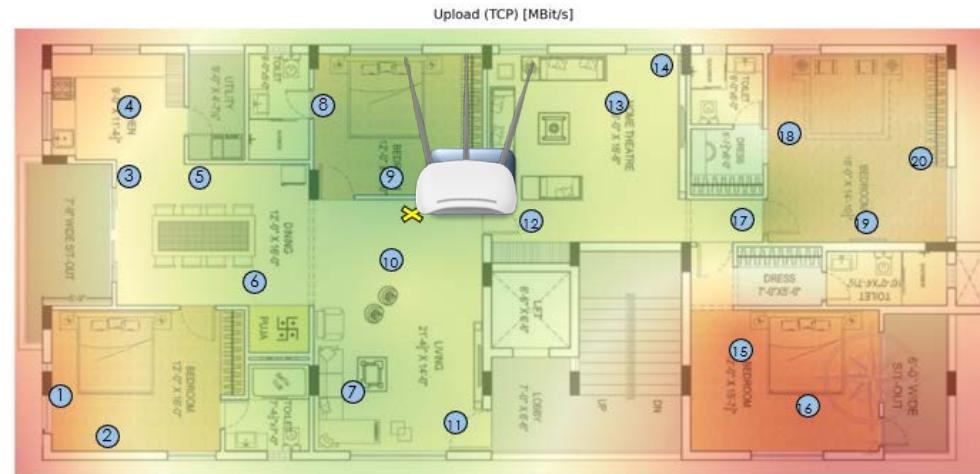
ANALYSIS:
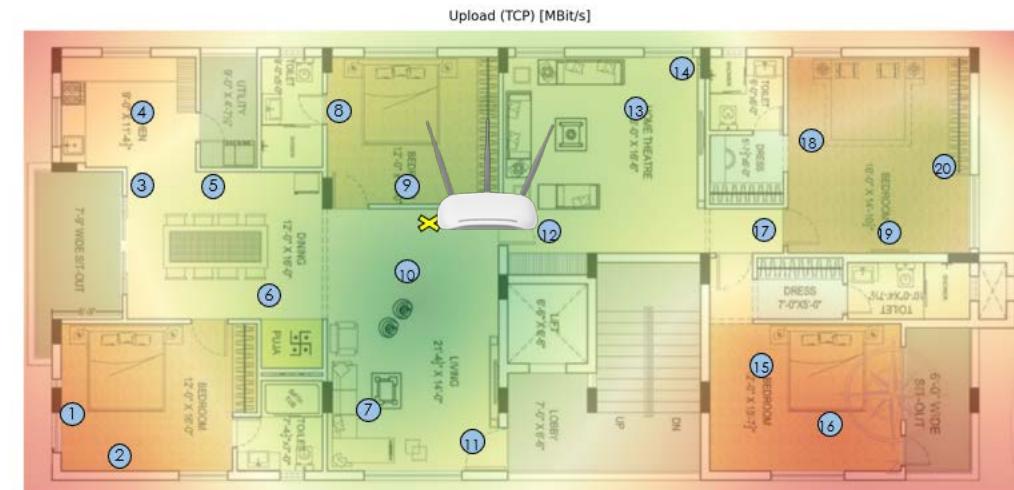
This charts represent the RSSI of 5G for AP1 and AP2. From the observation the RSSI is more in AP1 than AP2. At 16th co-ordinate there is no coverage in AP2. And at 2nd co-ordinate is there is a disconnection while running the test.

Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
AP1(5G)	-71	-74	-60	-62	-57	-51	-47	-49	-50	-41	-42	-43	-64	-65	-83	-89	-47	-71	-57	-73
AP2 (5G)	-74	-80	-64	-68	-56	-59	-49	-49	-61	-42	-52	-43	-63	-67	-79	-89	-44	-79	-52	-69
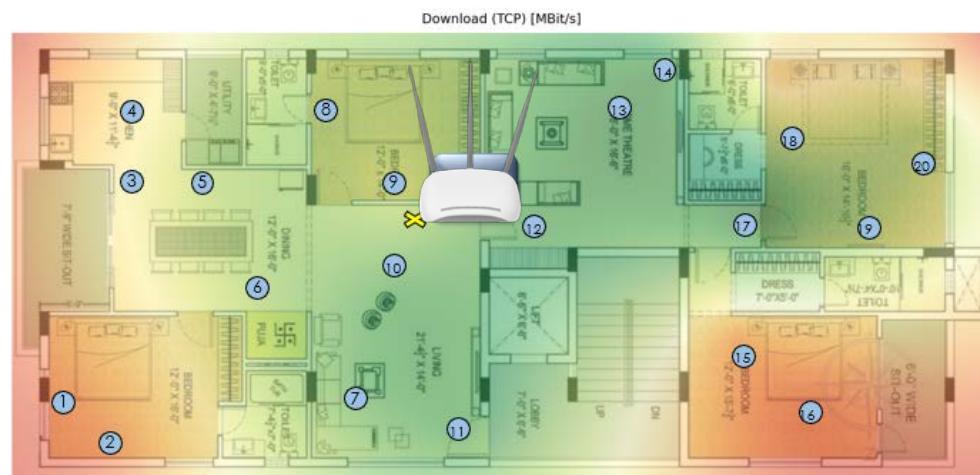
AP1 TCP UL-2.4G
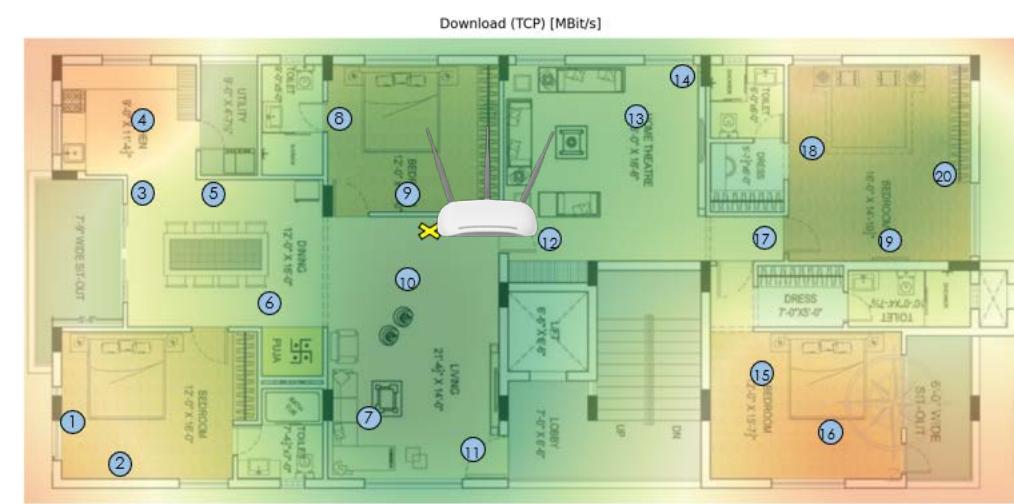
AP2 TCP UL-2.4G
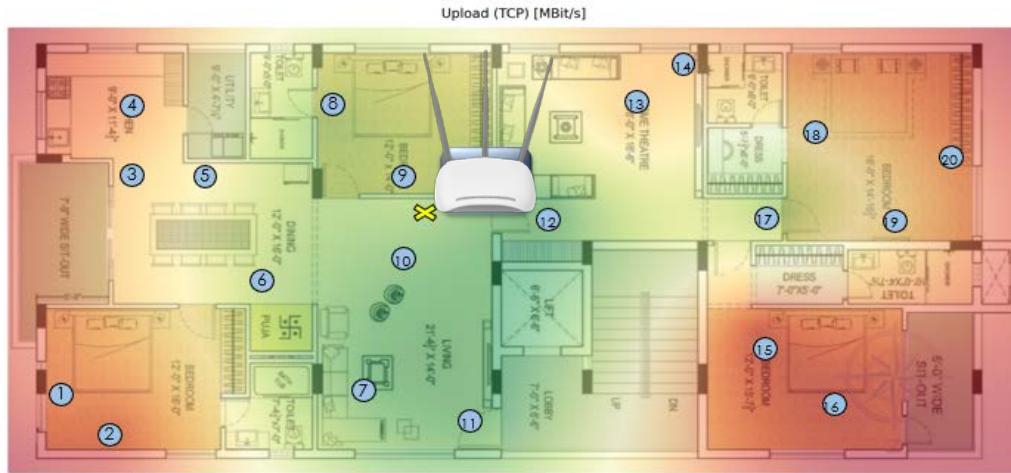
AP1 TCP DL-
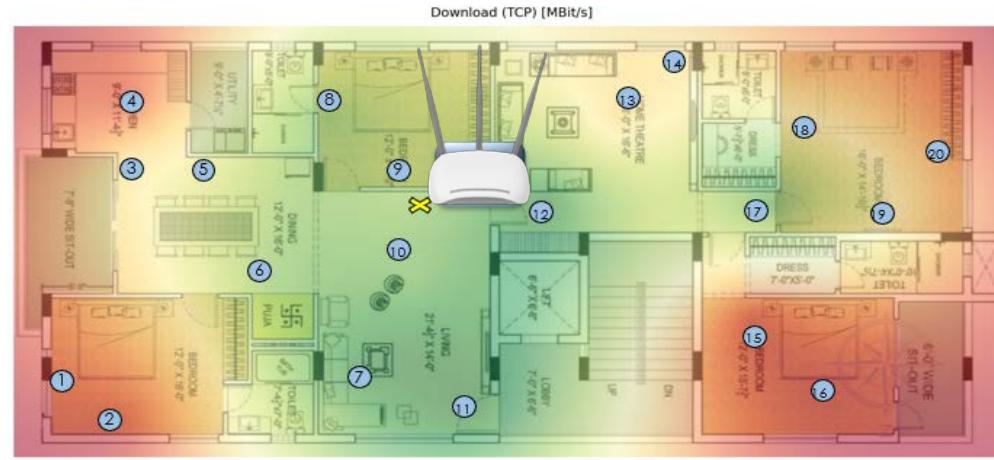
AP2 TCP DL-2.4G
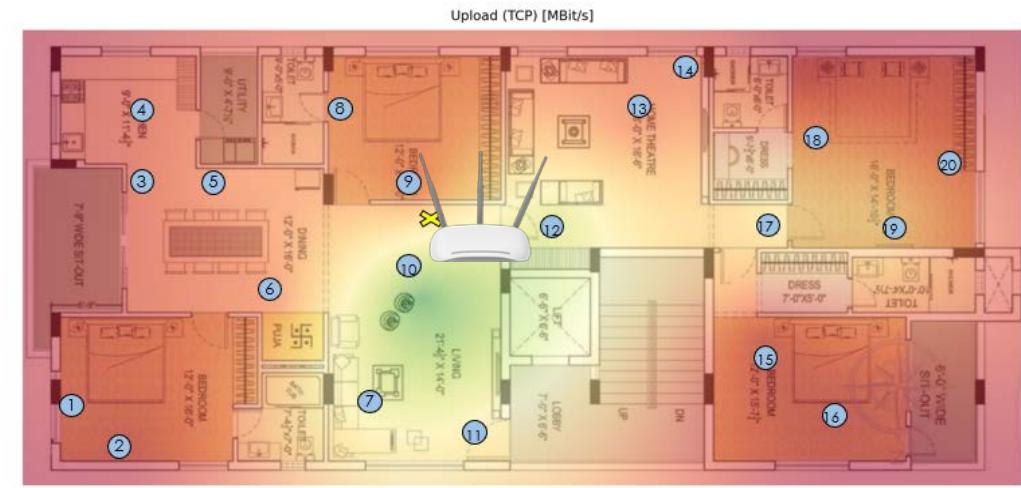
AP1 TCP UL-5G
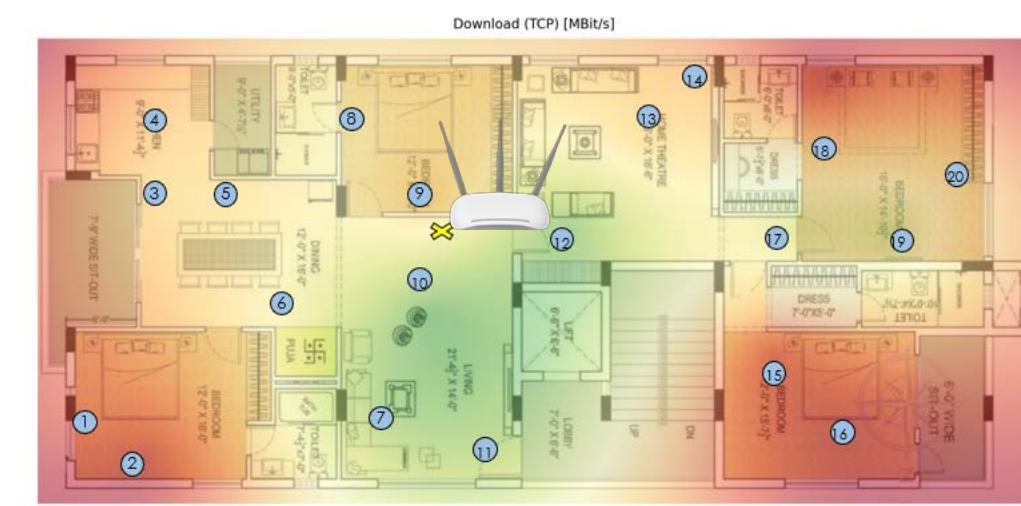
AP2 TCP UL-5G

AP1 TCP DL-5G

AP2 TCP DL-5G

RAW DATA

| POSITION	AP1(2.4G) RSSI	AP2(2.4G) RSSI	AP1(2.4G)TCP UL	AP2(2.4G)TCP UL	AP1(2.4G)TCP DL	AP2(2.4)TCP DL	AP1(5G)RSSI	AP2(5G)RSSI	AP1(5G)TCP UL	AP2(5G)TCP UL	AP1(5G)TCP DL	AP2(5G)TCP DL
1	-70	-66	20.5	17	15.6	35.1	-71	-74	110	34.5	67.1	88.2
2	-65	-59	39	18.9	18.8	37.9	-74	-80	59	7.12	34.6	11.6
3	-62	-47	42.7	43.3	40.5	47.2	-60	-64	215	45.3	290	242
4	-67	-52	34	29.7	35.4	21.8	-62	-68	136	45.1	68.8	207
5	-47	-48	53.7	49.1	57.1	57.2	-57	-56	327	121	384	261
6	-45	-38	58.5	58.6	58.9	64.7	-51	-59	458	114	486	333
7	-41	-37	63.4	65.7	69	79.8	-47	-49	561	365	600	490
8	-43	-42	65.3	53.7	62	72.7	-49	-49	496	127	515	332
9	-38	-37	70.4	64.3	52.8	75.4	-50	-61	439	98	450	218
10	-38	-34	52.1	77.1	72.5	82.1	-41	-42	562	560	521	550
11	-40	-36	54.7	51.4	72.4	74.2	-42	-52	576	285	621	464
12	-42	-28	59.2	62.5	73.5	71.4	-43	-43	593	379	607	515
13	-55	-49	48.8	58.9	77.7	69.8	-64	-63	230	115	264	250
14	-56	-52	48.4	57	75.8	65	-65	-67	205	87	285	211
15	-75	-62	13	20.5	21.8	34.7	-83	-79	19	18.6	23.7	48.1
16	-81	-76	6.49	9.67	9.84	20.5	-89	-89	3.27	0	0	0
17	-43	-34	61.4	50.6	81.1	65.9	-47	-44	501	288	555	389
18	-65	-60	19.5	25.2	32.4	35.9	-71	-79	159	6.61	198	30.8
19	-51	-43	45.7	54.5	63.6	67.3	-57	-52	301	246	380	406
20	-62	-51	42.6	52.4	59.8	66.5	-73	-69	120	60.3	147	211

CONCLUSION

- The RSSI is less in 2.4G for AP1 whereas for AP2 the RSSI is more.

- For 5G the RSSI is more in AP1 and for AP2 the RSSI is less.

- The throughput is high for 5G in AP1 and in 2.4G it is less when compared with AP2.