

TR-398

WiFi Performance Test Plan



Fri Aug 02 05:01:45 PDT 2019

Test Setup Information		
Device Under Test	Name	Netgear2
	Model Number	Netgear R7800
	SSIDs	TR398-5G TR398-2G
	BSSIDs	dc:ef:09:e3:b8:7d dc:ef:09:e3:b8:7b
Operator	sitarama.penumetsa@candelatech.com	
Estimated Run Time	31.15 h	
Actual Run Time	3.829 h	

Objective

The TR-398 WiFi Performance test plan by the Broadband forum provides a comprehensive set of tests to qualify the performance of WiFi access points (APs) designed for residential and small office environments. Radio performance, Throughput, Connection Stability, Airtime Fairness, AP Co-existence, Mu_MIMO Performance, Spatial Consistency and Long-term Stability are some of the test areas covered in this test plan. The test plan is designed for service providers deploying in home WiFi APs to qualify the APs in the lab before deployment and for equipment makers to test during the development of the APs. Candela Technologies offers a fully automated TR-398 test system. The user can select from the list of 11 tests available in the GUI and all selected tests are run fully automated at one click of a button. Measurements are made and compared to the specified PASS/FAIL criteria in the TR-398 test plan and this report will show the summary PASS/FAIL results followed more detailed results for each test.

Add your notes below:

Setup is similar to what is described here:
https://www.candelatech.com/lf_tr398_testing.php

Summary Results

Test	Result	Candela Score	Elapsed	Info
Calibrate Zero Attenuation RSSI	2.4Ghz PASS 5Ghz PASS	50	6.379 m	Attenuator Calibration Step 2.4Ghz Passed 0 / 12 5Ghz Passed 12 / 12
6.1.1 Receiver Sensitivity Test	2.4Ghz FAIL 5Ghz FAIL	3	15.809 m	2.4Ghz passed 11 / 12 Fail-Avg: 38.0 Pass-Avg: 0 5Ghz passed 2 / 12 Fail-Avg: 34.0 Pass-Avg: 0 Rotational Degrees: 60
6.2.1 Maximum Connection Test (32-STA)	2.4Ghz FAIL 5Ghz PASS	50	17.789 m	Throughput: 2.4Ghz UL 0% DL 0% Throughput: 5Ghz UL 104.36% DL 104.36% Passed PER: 64 / 64
6.2.2 Maximum TCP Throughput Test	2.4Ghz PASS 5Ghz PASS	119	5.427 m	Throughput 2.4Ghz UL 112.18% DL 114.07% Throughput 5Ghz UL 125.58% DL 125.15%
6.2.3 Airtime Fairness Test	2.4Ghz FAIL 5Ghz FAIL	42	9.278 m	5Ghz passed 3 / 7 2.4Ghz passed 3 / 7 <i>Candela is not convinced these pass/fail metrics are very helpful.</i>
6.3.1 Range Versus Rate Test	2.4Ghz FAIL 5Ghz FAIL	59	45.212 m	5Ghz UL 11 / 20 DL 9 / 25 5Ghz Retried 19 traffic tests. 2.4Ghz UL 17 / 18 DL 17 / 21 2.4Ghz Retried 19 traffic tests.
6.3.2 Spatial Consistency Test	2.4Ghz FAIL 5Ghz FAIL	82	49.444 m	5Ghz passed 10 / 12 5Ghz retried 6 traffic tests. 2.4Ghz passed 11 / 12 2.4Ghz retried 9 traffic tests.
6.4.1 Multiple STAs Performance Test	2.4Ghz PASS 5Ghz PASS	100	19.456 m	2.4Ghz Passed 6 / 6 5Ghz Passed 6 / 6
6.4.2 Multiple Association / Disassociation Stability Test	2.4Ghz PASS 5Ghz PASS	100	6.147 m	2.4Ghz Passed 960 / 960 5Ghz Passed 960 / 960
6.4.3 Downlink MU-MIMO Performance Test	5Ghz FAIL	111	13.737 m	Passed: 2 / 3 Single Throughput Sum: 1,379.80 Mbps SU-MIMO Throughput Sum: 422.70 Mbps MU-MIMO Throughput Sum: 574.33 Mbps
6.5.2 AP Coexistence Test	2.4Ghz FAIL 5Ghz FAIL	122	20.676 m	Passed 6 / 8 NOTE: Auto-Calibrated Interferer transmit rates. TR-398 specified vs actual inteferer rate settings: 5G-80Mhz: 195 Mbps vs 149.47 Mbps 5G-40Mhz: 90 Mbps vs 47.69 Mbps 2.4Ghz-20Mhz: 32 vs 17.09 Mbps
	2.4Ghz FAIL			2.4Ghz Throughput Avg 186.58 Mbps Passed: 48 / 50 2.4Ghz Packet Error Rate Passed: 0 / 1

6.5.1 Long Term Stability Test	5Ghz PASS	97	20.017 m	5Ghz Throughput Avg 935.81 Mbps Passed: 50 / 50 5Ghz Packet Error Rate Passed: 1 / 1
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Calibrate Zero Attenuation RSSI

Summary

Calibrate the Zero attenuation settings for 2.4 and 5Ghz

Test Procedure

These steps are done for 2.4Ghz and 5Ghz.

1. Create an /a/b/g (legacy) station on each radio.
2. Set attenuators to 0.
3. Create download connections for each station and run them for 30 seconds.
4. Record Received Signal Strength (RSSI) for each station.
5. Change attenuation to 15, 25, and 35 and re-run download test and record new RSSI.
6. Record the zero-attenuation RSSI, based on the 25 attenuation step, in the TR-398 Automation setup window.

Pass/Fail Criteria

1. Ensure that relative RSSI is within 2 for each of the different attenuation values.

Calibrate Zero Attenuation RSSI Results

Type	Result	Notes
2.4Ghz Atten: 0 Group: 0	INFO	1.1.14 sta0600 Calculated Zero Atten: -30 STA-RSSI: -30 Rx-Rate: 54M Tx-Rate: 54M
2.4Ghz Atten: 0 Group: 1	INFO	1.1.15 sta0800 Calculated Zero Atten: -29 STA-RSSI: -29 Rx-Rate: 54M Tx-Rate: 54M
2.4Ghz Atten: 0 Group: 2	INFO	1.1.16 sta1000 Calculated Zero Atten: -24 STA-RSSI: -24 Rx-Rate: 54M Tx-Rate: 54M
2.4Ghz Atten: 15 Group: 0	INFO	1.1.14 sta0600 Calculated Zero Atten: -26 STA-RSSI: -41 Rx-Rate: 54M Tx-Rate: 54M
2.4Ghz Atten: 15 Group: 1	INFO	1.1.15 sta0800 Calculated Zero Atten: -28 STA-RSSI: -43 Rx-Rate: 54M Tx-Rate: 54M
2.4Ghz Atten: 15 Group: 2	INFO	1.1.16 sta1000 Calculated Zero Atten: -24 STA-RSSI: -39 Rx-Rate: 54M Tx-Rate: 54M
2.4Ghz Atten: 25 Group: 0	INFO	1.1.14 sta0600 Calculated Zero Atten: -25 STA-RSSI: -50 Rx-Rate: 54M Tx-Rate: 54M
2.4Ghz Atten: 25 Group: 1	INFO	1.1.15 sta0800 Calculated Zero Atten: -27 STA-RSSI: -52 Rx-Rate: 54M Tx-Rate: 54M
2.4Ghz Atten: 25 Group: 2	INFO	1.1.16 sta1000 Calculated Zero Atten: -20 STA-RSSI: -45 Rx-Rate: 54M Tx-Rate: 54M
2.4Ghz Atten: 35 Group: 0	INFO	1.1.14 sta0600 Calculated Zero Atten: -24 STA-RSSI: -59 Rx-Rate: 54M Tx-Rate: 54M
2.4Ghz Atten: 35 Group: 1	INFO	1.1.15 sta0800 Calculated Zero Atten: -23 STA-RSSI: -58 Rx-Rate: 54M Tx-Rate: 54M
2.4Ghz Atten: 35 Group: 2	INFO	1.1.16 sta1000 Calculated Zero Atten: -19 STA-RSSI: -54 Rx-Rate: 54M Tx-Rate: 54M
5Ghz Atten: 0 Group: 0	INFO	1.1.14 sta0400 Calculated Zero Atten: -34 STA-RSSI: -34 Rx-Rate: 54M Tx-Rate: 54M
5Ghz Atten: 0 Group: 1	INFO	1.1.15 sta0600 Calculated Zero Atten: -37 STA-RSSI: -37 Rx-Rate: 54M Tx-Rate: 54M
5Ghz Atten: 0 Group: 2	INFO	1.1.16 sta0800 Calculated Zero Atten: -35 STA-RSSI: -35 Rx-Rate: 54M Tx-Rate: 54M
5Ghz Atten: 15 Group: 0	INFO	1.1.14 sta0400 Calculated Zero Atten: -34 STA-RSSI: -49 Rx-Rate: 54M Tx-Rate: 54M
5Ghz Atten: 15 Group: 1	INFO	1.1.15 sta0600 Calculated Zero Atten: -37 STA-RSSI: -52 Rx-Rate: 54M Tx-Rate: 54M
5Ghz Atten: 15 Group: 2	INFO	1.1.16 sta0800 Calculated Zero Atten: -34 STA-RSSI: -49 Rx-Rate: 54M Tx-Rate: 54M
5Ghz Atten: 25 Group: 0	INFO	1.1.14 sta0400 Calculated Zero Atten: -34 STA-RSSI: -59 Rx-Rate: 54M Tx-Rate: 54M
5Ghz Atten: 25 Group: 1	INFO	1.1.15 sta0600 Calculated Zero Atten: -37 STA-RSSI: -62 Rx-Rate: 54M Tx-Rate: 54M
5Ghz Atten: 25 Group: 2	INFO	1.1.16 sta0800 Calculated Zero Atten: -35 STA-RSSI: -60 Rx-Rate: 54M Tx-Rate: 54M
5Ghz Atten: 35 Group: 0	INFO	1.1.14 sta0400 Calculated Zero Atten: -35 STA-RSSI: -70 Rx-Rate: 54M Tx-Rate: 54M
5Ghz Atten: 35 Group: 1	INFO	1.1.15 sta0600 Calculated Zero Atten: -37 STA-RSSI: -72 Rx-Rate: 54M Tx-Rate: 54M
5Ghz Atten: 35 Group: 2	INFO	1.1.16 sta0800 Calculated Zero Atten: -35 STA-RSSI: -70 Rx-Rate: 54M Tx-Rate: 54M
		RSSI at attenuation 0, 15, 25, 35

Port	Last	Bps 1m	Bps Last	1m	Fail %	Link-Rate	Link-Rate	Mode	Channel	Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.14 sta0600	207.661 Kbps	71.906 Kbps	5.239 Mbps	1.745 Mbps	13.123	54 Mbps	54 Mbps	802.11bg	11	3,550	-30	DC:EF:09:E3:B8:7B	192.168.1.227	04:f0:21:4b:87:00
1.1.15 sta0800	205.059 Kbps	77.136 Kbps	5.224 Mbps	1.896 Mbps	15.613	54 Mbps	54 Mbps	802.11bg	11	235	-29	DC:EF:09:E3:B8:7B	192.168.1.3	04:f0:21:36:c8:74
1.1.16 sta1000	209.417 Kbps	82.392 Kbps	5.307 Mbps	2.025 Mbps	3.546	54 Mbps	54 Mbps	802.11bg	11	3,344	-24	DC:EF:09:E3:B8:7B	192.168.1.2	04:f0:21:4b:8e:f9

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	16.006 Mbps	3.969 Mbps	480.349 Kbps	110.961 Kbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0600--1.0.0-A	0 bps	0 bps	4.779 Mbps	4.838 Mbps	122	122	13	1.045
cv_tcp-1.1-1.sta0600--1.0.0-B	4.934 Mbps	4.861 Mbps	0 bps	0 bps	0	122	0	0
cv_tcp-1.1-1.sta0800--1.0.1-A	0 bps	0 bps	5.248 Mbps	4.939 Mbps	92	92	60	0
cv_tcp-1.1-1.sta0800--1.0.1-B	5.273 Mbps	4.956 Mbps	0 bps	0 bps	0	92	0	0
cv_tcp-1.1-1.sta1000--1.0.2-A	0 bps	0 bps	5.144 Mbps	4.981 Mbps	92	92	25	0
cv_tcp-1.1-1.sta1000--1.0.2-B	5.273 Mbps	4.998 Mbps	0 bps	0 bps	0	92	0	0

Attenuator Calibration Snapshot for band: 2.4Ghz: Attenuation Set to: 15

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.14 sta0600	201.75 Kbps	114.046 Kbps	5.093 Mbps	2.78 Mbps	10.984	54 Mbps	54 Mbps	802.11bg	11	3,550	-41	DC:EF:09:E3:B8:7B	192.168.1.227	04:f0:21:4b:87:00
1.1.15 sta0800	204.895 Kbps	114.84 Kbps	5.224 Mbps	2.838 Mbps	17.42	54 Mbps	54 Mbps	802.11bg	11	235	-43	DC:EF:09:E3:B8:7B	192.168.1.3	04:f0:21:36:c8:74
1.1.16 sta1000	212.542 Kbps	111.12 Kbps	5.402 Mbps	2.721 Mbps	10.622	54 Mbps	54 Mbps	802.11bg	11	3,344	-39	DC:EF:09:E3:B8:7B	192.168.1.2	04:f0:21:4b:8e:f9

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	14.964 Mbps	10.779 Mbps	444.044 Kbps	292.694 Kbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0600--1.0.0-A	0 bps	0 bps	4.73 Mbps	4.899 Mbps	106	106	17	0
cv_tcp-1.1-1.sta0600--1.0.0-B	4.395 Mbps	4.864 Mbps	0 bps	0 bps	0	106	0	0
cv_tcp-1.1-1.sta0800--1.0.1-A	0 bps	0 bps	5.211 Mbps	4.918 Mbps	152	152	53	0
cv_tcp-1.1-1.sta0800--1.0.1-B	4.395 Mbps	4.911 Mbps	0 bps	0 bps	0	152	0	0
cv_tcp-1.1-1.sta1000--1.0.2-A	0 bps	0 bps	4.752 Mbps	4.9 Mbps	117	117	47	0
cv_tcp-1.1-1.sta1000--1.0.2-B	5.289 Mbps	4.938 Mbps	0 bps	0 bps	0	117	0	0

Attenuator Calibration Snapshot for band: 2.4Ghz: Attenuation Set to: 25

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.14 sta0600	200.93 Kbps	193.792 Kbps	5.147 Mbps	4.779 Mbps	10.625	54 Mbps	54 Mbps	802.11bg	11	3,550	-50	DC:EF:09:E3:B8:7B	192.168.1.227	04:f0:21:4b:87:00
1.1.15 sta0800	207.162 Kbps	194.131 Kbps	5.228 Mbps	4.802 Mbps	14.199	54 Mbps	54 Mbps	802.11bg	11	235	-52	DC:EF:09:E3:B8:7B	192.168.1.3	04:f0:21:36:c8:74
1.1.16 sta1000	203.843 Kbps	191.338 Kbps	5.238 Mbps	4.755 Mbps	10.147	54 Mbps	54 Mbps	802.11bg	11	3,344	-45	DC:EF:09:E3:B8:7B	192.168.1.2	04:f0:21:4b:8e:f9

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	14.864 Mbps	14.848 Mbps	426.691 Kbps	403.376 Kbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0600--1.0.0-A	0 bps	0 bps	4.573 Mbps	4.914 Mbps	95	95	34	0
cv_tcp-1.1-1.sta0600--1.0.0-B	5.267 Mbps	4.984 Mbps	0 bps	0 bps	0	95	0	0
cv_tcp-1.1-1.sta0800--1.0.1-A	0 bps	0 bps	5.275 Mbps	4.962 Mbps	83	83	16	0
cv_tcp-1.1-1.sta0800--1.0.1-B	5.246 Mbps	4.978 Mbps	0 bps	0 bps	0	83	0	0
cv_tcp-1.1-1.sta1000--1.0.2-A	0 bps	0 bps	5.166 Mbps	4.982 Mbps	94	94	16	0
cv_tcp-1.1-1.sta1000--1.0.2-B	5.273 Mbps	4.961 Mbps	0 bps	0 bps	0	94	0	0

Attenuator Calibration Snapshot for band: 2.4Ghz: Attenuation Set to: 35

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.14 sta0600	201.111 Kbps	193.869 Kbps	5.117 Mbps	4.782 Mbps	11.001	54 Mbps	54 Mbps	802.11bg	11	3,550	-59	DC:EF:09:E3:B8:7B	192.168.1.227	04:f0:21:4b:87:00
1.1.15 sta0800	206.371 Kbps	194.484 Kbps	5.238 Mbps	4.803 Mbps	11.777	54 Mbps	54 Mbps	802.11bg	11	235	-58	DC:EF:09:E3:B8:7B	192.168.1.3	04:f0:21:36:c8:74
1.1.16 sta1000	211.126 Kbps	190.857 Kbps	5.396 Mbps	4.744 Mbps	9.953	54 Mbps	54 Mbps	802.11bg	11	3,344	-54	DC:EF:09:E3:B8:7B	192.168.1.2	04:f0:21:4b:8e:f9

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	16.29 Mbps	14.626 Mbps	421.38 Kbps	402.714 Kbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0600--1.0.0-A	0 bps	0 bps	4.961 Mbps	4.895 Mbps	83	83	51	0
cv_tcp-1.1-1.sta0600--1.0.0-B	5.269 Mbps	4.928 Mbps	0 bps	0 bps	0	83	0	0
cv_tcp-1.1-1.sta0800--1.0.1-A	0 bps	0 bps	5.245 Mbps	4.933 Mbps	82	82	14	0
cv_tcp-1.1-1.sta0800--1.0.1-B	4.412 Mbps	4.899 Mbps	0 bps	0 bps	0	82	0	0
cv_tcp-1.1-1.sta1000--1.0.2-A	0 bps	0 bps	5.285 Mbps	4.963 Mbps	104	104	15	0
cv_tcp-1.1-1.sta1000--1.0.2-B	5.296 Mbps	5.002 Mbps	0 bps	0 bps	0	104	0	0

Attenuator Calibration Snapshot for band: 5Ghz: Attenuation Set to: 0

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.14 sta0400	204.699 Kbps	80.32 Kbps	5.192 Mbps	1.969 Mbps	14.51	54 Mbps	54 Mbps	802.11a	157	678	-34	DC:EF:09:E3:B8:7D	192.168.1.37	04:f0:21:38:a8:f0
1.1.15 sta0600	213.716 Kbps	72.066 Kbps	5.447 Mbps	1.766 Mbps	4.752	54 Mbps	54 Mbps	802.11a	157	548	-37	DC:EF:09:E3:B8:7D	192.168.1.41	04:f0:21:3a:7e:c0
1.1.16 sta0800	204.96 Kbps	72.532 Kbps	5.229 Mbps	1.787 Mbps	14.694	54 Mbps	54 Mbps	802.11a	157	847	-35	DC:EF:09:E3:B8:7D	192.168.1.4	04:f0:21:3a:74:c1

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	15.526 Mbps	7.561 Mbps	383.898 Kbps	210.612 Kbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0400--1.0.0-A	0 bps	0 bps	5.289 Mbps	4.937 Mbps	133	133	71	0
cv_tcp-1.1-1.sta0400--1.0.0-B	5.269 Mbps	4.975 Mbps	0 bps	0 bps	0	133	0	0
cv_tcp-1.1-1.sta0600--1.0.1-A	0 bps	0 bps	5.25 Mbps	4.989 Mbps	98	98	13	0
cv_tcp-1.1-1.sta0600--1.0.1-B	5.287 Mbps	5.014 Mbps	0 bps	0 bps	0	98	0	0
cv_tcp-1.1-1.sta0800--1.0.2-A	0 bps	0 bps	4.674 Mbps	4.927 Mbps	153	153	40	0
cv_tcp-1.1-1.sta0800--1.0.2-B	5.255 Mbps	4.975 Mbps	0 bps	0 bps	0	153	0	0

Attenuator Calibration Snapshot for band: 5Ghz: Attenuation Set to: 15

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.14 sta0400	205.111 Kbps	111.862 Kbps	5.236 Mbps	2.745 Mbps	14.707	54 Mbps	54 Mbps	802.11a	157	678	-49	DC:EF:09:E3:B8:7D	192.168.1.37	04:f0:21:38:a8:f0
1.1.15 sta0600	205.423 Kbps	113.432 Kbps	5.216 Mbps	2.802 Mbps	9.965	54 Mbps	54 Mbps	802.11a	157	548	-52	DC:EF:09:E3:B8:7D	192.168.1.41	04:f0:21:3a:7e:c0
1.1.16 sta0800	205.415 Kbps	113.791 Kbps	5.209 Mbps	2.81 Mbps	11.047	54 Mbps	54 Mbps	802.11a	157	847	-49	DC:EF:09:E3:B8:7D	192.168.1.4	04:f0:21:3a:74:c1

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	16.631 Mbps	11.042 Mbps	407.476 Kbps	302.208 Kbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0400--1.0.0-A	0 bps	0 bps	4.56 Mbps	4.887 Mbps	152	152	19	0
cv_tcp-1.1-1.sta0400--1.0.0-B	4.391 Mbps	4.894 Mbps	0 bps	0 bps	0	152	0	0
cv_tcp-1.1-1.sta0600--1.0.1-A	0 bps	0 bps	5.227 Mbps	4.954 Mbps	133	133	58	0
cv_tcp-1.1-1.sta0600--1.0.1-B	5.266 Mbps	4.947 Mbps	0 bps	0 bps	0	133	0	0
cv_tcp-1.1-1.sta0800--1.0.2-A	0 bps	0 bps	4.442 Mbps	4.94 Mbps	88	88	17	0
cv_tcp-1.1-1.sta0800--1.0.2-B	4.379 Mbps	4.953 Mbps	0 bps	0 bps	0	88	0	0

Attenuator Calibration Snapshot for band: 5Ghz: Attenuation Set to: 25

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.14 sta0400	204.081 Kbps	194.677 Kbps	5.24 Mbps	4.849 Mbps	13.011	54 Mbps	54 Mbps	802.11a	157	678	-59	DC:EF:09:E3:B8:7D	192.168.1.37	04:f0:21:38:a8:f0
1.1.15 sta0600	205.974 Kbps	195.8 Kbps	5.204 Mbps	4.854 Mbps	10.646	54 Mbps	54 Mbps	802.11a	157	548	-62	DC:EF:09:E3:B8:7D	192.168.1.41	04:f0:21:3a:7e:c0
1.1.16 sta0800	203.907 Kbps	191.979 Kbps	5.234 Mbps	4.764 Mbps	9.273	54 Mbps	54 Mbps	802.11a	157	847	-60	DC:EF:09:E3:B8:7D	192.168.1.4	04:f0:21:3a:74:c1

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	15.733 Mbps	14.855 Mbps	451.558 Kbps	407.967 Kbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0400--1.0.0-A	0 bps	0 bps	4.633 Mbps	4.934 Mbps	114	114	8	0
cv_tcp-1.1-1.sta0400--1.0.0-B	5.29 Mbps	4.982 Mbps	0 bps	0 bps	0	114	0	0
cv_tcp-1.1-1.sta0600--1.0.1-A	0 bps	0 bps	5.285 Mbps	4.936 Mbps	92	92	41	0
cv_tcp-1.1-1.sta0600--1.0.1-B	5.287 Mbps	4.898 Mbps	0 bps	0 bps	0	92	0	0
cv_tcp-1.1-1.sta0800--1.0.2-A	0 bps	0 bps	4.875 Mbps	4.937 Mbps	72	72	14	0
cv_tcp-1.1-1.sta0800--1.0.2-B	5.253 Mbps	4.94 Mbps	0 bps	0 bps	0	72	0	0

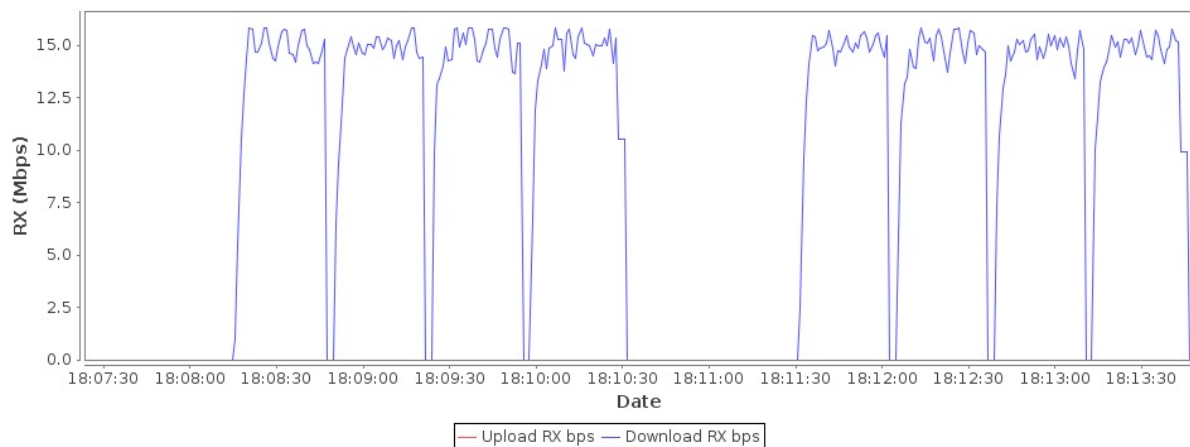
Attenuator Calibration Snapshot for band: 5Ghz: Attenuation Set to: 35

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.14 sta0400	201.159 Kbps	194.145 Kbps	5.114 Mbps	4.841 Mbps	13.339	54 Mbps	54 Mbps	802.11a	157	678	-70	DC:EF:09:E3:B8:7D	192.168.1.37	04:f0:21:38:a8:f0
1.1.15 sta0600	205.115 Kbps	194.006 Kbps	5.266 Mbps	4.795 Mbps	10.553	54 Mbps	54 Mbps	802.11a	157	548	-72	DC:EF:09:E3:B8:7D	192.168.1.41	04:f0:21:3a:7e:c0
1.1.16 sta0800	206.626 Kbps	191.281 Kbps	5.276 Mbps	4.74 Mbps	10.076	54 Mbps	54 Mbps	802.11a	157	847	-70	DC:EF:09:E3:B8:7D	192.168.1.4	04:f0:21:3a:74:c1

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	16.778 Mbps	14.62 Mbps	439.83 Kbps	399.337 Kbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0400--1.0.0-A	0 bps	0 bps	5.09 Mbps	4.958 Mbps	112	112	25	0
cv_tcp-1.1-1.sta0400--1.0.0-B	5.28 Mbps	4.988 Mbps	0 bps	0 bps	0	112	0	0
cv_tcp-1.1-1.sta0600--1.0.1-A	0 bps	0 bps	5.248 Mbps	4.888 Mbps	70	70	23	0
cv_tcp-1.1-1.sta0600--1.0.1-B	5.28 Mbps	4.881 Mbps	0 bps	0 bps	0	70	0	0
cv_tcp-1.1-1.sta0800--1.0.2-A	0 bps	0 bps	4.398 Mbps	4.914 Mbps	122	122	26	0
cv_tcp-1.1-1.sta0800--1.0.2-B	5.262 Mbps	4.974 Mbps	0 bps	0 bps	0	122	0	0

Realtime Throughput for: Calibrate Zero Attenuation RSSI



6.1.1 Receiver Sensitivity Test

Summary

Receiver Sensitivity is a receiver's ability to receive and correctly demodulate weak signals. This test provides a simplified measurement of the receiver's sensitivity, relative to the total attenuation inserted between the DUT and the STA. As that attenuation is increased, the STA is limited to a single coding scheme, eventually causing the connection to degrade. The point at which the connection degrades represents the receiver's approximate sensitivity. This is an approximate measurement only, where a detailed receiver sensitivity measurement would typically be performed in a conducted test environment with calibrated transmitter power levels. The test is repeated with multiple coding schemes, ensuring the DUT should smoothly transition between coding schedules as the attenuation increases in normal operation.

Test Procedure

1. Initialize attenuation to starting value (10 db stronger than passing value).
2. Configure the Traffic Generator to generate UDP traffic at 65% of theoretical rate.
3. Configure the attenuators to emulate 2-meter distance. This is considered 'zero' attenuation.
4. Increment attenuation by 1 dB each step. For each attenuation step, run traffic for 20 seconds. Record the packet-error rate (PER) If the PER is greater than 10%, then consider that the sensitivity cutoff and move to next iteration.
5. These test steps are run for MCS 0 and 7 at 20Mhz on 2.4Ghz, and MCS 0 and 9, 80 Mhz, and spatial-streams of one.
6. These test steps are run for each 45-degree spatial rotation.

Pass/Fail Criteria

Please see the 6.1.1.5 and 6.1.1.4.8 sections of the TR-398 spec. The pass/fail value unit is 'attenuation from 2-meter baseline. Please see the 6.1.1.5 and 6.1.1.4.8 sections of the TR-398 spec. Candela Technologies set up an AP 2 meters away from a station device to measure actual receiver signal strength (RSSI) at 2-meters. The station was set in /a/b/g mode because this forces the AP to use a single spatial stream and 20Mhz, which should be the highest signal level. Radios often transmit /n and /AC encoded packets at less than the maximum transmit power. Candela's experimental results showed the station RSSI of -24 for 2.4Ghz and -32 on 5Ghz. The estimated RSSI in the table below is calculated using these experimental RSSI results as the baseline. Candela believes that the 5Ghz RSSI is too weak to expect to pass the test, so a checkbox to decrease attenuation by 4 on 5Ghz is offered. Other attenuation tuning options are also available. Estimated AP RSSI based on all tuning options are denoted by numbers in () below.

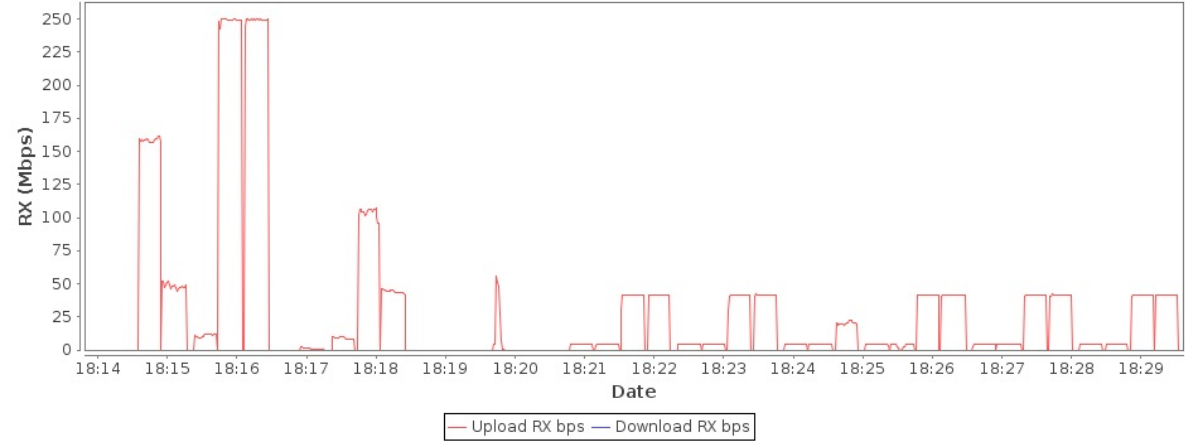
Band	MCS	Bandwidth	Attenuation above 2m Baseline	Estimated DUT RSSI
2.4Ghz	0	20	56	-80(-80)
2.4Ghz	7	20	38	-62(-62)

5Ghz	0	80	46 (46)	-78(-78)
5Ghz	9	80	21 (21)	-53(-53)

6.1.1 Receiver Sensitivity Test Results

Type	Result	Notes
6.1.1 Assumptions	INFO	This test does not specify RSSI, so calibrating it is difficult. You may change the attenuation by modifying the Attenuation Adjustment setting on the 'Advanced Configuration' screen.
Configuration NOTE	INFO	Rotational Degrees set to: 60, default is: 45
Configuration NOTE	INFO	Each iteration is configured to stop as soon as it reaches a passing threshold.
	FAIL	5Ghz mcs: 0 BW: 80 rot: 0 last-atten-pass: 0 passing value: 46 STA RSSI: 0 Expected AP RSSI: 0
	FAIL	5Ghz mcs: 9 BW: 80 rot: 0 last-atten-pass: 20 passing value: 21 STA RSSI: -41 Expected AP RSSI: -42
	FAIL	5Ghz mcs: 0 BW: 80 rot: 60 last-atten-pass: 0 passing value: 46 STA RSSI: 0 Expected AP RSSI: 0
	PASS	5Ghz mcs: 9 BW: 80 rot: 60 last-atten-pass: 21 passing value: 21 STA RSSI: -39 Expected AP RSSI: -43
	FAIL	5Ghz mcs: 0 BW: 80 rot: 120 last-atten-pass: 0 passing value: 46 STA RSSI: 0 Expected AP RSSI: 0
	FAIL	5Ghz mcs: 9 BW: 80 rot: 120 last-atten-pass: 0 passing value: 21 STA RSSI: 0 Expected AP RSSI: 0
	FAIL	5Ghz mcs: 0 BW: 80 rot: 180 last-atten-pass: 0 passing value: 46 STA RSSI: 0 Expected AP RSSI: 0
	PASS	5Ghz mcs: 9 BW: 80 rot: 180 last-atten-pass: 21 passing value: 21 STA RSSI: -40 Expected AP RSSI: -43
	FAIL	5Ghz mcs: 0 BW: 80 rot: 240 last-atten-pass: 0 passing value: 46 STA RSSI: 0 Expected AP RSSI: 0
	FAIL	5Ghz mcs: 9 BW: 80 rot: 240 last-atten-pass: 0 passing value: 21 STA RSSI: 0 Expected AP RSSI: 0
	FAIL	5Ghz mcs: 0 BW: 80 rot: 300 last-atten-pass: 0 passing value: 46 STA RSSI: 0 Expected AP RSSI: 0
	FAIL	5Ghz mcs: 9 BW: 80 rot: 300 last-atten-pass: 0 passing value: 21 STA RSSI: 0 Expected AP RSSI: 0
	PASS	2.4Ghz mcs: 0 BW: 20 rot: 0 last-atten-pass: 56 passing value: 56 STA RSSI: -74 Expected AP RSSI: -73
	PASS	2.4Ghz mcs: 7 BW: 20 rot: 0 last-atten-pass: 38 passing value: 38 STA RSSI: -55 Expected AP RSSI: -55
	PASS	2.4Ghz mcs: 0 BW: 20 rot: 60 last-atten-pass: 56 passing value: 56 STA RSSI: -70 Expected AP RSSI: -73
	PASS	2.4Ghz mcs: 7 BW: 20 rot: 60 last-atten-pass: 38 passing value: 38 STA RSSI: -52 Expected AP RSSI: -55
	PASS	2.4Ghz mcs: 0 BW: 20 rot: 120 last-atten-pass: 56 passing value: 56 STA RSSI: -73 Expected AP RSSI: -73
	FAIL	2.4Ghz mcs: 7 BW: 20 rot: 120 last-atten-pass: 0 passing value: 38 STA RSSI: 0 Expected AP RSSI: 0
	PASS	2.4Ghz mcs: 0 BW: 20 rot: 180 last-atten-pass: 56 passing value: 56 STA RSSI: -75 Expected AP RSSI: -73
	PASS	2.4Ghz mcs: 7 BW: 20 rot: 180 last-atten-pass: 38 passing value: 38 STA RSSI: -56 Expected AP RSSI: -55
	PASS	2.4Ghz mcs: 0 BW: 20 rot: 240 last-atten-pass: 56 passing value: 56 STA RSSI: -72 Expected AP RSSI: -73
	PASS	2.4Ghz mcs: 7 BW: 20 rot: 240 last-atten-pass: 38 passing value: 38 STA RSSI: -54 Expected AP RSSI: -55
	PASS	2.4Ghz mcs: 0 BW: 20 rot: 300 last-atten-pass: 56 passing value: 56 STA RSSI: -73 Expected AP RSSI: -73
	PASS	2.4Ghz mcs: 7 BW: 20 rot: 300 last-atten-pass: 38 passing value: 38 STA RSSI: -56 Expected AP RSSI: -55

Realtime Throughput for: 6.1.1 Receiver Sensitivity Test



6.2.1 Maximum Connection Test (32-STA)

Summary

The Maximum Connection test intends to verify that the Wi-Fi AP can support 32 STAs simultaneously connected with minimal packet loss and no disassociations taking place.

Test Procedure

These steps are done for 2.4Ghz and then for 5Ghz bands.

1. Establish the LAN connection, create 32 stations and allow the 32 stations to associate with the DUT.
2. Measure the downlink UDP packet loss, using a test time of 120 seconds and a traffic rate of 2 Mbps for 802.11n or 8 Mbps for 802.11ac, through each STA concurrently. Record the number of packets transmitted and received to calculate the packet error rate.
3. Do same test in the upload direction.

Pass/Fail Criteria

1. For each of the test configuration, Packet Error Rate (PER) for each STA SHALL achieve less than 1%.
2. For 2.4Ghz, summed upload throughput shall be at least (64Mbps * 0.99)
3. For 2.4Ghz, summed download throughput shall be at least (64Mbps * 0.99)
4. For 5Ghz, summed upload throughput shall be at least (256Mbps * 0.99)
5. For 5Ghz, summed download throughput shall be at least (256Mbps * 0.99)

6.2.1 Maximum Connection Test (32-STA) Results

Type	Result	Notes
6.2.1 Assumptions	INFO	The spec is open to interpretation: Candela assumes stations can run at full available NSS and bandwidth.
Config/DUT Error	FAIL	ERROR: Station: 1.1.36 sta0622 did not connect within 240 seconds.
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0400--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 390.2M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0401--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 390.2M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0402--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 520M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0403--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 520M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0404--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 520M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0405--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 390.2M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0406--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 520M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0407--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 520M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0408--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 520M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0409--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 390.2M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0410--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 520M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0411--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 390.2M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0412--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 520M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0413--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 390.2M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0414--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 520M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0415--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 520M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0416--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 520M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0417--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 390.2M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0418--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 520M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0419--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 520M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0420--1.0.0	PASS	Download-PER: 0 STA-RSSI: -38 Rx-Rate: 1.733G Tx-Rate: 520M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0421--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 520M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0422--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 520M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0423--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 520M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0424--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 390.2M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0425--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 390.2M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0426--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 520M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0427--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 390.2M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0428--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 390.2M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0429--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 520M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0430--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 390.2M
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0431--1.0.0	PASS	Download-PER: 0 STA-RSSI: -43 Rx-Rate: 1.733G Tx-Rate: 520M
5Ghz Download Connections Passing Drop% Test	INFO	Passed 32 / 32 connections.
5Ghz Download Throughput	PASS	Sum-total Download reported rate: 264.50 Mbps must be at least 253.44Mbps
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0400--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0401--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0402--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0403--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0404--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0405--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0406--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0407--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0408--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G

6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0409--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0410--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0411--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0412--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0413--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0414--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0415--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0416--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0417--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0418--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0419--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0420--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0421--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0422--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0423--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0424--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -30 Rx-Rate: 1.733G Tx-Rate: 1.733G
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0425--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0426--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0427--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0428--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0429--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0430--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G
6.2.1.5.A 5Ghz cv_udp-1.1-1.sta0431--1.0.0	PASS	Upload-PER: 0 STA-RSSI: -29 Rx-Rate: 1.733G Tx-Rate: 1.733G
5Ghz Upload Connections Passing Drop% Test	INFO	Passed 32 / 32 connections.
5Ghz Upload Throughput	PASS	Sum-total Upload reported rate: 264.48 Mbps must be at least 253.44Mbps

Max-Cx-Test: Snapshot 5Ghz Download

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.14 sta0400	66 bps	21 bps	8.495 Mbps	5.629 Mbps	0	390.2 Mbps	1.733 Gbps	802.11an-AC	157	34	-43	DC:EF:09:E3:B8:7D	192.168.1.218	04:f0:21:38:ab:f0
1.1.48 sta0401	65 bps	27 bps	8.5 Mbps	5.553 Mbps	0	390.2 Mbps	1.733 Gbps	802.11an-AC	157	34	-43	DC:EF:09:E3:B8:7D	192.168.1.5	04:f0:21:38:ba:f0
1.1.77 sta0402	66 bps	27 bps	8.486 Mbps	5.547 Mbps	0	520 Mbps	1.733 Gbps	802.11an-AC	157	33	-43	DC:EF:09:E3:B8:7D	192.168.1.42	04:f0:21:38:b9:f0
1.1.78 sta0403	162 bps	27 bps	8.499 Mbps	5.534 Mbps	0	520 Mbps	1.733 Gbps	802.11an-AC	157	32	-43	DC:EF:09:E3:B8:7D	192.168.1.122	04:f0:21:38:92:f0
1.1.79 sta0404	66 bps	28 bps	8.499 Mbps	5.535 Mbps	0	520 Mbps	1.733 Gbps	802.11an-AC	157	38	-43	DC:EF:09:E3:B8:7D	192.168.1.206	04:f0:21:38:8a:f0
1.1.80 sta0405	67 bps	26 bps	8.508 Mbps	5.489 Mbps	0	390.2 Mbps	1.733 Gbps	802.11an-AC	157	34	-43	DC:EF:09:E3:B8:7D	192.168.1.179	04:f0:21:38:9b:f0
1.1.81 sta0406	162 bps	34 bps	8.499 Mbps	5.513 Mbps	0	520 Mbps	1.733 Gbps	802.11an-AC	157	35	-43	DC:EF:09:E3:B8:7D	192.168.1.235	04:f0:21:38:9f:f0
1.1.82 sta0407	67 bps	26 bps	8.508 Mbps	5.479 Mbps	0	520 Mbps	1.733 Gbps	802.11an-AC	157	36	-43	DC:EF:09:E3:B8:7D	192.168.1.236	04:f0:21:38:97:f0
1.1.83 sta0408	66 bps	28 bps	8.499 Mbps	5.496 Mbps	0	520 Mbps	1.733 Gbps	802.11an-AC	157	32	-43	DC:EF:09:E3:B8:7D	192.168.1.202	04:f0:21:38:8f:f0
1.1.84 sta0409	165 bps	32 bps	8.496 Mbps	5.477 Mbps	0	520 Mbps	1.733 Gbps	802.11an-AC	157	57	-42	DC:EF:09:E3:B8:7D	192.168.1.37	04:f0:21:38:a8:f0
1.1.85 sta0410	66 bps	28 bps	8.501 Mbps	5.472 Mbps	0	520 Mbps	1.733 Gbps	802.11an-AC	157	270	-43	DC:EF:09:E3:B8:7D	192.168.1.210	04:f0:21:38:89:f0
1.1.86 sta0411	66 bps	28 bps	8.501 Mbps	5.465 Mbps	0	390.2 Mbps	1.733 Gbps	802.11an-AC	157	35	-43	DC:EF:09:E3:B8:7D	192.168.1.207	04:f0:21:38:81:f0
1.1.87 sta0412	67 bps	32 bps	8.522 Mbps	5.466 Mbps	0	520 Mbps	1.733 Gbps	802.11an-AC	157	36	-43	DC:EF:09:E3:B8:7D	192.168.1.205	04:f0:21:38:86:f0
1.1.88 sta0413	165 bps	32 bps	8.506 Mbps	5.466 Mbps	0	520 Mbps	1.733 Gbps	802.11an-AC	157	38	-43	DC:EF:09:E3:B8:7D	192.168.1.190	04:f0:21:38:95:f0
1.1.89 sta0414	67 bps	32 bps	8.508 Mbps	5.454 Mbps	0	520 Mbps	1.733 Gbps	802.11an-AC	157	44	-43	DC:EF:09:E3:B8:7D	192.168.1.6	04:f0:21:38:8e:f0
1.1.90 sta0415	67 bps	32 bps	8.504 Mbps	5.446 Mbps	0	520 Mbps	1.733 Gbps	802.11an-AC	157	37	-43	DC:EF:09:E3:B8:7D	192.168.1.189	04:f0:21:38:b8:f0
1.1.91 sta0416	67 bps	26 bps	8.503 Mbps	5.444 Mbps	0	520 Mbps	1.733 Gbps	802.11an-AC	157	34	-43	DC:EF:09:E3:B8:7D	192.168.1.135	04:f0:21:38:b2:f0
1.1.92 sta0417	67 bps	26 bps	8.504 Mbps	5.443 Mbps	0	390.2 Mbps	1.733 Gbps	802.11an-AC	157	34	-43	DC:EF:09:E3:B8:7D	192.168.1.121	04:f0:21:38:9c:f0
1.1.93 sta0418	67 bps	21 bps	8.498 Mbps	5.546 Mbps	0	520 Mbps	1.733 Gbps	802.11an-AC	157	34	-43	DC:EF:09:E3:B8:7D	192.168.1.140	04:f0:21:38:ac:f0
1.1.94 sta0419	67 bps	28 bps	8.498 Mbps	5.546 Mbps	0	520 Mbps	1.733 Gbps	802.11an-AC	157	34	-43	DC:EF:09:E3:B8:7D	192.168.1.166	04:f0:21:38:87:f0
1.1.95 sta0420	67 bps	28 bps	8.496 Mbps	5.499 Mbps	0	520 Mbps	1.733 Gbps	802.11an-AC	157	228	-38	DC:EF:09:E3:B8:7D	192.168.1.23	04:f0:21:38:b7:f0
1.1.96 sta0421	67 bps	35 bps	8.504 Mbps	5.496 Mbps	0	520 Mbps	1.733 Gbps	802.11an-AC	157	33	-43	DC:EF:09:E3:B8:7D	192.168.1.120	04:f0:21:38:b3:f0
1.1.97 sta0422	67 bps	33 bps	8.506 Mbps	5.365 Mbps	0	520 Mbps	1.733 Gbps	802.11an-AC	157	34	-43	DC:EF:09:E3:B8:7D	192.168.1.161	04:f0:21:38:a6:f0
1.1.98 sta0423	66 bps	61 bps	8.492 Mbps	5.123 Mbps	0	520 Mbps	1.733 Gbps	802.11an-AC	157	33	-43	DC:EF:09:E3:B8:7D	192.168.1.191	04:f0:21:38:90:f0
1.1.99 sta0424	67 bps	61 bps	8.493 Mbps	5.124 Mbps	0	390.2 Mbps	1.733 Gbps	802.11an-AC	157	34	-43	DC:EF:09:E3:B8:7D	192.168.1.163	04:f0:21:38:ae:f0
1.1.100 sta0425	66 bps	39 bps	8.499 Mbps	5.379 Mbps	0	390.2 Mbps	1.733 Gbps	802.11an-AC	157	54	-43	DC:EF:09:E3:B8:7D	192.168.1.132	04:f0:21:38:a2:f0

1.1.101 sta0426	67 bps	61 bps	8.503 Mbps	5.11 Mbps	0	520 Mbps	1.733 Gbps	802.11an- AC	157	34	-43	DC:EF:09:E3:B8:7D	192.168.1.198	04:f0:21:38:a7:f0
1.1.102 sta0427	67 bps	266 bps	8.503 Mbps	5.166 Mbps	0	390.2 Mbps	1.733 Gbps	802.11an- AC	157	36	-43	DC:EF:09:E3:B8:7D	192.168.1.118	04:f0:21:38:8d:f0
1.1.103 sta0428	67 bps	33 bps	8.494 Mbps	5.367 Mbps	0	390.2 Mbps	1.733 Gbps	802.11an- AC	157	56	-43	DC:EF:09:E3:B8:7D	192.168.1.119	04:f0:21:38:83:f0
1.1.104 sta0429	67 bps	61 bps	8.495 Mbps	5.083 Mbps	0	520 Mbps	1.733 Gbps	802.11an- AC	157	34	-43	DC:EF:09:E3:B8:7D	192.168.1.213	04:f0:21:38:a0:f0
1.1.105 sta0430	164 bps	68 bps	8.495 Mbps	5.078 Mbps	0	390.2 Mbps	1.733 Gbps	802.11an- AC	157	35	-43	DC:EF:09:E3:B8:7D	192.168.1.180	04:f0:21:38:a1:f0
1.1.15 sta0431	67 bps	26 bps	8.503 Mbps	5.095 Mbps	0	520 Mbps	1.733 Gbps	802.11an- AC	157	39	-43	DC:EF:09:E3:B8:7D	192.168.1.232	04:f0:21:38:bc:f0

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	272.326 Mbps	240.013 Mbps	1.592 Kbps	937 bps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_udp-1.1-1.sta0400--1.0.0-A	0 bps	0 bps	8.259 Mbps	8.267 Mbps	6	6	2	0
cv_udp-1.1-1.sta0400--1.0.0-B	8.27 Mbps	8.267 Mbps	0 bps	0 bps	0	6	0	0
cv_udp-1.1-1.sta0401--1.0.0-A	0 bps	0 bps	8.263 Mbps	8.266 Mbps	6	6	2	0
cv_udp-1.1-1.sta0401--1.0.0-B	8.27 Mbps	8.267 Mbps	0 bps	0 bps	0	6	0	0
cv_udp-1.1-1.sta0402--1.0.0-A	0 bps	0 bps	8.276 Mbps	8.267 Mbps	6	6	2	0
cv_udp-1.1-1.sta0402--1.0.0-B	8.27 Mbps	8.267 Mbps	0 bps	0 bps	0	6	0	0
cv_udp-1.1-1.sta0403--1.0.0-A	0 bps	0 bps	8.273 Mbps	8.266 Mbps	6	6	2	0
cv_udp-1.1-1.sta0403--1.0.0-B	8.268 Mbps	8.267 Mbps	0 bps	0 bps	0	6	0	0
cv_udp-1.1-1.sta0404--1.0.0-A	0 bps	0 bps	8.266 Mbps	8.267 Mbps	6	6	2	0
cv_udp-1.1-1.sta0404--1.0.0-B	8.273 Mbps	8.267 Mbps	0 bps	0 bps	0	6	0	0
cv_udp-1.1-1.sta0405--1.0.0-A	0 bps	0 bps	8.29 Mbps	8.267 Mbps	6	6	2	0
cv_udp-1.1-1.sta0405--1.0.0-B	8.273 Mbps	8.267 Mbps	0 bps	0 bps	0	6	0	0
cv_udp-1.1-1.sta0406--1.0.0-A	0 bps	0 bps	8.26 Mbps	8.265 Mbps	6	6	2	0
cv_udp-1.1-1.sta0406--1.0.0-B	8.272 Mbps	8.267 Mbps	0 bps	0 bps	0	6	0	0
cv_udp-1.1-1.sta0407--1.0.0-A	0 bps	0 bps	8.262 Mbps	8.266 Mbps	6	6	2	0
cv_udp-1.1-1.sta0407--1.0.0-B	8.269 Mbps	8.266 Mbps	0 bps	0 bps	0	6	0	0
cv_udp-1.1-1.sta0408--1.0.0-A	0 bps	0 bps	8.287 Mbps	8.268 Mbps	6	6	2	0
cv_udp-1.1-1.sta0408--1.0.0-B	8.272 Mbps	8.267 Mbps	0 bps	0 bps	0	6	0	0
cv_udp-1.1-1.sta0409--1.0.0-A	0 bps	0 bps	8.283 Mbps	8.266 Mbps	6	6	2	0
cv_udp-1.1-1.sta0409--1.0.0-B	8.272 Mbps	8.267 Mbps	0 bps	0 bps	0	6	0	0
cv_udp-1.1-1.sta0410--1.0.0-A	0 bps	0 bps	8.283 Mbps	8.268 Mbps	6	6	2	0
cv_udp-1.1-1.sta0410--1.0.0-B	8.272 Mbps	8.267 Mbps	0 bps	0 bps	0	6	0	0
cv_udp-1.1-1.sta0411--1.0.0-A	0 bps	0 bps	8.244 Mbps	8.265 Mbps	7	7	2	0
cv_udp-1.1-1.sta0411--1.0.0-B	8.272 Mbps	8.266 Mbps	0 bps	0 bps	0	7	0	0
cv_udp-1.1-1.sta0412--1.0.0-A	0 bps	0 bps	8.253 Mbps	8.265 Mbps	6	6	2	0
cv_udp-1.1-1.sta0412--1.0.0-B	8.269 Mbps	8.266 Mbps	0 bps	0 bps	0	6	0	0
cv_udp-1.1-1.sta0413--1.0.0-A	0 bps	0 bps	8.27 Mbps	8.267 Mbps	6	6	2	0
cv_udp-1.1-1.sta0413--1.0.0-B	8.269 Mbps	8.266 Mbps	0 bps	0 bps	0	6	0	0
cv_udp-1.1-1.sta0414--1.0.0-A	0 bps	0 bps	8.27 Mbps	8.267 Mbps	7	7	2	0
cv_udp-1.1-1.sta0414--1.0.0-B	8.269 Mbps	8.266 Mbps	0 bps	0 bps	0	7	0	0
cv_udp-1.1-1.sta0415--1.0.0-A	0 bps	0 bps	8.251 Mbps	8.266 Mbps	7	7	2	0
cv_udp-1.1-1.sta0415--1.0.0-B	8.269 Mbps	8.266 Mbps	0 bps	0 bps	0	7	0	0
cv_udp-1.1-1.sta0416--1.0.0-A	0 bps	0 bps	8.283 Mbps	8.266 Mbps	7	7	2	0
cv_udp-1.1-1.sta0416--1.0.0-B	8.269 Mbps	8.266 Mbps	0 bps	0 bps	0	7	0	0
cv_udp-1.1-1.sta0417--1.0.0-A	0 bps	0 bps	8.265 Mbps	8.266 Mbps	7	7	2	0
cv_udp-1.1-1.sta0417--1.0.0-B	8.269 Mbps	8.266 Mbps	0 bps	0 bps	0	7	0	0
cv_udp-1.1-1.sta0418--1.0.0-A	0 bps	0 bps	8.26 Mbps	8.267 Mbps	7	7	2	0
cv_udp-1.1-1.sta0418--1.0.0-B	8.274 Mbps	8.267 Mbps	0 bps	0 bps	0	7	0	0
cv_udp-1.1-1.sta0419--1.0.0-A	0 bps	0 bps	8.266 Mbps	8.267 Mbps	7	7	2	0
cv_udp-1.1-1.sta0419--1.0.0-B	8.274 Mbps	8.267 Mbps	0 bps	0 bps	0	7	0	0
cv_udp-1.1-1.sta0420--1.0.0-A	0 bps	0 bps	8.297 Mbps	8.267 Mbps	7	7	2	0
cv_udp-1.1-1.sta0420--1.0.0-B	8.271 Mbps	8.266 Mbps	0 bps	0 bps	0	7	0	0
cv_udp-1.1-1.sta0421--1.0.0-A	0 bps	0 bps	8.263 Mbps	8.267 Mbps	7	7	2	0
cv_udp-1.1-1.sta0421--1.0.0-B	8.271 Mbps	8.266 Mbps	0 bps	0 bps	0	7	0	0
cv_udp-1.1-1.sta0422--1.0.0-A	0 bps	0 bps	8.265 Mbps	8.266 Mbps	6	6	2	0
cv_udp-1.1-1.sta0422--1.0.0-B	8.271 Mbps	8.266 Mbps	0 bps	0 bps	0	6	0	0
cv_udp-1.1-1.sta0423--1.0.0-A	0 bps	0 bps	8.264 Mbps	8.267 Mbps	7	7	2	0
cv_udp-1.1-1.sta0423--1.0.0-B	8.271 Mbps	8.267 Mbps	0 bps	0 bps	0	7	0	0
cv_udp-1.1-1.sta0424--1.0.0-A	0 bps	0 bps	8.281 Mbps	8.267 Mbps	7	7	2	0
cv_udp-1.1-1.sta0424--1.0.0-B	8.271 Mbps	8.267 Mbps	0 bps	0 bps	0	7	0	0
cv_udp-1.1-1.sta0425--1.0.0-A	0 bps	0 bps	8.27 Mbps	8.267 Mbps	7	7	2	0
cv_udp-1.1-1.sta0425--1.0.0-B	8.268 Mbps	8.266 Mbps	0 bps	0 bps	0	7	0	0
cv_udp-1.1-1.sta0426--1.0.0-A	0 bps	0 bps	8.269 Mbps	8.267 Mbps	7	7	2	0
cv_udp-1.1-1.sta0426--1.0.0-B	8.269 Mbps	8.267 Mbps	0 bps	0 bps	0	7	0	0
cv_udp-1.1-1.sta0427--1.0.0-A	0 bps	0 bps	8.268 Mbps	8.267 Mbps	7	7	2	0
cv_udp-1.1-1.sta0427--1.0.0-B	8.268 Mbps	8.266 Mbps	0 bps	0 bps	0	7	0	0
cv_udp-1.1-1.sta0428--1.0.0-A	0 bps	0 bps	8.286 Mbps	8.267 Mbps	6	6	2	0
cv_udp-1.1-1.sta0428--1.0.0-B	8.274 Mbps	8.266 Mbps	0 bps	0 bps	0	6	0	0
cv_udp-1.1-1.sta0429--1.0.0-A	0 bps	0 bps	8.262 Mbps	8.266 Mbps	7	7	2	0
cv_udp-1.1-1.sta0429--1.0.0-B	8.274 Mbps	8.266 Mbps	0 bps	0 bps	0	7	0	0
cv_udp-1.1-1.sta0430--1.0.0-A	0 bps	0 bps	8.278 Mbps	8.267 Mbps	7	7	2	0
cv_udp-1.1-1.sta0430--1.0.0-B	8.274 Mbps	8.266 Mbps	0 bps	0 bps	0	7	0	0
cv_udp-1.1-1.sta0431--1.0.0-A	0 bps	0 bps	8.261 Mbps	8.266 Mbps	7	7	2	0
cv_udp-1.1-1.sta0431--1.0.0-B	8.269 Mbps	8.266 Mbps	0 bps	0 bps	0	7	0	0

Max-Cx-Test: Snapshot 5Ghz Upload

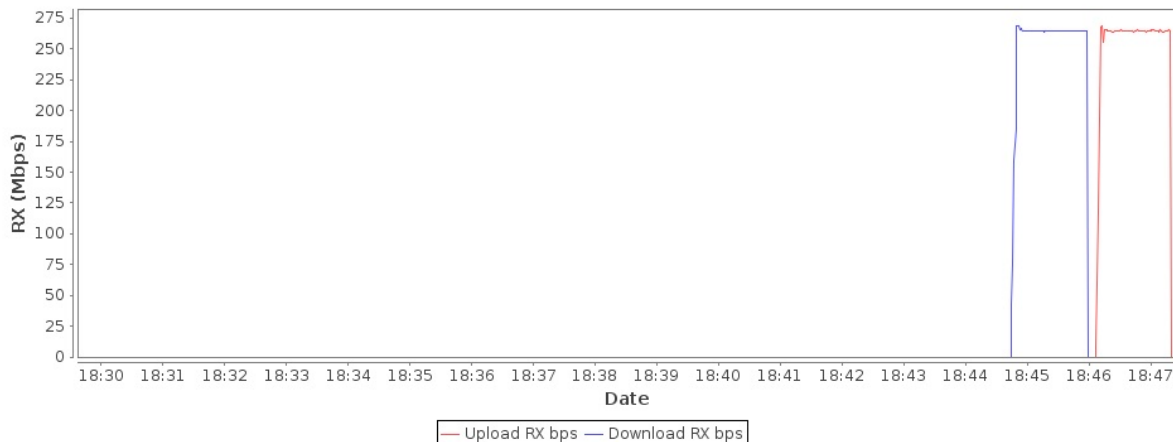
Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.14 sta0400	8.617 Mbps	4.996 Mbps	64 bps	3.083 Mbps	0.035	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	34	-29	DC:EF:09:E3:B8:7D	192.168.1.218	04:f0:21:38:ab:f0
1.1.48 sta0401	8.616 Mbps	4.97 Mbps	65 bps	3.106 Mbps	0.057	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	34	-29	DC:EF:09:E3:B8:7D	192.168.1.5	04:f0:21:38:ba:f0
1.1.77 sta0402	8.616 Mbps	4.957 Mbps	0 bps	3.106 Mbps	0.041	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	33	-29	DC:EF:09:E3:B8:7D	192.168.1.42	04:f0:21:38:b9:f0
1.1.78 sta0403	8.616 Mbps	4.944 Mbps	65 bps	3.106 Mbps	0.035	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	32	-29	DC:EF:09:E3:B8:7D	192.168.1.122	04:f0:21:38:92:f0
1.1.79 sta0404	8.616 Mbps	4.926 Mbps	0 bps	3.106 Mbps	0.043	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	38	-29	DC:EF:09:E3:B8:7D	192.168.1.206	04:f0:21:38:8a:f0
1.1.80 sta0405	8.575 Mbps	4.837 Mbps	0 bps	3.198 Mbps	0.046	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	34	-29	DC:EF:09:E3:B8:7D	192.168.1.179	04:f0:21:38:9b:f0
1.1.81 sta0406	8.616 Mbps	4.895 Mbps	0 bps	3.106 Mbps	0.039	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	35	-29	DC:EF:09:E3:B8:7D	192.168.1.235	04:f0:21:38:9f:f0
1.1.82 sta0407	8.616 Mbps	4.813 Mbps	65 bps	3.198 Mbps	0.022	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	36	-29	DC:EF:09:E3:B8:7D	192.168.1.236	04:f0:21:38:97:f0
1.1.83 sta0408	8.615 Mbps	4.858 Mbps	64 bps	3.103 Mbps	0.046	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	32	-29	DC:EF:09:E3:B8:7D	192.168.1.202	04:f0:21:38:8f:f0
1.1.84 sta0409	8.616 Mbps	4.805 Mbps	63 bps	3.173 Mbps	0.04	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	57	-29	DC:EF:09:E3:B8:7D	192.168.1.37	04:f0:21:38:a8:f0
1.1.85 sta0410	8.615 Mbps	4.84 Mbps	0 bps	3.103 Mbps	0.056	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	270	-29	DC:EF:09:E3:B8:7D	192.168.1.210	04:f0:21:38:89:f0
1.1.86 sta0411	8.615 Mbps	4.829 Mbps	0 bps	3.099 Mbps	0.05	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	35	-29	DC:EF:09:E3:B8:7D	192.168.1.207	04:f0:21:38:81:f0
1.1.87 sta0412	8.616 Mbps	4.781 Mbps	0 bps	3.162 Mbps	0.031	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	36	-29	DC:EF:09:E3:B8:7D	192.168.1.205	04:f0:21:38:86:f0
1.1.88 sta0413	8.615 Mbps	4.769 Mbps	0 bps	3.162 Mbps	0.041	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	38	-29	DC:EF:09:E3:B8:7D	192.168.1.190	04:f0:21:38:95:f0
1.1.89 sta0414	8.615 Mbps	4.763 Mbps	0 bps	3.162 Mbps	0.031	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	44	-29	DC:EF:09:E3:B8:7D	192.168.1.6	04:f0:21:38:8e:f0
1.1.90 sta0415	8.615 Mbps	4.754 Mbps	0 bps	3.162 Mbps	0.043	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	37	-29	DC:EF:09:E3:B8:7D	192.168.1.189	04:f0:21:38:b8:f0
1.1.91 sta0416	8.615 Mbps	4.748 Mbps	0 bps	3.162 Mbps	0.029	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	34	-29	DC:EF:09:E3:B8:7D	192.168.1.135	04:f0:21:38:b2:f0
1.1.92 sta0417	8.592 Mbps	4.741 Mbps	0 bps	3.162 Mbps	0.037	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	34	-29	DC:EF:09:E3:B8:7D	192.168.1.121	04:f0:21:38:9c:f0
1.1.93 sta0418	8.616 Mbps	4.827 Mbps	0 bps	3.03 Mbps	0.038	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	34	-29	DC:EF:09:E3:B8:7D	192.168.1.140	04:f0:21:38:ac:f0
1.1.94 sta0419	8.616 Mbps	4.828 Mbps	0 bps	3.022 Mbps	0.038	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	34	-29	DC:EF:09:E3:B8:7D	192.168.1.166	04:f0:21:38:87:f0
1.1.95 sta0420	8.616 Mbps	4.847 Mbps	0 bps	2.993 Mbps	0.043	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	228	-29	DC:EF:09:E3:B8:7D	192.168.1.23	04:f0:21:38:b7:f0
1.1.96 sta0421	8.616 Mbps	4.888 Mbps	0 bps	2.955 Mbps	0.044	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	33	-29	DC:EF:09:E3:B8:7D	192.168.1.120	04:f0:21:38:b3:f0
1.1.97 sta0422	8.615 Mbps	4.712 Mbps	64 bps	3.149 Mbps	0.041	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	34	-29	DC:EF:09:E3:B8:7D	192.168.1.161	04:f0:21:38:a6:f0
1.1.98 sta0423	8.616 Mbps	8.614 Mbps	0 bps	17 bps	0.04	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	33	-29	DC:EF:09:E3:B8:7D	192.168.1.191	04:f0:21:38:90:f0
1.1.99 sta0424	8.617 Mbps	8.62 Mbps	64 bps	30 bps	0.031	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	34	-30	DC:EF:09:E3:B8:7D	192.168.1.163	04:f0:21:38:ae:f0
1.1.100 sta0425	8.594 Mbps	4.718 Mbps	0 bps	3.12 Mbps	0.037	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	54	-29	DC:EF:09:E3:B8:7D	192.168.1.132	04:f0:21:38:a2:f0
1.1.101 sta0426	8.617 Mbps	4.574 Mbps	0 bps	3.262 Mbps	0.038	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	34	-29	DC:EF:09:E3:B8:7D	192.168.1.198	04:f0:21:38:a7:f0
1.1.102 sta0427	8.615 Mbps	8.618 Mbps	0 bps	22 bps	0.052	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	36	-29	DC:EF:09:E3:B8:7D	192.168.1.118	04:f0:21:38:8d:f0
1.1.103 sta0428	8.616 Mbps	4.741 Mbps	64 bps	3.079 Mbps	0.043	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	56	-29	DC:EF:09:E3:B8:7D	192.168.1.119	04:f0:21:38:83:f0
1.1.104 sta0429	8.616 Mbps	4.555 Mbps	0 bps	3.263 Mbps	0.04	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	34	-29	DC:EF:09:E3:B8:7D	192.168.1.213	04:f0:21:38:a0:f0
1.1.105 sta0430	8.614 Mbps	8.614 Mbps	0 bps	17 bps	0.046	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	35	-29	DC:EF:09:E3:B8:7D	192.168.1.180	04:f0:21:38:a1:f0
1.1.15 sta0431	8.615 Mbps	4.536 Mbps	0 bps	3.268 Mbps	0.038	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	39	-29	DC:EF:09:E3:B8:7D	192.168.1.232	04:f0:21:38:bc:f0

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	242 bps	59.876 Mbps	272.259 Mbps	187.24 Mbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_udp-1.1-1.sta0400--1.0.0-A	8.269 Mbps	8.266 Mbps	0 bps	0 bps	0	18	0	0
cv_udp-1.1-1.sta0400--1.0.0-B	0 bps	0 bps	8.217 Mbps	8.264 Mbps	18	18	1	0
cv_udp-1.1-1.sta0401--1.0.0-A	8.269 Mbps	8.267 Mbps	0 bps	0 bps	0	18	0	0
cv_udp-1.1-1.sta0401--1.0.0-B	0 bps	0 bps	8.217 Mbps	8.264 Mbps	18	18	1	0.013
cv_udp-1.1-1.sta0402--1.0.0-A	8.269 Mbps	8.266 Mbps	0 bps	0 bps	0	18	0	0
cv_udp-1.1-1.sta0402--1.0.0-B	0 bps	0 bps	8.217 Mbps	8.264 Mbps	18	18	1	0
cv_udp-1.1-1.sta0403--1.0.0-A	8.269 Mbps	8.267 Mbps	0 bps	0 bps	0	18	0	0
cv_udp-1.1-1.sta0403--1.0.0-B	0 bps	0 bps	8.217 Mbps	8.264 Mbps	18	18	1	0
cv_udp-1.1-1.sta0404--1.0.0-A	8.271 Mbps	8.266 Mbps	0 bps	0 bps	0	18	0	0

cv_udp-1.1-1.sta0404--1.0.0-B	0 bps	8.214 Mbps	8.263 Mbps	18	18	1	0
cv_udp-1.1-1.sta0405--1.0.0-A	8.274 Mbps	8.262 Mbps	0 bps	0 bps	0	18	0 0
cv_udp-1.1-1.sta0405--1.0.0-B	0 bps	0 bps	8.214 Mbps	8.259 Mbps	18	18	1 0
cv_udp-1.1-1.sta0406--1.0.0-A	8.27 Mbps	8.267 Mbps	0 bps	0 bps	0	18	0 0
cv_udp-1.1-1.sta0406--1.0.0-B	0 bps	0 bps	8.217 Mbps	8.264 Mbps	18	18	1 0
cv_udp-1.1-1.sta0407--1.0.0-A	8.269 Mbps	8.264 Mbps	0 bps	0 bps	0	18	0 0
cv_udp-1.1-1.sta0407--1.0.0-B	0 bps	0 bps	8.328 Mbps	8.266 Mbps	18	18	1 0
cv_udp-1.1-1.sta0408--1.0.0-A	8.269 Mbps	8.267 Mbps	0 bps	0 bps	0	18	0 0
cv_udp-1.1-1.sta0408--1.0.0-B	0 bps	0 bps	8.269 Mbps	8.268 Mbps	18	18	1 0
cv_udp-1.1-1.sta0409--1.0.0-A	8.269 Mbps	8.266 Mbps	0 bps	0 bps	0	18	0 0
cv_udp-1.1-1.sta0409--1.0.0-B	0 bps	0 bps	8.307 Mbps	8.267 Mbps	18	18	1 0
cv_udp-1.1-1.sta0410--1.0.0-A	8.269 Mbps	8.266 Mbps	0 bps	0 bps	0	18	0 0
cv_udp-1.1-1.sta0410--1.0.0-B	0 bps	0 bps	8.269 Mbps	8.268 Mbps	18	18	1 0.017
cv_udp-1.1-1.sta0411--1.0.0-A	8.271 Mbps	8.266 Mbps	0 bps	0 bps	0	18	0 0
cv_udp-1.1-1.sta0411--1.0.0-B	0 bps	0 bps	8.313 Mbps	8.267 Mbps	18	18	1 0
cv_udp-1.1-1.sta0412--1.0.0-A	8.27 Mbps	8.263 Mbps	0 bps	0 bps	0	18	0 0
cv_udp-1.1-1.sta0412--1.0.0-B	0 bps	0 bps	8.321 Mbps	8.264 Mbps	18	18	1 0
cv_udp-1.1-1.sta0413--1.0.0-A	8.269 Mbps	8.266 Mbps	0 bps	0 bps	0	18	0 0
cv_udp-1.1-1.sta0413--1.0.0-B	0 bps	0 bps	8.313 Mbps	8.267 Mbps	18	18	1 0
cv_udp-1.1-1.sta0414--1.0.0-A	8.273 Mbps	8.266 Mbps	0 bps	0 bps	0	18	0 0
cv_udp-1.1-1.sta0414--1.0.0-B	0 bps	0 bps	8.317 Mbps	8.268 Mbps	18	18	1 0.004
cv_udp-1.1-1.sta0415--1.0.0-A	8.269 Mbps	8.263 Mbps	0 bps	0 bps	0	18	0 0
cv_udp-1.1-1.sta0415--1.0.0-B	0 bps	0 bps	8.317 Mbps	8.264 Mbps	18	18	1 0.002
cv_udp-1.1-1.sta0416--1.0.0-A	8.273 Mbps	8.264 Mbps	0 bps	0 bps	0	18	0 0
cv_udp-1.1-1.sta0416--1.0.0-B	0 bps	0 bps	8.227 Mbps	8.262 Mbps	18	18	1 0
cv_udp-1.1-1.sta0417--1.0.0-A	8.27 Mbps	8.263 Mbps	0 bps	0 bps	0	18	0 0
cv_udp-1.1-1.sta0417--1.0.0-B	0 bps	0 bps	8.223 Mbps	8.262 Mbps	18	18	1 0
cv_udp-1.1-1.sta0418--1.0.0-A	8.27 Mbps	8.266 Mbps	0 bps	0 bps	0	18	0 0
cv_udp-1.1-1.sta0418--1.0.0-B	0 bps	0 bps	8.223 Mbps	8.264 Mbps	18	18	1 0
cv_udp-1.1-1.sta0419--1.0.0-A	8.273 Mbps	8.266 Mbps	0 bps	0 bps	0	18	0 0
cv_udp-1.1-1.sta0419--1.0.0-B	0 bps	0 bps	8.322 Mbps	8.264 Mbps	18	18	1 0
cv_udp-1.1-1.sta0420--1.0.0-A	8.269 Mbps	8.266 Mbps	0 bps	0 bps	0	18	0 0
cv_udp-1.1-1.sta0420--1.0.0-B	0 bps	0 bps	8.223 Mbps	8.264 Mbps	18	18	1 0
cv_udp-1.1-1.sta0421--1.0.0-A	8.27 Mbps	8.266 Mbps	0 bps	0 bps	0	19	0 0
cv_udp-1.1-1.sta0421--1.0.0-B	0 bps	0 bps	8.219 Mbps	8.264 Mbps	19	19	1 0
cv_udp-1.1-1.sta0422--1.0.0-A	8.266 Mbps	8.266 Mbps	0 bps	0 bps	0	18	0 0
cv_udp-1.1-1.sta0422--1.0.0-B	0 bps	0 bps	8.259 Mbps	8.265 Mbps	18	18	1 0
cv_udp-1.1-1.sta0423--1.0.0-A	8.271 Mbps	8.266 Mbps	0 bps	0 bps	0	18	0 0
cv_udp-1.1-1.sta0423--1.0.0-B	0 bps	0 bps	8.246 Mbps	8.262 Mbps	18	18	1 0
cv_udp-1.1-1.sta0424--1.0.0-A	8.271 Mbps	8.264 Mbps	0 bps	0 bps	0	18	0 0
cv_udp-1.1-1.sta0424--1.0.0-B	0 bps	0 bps	8.246 Mbps	8.265 Mbps	18	18	1 0
cv_udp-1.1-1.sta0425--1.0.0-A	8.217 Mbps	8.263 Mbps	0 bps	0 bps	0	18	0 0
cv_udp-1.1-1.sta0425--1.0.0-B	0 bps	0 bps	8.19 Mbps	8.264 Mbps	18	18	1 0
cv_udp-1.1-1.sta0426--1.0.0-A	8.272 Mbps	8.263 Mbps	0 bps	0 bps	0	18	0 0
cv_udp-1.1-1.sta0426--1.0.0-B	0 bps	0 bps	8.25 Mbps	8.264 Mbps	18	18	1 0
cv_udp-1.1-1.sta0427--1.0.0-A	8.269 Mbps	8.266 Mbps	0 bps	0 bps	0	18	0 0
cv_udp-1.1-1.sta0427--1.0.0-B	0 bps	0 bps	8.242 Mbps	8.267 Mbps	18	18	1 0
cv_udp-1.1-1.sta0428--1.0.0-A	8.271 Mbps	8.266 Mbps	0 bps	0 bps	0	18	0 0
cv_udp-1.1-1.sta0428--1.0.0-B	0 bps	0 bps	8.246 Mbps	8.267 Mbps	18	18	1 0
cv_udp-1.1-1.sta0429--1.0.0-A	8.273 Mbps	8.266 Mbps	0 bps	0 bps	0	18	0 0
cv_udp-1.1-1.sta0429--1.0.0-B	0 bps	0 bps	8.204 Mbps	8.266 Mbps	18	18	1 0.013
cv_udp-1.1-1.sta0430--1.0.0-A	8.268 Mbps	8.266 Mbps	0 bps	0 bps	0	18	0 0
cv_udp-1.1-1.sta0430--1.0.0-B	0 bps	0 bps	8.208 Mbps	8.266 Mbps	18	18	1 0.015
cv_udp-1.1-1.sta0431--1.0.0-A	8.269 Mbps	8.266 Mbps	0 bps	0 bps	0	18	0 0
cv_udp-1.1-1.sta0431--1.0.0-B	0 bps	0 bps	8.307 Mbps	8.266 Mbps	18	18	1 0

Realtime Throughput for: 6.2.1 Maximum Connection Test (32-STA)



6.2.2 Maximum TCP Throughput Test

Summary

The Maximum throughput test intends to measure the maximum throughput performance of the DUT with a single station active. The test uses TCP connections and the attenuation is adjusted to emulate a distance of 2 meters. The 2.4Ghz station is configured for 20Mhz bandwidth and the 5Ghz station is configured for 80Mhz bandwidth. In both cases the station is configured for a maximum of two spatial streams.

Test Procedure

These steps are done for 2.4Ghz and then for 5Ghz bands.

1. Establish the LAN connection, create 1 station and allow the station to associate with the DUT.
2. Measure the downlink TCP throughput, using a test time of 120 seconds.
3. Measure the uplink TCP throughput, using a test time of 120 seconds.

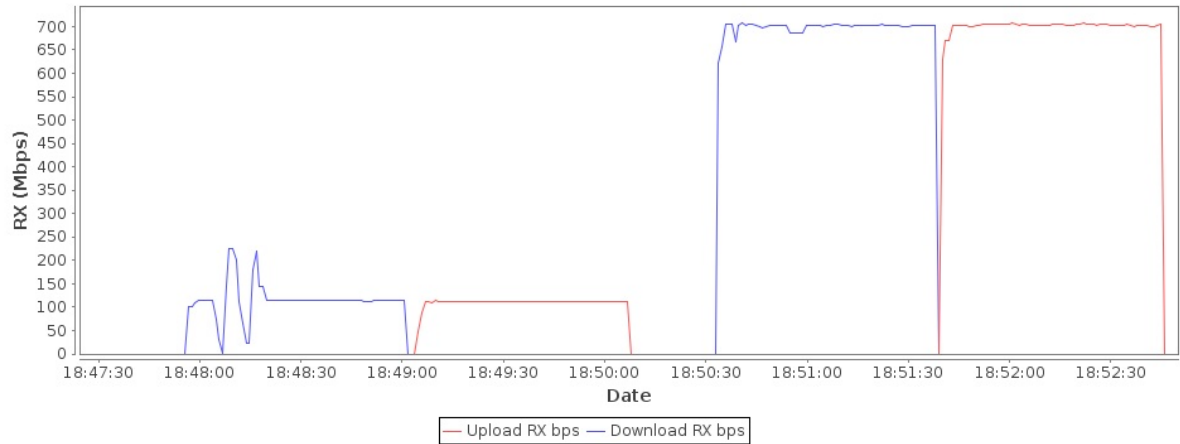
Pass/Fail Criteria

1. For each of the test configuration, Packet Error Rate (PER) for each STA SHALL achieve less than 1%.
2. For 2.4Ghz, upload rate must be at least 100Mbps
3. For 2.4Ghz, download rate must be at least 100Mbps
4. For 5Ghz, upload rate must be at least 560Mbps
5. For 5Ghz, download rate must be at least 560Mbps

6.2.2 Maximum TCP Throughput Test Results

Type	Result	Notes
Total 2.4Ghz download throughput	PASS	Sum-total download: 114.07 Mbps Requires: 100Mbps STA-RSSI: -30 Rx-Rate: 144.4M Tx-Rate: 144.4M
Total 2.4Ghz upload throughput	PASS	Sum-total upload: 112.18 Mbps Requires: 100Mbps STA-RSSI: -29 Rx-Rate: 144.4M Tx-Rate: 144.4M
Total 5Ghz download throughput	PASS	Sum-total download: 700.86 Mbps Requires: 560Mbps STA-RSSI: -46 Rx-Rate: 866.7M Tx-Rate: 866.7M
Total 5Ghz upload throughput	PASS	Sum-total upload: 703.27 Mbps Requires: 560Mbps STA-RSSI: -48 Rx-Rate: 866.7M Tx-Rate: 866.7M

Realtime Throughput for: 6.2.2 Maximum TCP Throughput Test



6.2.3 Airtime Fairness Test

Summary

Airtime Fairness Test intends to verify the capability of Wi-Fi device to ensure the fairness of airtime usage.

Test Procedure

1. Establish the setup using default configuration.
2. Associate STA1 and STA2 with DUT. Establish the LAN connection and wait for 10 seconds.
3. Measure the downlink TCP throughput to each STA1 and STA2, using a test time of 120 seconds. Record this as STA1 _throughput_1 and STA2 _throughput_1.
4. Move STA2 to a medium distance to the DUT (equivalent to 38 dB@2.4GHz and 32 dB @5GHz attenuation between DUT and STA2). Wait for 10 seconds.
5. Measure the downlink TCP throughput to STA 1 and STA2, using a test time of 120 seconds.

Record this as STA1_throughput_2 and STA2_throughput_2.

6. Disassociate STA2 with the DUT. Replace STA 2 by STA 3 and remove the attenuation. STA3 is configured to support only a 2.4 GHz connection. Establish the Wi-Fi connection between STA3 and DUT and wait for 10 seconds.
7. Measure the downlink TCP throughput to STA 1 and STA3, using a test time of 120 seconds. Record this as STA1_throughput_3 and STA3_throughput_3.
8. Replace STA 3 with a STA that uses only 802.11a. Set the DUT to operating frequency band of 5 GHz. Repeat Step 2 to 7.

Pass/Fail Criteria

1. For the test in 2.4 GHz frequency band:
 1. STA1_throughput_1 SHALL be within $(1 \pm 5\%) * \text{Mean}(\text{STA2_throughput_1}, \text{STA1_throughput_1})$.
 2. STA2_throughput_1 SHALL be within $(1 \pm 5\%) * \text{Mean}(\text{STA2_throughput_1}, \text{STA1_throughput_1})$.
 3. STA1_throughput_2 SHALL be within $(1 \pm 15\%) * \text{Mean}(\text{STA2_throughput_1}, \text{STA1_throughput_1})$.
 4. STA1_throughput_3 SHALL be within $(1 \pm 15\%) * \text{Mean}(\text{STA2_throughput_1}, \text{STA1_throughput_1})$.
2. For the test in 5 GHz frequency band:
 1. STA1_throughput_1 SHALL be within $(1 \pm 5\%) * \text{Mean}(\text{STA2_throughput_1}, \text{STA1_throughput_1})$.
 2. STA2_throughput_1 SHALL be within $(1 \pm 5\%) * \text{Mean}(\text{STA2_throughput_1}, \text{STA1_throughput_1})$.
 3. STA1_throughput_2 SHALL be within $(1 \pm 25\%) * \text{Mean}(\text{STA2_throughput_1}, \text{STA1_throughput_1})$.
 4. STA1_throughput_3 SHALL be within $(1 \pm 25\%) * \text{Mean}(\text{STA2_throughput_1}, \text{STA1_throughput_1})$.
3. For the test in 2.4 GHz frequency band:
 1. The summation of STA1_throughput_1 and STA2_throughput_1 SHALL be larger than 80 Mbps.
 2. The summation of STA1_throughput_2 and STA2_throughput_2 SHALL be larger than 54 Mbps.
 3. The summation of STA1_throughput_3 and STA3_throughput_3 SHALL be larger than 50 Mbps.
4. For the test in 5 GHz frequency band:
 1. The summation of STA1_throughput_1 and STA2_throughput_1 SHALL be larger than 475 Mbps.
 2. The summation of STA1_throughput_2 and STA2_throughput_2 SHALL be larger than 280 Mbps.
 3. The summation of STA1_throughput_3 and STA3_throughput_3 SHALL be larger than 230 Mbps.

6.2.3 Airtime Fairness Test Results

Type	Result	Notes
STA1-throughput-1 2.4Ghz	FAIL	2.4Ghz: STA1_throughput more than 5% above the of average of STA2 + STA1 for subtest 1 Avg: 76.05 Mbps Min: 72.25 Mbps Max: 79.85 Mbps STA1-Throughput: 109.38 Mbps STA2-Throughput: 42.73 Mbps
STA2-throughput-1 2.4Ghz	FAIL	2.4Ghz: STA2_throughput is more than 5% below the of average of STA2 + STA1 for subtest 1 Avg: 76.05 Mbps Min: 72.25 Mbps Max: 79.85 Mbps STA1-Throughput: 109.38 Mbps STA2-Throughput: 42.73 Mbps
STA1-throughput-2 2.4Ghz	FAIL	2.4Ghz: STA1_throughput-2 is more than +-15% above the of average of STA2 + STA1 for subtest 2 Avg: 76.05 Mbps Min: 64.64 Mbps Max: 87.46 Mbps STA1-Throughput-2: 108.88 Mbps
STA1-throughput-3 2.4Ghz	FAIL	2.4Ghz: STA1_throughput-3 is more than +-15% above the of the average of STA2 + STA1 for subtest 3 Avg: 76.05 Mbps Min: 64.64 Mbps Max: 87.46 Mbps STA1-Throughput-3: 170.81 Mbps
2.4Ghz STA1+2 Throughput Total	PASS	STA1: 109.38 Mbps STA2: 42.73 Mbps Sum: 152.10 Mbps: Meets requirement: 80.00 Mbps
2.4Ghz STA1+2 Throughput-2 Total	PASS	STA1: 108.88 Mbps STA2: 42.59 Mbps Sum: 151.47 Mbps: Meets requirement: 54.00 Mbps
2.4Ghz STA1+3 Throughput-3 Total 2.4Ghz	PASS	STA1: 170.81 Mbps STA3: 3.91 Mbps Sum: 174.72 Mbps: Meets requirement: 54.00 Mbps
STA1-throughput-1 5Ghz	FAIL	5Ghz: STA1_throughput more than 5% above the of average of STA2 + STA1 for subtest 1 Avg: 425.32 Mbps Min: 404.06 Mbps Max: 446.59 Mbps STA1-Throughput: 469.13 Mbps STA2-Throughput: 381.51 Mbps
STA2-throughput-1 5Ghz	FAIL	5Ghz: STA2_throughput is more than 5% below the of average of STA2 + STA1 for subtest 1 Avg: 425.32 Mbps Min: 404.06 Mbps Max: 446.59 Mbps STA1-Throughput: 469.13 Mbps STA2-Throughput: 381.51 Mbps
STA1-throughput-2 5Ghz	FAIL	5Ghz: STA1_throughput-2 is more than +-25% above the of average of STA2 + STA1 for subtest 2 Avg: 425.32 Mbps Min: 318.99 Mbps Max: 531.66 Mbps STA1-Throughput-2: 537.13 Mbps
STA1-throughput-3 5Ghz	FAIL	5Ghz: STA1_throughput-3 is more than +-25% above the of the average of STA2 + STA1 for subtest 3 Avg: 425.32 Mbps Min: 318.99 Mbps Max: 531.66 Mbps STA1-Throughput-3: 830.85 Mbps
5Ghz STA1+2 Throughput Total	PASS	STA1: 469.13 Mbps STA2: 381.51 Mbps Sum: 850.65 Mbps: Meets requirement: 475.00 Mbps
5Ghz STA1+2 Throughput-2 Total	PASS	STA1: 537.13 Mbps STA2: 203.15 Mbps Sum: 740.28 Mbps: Meets requirement: 280.00 Mbps
5Ghz STA1+3 Throughput-3 Total 5Ghz	PASS	STA1: 830.85 Mbps STA3: 5.43 Mbps Sum: 836.29 Mbps: Meets requirement: 280.00 Mbps

ATF: Run #1 Snapshot 2.4Ghz

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.14 sta0600	680.963 Kbps	478.707 Kbps	112.411 Mbps	81.22 Mbps	0.422	288.9 Mbps	288.9 Mbps	802.11bgn	11	837	-21	DC:EF:09:E3:B8:7B	192.168.1.97	04:f0:21:4b:84:00
1.1.15 sta0800	449.677 Kbps	323.586 Kbps	44.604 Mbps	32.207 Mbps	1.206	144.4 Mbps	117 Mbps	802.11bgn	11	320	-30	DC:EF:09:E3:B8:7B	192.168.1.7	04:f0:21:36:ed:74

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	158.363 Mbps	113.167 Mbps	879.875 Kbps	4.272 Mbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0600--1.0.0-A	0 bps	0 bps	107.476 Mbps	107.688 Mbps	12,073	12,073	4,254	0

cv_tcp-1.1-1.sta0600--1.0.0-B	108.528 Mbps	110.046 Mbps	0 bps	0 bps	0	12,073	0	0
cv_tcp-1.1-1.sta0800--1.0.0-A	0 bps	0 bps	42.537 Mbps	42.731 Mbps	17,761	17,761	459	0
cv_tcp-1.1-1.sta0800--1.0.0-B	43.177 Mbps	43.355 Mbps	0 bps	0 bps	0	17,761	0	0

ATF: Run #2 Snapshot 2.4Ghz

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.14 sta0600	674.868 Kbps	665.716 Kbps	113.374 Mbps	110.729 Mbps	0.214	288.9 Mbps	288.9 Mbps	802.11bgn	11	837	-21	DC:EF:09:E3:B8:7B	192.168.1.97	04:f0:21:4b:84:00
1.1.15 sta0800	501.546 Kbps	553.827 Kbps	44.763 Mbps	43.515 Mbps	1.754	144.4 Mbps	117 Mbps	802.11bgn	11	320	-59	DC:EF:09:E3:B8:7B	192.168.1.7	04:f0:21:36:ed:74

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	156.694 Mbps	158.093 Mbps	864 Kbps	925.075 Kbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0600--1.0.0-A	0 bps	0 bps	106.986 Mbps	108.462 Mbps	11,935	11,935	2,689	0
cv_tcp-1.1-1.sta0600--1.0.0-B	106.998 Mbps	108.631 Mbps	0 bps	0 bps	0	11,935	0	0
cv_tcp-1.1-1.sta0800--1.0.0-A	0 bps	0 bps	43.958 Mbps	42.625 Mbps	17,579	17,579	267	0
cv_tcp-1.1-1.sta0800--1.0.0-B	42.338 Mbps	42.968 Mbps	0 bps	0 bps	0	17,579	0	0

ATF: Run #3 Snapshot 2.4Ghz

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.14 sta0600	1.091 Mbps	809.818 Kbps	176.959 Mbps	131.31 Mbps	0.138	288.9 Mbps	288.9 Mbps	802.11bgn	11	837	-21	DC:EF:09:E3:B8:7B	192.168.1.97	04:f0:21:4b:84:00
1.1.15 sta0800	0 bps	200.579 Kbps	0 bps	15.181 Mbps	1.692	0 Mbps	0 bps	802.11bgn	0	320	0	Not-Associated	0.0.0.0	04:f0:21:36:ed:74
1.1.16 sta1000	221.186 Kbps	122.598 Kbps	3.939 Mbps	2.195 Mbps	17.483	54 Mbps	54 Mbps	802.11bg	11	315	-29	DC:EF:09:E3:B8:7B	192.168.1.8	04:f0:21:36:d8:74

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	182.169 Mbps	165.803 Mbps	953.936 Kbps	875.597 Kbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0600--1.0.0-A	0 bps	0 bps	172.056 Mbps	172.744 Mbps	6,994	6,994	1,515	0
cv_tcp-1.1-1.sta0600--1.0.0-B	171.232 Mbps	172.455 Mbps	0 bps	0 bps	0	6,994	0	0
cv_tcp-1.1-1.sta0800--1.0.0-A	0 bps	0 bps	43.699 Mbps	42.618 Mbps	17,580	17,580	223	0.822
cv_tcp-1.1-1.sta0800--1.0.0-B	43.235 Mbps	42.93 Mbps	0 bps	0 bps	0	17,580	0	0
cv_tcp-1.1-1.sta1000--1.0.0-A	0 bps	0 bps	7.135 Mbps	3.936 Mbps	36,219	36,219	1,637	53.015
cv_tcp-1.1-1.sta1000--1.0.0-B	6.135 Mbps	8.419 Mbps	0 bps	0 bps	0	36,219	0	0

ATF: Run #1 Snapshot 5Ghz

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.14 sta0400	2.194 Mbps	1.455 Mbps	478.29 Mbps	316.638 Mbps	0.007	1733.3 Mbps	1.733 Gbps	802.11an	157	51	-43	DC:EF:09:E3:B8:7D	192.168.1.207	04:f0:21:38:81:f0
1.1.15 sta0600	2.156 Mbps	1.434 Mbps	386.742 Mbps	256.094 Mbps	0.102	866.7 Mbps	866.7 Mbps	802.11an	157	63	-46	DC:EF:09:E3:B8:7D	192.168.1.18	04:f0:21:3a:41:c0

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	901.126 Mbps	756.851 Mbps	3.499 Mbps	2.926 Mbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0400--1.0.0-A	0 bps	0 bps	471.568 Mbps	468.975 Mbps	853	853	188	0
cv_tcp-1.1-1.sta0400--1.0.0-B	455.099 Mbps	470.04 Mbps	0 bps	0 bps	0	853	0	0
cv_tcp-1.1-1.sta0600--1.0.0-A	0 bps	0 bps	382.516 Mbps	381.56 Mbps	710	710	82	0

cv_tcp-1.1-1.sta0600--1.0.0-B	387.318 Mbps	383.193 Mbps	0 bps	0 bps	0	710	0	0
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ATF: Run #2 Snapshot 5Ghz

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.14 sta0400	2.542 Mbps	2.347 Mbps	560.703 Mbps	515.438 Mbps	0.078	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	51	-43	DC:EF:09:E3:B8:7D	192.168.1.207	04:f0:21:38:81:f0
1.1.15 sta0600	1.594 Mbps	1.782 Mbps	210.946 Mbps	275.775 Mbps	2.502	520 Mbps	468 Mbps	802.11an-AC	157	63	-69	DC:EF:09:E3:B8:7D	192.168.1.18	04:f0:21:3a:41:c0

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Link-Rate	IP	MAC
1.1.1 eth1	714.087 Mbps	770.67 Mbps	2.588 Mbps	3.056 Mbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0400--1.0.0-A	0 bps	0 bps	464.429 Mbps	535.9 Mbps	866	866	125	0
cv_tcp-1.1-1.sta0400--1.0.0-B	509.554 Mbps	541.295 Mbps	0 bps	0 bps	0	866	0	0
cv_tcp-1.1-1.sta0600--1.0.0-A	0 bps	0 bps	219.823 Mbps	203.627 Mbps	4,114	4,114	1,406	0
cv_tcp-1.1-1.sta0600--1.0.0-B	221.382 Mbps	203.733 Mbps	0 bps	0 bps	0	4,114	0	0

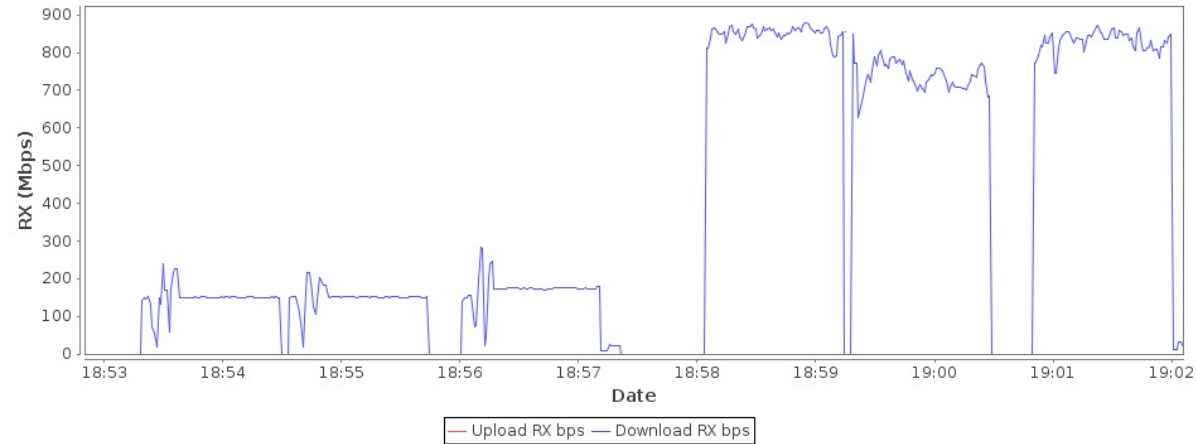
ATF: Run #3 Snapshot 5Ghz

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.14 sta0400	3.656 Mbps	3.153 Mbps	853.55 Mbps	749.075 Mbps	0.194	1733.3 Mbps	1.733 Gbps	802.11an-AC	157	51	-45	DC:EF:09:E3:B8:7D	192.168.1.207	04:f0:21:38:81:f0
1.1.15 sta0600	0 bps	0 bps	0 bps	0 bps	2.424	0 Mbps	0 bps	802.11an-AC	0	63	0	Not-Associated	0.0.0.0	04:f0:21:3a:41:c0
1.1.16 sta0800	321.429 Kbps	302.562 Kbps	6.798 Mbps	5.738 Mbps	16.04	54 Mbps	54 Mbps	802.11a	157	307	-33	DC:EF:09:E3:B8:7D	192.168.1.10	04:f0:21:3a:6e:c0

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Link-Rate	IP	MAC
1.1.1 eth1	891.607 Mbps	877.657 Mbps	3.103 Mbps	3.026 Mbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0400--1.0.0-A	0 bps	0 bps	840.92 Mbps	831.376 Mbps	542	542	65	0
cv_tcp-1.1-1.sta0400--1.0.0-B	841.352 Mbps	835.622 Mbps	0 bps	0 bps	0	542	0	0
cv_tcp-1.1-1.sta0600--1.0.0-A	0 bps	0 bps	221.823 Mbps	203.731 Mbps	4,052	4,052	1,192	0
cv_tcp-1.1-1.sta0600--1.0.0-B	216.174 Mbps	203.714 Mbps	0 bps	0 bps	0	4,052	0	0
cv_tcp-1.1-1.sta0800--1.0.0-A	0 bps	0 bps	11.732 Mbps	5.426 Mbps	48,335	48,335	117	58.893
cv_tcp-1.1-1.sta0800--1.0.0-B	13.16 Mbps	13.173 Mbps	0 bps	0 bps	0	48,335	0	0

Realtime Throughput for: 6.2.3 Airtime Fairness Test



6.3.1 Range Versus Rate Test

Summary

Range versus rate test intends to measure the rate-control, baseband and RF chain performance of Wi-Fi device at different signal levels. The attenuation of signals due to range increase is achieved by adjusting the attenuator.

Test Procedure

These steps are done for 2.4Ghz and 5Ghz.

1. Configure the system to emulate a 2-meter distance. This is the baseline '0' attenuation.
2. Establish the LAN connection, create 1 station and allow the station to associate with the DUT.
3. Measure the downlink TCP throughput, using a test time of 120 seconds.
4. Measure the uplink TCP throughput, using a test time of 120 seconds.
5. For each of these attenuations on top of the baseline attenuation, repeat the steps above:
For 2.4Ghz: 0, 10, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 54, 57, 60, 63
For 5Ghz: 10, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 54

Pass/Fail Criteria

Each attenuation step must pass a certain amount of traffic to pass the test (units are Mbps).

1. For 2.4Ghz, upload rate: 100, 100, 100, 100, 100, 100, 100, 95, 80, 75, 50, 31, 24, 17, 12, 7, 4
2. For 2.4Ghz, download rate: 100, 100, 100, 100, 100, 100, 100, 95, 80, 75, 50, 45, 35, 25, 14, 9, 8
3. For 5Ghz, upload rate: 560, 530, 420, 400, 360, 300, 220, 150, 125, 100, 45, 25, 5, 1
4. For 5Ghz, download rate: 560, 530, 420, 400, 360, 300, 220, 150, 125, 100, 45, 25, 5, 1

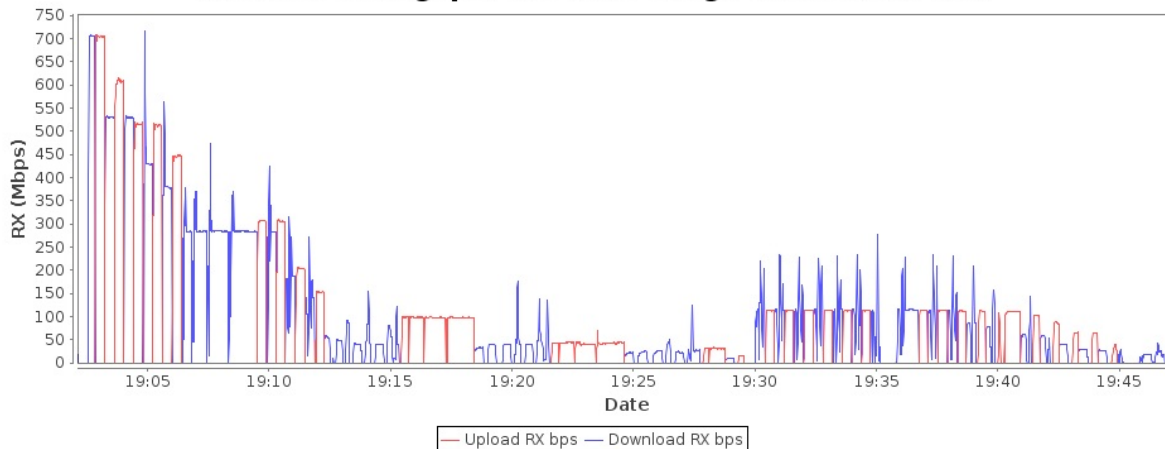
6.3.1 Range Versus Rate Test Results

Type	Result	Notes
6.3.1 Assumptions	INFO	This test does not specify RSSI, so calibrating it is difficult. You may shift the attenuation by modifying the Attenuation Adjustment setting on the 'Advanced Configuration' screen.
Configuration NOTE	INFO	This test will retry failing tests: 3 times and record the best result.
Configuration NOTE	INFO	Traffic duration is set to: 20s, default is 120s
5Ghz DL [10]	PASS	Requires: 560.00 Mbps Reported: 700.48 Mbps STA-RSSI: -54 Rx-Rate: 866.7M Tx-Rate: 866.7M
5Ghz UL [10]	PASS	Requires: 560.00 Mbps Reported: 702.72 Mbps STA-RSSI: -55 Rx-Rate: 866.7M Tx-Rate: 866.7M
5Ghz DL [21]	PASS	Requires: 530.00 Mbps Reported: 530.03 Mbps STA-RSSI: -62 Rx-Rate: 650M Tx-Rate: 866.7M
5Ghz UL [21]	PASS	Requires: 530.00 Mbps Reported: 607.32 Mbps STA-RSSI: -62 Rx-Rate: 780M Tx-Rate: 866.7M
5Ghz DL [24]	PASS	Requires: 420.00 Mbps Reported: 527.96 Mbps STA-RSSI: -65 Rx-Rate: 650M Tx-Rate: 780M
5Ghz UL [24]	PASS	Requires: 420.00 Mbps Reported: 515.20 Mbps STA-RSSI: -64 Rx-Rate: 526.6M Tx-Rate: 650M
5Ghz DL [27]	PASS	Requires: 400.00 Mbps Reported: 450.48 Mbps STA-RSSI: -66 Rx-Rate: 526.6M Tx-Rate: 650M
5Ghz UL [27]	PASS	Requires: 400.00 Mbps Reported: 512.04 Mbps STA-RSSI: -66 Rx-Rate: 526.6M Tx-Rate: 650M
5Ghz DL [30]	PASS	Requires: 360.00 Mbps Reported: 393.80 Mbps STA-RSSI: -68 Rx-Rate: 468M Tx-Rate: 585.1M
5Ghz UL [30]	PASS	Requires: 360.00 Mbps Reported: 446.36 Mbps STA-RSSI: -69 Rx-Rate: 526.6M Tx-Rate: 585.1M
5Ghz DL [33]	FAIL	Requires: 300.00 Mbps Reported: 286.22 Mbps STA-RSSI: -70 Rx-Rate: 351M Tx-Rate: 390M
5Ghz DL [33] Retry: 1	FAIL	Requires: 300.00 Mbps Reported: 282.94 Mbps STA-RSSI: -70 Rx-Rate: 351M Tx-Rate: 520M
5Ghz DL [33] Retry: 2	FAIL	Requires: 300.00 Mbps Reported: 283.72 Mbps STA-RSSI: -70 Rx-Rate: 351M Tx-Rate: 520M
5Ghz DL [33] Retry: 3	FAIL	Requires: 300.00 Mbps Reported: 283.59 Mbps STA-RSSI: -69 Rx-Rate: 351M Tx-Rate: 390M
5Ghz UL [33]	PASS	Requires: 300.00 Mbps Reported: 306.70 Mbps STA-RSSI: -70 Rx-Rate: 351M Tx-Rate: 390M
5Ghz DL [36]	PASS	Requires: 220.00 Mbps Reported: 291.52 Mbps STA-RSSI: -73 Rx-Rate: 351M Tx-Rate: 390M
5Ghz UL [36]	PASS	Requires: 220.00 Mbps Reported: 304.48 Mbps STA-RSSI: -73 Rx-Rate: 351M Tx-Rate: 390M
5Ghz DL [39]	PASS	Requires: 150.00 Mbps Reported: 187.36 Mbps STA-RSSI: -76 Rx-Rate: 234M Tx-Rate: 260M
5Ghz UL [39]	PASS	Requires: 150.00 Mbps Reported: 203.20 Mbps STA-RSSI: -76 Rx-Rate: 234M Tx-Rate: 260M
5Ghz DL [42]	PASS	Requires: 125.00 Mbps Reported: 139.33 Mbps STA-RSSI: -79 Rx-Rate: 175.6M Tx-Rate: 195M
5Ghz UL [42]	PASS	Requires: 125.00 Mbps Reported: 152.35 Mbps STA-RSSI: -79 Rx-Rate: 234M Tx-Rate: 195.1M
5Ghz DL [45]	FAIL	Requires: 100.00 Mbps Reported: 30.57 Mbps STA-RSSI: -75 Rx-Rate: 78M Tx-Rate: 130M

5Ghz DL [45] Retry: 1	FAIL	Requires: 100.00 Mbps Reported: 43.98 Mbps STA-RSSI: -75 Rx-Rate: 78M Tx-Rate: 130M
5Ghz DL [45] Retry: 2	FAIL	Requires: 100.00 Mbps Reported: 35.21 Mbps STA-RSSI: -74 Rx-Rate: 52M Tx-Rate: 130M
5Ghz DL [45] Retry: 3	FAIL	Requires: 100.00 Mbps Reported: 35.37 Mbps STA-RSSI: -74 Rx-Rate: 52M Tx-Rate: 130M
5Ghz UL [45]	FAIL	Requires: 100.00 Mbps Reported: 87.17 Mbps STA-RSSI: -75 Rx-Rate: 78M Tx-Rate: 130M
5Ghz UL [45] Retry: 1	FAIL	Requires: 100.00 Mbps Reported: 98.04 Mbps STA-RSSI: -75 Rx-Rate: 78M Tx-Rate: 130M
5Ghz UL [45] Retry: 2	FAIL	Requires: 100.00 Mbps Reported: 97.81 Mbps STA-RSSI: -81 Rx-Rate: 175.6M Tx-Rate: 130M
5Ghz UL [45] Retry: 3	FAIL	Requires: 100.00 Mbps Reported: 97.63 Mbps STA-RSSI: -83 Rx-Rate: 175.6M Tx-Rate: 130M
5Ghz DL [48]	FAIL	Requires: 45.00 Mbps Reported: 31.88 Mbps STA-RSSI: -84 Rx-Rate: 58.6M Tx-Rate: 29.3M
5Ghz DL [48] Retry: 1	FAIL	Requires: 45.00 Mbps Reported: 22.63 Mbps STA-RSSI: -83 Rx-Rate: 54M Tx-Rate: 60M
5Ghz DL [48] Retry: 2	FAIL	Requires: 45.00 Mbps Reported: 36.55 Mbps STA-RSSI: -82 Rx-Rate: 54M Tx-Rate: 60M
5Ghz DL [48] Retry: 3	FAIL	Requires: 45.00 Mbps Reported: 36.87 Mbps STA-RSSI: -83 Rx-Rate: 54M Tx-Rate: 60M
5Ghz UL [48]	FAIL	Requires: 45.00 Mbps Reported: 38.01 Mbps STA-RSSI: -79 Rx-Rate: 52M Tx-Rate: 60M
5Ghz UL [48] Retry: 1	FAIL	Requires: 45.00 Mbps Reported: 43.43 Mbps STA-RSSI: -78 Rx-Rate: 52M Tx-Rate: 81M
5Ghz UL [48] Retry: 2	FAIL	Requires: 45.00 Mbps Reported: 40.45 Mbps STA-RSSI: -85 Rx-Rate: 58.6M Tx-Rate: 60M
5Ghz UL [48] Retry: 3	FAIL	Requires: 45.00 Mbps Reported: 42.13 Mbps STA-RSSI: -82 Rx-Rate: 81M Tx-Rate: 60M
5Ghz DL [51]	FAIL	Requires: 25.00 Mbps Reported: 20.22 Mbps STA-RSSI: -87 Rx-Rate: 58.6M Tx-Rate: 39M
5Ghz DL [51] Retry: 1	FAIL	Requires: 25.00 Mbps Reported: 14.13 Mbps STA-RSSI: -87 Rx-Rate: 29.3M Tx-Rate: 30M
5Ghz DL [51] Retry: 2	FAIL	Requires: 25.00 Mbps Reported: 20.32 Mbps STA-RSSI: -87 Rx-Rate: 58.6M Tx-Rate: 40.5M
5Ghz DL [51] Retry: 3	FAIL	Requires: 25.00 Mbps Reported: 22.28 Mbps STA-RSSI: -88 Rx-Rate: 58.5M Tx-Rate: 39M
5Ghz UL [51]	FAIL	Requires: 25.00 Mbps Reported: 21.67 Mbps STA-RSSI: -88 Rx-Rate: 29.3M Tx-Rate: 43.3M
5Ghz UL [51] Retry: 1	PASS	Requires: 25.00 Mbps Reported: 30.86 Mbps STA-RSSI: -87 Rx-Rate: 58.6M Tx-Rate: 43.3M
5Ghz DL [54]	PASS	Requires: 5.00 Mbps Reported: 7.88 Mbps STA-RSSI: -88 Rx-Rate: 13.5M Tx-Rate: 21.7M
5Ghz UL [54]	PASS	Requires: 5.00 Mbps Reported: 11.66 Mbps STA-RSSI: -88 Rx-Rate: 29.3M Tx-Rate: 28.9M
2.4Ghz DL [0]	PASS	Requires: 100.00 Mbps Reported: 114.19 Mbps STA-RSSI: -30 Rx-Rate: 144.4M Tx-Rate: 144.4M
2.4Ghz UL [0]	PASS	Requires: 100.00 Mbps Reported: 112.25 Mbps STA-RSSI: -30 Rx-Rate: 144.4M Tx-Rate: 144.4M
2.4Ghz DL [10]	PASS	Requires: 100.00 Mbps Reported: 113.95 Mbps STA-RSSI: -37 Rx-Rate: 144.4M Tx-Rate: 144.4M
2.4Ghz UL [10]	PASS	Requires: 100.00 Mbps Reported: 112.66 Mbps STA-RSSI: -40 Rx-Rate: 144.4M Tx-Rate: 144.4M
2.4Ghz DL [21]	PASS	Requires: 100.00 Mbps Reported: 114.65 Mbps STA-RSSI: -44 Rx-Rate: 144.4M Tx-Rate: 144.4M
2.4Ghz UL [21]	PASS	Requires: 100.00 Mbps Reported: 112.51 Mbps STA-RSSI: -48 Rx-Rate: 144.4M Tx-Rate: 144.4M
2.4Ghz DL [24]	PASS	Requires: 100.00 Mbps Reported: 114.37 Mbps STA-RSSI: -47 Rx-Rate: 144.4M Tx-Rate: 144.4M
2.4Ghz UL [24]	PASS	Requires: 100.00 Mbps Reported: 112.48 Mbps STA-RSSI: -49 Rx-Rate: 144.4M Tx-Rate: 144.4M
2.4Ghz DL [27]	PASS	Requires: 100.00 Mbps Reported: 113.90 Mbps STA-RSSI: -50 Rx-Rate: 144.4M Tx-Rate: 144.4M
2.4Ghz UL [27]	PASS	Requires: 100.00 Mbps Reported: 112.20 Mbps STA-RSSI: -52 Rx-Rate: 144.4M Tx-Rate: 144.4M
2.4Ghz DL [30]	PASS	Requires: 100.00 Mbps Reported: 110.81 Mbps STA-RSSI: -52 Rx-Rate: 144.4M Tx-Rate: 144.4M
2.4Ghz UL [30]	PASS	Requires: 100.00 Mbps Reported: 111.98 Mbps STA-RSSI: -55 Rx-Rate: 144.4M Tx-Rate: 144.4M
2.4Ghz DL [33]	FAIL	Requires: 100.00 Mbps Reported: 76.64 Mbps STA-RSSI: -56 Rx-Rate: 144.4M Tx-Rate: 144.4M
2.4Ghz DL [33] Retry: 1	FAIL	Requires: 100.00 Mbps Reported: 2.79 Mbps STA-RSSI: -55 Rx-Rate: 117M Tx-Rate: 144.4M
2.4Ghz DL [33] Retry: 2	PASS	Requires: 100.00 Mbps Reported: 113.96 Mbps STA-RSSI: -55 Rx-Rate: 144.4M Tx-Rate: 144.4M
2.4Ghz UL [33]	PASS	Requires: 100.00 Mbps Reported: 112.41 Mbps STA-RSSI: -58 Rx-Rate: 144.4M Tx-Rate: 144.4M
2.4Ghz DL [36]	PASS	Requires: 95.00 Mbps Reported: 114.40 Mbps STA-RSSI: -58 Rx-Rate: 144.4M Tx-Rate: 144.4M
2.4Ghz UL [36]	PASS	Requires: 95.00 Mbps Reported: 112.43 Mbps STA-RSSI: -62 Rx-Rate: 144.4M Tx-Rate: 144.4M
2.4Ghz DL [39]	PASS	Requires: 80.00 Mbps Reported: 110.28 Mbps STA-RSSI: -62 Rx-Rate: 144.4M Tx-Rate: 144.4M
2.4Ghz UL [39]	PASS	Requires: 80.00 Mbps Reported: 111.42 Mbps STA-RSSI: -65 Rx-Rate: 144.4M Tx-Rate: 144.4M

2.4Ghz DL [42]	PASS	Requires: 75.00 Mbps Reported: 85.13 Mbps STA-RSSI: -64 Rx-Rate: 117M Tx-Rate: 144.4M
2.4Ghz UL [42]	PASS	Requires: 75.00 Mbps Reported: 103.43 Mbps STA-RSSI: -67 Rx-Rate: 104M Tx-Rate: 144.4M
2.4Ghz DL [45]	PASS	Requires: 50.00 Mbps Reported: 74.28 Mbps STA-RSSI: -66 Rx-Rate: 104M Tx-Rate: 144.4M
2.4Ghz UL [45]	FAIL	Requires: 50.00 Mbps Reported: 26.54 Mbps STA-RSSI: -70 Rx-Rate: 104M Tx-Rate: 144.4M
2.4Ghz UL [45] Retry: 1	PASS	Requires: 50.00 Mbps Reported: 110.60 Mbps STA-RSSI: -69 Rx-Rate: 104M Tx-Rate: 144.4M
2.4Ghz DL [48]	PASS	Requires: 45.00 Mbps Reported: 56.56 Mbps STA-RSSI: -70 Rx-Rate: 78M Tx-Rate: 144.4M
2.4Ghz UL [48]	PASS	Requires: 31.00 Mbps Reported: 85.66 Mbps STA-RSSI: -72 Rx-Rate: 78M Tx-Rate: 130M
2.4Ghz DL [51]	PASS	Requires: 35.00 Mbps Reported: 37.31 Mbps STA-RSSI: -72 Rx-Rate: 78M Tx-Rate: 130M
2.4Ghz UL [51]	PASS	Requires: 24.00 Mbps Reported: 67.49 Mbps STA-RSSI: -76 Rx-Rate: 58.5M Tx-Rate: 115.6M
2.4Ghz DL [54]	PASS	Requires: 25.00 Mbps Reported: 31.97 Mbps STA-RSSI: -75 Rx-Rate: 52M Tx-Rate: 130M
2.4Ghz UL [54]	PASS	Requires: 17.00 Mbps Reported: 46.45 Mbps STA-RSSI: -79 Rx-Rate: 52M Tx-Rate: 86.7M
2.4Ghz DL [57]	PASS	Requires: 14.00 Mbps Reported: 25.48 Mbps STA-RSSI: -79 Rx-Rate: 39M Tx-Rate: 86.7M
2.4Ghz UL [57]	PASS	Requires: 12.00 Mbps Reported: 46.13 Mbps STA-RSSI: -80 Rx-Rate: 39M Tx-Rate: 86.7M
2.4Ghz DL [60]	PASS	Requires: 9.00 Mbps Reported: 22.99 Mbps STA-RSSI: -80 Rx-Rate: 39M Tx-Rate: 86.7M
2.4Ghz UL [60]	PASS	Requires: 7.00 Mbps Reported: 20.37 Mbps STA-RSSI: -82 Rx-Rate: 26M Tx-Rate: 57.8M
2.4Ghz DL [63]	FAIL	Requires: 8.00 Mbps Reported: 6.12 Mbps STA-RSSI: -84 Rx-Rate: 26M Tx-Rate: 57.8M
2.4Ghz DL [63] Retry: 1	FAIL	Requires: 8.00 Mbps Reported: 2.88 Mbps STA-RSSI: -83 Rx-Rate: 26M Tx-Rate: 39M
2.4Ghz DL [63] Retry: 2	PASS	Requires: 8.00 Mbps Reported: 16.56 Mbps STA-RSSI: -82 Rx-Rate: 26M Tx-Rate: 57.8M
2.4Ghz UL [63]	PASS	Requires: 4.00 Mbps Reported: 18.30 Mbps STA-RSSI: -85 Rx-Rate: 26M Tx-Rate: 39M

Realtime Throughput for: 6.3.1 Range Versus Rate Test



6.3.2 Spatial Consistency Test

Summary

Spatial consistency test intends to verify the Wi-Fi signal consistency in spatial domain by testing throughput with DUT at different angles to the Station and at different emulated distance. The angles are changed with a programmable turn-table. The distance is emulated by adjusting attenuation.

Test Procedure

These steps are done for 2.4Ghz and 5Ghz.

1. Configure the system to emulate a 2-meter distance.
2. Establish the LAN connection, create 1 station and allow the station to associate with the DUT.
3. Measure the downlink TCP throughput, using a test time of 60 seconds.
4. Measure the uplink TCP throughput, using a test time of 60 seconds.
5. Change attenuation by adding these values to the baseline 2-meter attenuation:
For 2.4 Ghz band: 10, 38, 48
For 5 Ghz band: 10, 32, 42
6. Rotate the AP platform by 30 degrees and repeat steps above until the AP has been rotated a full 360 degrees.

Pass/Fail Criteria

A) For each rotation, each attenuation step must pass a certain amount of traffic to pass the test (units are Mbps).

1. For 2.4Ghz, upload rate: 90, 70, 35
2. For 2.4Ghz, download rate: 90, 70, 35
3. For 5Ghz, upload rate: 500, 200, 100
4. For 5Ghz, download rate: 500, 200, 100

B) For each rotation, the variation in rates must be within a specified range.

The variation at each specific attenuation is calculated as the difference between the minimum throughput value and the average throughput value, divided by the average throughput value over all rotations.

1. For 2.4Ghz, the range is 30%
2. For 5Ghz, the range is 40%

6.3.2 Spatial Consistency Test Results

Type	Result	Notes
6.3.2 Assumptions	INFO	This test does not specify RSSI, so calibrating it is difficult. You may shift the attenuation by modifying the Attenuation Adjustment setting on the 'Advanced Configuration' screen.
Configuration NOTE	INFO	Traffic duration is set to: 10s, default is 60s
Configuration NOTE	INFO	This test will retry below average tests: 3 times and record the best result.
5Ghz Avg DL Sig: 10	PASS	Avg download must be at least: 500Mbps, reported: 684.6
5Ghz Minimum DL Sig: 10	PASS	Min download: 617.7 must be at least 60%: 410.7 of the avg: 684.6Mbps
5Ghz Avg UL Sig: 10	PASS	Avg upload must be at least: 500Mbps, reported: 700.3
5Ghz Minimum UL Sig: 10	PASS	Min upload: 617.7 must be at least 60%: 420.2 of the avg: 700.3Mbps
5Ghz Avg DL Sig: 32	PASS	Avg download must be at least: 200Mbps, reported: 331.6
5Ghz Minimum DL Sig: 32	PASS	Min download: 280.1 must be at least 60%: 199.0 of the avg: 331.6Mbps
5Ghz Avg UL Sig: 32	PASS	Avg upload must be at least: 200Mbps, reported: 352.4
5Ghz Minimum UL Sig: 32	PASS	Min upload: 280.1 must be at least 60%: 211.4 of the avg: 352.4Mbps
5Ghz Avg DL Sig: 42	PASS	Avg download must be at least: 100Mbps, reported: 164.8
5Ghz Minimum DL Sig: 42	FAIL	Min download: 85.6 must be at least 60%: 98.9 of the avg: 164.8Mbps
5Ghz Avg UL Sig: 42	PASS	Avg upload must be at least: 100Mbps, reported: 184.3
5Ghz Minimum UL Sig: 42	FAIL	Min upload: 85.6 must be at least 60%: 110.6 of the avg: 184.3Mbps
2.4Ghz Avg DL Sig: 10	PASS	Avg download must be at least: 90Mbps, reported: 112.2
2.4Ghz Minimum DL Sig: 10	PASS	Min download: 102.0 must be at least 70%: 78.6 of the avg: 112.2Mbps
2.4Ghz Avg UL Sig: 10	PASS	Avg upload must be at least: 90Mbps, reported: 112.0
2.4Ghz Minimum UL Sig: 10	PASS	Min upload: 110.5 must be at least 70%: 78.4 of the avg: 112.0 Mbps
2.4Ghz Avg DL Sig: 38	PASS	Avg download must be at least: 70Mbps, reported: 98.2
2.4Ghz Minimum DL Sig: 38	PASS	Min download: 72.2 must be at least 70%: 68.8 of the avg: 98.2Mbps
2.4Ghz Avg UL Sig: 38	PASS	Avg upload must be at least: 70Mbps, reported: 110.1
2.4Ghz Minimum UL Sig: 38	PASS	Min upload: 101.6 must be at least 70%: 77.1 of the avg: 110.1 Mbps
2.4Ghz Avg DL Sig: 48	PASS	Avg download must be at least: 35Mbps, reported: 55.6
2.4Ghz Minimum DL Sig: 48	PASS	Min download: 51.4 must be at least 70%: 38.9 of the avg: 55.6Mbps
2.4Ghz Avg UL Sig: 48	PASS	Avg upload must be at least: 35Mbps, reported: 85.1
2.4Ghz Minimum UL Sig: 48	FAIL	Min upload: 56.5 must be at least 70%: 59.6 of the avg: 85.1 Mbps

6.3.2 Spatial Consistency Test Details

Type	Result	Notes
2.4Ghz DL Sig: 10 Rot: 0	PASS	STA-RSSI: -37 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 114.69 Mbps 3-sec avg: 222.76 Mbps Requested-Avg: 90.00 Mbps
2.4Ghz UL Sig: 10 Rot: 0	PASS	STA-RSSI: -38 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 112.06 Mbps 3-sec avg: 112.17 Mbps Requested-Avg: 90.00 Mbps
2.4Ghz DL Sig: 10 Rot: 30	PASS	STA-RSSI: -36 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 110.61 Mbps 3-sec avg: 228.22 Mbps Requested-Avg: 90.00 Mbps
2.4Ghz UL Sig: 10 Rot: 30	PASS	STA-RSSI: -36 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 110.47 Mbps 3-sec avg: 112.06 Mbps Requested-Avg: 90.00 Mbps
2.4Ghz DL Sig: 10 Rot: 60	PASS	STA-RSSI: -37 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 114.64 Mbps 3-sec avg: 213.39 Mbps Requested-Avg: 90.00 Mbps
2.4Ghz UL Sig: 10 Rot: 60	PASS	STA-RSSI: -36 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 111.70 Mbps 3-sec avg: 112.69 Mbps Requested-Avg: 90.00 Mbps
2.4Ghz DL Sig: 10 Rot: 90	PASS	STA-RSSI: -37 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 108.06 Mbps 3-sec avg: 225.25 Mbps Requested-Avg: 90.00 Mbps
2.4Ghz UL Sig: 10 Rot: 90	PASS	STA-RSSI: -37 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 112.10 Mbps 3-sec avg: 112.22 Mbps Requested-Avg: 90.00 Mbps
2.4Ghz DL Sig: 10 Rot: 120	PASS	STA-RSSI: -37 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 114.13 Mbps 3-sec avg: 251.24 Mbps Requested-Avg: 90.00 Mbps

2.4Ghz UL Sig: 10 Rot: 120	PASS	STA-RSSI: -38 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 112.02 Mbps 3-sec avg: 110.91 Mbps Requested-Avg: 90.00 Mbps
2.4Ghz DL Sig: 10 Rot: 150	PASS	STA-RSSI: -37 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 114.46 Mbps 3-sec avg: 114.39 Mbps Requested-Avg: 90.00 Mbps
2.4Ghz UL Sig: 10 Rot: 150	PASS	STA-RSSI: -36 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 112.54 Mbps 3-sec avg: 112.54 Mbps Requested-Avg: 90.00 Mbps
2.4Ghz DL Sig: 10 Rot: 180	PASS	STA-RSSI: -37 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 114.00 Mbps 3-sec avg: 233.36 Mbps Requested-Avg: 90.00 Mbps
2.4Ghz UL Sig: 10 Rot: 180	PASS	STA-RSSI: -37 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 112.25 Mbps 3-sec avg: 112.56 Mbps Requested-Avg: 90.00 Mbps
2.4Ghz DL Sig: 10 Rot: 210	PASS	STA-RSSI: -34 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 114.08 Mbps 3-sec avg: 235.75 Mbps Requested-Avg: 90.00 Mbps
2.4Ghz UL Sig: 10 Rot: 210	PASS	STA-RSSI: -33 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 112.38 Mbps 3-sec avg: 112.85 Mbps Requested-Avg: 90.00 Mbps
2.4Ghz DL Sig: 10 Rot: 240	Below Avg	STA-RSSI: -36 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 83.90 Mbps 3-sec avg: 12.03 Mbps Requested-Avg: 90.00 Mbps
2.4Ghz DL Sig: 10 Rot: 240 Retry: 1	Below Avg	STA-RSSI: -35 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 0 Mbps 3-sec avg: 0 Mbps Requested-Avg: 90.00 Mbps
2.4Ghz DL Sig: 10 Rot: 240 Retry: 2	Retry 2	STA-RSSI: -36 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 101.98 Mbps 3-sec avg: 114.88 Mbps Requested-Avg: 90.00 Mbps
2.4Ghz UL Sig: 10 Rot: 240	PASS	STA-RSSI: -36 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 112.30 Mbps 3-sec avg: 112.65 Mbps Requested-Avg: 90.00 Mbps
2.4Ghz DL Sig: 10 Rot: 270	PASS	STA-RSSI: -37 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 113.00 Mbps 3-sec avg: 214.09 Mbps Requested-Avg: 90.00 Mbps
2.4Ghz UL Sig: 10 Rot: 270	PASS	STA-RSSI: -37 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 112.43 Mbps 3-sec avg: 112.74 Mbps Requested-Avg: 90.00 Mbps
2.4Ghz DL Sig: 10 Rot: 300	PASS	STA-RSSI: -40 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 112.43 Mbps 3-sec avg: 227.93 Mbps Requested-Avg: 90.00 Mbps
2.4Ghz UL Sig: 10 Rot: 300	PASS	STA-RSSI: -40 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 111.99 Mbps 3-sec avg: 112.20 Mbps Requested-Avg: 90.00 Mbps
2.4Ghz DL Sig: 10 Rot: 330	PASS	STA-RSSI: -41 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 114.65 Mbps 3-sec avg: 215.13 Mbps Requested-Avg: 90.00 Mbps
2.4Ghz UL Sig: 10 Rot: 330	PASS	STA-RSSI: -42 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 111.40 Mbps 3-sec avg: 111.35 Mbps Requested-Avg: 90.00 Mbps
2.4Ghz DL Sig: 38 Rot: 0	PASS	STA-RSSI: -60 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 114.42 Mbps 3-sec avg: 235.73 Mbps Requested-Avg: 70.00 Mbps
2.4Ghz UL Sig: 38 Rot: 0	PASS	STA-RSSI: -60 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 112.28 Mbps 3-sec avg: 112.03 Mbps Requested-Avg: 70.00 Mbps
2.4Ghz DL Sig: 38 Rot: 30	PASS	STA-RSSI: -59 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 111.95 Mbps 3-sec avg: 235.57 Mbps Requested-Avg: 70.00 Mbps
2.4Ghz UL Sig: 38 Rot: 30	PASS	STA-RSSI: -60 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 111.70 Mbps 3-sec avg: 112.74 Mbps Requested-Avg: 70.00 Mbps
2.4Ghz DL Sig: 38 Rot: 60	Below Avg	STA-RSSI: -59 Rx-Rate: 117M Tx-Rate: 144.4M Throughput: 60.68 Mbps 3-sec avg: 46.70 Mbps Requested-Avg: 70.00 Mbps
2.4Ghz DL Sig: 38 Rot: 60 Retry: 1	Below Avg	STA-RSSI: -57 Rx-Rate: 130M Tx-Rate: 144.4M Throughput: 25.71 Mbps 3-sec avg: 0 Mbps Requested-Avg: 70.00 Mbps
2.4Ghz DL Sig: 38 Rot: 60 Retry: 2	Retry 2	STA-RSSI: -59 Rx-Rate: 117M Tx-Rate: 144.4M Throughput: 90.09 Mbps 3-sec avg: 89.74 Mbps Requested-Avg: 70.00 Mbps
2.4Ghz UL Sig: 38 Rot: 60	PASS	STA-RSSI: -61 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 111.66 Mbps 3-sec avg: 111.58 Mbps Requested-Avg: 70.00 Mbps
2.4Ghz DL Sig: 38 Rot: 90	PASS	STA-RSSI: -61 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 114.59 Mbps 3-sec avg: 272.55 Mbps Requested-Avg: 70.00 Mbps
2.4Ghz UL Sig: 38 Rot: 90	PASS	STA-RSSI: -61 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 112.32 Mbps 3-sec avg: 112.20 Mbps Requested-Avg: 70.00 Mbps
2.4Ghz DL Sig: 38 Rot: 120	PASS	STA-RSSI: -60 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 113.49 Mbps 3-sec avg: 232.68 Mbps Requested-Avg: 70.00 Mbps
2.4Ghz UL Sig: 38 Rot: 120	PASS	STA-RSSI: -61 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 112.26 Mbps 3-sec avg: 112.50 Mbps Requested-Avg: 70.00 Mbps
2.4Ghz DL Sig: 38 Rot: 150	Below Avg	STA-RSSI: -58 Rx-Rate: 117M Tx-Rate: 144.4M Throughput: 50.80 Mbps 3-sec avg: 9.86 Mbps

		Requested-Avg: 70.00 Mbps
2.4Ghz DL Sig: 38 Rot: 150 Retry: 1	Retry 1	STA-RSSI: -58 Rx-Rate: 117M Tx-Rate: 144.4M Throughput: 78.55 Mbps 3-sec avg: 52.95 Mbps Requested-Avg: 70.00 Mbps
2.4Ghz UL Sig: 38 Rot: 150	PASS	STA-RSSI: -59 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 106.23 Mbps 3-sec avg: 111.97 Mbps Requested-Avg: 70.00 Mbps
2.4Ghz DL Sig: 38 Rot: 180	PASS	STA-RSSI: -60 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 114.72 Mbps 3-sec avg: 235.39 Mbps Requested-Avg: 70.00 Mbps
2.4Ghz UL Sig: 38 Rot: 180	PASS	STA-RSSI: -60 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 111.75 Mbps 3-sec avg: 112.57 Mbps Requested-Avg: 70.00 Mbps
2.4Ghz DL Sig: 38 Rot: 210	Below Avg	STA-RSSI: -55 Rx-Rate: 117M Tx-Rate: 144.4M Throughput: 42.60 Mbps 3-sec avg: 0 Mbps Requested-Avg: 70.00 Mbps
2.4Ghz DL Sig: 38 Rot: 210 Retry: 1	Retry 1	STA-RSSI: -55 Rx-Rate: 117M Tx-Rate: 144.4M Throughput: 87.39 Mbps 3-sec avg: 86.83 Mbps Requested-Avg: 70.00 Mbps
2.4Ghz UL Sig: 38 Rot: 210	PASS	STA-RSSI: -56 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 101.58 Mbps 3-sec avg: 108.61 Mbps Requested-Avg: 70.00 Mbps
2.4Ghz DL Sig: 38 Rot: 240	PASS	STA-RSSI: -60 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 114.99 Mbps 3-sec avg: 236.46 Mbps Requested-Avg: 70.00 Mbps
2.4Ghz UL Sig: 38 Rot: 240	PASS	STA-RSSI: -60 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 111.89 Mbps 3-sec avg: 111.88 Mbps Requested-Avg: 70.00 Mbps
2.4Ghz DL Sig: 38 Rot: 270	Below Avg	STA-RSSI: -59 Rx-Rate: 117M Tx-Rate: 144.4M Throughput: 52.34 Mbps 3-sec avg: 19.24 Mbps Requested-Avg: 70.00 Mbps
2.4Ghz DL Sig: 38 Rot: 270 Retry: 1	Retry 1	STA-RSSI: -60 Rx-Rate: 117M Tx-Rate: 144.4M Throughput: 77.11 Mbps 3-sec avg: 54.59 Mbps Requested-Avg: 70.00 Mbps
2.4Ghz UL Sig: 38 Rot: 270	PASS	STA-RSSI: -61 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 107.40 Mbps 3-sec avg: 111.33 Mbps Requested-Avg: 70.00 Mbps
2.4Ghz DL Sig: 38 Rot: 300	Below Avg	STA-RSSI: -61 Rx-Rate: 117M Tx-Rate: 144.4M Throughput: 54.80 Mbps 3-sec avg: 22.95 Mbps Requested-Avg: 70.00 Mbps
2.4Ghz DL Sig: 38 Rot: 300 Retry: 1	Retry 1	STA-RSSI: -61 Rx-Rate: 117M Tx-Rate: 144.4M Throughput: 89.46 Mbps 3-sec avg: 207.20 Mbps Requested-Avg: 70.00 Mbps
2.4Ghz UL Sig: 38 Rot: 300	PASS	STA-RSSI: -62 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 111.87 Mbps 3-sec avg: 112.29 Mbps Requested-Avg: 70.00 Mbps
2.4Ghz DL Sig: 38 Rot: 330	Below Avg	STA-RSSI: -62 Rx-Rate: 104M Tx-Rate: 144.4M Throughput: 50.14 Mbps 3-sec avg: 0 Mbps Requested-Avg: 70.00 Mbps
2.4Ghz DL Sig: 38 Rot: 330 Retry: 1	Retry 1	STA-RSSI: -62 Rx-Rate: 104M Tx-Rate: 144.4M Throughput: 72.23 Mbps 3-sec avg: 25.32 Mbps Requested-Avg: 70.00 Mbps
2.4Ghz UL Sig: 38 Rot: 330	PASS	STA-RSSI: -64 Rx-Rate: 144.4M Tx-Rate: 144.4M Throughput: 110.26 Mbps 3-sec avg: 111.48 Mbps Requested-Avg: 70.00 Mbps
2.4Ghz DL Sig: 48 Rot: 0	PASS	STA-RSSI: -67 Rx-Rate: 78M Tx-Rate: 144.4M Throughput: 57.66 Mbps 3-sec avg: 49.50 Mbps Requested-Avg: 35.00 Mbps
2.4Ghz UL Sig: 48 Rot: 0	PASS	STA-RSSI: -68 Rx-Rate: 104M Tx-Rate: 144.4M Throughput: 82.93 Mbps 3-sec avg: 109.76 Mbps Requested-Avg: 35.00 Mbps
2.4Ghz DL Sig: 48 Rot: 30	PASS	STA-RSSI: -67 Rx-Rate: 78M Tx-Rate: 144.4M Throughput: 57.29 Mbps 3-sec avg: 48.36 Mbps Requested-Avg: 35.00 Mbps
2.4Ghz UL Sig: 48 Rot: 30	PASS	STA-RSSI: -68 Rx-Rate: 104M Tx-Rate: 144.4M Throughput: 84.99 Mbps 3-sec avg: 110.54 Mbps Requested-Avg: 35.00 Mbps
2.4Ghz DL Sig: 48 Rot: 60	PASS	STA-RSSI: -69 Rx-Rate: 104M Tx-Rate: 144.4M Throughput: 64.95 Mbps 3-sec avg: 74.68 Mbps Requested-Avg: 35.00 Mbps
2.4Ghz UL Sig: 48 Rot: 60	PASS	STA-RSSI: -68 Rx-Rate: 104M Tx-Rate: 144.4M Throughput: 66.18 Mbps 3-sec avg: 112.33 Mbps Requested-Avg: 35.00 Mbps
2.4Ghz DL Sig: 48 Rot: 90	PASS	STA-RSSI: -69 Rx-Rate: 78M Tx-Rate: 144.4M Throughput: 55.10 Mbps 3-sec avg: 39.92 Mbps Requested-Avg: 35.00 Mbps
2.4Ghz UL Sig: 48 Rot: 90	PASS	STA-RSSI: -69 Rx-Rate: 104M Tx-Rate: 144.4M Throughput: 90.31 Mbps 3-sec avg: 111.07 Mbps Requested-Avg: 35.00 Mbps
2.4Ghz DL Sig: 48 Rot: 120	PASS	STA-RSSI: -69 Rx-Rate: 104M Tx-Rate: 144.4M Throughput: 52.55 Mbps 3-sec avg: 0 Mbps Requested-Avg: 35.00 Mbps
2.4Ghz UL Sig: 48 Rot: 120	PASS	STA-RSSI: -69 Rx-Rate: 117M Tx-Rate: 144.4M Throughput: 109.84 Mbps 3-sec avg: 111.58 Mbps Requested-Avg: 35.00 Mbps
2.4Ghz DL Sig: 48 Rot: 150	PASS	STA-RSSI: -68 Rx-Rate: 78M Tx-Rate: 144.4M Throughput: 54.47 Mbps 3-sec avg: 38.42 Mbps Requested-Avg: 35.00 Mbps
		STA-RSSI: -68 Rx-Rate: 78M Tx-Rate: 144.4M

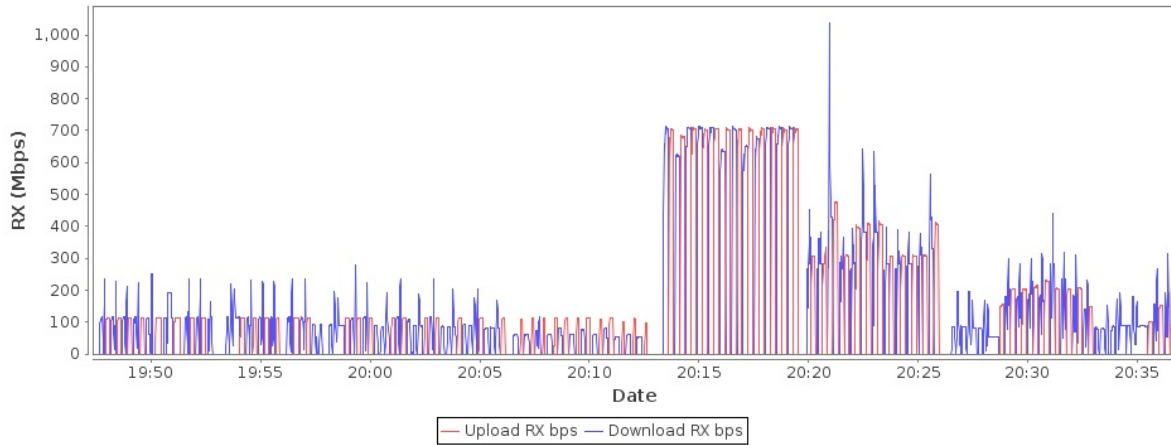
2.4Ghz UL Sig: 48 Rot: 150	PASS	Throughput: 83.53 Mbps 3-sec avg: 110.06 Mbps Requested-Avg: 35.00 Mbps
2.4Ghz DL Sig: 48 Rot: 180	PASS	STA-RSSI: -66 Rx-Rate: 104M Tx-Rate: 144.4M Throughput: 52.47 Mbps 3-sec avg: 0.05 Mbps Requested-Avg: 35.00 Mbps
2.4Ghz UL Sig: 48 Rot: 180	PASS	STA-RSSI: -67 Rx-Rate: 117M Tx-Rate: 144.4M Throughput: 111.32 Mbps 3-sec avg: 111.07 Mbps Requested-Avg: 35.00 Mbps
2.4Ghz DL Sig: 48 Rot: 210	PASS	STA-RSSI: -65 Rx-Rate: 78M Tx-Rate: 144.4M Throughput: 56.62 Mbps 3-sec avg: 45.84 Mbps Requested-Avg: 35.00 Mbps
2.4Ghz UL Sig: 48 Rot: 210	PASS	STA-RSSI: -65 Rx-Rate: 78M Tx-Rate: 144.4M Throughput: 81.46 Mbps 3-sec avg: 109.28 Mbps Requested-Avg: 35.00 Mbps
2.4Ghz DL Sig: 48 Rot: 240	PASS	STA-RSSI: -67 Rx-Rate: 104M Tx-Rate: 144.4M Throughput: 51.44 Mbps 3-sec avg: 0 Mbps Requested-Avg: 35.00 Mbps
2.4Ghz UL Sig: 48 Rot: 240	PASS	STA-RSSI: -68 Rx-Rate: 130M Tx-Rate: 144.4M Throughput: 111.10 Mbps 3-sec avg: 111.99 Mbps Requested-Avg: 35.00 Mbps
2.4Ghz DL Sig: 48 Rot: 270	PASS	STA-RSSI: -70 Rx-Rate: 72.2M Tx-Rate: 130M Throughput: 53.73 Mbps 3-sec avg: 54.14 Mbps Requested-Avg: 35.00 Mbps
2.4Ghz UL Sig: 48 Rot: 270	PASS	STA-RSSI: -69 Rx-Rate: 78M Tx-Rate: 130M Throughput: 60.89 Mbps 3-sec avg: 99.35 Mbps Requested-Avg: 35.00 Mbps
2.4Ghz DL Sig: 48 Rot: 300	PASS	STA-RSSI: -72 Rx-Rate: 78M Tx-Rate: 144.4M Throughput: 57.41 Mbps 3-sec avg: 49.38 Mbps Requested-Avg: 35.00 Mbps
2.4Ghz UL Sig: 48 Rot: 300	PASS	STA-RSSI: -72 Rx-Rate: 78M Tx-Rate: 144.4M Throughput: 82.36 Mbps 3-sec avg: 110.13 Mbps Requested-Avg: 35.00 Mbps
2.4Ghz DL Sig: 48 Rot: 330	PASS	STA-RSSI: -71 Rx-Rate: 78M Tx-Rate: 130M Throughput: 53.05 Mbps 3-sec avg: 53.14 Mbps Requested-Avg: 35.00 Mbps
2.4Ghz UL Sig: 48 Rot: 330	PASS	STA-RSSI: -71 Rx-Rate: 78M Tx-Rate: 130M Throughput: 56.47 Mbps 3-sec avg: 77.47 Mbps Requested-Avg: 35.00 Mbps
5Ghz DL Sig: 10 Rot: 0	PASS	STA-RSSI: -55 Rx-Rate: 866.7M Tx-Rate: 866.7M Throughput: 698.32 Mbps 3-sec avg: 705.53 Mbps Requested-Avg: 500.00 Mbps
5Ghz UL Sig: 10 Rot: 0	PASS	STA-RSSI: -55 Rx-Rate: 866.7M Tx-Rate: 866.7M Throughput: 699.68 Mbps 3-sec avg: 703.14 Mbps Requested-Avg: 500.00 Mbps
5Ghz DL Sig: 10 Rot: 30	PASS	STA-RSSI: -47 Rx-Rate: 780M Tx-Rate: 866.7M Throughput: 617.69 Mbps 3-sec avg: 619.82 Mbps Requested-Avg: 500.00 Mbps
5Ghz UL Sig: 10 Rot: 30	PASS	STA-RSSI: -47 Rx-Rate: 780M Tx-Rate: 866.7M Throughput: 679.63 Mbps 3-sec avg: 680.41 Mbps Requested-Avg: 500.00 Mbps
5Ghz DL Sig: 10 Rot: 60	PASS	STA-RSSI: -51 Rx-Rate: 866.7M Tx-Rate: 866.7M Throughput: 707.31 Mbps 3-sec avg: 708.74 Mbps Requested-Avg: 500.00 Mbps
5Ghz UL Sig: 10 Rot: 60	PASS	STA-RSSI: -51 Rx-Rate: 866.7M Tx-Rate: 866.7M Throughput: 701.06 Mbps 3-sec avg: 704.44 Mbps Requested-Avg: 500.00 Mbps
5Ghz DL Sig: 10 Rot: 90	PASS	STA-RSSI: -54 Rx-Rate: 866.7M Tx-Rate: 866.7M Throughput: 704.59 Mbps 3-sec avg: 706.95 Mbps Requested-Avg: 500.00 Mbps
5Ghz UL Sig: 10 Rot: 90	PASS	STA-RSSI: -53 Rx-Rate: 866.7M Tx-Rate: 866.7M Throughput: 702.80 Mbps 3-sec avg: 702.72 Mbps Requested-Avg: 500.00 Mbps
5Ghz DL Sig: 10 Rot: 120	PASS	STA-RSSI: -54 Rx-Rate: 866.7M Tx-Rate: 866.7M Throughput: 704.73 Mbps 3-sec avg: 708.41 Mbps Requested-Avg: 500.00 Mbps
5Ghz UL Sig: 10 Rot: 120	PASS	STA-RSSI: -55 Rx-Rate: 866.7M Tx-Rate: 866.7M Throughput: 704.37 Mbps 3-sec avg: 702.91 Mbps Requested-Avg: 500.00 Mbps
5Ghz DL Sig: 10 Rot: 150	PASS	STA-RSSI: -48 Rx-Rate: 780M Tx-Rate: 866.7M Throughput: 635.46 Mbps 3-sec avg: 635.24 Mbps Requested-Avg: 500.00 Mbps
5Ghz UL Sig: 10 Rot: 150	PASS	STA-RSSI: -49 Rx-Rate: 780M Tx-Rate: 866.7M Throughput: 701.65 Mbps 3-sec avg: 701.44 Mbps Requested-Avg: 500.00 Mbps
5Ghz DL Sig: 10 Rot: 180	PASS	STA-RSSI: -50 Rx-Rate: 866.7M Tx-Rate: 866.7M Throughput: 703.53 Mbps 3-sec avg: 702.43 Mbps Requested-Avg: 500.00 Mbps
5Ghz UL Sig: 10 Rot: 180	PASS	STA-RSSI: -51 Rx-Rate: 866.7M Tx-Rate: 866.7M Throughput: 703.51 Mbps 3-sec avg: 704.37 Mbps Requested-Avg: 500.00 Mbps
5Ghz DL Sig: 10 Rot: 210	PASS	STA-RSSI: -56 Rx-Rate: 866.7M Tx-Rate: 866.7M Throughput: 649.73 Mbps 3-sec avg: 647.89 Mbps Requested-Avg: 500.00 Mbps
5Ghz UL Sig: 10 Rot: 210	PASS	STA-RSSI: -56 Rx-Rate: 866.7M Tx-Rate: 866.7M Throughput: 700.02 Mbps 3-sec avg: 702.95 Mbps Requested-Avg: 500.00 Mbps
5Ghz DL Sig: 10 Rot: 240	PASS	STA-RSSI: -57 Rx-Rate: 866.7M Tx-Rate: 866.7M Throughput: 675.56 Mbps 3-sec avg: 674.53 Mbps Requested-Avg: 500.00 Mbps

5Ghz UL Sig: 10 Rot: 240	PASS	STA-RSSI: -57 Rx-Rate: 866.7M Tx-Rate: 866.7M Throughput: 701.48 Mbps 3-sec avg: 704.85 Mbps Requested-Avg: 500.00 Mbps
5Ghz DL Sig: 10 Rot: 270	PASS	STA-RSSI: -55 Rx-Rate: 866.7M Tx-Rate: 866.7M Throughput: 702.98 Mbps 3-sec avg: 706.36 Mbps Requested-Avg: 500.00 Mbps
5Ghz UL Sig: 10 Rot: 270	PASS	STA-RSSI: -55 Rx-Rate: 866.7M Tx-Rate: 866.7M Throughput: 701.85 Mbps 3-sec avg: 703.92 Mbps Requested-Avg: 500.00 Mbps
5Ghz DL Sig: 10 Rot: 300	PASS	STA-RSSI: -55 Rx-Rate: 866.7M Tx-Rate: 866.7M Throughput: 707.68 Mbps 3-sec avg: 708.06 Mbps Requested-Avg: 500.00 Mbps
5Ghz UL Sig: 10 Rot: 300	PASS	STA-RSSI: -55 Rx-Rate: 866.7M Tx-Rate: 866.7M Throughput: 703.12 Mbps 3-sec avg: 703.59 Mbps Requested-Avg: 500.00 Mbps
5Ghz DL Sig: 10 Rot: 330	PASS	STA-RSSI: -52 Rx-Rate: 866.7M Tx-Rate: 866.7M Throughput: 707.23 Mbps 3-sec avg: 708.32 Mbps Requested-Avg: 500.00 Mbps
5Ghz UL Sig: 10 Rot: 330	PASS	STA-RSSI: -52 Rx-Rate: 866.7M Tx-Rate: 866.7M Throughput: 704.19 Mbps 3-sec avg: 705.19 Mbps Requested-Avg: 500.00 Mbps
5Ghz DL Sig: 32 Rot: 0	PASS	STA-RSSI: -70 Rx-Rate: 351M Tx-Rate: 520M Throughput: 280.10 Mbps 3-sec avg: 335.92 Mbps Requested-Avg: 200.00 Mbps
5Ghz UL Sig: 32 Rot: 0	PASS	STA-RSSI: -71 Rx-Rate: 468M Tx-Rate: 390M Throughput: 304.32 Mbps 3-sec avg: 305.73 Mbps Requested-Avg: 200.00 Mbps
5Ghz DL Sig: 32 Rot: 30	PASS	STA-RSSI: -66 Rx-Rate: 351M Tx-Rate: 520M Throughput: 293.42 Mbps 3-sec avg: 282.40 Mbps Requested-Avg: 200.00 Mbps
5Ghz UL Sig: 32 Rot: 30	PASS	STA-RSSI: -66 Rx-Rate: 351M Tx-Rate: 433.3M Throughput: 307.75 Mbps 3-sec avg: 335.48 Mbps Requested-Avg: 200.00 Mbps
5Ghz DL Sig: 32 Rot: 60	PASS	STA-RSSI: -68 Rx-Rate: 526.6M Tx-Rate: 650M Throughput: 477.26 Mbps 3-sec avg: 428.05 Mbps Requested-Avg: 200.00 Mbps
5Ghz UL Sig: 32 Rot: 60	PASS	STA-RSSI: -68 Rx-Rate: 650M Tx-Rate: 650M Throughput: 474.14 Mbps 3-sec avg: 477.34 Mbps Requested-Avg: 200.00 Mbps
5Ghz DL Sig: 32 Rot: 90	PASS	STA-RSSI: -68 Rx-Rate: 351M Tx-Rate: 390M Throughput: 283.81 Mbps 3-sec avg: 283.93 Mbps Requested-Avg: 200.00 Mbps
5Ghz UL Sig: 32 Rot: 90	PASS	STA-RSSI: -68 Rx-Rate: 351M Tx-Rate: 390M Throughput: 307.66 Mbps 3-sec avg: 306.97 Mbps Requested-Avg: 200.00 Mbps
5Ghz DL Sig: 32 Rot: 120	PASS	STA-RSSI: -70 Rx-Rate: 351M Tx-Rate: 520M Throughput: 293.67 Mbps 3-sec avg: 284.55 Mbps Requested-Avg: 200.00 Mbps
5Ghz UL Sig: 32 Rot: 120	PASS	STA-RSSI: -70 Rx-Rate: 351M Tx-Rate: 520M Throughput: 394.70 Mbps 3-sec avg: 394.38 Mbps Requested-Avg: 200.00 Mbps
5Ghz DL Sig: 32 Rot: 150	PASS	STA-RSSI: -69 Rx-Rate: 468M Tx-Rate: 585.1M Throughput: 415.14 Mbps 3-sec avg: 381.26 Mbps Requested-Avg: 200.00 Mbps
5Ghz UL Sig: 32 Rot: 150	PASS	STA-RSSI: -70 Rx-Rate: 468M Tx-Rate: 520M Throughput: 405.17 Mbps 3-sec avg: 404.71 Mbps Requested-Avg: 200.00 Mbps
5Ghz DL Sig: 32 Rot: 180	PASS	STA-RSSI: -67 Rx-Rate: 468M Tx-Rate: 585.1M Throughput: 414.62 Mbps 3-sec avg: 382.11 Mbps Requested-Avg: 200.00 Mbps
5Ghz UL Sig: 32 Rot: 180	PASS	STA-RSSI: -67 Rx-Rate: 468M Tx-Rate: 520M Throughput: 406.12 Mbps 3-sec avg: 404.28 Mbps Requested-Avg: 200.00 Mbps
5Ghz DL Sig: 32 Rot: 210	PASS	STA-RSSI: -67 Rx-Rate: 351M Tx-Rate: 390M Throughput: 287.18 Mbps 3-sec avg: 283.59 Mbps Requested-Avg: 200.00 Mbps
5Ghz UL Sig: 32 Rot: 210	PASS	STA-RSSI: -67 Rx-Rate: 351M Tx-Rate: 390M Throughput: 304.80 Mbps 3-sec avg: 304.15 Mbps Requested-Avg: 200.00 Mbps
5Ghz DL Sig: 32 Rot: 240	PASS	STA-RSSI: -70 Rx-Rate: 351M Tx-Rate: 390M Throughput: 288.55 Mbps 3-sec avg: 283.37 Mbps Requested-Avg: 200.00 Mbps
5Ghz UL Sig: 32 Rot: 240	PASS	STA-RSSI: -70 Rx-Rate: 351M Tx-Rate: 390M Throughput: 306.15 Mbps 3-sec avg: 307.14 Mbps Requested-Avg: 200.00 Mbps
5Ghz DL Sig: 32 Rot: 270	PASS	STA-RSSI: -70 Rx-Rate: 351M Tx-Rate: 390M Throughput: 291.95 Mbps 3-sec avg: 283.84 Mbps Requested-Avg: 200.00 Mbps
5Ghz UL Sig: 32 Rot: 270	PASS	STA-RSSI: -71 Rx-Rate: 351M Tx-Rate: 390M Throughput: 306.05 Mbps 3-sec avg: 306.62 Mbps Requested-Avg: 200.00 Mbps
5Ghz DL Sig: 32 Rot: 300	PASS	STA-RSSI: -68 Rx-Rate: 351M Tx-Rate: 390M Throughput: 289.02 Mbps 3-sec avg: 283.50 Mbps Requested-Avg: 200.00 Mbps
5Ghz UL Sig: 32 Rot: 300	PASS	STA-RSSI: -68 Rx-Rate: 351M Tx-Rate: 390M Throughput: 307.88 Mbps 3-sec avg: 307.01 Mbps Requested-Avg: 200.00 Mbps
5Ghz DL Sig: 32 Rot: 330	PASS	STA-RSSI: -66 Rx-Rate: 351M Tx-Rate: 585.1M Throughput: 364.98 Mbps 3-sec avg: 315.61 Mbps

		Requested-Avg: 200.00 Mbps
5Ghz UL Sig: 32 Rot: 330	PASS	STA-RSSI: -67 Rx-Rate: 468M Tx-Rate: 520M Throughput: 404.18 Mbps 3-sec avg: 405.47 Mbps Requested-Avg: 200.00 Mbps
5Ghz DL Sig: 42 Rot: 0	Below Avg	STA-RSSI: -67 Rx-Rate: 468M Tx-Rate: 520M Throughput: 7.87 Mbps 3-sec avg: 26.43 Mbps Requested-Avg: 100.00 Mbps
5Ghz DL Sig: 42 Rot: 0 Retry: 1	Below Avg	STA-RSSI: -70 Rx-Rate: 108M Tx-Rate: 195M Throughput: 85.62 Mbps 3-sec avg: 141.46 Mbps Requested-Avg: 100.00 Mbps
5Ghz DL Sig: 42 Rot: 0 Retry: 2	Below Avg	STA-RSSI: -71 Rx-Rate: 108M Tx-Rate: 195M Throughput: 83.65 Mbps 3-sec avg: 81.01 Mbps Requested-Avg: 100.00 Mbps
5Ghz DL Sig: 42 Rot: 0 Retry: 3	Below Avg	STA-RSSI: -70 Rx-Rate: 72.2M Tx-Rate: 195M Throughput: 65.66 Mbps 3-sec avg: 54.12 Mbps Requested-Avg: 100.00 Mbps
5Ghz UL Sig: 42 Rot: 0	PASS	STA-RSSI: -74 Rx-Rate: 234M Tx-Rate: 195M Throughput: 152.63 Mbps 3-sec avg: 155.18 Mbps Requested-Avg: 100.00 Mbps
5Ghz DL Sig: 42 Rot: 30	PASS	STA-RSSI: -76 Rx-Rate: 234M Tx-Rate: 260M Throughput: 184.55 Mbps 3-sec avg: 195.23 Mbps Requested-Avg: 100.00 Mbps
5Ghz UL Sig: 42 Rot: 30	PASS	STA-RSSI: -76 Rx-Rate: 234M Tx-Rate: 260M Throughput: 201.58 Mbps 3-sec avg: 203.04 Mbps Requested-Avg: 100.00 Mbps
5Ghz DL Sig: 42 Rot: 60	PASS	STA-RSSI: -74 Rx-Rate: 234M Tx-Rate: 292.6M Throughput: 173.63 Mbps 3-sec avg: 190.39 Mbps Requested-Avg: 100.00 Mbps
5Ghz UL Sig: 42 Rot: 60	PASS	STA-RSSI: -75 Rx-Rate: 234M Tx-Rate: 260M Throughput: 202.36 Mbps 3-sec avg: 202.55 Mbps Requested-Avg: 100.00 Mbps
5Ghz DL Sig: 42 Rot: 90	PASS	STA-RSSI: -73 Rx-Rate: 234M Tx-Rate: 292.6M Throughput: 187.64 Mbps 3-sec avg: 225.60 Mbps Requested-Avg: 100.00 Mbps
5Ghz UL Sig: 42 Rot: 90	PASS	STA-RSSI: -75 Rx-Rate: 234M Tx-Rate: 292.6M Throughput: 211.11 Mbps 3-sec avg: 215.60 Mbps Requested-Avg: 100.00 Mbps
5Ghz DL Sig: 42 Rot: 120	PASS	STA-RSSI: -73 Rx-Rate: 234M Tx-Rate: 292.5M Throughput: 181.66 Mbps 3-sec avg: 168.42 Mbps Requested-Avg: 100.00 Mbps
5Ghz UL Sig: 42 Rot: 120	PASS	STA-RSSI: -73 Rx-Rate: 234M Tx-Rate: 292.6M Throughput: 227.84 Mbps 3-sec avg: 226.42 Mbps Requested-Avg: 100.00 Mbps
5Ghz DL Sig: 42 Rot: 150	PASS	STA-RSSI: -74 Rx-Rate: 351M Tx-Rate: 260M Throughput: 281.16 Mbps 3-sec avg: 281.23 Mbps Requested-Avg: 100.00 Mbps
5Ghz UL Sig: 42 Rot: 150	PASS	STA-RSSI: -74 Rx-Rate: 351M Tx-Rate: 260M Throughput: 203.17 Mbps 3-sec avg: 203.67 Mbps Requested-Avg: 100.00 Mbps
5Ghz DL Sig: 42 Rot: 180	PASS	STA-RSSI: -73 Rx-Rate: 234M Tx-Rate: 260M Throughput: 186.69 Mbps 3-sec avg: 227.46 Mbps Requested-Avg: 100.00 Mbps
5Ghz UL Sig: 42 Rot: 180	PASS	STA-RSSI: -73 Rx-Rate: 351M Tx-Rate: 260M Throughput: 203.18 Mbps 3-sec avg: 203.90 Mbps Requested-Avg: 100.00 Mbps
5Ghz DL Sig: 42 Rot: 210	PASS	STA-RSSI: -72 Rx-Rate: 234M Tx-Rate: 292.6M Throughput: 152.13 Mbps 3-sec avg: 71.56 Mbps Requested-Avg: 100.00 Mbps
5Ghz UL Sig: 42 Rot: 210	PASS	STA-RSSI: -72 Rx-Rate: 234M Tx-Rate: 260M Throughput: 206.07 Mbps 3-sec avg: 205.38 Mbps Requested-Avg: 100.00 Mbps
5Ghz DL Sig: 42 Rot: 240	PASS	STA-RSSI: -77 Rx-Rate: 175.5M Tx-Rate: 195M Throughput: 141.61 Mbps 3-sec avg: 229.76 Mbps Requested-Avg: 100.00 Mbps
5Ghz UL Sig: 42 Rot: 240	PASS	STA-RSSI: -77 Rx-Rate: 234M Tx-Rate: 195M Throughput: 146.46 Mbps 3-sec avg: 145.12 Mbps Requested-Avg: 100.00 Mbps
5Ghz DL Sig: 42 Rot: 270	Below Avg	STA-RSSI: -74 Rx-Rate: 108M Tx-Rate: 195M Throughput: 48.30 Mbps 3-sec avg: 0 Mbps Requested-Avg: 100.00 Mbps
5Ghz DL Sig: 42 Rot: 270 Retry: 1	Below Avg	STA-RSSI: -78 Rx-Rate: 81M Tx-Rate: 130M Throughput: 63.80 Mbps 3-sec avg: 25.95 Mbps Requested-Avg: 100.00 Mbps
5Ghz DL Sig: 42 Rot: 270 Retry: 2	Below Avg	STA-RSSI: -78 Rx-Rate: 117M Tx-Rate: 175.5M Throughput: 86.72 Mbps 3-sec avg: 88.30 Mbps Requested-Avg: 100.00 Mbps
5Ghz DL Sig: 42 Rot: 270 Retry: 3	Below Avg	STA-RSSI: -77 Rx-Rate: 117M Tx-Rate: 195M Throughput: 87.16 Mbps 3-sec avg: 87.95 Mbps Requested-Avg: 100.00 Mbps
5Ghz UL Sig: 42 Rot: 270	PASS	STA-RSSI: -77 Rx-Rate: 175.6M Tx-Rate: 175.5M Throughput: 100.19 Mbps 3-sec avg: 100.73 Mbps Requested-Avg: 100.00 Mbps
5Ghz DL Sig: 42 Rot: 300	PASS	STA-RSSI: -75 Rx-Rate: 234M Tx-Rate: 195M Throughput: 128.86 Mbps 3-sec avg: 74.37 Mbps Requested-Avg: 100.00 Mbps
5Ghz UL Sig: 42 Rot: 300	PASS	STA-RSSI: -74 Rx-Rate: 234M Tx-Rate: 195M Throughput: 152.96 Mbps 3-sec avg: 152.96 Mbps Requested-Avg: 100.00 Mbps

5Ghz DL Sig: 42 Rot: 330	PASS	STA-RSSI: -70 Rx-Rate: 234M Tx-Rate: 292.6M Throughput: 187.27 Mbps 3-sec avg: 193.03 Mbps Requested-Avg: 100.00 Mbps
5Ghz UL Sig: 42 Rot: 330	PASS	STA-RSSI: -73 Rx-Rate: 234M Tx-Rate: 260M Throughput: 204.03 Mbps 3-sec avg: 202.44 Mbps Requested-Avg: 100.00 Mbps

Realtime Throughput for: 6.3.2 Spatial Consistency Test



6.4.1 Multiple STAs Performance Test

Summary

Multiple STAs performance test intends to measure the performance of Wi-Fi device connected with multiple STAs at different distances simultaneously. There are three sets of 3 stations, with each group at a different emulated distance.

Test Procedure

These steps are done for 2.4Ghz and 5Ghz.

1. Configure the system to emulate a 2-meter distance. This is the baseline '0' attenuation.
2. Establish the LAN connection, create 3 sets of 3 stations.
3. Group 1 is set to short distance, Group 2 is set to medium distance, and Group 3 is set to long distance.
The attenuations for 2.4Ghz are: 10, 38, 48
The attenuations for 5Ghz are: 10, 32, 42
4. Measure the downlink TCP throughput to each short-distance STA, using a test time of 120 seconds. Calculate the summation of downlink TCP throughput of the three STA set to short distance. Wait for 10 seconds. Measure the uplink TCP throughput to each STA, using a test time of 120 seconds. Calculate the summation uplink TCP throughput of the three STA in short distance.
5. Enable the medium distance stations and allow them to associate with the DUT. Measure the downlink TCP throughput to each of the 6 stations, using a test time of 120 seconds. Calculate the summation of downlink TCP throughput of all STA (three short-distance STA and the three medium-distance STA). Wait for 10 seconds. Measure the uplink TCP throughput to each STA, using a test time of 120 seconds. Calculate the summation of uplink TCP throughput of all 6 stations.
6. Enable the long distance stations and allow them to associate with the DUT. Measure the downlink TCP throughput to each of the 9 stations, using a test time of 120 seconds. Calculate the summation of all STA (downlink TCP throughput of the three short-distance STA, the three medium-distance STA and the three long-distance STA). Wait for 10 seconds. Measure the uplink TCP throughput to each STA, using a test time of 120 seconds. Calculate the summation of uplink TCP throughput of all 9 stations.

Pass/Fail Criteria

Each step must pass a certain amount of traffic in each direction to pass the test.

1. For 2.4Ghz, short-distance: 70Mbps.
2. For 2.4Ghz, short-distance and medium-distance: 60Mbps.
3. For 2.4Ghz, short-distance, medium-distance, and long-distance: 50Mbps.
4. For 5Ghz, short-distance: 500Mbps.
5. For 5Ghz, short-distance and medium-distance: 400Mbps.
6. For 5Ghz, short-distance, medium-distance, and long-distance: 300Mbps.

6.4.1 Multiple STAs Performance Test Results

Type	Result	Notes
6.4.1 Assumptions	INFO	This test does not specify RSSI, so calibrating it is difficult. You may shift the attenuation by modifying the Attenuation Adjustment setting on the 'Advanced Configuration' screen.

2.4Ghz DL Group 1	PASS	Requires: 70 Mbps Reported: 119.94 Mbps Group-1 Avg: STA-RSSI: -37 Rx-Rate: 144.4M Tx-Rate: 144.4M
2.4Ghz UL Group 1	PASS	Requires: 70 Mbps Reported: 111.79 Mbps Group-1 Avg: STA-RSSI: -38 Rx-Rate: 144.4M Tx-Rate: 144.4M
2.4Ghz DL Groups 1-2	PASS	Requires: 60 Mbps Reported: 99.40 Mbps Group-1 Avg: STA-RSSI: -38 Rx-Rate: 144.4M Tx-Rate: 144.4M Group-2 Avg: STA-RSSI: -59 Rx-Rate: 112.667M Tx-Rate: 135.267M
2.4Ghz UL Groups 1-2	PASS	Requires: 60 Mbps Reported: 103.58 Mbps Group-1 Avg: STA-RSSI: -38 Rx-Rate: 144.4M Tx-Rate: 144.4M Group-2 Avg: STA-RSSI: -59 Rx-Rate: 97.5M Tx-Rate: 144.4M
2.4Ghz DL Groups 1-3	PASS	Requires: 50 Mbps Reported: 86.59 Mbps Group-1 Avg: STA-RSSI: -37 Rx-Rate: 144.4M Tx-Rate: 139.6M Group-2 Avg: STA-RSSI: -59 Rx-Rate: 117M Tx-Rate: 139.6M Group-3 Avg: STA-RSSI: -70 Rx-Rate: 104M Tx-Rate: 117M
2.4Ghz UL Groups 1-3	PASS	Requires: 50 Mbps Reported: 109.81 Mbps Group-1 Avg: STA-RSSI: -37 Rx-Rate: 144.4M Tx-Rate: 144.4M Group-2 Avg: STA-RSSI: -59 Rx-Rate: 121.333M Tx-Rate: 144.4M Group-3 Avg: STA-RSSI: -71 Rx-Rate: 112.667M Tx-Rate: 117M
5Ghz DL Group 1	PASS	Requires: 500 Mbps Reported: 699.39 Mbps Group-1 Avg: STA-RSSI: -54 Rx-Rate: 866.7M Tx-Rate: 866.7M
5Ghz UL Group 1	PASS	Requires: 500 Mbps Reported: 678.19 Mbps Group-1 Avg: STA-RSSI: -54 Rx-Rate: 866.7M Tx-Rate: 866.7M
5Ghz DL Groups 1-2	PASS	Requires: 400 Mbps Reported: 476.83 Mbps Group-1 Avg: STA-RSSI: -53 Rx-Rate: 866.7M Tx-Rate: 866.7M Group-2 Avg: STA-RSSI: -67 Rx-Rate: 351M Tx-Rate: 585.1M
5Ghz UL Groups 1-2	PASS	Requires: 400 Mbps Reported: 577.53 Mbps Group-1 Avg: STA-RSSI: -54 Rx-Rate: 866.7M Tx-Rate: 866.7M Group-2 Avg: STA-RSSI: -69 Rx-Rate: 468M Tx-Rate: 585.1M
5Ghz DL Groups 1-3	PASS	Requires: 300 Mbps Reported: 345.85 Mbps Group-1 Avg: STA-RSSI: -54 Rx-Rate: 866.7M Tx-Rate: 866.7M Group-2 Avg: STA-RSSI: -67 Rx-Rate: 351M Tx-Rate: 546.067M Group-3 Avg: STA-RSSI: -82 Rx-Rate: 175.6M Tx-Rate: 182.1M
5Ghz UL Groups 1-3	PASS	Requires: 300 Mbps Reported: 550.45 Mbps Group-1 Avg: STA-RSSI: -53 Rx-Rate: 837.8M Tx-Rate: 866.7M Group-2 Avg: STA-RSSI: -68 Rx-Rate: 468M Tx-Rate: 585.1M Group-3 Avg: STA-RSSI: -77 Rx-Rate: 144.033M Tx-Rate: 182.1M

Multi_Sta: Run #0 DL Snapshot 2.4Ghz

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.14 sta0600	346.66 Kbps	242.581 Kbps	39.332 Mbps	24.422 Mbps	0	144.4 Mbps	144.4 Mbps	802.11bgn	11	248	-37	DC:EF:09:E3:B8:7B	192.168.1.110	04:f0:21:4b:ab:00
1.1.15 sta0601	303.094 Kbps	210.614 Kbps	39.833 Mbps	23.608 Mbps	0	144.4 Mbps	144.4 Mbps	802.11bgn	11	38	-37	DC:EF:09:E3:B8:7B	192.168.1.200	04:f0:21:4b:98:00
1.1.16 sta0602	308.886 Kbps	207.328 Kbps	39.246 Mbps	24.164 Mbps	0	144.4 Mbps	144.4 Mbps	802.11bgn	11	38	-38	DC:EF:09:E3:B8:7B	192.168.1.223	04:f0:21:4b:88:00

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	118.986 Mbps	124.459 Mbps	729.228 Kbps	805.692 Kbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0600--1.0.0-A	0 bps	0 bps	37.45 Mbps	40.544 Mbps	25,170	25,170	4,386	0
cv_tcp-1.1-1.sta0600--1.0.0-B	37.941 Mbps	40.569 Mbps	0 bps	0 bps	0	25,170	0	0
cv_tcp-1.1-1.sta0601--1.0.0-A	0 bps	0 bps	37.733 Mbps	39.813 Mbps	25,583	25,583	10,584	0
cv_tcp-1.1-1.sta0601--1.0.0-B	37.674 Mbps	40.221 Mbps	0 bps	0 bps	0	25,583	0	0
cv_tcp-1.1-1.sta0602--1.0.0-A	0 bps	0 bps	37.825 Mbps	39.994 Mbps	23,371	23,371	625	0
cv_tcp-1.1-1.sta0602--1.0.0-B	37.712 Mbps	40.051 Mbps	0 bps	0 bps	0	23,371	0	0

Multi_Sta: Run #0 UL Snapshot 2.4Ghz

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.14 sta0600	39.939 Mbps	23.342 Mbps	390.285 Kbps	18.081 Mbps	0	144.4 Mbps	144.4 Mbps	802.11bgn	11	248	-38	DC:EF:09:E3:B8:7B	192.168.1.110	04:f0:21:4b:ab:00
1.1.15 sta0601	40.64 Mbps	23.13 Mbps	528.638 Kbps	17.857 Mbps	0	144.4 Mbps	144.4 Mbps	802.11bgn	11	38	-38	DC:EF:09:E3:B8:7B	192.168.1.200	04:f0:21:4b:98:00
1.1.16 sta0602	35.837 Mbps	19.485 Mbps	489.946 Kbps	17.933 Mbps	0	144.4 Mbps	144.4 Mbps	802.11bgn	11	38	-38	DC:EF:09:E3:B8:7B	192.168.1.223	04:f0:21:4b:88:00

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	1.512 Mbps	19.277 Mbps	115.99 Mbps	94.793 Mbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0600--1.0.0-A	42.013 Mbps	39.34 Mbps	0 bps	0 bps	0	4,951	0	0

cv_tcp-1.1-1.sta0600--1.0.0-B	0 bps	0 bps	40.441 Mbps	39.25 Mbps	4,951	4,951	423	0
cv_tcp-1.1-1.sta0601--1.0.0-A	41.234 Mbps	39.253 Mbps	0 bps	0 bps	0	3,367	0	0
cv_tcp-1.1-1.sta0601--1.0.0-B	0 bps	0 bps	42.669 Mbps	39.29 Mbps	3,367	3,367	593	0
cv_tcp-1.1-1.sta0602--1.0.0-A	29.779 Mbps	33.293 Mbps	0 bps	0 bps	0	1,132	0	0
cv_tcp-1.1-1.sta0602--1.0.0-B	0 bps	0 bps	27.825 Mbps	33.253 Mbps	1,132	1,132	232	0

Multi_Sta: Run #1 DL Snapshot 2.4Ghz

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.14 sta0600	157.601 Kbps	171.651 Kbps	18.455 Mbps	18.746 Mbps	0.008	144.4 Mbps	144.4 Mbps	802.11bgn	11	248	-38	DC:EF:09:E3:B8:7B	192.168.1.110	04:f0:21:4b:ab:00
1.1.15 sta0601	142.037 Kbps	158.891 Kbps	18.605 Mbps	18.634 Mbps	0.007	144.4 Mbps	144.4 Mbps	802.11bgn	11	38	-38	DC:EF:09:E3:B8:7B	192.168.1.200	04:f0:21:4b:98:00
1.1.16 sta0602	154.473 Kbps	159.356 Kbps	18.175 Mbps	18.58 Mbps	0.011	144.4 Mbps	144.4 Mbps	802.11bgn	11	38	-38	DC:EF:09:E3:B8:7B	192.168.1.223	04:f0:21:4b:88:00
1.1.17 sta0800	151.604 Kbps	156.558 Kbps	14.641 Mbps	14.438 Mbps	0.521	144.4 Mbps	104 Mbps	802.11bgn	11	230	-58	DC:EF:09:E3:B8:7B	192.168.1.11	04:f0:21:36:f1:74
1.1.18 sta0801	204.328 Kbps	211.752 Kbps	14.284 Mbps	14.22 Mbps	0.02	144.4 Mbps	117 Mbps	802.11bgn	11	3,186	-59	DC:EF:09:E3:B8:7B	192.168.1.12	04:f0:21:36:d9:74
1.1.19 sta0802	183.546 Kbps	157.802 Kbps	14.642 Mbps	14.545 Mbps	0.323	117 Mbps	117 Mbps	802.11bgn	11	230	-60	DC:EF:09:E3:B8:7B	192.168.1.13	04:f0:21:36:c6:74

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	98.87 Mbps	76.548 Mbps	804.142 Kbps	32.258 Mbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0600--1.0.0-A	0 bps	0 bps	17.766 Mbps	18.515 Mbps	37,065	37,065	2,812	1.108
cv_tcp-1.1-1.sta0600--1.0.0-B	15.882 Mbps	18.865 Mbps	0 bps	0 bps	0	37,065	0	0
cv_tcp-1.1-1.sta0601--1.0.0-A	0 bps	0 bps	18.286 Mbps	18.934 Mbps	31,089	31,089	8,838	1.124
cv_tcp-1.1-1.sta0601--1.0.0-B	18.399 Mbps	19.385 Mbps	0 bps	0 bps	0	31,089	0	0
cv_tcp-1.1-1.sta0602--1.0.0-A	0 bps	0 bps	17.749 Mbps	18.858 Mbps	28,984	28,984	493	0
cv_tcp-1.1-1.sta0602--1.0.0-B	19.346 Mbps	18.957 Mbps	0 bps	0 bps	0	28,984	0	0
cv_tcp-1.1-1.sta0800--1.0.1-A	0 bps	0 bps	12.662 Mbps	14.517 Mbps	29,119	29,119	12,677	0.751
cv_tcp-1.1-1.sta0800--1.0.1-B	12.303 Mbps	14.814 Mbps	0 bps	0 bps	0	29,119	0	0
cv_tcp-1.1-1.sta0801--1.0.1-A	0 bps	0 bps	13.937 Mbps	14.821 Mbps	23,802	23,802	4,137	0
cv_tcp-1.1-1.sta0801--1.0.1-B	13.213 Mbps	14.986 Mbps	0 bps	0 bps	0	23,802	0	0
cv_tcp-1.1-1.sta0802--1.0.1-A	0 bps	0 bps	13.622 Mbps	14.53 Mbps	26,394	26,394	12,644	1.677
cv_tcp-1.1-1.sta0802--1.0.1-B	13.213 Mbps	14.741 Mbps	0 bps	0 bps	0	26,394	0	0

Multi_Sta: Run #1 UL Snapshot 2.4Ghz

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.14 sta0600	15.007 Mbps	21.384 Mbps	99.797 Kbps	2.232 Mbps	0.005	144.4 Mbps	144.4 Mbps	802.11bgn	11	248	-39	DC:EF:09:E3:B8:7B	192.168.1.110	04:f0:21:4b:ab:00
1.1.15 sta0601	18.242 Mbps	18.834 Mbps	147.171 Kbps	3.804 Mbps	0.006	144.4 Mbps	144.4 Mbps	802.11bgn	11	38	-38	DC:EF:09:E3:B8:7B	192.168.1.200	04:f0:21:4b:98:00
1.1.16 sta0602	14.772 Mbps	16.271 Mbps	144.919 Kbps	1.872 Mbps	0.022	144.4 Mbps	144.4 Mbps	802.11bgn	11	38	-39	DC:EF:09:E3:B8:7B	192.168.1.223	04:f0:21:4b:88:00
1.1.17 sta0800	6.431 Mbps	15.827 Mbps	42.055 Kbps	1.405 Mbps	0.224	144.4 Mbps	117 Mbps	802.11bgn	11	230	-60	DC:EF:09:E3:B8:7B	192.168.1.11	04:f0:21:36:f1:74
1.1.18 sta0801	6.148 Mbps	14.292 Mbps	42.482 Kbps	2.421 Mbps	0.041	144.4 Mbps	58.5 Mbps	802.11bgn	11	3,186	-59	DC:EF:09:E3:B8:7B	192.168.1.12	04:f0:21:36:d9:74
1.1.19 sta0802	10.254 Mbps	11.219 Mbps	105.796 Kbps	2.099 Mbps	0.191	144.4 Mbps	117 Mbps	802.11bgn	11	230	-59	DC:EF:09:E3:B8:7B	192.168.1.13	04:f0:21:36:c6:74

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	65.236 Kbps	36.134 Mbps	6.931 Mbps	67.122 Mbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0600--1.0.0-A	13.164 Mbps	20.476 Mbps	0 bps	0 bps	0	13,210	0	0
cv_tcp-1.1-1.sta0600--1.0.0-B	0 bps	0 bps	11.24 Mbps	20.377 Mbps	13,210	13,210	1,581	0.421
cv_tcp-1.1-1.sta0601--1.0.0-A	13.138 Mbps	20.762 Mbps	0 bps	0 bps	0	9,789	0	0
cv_tcp-1.1-1.sta0601--1.0.0-B	0 bps	0 bps	8.538 Mbps	20.583 Mbps	9,789	9,789	2,642	0.537
cv_tcp-1.1-1.sta0602--1.0.0-A	7.944 Mbps	16.697 Mbps	0 bps	0 bps	0	2,424	0	0
cv_tcp-1.1-1.sta0602--1.0.0-B	0 bps	0 bps	9.196 Mbps	16.789 Mbps	2,424	2,424	422	0

cv_tcp-1.1-1.sta0800--1.0.1-A	7.016 Mbps	16.22 Mbps	0 bps	0 bps	0	10,714	0	0
cv_tcp-1.1-1.sta0800--1.0.1-B	0 bps	0 bps	7.839 Mbps	16.088 Mbps	10,714	10,714	1,690	1.058
cv_tcp-1.1-1.sta0801--1.0.1-A	7.026 Mbps	16.784 Mbps	0 bps	0 bps	0	12,047	0	0
cv_tcp-1.1-1.sta0801--1.0.1-B	0 bps	0 bps	9.199 Mbps	16.553 Mbps	12,047	12,047	1,873	1.744
cv_tcp-1.1-1.sta0802--1.0.1-A	6.176 Mbps	12.225 Mbps	0 bps	0 bps	0	5,242	0	0
cv_tcp-1.1-1.sta0802--1.0.1-B	0 bps	0 bps	7.496 Mbps	12.294 Mbps	5,242	5,242	1,311	0

Multi_Sta: Run #2 DL Snapshot 2.4Ghz

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.14 sta0600	137.221 Kbps	3.221 Mbps	12.723 Mbps	8.585 Mbps	0.005	144.4 Mbps	144.4 Mbps	802.11bgn	11	248	-37	DC:EF:09:E3:B8:7B	192.168.1.110	04:f0:21:4b:ab:00
1.1.15 sta0601	124.076 Kbps	5.45 Mbps	12.201 Mbps	7.486 Mbps	0.006	144.4 Mbps	144.4 Mbps	802.11bgn	11	38	-38	DC:EF:09:E3:B8:7B	192.168.1.200	04:f0:21:4b:98:00
1.1.16 sta0602	149.616 Kbps	3.015 Mbps	12.761 Mbps	8.567 Mbps	0.027	144.4 Mbps	144.4 Mbps	802.11bgn	11	38	-38	DC:EF:09:E3:B8:7B	192.168.1.223	04:f0:21:4b:88:00
1.1.17 sta0800	78.126 Kbps	3.184 Mbps	9.633 Mbps	1.462 Mbps	0.272	144.4 Mbps	117 Mbps	802.11bgn	11	230	-60	DC:EF:09:E3:B8:7B	192.168.1.11	04:f0:21:36:f1:74
1.1.18 sta0801	99.957 Kbps	4.347 Mbps	9.627 Mbps	865.838 Kbps	0.038	144.4 Mbps	117 Mbps	802.11bgn	11	3,186	-60	DC:EF:09:E3:B8:7B	192.168.1.12	04:f0:21:36:d9:74
1.1.19 sta0802	114.387 Kbps	3.621 Mbps	8.163 Mbps	5.853 Mbps	0.229	130 Mbps	117 Mbps	802.11bgn	11	230	-59	DC:EF:09:E3:B8:7B	192.168.1.13	04:f0:21:36:c6:74
1.1.20 sta1000	80.942 Kbps	136.245 Kbps	8.287 Mbps	10.406 Mbps	7.681	130 Mbps	104 Mbps	802.11bgn	11	233	-70	DC:EF:09:E3:B8:7B	192.168.1.14	04:f0:21:4b:bd:f9
1.1.21 sta1001	87.695 Kbps	145.067 Kbps	8.247 Mbps	10.888 Mbps	7.983	130 Mbps	104 Mbps	802.11bgn	11	39	-69	DC:EF:09:E3:B8:7B	192.168.1.2	04:f0:21:4b:8e:f9
1.1.22 sta1002	93.218 Kbps	131.228 Kbps	8.33 Mbps	10.724 Mbps	9.078	144.4 Mbps	104 Mbps	802.11bgn	11	300	-70	DC:EF:09:E3:B8:7B	192.168.1.149	04:f0:21:4b:98:f9

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	80.307 Mbps	102.294 Mbps	710.625 Kbps	774.068 Kbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0600--1.0.0-A	0 bps	0 bps	10.068 Mbps	13.024 Mbps	5,508	5,508	2,809	8.292
cv_tcp-1.1-1.sta0600--1.0.0-B	9.615 Mbps	14.132 Mbps	0 bps	0 bps	0	5,508	0	0
cv_tcp-1.1-1.sta0601--1.0.0-A	0 bps	0 bps	9.131 Mbps	12.506 Mbps	4,233	4,233	476	3.469
cv_tcp-1.1-1.sta0601--1.0.0-B	5.28 Mbps	12.912 Mbps	0 bps	0 bps	0	4,233	0	0
cv_tcp-1.1-1.sta0602--1.0.0-A	0 bps	0 bps	12.923 Mbps	13.082 Mbps	3,572	3,572	1,195	6.004
cv_tcp-1.1-1.sta0602--1.0.0-B	12.255 Mbps	14.053 Mbps	0 bps	0 bps	0	3,572	0	0
cv_tcp-1.1-1.sta0800--1.0.1-A	0 bps	0 bps	7.258 Mbps	2.995 Mbps	10,718	10,718	423	59.746
cv_tcp-1.1-1.sta0800--1.0.1-B	5.259 Mbps	7.619 Mbps	0 bps	0 bps	0	10,718	0	0
cv_tcp-1.1-1.sta0801--1.0.1-A	0 bps	0 bps	5.448 Mbps	2.205 Mbps	7,114	7,114	393	47.412
cv_tcp-1.1-1.sta0801--1.0.1-B	3.506 Mbps	4.244 Mbps	0 bps	0 bps	0	7,114	0	0
cv_tcp-1.1-1.sta0802--1.0.1-A	0 bps	0 bps	4.222 Mbps	9.349 Mbps	4,930	4,930	2,187	5.861
cv_tcp-1.1-1.sta0802--1.0.1-B	3.335 Mbps	9.907 Mbps	0 bps	0 bps	0	4,930	0	0
cv_tcp-1.1-1.sta1000--1.0.2-A	0 bps	0 bps	17.07 Mbps	12.112 Mbps	54,295	54,295	2,513	6.5
cv_tcp-1.1-1.sta1000--1.0.2-B	6.131 Mbps	12.744 Mbps	0 bps	0 bps	0	54,295	0	0
cv_tcp-1.1-1.sta1001--1.0.2-A	0 bps	0 bps	4.063 Mbps	12.292 Mbps	50,107	50,107	4,232	9.296
cv_tcp-1.1-1.sta1001--1.0.2-B	7.007 Mbps	13.42 Mbps	0 bps	0 bps	0	50,107	0	0
cv_tcp-1.1-1.sta1002--1.0.2-A	0 bps	0 bps	0 bps	12.04 Mbps	49,859	49,859	3,808	9.934
cv_tcp-1.1-1.sta1002--1.0.2-B	879.085 Kbps	13.098 Mbps	0 bps	0 bps	0	49,859	0	0

Multi_Sta: Run #2 UL Snapshot 2.4Ghz

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.14 sta0600	21.873 Mbps	15.658 Mbps	159.434 Kbps	3.887 Mbps	0.005	144.4 Mbps	144.4 Mbps	802.11bgn	11	248	-38	DC:EF:09:E3:B8:7B	192.168.1.110	04:f0:21:4b:ab:00
1.1.15 sta0601	22.585 Mbps	13.381 Mbps	259.06 Kbps	5.326 Mbps	0.005	144.4 Mbps	144.4 Mbps	802.11bgn	11	38	-38	DC:EF:09:E3:B8:7B	192.168.1.200	04:f0:21:4b:98:00
1.1.16	20.779	13.781	239.734	4.129		144.4	144.4							

sta0602	Mbps	Mbps	Kbps	Mbps	0.03	Mbps	Mbps	802.11bgn	11	38	-38	DC:EF:09:E3:B8:7B	192.168.1.223	04:f0:21:4b:88:00
1.1.17 sta0800	17.577 Mbps	9.316 Mbps	167.5 Kbps	2.926 Mbps	0.192	144.4 Mbps	130 Mbps	802.11bgn	11	230	-60	DC:EF:09:E3:B8:7B	192.168.1.11	04:f0:21:36:f1:74
1.1.18 sta0801	15.312 Mbps	8.678 Mbps	148.912 Kbps	2.196 Mbps	0.082	144.4 Mbps	117 Mbps	802.11bgn	11	3,186	-59	DC:EF:09:E3:B8:7B	192.168.1.12	04:f0:21:36:d9:74
1.1.19 sta0802	15.337 Mbps	11.124 Mbps	154.943 Kbps	3.462 Mbps	0.182	144.4 Mbps	117 Mbps	802.11bgn	11	230	-59	DC:EF:09:E3:B8:7B	192.168.1.13	04:f0:21:36:c6:74
1.1.20 sta1000	1.075 Mbps	706.164 Kbps	13.022 Kbps	3.751 Mbps	10.553	117 Mbps	117 Mbps	802.11bgn	11	233	-72	DC:EF:09:E3:B8:7B	192.168.1.14	04:f0:21:4b:bd:f9
1.1.21 sta1001	1.304 Mbps	1.203 Mbps	17.067 Kbps	3.785 Mbps	11.198	117 Mbps	104 Mbps	802.11bgn	11	39	-70	DC:EF:09:E3:B8:7B	192.168.1.2	04:f0:21:4b:8e:f9
1.1.22 sta1002	777.339 Kbps	722.079 Kbps	12.036 Kbps	3.668 Mbps	12.604	117 Mbps	117 Mbps	802.11bgn	11	300	-71	DC:EF:09:E3:B8:7B	192.168.1.149	04:f0:21:4b:98:f9

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	1.139 Mbps	15.641 Mbps	114.248 Mbps	92.692 Mbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0600--1.0.0-A	22.772 Mbps	21.354 Mbps	0 bps	0 bps	0	10,796	0	0
cv_tcp-1.1-1.sta0600--1.0.0-B	0 bps	0 bps	21.584 Mbps	21.259 Mbps	10,796	10,796	309	0.515
cv_tcp-1.1-1.sta0601--1.0.0-A	22.81 Mbps	20.92 Mbps	0 bps	0 bps	0	6,979	0	0
cv_tcp-1.1-1.sta0601--1.0.0-B	0 bps	0 bps	21.414 Mbps	20.893 Mbps	6,979	6,979	499	0
cv_tcp-1.1-1.sta0602--1.0.0-A	17.517 Mbps	19.407 Mbps	0 bps	0 bps	0	2,891	0	0
cv_tcp-1.1-1.sta0602--1.0.0-B	0 bps	0 bps	16.968 Mbps	19.404 Mbps	2,891	2,891	1,149	0
cv_tcp-1.1-1.sta0800--1.0.1-A	18.455 Mbps	15.515 Mbps	0 bps	0 bps	0	3,430	0	0
cv_tcp-1.1-1.sta0800--1.0.1-B	0 bps	0 bps	15.976 Mbps	15.591 Mbps	3,430	3,430	299	0
cv_tcp-1.1-1.sta0801--1.0.1-A	14.919 Mbps	14.496 Mbps	0 bps	0 bps	0	10,464	0	0
cv_tcp-1.1-1.sta0801--1.0.1-B	0 bps	0 bps	15.693 Mbps	14.529 Mbps	10,464	10,464	3,113	0
cv_tcp-1.1-1.sta0802--1.0.1-A	15.005 Mbps	15.503 Mbps	0 bps	0 bps	0	15,866	0	0
cv_tcp-1.1-1.sta0802--1.0.1-B	0 bps	0 bps	16.035 Mbps	15.537 Mbps	15,866	15,866	3,909	0
cv_tcp-1.1-1.sta1000--1.0.2-A	174.866 Kbps	892.78 Kbps	0 bps	0 bps	0	7,855	0	0
cv_tcp-1.1-1.sta1000--1.0.2-B	0 bps	0 bps	562.141 Kbps	880.916 Kbps	7,855	7,855	4,536	0.99
cv_tcp-1.1-1.sta1001--1.0.2-A	0 bps	789.022 Kbps	0 bps	0 bps	0	31,186	0	0
cv_tcp-1.1-1.sta1001--1.0.2-B	0 bps	0 bps	845.149 Kbps	740.317 Kbps	31,186	31,186	10,944	1.053
cv_tcp-1.1-1.sta1002--1.0.2-A	523.546 Kbps	847.785 Kbps	0 bps	0 bps	0	7,912	0	0
cv_tcp-1.1-1.sta1002--1.0.2-B	0 bps	0 bps	531.482 Kbps	840.642 Kbps	7,912	7,912	2,142	0.98

Multi_Sta: Run #0 DL Snapshot 5Ghz

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.14 sta0400	1.817 Mbps	976.178 Kbps	242.686 Mbps	143.233 Mbps	0.015	866.7 Mbps	866.7 Mbps	802.11an-AC	157	32	-55	DC:EF:09:E3:B8:7D	192.168.1.188	04:f0:21:38:99:f0
1.1.15 sta0401	1.777 Mbps	1.097 Mbps	244.362 Mbps	152.064 Mbps	0.034	866.7 Mbps	866.7 Mbps	802.11an-AC	157	50	-55	DC:EF:09:E3:B8:7D	192.168.1.163	04:f0:21:38:ae:f0
1.1.16 sta0402	1.711 Mbps	1.026 Mbps	243.73 Mbps	141.361 Mbps	0.036	866.7 Mbps	866.7 Mbps	802.11an-AC	157	34	-53	DC:EF:09:E3:B8:7D	192.168.1.221	04:f0:21:38:88:f0

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	733.428 Mbps	526.146 Mbps	4.217 Mbps	2.871 Mbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0400--1.0.0-A	0 bps	0 bps	232.042 Mbps	233.183 Mbps	3,311	3,311	232	0
cv_tcp-1.1-1.sta0400--1.0.0-B	232.512 Mbps	233.185 Mbps	0 bps	0 bps	0	3,311	0	0
cv_tcp-1.1-1.sta0401--1.0.0-A	0 bps	0 bps	232.472 Mbps	233.334 Mbps	1,798	1,798	98	0
cv_tcp-1.1-1.sta0401--1.0.0-B	232.86 Mbps	233.331 Mbps	0 bps	0 bps	0	1,798	0	0
cv_tcp-1.1-1.sta0402--1.0.0-A	0 bps	0 bps	234.819 Mbps	232.87 Mbps	1,074	1,074	490	0
cv_tcp-1.1-1.sta0402--1.0.0-B	235.427							

B	Mbps	233.02 Mbps	0 bps	0 bps	0	1,074	0	0
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Multi_Sta: Run #0 UL Snapshot 5Ghz

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.14 sta0400	275.382 Mbps	269.927 Mbps	3.465 Mbps	3.144 Mbps	0.004	866.7 Mbps	866.7 Mbps	802.11an-AC	157	32	-54	DC:EF:09:E3:B8:7D	192.168.1.188	04:f0:21:38:99:f0
1.1.15 sta0401	267.946 Mbps	157.27 Mbps	3.4 Mbps	94.83 Mbps	0.004	866.7 Mbps	866.7 Mbps	802.11an-AC	157	50	-54	DC:EF:09:E3:B8:7D	192.168.1.163	04:f0:21:38:ae:f0
1.1.16 sta0402	172.125 Mbps	175.01 Mbps	2.136 Mbps	2.167 Mbps	0.02	866.7 Mbps	866.7 Mbps	802.11an-AC	157	34	-54	DC:EF:09:E3:B8:7D	192.168.1.221	04:f0:21:38:88:f0

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	9.11 Mbps	256.049 Mbps	714.282 Mbps	444.047 Mbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0400--1.0.0-A	242.155 Mbps	256.737 Mbps	0 bps	0 bps	0	3,005	0	0
cv_tcp-1.1-1.sta0400--1.0.0-B	0 bps	0 bps	242.623 Mbps	256.602 Mbps	3,005	3,005	54	0
cv_tcp-1.1-1.sta0401--1.0.0-A	238.072 Mbps	248.91 Mbps	0 bps	0 bps	0	2,785	0	0
cv_tcp-1.1-1.sta0401--1.0.0-B	0 bps	0 bps	239.183 Mbps	248.95 Mbps	2,785	2,785	31	0.048
cv_tcp-1.1-1.sta0402--1.0.0-A	198.952 Mbps	173.575 Mbps	0 bps	0 bps	0	885	0	0
cv_tcp-1.1-1.sta0402--1.0.0-B	0 bps	0 bps	199.228 Mbps	173.023 Mbps	885	885	82	0

Multi_Sta: Run #1 DL Snapshot 5Ghz

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.14 sta0400	959.539 Kbps	39.846 Mbps	122.232 Mbps	103.787 Mbps	0.011	866.7 Mbps	866.7 Mbps	802.11an-AC	157	32	-54	DC:EF:09:E3:B8:7D	192.168.1.188	04:f0:21:38:99:f0
1.1.15 sta0401	926.91 Kbps	902.851 Kbps	121.061 Mbps	120.157 Mbps	0.009	866.7 Mbps	866.7 Mbps	802.11an-AC	157	50	-54	DC:EF:09:E3:B8:7D	192.168.1.163	04:f0:21:38:ae:f0
1.1.16 sta0402	989.086 Kbps	28.345 Mbps	121.875 Mbps	99.203 Mbps	0.019	866.7 Mbps	866.7 Mbps	802.11an-AC	157	34	-52	DC:EF:09:E3:B8:7D	192.168.1.221	04:f0:21:38:88:f0
1.1.17 sta0600	339.981 Kbps	287.304 Kbps	43.779 Mbps	36.93 Mbps	3.433	585.1 Mbps	351 Mbps	802.11an-AC	157	34	-68	DC:EF:09:E3:B8:7D	192.168.1.15	04:f0:21:3a:62:c0
1.1.18 sta0601	391.07 Kbps	334.075 Kbps	44.042 Mbps	36.445 Mbps	1.723	585.1 Mbps	351 Mbps	802.11an-AC	157	32	-68	DC:EF:09:E3:B8:7D	192.168.1.16	04:f0:21:3a:63:c0
1.1.19 sta0602	453.708 Kbps	365.887 Kbps	46.974 Mbps	37.5 Mbps	2.364	585.1 Mbps	351 Mbps	802.11an-AC	157	34	-67	DC:EF:09:E3:B8:7D	192.168.1.17	04:f0:21:3a:6c:c0

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	505.036 Mbps	494.669 Mbps	3.062 Mbps	3.102 Mbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0400--1.0.0-A	0 bps	0 bps	117.109 Mbps	117.012 Mbps	4,892	4,892	1,562	0
cv_tcp-1.1-1.sta0400--1.0.0-B	119.236 Mbps	116.84 Mbps	0 bps	0 bps	0	4,892	0	0
cv_tcp-1.1-1.sta0401--1.0.0-A	0 bps	0 bps	117.444 Mbps	116.736 Mbps	3,107	3,107	1,018	0
cv_tcp-1.1-1.sta0401--1.0.0-B	116.958 Mbps	116.681 Mbps	0 bps	0 bps	0	3,107	0	0
cv_tcp-1.1-1.sta0402--1.0.0-A	0 bps	0 bps	114.929 Mbps	116.427 Mbps	3,521	3,521	934	0
cv_tcp-1.1-1.sta0402--1.0.0-B	114.814 Mbps	116.331 Mbps	0 bps	0 bps	0	3,521	0	0
cv_tcp-1.1-1.sta0600--1.0.1-A	0 bps	0 bps	41.436 Mbps	42.091 Mbps	11,483	11,483	1,687	0
cv_tcp-1.1-1.sta0600--1.0.1-B	43.09 Mbps	42.159 Mbps	0 bps	0 bps	0	11,483	0	0
cv_tcp-1.1-1.sta0601--1.0.1-A	0 bps	0 bps	41.195 Mbps	41.831 Mbps	11,038	11,038	4,537	0
cv_tcp-1.1-1.sta0601--1.0.1-B	42.21 Mbps	41.853 Mbps	0 bps	0 bps	0	11,038	0	0
cv_tcp-1.1-1.sta0602--1.0.1-A	0 bps	0 bps	44.188 Mbps	43.129 Mbps	10,021	10,021	2,564	0
cv_tcp-1.1-1.sta0602--1.0.1-B	44.849 Mbps	43.524 Mbps	0 bps	0 bps	0	10,021	0	0

Multi_Sta: Run #1 UL Snapshot 5Ghz

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.14 sta0400	238.443 Mbps	139.858 Mbps	1.188 Mbps	36.035 Mbps	0.012	866.7 Mbps	866.7 Mbps	802.11an-AC	157	32	-54	DC:EF:09:E3:B8:7D	192.168.1.188	04:f0:21:38:99:f0
1.1.15 sta0401	146.688 Mbps	137.434 Mbps	1.16 Mbps	10.162 Mbps	0.006	866.7 Mbps	866.7 Mbps	802.11an-AC	157	50	-54	DC:EF:09:E3:B8:7D	192.168.1.163	04:f0:21:38:ae:f0
1.1.16 sta0402	86.608 Mbps	51.657 Mbps	662.181 Kbps	35.744 Mbps	0.015	866.7 Mbps	866.7 Mbps	802.11an-AC	157	34	-54	DC:EF:09:E3:B8:7D	192.168.1.221	04:f0:21:38:88:f0
1.1.17 sta0600	60.933 Mbps	75.574 Mbps	352.188 Kbps	13.986 Mbps	2.469	585.1 Mbps	468 Mbps	802.11an-AC	157	34	-69	DC:EF:09:E3:B8:7D	192.168.1.15	04:f0:21:3a:62:c0
1.1.18 sta0601	48.86 Mbps	29.752 Mbps	298.717 Kbps	13.131 Mbps	2.175	585.1 Mbps	468 Mbps	802.11an-AC	157	32	-69	DC:EF:09:E3:B8:7D	192.168.1.16	04:f0:21:3a:63:c0
1.1.19 sta0602	39.374 Mbps	15.647 Mbps	256.002 Kbps	13.555 Mbps	2.389	585.1 Mbps	468 Mbps	802.11an-AC	157	34	-69	DC:EF:09:E3:B8:7D	192.168.1.17	04:f0:21:3a:6c:c0

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	4.009 Mbps	51.433 Mbps	621.324 Mbps	523.439 Mbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0400--1.0.0-A	204.211 Mbps	197.425 Mbps	0 bps	0 bps	0	2,324	0	0
cv_tcp-1.1-1.sta0400--1.0.0-B	0 bps	0 bps	219.899 Mbps	198.896 Mbps	2,324	2,324	554	0
cv_tcp-1.1-1.sta0401--1.0.0-A	123.744 Mbps	149.578 Mbps	0 bps	0 bps	0	8,091	0	0
cv_tcp-1.1-1.sta0401--1.0.0-B	0 bps	0 bps	124.55 Mbps	148.352 Mbps	8,091	8,091	1,274	1.273
cv_tcp-1.1-1.sta0402--1.0.0-A	100.486 Mbps	69.953 Mbps	0 bps	0 bps	0	2,667	0	0
cv_tcp-1.1-1.sta0402--1.0.0-B	0 bps	0 bps	94.681 Mbps	69.894 Mbps	2,667	2,667	1,142	0
cv_tcp-1.1-1.sta0600--1.0.1-A	68.684 Mbps	98.588 Mbps	0 bps	0 bps	0	9,683	0	0
cv_tcp-1.1-1.sta0600--1.0.1-B	0 bps	0 bps	67.228 Mbps	98.978 Mbps	9,683	9,683	4,316	0
cv_tcp-1.1-1.sta0601--1.0.1-A	30.624 Mbps	39.136 Mbps	0 bps	0 bps	0	6,240	0	0
cv_tcp-1.1-1.sta0601--1.0.1-B	0 bps	0 bps	30.468 Mbps	39.206 Mbps	6,240	6,240	2,786	0.195
cv_tcp-1.1-1.sta0602--1.0.1-A	45.805 Mbps	23.785 Mbps	0 bps	0 bps	0	3,084	0	0
cv_tcp-1.1-1.sta0602--1.0.1-B	0 bps	0 bps	44.297 Mbps	23.236 Mbps	3,084	3,084	1,577	0

Multi_Sta: Run #2 DL Snapshot 5Ghz

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.14 sta0400	607.457 Kbps	81.189 Mbps	75.989 Mbps	52.496 Mbps	0.011	866.7 Mbps	866.7 Mbps	802.11an-AC	157	32	-54	DC:EF:09:E3:B8:7D	192.168.1.188	04:f0:21:38:99:f0
1.1.15 sta0401	601.393 Kbps	29.81 Mbps	72.211 Mbps	59.997 Mbps	0.007	866.7 Mbps	866.7 Mbps	802.11an-AC	157	50	-54	DC:EF:09:E3:B8:7D	192.168.1.163	04:f0:21:38:ae:f0
1.1.16 sta0402	400.388 Kbps	30.561 Mbps	75.161 Mbps	50.131 Mbps	0.015	866.7 Mbps	866.7 Mbps	802.11an-AC	157	34	-54	DC:EF:09:E3:B8:7D	192.168.1.221	04:f0:21:38:88:f0
1.1.17 sta0600	312.446 Kbps	34.241 Mbps	30.704 Mbps	19.865 Mbps	2.702	526.6 Mbps	351 Mbps	802.11an-AC	157	34	-68	DC:EF:09:E3:B8:7D	192.168.1.15	04:f0:21:3a:62:c0
1.1.18 sta0601	236.999 Kbps	13.922 Mbps	29.191 Mbps	18.052 Mbps	2.475	585 Mbps	351 Mbps	802.11an-AC	157	32	-67	DC:EF:09:E3:B8:7D	192.168.1.16	04:f0:21:3a:63:c0
1.1.19 sta0602	209.232 Kbps	11.503 Mbps	27.122 Mbps	18.002 Mbps	3.199	526.6 Mbps	351 Mbps	802.11an-AC	157	34	-68	DC:EF:09:E3:B8:7D	192.168.1.17	04:f0:21:3a:6c:c0
1.1.20 sta0800	91.447 Kbps	55.693 Kbps	15.423 Mbps	9.877 Mbps	17.206	175.6 Mbps	175.6 Mbps	802.11an-AC	157	31	-82	DC:EF:09:E3:B8:7D	192.168.1.19	04:f0:21:3a:59:c1
1.1.21 sta0801	71.79 Kbps	45.362 Kbps	14.184 Mbps	9.746 Mbps	19.229	195.1 Mbps	175.6 Mbps	802.11an-AC	157	108	-82	DC:EF:09:E3:B8:7D	192.168.1.21	04:f0:21:3a:76:c1
1.1.22 sta0802	167.356 Kbps	116.604 Kbps	13.584 Mbps	9.243 Mbps	21.662	175.6 Mbps	175.6 Mbps	802.11an-AC	157	34	-81	DC:EF:09:E3:B8:7D	192.168.1.20	04:f0:21:3a:5b:c1

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	339.037 Mbps	283.78 Mbps	1.827 Mbps	142.996 Mbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0400--1.0.0-A	0 bps	0 bps	73.355 Mbps	74.79 Mbps	8,081	8,081	4,396	0
cv_tcp-1.1-1.sta0400--1.0.0-B	70.802 Mbps	74.562 Mbps	0 bps	0 bps	0	8,081	0	0
cv_tcp-1.1-1.sta0401--1.0.0-A	0 bps	0 bps	64.86 Mbps	71.639 Mbps	5,491	5,491	1,125	0
cv_tcp-1.1-1.sta0401--1.0.0-B	68.707 Mbps	71.682 Mbps	0 bps	0 bps	0	5,491	0	0
cv_tcp-1.1-1.sta0402--1.0.0-A	0 bps	0 bps	70.031 Mbps	73.908 Mbps	10,342	10,342	3,079	0
cv_tcp-1.1-1.sta0402--1.0.0-B	71.016 Mbps	74.216 Mbps	0 bps	0 bps	0	10,342	0	0
cv_tcp-1.1-1.sta0600--1.0.1-A	0 bps	0 bps	30.263 Mbps	28.995 Mbps	17,631	17,631	3,042	0
cv_tcp-1.1-1.sta0600--1.0.1-B	29.809 Mbps	29.337 Mbps	0 bps	0 bps	0	17,631	0	0
cv_tcp-1.1-1.sta0601--1.0.1-A	0 bps	0 bps	26.63 Mbps	28.598 Mbps	3,220	3,220	1,309	0
cv_tcp-1.1-1.sta0601--1.0.1-B	26.32 Mbps	28.59 Mbps	0 bps	0 bps	0	3,220	0	0

cv_tcp-1.1-1.sta0602--1.0.1-A	0 bps	0 bps	25.915 Mbps	26.36 Mbps	13,837	13,837	1,747	0
cv_tcp-1.1-1.sta0602--1.0.1-B	25.442 Mbps	26.387 Mbps	0 bps	0 bps	0	13,837	0	0
cv_tcp-1.1-1.sta0800--1.0.2-A	0 bps	0 bps	14.888 Mbps	14.557 Mbps	1,913	1,913	1,176	0.059
cv_tcp-1.1-1.sta0800--1.0.2-B	16.132 Mbps	14.572 Mbps	0 bps	0 bps	0	1,913	0	0
cv_tcp-1.1-1.sta0801--1.0.2-A	0 bps	0 bps	14.477 Mbps	14.056 Mbps	16,972	16,972	1,074	11.069
cv_tcp-1.1-1.sta0801--1.0.2-B	16.487 Mbps	16.047 Mbps	0 bps	0 bps	0	16,972	0	0
cv_tcp-1.1-1.sta0802--1.0.2-A	0 bps	0 bps	13.544 Mbps	12.694 Mbps	1,909	1,909	642	0
cv_tcp-1.1-1.sta0802--1.0.2-B	15.582 Mbps	12.701 Mbps	0 bps	0 bps	0	1,909	0	0

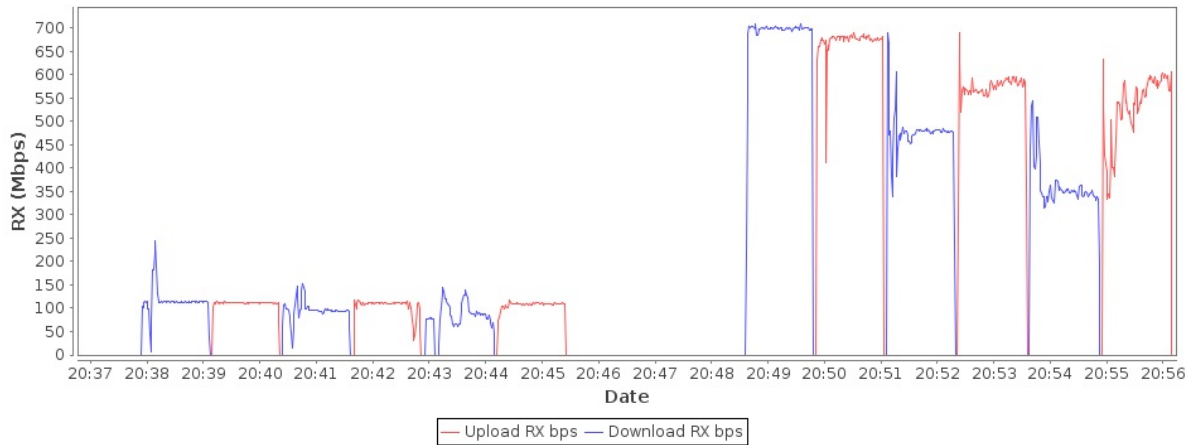
Multi_Sta: Run #2 UL Snapshot 5Ghz

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.14 sta0400	231.811 Mbps	213.062 Mbps	1.683 Mbps	1.174 Mbps	0.009	866.7 Mbps	866.7 Mbps	802.11an-AC	157	32	-53	DC:EF:09:E3:B8:7D	192.168.1.188	04:f0:21:38:99:f0
1.1.15 sta0401	179.343 Mbps	84.348 Mbps	1.603 Mbps	26.883 Mbps	0.009	866.7 Mbps	780 Mbps	802.11an-AC	157	50	-52	DC:EF:09:E3:B8:7D	192.168.1.163	04:f0:21:38:ae:f0
1.1.16 sta0402	100.364 Mbps	74.071 Mbps	1.076 Mbps	662.673 Kbps	0.018	866.7 Mbps	866.7 Mbps	802.11an-AC	157	34	-54	DC:EF:09:E3:B8:7D	192.168.1.221	04:f0:21:38:88:f0
1.1.17 sta0600	37.641 Mbps	92.305 Mbps	251.993 Kbps	424.73 Kbps	2.699	585.1 Mbps	468 Mbps	802.11an-AC	157	34	-69	DC:EF:09:E3:B8:7D	192.168.1.15	04:f0:21:3a:62:c0
1.1.18 sta0601	61.474 Mbps	25.983 Mbps	364.399 Kbps	189.988 Kbps	2.405	585.1 Mbps	468 Mbps	802.11an-AC	157	32	-68	DC:EF:09:E3:B8:7D	192.168.1.16	04:f0:21:3a:63:c0
1.1.19 sta0602	22.688 Mbps	19.428 Mbps	159.14 Kbps	144.839 Kbps	2.932	585.1 Mbps	468 Mbps	802.11an-AC	157	34	-68	DC:EF:09:E3:B8:7D	192.168.1.17	04:f0:21:3a:6c:c0
1.1.20 sta0800	8.156 Kbps	1.562 Mbps	0 bps	5.628 Mbps	11.261	195.1 Mbps	175.6 Mbps	802.11an-AC	157	31	-78	DC:EF:09:E3:B8:7D	192.168.1.19	04:f0:21:3a:59:c1
1.1.21 sta0801	3.465 Kbps	4.495 Mbps	0 bps	4.694 Mbps	7.294	175.6 Mbps	175.5 Mbps	802.11an-AC	157	108	-77	DC:EF:09:E3:B8:7D	192.168.1.21	04:f0:21:3a:76:c1
1.1.22 sta0802	1.656 Kbps	3.434 Mbps	0 bps	3.448 Mbps	11.426	175.6 Mbps	81 Mbps	802.11an-AC	157	34	-77	DC:EF:09:E3:B8:7D	192.168.1.20	04:f0:21:3a:5b:c1

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	4.493 Mbps	128.875 Mbps	642.47 Mbps	354.71 Mbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0400--1.0.0-A	230.012 Mbps	219.204 Mbps	0 bps	0 bps	0	2,302	0	0
cv_tcp-1.1-1.sta0400--1.0.0-B	0 bps	0 bps	234.372 Mbps	217.033 Mbps	2,302	2,302	1,389	1.867
cv_tcp-1.1-1.sta0401--1.0.0-A	155.079 Mbps	137.548 Mbps	0 bps	0 bps	0	4,871	0	0
cv_tcp-1.1-1.sta0401--1.0.0-B	0 bps	0 bps	154.446 Mbps	136.514 Mbps	4,871	4,871	2,048	3.339
cv_tcp-1.1-1.sta0402--1.0.0-A	96.635 Mbps	70.038 Mbps	0 bps	0 bps	0	4,489	0	0
cv_tcp-1.1-1.sta0402--1.0.0-B	0 bps	0 bps	94.558 Mbps	68.644 Mbps	4,489	4,489	1,492	2.551
cv_tcp-1.1-1.sta0600--1.0.1-A	26.452 Mbps	88.823 Mbps	0 bps	0 bps	0	11,808	0	0
cv_tcp-1.1-1.sta0600--1.0.1-B	0 bps	0 bps	27.333 Mbps	86.023 Mbps	11,808	11,808	4,299	5.524
cv_tcp-1.1-1.sta0601--1.0.1-A	64.152 Mbps	25.709 Mbps	0 bps	0 bps	0	4,689	0	0
cv_tcp-1.1-1.sta0601--1.0.1-B	0 bps	0 bps	65.973 Mbps	26.548 Mbps	4,689	4,689	1,860	0
cv_tcp-1.1-1.sta0602--1.0.1-A	27.142 Mbps	19.665 Mbps	0 bps	0 bps	0	5,064	0	0
cv_tcp-1.1-1.sta0602--1.0.1-B	0 bps	0 bps	24.407 Mbps	19.822 Mbps	5,064	5,064	931	0
cv_tcp-1.1-1.sta0800--1.0.2-A	0 bps	1.996 Mbps	0 bps	0 bps	0	1,771	0	0
cv_tcp-1.1-1.sta0800--1.0.2-B	0 bps	0 bps	0 bps	1.978 Mbps	1,771	1,771	792	0
cv_tcp-1.1-1.sta0801--1.0.2-A	0 bps	3.641 Mbps	0 bps	0 bps	0	17,084	0	0
cv_tcp-1.1-1.sta0801--1.0.2-B	0 bps	0 bps	0 bps	3.742 Mbps	17,084	17,084	12,764	0
cv_tcp-1.1-1.sta0802--1.0.2-A	0 bps	1.97 Mbps	0 bps	0 bps	0	18,669	0	0
cv_tcp-1.1-1.sta0802--1.0.2-B	0 bps	0 bps	0 bps	2.018 Mbps	18,669	18,669	3,916	4.528

Realtime Throughput for: 6.4.1 Multiple STAs Performance Test



6.4.2 Multiple Association / Disassociation Stability Test

Summary

Multiple association / disassociation stability test intends to measure stability of Wi-Fi device under a dynamic environment with frequent change of connection status.

Test Procedure

These steps are done for 2.4Ghz and 5Ghz.

1. Configure the system to emulate a 2-meter distance.
2. Establish the LAN connection, create 16 stations and associate all 16 to the DUT.
3. 8 STAs are picked for sending/receiving packets while the other 8 STAs are picked to do a dis-association/re-association process during the test.
4. Enable downlink UDP flow (4 Mbps @2.4GHz and 8 Mbps @5GHz) from DUT to each of the 8 traffic stations.
5. Continue monitoring the traffic flow of each STA by recording the UDP flow rate every second.
6. Disassociate the other 8 stations. Wait for 30 seconds. Re-associate the STAs simultaneously.

Pass/Fail Criteria

The disassociation/association does not affect the performance of other peer STAs:

1. Error-free UDP traffic rate is at least 99% of the configured rate for each STA.
The user may configure this to a lower percentage.

6.4.2 Multiple Association / Disassociation Stability Test Results

Type	Result	Notes
2.4Ghz CX: cv_udp-1.1-1.sta0600--1.0.0 Steady-State	PASS	Requires: 3.96 Mbps Reported: 4.00 Mbps
2.4Ghz CX: cv_udp-1.1-1.sta0601--1.0.0 Steady-State	PASS	Requires: 3.96 Mbps Reported: 3.99 Mbps
2.4Ghz CX: cv_udp-1.1-1.sta0602--1.0.0 Steady-State	PASS	Requires: 3.96 Mbps Reported: 4.00 Mbps
2.4Ghz CX: cv_udp-1.1-1.sta0603--1.0.0 Steady-State	PASS	Requires: 3.96 Mbps Reported: 4.00 Mbps
2.4Ghz CX: cv_udp-1.1-1.sta0604--1.0.0 Steady-State	PASS	Requires: 3.96 Mbps Reported: 4.00 Mbps
2.4Ghz CX: cv_udp-1.1-1.sta0605--1.0.0 Steady-State	PASS	Requires: 3.96 Mbps Reported: 4.00 Mbps
2.4Ghz CX: cv_udp-1.1-1.sta0606--1.0.0 Steady-State	PASS	Requires: 3.96 Mbps Reported: 4.00 Mbps
2.4Ghz CX: cv_udp-1.1-1.sta0607--1.0.0 Steady-State	PASS	Requires: 3.96 Mbps Reported: 4.00 Mbps
2.4Ghz CX: cv_udp-1.1-1.sta0600--1.0.0 Stations-Down	PASS	Requires: 3.96 Mbps Reported: 4.00 Mbps
2.4Ghz CX: cv_udp-1.1-1.sta0601--1.0.0 Stations-Down	PASS	Requires: 3.96 Mbps Reported: 4.00 Mbps
2.4Ghz CX: cv_udp-1.1-1.sta0602--1.0.0 Stations-Down	PASS	Requires: 3.96 Mbps Reported: 4.00 Mbps
2.4Ghz CX: cv_udp-1.1-1.sta0603--1.0.0 Stations-Down	PASS	Requires: 3.96 Mbps Reported: 4.00 Mbps
2.4Ghz CX: cv_udp-1.1-1.sta0604--1.0.0 Stations-Down	PASS	Requires: 3.96 Mbps Reported: 3.99 Mbps
2.4Ghz CX: cv_udp-1.1-1.sta0605--1.0.0 Stations-Down	PASS	Requires: 3.96 Mbps Reported: 4.00 Mbps
2.4Ghz CX: cv_udp-1.1-1.sta0606--1.0.0 Stations-Down	PASS	Requires: 3.96 Mbps Reported: 4.00 Mbps
2.4Ghz CX: cv_udp-1.1-1.sta0607--1.0.0 Stations-Down	PASS	Requires: 3.96 Mbps Reported: 4.00 Mbps
2.4Ghz CX: cv_udp-1.1-1.sta0600--1.0.0 Stations-Up	PASS	Requires: 3.96 Mbps Reported: 3.99 Mbps
2.4Ghz CX: cv_udp-1.1-1.sta0601--1.0.0 Stations-Up	PASS	Requires: 3.96 Mbps Reported: 4.00 Mbps
2.4Ghz CX: cv_udp-1.1-1.sta0602--1.0.0 Stations-Up	PASS	Requires: 3.96 Mbps Reported: 3.99 Mbps
2.4Ghz CX: cv_udp-1.1-1.sta0603--1.0.0 Stations-Up	PASS	Requires: 3.96 Mbps Reported: 4.00 Mbps
2.4Ghz CX: cv_udp-1.1-1.sta0604--1.0.0 Stations-Up	PASS	Requires: 3.96 Mbps Reported: 4.00 Mbps
2.4Ghz CX: cv_udp-1.1-1.sta0605--1.0.0 Stations-Up	PASS	Requires: 3.96 Mbps Reported: 3.99 Mbps
2.4Ghz CX: cv_udp-1.1-1.sta0606--1.0.0 Stations-Up	PASS	Requires: 3.96 Mbps Reported: 3.99 Mbps
2.4Ghz CX: cv_udp-1.1-1.sta0607--1.0.0 Stations-Up	PASS	Requires: 3.96 Mbps Reported: 4.00 Mbps

Assoc/Disassoc 2.4Ghz	PASS	
5Ghz CX: cv_udp-1.1-1.sta0400--1.0.0 Steady-State	PASS	Requires: 7.92 Mbps Reported: 8.00 Mbps
5Ghz CX: cv_udp-1.1-1.sta0401--1.0.0 Steady-State	PASS	Requires: 7.92 Mbps Reported: 7.98 Mbps
5Ghz CX: cv_udp-1.1-1.sta0402--1.0.0 Steady-State	PASS	Requires: 7.92 Mbps Reported: 7.99 Mbps
5Ghz CX: cv_udp-1.1-1.sta0403--1.0.0 Steady-State	PASS	Requires: 7.92 Mbps Reported: 7.98 Mbps
5Ghz CX: cv_udp-1.1-1.sta0404--1.0.0 Steady-State	PASS	Requires: 7.92 Mbps Reported: 7.99 Mbps
5Ghz CX: cv_udp-1.1-1.sta0405--1.0.0 Steady-State	PASS	Requires: 7.92 Mbps Reported: 8.01 Mbps
5Ghz CX: cv_udp-1.1-1.sta0406--1.0.0 Steady-State	PASS	Requires: 7.92 Mbps Reported: 8.00 Mbps
5Ghz CX: cv_udp-1.1-1.sta0407--1.0.0 Steady-State	PASS	Requires: 7.92 Mbps Reported: 8.01 Mbps
5Ghz CX: cv_udp-1.1-1.sta0400--1.0.0 Stations-Down	PASS	Requires: 7.92 Mbps Reported: 7.99 Mbps
5Ghz CX: cv_udp-1.1-1.sta0401--1.0.0 Stations-Down	PASS	Requires: 7.92 Mbps Reported: 8.00 Mbps
5Ghz CX: cv_udp-1.1-1.sta0402--1.0.0 Stations-Down	PASS	Requires: 7.92 Mbps Reported: 8.00 Mbps
5Ghz CX: cv_udp-1.1-1.sta0403--1.0.0 Stations-Down	PASS	Requires: 7.92 Mbps Reported: 8.01 Mbps
5Ghz CX: cv_udp-1.1-1.sta0404--1.0.0 Stations-Down	PASS	Requires: 7.92 Mbps Reported: 8.01 Mbps
5Ghz CX: cv_udp-1.1-1.sta0405--1.0.0 Stations-Down	PASS	Requires: 7.92 Mbps Reported: 8.01 Mbps
5Ghz CX: cv_udp-1.1-1.sta0406--1.0.0 Stations-Down	PASS	Requires: 7.92 Mbps Reported: 8.01 Mbps
5Ghz CX: cv_udp-1.1-1.sta0407--1.0.0 Stations-Down	PASS	Requires: 7.92 Mbps Reported: 8.01 Mbps
5Ghz CX: cv_udp-1.1-1.sta0400--1.0.0 Stations-Up	PASS	Requires: 7.92 Mbps Reported: 8.00 Mbps
5Ghz CX: cv_udp-1.1-1.sta0401--1.0.0 Stations-Up	PASS	Requires: 7.92 Mbps Reported: 7.98 Mbps
5Ghz CX: cv_udp-1.1-1.sta0402--1.0.0 Stations-Up	PASS	Requires: 7.92 Mbps Reported: 7.99 Mbps
5Ghz CX: cv_udp-1.1-1.sta0403--1.0.0 Stations-Up	PASS	Requires: 7.92 Mbps Reported: 8.00 Mbps
5Ghz CX: cv_udp-1.1-1.sta0404--1.0.0 Stations-Up	PASS	Requires: 7.92 Mbps Reported: 8.01 Mbps
5Ghz CX: cv_udp-1.1-1.sta0405--1.0.0 Stations-Up	PASS	Requires: 7.92 Mbps Reported: 8.00 Mbps
5Ghz CX: cv_udp-1.1-1.sta0406--1.0.0 Stations-Up	PASS	Requires: 7.92 Mbps Reported: 8.00 Mbps
5Ghz CX: cv_udp-1.1-1.sta0407--1.0.0 Stations-Up	PASS	Requires: 7.92 Mbps Reported: 8.00 Mbps
Assoc/Disassoc 5Ghz	PASS	

Assoc/Disassoc: Snapshot 2.4Ghz

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.14 sta0600	0 bps	36 bps	4.114 Mbps	4.115 Mbps	0	57.8 Mbps	144.4 Mbps	802.11bgn	11	45	-29	DC:EF:09:E3:B8:7B	192.168.1.226	04:f0:21:4b:85:00
1.1.15 sta0601	0 bps	30 bps	4.115 Mbps	4.115 Mbps	0	57.8 Mbps	144.4 Mbps	802.11bgn	11	46	-29	DC:EF:09:E3:B8:7B	192.168.1.112	04:f0:21:4b:ac:00
1.1.16 sta0602	0 bps	30 bps	4.114 Mbps	4.115 Mbps	0	43.3 Mbps	144.4 Mbps	802.11bgn	11	44	-29	DC:EF:09:E3:B8:7B	192.168.1.66	04:f0:21:4b:8e:00
1.1.17 sta0603	0 bps	36 bps	4.118 Mbps	4.115 Mbps	0	57.8 Mbps	144.4 Mbps	802.11bgn	11	107	-29	DC:EF:09:E3:B8:7B	192.168.1.172	04:f0:21:4b:bf:00
1.1.18 sta0604	0 bps	36 bps	4.115 Mbps	4.115 Mbps	3.125	57.8 Mbps	144.4 Mbps	802.11bgn	11	45	-29	DC:EF:09:E3:B8:7B	192.168.1.94	04:f0:21:4b:b1:00
1.1.19 sta0605	97 bps	36 bps	4.112 Mbps	4.115 Mbps	0	57.8 Mbps	144.4 Mbps	802.11bgn	11	41	-29	DC:EF:09:E3:B8:7B	192.168.1.223	04:f0:21:4b:88:00
1.1.20 sta0606	0 bps	36 bps	4.112 Mbps	4.115 Mbps	0	57.8 Mbps	144.4 Mbps	802.11bgn	11	51	-29	DC:EF:09:E3:B8:7B	192.168.1.192	04:f0:21:4b:9c:00
1.1.21 sta0607	0 bps	37 bps	4.112 Mbps	4.115 Mbps	0	43.3 Mbps	144.4 Mbps	802.11bgn	11	45	-29	DC:EF:09:E3:B8:7B	192.168.1.136	04:f0:21:4b:b9:00
1.1.22 sta0608	0 bps	140 bps	75 bps	776 bps	0	43.3 Mbps	78 Mbps	802.11bgn	11	46	-32	DC:EF:09:E3:B8:7B	192.168.1.9	04:f0:21:4b:9d:00
1.1.23 sta0609	0 bps	140 bps	76 bps	878 bps	0	28.9 Mbps	78 Mbps	802.11bgn	11	42	-32	DC:EF:09:E3:B8:7B	192.168.1.115	04:f0:21:4b:b6:00
1.1.24 sta0610	0 bps	140 bps	76 bps	870 bps	0	28.9 Mbps	78 Mbps	802.11bgn	11	74	-32	DC:EF:09:E3:B8:7B	192.168.1.174	04:f0:21:4b:af:00
1.1.25 sta0611	0 bps	139 bps	75 bps	854 bps	0	28.9 Mbps	78 Mbps	802.11bgn	11	44	-32	DC:EF:09:E3:B8:7B	192.168.1.34	04:f0:21:4b:89:00
1.1.26 sta0612	0 bps	137 bps	75 bps	844 bps	0	43.3 Mbps	78 Mbps	802.11bgn	11	49	-32	DC:EF:09:E3:B8:7B	192.168.1.225	04:f0:21:4b:b7:00
1.1.27 sta0613	0 bps	137 bps	75 bps	838 bps	0	28.9 Mbps	78 Mbps	802.11bgn	11	46	-32	DC:EF:09:E3:B8:7B	192.168.1.224	04:f0:21:4b:a4:00
1.1.28 sta0614	0 bps	137 bps	75 bps	832 bps	0	28.9 Mbps	78 Mbps	802.11bgn	11	45	-32	DC:EF:09:E3:B8:7B	192.168.1.100	04:f0:21:4b:a7:00
1.1.29 sta0615	0 bps	140 bps	75 bps	821 bps	0	28.9 Mbps	78 Mbps	802.11bgn	11	50	-32	DC:EF:09:E3:B8:7B	192.168.1.239	04:f0:21:4b:96:00

Port**Tx-Bps Last****Tx-Bps 1m****Rx-Bps Last****Rx-Bps 1m****Link-Rate****IP****MAC**

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_udp-1.1-1.sta0600--1.0.0-A	0 bps	0 bps	3.992 Mbps	4 Mbps	6	6	3	0
cv_udp-1.1-1.sta0600--1.0.0-B	4.001 Mbps	4 Mbps	0 bps	0 bps	0	6	0	0
cv_udp-1.1-1.sta0601--1.0.0-A	0 bps	0 bps	4.005 Mbps	4 Mbps	6	6	3	0
cv_udp-1.1-1.sta0601--1.0.0-B	4.002 Mbps	4 Mbps	0 bps	0 bps	0	6	0	0
cv_udp-1.1-1.sta0602--1.0.0-A	0 bps	0 bps	3.992 Mbps	3.999 Mbps	6	6	3	0
cv_udp-1.1-1.sta0602--1.0.0-B	4.005 Mbps	4 Mbps	0 bps	0 bps	0	6	0	0
cv_udp-1.1-1.sta0603--1.0.0-A	0 bps	0 bps	4.001 Mbps	4 Mbps	6	6	3	0
cv_udp-1.1-1.sta0603--1.0.0-B	4.001 Mbps	4 Mbps	0 bps	0 bps	0	6	0	0
cv_udp-1.1-1.sta0604--1.0.0-A	0 bps	0 bps	3.998 Mbps	4 Mbps	6	6	2	0
cv_udp-1.1-1.sta0604--1.0.0-B	4.001 Mbps	4 Mbps	0 bps	0 bps	0	6	0	0
cv_udp-1.1-1.sta0605--1.0.0-A	0 bps	0 bps	3.993 Mbps	4 Mbps	6	6	2	0
cv_udp-1.1-1.sta0605--1.0.0-B	4.001 Mbps	4 Mbps	0 bps	0 bps	0	6	0	0
cv_udp-1.1-1.sta0606--1.0.0-A	0 bps	0 bps	3.989 Mbps	4 Mbps	6	6	3	0.007
cv_udp-1.1-1.sta0606--1.0.0-B	3.997 Mbps	4 Mbps	0 bps	0 bps	0	6	0	0

cv_udp-1.1-1.sta0607--1.0.0-A	0 bps	4.001 Mbps	4 Mbps	6	6	3	0.002
cv_udp-1.1-1.sta0607--1.0.0-B	4.001 Mbps	4 Mbps	0 bps	0 bps	0	6	0

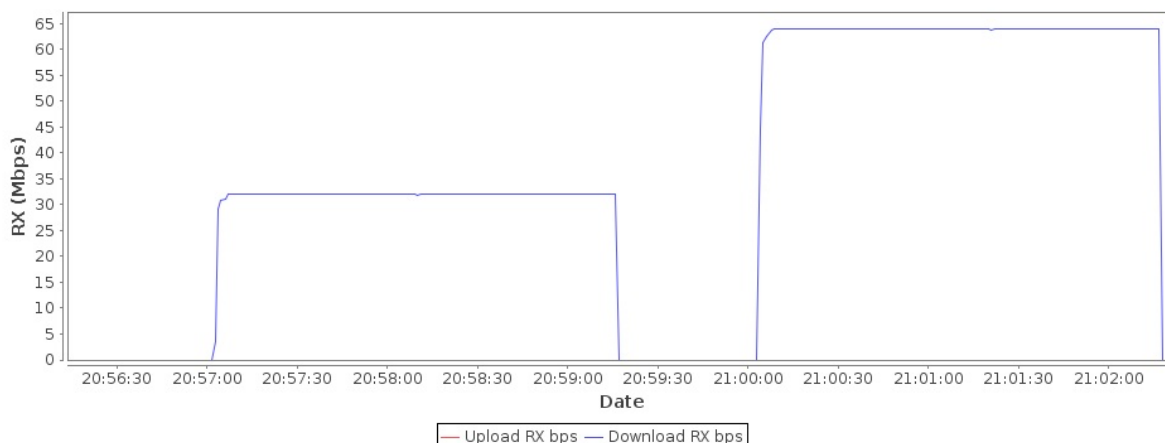
Assoc/Disassoc: Snapshot 5Ghz

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.14 sta0400	0 bps	32 bps	8.235 Mbps	8.23 Mbps	0	260 Mbps	866.7 Mbps	802.11an-AC	157	34	-45	DC:EF:09:E3:B8:7D	192.168.1.108	04:f0:21:38:bb:f0
1.1.15 sta0401	0 bps	25 bps	8.231 Mbps	8.229 Mbps	0	260 Mbps	866.7 Mbps	802.11an-AC	157	32	-46	DC:EF:09:E3:B8:7D	192.168.1.176	04:f0:21:38:be:f0
1.1.16 sta0402	0 bps	32 bps	8.233 Mbps	8.229 Mbps	0	260 Mbps	866.7 Mbps	802.11an-AC	157	33	-45	DC:EF:09:E3:B8:7D	192.168.1.204	04:f0:21:38:b1:f0
1.1.17 sta0403	0 bps	32 bps	8.228 Mbps	8.229 Mbps	0	260 Mbps	866.7 Mbps	802.11an-AC	157	33	-45	DC:EF:09:E3:B8:7D	192.168.1.213	04:f0:21:38:a0:f0
1.1.18 sta0404	0 bps	32 bps	8.229 Mbps	8.23 Mbps	0	260 Mbps	866.7 Mbps	802.11an-AC	157	79	-46	DC:EF:09:E3:B8:7D	192.168.1.188	04:f0:21:38:99:f0
1.1.19 sta0405	63 bps	37 bps	8.229 Mbps	8.23 Mbps	3.333	260 Mbps	866.7 Mbps	802.11an-AC	157	51	-46	DC:EF:09:E3:B8:7D	192.168.1.190	04:f0:21:38:95:f0
1.1.20 sta0406	0 bps	32 bps	8.229 Mbps	8.229 Mbps	0	260 Mbps	866.7 Mbps	802.11an-AC	157	58	-45	DC:EF:09:E3:B8:7D	192.168.1.202	04:f0:21:38:8f:f0
1.1.21 sta0407	92 bps	32 bps	8.232 Mbps	8.23 Mbps	0	260 Mbps	866.7 Mbps	802.11an-AC	157	33	-45	DC:EF:09:E3:B8:7D	192.168.1.186	04:f0:21:38:a4:f0
1.1.22 sta0408	0 bps	139 bps	71 bps	821 bps	0	130 Mbps	468 Mbps	802.11an-AC	157	39	-33	DC:EF:09:E3:B8:7D	192.168.1.207	04:f0:21:38:81:f0
1.1.23 sta0409	0 bps	139 bps	72 bps	873 bps	0	130 Mbps	468 Mbps	802.11an-AC	157	41	-33	DC:EF:09:E3:B8:7D	192.168.1.216	04:f0:21:38:84:f0
1.1.24 sta0410	0 bps	139 bps	72 bps	866 bps	0	195.1 Mbps	468 Mbps	802.11an-AC	157	37	-33	DC:EF:09:E3:B8:7D	192.168.1.237	04:f0:21:38:8c:f0
1.1.25 sta0411	0 bps	140 bps	72 bps	860 bps	0	130 Mbps	468 Mbps	802.11an-AC	157	40	-33	DC:EF:09:E3:B8:7D	192.168.1.137	04:f0:21:38:a8:f0
1.1.26 sta0412	0 bps	140 bps	72 bps	849 bps	0	195.1 Mbps	468 Mbps	802.11an-AC	157	39	-33	DC:EF:09:E3:B8:7D	192.168.1.135	04:f0:21:38:b2:f0
1.1.27 sta0413	0 bps	140 bps	73 bps	843 bps	0	130 Mbps	468 Mbps	802.11an-AC	157	41	-33	DC:EF:09:E3:B8:7D	192.168.1.183	04:f0:21:38:a3:f0
1.1.28 sta0414	0 bps	140 bps	74 bps	837 bps	0	130 Mbps	468 Mbps	802.11an-AC	157	37	-33	DC:EF:09:E3:B8:7D	192.168.1.210	04:f0:21:38:89:f0
1.1.29 sta0415	0 bps	147 bps	76 bps	528 bps	0	130 Mbps	468 Mbps	802.11an-AC	157	43	-33	DC:EF:09:E3:B8:7D	192.168.1.5	04:f0:21:38:ba:f0

PortTx-Bps LastTx-Bps 1mRx-Bps LastRx-Bps 1mLink-RateIPMAC

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_udp-1.1-1.sta0400--1.0.0-A	0 bps	0 bps	8.004 Mbps	7.999 Mbps	5	5	2	0
cv_udp-1.1-1.sta0400--1.0.0-B	8.001 Mbps	7.999 Mbps	0 bps	0 bps	0	5	0	0
cv_udp-1.1-1.sta0401--1.0.0-A	0 bps	0 bps	7.983 Mbps	7.999 Mbps	5	5	1	0
cv_udp-1.1-1.sta0401--1.0.0-B	7.997 Mbps	8 Mbps	0 bps	0 bps	0	5	0	0
cv_udp-1.1-1.sta0402--1.0.0-A	0 bps	0 bps	7.994 Mbps	8 Mbps	4	4	1	0
cv_udp-1.1-1.sta0402--1.0.0-B	8.002 Mbps	8 Mbps	0 bps	0 bps	0	4	0	0
cv_udp-1.1-1.sta0403--1.0.0-A	0 bps	0 bps	8.002 Mbps	8 Mbps	5	5	1	0
cv_udp-1.1-1.sta0403--1.0.0-B	8.002 Mbps	8 Mbps	0 bps	0 bps	0	5	0	0
cv_udp-1.1-1.sta0404--1.0.0-A	0 bps	0 bps	8.011 Mbps	8 Mbps	5	5	1	0.002
cv_udp-1.1-1.sta0404--1.0.0-B	7.998 Mbps	8 Mbps	0 bps	0 bps	0	5	0	0
cv_udp-1.1-1.sta0405--1.0.0-A	0 bps	0 bps	7.995 Mbps	8 Mbps	5	5	1	0
cv_udp-1.1-1.sta0405--1.0.0-B	7.996 Mbps	8 Mbps	0 bps	0 bps	0	5	0	0
cv_udp-1.1-1.sta0406--1.0.0-A	0 bps	0 bps	7.999 Mbps	7.999 Mbps	5	5	1	0.004
cv_udp-1.1-1.sta0406--1.0.0-B	8.002 Mbps	8 Mbps	0 bps	0 bps	0	5	0	0
cv_udp-1.1-1.sta0407--1.0.0-A	0 bps	0 bps	7.998 Mbps	8 Mbps	5	5	1	0
cv_udp-1.1-1.sta0407--1.0.0-B	8.002 Mbps	8 Mbps	0 bps	0 bps	0	5	0	0

Realtime Throughput for: 6.4.2 Multiple Association / Disassociation Stability Test



6.4.3 Downlink MU-MIMO Performance Test

Summary

The Downlink MU-MIMO Performance Test intends to verify the performance of Wi-Fi device when Downlink MU-MIMO is applied. This best represents a typical deployment, where stations may only support 1x1 or 2x2 RF chain configurations. The test is only applicable to the Wi-Fi device supporting 802.11ac Wave 2 The DUT SHALL support 802.11ac MU-MIMO and at least 4 spatial streams.

Test Procedure

1. Configure the system to emulate a 2-meter distance for all stations.
2. The DUT and engaged peer STAs SHALL support 802.11ac and MU-MIMO. One STA (STA 1) supports maximum two spatial streams while two STAs (STA 2 and STA 3) support only one spatial stream. All STA are placed at different angles and/or with different antenna orientations relative to the DUT, ideally more than 45 degrees apart.
3. Associate STA 1 with DUT. Establish the LAN connection and wait for 10 seconds.
4. Measure the downlink TCP throughput to STA1, using a test time of 120 seconds. Record this value as STA1_throughput_1.
5. Disassociate STA1. Wait for 10 seconds. Associate STA 2 with DUT. Wait for 10 seconds. Measure the downlink TCP throughput to STA2, using a test time of 120 seconds. Record this value as STA2_throughput_1.
6. Disassociate STA 2. Wait for 10 seconds. Associate STA 3 with DUT. Wait for 10 seconds. Measure the downlink TCP throughput to STA 3, using a test time of 120 seconds. Record this value as STA3_throughput_1.
7. Associate STA 1 and STA 2 with DUT (STA 3 remains associated). Simultaneously measure the downlink TCP throughput to all STA, using a test time of 120 seconds. Record these value as STA1_throughput_2, STA2_throughput_2 and STA3_throughput_2.
8. Disable DL MU-MIMO and wait for 10 seconds. Measure the downlink TCP throughput to each STA, using a test time of 120 seconds. Record these values as STA1_throughput_3, STA2_throughput_3 and STA3_throughput_3.

Pass/Fail Criteria

1. The sum of STA1_throughput_2, STA2_throughput_2, and STA3_throughput_2 SHALL be at least 45% of the sum of STA1_throughput_1, STA2_throughput_1, and STA3_throughput_1.
2. The sum of STA1_throughput_2, STA2_throughput_2, and STA3_throughput_2 SHALL be greater than the sum of STA1_throughput_3, STA2_throughput_3, and STA3_throughput_3.

6.4.3 Downlink MU-MIMO Performance Test Results

Type	Result	Notes
6.4.3.4.3 SU-MIMO Sta-1 Baseline	INFO	Download Rate: 680.67 Mbps STA-RSSI: -45 Rx-Rate: 866.7M Tx-Rate: 866.7M
6.4.3.4.4 SU-MIMO Sta-2 Baseline	INFO	Download Rate: 349.38 Mbps STA-RSSI: -53 Rx-Rate: 433.3M Tx-Rate: 433.3M
6.4.3.4.5 SU-MIMO Sta-3 Baseline	INFO	Download Rate: 349.75 Mbps STA-RSSI: -49 Rx-Rate: 433.3M Tx-Rate: 433.3M
6.4.3.4.6 MU-MIMO Sta1 - 3 Total	INFO	Total Download Rate: 574.33 Mbps Sta-1 Download Rate: 300.54 Mbps STA-RSSI: -46 Rx-Rate: 32.6M Tx-Rate: 866.7M Sta-2 Download Rate: 273.79 Mbps STA-RSSI: -52 Rx-Rate: 32.6M Tx-Rate: 390M Sta-3 Download Rate: 0 Mbps STA-RSSI: -37 Rx-Rate: 433.3M Tx-Rate: 325M
6.4.3.4.7 SU-MIMO Sta1 - 3 Total	INFO	Total Download Rate: 574.33 Mbps Sta-1 Download Rate: 203.31 Mbps STA-RSSI: -46 Rx-Rate: 866.7M Tx-Rate: 866.7M Sta-3 Download Rate: 109.90 Mbps STA-RSSI: -49 Rx-Rate: 433.3M Tx-Rate: 390M Sta-3 Download Rate: 0 Mbps STA-RSSI: -37 Rx-Rate: 433.3M Tx-Rate: 325M
MU-MIMO-Throughput	FAIL	Requires: 620.91 Mbps Reported: 574.33 Mbps
6.4.3.5.B MIMO Throughput Comparison	PASS	SU-MIMO-Total: 422.70 Mbps MU-MIMO-Total: 574.33 Mbps

3 station MU-MIMO Download Snapshot

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.26 sta0000	3.149 Mbps	2.023 Mbps	314.826 Mbps	203.449 Mbps	0.244	866.7 Mbps	32.6 Mbps	802.11an-AC	157	35	-46	DC:EF:09:E3:B8:7D	192.168.1.6	04:f0:21:38:8e:f0
1.1.27 sta0200	3.001 Mbps	1.915 Mbps	285.33 Mbps	181.403 Mbps	0.202	390 Mbps	32.6 Mbps	802.11an-AC	157	36	-52	DC:EF:09:E3:B8:7D	192.168.1.5	04:f0:21:3a:56:c0
1.1.28 sta0400	1.555 Kbps	768.738 Kbps	63 bps	101.566 Mbps	0.002	325 Mbps	433.3 Mbps	802.11an-AC	157	34	-37	DC:EF:09:E3:B8:7D	192.168.1.9	04:f0:21:3a:51:c1

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	616.47 Mbps	474.383 Mbps	4.961 Mbps	3.477 Mbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

						RX	Round-Trip		Rx Packet Loss
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Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Latency(ms)	Latency(ms)	Jitter	%
cv_tcp-1.1-1.sta0000--1.0.0-A	0 bps	0 bps	299.115 Mbps	300.624 Mbps	2,760	2,760	476	0
cv_tcp-1.1-1.sta0000--1.0.0-B	298.913 Mbps	300.518 Mbps	0 bps	0 bps	0	2,760	0	0
cv_tcp-1.1-1.sta0200--1.0.0-A	0 bps	0 bps	276.012 Mbps	273.676 Mbps	4,733	4,733	1,725	0
cv_tcp-1.1-1.sta0200--1.0.0-B	275.987 Mbps	273.774 Mbps	0 bps	0 bps	0	4,733	0	0
cv_tcp-1.1-1.sta0400--1.0.0-A	0 bps	0 bps	0 bps	0 bps	0	0	0	0
cv_tcp-1.1-1.sta0400--1.0.0-B	0 bps	0 bps	0 bps	0 bps	0	0	0	0

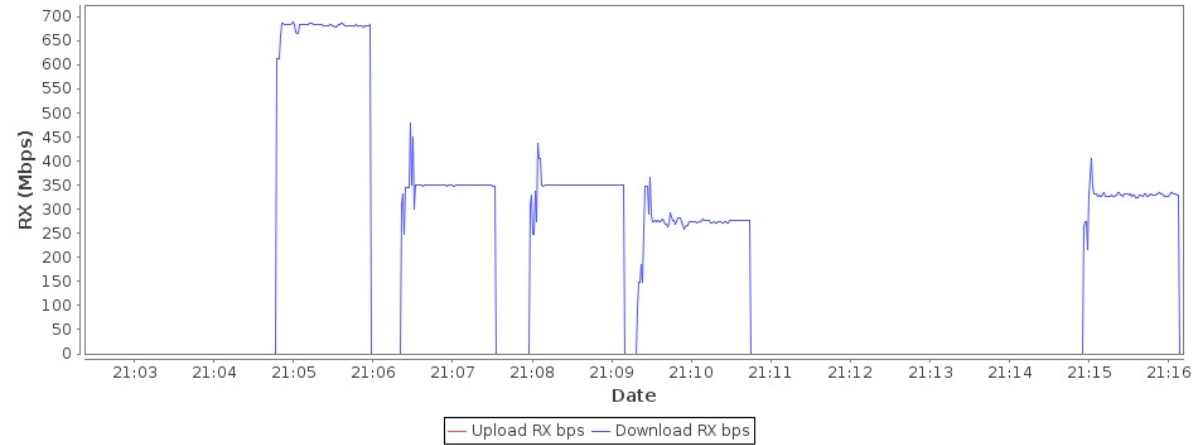
3 station SU-MIMO Download Snapshot

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.26 sta0000	1.43 Mbps	1.187 Mbps	215.974 Mbps	176.668 Mbps	0.253	866.7 Mbps	866.7 Mbps	802.11an-AC	157	34	-46	DC:EF:09:E3:B8:7D	192.168.1.6	04:f0:21:38:8e:f0
1.1.27 sta0200	1.169 Mbps	999.537 Kbps	114.239 Mbps	98.703 Mbps	0.526	433.3 Mbps	433.3 Mbps	802.11an-AC	157	35	-52	DC:EF:09:E3:B8:7D	192.168.1.5	04:f0:21:3a:56:c0
1.1.28 sta0400	1.211 Mbps	1.011 Mbps	115.329 Mbps	97.589 Mbps	0.765	390 Mbps	433.3 Mbps	802.11an-AC	157	37	-49	DC:EF:09:E3:B8:7D	192.168.1.9	04:f0:21:3a:51:c1

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	444.604 Mbps	375.906 Mbps	3.002 Mbps	2.387 Mbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0000--1.0.0-A	0 bps	0 bps	205.186 Mbps	203.296 Mbps	4,977	4,977	1,982	0
cv_tcp-1.1-1.sta0000--1.0.0-B	205.171 Mbps	203.136 Mbps	0 bps	0 bps	0	4,977	0	0
cv_tcp-1.1-1.sta0200--1.0.0-A	0 bps	0 bps	110.13 Mbps	109.535 Mbps	7,428	7,428	1,051	0
cv_tcp-1.1-1.sta0200--1.0.0-B	109.19 Mbps	109.499 Mbps	0 bps	0 bps	0	7,428	0	0
cv_tcp-1.1-1.sta0400--1.0.0-A	0 bps	0 bps	109.757 Mbps	109.997 Mbps	7,098	7,098	1,394	0
cv_tcp-1.1-1.sta0400--1.0.0-B	108.309 Mbps	109.893 Mbps	0 bps	0 bps	0	7,098	0	0

Realtime Throughput for: 6.4.3 Downlink MU-MIMO Performance Test



6.5.2 AP Coexistence Test

Summary

AP coexistence test intends to verify Wi-Fi device performance with existence of alien AP. The alien AP in the test SHALL support the same Wi-Fi standard (802.11n/802.11ac).

Test Procedure

These steps are done for 2.4Ghz and 5Ghz.

1. Configure the system to emulate a 2-meter distance for all stations and APs.

2. Measure the downlink TCP throughput, using a test time of 120 seconds. This is the baseline throughput.
3. Enable the alien network radios. The alien network will be configured for the same channel as the DUT. No traffic is generated on the alien network for this step.
4. Measure the downlink TCP throughput, using a test time of 120 seconds.
5. Configure the alien network to utilize 50% of the available "air time" with UDP traffic. For 5Ghz and 80Mhz interferer, the alien network generates 195Mbps of traffic. For 5Ghz and 40Mhz, the alien network generates 90Mbps of traffic. For 2.4Ghz, network generates 32Mbps of traffic.
6. Measure the downlink TCP throughput to peer STA, using a test time of 120 seconds. Record this measurement as THROUGHPUT_SHORT_DUT_2.
7. Repeat the step above for overlapping channel alien network: For 5Ghz, we use 40Mhz alien AP on same center frequency as DUT. For 2.4Ghz, we use 20Mhz alien AP one channel above or below the DUT.
8. Repeat the download test for adjacent channel alien network.

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0600--1.0.0-A	0 bps	0 bps	112.921 Mbps	118.885 Mbps	11,204	11,204	3,204	0
cv_tcp-1.1-1.sta0600--1.0.0-B	111.16 Mbps	119.051 Mbps	0 bps	0 bps	0	11,204	0	0

AP-Coexist: Channel 11 Snapshot 2.4Ghz Co-Channel Interferer AP

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.15 sta0600	447.692 Kbps	346.687 Kbps	64.473 Mbps	44.879 Mbps	1.027	130 Mbps	144.4 Mbps	802.11bgn	11	3,118	-30	DC:EF:09:E3:B8:7B	192.168.1.110	04:f0:21:4b:ab:00
1.1.17 sta1000	61 bps	20.855 Kbps	25.266 Mbps	36.784 Mbps	0	57.8 Mbps	72.2 Mbps	802.11bgn	11	0	-40	04:F0:21:36:CB:74	10.1.14.6	04:f0:21:4b:bf:f9

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	63.244 Mbps	50.466 Mbps	306.268 Kbps	263.576 Kbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0600--1.0.0-A	0 bps	0 bps	61.727 Mbps	60.962 Mbps	18,900	18,900	1,940	0
cv_tcp-1.1-1.sta0600--1.0.0-B	63.486 Mbps	61.876 Mbps	0 bps	0 bps	0	18,900	0	0
cv_udp-1.14-1.sta1000--1.0.3-A	0 bps	0 bps	25.111 Mbps	25.593 Mbps	80	80	0	0
cv_udp-1.14-1.sta1000--1.0.3-B	25.948 Mbps	25.639 Mbps	0 bps	0 bps	0	80	0	0

AP-Coexist: Channel 10 Snapshot 2.4Ghz Overlapping Channel Interferer AP

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.15 sta0600	758.326 Kbps	634.511 Kbps	74.037 Mbps	59.014 Mbps	5.39	130 Mbps	144.4 Mbps	802.11bgn	11	3,118	-31	DC:EF:09:E3:B8:7B	192.168.1.110	04:f0:21:4b:ab:00
1.1.17 sta1000	66 bps	28.114 Kbps	16.589 Mbps	23.746 Mbps	0.355	72.2 Mbps	72.2 Mbps	802.11bgn	10	29	-42	04:F0:21:36:CB:74	10.1.14.6	04:f0:21:4b:bf:f9

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	76.644 Mbps	69.956 Mbps	464.827 Kbps	443.982 Kbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0600--1.0.0-A	0 bps	0 bps	69.605 Mbps	72.713 Mbps	17,158	17,158	1,388	0.406
cv_tcp-1.1-1.sta0600--1.0.0-B	67.644 Mbps	73.208 Mbps	0 bps	0 bps	0	17,158	0	0
cv_udp-1.14-1.sta1000--1.0.3-A	0 bps	0 bps	16.12 Mbps	16.005 Mbps	8	8	0	0
cv_udp-1.14-1.sta1000--1.0.3-B	16.196 Mbps	16.137 Mbps	0 bps	0 bps	0	8	0	0

AP-Coexist: Channel 6 Snapshot 2.4Ghz Adjacent Channel Interferer AP

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.15 sta0600	668.196 Kbps	629.578 Kbps	107.991 Mbps	98.938 Mbps	4.621	144.4 Mbps	144.4 Mbps	802.11bgn	11	3,118	-30	DC:EF:09:E3:B8:7B	192.168.1.110	04:f0:21:4b:ab:00
1.1.17 sta1000	66 bps	27.827 Kbps	17.296 Mbps	24.719 Mbps	0.35	72.2 Mbps	65 Mbps	802.11bgn	6	16	-43	04:F0:21:36:CB:74	10.1.14.6	04:f0:21:4b:bf:f9

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	105.573 Mbps	114.891 Mbps	494.315 Kbps	527.298 Kbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0600--1.0.0-A	0 bps	0 bps	103.163 Mbps	108.201 Mbps	14,372	14,372	1,205	0
cv_tcp-1.1-1.sta0600--1.0.0-B	102.991 Mbps	107.836 Mbps	0 bps	0 bps	0	14,372	0	0
cv_udp-1.14-1.sta1000--1.0.3-A	0 bps	0 bps	16.827 Mbps	16.829 Mbps	2	2	0	0
cv_udp-1.14-1.sta1000--1.0.3-B	16.828 Mbps	16.827 Mbps	0 bps	0 bps	0	2	0	0

AP-Coexist: Channel 157 Snapshot 5Ghz idle AP

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.15 sta0400	4.373 Mbps	3.89 Mbps	724.935 Mbps	643.31 Mbps	0.041	866.7 Mbps	866.7 Mbps	802.11an-AC	157	297	-46	DC:EF:09:E3:B8:7D	192.168.1.23	04:f0:21:38:b7:f0

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	725.451 Mbps	725.55 Mbps	3.353 Mbps	3.368 Mbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0400--1.0.0-A	0 bps	0 bps	693.506 Mbps	693.505 Mbps	912	912	136	0
cv_tcp-1.1-1.sta0400--1.0.0-B	694.014 Mbps	693.573 Mbps	0 bps	0 bps	0	912	0	0

AP-Coexist: Channel 157 Snapshot 5Ghz Co-Channel Interferer AP

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.15 sta0400	1.973 Mbps	1.572 Mbps	338.206 Mbps	277.895 Mbps	0.127	780 Mbps	866.7 Mbps	802.11an-AC	157	297	-47	DC:EF:09:E3:B8:7D	192.168.1.23	04:f0:21:38:b7:f0
1.1.17 sta0800	0 bps	4.846 Kbps	151.582 Mbps	199.81 Mbps	0.952	175.5 Mbps	433.3 Mbps	802.11an-AC	157	0	-36	04:F0:21:3A:6F:C0	10.1.14.6	04:f0:21:3a:53:c1

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	345.951 Mbps	242.645 Mbps	1.52 Mbps	1.012 Mbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0400--1.0.0-A	0 bps	0 bps	334.924 Mbps	332.484 Mbps	3,869	3,869	362	0
cv_tcp-1.1-1.sta0400--1.0.0-B	337.91 Mbps	332.892 Mbps	0 bps	0 bps	0	3,869	0	0
cv_udp-1.14-1.sta0800--1.0.3-A	0 bps	0 bps	147.412 Mbps	146.909 Mbps	7	7	0	0
cv_udp-1.14-1.sta0800--1.0.3-B	147.158 Mbps	146.985 Mbps	0 bps	0 bps	0	7	0	0

AP-Coexist: Channel 157 Snapshot 5Ghz Overlapping Channel Interferer AP

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.15 sta0400	3.282 Mbps	2.19 Mbps	472.928 Mbps	350.123 Mbps	0.402	866.7 Mbps	866.7 Mbps	802.11an-AC	157	297	-45	DC:EF:09:E3:B8:7D	192.168.1.23	04:f0:21:38:b7:f0
1.1.17 sta0800	96 bps	11.951 Kbps	48.409 Mbps	67.376 Mbps	0	90 Mbps	180 Mbps	802.11an-AC	157	35	-32	04:F0:21:3A:6F:C0	10.1.14.6	04:f0:21:3a:53:c1

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	492.666 Mbps	371.62 Mbps	2.558 Mbps	1.77 Mbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0400--1.0.0-A	0 bps	0 bps	466.07 Mbps	455.753 Mbps	2,844	2,844	2,940	0
cv_tcp-1.1-1.sta0400--1.0.0-B	461.472 Mbps	456.168 Mbps	0 bps	0 bps	0	2,844	0	0
cv_udp-1.14-1.sta0800--1.0.3-A	0 bps	0 bps	47.033 Mbps	46.951 Mbps	12	12	0	0
cv_udp-1.14-1.sta0800--1.0.3-B	46.962 Mbps	47.228 Mbps	0 bps	0 bps	0	12	0	0

AP-Coexist: Channel 132 Snapshot 5Ghz Adjacent Channel Interferer AP

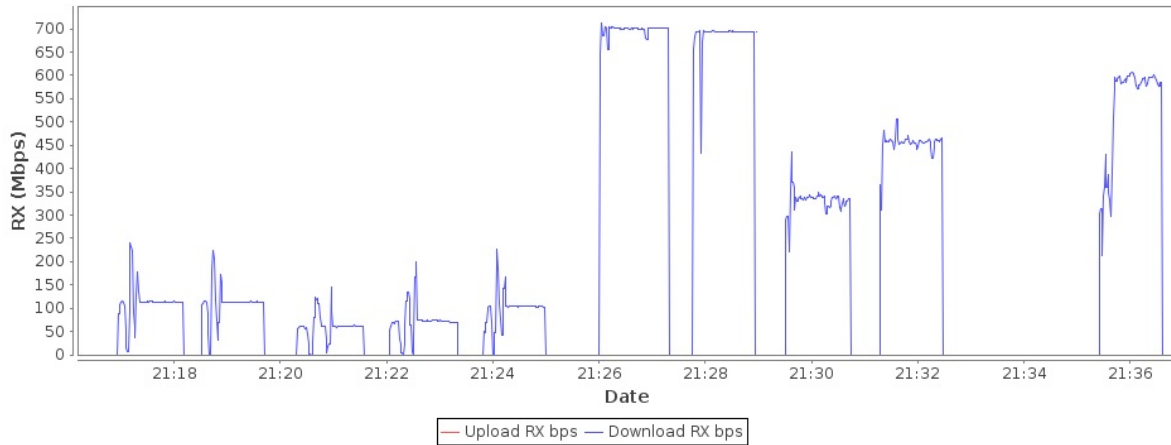
Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI(dBm)	AP	IP	MAC
1.1.15 sta0400	3.37 Mbps	2.392 Mbps	610.784 Mbps	435.718 Mbps	0.368	866.7 Mbps	780 Mbps	802.11an-AC	157	297	-44	DC:EF:09:E3:B8:7D	192.168.1.23	04:f0:21:38:b7:f0
1.1.17 sta0800	0 bps	4.968 Kbps	12.314 Mbps	120.426 Mbps	0	195 Mbps	13 Mbps	802.11an-AC	132	0	-23	04:F0:21:3A:6F:C0	10.1.14.6	04:f0:21:3a:53:c1

Port	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	621.561 Mbps	419.342 Mbps	2.653 Mbps	1.747 Mbps	1 Gbps	192.168.1.99	00:60:e0:74:74:bc

Endpoint	Tx-Bps Last	Tx-Bps 1m	Rx-Bps Last	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_tcp-1.1-1.sta0400--1.0.0-A	0 bps	0 bps	586.568 Mbps	579.236 Mbps	2,146	2,146	1,166	0
	584.978	577.434	0 bps	0 bps	0	2,146	0	0

cv_tcp-1.1-1.sta0400--1.0.0-B	Mbps	Mbps						
cv_udp-1.14-1.sta0800--1.0.3-A	0 bps	0 bps	7.948 Mbps	12.883 Mbps	820	820	1	29.35
cv_udp-1.14-1.sta0800--1.0.3-B	14.301 Mbps	20.007 Mbps	0 bps	0 bps	0	820	0	0

Realtime Throughput for: 6.5.2 AP Coexistence Test



6.5.1 Long Term Stability Test

Summary

Long term stability test intends to measure the stability performance of Wi-Fi device under stress. Throughput and connection availability are continuously monitored in a long period of time (24 hours).

Test Procedure

These steps are done for 2.4Ghz and then for 5Ghz bands.

1. Create 3 stations and set attenuation so that they are at a 2-meter distance.
2. Two stations run TCP traffic to check throughput and ICMP (this test uses UDP frames to emulate ICMP) to check for packet loss. The ICMP/UDP traffic generates 1 small frame per second.
3. The third station associates for 5 minutes, then disconnects for one minute, over and over.
4. TCP traffic throughput is measured every 3 minutes and recorded for pass/fail reporting.

Pass/Fail Criteria

1. Downlink throughput of the Peer STAs keeps stable in each frequency band with less than 20% deviation of the minimum sampling points by referring to the average throughput during the measurement of 24 hours.
2. For each of the test configuration, Packet Error Rate (PER) for each STA SHALL achieve less than 1%.

6.5.1 Long Term Stability Test Results

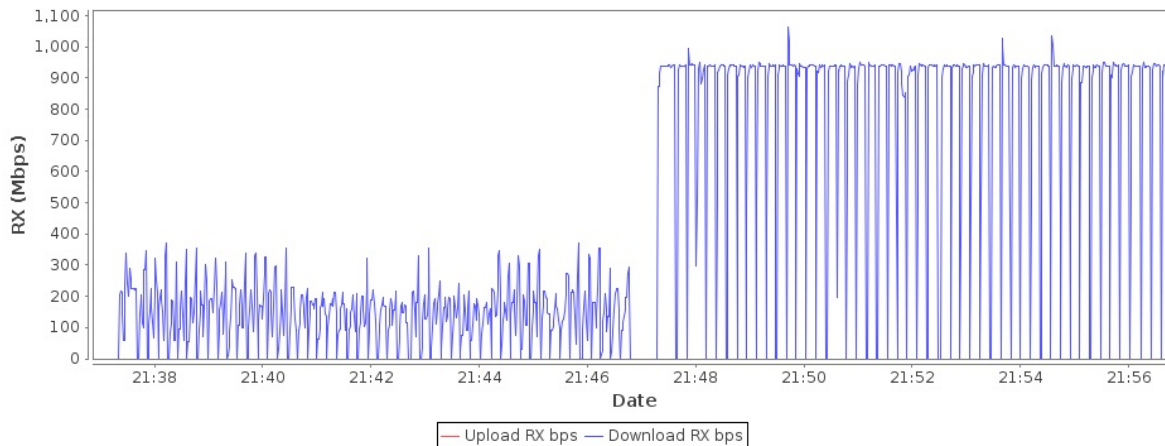
Type	Result	Notes
Configuration NOTE	INFO	UDP Check Interval is set to: 5 m, default is 1 hour
Configuration NOTE	INFO	TCP Download Check Iterations is set to: 50, default is 288.
Configuration NOTE	INFO	TCP Download Duration is set to: 10 s, default is 3 minutes.
Configuration NOTE	INFO	Packet loss (PER) is based on sequence gaps in received frames. Network loss since last received frame will not be counted.
2.4Ghz TCP DL check 0 / 50	INFO	Total TCP throughput: 222.75 Mbps
2.4Ghz TCP DL check 1 / 50	INFO	Total TCP throughput: 184.03 Mbps
2.4Ghz TCP DL check 2 / 50	INFO	Total TCP throughput: 187.12 Mbps
2.4Ghz TCP DL check 3 / 50	INFO	Total TCP throughput: 215.17 Mbps
2.4Ghz TCP DL check 4 / 50	INFO	Total TCP throughput: 186.29 Mbps
2.4Ghz TCP DL check 5 / 50	INFO	Total TCP throughput: 171.97 Mbps
2.4Ghz TCP DL check 6 / 50	INFO	Total TCP throughput: 193.43 Mbps
2.4Ghz TCP DL check 7 / 50	INFO	Total TCP throughput: 189.38 Mbps
2.4Ghz TCP DL check 8 / 50	INFO	Total TCP throughput: 201.07 Mbps
2.4Ghz TCP DL check 9 / 50	INFO	Total TCP throughput: 205.98 Mbps
2.4Ghz TCP DL check 10 / 50	INFO	Total TCP throughput: 196.30 Mbps
2.4Ghz TCP DL check 11 / 50	INFO	Total TCP throughput: 191.95 Mbps
2.4Ghz TCP DL check 12 / 50	INFO	Total TCP throughput: 193.75 Mbps
2.4Ghz TCP DL check 13 / 50	INFO	Total TCP throughput: 209.41 Mbps
2.4Ghz TCP DL check 14 / 50	INFO	Total TCP throughput: 214.86 Mbps

2.4Ghz TCP DL check 15 / 50	INFO	Total TCP throughput: 191.50 Mbps
2.4Ghz TCP DL check 16 / 50	INFO	Total TCP throughput: 160.87 Mbps
2.4Ghz TCP DL check 17 / 50	INFO	Total TCP throughput: 167.18 Mbps
2.4Ghz TCP DL check 18 / 50	INFO	Total TCP throughput: 200.92 Mbps
2.4Ghz TCP DL check 19 / 50	INFO	Total TCP throughput: 161.54 Mbps
2.4Ghz TCP DL check 20 / 50	INFO	Total TCP throughput: 193.56 Mbps
2.4Ghz TCP DL check 21 / 50	INFO	Total TCP throughput: 171.41 Mbps
2.4Ghz TCP DL check 22 / 50	INFO	Total TCP throughput: 172.57 Mbps
2.4Ghz TCP DL check 23 / 50	INFO	Total TCP throughput: 186.85 Mbps
2.4Ghz TCP DL check 24 / 50	INFO	Total TCP throughput: 157.18 Mbps
2.4Ghz TCP DL check 25 / 50	INFO	Total TCP throughput: 153.96 Mbps
2.4Ghz TCP DL check 26 / 50	INFO	Total TCP throughput: 203.81 Mbps
2.4Ghz TCP DL check 27 / 50	INFO	Total TCP throughput: 144.10 Mbps
2.4Ghz PER check 1	FAIL	UDP Rx: 626.0 Detected Dropped: 13.0 PER: 2.03
2.4Ghz TCP DL check 28 / 50	INFO	Total TCP throughput: 213.40 Mbps
2.4Ghz TCP DL check 29 / 50	INFO	Total TCP throughput: 197.61 Mbps
2.4Ghz TCP DL check 30 / 50	INFO	Total TCP throughput: 177.95 Mbps
2.4Ghz TCP DL check 31 / 50	INFO	Total TCP throughput: 194.51 Mbps
2.4Ghz TCP DL check 32 / 50	INFO	Total TCP throughput: 186.31 Mbps
2.4Ghz TCP DL check 33 / 50	INFO	Total TCP throughput: 177.59 Mbps
2.4Ghz TCP DL check 34 / 50	INFO	Total TCP throughput: 175.06 Mbps
2.4Ghz TCP DL check 35 / 50	INFO	Total TCP throughput: 154.29 Mbps
2.4Ghz TCP DL check 36 / 50	INFO	Total TCP throughput: 208.22 Mbps
2.4Ghz TCP DL check 37 / 50	INFO	Total TCP throughput: 180.75 Mbps
2.4Ghz TCP DL check 38 / 50	INFO	Total TCP throughput: 196.33 Mbps
2.4Ghz TCP DL check 39 / 50	INFO	Total TCP throughput: 173.42 Mbps
2.4Ghz TCP DL check 40 / 50	INFO	Total TCP throughput: 182.71 Mbps
2.4Ghz TCP DL check 41 / 50	INFO	Total TCP throughput: 194.47 Mbps
2.4Ghz TCP DL check 42 / 50	INFO	Total TCP throughput: 154.85 Mbps
2.4Ghz TCP DL check 43 / 50	INFO	Total TCP throughput: 198.51 Mbps
2.4Ghz TCP DL check 44 / 50	INFO	Total TCP throughput: 218.99 Mbps
2.4Ghz TCP DL check 45 / 50	INFO	Total TCP throughput: 171.45 Mbps
2.4Ghz TCP DL check 46 / 50	INFO	Total TCP throughput: 210.54 Mbps
2.4Ghz TCP DL check 47 / 50	INFO	Total TCP throughput: 189.20 Mbps
2.4Ghz TCP DL check 48 / 50	INFO	Total TCP throughput: 147.20 Mbps
2.4Ghz TCP DL check 49 / 50	INFO	Total TCP throughput: 196.91 Mbps
2.4Ghz band complete	INFO	Average over all iterations: 186.58 Mbps 80% passing rate cutoff: 149.27 Mbps
2.4Ghz TCP DL Period 0	PASS	Download Rate: 222.75 Mbps Percent of Passing: 149.23
2.4Ghz TCP DL Period 1	PASS	Download Rate: 184.03 Mbps Percent of Passing: 123.29
2.4Ghz TCP DL Period 2	PASS	Download Rate: 187.12 Mbps Percent of Passing: 125.36
2.4Ghz TCP DL Period 3	PASS	Download Rate: 215.17 Mbps Percent of Passing: 144.15
2.4Ghz TCP DL Period 4	PASS	Download Rate: 186.29 Mbps Percent of Passing: 124.80
2.4Ghz TCP DL Period 5	PASS	Download Rate: 171.97 Mbps Percent of Passing: 115.21
2.4Ghz TCP DL Period 6	PASS	Download Rate: 193.43 Mbps Percent of Passing: 129.59
2.4Ghz TCP DL Period 7	PASS	Download Rate: 189.38 Mbps Percent of Passing: 126.87
2.4Ghz TCP DL Period 8	PASS	Download Rate: 201.07 Mbps Percent of Passing: 134.70
2.4Ghz TCP DL Period 9	PASS	Download Rate: 205.98 Mbps Percent of Passing: 137.99
2.4Ghz TCP DL Period 10	PASS	Download Rate: 196.30 Mbps Percent of Passing: 131.51
2.4Ghz TCP DL Period 11	PASS	Download Rate: 191.95 Mbps Percent of Passing: 128.59
2.4Ghz TCP DL Period 12	PASS	Download Rate: 193.75 Mbps Percent of Passing: 129.80
2.4Ghz TCP DL Period 13	PASS	Download Rate: 209.41 Mbps Percent of Passing: 140.29
2.4Ghz TCP DL Period 14	PASS	Download Rate: 214.86 Mbps Percent of Passing: 143.94
2.4Ghz TCP DL Period 15	PASS	Download Rate: 191.50 Mbps Percent of Passing: 128.29
2.4Ghz TCP DL Period 16	PASS	Download Rate: 160.87 Mbps Percent of Passing: 107.78
2.4Ghz TCP DL Period 17	PASS	Download Rate: 167.18 Mbps Percent of Passing: 112.00
2.4Ghz TCP DL Period 18	PASS	Download Rate: 200.92 Mbps Percent of Passing: 134.60
2.4Ghz TCP DL Period 19	PASS	Download Rate: 161.54 Mbps Percent of Passing: 108.22
2.4Ghz TCP DL Period 20	PASS	Download Rate: 193.56 Mbps Percent of Passing: 129.67
2.4Ghz TCP DL Period 21	PASS	Download Rate: 171.41 Mbps Percent of Passing: 114.84
2.4Ghz TCP DL Period 22	PASS	Download Rate: 172.57 Mbps Percent of Passing: 115.61
2.4Ghz TCP DL Period 23	PASS	Download Rate: 186.85 Mbps Percent of Passing: 125.18
2.4Ghz TCP DL Period 24	PASS	Download Rate: 157.18 Mbps Percent of Passing: 105.30
2.4Ghz TCP DL Period 25	PASS	Download Rate: 153.96 Mbps Percent of Passing: 103.15
2.4Ghz TCP DL Period 26	PASS	Download Rate: 203.81 Mbps Percent of Passing: 136.54
2.4Ghz TCP DL Period 27	FAIL	Download Rate: 144.10 Mbps Percent of Passing: 96.54
2.4Ghz TCP DL Period 28	PASS	Download Rate: 213.40 Mbps Percent of Passing: 142.97
2.4Ghz TCP DL Period 29	PASS	Download Rate: 197.61 Mbps Percent of Passing: 132.39
2.4Ghz TCP DL Period 30	PASS	Download Rate: 177.95 Mbps Percent of Passing: 119.22
2.4Ghz TCP DL Period 31	PASS	Download Rate: 194.51 Mbps Percent of Passing: 130.31
2.4Ghz TCP DL Period 32	PASS	Download Rate: 186.31 Mbps Percent of Passing: 124.82
2.4Ghz TCP DL Period 33	PASS	Download Rate: 177.59 Mbps Percent of Passing: 118.98
2.4Ghz TCP DL Period 34	PASS	Download Rate: 175.06 Mbps Percent of Passing: 117.28
2.4Ghz TCP DL Period 35	PASS	Download Rate: 154.29 Mbps Percent of Passing: 103.37
2.4Ghz TCP DL Period 36	PASS	Download Rate: 208.22 Mbps Percent of Passing: 139.50
2.4Ghz TCP DL Period 37	PASS	Download Rate: 180.75 Mbps Percent of Passing: 121.09
2.4Ghz TCP DL Period 38	PASS	Download Rate: 196.33 Mbps Percent of Passing: 131.53
2.4Ghz TCP DL Period 39	PASS	Download Rate: 173.42 Mbps Percent of Passing: 116.18
2.4Ghz TCP DL Period 40	PASS	Download Rate: 182.71 Mbps Percent of Passing: 122.41
2.4Ghz TCP DL Period 41	PASS	Download Rate: 194.47 Mbps Percent of Passing: 130.28

2.4Ghz TCP DL Period 42	PASS	Download Rate: 154.85 Mbps Percent of Passing: 103.74
2.4Ghz TCP DL Period 43	PASS	Download Rate: 198.51 Mbps Percent of Passing: 132.99
2.4Ghz TCP DL Period 44	PASS	Download Rate: 218.99 Mbps Percent of Passing: 146.71
2.4Ghz TCP DL Period 45	PASS	Download Rate: 171.45 Mbps Percent of Passing: 114.86
2.4Ghz TCP DL Period 46	PASS	Download Rate: 210.54 Mbps Percent of Passing: 141.05
2.4Ghz TCP DL Period 47	PASS	Download Rate: 189.20 Mbps Percent of Passing: 126.75
2.4Ghz TCP DL Period 48	FAIL	Download Rate: 147.20 Mbps Percent of Passing: 98.62
2.4Ghz TCP DL Period 49	PASS	Download Rate: 196.91 Mbps Percent of Passing: 131.92
5Ghz TCP DL check 0 / 50	INFO	Total TCP throughput: 936.15 Mbps
5Ghz TCP DL check 1 / 50	INFO	Total TCP throughput: 935.82 Mbps
5Ghz TCP DL check 2 / 50	INFO	Total TCP throughput: 951.02 Mbps
5Ghz TCP DL check 3 / 50	INFO	Total TCP throughput: 922.31 Mbps
5Ghz TCP DL check 4 / 50	INFO	Total TCP throughput: 938.85 Mbps
5Ghz TCP DL check 5 / 50	INFO	Total TCP throughput: 936.68 Mbps
5Ghz TCP DL check 6 / 50	INFO	Total TCP throughput: 934.51 Mbps
5Ghz TCP DL check 7 / 50	INFO	Total TCP throughput: 932.69 Mbps
5Ghz TCP DL check 8 / 50	INFO	Total TCP throughput: 936.17 Mbps
5Ghz TCP DL check 9 / 50	INFO	Total TCP throughput: 935.27 Mbps
5Ghz TCP DL check 10 / 50	INFO	Total TCP throughput: 936.81 Mbps
5Ghz TCP DL check 11 / 50	INFO	Total TCP throughput: 937.73 Mbps
5Ghz TCP DL check 12 / 50	INFO	Total TCP throughput: 958.71 Mbps
5Ghz TCP DL check 13 / 50	INFO	Total TCP throughput: 938.11 Mbps
5Ghz TCP DL check 14 / 50	INFO	Total TCP throughput: 938.60 Mbps
5Ghz TCP DL check 15 / 50	INFO	Total TCP throughput: 934.98 Mbps
5Ghz TCP DL check 16 / 50	INFO	Total TCP throughput: 934.79 Mbps
5Ghz TCP DL check 17 / 50	INFO	Total TCP throughput: 937.45 Mbps
5Ghz TCP DL check 18 / 50	INFO	Total TCP throughput: 933.19 Mbps
5Ghz TCP DL check 19 / 50	INFO	Total TCP throughput: 932.44 Mbps
5Ghz TCP DL check 20 / 50	INFO	Total TCP throughput: 937.82 Mbps
5Ghz TCP DL check 21 / 50	INFO	Total TCP throughput: 936.72 Mbps
5Ghz TCP DL check 22 / 50	INFO	Total TCP throughput: 939.03 Mbps
5Ghz TCP DL check 23 / 50	INFO	Total TCP throughput: 890.80 Mbps
5Ghz TCP DL check 24 / 50	INFO	Total TCP throughput: 923.47 Mbps
5Ghz TCP DL check 25 / 50	INFO	Total TCP throughput: 937.54 Mbps
5Ghz TCP DL check 26 / 50	INFO	Total TCP throughput: 938.61 Mbps
5Ghz PER check 1	PASS	UDP Rx: 618.0 Detected Dropped: 0.0 PER: 0
5Ghz TCP DL check 27 / 50	INFO	Total TCP throughput: 935.48 Mbps
5Ghz TCP DL check 28 / 50	INFO	Total TCP throughput: 938.98 Mbps
5Ghz TCP DL check 29 / 50	INFO	Total TCP throughput: 935.21 Mbps
5Ghz TCP DL check 30 / 50	INFO	Total TCP throughput: 933.88 Mbps
5Ghz TCP DL check 31 / 50	INFO	Total TCP throughput: 935.18 Mbps
5Ghz TCP DL check 32 / 50	INFO	Total TCP throughput: 934.32 Mbps
5Ghz TCP DL check 33 / 50	INFO	Total TCP throughput: 955.72 Mbps
5Ghz TCP DL check 34 / 50	INFO	Total TCP throughput: 935.12 Mbps
5Ghz TCP DL check 35 / 50	INFO	Total TCP throughput: 930.03 Mbps
5Ghz TCP DL check 36 / 50	INFO	Total TCP throughput: 934.83 Mbps
5Ghz TCP DL check 37 / 50	INFO	Total TCP throughput: 939.98 Mbps
5Ghz TCP DL check 38 / 50	INFO	Total TCP throughput: 956.04 Mbps
5Ghz TCP DL check 39 / 50	INFO	Total TCP throughput: 932.09 Mbps
5Ghz TCP DL check 40 / 50	INFO	Total TCP throughput: 937.27 Mbps
5Ghz TCP DL check 41 / 50	INFO	Total TCP throughput: 930.87 Mbps
5Ghz TCP DL check 42 / 50	INFO	Total TCP throughput: 936.03 Mbps
5Ghz TCP DL check 43 / 50	INFO	Total TCP throughput: 934.74 Mbps
5Ghz TCP DL check 44 / 50	INFO	Total TCP throughput: 934.11 Mbps
5Ghz TCP DL check 45 / 50	INFO	Total TCP throughput: 936.62 Mbps
5Ghz TCP DL check 46 / 50	INFO	Total TCP throughput: 932.23 Mbps
5Ghz TCP DL check 47 / 50	INFO	Total TCP throughput: 935.88 Mbps
5Ghz TCP DL check 48 / 50	INFO	Total TCP throughput: 935.16 Mbps
5Ghz TCP DL check 49 / 50	INFO	Total TCP throughput: 934.23 Mbps
5Ghz band complete	INFO	Average over all iterations: 935.81 Mbps 80% passing rate cutoff: 748.64 Mbps
5Ghz TCP DL Period 0	PASS	Download Rate: 936.15 Mbps Percent of Passing: 125.05
5Ghz TCP DL Period 1	PASS	Download Rate: 935.82 Mbps Percent of Passing: 125.00
5Ghz TCP DL Period 2	PASS	Download Rate: 951.02 Mbps Percent of Passing: 127.03
5Ghz TCP DL Period 3	PASS	Download Rate: 922.31 Mbps Percent of Passing: 123.20
5Ghz TCP DL Period 4	PASS	Download Rate: 938.85 Mbps Percent of Passing: 125.41
5Ghz TCP DL Period 5	PASS	Download Rate: 936.68 Mbps Percent of Passing: 125.12
5Ghz TCP DL Period 6	PASS	Download Rate: 934.51 Mbps Percent of Passing: 124.83
5Ghz TCP DL Period 7	PASS	Download Rate: 932.69 Mbps Percent of Passing: 124.58
5Ghz TCP DL Period 8	PASS	Download Rate: 936.17 Mbps Percent of Passing: 125.05
5Ghz TCP DL Period 9	PASS	Download Rate: 935.27 Mbps Percent of Passing: 124.93
5Ghz TCP DL Period 10	PASS	Download Rate: 936.81 Mbps Percent of Passing: 125.13
5Ghz TCP DL Period 11	PASS	Download Rate: 937.73 Mbps Percent of Passing: 125.26
5Ghz TCP DL Period 12	PASS	Download Rate: 958.71 Mbps Percent of Passing: 128.06
5Ghz TCP DL Period 13	PASS	Download Rate: 938.11 Mbps Percent of Passing: 125.31
5Ghz TCP DL Period 14	PASS	Download Rate: 938.60 Mbps Percent of Passing: 125.37
5Ghz TCP DL Period 15	PASS	Download Rate: 934.98 Mbps Percent of Passing: 124.89
5Ghz TCP DL Period 16	PASS	Download Rate: 934.79 Mbps Percent of Passing: 124.86
5Ghz TCP DL Period 17	PASS	Download Rate: 937.45 Mbps Percent of Passing: 125.22
5Ghz TCP DL Period 18	PASS	Download Rate: 933.19 Mbps Percent of Passing: 124.65

5Ghz TCP DL Period 19	PASS	Download Rate: 932.44 Mbps Percent of Passing: 124.55
5Ghz TCP DL Period 20	PASS	Download Rate: 937.82 Mbps Percent of Passing: 125.27
5Ghz TCP DL Period 21	PASS	Download Rate: 936.72 Mbps Percent of Passing: 125.12
5Ghz TCP DL Period 22	PASS	Download Rate: 939.03 Mbps Percent of Passing: 125.43
5Ghz TCP DL Period 23	PASS	Download Rate: 890.80 Mbps Percent of Passing: 118.99
5Ghz TCP DL Period 24	PASS	Download Rate: 923.47 Mbps Percent of Passing: 123.35
5Ghz TCP DL Period 25	PASS	Download Rate: 937.54 Mbps Percent of Passing: 125.23
5Ghz TCP DL Period 26	PASS	Download Rate: 938.61 Mbps Percent of Passing: 125.37
5Ghz TCP DL Period 27	PASS	Download Rate: 935.48 Mbps Percent of Passing: 124.96
5Ghz TCP DL Period 28	PASS	Download Rate: 938.98 Mbps Percent of Passing: 125.42
5Ghz TCP DL Period 29	PASS	Download Rate: 935.21 Mbps Percent of Passing: 124.92
5Ghz TCP DL Period 30	PASS	Download Rate: 933.88 Mbps Percent of Passing: 124.74
5Ghz TCP DL Period 31	PASS	Download Rate: 935.18 Mbps Percent of Passing: 124.92
5Ghz TCP DL Period 32	PASS	Download Rate: 934.32 Mbps Percent of Passing: 124.80
5Ghz TCP DL Period 33	PASS	Download Rate: 955.72 Mbps Percent of Passing: 127.66
5Ghz TCP DL Period 34	PASS	Download Rate: 935.12 Mbps Percent of Passing: 124.91
5Ghz TCP DL Period 35	PASS	Download Rate: 930.03 Mbps Percent of Passing: 124.23
5Ghz TCP DL Period 36	PASS	Download Rate: 934.83 Mbps Percent of Passing: 124.87
5Ghz TCP DL Period 37	PASS	Download Rate: 939.98 Mbps Percent of Passing: 125.56
5Ghz TCP DL Period 38	PASS	Download Rate: 956.04 Mbps Percent of Passing: 127.70
5Ghz TCP DL Period 39	PASS	Download Rate: 932.09 Mbps Percent of Passing: 124.50
5Ghz TCP DL Period 40	PASS	Download Rate: 937.27 Mbps Percent of Passing: 125.20
5Ghz TCP DL Period 41	PASS	Download Rate: 930.87 Mbps Percent of Passing: 124.34
5Ghz TCP DL Period 42	PASS	Download Rate: 936.03 Mbps Percent of Passing: 125.03
5Ghz TCP DL Period 43	PASS	Download Rate: 934.74 Mbps Percent of Passing: 124.86
5Ghz TCP DL Period 44	PASS	Download Rate: 934.11 Mbps Percent of Passing: 124.77
5Ghz TCP DL Period 45	PASS	Download Rate: 936.62 Mbps Percent of Passing: 125.11
5Ghz TCP DL Period 46	PASS	Download Rate: 932.23 Mbps Percent of Passing: 124.52
5Ghz TCP DL Period 47	PASS	Download Rate: 935.88 Mbps Percent of Passing: 125.01
5Ghz TCP DL Period 48	PASS	Download Rate: 935.16 Mbps Percent of Passing: 124.91
5Ghz TCP DL Period 49	PASS	Download Rate: 934.23 Mbps Percent of Passing: 124.79

Realtime Throughput for: 6.5.1 Long Term Stability Test



Test configuration and LANforge software version	
Skip 2.4Ghz Tests	false
Skip 5Ghz Tests	false
Duration-120	20
Duration-60	10
Channel 2Ghz	11
Channel 5Ghz	157
Multi-Conn	5
ToS	0
Upstream Port	1.1.1 eth1 Firmware: 0. 6-1 Resource: lanforge-74bb
Turn-Table Chamber	DUTChamber
Configured 2m 2.4Ghz RSSI	-24
Configured 2m 5Ghz RSSI	-32
Requested Rx-Sens Speed	65%
RxSens Rotation Degrees:	60
RxSens Start Step:	1
Attenuation Adjustment	0
Boost RxSens 5Ghz Signal	false
Stop RX-Sens at pass	true
Auto-Calibrate Interferer	true

Interferer 5G-80Mhz:	195.00 Mbps
Interferer 5G-40Mhz:	90.00 Mbps
Interferer 2.4G-20Mhz:	29.00 Mbps
Spatial Rotation Degrees:	30
Test Retries:	3
Stability Duration-180	10
Stability Max-Iterations	50
Stability UDP Duration	5 m
WiFi Radio 0	1.1.3 wiphy0 Firmware: 10.4b-ct-9984-xtH-012-f7db65c15 Resource: lanforge-74bb
WiFi Radio 1	1.1.4 wiphy1 Firmware: 10.4b-ct-9984-xtH-012-f7db65c15 Resource: lanforge-74bb
WiFi Radio 2	1.1.4 wiphy2 Firmware: 10.4b-ct-9984-xtH-012-f7db65c15 Resource: lanforge-74bb
WiFi Radio 3	1.1.5 wiphy3 Firmware: 10.4b-ct-9984-xtH-012-f7db65c15 Resource: lanforge-74bb
WiFi Radio 4	1.1.6 wiphy4 Firmware: 10.4b-ct-9984-xtH-012-f7db65c15 Resource: lanforge-74bb
WiFi Radio 5	1.1.8 wiphy5 Firmware: 10.4b-ct-9984-xtH-012-f7db65c15 Resource: lanforge-74bb
Attenuator 0	rssI-0-2.4Ghz: -26 rssI-0-5Ghz: -34 atten: 1.1.86.0
Attenuator 1	rssI-0-2.4Ghz: -26 rssI-0-5Ghz: -34 atten: 1.1.86.1
Attenuator 2	rssI-0-2.4Ghz: -26 rssI-0-5Ghz: -34 atten: 1.1.86.2
Attenuator 3	rssI-0-2.4Ghz: -26 rssI-0-5Ghz: -34 atten: 1.1.86.3
Attenuator 4	rssI-0-2.4Ghz: -26 rssI-0-5Ghz: -37 atten: 1.1.85.0
Attenuator 5	rssI-0-2.4Ghz: -26 rssI-0-5Ghz: -37 atten: 1.1.85.1
Attenuator 6	rssI-0-2.4Ghz: -26 rssI-0-5Ghz: -37 atten:
Attenuator 7	rssI-0-2.4Ghz: -26 rssI-0-5Ghz: -37 atten:
Attenuator 8	rssI-0-2.4Ghz: -21 rssI-0-5Ghz: -34 atten: 1.1.85.2
Attenuator 9	rssI-0-2.4Ghz: -21 rssI-0-5Ghz: -34 atten: 1.1.85.3
Attenuator 10	rssI-0-2.4Ghz: -21 rssI-0-5Ghz: -34 atten:
Attenuator 11	rssI-0-2.4Ghz: -21 rssI-0-5Ghz: -34 atten:
Show Events	true
Build Date	Thu Aug 1 18:01:56 PDT 2019
Build Version	5.4.1