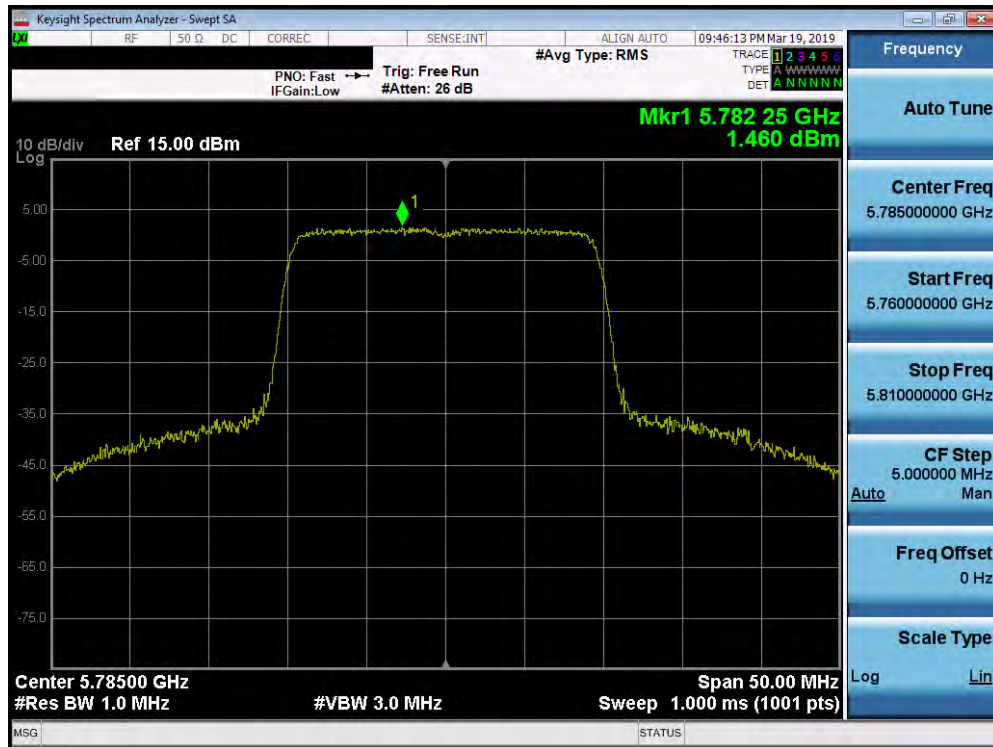
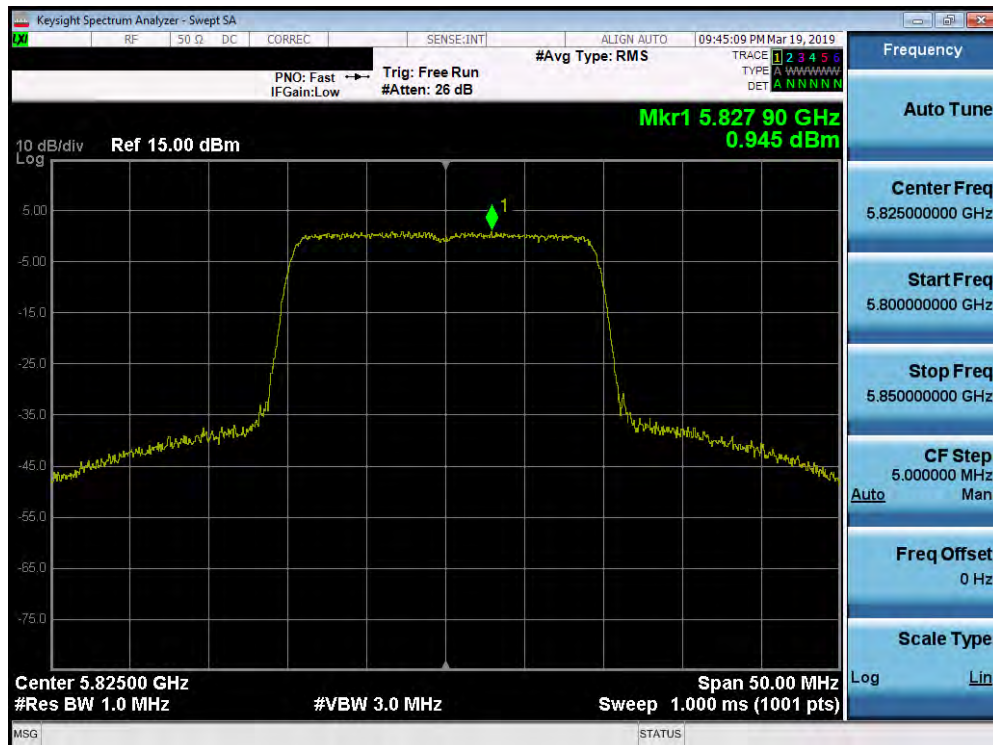


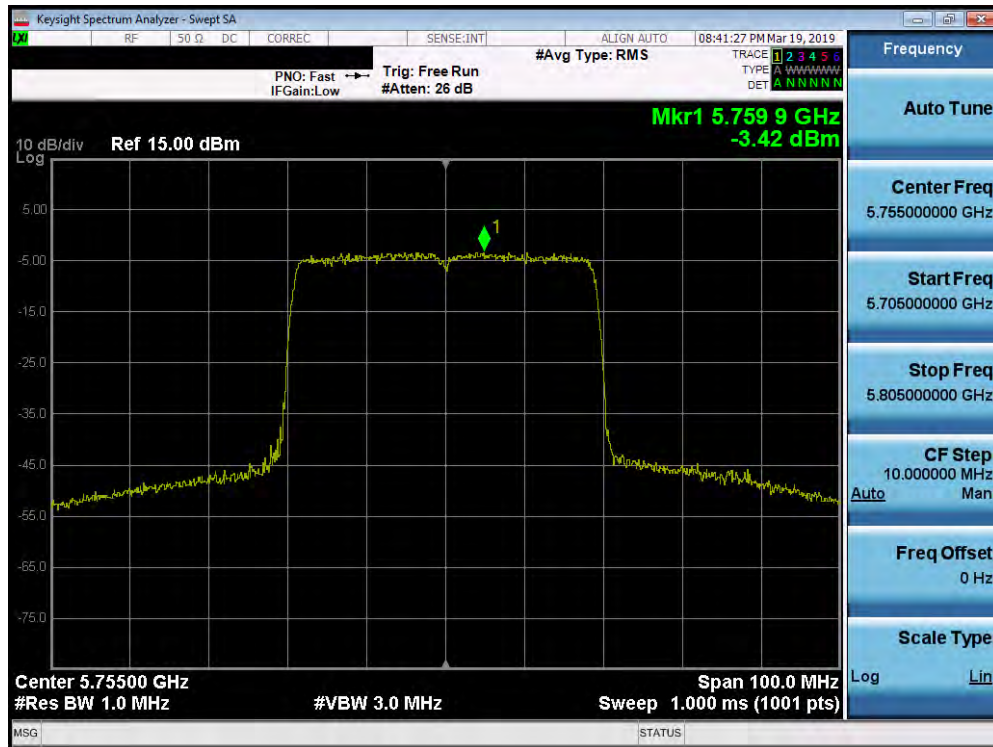


Plot 7-293. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 242 Tones (UNII Band 3) – Ch. 157)

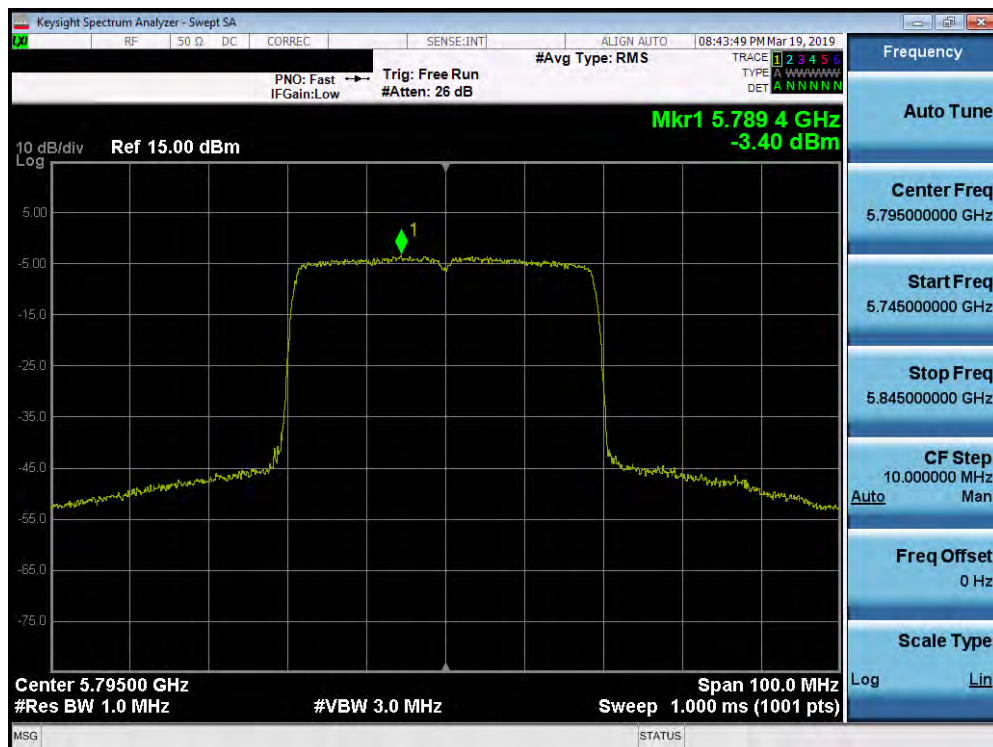


Plot 7-294. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 242 Tones (UNII Band 3) – Ch. 165)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 208 of 339

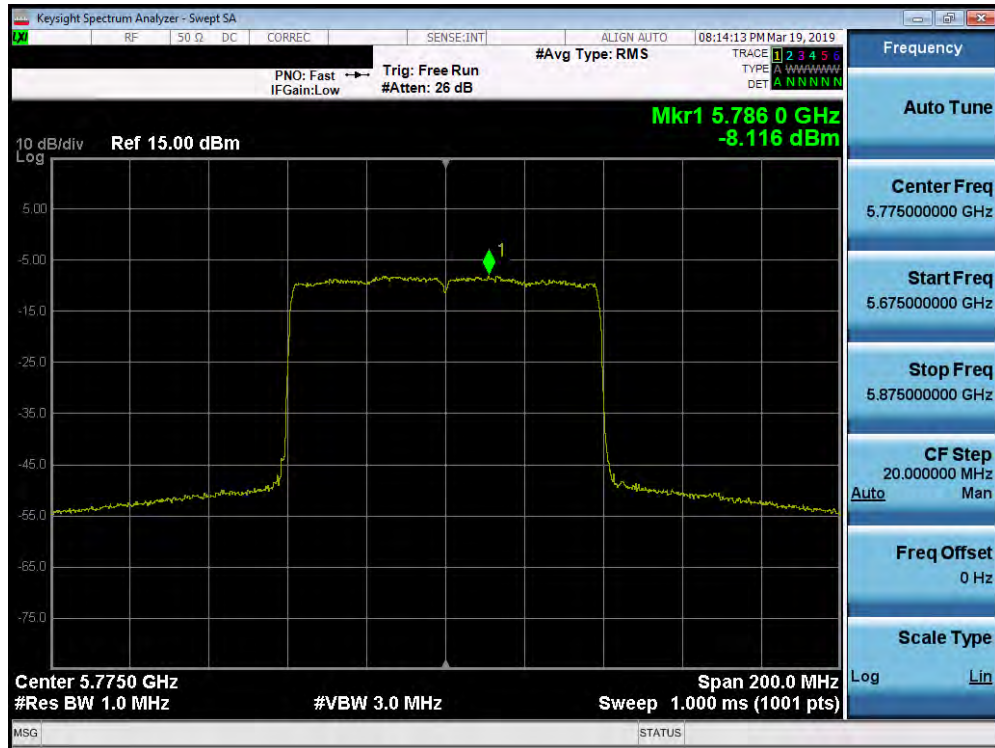


Plot 7-295. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 484 Tones (UNII Band 3) – Ch. 151)



Plot 7-296. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 484 Tones (UNII Band 3) – Ch. 159)

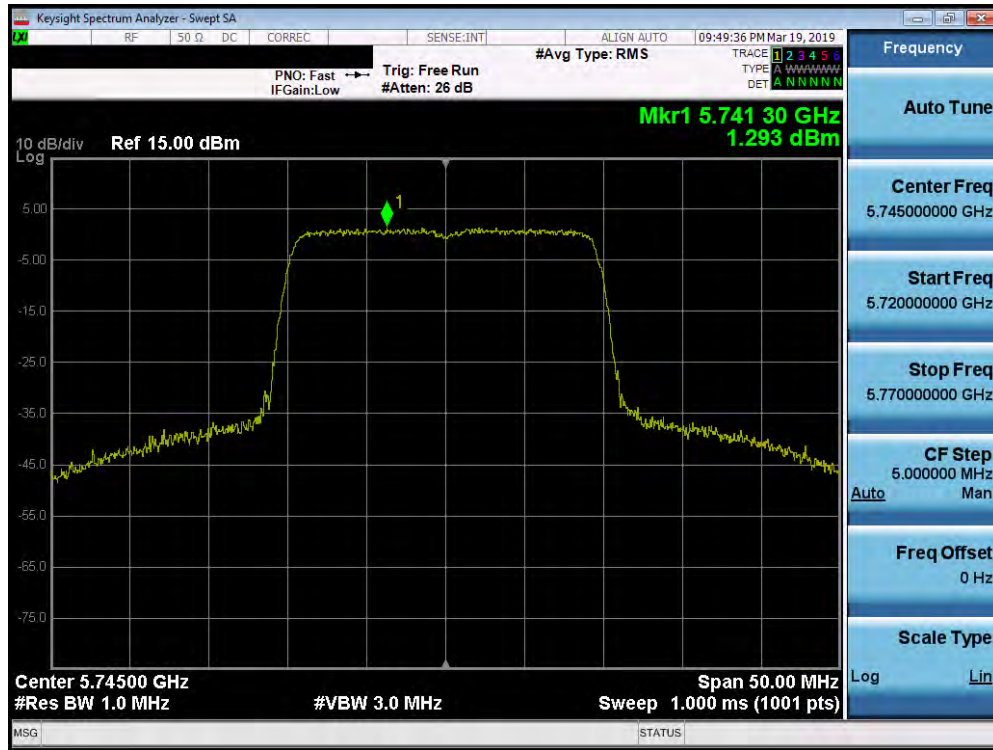
FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 209 of 339



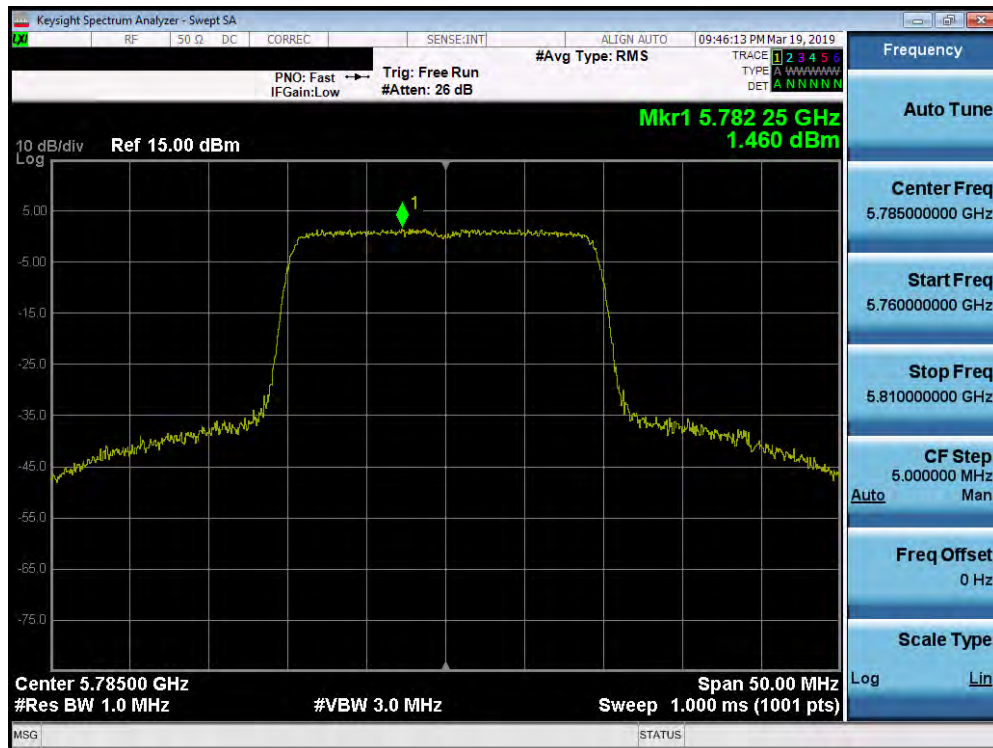
Plot 7-297. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 996 Tones (UNII Band 3) – Ch. 155)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 210 of 339

MIMO Antenna-2 Power Spectral Density Measurements (Full Tones)

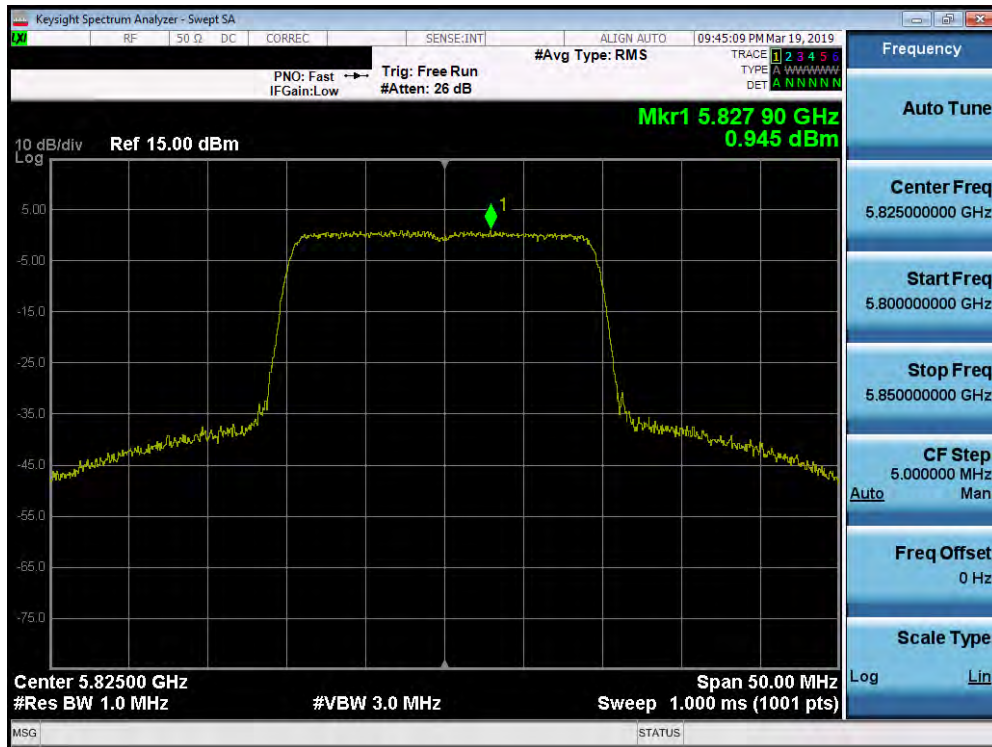


Plot 7-298. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 242 Tones (UNII Band 1) – Ch. 36)

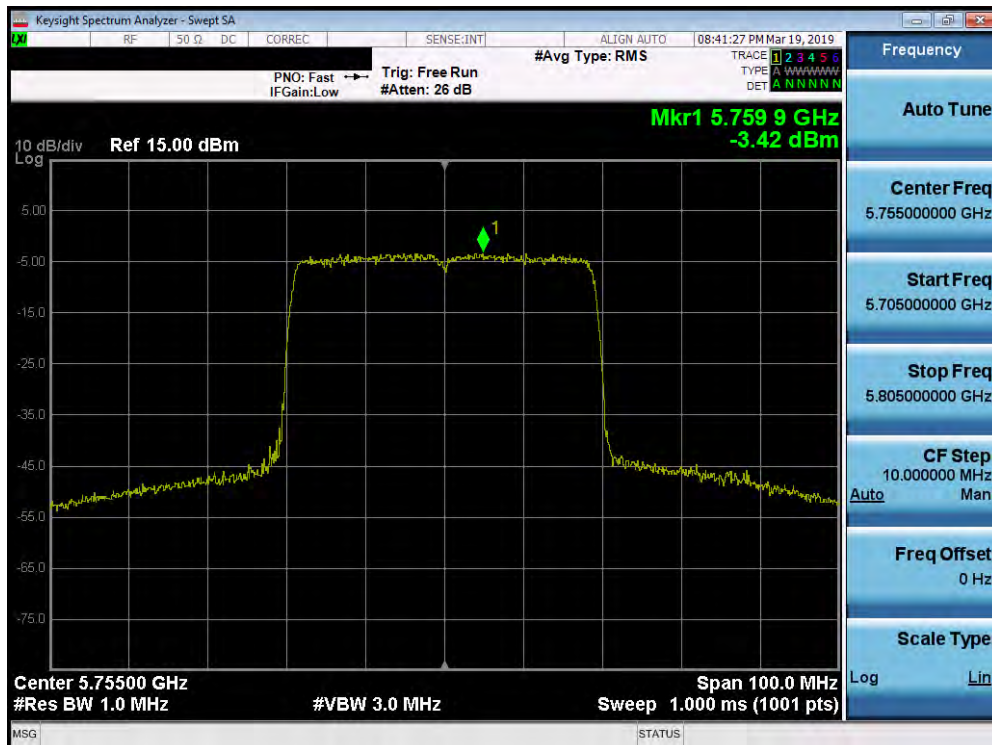


Plot 7-299. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 242 Tones (UNII Band 1) – Ch. 40)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 211 of 339

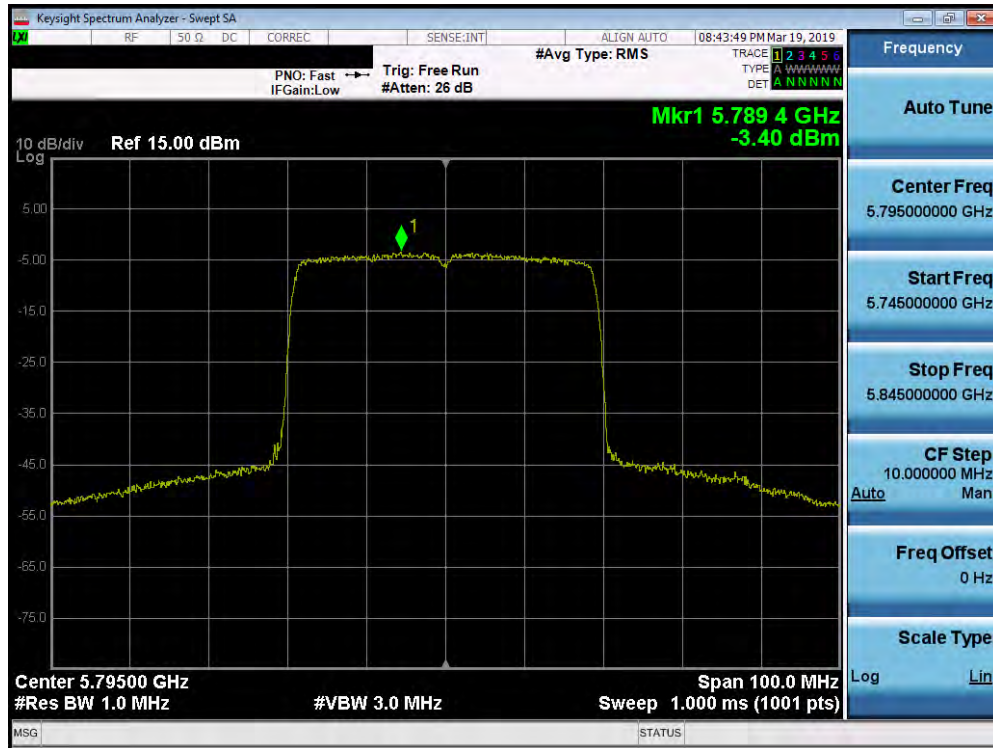


Plot 7-300. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 242 Tones (UNII Band 1) – Ch. 48)

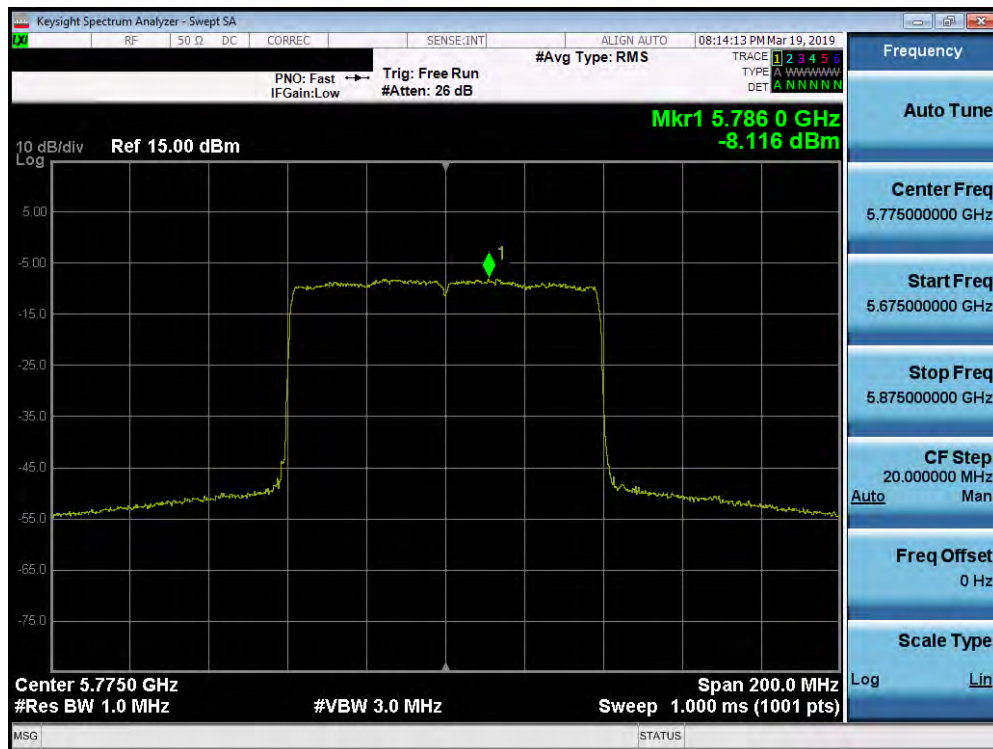


Plot 7-301. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 1) – Ch. 38)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 212 of 339

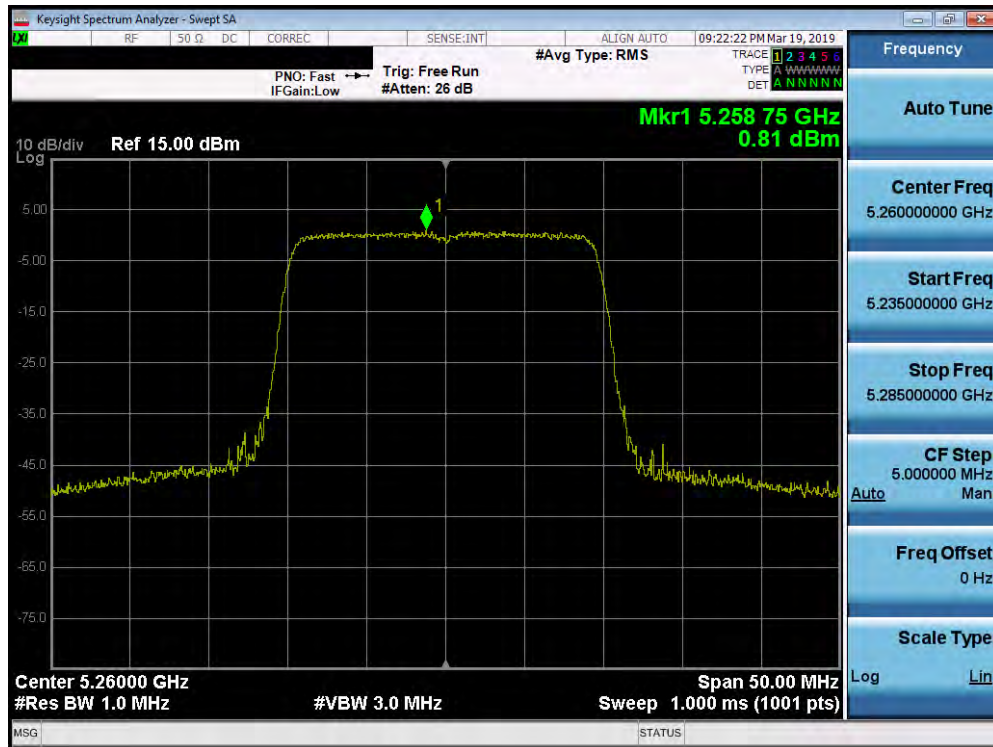


Plot 7-302. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 1) – Ch. 46)

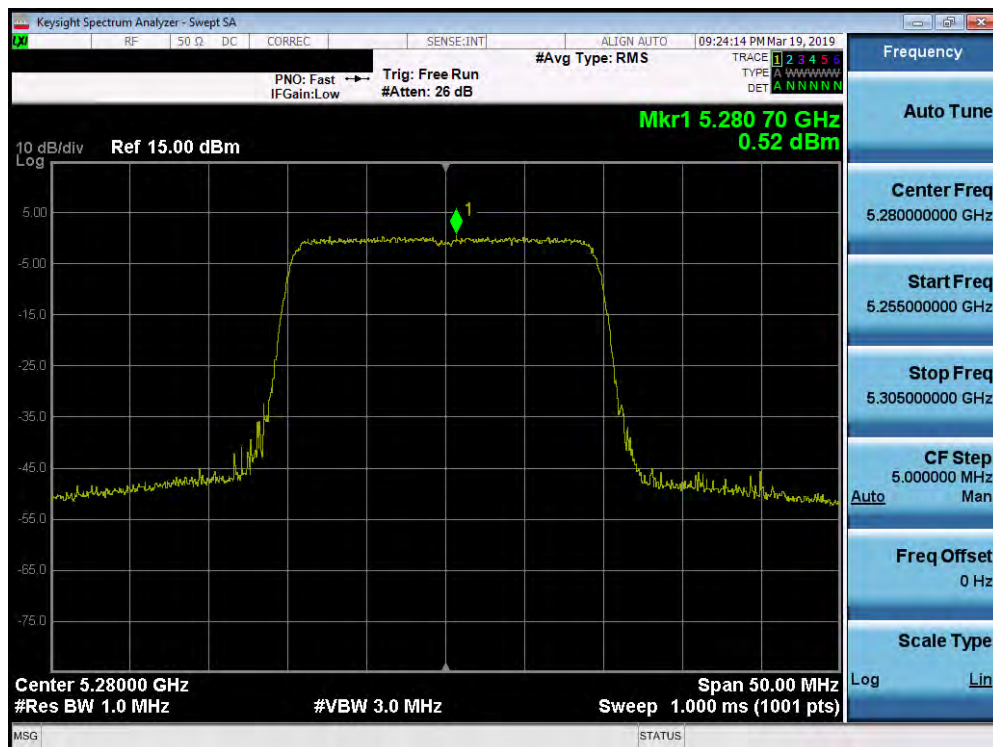


Plot 7-303. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 996 Tones (UNII Band 1) – Ch. 42)

FCC ID: A3LSMF900F	 MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 213 of 339

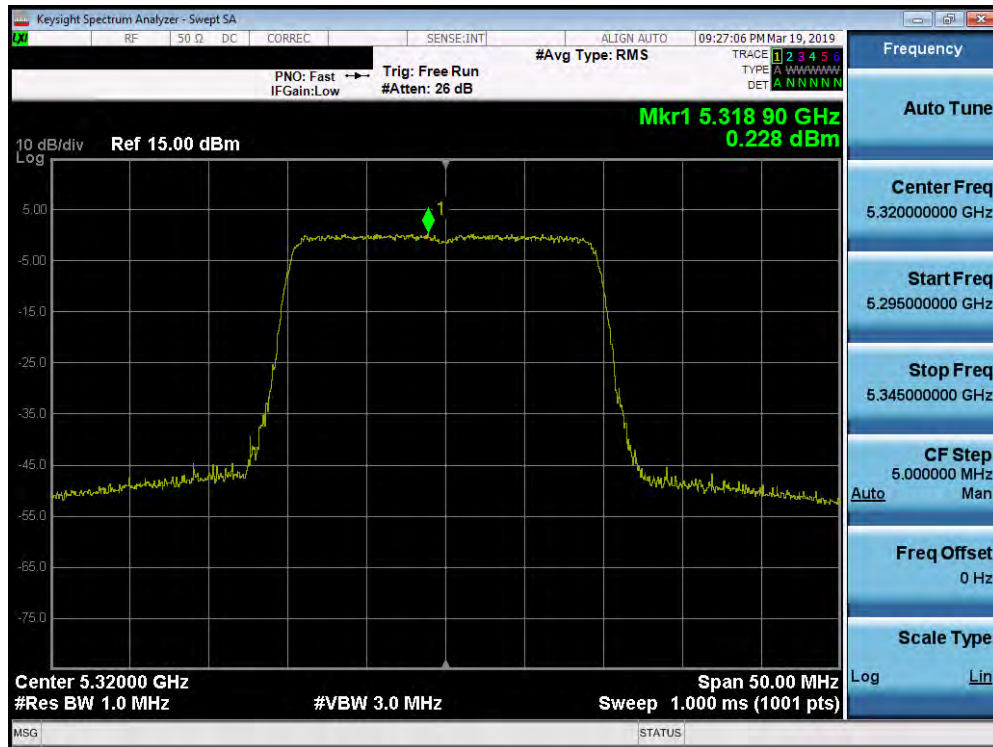


Plot 7-304. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 242 Tones (UNII Band 2A) – Ch. 52)

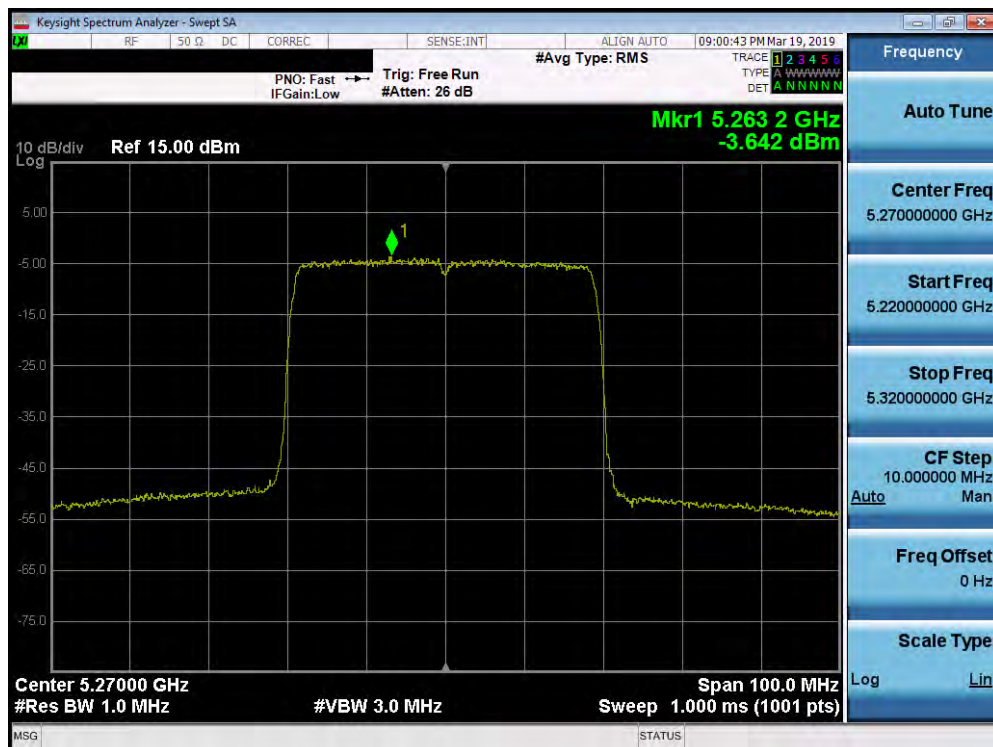


Plot 7-305. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 242 Tones (UNII Band 2A) – Ch. 56)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 214 of 339

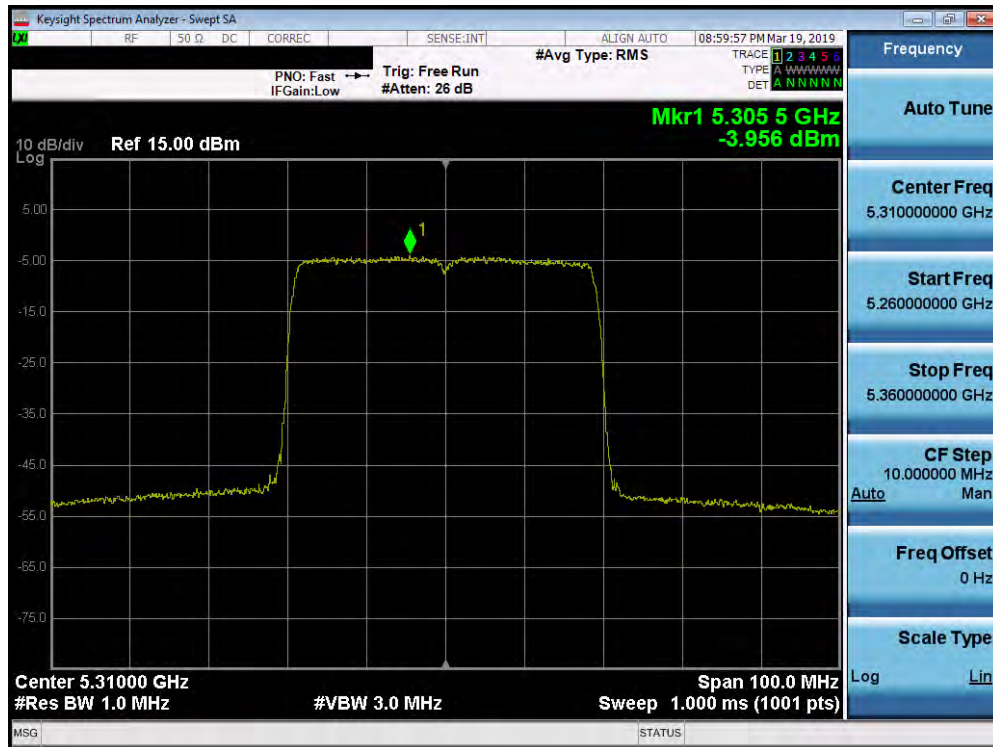


Plot 7-306. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 242 Tones (UNII Band 2A) – Ch. 64)

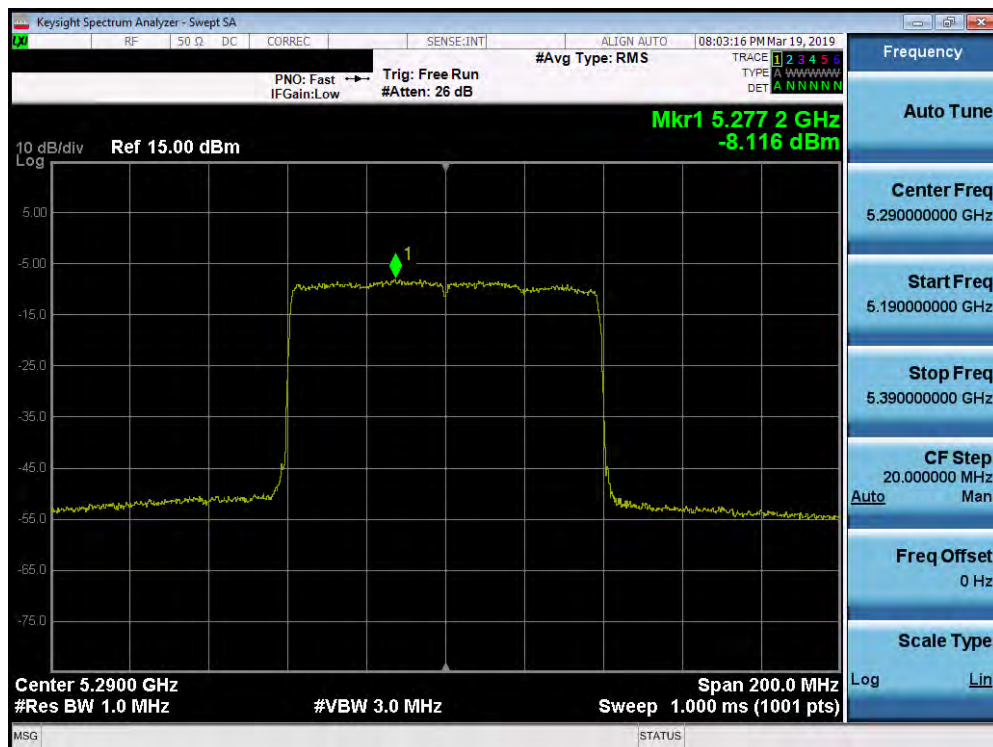


Plot 7-307. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 2A) – Ch. 54)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 215 of 339

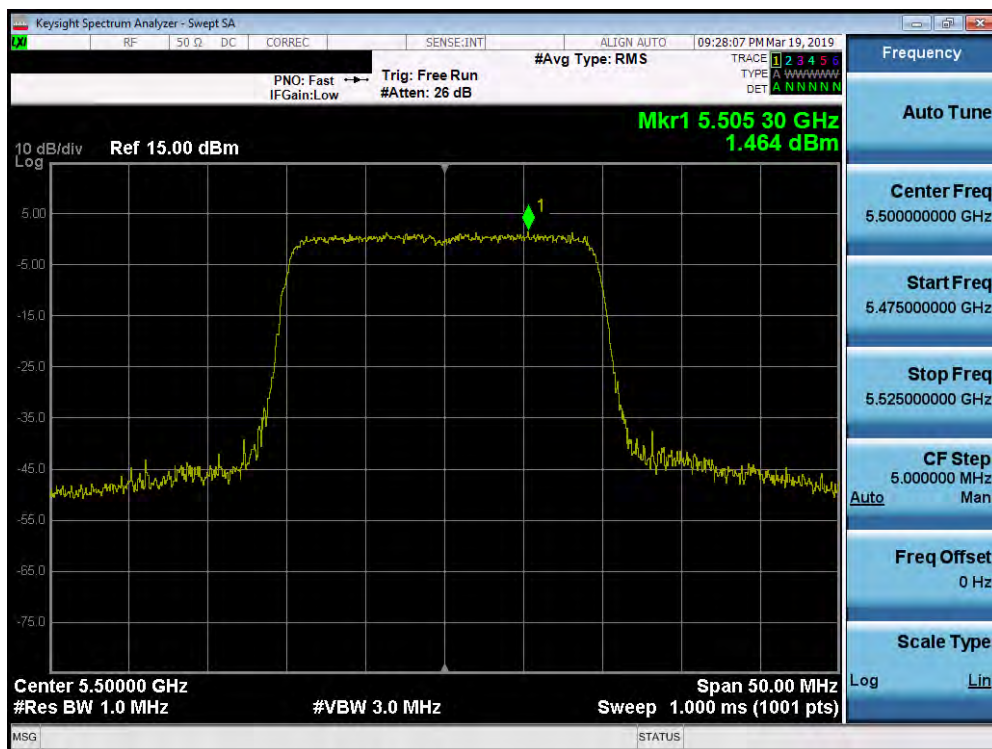


Plot 7-308. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 2A) – Ch. 62)

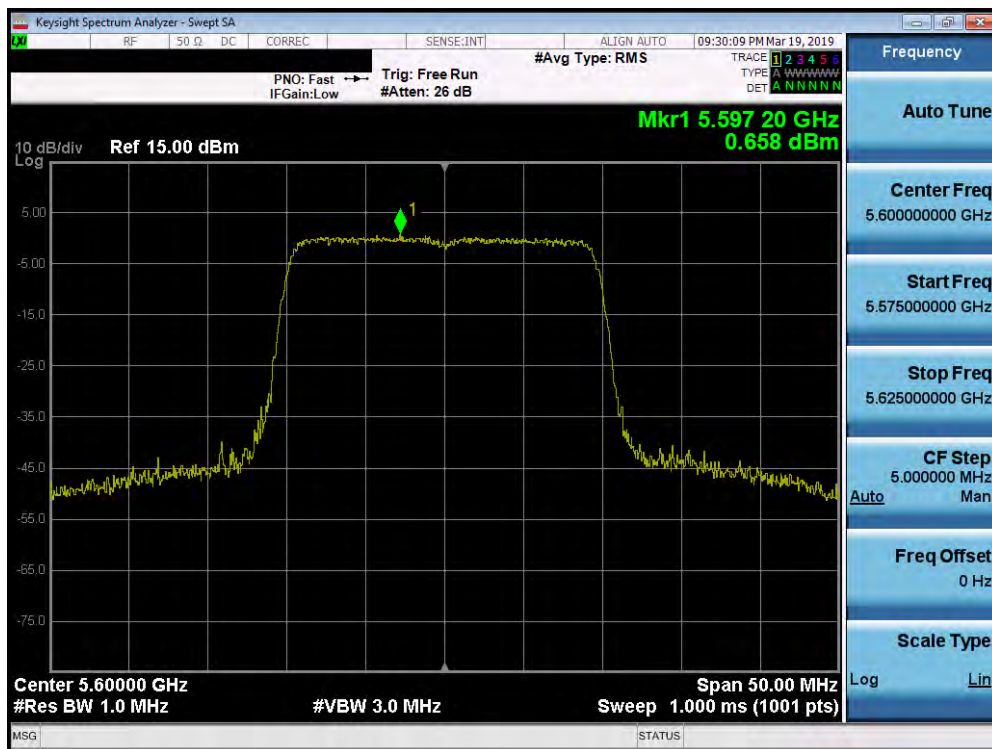


Plot 7-309. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 996 Tones (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMF900F	 MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 216 of 339

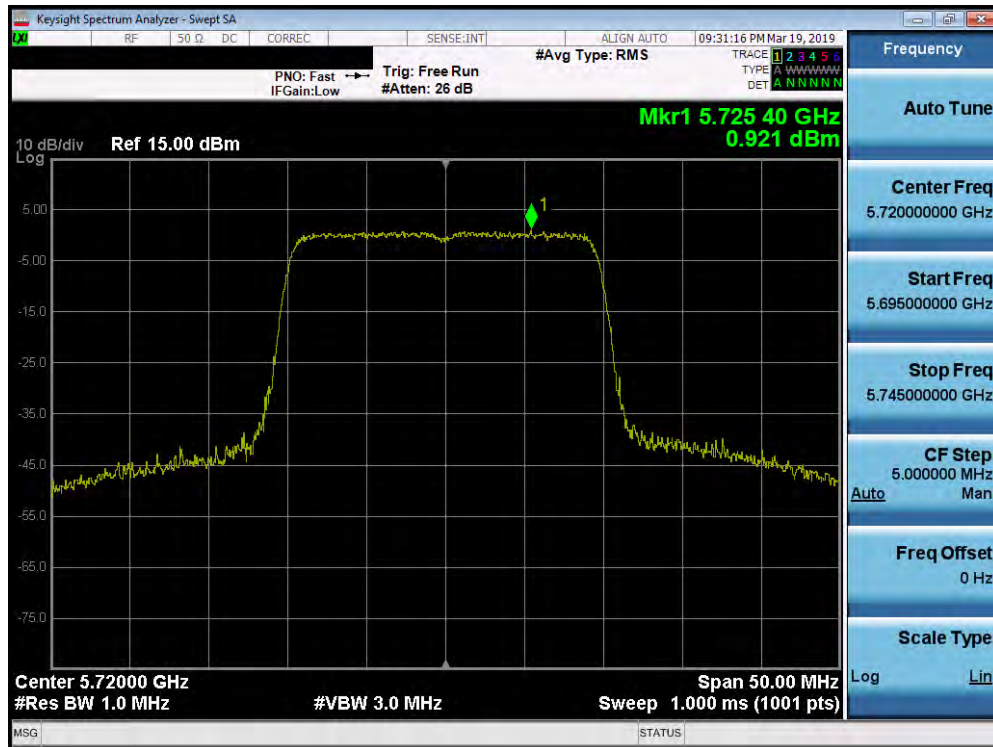


Plot 7-310. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 242 Tones (UNII Band 2C) – Ch. 100)

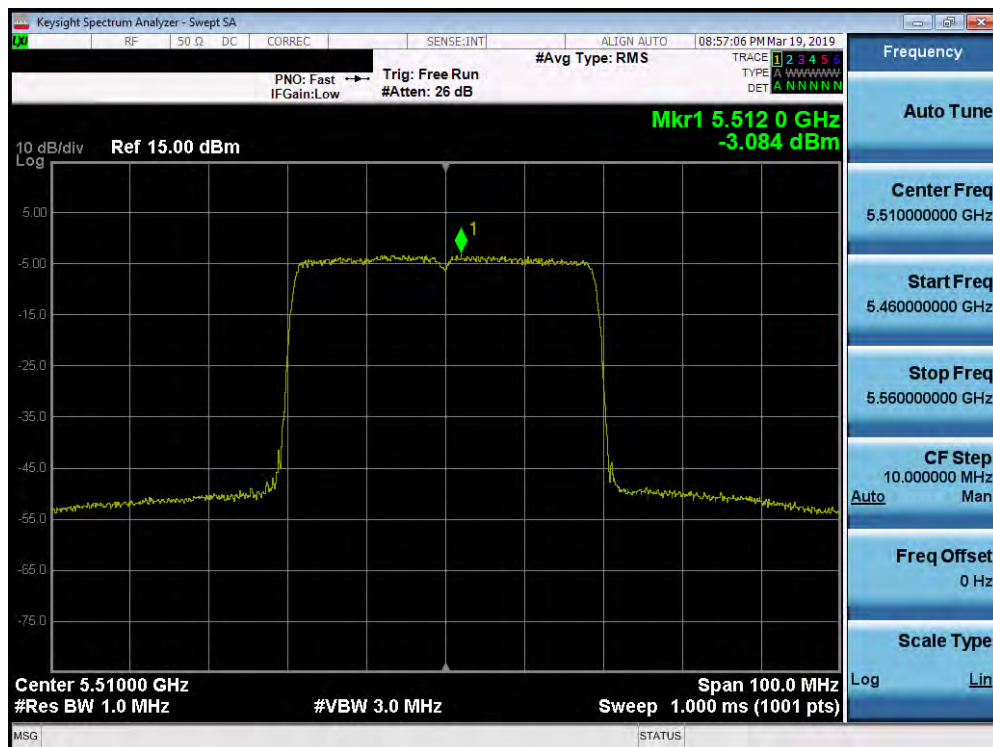


Plot 7-311. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 242 Tones (UNII Band 2C) – Ch. 120)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 217 of 339

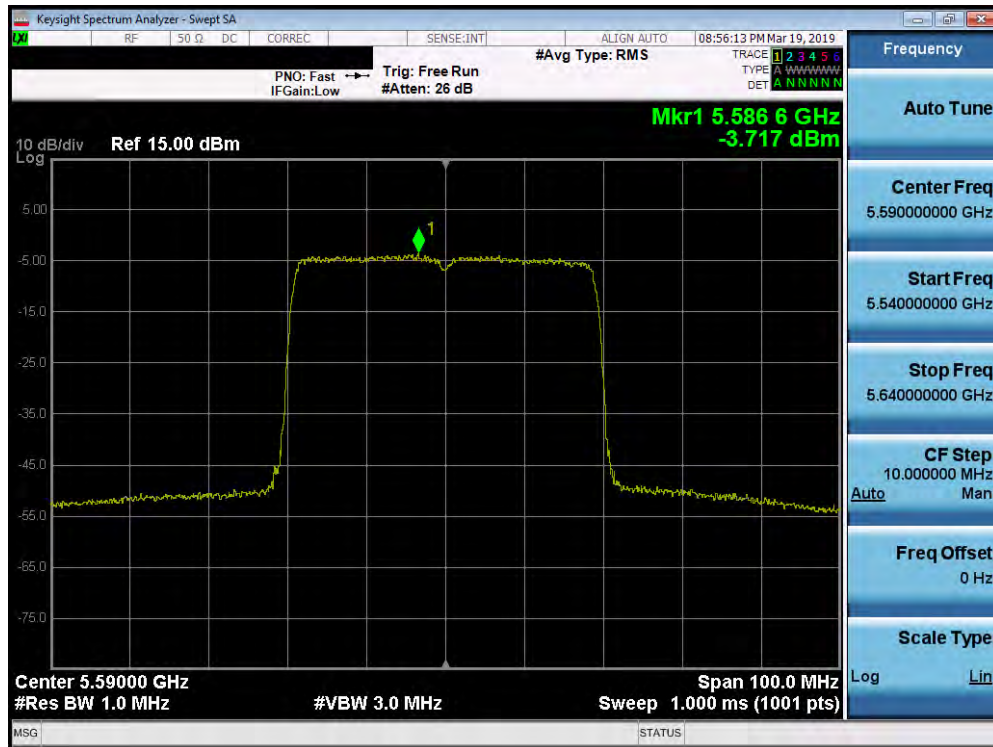


Plot 7-312. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 242 Tones (UNII Band 2C) – Ch. 144)

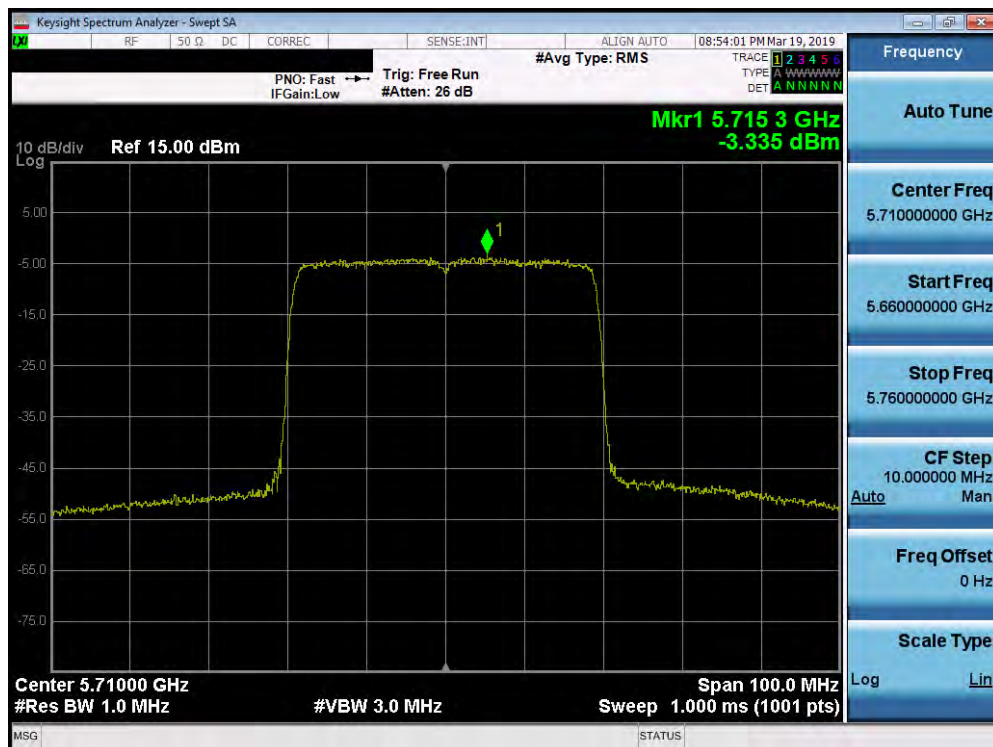


Plot 7-313. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 2C) – Ch. 102)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 218 of 339

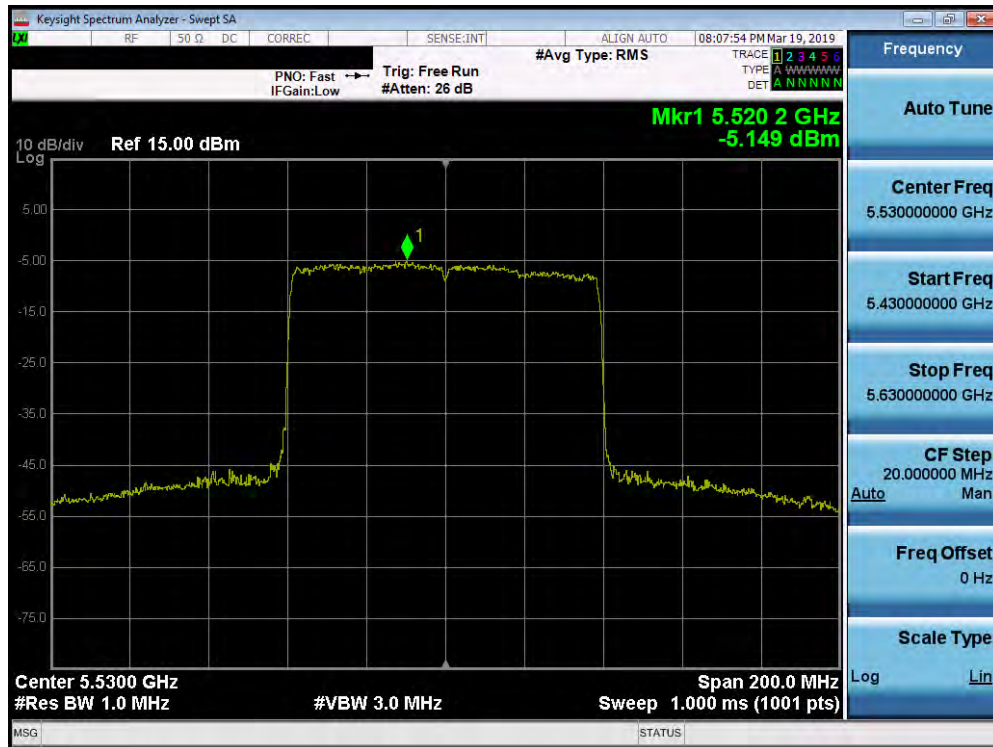


Plot 7-314. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 2C) – Ch. 118)

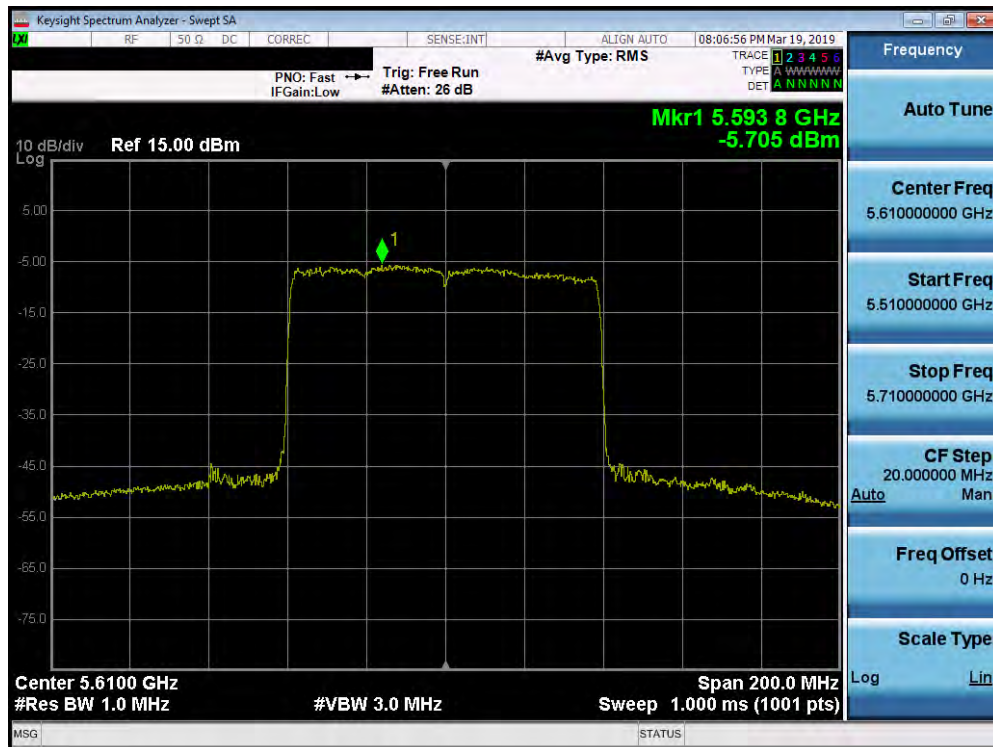


Plot 7-315. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 2C) – Ch. 142)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 219 of 339

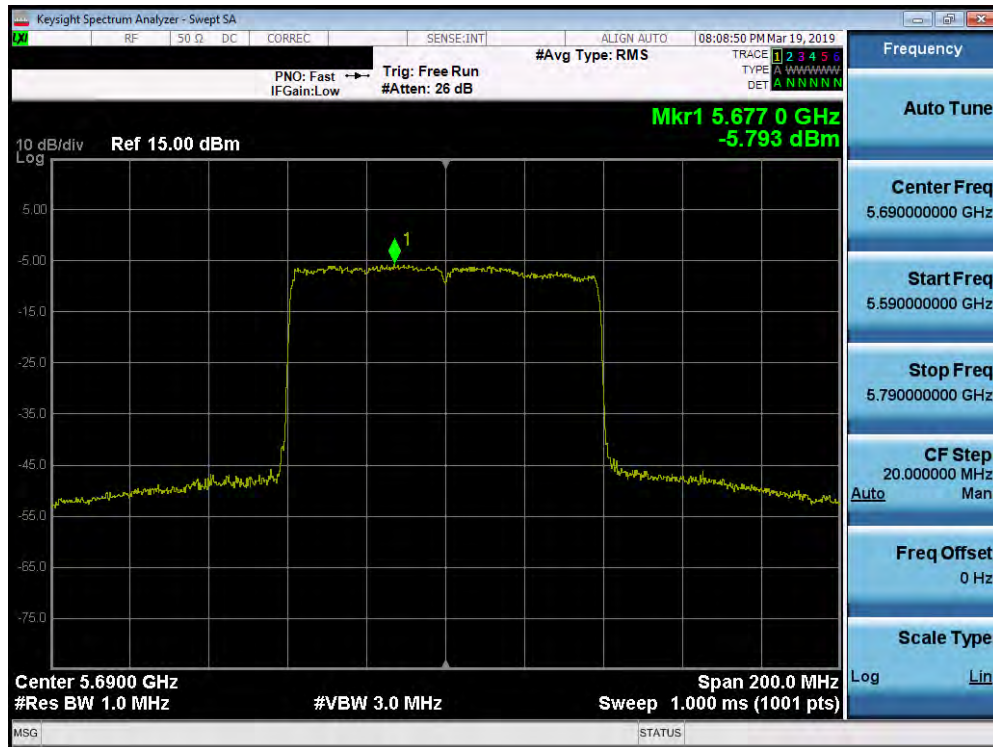


Plot 7-316. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 996 Tones (UNII Band 2C) – Ch. 106)

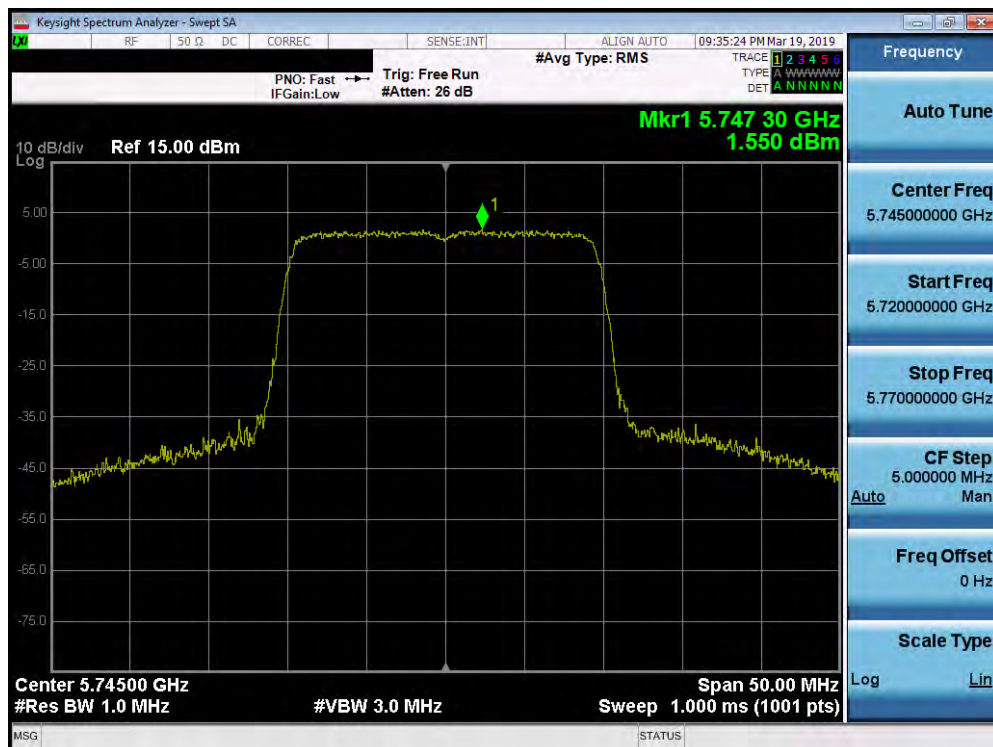


Plot 7-317. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 996 Tones (UNII Band 2C) – Ch. 122)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 220 of 339

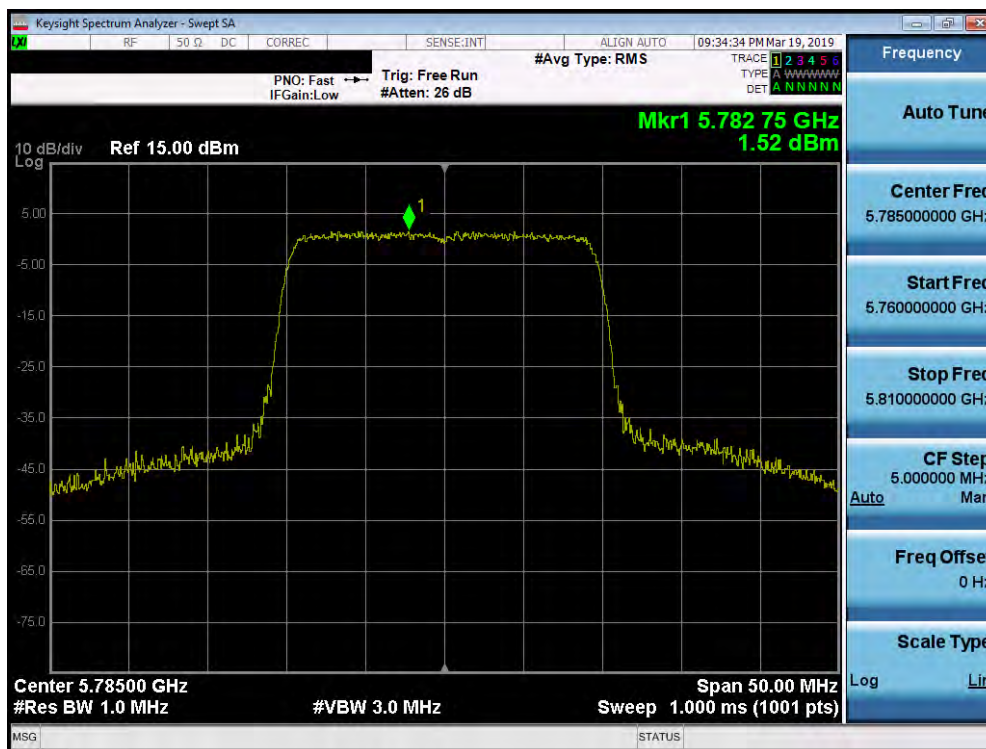


Plot 7-318. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 996 Tones (UNII Band 2C) – Ch. 138)

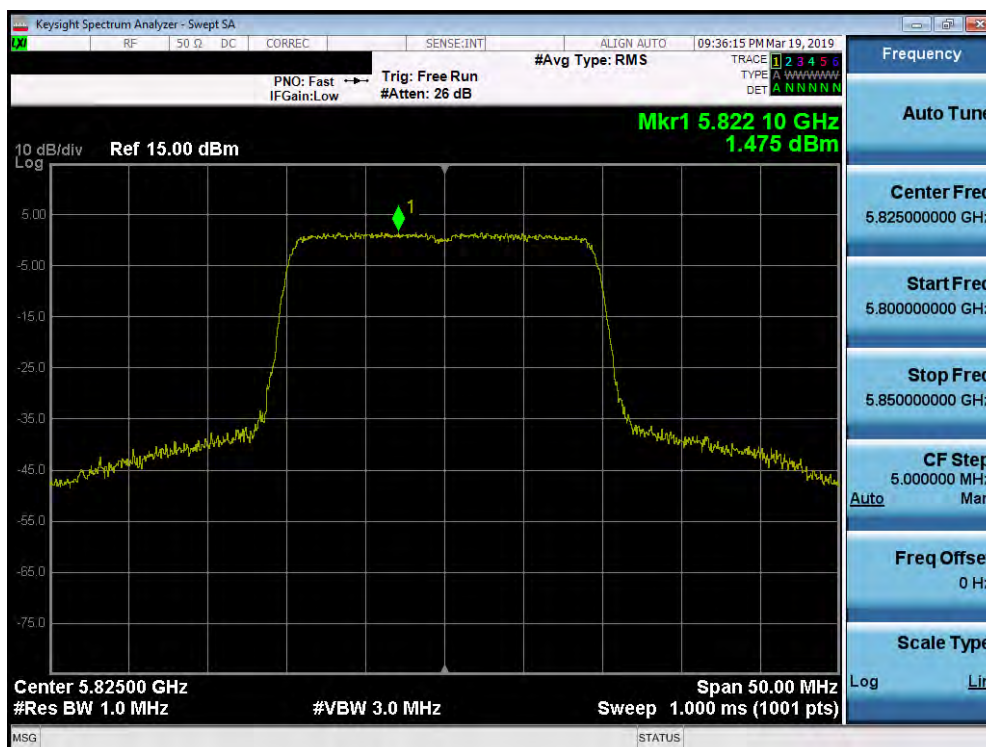


Plot 7-319. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 242 Tones (UNII Band 3) – Ch. 149)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 221 of 339

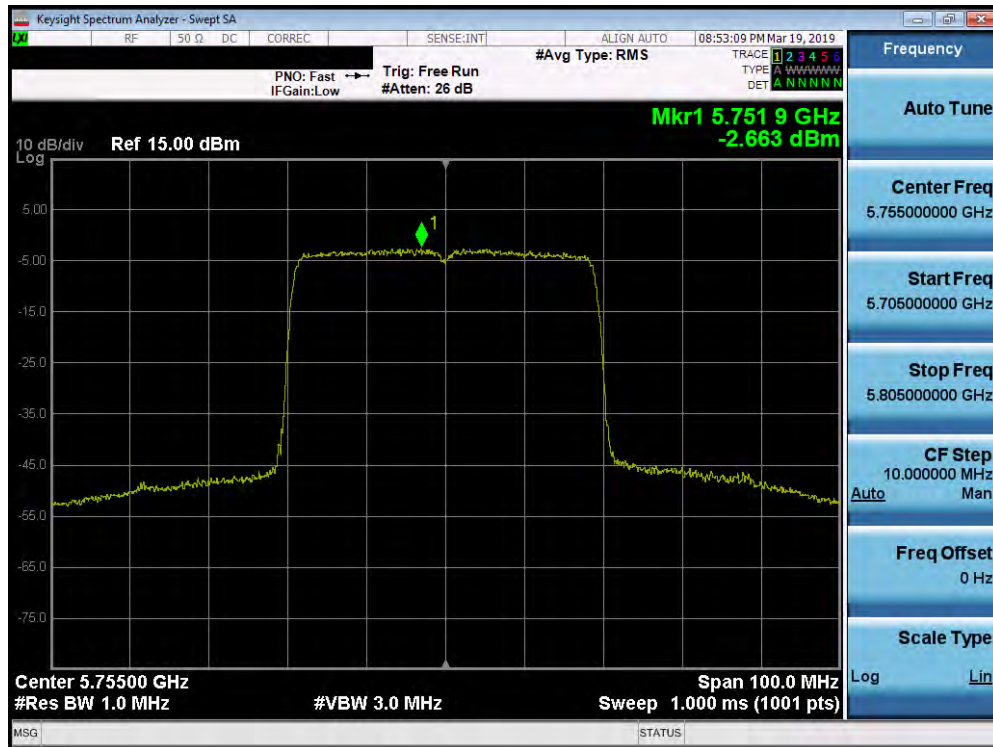


Plot 7-320. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 242 Tones (UNII Band 3) – Ch. 157)

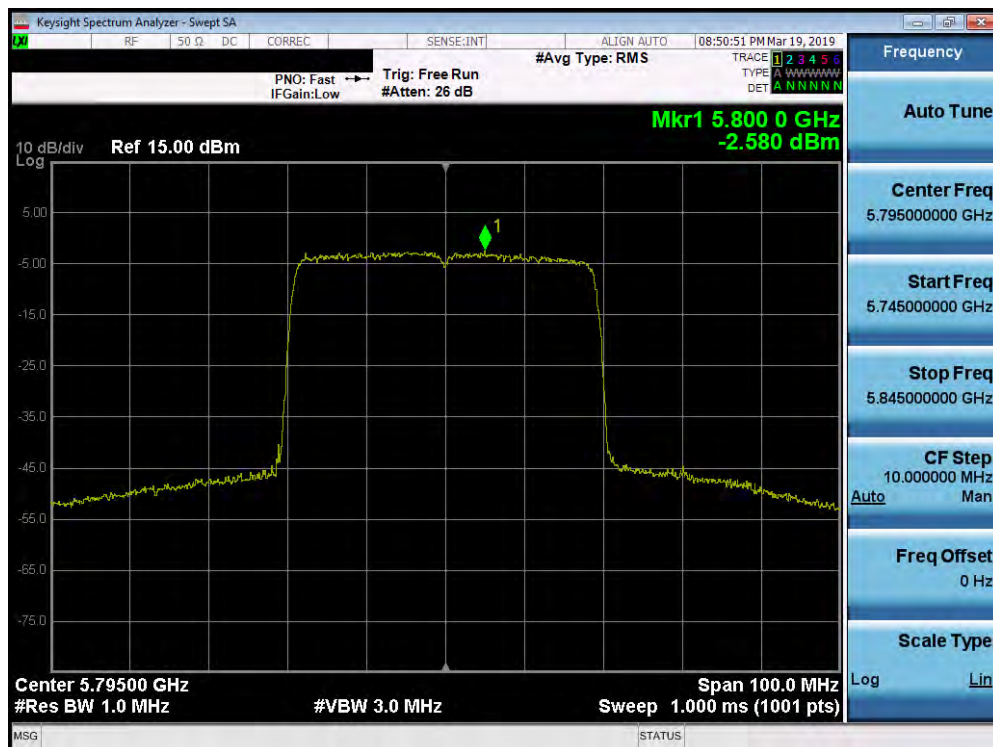


Plot 7-321. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 242 Tones (UNII Band 3) – Ch. 165)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 222 of 339

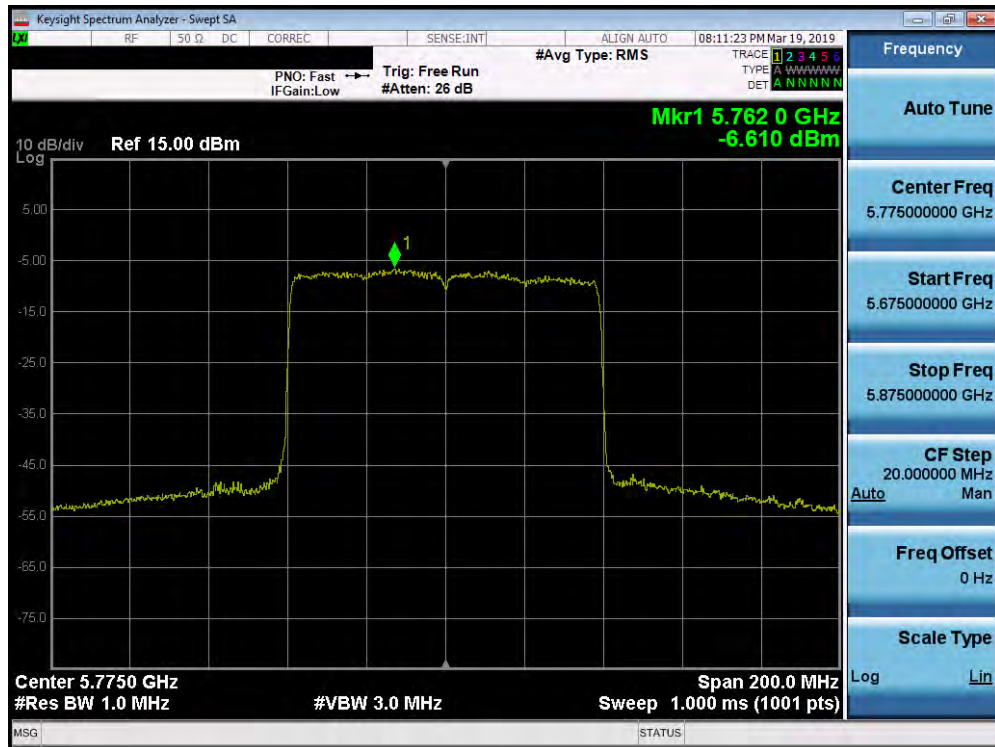


Plot 7-322. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 3) – Ch. 151)



Plot 7-323. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 3) – Ch. 159)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-324. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 996 Tones (UNII Band 3) – Ch. 155)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 224 of 339

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. 26 Tones, 52 Tones, 106 Tones, 242 Tones, 484 Tones and 996 Tones), 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 7-60 per Section 15.209 and RSS-Gen (8.9).

Frequency	Field Strength [$\mu\text{V/m}$]	Measured Distance [Meters]
Above 960.0 MHz	500	3

Table 7-72. 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 $\geq 2 \times \text{span/RBW}$)
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.

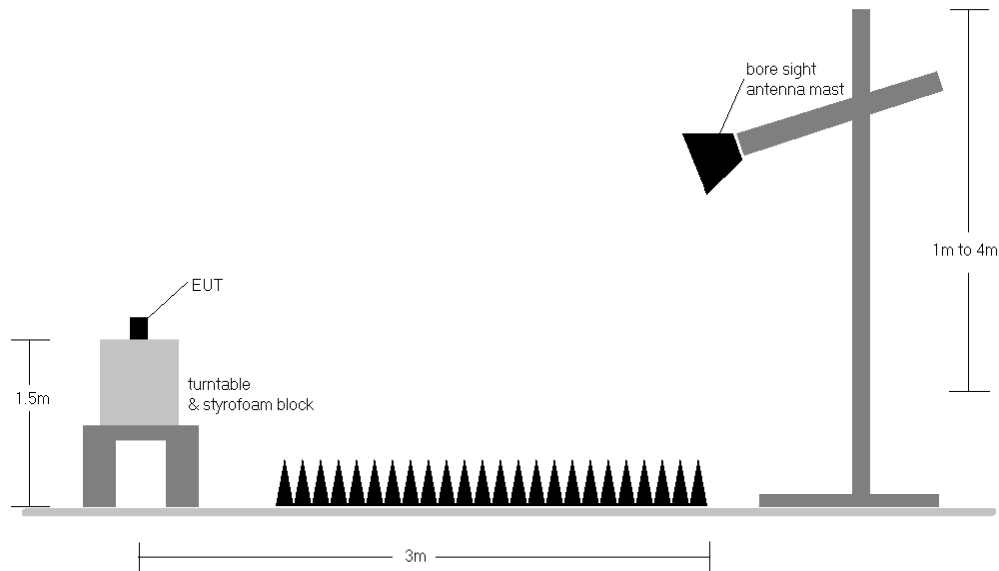


Figure 7-5. Test Instrument & Measurement Setup

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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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 7-60.
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 7-60. 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. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. Any emissions found to be within 20dB of the limit are fully investigated and the results are shown in this section.
8. The "-" shown in the following RSE tables are used to denote a noise floor measurement.
9. For radiated measurements, emissions were investigated for the fully-loaded RU configuration and for all of the partially-loaded RU configurations. Among all of the available partially-loaded RU configurations, only the configuration with the worst case emissions is reported.

Sample Calculations

Determining Spurious Emissions Levels

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

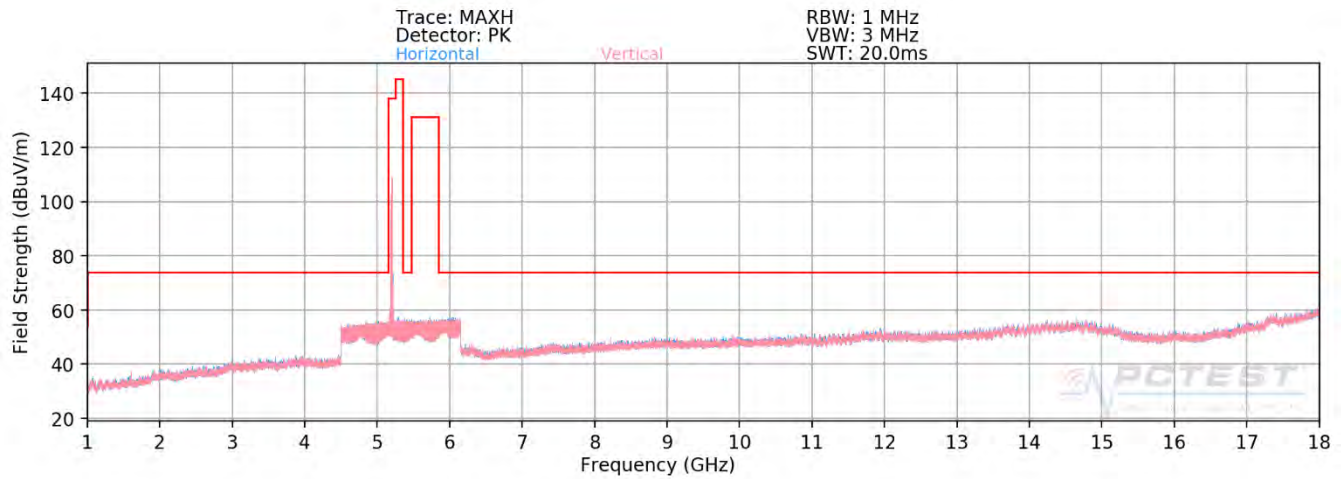
Radiated Band Edge Measurement Offset

- o The amplitude offset shown in the radiated restricted band edge plots in Section Radiated Spurious Emission Measurements – Above 1GHz was calculated using the formula:
Offset (dB) = (Antenna Factor + Cable Loss + Attenuator) – Preamplifier Gain

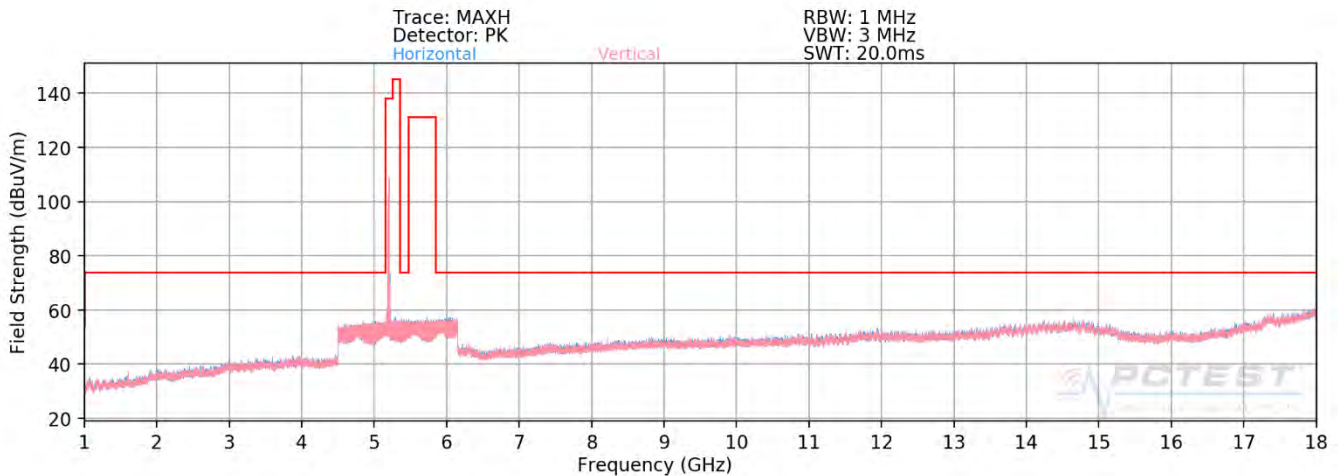
FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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7.6.1 SISO Antenna-1 Radiated Spurious Emission Measurements

106 Tones

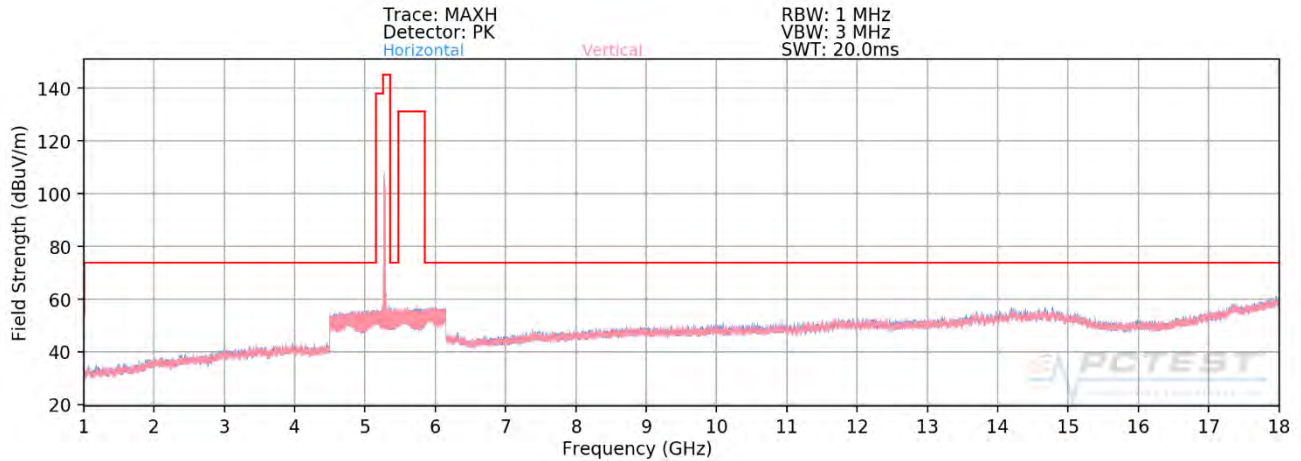


Plot 7-325. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax – U1 Ch. 40 – 106 Tones - OPEN)

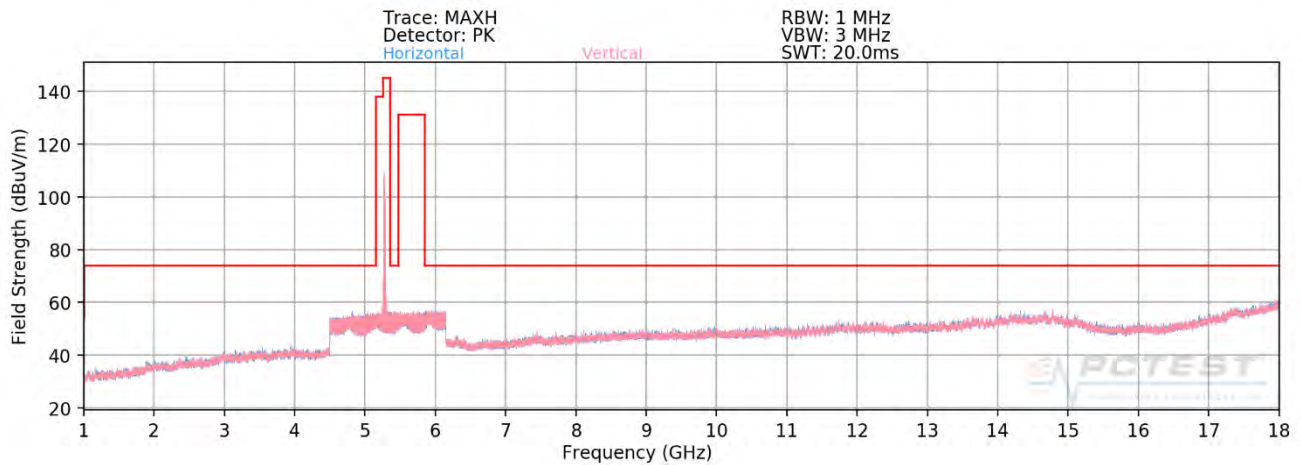


Plot 7-326. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax – U1 Ch. 40 – 106 Tones - CLOSED)

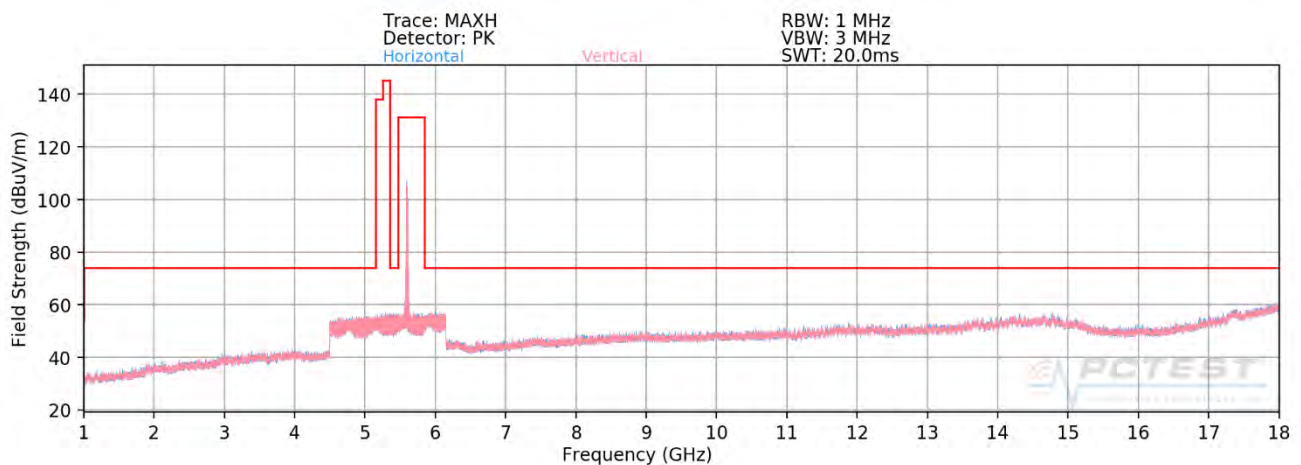
FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 228 of 339



Plot 7-327. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax – U2A Ch. 56 – 106 Tones - OPEN)

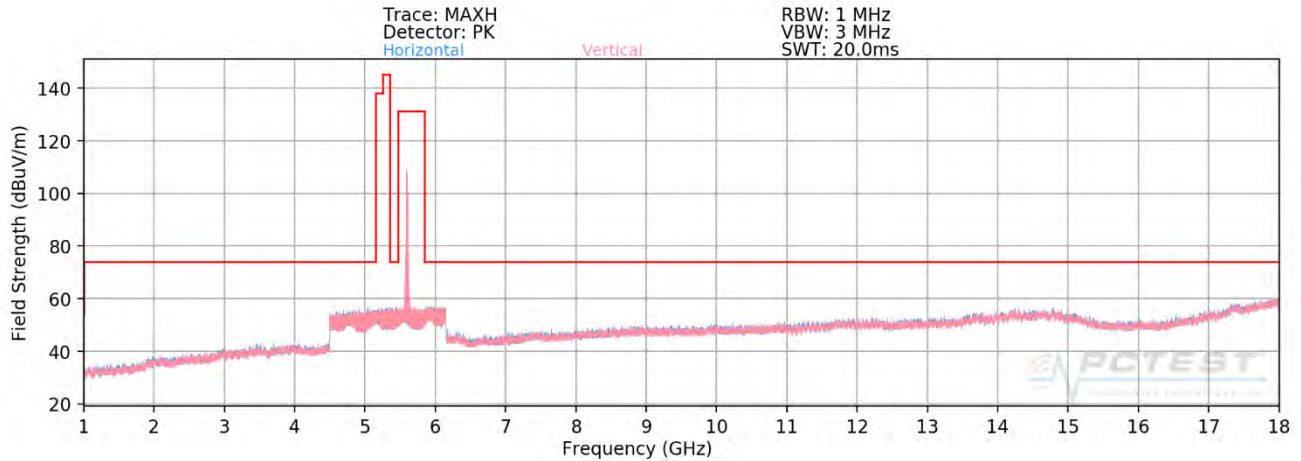


Plot 7-328. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax – U2A Ch. 56 – 106 Tones - CLOSED)

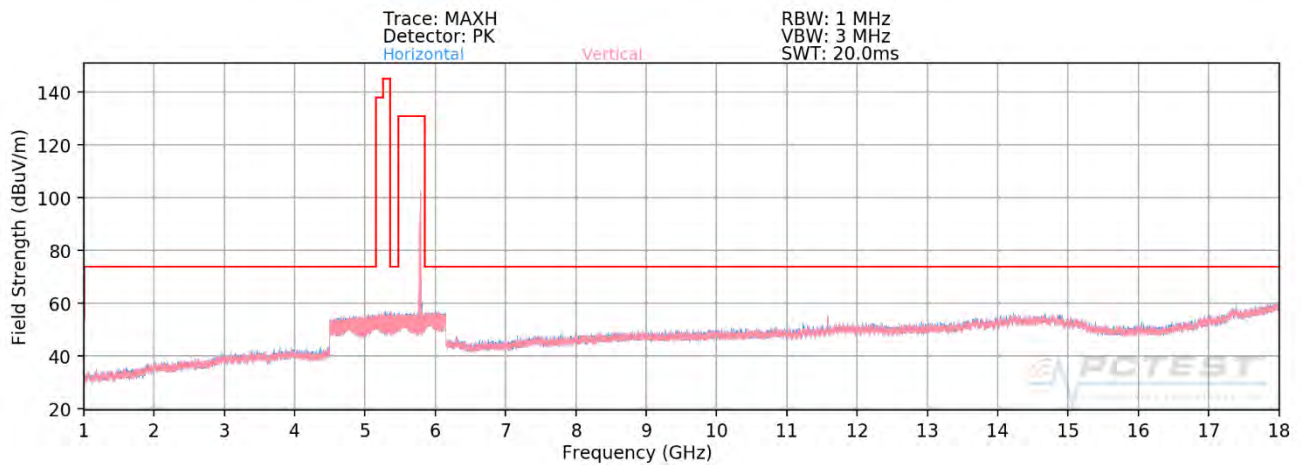


Plot 7-329. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax – U2C Ch. 120 – 106 Tones - OPEN)

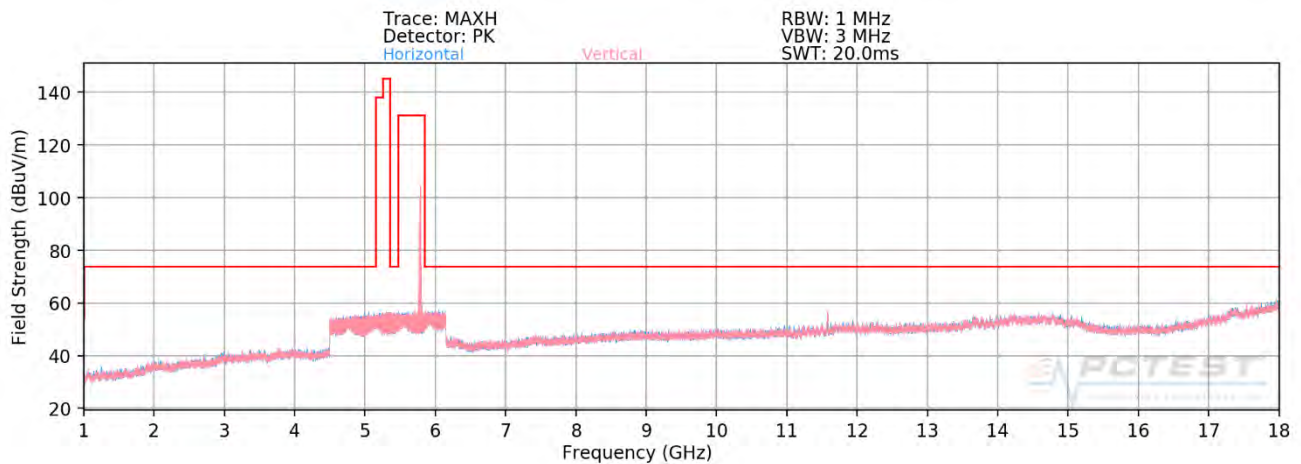
FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 229 of 339



Plot 7-330. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax – U2C Ch. 120 – 106 Tones - CLOSED)



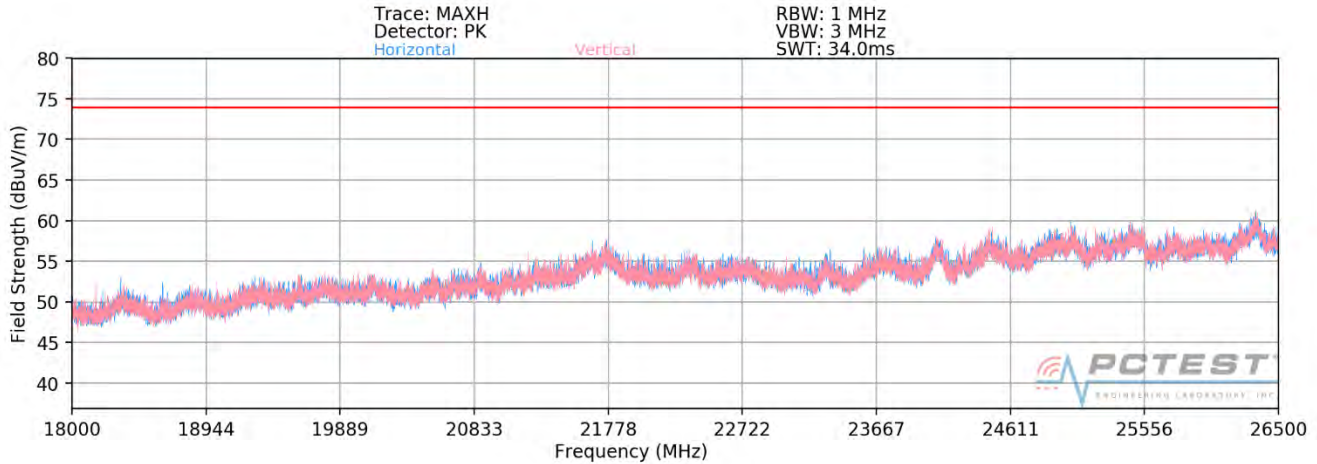
Plot 7-331. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax – U3 Ch. 157 – 106 Tones - OPEN)



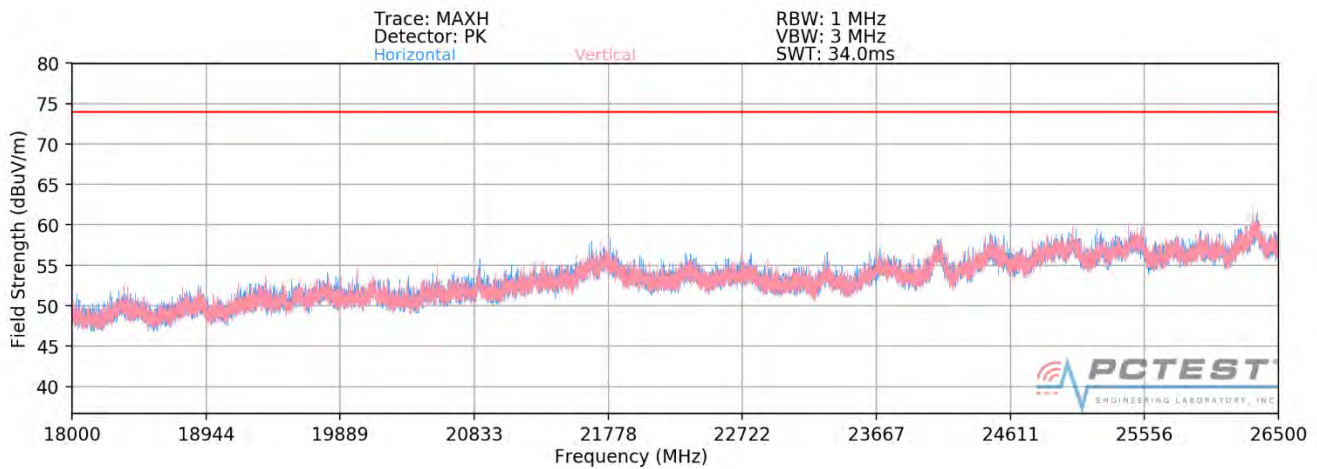
Plot 7-332. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax – U3 Ch. 157 – 106 Tones - CLOSED)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 230 of 339

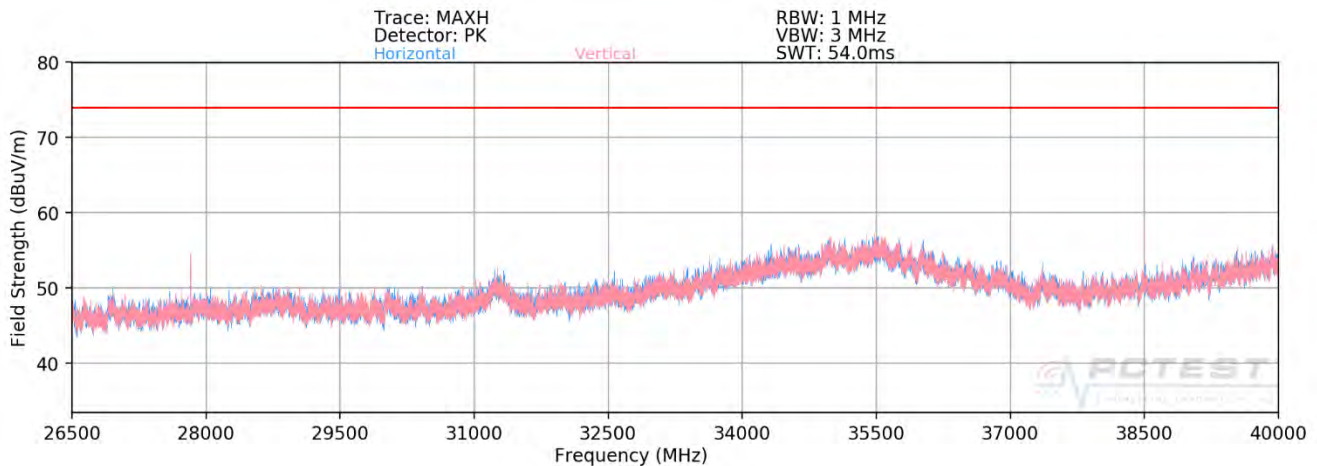
SISO Antenna-1 Radiated Spurious Emissions Measurements (Above 18GHz)



Plot 7-333. Radiated Spurious Plot 18GHz - 26.5GHz SISO ANT1 (802.11ax - 106 Tones - OPEN)

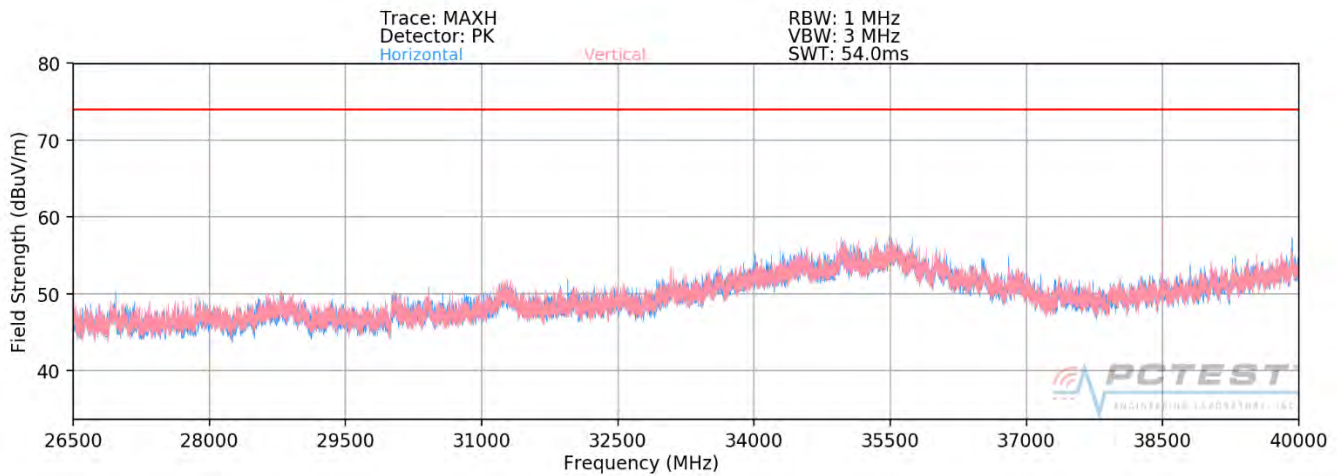


Plot 7-334. Radiated Spurious Plot 18GHz - 26.5GHz SISO ANT1 (802.11ax - 106 Tones - CLOSED)



Plot 7-335. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT1 (802.11ax - 106 Tones - OPEN)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 231 of 339



Plot 7-336. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT1 (802.11ax – 106 Tones – CLOSED)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 232 of 339

SISO Antenna-1 Radiated Spurious Emission Measurements (106 Tones)

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

Worst Case Mode: 802.11ax (20MHz BW)
Worst Case Transfer Rate: MCS0
RU Index: 54
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	-	-	-72.15	15.60	0.00	50.45	68.20	-17.75
* 15540.00	Average	H	-	-	-82.51	22.59	0.00	47.08	53.98	-6.90
* 15540.00	Peak	H	-	-	-69.65	22.59	0.00	59.94	73.98	-14.04
* 20720.00	Average	H	-	-	-77.90	17.17	-9.54	36.72	53.98	-17.26
* 20720.00	Peak	H	-	-	-66.28	17.17	-9.54	48.34	73.98	-25.64
25900.00	Peak	H	-	-	-65.74	19.93	-9.54	51.64	68.20	-16.56

Table 7-73. Radiated Measurements SISO ANT1 (106 Tones - OPEN)

Worst Case Mode: 802.11ax (20MHz BW)
Worst Case Transfer Rate: MCS0
RU Index: 54
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	-	-	-73.15	15.83	0.00	49.68	68.20	-18.52
* 15600.00	Average	H	-	-	-83.49	22.66	0.00	46.17	53.98	-7.81
* 15600.00	Peak	H	-	-	-69.08	22.66	0.00	60.58	73.98	-13.40
* 20800.00	Average	H	-	-	-77.92	17.65	-9.54	37.19	53.98	-16.79
* 20800.00	Peak	H	-	-	-66.70	17.65	-9.54	48.41	73.98	-25.57
26000.00	Peak	H	-	-	-65.80	20.68	-9.54	52.34	68.20	-15.86

Table 7-74. Radiated Measurements SISO ANT1 (106 Tones - OPEN)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 233 of 339

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 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	-	-	-71.26	15.79	0.00	51.53	68.20	-16.67
* 15720.00	Average	H	-	-	-82.01	22.96	0.00	47.95	53.98	-6.03
* 15720.00	Peak	H	-	-	-69.08	22.96	0.00	60.88	73.98	-13.10
* 20960.00	Average	H	-	-	-77.95	17.53	-9.54	37.04	53.98	-16.94
* 20960.00	Peak	H	-	-	-66.28	17.53	-9.54	48.71	73.98	-25.27
26200.00	Peak	H	-	-	-64.53	20.23	-9.54	53.16	68.20	-15.04

Table 7-75. Radiated Measurements SISO ANT1 (106 Tones - OPEN)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 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	-	-	-72.10	15.97	0.00	50.87	68.20	-17.33
* 15780.00	Average	H	-	-	-81.07	22.93	0.00	48.86	53.98	-5.12
* 15780.00	Peak	H	-	-	-74.39	22.93	0.00	55.54	73.98	-18.44
* 21040.00	Average	H	-	-	-77.80	17.48	-9.54	37.13	53.98	-16.85
* 21040.00	Peak	H	-	-	-66.39	17.48	-9.54	48.54	73.98	-25.44
26300.00	Peak	H	-	-	-64.64	20.33	-9.54	53.15	68.20	-15.05

Table 7-76. Radiated Measurements SISO ANT1 (106 Tones - OPEN)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 234 of 339

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 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	-	-	-71.14	16.18	0.00	52.04	68.20	-16.16
* 15840.00	Average	H	-	-	-82.24	23.30	0.00	48.06	53.98	-5.92
* 15840.00	Peak	H	-	-	-74.48	23.30	0.00	55.82	73.98	-18.16
* 21120.00	Average	H	-	-	-77.68	17.27	-9.54	37.04	53.98	-16.93
* 21120.00	Peak	H	-	-	-65.94	17.27	-9.54	48.78	73.98	-25.19
26400.00	Peak	H	-	-	-65.41	20.27	-9.54	52.32	68.20	-15.88

Table 7-77. Radiated Measurements SISO ANT1 (106 Tones - OPEN)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 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	-	-	-80.14	16.41	0.00	43.27	53.98	-10.71
* 10640.00	Peak	H	-	-	-69.18	16.41	0.00	54.23	73.98	-19.75
* 15960.00	Average	H	-	-	-82.38	23.41	0.00	48.03	53.98	-5.95
* 15960.00	Peak	H	-	-	-69.58	23.41	0.00	60.83	73.98	-13.15
* 21280.00	Average	H	-	-	-77.34	17.58	-9.54	37.70	53.98	-16.28
* 21280.00	Peak	H	-	-	-66.35	17.58	-9.54	48.69	73.98	-25.29
26600.00	Peak	H	-	-	-52.50	3.11	-9.54	48.07	68.20	-20.13

Table 7-78. Radiated Measurements SISO ANT1 (106 Tones - OPEN)

FCC ID: A3LSMF900F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	
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Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 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	-	-	-81.04	17.19	0.00	43.15	53.98	-10.83
* 11000.00	Peak	H	-	-	-68.42	17.19	0.00	55.77	73.98	-18.21
16500.00	Peak	H	-	-	-76.49	24.79	0.00	55.30	68.20	-12.90
22000.00	Peak	H	-	-	-66.28	18.05	-9.54	49.23	68.20	-18.97
27500.00	Peak	H	-	-	-49.03	2.08	-9.54	50.51	68.20	-17.69

Table 7-79. Radiated Measurements SISO ANT1 (106 Tones - OPEN)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 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	-	-	-80.25	16.89	0.00	43.64	53.98	-10.34
* 11200.00	Peak	H	-	-	-69.42	16.89	0.00	54.47	73.98	-19.51
16800.00	Peak	H	-	-	-75.51	24.53	0.00	56.02	68.20	-12.18
* 22400.00	Average	H	-	-	-77.80	19.05	-9.54	38.71	53.98	-15.27
* 22400.00	Peak	H	-	-	-66.96	19.05	-9.54	49.55	73.98	-24.43
28000.00	Peak	H	-	-	-50.57	3.19	-9.54	50.07	68.20	-18.13

Table 7-80. Radiated Measurements SISO ANT1 (106 Tones - OPEN)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 236 of 339

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 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	125	310	-77.69	17.81	0.00	47.12	53.98	-6.86
*	11440.00	Peak	H	125	310	-69.12	17.81	0.00	55.69	73.98	-18.29
	17160.00	Peak	H	-	-	-72.14	24.98	0.00	59.84	68.20	-8.36
*	22880.00	Average	H	-	-	-78.17	18.60	-9.54	37.88	53.98	-16.10
*	22880.00	Peak	H	-	-	-67.15	18.60	-9.54	48.90	73.98	-25.08
	28600.00	Peak	H	-	-	-49.09	1.74	-9.54	50.10	68.20	-18.10

Table 7-81. Radiated Measurements SISO ANT1 (106 Tones - OPEN)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 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	215	300	-75.92	17.61	0.00	48.69	53.98	-5.29
*	11490.00	Peak	H	215	300	-61.36	17.61	0.00	63.25	73.98	-10.73
	17235.00	Peak	H	-	-	-69.18	25.44	0.00	63.26	68.20	-4.94
*	22980.00	Average	H	-	-	-77.88	18.46	-9.54	38.04	53.98	-15.94
*	22980.00	Peak	H	-	-	-66.93	18.46	-9.54	48.99	73.98	-24.99
	28725.00	Peak	H	-	-	-49.91	2.47	-9.54	50.02	68.20	-18.18

Table 7-82. Radiated Measurements SISO ANT1 (106 Tones - OPEN)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 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	117	77	-74.95	17.67	0.00	49.72	53.98	-4.26
* 11570.00	Peak	H	117	77	-59.77	17.67	0.00	64.90	73.98	-9.08
17355.00	Peak	H	-	-	-70.18	26.58	0.00	63.40	68.20	-4.80
23140.00	Peak	H	-	-	-66.99	18.84	-9.54	49.31	68.20	-18.89
28925.00	Peak	H	-	-	-50.65	2.80	-9.54	49.61	68.20	-18.59

Table 7-83. Radiated Measurements SISO ANT1 (106 Tones - OPEN)

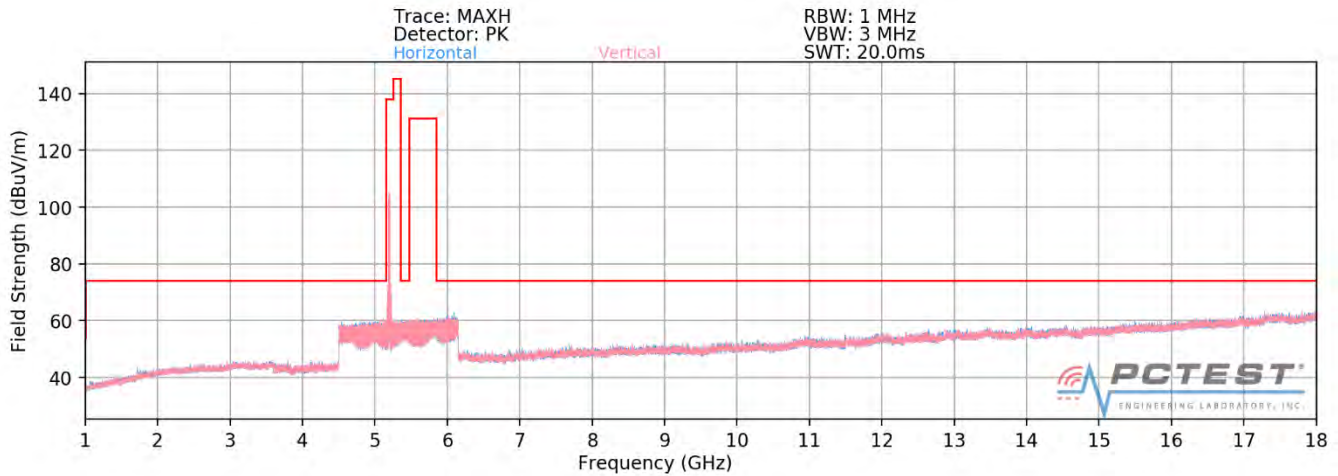
Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5825MHz
 Channel: 165

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	397	284	-75.01	17.69	0.00	49.68	53.98	-4.30
* 11650.00	Peak	H	397	284	-60.01	17.69	0.00	64.68	73.98	-9.30
17475.00	Peak	H	-	-	-69.33	26.26	0.00	63.93	68.20	-4.27
23300.00	Peak	H	-	-	-66.58	19.55	-9.54	50.42	68.20	-17.78
29125.00	Peak	H	-	-	-49.26	1.07	-9.54	49.27	68.20	-18.93

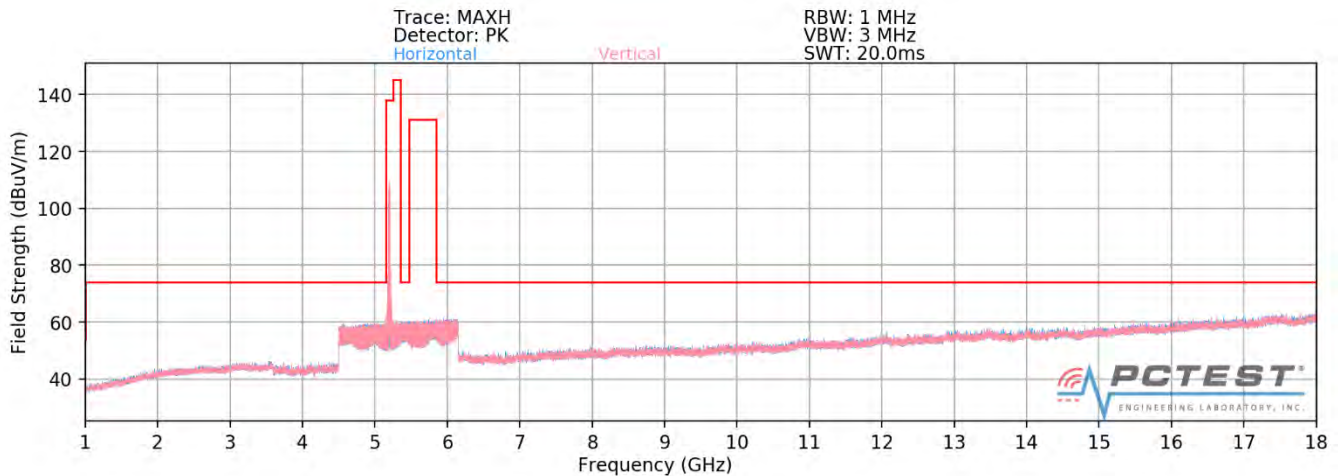
Table 7-84. Radiated Measurements SISO ANT1 (106 Tones - OPEN)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 238 of 339

242 Tones

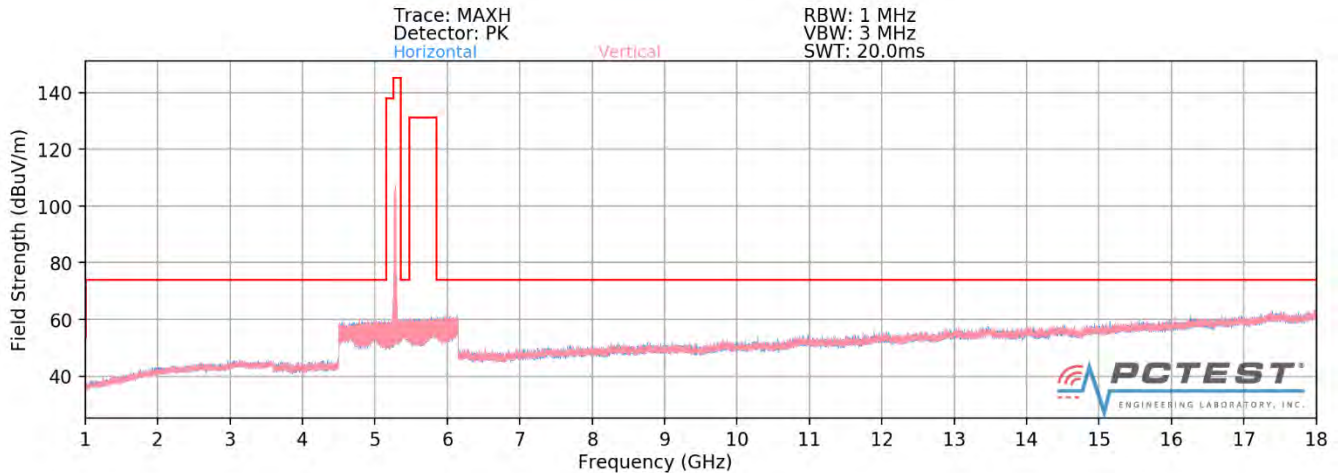


Plot 7-337. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax - U1 Ch. 40 - 242 Tones - OPEN)

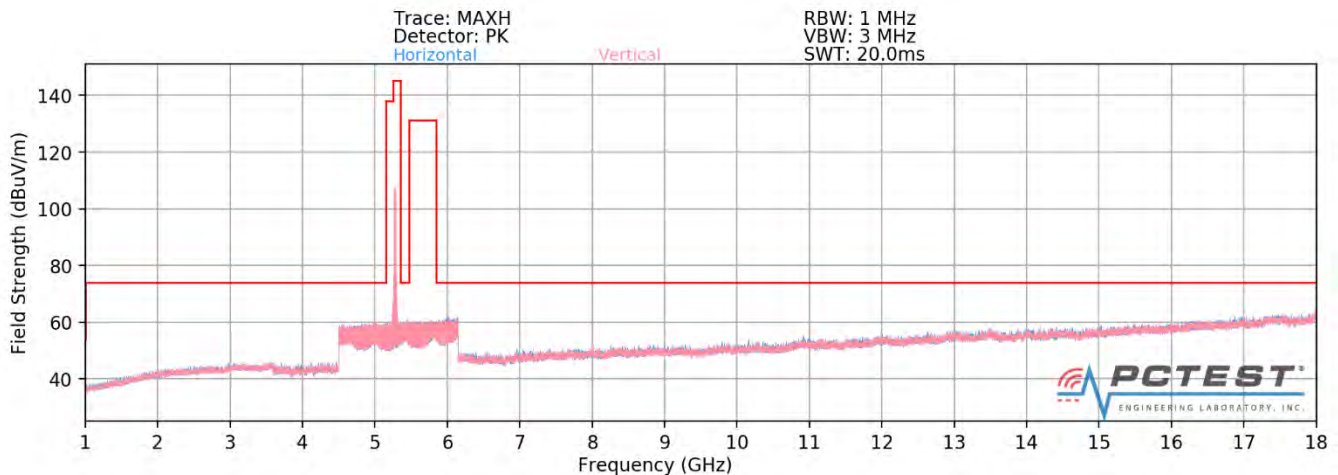


Plot 7-338. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax - U1 Ch. 40 - 242 Tones - CLOSED)

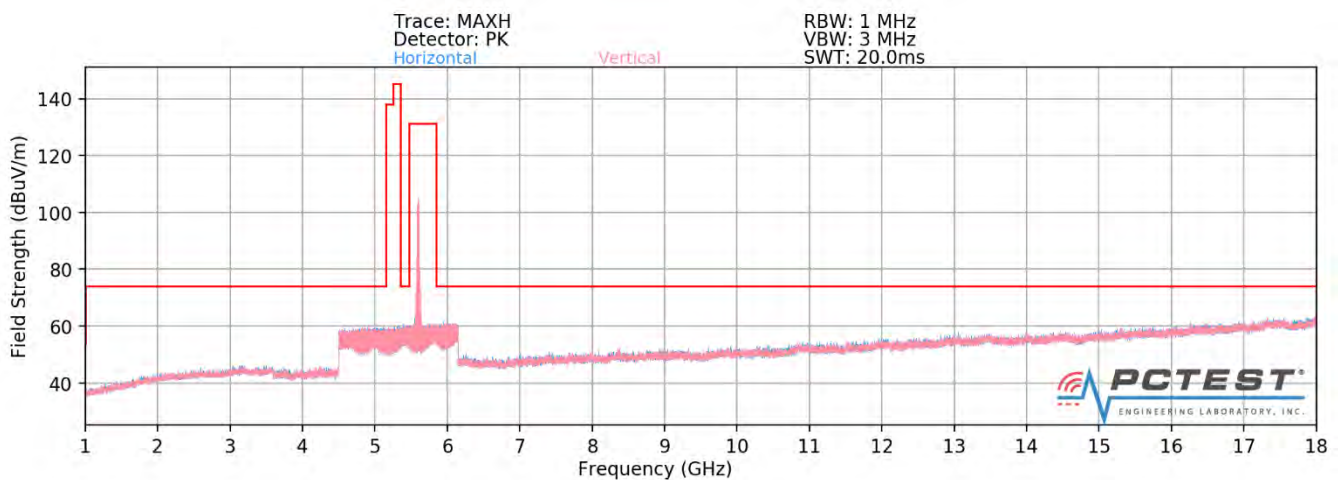
FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 239 of 339



Plot 7-339. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax - U2A Ch. 56 - 242 Tones - OPEN)

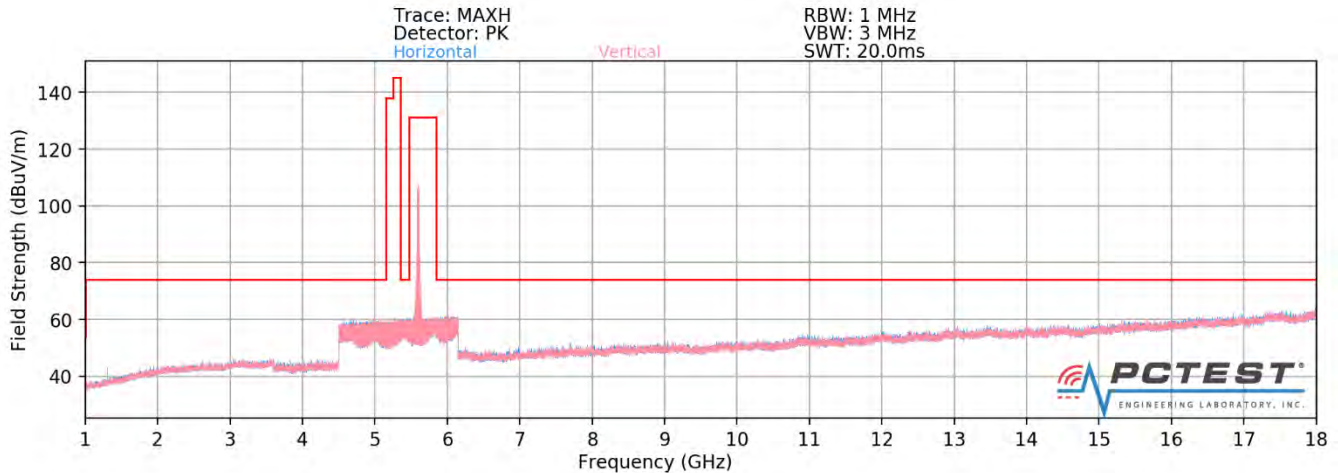


Plot 7-340. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax - U2A Ch. 56 - 242 Tones - CLOSED)

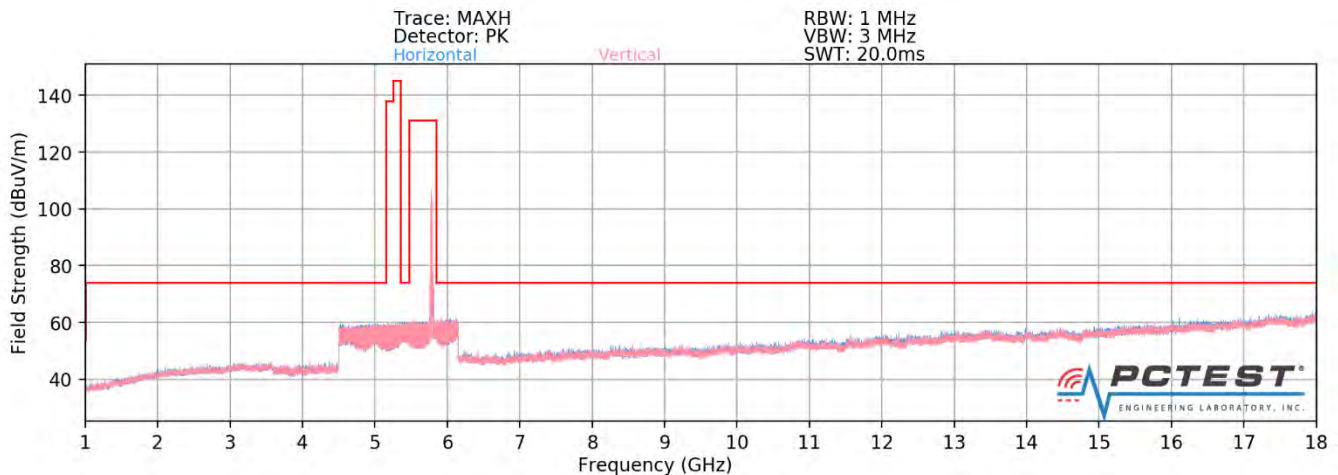


Plot 7-341. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax - U2C Ch. 120 - 242 Tones - OPEN)

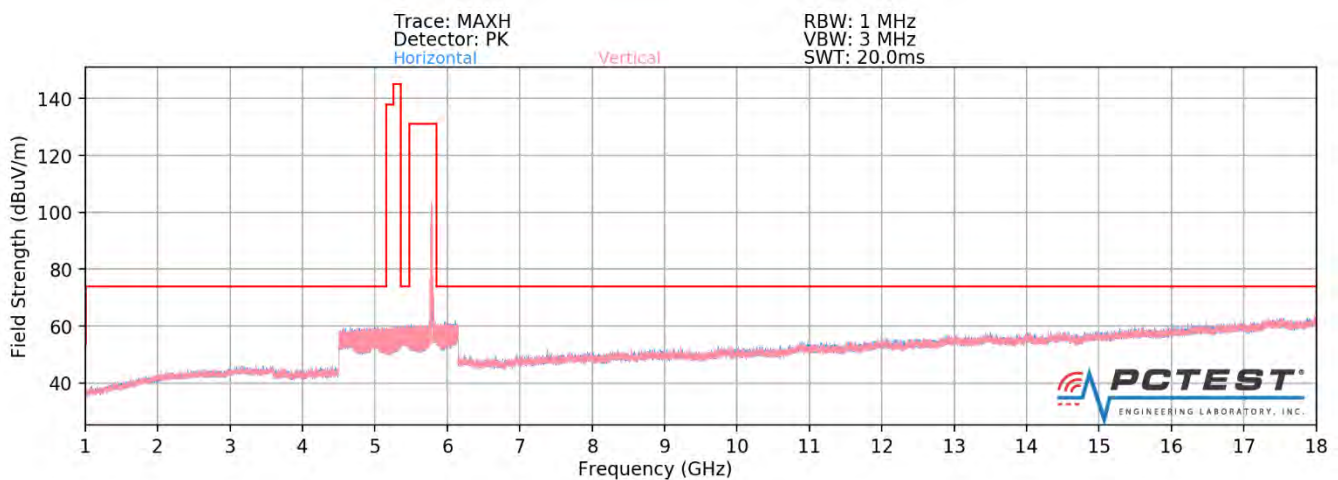
FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 240 of 339



Plot 7-342. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax – U2C Ch. 120 – 242 Tones – CLOSED)



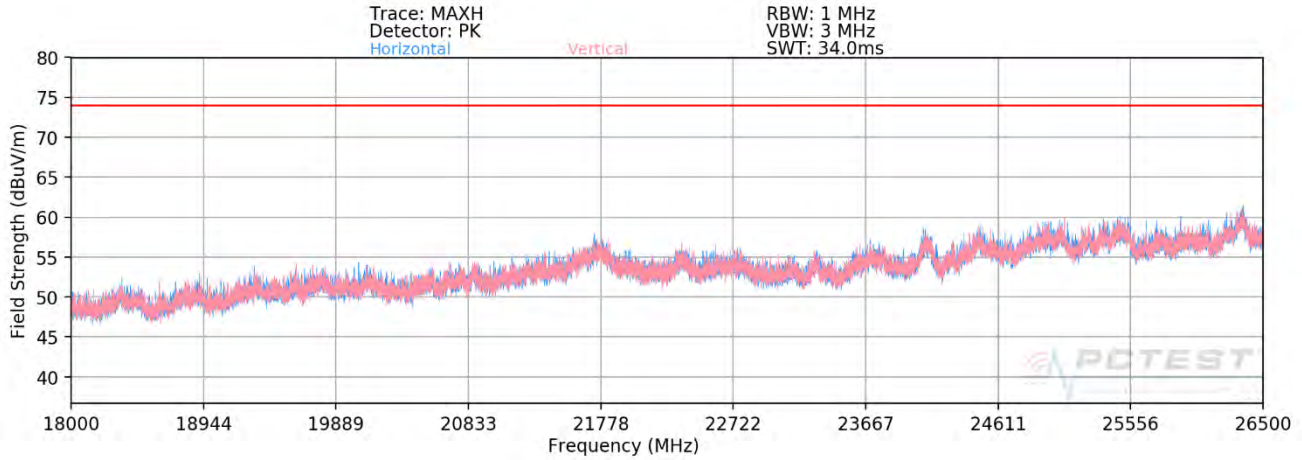
Plot 7-343. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax – U3 Ch. 157 – 242 Tones – OPEN)



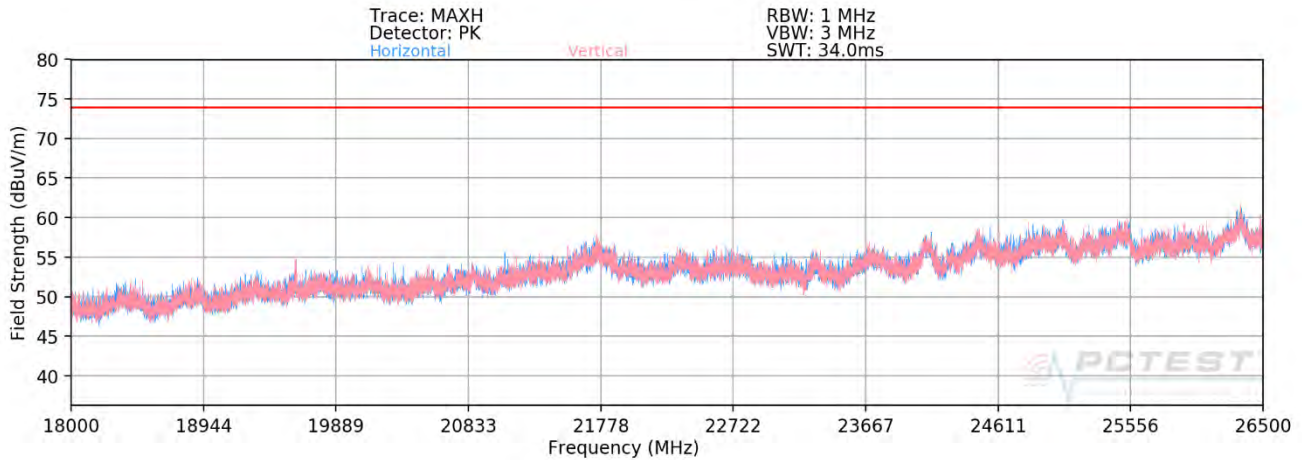
Plot 7-344. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax – U3 Ch. 157 – 242 Tones – CLOSED)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 241 of 339

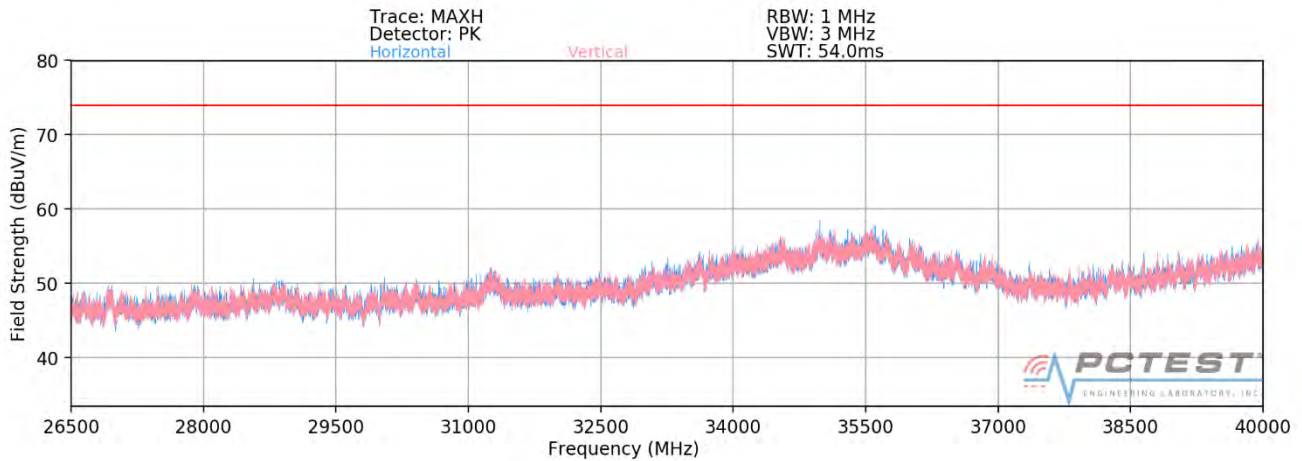
SISO Antenna-1 Radiated Spurious Emissions Measurements (Above 18GHz)



Plot 7-345. Radiated Spurious Plot 18GHz - 26.5GHz SISO ANT1 (802.11ax - 242 Tones - OPEN)

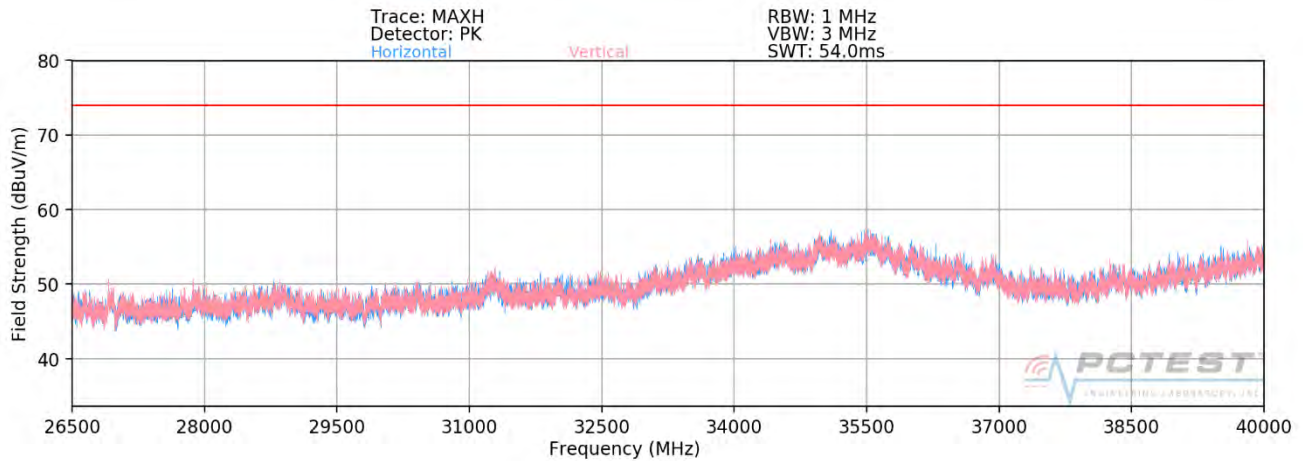


Plot 7-346. Radiated Spurious Plot 18GHz - 26.5GHz SISO ANT1 (802.11ax - 242 Tones - CLOSED)



Plot 7-347. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT1 (802.11ax - 242 Tones - OPEN)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 242 of 339



Plot 7-348. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT1 (802.11ax – 242 Tones – CLOSED)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 243 of 339

SISO Antenna-1 Radiated Spurious Emission Measurements (242 Tones)

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

Worst Case Mode: 802.11ax (20MHz BW)
Worst Case Transfer Rate: MCS0
RU Index: 61
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	-	-	-71.61	18.75	0.00	54.14	68.20	-14.06
* 15540.00	Average	H	-	-	-85.07	28.13	0.00	50.06	53.98	-3.92
* 15540.00	Peak	H	-	-	-73.90	28.13	0.00	61.23	73.98	-12.75
* 20720.00	Average	H	-	-	-78.02	17.17	-9.54	36.60	53.98	-17.38
* 20720.00	Peak	H	-	-	-66.32	17.17	-9.54	48.30	73.98	-25.68
25900.00	Peak	H	-	-	-65.65	19.93	-9.54	51.73	68.20	-16.47

Table 7-85. Radiated Measurements SISO ANT1 (242 Tones - OPEN)

Worst Case Mode: 802.11ax (20MHz BW)
Worst Case Transfer Rate: MCS0
RU Index: 61
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	-	-	-71.80	19.45	0.00	54.65	68.20	-13.55
* 15600.00	Average	H	-	-	-84.97	27.65	0.00	49.68	53.98	-4.30
* 15600.00	Peak	H	-	-	-73.84	27.65	0.00	60.81	73.98	-13.17
* 20800.00	Average	H	-	-	-78.02	17.65	-9.54	37.09	53.98	-16.89
* 20800.00	Peak	H	-	-	-67.03	17.65	-9.54	48.08	73.98	-25.90
26000.00	Peak	H	-	-	-65.90	20.68	-9.54	52.24	68.20	-15.96

Table 7-86. Radiated Measurements SISO ANT1 (242 Tones - OPEN)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 244 of 339

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 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	-	-	-84.31	19.76	0.00	42.45	68.20	-25.75
* 15720.00	Average	H	-	-	-84.86	27.55	0.00	49.69	53.98	-4.29
* 15720.00	Peak	H	-	-	-73.66	27.55	0.00	60.89	73.98	-13.09
* 20960.00	Average	H	-	-	-78.20	17.53	-9.54	36.79	53.98	-17.19
* 20960.00	Peak	H	-	-	-66.99	17.53	-9.54	48.00	73.98	-25.98
26200.00	Peak	H	-	-	-65.90	20.23	-9.54	51.79	68.20	-16.41

Table 7-87. Radiated Measurements SISO ANT1 (242 Tones - OPEN)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 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	-	-	-72.19	19.25	0.00	54.06	68.20	-14.14
* 15780.00	Average	H	-	-	-84.65	27.22	0.00	49.57	53.98	-4.41
* 15780.00	Peak	H	-	-	-74.02	27.22	0.00	60.20	73.98	-13.78
* 21040.00	Average	H	-	-	-77.80	17.48	-9.54	37.13	53.98	-16.85
* 21040.00	Peak	H	-	-	-66.61	17.48	-9.54	48.32	73.98	-25.66
26300.00	Peak	H	-	-	-65.36	20.33	-9.54	52.43	68.20	-15.77

Table 7-88. Radiated Measurements SISO ANT1 (242 Tones - OPEN)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 245 of 339

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5280MHz
 Channel: 56

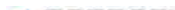
Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10560.00	Peak	H	-	-	-72.24	19.37	0.00	54.13	68.20	-14.07
* 15840.00	Average	H	-	-	-84.62	27.28	0.00	49.66	53.98	-4.32
* 15840.00	Peak	H	-	-	-74.08	27.28	0.00	60.20	73.98	-13.78
* 21120.00	Average	H	-	-	-77.68	17.27	-9.54	37.04	53.98	-16.93
* 21120.00	Peak	H	-	-	-66.60	17.27	-9.54	48.12	73.98	-25.85
26400.00	Peak	H	-	-	-65.82	20.27	-9.54	51.91	68.20	-16.29

Table 7-89. Radiated Measurements SISO ANT1 (242 Tones - OPEN)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 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	-	-	-83.17	20.07	0.00	43.90	53.98	-10.08
* 10640.00	Peak	H	-	-	-72.28	20.07	0.00	54.79	73.98	-19.19
* 15960.00	Average	H	-	-	-84.94	27.42	0.00	49.48	53.98	-4.50
* 15960.00	Peak	H	-	-	-73.21	27.42	0.00	61.21	73.98	-12.77
* 21280.00	Average	H	-	-	-77.44	17.58	-9.54	37.60	53.98	-16.38
* 21280.00	Peak	H	-	-	-65.92	17.58	-9.54	49.12	73.98	-24.86
26600.00	Peak	H	-	-	-52.48	3.11	-9.54	48.09	68.20	-20.11

Table 7-90. Radiated Measurements SISO ANT1 (242 Tones - OPEN)

FCC ID: A3LSMF900F	MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 246 of 339

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 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	20.71	0.00	43.37	53.98	-10.61
* 11000.00	Peak	H	-	-	-73.12	20.71	0.00	54.59	73.98	-19.39
16500.00	Peak	H	-	-	-73.40	28.80	0.00	62.40	68.20	-5.80
22000.00	Peak	H	-	-	-66.83	18.05	-9.54	48.68	68.20	-19.52
27500.00	Peak	H	-	-	-49.76	2.08	-9.54	49.78	68.20	-18.42

Table 7-91. Radiated Measurements SISO ANT1 (242 Tones - OPEN)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 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	-	-	-83.72	20.02	0.00	43.30	53.98	-10.68
* 11200.00	Peak	H	-	-	-71.79	20.02	0.00	55.23	73.98	-18.75
16800.00	Peak	H	-	-	-73.27	28.89	0.00	62.62	68.20	-5.58
* 22400.00	Average	H	-	-	-78.11	19.05	-9.54	38.40	53.98	-15.58
* 22400.00	Peak	H	-	-	-67.21	19.05	-9.54	49.30	73.98	-24.68
28000.00	Peak	H	-	-	-50.87	3.19	-9.54	49.77	68.20	-18.43

Table 7-92. Radiated Measurements SISO ANT1 (242 Tones - OPEN)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 247 of 339

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 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	-	-	-84.09	20.76	0.00	43.67	53.98	-10.31
* 11440.00	Peak	H	-	-	-73.31	20.76	0.00	54.45	73.98	-19.53
17160.00	Peak	H	-	-	-73.78	29.65	0.00	62.87	68.20	-5.33
* 22880.00	Average	H	-	-	-78.49	18.60	-9.54	37.56	53.98	-16.42
* 22880.00	Peak	H	-	-	-66.85	18.60	-9.54	49.20	73.98	-24.78
28600.00	Peak	H	-	-	-50.04	1.74	-9.54	49.15	68.20	-19.05

Table 7-93. Radiated Measurements SISO ANT1 (242 Tones - OPEN)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 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	-	-	-83.56	20.29	0.00	43.73	53.98	-10.25
* 11490.00	Peak	H	-	-	-72.60	20.29	0.00	54.69	73.98	-19.29
17235.00	Peak	H	-	-	-73.29	29.45	0.00	63.16	68.20	-5.04
* 22980.00	Average	H	-	-	-77.93	18.46	-9.54	37.99	53.98	-15.99
* 22980.00	Peak	H	-	-	-66.52	18.46	-9.54	49.40	73.98	-24.58
28725.00	Peak	H	-	-	-49.66	2.47	-9.54	50.27	68.20	-17.93

Table 7-94. Radiated Measurements SISO ANT1 (242 Tones - OPEN)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 248 of 339

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 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	-	-	-83.71	20.87	0.00	44.16	53.98	-9.82
* 11570.00	Peak	H	-	-	-72.76	20.87	0.00	55.11	73.98	-18.87
17355.00	Peak	H	-	-	-73.38	29.88	0.00	63.50	68.20	-4.70
23140.00	Peak	H	-	-	-67.07	18.84	-9.54	49.23	68.20	-18.97
28925.00	Peak	H	-	-	-50.80	2.80	-9.54	49.46	68.20	-18.74

Table 7-95. Radiated Measurements SISO ANT1 (242 Tones - OPEN)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5825MHz
 Channel: 165

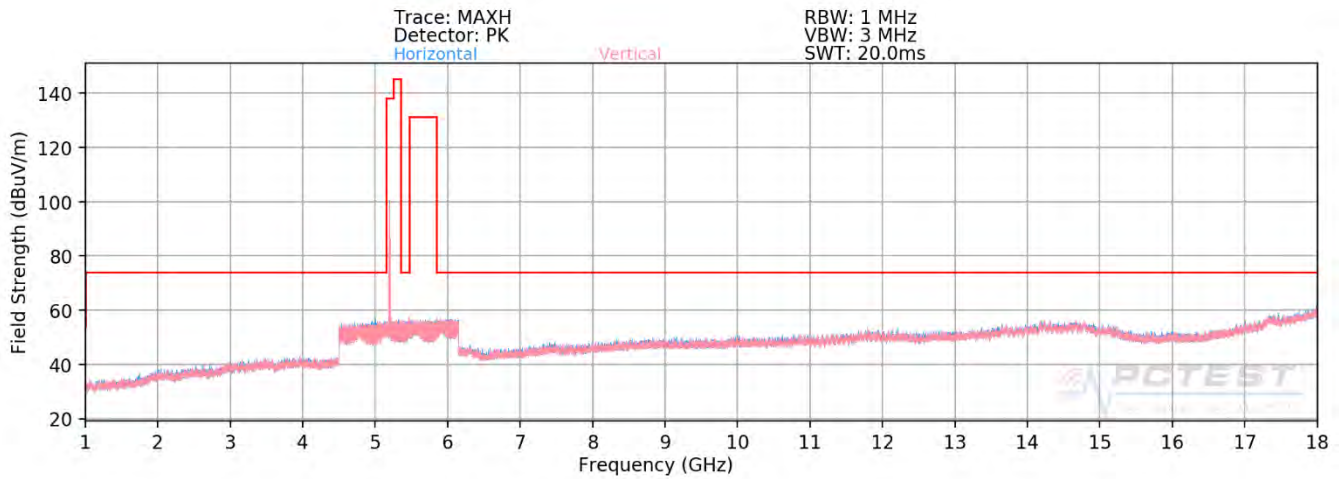
Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11650.00	Average	H	-	-	-83.51	21.73	0.00	45.22	53.98	-8.76
* 11650.00	Peak	H	-	-	-72.74	21.73	0.00	55.99	73.98	-17.99
17475.00	Peak	H	-	-	-72.99	30.16	0.00	64.17	68.20	-4.03
23300.00	Peak	H	-	-	-67.47	19.55	-9.54	49.53	68.20	-18.67
29125.00	Peak	H	-	-	-49.53	1.07	-9.54	49.00	68.20	-19.20

Table 7-96. Radiated Measurements SISO ANT1 (242 Tones - OPEN)

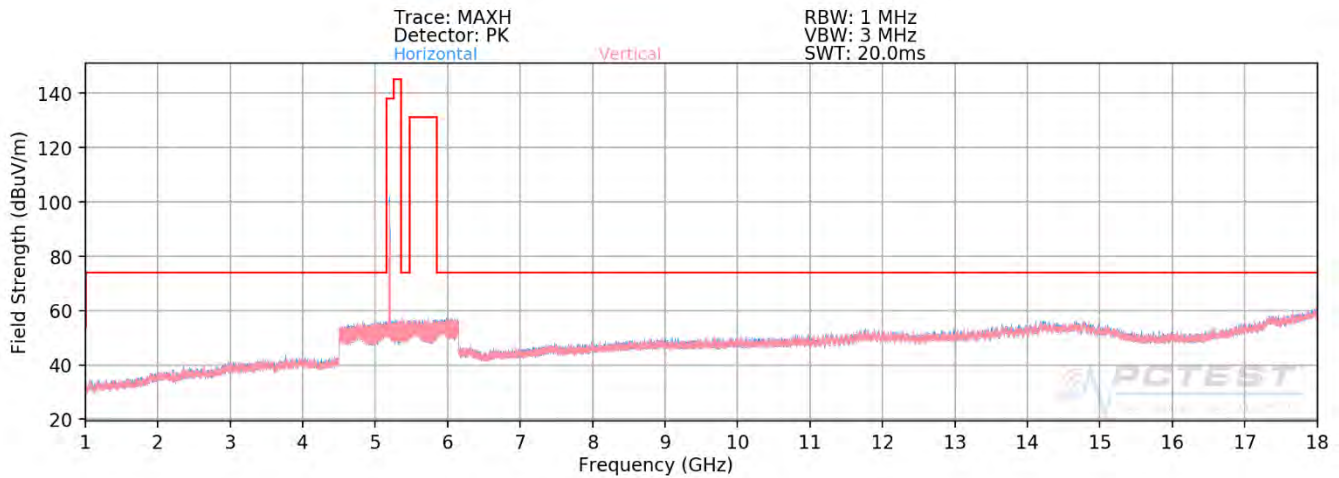
FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 249 of 339

7.6.2 SISO Antenna-2 Radiated Spurious Emission Measurements

106 Tones

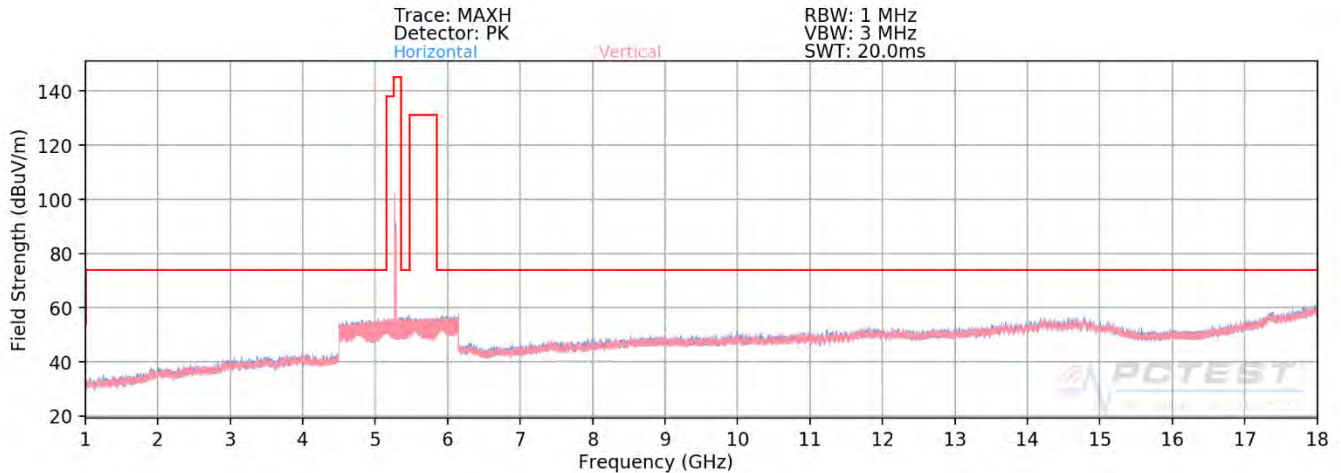


Plot 7-349. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax - U1 Ch. 40 - 106 Tones - OPEN)

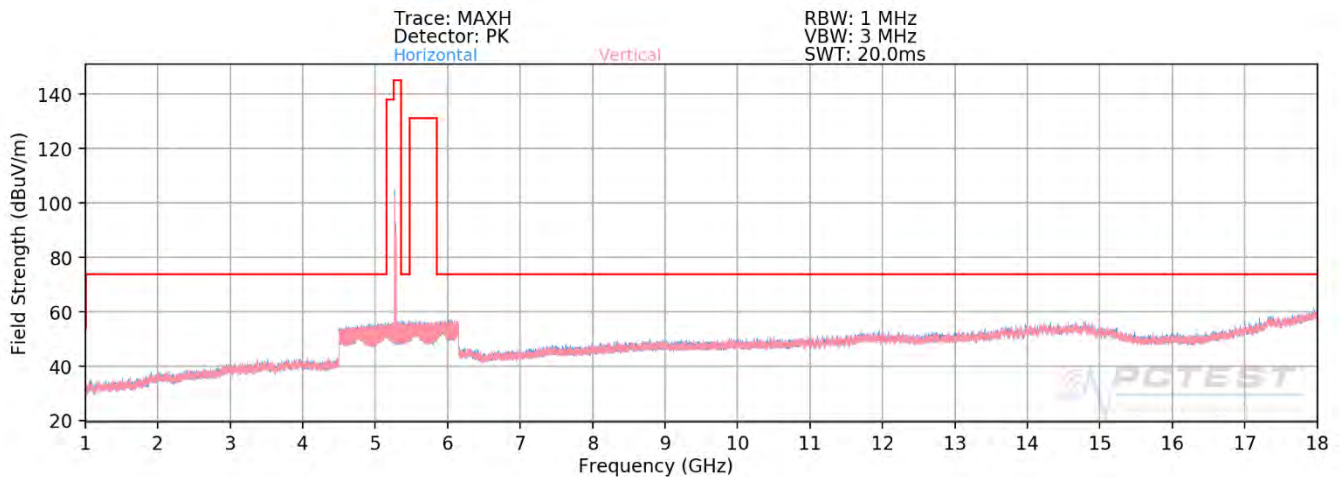


Plot 7-350. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax - U1 Ch. 40 - 106 Tones - CLOSED)

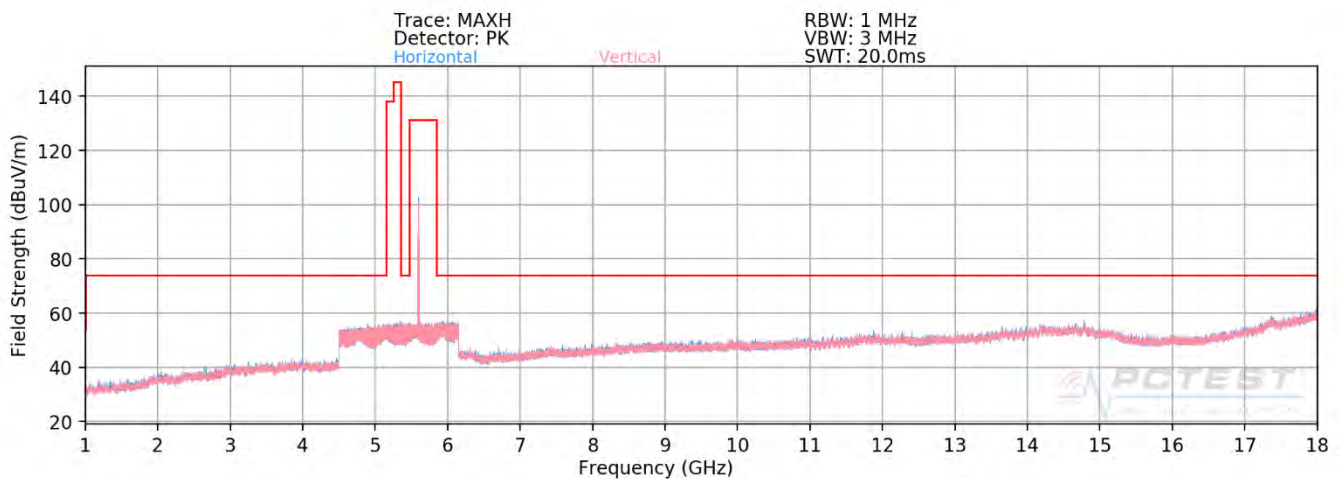
FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 250 of 339



Plot 7-351. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax - U2A Ch. 56 - 106 Tones - OPEN)

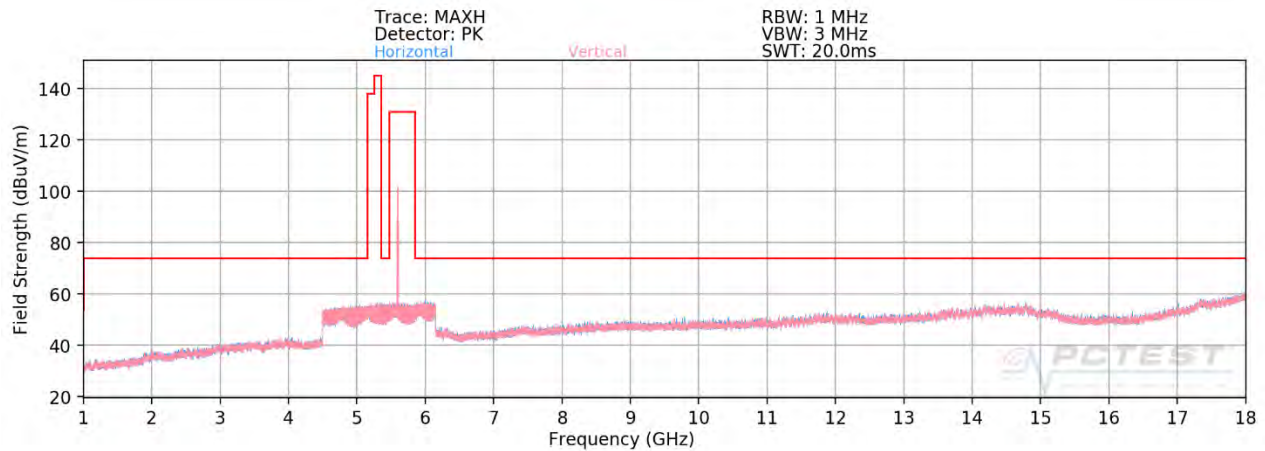


Plot 7-352. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax - U2A Ch. 56 - 106 Tones - CLOSED)

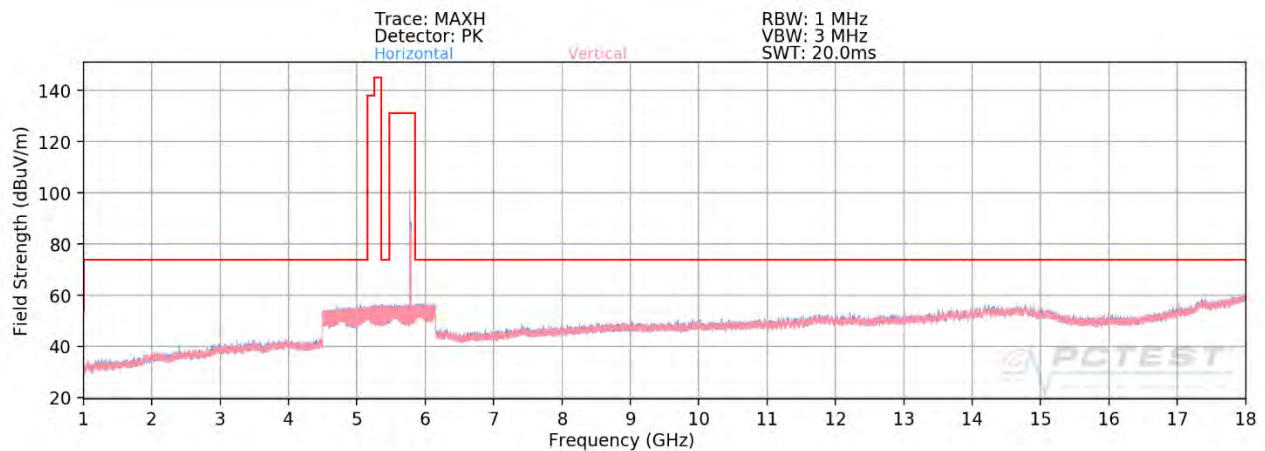


Plot 7-353. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax - U2C Ch. 120 - 106 Tones - OPEN)

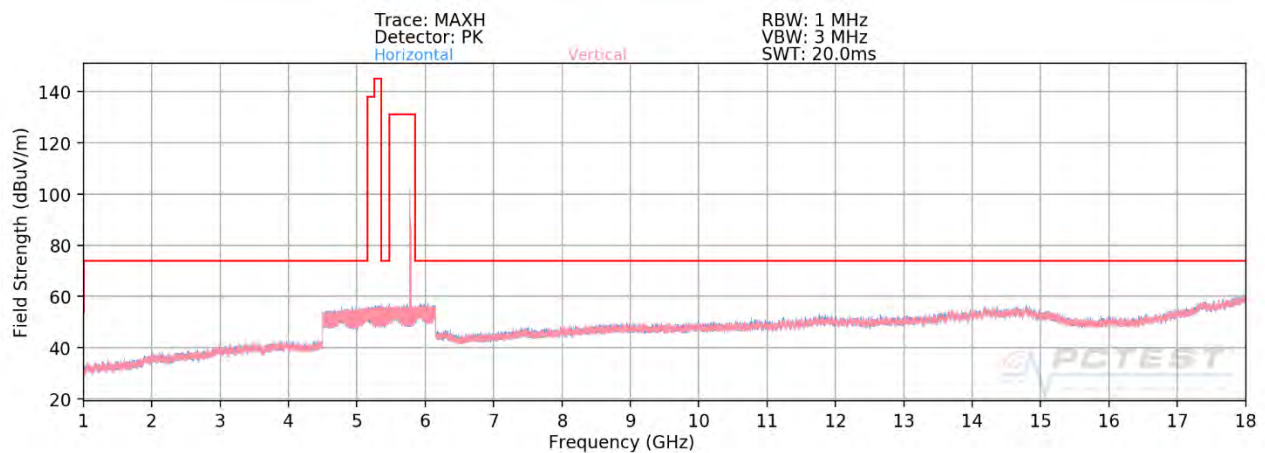
FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 251 of 339



Plot 7-354. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax – U2C Ch. 120 – 106 Tones - CLOSED)



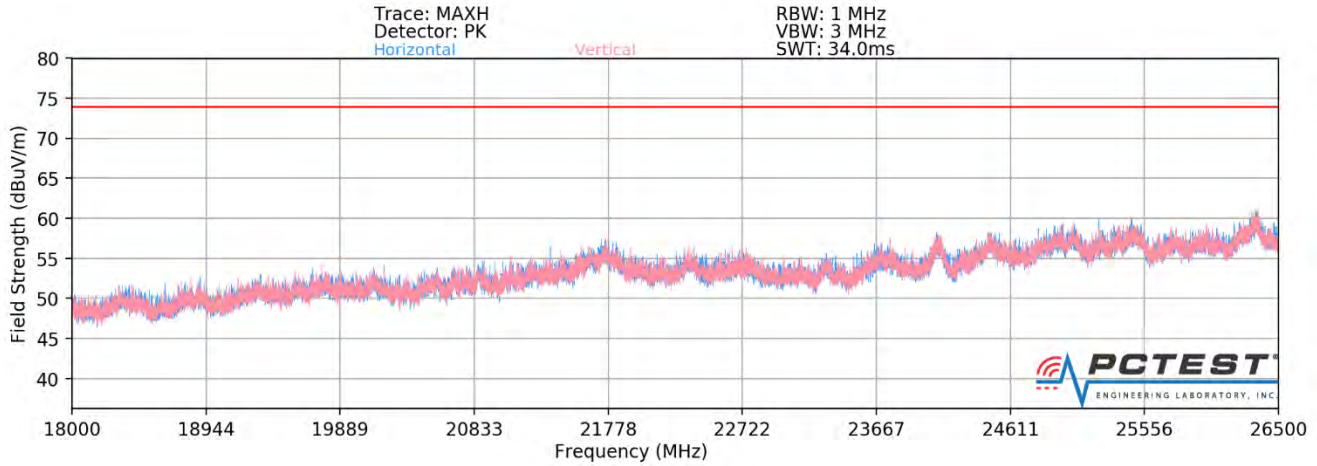
Plot 7-355. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax – U3 Ch. 157 – 106 Tones - OPEN)



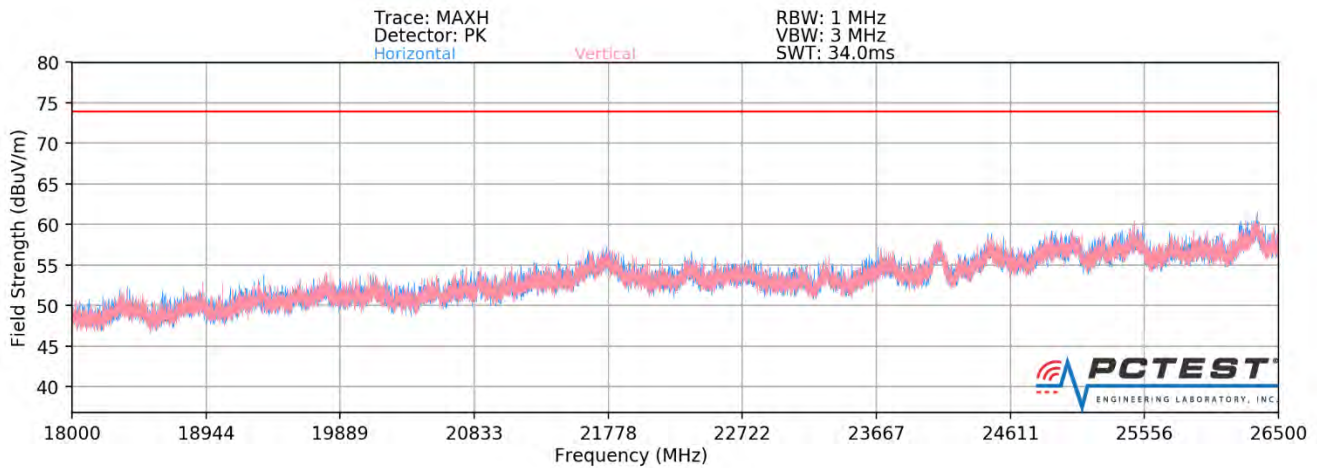
Plot 7-356. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax – U3 Ch. 157 – 106 Tones - CLOSED)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 252 of 339

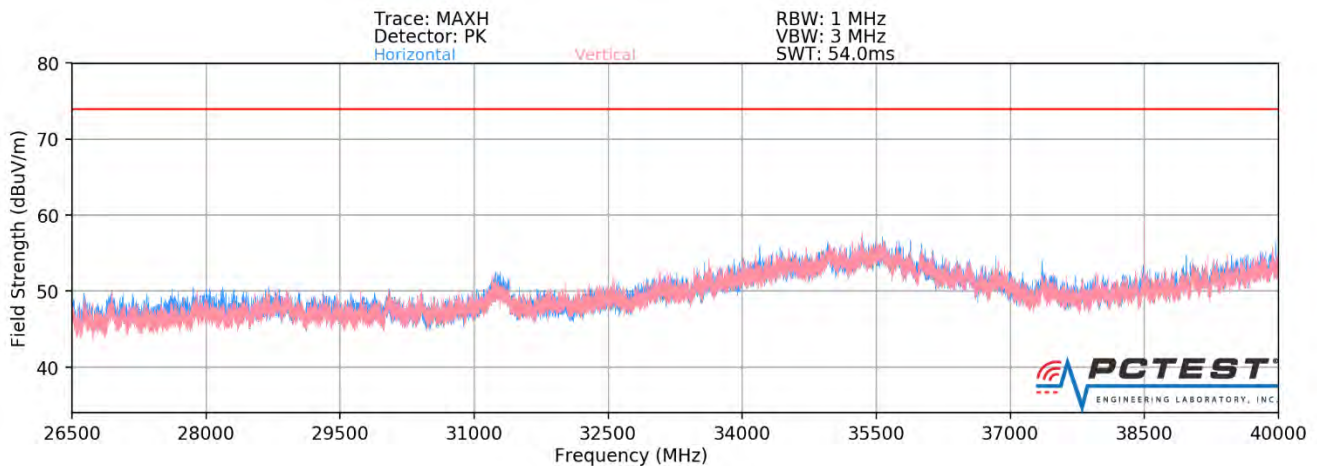
SISO Antenna-2 Radiated Spurious Emissions Measurements (Above 18GHz)



Plot 7-357. Radiated Spurious Plot above 18GHz - 26.5GHz SISO ANT2 (802.11ax - 106 Tones - OPEN)

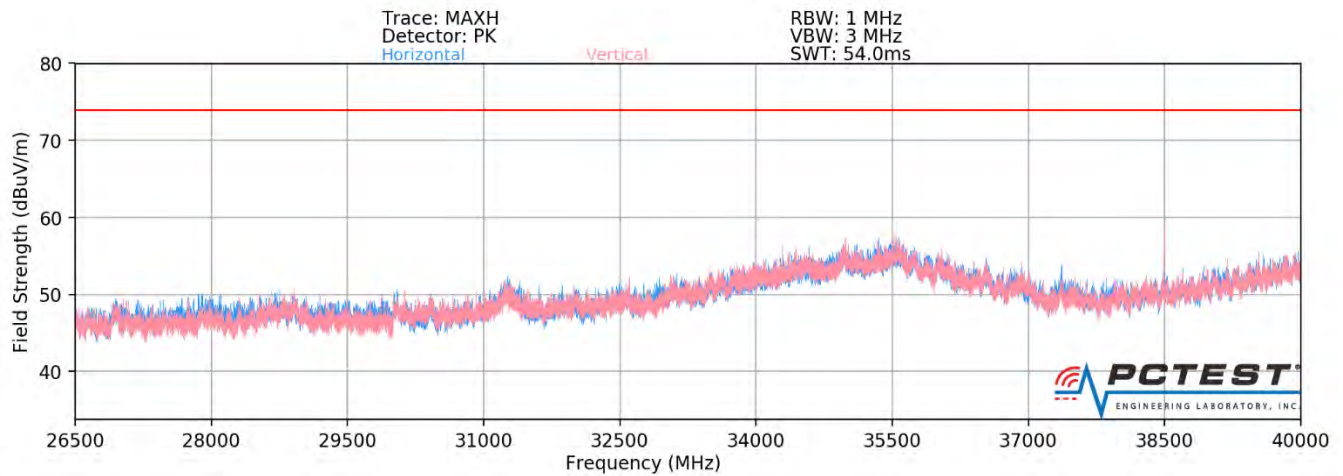


Plot 7-358. Radiated Spurious Plot above 18GHz - 26.5GHz SISO ANT2 (802.11ax - 106 Tones - CLOSED)



Plot 7-359. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT2 (802.11ax - 106 Tones - OPEN)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 253 of 339



Plot 7-360. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT2 (802.11ax – 106 Tones – CLOSED)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 254 of 339

SISO Antenna-2 Radiated Spurious Emission Measurements

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

Worst Case Mode: 802.11ax (20MHz BW)
Worst Case Transfer Rate: MCS0
RU Index: 54
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	-	-	-72.05	18.75	0.00	53.70	68.20	-14.50
* 15540.00	Average	H	-	-	-85.14	28.13	0.00	49.99	53.98	-3.99
* 15540.00	Peak	H	-	-	-74.47	28.13	0.00	60.66	73.98	-13.32
* 20720.00	Average	H	-	-	-78.09	17.17	-9.54	36.53	53.98	-17.45
* 20720.00	Peak	H	-	-	-66.43	17.17	-9.54	48.19	73.98	-25.79
25900.00	Peak	H	-	-	-65.31	19.93	-9.54	52.07	68.20	-16.13

Table 7-97. Radiated Measurements SISO ANT2 (106 Tones - CLOSED)

Worst Case Mode: 802.11ax (20MHz BW)
Worst Case Transfer Rate: MCS0
RU Index: 54
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	-	-	-72.21	19.45	0.00	54.24	68.20	-13.96
* 15600.00	Average	H	-	-	-85.07	27.65	0.00	49.58	53.98	-4.40
* 15600.00	Peak	H	-	-	-73.90	27.65	0.00	60.75	73.98	-13.23
* 20800.00	Average	H	-	-	-78.13	17.65	-9.54	36.98	53.98	-17.00
* 20800.00	Peak	H	-	-	-66.85	17.65	-9.54	48.26	73.98	-25.72
26000.00	Peak	H	-	-	-66.85	20.68	-9.54	51.29	68.20	-16.91

Table 7-98. Radiated Measurements SISO ANT2 (106 Tones - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 255 of 339

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 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	-	-	-72.74	19.76	0.00	54.02	68.20	-14.18
* 15720.00	Average	H	-	-	-84.97	27.55	0.00	49.58	53.98	-4.40
* 15720.00	Peak	H	-	-	-73.69	27.55	0.00	60.86	73.98	-13.12
* 20960.00	Average	H	-	-	-77.98	17.53	-9.54	37.01	53.98	-16.97
* 20960.00	Peak	H	-	-	-66.95	17.53	-9.54	48.04	73.98	-25.94
* 26200.00	Peak	H	-	-	-65.37	20.23	-9.54	52.32	68.20	-15.88

Table 7-99. Radiated Measurements SISO ANT2 (106 Tones - CLOSED)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 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	-	-	-72.35	19.25	0.00	53.90	68.20	-14.30
* 15780.00	Average	H	-	-	-84.68	27.22	0.00	49.54	53.98	-4.44
* 15780.00	Peak	H	-	-	-73.52	27.22	0.00	60.70	73.98	-13.28
* 21040.00	Average	H	-	-	-77.86	17.48	-9.54	37.07	53.98	-16.91
* 21040.00	Peak	H	-	-	-67.07	17.48	-9.54	47.86	73.98	-26.12
* 26300.00	Peak	H	-	-	-64.69	20.33	-9.54	53.10	68.20	-15.10

Table 7-100. Radiated Measurements SISO ANT2 (106 Tones - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 256 of 339

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 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	-	-	-71.71	19.37	0.00	54.66	68.20	-13.54
* 15840.00	Average	H	-	-	-84.77	27.28	0.00	49.51	53.98	-4.47
* 15840.00	Peak	H	-	-	-73.59	27.28	0.00	60.69	73.98	-13.29
* 21120.00	Average	H	-	-	-77.59	17.27	-9.54	37.13	53.98	-16.84
* 21120.00	Peak	H	-	-	-66.34	17.27	-9.54	48.38	73.98	-25.59
26400.00	Peak	H	-	-	-64.95	20.27	-9.54	52.78	68.20	-15.42

Table 7-101. Radiated Measurements SISO ANT2 (106 Tones - CLOSED)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 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	-	-	-83.28	20.07	0.00	43.79	53.98	-10.19
* 10640.00	Peak	H	-	-	-71.63	20.07	0.00	55.44	73.98	-18.54
* 15960.00	Average	H	-	-	-84.75	27.42	0.00	49.67	53.98	-4.31
* 15960.00	Peak	H	-	-	-73.65	27.42	0.00	60.77	73.98	-13.21
* 21280.00	Average	H	-	-	-77.40	17.58	-9.54	37.64	53.98	-16.34
* 21280.00	Peak	H	-	-	-66.45	17.58	-9.54	48.59	73.98	-25.39
26600.00	Peak	H	-	-	-52.50	3.11	-9.54	48.07	68.20	-20.13

Table 7-102. Radiated Measurements SISO ANT2 (106 Tones - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 257 of 339

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 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	-	-	-84.11	20.71	0.00	43.60	53.98	-10.38
* 11000.00	Peak	H	-	-	-73.25	20.71	0.00	54.46	73.98	-19.52
16500.00	Peak	H	-	-	-72.56	28.80	0.00	63.24	68.20	-4.96
22000.00	Peak	H	-	-	-66.50	18.05	-9.54	49.01	68.20	-19.19
27500.00	Peak	H	-	-	-50.06	2.08	-9.54	49.48	68.20	-18.72

Table 7-103. Radiated Measurements SISO ANT2 (106 Tones - CLOSED)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 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	-	-	-83.67	20.02	0.00	43.35	53.98	-10.63
* 11200.00	Peak	H	-	-	-72.22	20.02	0.00	54.80	73.98	-19.18
16800.00	Peak	H	-	-	-74.25	28.89	0.00	61.64	68.20	-6.56
* 22400.00	Average	H	-	-	-77.87	19.05	-9.54	38.64	53.98	-15.34
* 22400.00	Peak	H	-	-	-66.49	19.05	-9.54	50.02	73.98	-23.96
28000.00	Peak	H	-	-	-50.66	3.19	-9.54	49.98	68.20	-18.22

Table 7-104. Radiated Measurements SISO ANT2 (106 Tones - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 258 of 339

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 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	-	-	-84.19	20.76	0.00	43.57	53.98	-10.41
* 11440.00	Peak	H	-	-	-72.71	20.76	0.00	55.05	73.98	-18.93
17160.00	Peak	H	-	-	-74.20	29.65	0.00	62.45	68.20	-5.75
* 22880.00	Average	H	-	-	-78.15	18.60	-9.54	37.90	53.98	-16.08
* 22880.00	Peak	H	-	-	-66.70	18.60	-9.54	49.35	73.98	-24.63
28600.00	Peak	H	-	-	-49.84	1.74	-9.54	49.35	68.20	-18.85

Table 7-105. Radiated Measurements SISO ANT2 (106 Tones - CLOSED)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 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	-	-	-83.38	20.29	0.00	43.91	53.98	-10.07
* 11490.00	Peak	H	-	-	-72.39	20.29	0.00	54.90	73.98	-19.08
17235.00	Peak	H	-	-	-72.15	29.45	0.00	64.30	68.20	-3.90
* 22980.00	Average	H	-	-	-77.81	18.46	-9.54	38.11	53.98	-15.87
* 22980.00	Peak	H	-	-	-67.15	18.46	-9.54	48.77	73.98	-25.21
28725.00	Peak	H	-	-	-50.81	2.47	-9.54	49.12	68.20	-19.08

Table 7-106. Radiated Measurements SISO ANT2 (106 Tones - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 259 of 339

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 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	-	-	-83.51	20.87	0.00	44.36	53.98	-9.62
* 11570.00	Peak	H	-	-	-71.65	20.87	0.00	56.22	73.98	-17.76
17355.00	Peak	H	-	-	-73.73	29.88	0.00	63.15	68.20	-5.05
23140.00	Peak	H	-	-	-66.70	18.84	-9.54	49.60	68.20	-18.60
28925.00	Peak	H	-	-	-49.78	2.80	-9.54	50.48	68.20	-17.72

Table 7-107. Radiated Measurements SISO ANT2 (106 Tones - CLOSED)

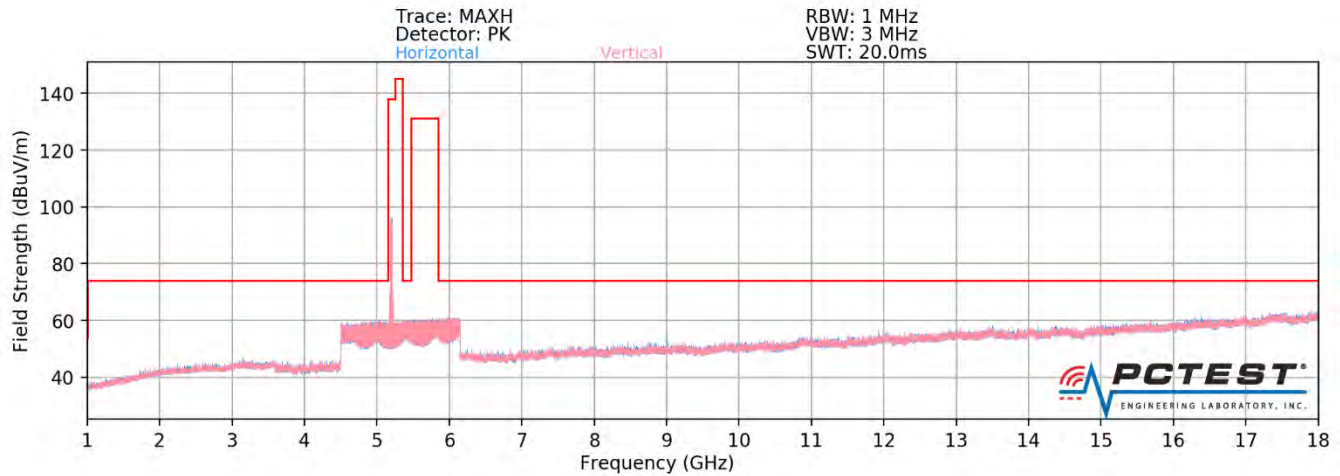
Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5825MHz
 Channel: 165

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	-	-	-83.42	21.73	0.00	45.31	53.98	-8.67
* 11650.00	Peak	H	-	-	-71.82	21.73	0.00	56.91	73.98	-17.07
17475.00	Peak	H	-	-	-73.01	30.16	0.00	64.15	68.20	-4.05
23300.00	Peak	H	-	-	-67.51	19.55	-9.54	49.49	68.20	-18.71
29125.00	Peak	H	-	-	-49.66	1.07	-9.54	48.87	68.20	-19.33

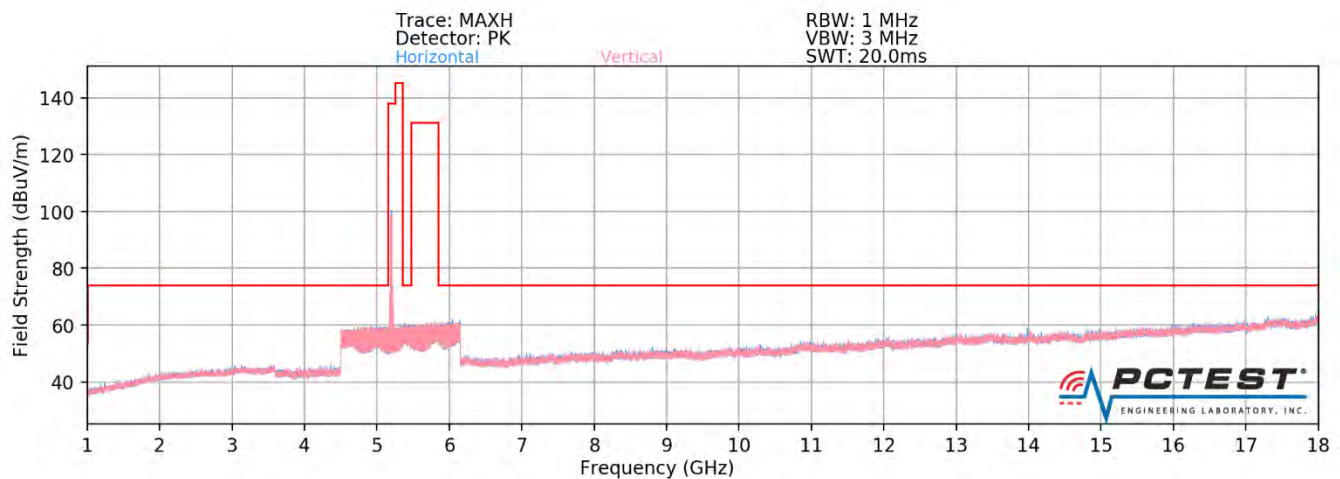
Table 7-108. Radiated Measurements SISO ANT2 (106 Tones - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 260 of 339

242 Tones

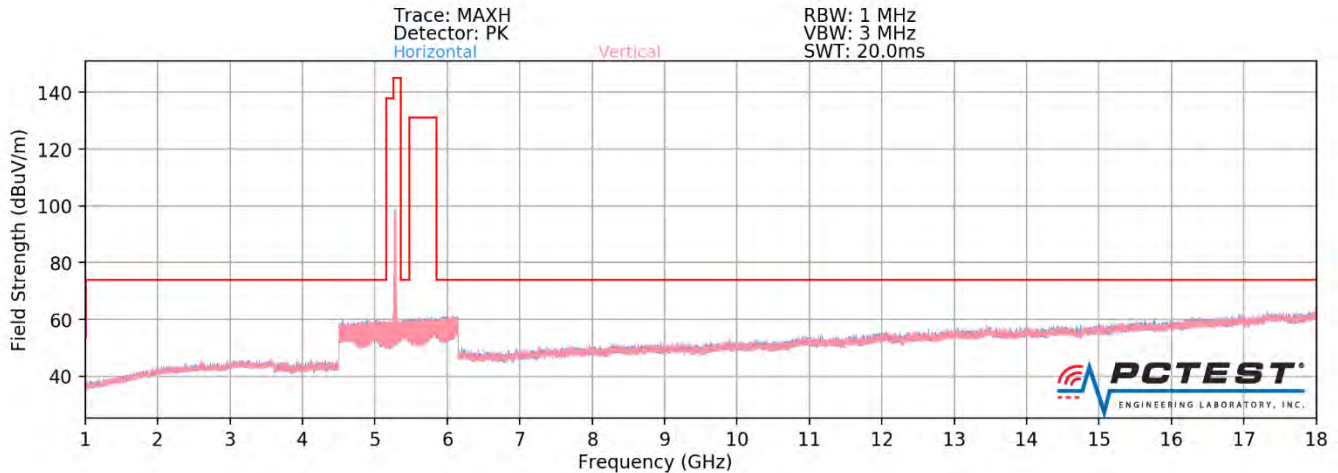


Plot 7-361. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax - U1 Ch. 40 - 242 Tones - OPEN)

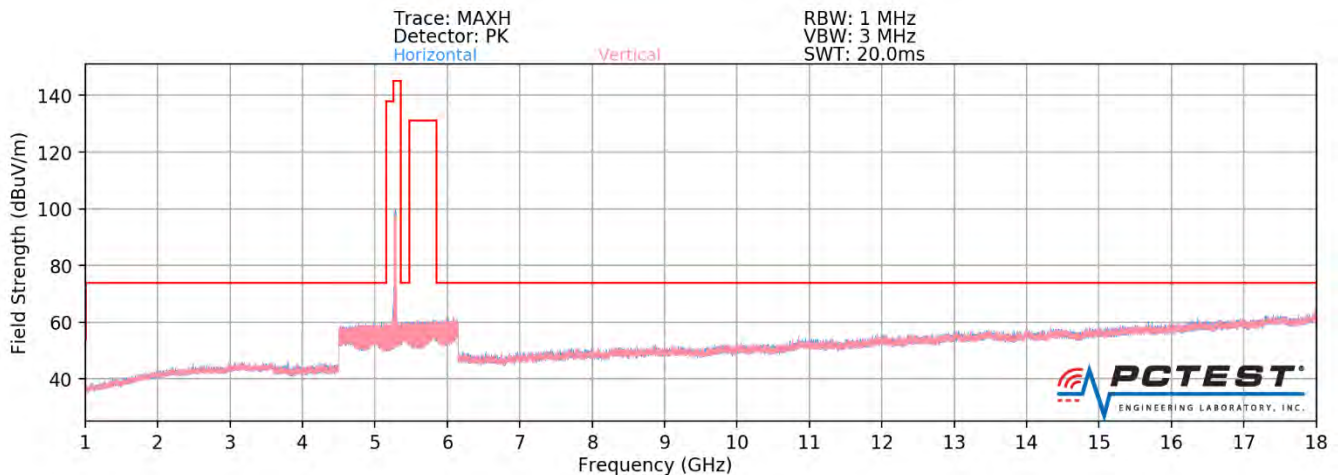


Plot 7-362. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax - U1 Ch. 40 - 242 Tones - CLOSED)

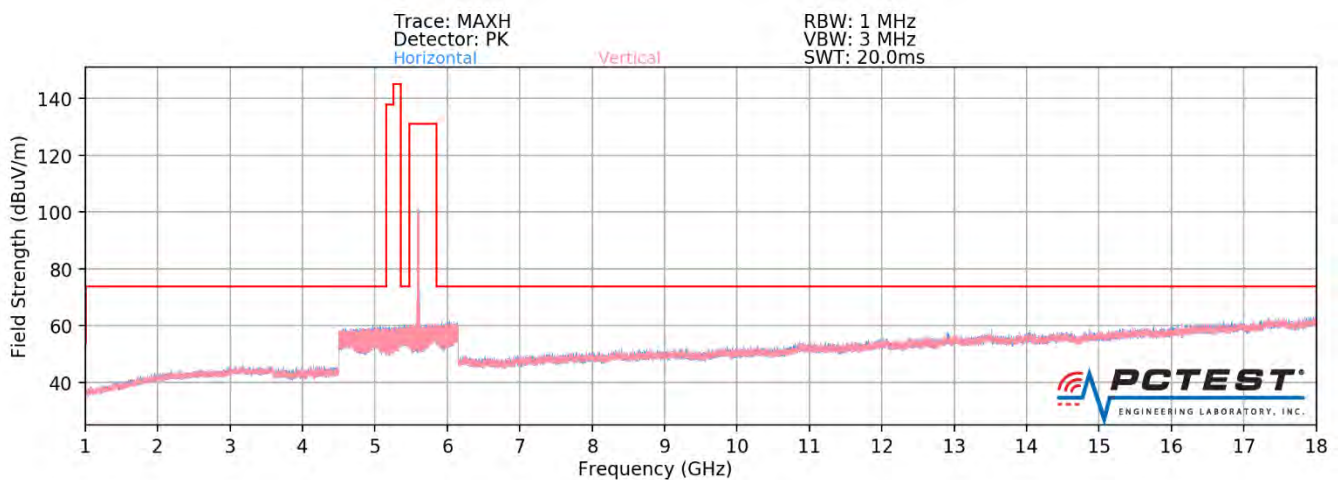
FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 261 of 339



Plot 7-363. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax - U2A Ch. 56 - 242 Tones - OPEN)

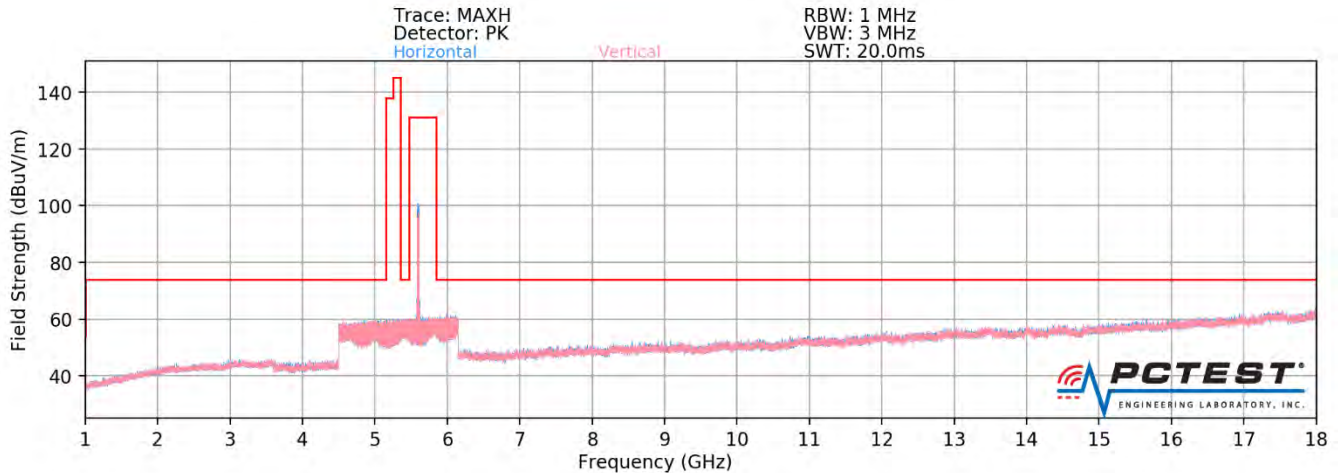


Plot 7-364. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax - U2A Ch. 56 - 242 Tones - CLOSED)

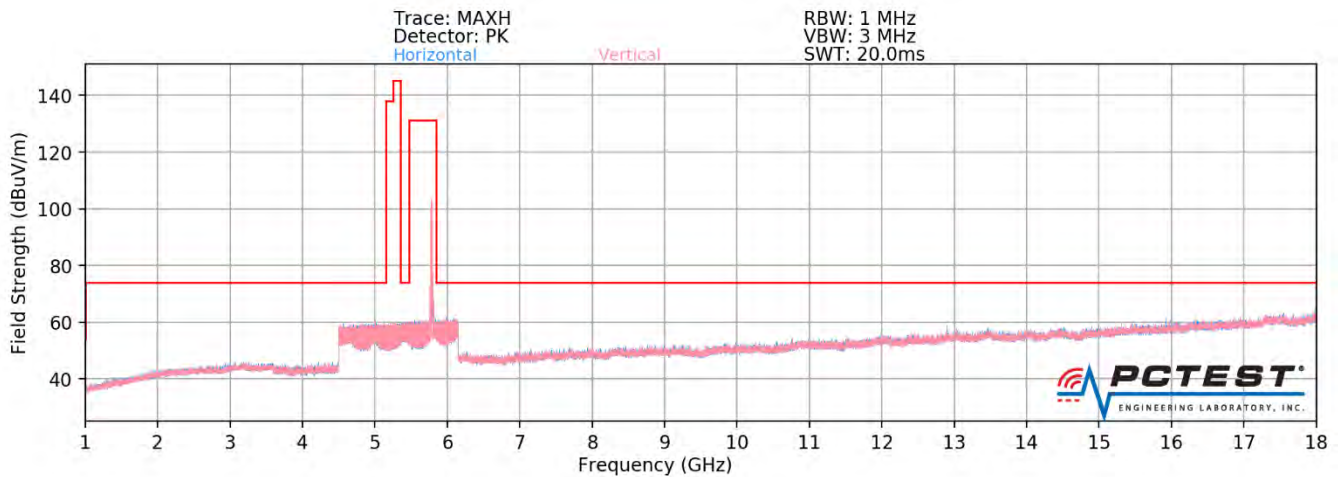


Plot 7-365. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax - U2C Ch. 120 - 242 Tones - OPEN)

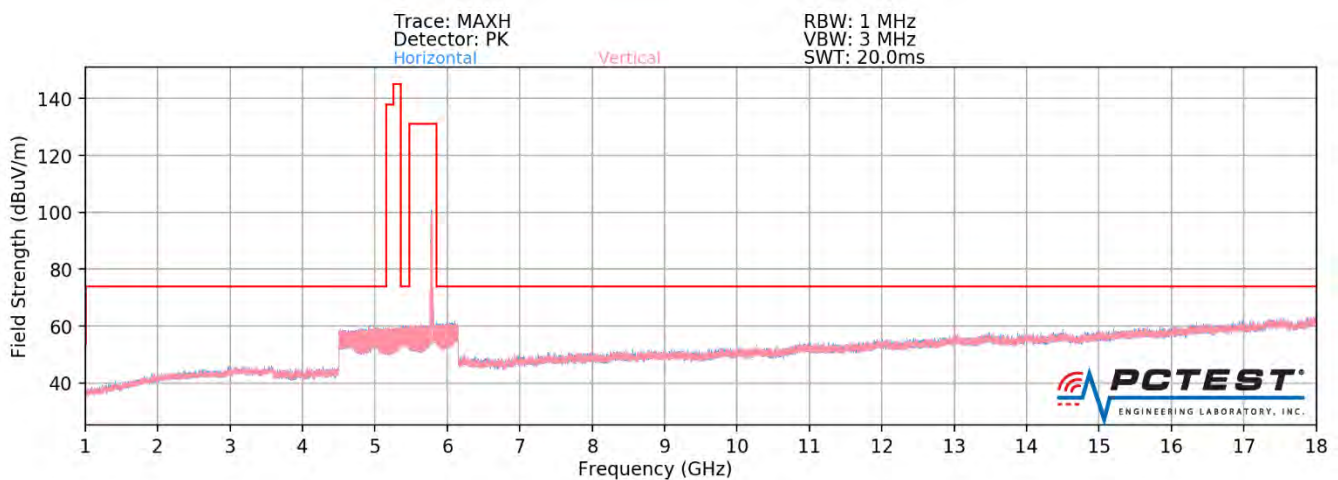
FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 262 of 339



Plot 7-366. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax – U2C Ch. 120 – 242 Tones – CLOSED)



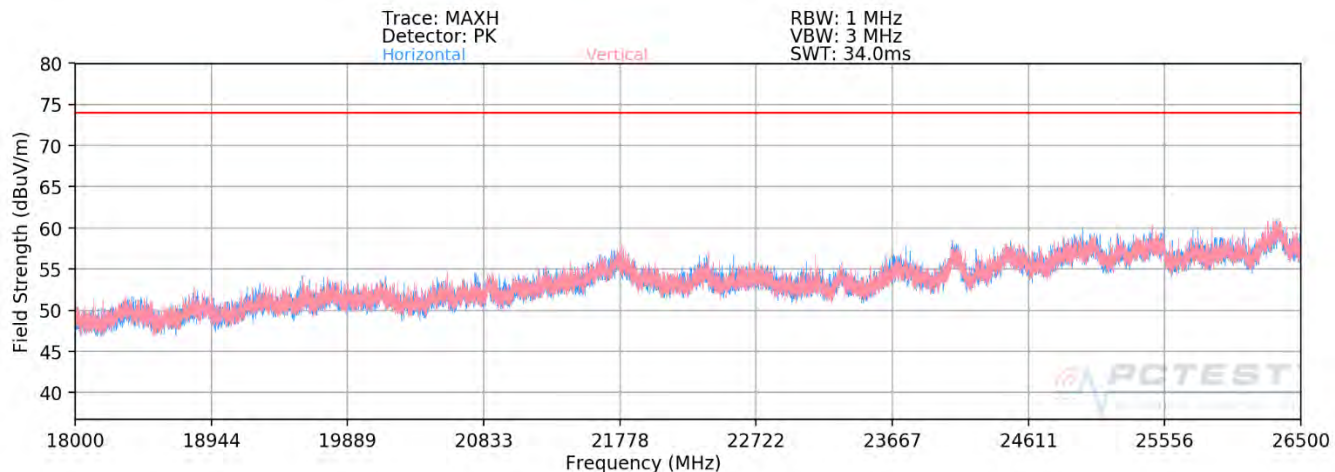
Plot 7-367. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax – U3 Ch. 157 – 242 Tones – OPEN)



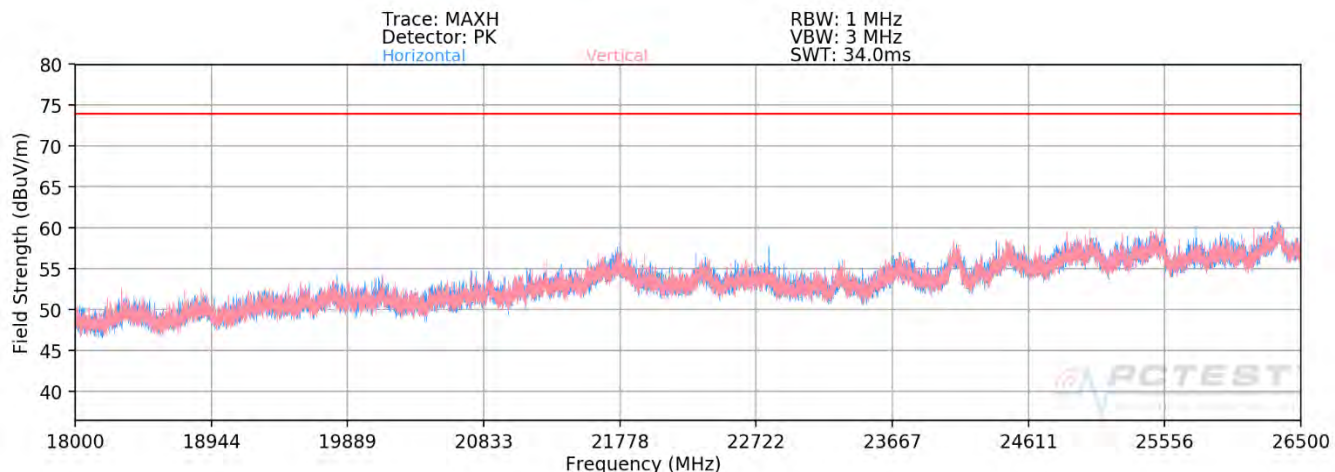
Plot 7-368. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax – U3 Ch. 157 – 242 Tones – CLOSED)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 263 of 339

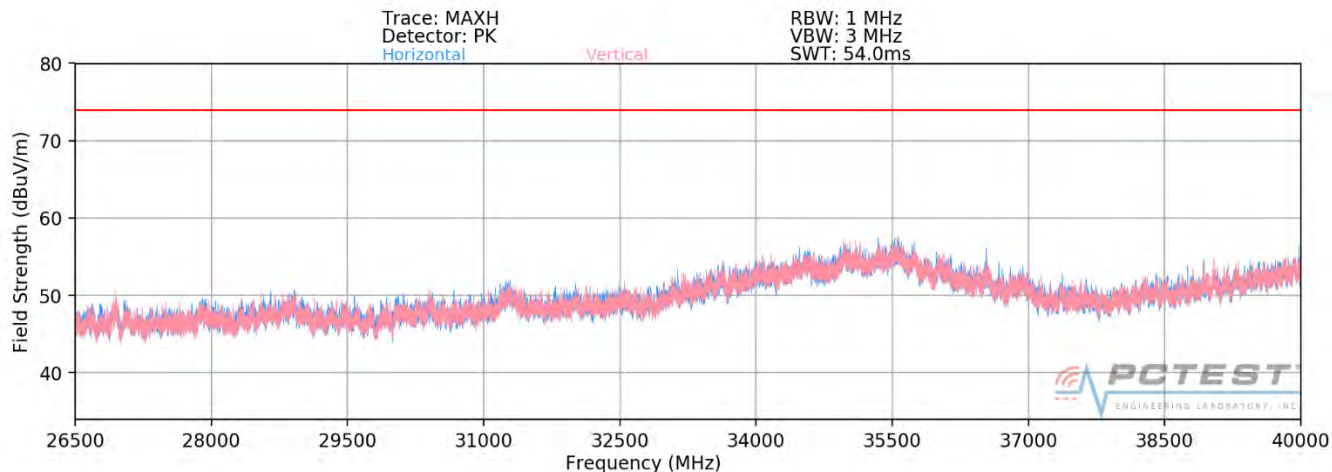
SISO Antenna-2 Radiated Spurious Emissions Measurements (Above 18GHz)



Plot 7-369. Radiated Spurious Plot above 18GHz - 26.5GHz SISO ANT2 (802.11ax - 242 Tones - OPEN)

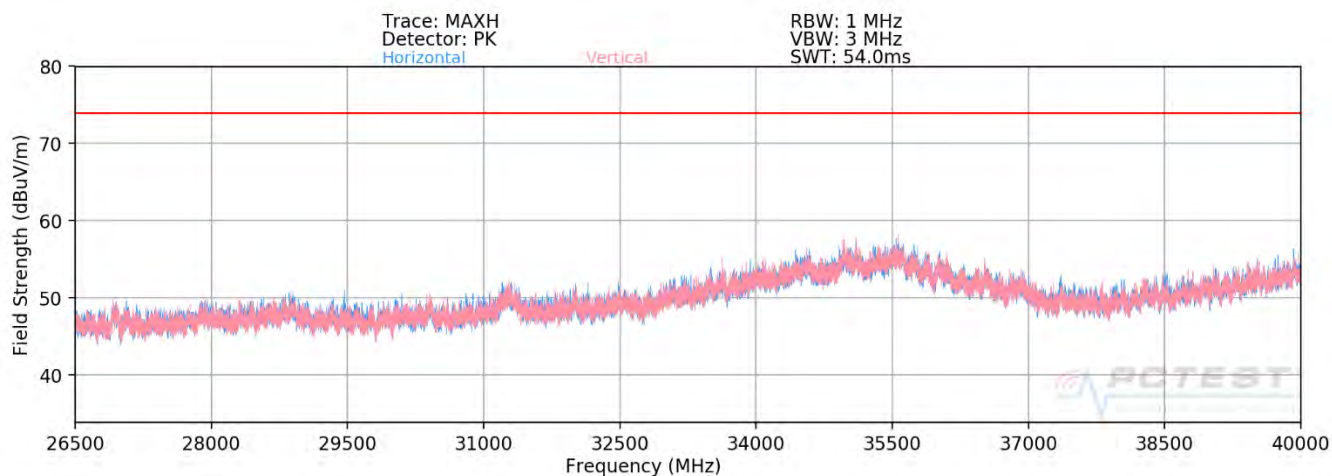


Plot 7-370. Radiated Spurious Plot above 18GHz - 26.5GHz SISO ANT2 (802.11ax - 242 Tones - CLOSED)



Plot 7-371. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT2 (802.11ax - 242 Tones - OPEN)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 264 of 339



Plot 7-372. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT2 (802.11ax – 242 Tones – CLOSED)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 265 of 339

SISO Antenna-2 Radiated Spurious Emission Measurements

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

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	61
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	-	-	-71.85	18.75	0.00	53.90	68.20	-14.30
* 15540.00	Average	H	-	-	-84.99	28.13	0.00	50.14	53.98	-3.84
* 15540.00	Peak	H	-	-	-73.71	28.13	0.00	61.42	73.98	-12.56
* 20720.00	Average	H	-	-	-77.98	17.17	-9.54	36.64	53.98	-17.34
* 20720.00	Peak	H	-	-	-67.01	17.17	-9.54	47.61	73.98	-26.37
25900.00	Peak	H	-	-	-66.65	19.93	-9.54	50.73	68.20	-17.47

Table 7-109. Radiated Measurements SISO ANT2 (242 Tones - CLOSED)

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	61
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	-	-	-72.15	19.45	0.00	54.30	68.20	-13.90
* 15600.00	Average	H	-	-	-84.76	27.65	0.00	49.89	53.98	-4.09
* 15600.00	Peak	H	-	-	-73.90	27.65	0.00	60.75	73.98	-13.23
* 20800.00	Average	H	-	-	-78.08	17.65	-9.54	37.03	53.98	-16.95
* 20800.00	Peak	H	-	-	-67.11	17.65	-9.54	48.00	73.98	-25.98
26000.00	Peak	H	-	-	-65.69	20.68	-9.54	52.45	68.20	-15.75

Table 7-110. Radiated Measurements SISO ANT2 (242 Tones - CLOSED)

FCC ID: A3LSMF900F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 266 of 339

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 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	-	-	-71.86	19.76	0.00	54.90	68.20	-13.30
* 15720.00	Average	H	-	-	-84.84	27.55	0.00	49.71	53.98	-4.27
* 15720.00	Peak	H	-	-	-73.55	27.55	0.00	61.00	73.98	-12.98
* 20960.00	Average	H	-	-	-77.96	17.53	-9.54	37.03	53.98	-16.95
* 20960.00	Peak	H	-	-	-67.21	17.53	-9.54	47.78	73.98	-26.20
* 26200.00	Peak	H	-	-	-67.06	20.23	-9.54	50.63	68.20	-17.57

Table 7-111. Radiated Measurements SISO ANT2 (242 Tones - CLOSED)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 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	-	-	-72.70	19.25	0.00	53.55	68.20	-14.65
* 15780.00	Average	H	-	-	-84.86	27.22	0.00	49.36	53.98	-4.62
* 15780.00	Peak	H	-	-	-73.79	27.22	0.00	60.43	73.98	-13.55
* 21040.00	Average	H	-	-	-78.01	17.48	-9.54	36.92	53.98	-17.06
* 21040.00	Peak	H	-	-	-67.21	17.48	-9.54	47.72	73.98	-26.26
* 26300.00	Peak	H	-	-	-65.32	20.33	-9.54	52.47	68.20	-15.73

Table 7-112. Radiated Measurements SISO ANT2 (242 Tones - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 267 of 339

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5280MHz
 Channel: 56

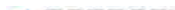
Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10560.00	Peak	H	-	-	-72.24	19.37	0.00	54.13	68.20	-14.07
* 15840.00	Average	H	-	-	-84.48	27.28	0.00	49.80	53.98	-4.18
* 15840.00	Peak	H	-	-	-73.53	27.28	0.00	60.75	73.98	-13.23
* 21120.00	Average	H	-	-	-77.76	17.27	-9.54	36.96	53.98	-17.01
* 21120.00	Peak	H	-	-	-66.83	17.27	-9.54	47.89	73.98	-26.08
26400.00	Peak	H	-	-	-66.12	20.27	-9.54	51.61	68.20	-16.59

Table 7-113. Radiated Measurements SISO ANT2 (242 Tones - CLOSED)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 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	-	-	-83.05	20.07	0.00	44.02	53.98	-9.96
* 10640.00	Peak	H	-	-	-71.69	20.07	0.00	55.38	73.98	-18.60
* 15960.00	Average	H	-	-	-84.87	27.42	0.00	49.55	53.98	-4.43
* 15960.00	Peak	H	-	-	-73.10	27.42	0.00	61.32	73.98	-12.66
* 21280.00	Average	H	-	-	-77.33	17.58	-9.54	37.71	53.98	-16.27
* 21280.00	Peak	H	-	-	-66.41	17.58	-9.54	48.63	73.98	-25.35
26600.00	Peak	H	-	-	-52.74	3.11	-9.54	47.83	68.20	-20.37

Table 7-114. Radiated Measurements SISO ANT2 (242 Tones - CLOSED)

FCC ID: A3LSMF900F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 268 of 339

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 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	-	-	-83.75	20.71	0.00	43.96	53.98	-10.02
* 11000.00	Peak	H	-	-	-72.17	20.71	0.00	55.54	73.98	-18.44
16500.00	Peak	H	-	-	-73.95	28.80	0.00	61.85	68.20	-6.35
22000.00	Peak	H	-	-	-66.38	18.05	-9.54	49.13	68.20	-19.07
27500.00	Peak	H	-	-	-50.57	2.08	-9.54	48.97	68.20	-19.23

Table 7-115. Radiated Measurements SISO ANT2 (242 Tones - CLOSED)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 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	-	-	-83.63	20.02	0.00	43.39	53.98	-10.59
* 11200.00	Peak	H	-	-	-72.58	20.02	0.00	54.44	73.98	-19.54
16800.00	Peak	H	-	-	-73.63	28.89	0.00	62.26	68.20	-5.94
* 22400.00	Average	H	-	-	-78.01	19.05	-9.54	38.50	53.98	-15.48
* 22400.00	Peak	H	-	-	-65.80	19.05	-9.54	50.71	73.98	-23.27
28000.00	Peak	H	-	-	-51.44	3.19	-9.54	49.20	68.20	-19.00

Table 7-116. Radiated Measurements SISO ANT2 (242 Tones - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 269 of 339

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 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	-	-	-83.86	20.76	0.00	43.90	53.98	-10.08
* 11440.00	Peak	H	-	-	-72.85	20.76	0.00	54.91	73.98	-19.07
17160.00	Peak	H	-	-	-73.67	29.65	0.00	62.98	68.20	-5.22
* 22880.00	Average	H	-	-	-78.10	18.60	-9.54	37.95	53.98	-16.03
* 22880.00	Peak	H	-	-	-67.34	18.60	-9.54	48.71	73.98	-25.27
28600.00	Peak	H	-	-	-49.19	1.74	-9.54	50.00	68.20	-18.20

Table 7-117. Radiated Measurements SISO ANT2 (242 Tones - CLOSED)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 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	-	-	-83.61	20.29	0.00	43.68	53.98	-10.30
* 11490.00	Peak	H	-	-	-72.53	20.29	0.00	54.76	73.98	-19.22
17235.00	Peak	H	-	-	-73.42	29.45	0.00	63.03	68.20	-5.17
* 22980.00	Average	H	-	-	-77.77	18.46	-9.54	38.15	53.98	-15.83
* 22980.00	Peak	H	-	-	-67.03	18.46	-9.54	48.89	73.98	-25.09
28725.00	Peak	H	-	-	-50.16	2.47	-9.54	49.77	68.20	-18.43

Table 7-118. Radiated Measurements SISO ANT2 (242 Tones - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 270 of 339

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 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	-	-	-83.45	20.87	0.00	44.42	53.98	-9.56
* 11570.00	Peak	H	-	-	-72.14	20.87	0.00	55.73	73.98	-18.25
17355.00	Peak	H	-	-	-72.97	29.88	0.00	63.91	68.20	-4.29
23140.00	Peak	H	-	-	-67.14	18.84	-9.54	49.16	68.20	-19.04
28925.00	Peak	H	-	-	-50.24	2.80	-9.54	50.02	68.20	-18.18

Table 7-119. Radiated Measurements SISO ANT2 (242 Tones - CLOSED)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5825MHz
 Channel: 165

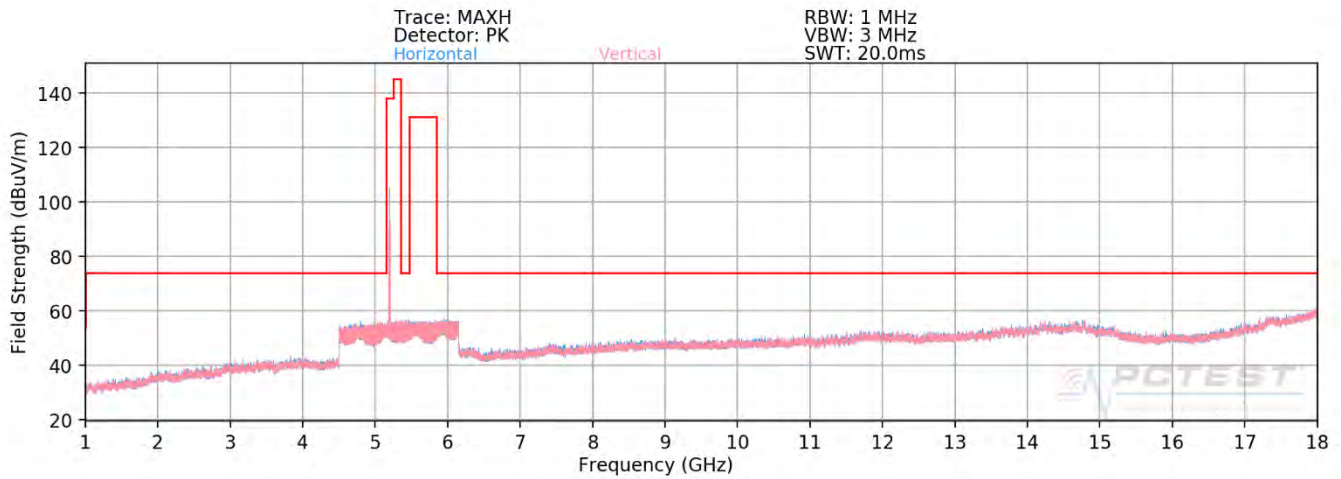
Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11650.00	Average	H	-	-	-83.24	21.73	0.00	45.49	53.98	-8.49
* 11650.00	Peak	H	-	-	-72.78	21.73	0.00	55.95	73.98	-18.03
17475.00	Peak	H	-	-	-73.17	30.16	0.00	63.99	68.20	-4.21
23300.00	Peak	H	-	-	-66.67	19.55	-9.54	50.33	68.20	-17.87
29125.00	Peak	H	-	-	-49.19	1.07	-9.54	49.34	68.20	-18.86

Table 7-120. Radiated Measurements SISO ANT2 (242 Tones - CLOSED)

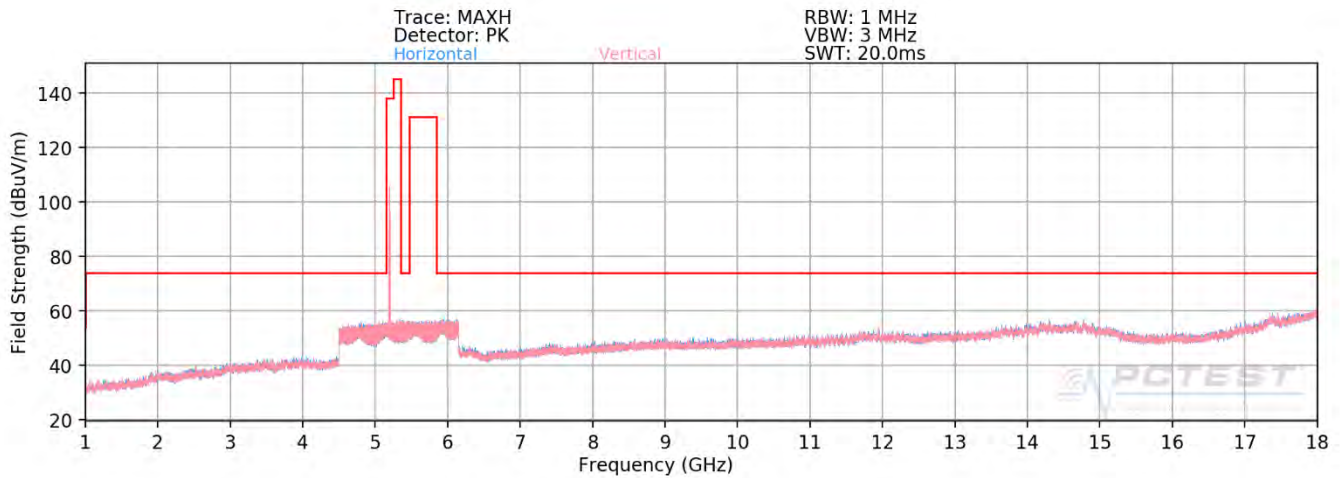
FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 271 of 339

7.6.3 MIMO Radiated Spurious Emission Measurements

106 Tones

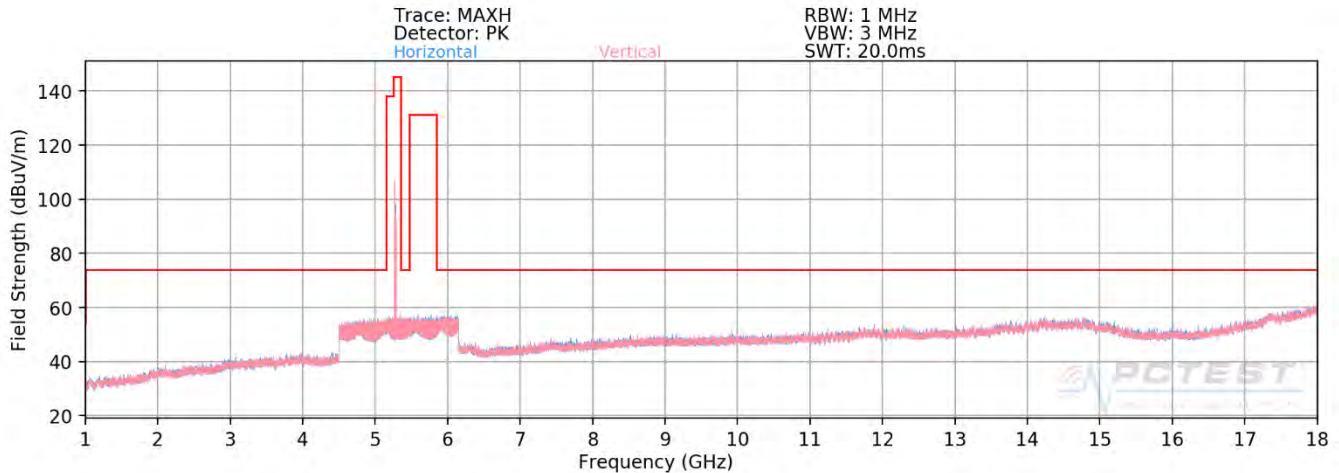


Plot 7-373. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U1 Ch. 40 – 106 Tones - OPEN)

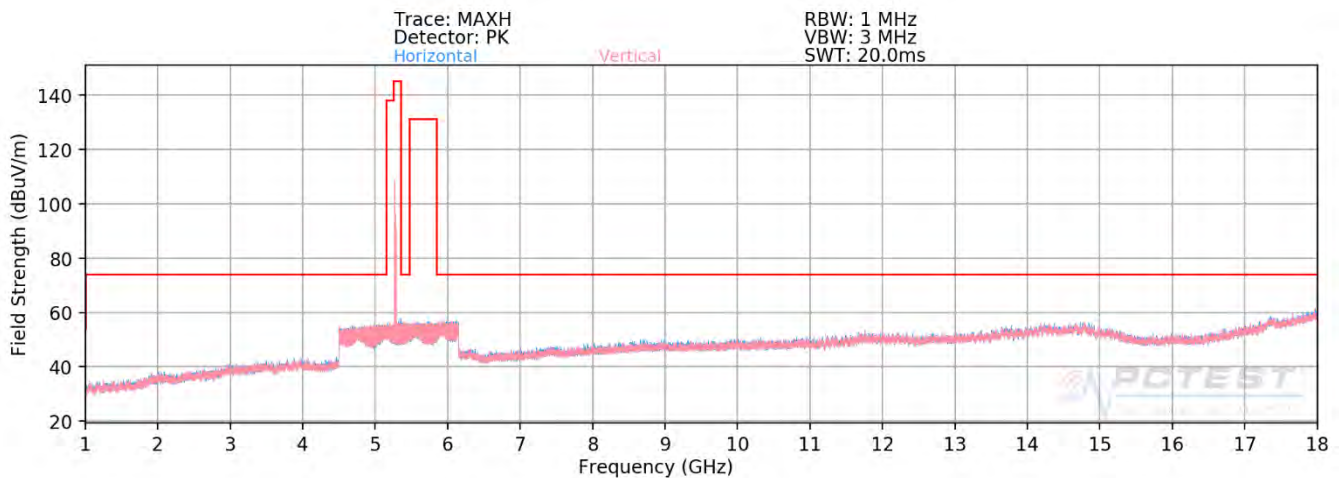


Plot 7-374. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U1 Ch. 40 – 106 Tones - CLOSED)

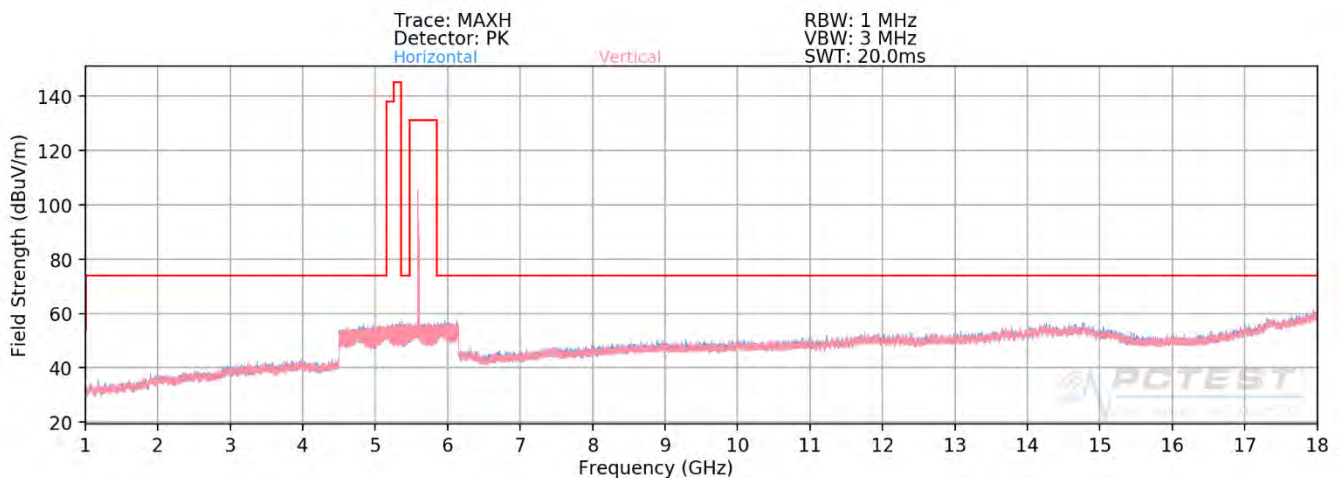
FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 272 of 339



Plot 7-375. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U2A Ch. 56 – 106 Tones - OPEN)

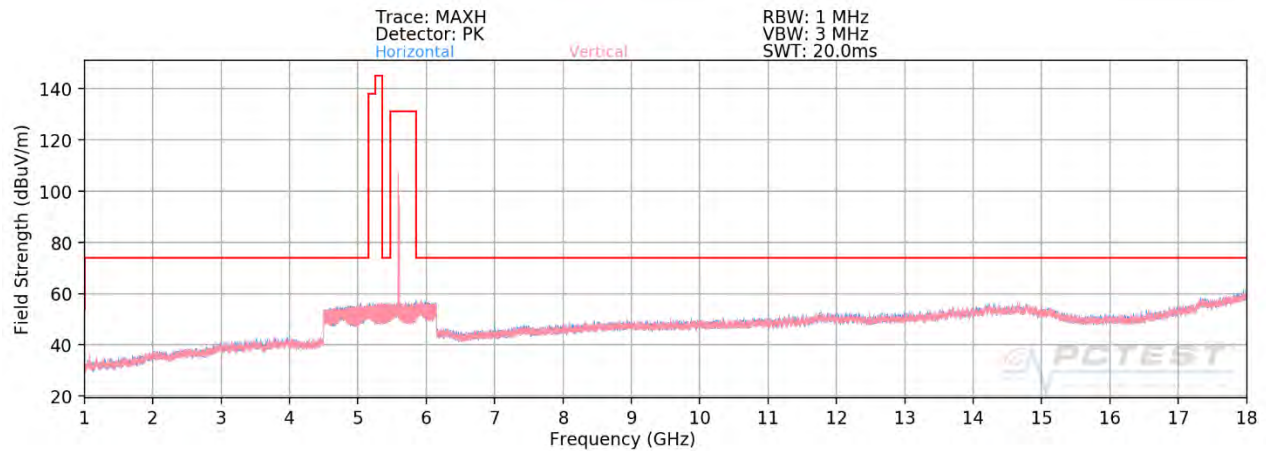


Plot 7-376. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U2A Ch. 56 – 106 Tones - CLOSED)

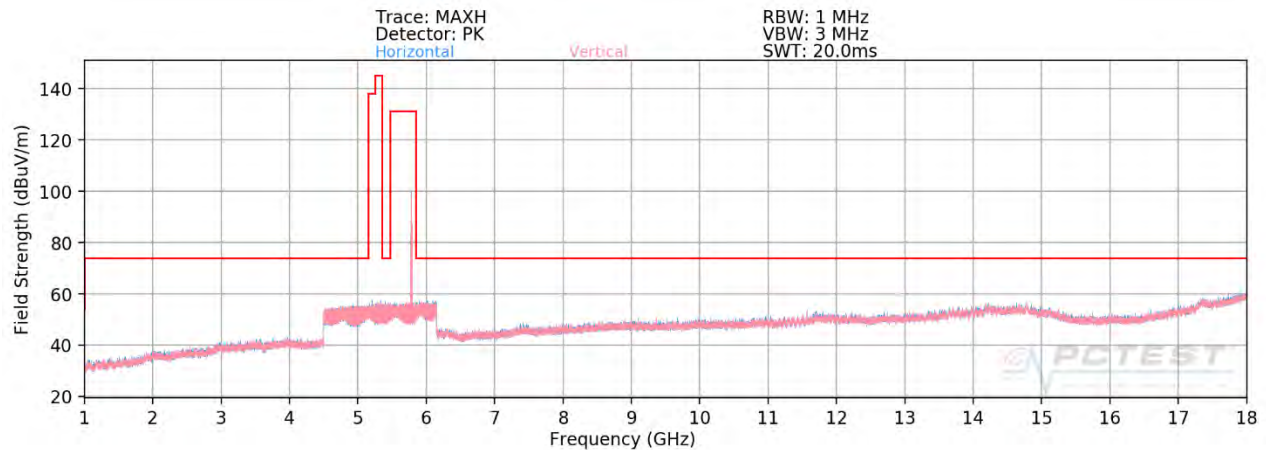


Plot 7-377. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U2C Ch. 120 – 106 Tones - OPEN)

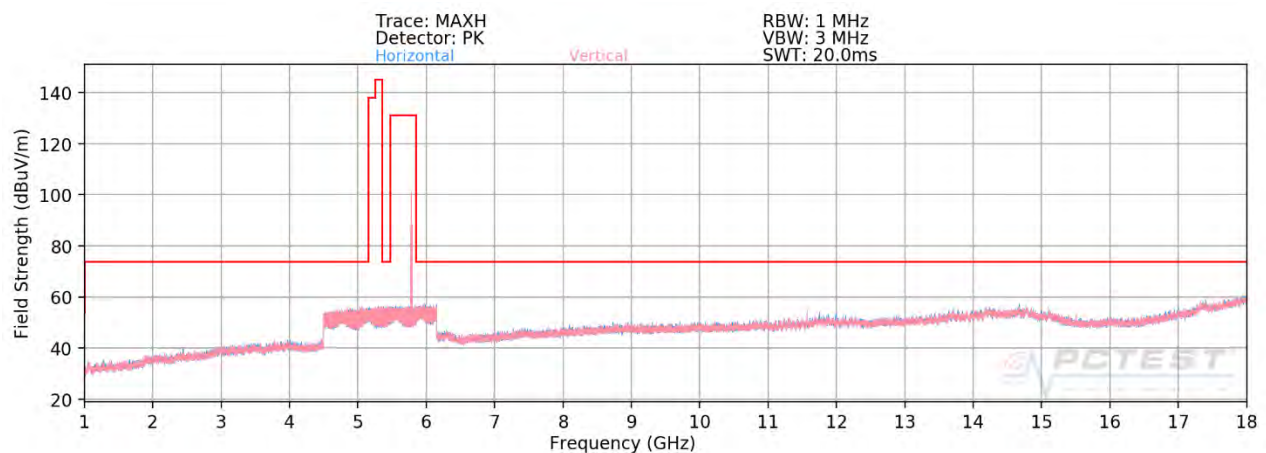
FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 273 of 339



Plot 7-378. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U2C Ch. 120 – 106 Tones - CLOSED)



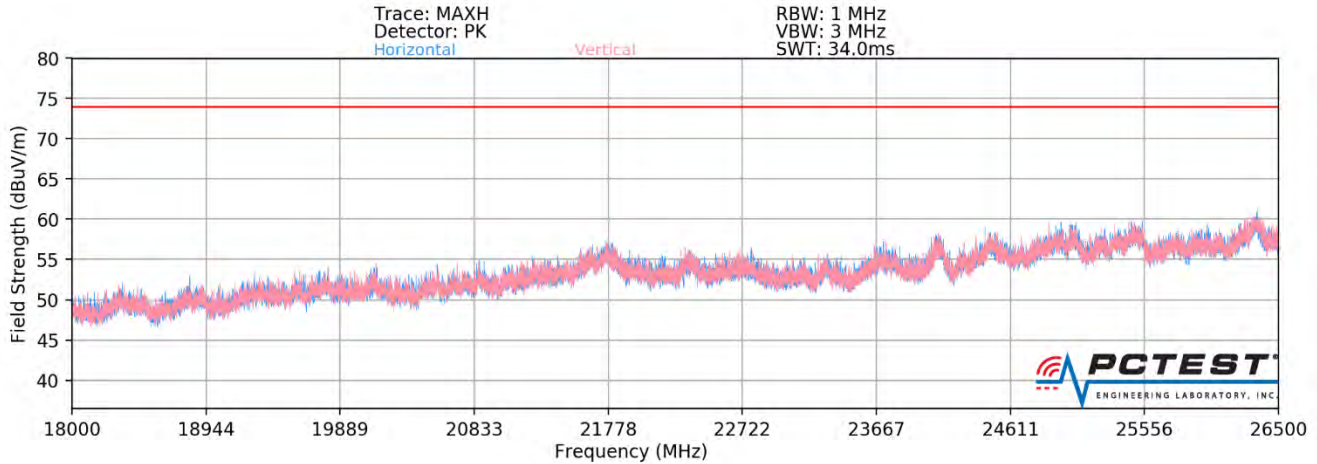
Plot 7-379. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U3 Ch. 157 – 106 Tones - OPEN)



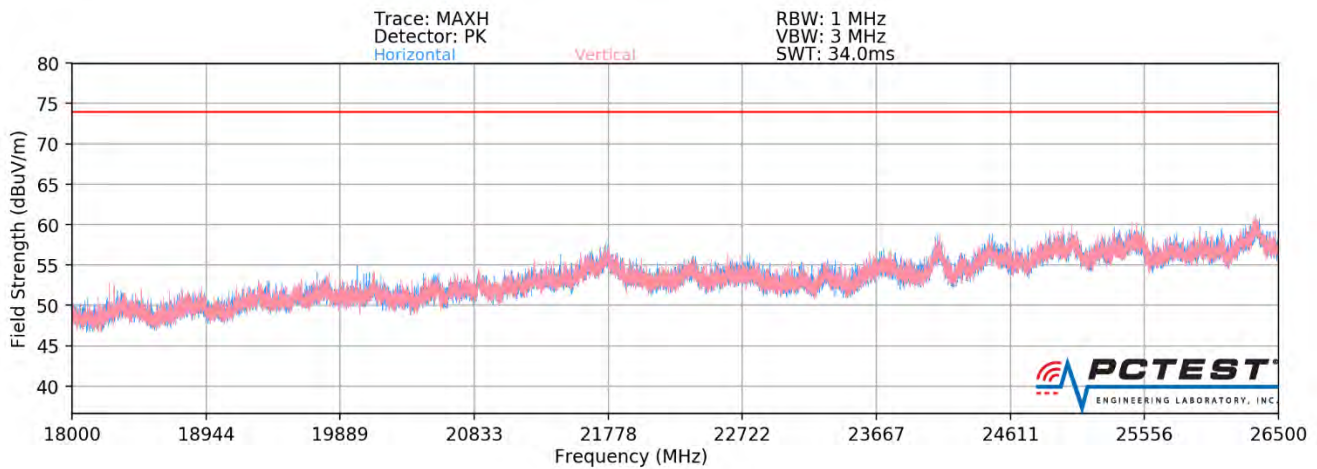
Plot 7-380. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U3 Ch. 157 – 106 Tones - CLOSED)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 274 of 339

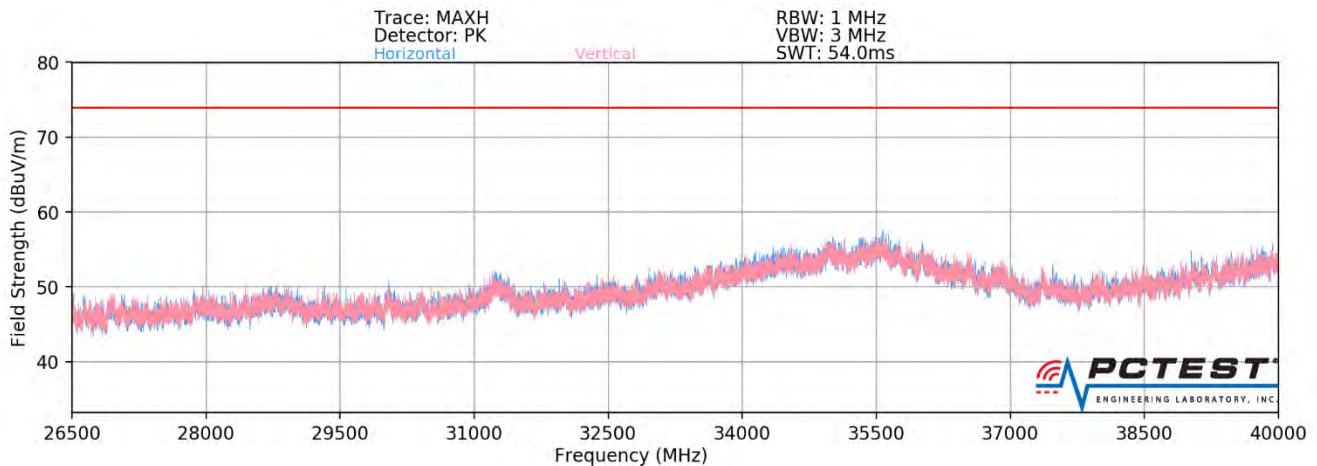
MIMO Radiated Spurious Emissions Measurements (Above 18GHz)



Plot 7-381. Radiated Spurious Plot above 18GHz - 26.5GHz MIMO (802.11ax - 106 Tones - OPEN)

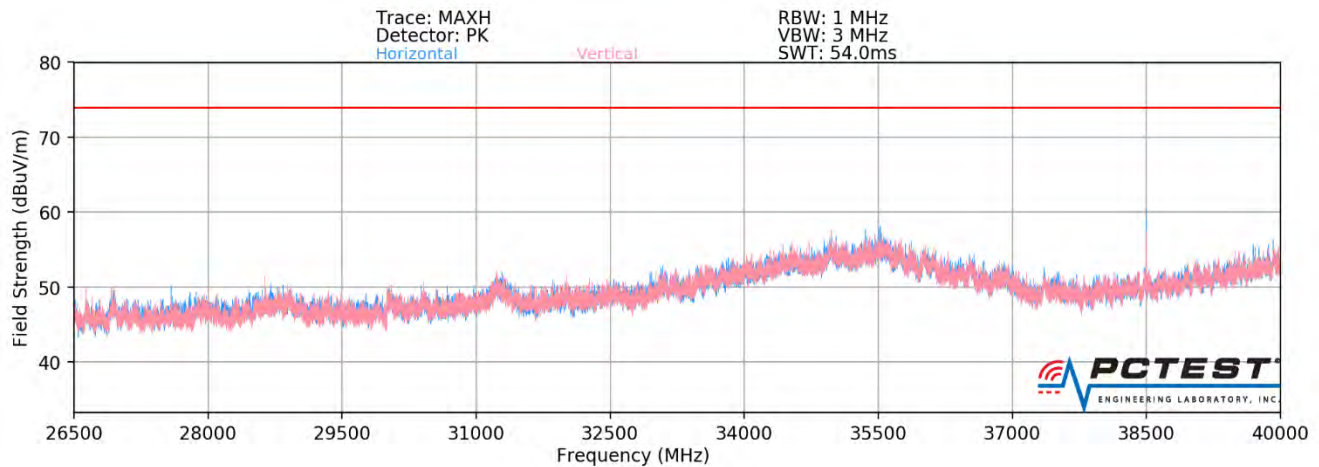


Plot 7-382. Radiated Spurious Plot above 18GHz - 26.5GHz MIMO (802.11ax - 106 Tones - CLOSED)



Plot 7-383. Radiated Spurious Plot 26.5GHz - 40GHz MIMO (802.11ax - 106 Tones - OPEN)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 275 of 339



Plot 7-384. Radiated Spurious Plot 26.5GHz - 40GHz MIMO (802.11ax – 106 Tones – CLOSED)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)		SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset			Page 276 of 339

MIMO Radiated Spurious Emission Measurements (106 Tones)

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

Worst Case Mode: 802.11ax (20MHz BW)
Worst Case Transfer Rate: MCS0
RU Index: 54
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	-	-	-72.05	18.75	0.00	53.70	68.20	-14.50
* 15540.00	Average	H	-	-	-85.14	28.13	0.00	49.99	53.98	-3.99
* 15540.00	Peak	H	-	-	-74.47	28.13	0.00	60.66	73.98	-13.32
* 20720.00	Average	H	-	-	-78.09	17.17	-9.54	36.53	53.98	-17.45
* 20720.00	Peak	H	-	-	-66.43	17.17	-9.54	48.19	73.98	-25.79
25900.00	Peak	H	-	-	-65.31	19.93	-9.54	52.07	68.20	-16.13

Table 7-121. Radiated Measurements MIMO (106 Tones - CLOSED)

Worst Case Mode: 802.11ax (20MHz BW)
Worst Case Transfer Rate: MCS0
RU Index: 54
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	-	-	-72.21	19.45	0.00	54.24	68.20	-13.96
* 15600.00	Average	H	-	-	-85.07	27.65	0.00	49.58	53.98	-4.40
* 15600.00	Peak	H	-	-	-73.90	27.65	0.00	60.75	73.98	-13.23
* 20800.00	Average	H	-	-	-78.13	17.65	-9.54	36.98	53.98	-17.00
* 20800.00	Peak	H	-	-	-66.85	17.65	-9.54	48.26	73.98	-25.72
26000.00	Peak	H	-	-	-66.85	20.68	-9.54	51.29	68.20	-16.91

Table 7-122. Radiated Measurements MIMO (106 Tones - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 277 of 339

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 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	-	-	-72.74	19.76	0.00	54.02	68.20	-14.18
* 15720.00	Average	H	-	-	-84.97	27.55	0.00	49.58	53.98	-4.40
* 15720.00	Peak	H	-	-	-73.69	27.55	0.00	60.86	73.98	-13.12
* 20960.00	Average	H	-	-	-77.98	17.53	-9.54	37.01	53.98	-16.97
* 20960.00	Peak	H	-	-	-66.95	17.53	-9.54	48.04	73.98	-25.94
* 26200.00	Peak	H	-	-	-65.37	20.23	-9.54	52.32	68.20	-15.88

Table 7-123. Radiated Measurements MIMO (106 Tones - CLOSED)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 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	-	-	-72.35	19.25	0.00	53.90	68.20	-14.30
* 15780.00	Average	H	-	-	-84.68	27.22	0.00	49.54	53.98	-4.44
* 15780.00	Peak	H	-	-	-73.52	27.22	0.00	60.70	73.98	-13.28
* 21040.00	Average	H	-	-	-77.86	17.48	-9.54	37.07	53.98	-16.91
* 21040.00	Peak	H	-	-	-67.07	17.48	-9.54	47.86	73.98	-26.12
* 26300.00	Peak	H	-	-	-64.69	20.33	-9.54	53.10	68.20	-15.10

Table 7-124. Radiated Measurements MIMO (106 Tones - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 278 of 339

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 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	-	-	-71.71	19.37	0.00	54.66	68.20	-13.54
* 15840.00	Average	H	-	-	-84.77	27.28	0.00	49.51	53.98	-4.47
* 15840.00	Peak	H	-	-	-73.59	27.28	0.00	60.69	73.98	-13.29
* 21120.00	Average	H	-	-	-77.59	17.27	-9.54	37.13	53.98	-16.84
* 21120.00	Peak	H	-	-	-66.34	17.27	-9.54	48.38	73.98	-25.59
26400.00	Peak	H	-	-	-64.95	20.27	-9.54	52.78	68.20	-15.42

Table 7-125. Radiated Measurements MIMO (106 Tones - CLOSED)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 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	-	-	-83.28	20.07	0.00	43.79	53.98	-10.19
* 10640.00	Peak	H	-	-	-71.63	20.07	0.00	55.44	73.98	-18.54
* 15960.00	Average	H	-	-	-84.75	27.42	0.00	49.67	53.98	-4.31
* 15960.00	Peak	H	-	-	-73.65	27.42	0.00	60.77	73.98	-13.21
* 21280.00	Average	H	-	-	-77.40	17.58	-9.54	37.64	53.98	-16.34
* 21280.00	Peak	H	-	-	-66.45	17.58	-9.54	48.59	73.98	-25.39
26600.00	Peak	H	-	-	-52.50	3.11	-9.54	48.07	68.20	-20.13

Table 7-126. Radiated Measurements MIMO (106 Tones - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 279 of 339

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 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	-	-	-84.11	20.71	0.00	43.60	53.98	-10.38
* 11000.00	Peak	H	-	-	-73.25	20.71	0.00	54.46	73.98	-19.52
16500.00	Peak	H	-	-	-72.56	28.80	0.00	63.24	68.20	-4.96
22000.00	Peak	H	-	-	-66.50	18.05	-9.54	49.01	68.20	-19.19
27500.00	Peak	H	-	-	-50.06	2.08	-9.54	49.48	68.20	-18.72

Table 7-127. Radiated Measurements MIMO (106 Tones - CLOSED)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 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	-	-	-83.67	20.02	0.00	43.35	53.98	-10.63
* 11200.00	Peak	H	-	-	-72.22	20.02	0.00	54.80	73.98	-19.18
16800.00	Peak	H	-	-	-74.25	28.89	0.00	61.64	68.20	-6.56
* 22400.00	Average	H	-	-	-77.87	19.05	-9.54	38.64	53.98	-15.34
* 22400.00	Peak	H	-	-	-66.49	19.05	-9.54	50.02	73.98	-23.96
28000.00	Peak	H	-	-	-50.66	3.19	-9.54	49.98	68.20	-18.22

Table 7-128. Radiated Measurements MIMO (106 Tones - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 280 of 339

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 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	-	-	-84.19	20.76	0.00	43.57	53.98	-10.41
* 11440.00	Peak	H	-	-	-72.71	20.76	0.00	55.05	73.98	-18.93
17160.00	Peak	H	-	-	-74.20	29.65	0.00	62.45	68.20	-5.75
* 22880.00	Average	H	-	-	-78.15	18.60	-9.54	37.90	53.98	-16.08
* 22880.00	Peak	H	-	-	-66.70	18.60	-9.54	49.35	73.98	-24.63
28600.00	Peak	H	-	-	-49.84	1.74	-9.54	49.35	68.20	-18.85

Table 7-129. Radiated Measurements MIMO (106 Tones - CLOSED)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 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	-	-	-83.38	20.29	0.00	43.91	53.98	-10.07
* 11490.00	Peak	H	-	-	-72.39	20.29	0.00	54.90	73.98	-19.08
17235.00	Peak	H	-	-	-72.15	29.45	0.00	64.30	68.20	-3.90
* 22980.00	Average	H	-	-	-77.81	18.46	-9.54	38.11	53.98	-15.87
* 22980.00	Peak	H	-	-	-67.15	18.46	-9.54	48.77	73.98	-25.21
28725.00	Peak	H	-	-	-50.81	2.47	-9.54	49.12	68.20	-19.08

Table 7-130. Radiated Measurements MIMO (106 Tones - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 281 of 339

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 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	-	-	-83.51	20.87	0.00	44.36	53.98	-9.62
* 11570.00	Peak	H	-	-	-71.65	20.87	0.00	56.22	73.98	-17.76
17355.00	Peak	H	-	-	-73.73	29.88	0.00	63.15	68.20	-5.05
23140.00	Peak	H	-	-	-66.70	18.84	-9.54	49.60	68.20	-18.60
28925.00	Peak	H	-	-	-49.78	2.80	-9.54	50.48	68.20	-17.72

Table 7-131. Radiated Measurements MIMO (106 Tones - CLOSED)

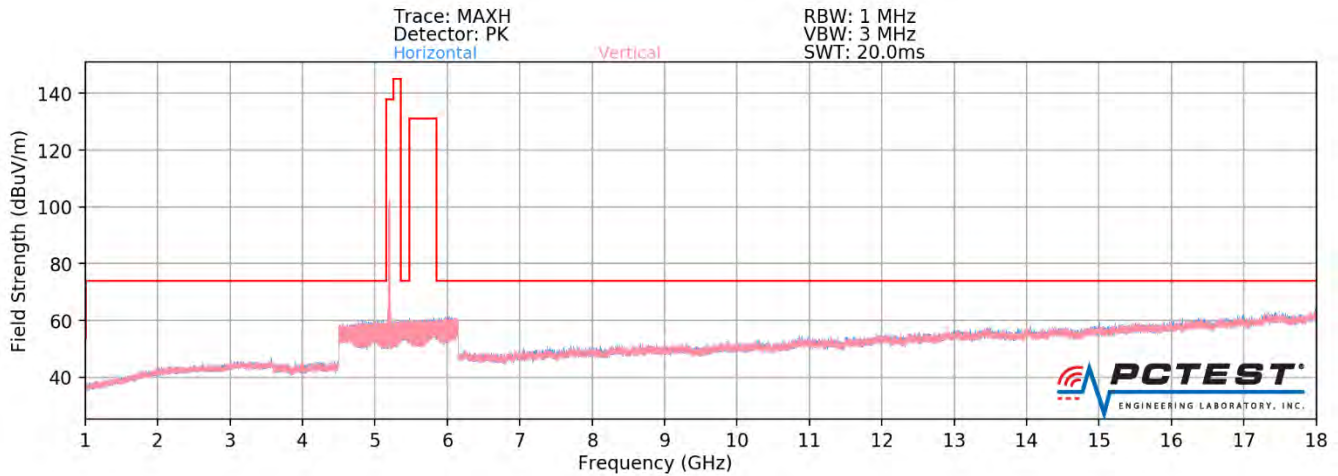
Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5825MHz
 Channel: 165

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	-	-	-83.42	21.73	0.00	45.31	53.98	-8.67
* 11650.00	Peak	H	-	-	-71.82	21.73	0.00	56.91	73.98	-17.07
17475.00	Peak	H	-	-	-73.01	30.16	0.00	64.15	68.20	-4.05
23300.00	Peak	H	-	-	-67.51	19.55	-9.54	49.49	68.20	-18.71
29125.00	Peak	H	-	-	-49.66	1.07	-9.54	48.87	68.20	-19.33

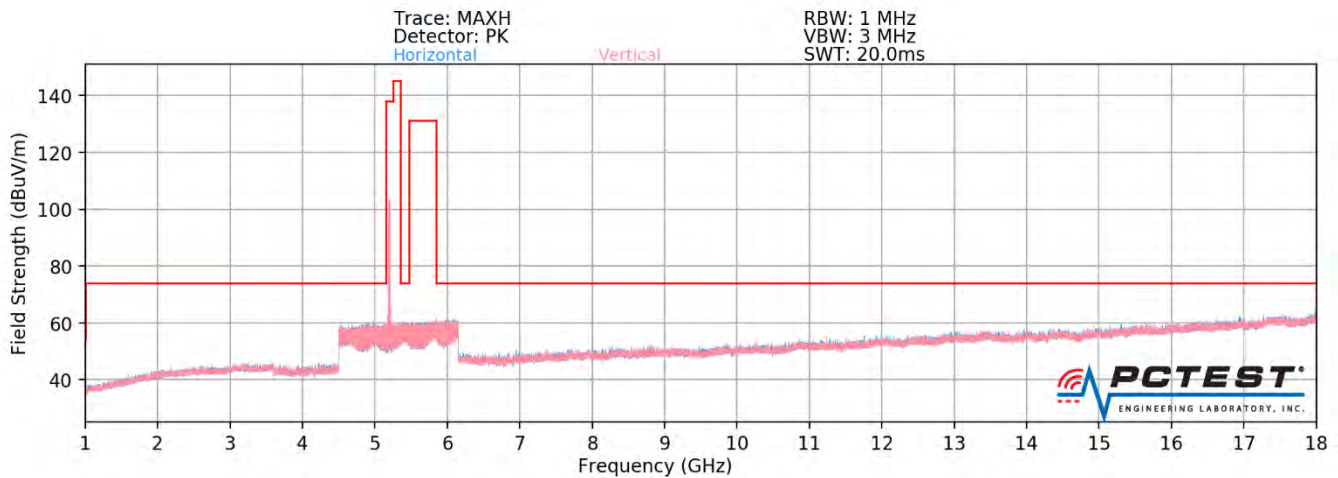
Table 7-132. Radiated Measurements MIMO (106 Tones - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 282 of 339

242 Tones

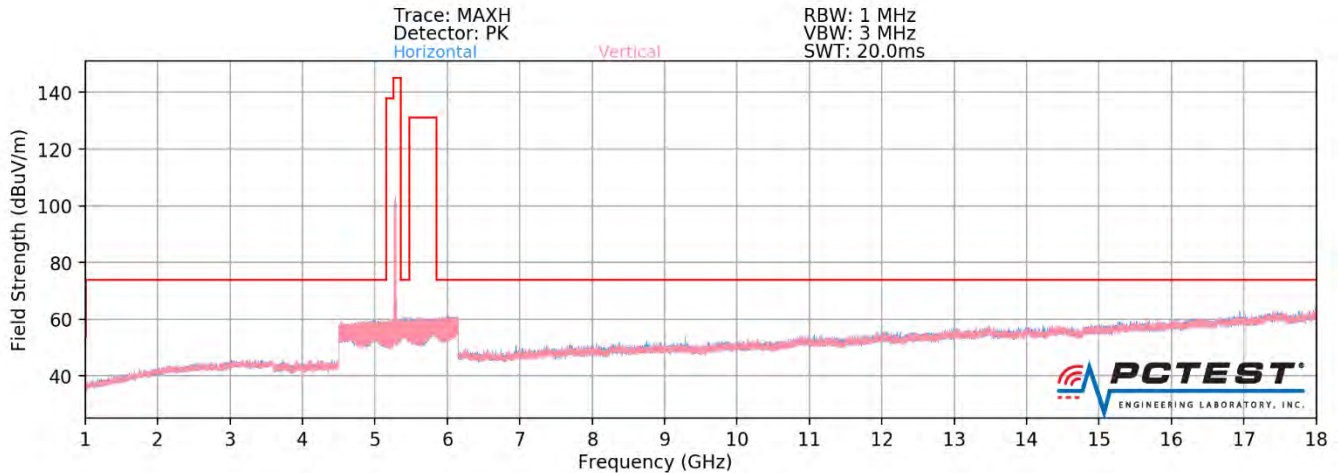


Plot 7-385. Radiated Spurious Plot above 1GHz MIMO (802.11ax - U1 Ch. 40 - 242 Tones - OPEN)

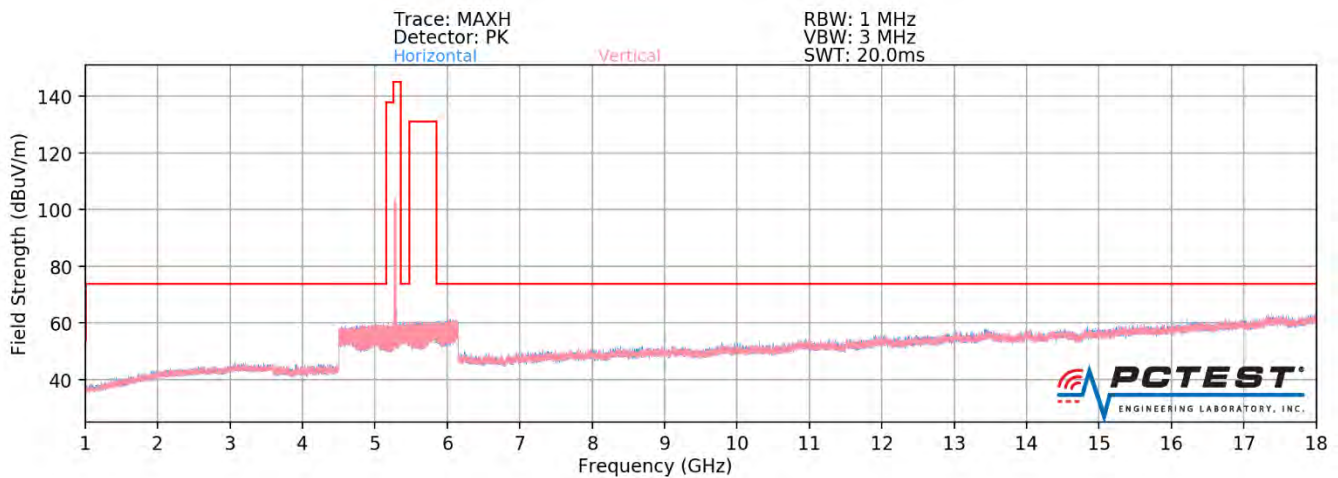


Plot 7-386. Radiated Spurious Plot above 1GHz MIMO (802.11ax - U1 Ch. 40 - 242 Tones - CLOSED)

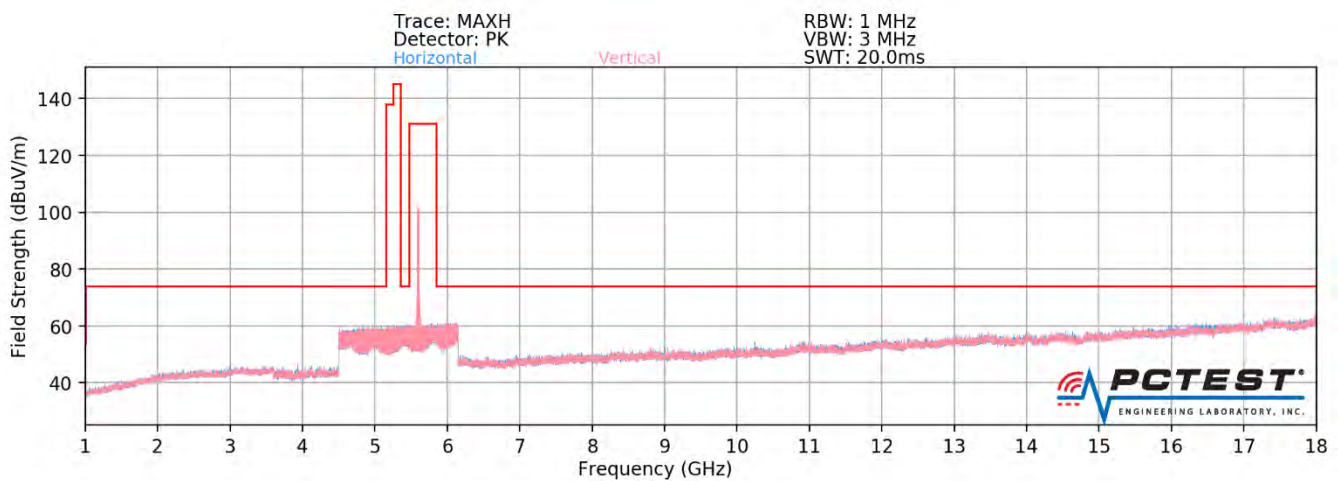
FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 283 of 339



Plot 7-387. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U2A Ch. 56 – 242 Tones – OPEN)

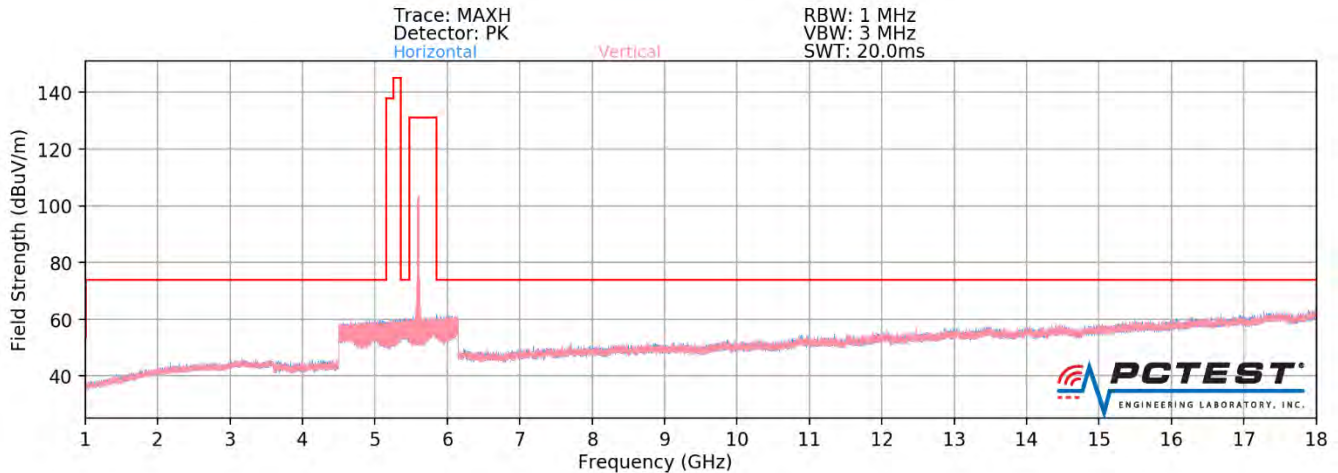


Plot 7-388. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U2A Ch. 56 – 242 Tones – CLOSED)

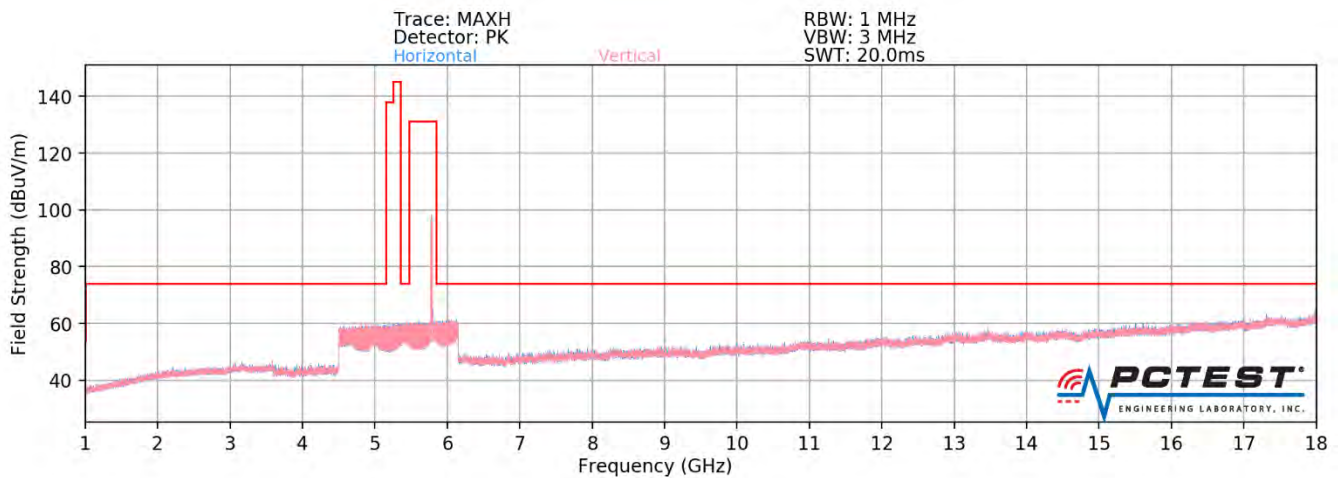


Plot 7-389. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U2C Ch. 120 – 242 Tones – OPEN)

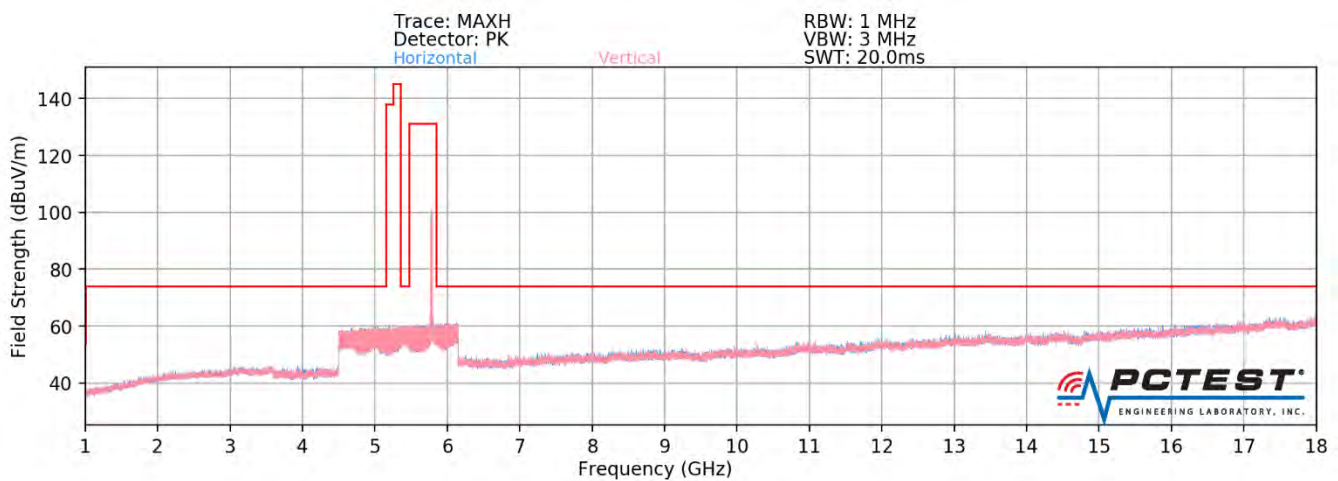
FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 284 of 339



Plot 7-390. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U2C Ch. 120 – 242 Tones – CLOSED)



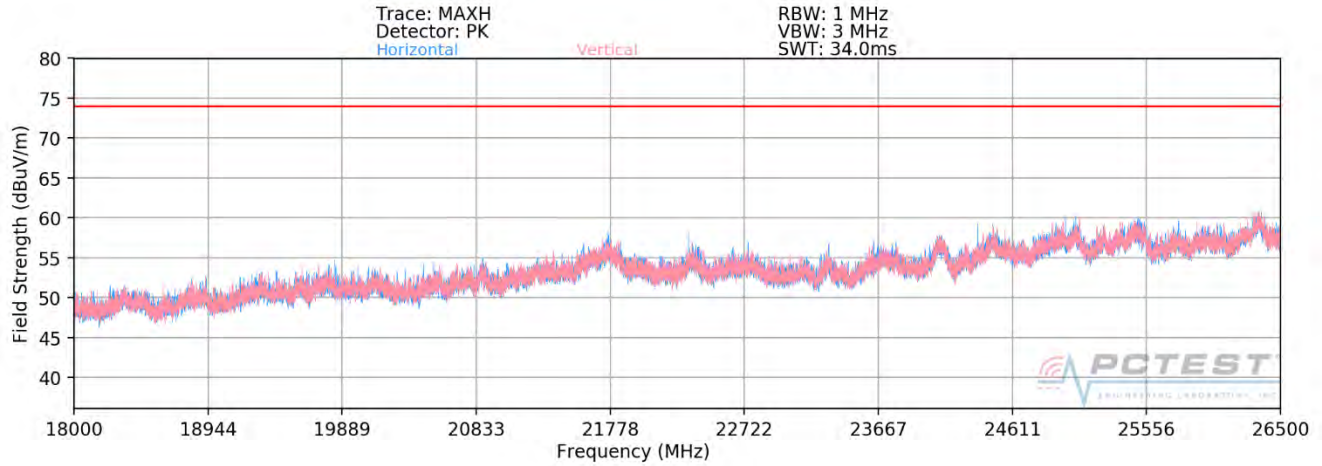
Plot 7-391. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U3 Ch. 157 – 242 Tones – OPEN)



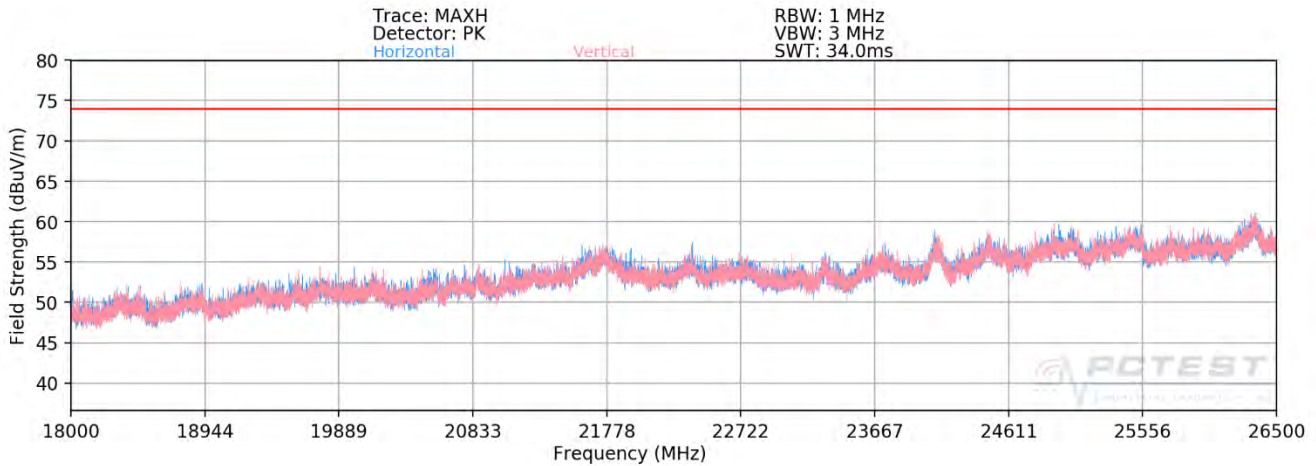
Plot 7-392. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U3 Ch. 157 – 242 Tones – CLOSED)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 285 of 339

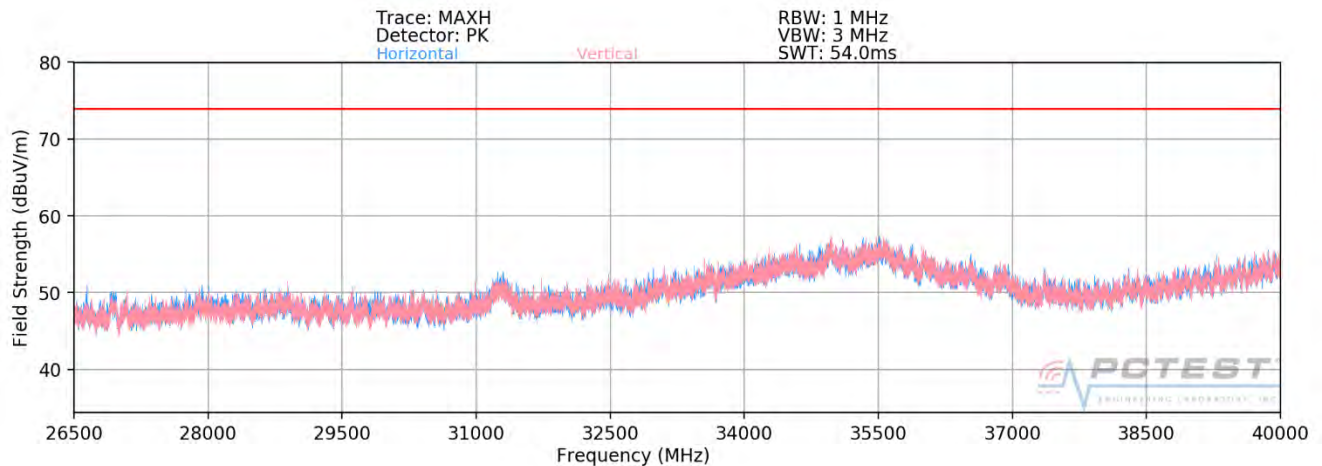
MIMO Radiated Spurious Emissions Measurements (Above 18GHz)



Plot 7-393. Radiated Spurious Plot above 18GHz - 26.5GHz MIMO (802.11ax - 242 Tones - OPEN)

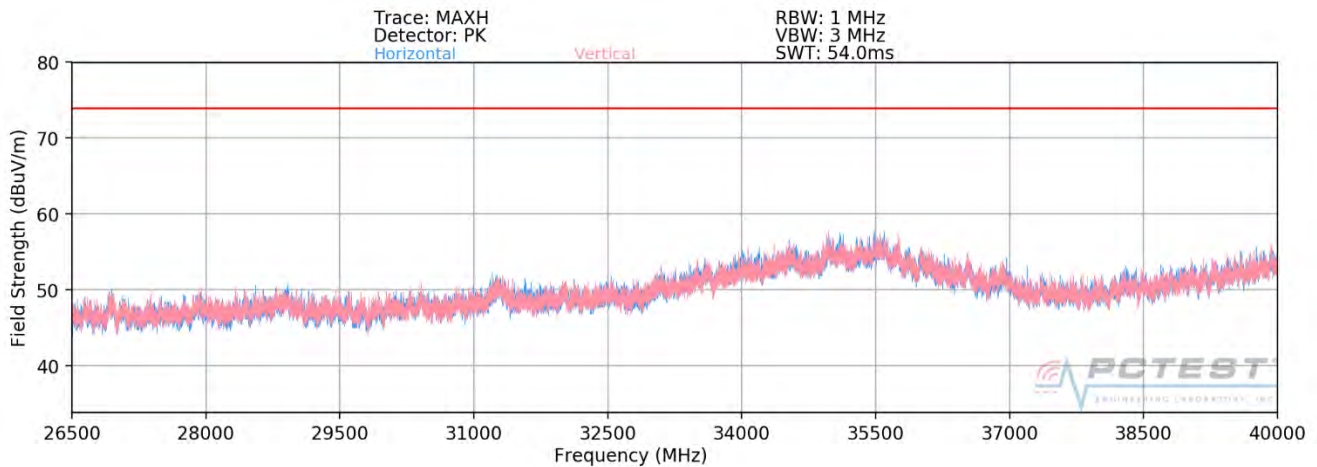


Plot 7-394. Radiated Spurious Plot above 18GHz - 26.5GHz MIMO (802.11ax - 242 Tones - CLOSED)



Plot 7-395. Radiated Spurious Plot 26.5GHz - 40GHz MIMO (802.11ax - 242 Tones - OPEN)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 286 of 339



Plot 7-396. Radiated Spurious Plot above 18GHz - 26.5GHz MIMO (802.11ax – 242 Tones – CLOSED)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 287 of 339

MIMO Radiated Spurious Emission Measurements (242 Tones)

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

Worst Case Mode: 802.11ax (20MHz BW)
Worst Case Transfer Rate: MCS0
RU Index: 61
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	-	-	-71.85	18.75	0.00	53.90	68.20	-14.30
* 15540.00	Average	H	-	-	-84.99	28.13	0.00	50.14	53.98	-3.84
* 15540.00	Peak	H	-	-	-73.71	28.13	0.00	61.42	73.98	-12.56
* 20720.00	Average	H	-	-	-77.98	17.17	-9.54	36.64	53.98	-17.34
* 20720.00	Peak	H	-	-	-67.01	17.17	-9.54	47.61	73.98	-26.37
25900.00	Peak	H	-	-	-66.65	19.93	-9.54	50.73	68.20	-17.47

Table 7-133. Radiated Measurements MIMO (242 Tones - CLOSED)

Worst Case Mode: 802.11ax (20MHz BW)
Worst Case Transfer Rate: MCS0
RU Index: 61
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	-	-	-72.15	19.45	0.00	54.30	68.20	-13.90
* 15600.00	Average	H	-	-	-84.76	27.65	0.00	49.89	53.98	-4.09
* 15600.00	Peak	H	-	-	-73.90	27.65	0.00	60.75	73.98	-13.23
* 20800.00	Average	H	-	-	-78.08	17.65	-9.54	37.03	53.98	-16.95
* 20800.00	Peak	H	-	-	-67.11	17.65	-9.54	48.00	73.98	-25.98
26000.00	Peak	H	-	-	-65.69	20.68	-9.54	52.45	68.20	-15.75

Table 7-134. Radiated Measurements MIMO (242 Tones - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 288 of 339

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 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	-	-	-71.86	19.76	0.00	54.90	68.20	-13.30
* 15720.00	Average	H	-	-	-84.84	27.55	0.00	49.71	53.98	-4.27
* 15720.00	Peak	H	-	-	-73.55	27.55	0.00	61.00	73.98	-12.98
* 20960.00	Average	H	-	-	-77.96	17.53	-9.54	37.03	53.98	-16.95
* 20960.00	Peak	H	-	-	-67.21	17.53	-9.54	47.78	73.98	-26.20
* 26200.00	Peak	H	-	-	-67.06	20.23	-9.54	50.63	68.20	-17.57

Table 7-135. Radiated Measurements MIMO (242 Tones - CLOSED)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 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	-	-	-72.70	19.25	0.00	53.55	68.20	-14.65
* 15780.00	Average	H	-	-	-84.86	27.22	0.00	49.36	53.98	-4.62
* 15780.00	Peak	H	-	-	-73.79	27.22	0.00	60.43	73.98	-13.55
* 21040.00	Average	H	-	-	-78.01	17.48	-9.54	36.92	53.98	-17.06
* 21040.00	Peak	H	-	-	-67.21	17.48	-9.54	47.72	73.98	-26.26
* 26300.00	Peak	H	-	-	-65.32	20.33	-9.54	52.47	68.20	-15.73

Table 7-136. Radiated Measurements MIMO (242 Tones - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 289 of 339

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 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	-	-	-72.24	19.37	0.00	54.13	68.20	-14.07
* 15840.00	Average	H	-	-	-84.48	27.28	0.00	49.80	53.98	-4.18
* 15840.00	Peak	H	-	-	-73.53	27.28	0.00	60.75	73.98	-13.23
* 21120.00	Average	H	-	-	-77.76	17.27	-9.54	36.96	53.98	-17.01
* 21120.00	Peak	H	-	-	-66.83	17.27	-9.54	47.89	73.98	-26.08
* 26400.00	Peak	H	-	-	-66.12	20.27	-9.54	51.61	68.20	-16.59

Table 7-137. Radiated Measurements MIMO (242 Tones - CLOSED)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 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	-	-	-83.05	20.07	0.00	44.02	53.98	-9.96
* 10640.00	Peak	H	-	-	-71.69	20.07	0.00	55.38	73.98	-18.60
* 15960.00	Average	H	-	-	-84.87	27.42	0.00	49.55	53.98	-4.43
* 15960.00	Peak	H	-	-	-73.10	27.42	0.00	61.32	73.98	-12.66
* 21280.00	Average	H	-	-	-77.33	17.58	-9.54	37.71	53.98	-16.27
* 21280.00	Peak	H	-	-	-66.41	17.58	-9.54	48.63	73.98	-25.35
* 26600.00	Peak	H	-	-	-52.74	3.11	-9.54	47.83	68.20	-20.37

Table 7-138. Radiated Measurements MIMO (242 Tones - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 290 of 339

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 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	-	-	-83.75	20.71	0.00	43.96	53.98	-10.02
* 11000.00	Peak	H	-	-	-72.17	20.71	0.00	55.54	73.98	-18.44
16500.00	Peak	H	-	-	-73.95	28.80	0.00	61.85	68.20	-6.35
22000.00	Peak	H	-	-	-66.38	18.05	-9.54	49.13	68.20	-19.07
27500.00	Peak	H	-	-	-50.57	2.08	-9.54	48.97	68.20	-19.23

Table 7-139. Radiated Measurements MIMO (242 Tones - CLOSED)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 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	-	-	-83.63	20.02	0.00	43.39	53.98	-10.59
* 11200.00	Peak	H	-	-	-72.58	20.02	0.00	54.44	73.98	-19.54
16800.00	Peak	H	-	-	-73.63	28.89	0.00	62.26	68.20	-5.94
* 22400.00	Average	H	-	-	-78.01	19.05	-9.54	38.50	53.98	-15.48
* 22400.00	Peak	H	-	-	-65.80	19.05	-9.54	50.71	73.98	-23.27
28000.00	Peak	H	-	-	-51.44	3.19	-9.54	49.20	68.20	-19.00

Table 7-140. Radiated Measurements MIMO (242 Tones - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 291 of 339

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 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	-	-	-83.86	20.76	0.00	43.90	53.98	-10.08
*	11440.00	Peak	H	-	-	-72.85	20.76	0.00	54.91	73.98	-19.07
	17160.00	Peak	H	-	-	-73.67	29.65	0.00	62.98	68.20	-5.22
*	22880.00	Average	H	-	-	-78.10	18.60	-9.54	37.95	53.98	-16.03
*	22880.00	Peak	H	-	-	-67.34	18.60	-9.54	48.71	73.98	-25.27
	28600.00	Peak	H	-	-	-49.19	1.74	-9.54	50.00	68.20	-18.20

Table 7-141. Radiated Measurements MIMO (242 Tones - CLOSED)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 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	-	-	-83.61	20.29	0.00	43.68	53.98	-10.30
*	11490.00	Peak	H	-	-	-72.53	20.29	0.00	54.76	73.98	-19.22
	17235.00	Peak	H	-	-	-73.42	29.45	0.00	63.03	68.20	-5.17
*	22980.00	Average	H	-	-	-77.77	18.46	-9.54	38.15	53.98	-15.83
*	22980.00	Peak	H	-	-	-67.03	18.46	-9.54	48.89	73.98	-25.09
	28725.00	Peak	H	-	-	-50.16	2.47	-9.54	49.77	68.20	-18.43

Table 7-142. Radiated Measurements MIMO (242 Tones - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 292 of 339

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 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	-	-	-83.45	20.87	0.00	44.42	53.98	-9.56
* 11570.00	Peak	H	-	-	-72.14	20.87	0.00	55.73	73.98	-18.25
17355.00	Peak	H	-	-	-72.97	29.88	0.00	63.91	68.20	-4.29
23140.00	Peak	H	-	-	-67.14	18.84	-9.54	49.16	68.20	-19.04
28925.00	Peak	H	-	-	-50.24	2.80	-9.54	50.02	68.20	-18.18

Table 7-143. Radiated Measurements MIMO (242 Tones - CLOSED)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 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	-	-	-83.24	21.73	0.00	45.49	53.98	-8.49
* 11650.00	Peak	H	-	-	-72.78	21.73	0.00	55.95	73.98	-18.03
17475.00	Peak	H	-	-	-73.17	30.16	0.00	63.99	68.20	-4.21
23300.00	Peak	H	-	-	-66.67	19.55	-9.54	50.33	68.20	-17.87
29125.00	Peak	H	-	-	-49.19	1.07	-9.54	49.34	68.20	-18.86

Table 7-144. Radiated Measurements MIMO (242 Tones - CLOSED)

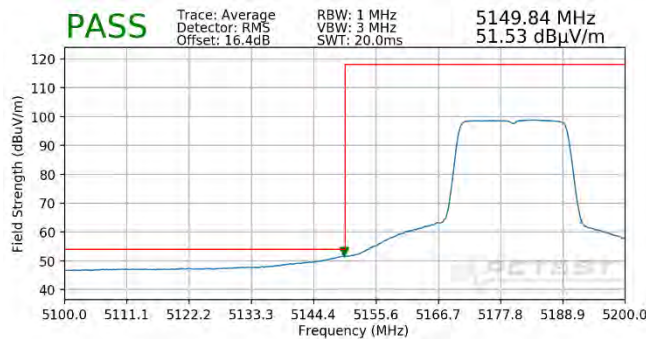
FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 293 of 339

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

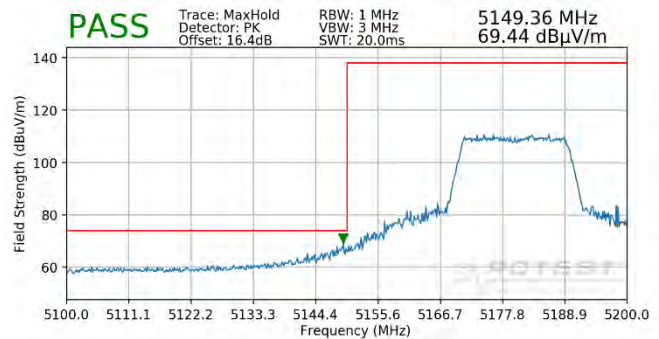
§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]; RSS-Gen [8.9]

242 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	5180MHz
Channel:	36

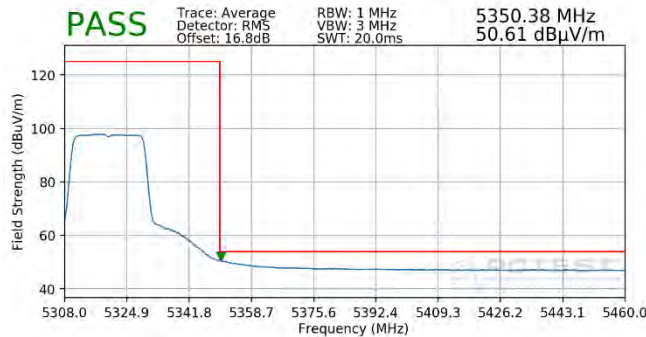


Plot 7-397. Radiated Lower Band Edge Plot SISO ANT1 (Average - UNII Band 1 - 242 Tones)

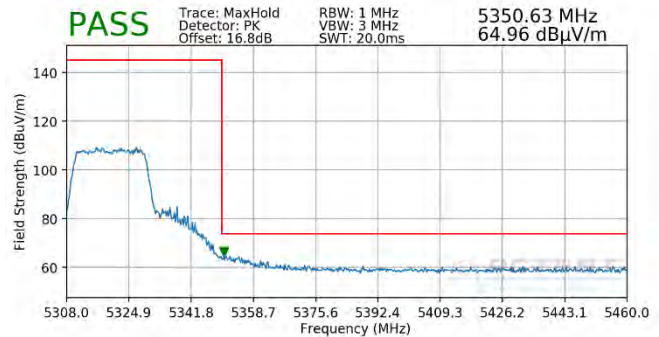


Plot 7-398. Radiated Lower Band Edge Plot SISO ANT1 (Peak - UNII Band 1 - 242 Tones)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	5320MHz
Channel:	64



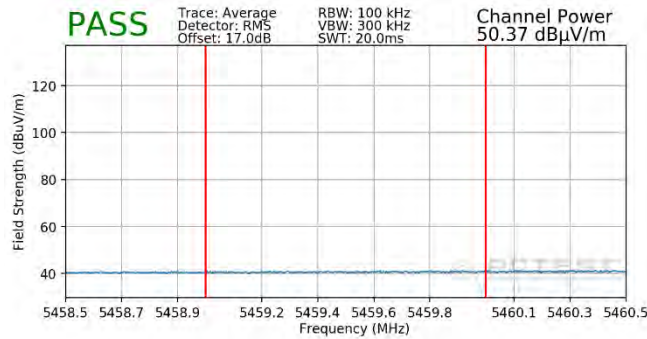
Plot 7-399. Radiated Upper Band Edge Plot SISO ANT1 (Average - UNII Band 2A - 242 Tones)



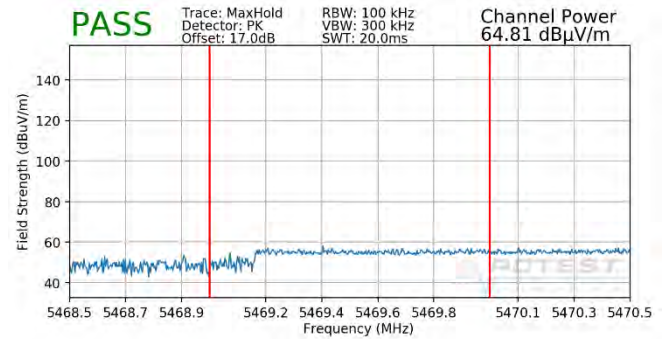
Plot 7-400. Radiated Upper Band Edge Plot SISO ANT1 (Peak - UNII Band 2A - 242 Tones)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 294 of 339

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 61
Distance of Measurements: 3 Meters
Operating Frequency: 5500MHz
Channel: 100

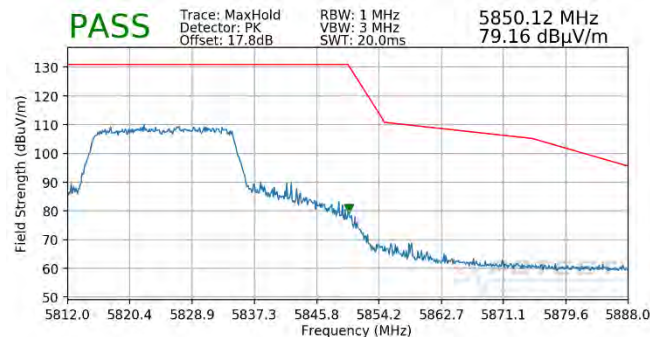


Plot 7-401. Radiated Lower Band Edge Plot SISO ANT1 (Average - UNII Band 2C - 242 Tones)



Plot 7-402. Radiated Lower Band Edge Plot SISO ANT1 (Peak - UNII Band 2C - 242 Tones)

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 61
Distance of Measurements: 3 Meters
Operating Frequency: 5825MHz
Channel: 165

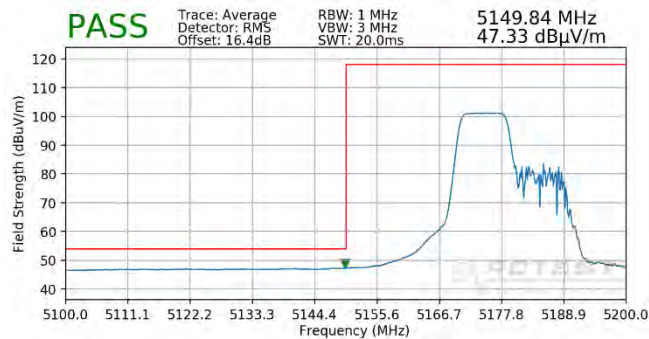


Plot 7-403. Radiated Upper Band Edge Plot SISO ANT1 (Peak - UNII Band 3 - 242 Tones)

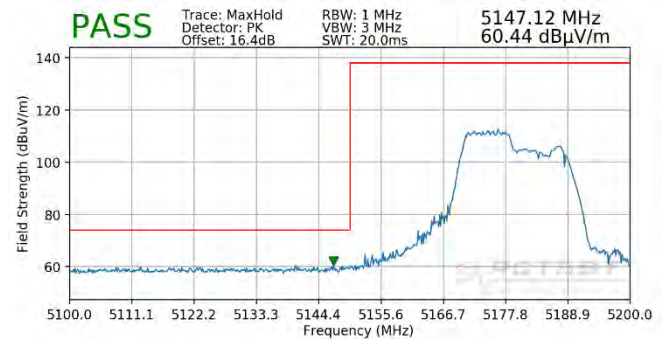
FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 295 of 339

106 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	53
Distance of Measurements:	3 Meters
Operating Frequency:	5180MHz
Channel:	36

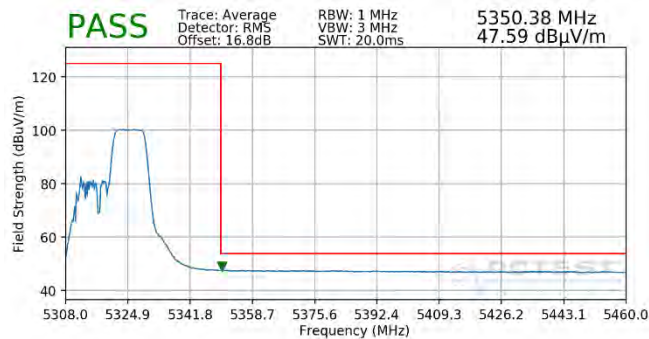


Plot 7-404. Radiated Lower Band Edge Plot SISO ANT1 (Average - UNII Band 1 - 106 Tones)

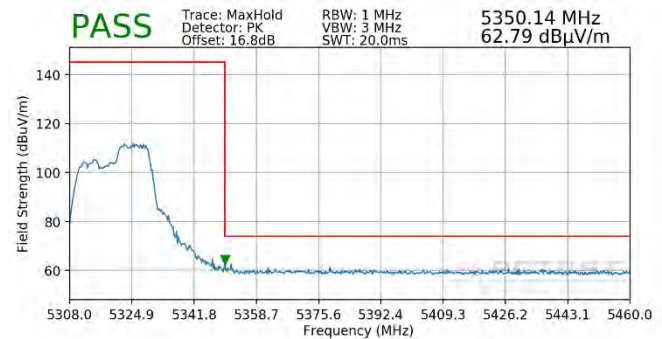


Plot 7-405. Radiated Lower Band Edge Plot SISO ANT1 (Peak - UNII Band 1 - 106 Tones)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	54
Distance of Measurements:	3 Meters
Operating Frequency:	5320MHz
Channel:	64



Plot 7-406. Radiated Upper Band Edge Plot SISO ANT1 (Average - UNII Band 2A - 106 Tones)



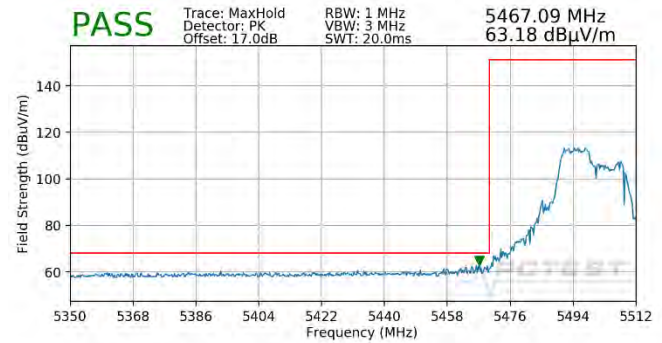
Plot 7-407. Radiated Upper Band Edge Plot SISO ANT1 (Peak - UNII Band 2A - 106 Tones)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 296 of 339

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 53
Distance of Measurements: 3 Meters
Operating Frequency: 5500MHz
Channel: 100

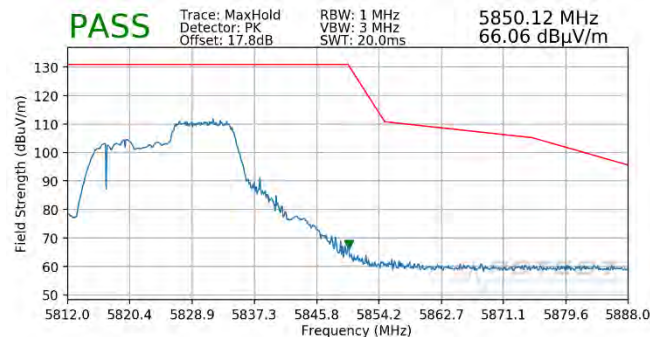


Plot 7-408. Radiated Lower Band Edge Plot SISO ANT1 (Average - UNII Band 2C - 106 Tones)



Plot 7-409. Radiated Lower Band Edge Plot SISO ANT1 (Peak - UNII Band 2C - 106 Tones)

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 54
Distance of Measurements: 3 Meters
Operating Frequency: 5825MHz
Channel: 165



Plot 7-410. Radiated Upper Band Edge Plot SISO ANT1 (Peak - UNII Band 3 - 106 Tones)

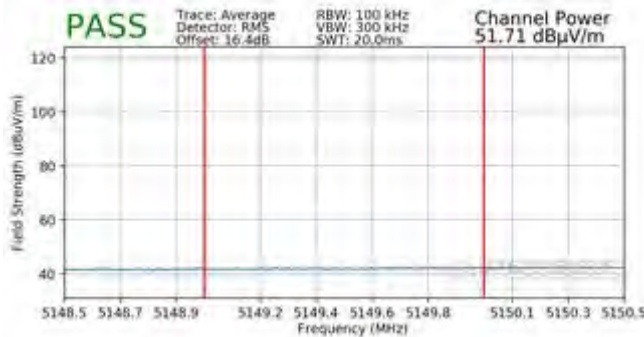
FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 297 of 339

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

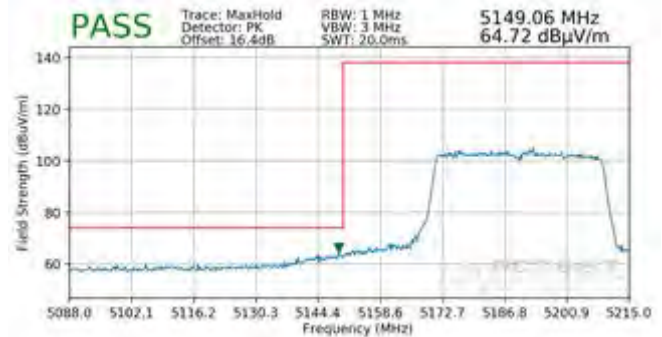
§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

484 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	65
Distance of Measurements:	3 Meters
Operating Frequency:	5190MHz
Channel:	38

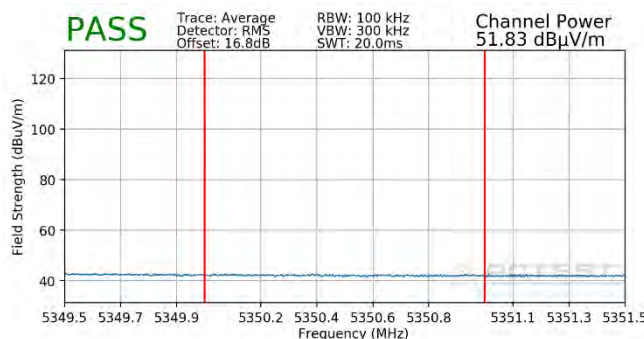


Plot 7-411. Radiated Lower Band Edge Plot SISO ANT1 (Average - UNII Band 1 - 484 Tones)

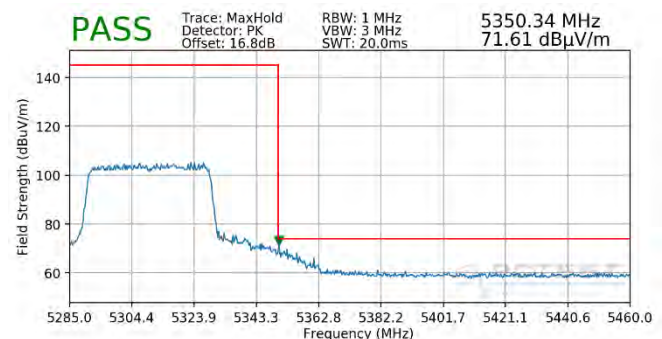


Plot 7-412. Radiated Lower Band Edge Plot SISO ANT1 (Peak - UNII Band 1 - 484 Tones)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	65
Distance of Measurements:	3 Meters
Operating Frequency:	5310MHz
Channel:	62



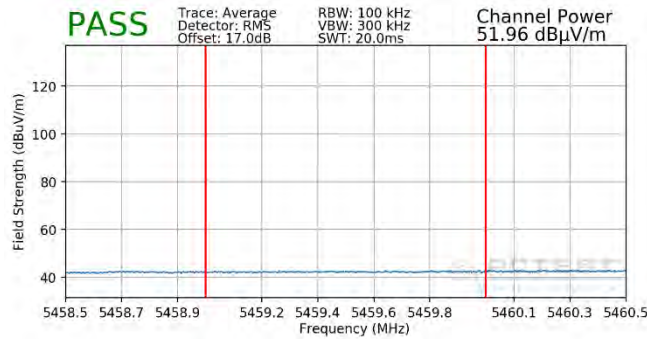
Plot 7-413. Radiated Upper Band Edge Plot SISO ANT1 (Average - UNII Band 2A - 484 Tones)



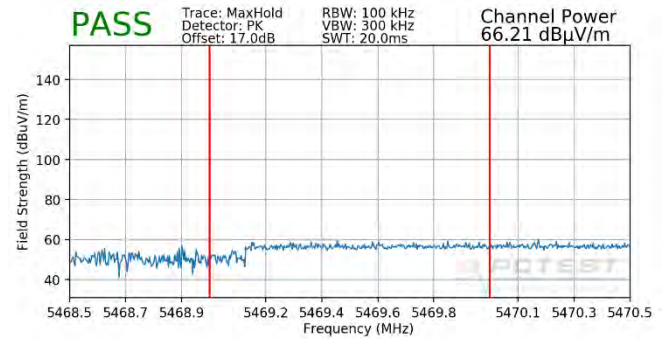
Plot 7-414. Radiated Upper Band Edge Plot SISO ANT1 (Peak - UNII Band 2A - 484 Tones)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 298 of 339

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 65
Distance of Measurements: 3 Meters
Operating Frequency: 5510MHz
Channel: 102

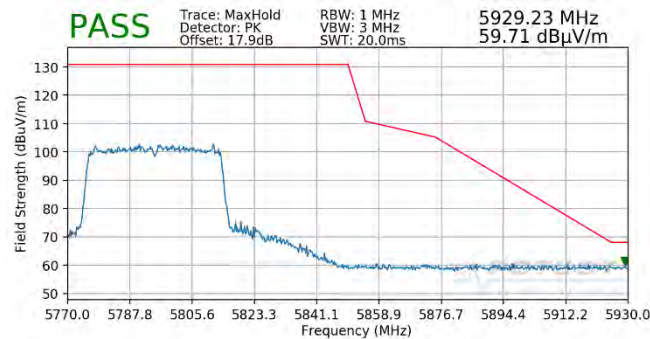


Plot 7-415. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 2C – 484 Tones)



Plot 7-416. Radiated Lower Band Edge Plot SISO ANT1 (Peak – UNII Band 2C – 484 Tones)

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 65
Distance of Measurements: 3 Meters
Operating Frequency: 5795MHz
Channel: 159

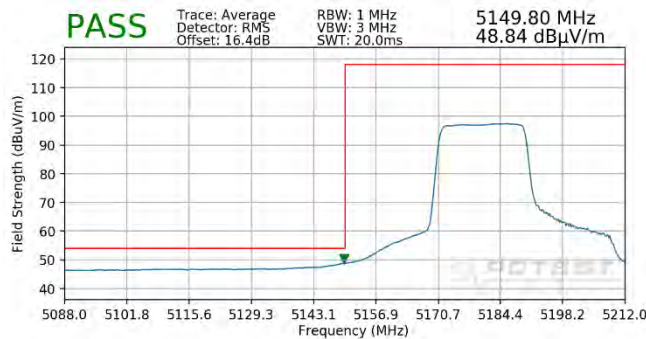


Plot 7-417. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 3 – 484 Tones)

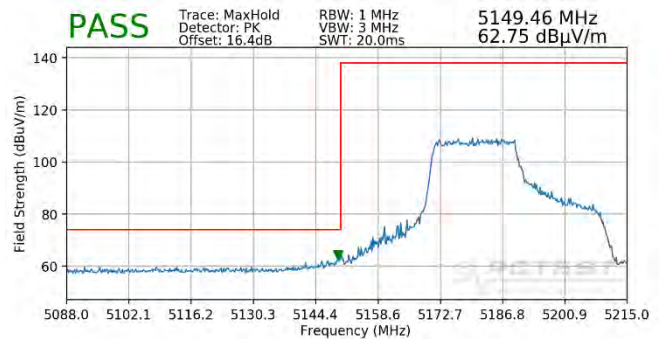
FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 299 of 339

242 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	5190MHz
Channel:	38

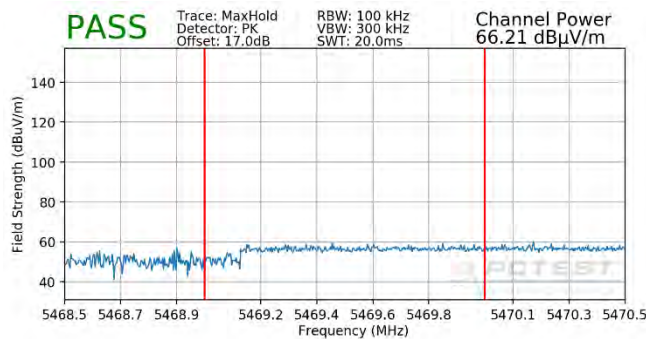


Plot 7-418. Radiated Lower Band Edge Plot SISO ANT1 (Average - UNII Band 1 - 242 Tones)

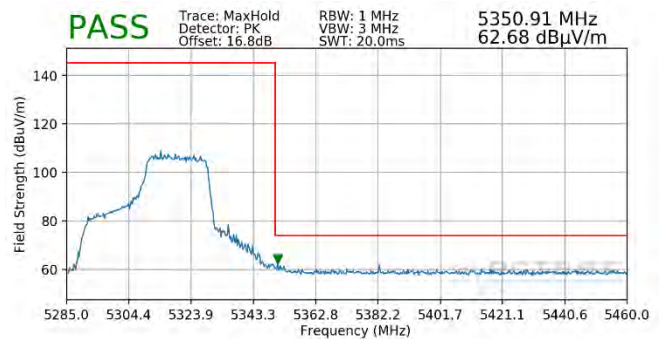


Plot 7-419. Radiated Lower Band Edge Plot SISO ANT1 (Peak - UNII Band 1 - 242 Tones)

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



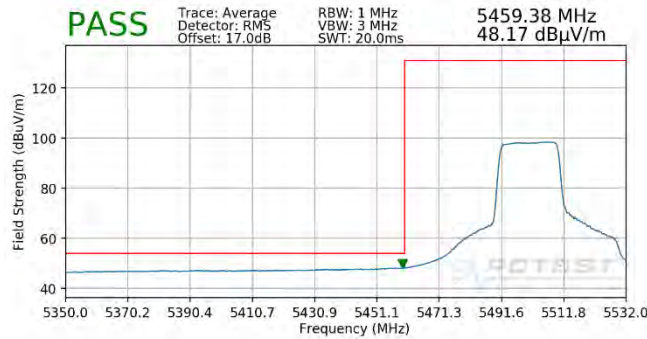
Plot 7-420. Radiated Upper Band Edge Plot SISO ANT1 (Average - UNII Band 2A - 242 Tones)



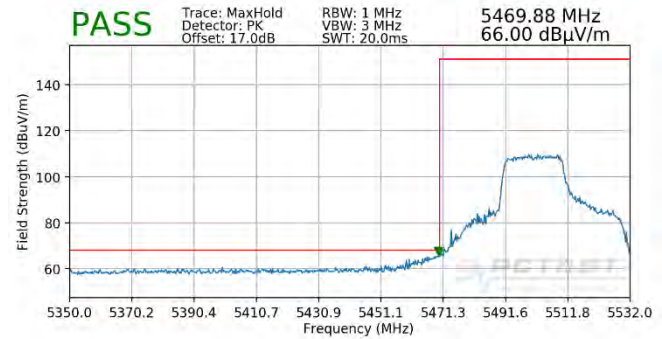
Plot 7-421. Radiated Upper Band Edge Plot SISO ANT1 (Peak - UNII Band 2A - 242 Tones)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 300 of 339

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 61
Distance of Measurements: 3 Meters
Operating Frequency: 5510MHz
Channel: 102

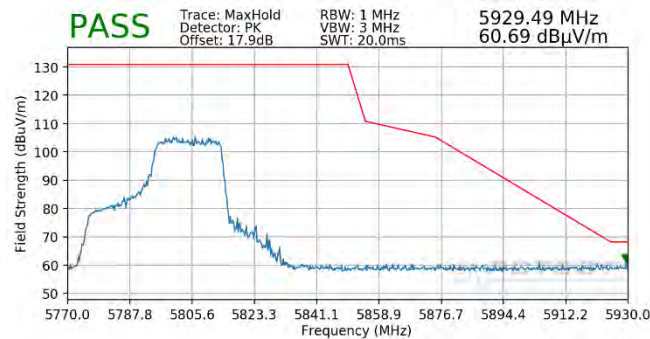


Plot 7-422. Radiated Lower Band Edge Plot SISO ANT1 (Average - UNII Band 2C - 242 Tones)



Plot 7-423. Radiated Lower Band Edge Plot SISO ANT1 (Peak - UNII Band 2C - 242 Tones)

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 62
Distance of Measurements: 3 Meters
Operating Frequency: 5795MHz
Channel: 159



Plot 7-424. Radiated Upper Band Edge Plot SISO ANT1 (Peak - UNII Band 3 - 242 Tones)

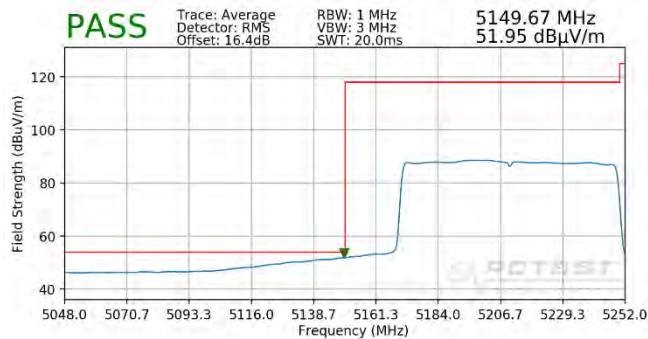
FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 301 of 339

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

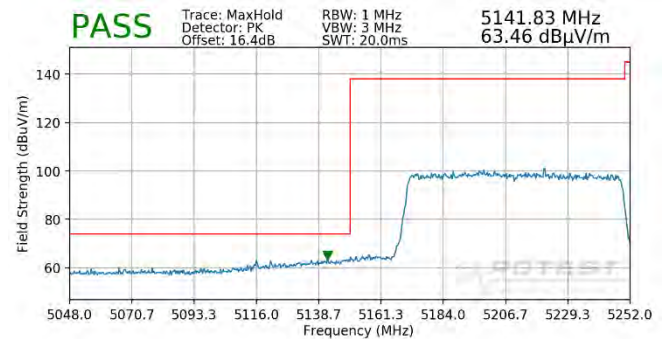
§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

996 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	67
Distance of Measurements:	3 Meters
Operating Frequency:	5210MHz
Channel:	42

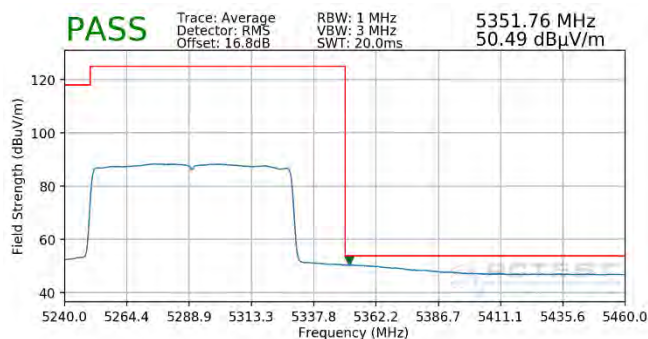


Plot 7-425. Radiated Lower Band Edge Plot SISO ANT1 (Average - UNII Band 1 - 996 Tones)

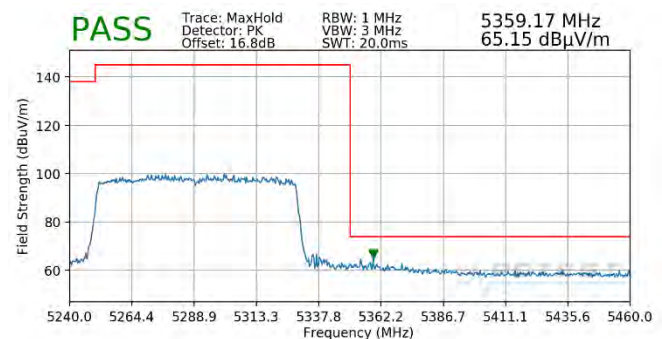


Plot 7-426. Radiated Lower Band Edge Plot SISO ANT1 (Peak - UNII Band 1 - 996 Tones)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	67
Distance of Measurements:	3 Meters
Operating Frequency:	5290MHz
Channel:	58



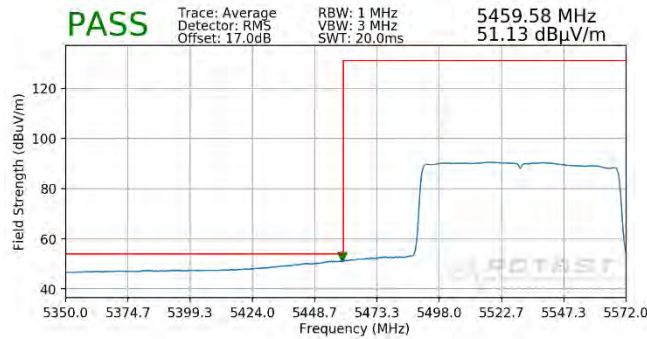
Plot 7-427. Radiated Upper Band Edge Plot SISO ANT1 (Average - UNII Band 2A - 996 Tones)



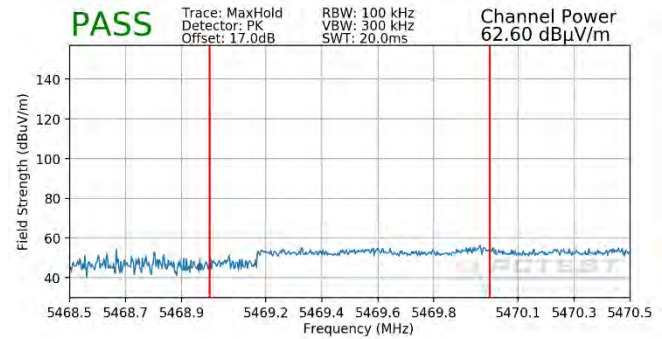
Plot 7-428. Radiated Upper Band Edge Plot SISO ANT1 (Peak - UNII Band 2A - 996 Tones)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 302 of 339

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 67
Distance of Measurements: 3 Meters
Operating Frequency: 5530MHz
Channel: 106

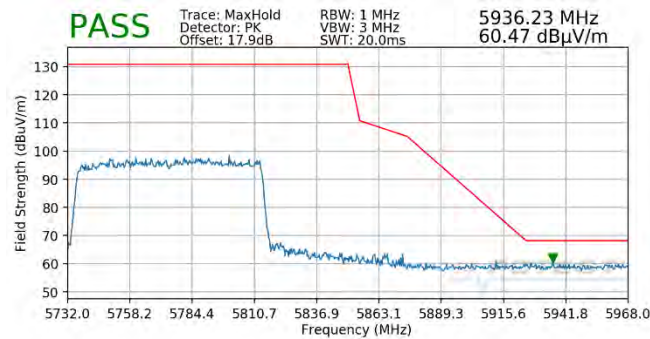


Plot 7-429. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 2C – 996 Tones)



Plot 7-430. Radiated Lower Band Edge Plot SISO ANT1 (Peak – UNII Band 2C – 996 Tones)

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 67
Distance of Measurements: 3 Meters
Operating Frequency: 5775MHz
Channel: 155

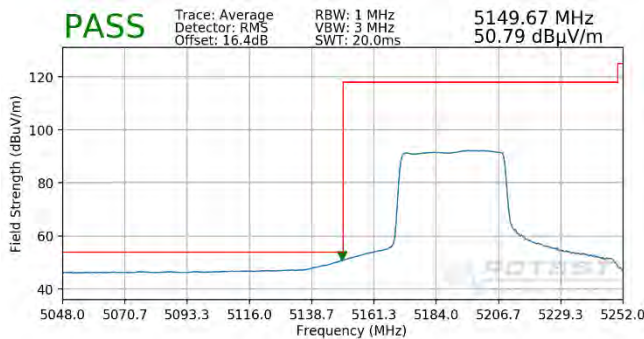


Plot 7-431. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 3 – 996 Tones)

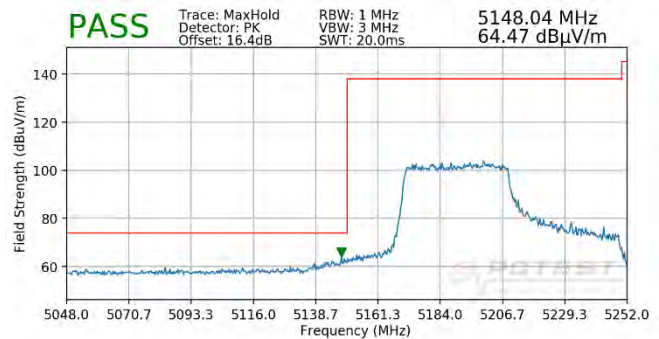
FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 303 of 339

484 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	65
Distance of Measurements:	3 Meters
Operating Frequency:	5210MHz
Channel:	42

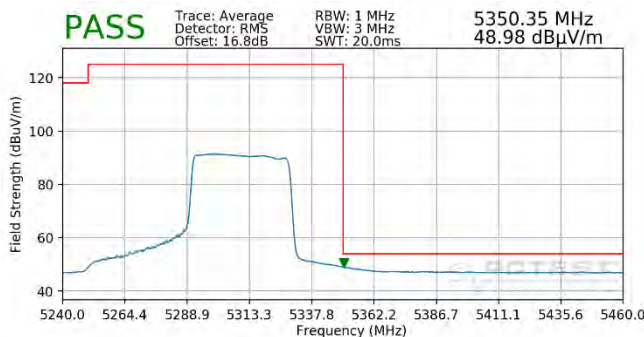


Plot 7-432. Radiated Lower Band Edge Plot SISO ANT1 (Average - UNII Band 1 - 484 Tones)

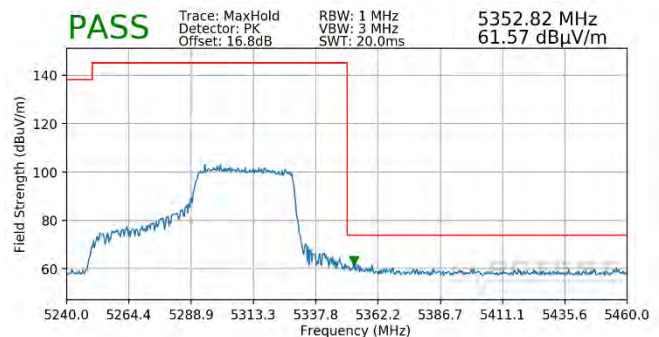


Plot 7-433. Radiated Lower Band Edge Plot SISO ANT1 (Peak - UNII Band 1 - 484 Tones)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	66
Distance of Measurements:	3 Meters
Operating Frequency:	5290MHz
Channel:	58



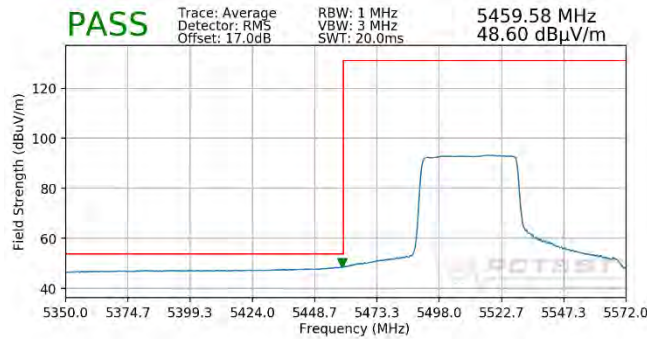
Plot 7-434. Radiated Upper Band Edge Plot SISO ANT1 (Average - UNII Band 2A - 484 Tones)



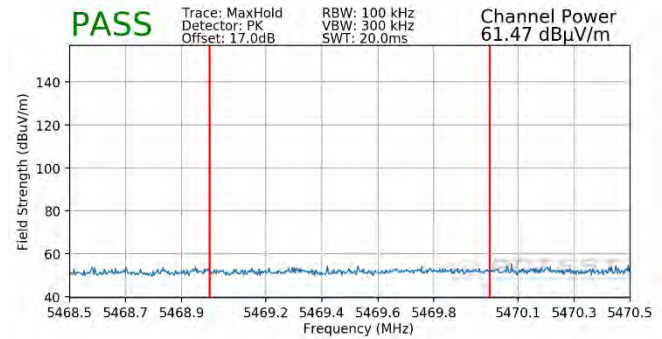
Plot 7-435. Radiated Upper Band Edge Plot SISO ANT1 (Peak - UNII Band 2A - 484 Tones)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 304 of 339

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 65
Distance of Measurements: 3 Meters
Operating Frequency: 5530MHz
Channel: 106

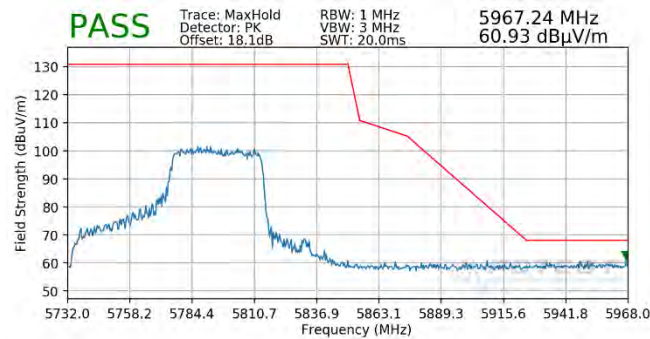


Plot 7-436. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 2C – 484 Tones)



Plot 7-437. Radiated Lower Band Edge Plot SISO ANT1 (Peak – UNII Band 2C – 484 Tones)

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 66
Distance of Measurements: 3 Meters
Operating Frequency: 5775MHz
Channel: 155



Plot 7-438. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 3 – 484 Tones)

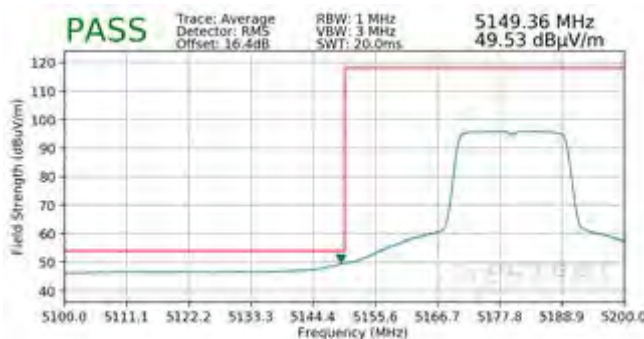
FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 305 of 339

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

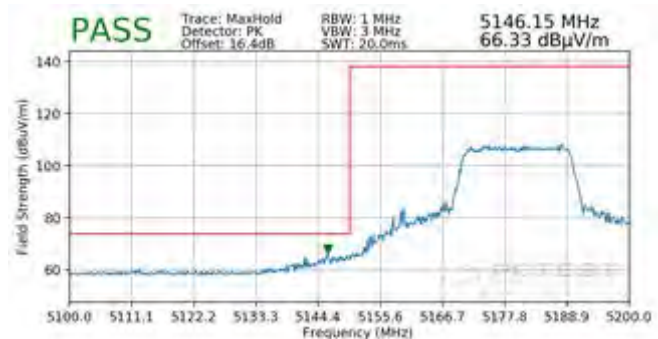
§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

242 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	5180MHz
Channel:	36

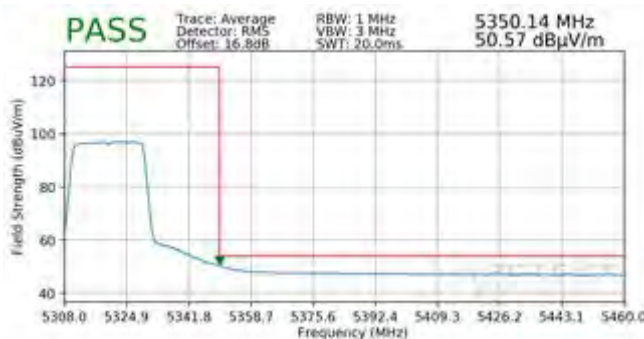


Plot 7-439. Radiated Lower Band Edge Plot SISO ANT2 (Average - UNII Band 1 - 242 Tones)

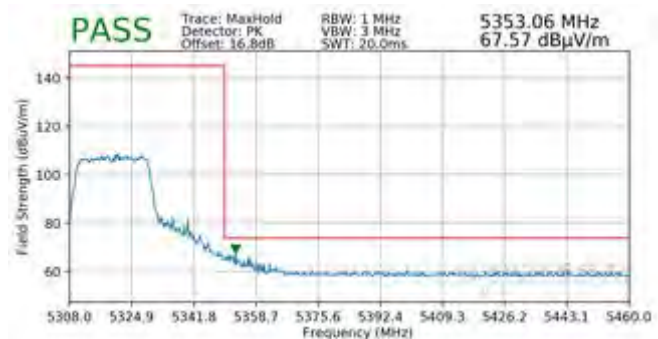


Plot 7-440. Radiated Lower Band Edge Plot SISO ANT2 (Peak - UNII Band 1 - 242 Tones)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	5320MHz
Channel:	64



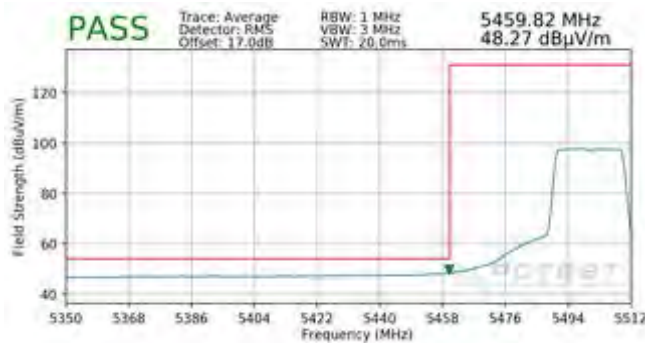
Plot 7-441. Radiated Upper Band Edge Plot SISO ANT2 (Average - UNII Band 2A - 242 Tones)



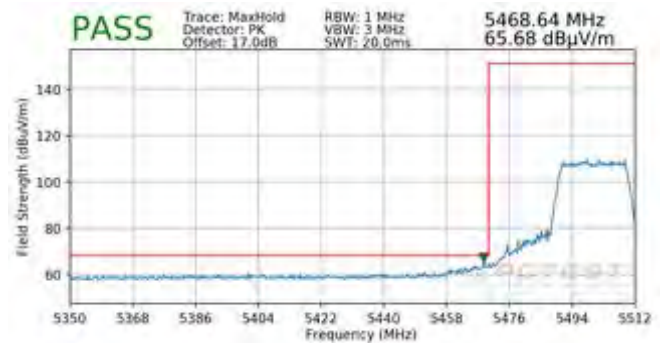
Plot 7-442. Radiated Upper Band Edge Plot SISO ANT2 (Peak - UNII Band 2A - 242 Tones)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 306 of 339

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 61
Distance of Measurements: 3 Meters
Operating Frequency: 5500MHz
Channel: 100

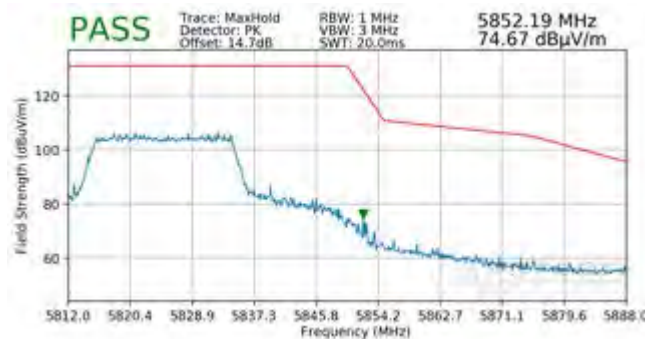


Plot 7-443. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 2C – 242 Tones)



Plot 7-444. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 2C – 242 Tones)

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 61
Distance of Measurements: 3 Meters
Operating Frequency: 5825MHz
Channel: 165

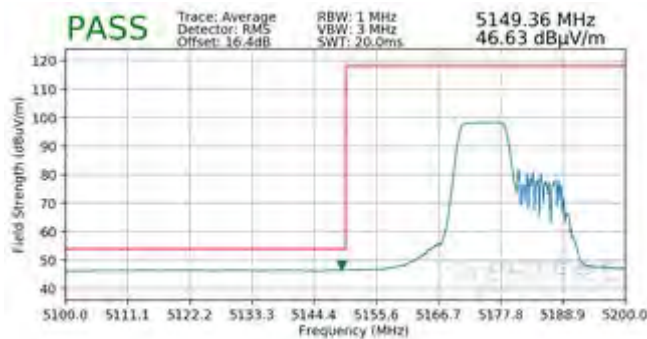


Plot 7-445. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 3 – 242 Tones)

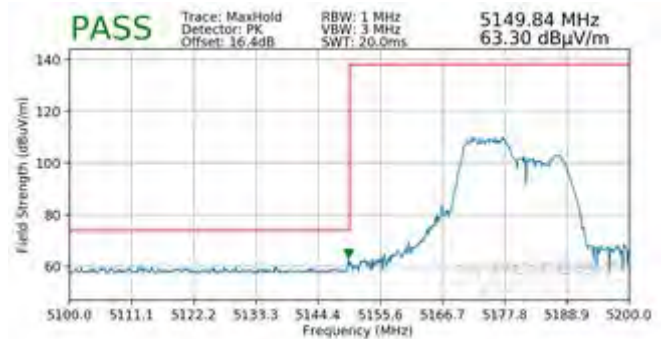
FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 307 of 339

106 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	53
Distance of Measurements:	3 Meters
Operating Frequency:	5180MHz
Channel:	36

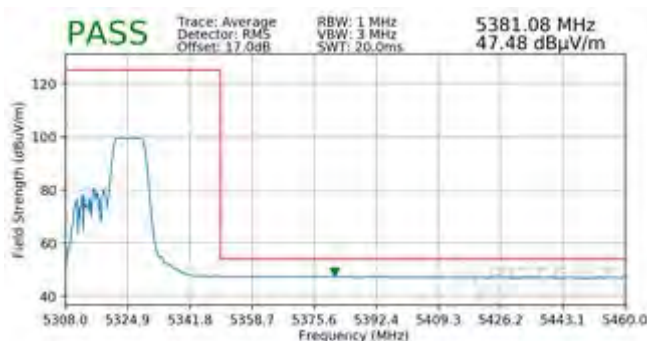


Plot 7-446. Radiated Lower Band Edge Plot SISO ANT2 (Average - UNII Band 1 - 106 Tones)

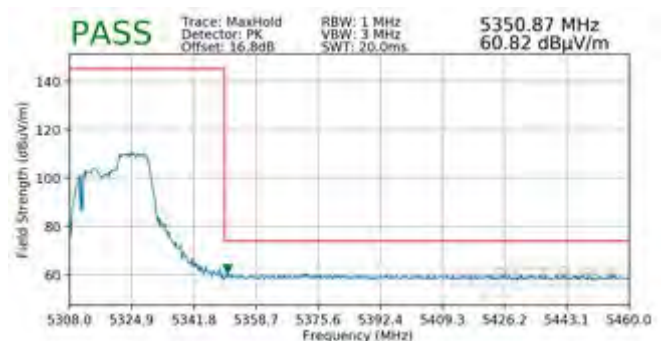


Plot 7-447. Radiated Lower Band Edge Plot SISO ANT2 (Peak - UNII Band 1 - 106 Tones)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	54
Distance of Measurements:	3 Meters
Operating Frequency:	5320MHz
Channel:	64



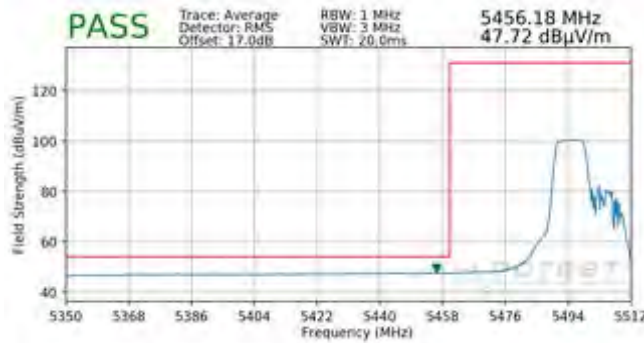
Plot 7-448. Radiated Upper Band Edge Plot SISO ANT2 (Average - UNII Band 2A - 106 Tones)



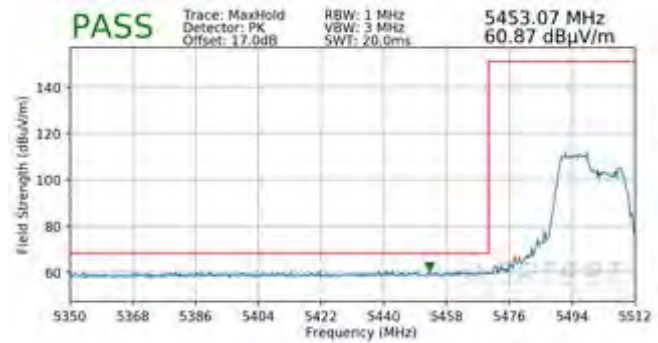
Plot 7-449. Radiated Upper Band Edge Plot SISO ANT2 (Peak - UNII Band 2A - 106 Tones)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 308 of 339

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 53
Distance of Measurements: 3 Meters
Operating Frequency: 5500MHz
Channel: 100

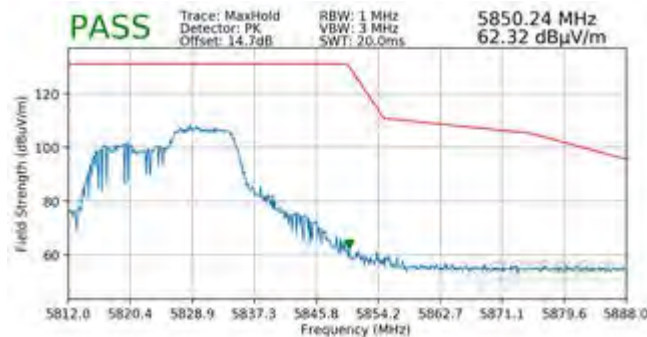


Plot 7-450. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 2C – 106 Tones)



Plot 7-451. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 2C – 106 Tones)

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 54
Distance of Measurements: 3 Meters
Operating Frequency: 5825MHz
Channel: 165



Plot 7-452. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 3 – 106 Tones)

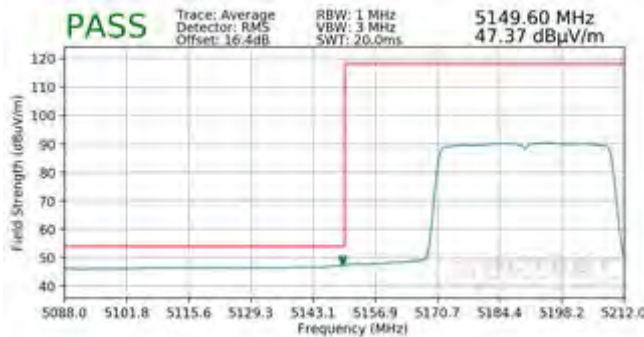
FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 309 of 339

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

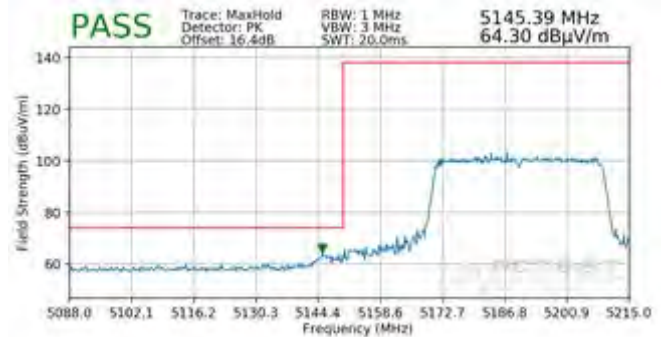
§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

484 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	65
Distance of Measurements:	3 Meters
Operating Frequency:	5190MHz
Channel:	38

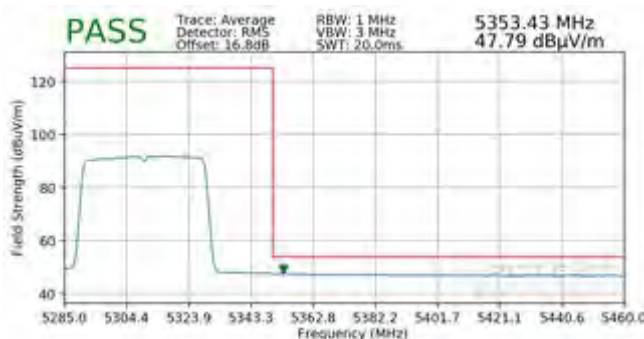


Plot 7-453. Radiated Lower Band Edge Plot SISO ANT2 (Average - UNII Band 1 - 484 Tones)

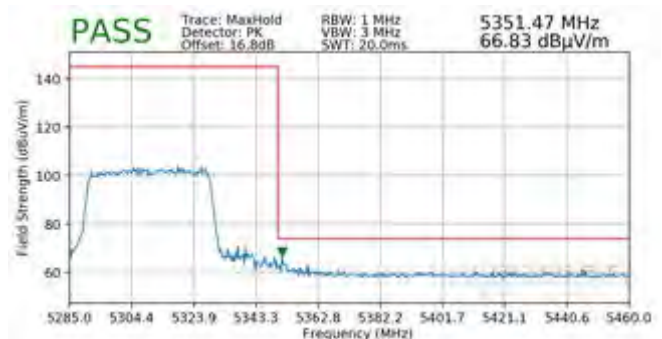


Plot 7-454. Radiated Lower Band Edge Plot SISO ANT2 (Peak - UNII Band 1 - 484 Tones)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	65
Distance of Measurements:	3 Meters
Operating Frequency:	5310MHz
Channel:	62



Plot 7-455. Radiated Upper Band Edge Plot SISO ANT2 (Average - UNII Band 2A - 484 Tones)



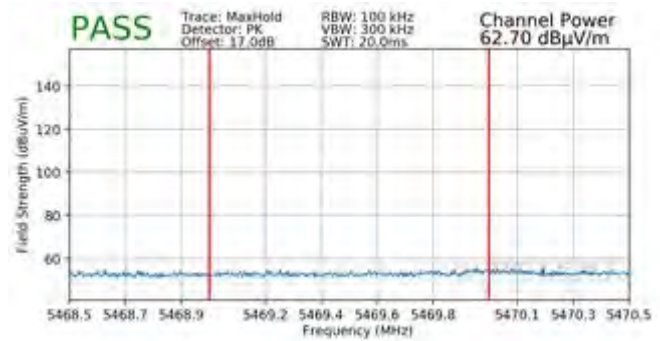
Plot 7-456. Radiated Upper Band Edge Plot SISO ANT2 (Peak - UNII Band 2A - 484 Tones)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 310 of 339

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 65
Distance of Measurements: 3 Meters
Operating Frequency: 5510MHz
Channel: 102

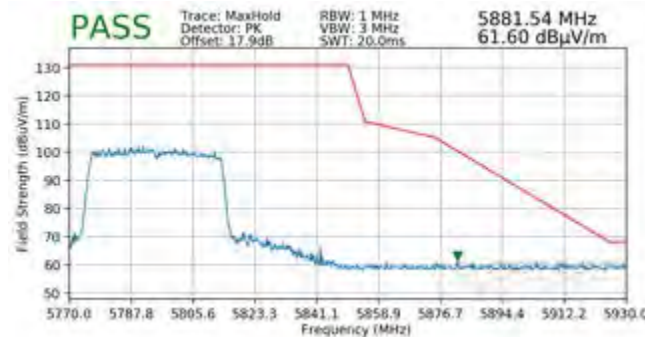


Plot 7-457. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 2C – 484 Tones)



Plot 7-458. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 2C – 484 Tones)

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 65
Distance of Measurements: 3 Meters
Operating Frequency: 5795MHz
Channel: 159

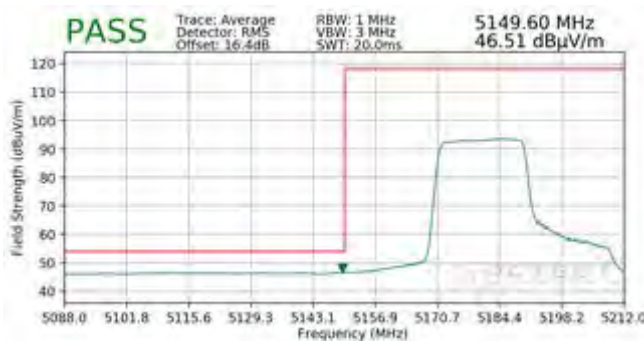


Plot 7-459. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 3 – 484 Tones)

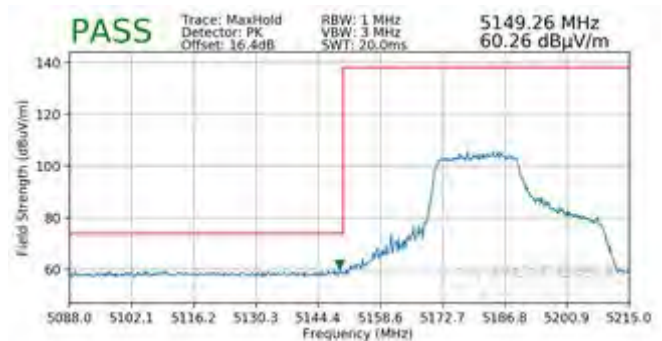
FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 311 of 339

242 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	5190MHz
Channel:	38

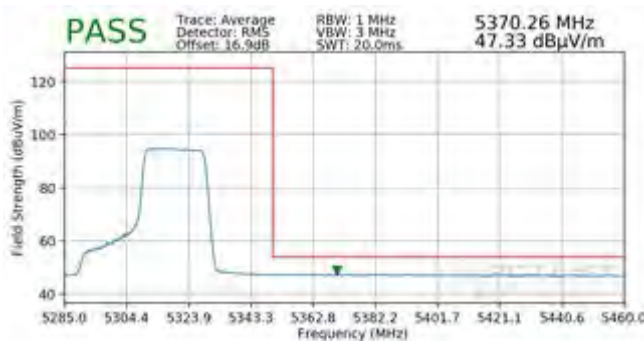


Plot 7-460. Radiated Lower Band Edge Plot SISO ANT2 (Average - UNII Band 1 - 242 Tones)

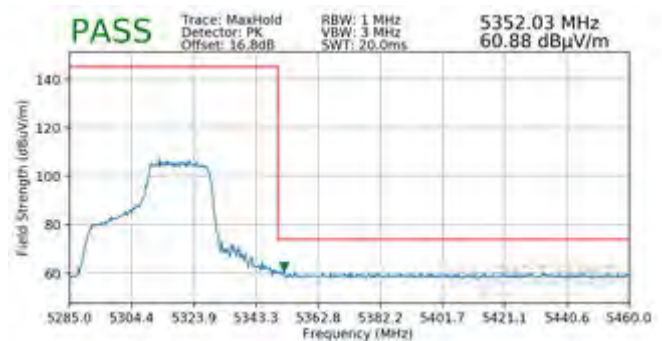


Plot 7-461. Radiated Lower Band Edge Plot SISO ANT2 (Peak - UNII Band 1 - 242 Tones)

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



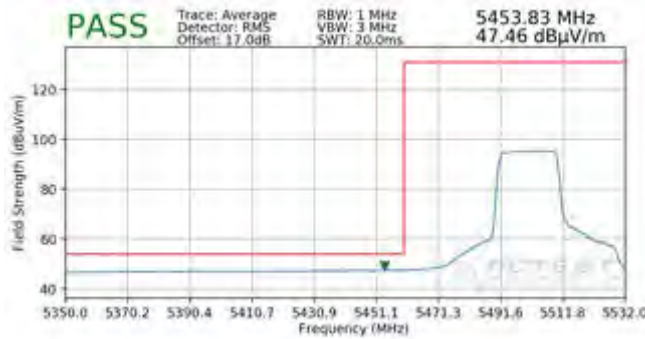
Plot 7-462. Radiated Upper Band Edge Plot SISO ANT2 (Average - UNII Band 2A - 242 Tones)



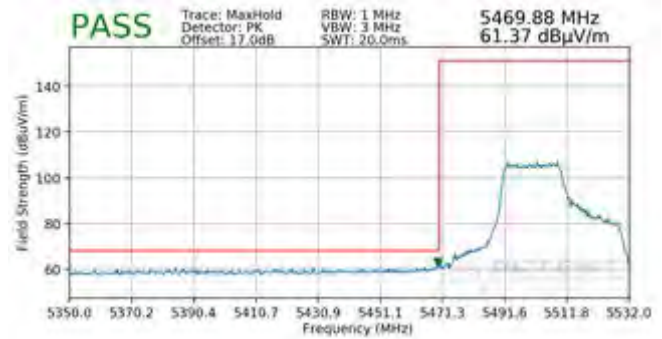
Plot 7-463. Radiated Upper Band Edge Plot SISO ANT2 (Peak - UNII Band 2A - 242 Tones)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 312 of 339

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 61
Distance of Measurements: 3 Meters
Operating Frequency: 5510MHz
Channel: 102

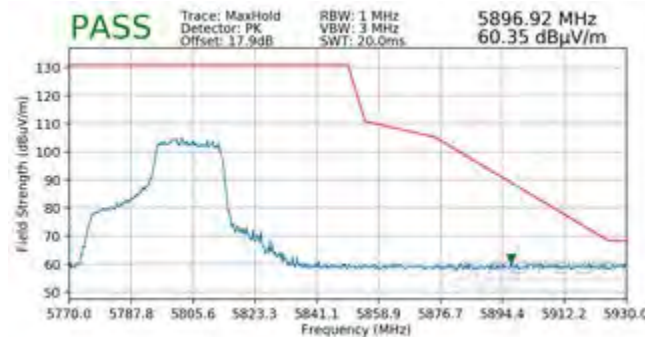


Plot 7-464. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 2C – 242 Tones)



Plot 7-465. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 2C – 242 Tones)

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 62
Distance of Measurements: 3 Meters
Operating Frequency: 5795MHz
Channel: 159



Plot 7-466. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 3 – 242 Tones)

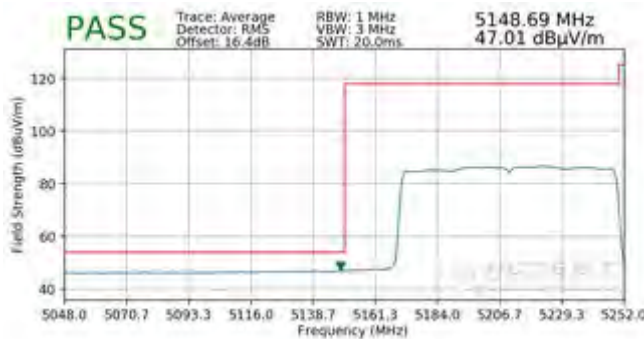
FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 313 of 339

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

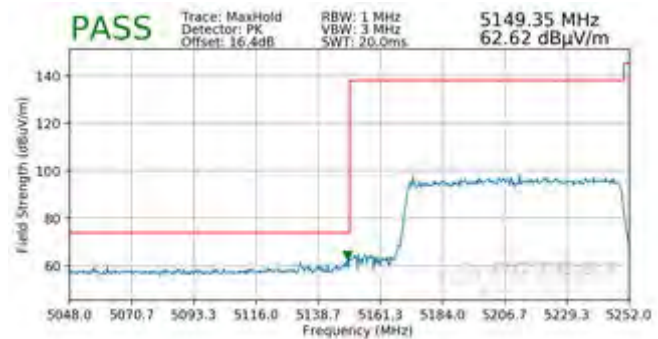
§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

996 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	67
Distance of Measurements:	3 Meters
Operating Frequency:	5210MHz
Channel:	42

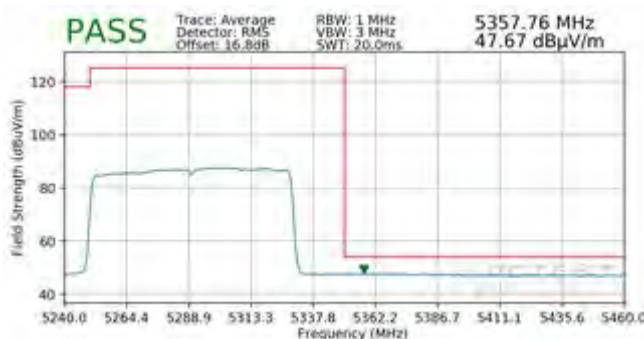


Plot 7-467. Radiated Lower Band Edge Plot SISO ANT2 (Average - UNII Band 1 - 996 Tones)

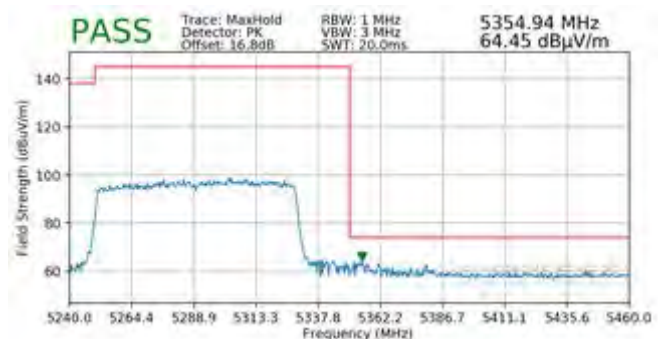


Plot 7-468. Radiated Lower Band Edge Plot SISO ANT2 (Peak - UNII Band 1 - 996 Tones)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	67
Distance of Measurements:	3 Meters
Operating Frequency:	5290MHz
Channel:	58



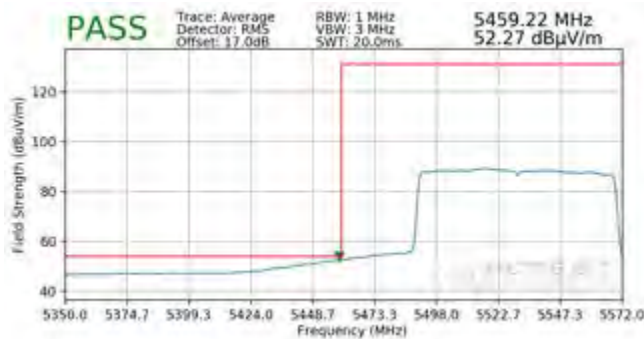
Plot 7-469. Radiated Upper Band Edge Plot SISO ANT2 (Average - UNII Band 2A - 996 Tones)



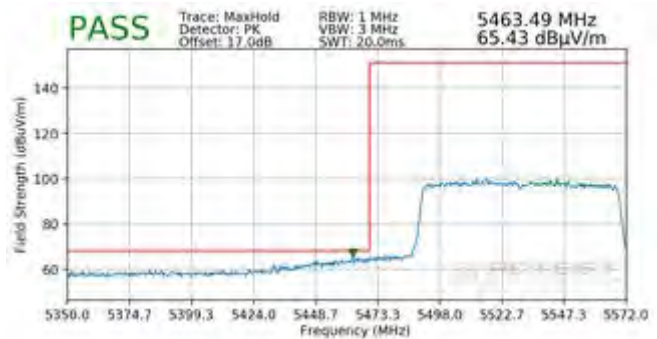
Plot 7-470. Radiated Upper Band Edge Plot SISO ANT2 (Peak - UNII Band 2A - 996 Tones)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 314 of 339

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 67
Distance of Measurements: 3 Meters
Operating Frequency: 5530MHz
Channel: 106

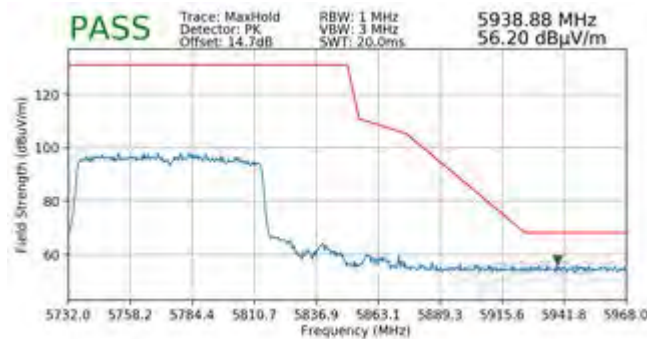


Plot 7-471. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 2C – 996 Tones)



Plot 7-472. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 2C – 996 Tones)

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 67
Distance of Measurements: 3 Meters
Operating Frequency: 5775MHz
Channel: 155

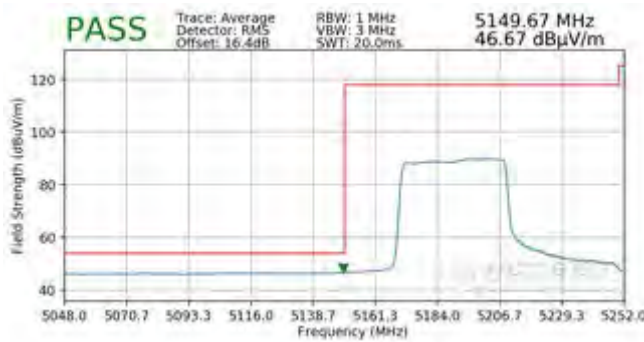


Plot 7-473. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 3 – 996 Tones)

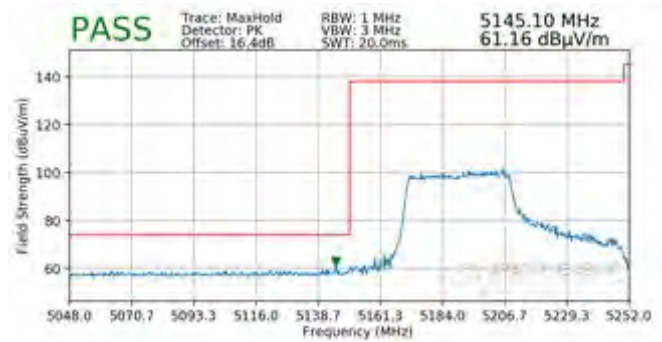
FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 315 of 339

484 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	65
Distance of Measurements:	3 Meters
Operating Frequency:	5210MHz
Channel:	42

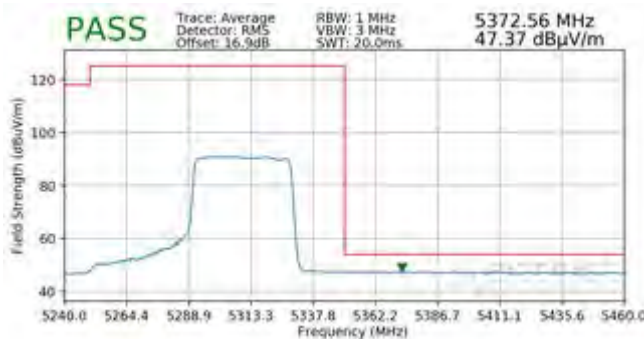


Plot 7-474. Radiated Lower Band Edge Plot SISO ANT2 (Average - UNII Band 1 - 484 Tones)

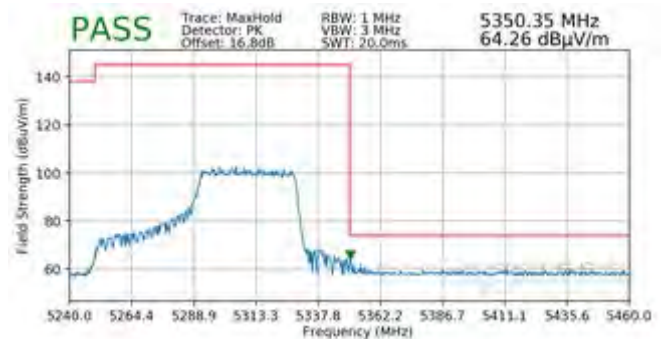


Plot 7-475. Radiated Lower Band Edge Plot SISO ANT2 (Peak - UNII Band 1 - 484 Tones)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	66
Distance of Measurements:	3 Meters
Operating Frequency:	5290MHz
Channel:	58



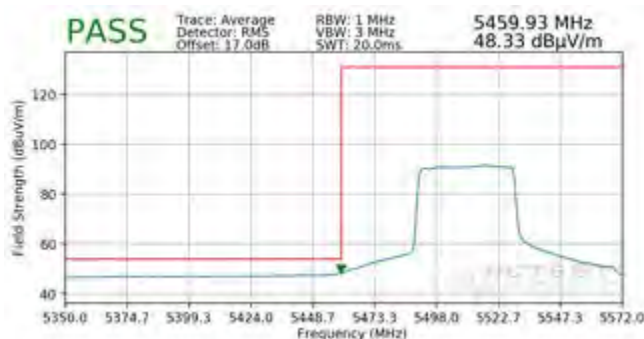
Plot 7-476. Radiated Upper Band Edge Plot SISO ANT2 (Average - UNII Band 2A - 484 Tones)



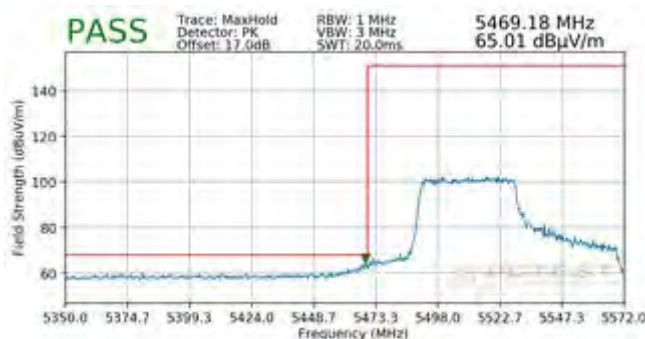
Plot 7-477. Radiated Upper Band Edge Plot SISO ANT2 (Peak - UNII Band 2A - 484 Tones)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 316 of 339

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 65
Distance of Measurements: 3 Meters
Operating Frequency: 5530MHz
Channel: 106

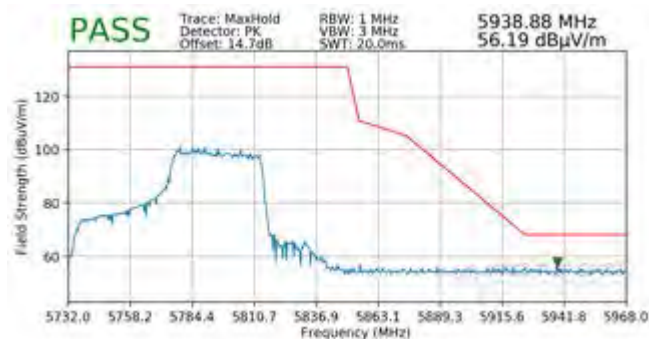


Plot 7-478. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 2C – 484 Tones)



Plot 7-479. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 2C – 484 Tones)

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 66
Distance of Measurements: 3 Meters
Operating Frequency: 5775MHz
Channel: 155



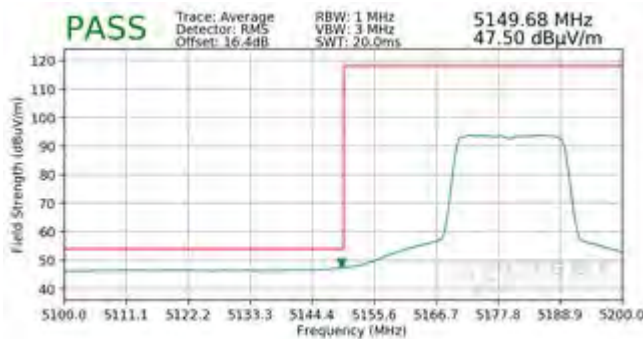
Plot 7-480. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 3 – 484 Tones)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 317 of 339

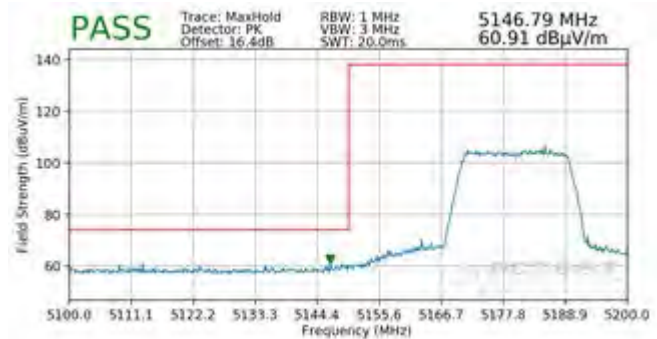
7.6.10 MIMO Radiated Band Edge Measurements (20MHz BW) §15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

242 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	5180MHz
Channel:	36

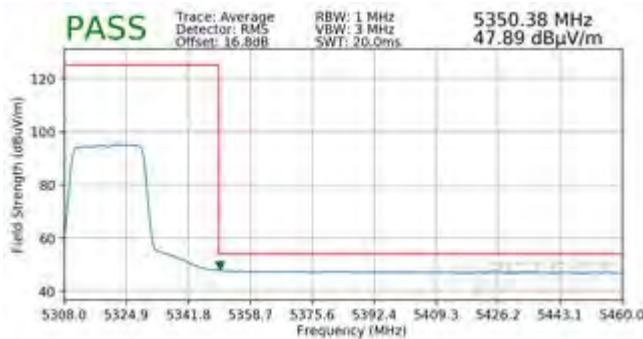


Plot 7-481. Radiated Lower Band Edge Plot MIMO
(Average – UNII Band 1 – 242 Tones)

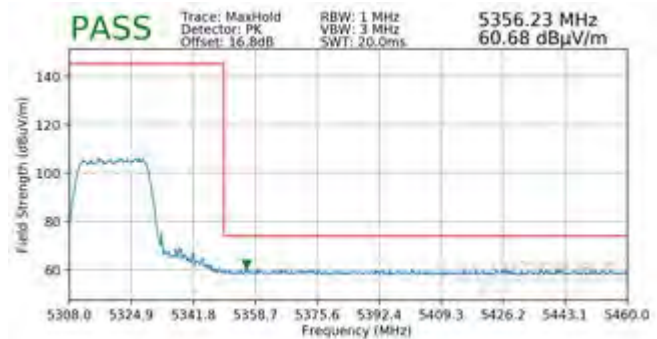


Plot 7-482. Radiated Lower Band Edge Plot MIMO
(Peak – UNII Band 1 – 242 Tones)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	5320MHz
Channel:	64



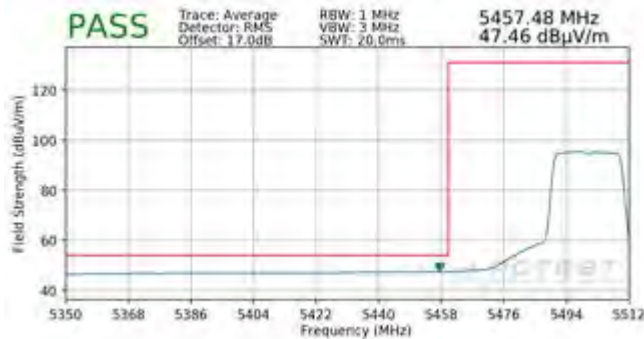
Plot 7-483. Radiated Upper Band Edge Plot MIMO
(Average – UNII Band 2A – 242 Tones)



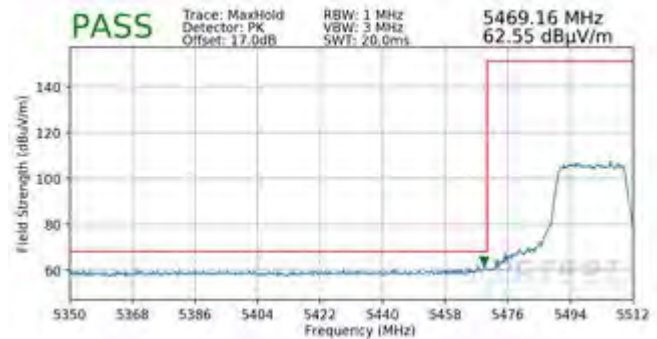
Plot 7-484. Radiated Upper Band Edge Plot MIMO
(Peak – UNII Band 2A – 242 Tones)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 318 of 339

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 61
Distance of Measurements: 3 Meters
Operating Frequency: 5500MHz
Channel: 100

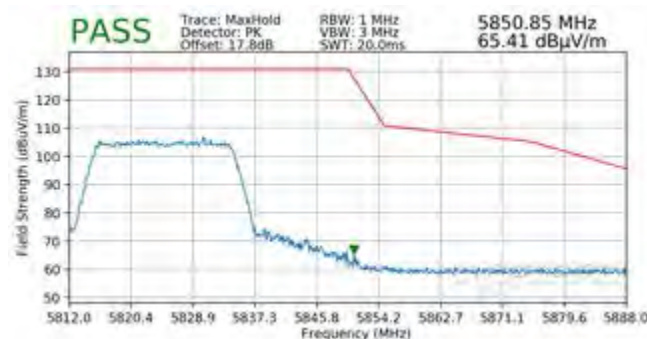


Plot 7-485. Radiated Lower Band Edge Plot MIMO (Average - UNII Band 2C - 242 Tones)



Plot 7-486. Radiated Lower Band Edge Plot MIMO (Peak - UNII Band 2C - 242 Tones)

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 61
Distance of Measurements: 3 Meters
Operating Frequency: 5825MHz
Channel: 165

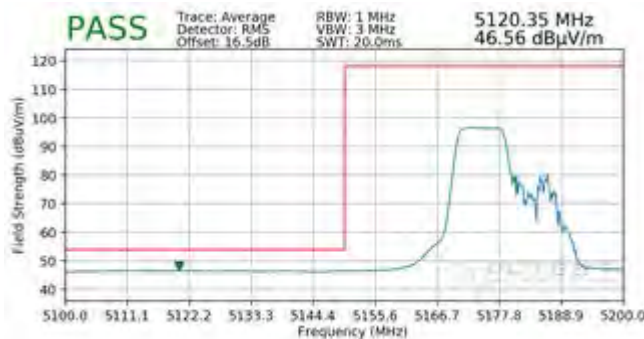


Plot 7-487. Radiated Upper Band Edge Plot MIMO (Peak - UNII Band 3 - 242 Tones)

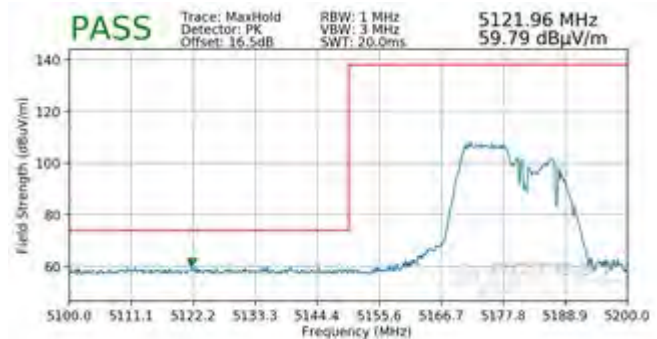
FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 319 of 339

106 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	53
Distance of Measurements:	3 Meters
Operating Frequency:	5180MHz
Channel:	36

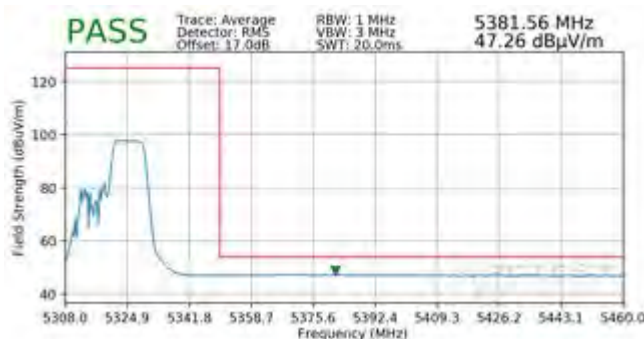


Plot 7-488. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 1 – 106 Tones)

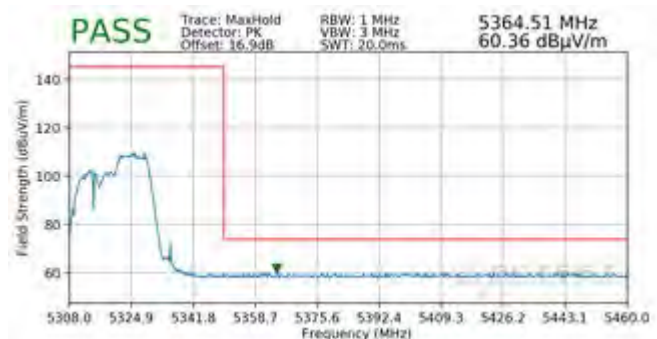


Plot 7-489. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 1 – 106 Tones)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	54
Distance of Measurements:	3 Meters
Operating Frequency:	5320MHz
Channel:	64



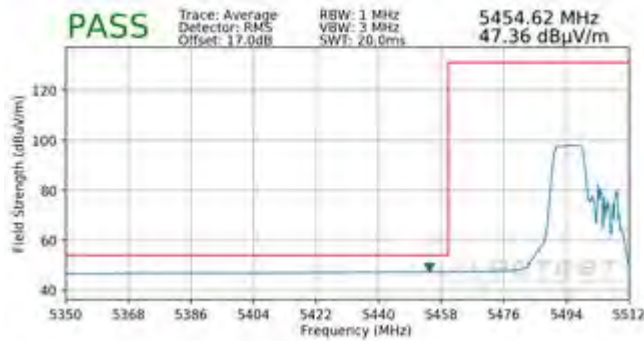
Plot 7-490. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 2A – 106 Tones)



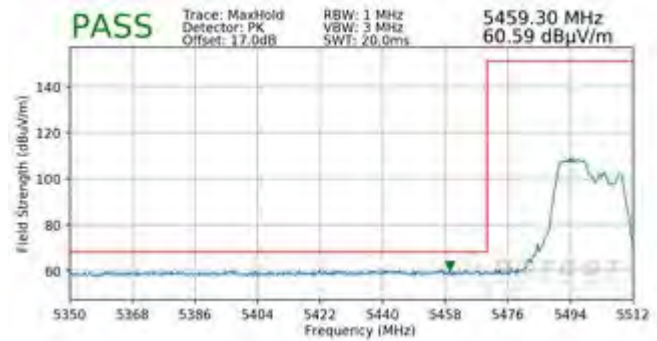
Plot 7-491. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 2A – 106 Tones)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 320 of 339

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 53
Distance of Measurements: 3 Meters
Operating Frequency: 5500MHz
Channel: 100

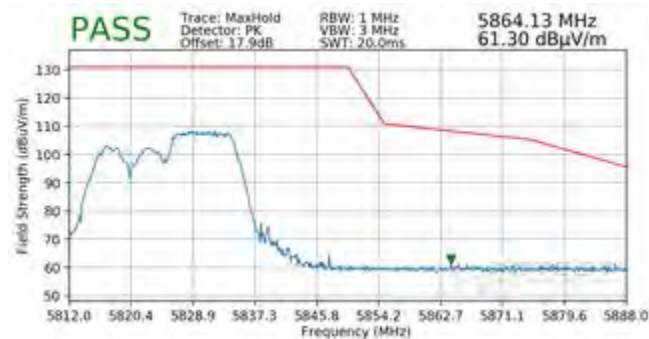


Plot 7-492. Radiated Lower Band Edge Plot MIMO (Average - UNII Band 2C - 106 Tones)



Plot 7-493. Radiated Lower Band Edge Plot MIMO (Peak - UNII Band 2C - 106 Tones)

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 54
Distance of Measurements: 3 Meters
Operating Frequency: 5825MHz
Channel: 165



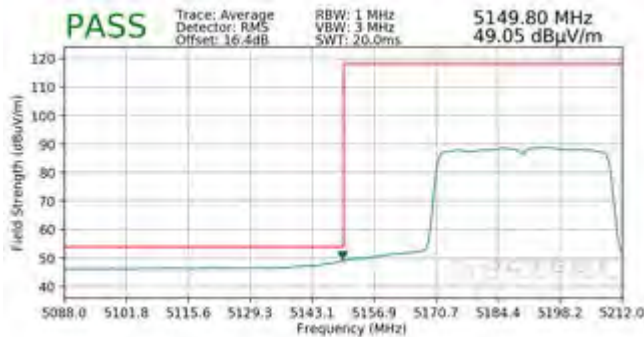
Plot 7-494. Radiated Upper Band Edge Plot MIMO (Peak - UNII Band 3 - 106 Tones)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 321 of 339

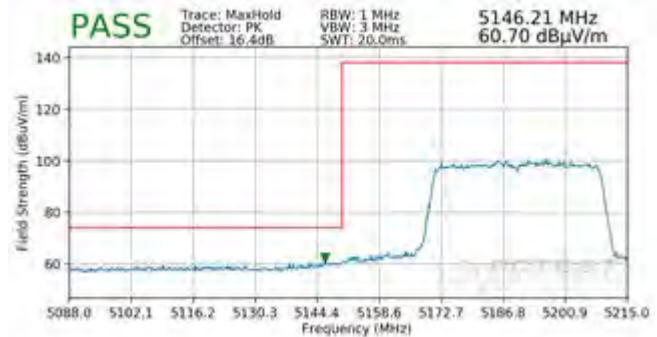
7.6.11 MIMO Radiated Band Edge Measurements (40MHz BW) §15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

484 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	65
Distance of Measurements:	3 Meters
Operating Frequency:	5190MHz
Channel:	38

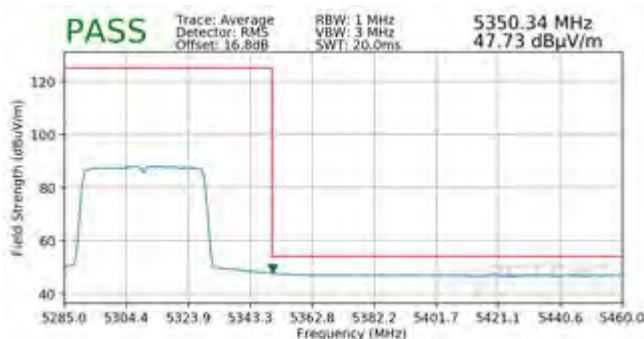


**Plot 7-495. Radiated Lower Band Edge Plot MIMO
(Average - UNII Band 1 - 484 Tones)**

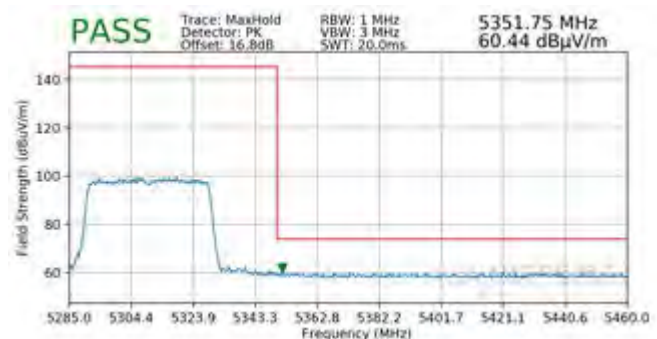


**Plot 7-496. Radiated Lower Band Edge Plot MIMO
(Peak - UNII Band 1 - 484 Tones)**

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	65
Distance of Measurements:	3 Meters
Operating Frequency:	5310MHz
Channel:	62



**Plot 7-497. Radiated Upper Band Edge Plot MIMO
(Average - UNII Band 2A - 484 Tones)**



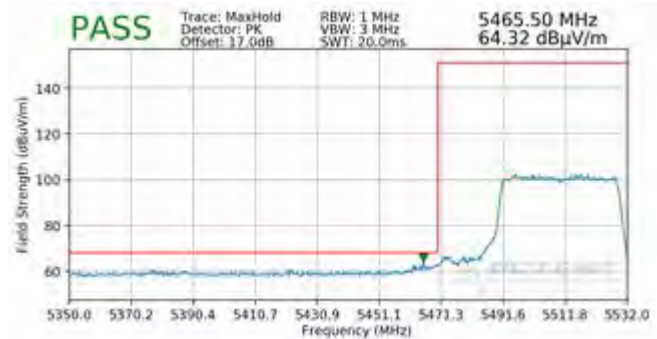
**Plot 7-498. Radiated Upper Band Edge Plot MIMO
(Peak - UNII Band 2A - 484 Tones)**

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 322 of 339

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 65
Distance of Measurements: 3 Meters
Operating Frequency: 5510MHz
Channel: 102

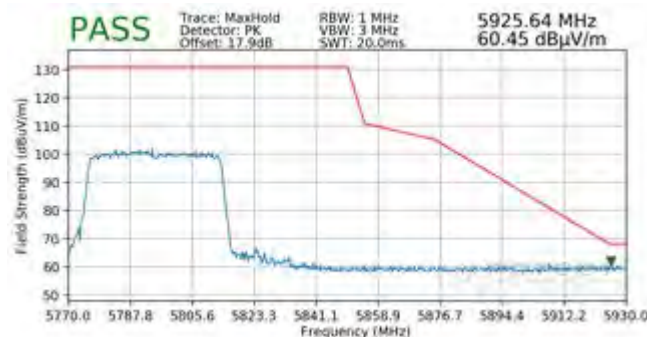


Plot 7-499. Radiated Lower Band Edge Plot MIMO (Average - UNII Band 2C - 484 Tones)



Plot 7-500. Radiated Lower Band Edge Plot MIMO (Peak - UNII Band 2C - 484 Tones)

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 65
Distance of Measurements: 3 Meters
Operating Frequency: 5795MHz
Channel: 159

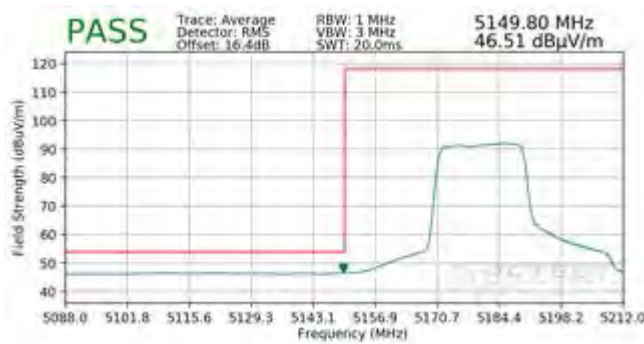


Plot 7-501. Radiated Upper Band Edge Plot MIMO (Peak - UNII Band 3 - 484 Tones)

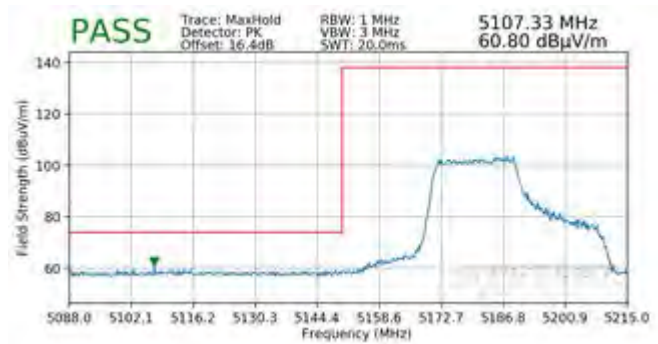
FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 323 of 339

242 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	5190MHz
Channel:	38

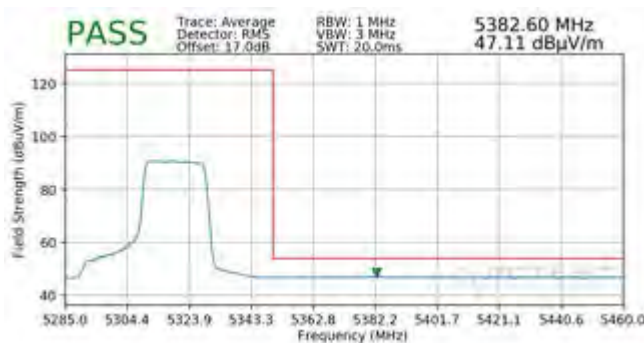


**Plot 7-502. Radiated Lower Band Edge Plot MIMO
(Average - UNII Band 1 - 242 Tones)**

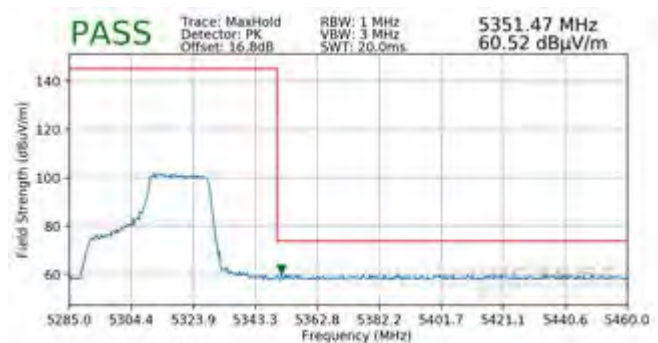


**Plot 7-503. Radiated Lower Band Edge Plot MIMO
(Peak - UNII Band 1 - 242 Tones)**

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



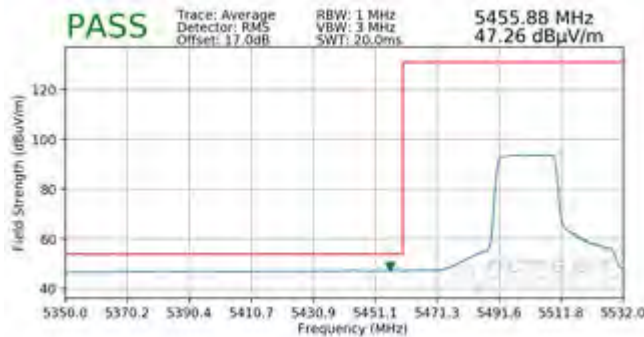
**Plot 7-504. Radiated Upper Band Edge Plot MIMO
(Average - UNII Band 2A - 242 Tones)**



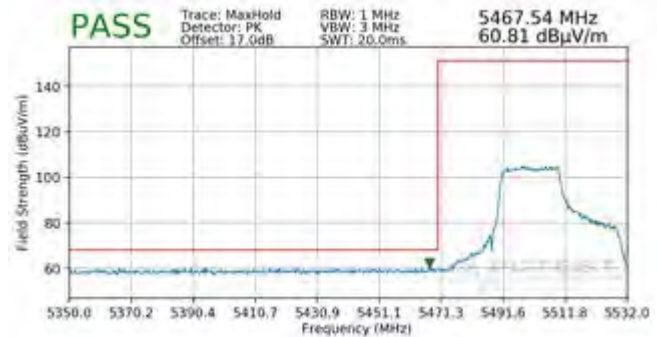
**Plot 7-505. Radiated Upper Band Edge Plot MIMO
(Peak - UNII Band 2A - 242 Tones)**

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 324 of 339

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 61
Distance of Measurements: 3 Meters
Operating Frequency: 5510MHz
Channel: 102

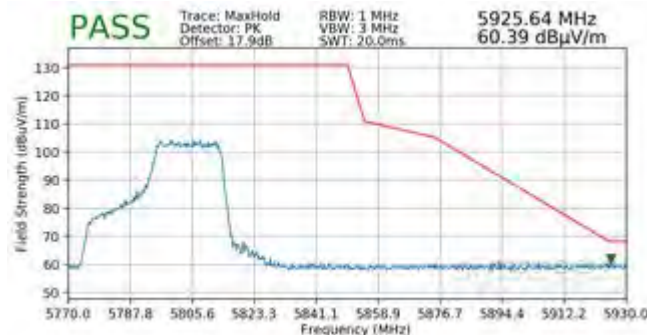


**Plot 7-506. Radiated Lower Band Edge Plot MIMO
(Average - UNII Band 2C - 242 Tones)**



**Plot 7-507. Radiated Lower Band Edge Plot MIMO
(Peak - UNII Band 2C - 242 Tones)**

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 62
Distance of Measurements: 3 Meters
Operating Frequency: 5795MHz
Channel: 159



**Plot 7-508. Radiated Upper Band Edge Plot MIMO
(Peak - UNII Band 3 - 242 Tones)**

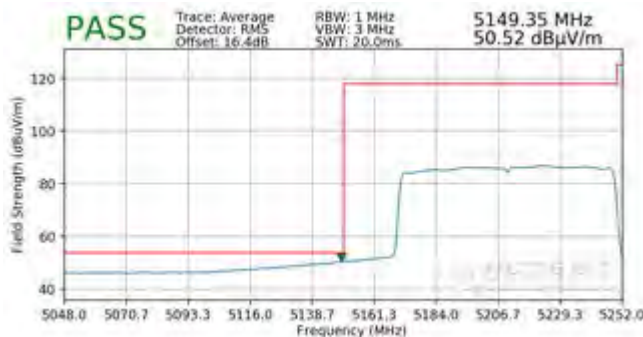
FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1901280020-07.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 325 of 339

7.6.12 MIMO Radiated Band Edge Measurements (80MHz BW)

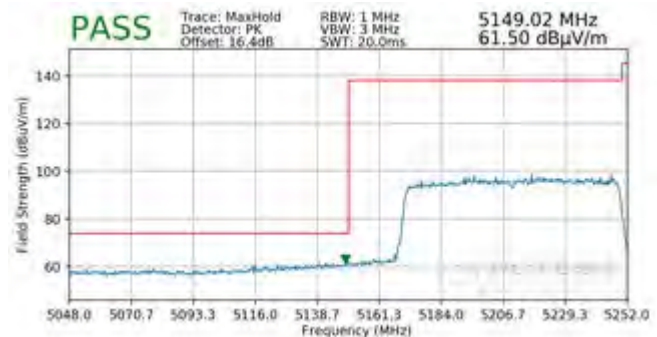
§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

996 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	67
Distance of Measurements:	3 Meters
Operating Frequency:	5210MHz
Channel:	42

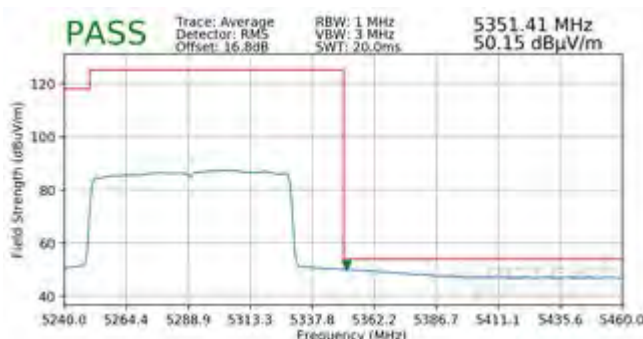


Plot 7-509. Radiated Lower Band Edge Plot MIMO (Average - UNII Band 1 - 996 Tones)

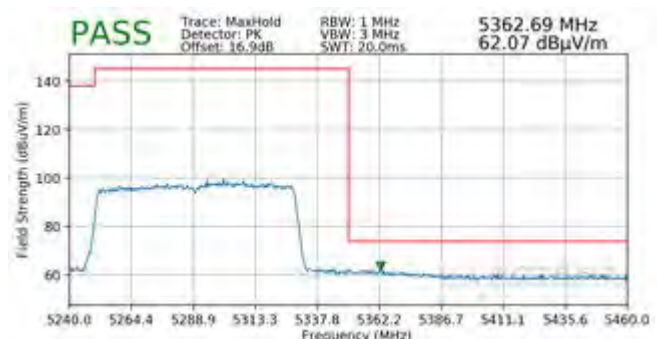


Plot 7-510. Radiated Lower Band Edge Plot MIMO (Peak - UNII Band 1 - 996 Tones)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	67
Distance of Measurements:	3 Meters
Operating Frequency:	5290MHz
Channel:	58



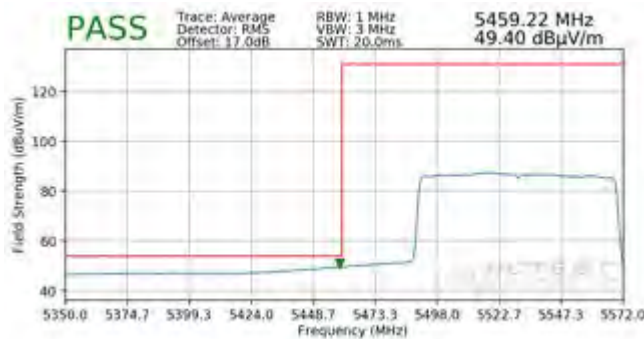
Plot 7-511. Radiated Upper Band Edge Plot MIMO (Average - UNII Band 2A - 996 Tones)



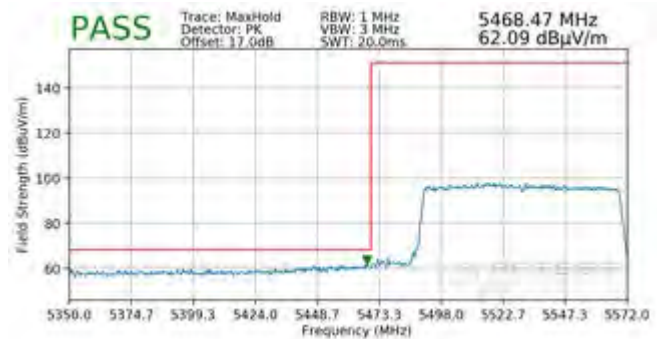
Plot 7-512. Radiated Upper Band Edge Plot MIMO (Peak - UNII Band 2A - 996 Tones)

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Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 67
Distance of Measurements: 3 Meters
Operating Frequency: 5530MHz
Channel: 106

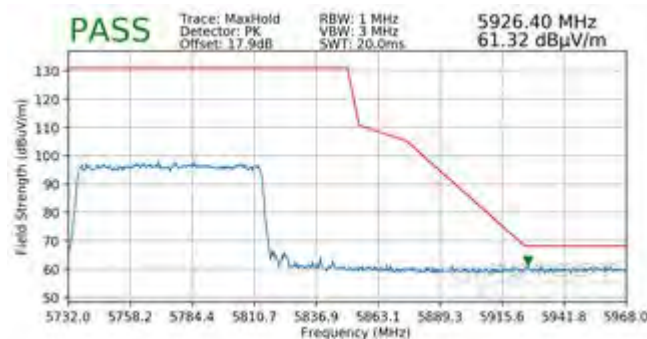


Plot 7-513. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 2C – 996 Tones)



Plot 7-514. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 2C – 996 Tones)

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 67
Distance of Measurements: 3 Meters
Operating Frequency: 5775MHz
Channel: 155

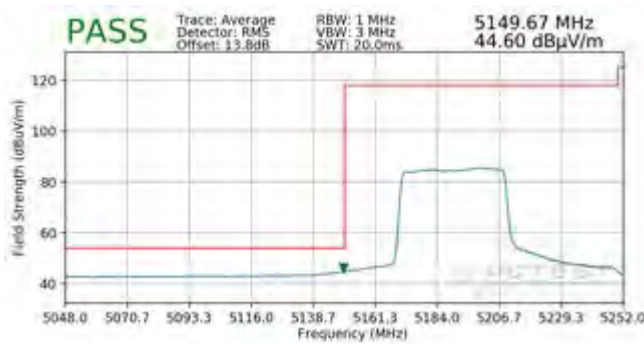


Plot 7-515. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 3 – 996 Tones)

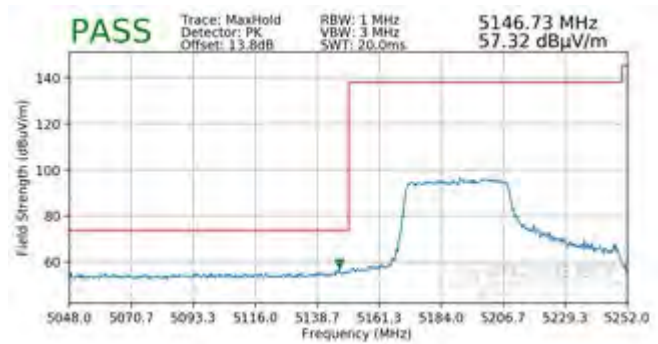
FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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484 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	65
Distance of Measurements:	3 Meters
Operating Frequency:	5210MHz
Channel:	42

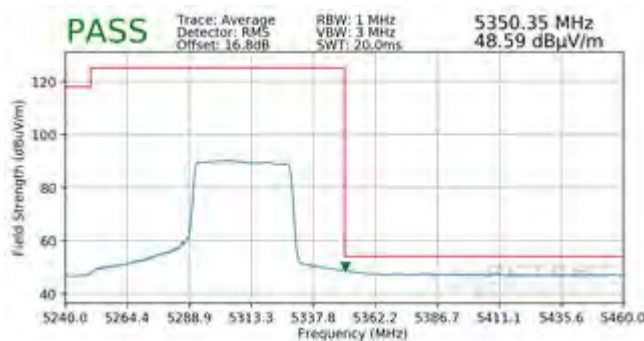


Plot 7-516. Radiated Lower Band Edge Plot MIMO (Average - UNII Band 1 - 484 Tones)

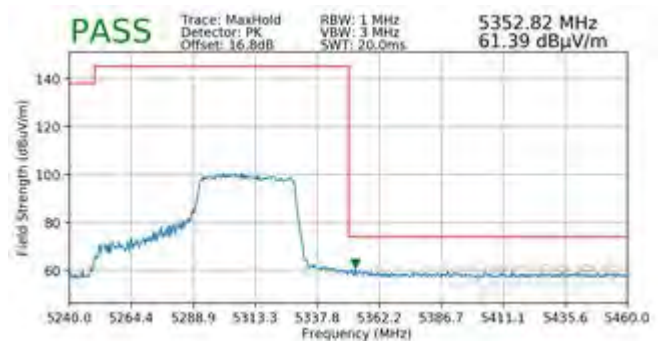


Plot 7-517. Radiated Lower Band Edge Plot MIMO (Peak - UNII Band 1 - 484 Tones)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	66
Distance of Measurements:	3 Meters
Operating Frequency:	5290MHz
Channel:	58



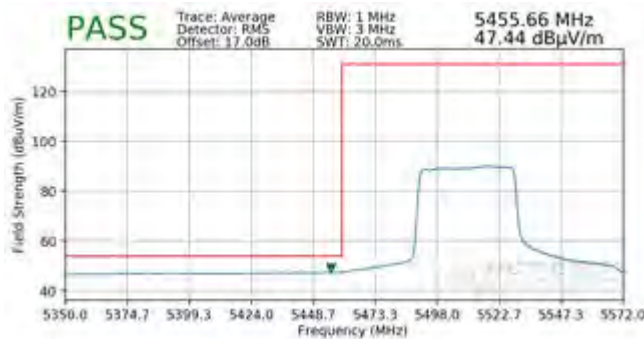
Plot 7-518. Radiated Upper Band Edge Plot MIMO (Average - UNII Band 2A - 484 Tones)



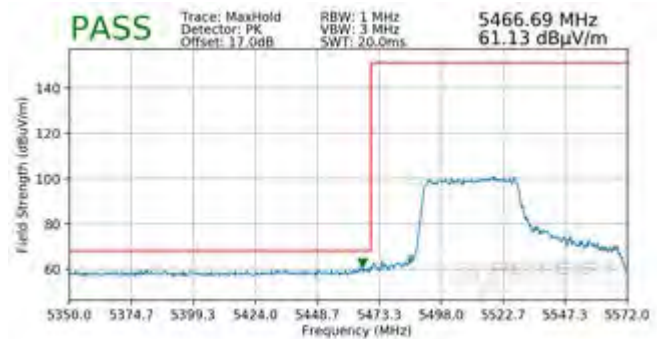
Plot 7-519. Radiated Upper Band Edge Plot MIMO (Peak - UNII Band 2A - 484 Tones)

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Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 65
Distance of Measurements: 3 Meters
Operating Frequency: 5530MHz
Channel: 106

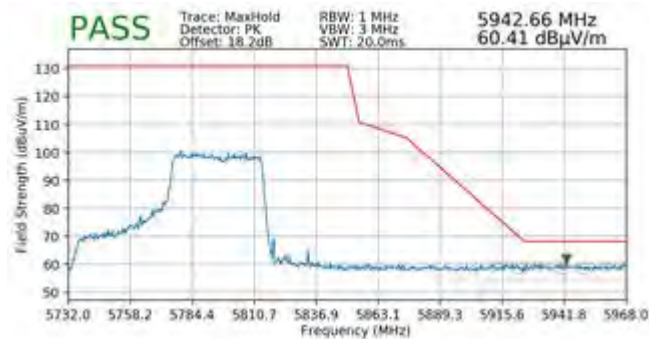


Plot 7-520. Radiated Lower Band Edge Plot MIMO (Average - UNII Band 2C - 484 Tones)



Plot 7-521. Radiated Lower Band Edge Plot MIMO (Peak - UNII Band 2C - 484 Tones)

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 66
Distance of Measurements: 3 Meters
Operating Frequency: 5775MHz
Channel: 155



Plot 7-522. Radiated Upper Band Edge Plot MIMO (Peak - UNII Band 3 - 484 Tones)

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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 7-133 per Section 15.209 and RSS-Gen (8.9).

Frequency	Field Strength [$\mu\text{V/m}$]	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 7-145. 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.

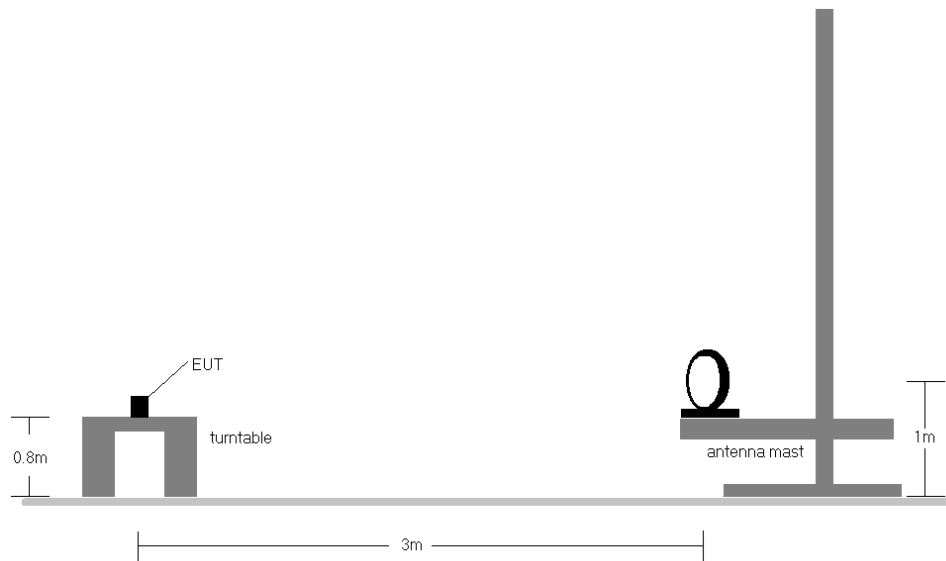


Figure 7-6. Radiated Test Setup < 30MHz

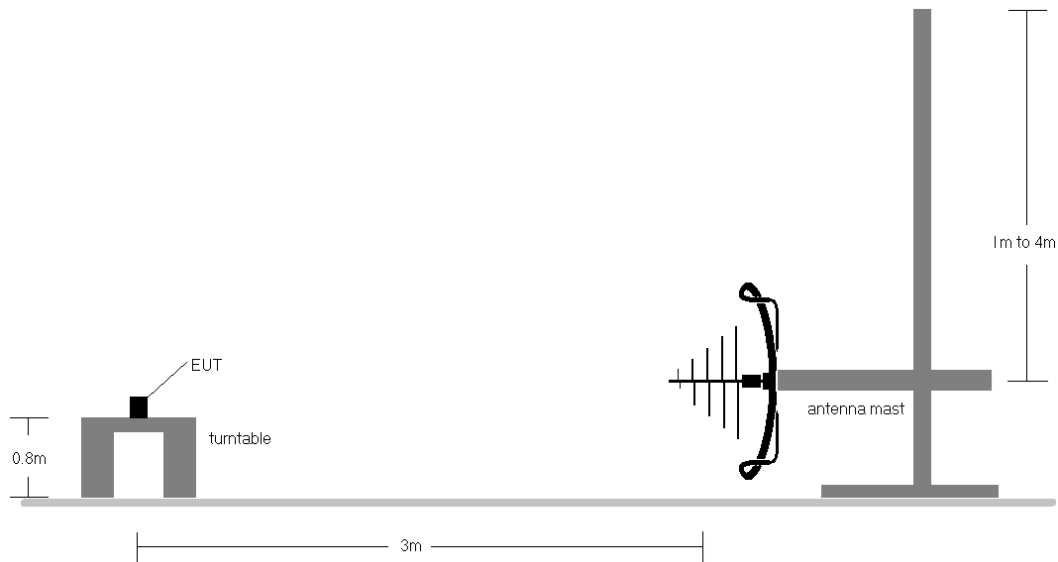


Figure 7-7. Radiated Test Setup < 1GHz

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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 7-133.
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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