AP-Auto

AP Automated Test Plan

Tue Oct 26 03:30:30 PDT 2021

Test Setup Information	
Device Under Test	ASUS Faculty_scale ASUS Student_scale
Estimated Run Time	8.133 h
Actual Run Time	21.642 h

Objective

The AP-Auto WiFi Performance test plan automates testing of one or more APs with flexibility to select which tests are to be run.

Summary Results

Test	Result	Candela Score	Elapsed	Info
Basic Client Connectivity	2.4Ghz FAIL 5Ghz PASS Dual-Band PASS	95	1.992 m	Max Stations Connected: 2 Total Connected: 6 / 6 (100.0%) Total Connected In Time: 5 / 6 (83.3%) Combinations Tested: 3 / 9
Throughput vs Pkt Size	2.4Ghz PASS 5Ghz PASS	100	31.215 m	
Multi Band Performance	2.4Ghz PASS 5Ghz PASS Dual-Band FAIL	99	2.803 m	Dual-Concurrent vs 90% of Sum: 577.47 Mbps / 642.04 Mbps Dual-Concurrent vs 90% of Sum: 480.85 Mbps / 440.37 Mbps
Capacity	2.4Ghz FAIL 5Ghz FAIL Dual-Band FAIL	87	4.671 m	2.4Ghz 2 Stations, 122.89 Mbps Total throughput: 122.89 Mbps / 123.74 Mbps (P/F Auto-Calculated) 5Ghz 2 Stations, 423.78 Mbps Total throughput: 423.78 Mbps / 523.25 Mbps (P/F Auto-Calculated) 2.4Ghz 1 Stations, 139.96 Mbps 5Ghz 1 Stations, 227.96 Mbps Total throughput: 367.91 Mbps / 646.99 Mbps (P/F Auto-Calculated)
Stability	2.4Ghz FAIL 5Ghz FAIL Dual-Band FAIL	44	18.071 h	Station Resets: 3461.0 Station Connections: 3419.0 Auth Timeouts: 89.0 Association Rejected: 0.0 Bandwidth Check: 7.0/21.0 STA Connected Check: 6.0/6.0
Multi-Station Throughput vs Pkt Size	2.4Ghz PASS 5Ghz PASS Dual-Band PASS	100	1.872 h	
Band-Steering	2.4Ghz FAIL 5Ghz FAIL Dual-Band FAIL	0	25 ms	Band Steering Check: 0/0
Long-Term	2.4Ghz PASS 5Ghz PASS Dual-Band PASS	100	1.006 h	

Basic Client Connectivity

Summary

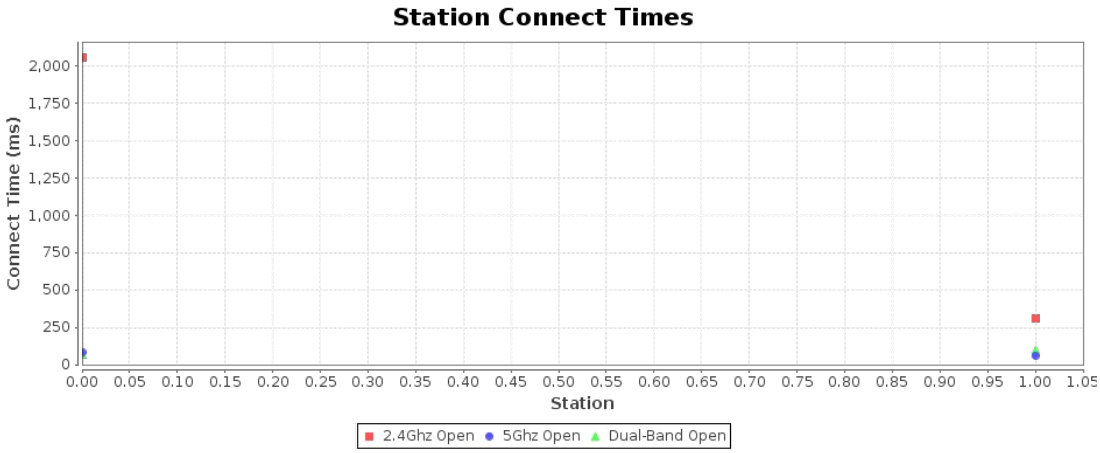
The Maximum Connection test intends to verify that the Wi-Fi AP can support many STAs simultaneously and connect them within a specific time frame. No data traffic is generated during this test. The pass/fail thresholds for connection times are below. The entire test will count as failed if the passing station percentage is below the Percent threshold (100.00%) or if any of the stations failed to connect.

Auth Method	Threshold
Open	25 ms
PSK	500 ms
802.1x Enterprise	500 ms

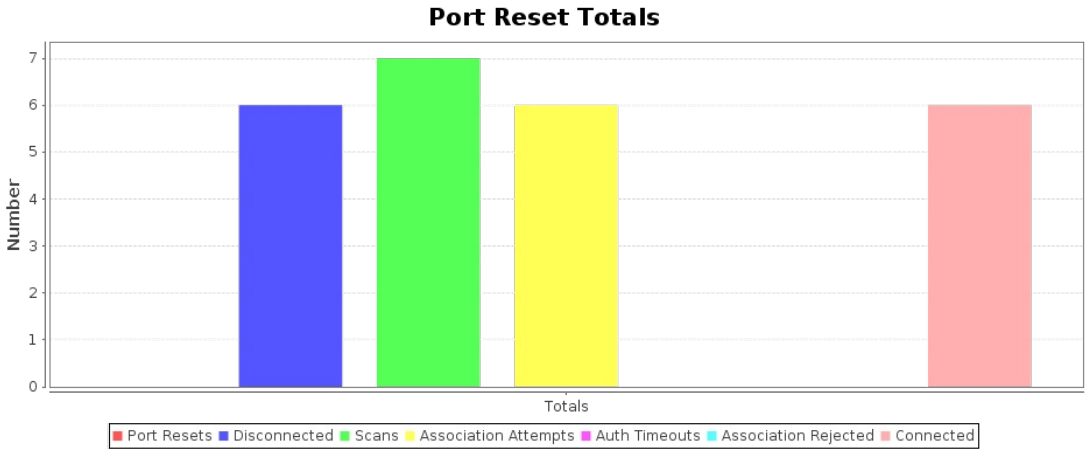
The Candela Score for the Basic Client Connectivity test is based on the percentage of stations that passed the criteria: 75% is based on the percentage of stations that connected, and 25% is based on the percentage that met the association time criteria.

Station connection times for different bands and DUT configurations.

CSV Data for Station Connect Times



CSV Data for Port Reset Totals



Basic Client Connectivity Results

Type	Result	Notes
Configuration NOTE	INFO	Configured to skip 5Ghz-B band test.
Configuration NOTE	INFO	Configured to skip Tri band test.
Configuration NOTE	INFO	Skipping DUT idx: 1: No 2.4Ghz DUT configured.
Configuration NOTE	INFO	Skipping DUT idx: 1: No 5Ghz DUT configured.
Configuration NOTE	INFO	Skipping DUT idx: 1: No 5Ghz DUT configured.
Configuration NOTE	INFO	Configured to skip 5Ghz-B band test.
Configuration NOTE	INFO	Configured to skip Tri band test.
Configuration NOTE	INFO	Skipping DUT idx: 2: No 2.4Ghz DUT configured.

Configuration NOTE	INFO	Skipping DUT idx: 2: No 5Ghz DUT configured.
Configuration NOTE	INFO	Skipping DUT idx: 2: No 5Ghz DUT configured.
Configuration NOTE	INFO	Configured to skip 5Ghz-B band test.
Configuration NOTE	INFO	Configured to skip Tri band test.

Basic Client Connectivity Results for 2.4Ghz

Type	Result	Notes
DUT: ASUS Student_scale CH 1 1.1.10 wlan6	FAIL	PSK DHCP: 1692ms Connect: 2060 / 500 ms
DUT: ASUS Student_scale CH 1 1.1.11 wlan0	PASS	PSK DHCP: 1849ms Connect: 311 / 500 ms
2.4Ghz DUT: ASUS Student_scale	Summary	Min: 311 Max: 2060 Avg: 1,185.50ms Passing: 50.00%

Basic Client Connectivity Results for 5Ghz

Type	Result	Notes
DUT: ASUS Faculty_scale CH 64 1.1.10 wlan7	PASS	PSK DHCP: 1930ms Connect: 80 / 500 ms
DUT: ASUS Faculty_scale CH 64 1.1.11 wlan0	PASS	PSK DHCP: 124ms Connect: 62 / 500 ms
5Ghz DUT: ASUS Faculty_scale	Summary	Min: 62 Max: 80 Avg: 71.00ms Passing: 100.00%

Basic Client Connectivity Results for Dual-Band

Type	Result	Notes
DUT: ASUS Student_scale ASUS Faculty_scale CH 64 1.1.10 wlan0	PASS	PSK DHCP: 936ms Connect: 67 / 500 ms
DUT: ASUS Student_scale ASUS Faculty_scale CH 1 1.1.11 wlan2	PASS	PSK DHCP: 1908ms Connect: 99 / 500 ms
Dual-Band DUT: ASUS Student_scale ASUS Faculty_scale	Summary	Min: 67 Max: 99 Avg: 83.00ms Passing: 100.00%

Throughput vs Pkt Size

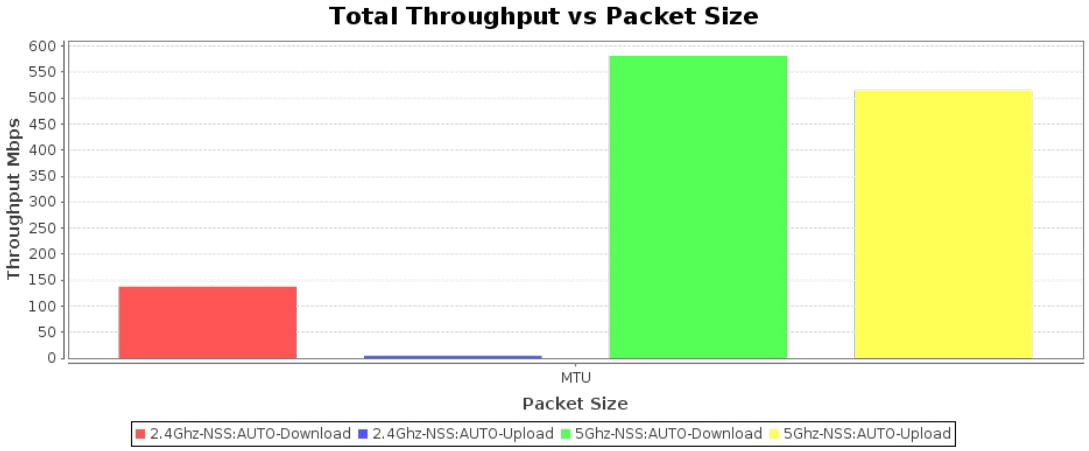
Summary

The Throughput vs Pkt Size test reports the Wi-Fi AP throughput for a single station at different frame sizes. This test will pick a starting point and then adjust rates up or down (hunt) until it finds the maximum rate that meets the packet loss criteria. This test is done with a single station.A hunt iteration is considered failed if the packet loss is above the configured value (1.00) or if the offered rate is more than 10% higher than the reported throughput. A failing iteration will be retried a configurable amount of times (1) The hunt for each packet size stops after the configured number of iterations (100) or when the calculated change in requested throughput for the next step is less than 1Mbps The pass/fail criteria is based on the user-specified thresholds. If no threshold is defined, the value will be reported without pass/fail being calculated.

The Candela Score for the Throughput vs Pkt Size test is 50% based on the percentage of tests that passed and 50% based on total throughput vs requested throughput.

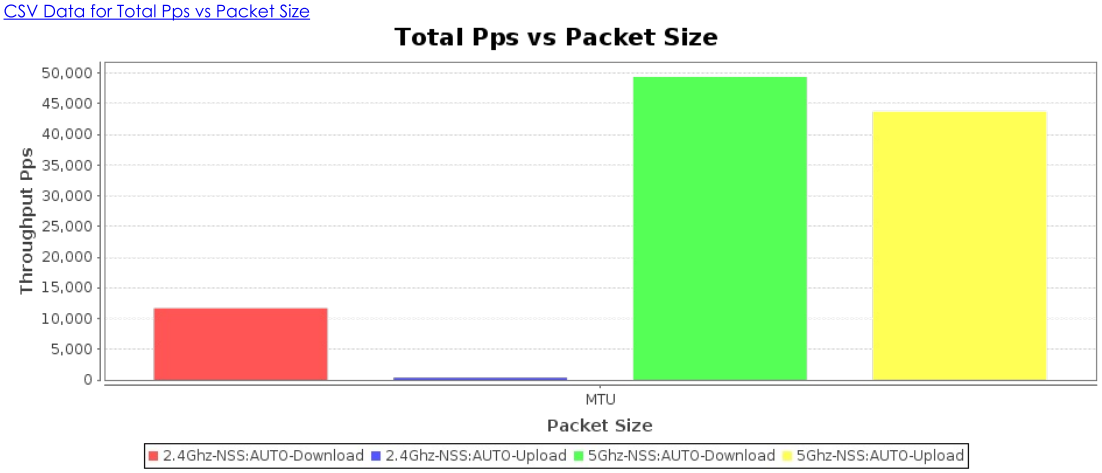
Total throughput (goodput) for each different traffic type on all bands.

CSV Data for Total Throughput vs Packet Size



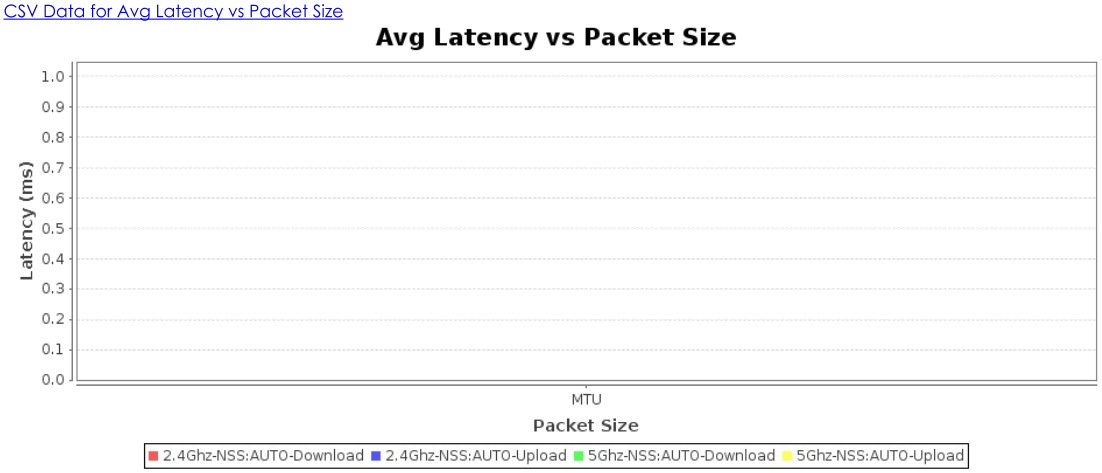
Total throughput packets-per-second for each different traffic type on all bands.

CSV Data for Total Pps vs Packet Size



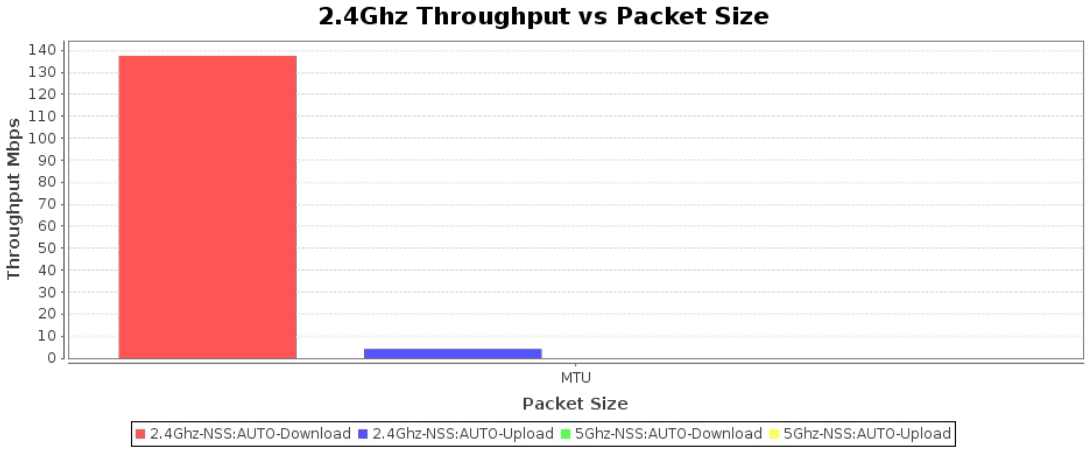
Average Latency for each different traffic type on all bands.

CSV Data for Avg Latency vs Packet Size



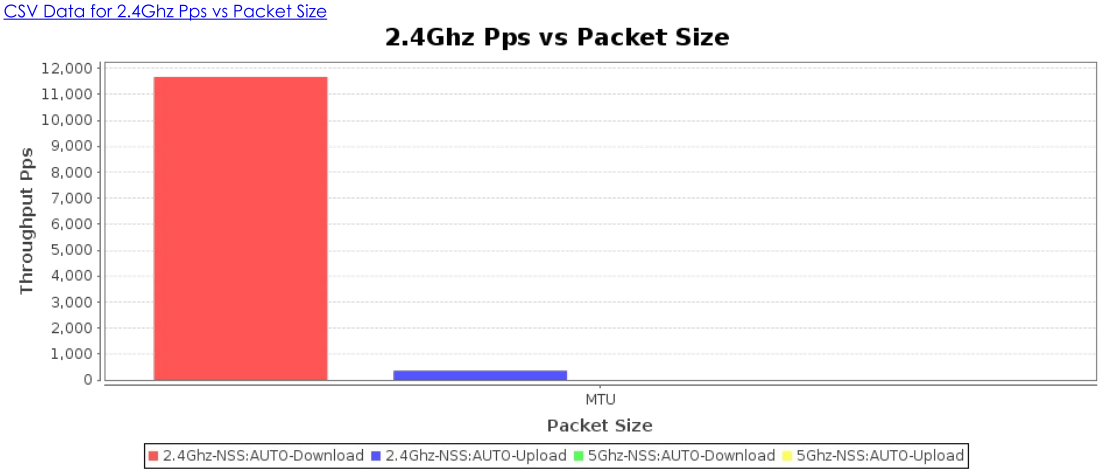
Throughput (goodput) for each different traffic type on the 2.4Ghz band.

CSV Data for 2.4Ghz Throughput vs Packet Size



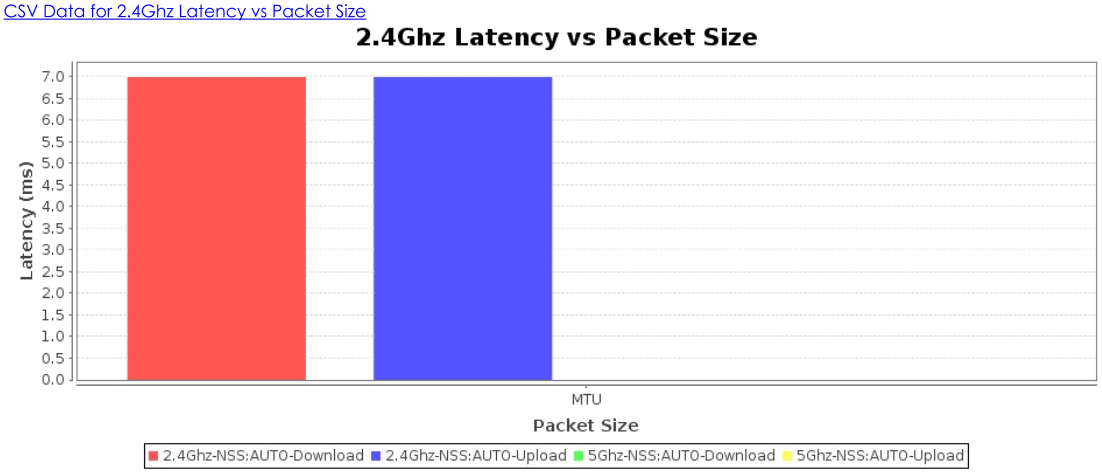
Throughput packets-per-second for each different traffic type on the 2.4Ghz band.

CSV Data for 2.4Ghz Pps vs Packet Size



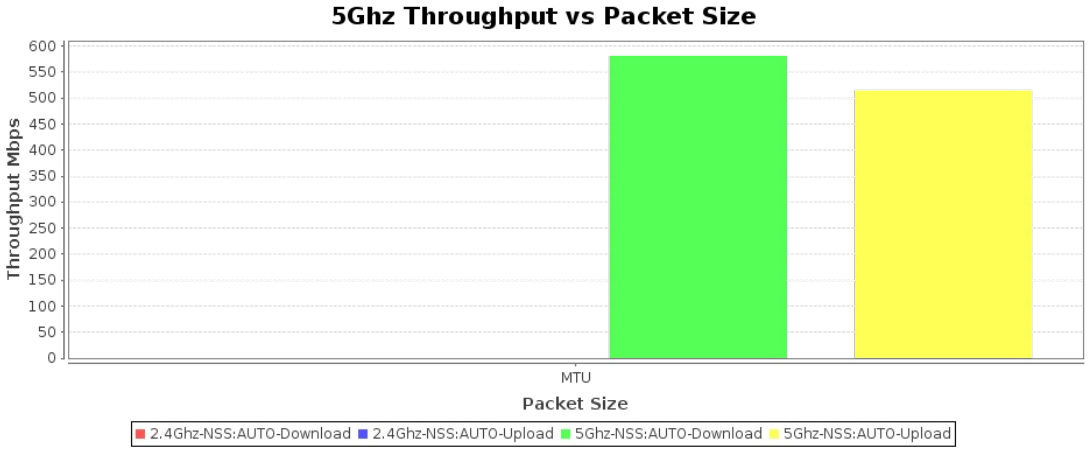
Average one-way Latency for each different traffic type on the 2.4Ghz band.

CSV Data for 2.4Ghz Latency vs Packet Size



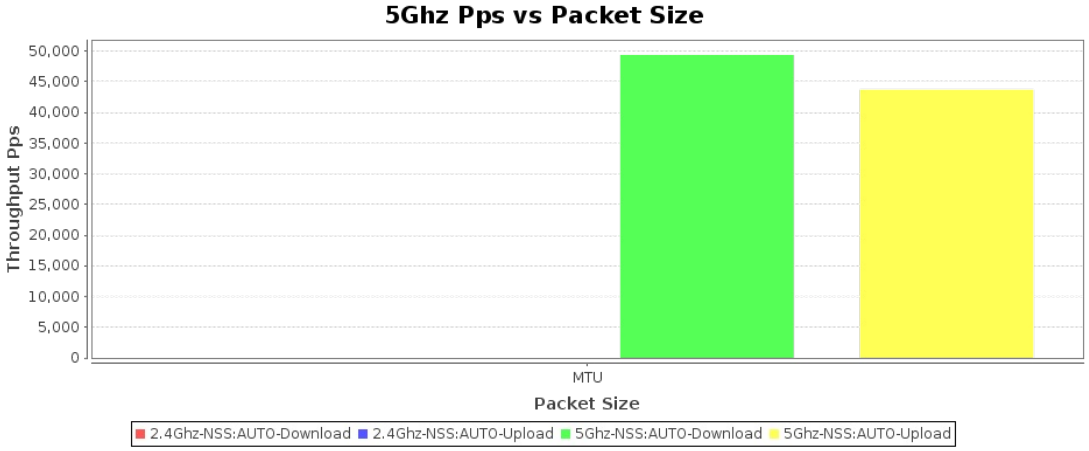
Throughput (goodput) for each different traffic type on the 5Ghz band.

CSV Data for 5Ghz Throughput vs Packet Size



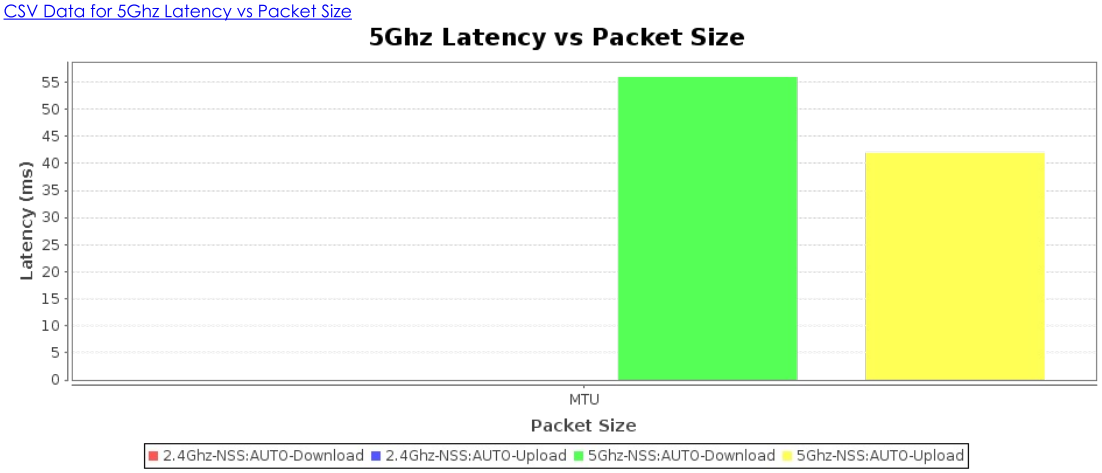
Throughput packets-per-second for each different traffic type on the 5Ghz band.

CSV Data for 5Ghz Pps vs Packet Size



Average one-way Latency for each different traffic type on the 5Ghz band.

CSV Data for 5Ghz Latency vs Packet Size



Throughput vs Pkt Size Results

Type	Result	Notes
2.4Ghz Download Sta Qty: 1 MTU	Info	137.49 Mbps PER: 0%
2.4Ghz Upload Sta Qty: 1 MTU	Info	4.16 Mbps PER: 0.48%
5Ghz Download Sta Qty: 1 MTU	Info	581.39 Mbps PER: 0.98%
5Ghz Upload Sta Qty: 1 MTU	Info	514.73 Mbps PER: 0.62%

Configuration NOTE	INFO	Configured to skip 5Ghz-B band test.
Configuration NOTE	INFO	Configured to skip Tri band test.

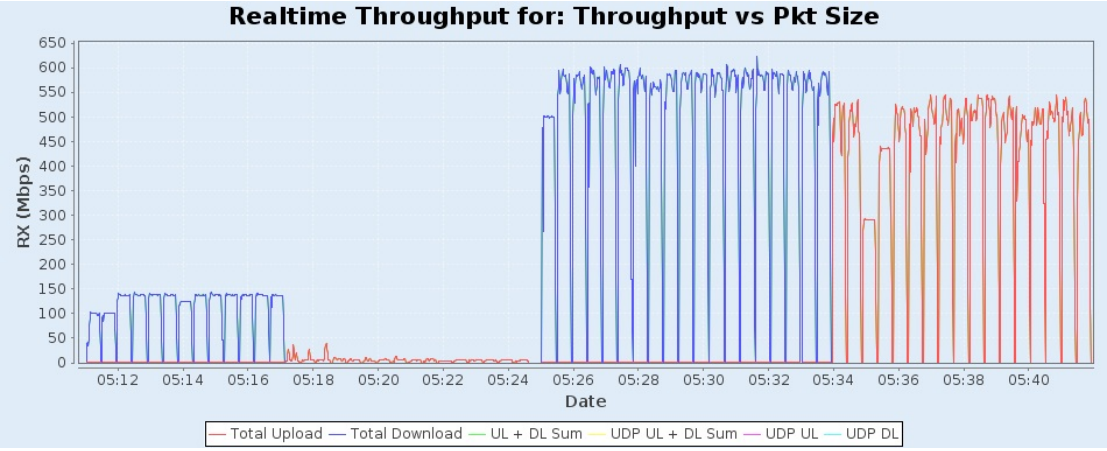
Throughput vs Pkt Size Individual Steps

NOTE: In the table below, the 3 numbers in parentheses are for 2.4Ghz, 5Ghz, and 5Ghz-B bands.

Type	Result	Notes
2.4Ghz Download UDP MTU Sta Qty: 1	1-	Intended: 100 Offered: 99 Tput: 97.32 Mbps PER: 2.65 Latency: 3.00
2.4Ghz Download UDP MTU Sta Qty: 1	*2+	Intended: 100 Offered: 100 Tput: 99.99 Mbps PER: 0 Latency: 3.00
2.4Ghz Download UDP MTU Sta Qty: 1	3-	Intended: 200 Offered: 200 Tput: 137.28 Mbps PER: 31.04 Latency: 90.00
2.4Ghz Download UDP MTU Sta Qty: 1	*4-	Intended: 200 Offered: 197 Tput: 137.91 Mbps PER: 30.72 Latency: 89.00
2.4Ghz Download UDP MTU Sta Qty: 1	5-	Intended: 150 Offered: 150 Tput: 138.64 Mbps PER: 7.15 Latency: 86.00
2.4Ghz Download UDP MTU Sta Qty: 1	*6-	Intended: 150 Offered: 150 Tput: 137.61 Mbps PER: 7.84 Latency: 93.00
2.4Ghz Download UDP MTU Sta Qty: 1	7+	Intended: 125 Offered: 125 Tput: 124.98 Mbps PER: 0 Latency: 3.00
2.4Ghz Download UDP MTU Sta Qty: 1	8+	Intended: 138 Offered: 137 Tput: 137.49 Mbps PER: 0 Latency: 7.00
2.4Ghz Download UDP MTU Sta Qty: 1	9-	Intended: 144 Offered: 141 Tput: 137.65 Mbps PER: 3.61 Latency: 88.00
2.4Ghz Download UDP MTU Sta Qty: 1	*10-	Intended: 144 Offered: 144 Tput: 138.11 Mbps PER: 3.48 Latency: 90.00
2.4Ghz Download UDP MTU Sta Qty: 1	11-	Intended: 141 Offered: 140 Tput: 137.51 Mbps PER: 1.58 Latency: 85.00
2.4Ghz Download UDP MTU Sta Qty: 1	*12-	Intended: 141 Offered: 140 Tput: 137.60 Mbps PER: 1.51 Latency: 91.00
2.4Ghz Download UDP MTU Sta Qty: 1	13+	Intended: 139 Offered: 138 Tput: 137.09 Mbps PER: 0.98 Latency: 92.00
2.4Ghz Upload UDP MTU Sta Qty: 1	1-	Intended: 137 Offered: 22 Tput: 15.19 Mbps PER: 34.14 Latency: 528.00
2.4Ghz Upload UDP MTU Sta Qty: 1	*2-	Intended: 137 Offered: 17 Tput: 9.72 Mbps PER: 44.04 Latency: 530.00
2.4Ghz Upload UDP MTU Sta Qty: 1	3-	Intended: 69 Offered: 22 Tput: 14.70 Mbps PER: 34.36 Latency: 223.00
2.4Ghz Upload UDP MTU Sta Qty: 1	*4-	Intended: 69 Offered: 15 Tput: 7.64 Mbps PER: 49.49 Latency: 250.00
2.4Ghz Upload UDP MTU Sta Qty: 1	5-	Intended: 34 Offered: 14 Tput: 5.77 Mbps PER: 56.48 Latency: 148.00
2.4Ghz Upload UDP MTU Sta Qty: 1	*6-	Intended: 34 Offered: 13 Tput: 5.47 Mbps PER: 57.99 Latency: 127.00
2.4Ghz Upload UDP MTU Sta Qty: 1	7-	Intended: 17 Offered: 11 Tput: 6.13 Mbps PER: 43.81 Latency: 130.00
2.4Ghz Upload UDP MTU Sta Qty: 1	*8-	Intended: 17 Offered: 12 Tput: 7.35 Mbps PER: 37.00 Latency: 245.00
2.4Ghz Upload UDP MTU Sta Qty: 1	9-	Intended: 9 Offered: 7 Tput: 5.34 Mbps PER: 18.90 Latency: 86.00
2.4Ghz Upload UDP MTU Sta Qty: 1	*10-	Intended: 9 Offered: 7 Tput: 6.40 Mbps PER: 7.40 Latency: 36.00
2.4Ghz Upload UDP MTU Sta Qty: 1	11+	Intended: 4 Offered: 4 Tput: 4.16 Mbps PER: 0.48 Latency: 7.00
2.4Ghz Upload UDP MTU Sta Qty: 1	12-	Intended: 6 Offered: 6 Tput: 5.94 Mbps PER: 1.89 Latency: 86.00
2.4Ghz Upload UDP MTU Sta Qty: 1	*13-	Intended: 6 Offered: 6 Tput: 5.33 Mbps PER: 8.24 Latency: 31.00
2.4Ghz Upload UDP MTU Sta Qty: 1	14-	Intended: 5 Offered: 5 Tput: 4.92 Mbps PER: 4.18 Latency: 115.00
2.4Ghz Upload UDP MTU Sta Qty: 1	*15-	Intended: 5 Offered: 5 Tput: 4.99 Mbps PER: 2.76 Latency: 75.00
2.4Ghz Upload UDP MTU Sta Qty: 1	16-	Intended: 5 Offered: 5 Tput: 4.70 Mbps PER: 1.69 Latency: 57.00
5Ghz Download UDP MTU Sta Qty: 1	1+	Intended: 500 Offered: 500 Tput: 500.03 Mbps PER: 0 Latency: 2.00
5Ghz Download UDP MTU Sta Qty: 1	2-	Intended: 1,000 Offered: 583 Tput: 573.62 Mbps PER: 1.63 Latency: 57.00
5Ghz Download UDP MTU Sta Qty: 1	*3-	Intended: 1,000 Offered: 596 Tput: 575.75 Mbps PER: 3.84 Latency: 54.00
5Ghz Download UDP MTU Sta Qty: 1	4-	Intended: 750 Offered: 588 Tput: 577.90 Mbps PER: 1.62 Latency: 57.00
5Ghz Download UDP MTU Sta Qty: 1	*5-	Intended: 750 Offered: 580 Tput: 581.76 Mbps PER: 1.59 Latency: 53.00
5Ghz Download UDP MTU Sta Qty: 1	6-	Intended: 625 Offered: 589 Tput: 582.51 Mbps PER: 1.62 Latency: 55.00
5Ghz Download UDP MTU Sta Qty: 1	*7-	Intended: 625 Offered: 584 Tput: 574.19 Mbps PER: 1.56 Latency: 52.00
5Ghz Download UDP MTU Sta Qty: 1	8+	Intended: 562 Offered: 561 Tput: 560.32 Mbps PER: 0.04 Latency: 8.00
5Ghz Download UDP MTU Sta Qty: 1	9-	Intended: 594 Offered: 589 Tput: 579.64 Mbps PER: 1.42 Latency: 30.00
5Ghz Download UDP MTU Sta Qty: 1	*10+	Intended: 594 Offered: 579 Tput: 581.39 Mbps PER: 0.98 Latency: 56.00
5Ghz Download UDP MTU Sta Qty: 1	11-	Intended: 609 Offered: 587 Tput: 576.15 Mbps PER: 1.53 Latency: 60.00
5Ghz Download UDP MTU Sta Qty: 1	*12-	Intended: 609 Offered: 583 Tput: 574.93 Mbps PER: 1.55 Latency: 55.00
5Ghz Download UDP MTU Sta Qty: 1	13-	Intended: 602 Offered: 591 Tput: 580.70 Mbps PER: 1.39 Latency: 58.00
5Ghz Download UDP MTU Sta Qty: 1	*14-	Intended: 602 Offered: 582 Tput: 581.93 Mbps PER: 1.40 Latency: 33.00
5Ghz Download UDP MTU Sta Qty: 1	15-	Intended: 598 Offered: 586 Tput: 580.20 Mbps PER: 1.28 Latency: 55.00
5Ghz Download UDP MTU Sta Qty: 1	*16-	Intended: 598 Offered: 590 Tput: 580.14 Mbps PER: 1.53 Latency: 32.00
5Ghz Download UDP MTU Sta Qty: 1	17-	Intended: 596 Offered: 584 Tput: 572.72 Mbps PER: 1.45 Latency: 60.00
5Ghz Download UDP MTU Sta Qty: 1	*18-	Intended: 596 Offered: 582 Tput: 572.12 Mbps PER: 1.65 Latency: 34.00
5Ghz Download UDP MTU Sta Qty: 1	19-	Intended: 595 Offered: 572 Tput: 575.21 Mbps PER: 1.26 Latency: 52.00
5Ghz Upload UDP MTU Sta Qty: 1	1-	Intended: 581 Offered: 510 Tput: 503.78 Mbps PER: 0.58 Latency: 39.00
5Ghz Upload UDP MTU Sta Qty: 1	*2-	Intended: 581 Offered: 497 Tput: 496.60 Mbps PER: 0.68 Latency: 46.00
5Ghz Upload UDP MTU Sta Qty: 1	3+	Intended: 291 Offered: 291 Tput: 288.75 Mbps PER: 0 Latency: 1.00

5Ghz Upload UDP MTU Sta Qty: 1	4+	Intended: 436 Offered: 436 Tput: 435.40 Mbps PER: 0 Latency: 45.00
5Ghz Upload UDP MTU Sta Qty: 1	5+	Intended: 509 Offered: 496 Tput: 497.33 Mbps PER: 0 Latency: 49.00
5Ghz Upload UDP MTU Sta Qty: 1	6+	Intended: 545 Offered: 498 Tput: 494.67 Mbps PER: 0.43 Latency: 42.00
5Ghz Upload UDP MTU Sta Qty: 1	7-	Intended: 563 Offered: 509 Tput: 495.37 Mbps PER: 0.52 Latency: 41.00
5Ghz Upload UDP MTU Sta Qty: 1	*8+	Intended: 563 Offered: 520 Tput: 514.73 Mbps PER: 0.62 Latency: 42.00
5Ghz Upload UDP MTU Sta Qty: 1	9-	Intended: 572 Offered: 499 Tput: 491.97 Mbps PER: 1.08 Latency: 38.00
5Ghz Upload UDP MTU Sta Qty: 1	*10-	Intended: 572 Offered: 523 Tput: 507.02 Mbps PER: 0.62 Latency: 48.00
5Ghz Upload UDP MTU Sta Qty: 1	11-	Intended: 568 Offered: 513 Tput: 509.39 Mbps PER: 0.49 Latency: 46.00
5Ghz Upload UDP MTU Sta Qty: 1	*12-	Intended: 568 Offered: 508 Tput: 499.57 Mbps PER: 1.12 Latency: 38.00
5Ghz Upload UDP MTU Sta Qty: 1	13-	Intended: 565 Offered: 480 Tput: 470.58 Mbps PER: 1.20 Latency: 42.00
5Ghz Upload UDP MTU Sta Qty: 1	*14-	Intended: 565 Offered: 506 Tput: 488.02 Mbps PER: 0.97 Latency: 40.00
5Ghz Upload UDP MTU Sta Qty: 1	15-	Intended: 564 Offered: 516 Tput: 506.98 Mbps PER: 0.73 Latency: 40.00
5Ghz Upload UDP MTU Sta Qty: 1	*16-	Intended: 564 Offered: 485 Tput: 490.05 Mbps PER: 0.79 Latency: 75.00
5Ghz Upload UDP MTU Sta Qty: 1	17-	Intended: 564 Offered: 505 Tput: 502.23 Mbps PER: 0.39 Latency: 66.00

AP-Auto



Multi Band Performance

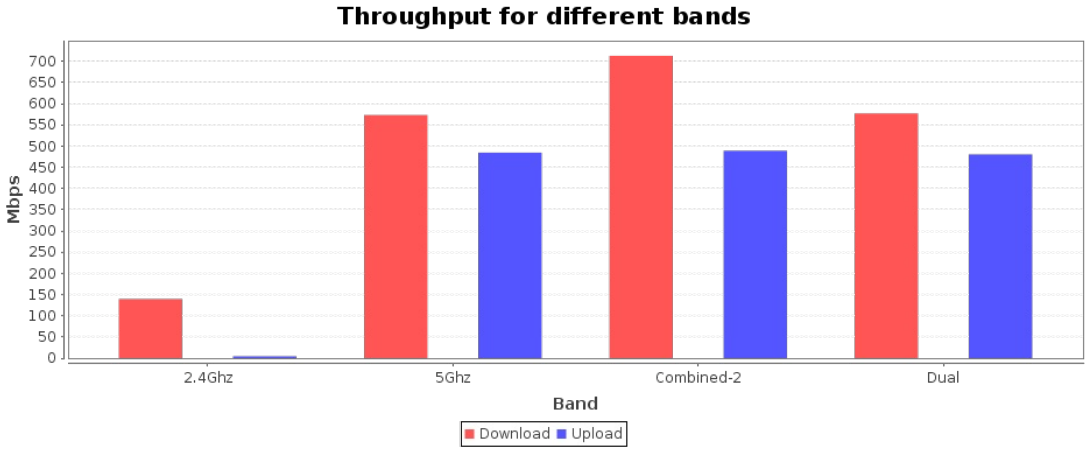
Summary

The Multi Band Performance test intends to verify that the Wi-Fi AP throughput with multiple bands active with a single station on each band. The configured speed will be 20% higher than the passing value for MTU sized frames in the throughpu test. If the throughput test was skipped, then fixed values will be used.

A test is considered passed if the multi-band concurrent throughput is at least 90% of the sum of the individual single-band throughput tests. The score is the percentage of the throughput vs that 90% cut-off.

Throughput for different bands.

CSV Data for Throughput for different bands



Multi Band Performance Results

Type	Result	Notes
2.4Ghz Download	PASS	139.59 Mbps PER: 5.22
5Ghz Download	PASS	573.79 Mbps PER: 1.71
Dual Download	FAIL	577.47 Mbps PER: 7.23 Dual-Concurrent vs 90% of Sum: 577.47 Mbps / 642.04 Mbps
2.4Ghz Upload	PASS	4.36 Mbps PER: 0
5Ghz Upload	PASS	484.94 Mbps PER: 0
Dual Upload	PASS	480.85 Mbps PER: 0 Dual-Concurrent vs 90% of Sum: 480.85 Mbps / 440.37 Mbps

Throughput Test, 2.4Ghz: Snapshot Download

Port	Tx-Bps 1m	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI (dBm)	AP	IP	MAC
1.1.10 wlan6	10.178 Kbps	64.295 Mbps	0	43.3 Mbps	192.7 Mbps	802.11bgn-AC	1	85	-20	BC:A5:11:1C:D7:50	192.168.210.163	04:f0:21:85:6e:b1

Port	Tx-Bps 1m	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	33.314 Mbps	232.657 Mbps	1 Gbps	192.168.209.50	00:60:e0:7b:0b:de

Endpoint	Tx-Bps 1m	Rx-Bps 1m	TxPkts	RxPkts	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_udp-1.1-1.wlan6--1.0.0-A	19.834 Kbps	139.702 Mbps	34	239468	90	95	0	15.036
cv_udp-1.1-1.wlan6--1.0.0-B	165.435 Mbps	20.543 Kbps	281845	35	5	95	2	0

Throughput Test, 5Ghz: Snapshot Download

Port	Tx-Bps 1m	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI (dBm)	AP	IP	MAC
1.1.11 wlan7	5.826 Kbps	162.688 Mbps	0	780 Mbps	866.7 Mbps	802.11an-AC	64	112	-41	BC:A5:11:1C:D7:61	192.168.220.186	04:f0:21:55:c4:a1

Port	Tx-Bps 1m	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	216.439 Mbps	24.629 Mbps	1 Gbps	192.168.209.50	00:60:e0:7b:0b:de

Endpoint	Tx-Bps 1m	Rx-Bps 1m	TxPkts	RxPkts	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_udp-1.1-1.wlan7--1.0.0-A	19.971 Kbps	577.92 Mbps	34	983855	53	58	0	3.178
cv_udp-1.1-1.wlan7--1.0.0-B	599.479 Mbps	19.505 Kbps	1014220	33	5	58	2	0

Throughput Test, Dual: Snapshot Download

Port	Tx-Bps 1m	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI (dBm)	AP	IP	MAC
1.1.10 wlan6	18.012 Kbps	65.666 Mbps	0	58.5 Mbps	192.7 Mbps	802.11bgn-AC	1	85	-20	BC:A5:11:1C:D7:50	192.168.210.163	04:f0:21:85:6e:b1
1.1.11 wlan7	17.496 Kbps	263.721 Mbps	2.62	780 Mbps	866.7 Mbps	802.11an-AC	64	112	-42	BC:A5:11:1C:D7:61	192.168.220.186	04:f0:21:55:c4:a1

Port	Tx-Bps 1m	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	307.294 Mbps	18.984 Mbps	1 Gbps	192.168.209.50	00:60:e0:7b:0b:de

Endpoint	Tx-Bps 1m	Rx-Bps 1m	TxPkts	RxPkts	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_udp-1.1-1.wlan6--1.0.0-A	19.914 Kbps	141.137 Mbps	34	240956	98	104	0	13.084
cv_udp-1.1-1.wlan6--1.0.0-B	162.949 Mbps	19.396 Kbps	277227	33	6	104	4	2.941
cv_udp-1.1-1.wlan7--1.0.0-A	19.888 Kbps	437.926 Mbps	34	748620	56	57	0	0.461
cv_udp-1.1-1.wlan7--1.0.0-B	445.63 Mbps	19.553 Kbps	752084	33	1	57	0	0

Throughput Test, 2.4Ghz: Snapshot Upload

Port	Tx-Bps 1m	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI (dBm)	AP	IP	MAC
1.1.10 wlan6	900.849 Kbps	57.181 Mbps	2.842	13 Mbps	11 Mbps	802.11bgn-AC	1	85	-16	BC:A5:11:1C:D7:50	192.168.210.163	04:f0:21:85:6e:b1

Port	Tx-Bps 1m	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	396.564 Mbps	1.525 Mbps	1 Gbps	192.168.209.50	00:60:e0:7b:0b:de

Endpoint	Tx-Bps 1m	Rx-Bps 1m	TxPkts	RxPkts	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_udp-1.1-1.wlan6--1.0.0-A	4.609 Mbps	0 bps	7840	0	0	68	0	0
cv_udp-1.1-1.wlan6--1.0.0-B	0 bps	4.388 Mbps	0	7451	68	68	3	4.566

Throughput Test, 5Ghz: Snapshot Upload

Port	Tx-Bps 1m	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI (dBm)	AP	IP	MAC
1.1.11 wlan7	134.528 Mbps	200.603 Mbps	0.176	520 Mbps	24 Mbps	802.11an-AC	64	112	-38	BC:A5:11:1C:D7:61	192.168.220.186	04:f0:21:55:c4:a1

Port	Tx-Bps 1m	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	292.073 Mbps	129.913 Mbps	1 Gbps	192.168.209.50	00:60:e0:7b:0b:de

Endpoint	Tx-Bps 1m	Rx-Bps 1m	TxPkts	RxPkts	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_udp-1.1-1.wlan7--1.0.0-A	493.386 Mbps	0 bps	845325	0	0	55	0	0
cv_udp-1.1-1.wlan7--1.0.0-B	0 bps	489.123 Mbps	0	835008	55	55	0	0.830

Throughput Test, Dual: Snapshot Upload

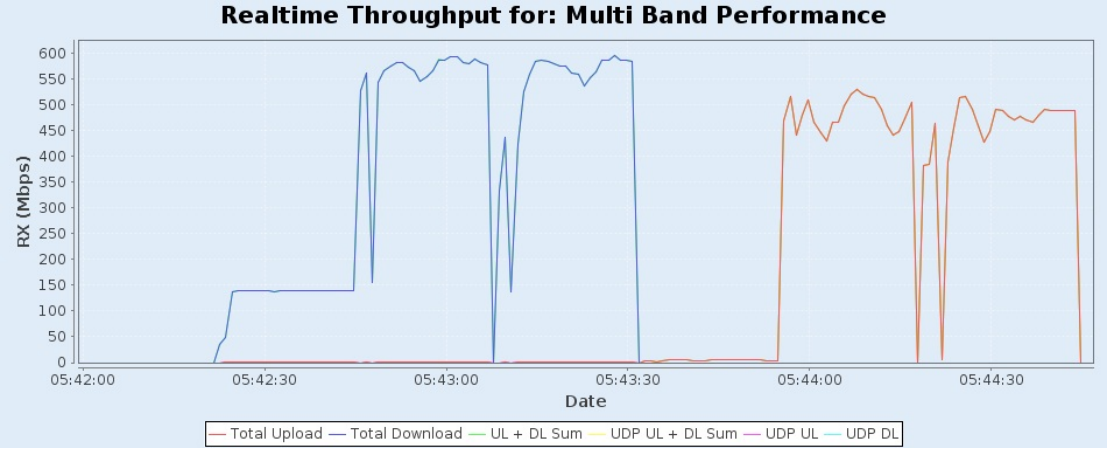
Port	Tx-Bps 1m	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI (dBm)	AP	IP	MAC
1.1.10 wlan6	1.973 Mbps	34.666 Mbps	2.575	13 Mbps	11 Mbps	802.11bgn-AC	1	85	-17	BC:A5:11:1C:D7:50	192.168.210.163	04:f0:21:85:6e:b1
1.1.11 wlan7	219.478 Mbps	155.007 Mbps	0.216	585.1 Mbps	866.7 Mbps	802.11an-AC	64	112	-38	BC:A5:11:1C:D7:61	192.168.220.186	04:f0:21:55:c4:a1

Port	Tx-Bps 1m	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	231.363 Mbps	207.032 Mbps	1 Gbps	192.168.209.50	00:60:e0:7b:0b:de

Endpoint	Tx-Bps 1m	Rx-Bps 1m	TxPkts	RxPkts	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_udp-1.1-1.wlan6--1.0.0-A	4.507 Mbps	0 bps	7716	0	0	48	0	0
cv_udp-1.1-1.wlan6--1.0.0-B	0 bps	4.288 Mbps	0	7267	48	48	2	4.977

cv_udp-1.1-1.wlan7--1.0.0-A	483.4 Mbps	0 bps	830857	0	0	38	0	0
cv_udp-1.1-1.wlan7--1.0.0-B	0 bps	478.526 Mbps	0	814468	38	38	0	1.112

AP-Auto



Capacity

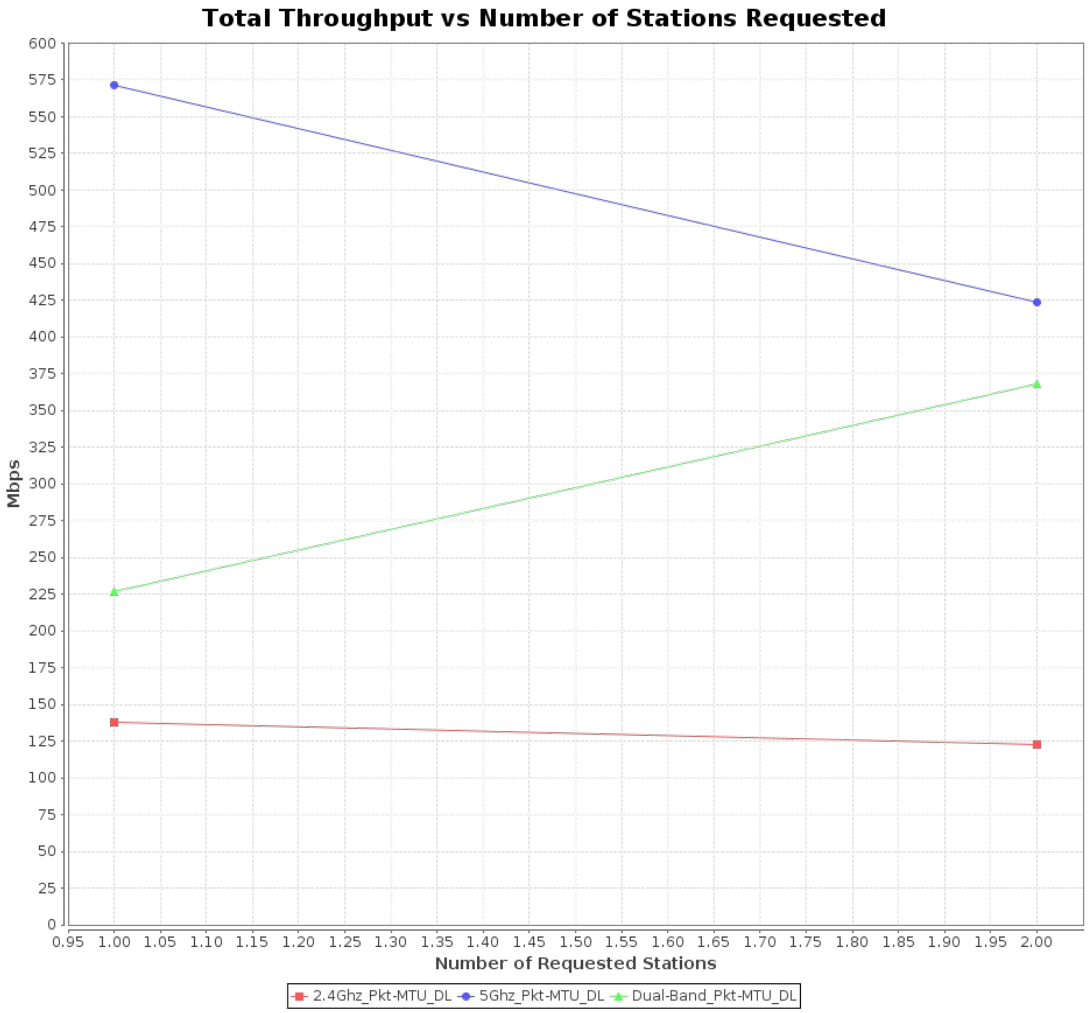
Summary

The Capacity test intends to verify that the Wi-Fi AP can support many STAs simultaneously. The Candela Score is calculated with 1/2 of the score coming from the percentage of stations being able to associate and get an IP address, and 1/2 of the score coming from total throughput. The total throughput component will be calculated as a percentage of the actual throughput vs the required throughput. Users may enter their own pass/fail thresholds on the 'Pass/Fail Configuration' screen.

At the default configuration, a single packet size, download direction, WiFi mode, and number of spatial streams will be used. However, one may also configure this test to do different numbers of stations, upload, multiple modes, packet sizes, spatial streams and bandwidths.

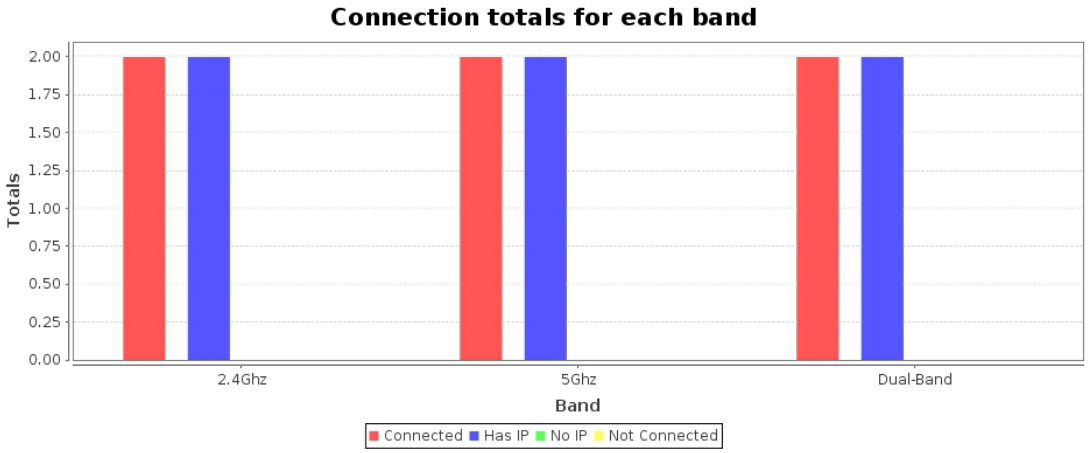
Total throughput for each number of active stations requested.

CSV Data for Total Throughput vs Number of Stations Requested



Connection totals for each band, measured at the last capacity tested for each band.

CSV Data for Connection totals for each band



Capacity Results

Type	Result	Notes
Estimated Iterations	INFO	9 (non-supported combinations will be skipped)
Configuration NOTE	INFO	Spatial Streams: AUTO
Configuration NOTE	INFO	Bandwidths to test: AUTO
Configuration NOTE	INFO	Modes to test: Auto
Max Capacity	INFO	No more stations created, had: 2 Requested: 2

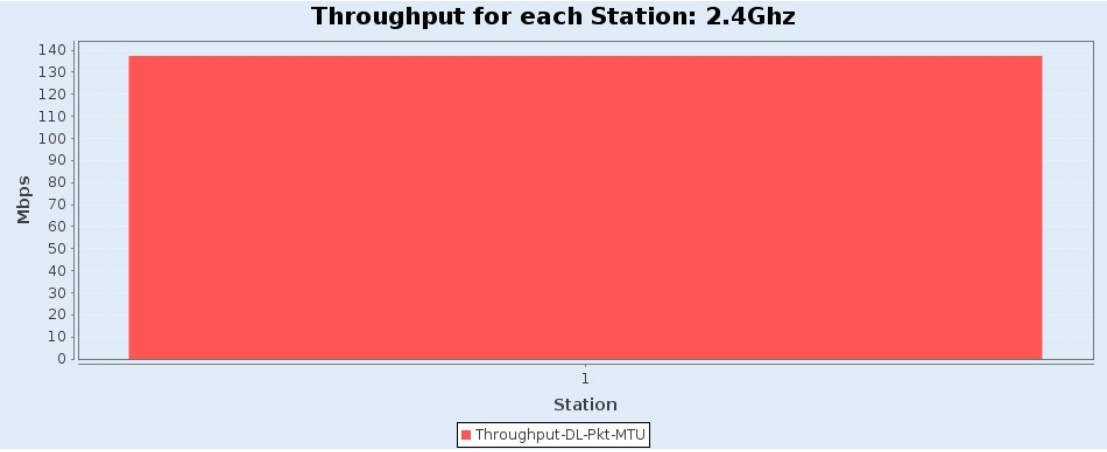
Max Capacity	INFO	No more stations created, had: 2 Requested: 2
Max Capacity	INFO	No more stations created, had: 2 Requested: 2
Configuration NOTE	INFO	Configured to skip 5Ghz-B band test.
Configuration NOTE	INFO	Configured to skip Tri band test.

Capacity Details

Band	NSS	BW	Mode	Stations	UL/DL	Pkt Size	Reported	Requested	Result	Criteria
2.4Ghz	AUTO	AUTO	AUTO	1	DL	MTU	137.41 Mbps	123.74 Mbps	PASS	Auto-Calculated
2.4Ghz	AUTO	AUTO	AUTO	2	DL	MTU	122.89 Mbps	123.74 Mbps	FAIL	Auto-Calculated
5Ghz	AUTO	AUTO	AUTO	1	DL	MTU	571.76 Mbps	523.25 Mbps	PASS	Auto-Calculated
5Ghz	AUTO	AUTO	AUTO	2	DL	MTU	423.78 Mbps	523.25 Mbps	FAIL	Auto-Calculated
Dual-Band	AUTO	AUTO	AUTO	1	DL	MTU	226.65 Mbps	523.25 Mbps	Zero 2.4Ghz STA	Auto-Calculated
Dual-Band	AUTO	AUTO	AUTO	2	DL	MTU	367.91 Mbps	646.99 Mbps	FAIL	Auto-Calculated

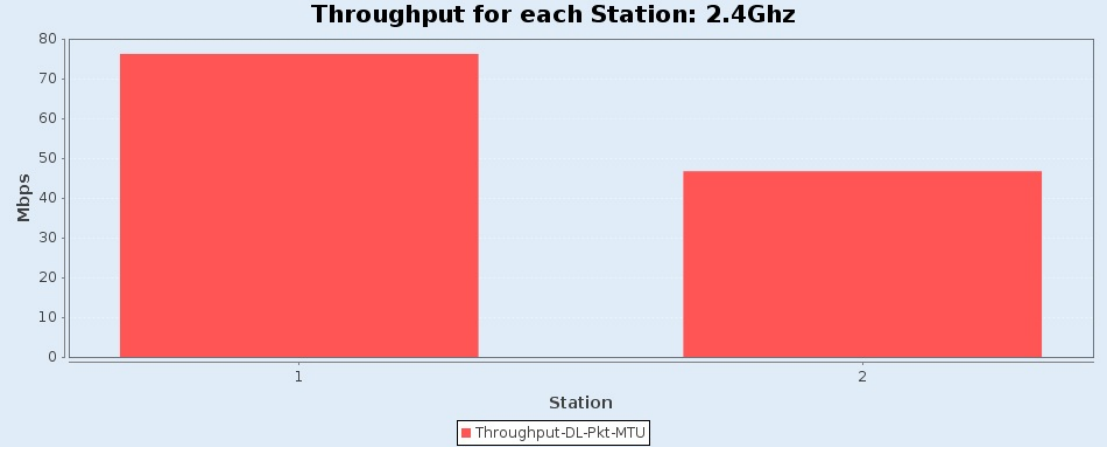
Throughput for each Station, configuration: 2.4Ghz. This indicates how fair is the AP. Station count: 1

AP-Auto



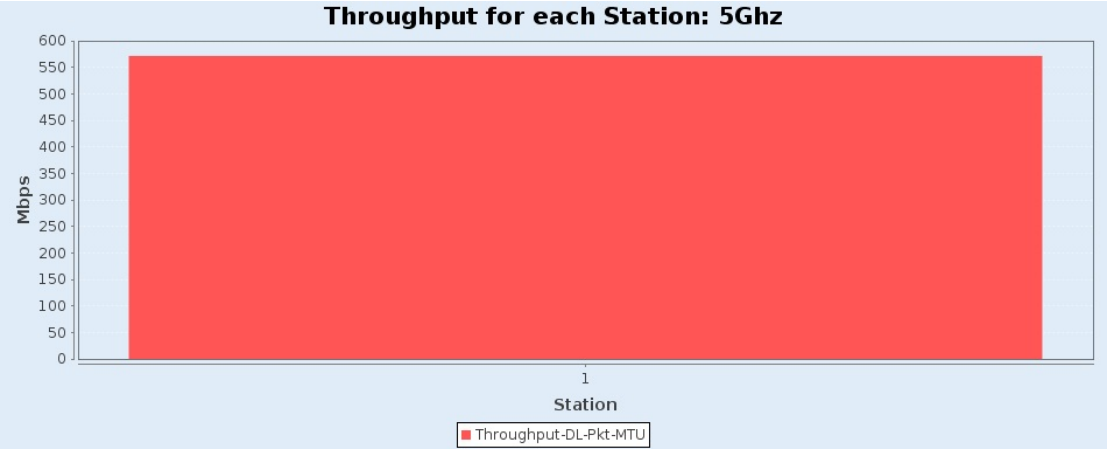
Throughput for each Station, configuration: 2.4Ghz. This indicates how fair is the AP. Station count: 2

AP-Auto



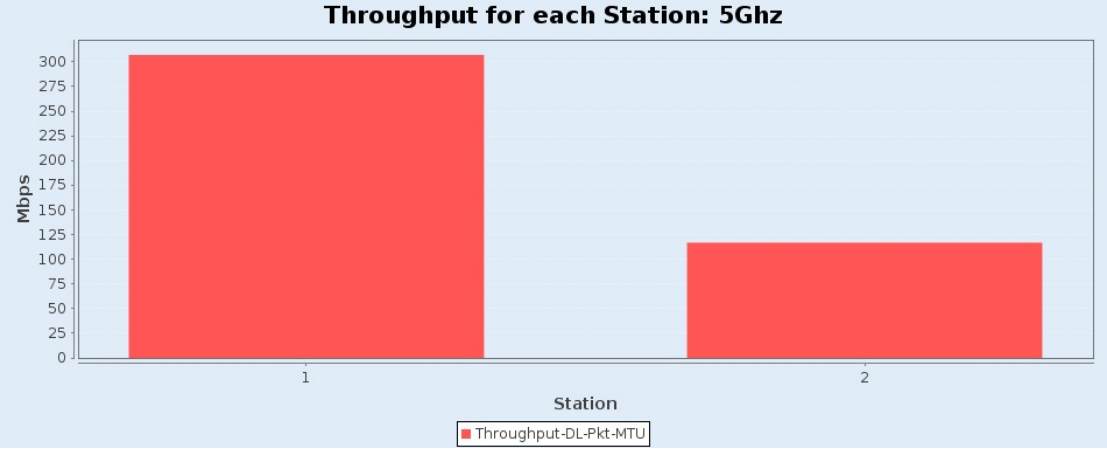
Throughput for each Station, configuration: 5Ghz. This indicates how fair is the AP. Station count: 1

AP-Auto



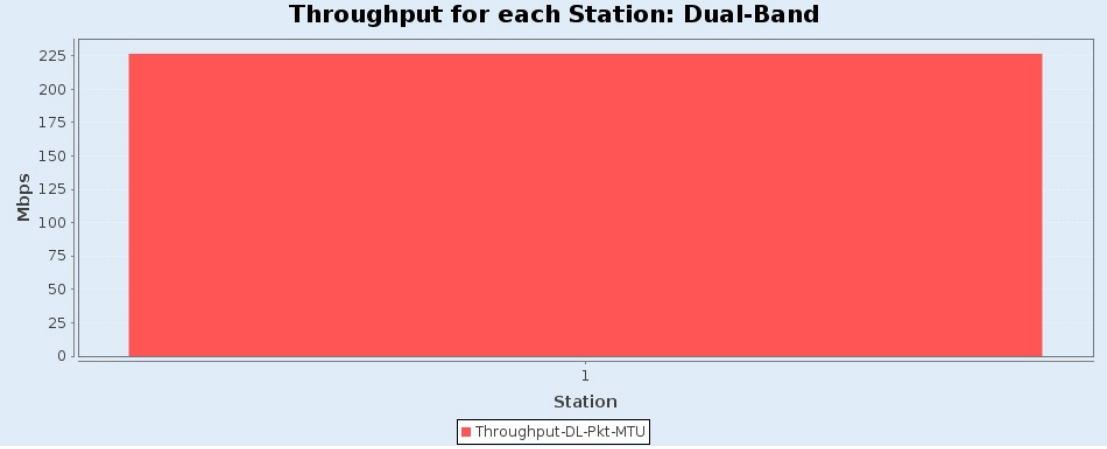
Throughput for each Station, configuration: 5Ghz. This indicates how fair is the AP. Station count: 2

AP-Auto



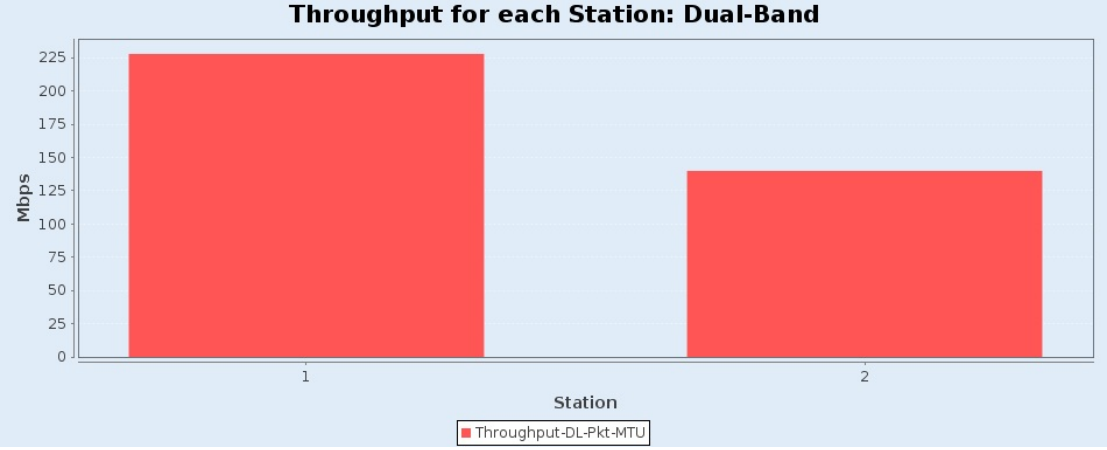
Throughput for each Station, configuration: Dual-Band. This indicates how fair is the AP. Station count: 1

AP-Auto

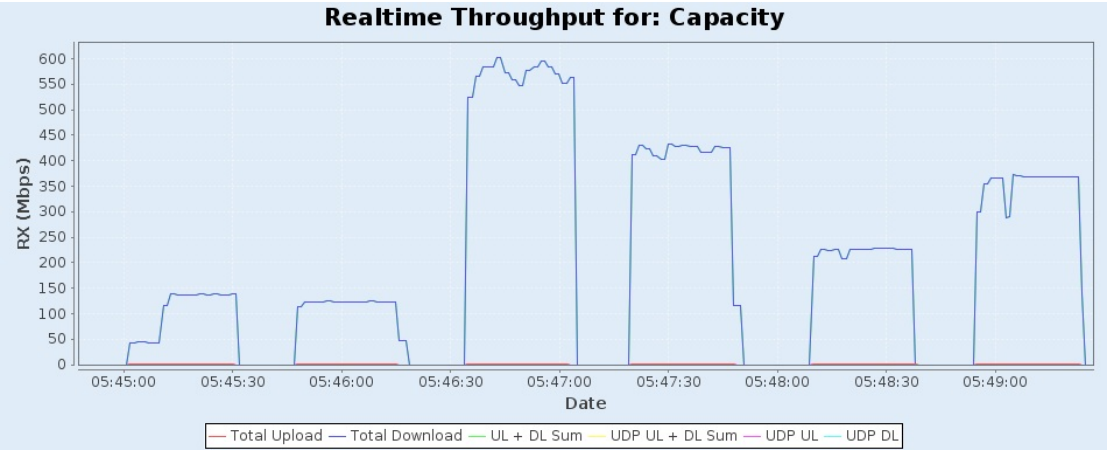


Throughput for each Station, configuration: Dual-Band. This indicates how fair is the AP. Station count: 2

AP-Auto



AP-Auto



Stability

Summary

The Mixed Stability test brings up many STAs, runs VOIP, emulated video, UDP, and/or TCP traffic connections to test that the link is continuously working. VOIP traffic will be station-to-station, preferring 2.4Ghz to 5Ghz station calls if the number of stations supports that, but it will use 2.4 to 2.4 stations or 5Ghz to 5Ghz stations too as needed VOIP calls used 'VO' QoS settings. You can configure the number of stations using the 'VOIP Call Count' field. Emulated Video traffic is created by downloading a binary file over and over at a user-configured speed (see the 'Video Emulation Rate' and 'Video Buffer Size'). A configurable amount of stations may be re-connected randomly while traffic is running.

The test is considered failed if any stations reconnect or if a connection has less than the specified minimum throughput over a 1 minute period.

The Candela Score for the Stability test is calculated as:

- 34%: total-station-count / (total-sta-count + reconnects + connection errors)
- 33%: stations-with-ok-bandwidth / (ok-bw + bad-bw)
- 33%: connected-stations-count / all-stations-count

Station disconnect stats.

Stability Results

Type	Result	Notes
DUT: ASUS Student_scale 2.4Ghz	FAIL	Authentication Timeouts reported: 5
DUT: ASUS Faculty_scale 5Ghz	FAIL	Authentication Timeouts reported: 12
DUT: ASUS Student_scale ASUS Faculty_scale Dual-Band	FAIL	Authentication Timeouts reported: 72
Configuration NOTE	INFO	Configured to skip 5Ghz-B band test.
Configuration NOTE	INFO	Configured to skip Tri band test.
Configuration NOTE	INFO	Skipping DUT idx: 1: No 2.4Ghz DUT configured.
Configuration NOTE	INFO	Skipping DUT idx: 1: No 5Ghz DUT configured.
Configuration NOTE	INFO	Skipping DUT idx: 1: No 5Ghz DUT configured.
Configuration NOTE	INFO	Configured to skip 5Ghz-B band test.
Configuration NOTE	INFO	Configured to skip Tri band test.
Configuration NOTE	INFO	Skipping DUT idx: 2: No 2.4Ghz DUT configured.
Configuration NOTE	INFO	Skipping DUT idx: 2: No 5Ghz DUT configured.
Configuration NOTE	INFO	Skipping DUT idx: 2: No 5Ghz DUT configured.
Configuration NOTE	INFO	Configured to skip 5Ghz-B band test.
Configuration NOTE	INFO	Configured to skip Tri band test.

Stability Results for 2.4Ghz

Type	Result	Notes
DUT: ASUS Student_scale	FAIL	Mon Oct 25 05:50:53 PDT 2021: cv_udp-1.1-1.wlan6--1.0.0-A rx-rate: 0.50 Mbps went below threshold: 10.00 Mbps Port A CX ago: 80
DUT: ASUS Student_scale	FAIL	Mon Oct 25 05:50:53 PDT 2021: cv_udp-1.1-1.wlan0--1.0.0-A rx-rate: 0.50 Mbps went below threshold: 10.00 Mbps Port A CX ago: 68
DUT: ASUS Student_scale	FAIL	Mon Oct 25 05:53:22 PDT 2021: cv_V-1.11-1.wlan6--1.0.0-A rx-rate: 0.02 Mbps went below threshold: 0.02 Mbps Port A CX ago: 30 Port B CX ago: 21
DUT: ASUS Student_scale	FAIL	Mon Oct 25 09:54:17 PDT 2021: cv_tcp-1.1-1.wlan0--1.0.1-A rx-rate: 0.04 Mbps went below threshold: 0.10 Mbps Port A CX ago: 70
DUT: ASUS Student_scale	FAIL	Mon Oct 25 11:06:03 PDT 2021: cv_tcp-1.1-1.wlan6--1.0.1-A rx-rate: 0.04 Mbps went below threshold: 0.10 Mbps Port A CX ago: 30

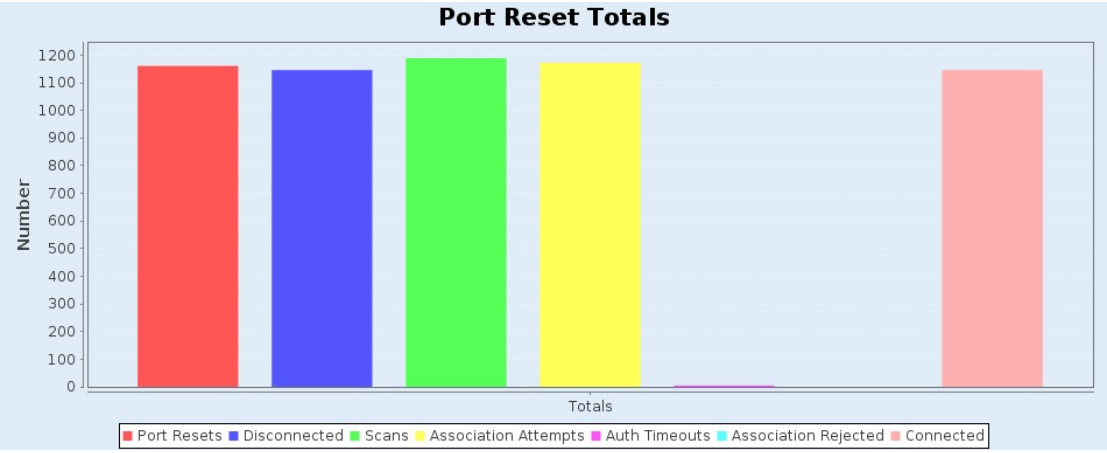
Stability Results for 5Ghz

Type	Result	Notes
DUT: ASUS Faculty_scale	FAIL	Mon Oct 25 11:52:17 PDT 2021: cv_udp-1.1-1.wlan7--1.0.0-A rx-rate: 0.50 Mbps went below threshold: 10.00 Mbps Port A CX ago: 70
DUT: ASUS Faculty_scale	FAIL	Mon Oct 25 11:52:17 PDT 2021: cv_udp-1.1-1.wlan0--1.0.0-A rx-rate: 0.50 Mbps went below threshold: 10.00 Mbps Port A CX ago: 70
DUT: ASUS Faculty_scale	FAIL	Mon Oct 25 12:19:02 PDT 2021: cv_V-1.11-1.wlan7--1.0.0-A rx-rate: 0.02 Mbps went below threshold: 0.02 Mbps Port A CX ago: 30 Port B CX ago: 30
DUT: ASUS Faculty_scale	FAIL	Mon Oct 25 14:35:13 PDT 2021: cv_tcp-1.1-1.wlan0--1.0.1-A rx-rate: 0.04 Mbps went below threshold: 0.10 Mbps Port A CX ago: 55

Stability Results for Dual-Band

Type	Result	Notes
DUT: ASUS Student_scale ASUS Faculty_scale	FAIL	Mon Oct 25 17:53:36 PDT 2021: cv_udp-1.1-1.wlan0--1.0.0-A rx-rate: 0.50 Mbps went below threshold: 10.00 Mbps Port A CX ago: 67
DUT: ASUS Student_scale ASUS Faculty_scale	FAIL	Mon Oct 25 17:53:36 PDT 2021: cv_udp-1.1-1.wlan2--1.0.0-A rx-rate: 0.50 Mbps went below threshold: 10.00 Mbps Port A CX ago: 68
DUT: ASUS Student_scale ASUS Faculty_scale	FAIL	Mon Oct 25 17:55:01 PDT 2021: cv_V-1.10-1.wlan2--1.0.0-A rx-rate: 0.01 Mbps went below threshold: 0.02 Mbps Port A CX ago: 30 Port B CX ago: 22
DUT: ASUS Student_scale ASUS Faculty_scale	FAIL	Mon Oct 25 18:18:44 PDT 2021: cv_tcp-1.1-1.wlan2--1.0.1-A rx-rate: 0.03 Mbps went below threshold: 0.10 Mbps Port A CX ago: 30
DUT: ASUS Student_scale ASUS Faculty_scale	FAIL	Mon Oct 25 19:31:20 PDT 2021: cv_tcp-1.1-1.wlan0--1.0.1-A rx-rate: 0.04 Mbps went below threshold: 0.10 Mbps Port A CX ago: 69

AP-Auto



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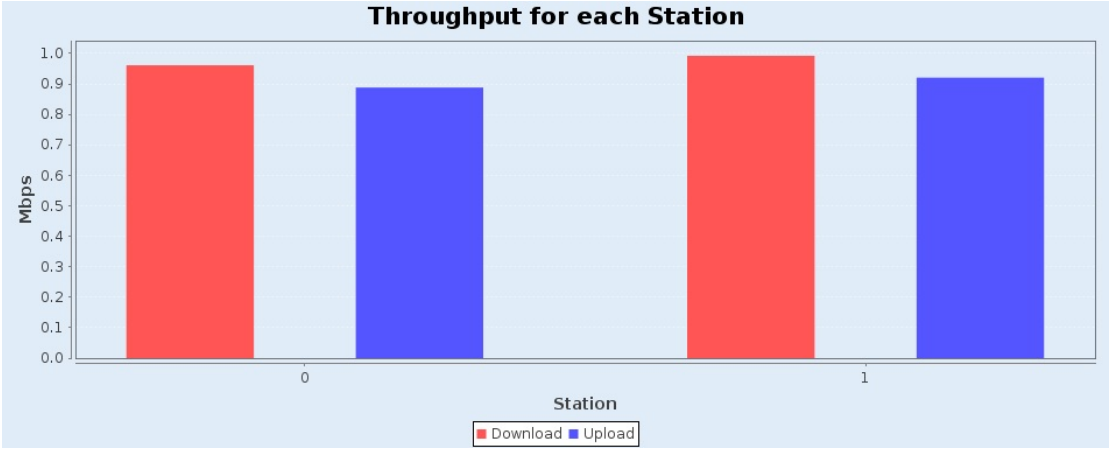

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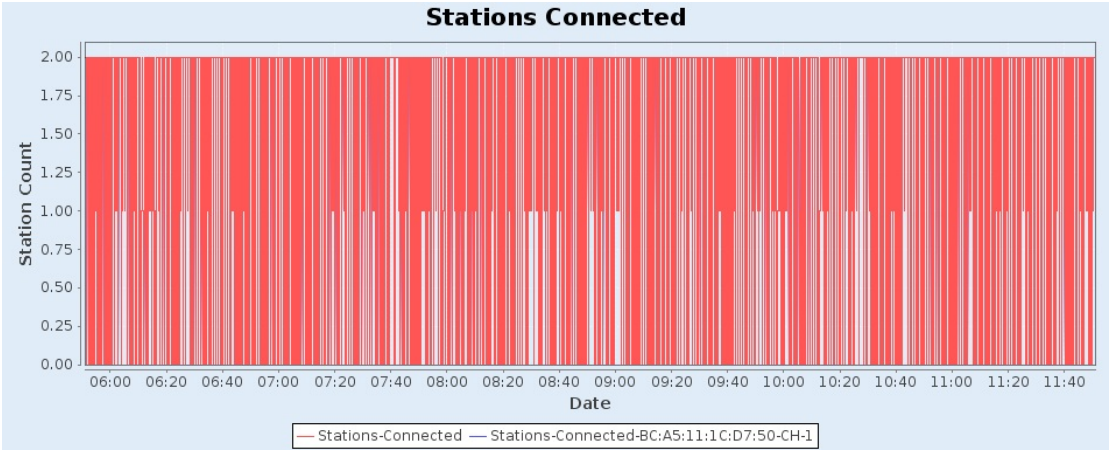

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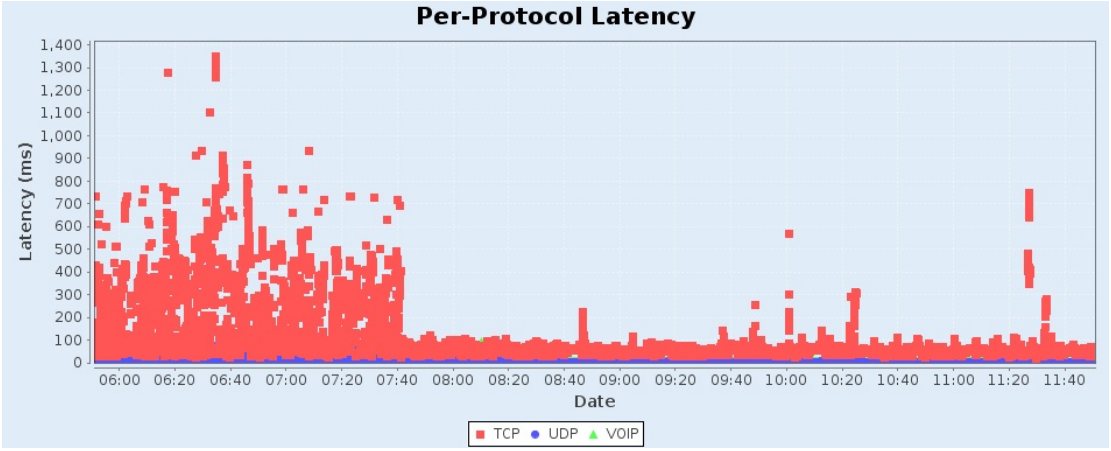

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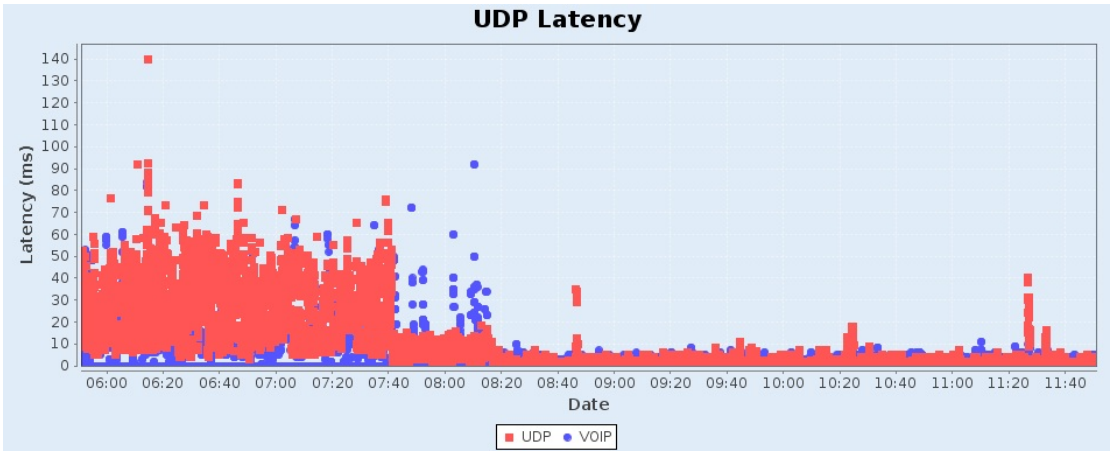

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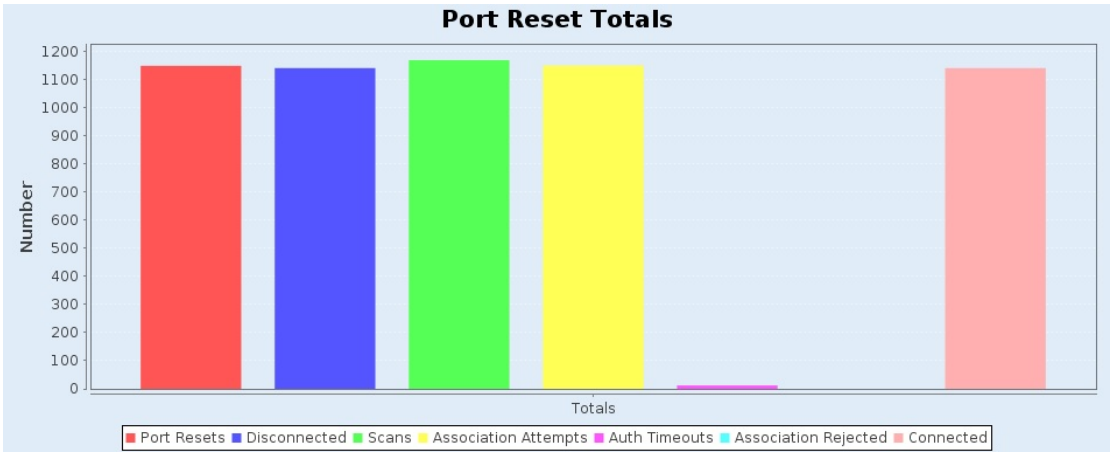

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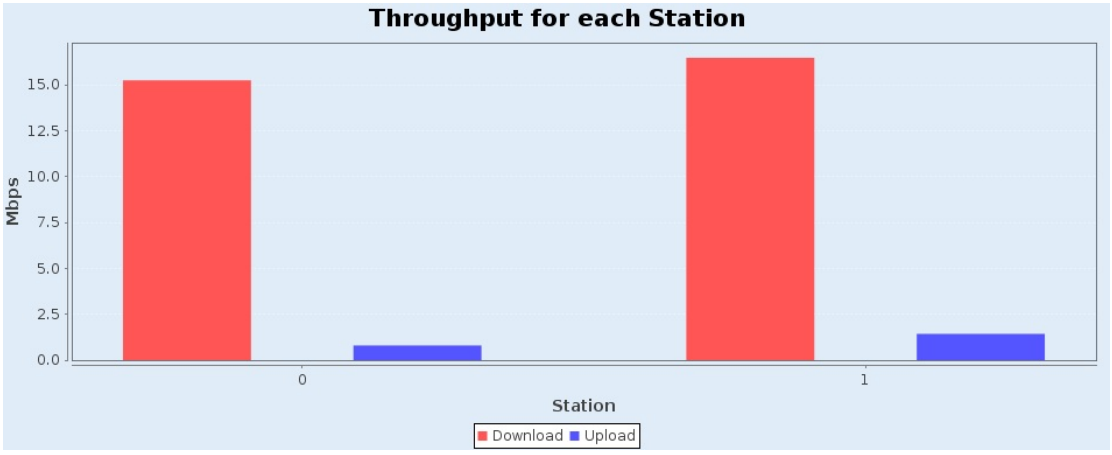

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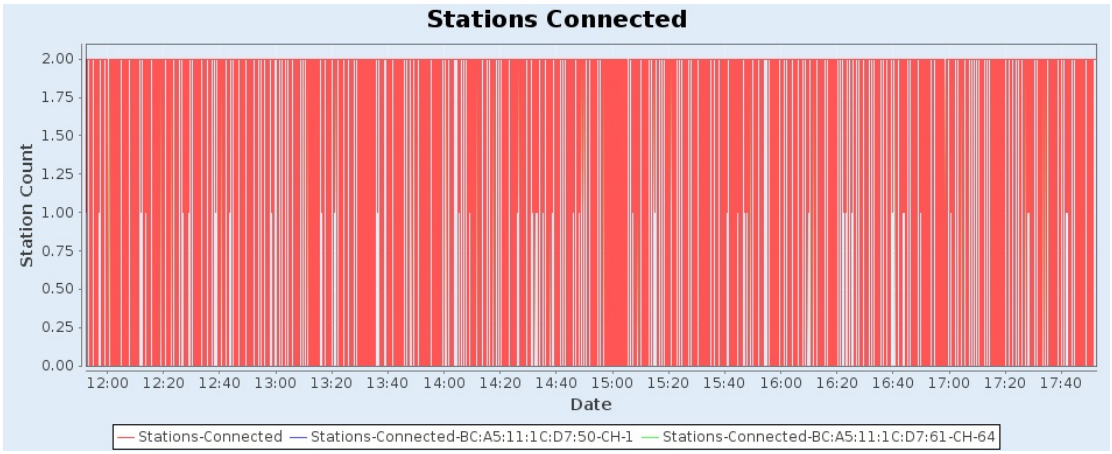

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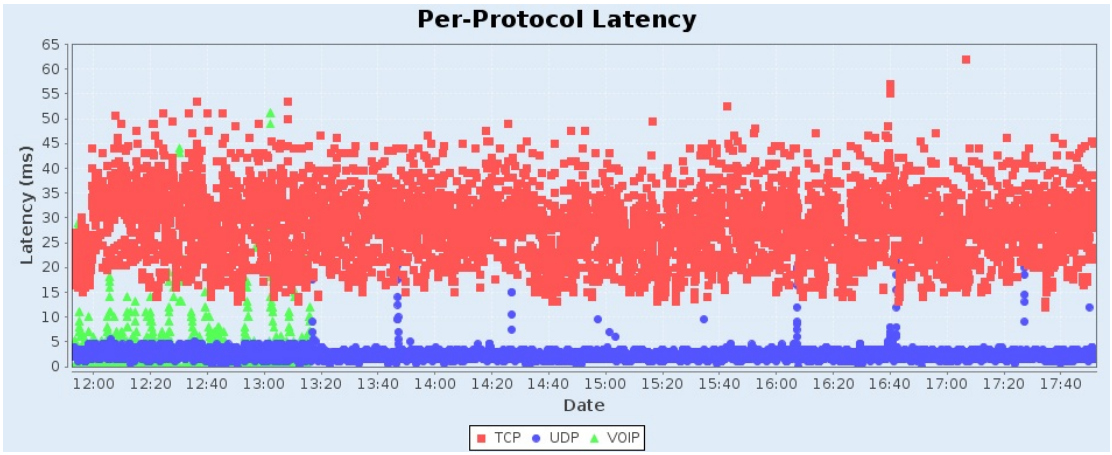

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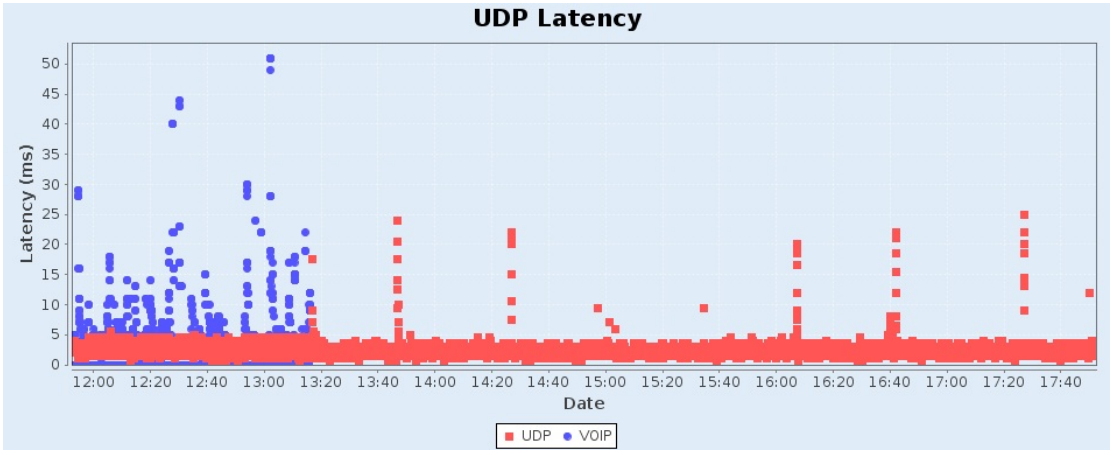

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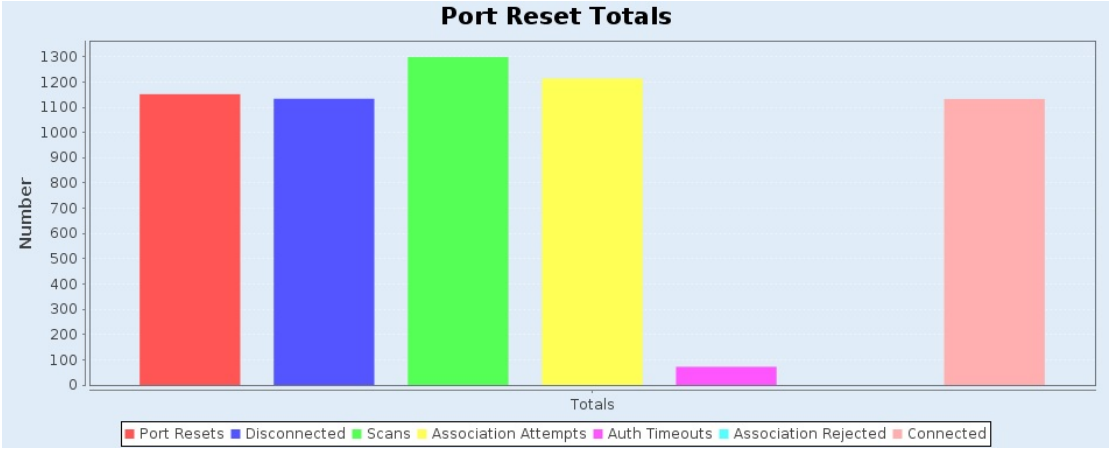

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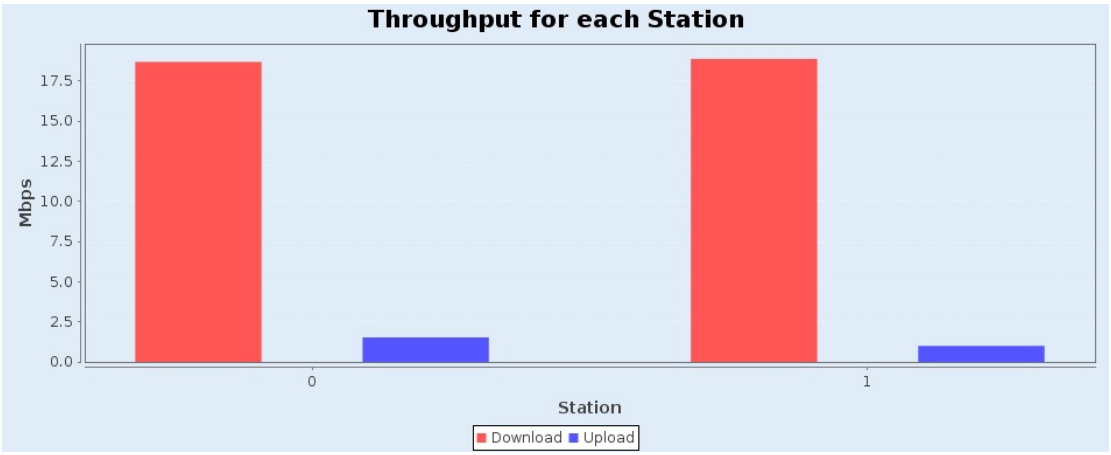

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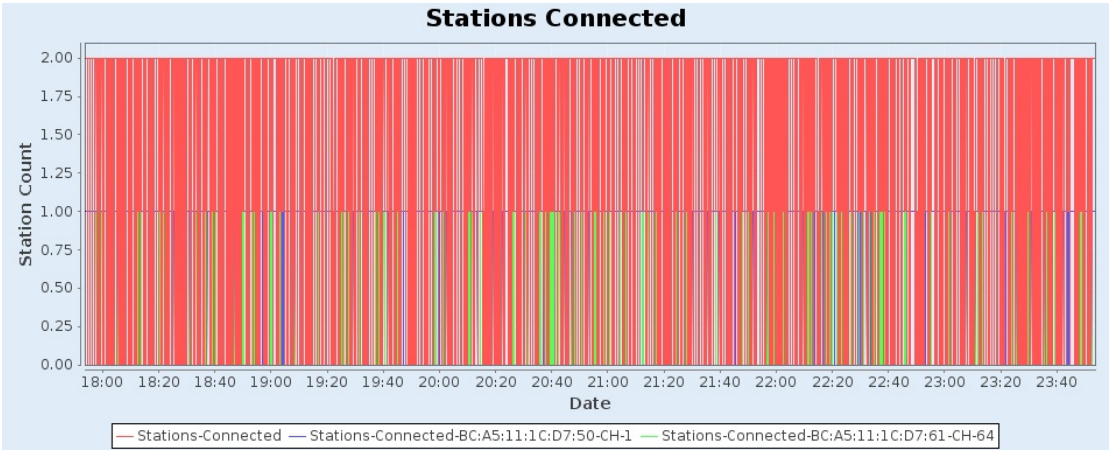

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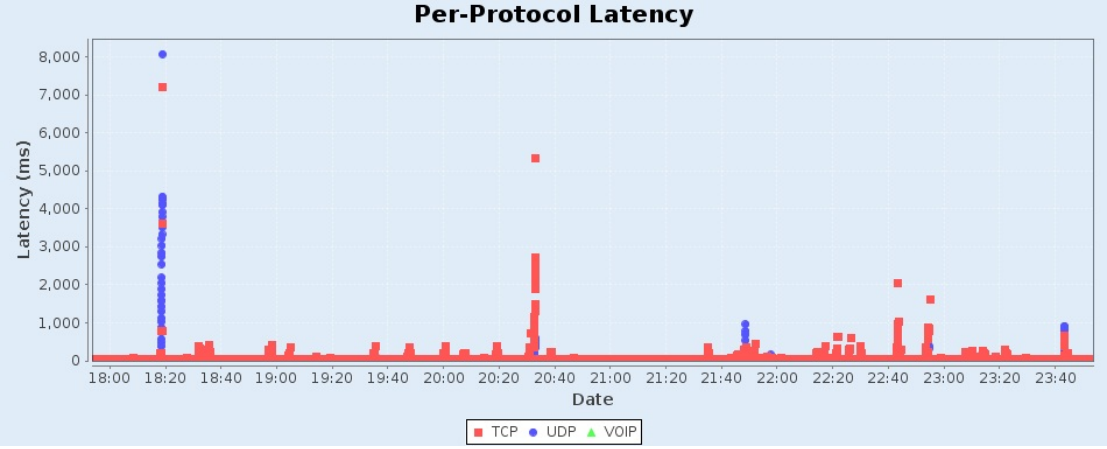

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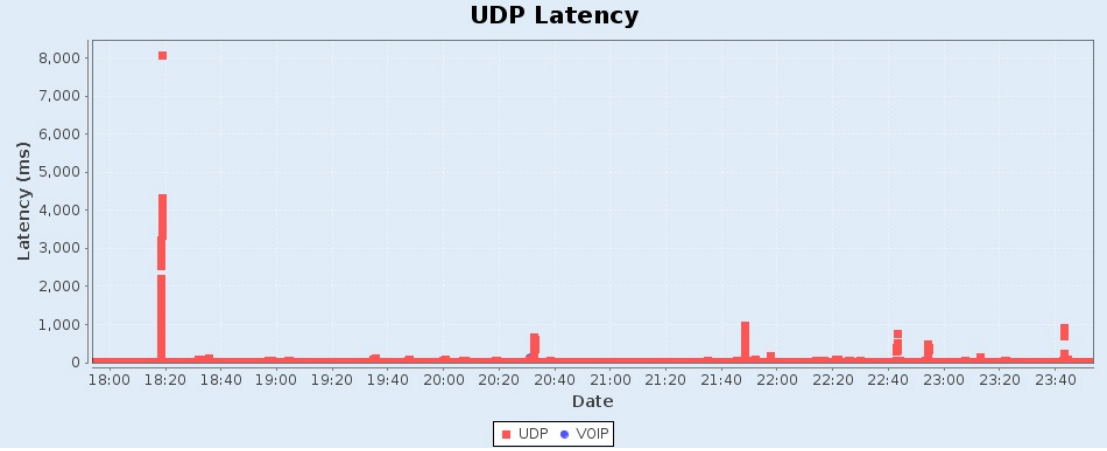

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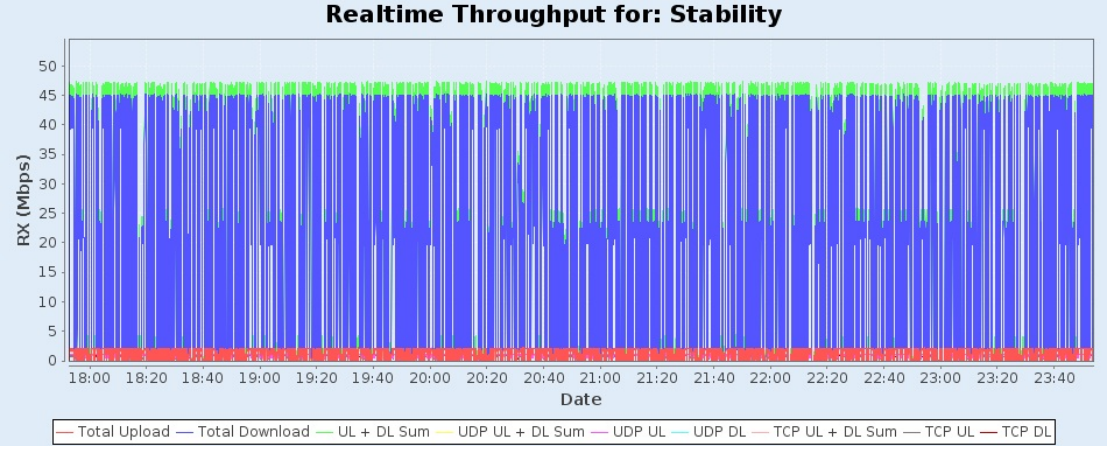


Multi-Station Throughput vs Pkt Size

Summary

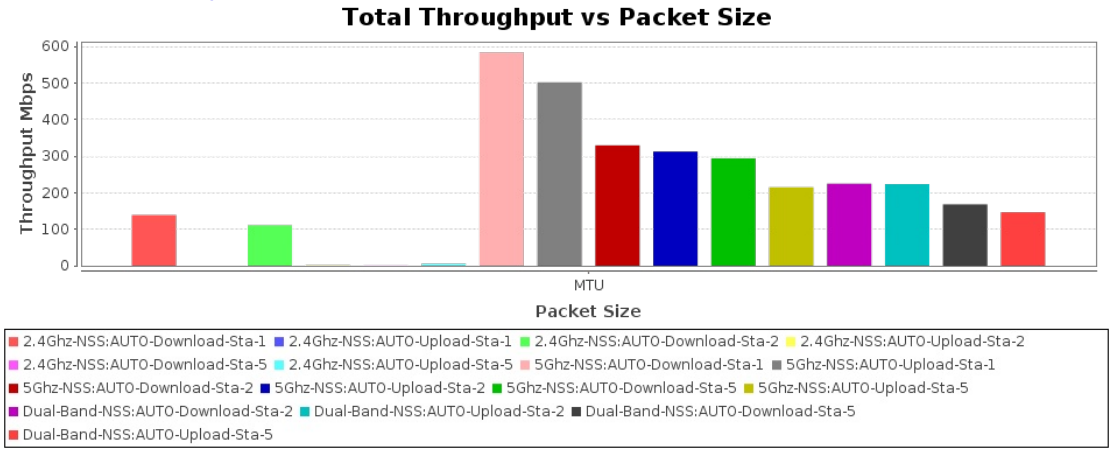
The Multi-Station Throughput vs Pkt Size test reports the Wi-Fi AP throughput at different frame sizes for different numbers of stations. This test will pick a starting point and then adjust rates up or down (hunt) until it finds the maximum rate that meets the packet loss criteria. All stations

on a particular band (2.4, 5, 5b) will use the same requested rate when hunting. This normally means that a set of 5Ghz stations will hunt higher than a set of 2.4Ghz stations. A hunt iteration is considered failed if the average packet loss for a band is above the configured value (1.00) or if the offered rate is more than 10% higher than the reported throughput. A failing iteration will be retried a configurable amount of times (1) The hunt for each combination of packet size and number of stations stops after the configured number of iterations (100) or when the calculated change in requested throughput for the next step is less than 1Mbps The pass/fail criteria is based on the user-specified thresholds. If no threshold is defined, the value will be reported without pass/fail being calculated.

The Candela Score for the Multi-Station Throughput vs Pkt Size test is 50% based on the percentage of tests that passed and 50% based on total throughput vs requested throughput.

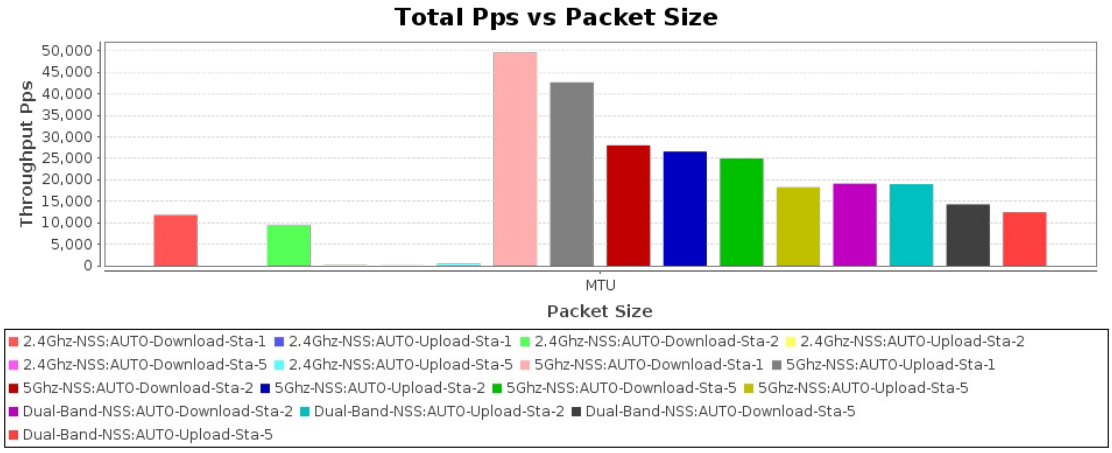
Total throughput (goodput) for each different traffic type on all bands.

CSV Data for Total Throughput vs Packet Size



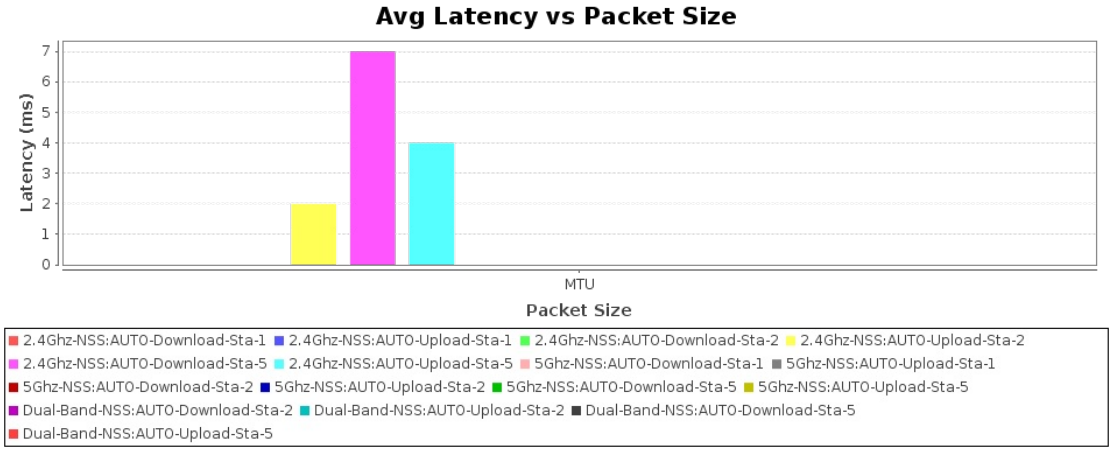
Total throughput packets-per-second for each different traffic type on all bands.

CSV Data for Total Pps vs Packet Size



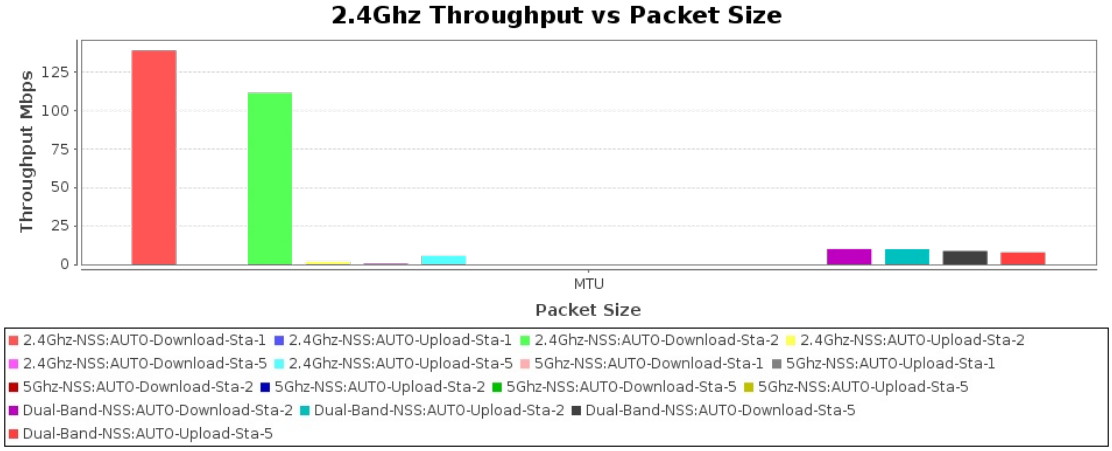
Average Latency for each different traffic type on all bands.

CSV Data for Avg Latency vs Packet Size



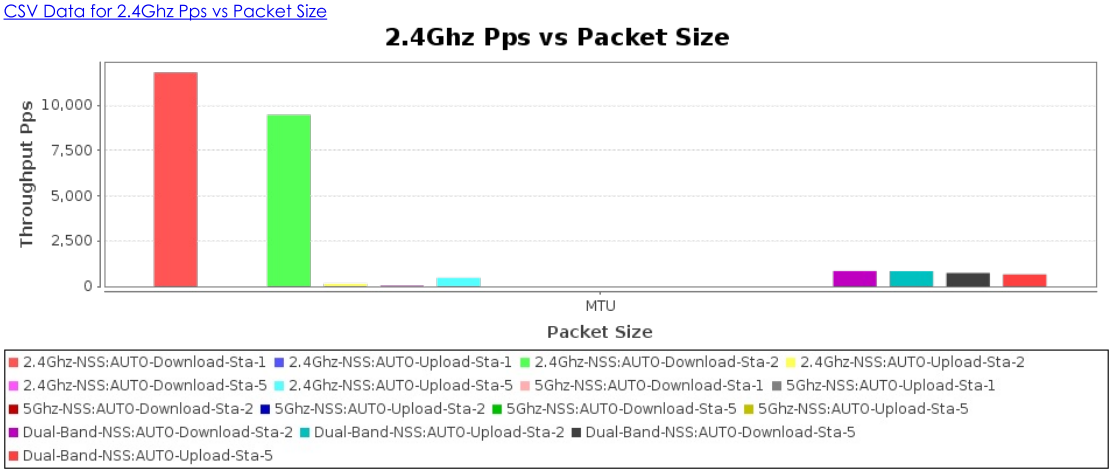
Throughput (goodput) for each different traffic type on the 2.4Ghz band.

CSV Data for 2.4Ghz Throughput vs Packet Size



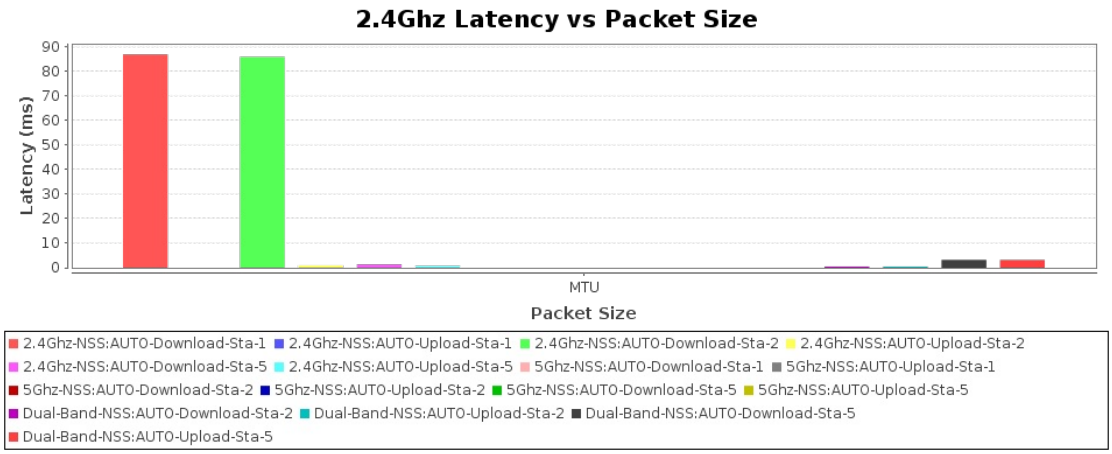
Throughput packets-per-second for each different traffic type on the 2.4Ghz band.

CSV Data for 2.4Ghz Pps vs Packet Size



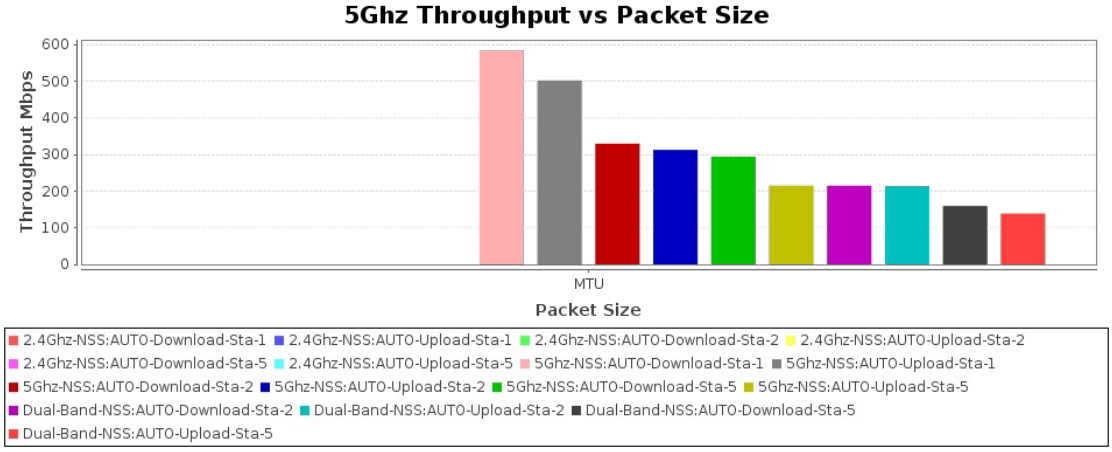
Average one-way Latency for each different traffic type on the 2.4Ghz band.

CSV Data for 2.4Ghz Latency vs Packet Size



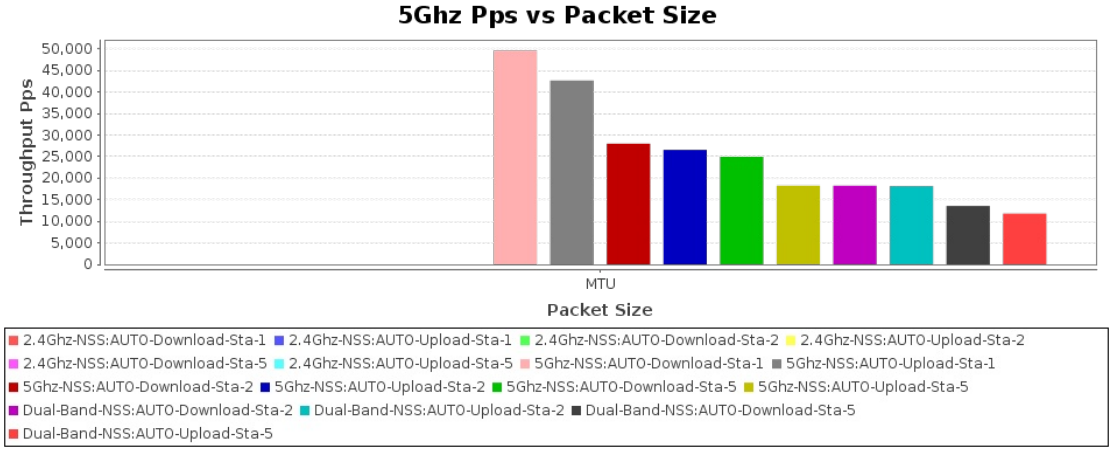
Throughput (goodput) for each different traffic type on the 5Ghz band.

CSV Data for 5Ghz Throughput vs Packet Size



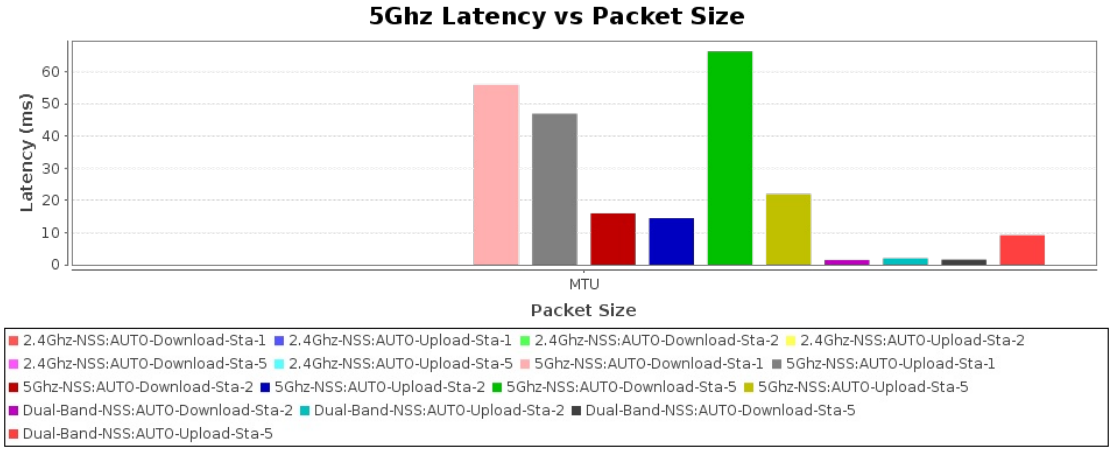
Throughput packets-per-second for each different traffic type on the 5Ghz band.

CSV Data for 5Ghz Pps vs Packet Size



Average one-way Latency for each different traffic type on the 5Ghz band.

CSV Data for 5Ghz Latency vs Packet Size



Multi-Station Throughput vs Pkt Size Results

Type	Result	Notes
2.4Ghz Download Sta Qty: 1 MTU	Info	139.03 Mbps PER: 0.68%
2.4Ghz Upload Sta Qty: 1 MTU	Info	0 Mbps PER: 100.00%
2.4Ghz Download Sta Qty: 2 MTU	Info	111.48 Mbps PER: 0.23%
2.4Ghz Upload Sta Qty: 2 MTU	Info	1.74 Mbps PER: 0.03%
2.4Ghz Download Sta Qty: 5 MTU	Info	0.62 Mbps PER: 0%
2.4Ghz Upload Sta Qty: 5 MTU	Info	5.58 Mbps PER: 0.50%
5Ghz Download Sta Qty: 1 MTU	Info	584.56 Mbps PER: 0.22%
5Ghz Upload Sta Qty: 1 MTU	Info	502.44 Mbps PER: 0.96%
5Ghz Download Sta Qty: 2 MTU	Info	329.86 Mbps PER: 0%
5Ghz Upload Sta Qty: 2 MTU	Info	312.90 Mbps PER: 0.95%
5Ghz Download Sta Qty: 5 MTU	Info	294.43 Mbps PER: 0.89%
5Ghz Upload Sta Qty: 5 MTU	Info	215.14 Mbps PER: 0.74%
Dual-Band Download Sta Qty: 2 MTU	Info	224.96 Mbps PER: 0%
Dual-Band Upload Sta Qty: 2 MTU	Info	223.82 Mbps PER: 0%
Dual-Band Download Sta Qty: 5 MTU	Info	168.17 Mbps PER: 0.55%
Dual-Band Upload Sta Qty: 5 MTU	Info	146.63 Mbps PER: 0.52%
Configuration NOTE	INFO	Configured to skip 5Ghz-B band test.
Configuration NOTE	INFO	Configured to skip Tri band test.

Multi-Station Throughput vs Pkt Size Individual Steps

NOTE: In the table below, the 3 numbers in parentheses are for 2.4Ghz, 5Ghz, and 5Ghz-B bands.

Type	Result	Notes
2.4Ghz Download UDP MTU Sta Qty: 1	1-	Intended: 100 Offered: 100 Tput: 77.92 Mbps PER: 21.99 Latency: 3.00
2.4Ghz Download UDP MTU Sta Qty: 1	*2+	Intended: 100 Offered: 100 Tput: 99.82 Mbps PER: 0 Latency: 2.00
2.4Ghz Download UDP MTU Sta Qty: 1	3-	Intended: 200 Offered: 200 Tput: 136.40 Mbps PER: 31.47 Latency: 97.00
2.4Ghz Download UDP MTU Sta Qty: 1	*4-	Intended: 200 Offered: 200 Tput: 136.41 Mbps PER: 31.49 Latency: 100.00
2.4Ghz Download UDP MTU Sta Qty: 1	5-	Intended: 150 Offered: 149 Tput: 137.25 Mbps PER: 7.98 Latency: 89.00
2.4Ghz Download UDP MTU Sta Qty: 1	*6-	Intended: 150 Offered: 150 Tput: 138.42 Mbps PER: 7.28 Latency: 88.00
2.4Ghz Download UDP MTU Sta Qty: 1	7+	Intended: 125 Offered: 125 Tput: 125.00 Mbps PER: 0 Latency: 3.00
2.4Ghz Download UDP MTU Sta Qty: 1	8+	Intended: 138 Offered: 137 Tput: 137.30 Mbps PER: 0 Latency: 31.00
2.4Ghz Download UDP MTU Sta Qty: 1	9-	Intended: 144 Offered: 144 Tput: 137.99 Mbps PER: 3.56 Latency: 87.00
2.4Ghz Download UDP MTU Sta Qty: 1	*10-	Intended: 144 Offered: 144 Tput: 138.17 Mbps PER: 3.46 Latency: 94.00
2.4Ghz Download UDP MTU Sta Qty: 1	11-	Intended: 141 Offered: 141 Tput: 138.52 Mbps PER: 1.05 Latency: 88.00
2.4Ghz Download UDP MTU Sta Qty: 1	*12+	Intended: 141 Offered: 138 Tput: 139.03 Mbps PER: 0.68 Latency: 87.00
2.4Ghz Download UDP MTU Sta Qty: 1	13-	Intended: 142 Offered: 141 Tput: 139.29 Mbps PER: 1.42 Latency: 89.00
2.4Ghz Download UDP MTU Sta Qty: 1	*14-	Intended: 142 Offered: 142 Tput: 137.90 Mbps PER: 2.38 Latency: 87.00
2.4Ghz Upload UDP MTU Sta Qty: 1	1-	Intended: 139 Offered: 18 Tput: 10.39 Mbps PER: 41.48 Latency: 448.00
2.4Ghz Upload UDP MTU Sta Qty: 1	*2-	Intended: 139 Offered: 14 Tput: 6.78 Mbps PER: 52.80 Latency: 588.00

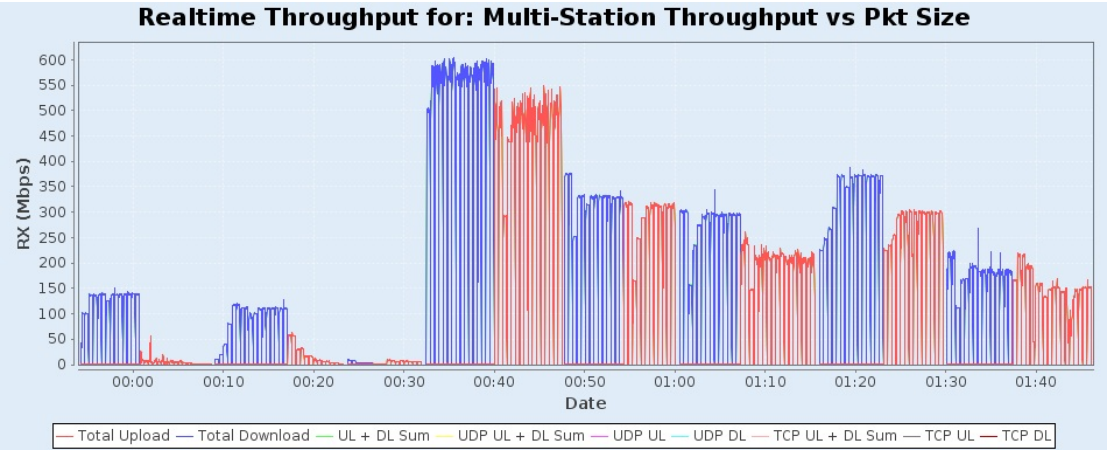
2.4Ghz Upload UDP MTU Sta Qty: 1	3-	Intended: 70 Offered: 18 Tput: 14.05 Mbps PER: 21.46 Latency: 330.00
2.4Ghz Upload UDP MTU Sta Qty: 1	*4-	Intended: 70 Offered: 15 Tput: 6.73 Mbps PER: 51.12 Latency: 140.00
2.4Ghz Upload UDP MTU Sta Qty: 1	5-	Intended: 35 Offered: 14 Tput: 5.78 Mbps PER: 56.27 Latency: 147.00
2.4Ghz Upload UDP MTU Sta Qty: 1	*6-	Intended: 35 Offered: 15 Tput: 7.35 Mbps PER: 49.02 Latency: 124.00
2.4Ghz Upload UDP MTU Sta Qty: 1	7-	Intended: 17 Offered: 10 Tput: 6.19 Mbps PER: 34.46 Latency: 86.00
2.4Ghz Upload UDP MTU Sta Qty: 1	*8-	Intended: 17 Offered: 11 Tput: 5.69 Mbps PER: 49.58 Latency: 100.00
2.4Ghz Upload UDP MTU Sta Qty: 1	9-	Intended: 9 Offered: 6 Tput: 5.27 Mbps PER: 15.17 Latency: 90.00
2.4Ghz Upload UDP MTU Sta Qty: 1	*10-	Intended: 9 Offered: 7 Tput: 5.88 Mbps PER: 9.64 Latency: 107.00
2.4Ghz Upload UDP MTU Sta Qty: 1	11-	Intended: 4 Offered: 4 Tput: 4.07 Mbps PER: 2.71 Latency: 11.00
2.4Ghz Upload UDP MTU Sta Qty: 1	*12-	Intended: 4 Offered: 4 Tput: 3.74 Mbps PER: 5.19 Latency: 10.00
2.4Ghz Upload UDP MTU Sta Qty: 1	13-	Intended: 2 Offered: 2 Tput: 2.04 Mbps PER: 5.37 Latency: 80.00
2.4Ghz Upload UDP MTU Sta Qty: 1	*14-	Intended: 2 Offered: 2 Tput: 2.03 Mbps PER: 6.00 Latency: 53.00
2.4Ghz Upload UDP MTU Sta Qty: 1	15-	Intended: 1 Offered: 1 Tput: 1.04 Mbps PER: 4.05 Latency: 10.00
2.4Ghz Upload UDP MTU Sta Qty: 1	*16-	Intended: 1 Offered: 1 Tput: 1.02 Mbps PER: 6.10 Latency: 10.00
2.4Ghz Upload UDP MTU Sta Qty: 1	17-	Intended: 1 Offered: 1 Tput: 0.53 Mbps PER: 1.30 Latency: 4.00
2.4Ghz Download UDP MTU Sta Qty: 2	1(+/_/_)	Intended: 10 Offered: 10 Tput: 9.99 Mbps PER: 0 Latency: 1.00
2.4Ghz Download UDP MTU Sta Qty: 2	2(+/_/_)	Intended: 20 Offered: 20 Tput: 20.00 Mbps PER: 0 Latency: 2.00
2.4Ghz Download UDP MTU Sta Qty: 2	3(+/_/_)	Intended: 40 Offered: 40 Tput: 39.98 Mbps PER: 0 Latency: 2.00
2.4Ghz Download UDP MTU Sta Qty: 2	4(+/_/_)	Intended: 80 Offered: 80 Tput: 79.83 Mbps PER: 0 Latency: 7.00
2.4Ghz Download UDP MTU Sta Qty: 2	5(-/_/_)	Intended: 160 Offered: 160 Tput: 117.14 Mbps PER: 26.14 Latency: 178.00
2.4Ghz Download UDP MTU Sta Qty: 2	*6(-/_/_)	Intended: 160 Offered: 160 Tput: 117.74 Mbps PER: 25.73 Latency: 172.00
2.4Ghz Download UDP MTU Sta Qty: 2	7(-/_/_)	Intended: 120 Offered: 120 Tput: 111.73 Mbps PER: 6.24 Latency: 88.00
2.4Ghz Download UDP MTU Sta Qty: 2	*8(-/_/_)	Intended: 120 Offered: 120 Tput: 97.95 Mbps PER: 17.39 Latency: 214.50
2.4Ghz Download UDP MTU Sta Qty: 2	9(-/_/_)	Intended: 100 Offered: 100 Tput: 95.63 Mbps PER: 3.95 Latency: 53.50
2.4Ghz Download UDP MTU Sta Qty: 2	*10(+/_/_)	Intended: 100 Offered: 100 Tput: 99.96 Mbps PER: 0 Latency: 6.50
2.4Ghz Download UDP MTU Sta Qty: 2	11(+/_/_)	Intended: 110 Offered: 110 Tput: 109.12 Mbps PER: 0.20 Latency: 73.00
2.4Ghz Download UDP MTU Sta Qty: 2	12(-/_/_)	Intended: 115 Offered: 115 Tput: 110.80 Mbps PER: 2.98 Latency: 77.50
2.4Ghz Download UDP MTU Sta Qty: 2	*13(-/_/_)	Intended: 115 Offered: 115 Tput: 109.85 Mbps PER: 3.06 Latency: 83.00
2.4Ghz Download UDP MTU Sta Qty: 2	14(-/_/_)	Intended: 112 Offered: 112 Tput: 110.45 Mbps PER: 1.18 Latency: 81.00
2.4Ghz Download UDP MTU Sta Qty: 2	*15(+/_/_)	Intended: 112 Offered: 112 Tput: 111.48 Mbps PER: 0.23 Latency: 86.00
2.4Ghz Download UDP MTU Sta Qty: 2	16(-/_/_)	Intended: 114 Offered: 113 Tput: 110.06 Mbps PER: 2.57 Latency: 79.50
2.4Ghz Download UDP MTU Sta Qty: 2	*17(-/_/_)	Intended: 114 Offered: 113 Tput: 110.17 Mbps PER: 2.37 Latency: 72.50
2.4Ghz Upload UDP MTU Sta Qty: 2	1(-/_/_)	Intended: 111 Offered: 65 Tput: 56.82 Mbps PER: 42.57 Latency: 153.00
2.4Ghz Upload UDP MTU Sta Qty: 2	*2(-/_/_)	Intended: 111 Offered: 64 Tput: 56.53 Mbps PER: 44.17 Latency: 151.50
2.4Ghz Upload UDP MTU Sta Qty: 2	3(-/_/_)	Intended: 56 Offered: 38 Tput: 30.13 Mbps PER: 38.45 Latency: 84.50
2.4Ghz Upload UDP MTU Sta Qty: 2	*4(-/_/_)	Intended: 56 Offered: 39 Tput: 30.95 Mbps PER: 35.42 Latency: 79.00
2.4Ghz Upload UDP MTU Sta Qty: 2	5(-/_/_)	Intended: 28 Offered: 23 Tput: 16.27 Mbps PER: 36.37 Latency: 52.50
2.4Ghz Upload UDP MTU Sta Qty: 2	*6(-/_/_)	Intended: 28 Offered: 23 Tput: 16.97 Mbps PER: 33.65 Latency: 72.50
2.4Ghz Upload UDP MTU Sta Qty: 2	7(-/_/_)	Intended: 14 Offered: 12 Tput: 10.37 Mbps PER: 14.25 Latency: 53.00
2.4Ghz Upload UDP MTU Sta Qty: 2	*8(-/_/_)	Intended: 14 Offered: 11 Tput: 8.68 Mbps PER: 30.12 Latency: 61.00
2.4Ghz Upload UDP MTU Sta Qty: 2	9(-/_/_)	Intended: 7 Offered: 7 Tput: 6.16 Mbps PER: 7.76 Latency: 43.00
2.4Ghz Upload UDP MTU Sta Qty: 2	*10(-/_/_)	Intended: 7 Offered: 7 Tput: 6.05 Mbps PER: 9.14 Latency: 31.50
2.4Ghz Upload UDP MTU Sta Qty: 2	11(-/_/_)	Intended: 3 Offered: 3 Tput: 3.34 Mbps PER: 4.04 Latency: 4.50
2.4Ghz Upload UDP MTU Sta Qty: 2	*12(-/_/_)	Intended: 3 Offered: 3 Tput: 3.35 Mbps PER: 2.94 Latency: 0.50
2.4Ghz Upload UDP MTU Sta Qty: 2	13(+/_/_)	Intended: 2 Offered: 2 Tput: 1.74 Mbps PER: 0.03 Latency: 1.00
2.4Ghz Download UDP MTU Sta Qty: 5	1(-/_/_)	Intended: 10 Offered: 10 Tput: 8.98 Mbps PER: 9.19 Latency: 1,242.60
2.4Ghz Download UDP MTU Sta Qty: 5	*2(-/_/_)	Intended: 10 Offered: 10 Tput: 8.37 Mbps PER: 15.30 Latency: 1,766.80
2.4Ghz Download UDP MTU Sta Qty: 5	3(-/_/_)	Intended: 5 Offered: 5 Tput: 4.42 Mbps PER: 11.59 Latency: 13.40
2.4Ghz Download UDP MTU Sta Qty: 5	*4(-/_/_)	Intended: 5 Offered: 5 Tput: 4.40 Mbps PER: 11.87 Latency: 14.00
2.4Ghz Download UDP MTU Sta Qty: 5	5(-/_/_)	Intended: 2 Offered: 2 Tput: 2.34 Mbps PER: 6.21 Latency: 4.40
2.4Ghz Download UDP MTU Sta Qty: 5	*6(-/_/_)	Intended: 2 Offered: 2 Tput: 2.35 Mbps PER: 5.94 Latency: 3.80
2.4Ghz Download UDP MTU Sta Qty: 5	7(-/_/_)	Intended: 1 Offered: 1 Tput: 1.23 Mbps PER: 1.25 Latency: 3.00
2.4Ghz Download UDP MTU Sta Qty: 5	*8(-/_/_)	Intended: 1 Offered: 1 Tput: 1.23 Mbps PER: 1.15 Latency: 2.40
2.4Ghz Download UDP MTU Sta Qty: 5	9(+/_/_)	Intended: 1 Offered: 1 Tput: 0.62 Mbps PER: 0 Latency: 1.40
2.4Ghz Upload UDP MTU Sta Qty: 5	1(-/_/_)	Intended: 10 Offered: 10 Tput: 8.40 Mbps PER: 12.94 Latency: 54.60
2.4Ghz Upload UDP MTU Sta Qty: 5	*2(-/_/_)	Intended: 10 Offered: 9 Tput: 8.49 Mbps PER: 12.82 Latency: 58.80
2.4Ghz Upload UDP MTU Sta Qty: 5	3(+/_/_)	Intended: 5 Offered: 5 Tput: 4.90 Mbps PER: 0.69 Latency: 1.80
2.4Ghz Upload UDP MTU Sta Qty: 5	4(-/_/_)	Intended: 8 Offered: 7 Tput: 7.01 Mbps PER: 4.84 Latency: 35.20
2.4Ghz Upload UDP MTU Sta Qty: 5	*5(-/_/_)	Intended: 8 Offered: 7 Tput: 6.84 Mbps PER: 8.14 Latency: 11.80
2.4Ghz Upload UDP MTU Sta Qty: 5	6(-/_/_)	Intended: 6 Offered: 6 Tput: 6.10 Mbps PER: 1.47 Latency: 8.00

2.4Ghz Upload UDP MTU Sta Qty: 5	*7(-/_/_)	Intended: 6 Offered: 6 Tput: 6.04 Mbps PER: 2.38 Latency: 3.60
2.4Ghz Upload UDP MTU Sta Qty: 5	8(+/_/_)	Intended: 6 Offered: 6 Tput: 5.58 Mbps PER: 0.50 Latency: 0.80
5Ghz Download UDP MTU Sta Qty: 1	1+	Intended: 500 Offered: 498 Tput: 499.85 Mbps PER: 0 Latency: 9.00
5Ghz Download UDP MTU Sta Qty: 1	2-	Intended: 1,000 Offered: 582 Tput: 578.45 Mbps PER: 1.66 Latency: 58.00
5Ghz Download UDP MTU Sta Qty: 1	*3-	Intended: 1,000 Offered: 590 Tput: 578.79 Mbps PER: 1.63 Latency: 54.00
5Ghz Download UDP MTU Sta Qty: 1	4-	Intended: 750 Offered: 585 Tput: 573.40 Mbps PER: 1.73 Latency: 57.00
5Ghz Download UDP MTU Sta Qty: 1	*5-	Intended: 750 Offered: 580 Tput: 569.41 Mbps PER: 1.61 Latency: 56.00
5Ghz Download UDP MTU Sta Qty: 1	6-	Intended: 625 Offered: 590 Tput: 580.27 Mbps PER: 1.55 Latency: 58.00
5Ghz Download UDP MTU Sta Qty: 1	*7-	Intended: 625 Offered: 593 Tput: 583.49 Mbps PER: 1.50 Latency: 56.00
5Ghz Download UDP MTU Sta Qty: 1	8+	Intended: 562 Offered: 550 Tput: 562.04 Mbps PER: 0 Latency: 13.00
5Ghz Download UDP MTU Sta Qty: 1	9-	Intended: 594 Offered: 587 Tput: 579.53 Mbps PER: 1.06 Latency: 58.00
5Ghz Download UDP MTU Sta Qty: 1	*10-	Intended: 594 Offered: 586 Tput: 577.05 Mbps PER: 1.24 Latency: 59.00
5Ghz Download UDP MTU Sta Qty: 1	11+	Intended: 578 Offered: 574 Tput: 570.32 Mbps PER: 0.45 Latency: 24.00
5Ghz Download UDP MTU Sta Qty: 1	12+	Intended: 586 Offered: 571 Tput: 570.25 Mbps PER: 0.69 Latency: 25.00
5Ghz Download UDP MTU Sta Qty: 1	13-	Intended: 590 Offered: 585 Tput: 557.80 Mbps PER: 4.15 Latency: 60.00
5Ghz Download UDP MTU Sta Qty: 1	*14+	Intended: 590 Offered: 587 Tput: 584.56 Mbps PER: 0.22 Latency: 56.00
5Ghz Download UDP MTU Sta Qty: 1	15+	Intended: 592 Offered: 578 Tput: 583.98 Mbps PER: 0.58 Latency: 60.00
5Ghz Download UDP MTU Sta Qty: 1	16-	Intended: 593 Offered: 579 Tput: 573.21 Mbps PER: 1.37 Latency: 54.00
5Ghz Upload UDP MTU Sta Qty: 1	1-	Intended: 585 Offered: 495 Tput: 489.41 Mbps PER: 1.02 Latency: 46.00
5Ghz Upload UDP MTU Sta Qty: 1	*2-	Intended: 585 Offered: 489 Tput: 480.91 Mbps PER: 1.25 Latency: 43.00
5Ghz Upload UDP MTU Sta Qty: 1	3+	Intended: 292 Offered: 292 Tput: 292.27 Mbps PER: 0 Latency: 1.00
5Ghz Upload UDP MTU Sta Qty: 1	4+	Intended: 438 Offered: 438 Tput: 438.84 Mbps PER: 0 Latency: 3.00
5Ghz Upload UDP MTU Sta Qty: 1	5+	Intended: 511 Offered: 496 Tput: 491.88 Mbps PER: 0.06 Latency: 2.00
5Ghz Upload UDP MTU Sta Qty: 1	6-	Intended: 548 Offered: 497 Tput: 492.85 Mbps PER: 0.72 Latency: 37.00
5Ghz Upload UDP MTU Sta Qty: 1	*7+	Intended: 548 Offered: 504 Tput: 500.74 Mbps PER: 0.41 Latency: 52.00
5Ghz Upload UDP MTU Sta Qty: 1	8-	Intended: 566 Offered: 490 Tput: 486.34 Mbps PER: 0.80 Latency: 47.00
5Ghz Upload UDP MTU Sta Qty: 1	*9-	Intended: 566 Offered: 495 Tput: 474.19 Mbps PER: 1.00 Latency: 37.00
5Ghz Upload UDP MTU Sta Qty: 1	10-	Intended: 557 Offered: 494 Tput: 490.75 Mbps PER: 0.66 Latency: 42.00
5Ghz Upload UDP MTU Sta Qty: 1	*11-	Intended: 557 Offered: 500 Tput: 494.71 Mbps PER: 0.75 Latency: 41.00
5Ghz Upload UDP MTU Sta Qty: 1	12+	Intended: 553 Offered: 508 Tput: 502.23 Mbps PER: 0.68 Latency: 37.00
5Ghz Upload UDP MTU Sta Qty: 1	13-	Intended: 555 Offered: 496 Tput: 495.46 Mbps PER: 0.69 Latency: 47.00
5Ghz Upload UDP MTU Sta Qty: 1	*14+	Intended: 555 Offered: 511 Tput: 502.44 Mbps PER: 0.96 Latency: 47.00
5Ghz Upload UDP MTU Sta Qty: 1	15+	Intended: 556 Offered: 510 Tput: 501.60 Mbps PER: 0.64 Latency: 72.00
5Ghz Upload UDP MTU Sta Qty: 1	16-	Intended: 557 Offered: 497 Tput: 494.74 Mbps PER: 0.57 Latency: 42.00
5Ghz Download UDP MTU Sta Qty: 2	1(_/-/_)	Intended: 502 Offered: 497 Tput: 374.42 Mbps PER: 25.36 Latency: 52.00
5Ghz Download UDP MTU Sta Qty: 2	*2(_/-/_)	Intended: 502 Offered: 501 Tput: 374.56 Mbps PER: 25.29 Latency: 30.50
5Ghz Download UDP MTU Sta Qty: 2	3(_/+/_)	Intended: 251 Offered: 251 Tput: 251.17 Mbps PER: 0 Latency: 2.50
5Ghz Download UDP MTU Sta Qty: 2	4(_/-/_)	Intended: 377 Offered: 376 Tput: 330.27 Mbps PER: 12.10 Latency: 38.00
5Ghz Download UDP MTU Sta Qty: 2	*5(_/-/_)	Intended: 377 Offered: 377 Tput: 331.56 Mbps PER: 11.78 Latency: 50.00
5Ghz Download UDP MTU Sta Qty: 2	6(_/+/_)	Intended: 314 Offered: 314 Tput: 314.02 Mbps PER: 0 Latency: 7.00
5Ghz Download UDP MTU Sta Qty: 2	7(_/-/_)	Intended: 345 Offered: 345 Tput: 329.70 Mbps PER: 4.27 Latency: 29.00
5Ghz Download UDP MTU Sta Qty: 2	*8(_/-/_)	Intended: 345 Offered: 345 Tput: 331.12 Mbps PER: 3.94 Latency: 38.00
5Ghz Download UDP MTU Sta Qty: 2	9(_/+/_)	Intended: 330 Offered: 326 Tput: 329.86 Mbps PER: 0 Latency: 16.00
5Ghz Download UDP MTU Sta Qty: 2	10(_/-/_)	Intended: 338 Offered: 332 Tput: 331.03 Mbps PER: 1.76 Latency: 34.50
5Ghz Download UDP MTU Sta Qty: 2	*11(_/-/_)	Intended: 338 Offered: 337 Tput: 327.81 Mbps PER: 1.97 Latency: 41.00
5Ghz Download UDP MTU Sta Qty: 2	12(_/-/_)	Intended: 334 Offered: 333 Tput: 328.10 Mbps PER: 1.48 Latency: 39.50
5Ghz Download UDP MTU Sta Qty: 2	*13(_/-/_)	Intended: 334 Offered: 334 Tput: 328.49 Mbps PER: 1.33 Latency: 35.50
5Ghz Download UDP MTU Sta Qty: 2	14(_/+/_)	Intended: 332 Offered: 331 Tput: 327.97 Mbps PER: 0.83 Latency: 33.50
5Ghz Upload UDP MTU Sta Qty: 2	1(_/-/_)	Intended: 330 Offered: 322 Tput: 312.80 Mbps PER: 2.26 Latency: 20.00
5Ghz Upload UDP MTU Sta Qty: 2	*2(_/-/_)	Intended: 330 Offered: 324 Tput: 315.93 Mbps PER: 2.18 Latency: 21.00
5Ghz Upload UDP MTU Sta Qty: 2	3(_/+/_)	Intended: 165 Offered: 165 Tput: 164.40 Mbps PER: 0 Latency: 1.00
5Ghz Upload UDP MTU Sta Qty: 2	4(_/+/_)	Intended: 247 Offered: 247 Tput: 247.14 Mbps PER: 0 Latency: 1.00
5Ghz Upload UDP MTU Sta Qty: 2	5(_/+/_)	Intended: 289 Offered: 289 Tput: 288.59 Mbps PER: 0 Latency: 2.00
5Ghz Upload UDP MTU Sta Qty: 2	6(_/+/_)	Intended: 309 Offered: 309 Tput: 309.12 Mbps PER: 0 Latency: 6.50
5Ghz Upload UDP MTU Sta Qty: 2	7(_/-/_)	Intended: 320 Offered: 316 Tput: 310.35 Mbps PER: 1.41 Latency: 23.00
5Ghz Upload UDP MTU Sta Qty: 2	*8(_/-/_)	Intended: 320 Offered: 319 Tput: 314.23 Mbps PER: 1.34 Latency: 21.50
5Ghz Upload UDP MTU Sta Qty: 2	9(_/+/_)	Intended: 314 Offered: 314 Tput: 311.32 Mbps PER: 0.69 Latency: 21.00
5Ghz Upload UDP MTU Sta Qty: 2	10(_/+/_)	Intended: 317 Offered: 316 Tput: 312.90 Mbps PER: 0.95 Latency: 14.50
5Ghz Upload UDP MTU Sta Qty: 2	11(_/-/_)	Intended: 318 Offered: 315 Tput: 311.43 Mbps PER: 1.06 Latency: 19.50

5Ghz Upload UDP MTU Sta Qty: 2	*12(_/-/_)	Intended: 318 Offered: 314 Tput: 310.48 Mbps PER: 1.18 Latency: 23.50
5Ghz Download UDP MTU Sta Qty: 5	1(_/-/_)	Intended: 313 Offered: 310 Tput: 300.74 Mbps PER: 3.38 Latency: 68.00
5Ghz Download UDP MTU Sta Qty: 5	*2(_/-/_)	Intended: 313 Offered: 312 Tput: 301.55 Mbps PER: 3.23 Latency: 64.80
5Ghz Download UDP MTU Sta Qty: 5	3(_/+/_)	Intended: 156 Offered: 153 Tput: 156.38 Mbps PER: 0 Latency: 3.00
5Ghz Download UDP MTU Sta Qty: 5	4(_/+/_)	Intended: 235 Offered: 235 Tput: 234.49 Mbps PER: 0 Latency: 5.00
5Ghz Download UDP MTU Sta Qty: 5	5(_/+/_)	Intended: 274 Offered: 272 Tput: 273.12 Mbps PER: 0 Latency: 5.80
5Ghz Download UDP MTU Sta Qty: 5	6(_/+/_)	Intended: 293 Offered: 293 Tput: 291.57 Mbps PER: 0.40 Latency: 51.00
5Ghz Download UDP MTU Sta Qty: 5	7(_/-/_)	Intended: 303 Offered: 301 Tput: 295.86 Mbps PER: 2.00 Latency: 59.40
5Ghz Download UDP MTU Sta Qty: 5	*8(_/-/_)	Intended: 303 Offered: 303 Tput: 296.24 Mbps PER: 1.78 Latency: 67.40
5Ghz Download UDP MTU Sta Qty: 5	9(_/+/_)	Intended: 298 Offered: 292 Tput: 294.43 Mbps PER: 0.89 Latency: 66.40
5Ghz Download UDP MTU Sta Qty: 5	10(_/-/_)	Intended: 301 Offered: 300 Tput: 293.69 Mbps PER: 1.97 Latency: 48.00
5Ghz Download UDP MTU Sta Qty: 5	*11(_/-/_)	Intended: 301 Offered: 300 Tput: 294.18 Mbps PER: 1.82 Latency: 62.20
5Ghz Download UDP MTU Sta Qty: 5	12(_/-/_)	Intended: 299 Offered: 298 Tput: 294.21 Mbps PER: 1.36 Latency: 69.40
5Ghz Download UDP MTU Sta Qty: 5	*13(_/-/_)	Intended: 299 Offered: 299 Tput: 294.84 Mbps PER: 1.22 Latency: 61.60
5Ghz Download UDP MTU Sta Qty: 5	14(_/-/_)	Intended: 299 Offered: 295 Tput: 293.89 Mbps PER: 1.00 Latency: 36.40
5Ghz Upload UDP MTU Sta Qty: 5	1(_/-/_)	Intended: 294 Offered: 245 Tput: 233.60 Mbps PER: 4.90 Latency: 30.00
5Ghz Upload UDP MTU Sta Qty: 5	*2(_/-/_)	Intended: 294 Offered: 246 Tput: 235.83 Mbps PER: 4.77 Latency: 37.20
5Ghz Upload UDP MTU Sta Qty: 5	3(_/+/_)	Intended: 147 Offered: 147 Tput: 146.49 Mbps PER: 0 Latency: 2.40
5Ghz Upload UDP MTU Sta Qty: 5	4(_/+/_)	Intended: 221 Offered: 210 Tput: 207.36 Mbps PER: 0.67 Latency: 20.00
5Ghz Upload UDP MTU Sta Qty: 5	5(_/-/_)	Intended: 258 Offered: 219 Tput: 211.44 Mbps PER: 4.28 Latency: 27.60
5Ghz Upload UDP MTU Sta Qty: 5	*6(_/-/_)	Intended: 258 Offered: 228 Tput: 218.80 Mbps PER: 3.74 Latency: 26.60
5Ghz Upload UDP MTU Sta Qty: 5	7(_/-/_)	Intended: 239 Offered: 217 Tput: 210.60 Mbps PER: 3.00 Latency: 35.20
5Ghz Upload UDP MTU Sta Qty: 5	*8(_/-/_)	Intended: 239 Offered: 218 Tput: 214.37 Mbps PER: 1.79 Latency: 14.00
5Ghz Upload UDP MTU Sta Qty: 5	9(_/-/_)	Intended: 230 Offered: 214 Tput: 209.82 Mbps PER: 1.65 Latency: 31.00
5Ghz Upload UDP MTU Sta Qty: 5	*10(_/+/_)	Intended: 230 Offered: 219 Tput: 215.14 Mbps PER: 0.74 Latency: 22.00
5Ghz Upload UDP MTU Sta Qty: 5	11(_/-/_)	Intended: 235 Offered: 210 Tput: 204.50 Mbps PER: 2.65 Latency: 24.20
5Ghz Upload UDP MTU Sta Qty: 5	*12(_/-/_)	Intended: 235 Offered: 214 Tput: 207.32 Mbps PER: 2.41 Latency: 16.80
5Ghz Upload UDP MTU Sta Qty: 5	13(_/-/_)	Intended: 232 Offered: 219 Tput: 215.96 Mbps PER: 1.23 Latency: 22.20
5Ghz Upload UDP MTU Sta Qty: 5	*14(_/-/_)	Intended: 232 Offered: 208 Tput: 204.62 Mbps PER: 1.71 Latency: 21.00
5Ghz Upload UDP MTU Sta Qty: 5	15(_/-/_)	Intended: 231 Offered: 210 Tput: 206.52 Mbps PER: 1.71 Latency: 16.60
5Ghz Upload UDP MTU Sta Qty: 5	*16(_/-/_)	Intended: 231 Offered: 209 Tput: 202.67 Mbps PER: 3.00 Latency: 19.00
5Ghz Upload UDP MTU Sta Qty: 5	17(_/-/_)	Intended: 231 Offered: 206 Tput: 204.15 Mbps PER: 1.29 Latency: 31.20
Dual-Band Download MTU Sta Qty: 2	1(+/+/_)	Intended: 10/215/0 Offered: 10/215/0 Mbps Tput: 10/215/0 PER: 0/0/_
Dual-Band Download MTU Sta Qty: 2	2(+/-/_)	Intended: 20/430/0 Offered: 20/430/0 Mbps Tput: 20/227/0 PER: 0/46.99/_
Dual-Band Download MTU Sta Qty: 2	3(+/-/_)	Intended: 40/430/0 Offered: 40/427/0 Mbps Tput: 40/226/0 PER: 0/47.16/_
Dual-Band Download MTU Sta Qty: 2	4(+/-/_)	Intended: 80/323/0 Offered: 80/323/0 Mbps Tput: 80/228/0 PER: 0/29.20/_
Dual-Band Download MTU Sta Qty: 2	5(-/-/_)	Intended: 160/323/0 Offered: 160/322/0 Mbps Tput: 143/227/0 PER: 10.44/29.30/_
Dual-Band Download MTU Sta Qty: 2	6(-/-/_)	Intended: 160/269/0 Offered: 159/266/0 Mbps Tput: 143/228/0 PER: 10.16/14.86/_
Dual-Band Download MTU Sta Qty: 2	7(+/-/_)	Intended: 120/269/0 Offered: 119/268/0 Mbps Tput: 120/229/0 PER: 0/14.78/_
Dual-Band Download MTU Sta Qty: 2	8(+/-/_)	Intended: 140/242/0 Offered: 140/242/0 Mbps Tput: 140/228/0 PER: 0/5.34/_
Dual-Band Download MTU Sta Qty: 2	9(-/-/_)	Intended: 150/242/0 Offered: 150/242/0 Mbps Tput: 143/228/0 PER: 4.49/5.42/_
Dual-Band Download MTU Sta Qty: 2	10(-/+/_)	Intended: 150/229/0 Offered: 150/228/0 Mbps Tput: 143/229/0 PER: 4.22/0/_
Dual-Band Download MTU Sta Qty: 2	11(+/-/_)	Intended: 145/235/0 Offered: 145/235/0 Mbps Tput: 145/228/0 PER: 0/2.65/_
Dual-Band Download MTU Sta Qty: 2	12(-/-/_)	Intended: 148/235/0 Offered: 147/235/0 Mbps Tput: 142/229/0 PER: 3.36/2.60/_
Dual-Band Download MTU Sta Qty: 2	13(-/-/_)	Intended: 148/232/0 Offered: 147/232/0 Mbps Tput: 143/228/0 PER: 2.73/1.45/_
Dual-Band Download MTU Sta Qty: 2	14(+/-/_)	Intended: 146/232/0 Offered: 146/232/0 Mbps Tput: 144/227/0 PER: 0.62/1.60/_
Dual-Band Download MTU Sta Qty: 2	15(-/+/_)	Intended: 147/230/0 Offered: 147/230/0 Mbps Tput: 143/227/0 PER: 2.11/0.76/_
Dual-Band Upload MTU Sta Qty: 2	1(+/+/_)	Intended: 10/215/0 Offered: 10/215/0 Mbps Tput: 10/214/0 PER: 0/0/_
Dual-Band Upload MTU Sta Qty: 2	2(+/-/_)	Intended: 20/430/0 Offered: 20/223/0 Mbps Tput: 20/214/0 PER: 0/3.12/_
Dual-Band Upload MTU Sta Qty: 2	3(+/-/_)	Intended: 40/430/0 Offered: 40/222/0 Mbps Tput: 39/212/0 PER: 0/3.11/_
Dual-Band Upload MTU Sta Qty: 2	4(+/-/_)	Intended: 80/322/0 Offered: 80/223/0 Mbps Tput: 80/215/0 PER: 0/3.10/_
Dual-Band Upload MTU Sta Qty: 2	5(-/-/_)	Intended: 160/322/0 Offered: 93/222/0 Mbps Tput: 85/213/0 PER: 7.75/3.13/_
Dual-Band Upload MTU Sta Qty: 2	6(-/-/_)	Intended: 160/269/0 Offered: 69/219/0 Mbps Tput: 63/214/0 PER: 5.71/3.08/_
Dual-Band Upload MTU Sta Qty: 2	7(-/-/_)	Intended: 120/269/0 Offered: 70/221/0 Mbps Tput: 64/214/0 PER: 6.09/3.09/_
Dual-Band Upload MTU Sta Qty: 2	8(-/-/_)	Intended: 120/242/0 Offered: 77/221/0 Mbps Tput: 72/212/0 PER: 7.18/3.12/_
Dual-Band Upload MTU Sta Qty: 2	9(-/-/_)	Intended: 100/242/0 Offered: 94/221/0 Mbps Tput: 87/213/0 PER: 7.78/3.11/_
Dual-Band Upload MTU Sta Qty: 2	10(-/-/_)	Intended: 100/228/0 Offered: 94/220/0 Mbps Tput: 86/213/0 PER: 7.79/3.09/_
Dual-Band Upload MTU Sta Qty: 2	11(-/-/_)	Intended: 90/228/0 Offered: 90/220/0 Mbps Tput: 86/213/0 PER: 3.62/3.13/_
Dual-Band Upload MTU Sta Qty: 2	12(-/-/_)	Intended: 90/222/0 Offered: 67/220/0 Mbps Tput: 63/212/0 PER: 3.65/3.08/_
Dual-Band Upload MTU Sta Qty: 2	13(+/-/_)	Intended: 85/222/0 Offered: 82/220/0 Mbps Tput: 82/210/0 PER: 0.31/2.95/_

Dual-Band Upload MTU Sta Qty: 2	14(+/-/_)	Intended: 88/218/0 Offered: 87/217/0 Mbps Tput: 87/214/0 PER: 0.72/1.47/_
Dual-Band Download MTU Sta Qty: 5	1(-/-/_)	Intended: 10/214/0 Offered: 10/214/0 Mbps Tput: 10/205/0 PER: 1.66/3.89/_
Dual-Band Download MTU Sta Qty: 5	2(-/-/_)	Intended: 10/214/0 Offered: 10/213/0 Mbps Tput: 10/208/0 PER: 1.03/2.31/_
Dual-Band Download MTU Sta Qty: 5	3(+/+/_)	Intended: 5/107/0 Offered: 5/106/0 Mbps Tput: 5/107/0 PER: 0.32/0/_
Dual-Band Download MTU Sta Qty: 5	4(+/-/_)	Intended: 8/160/0 Offered: 7/160/0 Mbps Tput: 7/159/0 PER: 0.85/1.05/_
Dual-Band Download MTU Sta Qty: 5	5(+/+/_)	Intended: 9/160/0 Offered: 9/159/0 Mbps Tput: 9/159/0 PER: 0.60/0.51/_
Dual-Band Download MTU Sta Qty: 5	6(+/-/_)	Intended: 9/187/0 Offered: 9/187/0 Mbps Tput: 9/184/0 PER: 0.23/1.62/_
Dual-Band Download MTU Sta Qty: 5	7(+/-/_)	Intended: 10/187/0 Offered: 9/183/0 Mbps Tput: 10/182/0 PER: 0.93/2.34/_
Dual-Band Download MTU Sta Qty: 5	8(-/+/_)	Intended: 10/174/0 Offered: 10/171/0 Mbps Tput: 10/172/0 PER: 1.31/0.74/_
Dual-Band Download MTU Sta Qty: 5	9(-/-/_)	Intended: 10/180/0 Offered: 10/177/0 Mbps Tput: 10/174/0 PER: 1.38/3.55/_
Dual-Band Download MTU Sta Qty: 5	10(-/-/_)	Intended: 10/180/0 Offered: 10/179/0 Mbps Tput: 10/176/0 PER: 1.11/2.49/_
Dual-Band Download MTU Sta Qty: 5	11(-/-/_)	Intended: 10/177/0 Offered: 10/175/0 Mbps Tput: 10/173/0 PER: 1.12/2.23/_
Dual-Band Download MTU Sta Qty: 5	12(+/-/_)	Intended: 10/177/0 Offered: 10/177/0 Mbps Tput: 10/172/0 PER: 0.56/2.76/_
Dual-Band Download MTU Sta Qty: 5	13(+/-/_)	Intended: 10/175/0 Offered: 10/171/0 Mbps Tput: 10/172/0 PER: 0.70/1.84/_
Dual-Band Download MTU Sta Qty: 5	14(+/-/_)	Intended: 10/175/0 Offered: 10/175/0 Mbps Tput: 10/173/0 PER: 0.71/1.30/_
Dual-Band Download MTU Sta Qty: 5	15(-/-/_)	Intended: 10/175/0 Offered: 10/174/0 Mbps Tput: 10/171/0 PER: 1.69/1.81/_
Dual-Band Upload MTU Sta Qty: 5	1(-/+/_)	Intended: 10/159/0 Offered: 9/157/0 Mbps Tput: 9/155/0 PER: 1.84/0.53/_
Dual-Band Upload MTU Sta Qty: 5	2(-/-/_)	Intended: 10/319/0 Offered: 9/216/0 Mbps Tput: 9/202/0 PER: 3.92/9.51/_
Dual-Band Upload MTU Sta Qty: 5	3(+/-/_)	Intended: 5/319/0 Offered: 5/224/0 Mbps Tput: 5/205/0 PER: 0.97/9.11/_
Dual-Band Upload MTU Sta Qty: 5	4(-/-/_)	Intended: 8/224/0 Offered: 7/195/0 Mbps Tput: 7/185/0 PER: 1.09/5.50/_
Dual-Band Upload MTU Sta Qty: 5	5(+/-/_)	Intended: 8/224/0 Offered: 7/136/0 Mbps Tput: 7/128/0 PER: 0.24/8.97/_
Dual-Band Upload MTU Sta Qty: 5	6(+/-/_)	Intended: 9/164/0 Offered: 8/149/0 Mbps Tput: 8/142/0 PER: 0.76/4.16/_
Dual-Band Upload MTU Sta Qty: 5	7(-/-/_)	Intended: 9/164/0 Offered: 8/155/0 Mbps Tput: 8/149/0 PER: 2.18/4.17/_
Dual-Band Upload MTU Sta Qty: 5	8(-/+/_)	Intended: 9/125/0 Offered: 9/124/0 Mbps Tput: 9/124/0 PER: 1.32/0/_
Dual-Band Upload MTU Sta Qty: 5	9(-/+/_)	Intended: 8/144/0 Offered: 8/141/0 Mbps Tput: 8/140/0 PER: 1.38/0.99/_
Dual-Band Upload MTU Sta Qty: 5	10(-/-/_)	Intended: 8/154/0 Offered: 8/149/0 Mbps Tput: 8/144/0 PER: 1.31/3.10/_
Dual-Band Upload MTU Sta Qty: 5	11(+/-/_)	Intended: 7/154/0 Offered: 7/147/0 Mbps Tput: 7/143/0 PER: 0.53/2.29/_
Dual-Band Upload MTU Sta Qty: 5	12(+/+/_)	Intended: 8/136/0 Offered: 7/135/0 Mbps Tput: 7/135/0 PER: 0.81/0.05/_
Dual-Band Upload MTU Sta Qty: 5	13(+/-/_)	Intended: 8/145/0 Offered: 8/99/0 Mbps Tput: 8/92/0 PER: 0.49/5.97/_
Dual-Band Upload MTU Sta Qty: 5	14(+/-/_)	Intended: 8/145/0 Offered: 8/101/0 Mbps Tput: 8/86/0 PER: 0.98/12.46/_
Dual-Band Upload MTU Sta Qty: 5	15(+/+/_)	Intended: 8/140/0 Offered: 8/139/0 Mbps Tput: 8/138/0 PER: 0.88/0.58/_
Dual-Band Upload MTU Sta Qty: 5	16(+/+/_)	Intended: 8/143/0 Offered: 8/141/0 Mbps Tput: 8/139/0 PER: 0.54/0.50/_
Dual-Band Upload MTU Sta Qty: 5	17(-/+/_)	Intended: 8/144/0 Offered: 8/144/0 Mbps Tput: 8/144/0 PER: 2.34/0.01/_
Dual-Band Upload MTU Sta Qty: 5	18(-/+/_)	Intended: 8/144/0 Offered: 8/144/0 Mbps Tput: 8/142/0 PER: 1.13/0/_

AP-Auto



Band-Steering

Summary

The Band Steering test brings up stations on the selected Bands, starts traffic, and then associates a single station on another radio, with expectations that AP will cause it to associate on the least loaded radio, or if all are loaded, then on a 5Ghz radio. The number of stations created is based on the configured amount of stations per band but decreased a bit to make sure that the AP can support at least a few stations on any band to give a chance for the AP to make the right (and wrong) bandsteering decision.

The test is considered passed if the dual-band station connects to the expected BSSID. When 2.4Ghz band is loaded, this test expects that the dual-band station will connect to 5Ghz. When 5Ghz band is loaded, this test expects that the dual-band station will connect to secondary 5Ghz radio if that exists, or 2.4Ghz otherwise. When the secondary 5Ghz band is loaded, this test expects that the dual-band station will connect to 5Ghz radio.

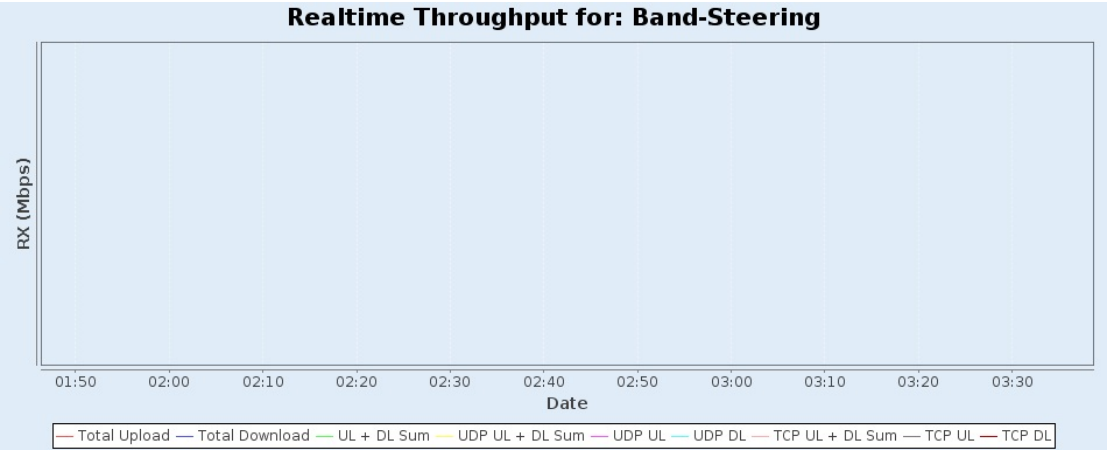
The Candela Score for the Band-Steering test is calculated as the percentage of the dual band stations that connect to the expected DUT radio:

- 100%: connected-to-correct-bssid / total-station-connects

Band-Steering Results

Type	Result	Notes
Configuration-Error	FAIL	2.4Ghz Band-Steering: ERROR: could not find any Dual-Band radios for band-steering candidates.
Configuration-Error	FAIL	5Ghz Band-Steering: ERROR: could not find any Dual-Band radios for band-steering candidates.
Configuration-Error	FAIL	Dual-Band Band-Steering: ERROR: could not find any Dual-Band radios for band-steering candidates.
Configuration NOTE	INFO	Configured to skip 5Ghz-B band test.
Configuration NOTE	INFO	Configured to skip Tri band test.
Configuration NOTE	INFO	Skipping DUT idx: 1: No 2.4Ghz DUT configured.
Configuration NOTE	INFO	Skipping DUT idx: 1: No 5Ghz DUT configured.
Configuration NOTE	INFO	Skipping DUT idx: 1: No 5Ghz DUT configured.
Configuration NOTE	INFO	Configured to skip 5Ghz-B band test.
Configuration NOTE	INFO	Configured to skip Tri band test.
Configuration NOTE	INFO	Skipping DUT idx: 2: No 2.4Ghz DUT configured.
Configuration NOTE	INFO	Skipping DUT idx: 2: No 5Ghz DUT configured.
Configuration NOTE	INFO	Skipping DUT idx: 2: No 5Ghz DUT configured.
Configuration NOTE	INFO	Configured to skip 5Ghz-B band test.
Configuration NOTE	INFO	Configured to skip Tri band test.

AP-Auto



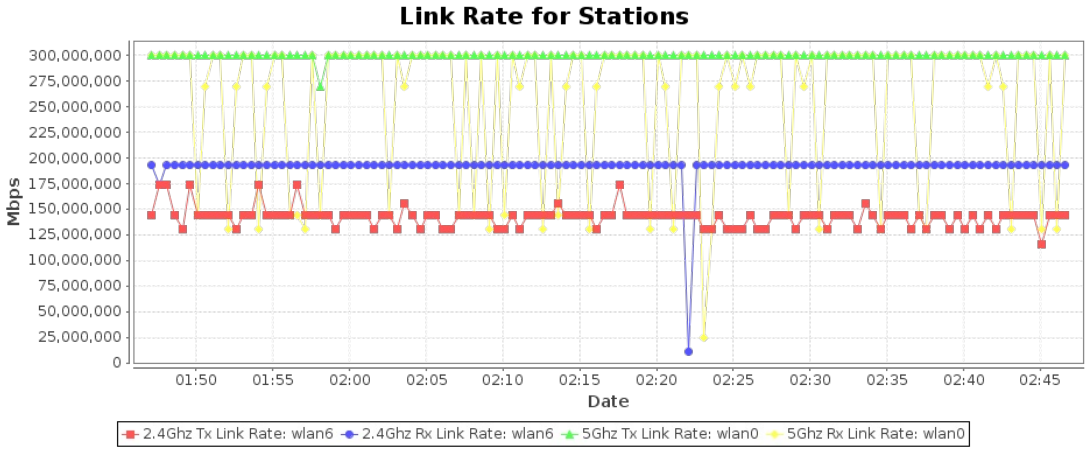
Long-Term

Summary

The Long-Term test intends to verify that the Wi-Fi AP is stable over time with multiple bands active. Options include the number of active stations, duration, upload/download traffic directions and the rate at which to run traffic. There is no pass/fail criteria for this test currently. Candela Score will always be 100.

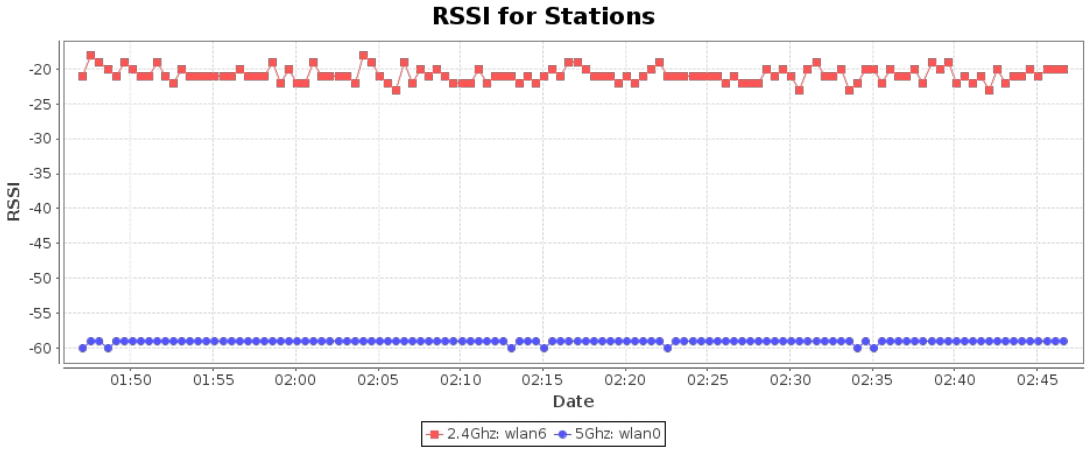
Link rate stats give an indication of how well the rate-control is working. For rate-control, the 'RX' link rate corresponds to what the device-under-test is transmitting. The TX rate is what LANforge is transmitting at.

CSV Data for Link Rate for Stations

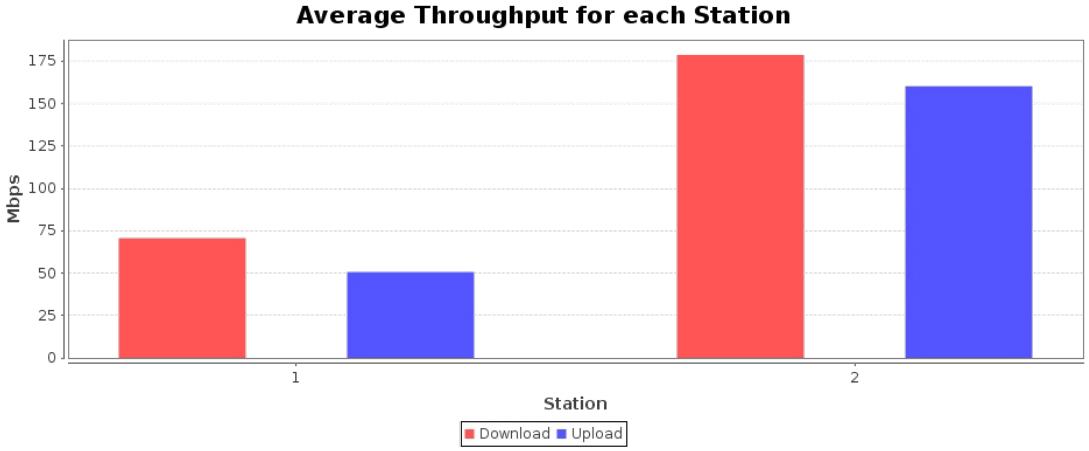


RSSI reported by LANforge.

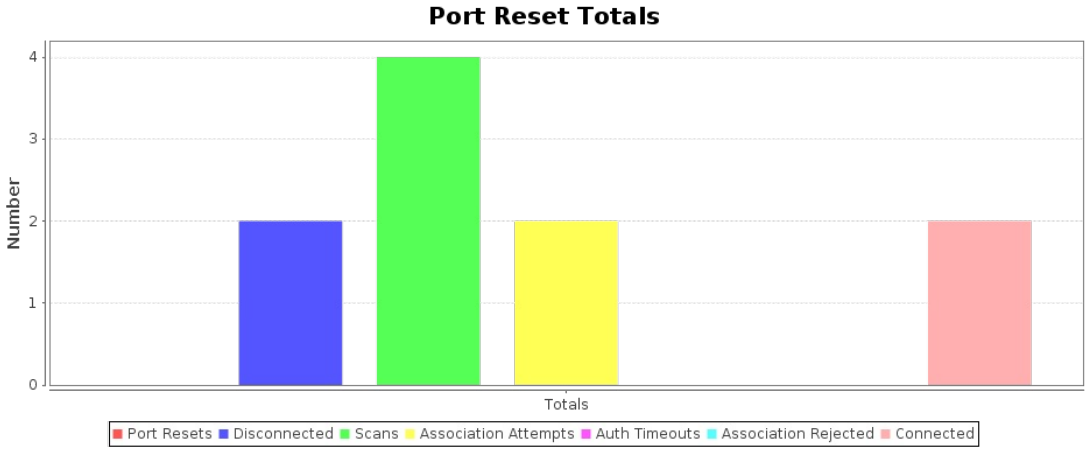
CSV Data for RSSI for Stations



CSV Data for Average Throughput for each Station



CSV Data for Port Reset Totals



Long-Term Results

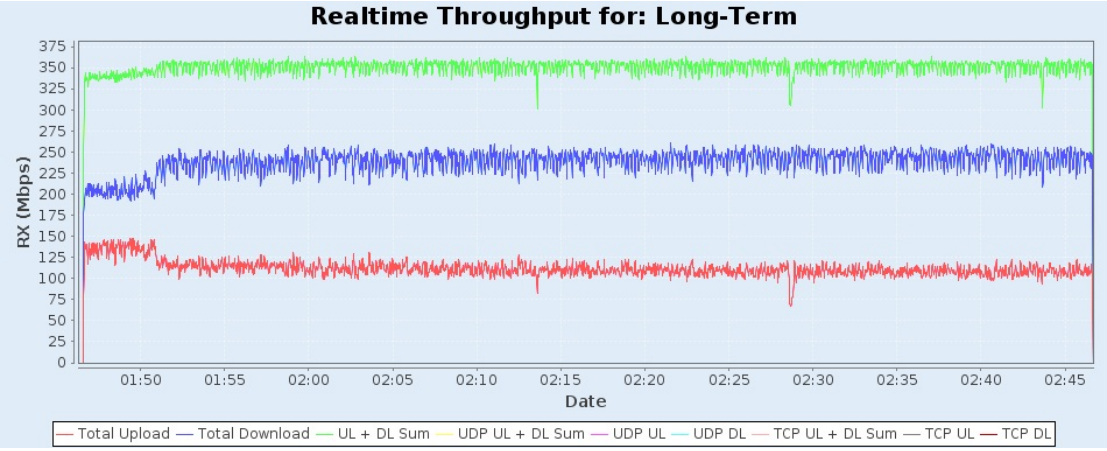
Type	Result	Notes
Tue Oct 26 01:47:05 PDT 2021	Update	STA-RSSI: -21 Rx-Rate: 192.7M Tx-Rate: 144.4M
Tue Oct 26 01:47:05 PDT 2021	Update	STA-RSSI: -60 Rx-Rate: 300M Tx-Rate: 300M
Tue Oct 26 02:02:05 PDT 2021	Update	STA-RSSI: -21 Rx-Rate: 192.7M Tx-Rate: 144.4M
Tue Oct 26 02:02:05 PDT 2021	Update	STA-RSSI: -59 Rx-Rate: 300M Tx-Rate: 300M
Tue Oct 26 02:17:05 PDT 2021	Update	STA-RSSI: -19 Rx-Rate: 192.7M Tx-Rate: 144.4M
Tue Oct 26 02:17:05 PDT 2021	Update	STA-RSSI: -59 Rx-Rate: 300M Tx-Rate: 300M
Tue Oct 26 02:32:05 PDT 2021	Update	STA-RSSI: -21 Rx-Rate: 192.7M Tx-Rate: 144.4M
Tue Oct 26 02:32:05 PDT 2021	Update	STA-RSSI: -59 Rx-Rate: 300M Tx-Rate: 300M
Tue Oct 26 02:46:35 PDT 2021	Update	STA-RSSI: -20 Rx-Rate: 192.7M Tx-Rate: 144.4M
Tue Oct 26 02:46:35 PDT 2021	Update	STA-RSSI: -59 Rx-Rate: 300M Tx-Rate: 300M

Long-Term: Snapshot

Port	Tx-Bps 1m	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI (dBm)	AP	IP	MAC
1.1.10 wlan6	50.629 Mbps	70.616 Mbps	0.484	144.4 Mbps	192.7 Mbps	802.11bgn-AC	1	94	-20	BC:A5:11:1C:D7:50	192.168.210.163	04:f0:21:85:6e:b1
1.1.10 wlan6	50.629 Mbps	70.616 Mbps	0.484	144.4 Mbps	192.7 Mbps	802.11bgn-AC	1	94	-20	BC:A5:11:1C:D7:50	192.168.210.163	04:f0:21:85:6e:b1
1.1.11 wlan0	160.221 Mbps	178.698 Mbps	0.065	300 Mbps	300 Mbps	802.11an	64	604	-59	BC:A5:11:1C:D7:61	192.168.221.139	00:0e:8e:5b:ac:e0
1.1.11 wlan0	160.221 Mbps	178.698 Mbps	0.065	300 Mbps	300 Mbps	802.11an	64	604	-59	BC:A5:11:1C:D7:61	192.168.221.139	00:0e:8e:5b:ac:e0

Port	Tx-Bps 1m	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	518.054 Mbps	112.278 Mbps	1 Gbps	192.168.209.50	00:60:e0:7b:0b:de

Endpoint	Tx-Bps 1m	Rx-Bps 1m	TxPkts	RxPkts	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_udp-1.1-1.wlan6--1.0.0-A	20.028 Kbps	67.56 Mbps	6114	19829075	186	221	0	60.374
cv_udp-1.1-1.wlan6--1.0.0-B	163.701 Mbps	19.898 Kbps	50040517	6113	35	221	18	0
cv_udp-1.1-1.wlan6--1.0.1-A	112.006 Mbps	0 bps	33058758	0	0	83	0	0
cv_udp-1.1-1.wlan6--1.0.1-B	0 bps	49.721 Mbps	0	15803590	83	83	0	52.196
cv_udp-1.1-1.wlan0--1.0.3-A	19.931 Kbps	173.376 Mbps	6113	53057168	75	91	0	48.919
cv_udp-1.1-1.wlan0--1.0.3-B	339.983 Mbps	19.864 Kbps	103928406	6102	16	91	8	0.180
cv_udp-1.1-1.wlan0--1.0.4-A	161.28 Mbps	0 bps	62888949	0	0	121	0	0
cv_udp-1.1-1.wlan0--1.0.4-B	0 bps	60.53 Mbps	0	18471927	121	121	0	70.628



Key Performance Indicators CSV

Test configuration and LANforge software version	
Auto-Helper	true
Skip 2.4Ghz Tests	false
Skip 5Ghz Tests	false
Skip 5Gzh-B Tests	true
Skip Dual-Band Tests	false
Skip Tri-Band Tests	true
Use BSSID	true
Set Radio TxPower to Default	false
Loop Iterations:	1
2.4Ghz Station Count:	2
5Ghz Station Count:	2
Dual-Band Station Count:	2
5Ghz-B Station Count:	64
Tri-Band Station Count:	64
Duration-20	20
Hunt Retries:	1
Maximum Hunt Iterations:	100
Multi-Conn	1
ToS	0
Upstream Port	1.1.1 eth1 Firmware: 0. 6-1 Resource: ct523c-0bdd
Stability Duration:	6 h
Concurrent Ports to Reset:	5
Minimum Time between Resets:	10000
Maximum Time between Resets:	60000
Long-Term Station Count:	2
VOIP Call Count:	5
Percent:	1000000
Open:	25
PSK:	500
Enterprise:	500
Stability stall threshold UDP Upload:	100000
Stability stall threshold UDP Download:	10000000
Stability stall threshold TCP Upload:	100000
Stability stall threshold TCP Download:	100000

Stability stall threshold Video:	100000
Stability stall threshold VOIP:	20000
Stability Multicast Min Download Rate:	100000
Stability Multicast Max Download Rate:	0
Stability UDP Min Download Rate:	500000
Stability UDP Max Download Rate:	0
Stability UDP Min Upload Rate:	500000
Stability UDP Max Upload Rate:	0
Stability TCP Min Download Rate:	500000
Stability TCP Max Download Rate:	0
Stability TCP Min Upload Rate:	500000
Stability TCP Max Upload Rate:	0
Long-Term Duration:	1 h
Long-Term Graph Interval:	30
Long-Term Download Rate:	85%
Video Emulation Rate:	20000000
Video Buffer Size:	1000000
Long-Term Upload Rate:	85%
Use Packet Sizes	false
Reset Radios	false
Use Packet Sizes	false
Always expect 5g	false
Spatial Streams	AUTO
Bandwidth	AUTO
Modes	Auto
WiFi Radio 0	1.1.8 wiphy6 Firmware: 10.4b-ct-9984-xtH-13-774502ee5 Resource: ct523c-0bdd
WiFi Radio 1	Resource: ct523c-0bdd
WiFi Radio 2	Resource: ct523c-0bdd
WiFi Radio 3	1.1.4 wiphy2 Firmware: 10.4b-ct-9984-xtH-13-774502ee5 Resource: ct523c-0bdd
WiFi Radio 4	1.1.6 wiphy4 Firmware: 10.4b-ct-9984-xtH-13-774502ee5 Resource: ct523c-0bdd
WiFi Radio 0	1.1.9 wiphy7 Firmware: 10.4b-ct-9984-xtH-13-774502ee5 Resource: ct523c-0bdd
WiFi Radio 1	Resource: ct523c-0bdd
WiFi Radio 2	Resource: ct523c-0bdd
WiFi Radio 3	1.1.5 wiphy3 Firmware: 10.4b-ct-9984-xtH-13-774502ee5 Resource: ct523c-0bdd
WiFi Radio 4	1.1.7 wiphy5 Firmware: 10.4b-ct-9984-xtH-13-774502ee5 Resource: ct523c-0bdd
WiFi Radio 0	Resource: ct523c-0bdd
WiFi Radio 1	Resource: ct523c-0bdd
Pass-Fail Tput Criteria	
Show Events	true
Build Date	Fri 15 Oct 2021 07:29:34 PM PDT
Build Version	5.4.4
Git Version	567c834feddf61c78bea4b8e7b5a007bae6f4667

CSV Data

META Information for AP-Auto


Candela
TECHNOLOGIES