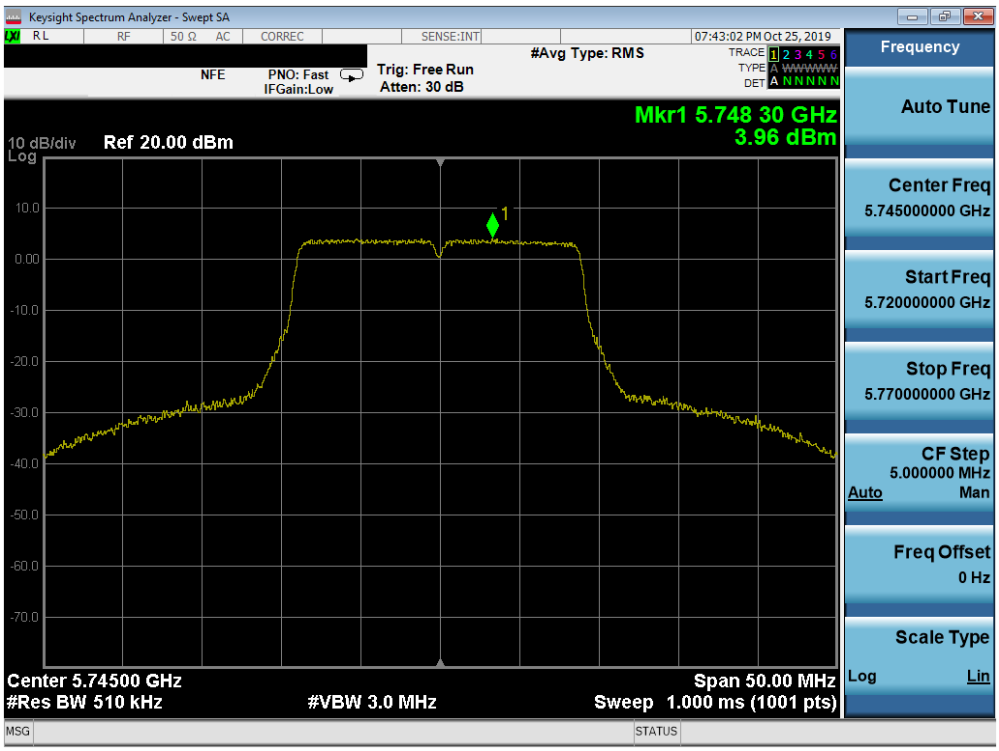
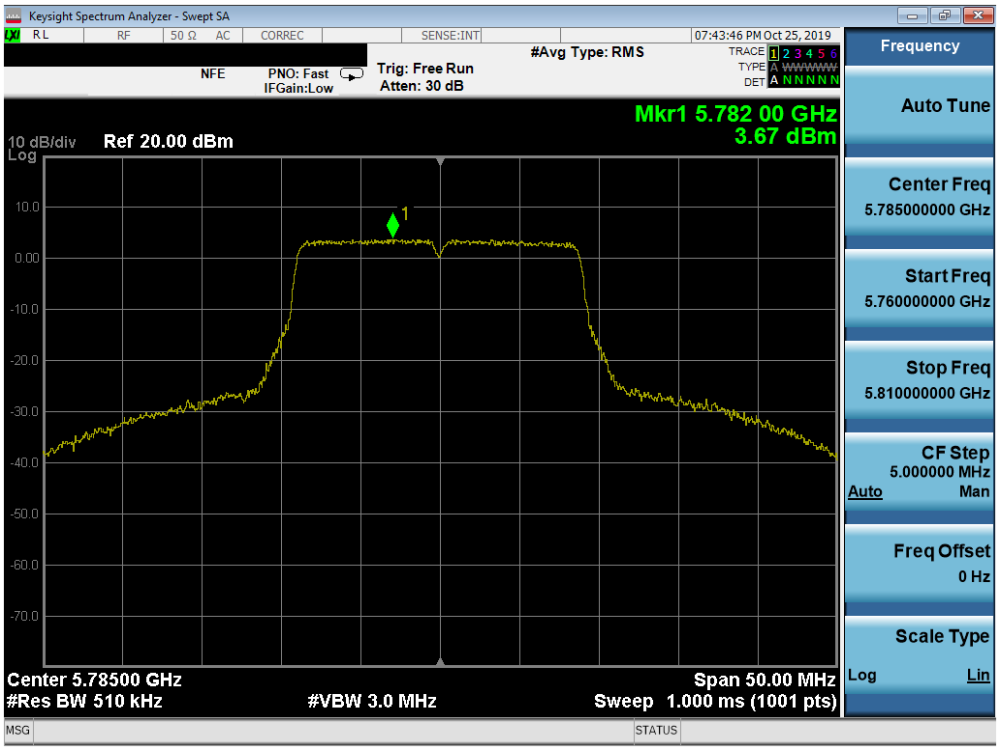


Plot 7-253. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 3) – Ch. 149)



Plot 7-254. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 3) – Ch. 157)

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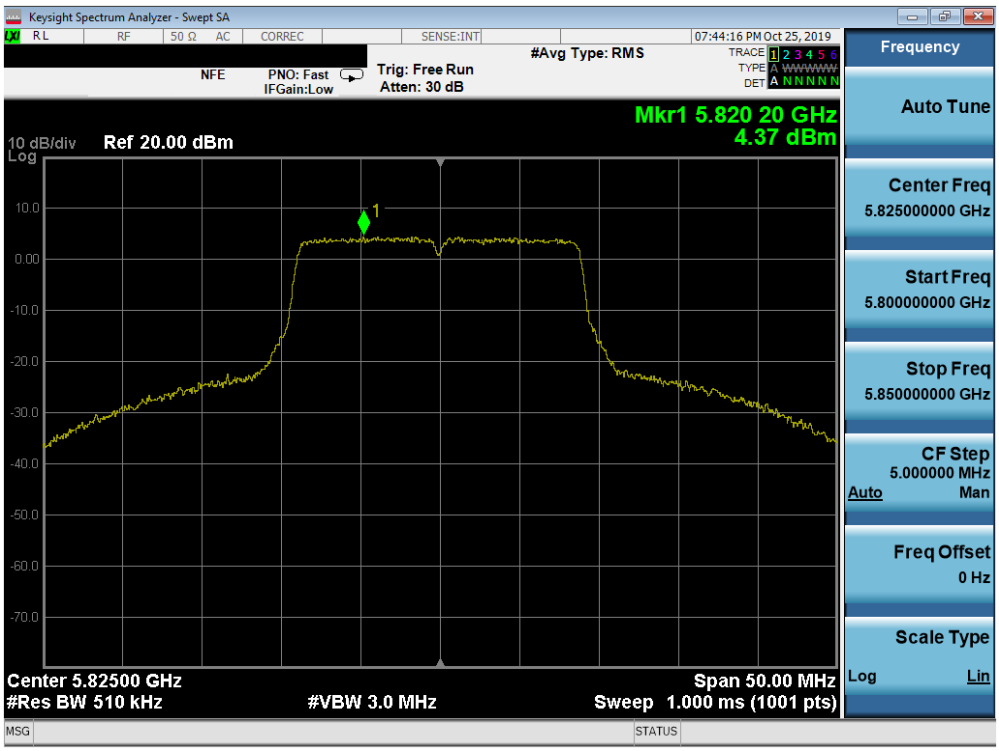
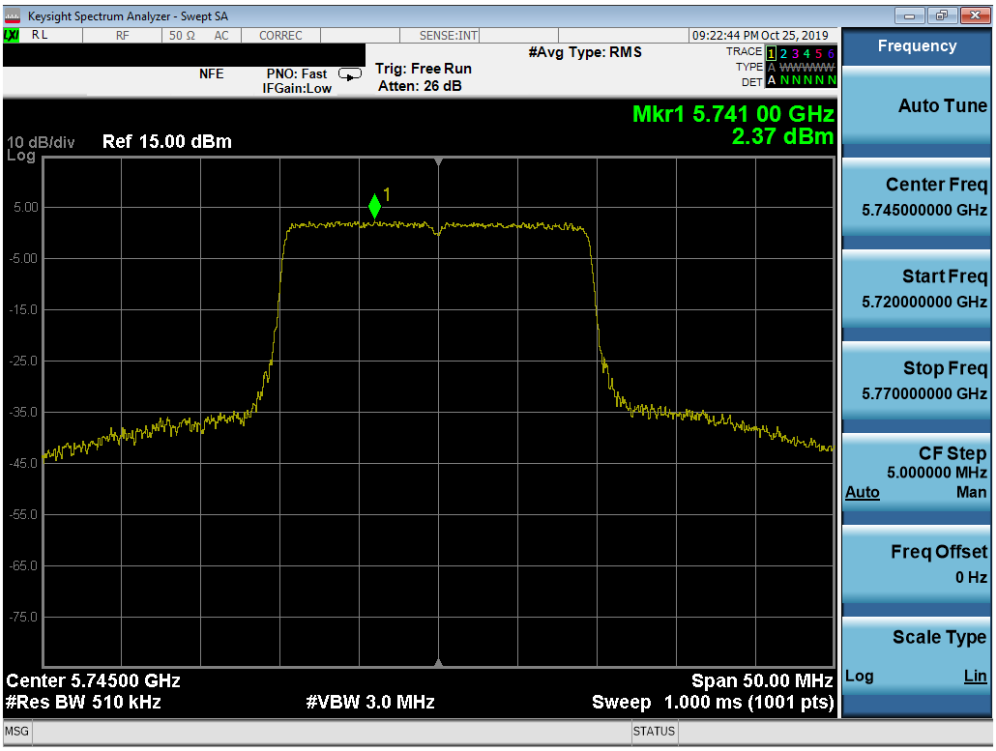


Plot 7-255. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 3) – Ch. 165)



Plot 7-256. Power Spectral Density Plot SISO ANT2 (20MHz 802.11ax (UNII Band 3) – Ch. 149)

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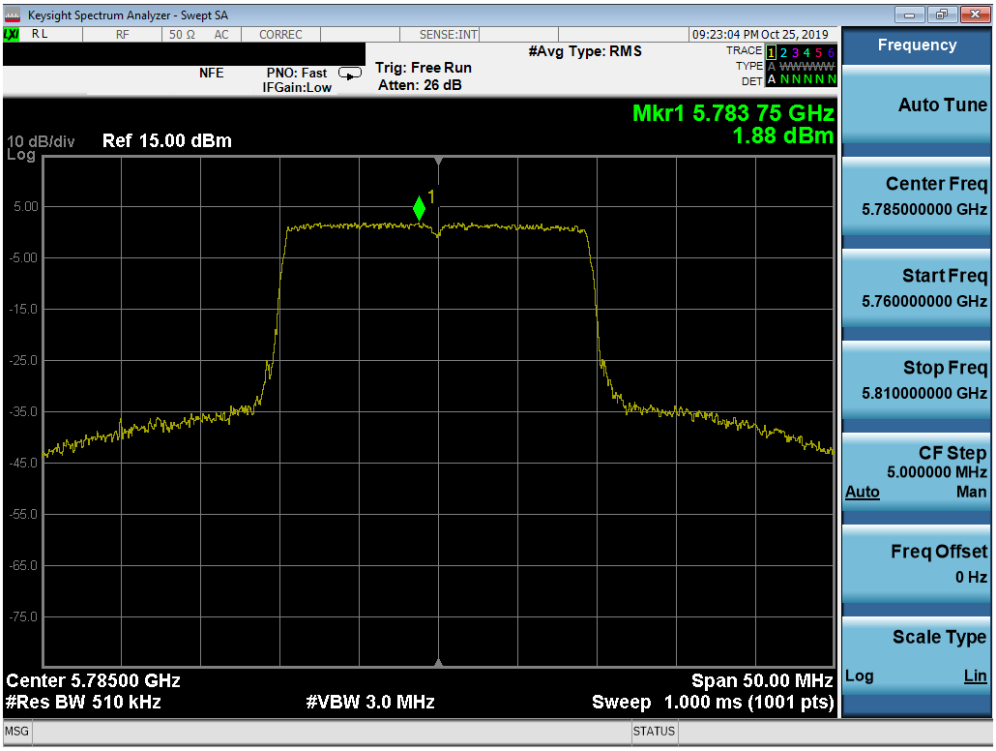
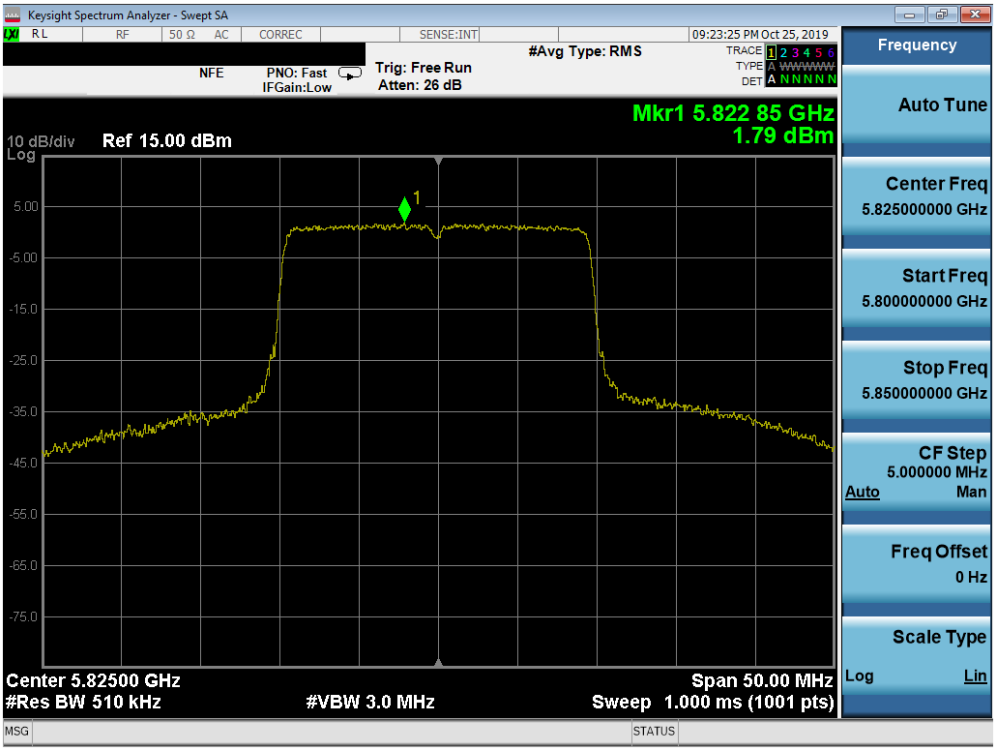


Plot 7-257. Power Spectral Density Plot SISO ANT2 (20MHz 802.11ax (UNII Band 3) – Ch. 157)



Plot 7-258. Power Spectral Density Plot SISO ANT2 (20MHz 802.11ax (UNII Band 3) – Ch. 165)

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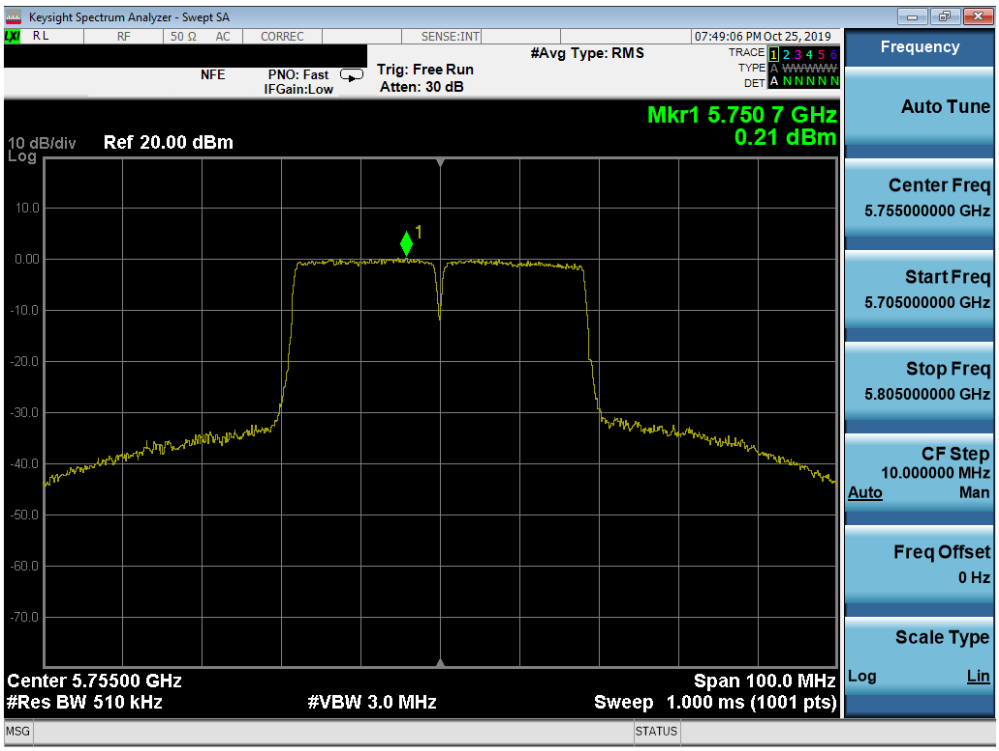
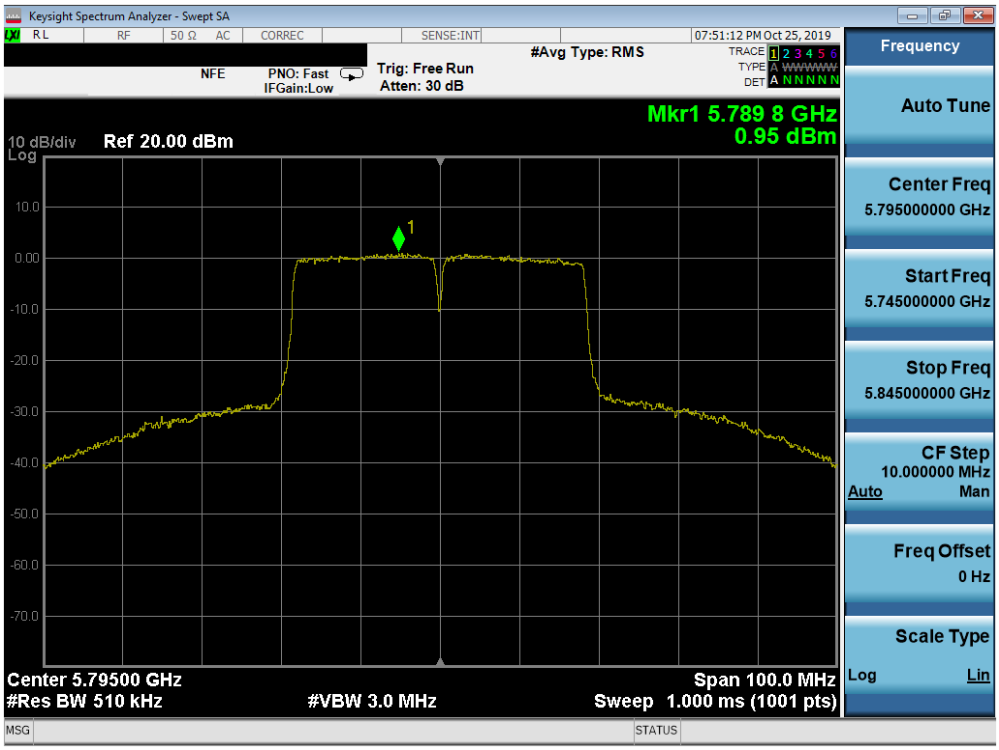


Plot 7-259. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 3) – Ch. 151)



Plot 7-260. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 3) – Ch. 159)

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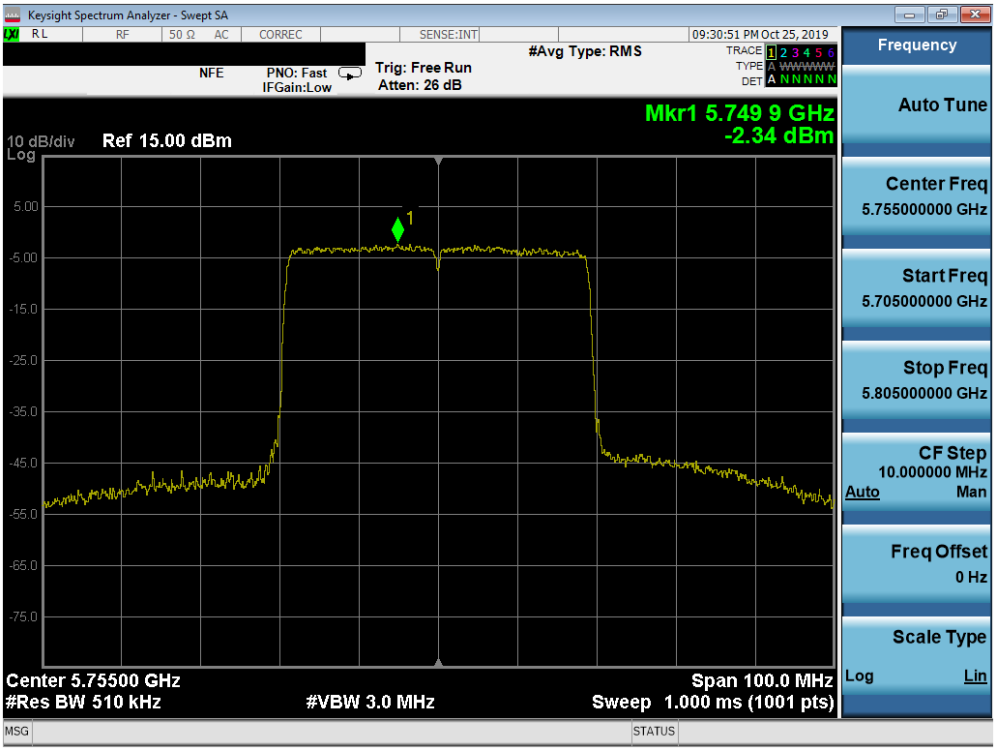
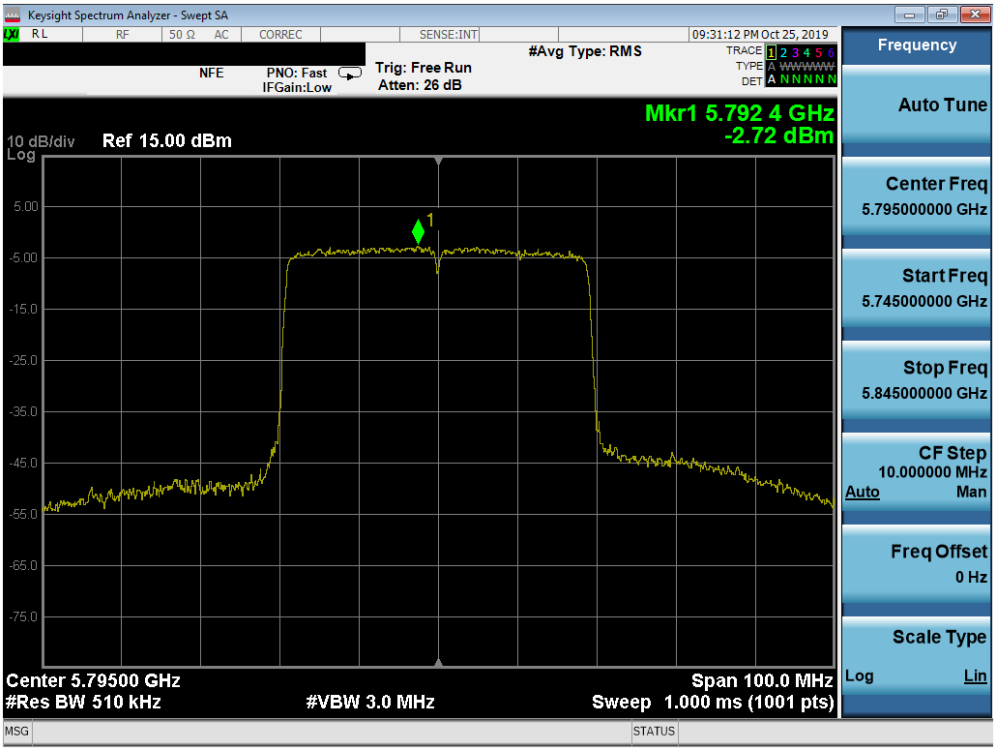


Plot 7-261. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 3) – Ch. 151)



Plot 7-262. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 3) – Ch. 159)

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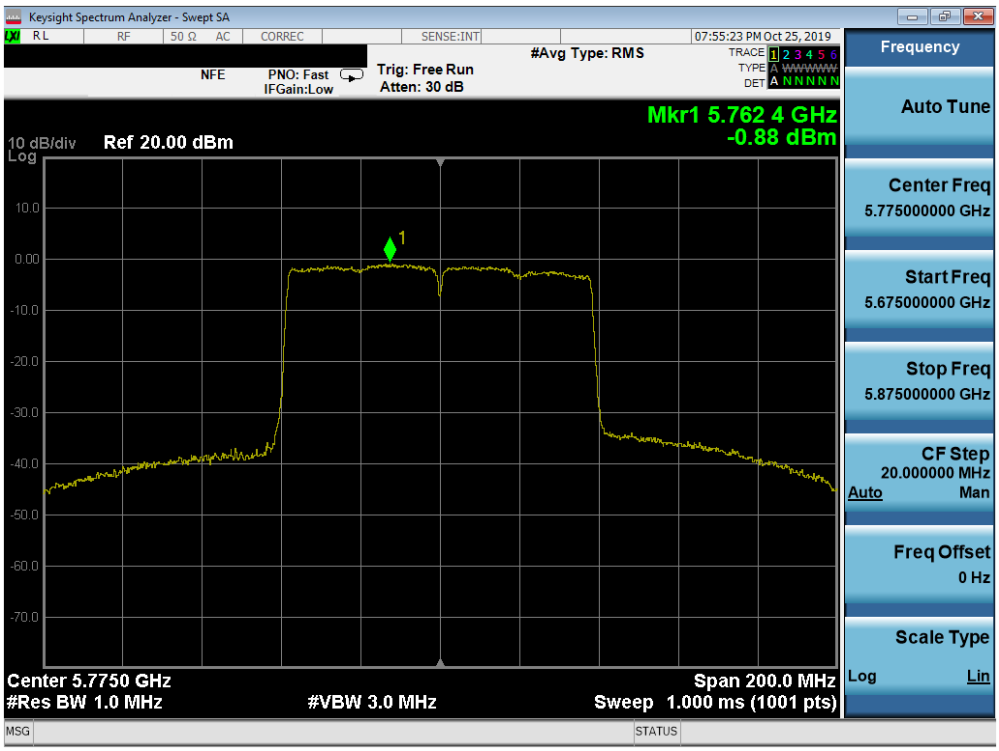
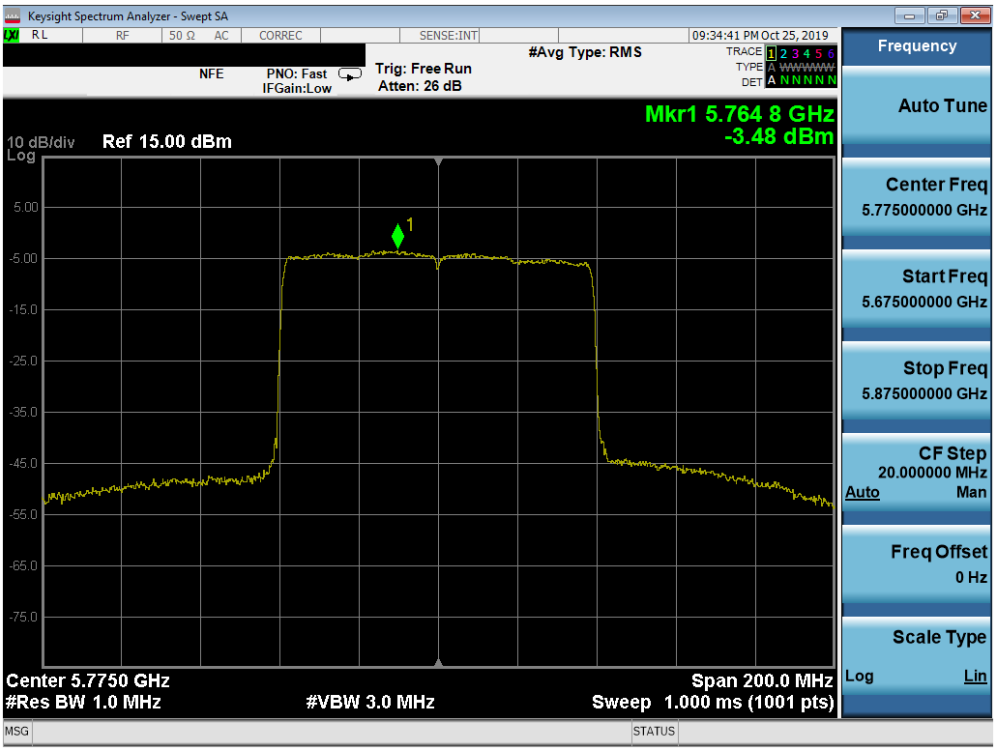


Plot 7-263. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ac (UNII Band 3) – Ch. 155)



Plot 7-264. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax (UNII Band 3) – Ch. 155)

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Summed MIMO Power Spectral Density Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Antenna-1 Power Density [dBm]	Antenna-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Power Density [dBm/MHz]	Margin [dB]
Band 1	5180	36	a	6	4.84	5.66	8.28	11.0	-2.72
	5200	40	a	6	7.15	6.98	10.08	11.0	-0.92
	5240	48	a	6	7.49	7.12	10.32	11.0	-0.68
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	5.57	5.54	8.57	11.0	-2.43
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	6.88	6.57	9.74	11.0	-1.26
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	7.16	6.79	9.99	11.0	-1.01
	5180	36	ax (20MHz)	6.5/7.2 (MCS0)	5.51	4.46	8.03	11.0	-2.97
	5200	40	ax (20MHz)	6.5/7.2 (MCS0)	5.13	4.63	7.90	11.0	-3.10
	5240	48	ax (20MHz)	6.5/7.2 (MCS0)	5.59	4.73	8.19	11.0	-2.81
	5190	38	n (40MHz)	13.5/15 (MCS0)	4.18	3.73	6.97	11.0	-4.03
	5230	46	n (40MHz)	13.5/15 (MCS0)	3.29	2.85	6.09	11.0	-4.91
	5190	38	ax (40MHz)	13.5/15 (MCS0)	-0.03	-0.37	2.81	11.0	-8.19
	5230	46	ax (40MHz)	13.5/15 (MCS0)	0.64	0.26	3.46	11.0	-7.54
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	0.04	0.40	3.23	11.0	-7.77
	5210	42	ax (80MHz)	29.3/32.5 (MCS0)	-3.73	-4.49	-1.08	11.0	-12.08
Band 2A	5260	52	a	6	7.37	6.96	10.18	11.0	-0.82
	5280	56	a	6	8.16	7.07	10.66	11.0	-0.34
	5320	64	a	6	6.09	6.65	9.39	11.0	-1.61
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	7.08	6.76	9.93	11.0	-1.07
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	7.81	6.05	10.03	11.0	-0.97
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	5.67	6.77	9.27	11.0	-1.73
	5260	52	ax (20MHz)	6.5/7.2 (MCS0)	5.36	4.87	8.13	11.0	-2.87
	5280	56	ax (20MHz)	6.5/7.2 (MCS0)	4.98	4.98	7.99	11.0	-3.01
	5320	64	ax (20MHz)	6.5/7.2 (MCS0)	5.87	4.77	8.37	11.0	-2.63
	5270	54	n (40MHz)	13.5/15 (MCS0)	3.98	2.81	6.44	11.0	-4.56
	5310	62	n (40MHz)	13.5/15 (MCS0)	4.61	3.80	7.23	11.0	-3.77
	5270	54	ax (40MHz)	13.5/15 (MCS0)	0.33	0.00	3.18	11.0	-7.82
	5310	62	ax (40MHz)	13.5/15 (MCS0)	1.12	-0.27	3.49	11.0	-7.51
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	0.48	-0.18	3.17	11.0	-7.83
	5290	58	ax (80MHz)	29.3/32.5 (MCS0)	-4.29	-3.93	-1.10	11.0	-12.10
Band 2C	5500	100	a	6	6.17	5.88	9.04	11.0	-1.96
	5600	120	a	6	7.35	6.72	10.06	11.0	-0.94
	5720	144	a	6	7.82	7.22	10.54	11.0	-0.46
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	5.69	5.53	8.62	11.0	-2.38
	5600	120	n (20MHz)	6.5/7.2 (MCS0)	7.06	6.95	10.02	11.0	-0.98
	5720	144	n (20MHz)	6.5/7.2 (MCS0)	7.54	7.49	10.53	11.0	-0.47
	5500	100	ax (20MHz)	6.5/7.2 (MCS0)	4.98	4.45	7.73	11.0	-3.27
	5600	120	ax (20MHz)	6.5/7.2 (MCS0)	5.08	4.62	7.87	11.0	-3.13
	5720	144	ax (20MHz)	6.5/7.2 (MCS0)	5.67	4.92	8.32	11.0	-2.68
	5510	102	n (40MHz)	13.5/15 (MCS0)	4.17	3.86	7.03	11.0	-3.97
	5590	118	n (40MHz)	13.5/15 (MCS0)	3.20	2.43	5.84	11.0	-5.16
	5710	142	n (40MHz)	13.5/15 (MCS0)	3.70	2.69	6.23	11.0	-4.77
	5510	102	ax (40MHz)	13.5/15 (MCS0)	3.70	-0.47	5.11	11.0	-5.89
	5590	118	ax (40MHz)	13.5/15 (MCS0)	0.75	-0.45	3.20	11.0	-7.80
	5710	142	ax (40MHz)	13.5/15 (MCS0)	0.06	0.08	3.08	11.0	-7.92
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	-0.47	0.77	3.20	11.0	-7.80
	5610	122	ac (80MHz)	29.3/32.5 (MCS0)	-1.61	-0.68	1.89	11.0	-9.11
	5690	138	ac (80MHz)	29.3/32.5 (MCS0)	-3.61	-4.09	-0.83	11.0	-11.83
	5530	106	ax (80MHz)	29.3/32.5 (MCS0)	-4.26	-4.11	-1.17	11.0	-12.17
	5610	122	ax (80MHz)	29.3/32.5 (MCS0)	-4.21	-4.23	-1.21	11.0	-12.21
	5690	138	ax (80MHz)	29.3/32.5 (MCS0)	-6.20	-6.97	-3.56	11.0	-14.56

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Table 7-27. Bands 1, 2A, 2C MIMO Conducted Power Spectral Density Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Antenna-1 Power Density [dBm]	Antenna-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Directional Antenna Gain [dBi]	e.i.r.p. Power Density [dBm/MHz]	ISED Max e.i.r.p. Power Density [dBm/MHz]	Margin [dB]
Band 1	5180	36	a	6.5/7.2 (MCS0)	4.84	5.66	8.28	-3.44	4.84	10.0	-5.16
	5200	40	a	6.5/7.2 (MCS0)	7.15	6.98	10.08	-3.68	6.40	10.0	-3.60
	5240	48	a	6.5/7.2 (MCS0)	7.49	7.12	10.32	-3.50	6.82	10.0	-3.18
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	5.57	5.54	8.57	-3.44	5.13	10.0	-4.87
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	6.88	6.57	9.74	-3.68	6.06	10.0	-3.94
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	7.16	6.79	9.99	-3.50	6.49	10.0	-3.51
	5180	36	ax (20MHz)	6.5/7.2 (MCS0)	5.51	4.46	8.03	-3.44	4.59	10.0	-5.41
	5200	40	ax (20MHz)	6.5/7.2 (MCS0)	5.13	4.63	7.90	-3.68	4.22	10.0	-5.78
	5240	48	ax (20MHz)	6.5/7.2 (MCS0)	5.59	4.73	8.19	-3.50	4.69	10.0	-5.31
	5190	38	n (40MHz)	13.5/15 (MCS0)	4.18	4.46	7.33	-3.68	3.65	10.0	-6.35
	5230	46	n (40MHz)	13.5/15 (MCS0)	3.29	4.63	7.02	-3.68	3.34	10.0	-6.66
	5190	38	ax (40MHz)	13.5/15 (MCS0)	-0.03	4.73	5.98	-3.68	2.30	10.0	-7.70
	5230	46	ax (40MHz)	13.5/15 (MCS0)	0.64	3.73	5.46	-3.68	1.78	10.0	-8.22
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	0.04	4.73	6.00	-3.44	2.56	10.0	-7.44
	5210	42	ax (80MHz)	29.3/32.5 (MCS0)	-3.73	3.73	4.45	-3.44	1.01	10.0	-8.99

Table 7-28. Band 1 MIMO e.i.r.p. Conducted Power Spectral Density Measurements (ISED)

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Antenn-1 Power Density [dBm]	Antenn-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]
Band 3	5745	149	a	6	5.01	4.18	7.63	30.0	-22.37
	5785	157	a	6	4.06	4.01	7.05	30.0	-22.95
	5825	165	a	6	3.95	3.87	6.92	30.0	-23.08
	5745	149	n (20MHz)	6.5/7.2 (MCS0)	4.02	3.96	7.00	30.0	-23.00
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	3.97	3.67	6.83	30.0	-23.17
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	3.67	4.37	7.04	30.0	-22.96
	5745	149	ax (20MHz)	6.5/7.2 (MCS0)	1.90	2.37	5.15	30.0	-24.85
	5785	157	ax (20MHz)	6.5/7.2 (MCS0)	2.00	1.88	4.95	30.0	-25.05
	5825	165	ax (20MHz)	6.5/7.2 (MCS0)	1.92	1.79	4.87	30.0	-25.13
	5755	151	n (40MHz)	13.5/15 (MCS0)	-0.20	0.21	3.02	30.0	-26.98
	5795	159	n (40MHz)	13.5/15 (MCS0)	0.16	0.95	3.58	30.0	-26.42
	5755	151	ax (40MHz)	13.5/15 (MCS0)	-2.89	-2.34	0.40	30.0	-29.60
	5795	159	ax (40MHz)	13.5/15 (MCS0)	-2.87	-2.72	0.22	30.0	-29.78
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	-1.49	-0.88	1.84	30.0	-28.16
	5775	155	ax (80MHz)	29.3/32.5 (MCS0)	-4.16	-3.48	-0.80	30.0	-30.80

Table 7-29. Band 3 MIMO Conducted Power Spectral Density Measurements

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Note:

Per ANSI C63.10-2013 Section 14.3.2.2 and KDB 662911 v02r01 Section E)2), the power spectral density at Antenna 1 and Antenna 2 were first measured separately as shown in the section above. The measured values were then summed in linear power units then converted back to dBm.

Sample MIMO Calculation:

At 5180MHz in 802.11n (20MHz BW) mode, the average conducted power spectral density was measured to be 8.13 dBm for Antenna-1 and 7.51 dBm for Antenna-2.

Antenna 1 + Antenna 2 = MIMO

(8.13 dBm + 7.51 dBm) = (6.50 mW + 5.64 mW) = 12.14 mW = 10.84 dBm

Sample e.i.r.p Power Spectral Density Calculation:

At 5180MHz in 802.11n (20MHz BW) mode, the average MIMO power density was calculated to be 10.84 dBm with directional gain of -3.50 dBi.

e.i.r.p. Power Spectral Density(dBm) = Power Spectral Density (dBm) + Ant gain (dBi)

10.84 dBm + -3.50 dBi = 7.34 dBm

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7.6 Radiated Spurious Emission Measurements – Above 1GHz

§15.407(b) §15.205 §15.209; RSS-Gen [8.9]

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 KDB 789033 D02 v02r01, and at the appropriate frequencies. All channels, modes (e.g. 802.11a, 802.11n (20MHz BW), 802.11n (40MHz BW), and 802.11ac (80MHz)), 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 in the 5.15-5.25 GHz and 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of −27 dBm/MHz.

For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of −27 dBm/MHz.

For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR and Table 6 of RSS-Gen (8.10) must not exceed the limits shown in Table 7-30 per Section 15.209 and RSS-Gen (8.9).

Frequency	Field Strength [µV/m]	Measured Distance [Meters]
Above 960.0 MHz	500	3

Table 7-30. Radiated Limits

Test Procedures Used

ANSI C63.10-2013 – Sections 12.7.7.2, 12.7.6, 12.7.5
KDB 789033 D02 v02r01 – Section G

Test Settings

Average Measurements above 1GHz (Method AD)

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. Averaging type = power (RMS)
7. Sweep time = auto couple
8. Trace was averaged over 100 sweeps

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Peak Measurements above 1GHz

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

Peak Measurements below 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1MHz
3. RBW = 120kHz
4. Detector = CISPR quasi-peak
5. Sweep time = auto couple
6. Trace was allowed to stabilize

Test Setup

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

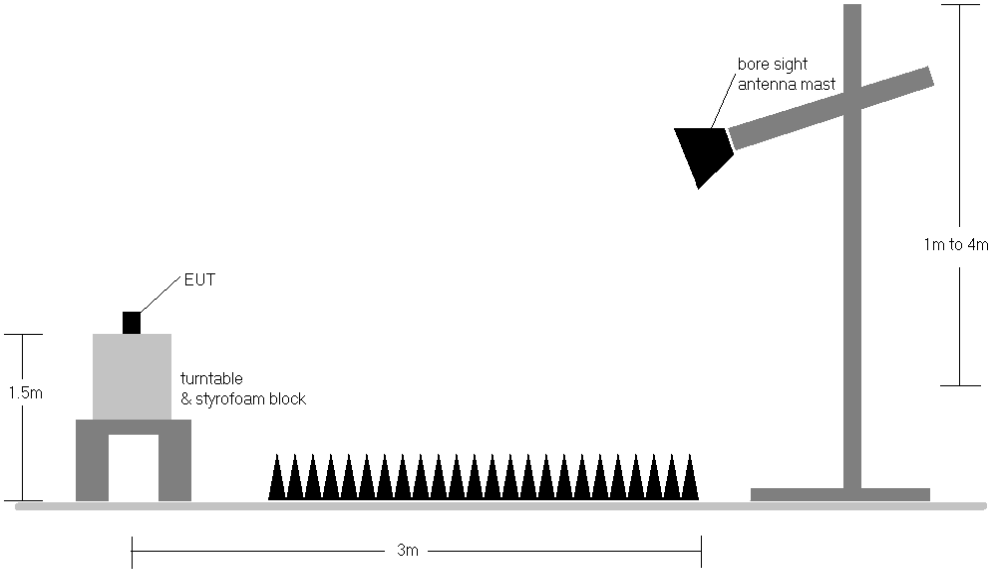

Figure 7-5. Test Instrument & Measurement Setup

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Test Notes

1. All emissions that lie in the restricted bands (denoted by a * next to the frequency) specified in §15.205 and Section 8.10 of RSS-Gen are below the limit shown in Table 7-30.
2. All spurious emissions lying in restricted bands specified in §15.205 and Section 8.10 of RSS-Gen are below the limit shown in Table 7-30. All spurious emissions that do not lie in a restricted band are subject to a peak limit of -27dBm/MHz. At a distance of 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.
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. Radiated spurious emissions were investigated while operating in MIMO mode, however, it was determined that single antenna operation produced the worst case emissions. Since the emissions produced from MIMO operation were found to be more than 20dB below the limit, the MIMO emissions are not reported.
8. 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.
9. The "-" shown in the following RSE tables are used to denote a noise floor measurement.

Sample Calculations

Determining Spurious Emissions Levels

- Field Strength Level $_{[dB\mu V/m]}$ = Analyzer Level $_{[dBm]}$ + 107 + AFCL $_{[dB/m]}$
- AFCL $_{[dB/m]}$ = Antenna Factor $_{[dB/m]}$ + Cable Loss $_{[dB]}$
- Margin $_{[dB]}$ = Field Strength Level $_{[dB\mu V/m]}$ – Limit $_{[dB\mu V/m]}$

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

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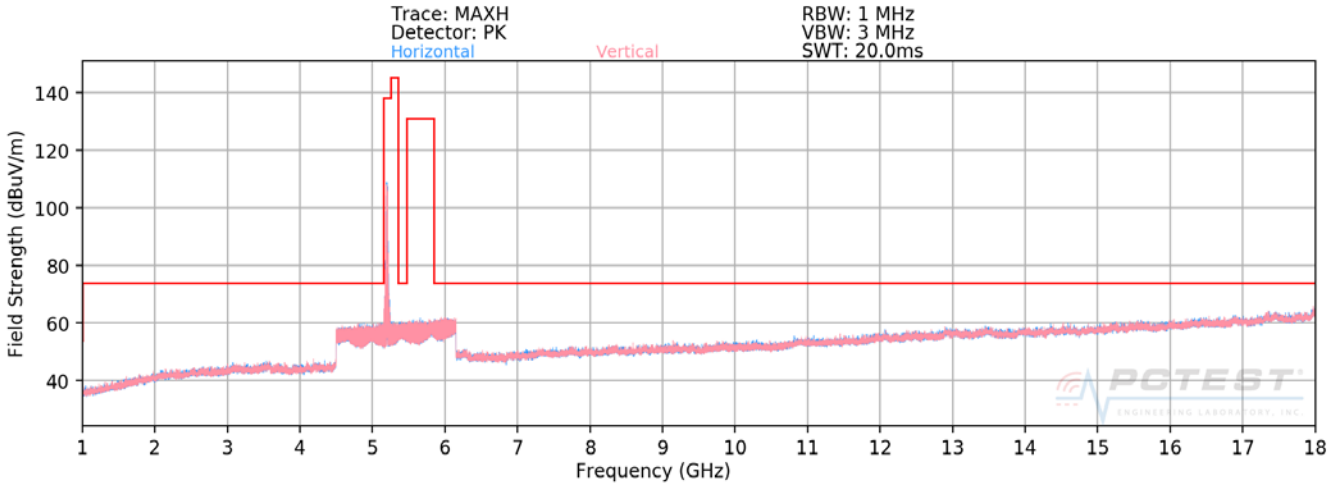
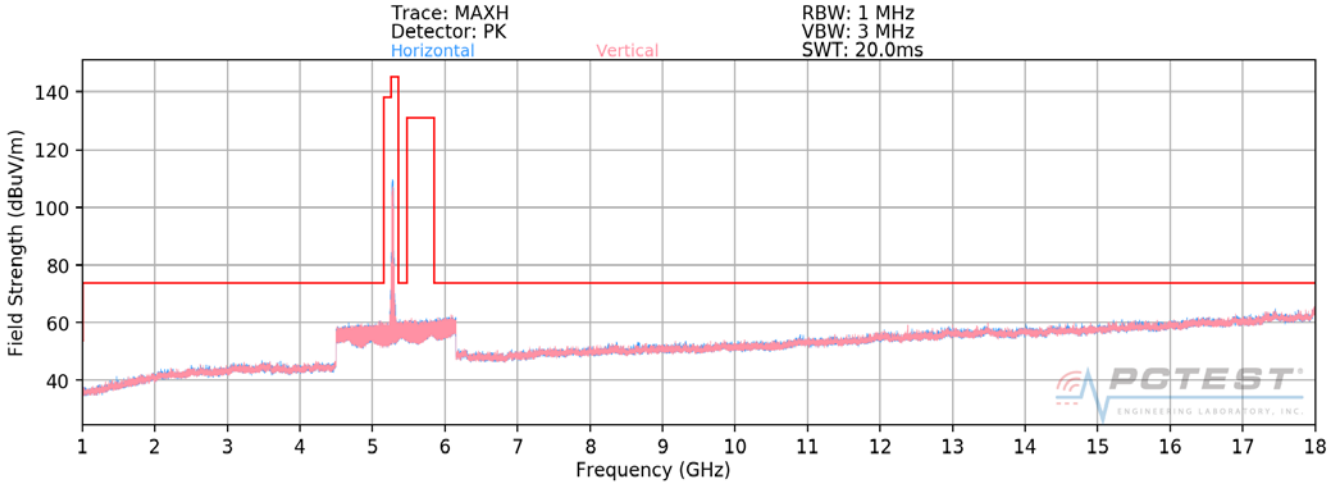
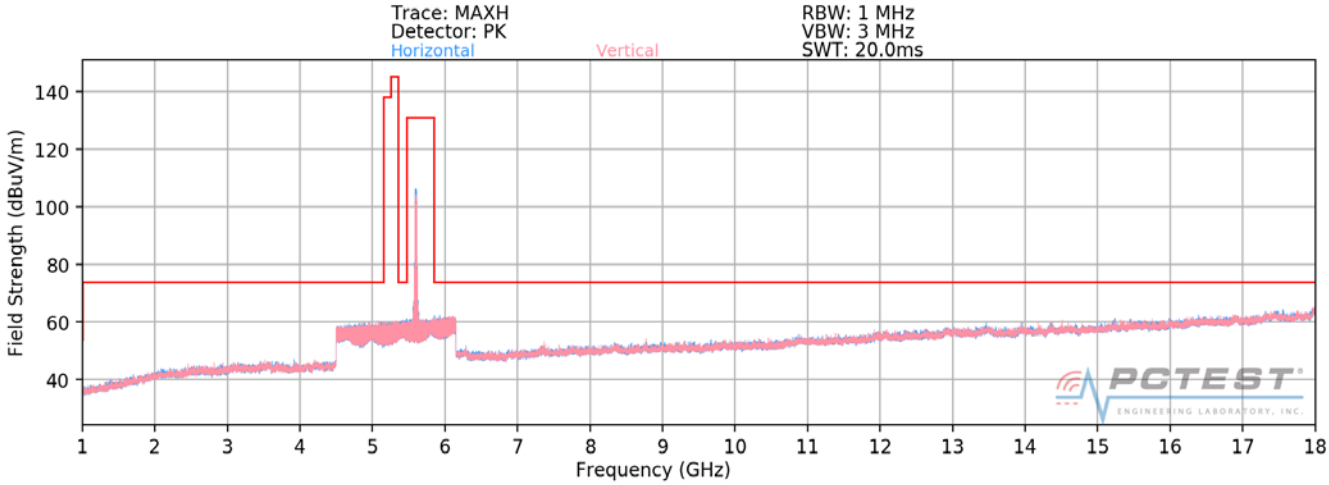
7.6.1 SISO Antenna-1 Radiated Spurious Emission Measurements



Plot 7-265. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11a – U1 Ch. 40)



Plot 7-266. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11a – U2A Ch. 56)



Plot 7-267. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11a – U2C Ch. 120)

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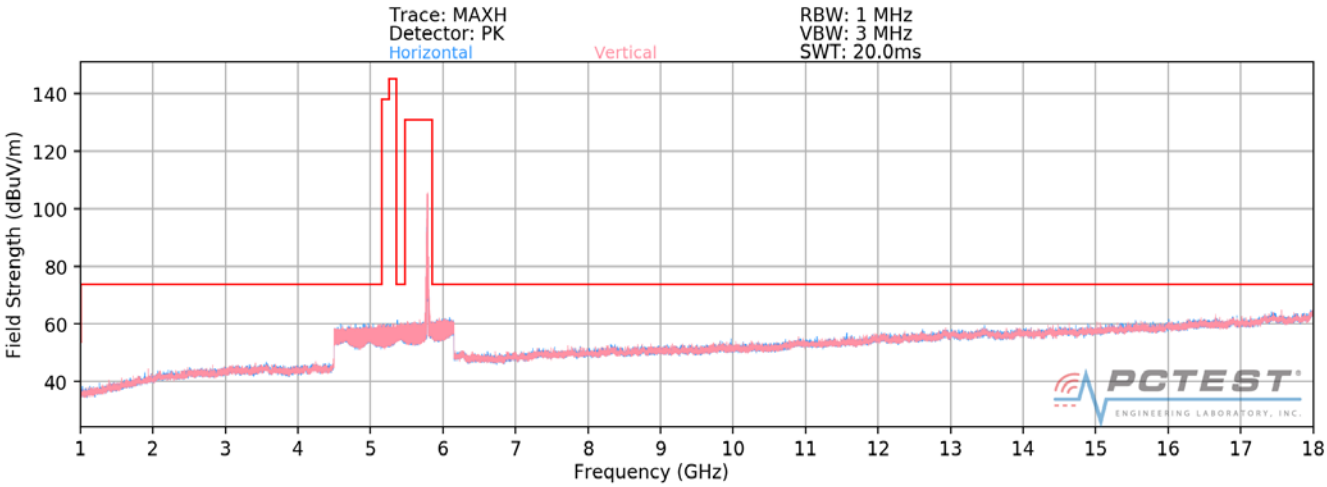

Plot 7-268. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11a – U3 Ch. 157)

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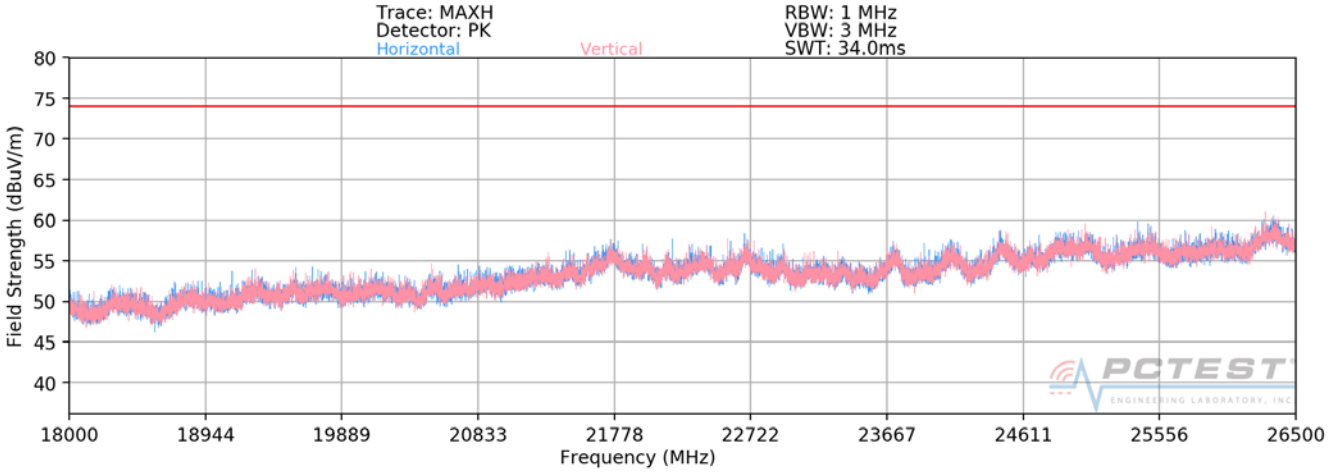
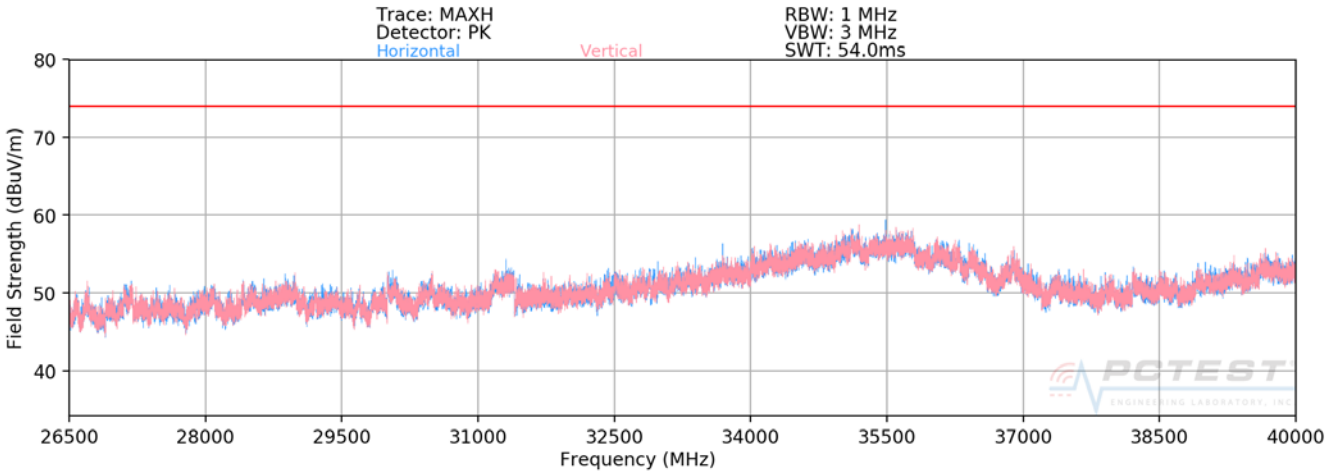
SISO Antenna-1 Radiated Spurious Emissions Measurements (Above 18GHz)



Plot 7-269. Radiated Spurious Plot 18GHz - 26.5GHz SISO ANT1 (802.11a)



Plot 7-270. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT1 (802.11a)

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SISO Antenna-1 Radiated Spurious Emission Measurements

§15.407(b) §15.205 & §15.209; RSS-Gen [8.9]

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5180MHz
Channel: 36

	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]
	10360.00	Peak	V	-	-	-65.94	11.61	0.00	52.67	68.20	-15.53
*	15540.00	Average	V	114	319	-76.73	13.79	0.00	44.06	53.98	-9.92
*	15540.00	Peak	V	114	319	-59.68	13.79	0.00	61.11	73.98	-12.87
*	20720.00	Average	V	-	-	-73.06	17.51	-9.54	41.91	53.98	-12.07
*	20720.00	Peak	V	-	-	-60.74	17.51	-9.54	54.23	73.98	-19.75
	25900.00	Peak	V	-	-	-57.87	19.88	-9.54	59.47	68.20	-8.73

Table 7-31. Radiated Measurements SISO ANT1

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5200MHz
Channel: 40

	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]
	10400.00	Peak	V	-	-	-66.84	11.62	0.00	51.78	68.20	-16.42
*	15600.00	Average	V	115	329	-74.87	12.99	0.00	45.12	53.98	-8.86
*	15600.00	Peak	V	115	329	-59.24	12.99	0.00	60.75	73.98	-13.23
*	20800.00	Average	V	-	-	-72.95	17.87	-9.54	42.37	53.98	-11.61
*	20800.00	Peak	V	-	-	-61.12	17.87	-9.54	54.20	73.98	-19.78
	26000.00	Peak	V	-	-	-58.90	20.15	-9.54	58.70	68.20	-9.50

Table 7-32. Radiated Measurements SISO ANT1

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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5240MHz
Channel: 48

	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]
	10480.00	Peak	V	-	-	-66.71	11.91	0.00	52.20	68.20	-16.00
*	15720.00	Average	V	112	316	-74.30	14.48	0.00	47.18	53.98	-6.80
*	15720.00	Peak	V	112	316	-58.52	14.48	0.00	62.96	73.98	-11.02
*	20960.00	Average	V	-	-	-74.00	18.06	-9.54	41.51	53.98	-12.46
*	20960.00	Peak	V	-	-	-60.61	18.06	-9.54	54.90	73.98	-19.07
	26200.00	Peak	V	-	-	-58.63	20.23	-9.54	59.06	68.20	-9.14

Table 7-33. Radiated Measurements SISO ANT1

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5240MHz
Channel: 48

	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]
	10480.00	Peak	V	-	-	-66.52	11.91	0.00	52.39	68.20	-15.81
*	15720.00	Average	V	122	320	-75.84	14.48	0.00	45.64	53.98	-8.34
*	15720.00	Peak	V	122	320	-60.99	14.48	0.00	60.49	73.98	-13.49
*	20960.00	Average	V	-	-	-73.16	18.06	-9.54	42.35	53.98	-11.62
*	20960.00	Peak	V	-	-	-60.53	18.06	-9.54	54.98	73.98	-18.99
	26200.00	Peak	V	-	-	-58.55	20.23	-9.54	59.14	68.20	-9.06

Table 7-34. Radiated Measurements SISO ANT1 with WCP

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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5260MHz
Channel: 52

	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]
	10520.00	Peak	V	-	-	-66.78	12.28	0.00	52.50	68.20	-15.70
*	15780.00	Average	V	114	325	-76.56	13.45	0.00	43.89	53.98	-10.09
*	15780.00	Peak	V	114	325	-60.10	13.45	0.00	60.35	73.98	-13.63
*	21040.00	Average	V	-	-	-73.41	18.36	-9.54	42.40	53.98	-11.58
*	21040.00	Peak	V	-	-	-60.44	18.36	-9.54	55.37	73.98	-18.61
	26300.00	Peak	V	-	-	-57.22	20.96	-9.54	61.19	68.20	-7.01

Table 7-35. Radiated Measurements SISO ANT1

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5280MHz
Channel: 56

	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]
	10560.00	Peak	V	-	-	-67.06	12.38	0.00	52.32	68.20	-15.88
*	15840.00	Average	V	117	318	-73.97	14.77	0.00	47.80	53.98	-6.18
*	15840.00	Peak	V	117	318	-58.19	14.77	0.00	63.58	73.98	-10.40
*	21120.00	Average	V	-	-	-72.64	18.17	-9.54	42.98	53.98	-10.99
*	21120.00	Peak	V	-	-	-60.46	18.17	-9.54	55.16	73.98	-18.81
	26400.00	Peak	V	-	-	-57.53	20.65	-9.54	60.58	68.20	-7.62

Table 7-36. Radiated Measurements SISO ANT1

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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5320MHz
Channel: 64

	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]
*	10640.00	Average	V	-	-	-79.38	12.24	0.00	39.86	53.98	-14.12
*	10640.00	Peak	V	-	-	-66.29	12.24	0.00	52.95	73.98	-21.03
*	15960.00	Average	V	177	319	-76.95	14.16	0.00	44.21	53.98	-9.77
*	15960.00	Peak	V	177	319	-61.52	14.16	0.00	59.64	73.98	-14.34
*	21280.00	Average	V	-	-	-72.31	18.57	-9.54	43.72	53.98	-10.26
*	21280.00	Peak	V	-	-	-59.93	18.57	-9.54	56.10	73.98	-17.88
	26600.00	Peak	V	-	-	-51.90	5.16	-9.54	50.72	68.20	-17.48

Table 7-37. Radiated Measurements SISO ANT1

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5280MHz
Channel: 56

	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]
	10560.00	Peak	V	-	-	-66.66	12.38	0.00	52.72	68.20	-15.48
*	15840.00	Average	V	183	368	-77.05	14.77	0.00	44.72	53.98	-9.26
*	15840.00	Peak	V	183	368	-65.13	14.77	0.00	56.64	73.98	-17.34
*	21120.00	Average	V	-	-	-71.55	18.17	-9.54	44.07	53.98	-9.90
*	21120.00	Peak	V	-	-	-59.89	18.17	-9.54	55.73	73.98	-18.24
	26400.00	Peak	V	-	-	-57.64	20.65	-9.54	60.47	68.20	-7.73

Table 7-38. Radiated Measurements SISO ANT1 with WCP

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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5500MHz
Channel: 100

	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]
*	11000.00	Average	V	-	-	-79.57	12.63	0.00	40.06	53.98	-13.91
*	11000.00	Peak	V	-	-	-67.11	12.63	0.00	52.52	73.98	-21.45
	16500.00	Peak	V	121	315	-65.00	15.01	0.00	57.01	68.20	-11.19
	22000.00	Peak	V	-	-	-60.02	19.12	-9.54	56.55	68.20	-11.65
	27500.00	Peak	V	-	-	-50.52	3.98	-9.54	50.92	68.20	-17.28

Table 7-39. Radiated Measurements SISO ANT1

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5600MHz
Channel: 120

	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]
*	11200.00	Average	V	-	-	-79.31	12.57	0.00	40.26	53.98	-13.72
*	11200.00	Peak	V	-	-	-66.28	12.57	0.00	53.29	73.98	-20.69
	16800.00	Peak	V	116	325	-63.87	16.13	0.00	59.26	68.20	-8.94
*	22400.00	Average	V	-	-	-73.40	20.03	-9.54	44.09	53.98	-9.89
*	22400.00	Peak	V	-	-	-60.86	20.03	-9.54	56.63	73.98	-17.35
	28000.00	Peak	V	-	-	-50.70	4.70	-9.54	51.46	68.20	-16.74

Table 7-40. Radiated Measurements SISO ANT1

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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5720MHz
Channel: 144

	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]
*	11440.00	Average	V	180	345	-77.56	12.86	0.00	42.30	53.98	-11.68
*	11440.00	Peak	V	180	345	-64.55	12.86	0.00	55.31	73.98	-18.67
	17160.00	Peak	V	-	-	-66.72	17.87	0.00	58.15	68.20	-10.05
*	22880.00	Average	V	-	-	-72.37	19.50	-9.54	44.59	53.98	-9.39
*	22880.00	Peak	V	-	-	-60.04	19.50	-9.54	56.92	73.98	-17.06
	28600.00	Peak	V	-	-	-50.90	5.14	-9.54	51.70	68.20	-16.50

Table 7-41. Radiated Measurements SISO ANT1

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5600MHz
Channel: 120

	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]
*	11200.00	Average	V	-	-	-78.03	12.57	0.00	41.54	53.98	-12.44
*	11200.00	Peak	V	-	-	-66.27	12.57	0.00	53.30	73.98	-20.68
	16800.00	Peak	V	123	313	-64.77	16.13	0.00	58.36	68.20	-9.84
*	22400.00	Average	V	-	-	-72.40	20.03	-9.54	45.09	53.98	-8.89
*	22400.00	Peak	V	-	-	-60.48	20.03	-9.54	57.01	73.98	-16.97
	28000.00	Peak	V	-	-	-49.00	4.70	-9.54	53.16	68.20	-15.04

Table 7-42. Radiated Measurements SISO ANT1 with WCP

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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5745MHz
Channel: 149

	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]
*	11490.00	Average	V	124	317	-75.99	13.52	0.00	44.53	53.98	-9.45
*	11490.00	Peak	V	124	317	-62.44	13.52	0.00	58.08	73.98	-15.90
	17235.00	Peak	V	-	-	-66.03	17.74	0.00	58.71	68.20	-9.49
*	22980.00	Average	V	-	-	-72.93	19.89	-9.54	44.41	53.98	-9.57
*	22980.00	Peak	V	-	-	-61.08	19.89	-9.54	56.26	73.98	-17.72
	28725.00	Peak	V	-	-	-50.65	4.66	-9.54	51.47	68.20	-16.73

Table 7-43. Radiated Measurements SISO ANT1

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5785MHz
Channel: 157

	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]
*	11570.00	Average	V	186	324	-76.09	12.59	0.00	43.50	53.98	-10.48
*	11570.00	Peak	V	186	324	-63.06	12.59	0.00	56.53	73.98	-17.45
	17355.00	Peak	V	-	-	-66.21	19.47	0.00	60.26	68.20	-7.94
	23140.00	Peak	V	-	-	-60.39	19.59	-9.54	56.66	68.20	-11.54
	28925.00	Peak	V	-	-	-51.06	4.43	-9.54	50.83	68.20	-17.37

Table 7-44. Radiated Measurements SISO ANT1

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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5825MHz
Channel: 165

	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]
*	11650.00	Average	V	112	329	-75.12	13.51	0.00	45.39	53.98	-8.59
*	11650.00	Peak	V	112	329	-62.03	13.51	0.00	58.48	73.98	-15.50
	17475.00	Peak	V	-	-	-66.39	19.87	0.00	60.48	68.20	-7.72
	23300.00	Peak	V	-	-	-60.55	18.93	-9.54	55.84	68.20	-12.36
	29125.00	Peak	V	-	-	-49.92	3.48	-9.54	51.02	68.20	-17.18

Table 7-45. Radiated Measurements SISO ANT1

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5825MHz
Channel: 165

	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]
*	11650.00	Average	V	152	328	-75.81	13.51	0.00	44.70	53.98	-9.28
*	11650.00	Peak	V	152	328	-62.77	13.51	0.00	57.74	73.98	-16.24
	17475.00	Peak	V	-	-	-65.80	19.87	0.00	61.07	68.20	-7.13
	23300.00	Peak	V	-	-	-60.71	18.93	-9.54	55.68	68.20	-12.52
	29125.00	Peak	V	-	-	-50.46	3.48	-9.54	50.48	68.20	-17.72

Table 7-46. Radiated Measurements SISO ANT1 with WCP

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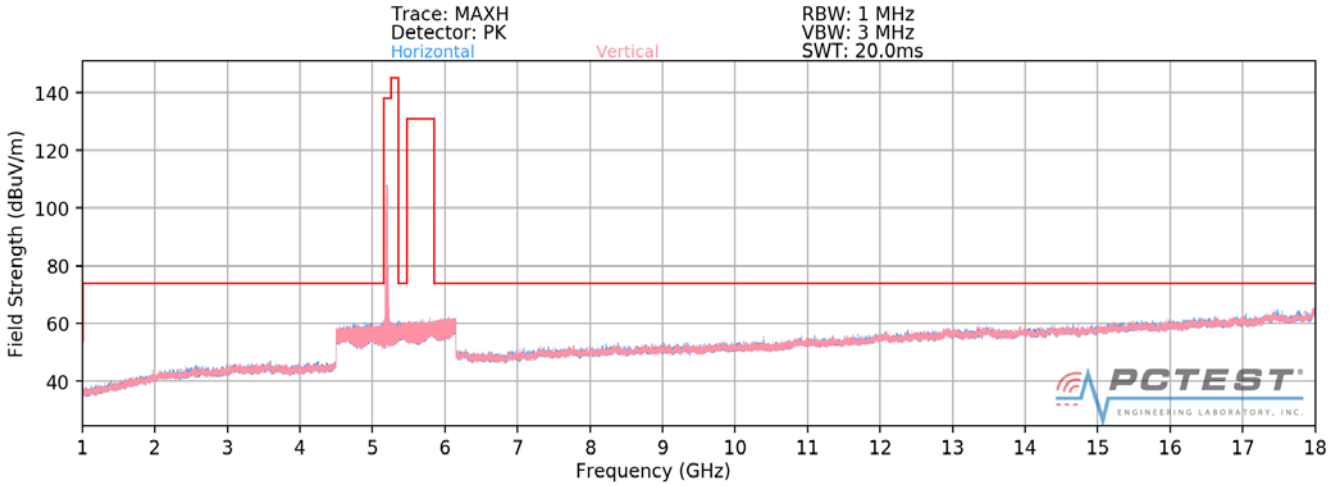
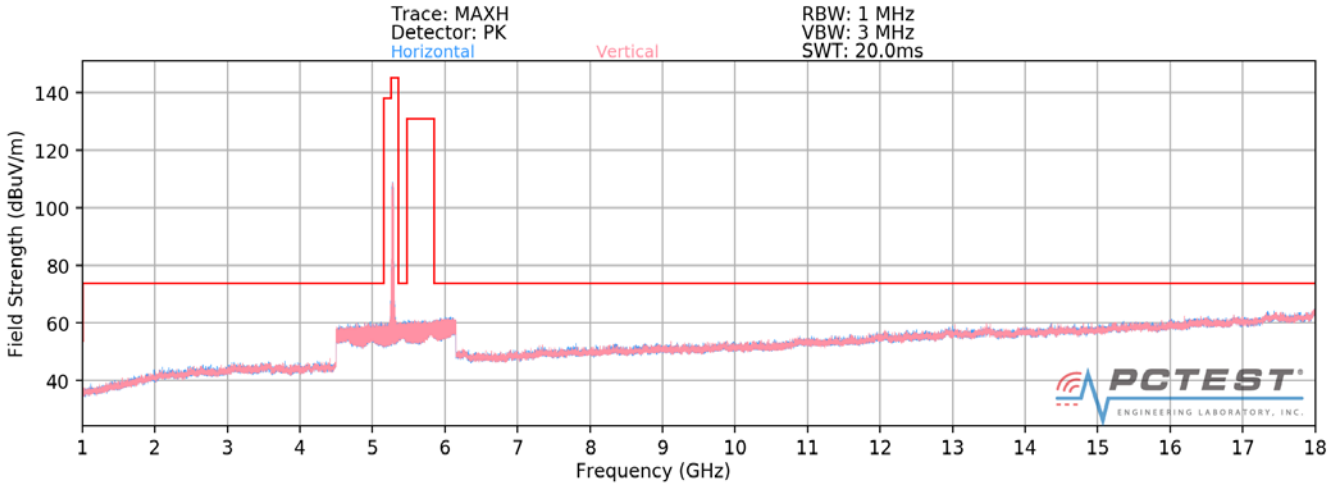
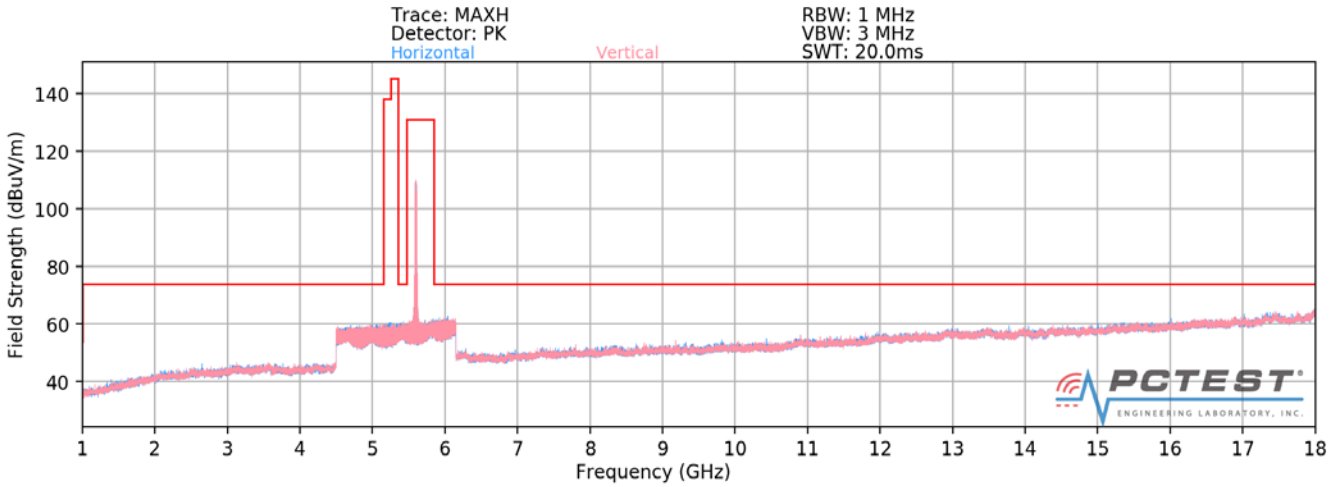
7.6.2 SISO Antenna-2 Radiated Spurious Emission Measurements



Plot 7-271. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11a – U1 Ch. 40)



Plot 7-272. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11a – U2A Ch. 56)



Plot 7-273. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11a – U2C Ch. 120)

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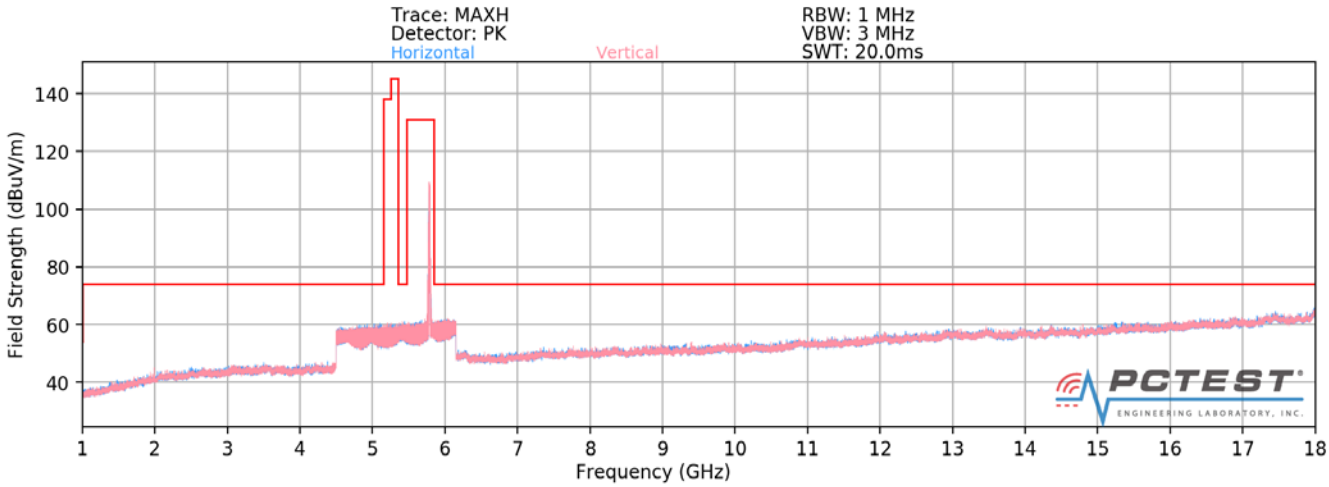

Plot 7-274. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11a – U3 Ch. 157)

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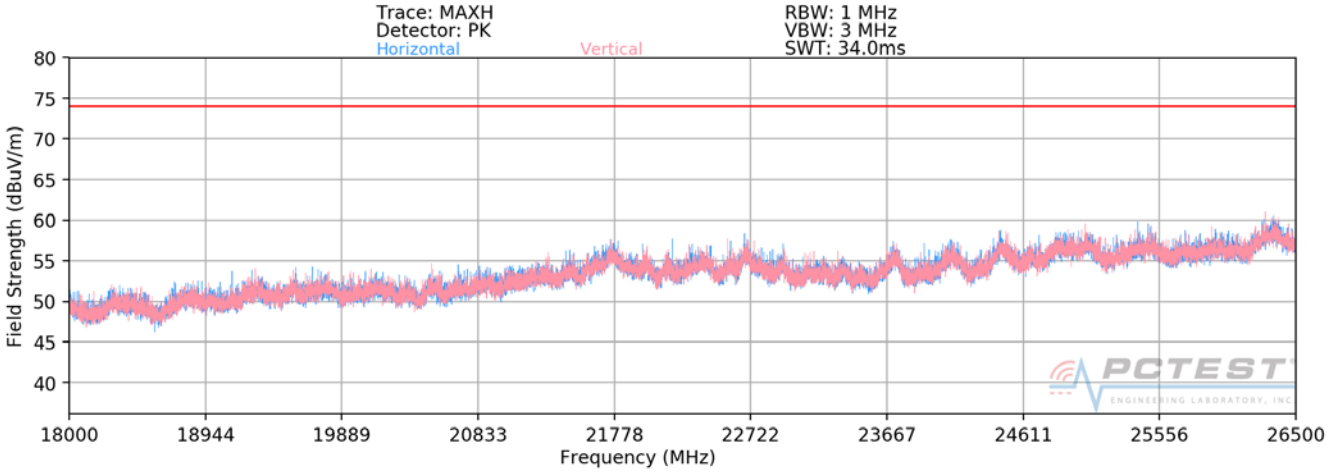
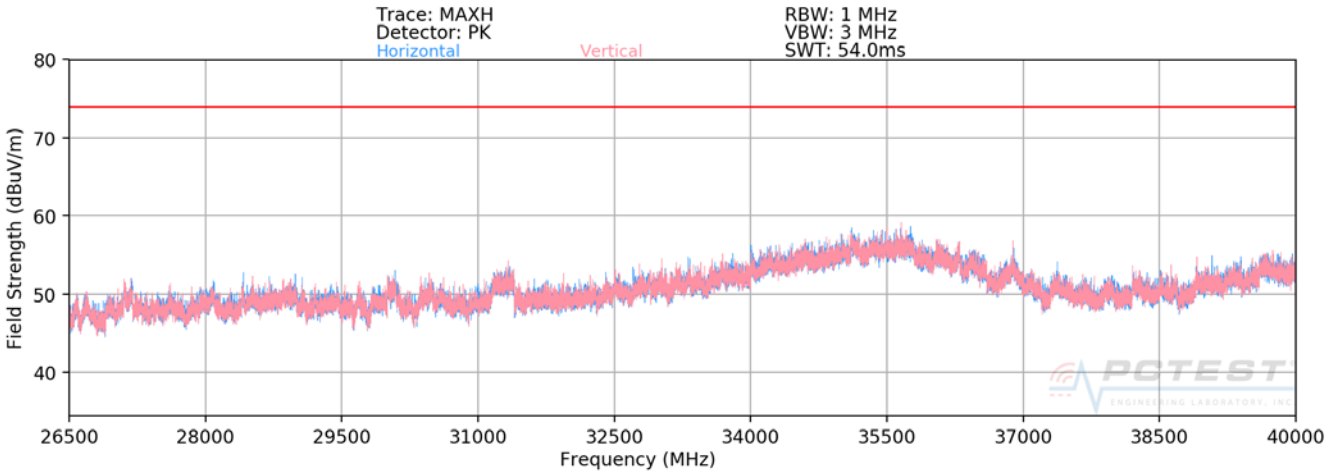
SISO Antenna-2 Radiated Spurious Emissions Measurements (Above 18GHz)



Plot 7-275. Radiated Spurious Plot above 18GHz - 26.5GHz SISO ANT2 (802.11a)



Plot 7-276. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT2 (802.11a)

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SISO Antenna-2 Radiated Spurious Emission Measurements

§15.407(b) §15.205 & §15.209; RSS-Gen [8.9]

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5180MHz
Channel: 36

	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]
	10360.00	Peak	H	-	-	-66.57	11.61	0.00	52.04	68.20	-16.16
*	15540.00	Average	H	-	-	-79.56	13.79	0.00	41.23	53.98	-12.75
*	15540.00	Peak	H	-	-	-66.56	13.79	0.00	54.23	73.98	-19.75
*	20720.00	Average	H	-	-	-72.84	17.51	-9.54	42.13	53.98	-11.85
*	20720.00	Peak	H	-	-	-59.73	17.51	-9.54	55.24	73.98	-18.74
	25900.00	Peak	H	-	-	-58.61	19.88	-9.54	58.73	68.20	-9.47

Table 7-47. Radiated Measurements SISO ANT2

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5200MHz
Channel: 40

	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]
	10400.00	Peak	H	-	-	-67.01	11.62	0.00	51.61	68.20	-16.59
*	15600.00	Average	H	-	-	-79.51	12.99	0.00	40.48	53.98	-13.50
*	15600.00	Peak	H	-	-	-67.62	12.99	0.00	52.37	73.98	-21.61
*	20800.00	Average	H	-	-	-72.84	17.87	-9.54	42.48	53.98	-11.50
*	20800.00	Peak	H	-	-	-59.73	17.87	-9.54	55.59	73.98	-18.39
	26000.00	Peak	H	-	-	-58.61	20.15	-9.54	58.99	68.20	-9.21

Table 7-48. Radiated Measurements SISO ANT2

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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5240MHz
Channel: 48

	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]
	10480.00	Peak	H	-	-	-67.07	11.91	0.00	51.84	68.20	-16.36
*	15720.00	Average	H	-	-	-79.56	14.48	0.00	41.92	53.98	-12.06
*	15720.00	Peak	H	-	-	-66.56	14.48	0.00	54.92	73.98	-19.06
*	20960.00	Average	H	-	-	-74.52	18.06	-9.54	40.99	53.98	-12.98
*	20960.00	Peak	H	-	-	-60.72	18.06	-9.54	54.79	73.98	-19.18
	26200.00	Peak	H	-	-	-58.50	20.23	-9.54	59.19	68.20	-9.01

Table 7-49. Radiated Measurements SISO ANT2

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5260MHz
Channel: 52

	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]
	10520.00	Peak	H	-	-	-73.11	12.28	0.00	46.17	68.20	-22.03
*	15780.00	Average	H	-	-	-85.73	13.45	0.00	34.72	53.98	-19.26
*	15780.00	Peak	H	-	-	-74.25	13.45	0.00	46.20	73.98	-27.78
*	21040.00	Average	H	-	-	-72.62	18.36	-9.54	43.19	53.98	-10.79
*	21040.00	Peak	H	-	-	-61.01	18.36	-9.54	54.80	73.98	-19.18
	26300.00	Peak	H	-	-	-57.08	20.96	-9.54	61.33	68.20	-6.87

Table 7-50. Radiated Measurements SISO ANT2

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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5280MHz
Channel: 56

	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]
	10560.00	Peak	H	-	-	-73.61	12.38	0.00	45.77	68.20	-22.43
*	15840.00	Average	H	-	-	-85.36	14.77	0.00	36.41	53.98	-17.57
*	15840.00	Peak	H	-	-	-73.97	14.77	0.00	47.80	73.98	-26.18
*	21120.00	Average	H	-	-	-72.56	18.17	-9.54	43.06	53.98	-10.91
*	21120.00	Peak	H	-	-	-60.48	18.17	-9.54	55.14	73.98	-18.83
	26400.00	Peak	H	-	-	-58.49	20.65	-9.54	59.62	68.20	-8.58

Table 7-51. Radiated Measurements SISO ANT2

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5320MHz
Channel: 64

	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]
*	10640.00	Average	H	-	-	-84.33	12.24	0.00	34.91	53.98	-19.07
*	10640.00	Peak	H	-	-	-74.16	12.24	0.00	45.08	73.98	-28.90
*	15960.00	Average	H	-	-	-85.66	14.16	0.00	35.50	53.98	-18.48
*	15960.00	Peak	H	-	-	-74.33	14.16	0.00	46.83	73.98	-27.15
*	21280.00	Average	H	-	-	-72.58	18.57	-9.54	43.45	53.98	-10.53
*	21280.00	Peak	H	-	-	-59.41	18.57	-9.54	56.62	73.98	-17.36
	26600.00	Peak	H	-	-	-51.93	5.16	-9.54	50.69	68.20	-17.51

Table 7-52. Radiated Measurements SISO ANT2

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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5500MHz
Channel: 100

	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]
*	11000.00	Average	H	-	-	-84.34	12.63	0.00	35.29	53.98	-18.68
*	11000.00	Peak	H	-	-	-73.40	12.63	0.00	46.23	73.98	-27.74
	16500.00	Peak	H	-	-	-74.63	15.01	0.00	47.38	68.20	-20.82
	22000.00	Peak	H	-	-	-59.76	19.12	-9.54	56.81	68.20	-11.39
	27500.00	Peak	H	-	-	-50.92	3.98	-9.54	50.52	68.20	-17.68

Table 7-53. Radiated Measurements SISO ANT2

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5600MHz
Channel: 120

	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]
*	11200.00	Average	H	-	-	-84.35	12.57	0.00	35.22	53.98	-18.76
*	11200.00	Peak	H	-	-	-74.72	12.57	0.00	44.85	73.98	-29.13
	16800.00	Peak	H	-	-	-74.81	16.13	0.00	48.32	68.20	-19.88
*	22400.00	Average	H	-	-	-72.30	20.03	-9.54	45.19	53.98	-8.79
*	22400.00	Peak	H	-	-	-59.66	20.03	-9.54	57.83	73.98	-16.15
	28000.00	Peak	H	-	-	-51.43	4.70	-9.54	50.73	68.20	-17.47

Table 7-54. Radiated Measurements SISO ANT2

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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5720MHz
Channel: 144

	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]
*	11440.00	Average	H	-	-	-84.07	12.86	0.00	35.79	53.98	-18.19
*	11440.00	Peak	H	-	-	-73.71	12.86	0.00	46.15	73.98	-27.83
	17160.00	Peak	H	-	-	-74.68	17.87	0.00	50.19	68.20	-18.01
*	22880.00	Average	H	-	-	-73.15	19.50	-9.54	43.81	53.98	-10.17
*	22880.00	Peak	H	-	-	-60.82	19.50	-9.54	56.14	73.98	-17.84
	28600.00	Peak	H	-	-	-50.62	5.14	-9.54	51.98	68.20	-16.22

Table 7-55. Radiated Measurements SISO ANT2

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5745MHz
Channel: 149

	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]
*	11490.00	Average	H	-	-	-83.29	13.52	0.00	37.23	53.98	-16.75
*	11490.00	Peak	H	-	-	-72.98	13.52	0.00	47.54	73.98	-26.44
	17235.00	Peak	H	-	-	-74.61	17.74	0.00	50.13	68.20	-18.07
*	22980.00	Average	H	-	-	-72.61	19.89	-9.54	44.73	53.98	-9.25
*	22980.00	Peak	H	-	-	-60.62	19.89	-9.54	56.72	73.98	-17.26
	28725.00	Peak	H	-	-	-50.36	4.66	-9.54	51.76	68.20	-16.44

Table 7-56. Radiated Measurements SISO ANT2

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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5785MHz
Channel: 157

	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]
*	11570.00	Average	H	-	-	-84.14	12.59	0.00	35.45	53.98	-18.53
*	11570.00	Peak	H	-	-	-74.13	12.59	0.00	45.46	73.98	-28.52
	17355.00	Peak	H	-	-	-74.55	19.47	0.00	51.92	68.20	-16.28
	23140.00	Peak	H	-	-	-60.05	19.59	-9.54	57.00	68.20	-11.20
	28925.00	Peak	H	-	-	-50.79	4.43	-9.54	51.10	68.20	-17.10

Table 7-57. Radiated Measurements SISO ANT2

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5825MHz
Channel: 165

	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]
*	11650.00	Average	H	-	-	-84.86	13.51	0.00	35.65	53.98	-18.33
*	11650.00	Peak	H	-	-	-74.29	13.51	0.00	46.22	73.98	-27.76
	17475.00	Peak	H	-	-	-74.97	19.87	0.00	51.90	68.20	-16.30
	23300.00	Peak	H	-	-	-61.27	18.93	-9.54	55.12	68.20	-13.08
	29125.00	Peak	H	-	-	-50.53	3.48	-9.54	50.41	68.20	-17.79

Table 7-58. Radiated Measurements SISO ANT2

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7.6.3 MIMO/CDD Radiated Spurious Emission Measurements

§15.407(b) §15.205 & §15.209; RSS-Gen [8.9]

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5180MHz
Channel: 36

	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]
	10360.00	Peak	V	-	-	-70.62	11.61	0.00	47.99	68.20	-20.21
*	15540.00	Average	V	227	333	-77.83	13.79	0.00	42.96	53.98	-11.02
*	15540.00	Peak	V	227	333	-63.03	13.79	0.00	57.76	73.98	-16.22
*	20720.00	Average	V	-	-	-78.01	17.51	-9.54	36.96	53.98	-17.02
*	20720.00	Peak	V	-	-	-66.18	17.51	-9.54	48.79	73.98	-25.19
	25900.00	Peak	V	-	-	-64.84	19.88	-9.54	52.50	68.20	-15.70

Table 7-59. Radiated Measurements MIMO/CDD

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5200MHz
Channel: 40

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	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]
	10400.00	Peak	V	130	340	-64.32	11.62	0.00	54.30	68.20	-13.90
*	15600.00	Average	V	130	335	-74.60	12.99	0.00	45.39	53.98	-8.59
*	15600.00	Peak	V	130	335	-62.63	12.99	0.00	57.36	73.98	-16.62
*	20800.00	Average	V	-	-	-78.15	17.87	-9.54	37.17	53.98	-16.81
*	20800.00	Peak	V	-	-	-65.97	17.87	-9.54	49.35	73.98	-24.63
	26000.00	Peak	V	-	-	-65.28	20.15	-9.54	52.32	68.20	-15.88

Table 7-60. Radiated Measurements MIMO/CDD

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5240MHz
Channel: 48

	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]
	10480.00	Peak	V	149	334	-64.90	11.91	0.00	54.01	68.20	-14.19
*	15720.00	Average	V	146	325	-73.41	14.48	0.00	48.07	53.98	-5.91
*	15720.00	Peak	V	146	325	-61.17	14.48	0.00	60.31	73.98	-13.67
*	20960.00	Average	V	150	185	-77.61	18.06	-9.54	37.90	53.98	-16.07
*	20960.00	Peak	V	150	185	-65.43	18.06	-9.54	50.08	73.98	-23.89
	26200.00	Peak	V	-	-	-66.45	20.23	-9.54	51.24	68.20	-16.96

Table 7-61. Radiated Measurements MIMO/CDD

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5240MHz
Channel: 48

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	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]
	10480.00	Peak	V	179	340	-65.57	11.91	0.00	53.34	68.20	-14.86
*	15720.00	Average	V	135	317	-74.98	14.48	0.00	46.50	53.98	-7.48
*	15720.00	Peak	V	135	317	-60.41	14.48	0.00	61.07	73.98	-12.91
*	20960.00	Average	V	-	-	-78.09	18.06	-9.54	37.42	53.98	-16.55
*	20960.00	Peak	V	-	-	-67.35	18.06	-9.54	48.16	73.98	-25.81
	26200.00	Peak	V	150	150	-60.42	20.23	-9.54	57.27	68.20	-10.93

Table 7-62. Radiated Measurements MIMO/CDD with WCP

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5260MHz
Channel: 52

	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]
	10520.00	Peak	V	123	26	-68.30	12.28	0.00	50.98	68.20	-17.22
*	15780.00	Average	V	157	323	-79.48	13.45	0.00	40.97	53.98	-13.01
*	15780.00	Peak	V	157	323	-64.75	13.45	0.00	55.70	73.98	-18.28
*	21040.00	Average	V	-	-	-77.80	18.36	-9.54	38.01	53.98	-15.97
*	21040.00	Peak	V	-	-	-66.51	18.36	-9.54	49.30	73.98	-24.68
	26300.00	Peak	V	-	-	-64.58	20.96	-9.54	53.83	68.20	-14.37

Table 7-63. Radiated Measurements MIMO/CDD

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5280MHz
Channel: 56

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	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]
	10560.00	Peak	V	-	-	-68.86	12.38	0.00	50.52	68.20	-17.68
*	15840.00	Average	V	146	329	-76.43	14.77	0.00	45.34	53.98	-8.64
*	15840.00	Peak	V	146	329	-62.11	14.77	0.00	59.66	73.98	-14.32
*	21120.00	Average	V	-	-	-77.13	18.17	-9.54	38.49	53.98	-15.48
*	21120.00	Peak	V	-	-	-66.71	18.17	-9.54	48.91	73.98	-25.06
	26400.00	Peak	V	-	-	-64.42	20.65	-9.54	53.69	68.20	-14.51

Table 7-64. Radiated Measurements MIMO/CDD

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5320MHz
Channel: 64

	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]
*	10640.00	Average	V	-	-	-79.29	12.24	0.00	39.95	53.98	-14.03
*	10640.00	Peak	V	-	-	-67.67	12.24	0.00	51.57	73.98	-22.41
*	15960.00	Average	V	200	315	-78.07	14.16	0.00	43.09	53.98	-10.89
*	15960.00	Peak	V	200	315	-64.81	14.16	0.00	56.35	73.98	-17.63
*	21280.00	Average	V	-	-	-77.09	18.57	-9.54	38.94	53.98	-15.04
*	21280.00	Peak	V	-	-	-66.63	18.57	-9.54	49.40	73.98	-24.58
	26600.00	Peak	V	-	-	-51.60	5.16	-9.54	51.02	68.20	-17.18

Table 7-65. Radiated Measurements MIMO/CDD

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters

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Operating Frequency: 5280MHz
Channel: 56

	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]
	10560.00	Peak	V	-	-	-68.67	12.38	0.00	50.71	68.20	-17.49
*	15840.00	Average	V	119	314	-75.72	14.77	0.00	46.05	53.98	-7.93
*	15840.00	Peak	V	119	314	-61.47	14.77	0.00	60.30	73.98	-13.68
*	21120.00	Average	V	-	-	-77.35	18.17	-9.54	38.27	53.98	-15.70
*	21120.00	Peak	V	-	-	-65.76	18.17	-9.54	49.86	73.98	-24.11
	26400.00	Peak	V	150	148	-60.60	20.65	-9.54	57.51	68.20	-10.69

Table 7-66. Radiated Measurements MIMO/CDD with WCP

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5500MHz
Channel: 100

	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]
*	11000.00	Average	V	-	-	-79.31	12.63	0.00	40.32	53.98	-13.65
*	11000.00	Peak	V	-	-	-66.83	12.63	0.00	52.80	73.98	-21.17
	16500.00	Peak	V	127	54	-63.99	15.01	0.00	58.02	68.20	-10.18
	22000.00	Peak	V	150	178	-63.80	19.12	-9.54	52.77	68.20	-15.43
	27500.00	Peak	V	150	176	-44.61	3.98	-9.54	56.83	68.20	-11.37

Table 7-67. Radiated Measurements MIMO/CDD

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5600MHz
Channel: 120

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	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]
*	11200.00	Average	V	206	367	-77.23	12.57	0.00	42.34	53.98	-11.64
*	11200.00	Peak	V	206	367	-63.62	12.57	0.00	55.95	73.98	-18.03
	16800.00	Peak	V	124	39	-64.17	16.13	0.00	58.96	68.20	-9.24
*	22400.00	Average	V	-	-	-77.74	20.03	-9.54	39.75	53.98	-14.23
*	22400.00	Peak	V	-	-	-66.30	20.03	-9.54	51.19	73.98	-22.79
	28000.00	Peak	V	-	-	-50.81	4.70	-9.54	51.35	68.20	-16.85

Table 7-68. Radiated Measurements MIMO/CDD

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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5720MHz
Channel: 144

	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]
*	11440.00	Average	V	198	332	-74.50	12.86	0.00	45.36	53.98	-8.62
*	11440.00	Peak	V	198	332	-61.14	12.86	0.00	58.72	73.98	-15.26
	17160.00	Peak	V	-	-	-68.01	17.87	0.00	56.86	68.20	-11.34
*	22880.00	Average	V	-	-	-77.85	19.50	-9.54	39.11	53.98	-14.87
*	22880.00	Peak	V	-	-	-65.66	19.50	-9.54	51.30	73.98	-22.68
	28600.00	Peak	V	-	-	-50.86	5.14	-9.54	51.74	68.20	-16.46

Table 7-69. Radiated Measurements MIMO/CDD

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5720MHz
Channel: 144

	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]
*	11440.00	Average	V	220	327	-75.27	12.86	0.00	44.59	53.98	-9.39
*	11440.00	Peak	V	220	327	-62.53	12.86	0.00	57.33	73.98	-16.65
	17160.00	Peak	V	-	-	-68.25	17.87	0.00	56.62	68.20	-11.58
*	22880.00	Average	V	-	-	-78.25	19.50	-9.54	38.71	53.98	-15.27
*	22880.00	Peak	V	-	-	-65.90	19.50	-9.54	51.06	73.98	-22.92
	28600.00	Peak	V	150	218	-46.88	5.14	-9.54	55.72	68.20	-12.48

Table 7-70. Radiated Measurements MIMO/CDD with WCP

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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5745MHz
Channel: 149

	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]
*	11490.00	Average	V	144	311	-72.55	13.52	0.00	47.97	53.98	-6.01
*	11490.00	Peak	V	144	311	-58.48	13.52	0.00	62.04	73.98	-11.94
	17235.00	Peak	V	131	330	-68.91	17.74	0.00	55.83	68.20	-12.37
*	22980.00	Average	V	-	-	-77.50	19.89	-9.54	39.84	53.98	-14.14
*	22980.00	Peak	V	-	-	-67.24	19.89	-9.54	50.10	73.98	-23.88
	28725.00	Peak	V	150	172	-45.06	4.66	-9.54	57.06	68.20	-11.14

Table 7-71. Radiated Measurements MIMO/CDD

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5785MHz
Channel: 157

	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]
*	11570.00	Average	V	131	324	-73.98	12.59	0.00	45.61	53.98	-8.37
*	11570.00	Peak	V	131	324	-61.79	12.59	0.00	57.80	73.98	-16.18
	17355.00	Peak	V	-	-	-68.70	19.47	0.00	57.77	68.20	-10.43
	23140.00	Peak	V	-	-	-66.56	19.59	-9.54	50.49	68.20	-17.71
	28925.00	Peak	V	150	174	-42.95	4.43	-9.54	58.94	68.20	-9.26

Table 7-72. Radiated Measurements MIMO/CDD

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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5825MHz
Channel: 165

	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]
*	11650.00	Average	V	155	319	-75.16	13.51	0.00	45.35	53.98	-8.63
*	11650.00	Peak	V	155	319	-61.84	13.51	0.00	58.67	73.98	-15.31
	17475.00	Peak	V	-	-	-68.60	19.87	0.00	58.27	68.20	-9.93
	23300.00	Peak	V	-	-	-65.50	18.93	-9.54	50.89	68.20	-17.31
	29125.00	Peak	V	-	-	-45.32	3.48	-9.54	55.62	68.20	-12.58

Table 7-73. Radiated Measurements MIMO/CDD

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5745MHz
Channel: 149

	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]
*	11490.00	Average	V	155	338	-74.38	13.52	0.00	46.14	53.98	-7.84
*	11490.00	Peak	V	155	338	-60.17	13.52	0.00	60.35	73.98	-13.63
	17235.00	Peak	V	-	-	-69.35	17.74	0.00	55.39	68.20	-12.81
*	22980.00	Average	V	-	-	-77.88	19.89	-9.54	39.46	53.98	-14.52
*	22980.00	Peak	V	-	-	-66.51	19.89	-9.54	50.83	73.98	-23.15
	28725.00	Peak	V	150	218	-43.71	4.66	-9.54	58.41	68.20	-9.79

Table 7-74. Radiated Measurements MIMO/CDD with WCP

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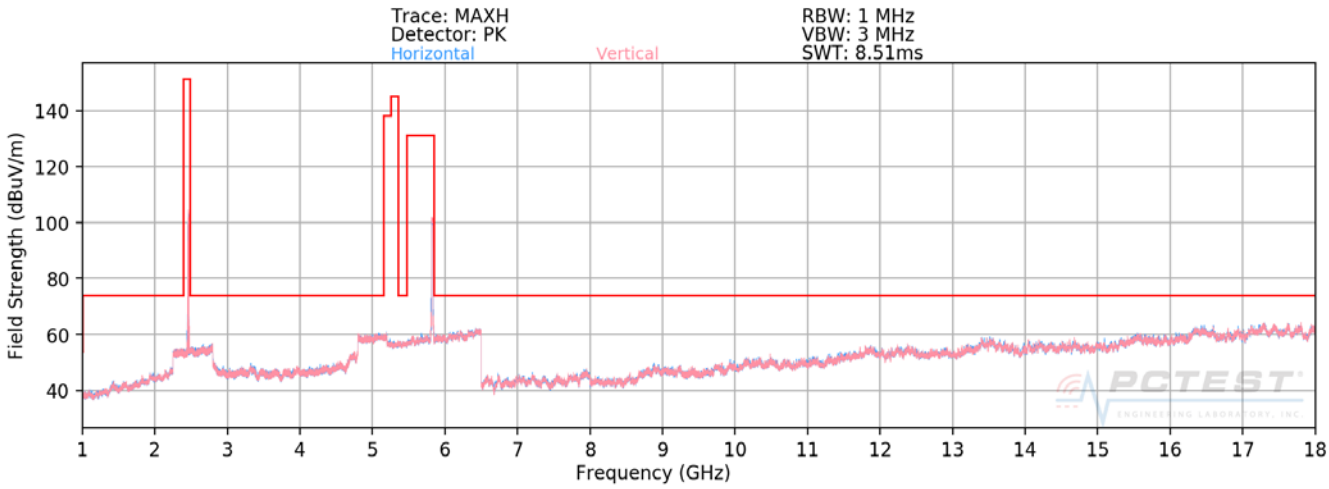
7.6.4 Simultaneous Tx Radiated Spurious Emissions Measurements

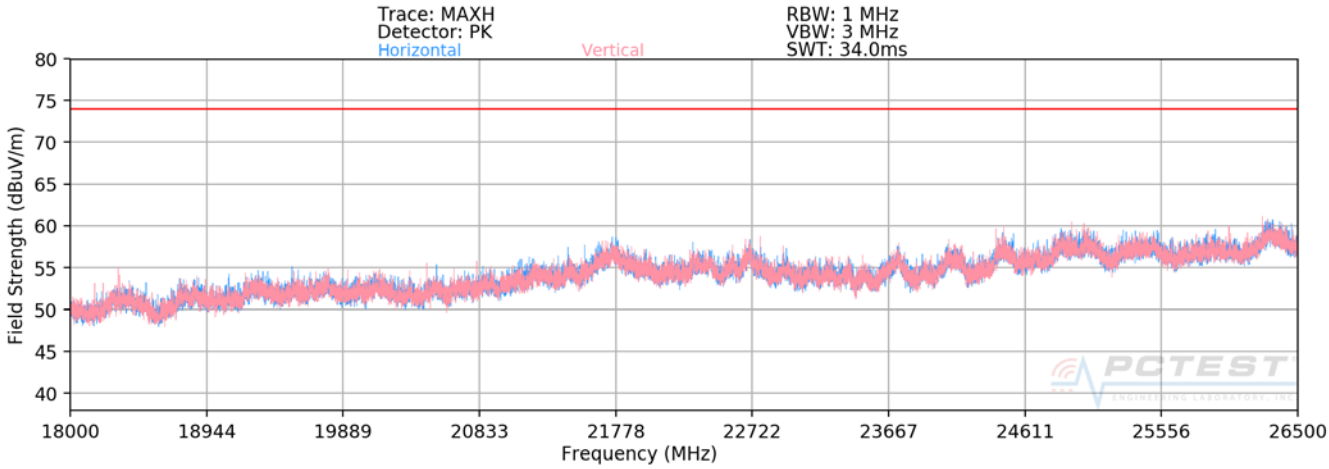
§15.407(b) §15.205 & §15.209; RSS-Gen [8.9]

Description	2.4 GHz Emission	5 GHz Emission
Antenna	1	2
Channel	6	165
Operating Frequency (MHz)	2437	5825
Data Rate (Mbps)	1	MCS0
Mode	802.11b	802.11n

Table 7-75. Simultaneous Transmission Config-1



Plot 7-277. Radiated Spurious Plot above 1GHz (2.4GHz – 5GHz)



Plot 7-278. Radiated Spurious Plot 18GHz – 26.5GHz (2.4GHz – 5GHz)

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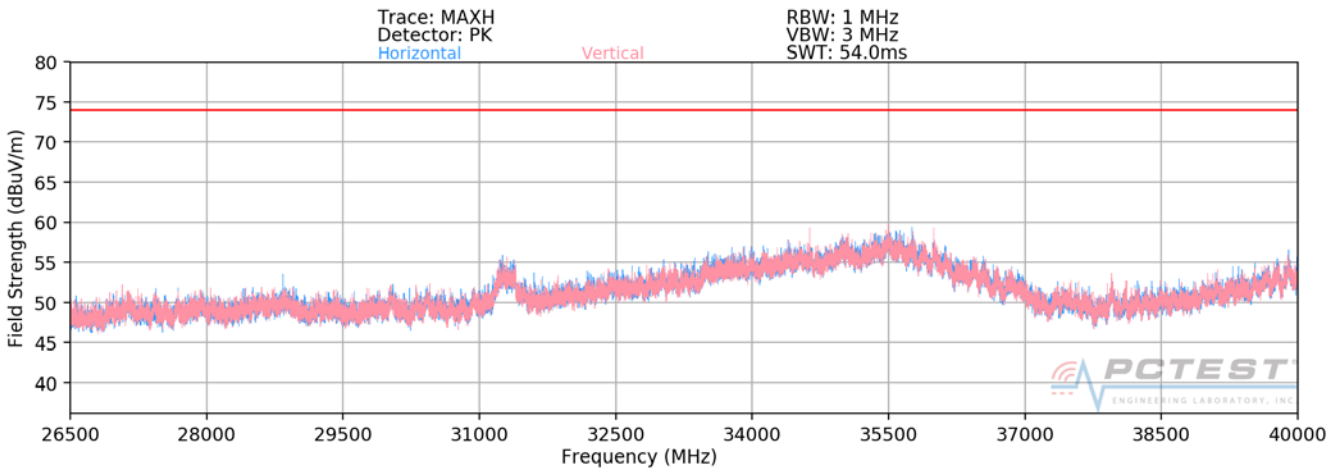

Plot 7-279. Radiated Spurious Plot above 26.5GHz (2.4GHz – 5GHz)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
901.00	Peak	V	-	-	-83.94	29.32	52.38	68.20	-15.82
4264.00	Average	V	-	-	-80.72	7.57	33.85	53.98	-20.13
4264.00	Peak	V	-	-	-68.97	7.57	45.60	73.98	-28.38
7627.00	Average	V	-	-	-82.66	14.81	39.15	53.98	-14.83
7627.00	Peak	V	-	-	-71.09	14.81	50.72	73.98	-23.26
9188.00	Average	V	-	-	-83.71	16.79	40.08	53.98	-13.90
9188.00	Peak	V	-	-	-72.38	16.79	51.41	73.98	-22.57
10990.00	Average	V	-	-	-84.31	19.96	42.65	53.98	-11.33
10990.00	Peak	V	-	-	-72.65	19.96	54.31	73.98	-19.67
12551.00	Peak	V	-	-	-73.09	22.49	56.40	68.20	-11.80
15914.00	Average	V	-	-	-86.51	28.43	48.92	53.98	-5.06
15914.00	Peak	V	-	-	-73.96	28.43	61.47	73.98	-12.51

Table 7-76. Radiated Measurements (ANT1 2.4GHz – ANT2 5GHz)

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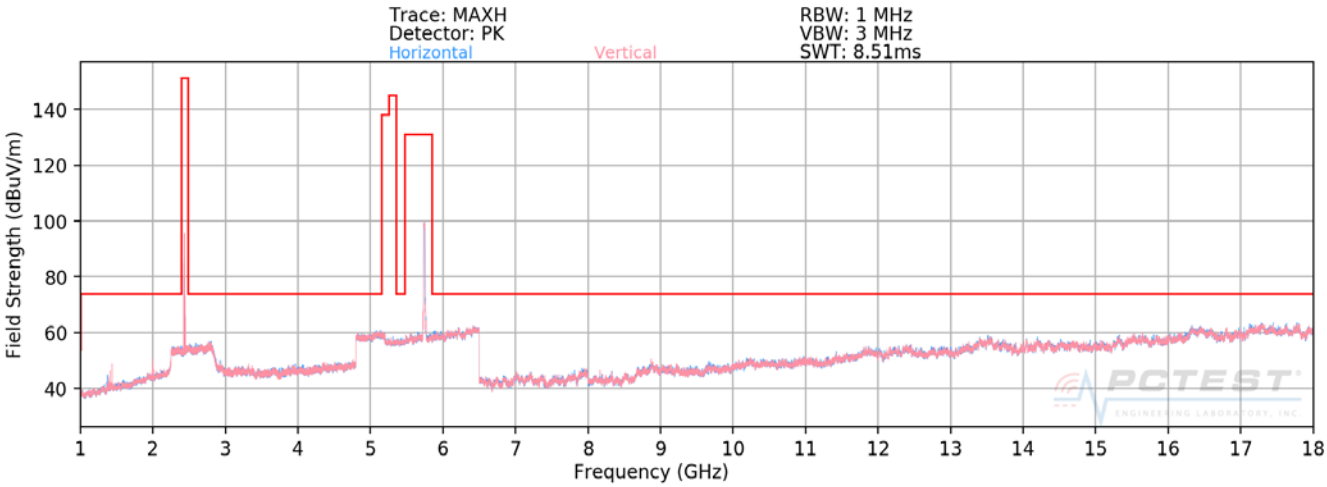
Description	2.4 GHz Emission	5 GHz Emission
Antenna	2	1
Channel	6	120
Operating Frequency (MHz)	2437	5600
Data Rate (Mbps)	1	MCS0
Mode	802.11b	802.11n

Table 7-77. Simultaneous Transmission Config-2



Plot 7-280. Radiated Spurious Plot above 1GHz (5GHz – 2.4 GHz)

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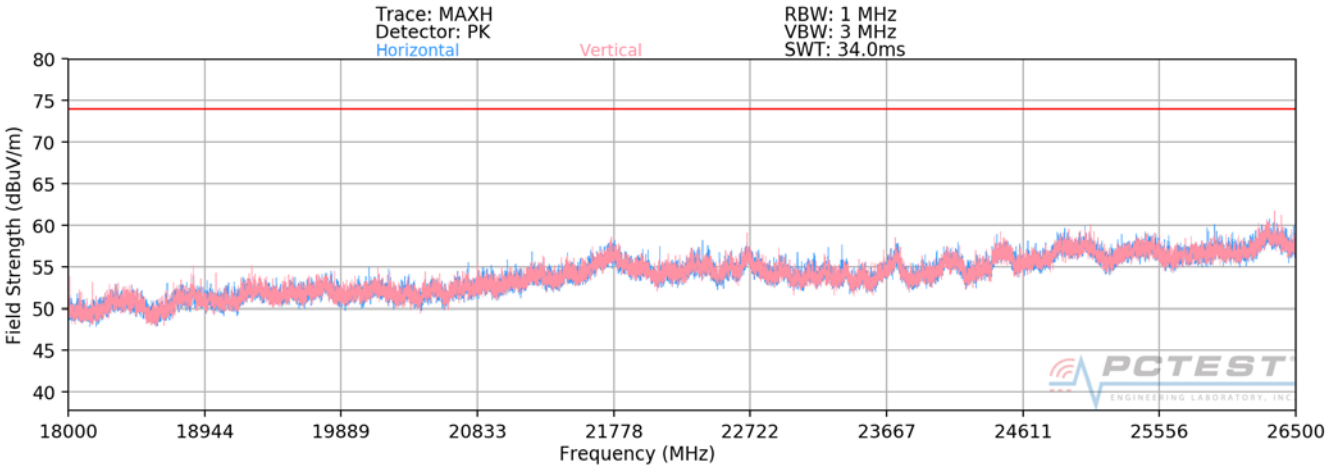
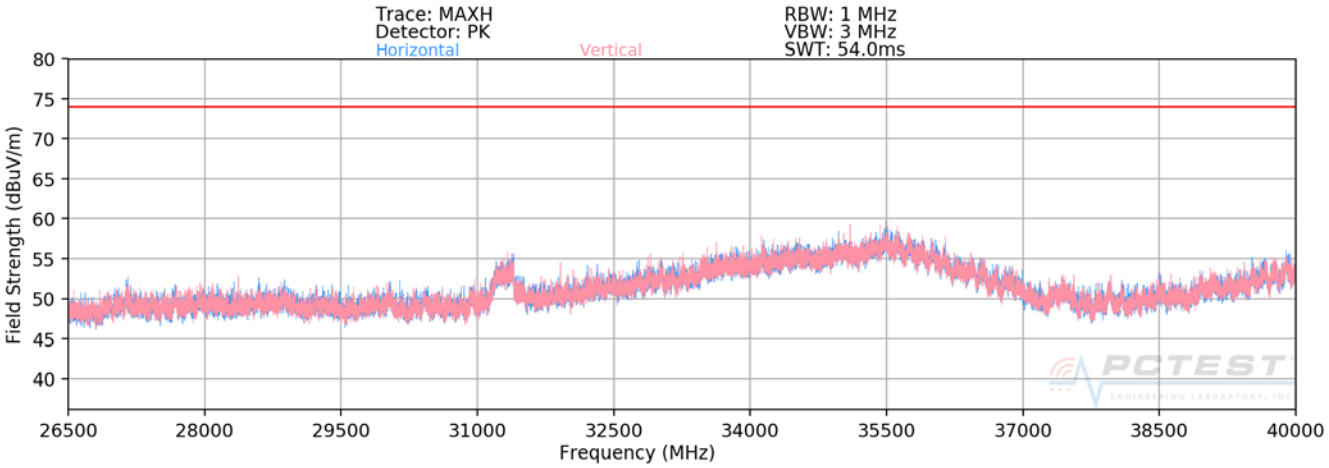


Plot 7-281. Radiated Spurious Plot 18GHz – 26.5GHz (5GHz – 2.4 GHz)



Plot 7-282. Radiated Spurious Plot above 26.5GHz (5GHz – 2.4 GHz)

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Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
871.00	Peak	V	-	-	-82.28	29.03	53.75	68.20	-14.45
4179.00	Average	V	-	-	-80.61	7.74	34.13	53.98	-19.85
4179.00	Peak	V	-	-	-69.10	7.74	45.64	73.98	-28.34
7487.00	Average	V	-	-	-82.32	13.89	38.57	53.98	-15.41
7487.00	Peak	V	-	-	-70.22	13.89	50.67	73.98	-23.31
9053.00	Average	V	-	-	-83.56	17.05	40.49	53.98	-13.49
9053.00	Peak	V	-	-	-70.59	17.05	53.46	73.98	-20.52
10795.00	Average	V	-	-	-84.35	18.94	41.59	53.98	-12.39
10795.00	Peak	V	-	-	-72.96	18.94	52.98	73.98	-21.00
12361.00	Average	V	-	-	-84.53	22.57	45.04	53.98	-8.94
12361.00	Peak	V	-	-	-73.22	22.57	56.35	73.98	-17.63
15669.00	Average	V	-	-	-85.26	27.91	49.65	53.98	-4.33
15669.00	Peak	V	-	-	-73.65	27.91	61.26	73.98	-12.72

Table 7-78. Radiated Measurements (ANT1 5GHz – ANT2 2.4GHz)

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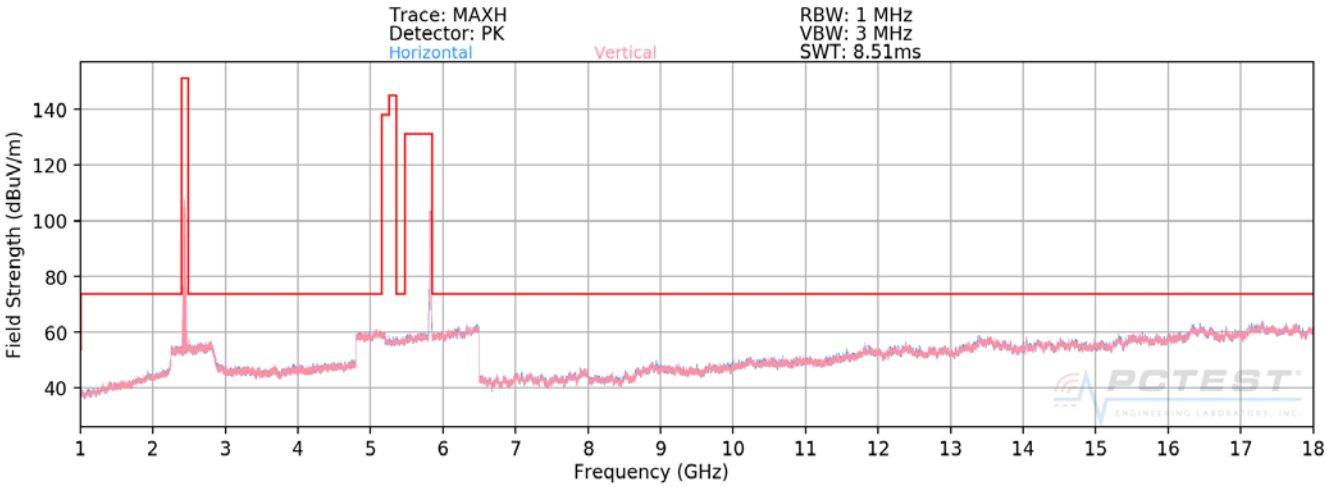
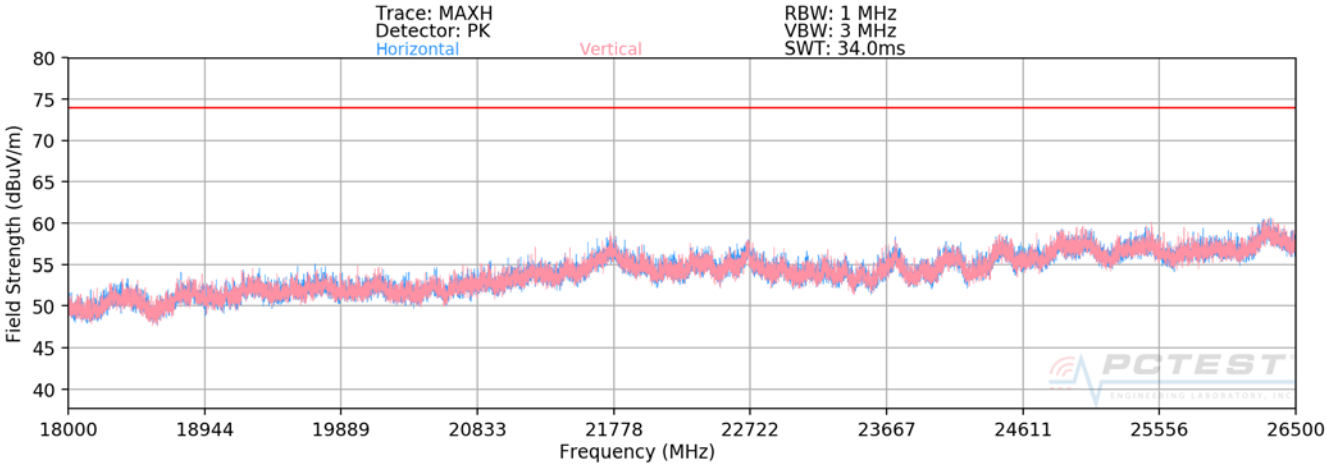
Description	2.4 GHz Emission	5 GHz Emission
Antenna	1, 2	1, 2
Channel	6	165
Operating Frequency (MHz)	2437	5825
Data Rate (Mbps)	MCS8	MCS8
Mode	802.11n	802.11n

Table 7-79. Dual Band Simultaneous Transmission



Plot 7-283. Radiated Spurious Plot above 1GHz (Dual Band Simult. Tx)



Plot 7-284. Radiated Spurious Plot 18GHz – 26.5GHz (Dual Band Simult. Tx)

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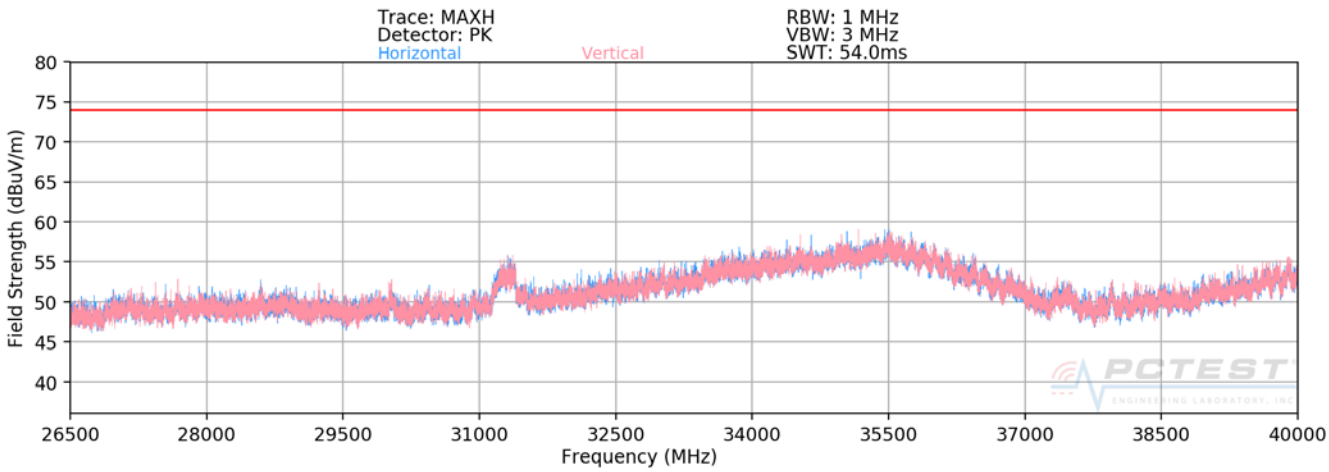

Plot 7-285. Radiated Spurious Plot above 26.5GHz (Dual Band Simult. Tx)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
951.00	Peak	V	-	-	-84.89	29.79	51.90	68.20	-16.30
4339.00	Average	V	-	-	-80.97	8.13	34.16	53.98	-19.82
4339.00	Peak	V	-	-	-68.63	8.13	46.50	73.98	-27.48
7727.00	Average	V	-	-	-83.64	16.42	39.78	53.98	-14.20
7727.00	Peak	V	-	-	-71.51	16.42	51.91	73.98	-22.07
9213.00	Peak	V	-	-	-72.11	18.38	53.27	68.20	-14.93
11115.00	Average	V	-	-	-84.61	20.24	42.63	53.98	-11.35
11115.00	Peak	V	-	-	-72.15	20.24	55.09	73.98	-18.89
12601.00	Average	V	-	-	-85.13	22.82	44.69	53.98	-9.29
12601.00	Peak	V	-	-	-73.46	22.82	56.36	73.98	-17.62
15989.00	Average	V	-	-	-86.01	27.83	48.82	53.98	-5.16
15989.00	Peak	V	-	-	-74.16	27.83	60.67	73.98	-13.31

Table 7-80. Radiated Measurements (Dual Band Simult. Tx)

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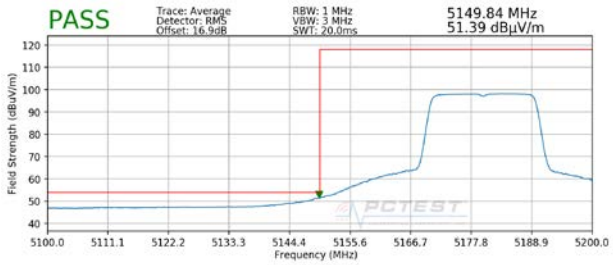
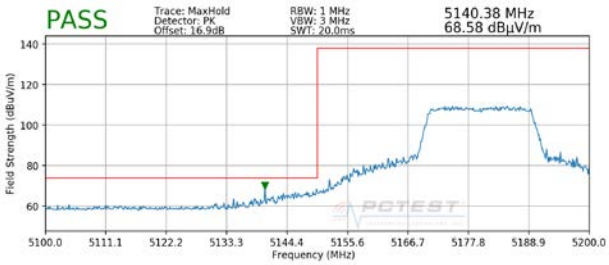
7.6.5 SISO Antenna-1 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]; RSS-Gen [8.9]

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5180MHz
Channel:	36

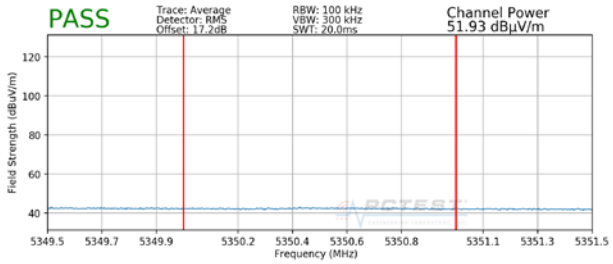


Plot 7-286. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 1)

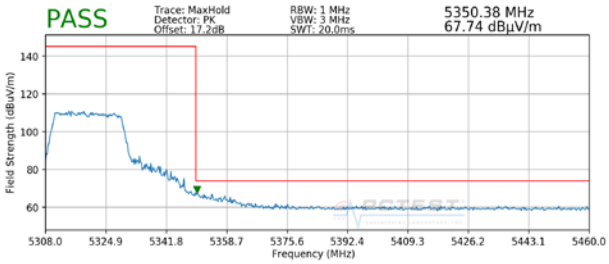


Plot 7-287. Radiated Lower Band Edge Plot SISO ANT1 (Peak – UNII Band 1)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5320MHz
Channel:	64



Plot 7-288. Radiated Upper Band Edge Plot SISO ANT1 (Average – UNII Band 2A)



Plot 7-289. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 2A)

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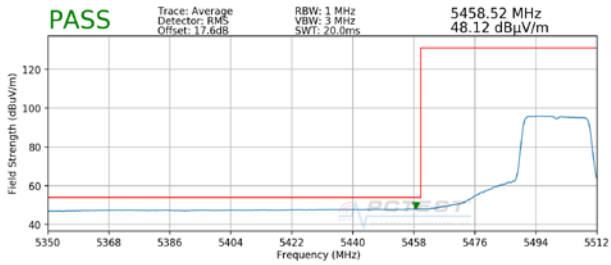
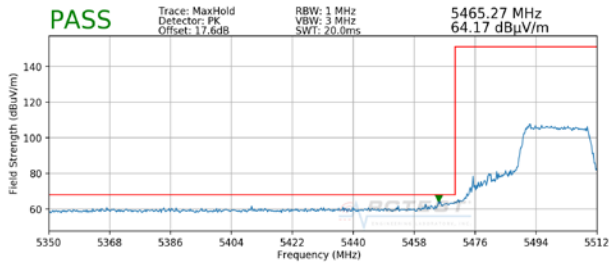
Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5500MHz
Channel:	100

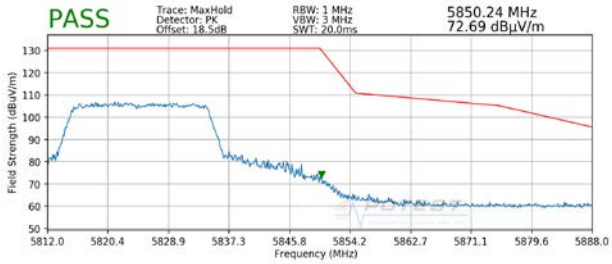


Plot 7-290. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 2C)



Plot 7-291. Radiated Lower Band Edge Plot SISO ANT1 (Peak – UNII Band 2C)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5825MHz
Channel:	165



Plot 7-292. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 3)

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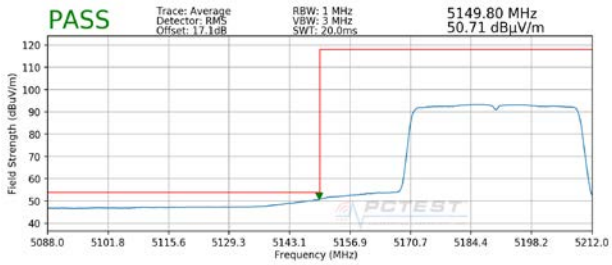
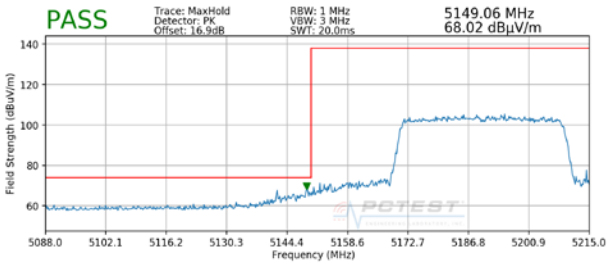
7.6.6 SISO Antenna-1 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5190MHz
Channel:	38

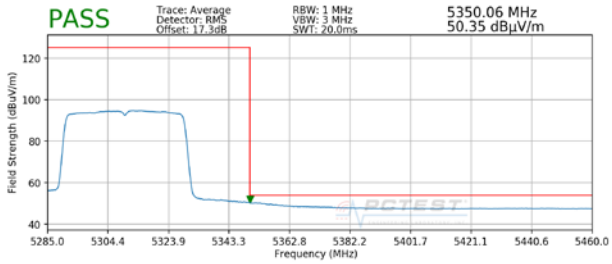


Plot 7-293. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 1)

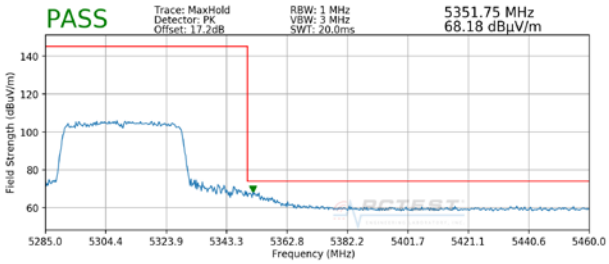


Plot 7-294. Radiated Lower Band Edge Plot SISO ANT1 (Peak – UNII Band 1)

Worst Case Mode:	802.11n
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5310MHz
Channel:	62



Plot 7-295. Radiated Upper Band Edge Plot SISO ANT1 (Average – UNII Band 2A)



Plot 7-296. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 2A)

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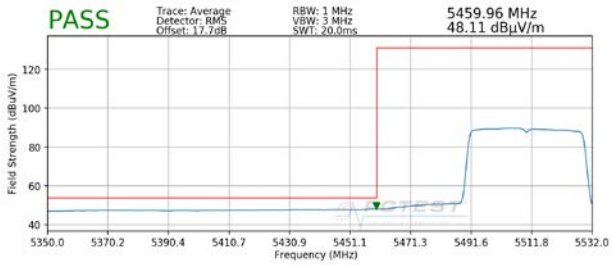
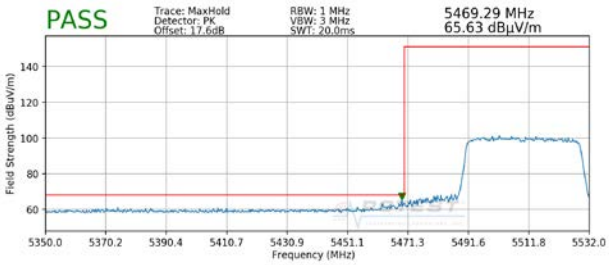
Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5510MHz
Channel:	102

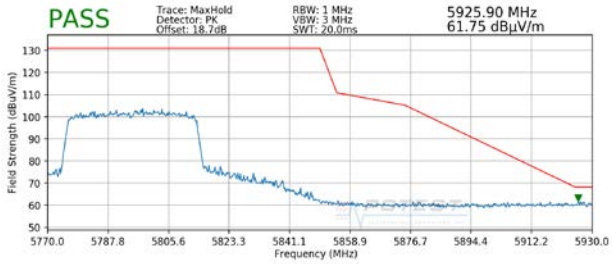


Plot 7-297. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 2C)



Plot 7-298. Radiated Lower Band Edge Plot SISO ANT1 (Peak – UNII Band 2C)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5795MHz
Channel:	159



Plot 7-299. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 3)

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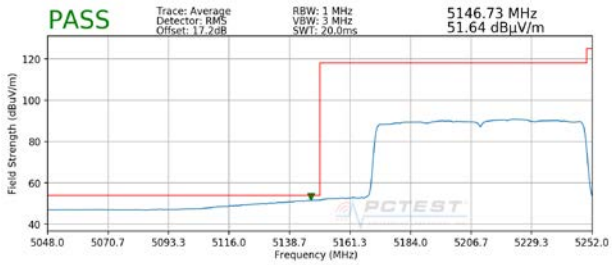
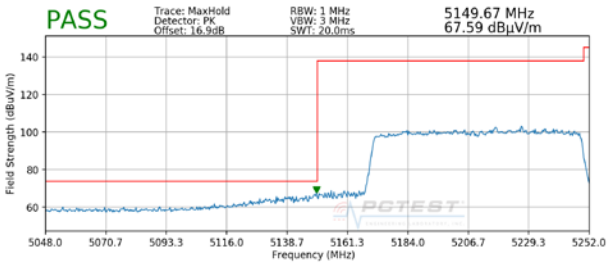
7.6.7 SISO Antenna-1 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5210MHz
Channel:	42

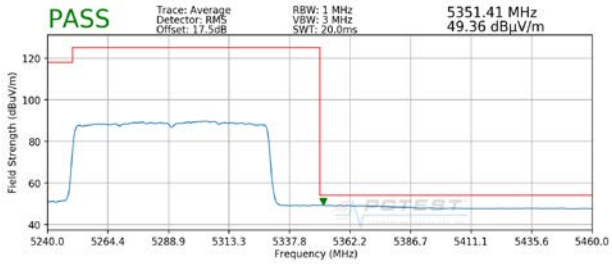


Plot 7-300. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 1)

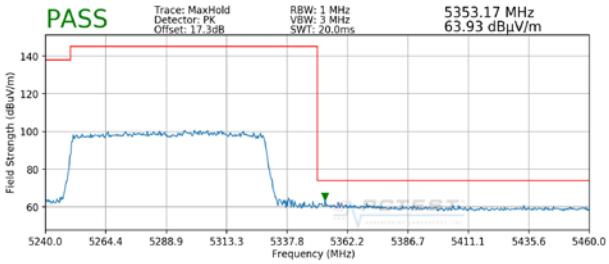


Plot 7-301. Radiated Lower Band Edge Plot SISO ANT1 (Peak – UNII Band 1)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5290MHz
Channel:	58



Plot 7-302. Radiated Upper Band Edge Plot SISO ANT1 (Average – UNII Band 2A)



Plot 7-303. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 2A)

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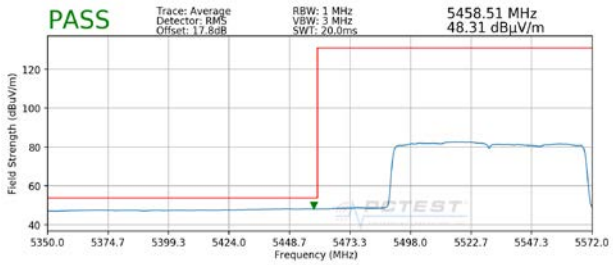
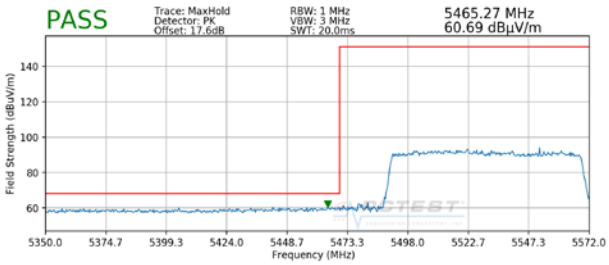
Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5530MHz
Channel:	106

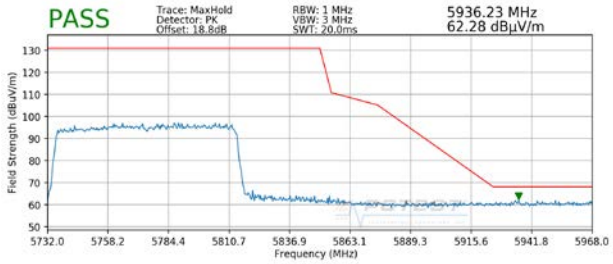


Plot 7-304. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 2C)



Plot 7-305. Radiated Lower Band Edge Plot SISO ANT1 (Peak – UNII Band 2C)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5775MHz
Channel:	155



Plot 7-306. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 3)

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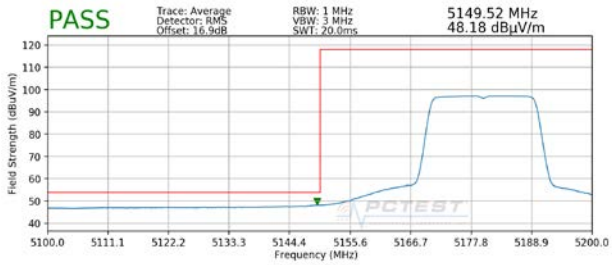
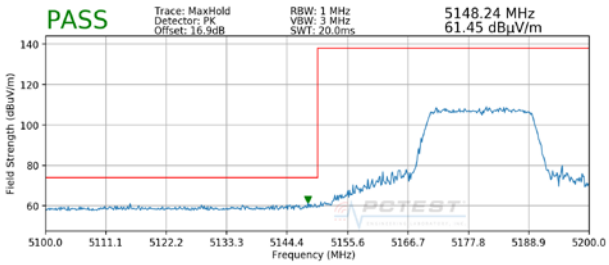
7.6.8 SISO Antenna-2 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5180MHz
Channel:	36

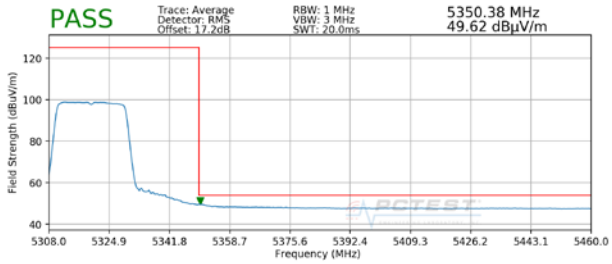


Plot 7-307. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 1)

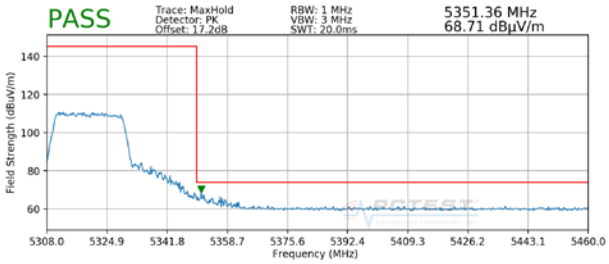


Plot 7-308. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 1)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5320MHz
Channel:	64



Plot 7-309. Radiated Upper Band Edge Plot SISO ANT2 (Average – UNII Band 2A)



Plot 7-310. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 2A)

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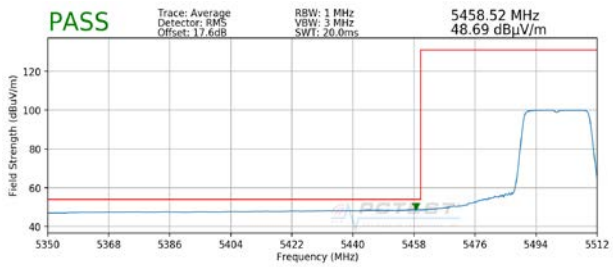
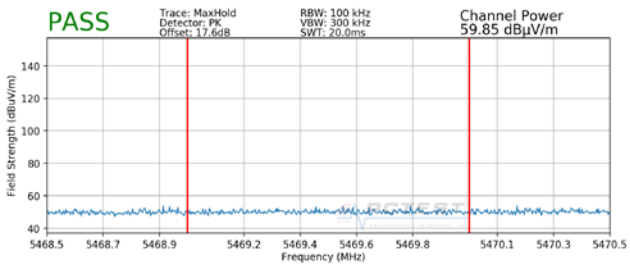
Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5500MHz
Channel:	100

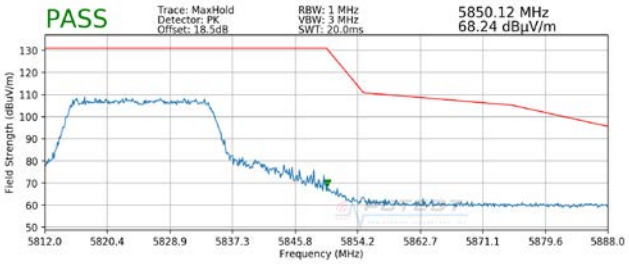


Plot 7-311. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 2C)



Plot 7-312. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 2C)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5825MHz
Channel:	165



Plot 7-313. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 3)

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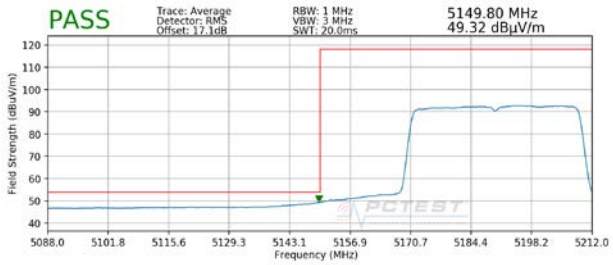
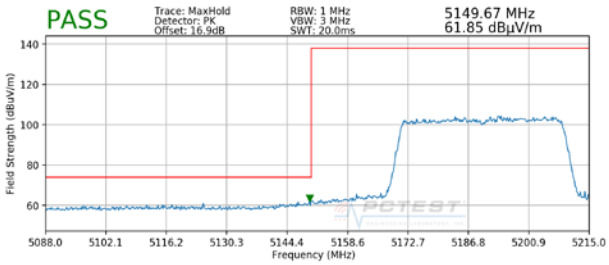
7.6.9 SISO Antenna-2 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5190MHz
Channel:	38

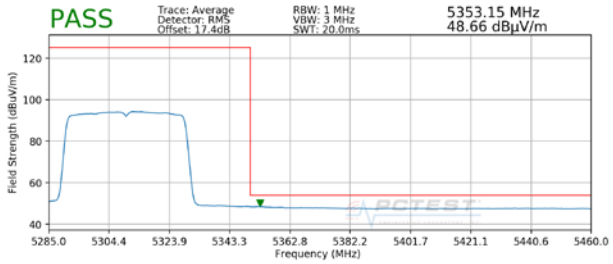


Plot 7-314. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 1)

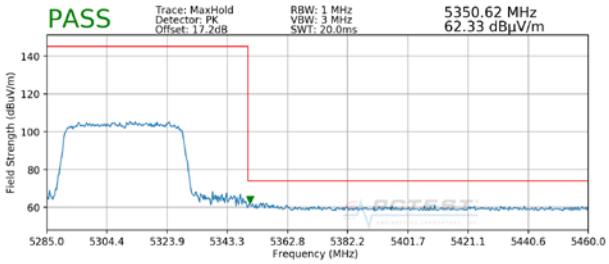


Plot 7-315. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 1)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5310MHz
Channel:	62



Plot 7-316. Radiated Upper Band Edge Plot SISO ANT2 (Average – UNII Band 2A)



Plot 7-317. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 2A)

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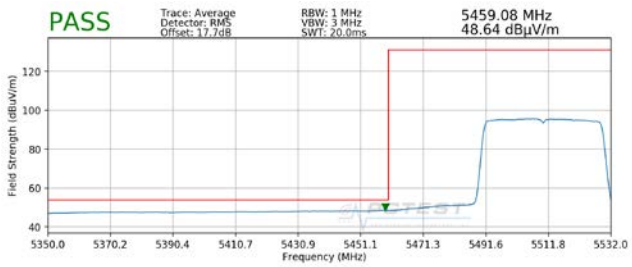
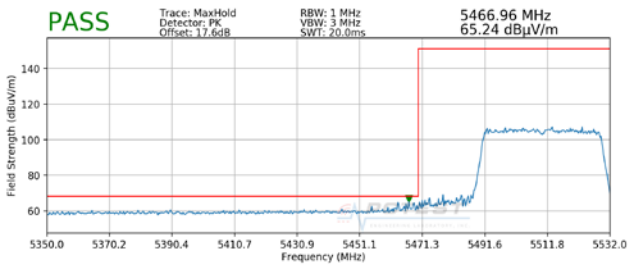
Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5510MHz
Channel:	102

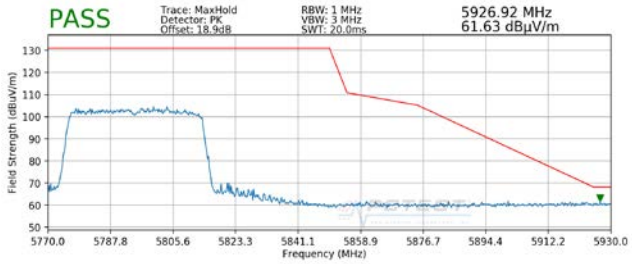


Plot 7-318. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 2C)



Plot 7-319. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 2C)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5795MHz
Channel:	159



Plot 7-320. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 3)

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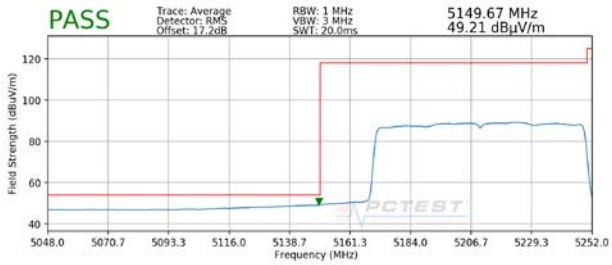
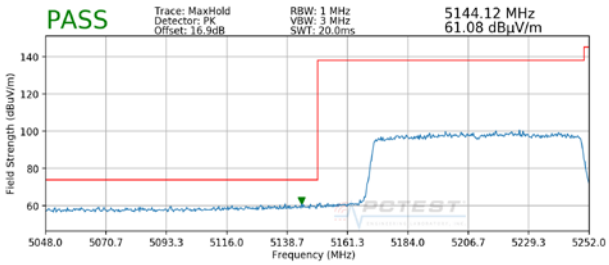
7.6.10 SISO Antenna-2 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5210MHz
Channel:	42

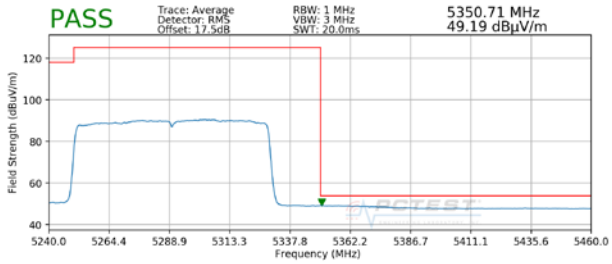


Plot 7-321. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 1)

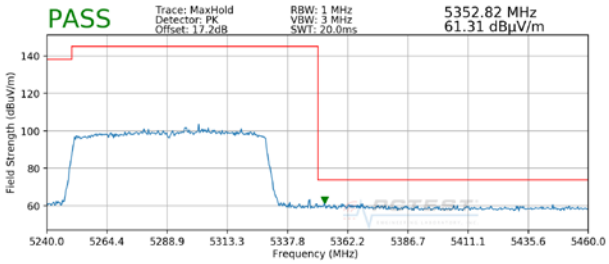


Plot 7-322. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 1)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5290MHz
Channel:	58



Plot 7-323. Radiated Upper Band Edge Plot SISO ANT2 (Average – UNII Band 2A)



Plot 7-324. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 2A)

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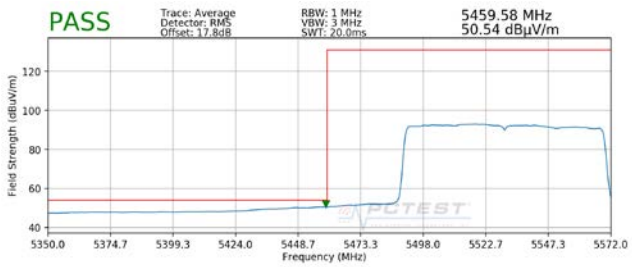
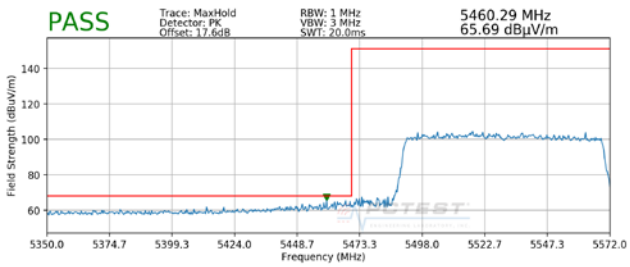
Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5530MHz
Channel:	106

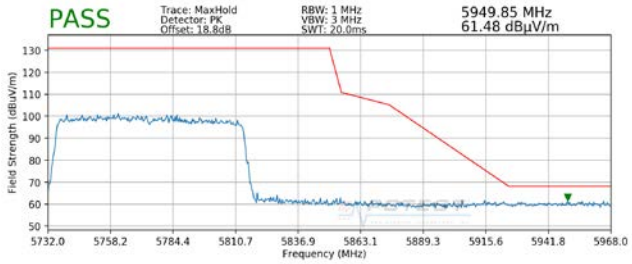


Plot 7-325. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 2C)



Plot 7-326. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 2C)

Worst Case Mode:	802.11ac
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5775MHz
Channel:	155



Plot 7-327. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 3)

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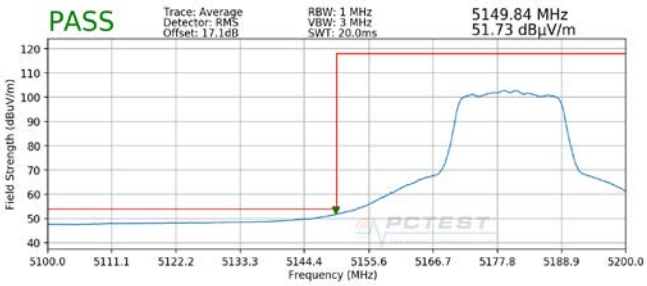
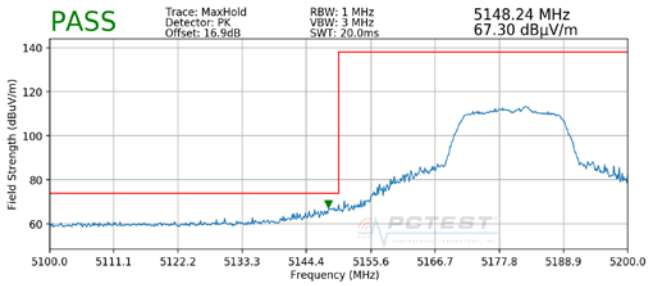
7.6.11 MIMO Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

Worst Case Mode:	802.11ac
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5180MHz
Channel:	36

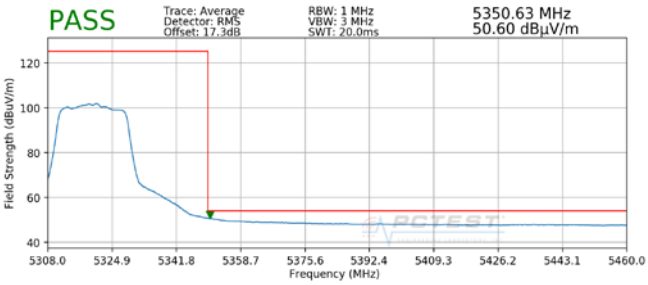


Plot 7-328. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 1)

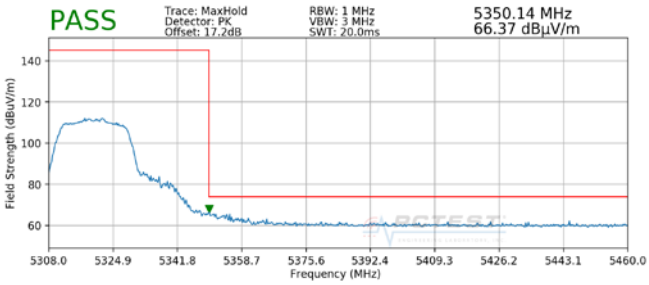


Plot 7-329. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 1)

Worst Case Mode:	802.11ac
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5320MHz
Channel:	64



Plot 7-330. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 2A)



Plot 7-331. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 2A)

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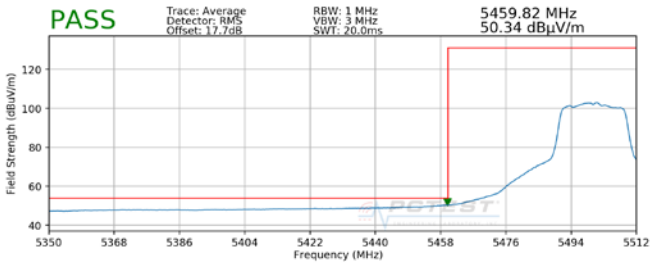
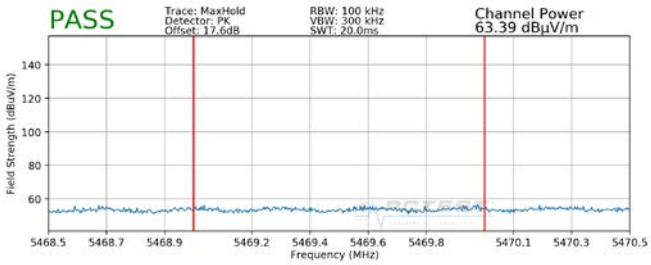
Worst Case Mode:	802.11ac
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5500MHz
Channel:	100

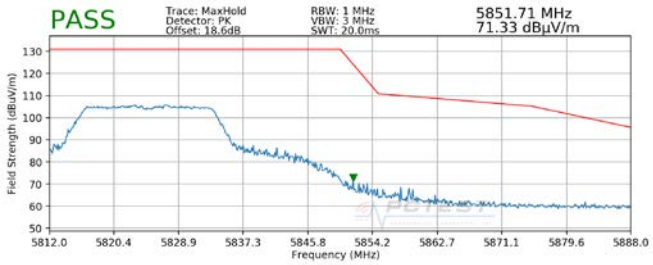


Plot 7-332. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 2C)



Plot 7-333. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 2C)

Worst Case Mode:	802.11n
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5825MHz
Channel:	165



Plot 7-334. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 3)

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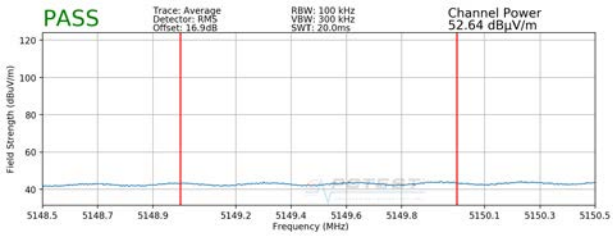
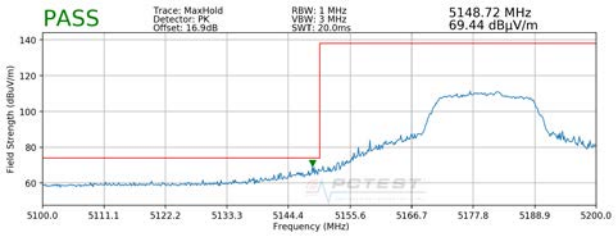
Worst Case Mode:	802.11ac
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5180MHz
Channel:	36



Plot 7-335. Radiated Band Edge Plot MIMO (Average – WCP)



Plot 7-336. Radiated Band Edge Plot MIMO (Peak – WCP)

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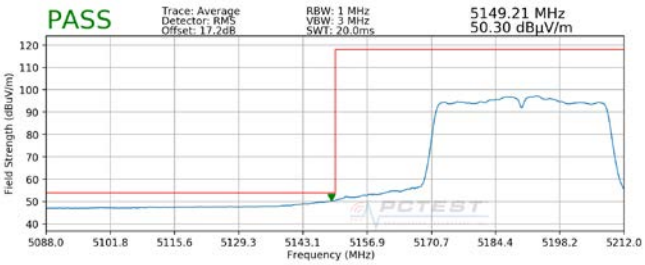
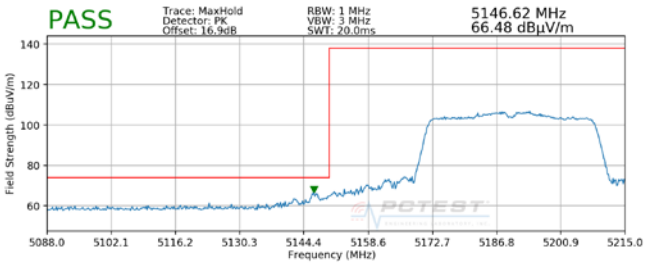
7.6.12 MIMO Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

Worst Case Mode:	802.11ac
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5190MHz
Channel:	38

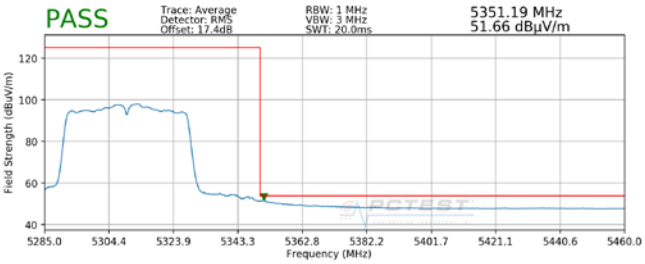


Plot 7-337. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 1)

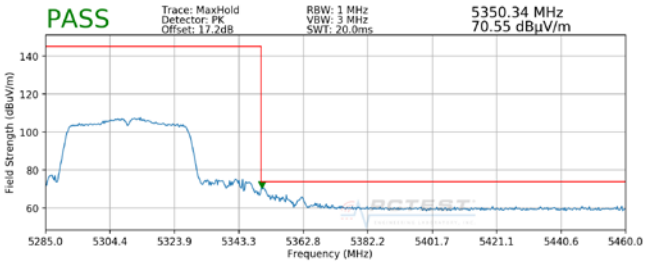


Plot 7-338. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 1)

Worst Case Mode:	802.11ac
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5310MHz
Channel:	62



Plot 7-339. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 2A)



Plot 7-340. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 2A)

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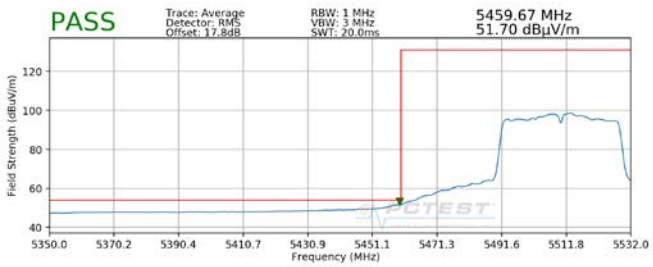
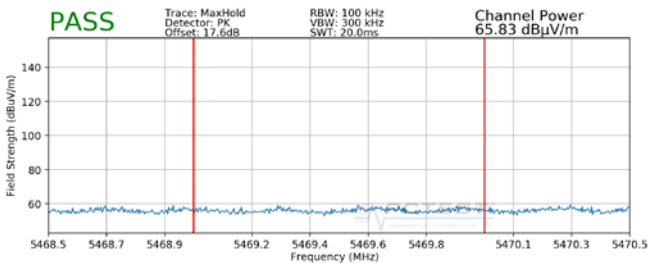
Worst Case Mode:	802.11ac
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5510MHz
Channel:	102

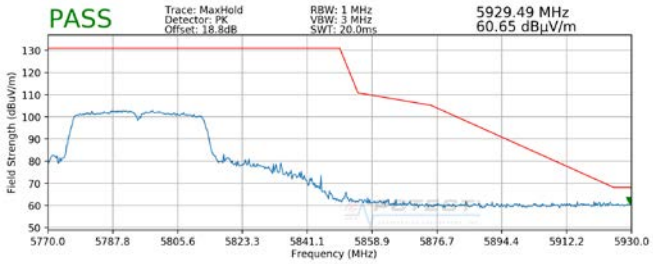


Plot 7-341. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 2C)



Plot 7-342. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 2C)

Worst Case Mode:	802.11ac
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5795MHz
Channel:	159



Plot 7-343. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 3)

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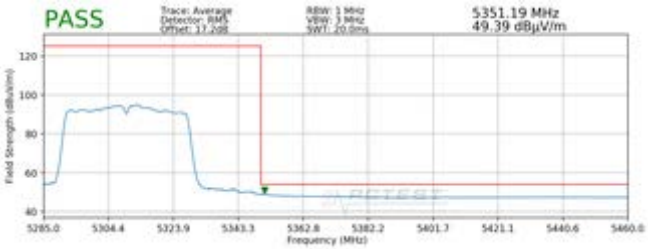
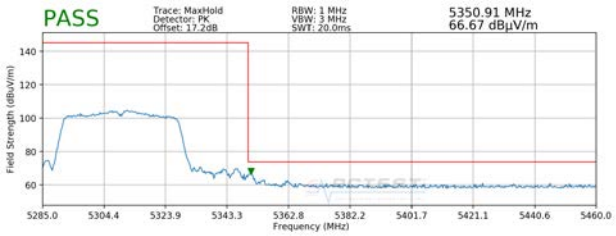
Worst Case Mode:	802.11ac
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5310MHz
Channel:	62



Plot 7-344. Radiated Band Edge Plot MIMO (Average – WCP)



Plot 7-345. Radiated Band Edge Plot MIMO (Peak – WCP)

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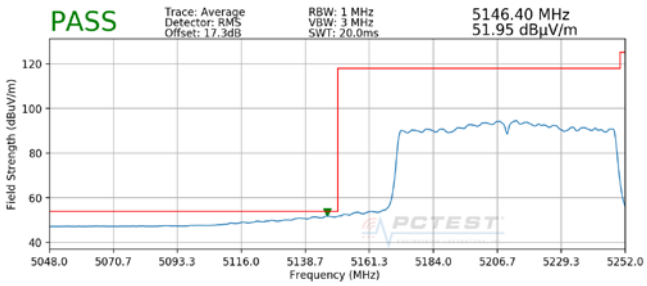
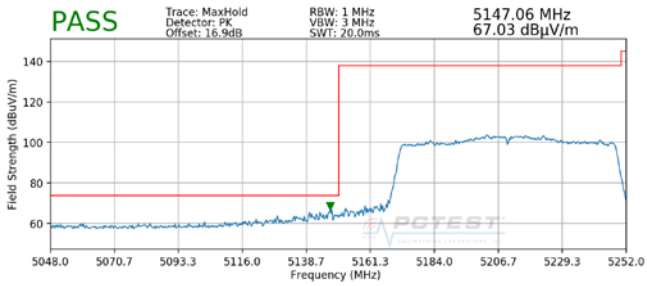
7.6.13 MIMO Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

Worst Case Mode:	802.11ac
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5210MHz
Channel:	42

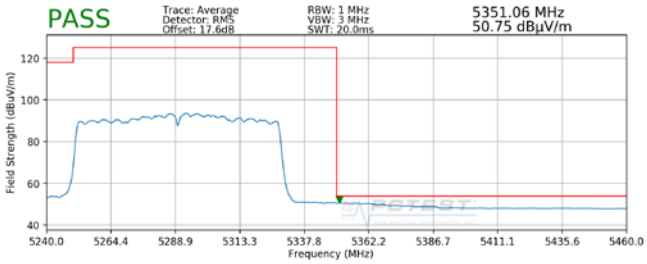


Plot 7-346. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 1)

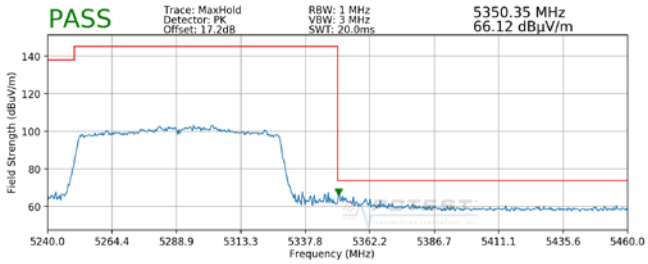


Plot 7-347. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 1)

Worst Case Mode:	802.11ac
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5290MHz
Channel:	58



Plot 7-348. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 2A)



Plot 7-349. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 2A)

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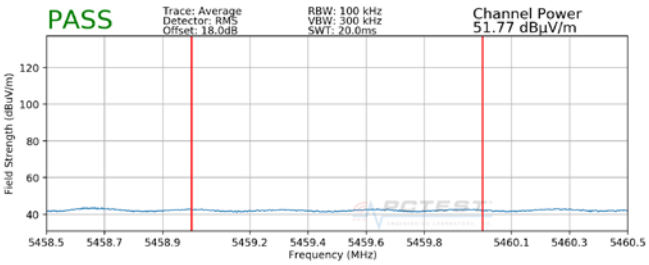
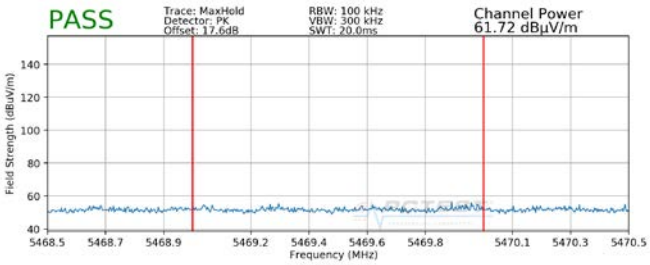
Worst Case Mode:	802.11ac
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5530MHz
Channel:	106

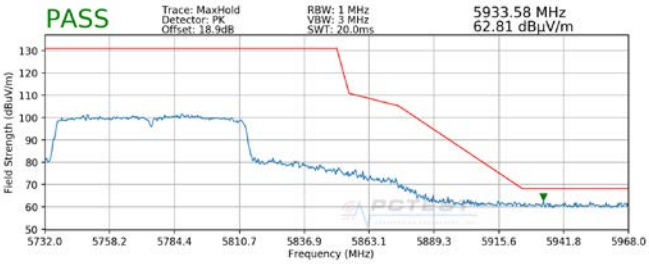


Plot 7-350. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 2C)



Plot 7-351. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 2C)

Worst Case Mode:	802.11ac
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5775MHz
Channel:	155



Plot 7-352. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 3)

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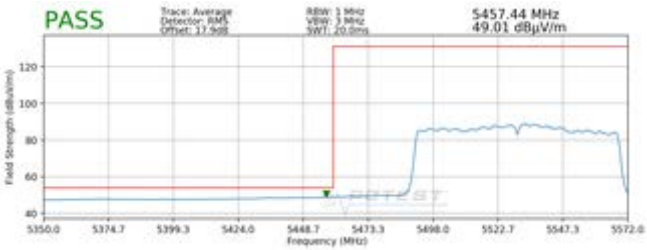
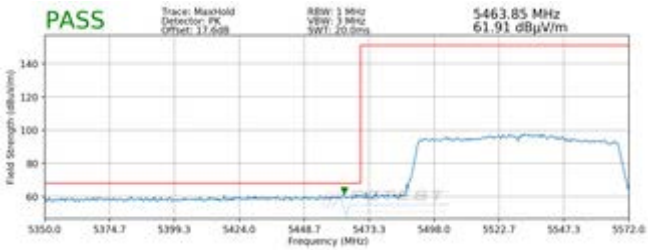
Worst Case Mode:	802.11ac
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5530MHz
Channel:	106



Plot 7-353. Radiated Band Edge Plot MIMO (Average – WCP)



Plot 7-354. Radiated Band Edge Plot MIMO (Peak – WCP)

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7.7 Radiated Spurious Emissions Measurements – Below 1GHz

§15.209; RSS-Gen [8.9]

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 maximum power, and at the appropriate frequencies. All data rates and modes were investigated for radiated spurious emissions. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR and Table 6 of RSS-Gen (8.10) must not exceed the limits shown in Table 7-81 per Section 15.209 and RSS-Gen (8.9).

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 7-81. Radiated Limits

Test Procedures Used

ANSI C63.10-2013

Test Settings

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

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Test Setup

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

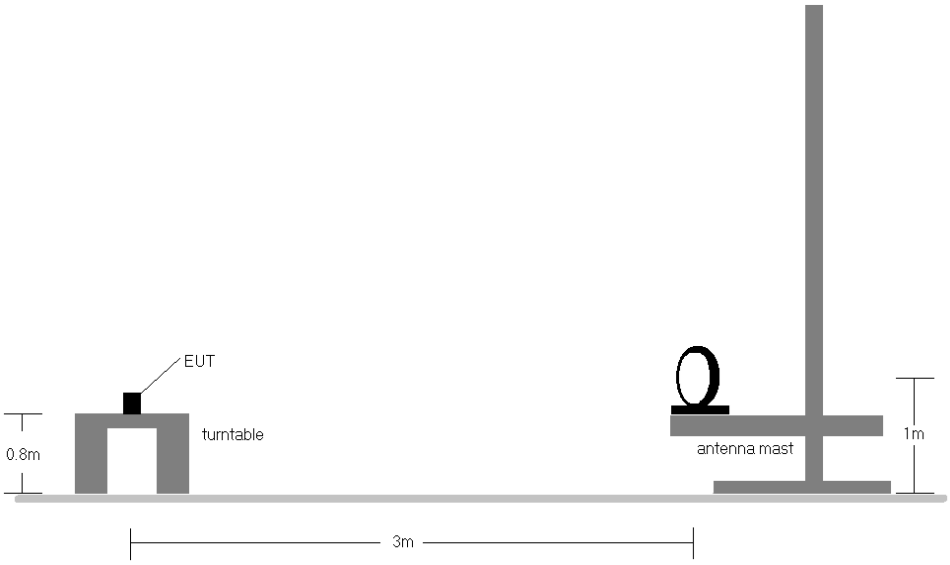

Figure 7-6. Radiated Test Setup < 30MHz

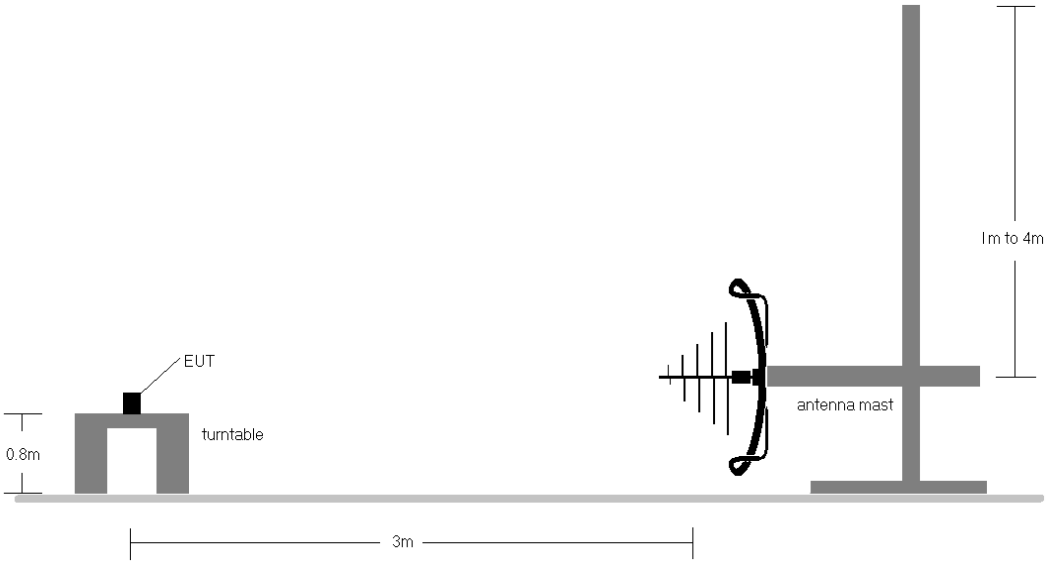

Figure 7-7. Radiated Test Setup < 1GHz

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Test Notes

1. All emissions lying in restricted bands specified in §15.205 and RSS-Gen (8.10) are below the limit shown in Table 7-81.
2. The broadband receive antenna is manipulated through vertical and horizontal polarizations during the tests. The EUT is manipulated through three orthogonal planes.
3. This unit was tested with its standard battery.
4. The spectrum is investigated using a peak detector and final measurements are recorded using CISPR quasi peak detector. The worst-case emissions are reported however emissions whose levels were not within 20dB of the respective limits were not reported.
5. Emissions were measured at a 3 meter test distance.
6. Emissions are investigated while operating on the center channel of the mode, band, and modulation that produced the worst case results during the transmitter spurious emissions testing.
7. No spurious emissions were detected within 20dB of the limit below 30MHz.
8. The results recorded using the broadband antenna is known to correlate with the results obtained by using a tuned dipole with an acceptable degree of accuracy. The VSWR for the measurement antenna was found to be less than 2:1.
9. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. There were no emissions detected in the 30MHz – 1GHz frequency range, as shown in the subsequent plots.

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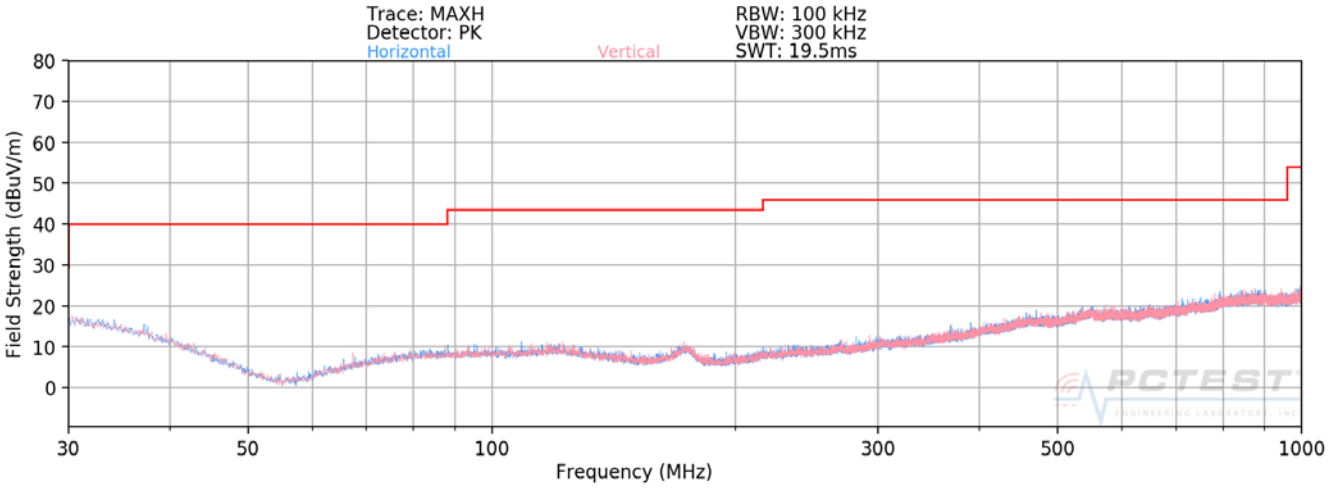
MIMO Radiated Spurious Emissions Measurements (Below 1GHz)

§15.209; RSS-Gen [8.9]



Plot 7-355. Radiated Spurious Plot below 1GHz MIMO (802.11a – U3 Ch. 157)

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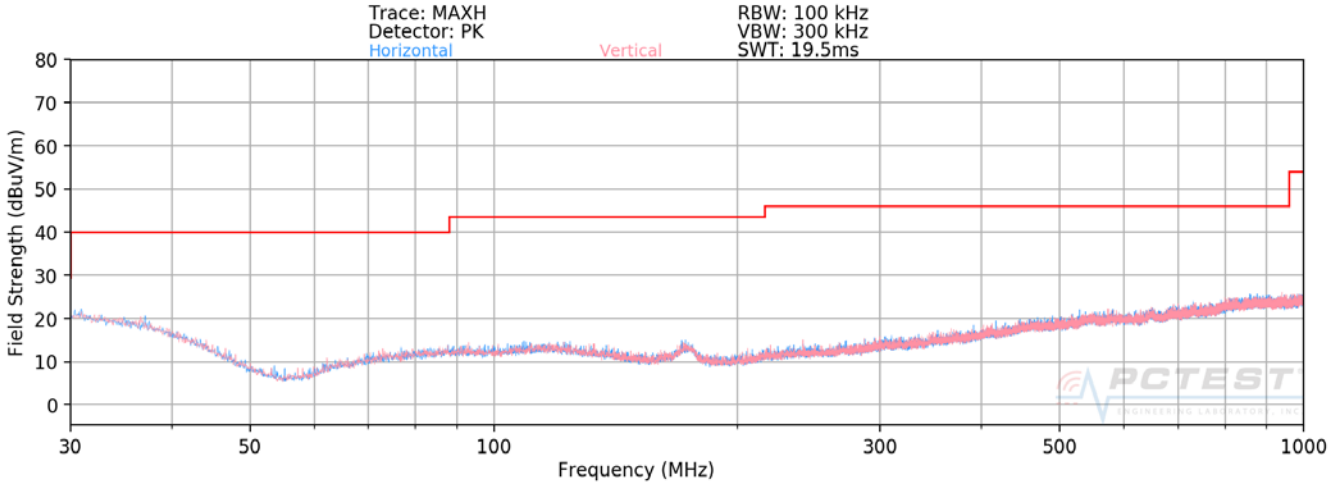
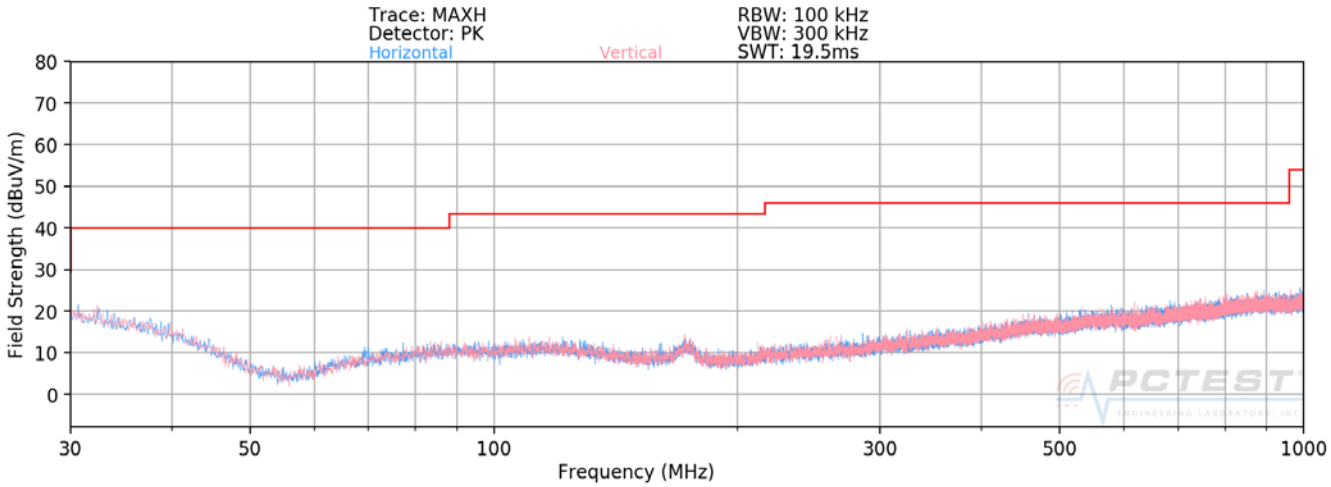
Simultaneous Tx Radiated Spurious Emissions Measurements (Below 1GHz)

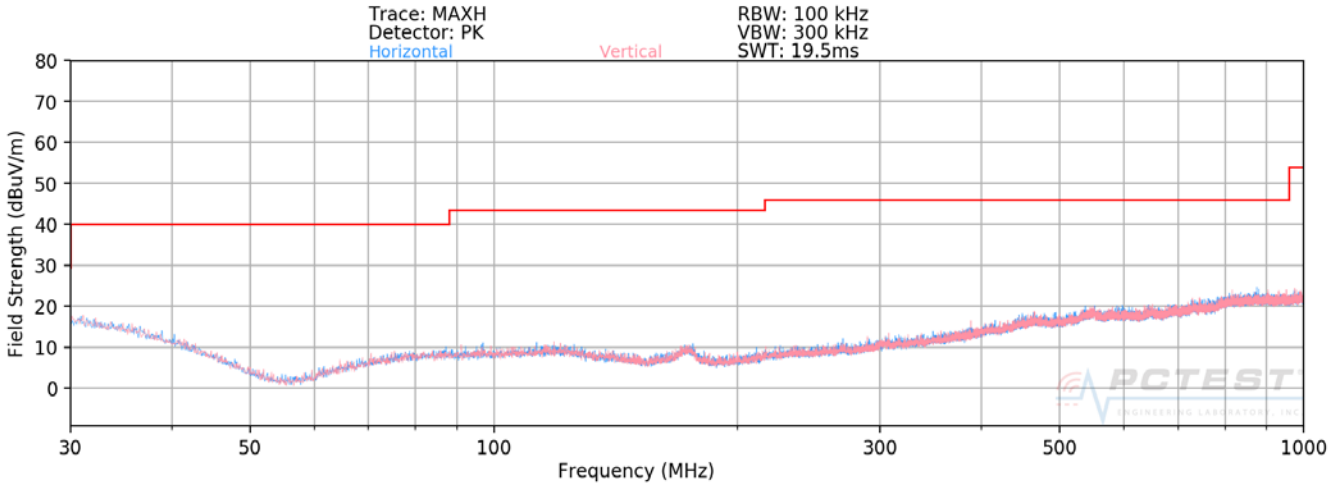
§15.209; RSS-Gen [8.9]



Plot 7-356. Radiated Spurious Plot below 1GHz (2.4GHz – 5GHz)



Plot 7-357. Radiated Spurious Plot below 1GHz (5GHz – 2.4 GHz)



Plot 7-358. Radiated Spurious Plot below 1GHz (Dual Band Simult. Tx)

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7.8 Line-Conducted Test Data

§15.407; RSS-Gen [8.8]

Test Overview and Limit

All AC line conducted spurious emissions are measured with a receiver connected to a grounded LISN while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for conducted spurious emissions. Only the conducted emissions of the configuration that produced the worst case emissions are reported in this section.

All conducted emissions must not exceed the limits shown in the table below, per Section 15.207 and RSS-Gen (8.8).

Frequency of emission (MHz)	Conducted Limit (dBμV)	
	Quasi-peak	Average
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 – 30	60	50

Table 7-82. Conducted Limits

*Decreases with the logarithm of the frequency.

Test Procedures Used

ANSI C63.10-2013, Section 6.2

Test Settings

Quasi-Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the spurious emission of interest
2. RBW = 9kHz (for emissions from 150kHz – 30MHz)
3. Detector = quasi-peak
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

Average Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the spurious emission of interest
2. RBW = 9kHz (for emissions from 150kHz – 30MHz)
3. Detector = RMS
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

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Test Setup

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

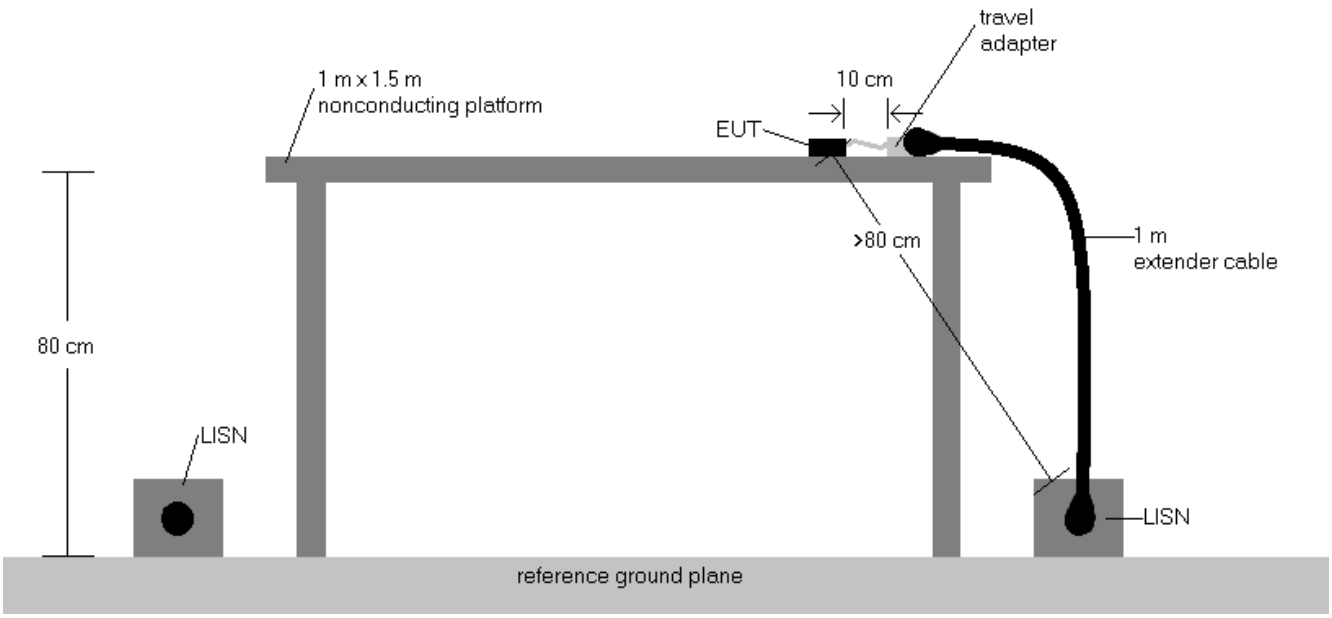

Figure 7-8. Test Instrument & Measurement Setup

Test Notes

1. All modes of operation were investigated and the worst-case emissions are reported using mid channel. The emissions found were not affected by the choice of channel used during testing.
2. The limit for an intentional radiator from 150kHz to 30MHz are specified in 15.207 and RSS-Gen (8.8).
3. Corr. (dB) = Cable loss (dB) + LISN insertion factor (dB)
4. QP/AV Level (dBμV) = QP/AV Analyzer/Receiver Level (dBμV) + Corr. (dB)
5. Margin (dB) = QP/AV Limit (dBμV) - QP/AV Level (dBμV)
6. Traces shown in plot are made using a peak detector.
7. Deviations to the Specifications: None.

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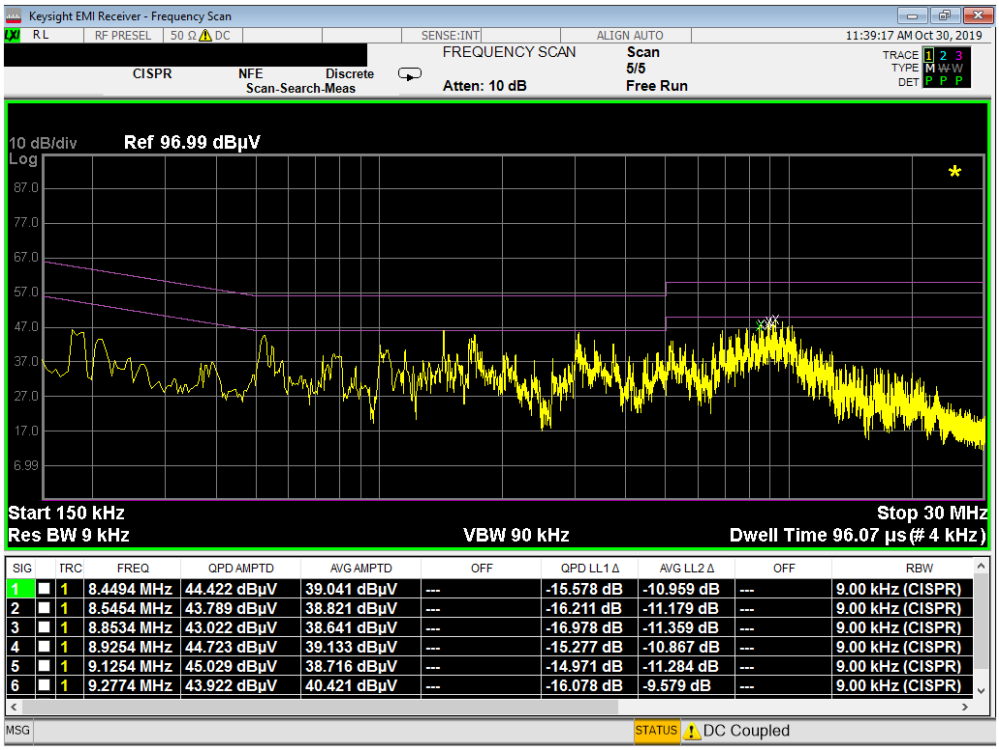
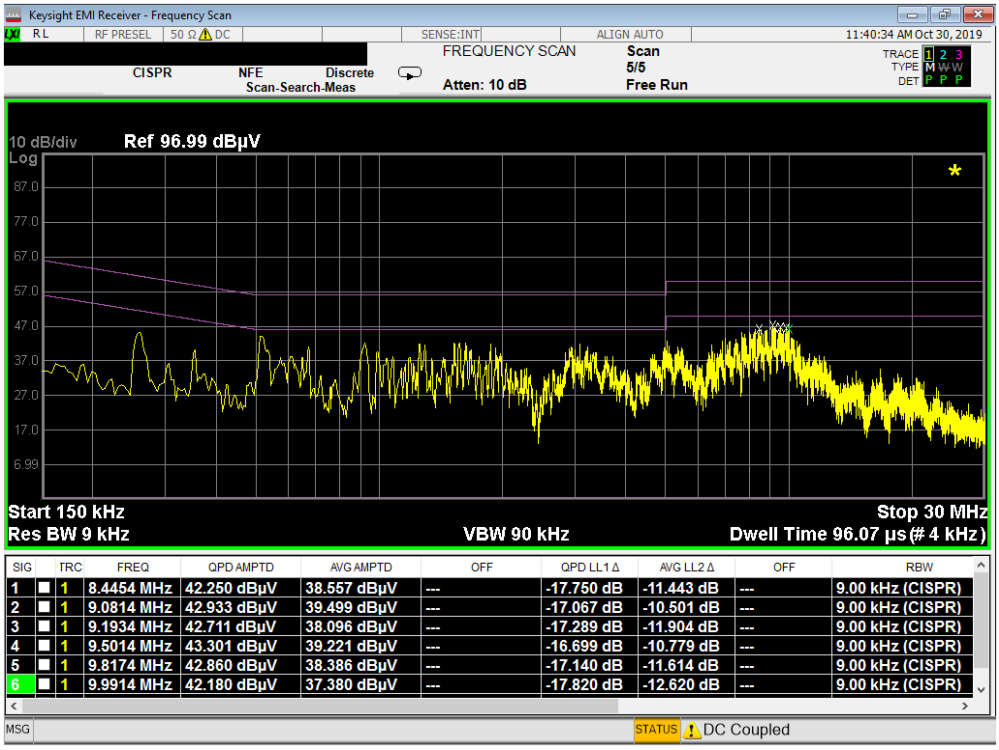


SIG	TRC	FREQ	QPD AMPTD	AVG AMPTD	OFF	QPD LL1 Δ	AVG LL2 Δ	OFF	RBW
1	1	8.4494 MHz	44.422 dBµV	39.041 dBµV	---	-15.578 dB	-10.959 dB	---	9.00 kHz (CISPR)
2	1	8.5454 MHz	43.789 dBµV	38.821 dBµV	---	-16.211 dB	-11.179 dB	---	9.00 kHz (CISPR)
3	1	8.8534 MHz	43.022 dBµV	38.641 dBµV	---	-16.978 dB	-11.359 dB	---	9.00 kHz (CISPR)
4	1	8.9254 MHz	44.723 dBµV	39.133 dBµV	---	-15.277 dB	-10.867 dB	---	9.00 kHz (CISPR)
5	1	9.1254 MHz	45.029 dBµV	38.716 dBµV	---	-14.971 dB	-11.284 dB	---	9.00 kHz (CISPR)
6	1	9.2774 MHz	43.922 dBµV	40.421 dBµV	---	-16.078 dB	-9.579 dB	---	9.00 kHz (CISPR)

Plot 7-359. Line Conducted Plot with 802.11a UNII Band 1 (L1)



SIG	TRC	FREQ	QPD AMPTD	AVG AMPTD	OFF	QPD LL1 Δ	AVG LL2 Δ	OFF	RBW
1	1	8.4454 MHz	42.250 dBµV	38.557 dBµV	---	-17.750 dB	-11.443 dB	---	9.00 kHz (CISPR)
2	1	9.0814 MHz	42.933 dBµV	39.499 dBµV	---	-17.067 dB	-10.501 dB	---	9.00 kHz (CISPR)
3	1	9.1934 MHz	42.711 dBµV	38.096 dBµV	---	-17.289 dB	-11.904 dB	---	9.00 kHz (CISPR)
4	1	9.5014 MHz	43.301 dBµV	39.221 dBµV	---	-16.699 dB	-10.779 dB	---	9.00 kHz (CISPR)
5	1	9.8174 MHz	42.860 dBµV	38.386 dBµV	---	-17.140 dB	-11.614 dB	---	9.00 kHz (CISPR)
6	1	9.9914 MHz	42.180 dBµV	37.380 dBµV	---	-17.820 dB	-12.620 dB	---	9.00 kHz (CISPR)

Plot 7-360. Line Conducted Plot with 802.11a UNII Band 1 (N)

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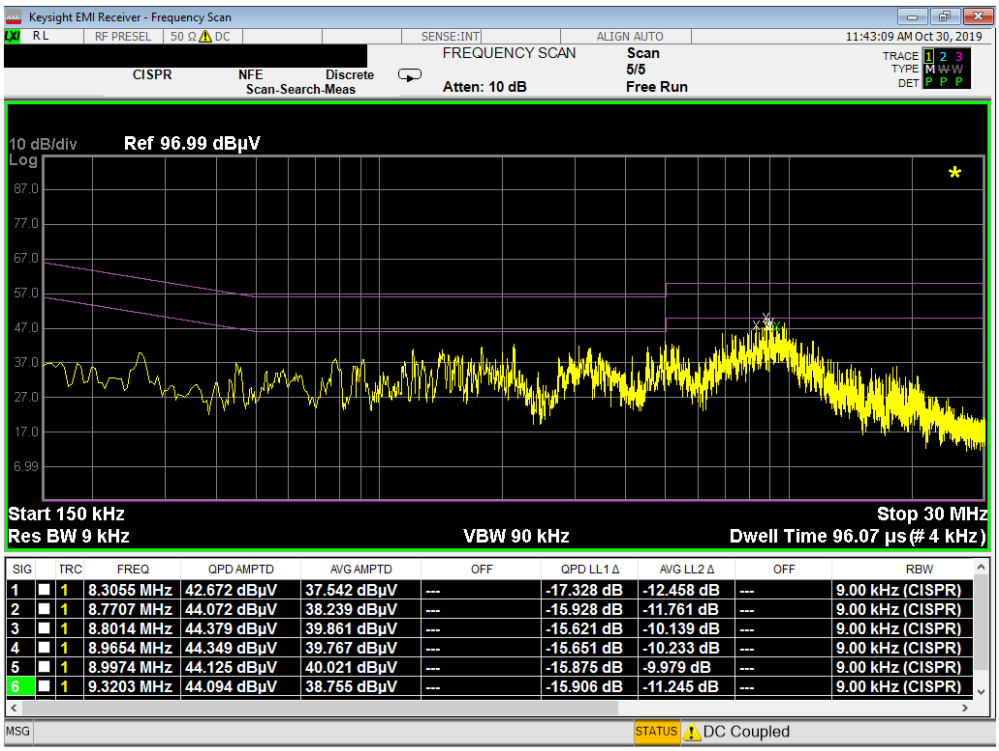
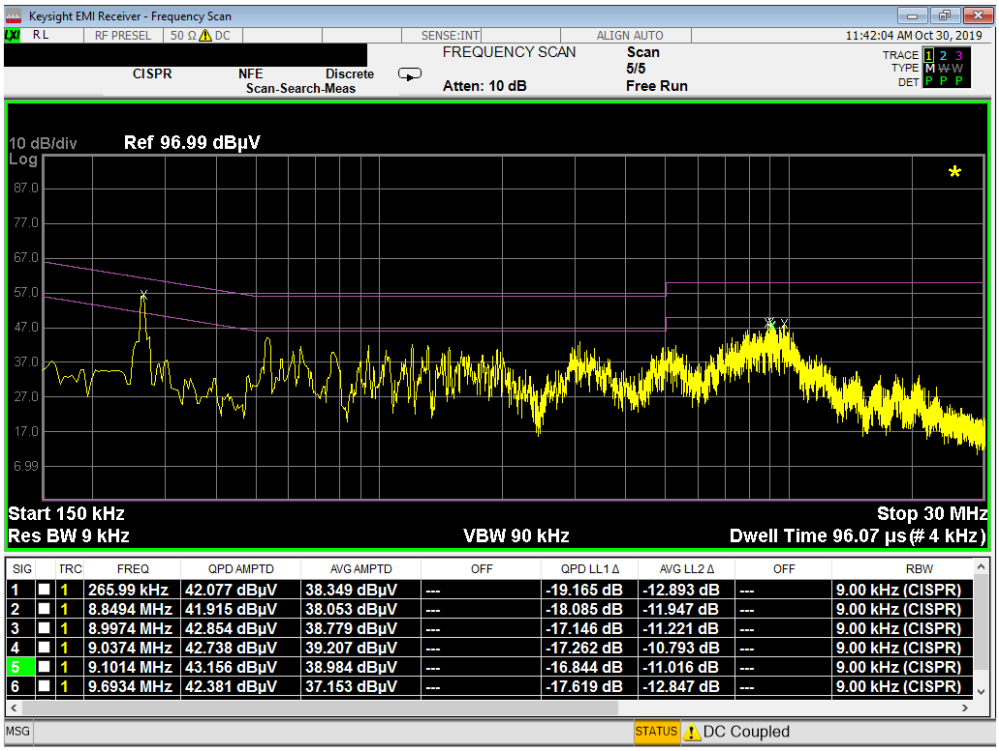


Plot 7-361. Line Conducted Plot with 802.11a UNII Band 2A (L1)



Plot 7-362. Line Conducted Plot with 802.11a UNII Band 2A (N)

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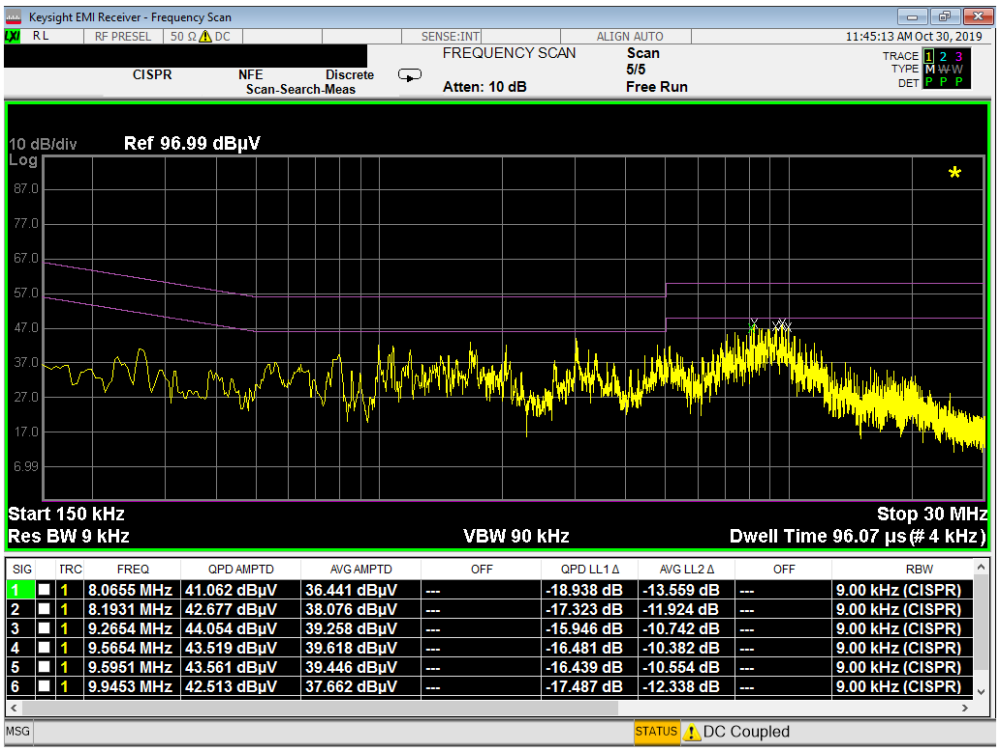
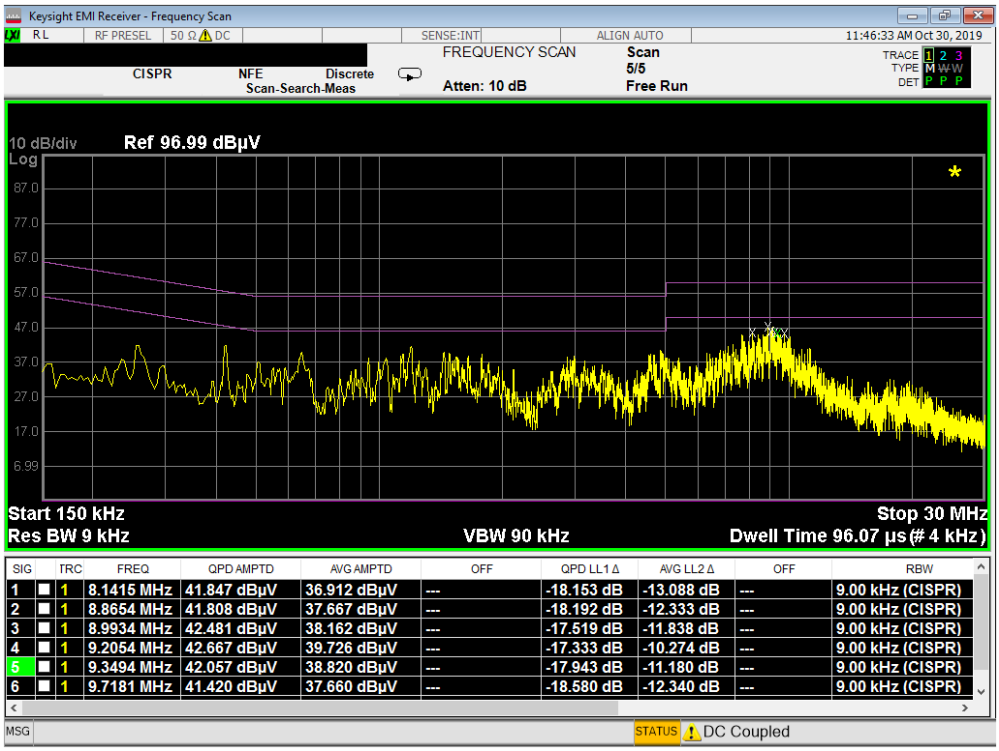


Plot 7-363. Line Conducted Plot with 802.11a UNII Band 2C (L1)



Plot 7-364. Line Conducted Plot with 802.11a UNII Band 2C (N)

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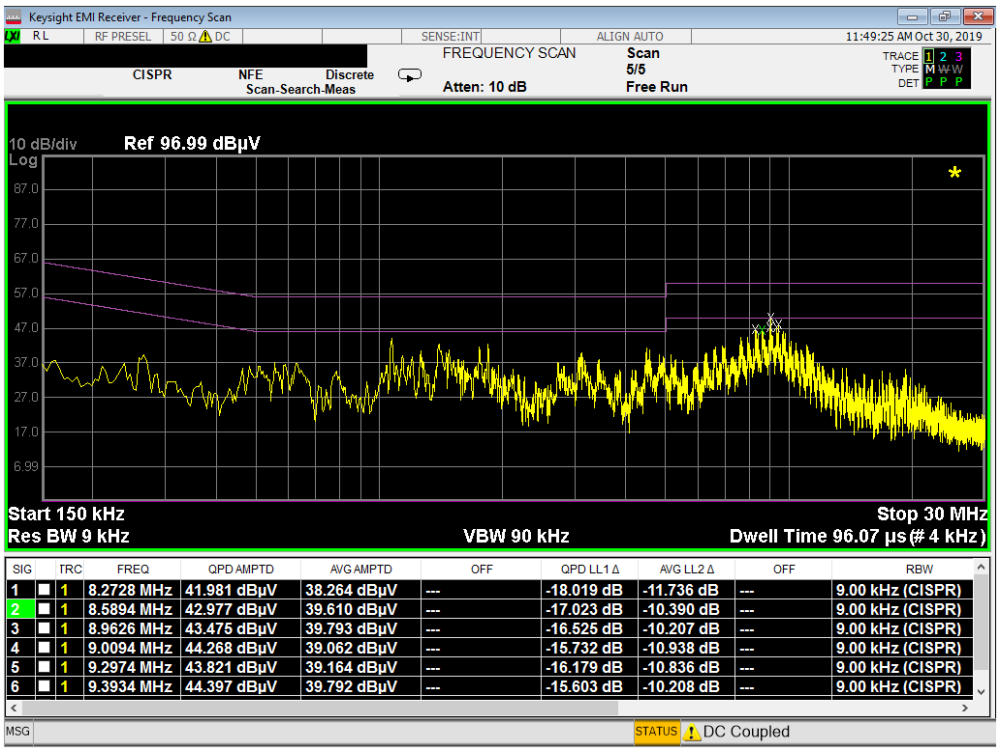
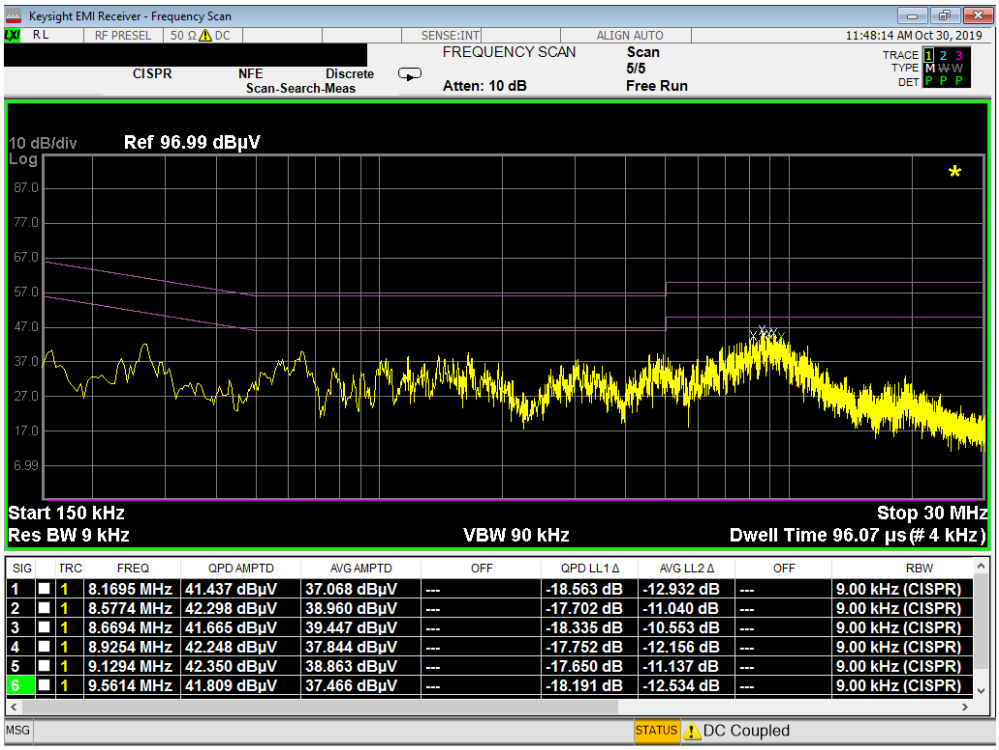


Plot 7-365. Line Conducted Plot with 802.11a UNII Band 3 (L1)



Plot 7-366. Line Conducted Plot with 802.11a UNII Band 3 (N)

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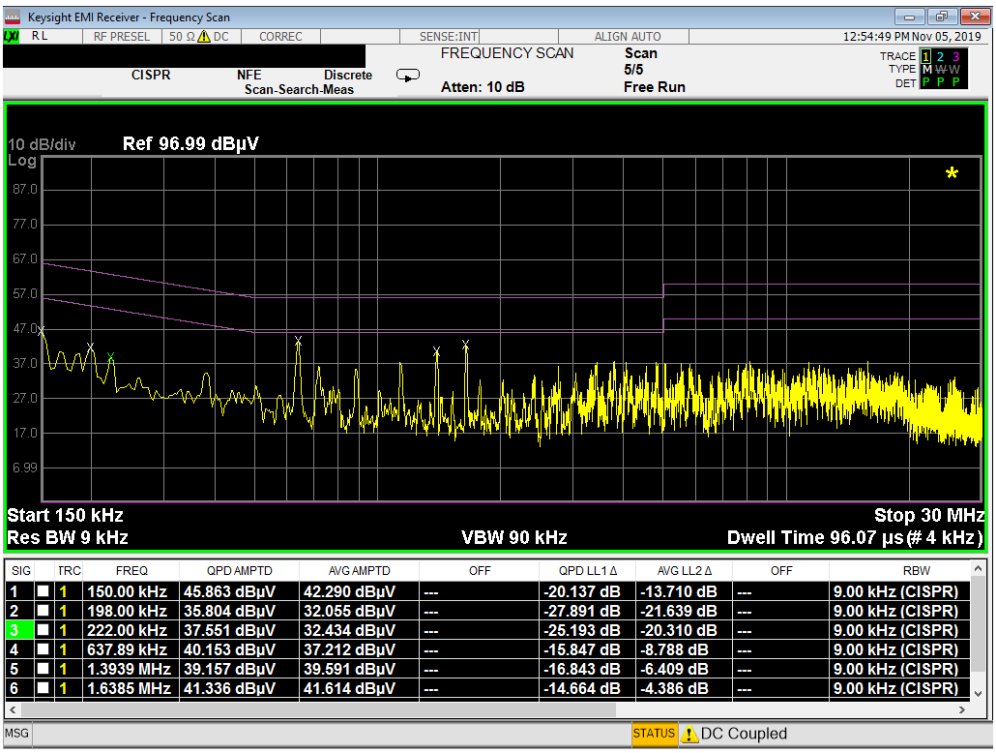
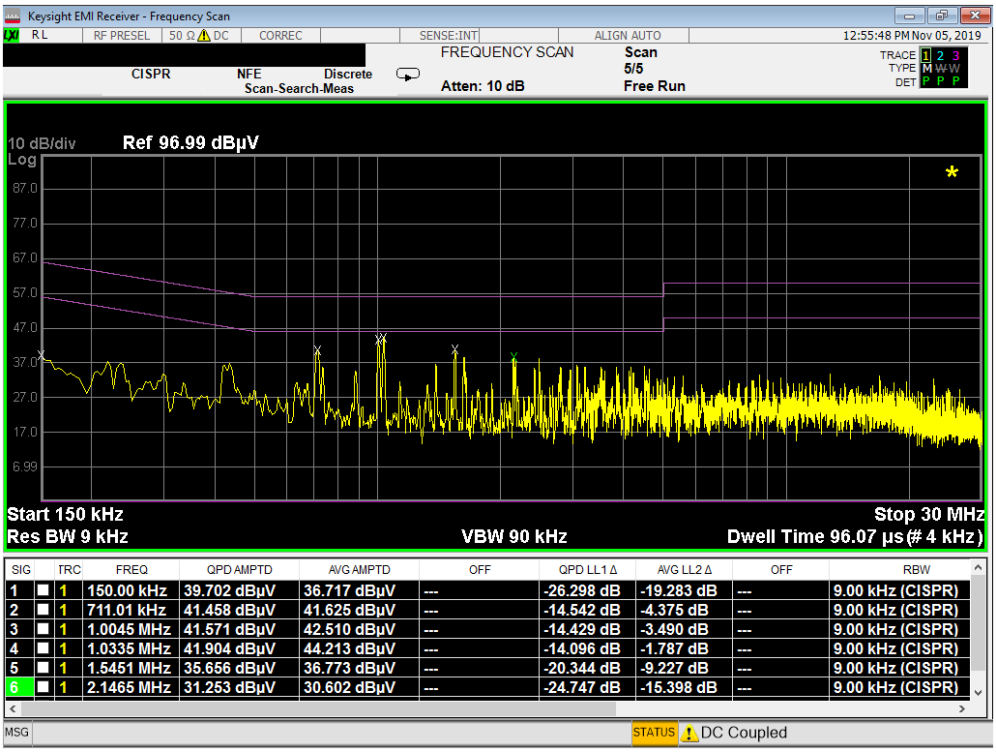


SIG	TRC	FREQ	QPD AMPTD	AVG AMPTD	OFF	QPD LL1 Δ	AVG LL2 Δ	OFF	RBW
1	1	150.00 kHz	45.863 dBµV	42.290 dBµV	---	-20.137 dB	-13.710 dB	---	9.00 kHz (CISPR)
2	1	198.00 kHz	35.804 dBµV	32.055 dBµV	---	-27.891 dB	-21.639 dB	---	9.00 kHz (CISPR)
3	1	222.00 kHz	37.551 dBµV	32.434 dBµV	---	-25.193 dB	-20.310 dB	---	9.00 kHz (CISPR)
4	1	637.89 kHz	40.153 dBµV	37.212 dBµV	---	-15.847 dB	-8.788 dB	---	9.00 kHz (CISPR)
5	1	1.3939 MHz	39.157 dBµV	39.591 dBµV	---	-16.843 dB	-6.409 dB	---	9.00 kHz (CISPR)
6	1	1.6385 MHz	41.336 dBµV	41.614 dBµV	---	-14.664 dB	-4.386 dB	---	9.00 kHz (CISPR)

Plot 7-367. Line Conducted Plot with 802.11a UNII Band 1 with WCP (L1)



SIG	TRC	FREQ	QPD AMPTD	AVG AMPTD	OFF	QPD LL1 Δ	AVG LL2 Δ	OFF	RBW
1	1	150.00 kHz	39.702 dBµV	36.717 dBµV	---	-26.298 dB	-19.283 dB	---	9.00 kHz (CISPR)
2	1	711.01 kHz	41.458 dBµV	41.625 dBµV	---	-14.542 dB	-4.375 dB	---	9.00 kHz (CISPR)
3	1	1.0045 MHz	41.571 dBµV	42.510 dBµV	---	-14.429 dB	-3.490 dB	---	9.00 kHz (CISPR)
4	1	1.0335 MHz	41.904 dBµV	44.213 dBµV	---	-14.096 dB	-1.787 dB	---	9.00 kHz (CISPR)
5	1	1.5451 MHz	35.656 dBµV	36.773 dBµV	---	-20.344 dB	-9.227 dB	---	9.00 kHz (CISPR)
6	1	2.1465 MHz	31.253 dBµV	30.602 dBµV	---	-24.747 dB	-15.398 dB	---	9.00 kHz (CISPR)

Plot 7-368. Line Conducted Plot with 802.11a UNII Band 1 with WCP (N)

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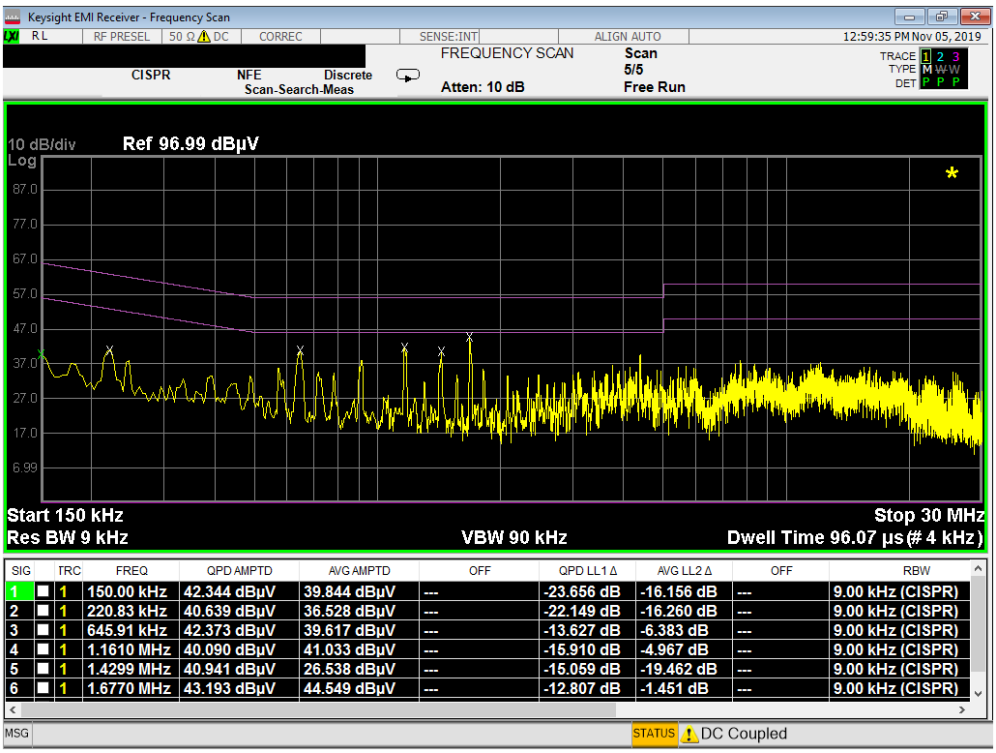
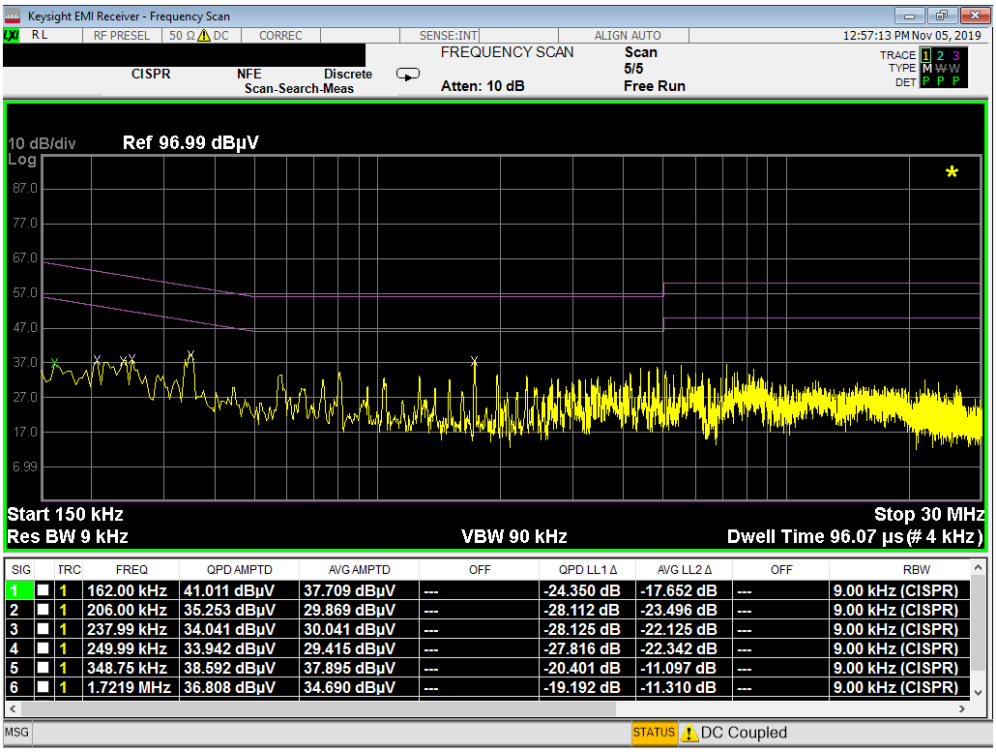


SIG	TRC	FREQ	QPD AMPTD	AVG AMPTD	OFF	QPD LL1 Δ	AVG LL2 Δ	OFF	RBW
1	1	150.00 kHz	42.344 dBµV	39.844 dBµV	---	-23.656 dB	-16.156 dB	---	9.00 kHz (CISPR)
2	1	220.83 kHz	40.639 dBµV	36.528 dBµV	---	-22.149 dB	-16.260 dB	---	9.00 kHz (CISPR)
3	1	645.91 kHz	42.373 dBµV	39.617 dBµV	---	-13.627 dB	-6.383 dB	---	9.00 kHz (CISPR)
4	1	1.1610 MHz	40.090 dBµV	41.033 dBµV	---	-15.910 dB	-4.967 dB	---	9.00 kHz (CISPR)
5	1	1.4299 MHz	40.941 dBµV	26.538 dBµV	---	-15.059 dB	-19.462 dB	---	9.00 kHz (CISPR)
6	1	1.6770 MHz	43.193 dBµV	44.549 dBµV	---	-12.807 dB	-1.451 dB	---	9.00 kHz (CISPR)

Plot 7-369. Line Conducted Plot with 802.11a UNII Band 2A with WCP (L1)



SIG	TRC	FREQ	QPD AMPTD	AVG AMPTD	OFF	QPD LL1 Δ	AVG LL2 Δ	OFF	RBW
1	1	162.00 kHz	41.011 dBµV	37.709 dBµV	---	-24.350 dB	-17.652 dB	---	9.00 kHz (CISPR)
2	1	206.00 kHz	35.253 dBµV	29.869 dBµV	---	-28.112 dB	-23.496 dB	---	9.00 kHz (CISPR)
3	1	237.99 kHz	34.041 dBµV	30.041 dBµV	---	-28.125 dB	-22.125 dB	---	9.00 kHz (CISPR)
4	1	249.99 kHz	33.942 dBµV	29.415 dBµV	---	-27.816 dB	-22.342 dB	---	9.00 kHz (CISPR)
5	1	348.75 kHz	38.592 dBµV	37.895 dBµV	---	-20.401 dB	-11.097 dB	---	9.00 kHz (CISPR)
6	1	1.7219 MHz	36.808 dBµV	34.690 dBµV	---	-19.192 dB	-11.310 dB	---	9.00 kHz (CISPR)

Plot 7-370. Line Conducted Plot with 802.11a UNII Band 2A with WCP (N)

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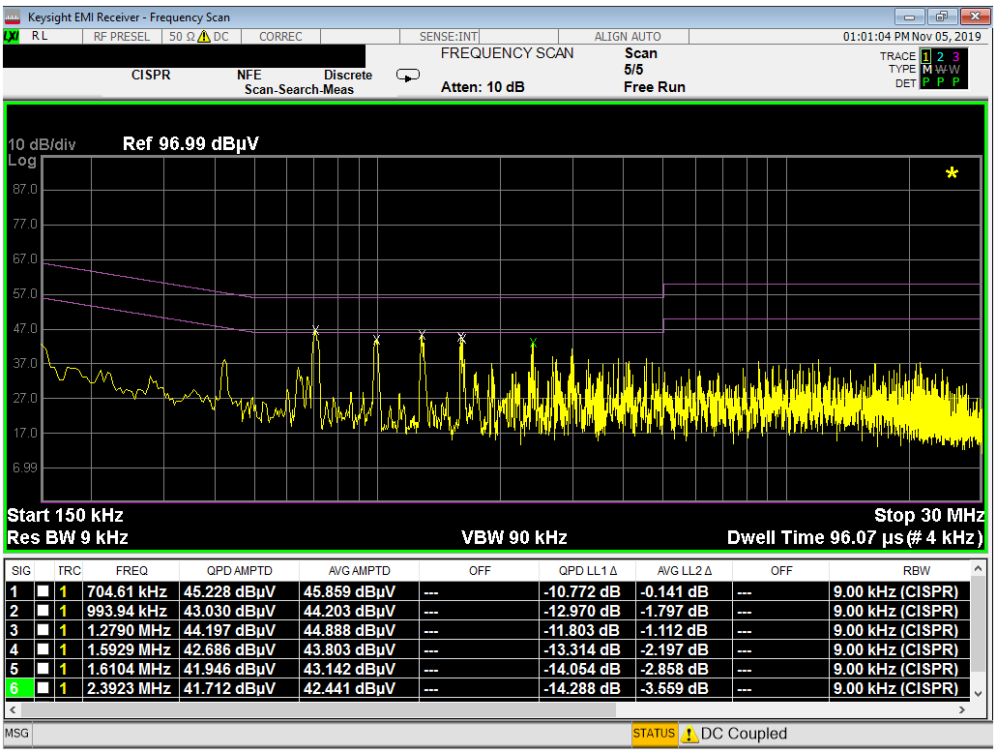
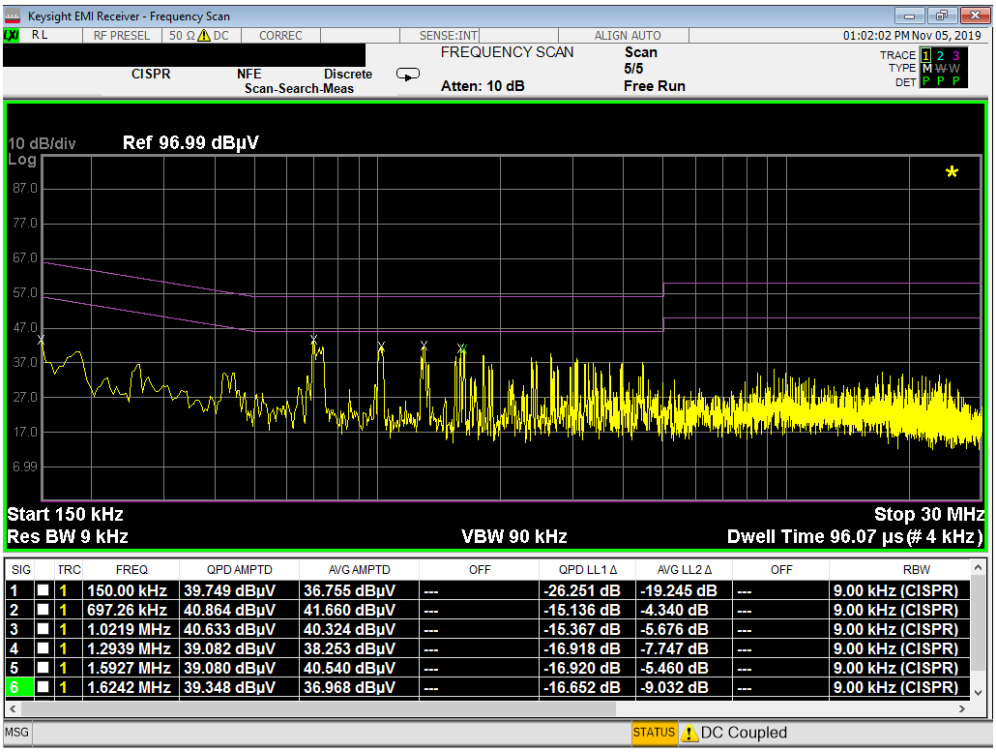


SIG	TRC	FREQ	QPD AMPTD	AVG AMPTD	OFF	QPD LL1 Δ	AVG LL2 Δ	OFF	RBW
1	1	704.61 kHz	45.228 dBµV	45.859 dBµV	---	-10.772 dB	-0.141 dB	---	9.00 kHz (CISPR)
2	1	993.94 kHz	43.030 dBµV	44.203 dBµV	---	-12.970 dB	-1.797 dB	---	9.00 kHz (CISPR)
3	1	1.2790 MHz	44.197 dBµV	44.888 dBµV	---	-11.803 dB	-1.112 dB	---	9.00 kHz (CISPR)
4	1	1.5929 MHz	42.686 dBµV	43.803 dBµV	---	-13.314 dB	-2.197 dB	---	9.00 kHz (CISPR)
5	1	1.6104 MHz	41.946 dBµV	43.142 dBµV	---	-14.054 dB	-2.858 dB	---	9.00 kHz (CISPR)
6	1	2.3923 MHz	41.712 dBµV	42.441 dBµV	---	-14.288 dB	-3.559 dB	---	9.00 kHz (CISPR)

Plot 7-371. Line Conducted Plot with 802.11a UNII Band 2C with WCP (L1)



SIG	TRC	FREQ	QPD AMPTD	AVG AMPTD	OFF	QPD LL1 Δ	AVG LL2 Δ	OFF	RBW
1	1	150.00 kHz	39.749 dBµV	36.755 dBµV	---	-26.251 dB	-19.245 dB	---	9.00 kHz (CISPR)
2	1	697.26 kHz	40.864 dBµV	41.660 dBµV	---	-15.136 dB	-4.340 dB	---	9.00 kHz (CISPR)
3	1	1.0219 MHz	40.633 dBµV	40.324 dBµV	---	-15.367 dB	-5.676 dB	---	9.00 kHz (CISPR)
4	1	1.2939 MHz	39.082 dBµV	38.253 dBµV	---	-16.918 dB	-7.747 dB	---	9.00 kHz (CISPR)
5	1	1.5927 MHz	39.080 dBµV	40.540 dBµV	---	-16.920 dB	-5.460 dB	---	9.00 kHz (CISPR)
6	1	1.6242 MHz	39.348 dBµV	36.968 dBµV	---	-16.652 dB	-9.032 dB	---	9.00 kHz (CISPR)

Plot 7-372. Line Conducted Plot with 802.11a UNII Band 2C with WCP (N)

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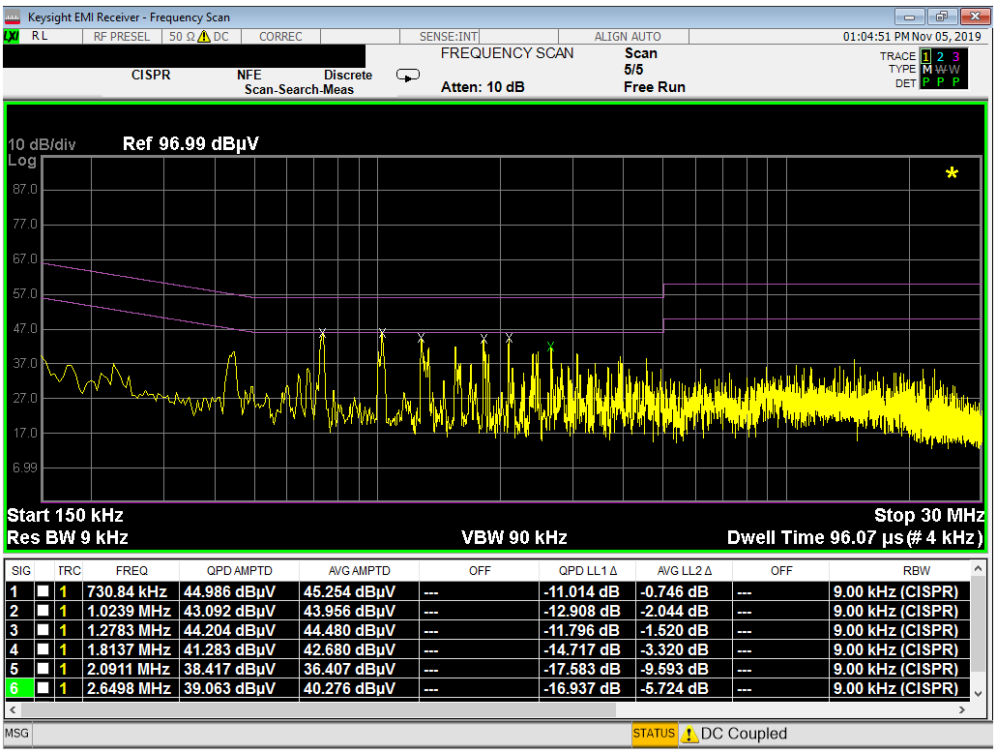
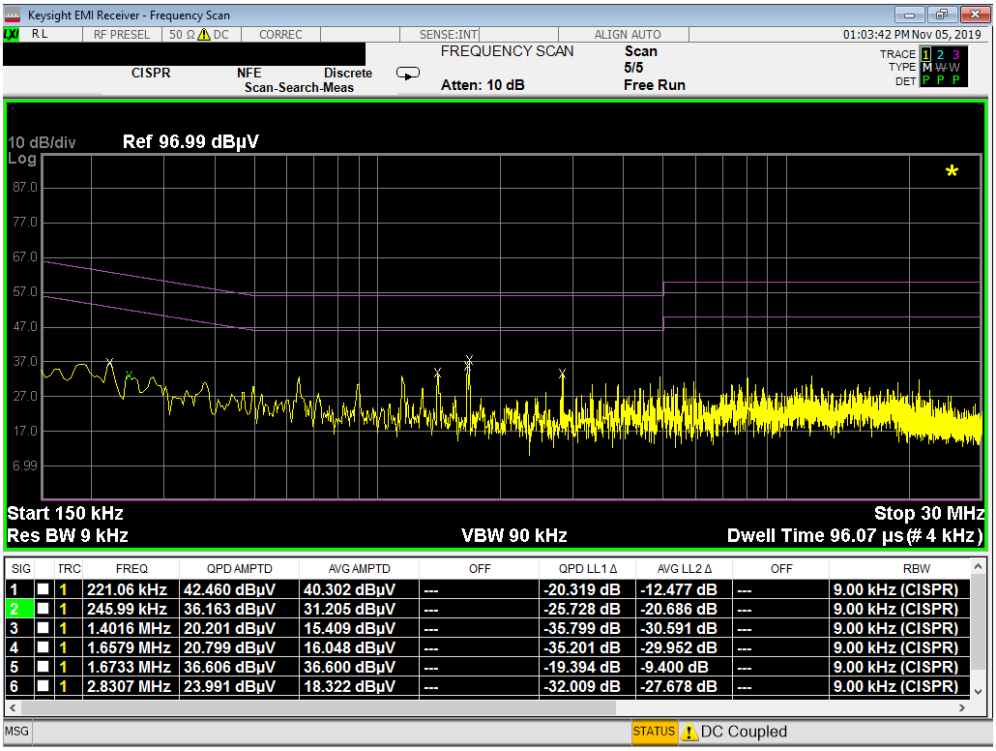


SIG	TRC	FREQ	QPD AMPTD	AVG AMPTD	OFF	QPD LL1 Δ	AVG LL2 Δ	OFF	RBW
1	1	730.84 kHz	44.986 dBµV	45.254 dBµV	---	-11.014 dB	-0.746 dB	---	9.00 kHz (CISPR)
2	1	1.0239 MHz	43.092 dBµV	43.956 dBµV	---	-12.908 dB	-2.044 dB	---	9.00 kHz (CISPR)
3	1	1.2783 MHz	44.204 dBµV	44.480 dBµV	---	-11.796 dB	-1.520 dB	---	9.00 kHz (CISPR)
4	1	1.8137 MHz	41.283 dBµV	42.680 dBµV	---	-14.717 dB	-3.320 dB	---	9.00 kHz (CISPR)
5	1	2.0911 MHz	38.417 dBµV	36.407 dBµV	---	-17.583 dB	-9.593 dB	---	9.00 kHz (CISPR)
6	1	2.6498 MHz	39.063 dBµV	40.276 dBµV	---	-16.937 dB	-5.724 dB	---	9.00 kHz (CISPR)

Plot 7-373. Line Conducted Plot with 802.11a UNII Band 3 with WCP (L1)



SIG	TRC	FREQ	QPD AMPTD	AVG AMPTD	OFF	QPD LL1 Δ	AVG LL2 Δ	OFF	RBW
1	1	221.06 kHz	42.460 dBµV	40.302 dBµV	---	-20.319 dB	-12.477 dB	---	9.00 kHz (CISPR)
2	1	245.99 kHz	36.163 dBµV	31.205 dBµV	---	-25.728 dB	-20.686 dB	---	9.00 kHz (CISPR)
3	1	1.4016 MHz	20.201 dBµV	15.409 dBµV	---	-35.799 dB	-30.591 dB	---	9.00 kHz (CISPR)
4	1	1.6579 MHz	20.799 dBµV	16.048 dBµV	---	-35.201 dB	-29.952 dB	---	9.00 kHz (CISPR)
5	1	1.6733 MHz	36.606 dBµV	36.600 dBµV	---	-19.394 dB	-9.400 dB	---	9.00 kHz (CISPR)
6	1	2.8307 MHz	23.991 dBµV	18.322 dBµV	---	-32.009 dB	-27.678 dB	---	9.00 kHz (CISPR)

Plot 7-374. Line Conducted Plot with 802.11a UNII Band 3 with WCP (N)

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8.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Samsung Portable Handset FCC ID: A3LSMG986JPN** is in compliance with Part 15 Subpart E (15.407) of the FCC Rules.

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