TR-398 Issue 4

WiFi Performance Test Plan

Mon Sep 16 22:38:24 PDT 2024

Test Setup Information	
Device Under Test	[hidden]
Operator	Ben Greear
Estimated Run Time	30 m
Actual Run Time	9.116 m

Objective

The TR-398 Issue 4 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, Long-term Stability and Mesh performance 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 tests available. Most tests can run fully automated, though some require user interaction. 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 by more detailed results for each test.

Summary Results

<table>
<tr><th>Test</th><th>Result</th><th>Candela Score</th><th>Elapsed</th><th>Info</th></tr>
<tr>
<td>6.5.6 MLO 2-Channel Test</td>
<td>
<table>
<tr><th>BW</th><th>n/AC</th><th>AX</th><th>BE</th></tr>
<tr><td>2.4Ghz</td><td></td><td></td><td></td></tr>
<tr><td>5Ghz</td><td></td><td></td><td></td></tr>
<tr><td>6Ghz</td><td></td><td></td><td></td></tr>
<tr><td>MLO</td><td></td><td></td><td>Pass</td></tr>
</table>
</td>
<td>120</td>
<td>8.41 m</td>
<td>Passed 5 / 5
5GHz Interferer: STA: MODE_BE : 902.60 Mbps
5GHz Interferer: Alien: MODE_BE : 473.55 Mbps
6GHz Interferer: STA: MODE_BE : 989.10 Mbps
6GHz Interferer: Alien: MODE_BE : 487.99 Mbps</td>
</tr>
</table>

6.5.6 MLO 2-Channel Test

Summary

MLO test verifies DUT AP will select the best of two links when interfering traffic is found on one or both links. To ensure link parity, bandwidth will be set to 80Mhz on both 5GHz and 6GHz.

Test Setup

1. Alien AP-5 is used to create 80Mhz traffic to STA2 on channel 36.

2. Alien AP-6 is used to create 80Mhz traffic to STA3 on 6GHz channel 37.
3. Alien APs should have signal between -30 to -65 as heard by the DUT AP.
4. Alien APs must NOT use BSS Coloring.
5. Alien APs may use any wifi mode appropriate for the band and bandwidth (n/ac/ax/be).
6. STA must enable MLO on 5GHz and 6GHz bands.
7. Alien STA2 and STA3 should use 1 spatial stream.
8. Alien APs may be created by the Testbed, or may be an off-the-shelf AP.

Test Procedure

1. DUT AP is set to default TR398 test settings for 802.11BE 5GHz.
2. DUT AP is set to default TR398 test settings for 802.11BE 6GHz, except that it will use 80MHz bandwidth instead of 320MHz.
3. DUT AP enables MLO on the 5GHz and 6GHz links.
4. Configure 0 AAV attenuation for the current band between test STA and DUT AP.
5. Configure STA to enable MLO and connect to the DUT AP's MLO SSID.
6. Alien AP and STA2 are set to be admin down.
7. Measure the STA downlink TCP throughput, using a test time of 120 seconds. This is the baseline throughput. Record throughput as THROUGHPUT_DUT and stop traffic.
8. Configure Alien AP-5 for channel 36 and 80Mhz.
9. Configure Alien AP-6 for 6GHz channel 37 and 80Mhz.
10. Configure Alien STA2 to use 1 NSS and to connect to the Alien AP-5.
11. Configure Alien STA3 to use 1 NSS and to connect to the Alien AP-6.
12. Create TCP Downlink test between Alien AP-5 and STA2.
13. Measure the Alien STA2 downlink TCP Throughput, using a test time of 120 seconds and record throughput as THROUGHPUT_ALIEN_5 and stop traffic.
14. Create TCP Downlink test between Alien AP-6 and STA3.
15. Measure the Alien STA3 downlink TCP Throughput, using a test time of 120 seconds and record throughput as THROUGHPUT_ALIEN_6 and stop traffic.
16. Concurrently run STA TCP downlink at maximum speed, and Alien STA2 TCP downlink at maximum speed for a period of 120 seconds. Record STA downlink traffic rate as THROUGHPUT_DUT_CONGESTED_5. Record Alien STA2 TCP Downlink traffic rate as THROUGHPUT_ALIEN_CONGESTED_5 and stop all traffic.
17. Concurrently run STA TCP downlink at maximum speed, and Alien STA3 TCP downlink at maximum speed for a period of 120 seconds. Record STA downlink traffic rate as THROUGHPUT_DUT_CONGESTED_6. Record Alien STA3 TCP downlink traffic rate as THROUGHPUT_ALIEN_CONGESTED_6 and stop all traffic.

Pass/Fail Criteria

Passing values for this test require that the traffic be at least some percentage of the baseline throughput. It is expected that the MLO STA traffic will automatically move to the uncongested link, so over-all, throughput should be similar to baseline.

1. THROUGHPUT_DUT must be at least 800Mbps.
2. THROUGHPUT_ALIEN_CONGESTED_5 must be at least 80% of THROUGHPUT_ALIEN_5.
3. THROUGHPUT_ALIEN_CONGESTED_6 must be at least 80% of THROUGHPUT_ALIEN_6.
4. THROUGHPUT_DUT_CONGESTED_5 must be at least 80% of THROUGHPUT_DUT.
5. THROUGHPUT_DUT_CONGESTED_6 must be at least 80% of THROUGHPUT_DUT.

Candela Score

The score is ((total_dut_congested_tput + total_alien_congested_tput) * 120.0 / (total_alien_tput + total_dut_tput).

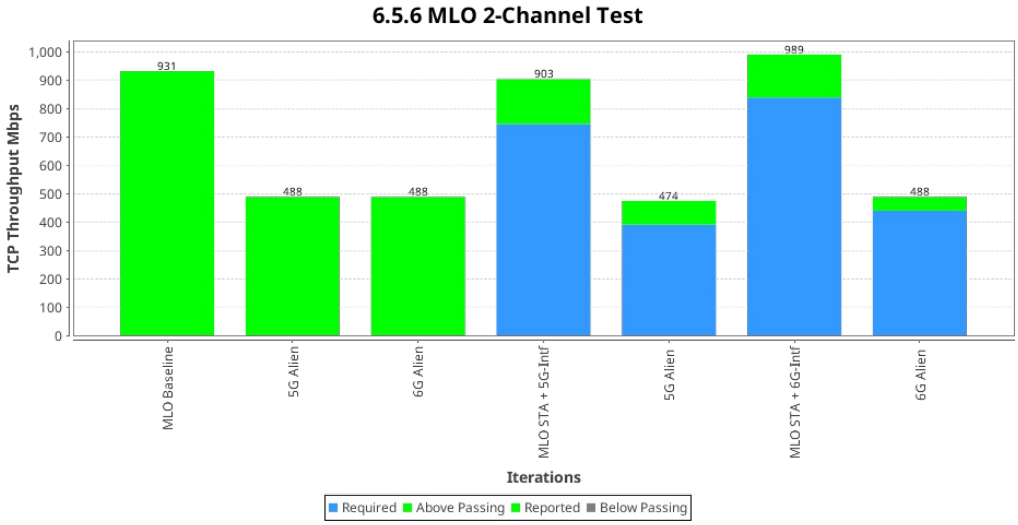
6.5.6 MLO 2-Channel Test Results

Type	Result	Value	P/F Value	Notes
Configuration NOTE	INFO			Using LANforge AP for Alien Interferer.
Reconfigure AP				

for 80MHz Mon Sep 16 22:28:50 PDT 2024	INFO			/home/greearb/ssh_remote.py --ip 192.168.101.212 --remote_args r6g set=bw:80 Response: Hidden: Anonymize-AP is enabled.
Reconfigure AP for 80MHz Mon Sep 16 22:28:50 PDT 2024	INFO			/home/greearb/ssh_remote.py --ip 192.168.101.212 --remote_args r5g set=bw:80 Response: Hidden: Anonymize-AP is enabled.
BE Baseline MLO STA	PASS	931	800	Baseline MLO STA Req: 800.00 Mbps Rpt: 930.66 Mbps STA-RSSI Data/Beacon: 0/0 Rx-Rate: 0bps Tx-Rate: 1.201G Activity: 0% 802.11a-BE-80-2x2 36 Available Links [1:36 2:37e] Active [2:37e]
BE 5GHz ch: 36	INFO			Calibrated alien rate at: 488.01 Mbps 1.3.28 wlan0 STA-RSSI Data/Beacon: -47/-42 Rx-Rate: 600.4M Tx-Rate: 600.4M Activity: 0% 802.11an-AX-80-1x1 36 1.5.10 vap1000 STA-RSSI Data/Beacon: -61/0 Rx-Rate: 600.4M Tx-Rate: 1.201G Activity: 84% 802.11an-AX-80- 36
BE 6GHz ch: 37e	INFO			Calibrated alien rate at: 487.72 Mbps 1.3.30 wlan1 STA-RSSI Data/Beacon: -51/-47 Rx-Rate: 600.4M Tx-Rate: 540.3M Activity: 0% 802.11a-AX-80-1x1 37e 1.5.12 vap1200 STA-RSSI Data/Beacon: -77/0 Rx-Rate: 600.4M Tx-Rate: 1.201G Activity: 86% 802.11an-AX-80- 37e
BE 5GHz STA Interferer: 5GHz	PASS	903	745	STA Req: 744.53 Mbps Rpt: 902.60 Mbps STA-RSSI Data/Beacon: -30/0 Rx-Rate: 1.201G Tx-Rate: 720.6M Activity: 0% 802.11a-BE-80-2x2 36 Available Links [1:36 2:37e] Active [1:36 2:37e] Alien Expected Load: 488.01 Mbps Alien Throughput: 473.55 Mbps Interferer: 1.3.28 wlan0 STA-RSSI Data/Beacon: -47/-42 Rx-Rate: 600.4M Tx-Rate: 600.4M Activity: 0% 802.11an-AX-80-1x1 36 Upstream: 1.5.10 vap1000 STA-RSSI Data/Beacon: -61/0 Rx-Rate: 600.4M Tx-Rate: 1.201G Activity: 92% 802.11an-AX-80- 36
BE 5GHz Alien Interferer: 5GHz	PASS	474	390	Alien Req: 390.41 Mbps Rpt: 473.55 Mbps STA-RSSI Data/Beacon: -30/0 Rx-Rate: 1.201G Tx-Rate: 720.6M Activity: 0% 802.11a-BE-80-2x2 36 Available Links [1:36 2:37e] Active [1:36 2:37e] Alien Expected Load: 488.01 Mbps Alien Throughput: 473.55 Mbps Interferer: 1.3.28 wlan0 STA-RSSI Data/Beacon: -47/-42 Rx-Rate: 600.4M Tx-Rate: 600.4M Activity: 0% 802.11an-AX-80-1x1 36 Upstream: 1.5.10 vap1000 STA-RSSI Data/Beacon: -61/0 Rx-Rate: 600.4M Tx-Rate: 1.201G Activity: 92% 802.11an-AX-80- 36
BE 6GHz STA Interferer: 6GHz	PASS	989	838	STA Req: 837.59 Mbps Rpt: 989.10 Mbps STA-RSSI Data/Beacon: -30/0 Rx-Rate: 1.441G Tx-Rate: 288.2M Activity: 0% 802.11a-BE-80-2x2 36 Available Links [1:36 2:37e] Active [1:36] Alien Expected Load: 487.72 Mbps Alien Throughput: 487.99 Mbps Interferer: 1.3.30 wlan1 STA-RSSI Data/Beacon: -51/-47 Rx-Rate: 600.4M Tx-Rate: 540.3M Activity: 0% 802.11a-AX-80-1x1 37e Upstream: 1.5.12 vap1200 STA-RSSI Data/Beacon: -77/0 Rx-Rate: 540.3M Tx-Rate: 1.201G Activity: 93% 802.11an-AX-80- 37e
BE 6GHz Alien Interferer: 6GHz	PASS	488	439	Alien Req: 438.95 Mbps Rpt: 487.99 Mbps STA-RSSI Data/Beacon: -30/0 Rx-Rate: 1.441G Tx-Rate: 288.2M Activity: 0% 802.11a-BE-80-2x2 36 Available Links [1:36 2:37e] Active [1:36] Alien Expected Load: 487.72 Mbps Alien Throughput: 487.99 Mbps Interferer: 1.3.30 wlan1 STA-RSSI Data/Beacon: -51/-47 Rx-Rate: 600.4M Tx-Rate: 540.3M Activity: 0% 802.11a-AX-80-1x1 37e Upstream: 1.5.12 vap1200 STA-RSSI Data/Beacon: -77/0 Rx-Rate: 540.3M Tx-Rate: 1.201G Activity: 93% 802.11an-AX-80- 37e
Reconfigure AP				

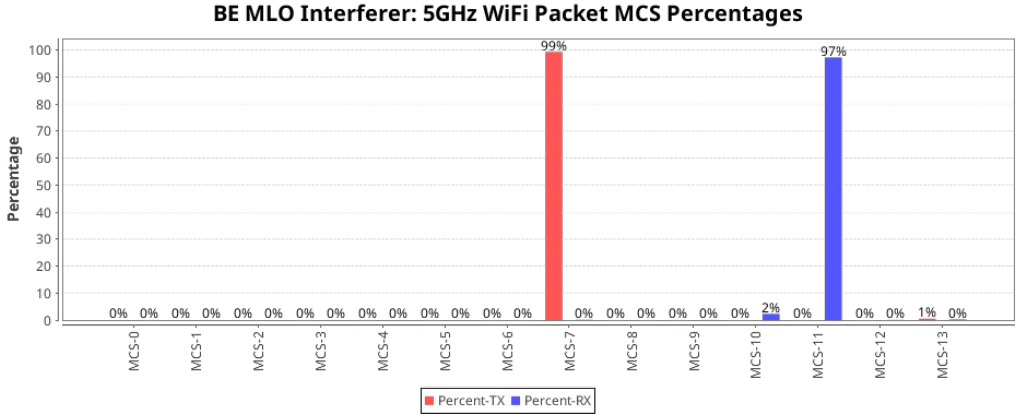
for 320MHz Mon Sep 16 22:37:13 PDT 2024	INFO			/home/greearb/ssh_remote.py --ip 192.168.101.212 --remote_args r6g set=bw:320 Response: Hidden: Anonymize-AP is enabled.
Reconfigure AP for 320MHz Mon Sep 16 22:37:13 PDT 2024	INFO			/home/greearb/ssh_remote.py --ip 192.168.101.212 --remote_args r5g set=bw:80 Response: Hidden: Anonymize-AP is enabled.

CSV Data for 6.5.6 MLO 2-Channel Test



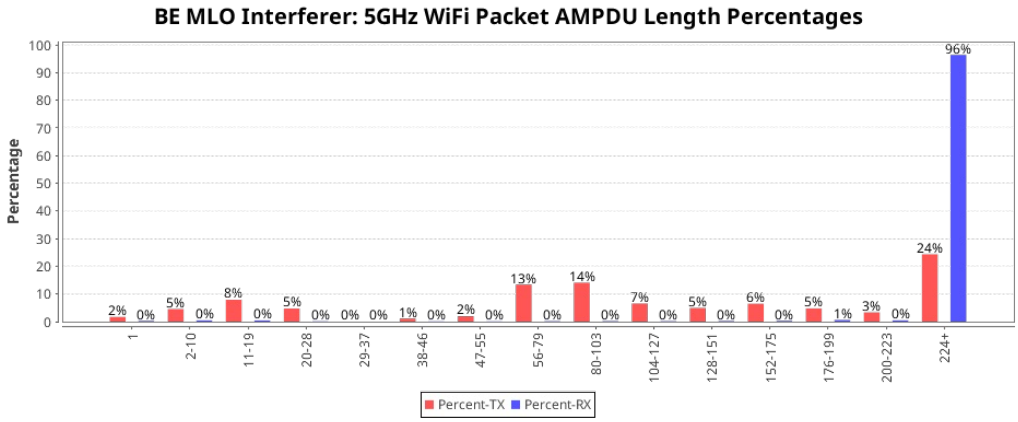
Histogram for WiFi MCS for packets sent and received by the wifi radios in the test.

CSV Data for BE MLO Interferer: 5GHz WiFi Packet MCS Percentages



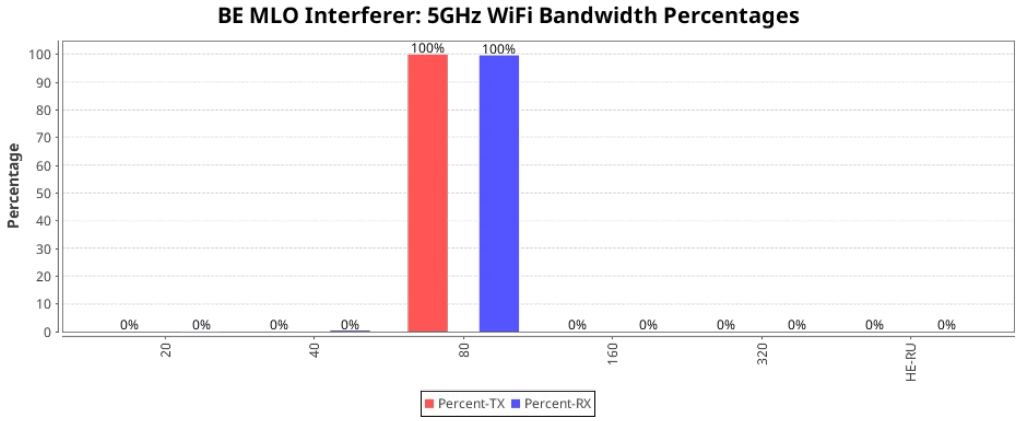
Block-Ack allows a series of frames to be sent in one transmit opportunity. This series of packets is known as a series of AMPDU frames. Having more frames in each AMPDU series normally improves throughput, but may increase latency or decrease airtime fairness. This histogram provides some visibility into the AMPDU chain length used in this test.

CSV Data for BE MLO Interferer: 5GHz WiFi Packet AMPDU Length Percentages



Histogram for WiFi bandwidths for packets sent and received by the wifi radios in the test.

CSV Data for BE MLO Interferer: 5GHz WiFi Bandwidth Percentages



Collected CSV Data: CSV: 6.5.6 MLO 2-Channel Test 5GHz BE Interferer: 5GHz

MLO 2-Link: Snapshot BE 5GHz Interferer: 5GHz

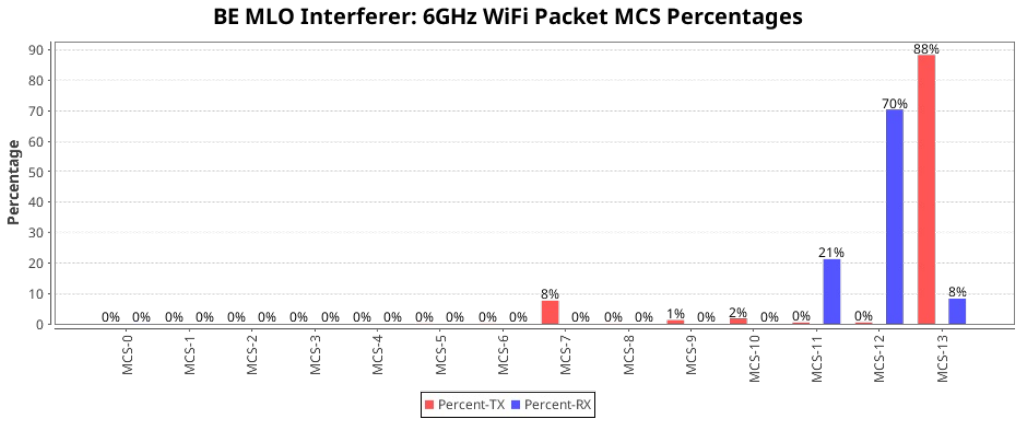
Port	Tx-Bps 1m	Rx-Bps 1m	Tx-Fail %	Tx Link-Rate	Rx Link-Rate	Mode	Channel	Last CX-Time (ms)	RSSI (dBm)	AP	IP	MAC
1.4.14 wlan0	5.866 Mbps	926.842 Mbps	0	720.6 Mbps	1.201 Gbps	802.11a-BE 80 2x2	36	164	-30	[hidden]	192.168.1.202	e4:60:17:65:83:8f
MLO 1.4.wlan0.1	3.7 Mbps	1.38 Mbps	6.035	720.60 Mbps	1,200.90 Mbps		36		-30			
MLO 1.4.wlan0.2	3.7 Mbps	393.978 Mbps	6.035	720.60 Mbps	1,200.90 Mbps		37e		-40			
1.3.28 wlan0	1.195 Mbps	378.902 Mbps	2.19	600.4 Mbps	600.4 Mbps	802.11an-AX 80 1x1	36	138	-47	[hidden]	172.17.0.51	e4:60:17:64:e0:33

Port	Tx-Bps 1m	Rx-Bps 1m	Link-Rate	IP	MAC
1.3.2 eth2 (LAN)	692.237 Mbps	3.542 Mbps	10 Gbps	192.168.1.220	9c:69:b4:63:76:c4

Endpoint	Tx-Bps 1m	Rx-Bps 1m	TxPkts	RxPkts	RX Lat (ms)	RT Lat (ms)	Jitter	Rx Pkt Loss %	Rx OOO %	Rx DUP	Rx Seq Drop
cv_tcp-3.2-4.wlan0--1.0.0-A	0 bps	495.012 Mbps	0	56693	1,690	1,690	895	0	0	0	0
cv_tcp-3.2-4.wlan0--1.0.0-B	494.702 Mbps	0 bps	56750	0	0	1,690	0	0	0	0	0
cv_tcp-3.2-4.wlan0--1.0.1-A	0 bps	407.489 Mbps	0	46689	1,449	1,449	724	0	0	0	0
cv_tcp-3.2-4.wlan0--1.0.1-B	407.363 Mbps	0 bps	46740	0	0	1,449	0	0	0	0	0
cv_tcp-5.10-3.wlan0--1.0.3-A	0 bps	473.553 Mbps	0	54284	5,114	5,114	450	0	0	0	0
cv_tcp-5.10-3.wlan0--1.0.3-B	481.988 Mbps	0 bps	53950	0	0	5,114	0	0	0	0	0

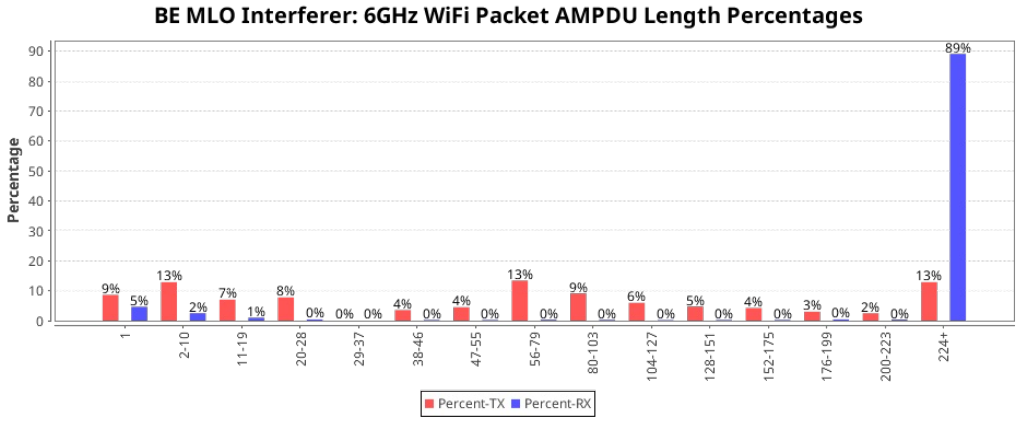
Histogram for WiFi MCS for packets sent and received by the wifi radios in the test.

CSV Data for BE MLO Interferer: 6GHz WiFi Packet MCS Percentages



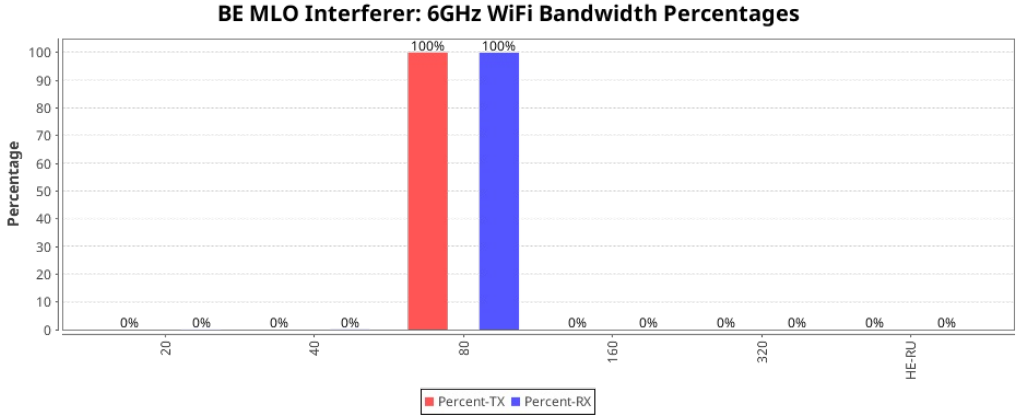
Block-Ack allows a series of frames to be sent in one transmit opportunity. This series of packets is known as a series of AMPDU frames. Having more frames in each AMPDU series normally improves throughput, but may increase latency or decrease airtime fairness. This histogram provides some visibility into the AMPDU chain length used in this test.

CSV Data for BE MLO Interferer: 6GHz WiFi Packet AMPDU Length Percentages



Histogram for WiFi bandwidths for packets sent and received by the wifi radios in the test.

CSV Data for BE MLO Interferer: 6GHz WiFi Bandwidth Percentages



Collected CSV Data: CSV: 6.5.6 MLO 2-Channel Test 6GHz BE Interferer: 6GHz

MLO 2-Link: Snapshot BE 6GHz Interferer: 6GHz

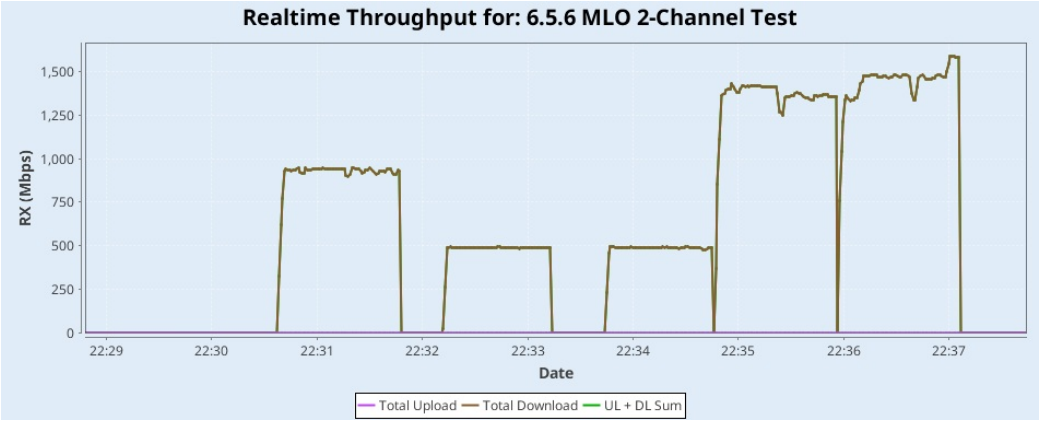
Port	Tx-Bps 1m	Rx-Bps 1m	Tx-Fail %	Tx Link-Rate	Rx Link-Rate	Mode	Channel	Last CX-Time (ms)	RSSI (dBm)	AP	IP	MAC
1.4.14 wlan0	5.272 Mbps	1.004 Gbps	0	288.2 Mbps	1.441 Gbps	802.11a-BE 80 2x2	36	164	-30	[hidden]	192.168.1.202	e4:60:17:65:83:8f

MLO 1.4.wlan0.1	3.983 Mbps	170.674 Mbps	4.948	288.20 Mbps	1.441.10 Mbps		36		-30			
1.3.30 wlan1	1.644 Mbps	506.027 Mbps	0.359	540.3 Mbps	600.4 Mbps	802.11a-AX 80 1x1	227	0	-51	[hidden]	172.18.100.204	e4:60:17:65:34:7f

Port	Tx-Bps 1m	Rx-Bps 1m	Link-Rate	IP	MAC
1.3.2 eth2 (LAN)	990.884 Mbps	4.31 Mbps	10 Gbps	192.168.1.220	9c:69:b4:63:76:c4

Endpoint	Tx-Bps 1m	Rx-Bps 1m	TxPkts	RxPkts	RX Lat (ms)	RT Lat (ms)	Jitter	Rx Pkt Loss %	Rx OOO %	Rx DUP	Rx Seq Drop
cv_tcp-3.2-4.wlan0--1.0.0-A	0 bps	576.135 Mbps	0	65988	977	977	771	0	0	0	0
cv_tcp-3.2-4.wlan0--1.0.0-B	577.464 Mbps	0 bps	65895	0	0	977	0	0	0	0	0
cv_tcp-3.2-4.wlan0--1.0.1-A	0 bps	413.428 Mbps	0	47306	2,121	2,121	831	0	0	0	0
cv_tcp-3.2-4.wlan0--1.0.1-B	414.096 Mbps	0 bps	47225	0	0	2,121	0	0	0	0	0
cv_tcp-5.12-3.wlan1--1.0.3-A	0 bps	488.125 Mbps	0	55892	4,386	4,386	146	0.077	0	0	0
cv_tcp-5.12-3.wlan1--1.0.3-B	488.393 Mbps	0 bps	55935	0	0	4,386	0	0	0	0	0

Realtime Throughput for: 6.5.6 MLO 2-Channel Test



6.5.6 MLO 2-Channel Test Log	Key Performance Indicators CSV

Test configuration and LANforge software version	
Auto-Helper	true
Allow-11w (MFP/PMF)	false
SAE-PWE	2
Disable-MLO	true
Extra TxStatus	false
Extra RxStatus	false
TXS All	false
Skip 2.4Ghz Tests	true
Skip 5Ghz Tests	false
Duration-120	60
Duration-60	60
Channel 2GHz	AUTO
Channel 5GHz	AUTO
Channel 6GHz	227
Prefer Group 0	true
Prefer Group 1	false
Prefer Group 2	false
Calibrate against LANforge AP	true

Adjust UL Atten with DUT TxPower	false
Adjust UL Atten with STA TxPower	false
Attenuation Adjustment	0
Extra Download Path-loss	0
TX Power	20
DUT TX Power 2.4G	30
DUT TX Power 5G	30
LANforge Calibration TxPower-2.4G	20
LANforge Calibration TxPower-5G	20
Multi-Conn	10
Use-IPv6	false
UDP-Burst	false
UDP-GRO	false
Multiple Endpoints:	2
ToS	0
Pld Pattern	RANDOM_FIXED
UDP Send Buffer Size:	0
UDP Receive Buffer Size:	0
TCP Send Buffer Size:	0
TCP Receive Buffer Size:	0
Upstream Port	1.3.2 LAN Firmware: 0x80000aef, 1.1876.0 Resource: 102-tr398-r3
Alien Upstream Port	1.1.2 eth2 Firmware: 0x80000c67, 1.1276.0 Resource: 102-tr398-mgr
Turn-Table Chamber	840B-Default-Chamber
Configured 2m 2.4GHz RSSI	-25
Configured 2m 5GHz RSSI	-30
Use Virtual AX Stations	false
Use AX Radios for AC tests	true
Virt-Sta Rotation 2.4GHz	0
Virt-Sta Rotation 5GHz	0
AX Rotation 2.4GHz	45
AX Rotation 5GHz	45
Opposite-Speed:	0
1Gbps Throughput Limit:	925000000
6.5.2 AP Coexistence Test	
LANforge-AP is Interferer	true
Use 40Mhz DUT to Avoid DFS	true
Use Node-1 STA	false
Auto-Calibrate Interferer	true
Interferer AP in Node-1	false

Calibrate Alien with DUT Down	false
Disable AP ACS	false
Interferer DUT 5G:	
Interferer DUT 6G:	
Upstream Alien Port:	1.1.2 eth2
Interferer DUT 2.4G:	
2GHz Alien STA Radio:	1.3.4 wiphy0
5GHz Alien STA Radio:	1.3.4 wiphy0
2GHz Alien AP Radio:	1.5.4 wiphy0
5GHz Alien AP Radio:	1.5.5 wiphy1
6GHz Alien AP Radio:	1.5.6 wiphy2
6GHz Alien STA Radio:	1.3.4 wiphy0
Alien AP TxPower:	0
Alien STA TxPower:	10
Interferer AC 5G-80Mhz:	195000000
Interferer AC 5G-40Mhz:	90000000
Interferer AC 2.4G-20Mhz:	32000000
Interferer AX 5G-80Mhz:	195000000
Interferer AX 5G-40Mhz:	90000000
Interferer AX 2.4G-20Mhz:	32000000
Re-configure Timer:	30
6.5.6 MLO 2-Channel Test	
LANforge-AP is Interferer	true
Use Node-1 STA	false
Interferer in Node-1	false
Manually Configure AP	false
Disable ACS	false
Skip AP Reconfig	false
AP Re-configure Timer:	30
5GHz Alien STA Radio:	1.3.4 wiphy0
6GHz Alien STA Radio:	1.3.5 wiphy1
5GHz Alien AP Radio:	1.5.5 wiphy1
6GHz Alien AP Radio:	1.5.6 wiphy2
Alien AP TxPower:	20
Alien STA TxPower:	20
Virt-Sta Radio 1	1.4.wiphy0 Firmware: 92.67ce4588.0 gl-c0-fm-c0-92.uc Resource: 102-tr398-r4
AX Radio 0	1.4.wiphy0 Firmware: 92.67ce4588.0 gl-c0-fm-c0-92.uc Resource: 102-tr398-r4
AX Radio 24	1.3.wiphy0 Firmware: 92.67ce4588.0 gl-c0-fm-c0-92.uc Resource: 102-tr398-r3
AX Radio 25	1.3.wiphy1 Firmware: 92.67ce4588.0 gl-c0-fm-c0-92.uc Resource: 102-tr398-r3

Attenuator 0	rssi-0-2.4GHz: -26 rssi-0-5GHz: -47 atten: 1.2.3343.0
Attenuator 1	rssi-0-2.4GHz: -26 rssi-0-5GHz: -47 atten: 1.2.3343.1
Attenuator 4	rssi-0-2.4GHz: -19 rssi-0-5GHz: -36 atten: 1.2.3342.0
Attenuator 5	rssi-0-2.4GHz: -19 rssi-0-5GHz: -36 atten: 1.2.3342.1
Attenuator 8	rssi-0-2.4GHz: -23 rssi-0-5GHz: -33 atten: 1.2.3340.0
Attenuator 9	rssi-0-2.4GHz: -23 rssi-0-5GHz: -33 atten: 1.2.3340.1
AX Attenuator 0	AX rssi-0-2.4GHz: -29 rssi-0-5GHz: -36 atten: 1.2.7.2
AX Attenuator 1	AX rssi-0-2.4GHz: -29 rssi-0-5GHz: -36 atten: 1.2.7.3
AX Attenuator 4	AX rssi-0-2.4GHz: -31 rssi-0-5GHz: -37 atten: 1.2.3300.2
AX Attenuator 5	AX rssi-0-2.4GHz: -31 rssi-0-5GHz: -37 atten: 1.2.3300.3
AX Attenuator 8	AX rssi-0-2.4GHz: -29 rssi-0-5GHz: -38 atten: 1.2.7.0
AX Attenuator 9	AX rssi-0-2.4GHz: -29 rssi-0-5GHz: -38 atten: 1.2.7.1
AX Attenuator 12	AX rssi-0-2.4GHz: -35 rssi-0-5GHz: -46 atten: 1.2.3300.0
AX Attenuator 14	AX rssi-0-2.4GHz: -35 rssi-0-5GHz: -46 atten: 1.2.3300.1
AX Attenuator 16	AX rssi-0-2.4GHz: -35 rssi-0-5GHz: -46 atten: 1.2.3300.0
AX Attenuator 18	AX rssi-0-2.4GHz: 5 rssi-0-5GHz: -46 atten: 1.2.3300.1
AX Attenuator 20	AX rssi-0-2.4GHz: -35 rssi-0-5GHz: -46 atten: 1.2.3300.0
AX Attenuator 22	AX rssi-0-2.4GHz: -35 rssi-0-5GHz: -46 atten: 1.2.3300.1
AX Attenuator 24	AX rssi-0-2.4GHz: -31 rssi-0-5GHz: -43 atten: 1.2.3348.0
AX Attenuator 26	AX rssi-0-2.4GHz: -31 rssi-0-5GHz: -43 atten: 1.2.3348.1
AX Attenuator 28	AX rssi-0-2.4GHz: -26 rssi-0-5GHz: -27 atten: 1.2.3348.2
AX Attenuator 30	AX rssi-0-2.4GHz: -26 rssi-0-5GHz: -27 atten: 1.2.3348.2
Mesh Attenuator 0	Mesh rssi-0-2.4GHz: -25 rssi-0-5GHz: -30 atten: 1.2.3340.0
Mesh Attenuator 1	Mesh rssi-0-2.4GHz: -25 rssi-0-5GHz: -30 atten: 1.2.3340.1
Mesh Attenuator 2	Mesh rssi-0-2.4GHz: -25 rssi-0-5GHz: -30 atten: 1.2.3340.2
Mesh Attenuator 3	Mesh rssi-0-2.4GHz: -25 rssi-0-5GHz: -30 atten: 1.2.3340.3
Mesh Attenuator 4	Mesh rssi-0-2.4GHz: -25 rssi-0-5GHz: -30 atten:
Mesh Attenuator 5	Mesh rssi-0-2.4GHz: -25 rssi-0-5GHz: -30 atten:
Mesh Attenuator 6	Mesh rssi-0-2.4GHz: -25 rssi-0-5GHz: -30 atten:
Mesh Attenuator 7	Mesh rssi-0-2.4GHz: -25 rssi-0-5GHz: -30 atten:
Mesh Attenuator 8	Mesh rssi-0-2.4GHz: -25 rssi-0-5GHz: -30 atten:
Mesh Attenuator 9	Mesh rssi-0-2.4GHz: -25 rssi-0-5GHz: -30 atten:
Mesh Attenuator 10	Mesh rssi-0-2.4GHz: -25 rssi-0-5GHz: -30 atten:
Mesh Attenuator 11	Mesh rssi-0-2.4GHz: -25 rssi-0-5GHz: -30 atten:
Mesh Attenuator 12	Mesh rssi-0-2.4GHz: -25 rssi-0-5GHz: -30 atten:
Mesh Attenuator 13	Mesh rssi-0-2.4GHz: -25 rssi-0-5GHz: -30 atten:
Mesh Attenuator 14	Mesh rssi-0-2.4GHz: -25 rssi-0-5GHz: -30 atten:
Mesh Attenuator 15	Mesh rssi-0-2.4GHz: -25 rssi-0-5GHz: -30 atten:
Mesh Attenuator 16	Mesh rssi-0-2.4GHz: -25 rssi-0-5GHz: -30 atten:
Mesh Attenuator 17	Mesh rssi-0-2.4GHz: -25 rssi-0-5GHz: -30 atten:
Mesh Attenuator 18	Mesh rssi-0-2.4GHz: -25 rssi-0-5GHz: -30 atten:
Mesh Attenuator 19	Mesh rssi-0-2.4GHz: -25 rssi-0-5GHz: -30 atten:

Mesh Attenuator 20	Mesh rssi-0-2.4GHz: -25 rssi-0-5GHz: -30 atten:
Mesh Attenuator 21	Mesh rssi-0-2.4GHz: -25 rssi-0-5GHz: -30 atten:
Mesh Attenuator 22	Mesh rssi-0-2.4GHz: -25 rssi-0-5GHz: -30 atten:
Mesh Attenuator 23	Mesh rssi-0-2.4GHz: -25 rssi-0-5GHz: -30 atten:
Details for Resource: 1.1	Hostname: 102-tr398-mgr LANforge ver: 5.4.9 64bit Kernel-Version: 6.10.9+
Details for Resource: 1.3	Hostname: 102-tr398-r3 LANforge ver: 5.4.9 64bit Kernel-Version: 6.10.9+
Details for Resource: 1.4	Hostname: 102-tr398-r4 LANforge ver: 5.4.9 64bit Kernel-Version: 6.10.9+
Show Events	true
Build Date	Mon 09 Sep 2024 04:23:06 PM PDT
Git Version	52dd73d4ebb02387e18ad04f71b75c1bfffb58dd

CSV Data

META Information for TR-398 Issue 4