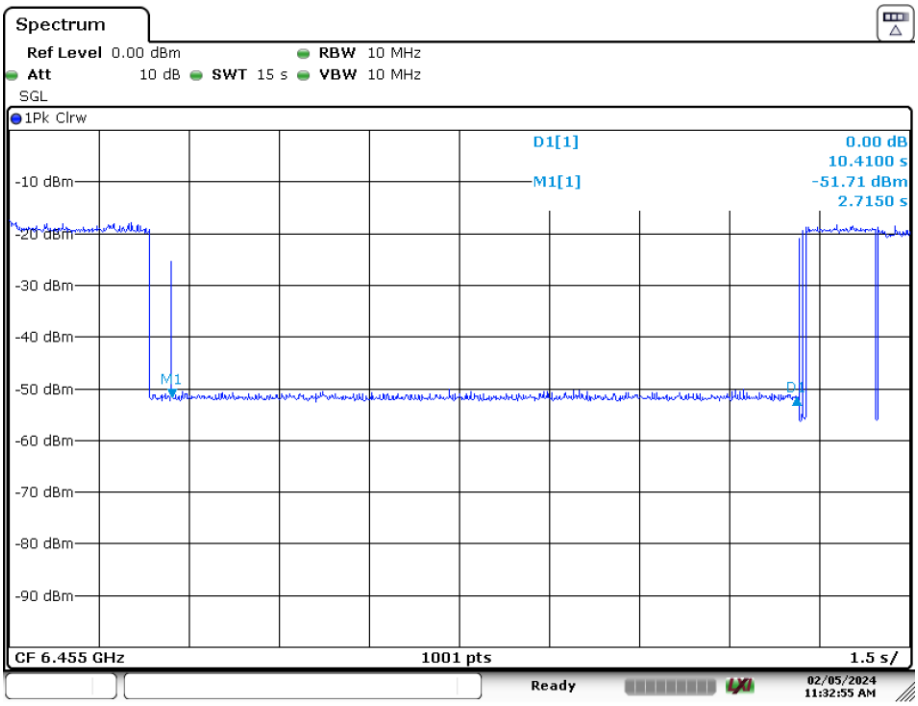
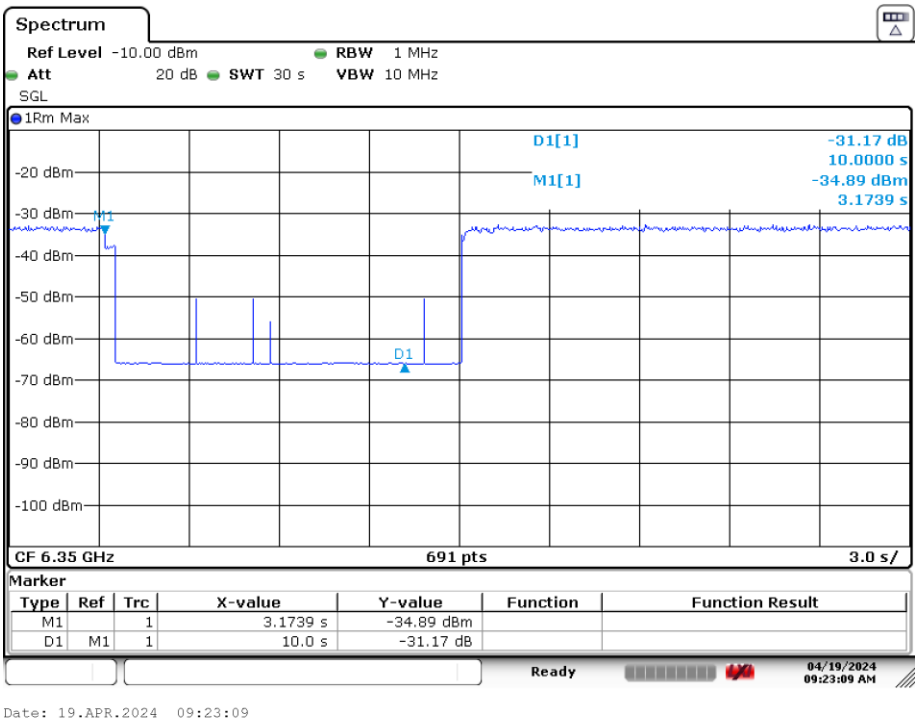


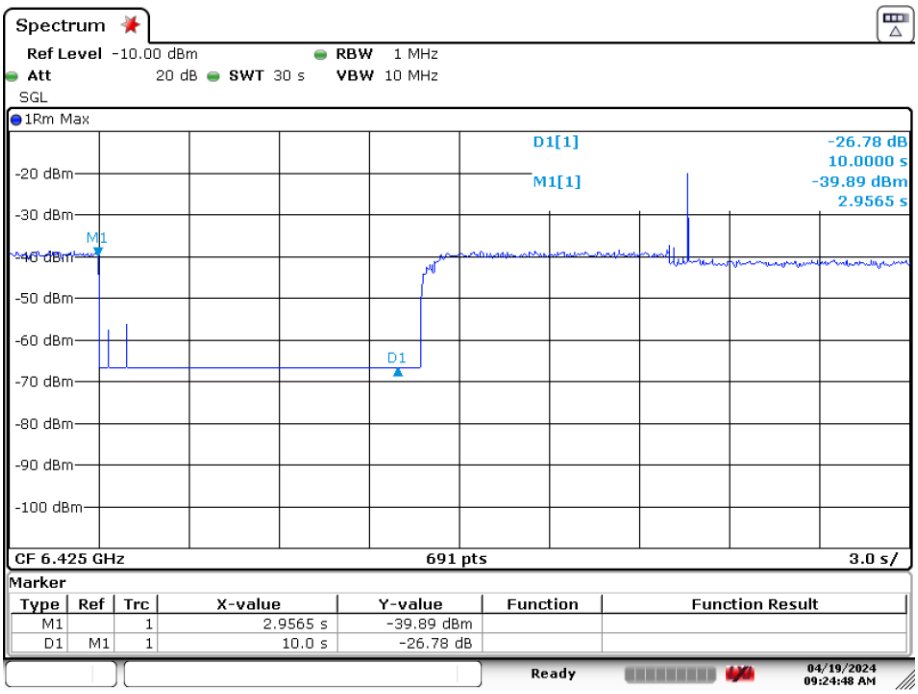
Date: 5.FEB.2024 11:32:55

Plot 7-388. Contention Based Protocol Timing Plot (20MHz (UNII Band 6) – Ch. 101)



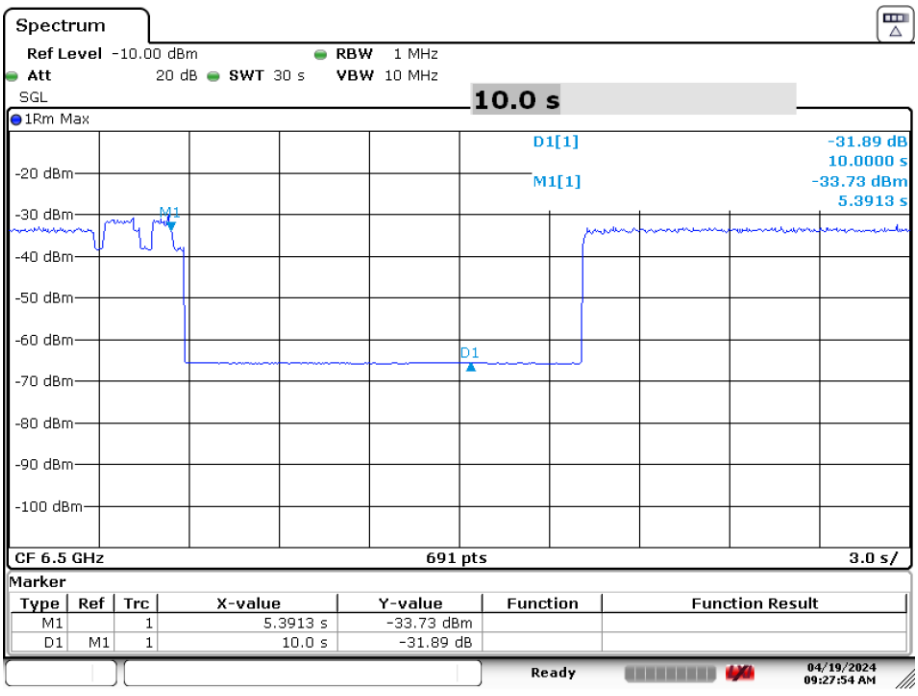
Date: 19.APR.2024 09:23:09

Plot 7-389. Contention Based Protocol Timing Plot (320MHz (UNII Band 6) – Ch. 95 Low)



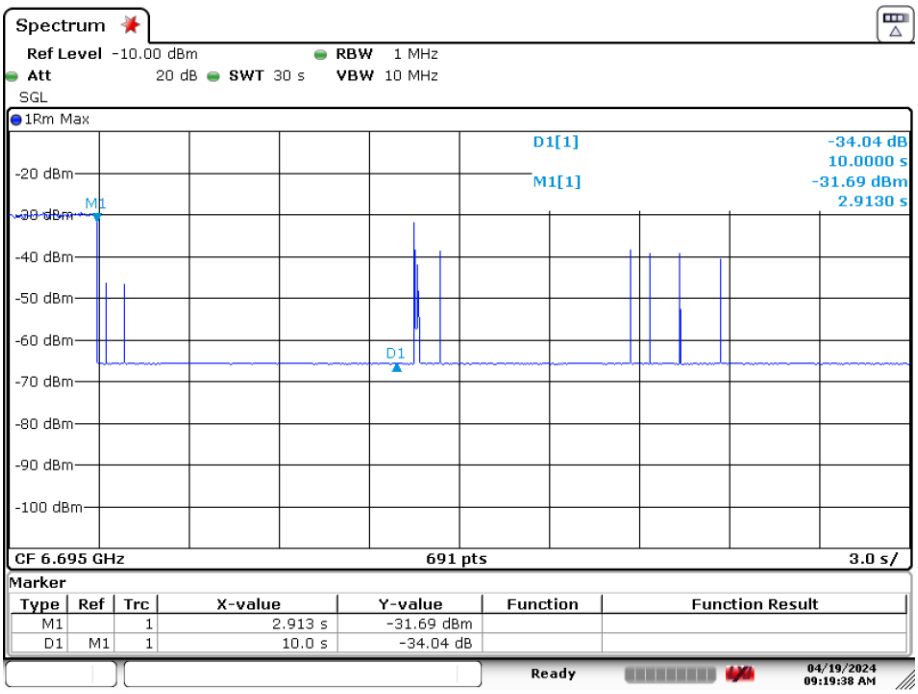
Date: 19.APR.2024 09:24:48

Plot 7-390. Contention Based Protocol Timing Plot (320MHz (UNII Band 6) – Ch. 95 Mid)



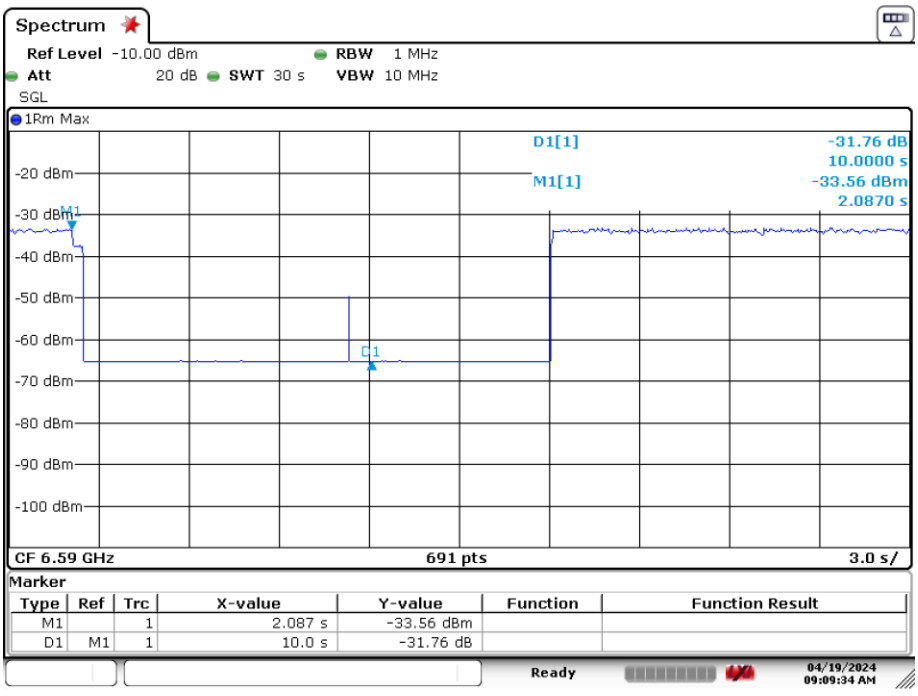
Date: 19.APR.2024 09:27:54

Plot 7-391. Contention Based Protocol Timing Plot (320MHz (UNII Band 6) – Ch. 95 High)



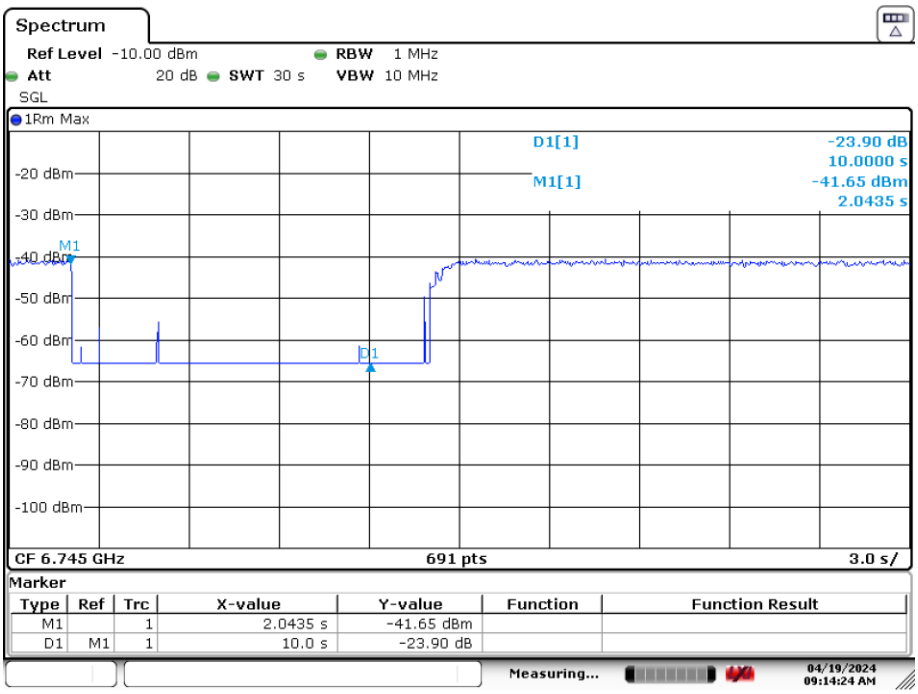
Date: 19.APR.2024 09:19:38

Plot 7-392. Contention Based Protocol Timing Plot (20MHz (UNII Band 7) – Ch. 149)



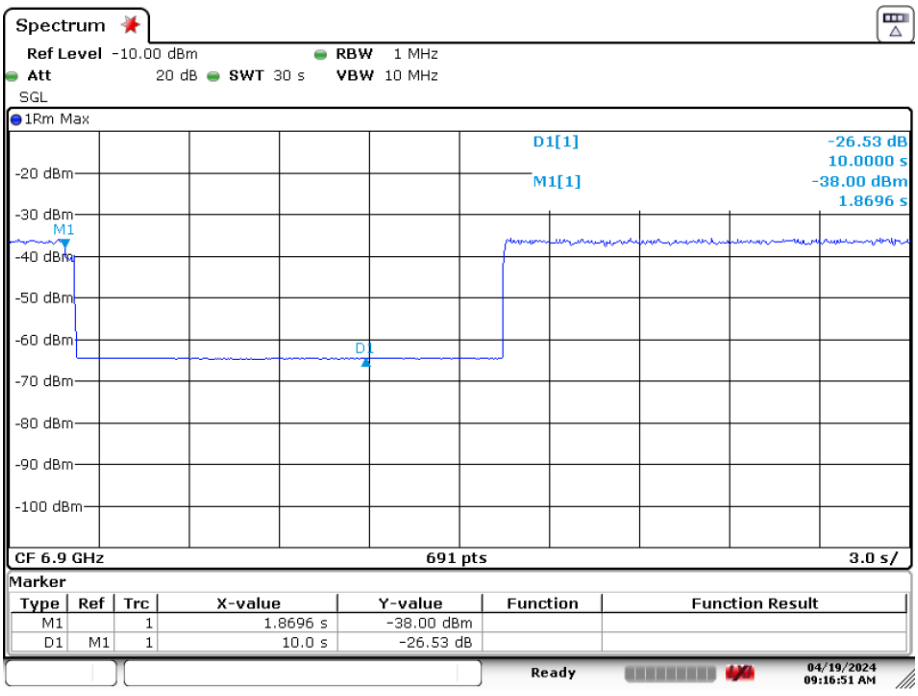
Date: 19.APR.2024 09:09:34

Plot 7-393. Contention Based Protocol Timing Plot (320MHz (UNII Band 7) – Ch. 159 Low)



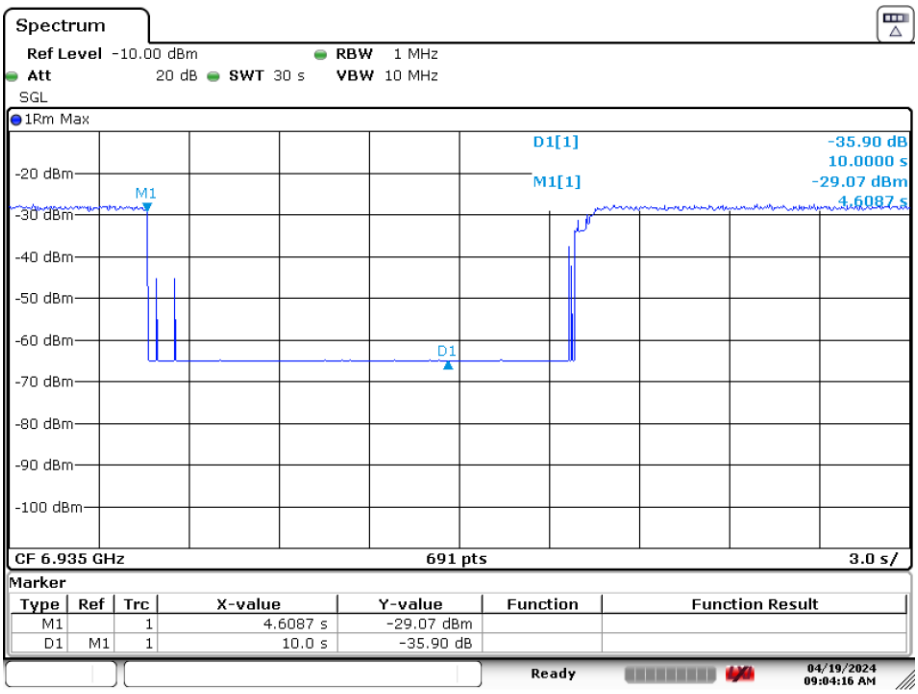
Date: 19.APR.2024 09:14:24

Plot 7-394. Contention Based Protocol Timing Plot (320MHz (UNII Band 7) – Ch. 159 Mid)



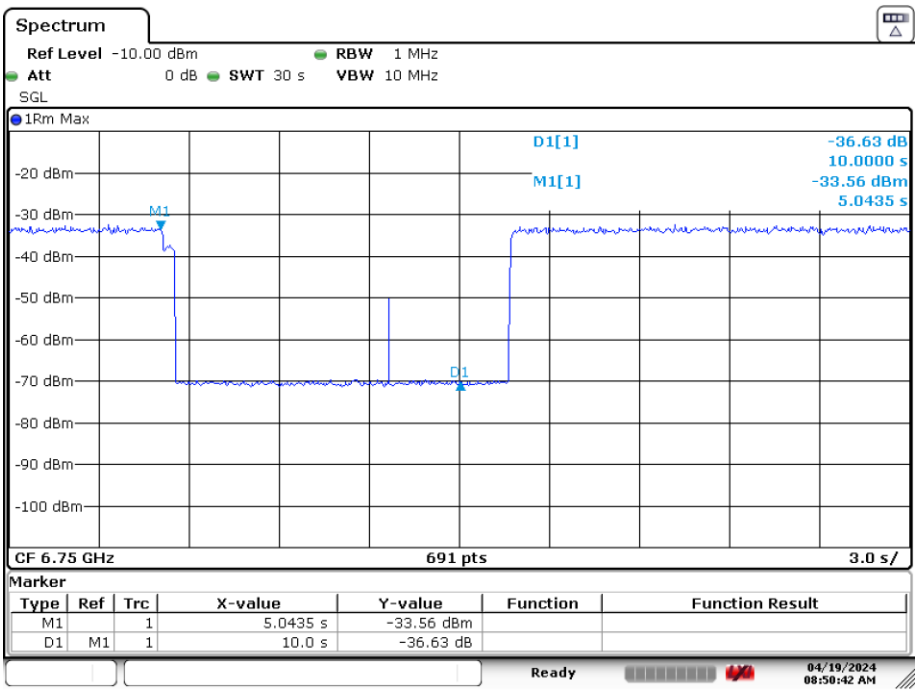
Date: 19.APR.2024 09:16:51

Plot 7-395. Contention Based Protocol Timing Plot (320MHz (UNII Band 7) – Ch. 159 High)



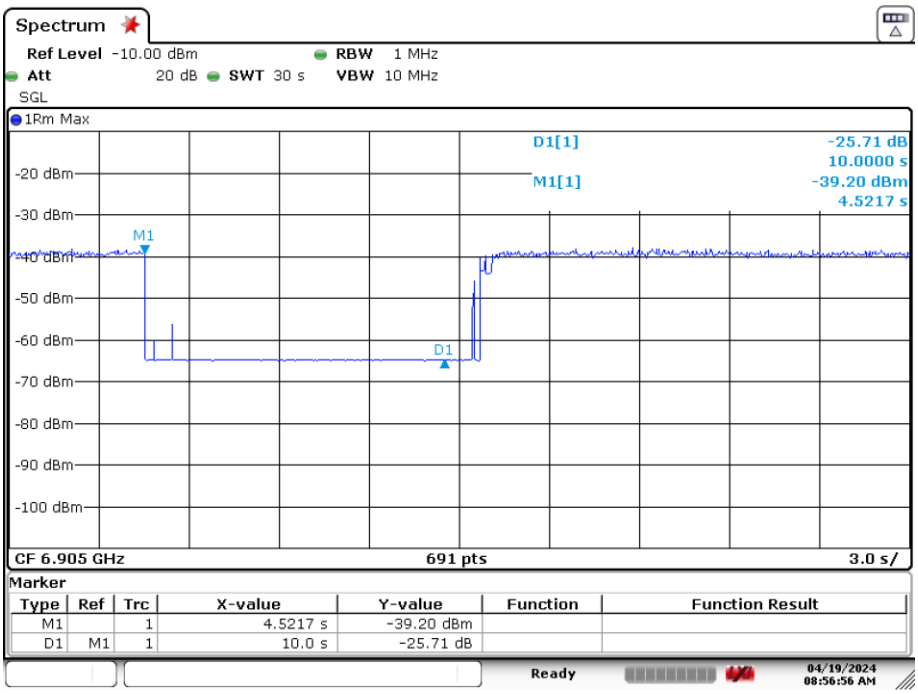
Date: 19.APR.2024 09:04:17

Plot 7-396. Contention Based Protocol Timing Plot (20MHz (UNII Band 8) – Ch. 197)



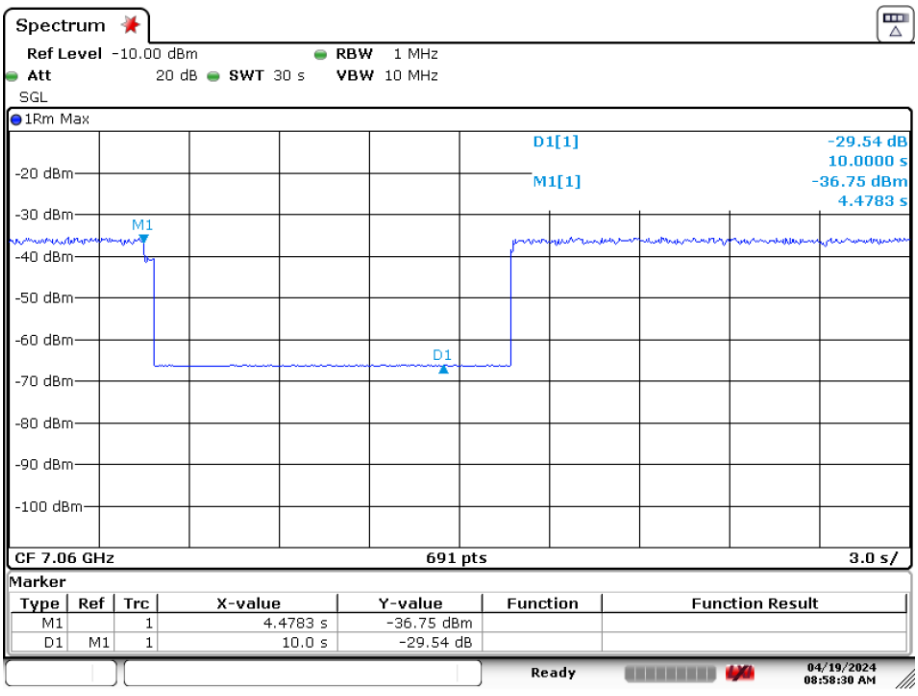
Date: 19.APR.2024 08:50:42

Plot 7-397. Contention Based Protocol Timing Plot (320MHz (UNII Band 8) – Ch. 191 Low)



Date: 19.APR.2024 08:56:56

Plot 7-398. Contention Based Protocol Timing Plot (320MHz (UNII Band 8) – Ch. 191 Mid)



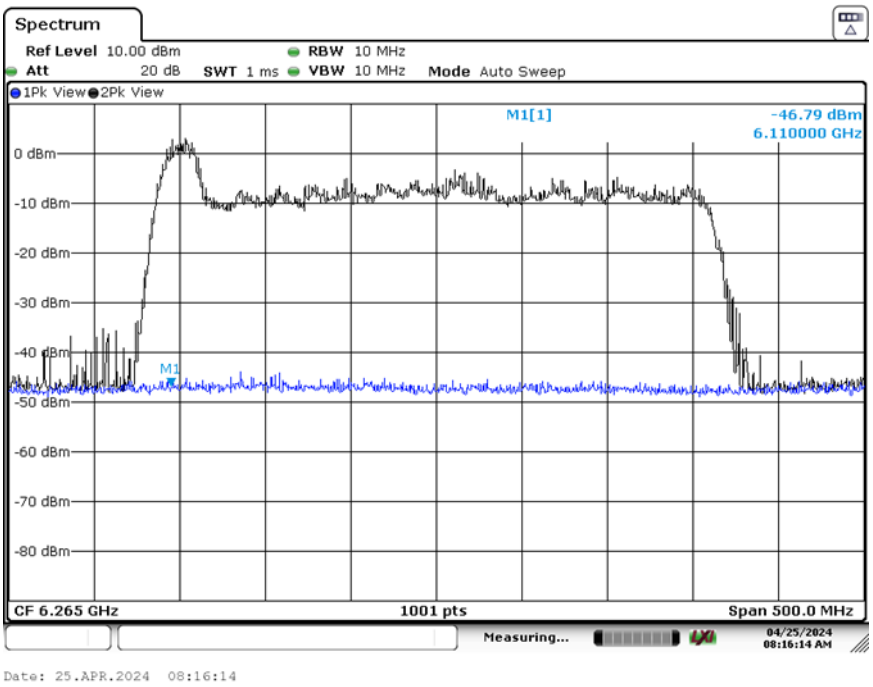
Date: 19.APR.2024 08:58:30

Plot 7 397. Contention Based Protocol Timing Plot (320MHz (UNII Band 8) – Ch. 191 High)

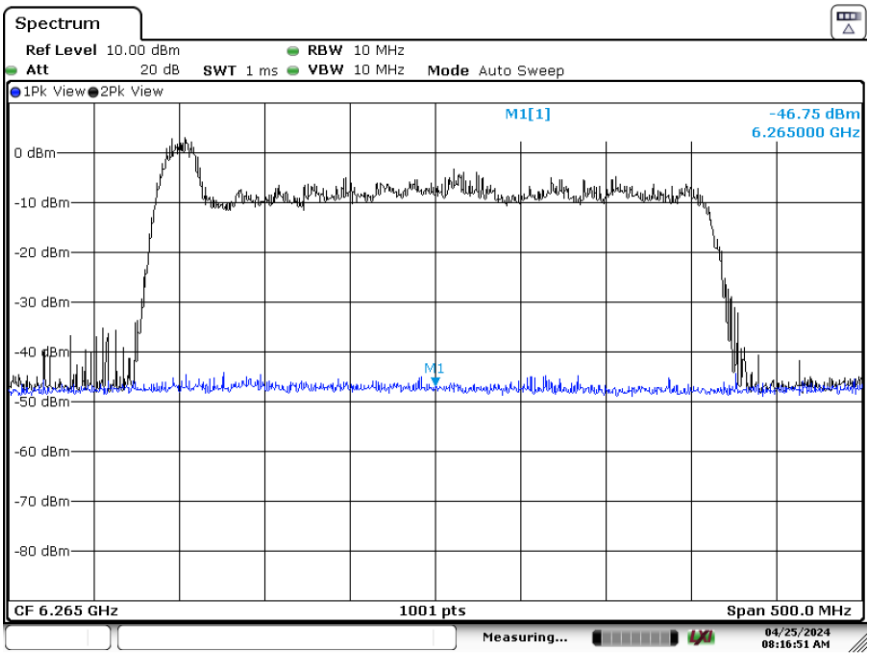
7.6.3 Channel Move Plots

This section demonstrates the effect of injecting the AWGN signal at various locations throughout the 320MHz signal. The black trace shows the full 320MHz signal prior to AWGN injection while the blue trace shows the spectrum following AWGN injection. The following items were observed as demonstrated in the three plots shown below:

- When a 10 MHz AWGN signal centered at 6110 MHz (lower edge of channel) is injected, the channel completely stops transmitting.
- When a 10 MHz AWGN signal centered at 6265 MHz (middle of channel) is injected, the channel completely stops transmitting.
- When a 10 MHz AWGN signal centered at 6420 MHz (upper edge of channel) is injected, the channel reduces its bandwidth down to 160MHz operation at the lower end of the channel.

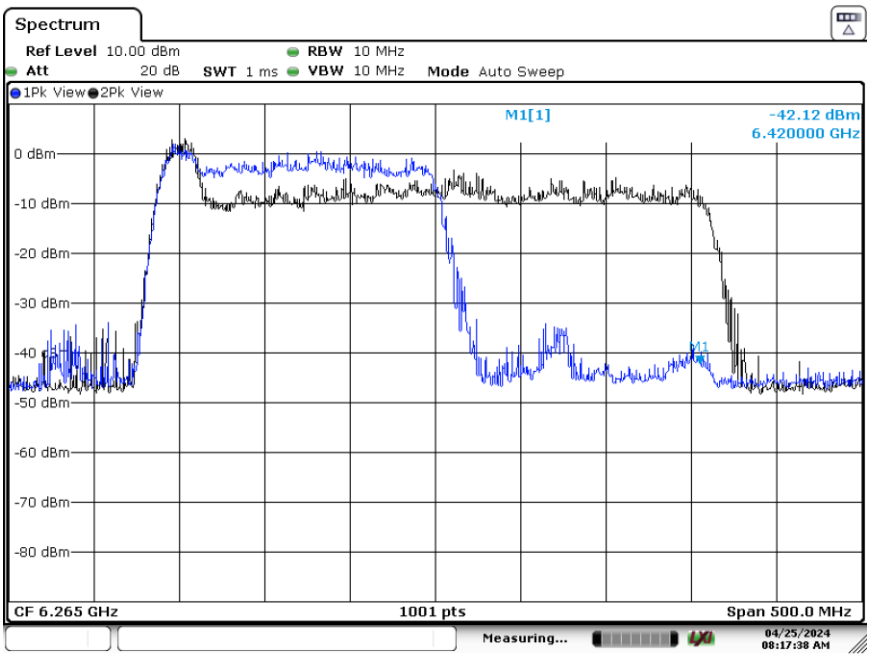


Plot 7-399. CBP 320MHz Channel - Injection Lower Edge – [6110 MHz]



Date: 25.APR.2024 08:16:51

Plot 7-400. CBP 320MHz Channel - Injection Center – [6265 MHz]



Date: 25.APR.2024 08:17:38

Plot 7-401. CBP 320MHz Channel - Injection Upper Edge – [6420 MHz]

7.7 Radiated Emission Measurements

Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10-2013, and at the appropriate frequencies. All channels, modes (e.g. 802.11ax (20/40/80/160MHz)), and modulations/data rates were investigated among all UNII bands. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

For transmitters operating within the 5.925-7.125 GHz band: Any emissions outside of the 5.925-7.125 GHz band must not exceed an e.i.r.p. of −27 dBm/MHz

Emissions found in a restricted band are subject to the limits of 15.209 as shown in the table below.

Frequency	Field Strength [µV/m]	Measured Distance [Meters]
0.009 – 0.490 MHz	2400/F (kHz)	300
0.490 – 1.705 MHz	24000/F (kHz)	30
1.705 – 30.00 MHz	30	30
30.00 – 88.00 MHz	100	3
88.00 – 216.0 MHz	150	3
216.0 – 960.0 MHz	200	3
Above 960.0 MHz	500	3

Table 7-20. Radiated Limits

Test Procedures Used

ANSI C63.10-2013 – Sections 12.7.7.2, 12.7.6, 12.7.5

Test Settings – Above 1GHz

Average Field Strength Measurements (Method AD – Average Detection)

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest.
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = power average (RMS)
5. Number of measurement points = 1001 (Number of points must be ≥ 2 x span\\RBW)
6. Sweep time = auto
7. Trace (RMS) averaging was performed over at least 100 traces.

Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest.
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize.

Test Settings – Below 1GHz

Quasi-Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest.
2. RBW = 120kHz (for emissions from 30MHz – 1GHz)
3. Detector = quasi-peak
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize.

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

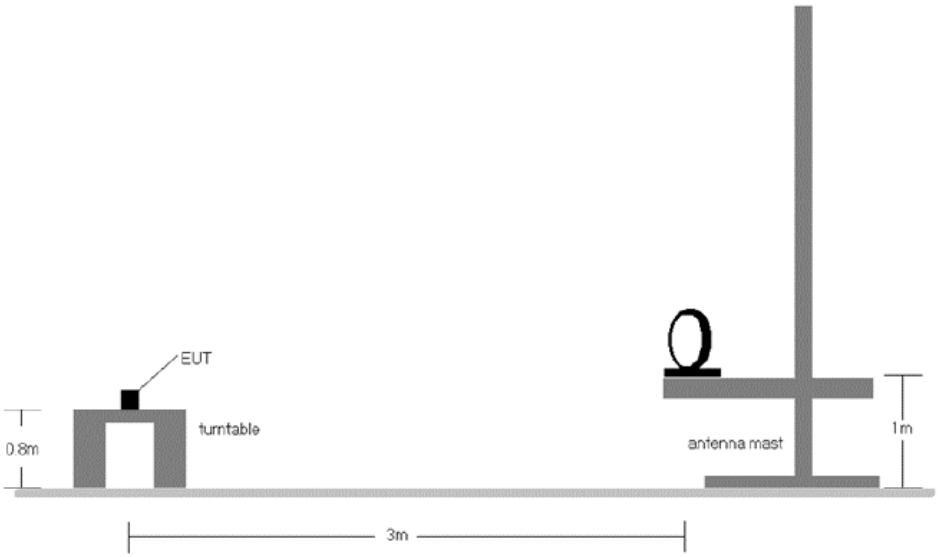


Figure 7-6. Radiated Test Setup < 30MHz

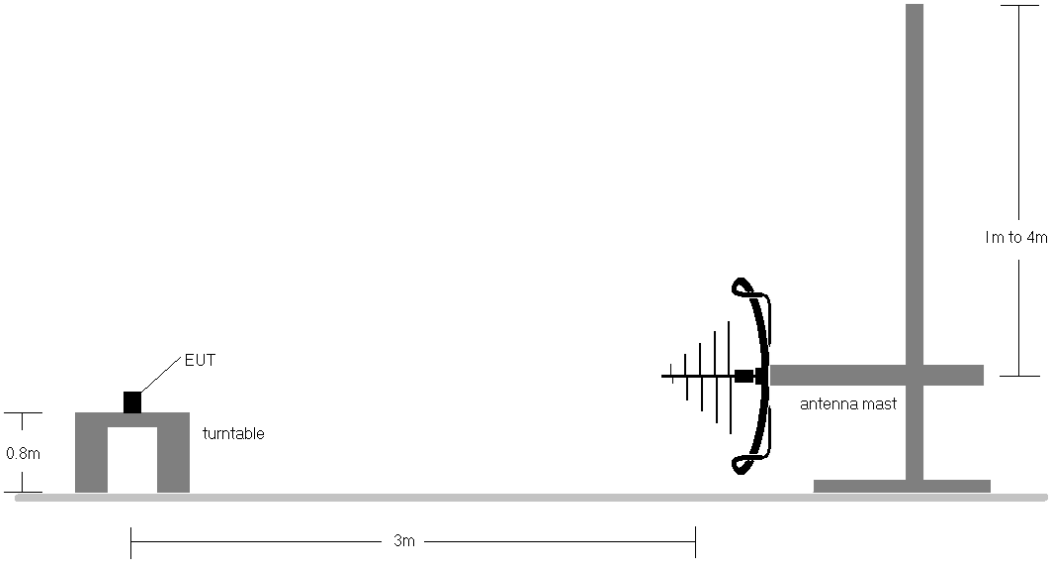


Figure 7-7. Radiated Test Setup < 1GHz

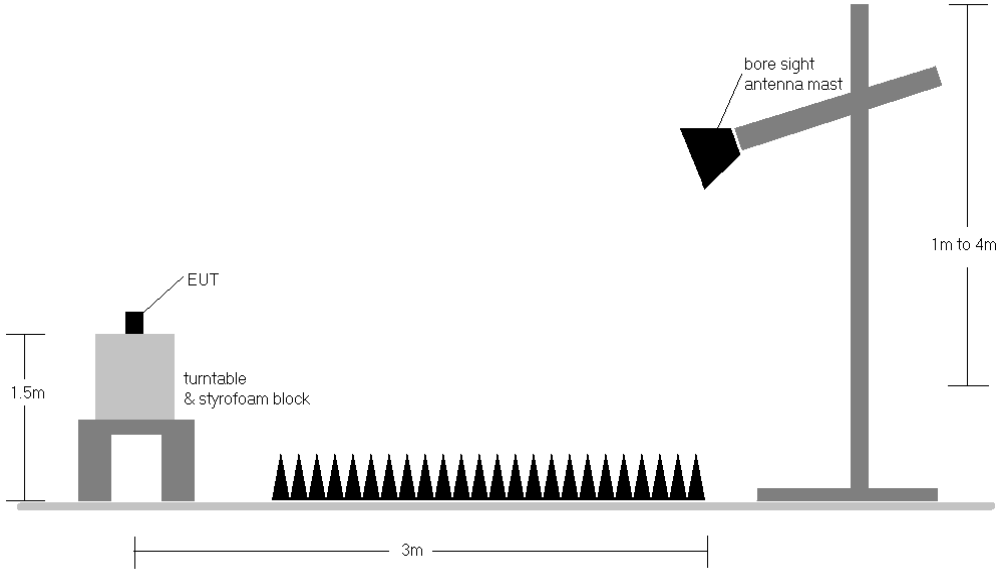


Figure 7-8. Radiated Test Setup > 1GHz

Test Notes

1. All spurious emissions lying in restricted bands specified in §15.205 are below the limit shown in §15.209. All spurious emissions that do not lie in a restricted band are subject to an average limit of -27dBm/MHz. At 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.
2. All spurious emissions that do not lie in a restricted band are subject to a peak limit not to exceed 20dB of the average limit [68.2dBμV/m]. If a peak measurement passes the average limit, it was determined no further investigation is necessary.
3. The antenna is manipulated through typical positions, polarity, and length during the tests. The EUT is manipulated through three orthogonal planes.
4. This unit was tested with its standard battery.
5. The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter using CISPR quasi peak detector below 1GHz. Above 1 GHz, average and peak measurements were taken using linearly polarized horn antennas. The worst-case emissions are reported, however emissions whose levels were not within 20dB of the respective limits were not reported.
6. Emissions below 18GHz were measured at a 3-meter test distance while emissions above 18GHz were measured at a 1-meter test distance with the application of a distance correction factor.
7. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. Any emissions found to be within 20dB of the limit are fully investigated and the results are shown in this section.
8. The "-" shown in the following RSE tables are used to denote a noise floor measurement.
9. For radiated measurements, emissions were investigated for the fully-loaded RU configuration and for all of the partially-loaded RU configurations. Among all of the available partially-loaded RU configurations, only the configuration with the worst case emissions is reported.

Sample Calculations

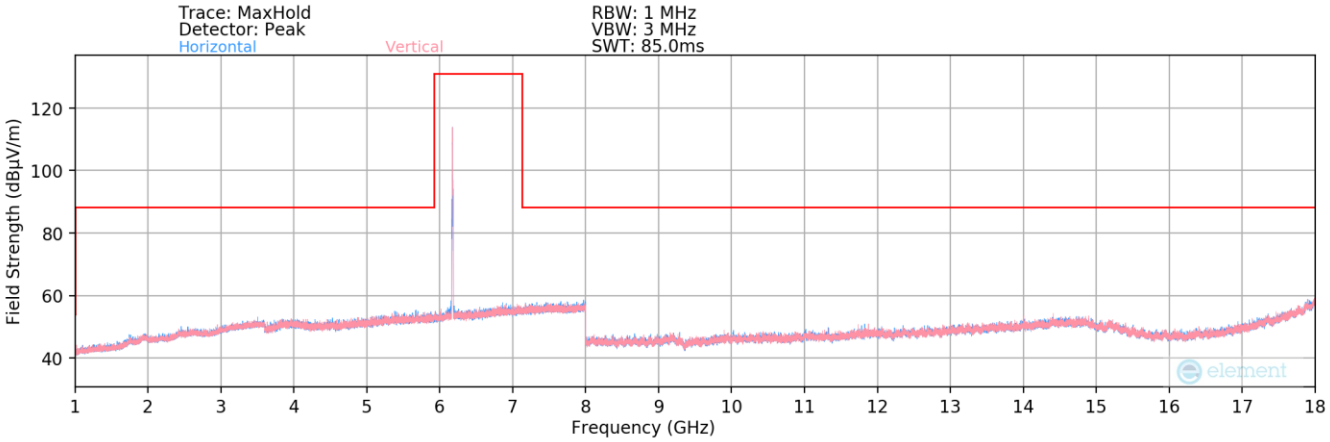
Determining Spurious Emissions Levels

- Field Strength Level [dBμV/m] = Analyzer Level [dBm] + 107 + AFCL [dB/m]
- AFCL [dB/m] = Antenna Factor [dB/m] + Cable Loss [dB]
- Margin [dB] = Field Strength Level [dBμV/m] – Limit [dBμV/m]

Radiated Band Edge Measurement Offset

- The amplitude offset shown in the radiated restricted band edge plots was calculated using the formula: Offset (dB) = (Antenna Factor + Cable Loss + Attenuator) – Preamplifier Gain

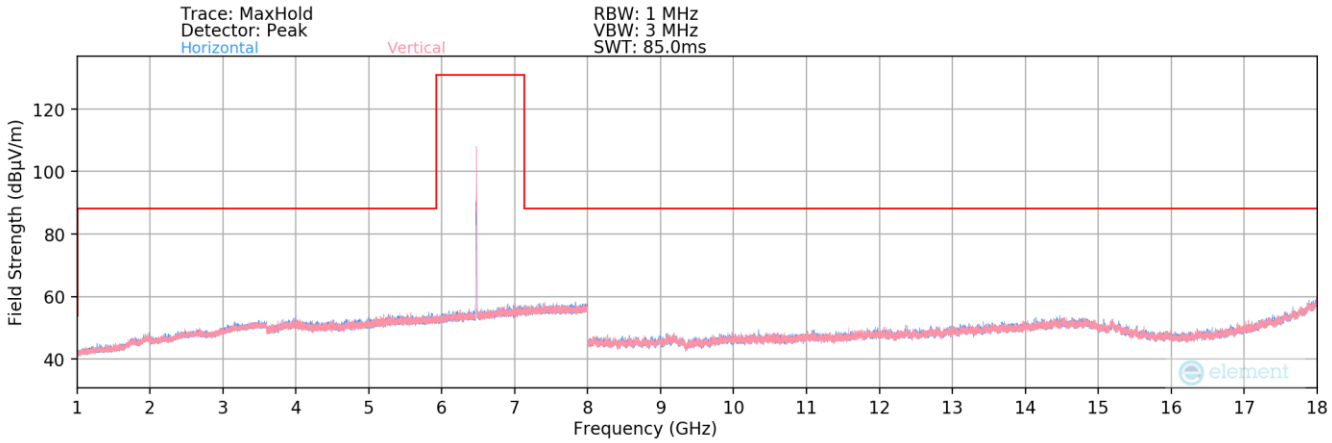
7.7.1 MIMO Radiated Spurious Emission Measurements (26 Tones)



Plot 7-402. Radiated Spurious Plot 1GHz – 18GHz MIMO (802.11be – UNII Band 5 Ch. 45) – SP

Mode	Antenna	UNII Band	Channel	Test Channel Freq	RU Index	Restricted	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
802.11be RU 26T	MIMO	5	2	5935	4	*	11870.00	Average	H	163	193	-81.42	18.86	0.00	44.44	53.98	-9.54
						*	11870.00	Peak	H	163	193	-70.13	18.86	0.00	55.73	73.98	-18.25
						*	17805.00	Average	H	-	-	-82.47	26.16	0.00	50.69	53.98	-3.29
						*	17805.00	Peak	H	-	-	-71.62	26.16	0.00	61.54	73.98	-12.44
						*	23740.00	Average	H	-	-	-64.82	3.58	-9.54	36.22	53.98	-17.76
						*	23740.00	Peak	H	-	-	-55.09	3.58	-9.54	45.95	73.98	-28.03
							29675.00	Peak	H	-	-	-54.09	5.33	-9.54	48.70	68.20	-19.50
			45	6175	4	*	12350.00	Average	H	-	-	-81.84	19.23	0.00	44.39	53.98	-9.59
						*	12350.00	Peak	H	-	-	-70.93	19.23	0.00	55.30	73.98	-18.68
						*	18525.00	Average	H	-	-	-63.52	1.16	-9.54	35.10	53.98	-18.88
						*	18525.00	Peak	H	-	-	-51.08	1.16	-9.54	47.54	73.98	-26.44
							24700.00	Peak	H	-	-	-55.28	3.72	-9.54	45.90	68.20	-22.30
							30875.00	Peak	H	-	-	-55.59	6.32	-9.54	48.19	68.20	-20.01
			93	6415	4		12830.00	Peak	H	136	196	-68.42	20.14	0.00	58.72	68.20	-9.48
						*	19245.00	Average	H	-	-	-65.65	1.84	-9.54	33.65	53.98	-20.33
						*	19245.00	Peak	H	-	-	-55.12	1.84	-9.54	44.18	73.98	-29.80
							25660.00	Peak	H	-	-	-54.77	3.90	-9.54	46.59	68.20	-21.61
							32075.00	Peak	H	-	-	-56.06	6.64	-9.54	48.04	68.20	-20.16

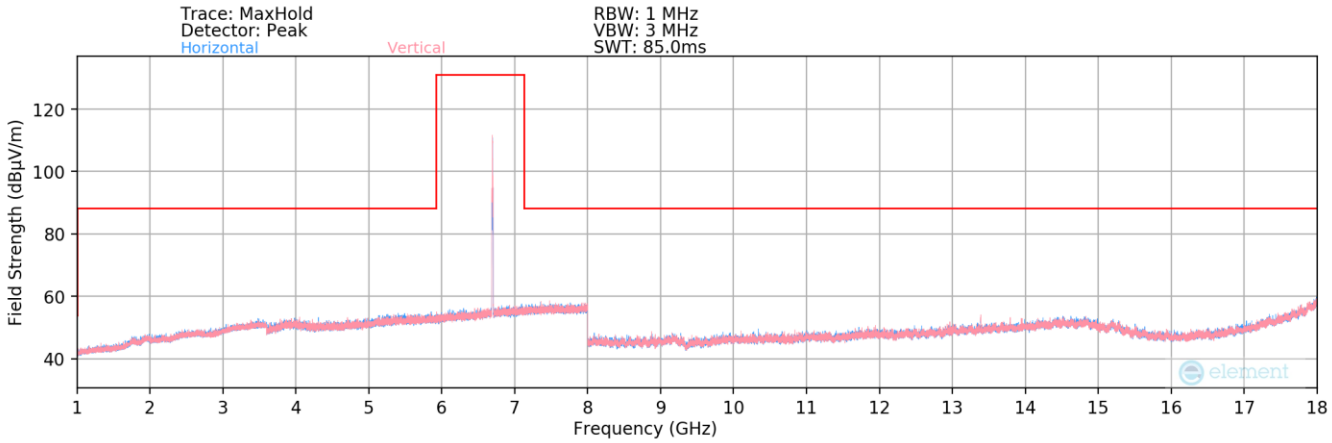
Table 7-21. Radiated Measurements MIMO (26 Tones) – SP



Plot 7-403. Radiated Spurious Plot 1GHz – 18GHz MIMO (802.11be – UNII Band 6 Ch. 105) – LPI

Mode	Antenna	UNII Band	Channel	Test Channel Freq	RU Index	Restricted	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
802.11be RU 26T	MIMO	6	97	6435	4		12870.00	Peak	H	-	-	-70.99	20.06	0.00	56.07	68.20	-12.13
						*	19305.00	Average	H	-	-	-65.28	1.64	-9.54	33.82	53.98	-20.15
						*	19305.00	Peak	H	-	-	-54.88	1.64	-9.54	44.22	73.98	-29.76
							25740.00	Peak	H	-	-	-55.28	3.84	-9.54	46.02	68.20	-22.18
							32175.00	Peak	H	-	-	-56.58	6.80	-9.54	47.68	68.20	-20.52
			105	6475	4		12950.00	Peak	H	-	-	-71.10	20.00	0.00	55.90	68.20	-12.30
						*	19425.00	Average	H	-	-	-65.37	1.80	-9.54	33.89	53.98	-20.09
						*	19425.00	Peak	H	-	-	-54.83	1.80	-9.54	44.43	73.98	-29.55
							25900.00	Peak	H	-	-	-55.57	4.24	-9.54	46.13	68.20	-22.07
							32375.00	Peak	H	-	-	-55.87	6.46	-9.54	48.05	68.20	-20.15
			113	6515	4		13030.00	Peak	H	-	-	-70.70	20.37	0.00	56.67	68.20	-11.53
						*	19545.00	Average	H	-	-	-65.28	1.84	-9.54	34.02	53.98	-19.96
						*	19545.00	Peak	H	-	-	-55.13	1.84	-9.54	44.17	73.98	-29.81
							26060.00	Peak	H	-	-	-55.01	4.18	-9.54	46.63	68.20	-21.57
							32575.00	Peak	H	-	-	-54.98	6.18	-9.54	48.66	68.20	-19.54

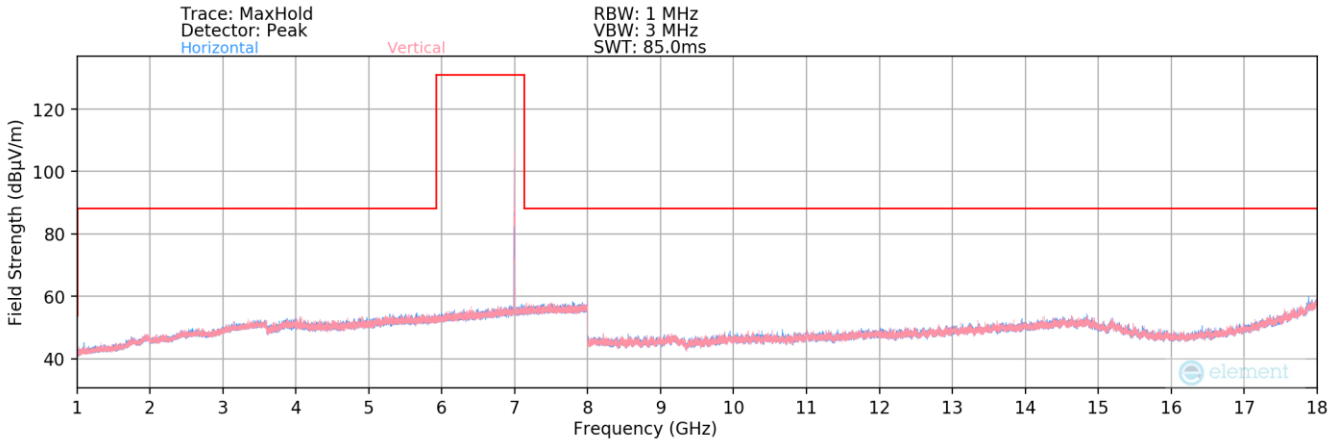
Table 7-22. Radiated Measurements MIMO (26 Tones) – LPI



Plot 7-404. Radiated Spurious Plot 1GHz – 18GHz MIMO (802.11be – UNII Band 7 Ch. 149) – SP

Mode	Antenna	UNII Band	Channel	Test Channel Freq	RU Index	Restricted	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
802.11be RU 26T	MIMO	7	117	6535	4		13070.00	Peak	H	134	197	-69.60	20.29	0.00	57.69	68.20	-10.51
						*	19605.00	Average	H	-	-	-65.08	2.38	-9.54	34.76	53.98	-19.22
						*	19605.00	Peak	H	-	-	-54.92	2.38	-9.54	44.92	73.98	-29.06
							26140.00	Peak	H	-	-	-55.54	4.03	-9.54	45.95	68.20	-22.25
							32675.00	Peak	H	-	-	-55.46	6.46	-9.54	48.46	68.20	-19.74
			149	6695	4	*	13390.00	Average	H	130	205	-80.27	20.77	0.00	47.50	53.98	-6.48
						*	13390.00	Peak	H	130	205	-68.42	20.02	0.00	58.60	73.98	-15.38
						*	20085.00	Peak	H	-	-	-55.00	2.58	-9.54	45.04	53.98	-8.94
						*	20085.00	Average	H	-	-	-65.12	2.58	-9.54	34.92	73.98	-39.06
							26780.00	Peak	H	-	-	-55.18	4.33	-9.54	46.61	68.20	-21.59
							33475.00	Peak	H	-	-	-55.23	6.96	-9.54	49.19	68.20	-19.01
			185	6875	4		13750.00	Peak	H	166	209	-70.53	21.34	0.00	57.81	68.20	-10.39
						*	20625.00	Average	H	-	-	-66.43	3.01	-9.54	34.04	53.98	-19.94
						*	20625.00	Peak	H	-	-	-56.31	3.01	-9.54	44.16	73.98	-29.82
							27500.00	Peak	H	-	-	-55.85	3.97	-9.54	45.58	68.20	-22.62
							34375.00	Peak	H	-	-	-55.38	7.33	-9.54	49.41	68.20	-18.79

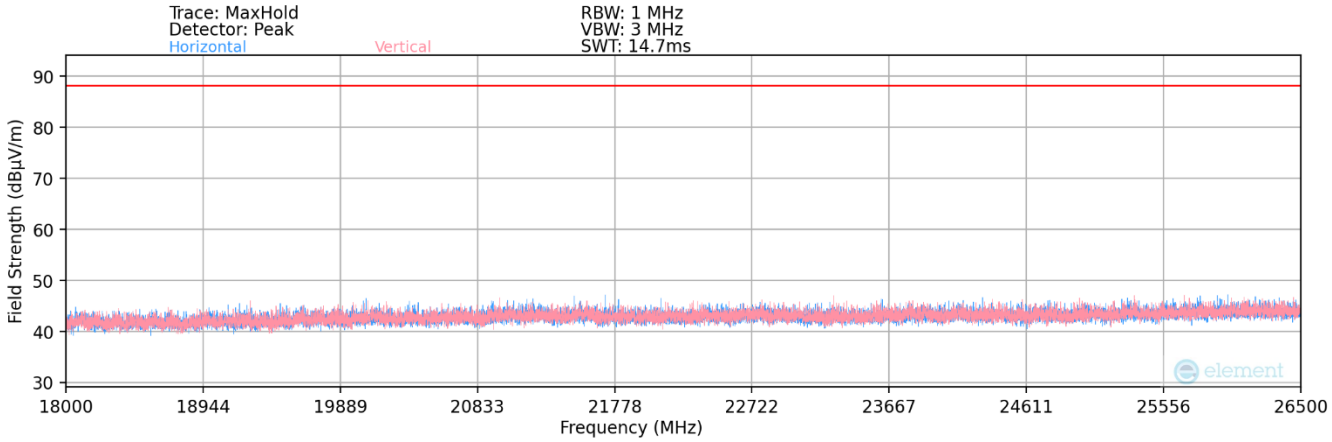
Table 7-23. Radiated Measurements MIMO (26 Tones) – SP



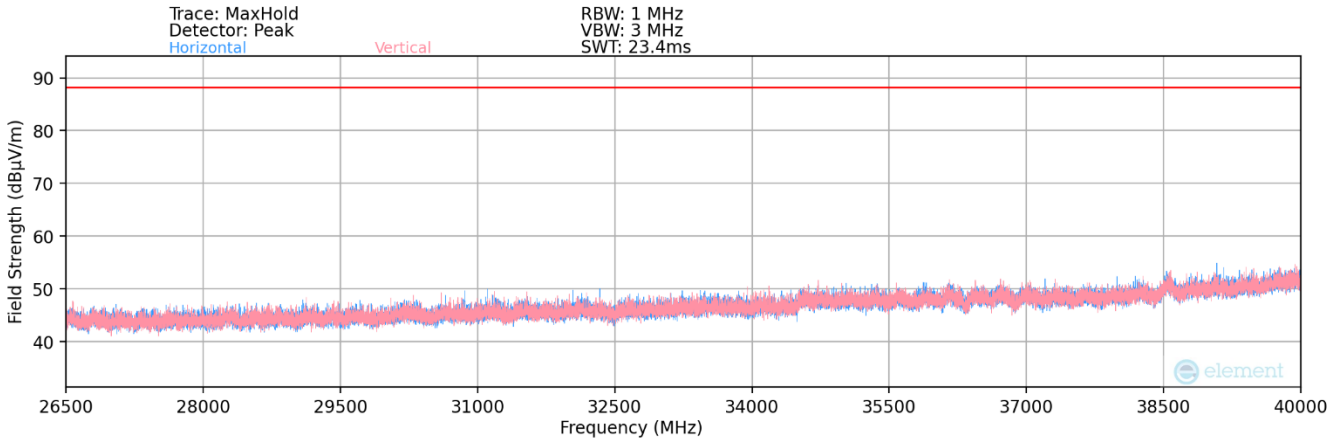
Plot 7-405. Radiated Spurious Plot 1GHz – 18GHz MIMO (802.11be – U Band 8 Ch. 209) – LPI

Mode	Antenna	UNII Band	Channel	Test Channel Freq	RU Index	Restricted	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
802.11be RU 26T	MIMO	8	189	6895	4		13790.00	Peak	H	-	-	-71.64	21.59	0.00	56.95	68.20	-11.25
						*	20685.00	Average	H	-	-	-66.10	3.01	-9.54	34.37	53.98	-19.61
						*	20685.00	Peak	H	-	-	-55.34	3.01	-9.54	45.13	73.98	-28.85
							27580.00	Peak	H	-	-	-55.74	4.40	-9.54	46.12	68.20	-22.08
							34475.00	Peak	H	-	-	-55.47	7.31	-9.54	49.30	68.20	-18.90
			209	6995	4		13990.00	Peak	H	-	-	-71.10	21.24	0.00	57.14	68.20	-11.06
						*	20985.00	Average	H	-	-	-65.95	3.27	-9.54	34.78	53.98	-19.20
						*	20985.00	Peak	H	-	-	-56.32	3.27	-9.54	44.41	73.98	-29.57
							27980.00	Peak	H	-	-	-55.68	4.40	-9.54	46.18	68.20	-22.02
							34975.00	Peak	H	-	-	-54.22	7.79	-9.54	51.03	68.20	-17.17
			233	7115	4		14230.00	Peak	H	-	-	-70.94	21.94	0.00	58.00	68.20	-10.20
						*	21345.00	Average	H	-	-	-65.81	3.57	-9.54	35.22	53.98	-18.76
						*	21345.00	Peak	H	-	-	-55.42	3.57	-9.54	45.61	73.98	-28.37
							28460.00	Peak	H	-	-	-56.01	5.01	-9.54	46.46	68.20	-21.74
							35575.00	Peak	H	-	-	-55.17	7.78	-9.54	50.07	68.20	-18.13

Table 7-24. Radiated Measurements MIMO (26 Tones) – LPI

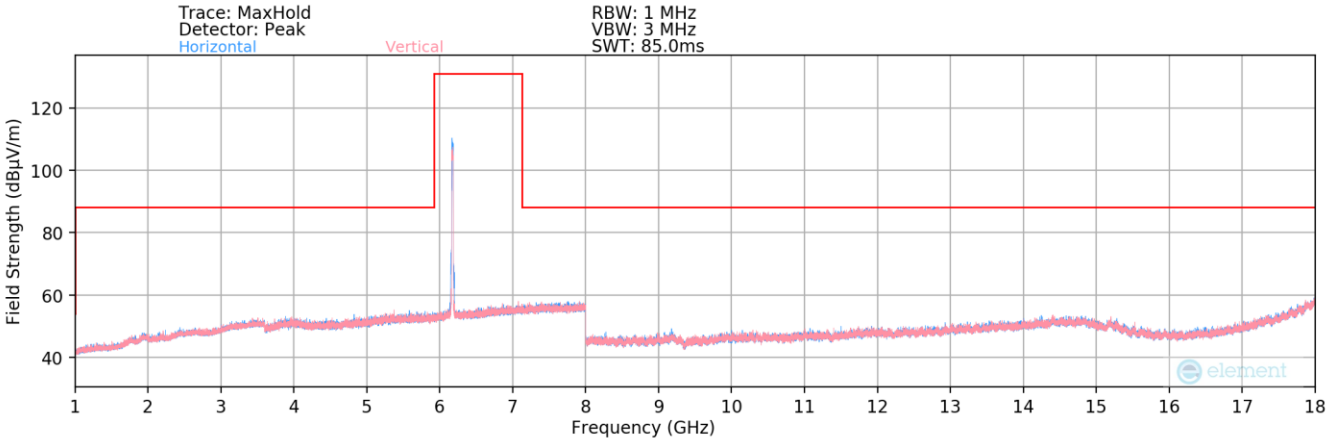


Plot 7-406. Radiated Spurious Plot 18GHz - 26.5GHz (802.11be) – SP



Plot 7-407. Radiated Spurious Plot 26.5GHz - 40GHz (802.11be) - SP

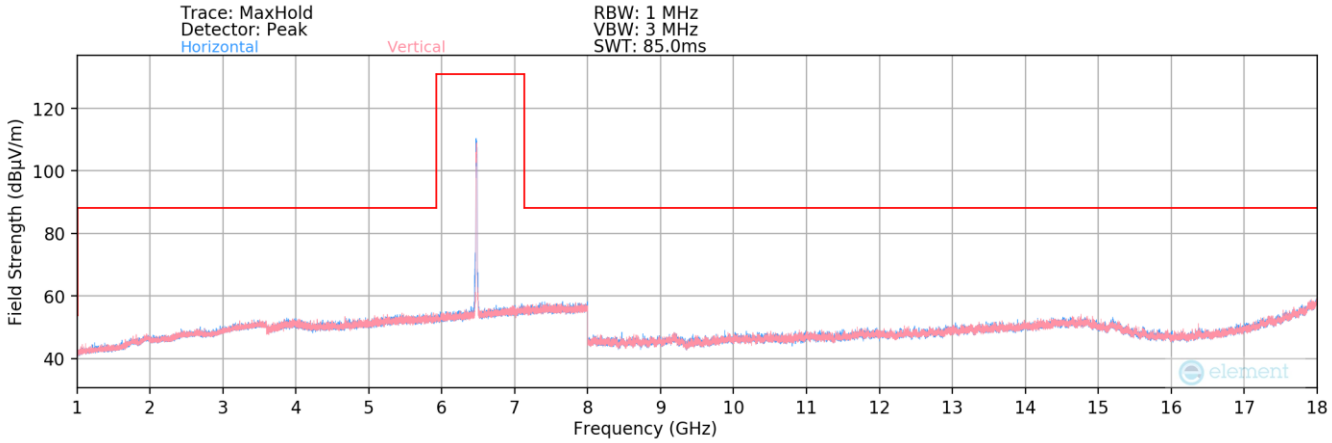
7.7.2 MIMO Radiated Spurious Emission Measurements (242 Tones)



Plot 7-408. Radiated Spurious Plot 1GHz – 18GHz MIMO (802.11be – UNII Band 5 Ch. 45) – SP

Mode	Antenna	UNII Band	Channel	Test Channel Freq. [MHz]	RU Index	Restricted	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
802.11be RU 242T	MIMO	5	2	5935	61	*	11870.00	Average	H	-	-	-81.78	18.86	0.00	44.08	53.98	-9.90
						*	11870.00	Peak	H	-	-	-70.50	18.86	0.00	55.36	73.98	-18.62
						*	17805.00	Average	H	-	-	-82.50	26.16	0.00	50.66	53.98	-3.32
						*	17805.00	Peak	H	-	-	-71.84	26.16	0.00	61.32	73.98	-12.66
						*	23740.00	Average	H	-	-	-64.76	3.58	-9.54	36.28	53.98	-17.70
						*	23740.00	Peak	H	-	-	-54.56	3.58	-9.54	46.48	73.98	-27.50
							29675.00	Peak	H	-	-	-54.36	5.33	-9.54	48.43	68.20	-19.77
			45	6175	61	*	12350.00	Average	H	-	-	-81.91	19.23	0.00	44.32	53.98	-9.66
						*	12350.00	Peak	H	-	-	-70.52	19.23	0.00	55.71	73.98	-18.27
						*	18525.00	Average	H	-	-	-64.54	1.16	-9.54	34.08	53.98	-19.90
						*	18525.00	Peak	H	-	-	-53.51	1.16	-9.54	45.11	73.98	-28.87
							24700.00	Peak	H	-	-	-54.70	3.72	-9.54	46.48	68.20	-21.72
							30875.00	Peak	H	-	-	-54.87	6.32	-9.54	48.91	68.20	-19.29
			93	6415	61		12830.00	Peak	H	-	-	-69.64	20.14	0.00	57.50	68.20	-10.70
						*	19245.00	Average	H	-	-	-64.08	1.84	-9.54	35.22	53.98	-18.76
						*	19245.00	Peak	H	-	-	-53.41	1.84	-9.54	45.89	73.98	-28.09
							25660.00	Peak	H	-	-	-54.84	3.90	-9.54	46.52	68.20	-21.68
							32075.00	Peak	H	-	-	-55.28	6.64	-9.54	48.82	68.20	-19.38

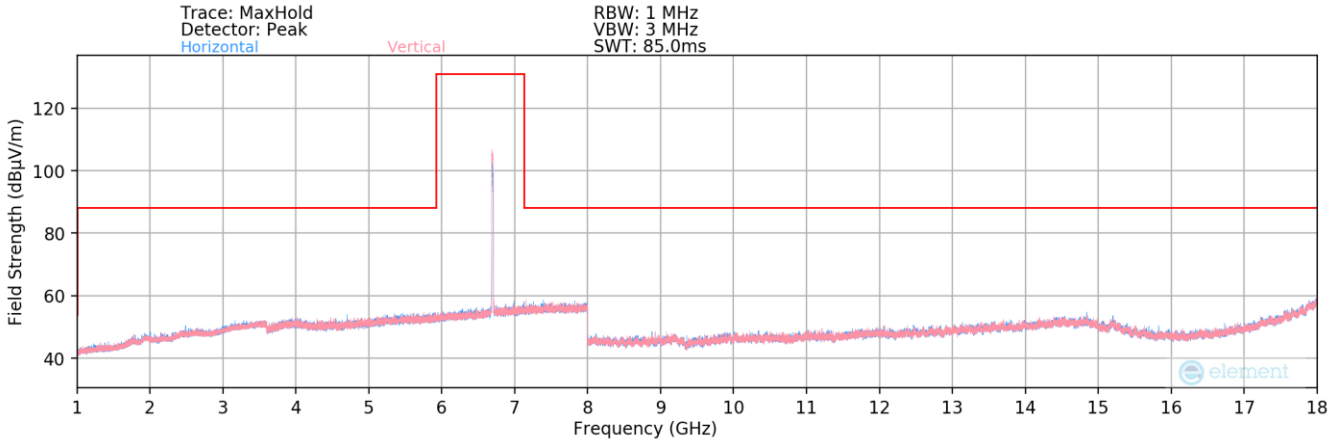
Table 7-25. Radiated Measurements MIMO (242 Tones) – SP



Plot 7-409. Radiated Spurious Plot 1GHz – 18GHz MIMO (802.11be – UNII Band 6 Ch. 105) – LPI

Mode	Antenna	UNII Band	Channel	Test Channel Freq. [MHz]	RU Index	Restricted	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
802.11be RU 242T	MIMO	6	97	6435	61		12870.00	Peak	H	-	-	-70.70	20.06	0.00	56.36	68.20	-11.84
						*	19305.00	Average	H	-	-	-64.73	1.64	-9.54	34.37	53.98	-19.60
						*	19305.00	Peak	H	-	-	-54.24	1.64	-9.54	44.86	73.98	-29.12
							25740.00	Peak	H	-	-	-55.15	3.84	-9.54	46.15	68.20	-22.05
							32175.00	Peak	H	-	-	-54.94	6.80	-9.54	49.32	68.20	-18.88
			105	6475	61		12950.00	Peak	H	-	-	-71.25	20.00	0.00	55.75	68.20	-12.45
						*	19425.00	Average	H	-	-	-64.65	1.80	-9.54	34.61	53.98	-19.37
						*	19425.00	Peak	H	-	-	-54.62	1.80	-9.54	44.64	73.98	-29.34
							25900.00	Peak	H	-	-	-54.64	4.24	-9.54	47.06	68.20	-21.14
							32375.00	Peak	H	-	-	-54.15	6.46	-9.54	49.77	68.20	-18.43
			113	6515	61		13030.00	Peak	H	-	-	-70.75	20.37	0.00	56.62	68.20	-11.58
						*	19545.00	Average	H	-	-	-54.12	1.84	-9.54	45.18	53.98	-8.80
						*	19545.00	Peak	H	-	-	-64.52	1.84	-9.54	34.78	73.98	-39.20
							26060.00	Peak	H	-	-	-54.65	4.18	-9.54	46.99	68.20	-21.21
							32575.00	Peak	H	-	-	-54.07	6.18	-9.54	49.57	68.20	-18.63

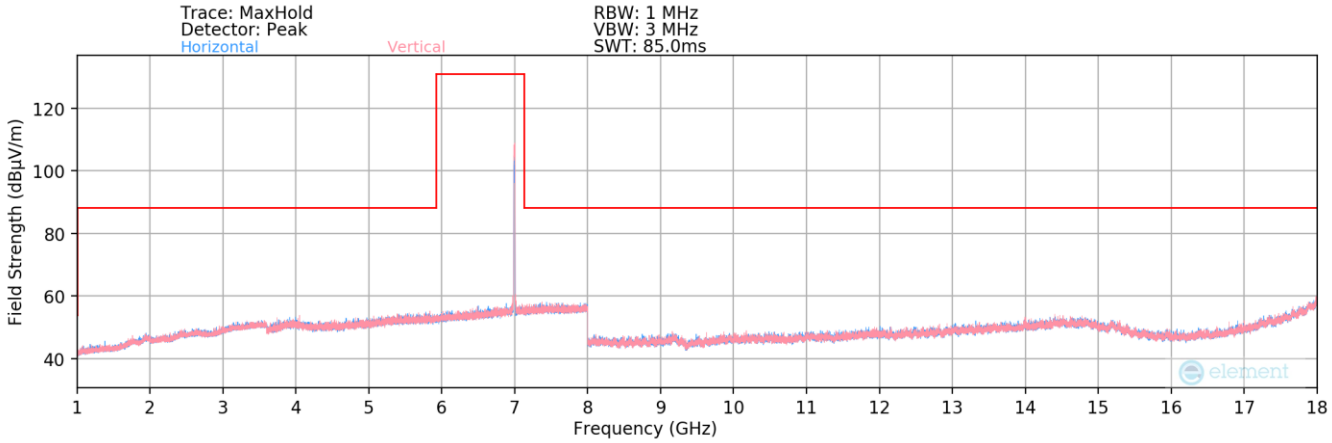
Table 7-26. Radiated Measurements MIMO (242 Tones) – LPI



Plot 7-410. Radiated Spurious Plot 1GHz – 18GHz MIMO (802.11be – UNII Band 7 Ch. 149) – SP

Mode	Antenna	UNII Band	Channel	Test Channel Freq. [MHz]	RU Index	Restricted	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
802.11be RU 242T	MIMO	7	117	6535	61		13070.00	Peak	H	-	-	-71.12	20.29	0.00	56.17	68.20	-12.03
						*	19605.00	Average	H	-	-	-64.53	2.38	-9.54	35.31	53.98	-18.67
						*	19605.00	Peak	H	-	-	-53.93	2.38	-9.54	45.91	73.98	-28.07
							26140.00	Peak	H	-	-	-54.36	4.03	-9.54	47.13	68.20	-21.07
							32675.00	Peak	H	-	-	-54.32	6.46	-9.54	49.60	68.20	-18.60
			149	6695	61	*	13390.00	Average	H	-	-	-81.54	20.77	0.00	46.23	53.98	-7.75
						*	13390.00	Peak	H	-	-	-70.65	20.02	0.00	56.37	73.98	-17.61
						*	20085.00	Peak	H	-	-	-54.02	2.58	-9.54	46.02	53.98	-7.96
						*	20085.00	Average	H	-	-	-64.66	2.58	-9.54	35.38	73.98	-38.60
							26780.00	Peak	H	-	-	-55.61	4.33	-9.54	46.18	68.20	-22.02
							33475.00	Peak	H	-	-	-54.31	6.96	-9.54	50.11	68.20	-18.09
			185	6875	61		13750.00	Peak	H	-	-	-71.33	21.34	0.00	57.01	68.20	-11.19
						*	20625.00	Average	H	-	-	-64.53	3.01	-9.54	35.94	53.98	-18.04
						*	20625.00	Peak	H	-	-	-54.79	3.01	-9.54	45.68	73.98	-28.30
							27500.00	Peak	H	-	-	-54.85	3.97	-9.54	46.58	68.20	-21.62
							34375.00	Peak	H	-	-	-54.84	7.33	-9.54	49.95	68.20	-18.25

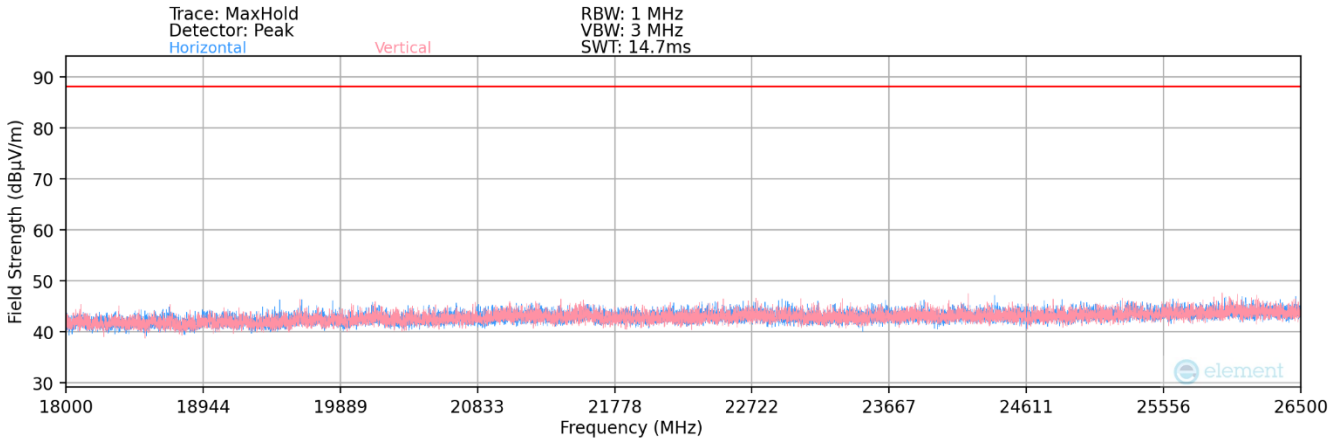
Table 7-27. Radiated Measurements MIMO (242 Tones) – SP



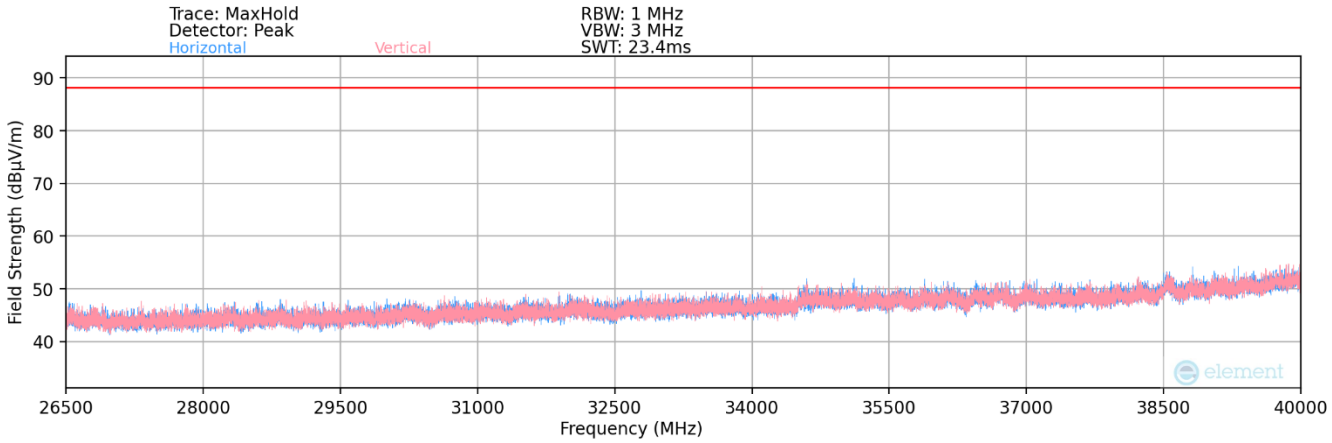
Plot 7-411. Radiated Spurious Plot 1GHz – 18GHz MIMO (802.11be – U Band 8 Ch. 209) – LPI

Mode	Antenna	UNII Band	Channel	Test Channel Freq. [MHz]	RU Index	Restricted	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
802.11be RU 242T	MIMO	8	189	6895	61		13790.00	Peak	H	-	-	-71.55	21.59	0.00	57.04	68.20	-11.16
						*	20685.00	Average	H	-	-	-64.36	3.01	-9.54	36.11	53.98	-17.87
						*	20685.00	Peak	H	-	-	-54.20	3.01	-9.54	46.27	73.98	-27.71
							27580.00	Peak	H	-	-	-54.86	4.40	-9.54	47.00	68.20	-21.20
							34475.00	Peak	H	-	-	-55.32	7.31	-9.54	49.45	68.20	-18.75
			209	6995	61		13990.00	Peak	H	-	-	-71.13	21.24	0.00	57.11	68.20	-11.09
						*	20985.00	Average	H	-	-	-64.48	3.27	-9.54	36.25	53.98	-17.73
						*	20985.00	Peak	H	-	-	-54.23	3.27	-9.54	46.50	73.98	-27.48
							27980.00	Peak	H	-	-	-54.53	4.40	-9.54	47.33	68.20	-20.87
							34975.00	Peak	H	-	-	-54.44	7.79	-9.54	50.81	68.20	-17.39
			233	7115	61		14230.00	Peak	H	-	-	-71.17	21.94	0.00	57.77	68.20	-10.43
						*	21345.00	Average	H	-	-	-64.22	3.57	-9.54	36.81	53.98	-17.17
						*	21345.00	Peak	H	-	-	-54.42	3.57	-9.54	46.61	73.98	-27.37
							28460.00	Peak	H	-	-	-55.46	5.01	-9.54	47.01	68.20	-21.19
							35575.00	Peak	H	-	-	-54.51	7.78	-9.54	50.73	68.20	-17.47

Table 7-28. Radiated Measurements MIMO (242 Tones) – LPI



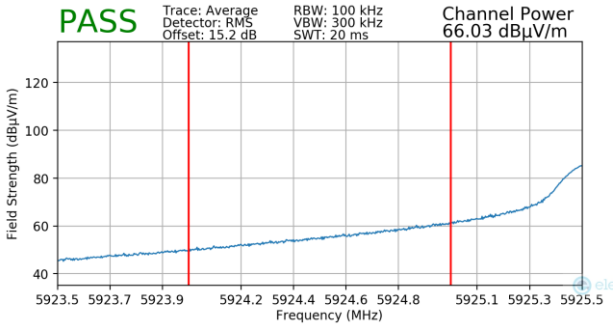
Plot 7-412. Radiated Spurious Plot 18GHz - 26.5GHz (802.11be) – SP



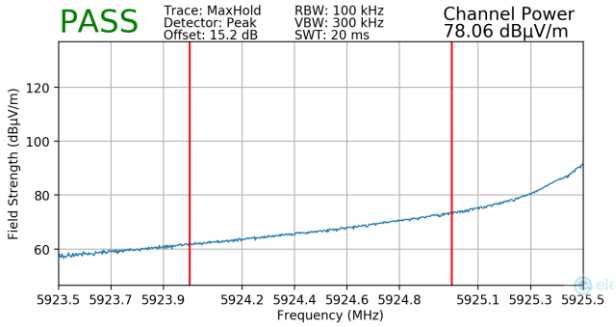
Plot 7-413. Radiated Spurious Plot 26.5GHz - 40GHz (802.11be) – SP

7.7.3 MIMO Radiated Band Edge Measurements (20MHz BW – Partial Tone – 106T)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
RU Index	53
Distance of Measurements:	3 Meters
Operating Frequency:	5935MHz
Channel:	2

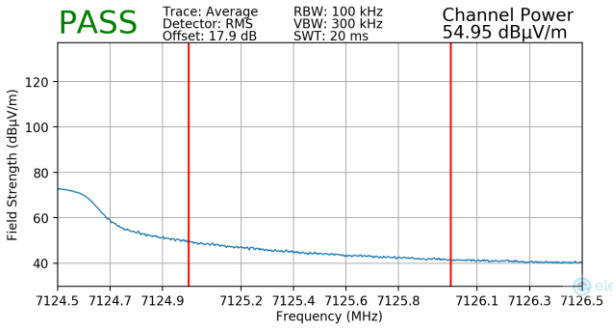


Plot 7-414. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 5 – 106T)

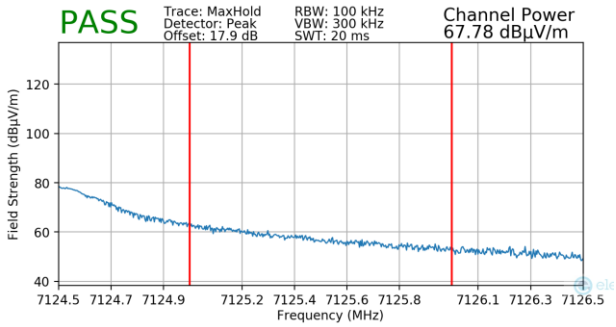


Plot 7-415. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 5 – 106T)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
RU Index	54
Distance of Measurements:	3 Meters
Operating Frequency:	7115MHz
Channel:	233



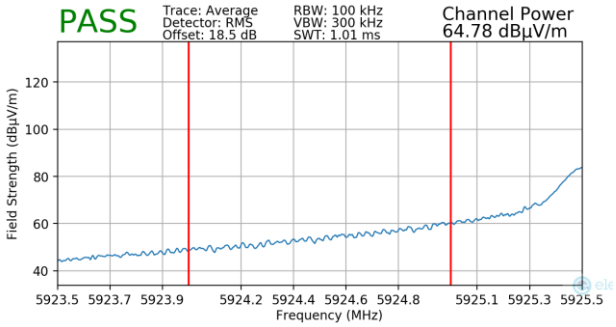
Plot 7-416. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 8 – 106T)



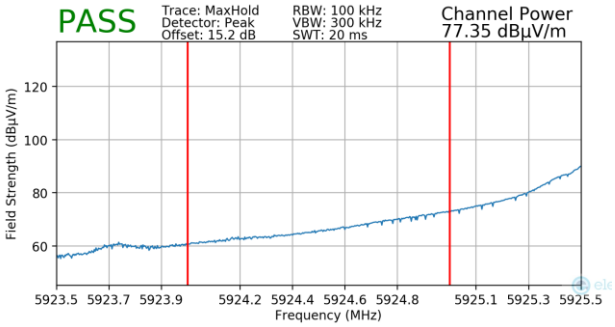
Plot 7-417. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 8 – 106T)

7.7.4 MIMO Radiated Band Edge Measurements (20MHz BW – Full Tone – 242T)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
RU Index	61
Distance of Measurements:	3 Meters
Operating Frequency:	5935MHz
Channel:	2

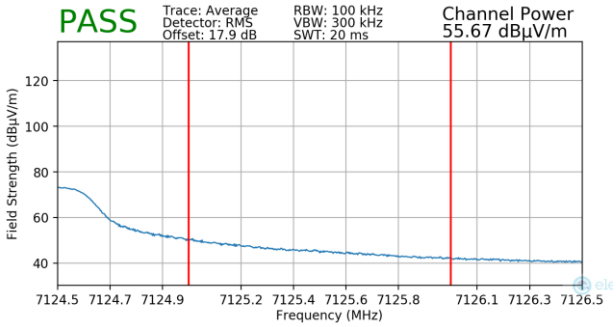


Plot 7-418. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 5 – 242T)

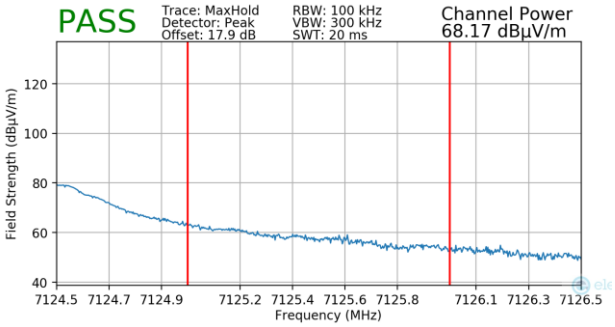


Plot 7-419. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 5 – 242T)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
RU Index	61
Distance of Measurements:	3 Meters
Operating Frequency:	7115MHz
Channel:	233



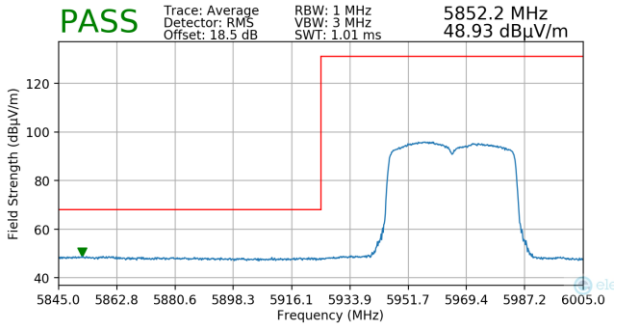
Plot 7-420. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 8 – 242T)



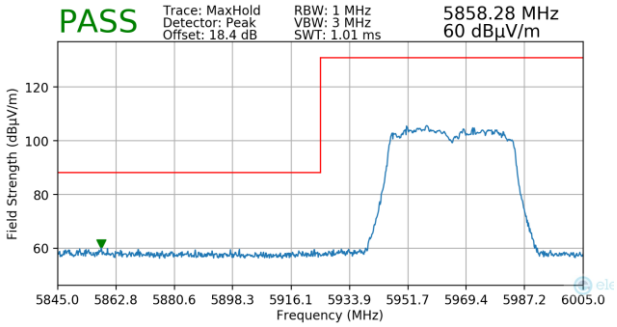
Plot 7-421. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 8 – 242T)

7.7.5 MIMO Radiated Band Edge Measurements (40MHz BW – Full Tone – 484T)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
RU Index	65
Distance of Measurements:	3 Meters
Operating Frequency:	5965MHz
Channel:	3

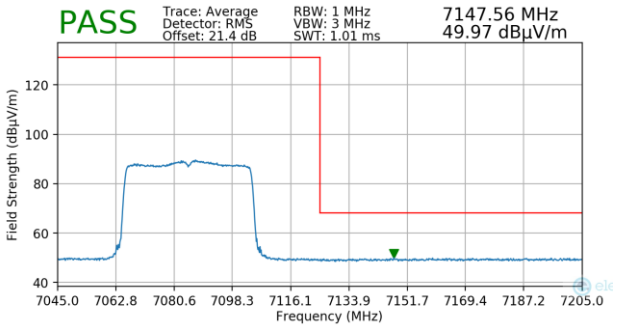


Plot 7-422. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 5 – 484T)

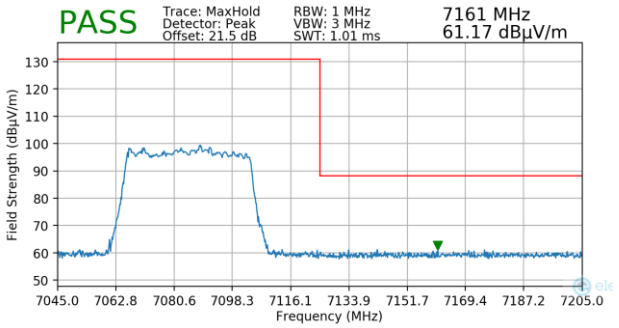


Plot 7-423. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 5 – 484T)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
RU Index	65
Distance of Measurements:	3 Meters
Operating Frequency:	7085MHz
Channel:	227



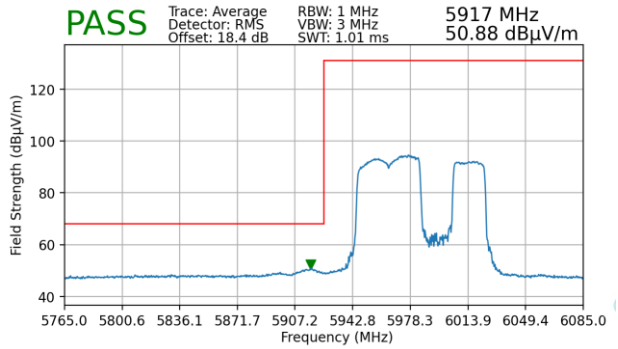
Plot 7-424. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 8 – 484T)



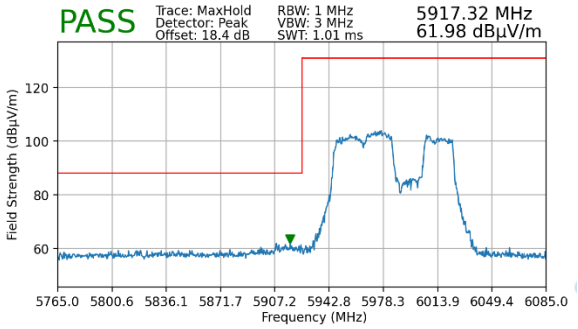
Plot 7-425. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 8 – 484T)

7.7.6 MIMO Radiated Band Edge Measurements (80MHz BW – 484T + 242T)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
RU Index	92
Distance of Measurements:	3 Meters
Operating Frequency:	5985MHz
Channel:	7

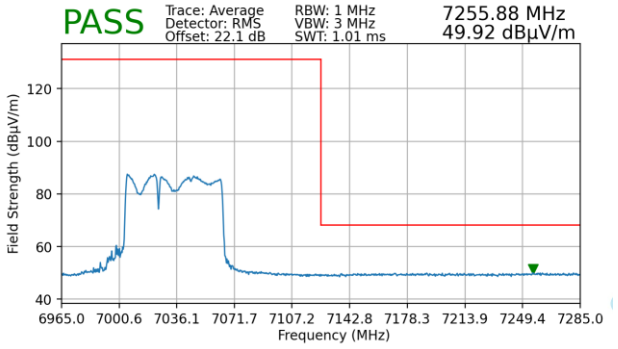


Plot 7-426. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 5 – 484T+242T)

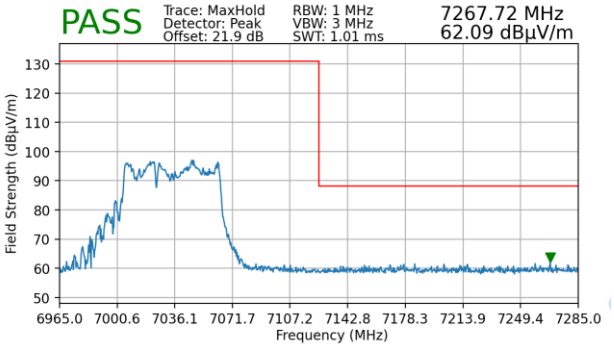


Plot 7-427. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 5 – 484T+242T)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
RU Index	91
Distance of Measurements:	3 Meters
Operating Frequency:	7025MHz
Channel:	215



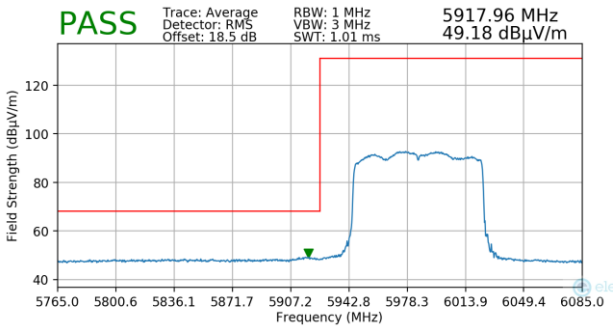
Plot 7-428. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 8 – 484T+242T)



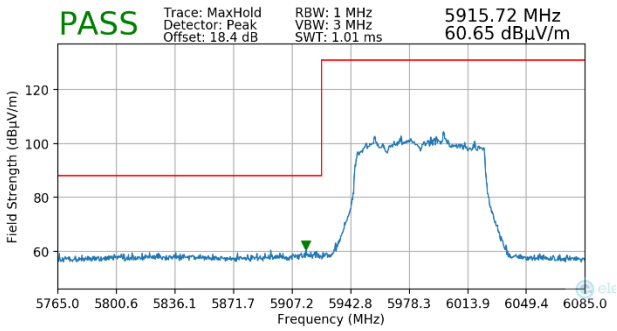
Plot 7-429. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 8 – 484T+242T)

7.7.7 MIMO Radiated Band Edge Measurements (80MHz BW – Full Tone – 996T)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
RU Index	67
Distance of Measurements:	3 Meters
Operating Frequency:	5985MHz
Channel:	7

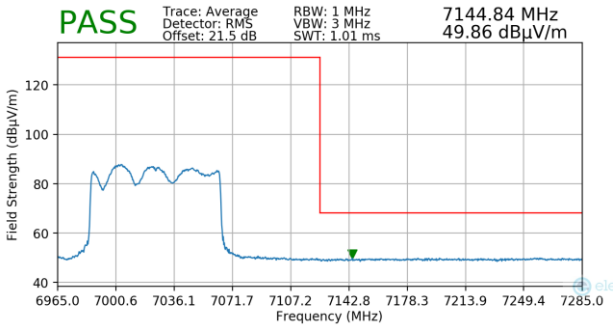


Plot 7-430. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 5 – 996T)

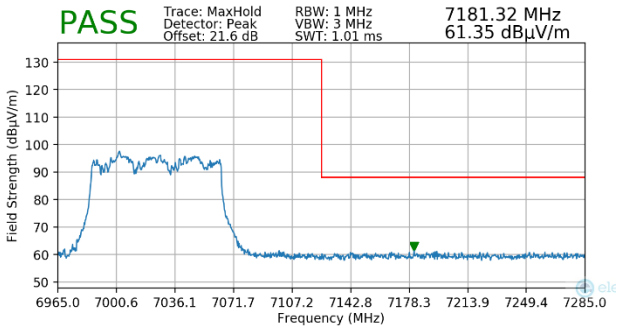


Plot 7-431. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 5 – 996T)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
RU Index	67
Distance of Measurements:	3 Meters
Operating Frequency:	7025MHz
Channel:	215



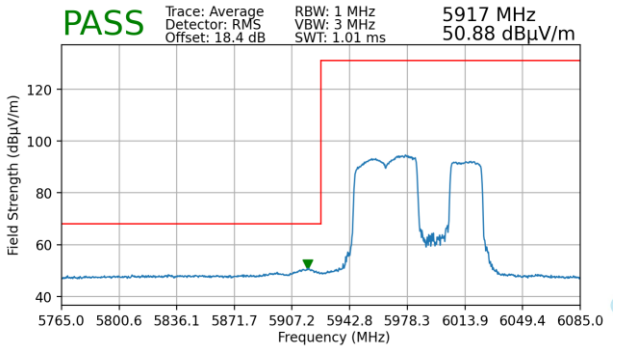
Plot 7-432. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 8 – 996T)



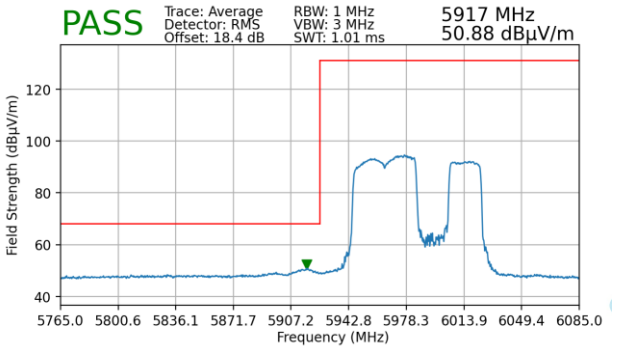
Plot 7-433. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 8 – 996T)

7.7.8 MIMO Radiated Band Edge Measurements (160MHz BW – 996T + 484T)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
RU Index	1094
Distance of Measurements:	3 Meters
Operating Frequency:	6025MHz
Channel:	15

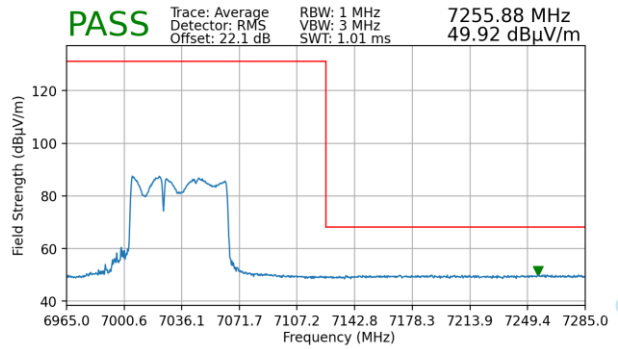


Plot 7-434. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 5 – 996T+484T)

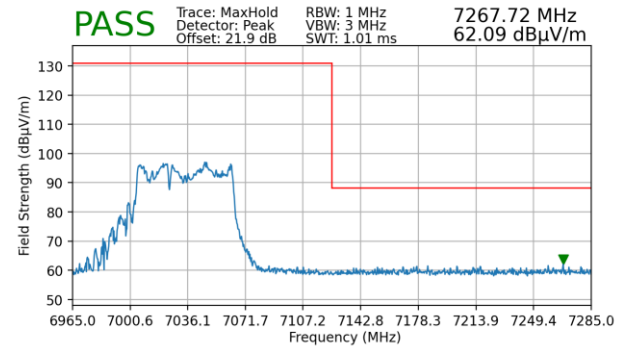


Plot 7-435. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 5 – 996T+484T)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
RU Index	94
Distance of Measurements:	3 Meters
Operating Frequency:	6985MHz
Channel:	207



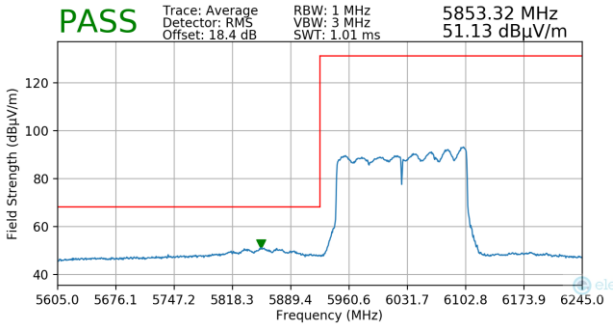
Plot 7-436. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 8 – 996T+484T)



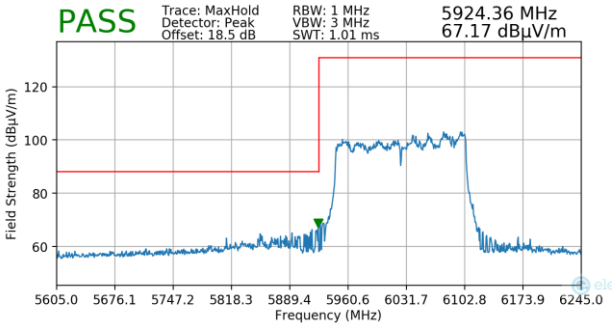
Plot 7-437. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 8 – 996T+484T)

7.7.9 MIMO Radiated Band Edge Measurements (160MHz BW – Full Tone – 2x996T)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
RU Index	68
Distance of Measurements:	3 Meters
Operating Frequency:	6025MHz
Channel:	15

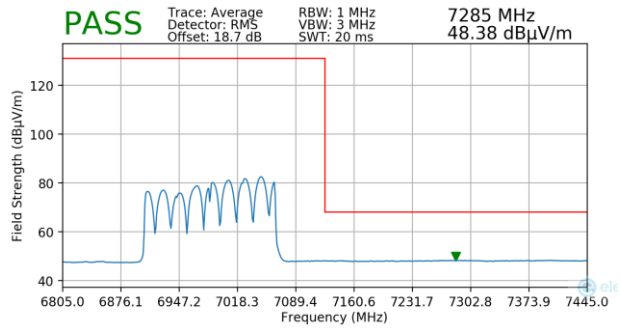


Plot 7-438. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 5 – 2x996T)

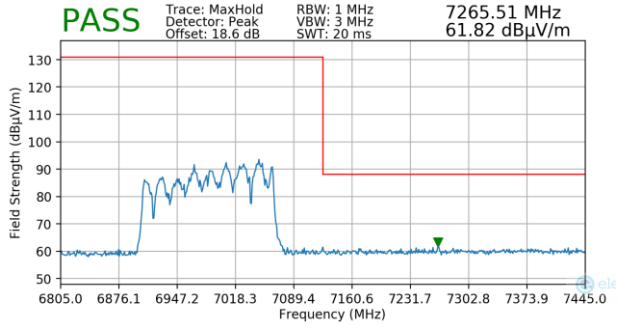


Plot 7-439. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 5 – 2x996T)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
RU Index	68
Distance of Measurements:	3 Meters
Operating Frequency:	6985MHz
Channel:	207



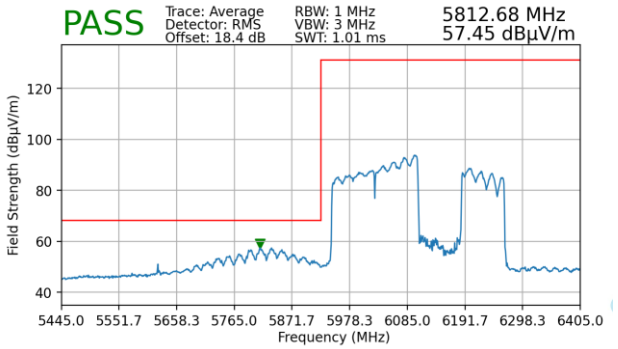
Plot 7-440. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 8 – 2x996T)



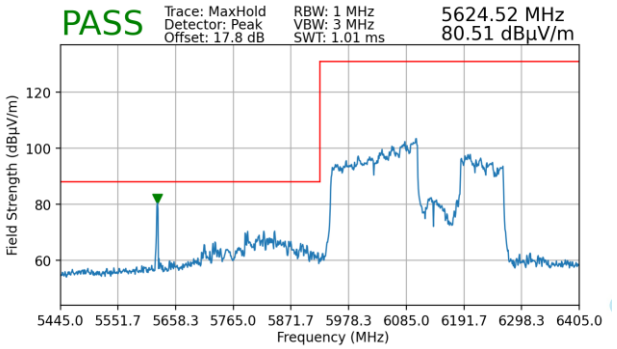
Plot 7-441. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 8 – 2x996T)

7.7.10 MIMO Radiated Band Edge Measurements (320MHz BW – 2x996T+484T)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
RU Index	10104
Distance of Measurements:	3 Meters
Operating Frequency:	6105MHz
Channel:	31

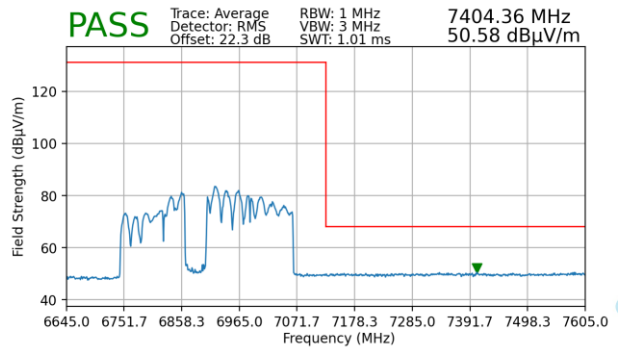


Plot 7-442. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 5 – 2x996T+484T)

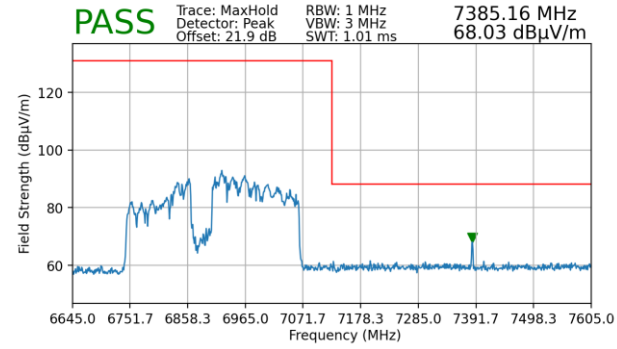


Plot 7-443. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 5 – 2x996T+484T)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
RU Index	01106
Distance of Measurements:	3 Meters
Operating Frequency:	6905MHz
Channel:	191



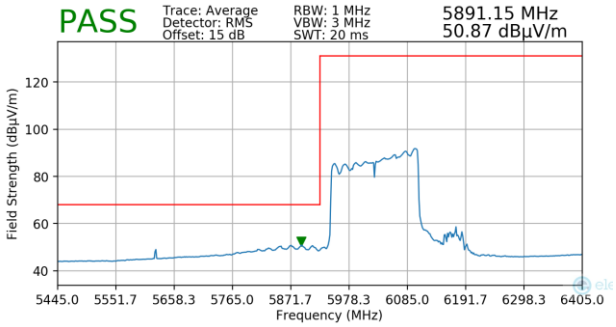
Plot 7-444. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 8 – 2x996T+484T)



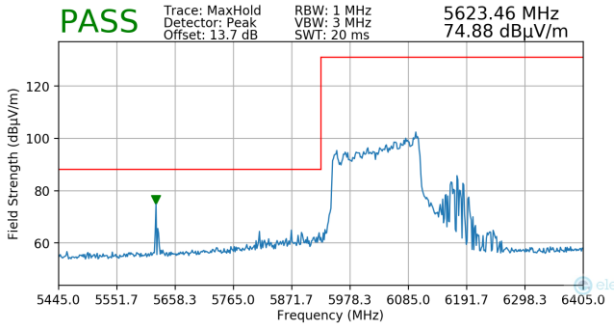
Plot 7-445. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 8 – 2x996T+484T)

7.7.11 MIMO Radiated Band Edge Measurements (320MHz BW – 2x996T)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
RU Index	69
Distance of Measurements:	3 Meters
Operating Frequency:	6105MHz
Channel:	31

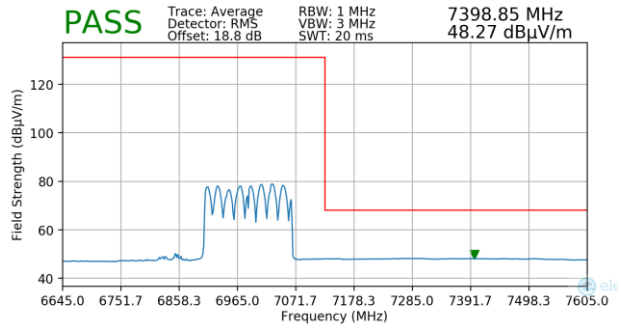


Plot 7-446. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 5 – 2x996T)

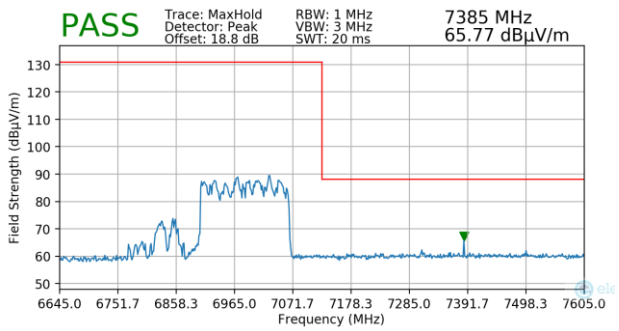


Plot 7-447. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 5 – 2x996T)

Worst Case Mode:	802.11be
Worst Case Transfer Rate:	MCS0
RU Index	69
Distance of Measurements:	3 Meters
Operating Frequency:	6905MHz
Channel:	191



Plot 7-448. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 8 – 2x996T)



Plot 7-449. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 8 – 2x996T)

8 CONCLUSION

The data collected relate only the item(s) tested and show that the **Samsung Portable Computing Device FCC ID: A3LNP960XMA** is in compliance with Part 15.407 of the FCC rules.