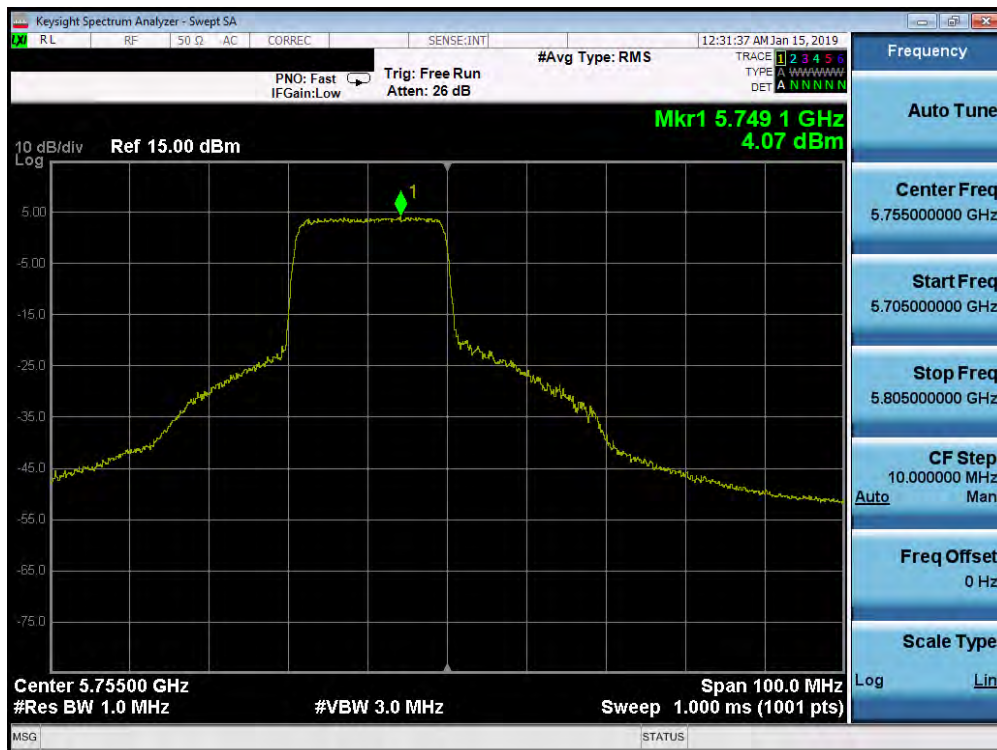
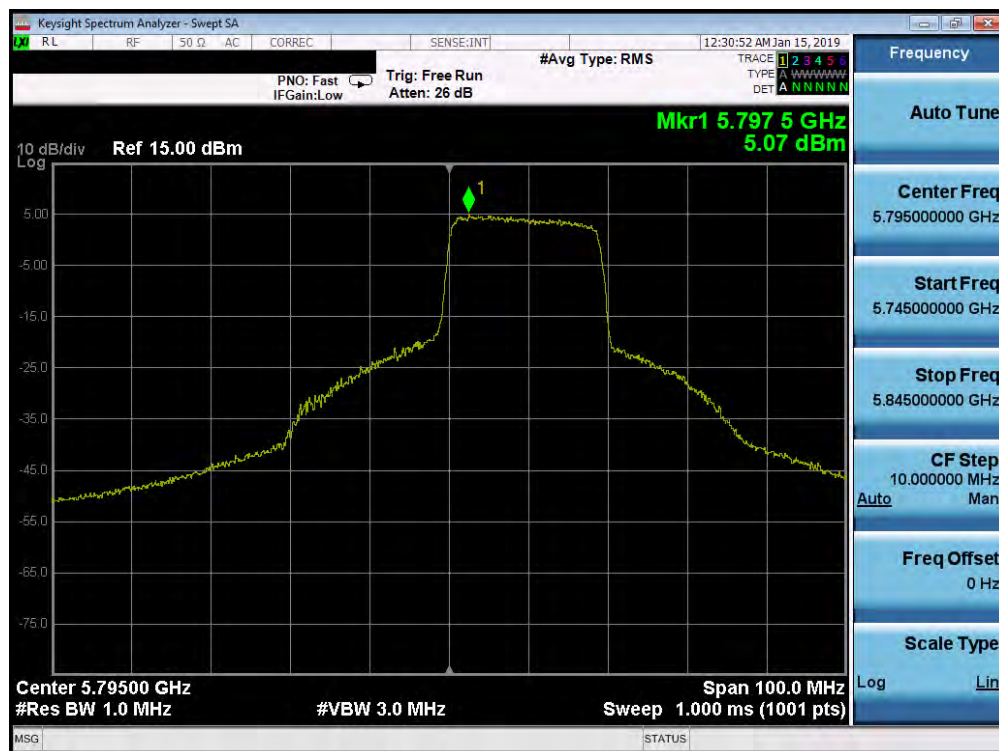


Plot 7-600. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 242 Tones (UNII Band 3) – Ch. 165)



Plot 7-601. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 242 Tones (UNII Band 3) – Ch. 151)

FCC ID: A3LSMG9730	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 389 of 514



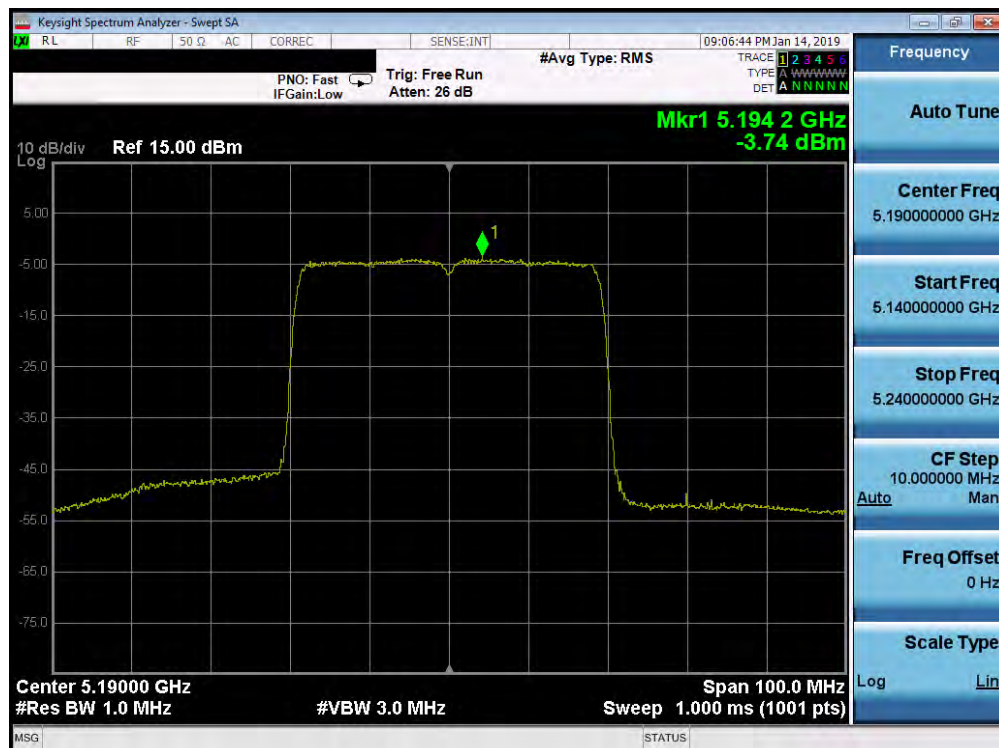
Plot 7-602. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 242 Tones (UNII Band 3) – Ch. 159)



Plot 7-603. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 242 Tones (UNII Band 3) – Ch. 155)

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 390 of 514

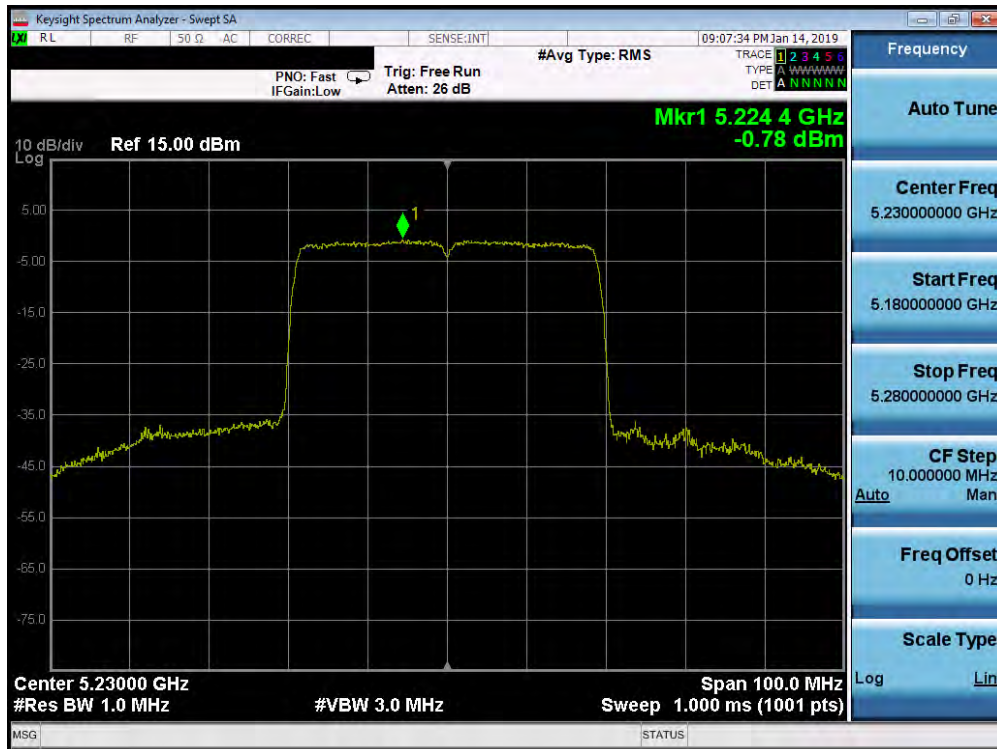
## MIMO Antenna-2 Power Spectral Density Measurements (484 Tones)



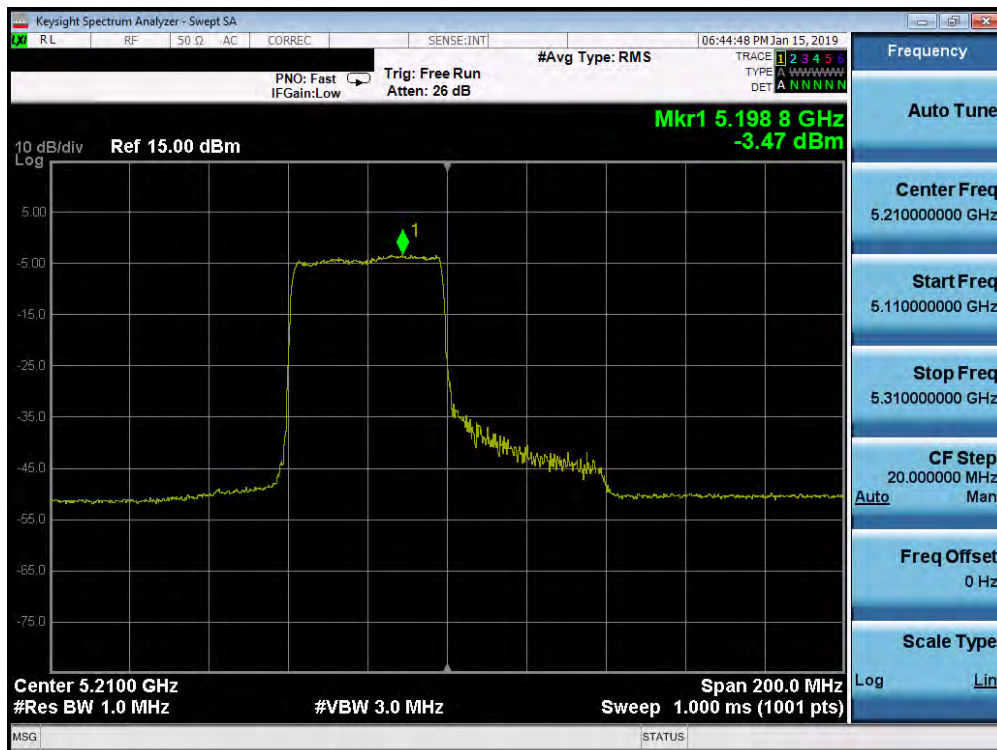
Plot 7-604. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 1) – Ch. 38)

FCC ID: A3LSMG9730	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 391 of 514



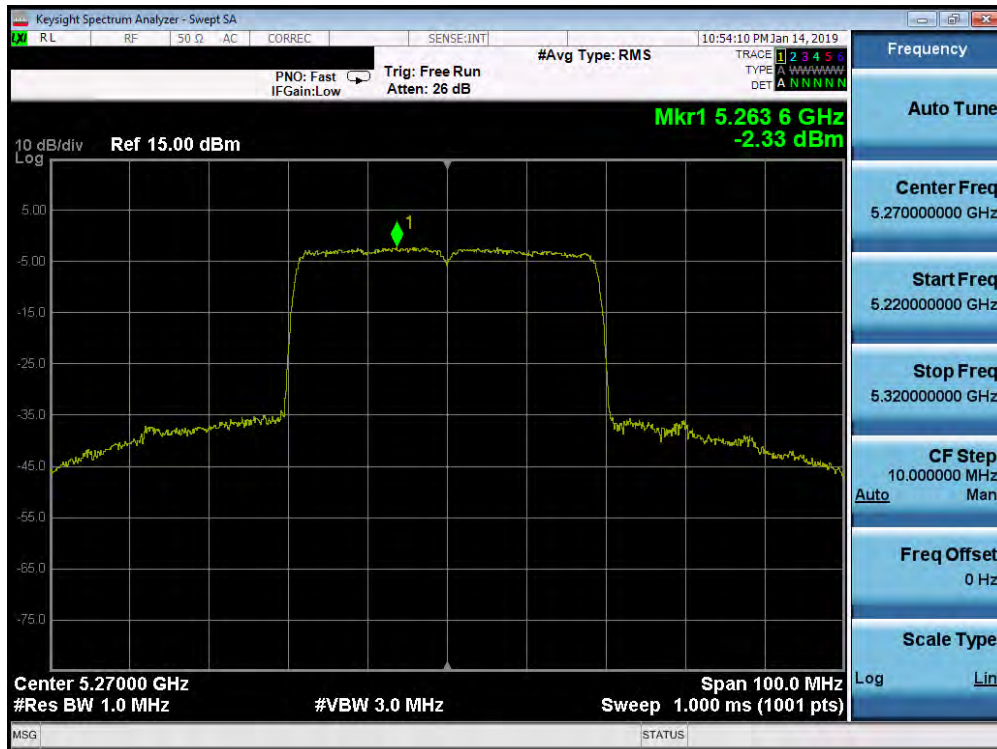


Plot 7-605. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 1) – Ch. 46)

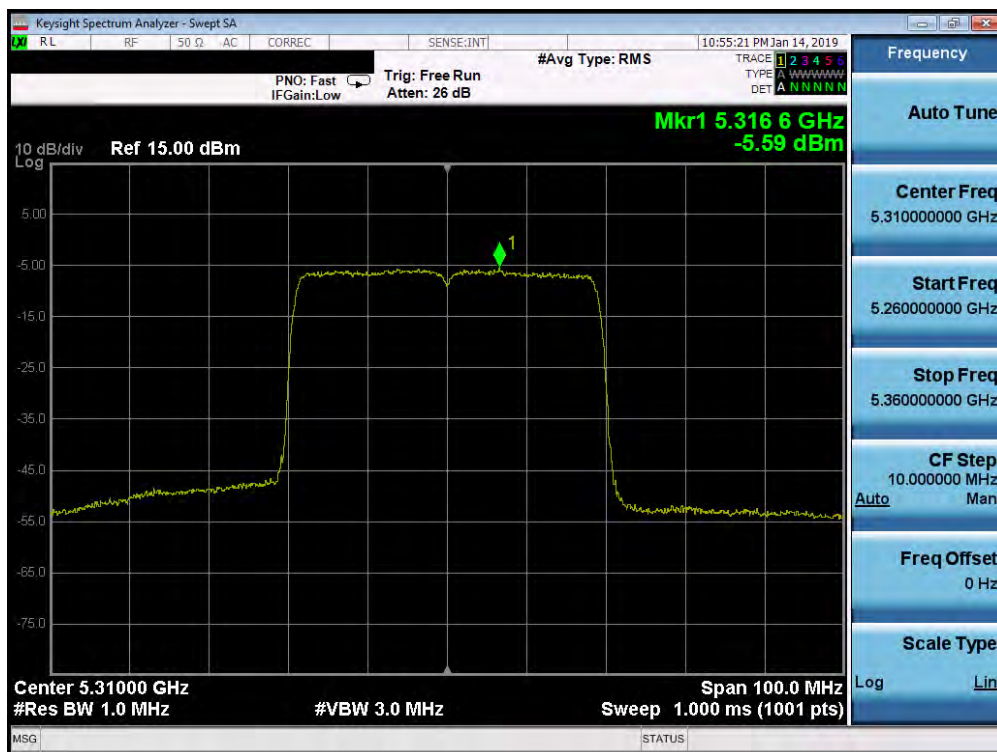


Plot 7-606. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 484 Tones (UNII Band 1) – Ch. 42)

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 392 of 514

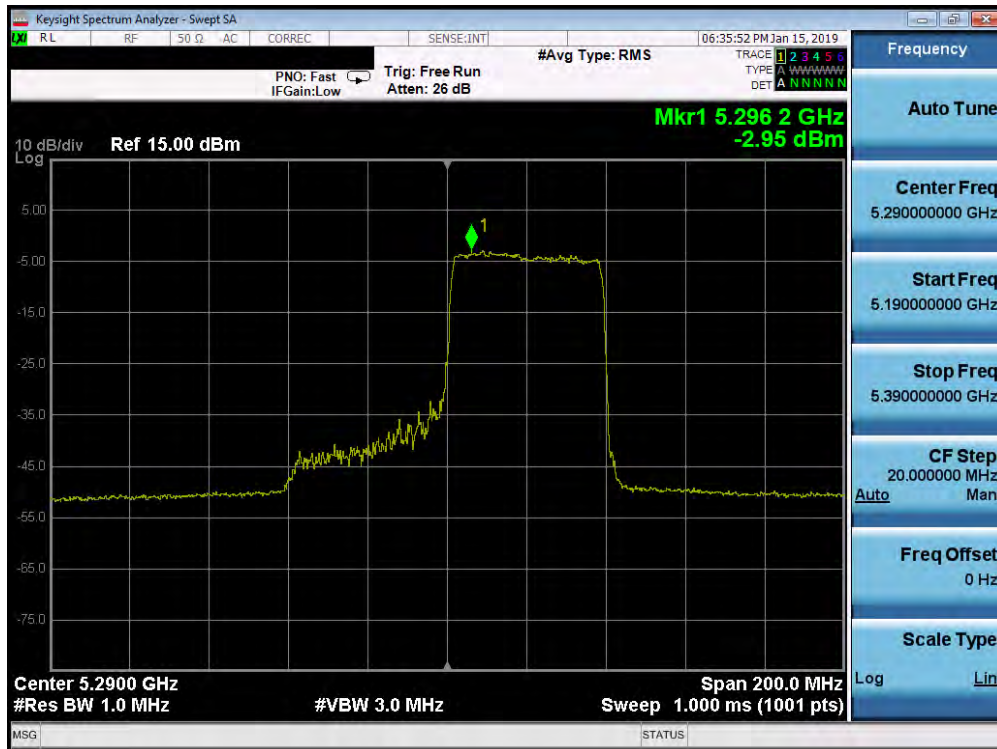


Plot 7-607. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 2A) – Ch. 54)

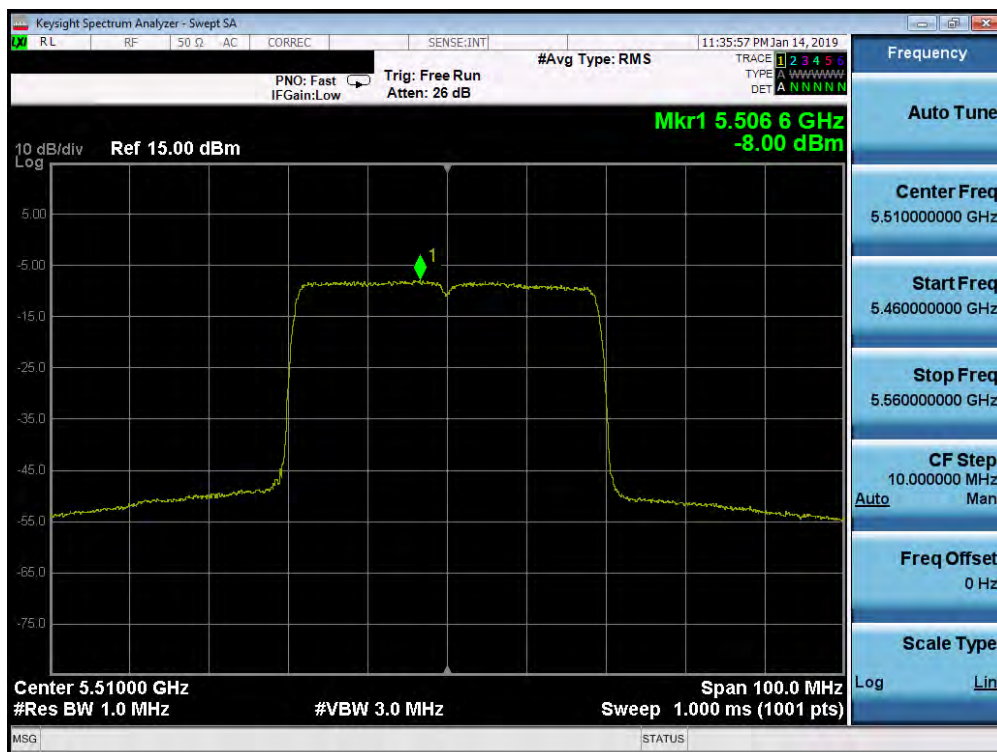


Plot 7-608. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 2A) – Ch. 62)

FCC ID: A3LSMG9730	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 393 of 514



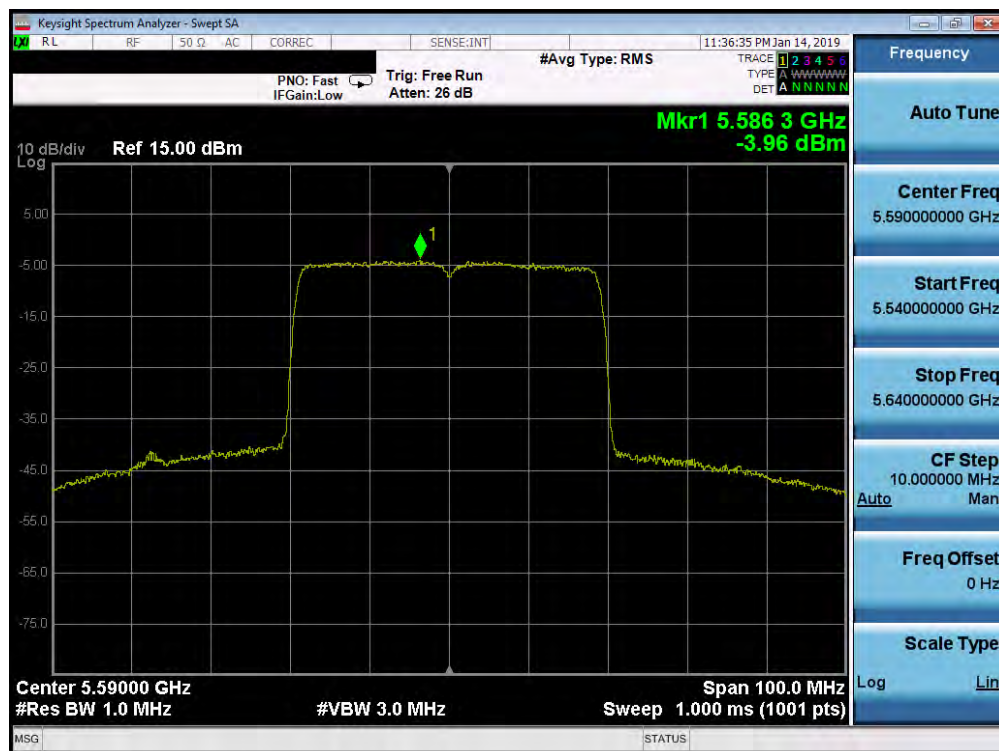
Plot 7-609. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 484 Tones (UNII Band 2A) – Ch. 58)



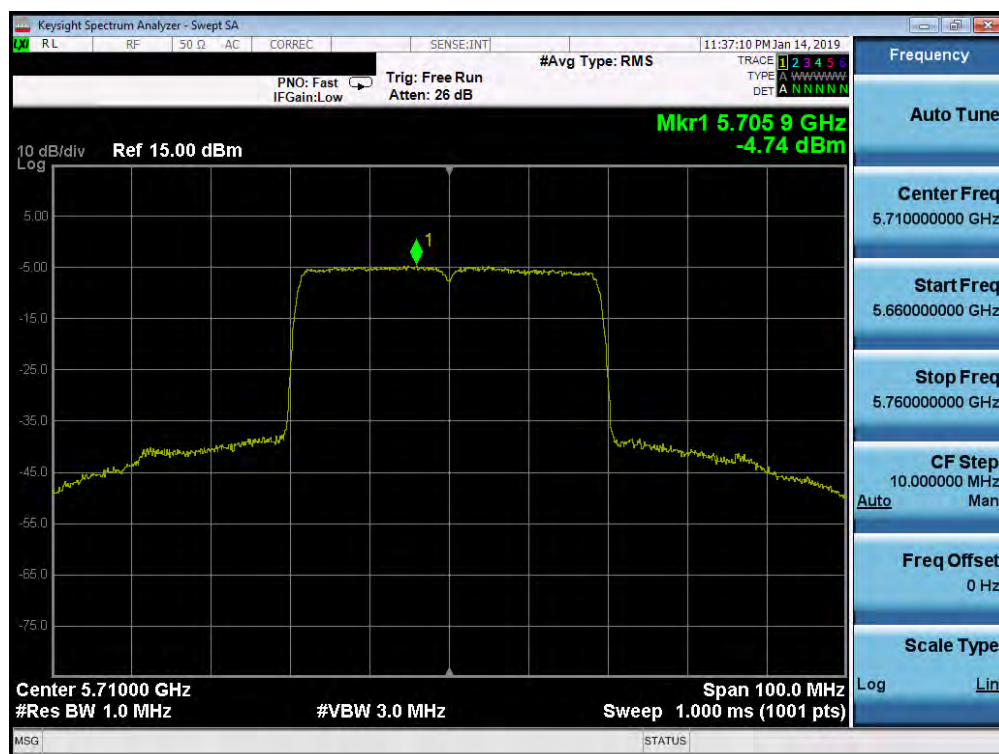
Plot 7-610. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 2C) – Ch. 102)

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 394 of 514



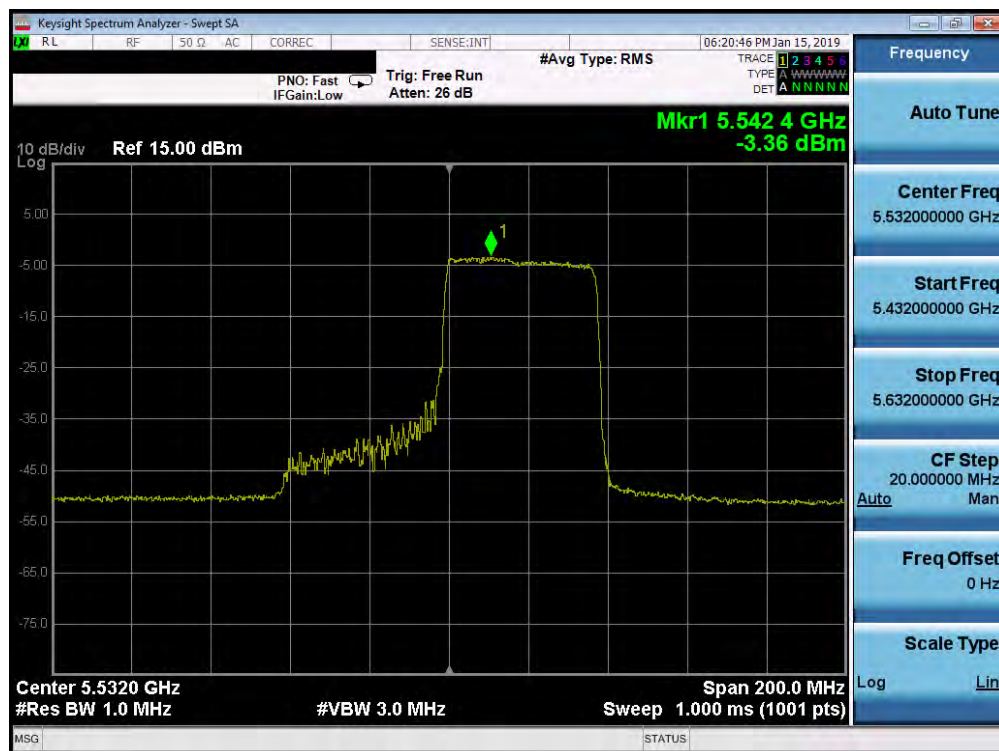


Plot 7-611. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 2C) – Ch. 118)



Plot 7-612. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 2C) – Ch. 142)

FCC ID: A3LSMG9730	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 395 of 514



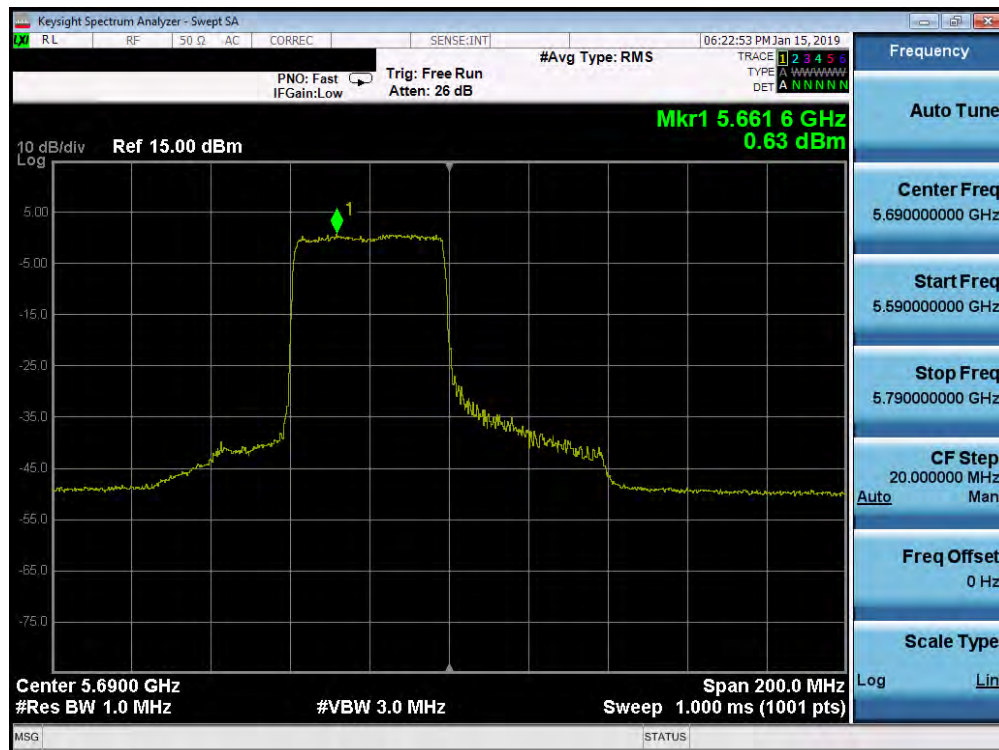
Plot 7-613. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 484 Tones (UNII Band 2C) – Ch. 106)



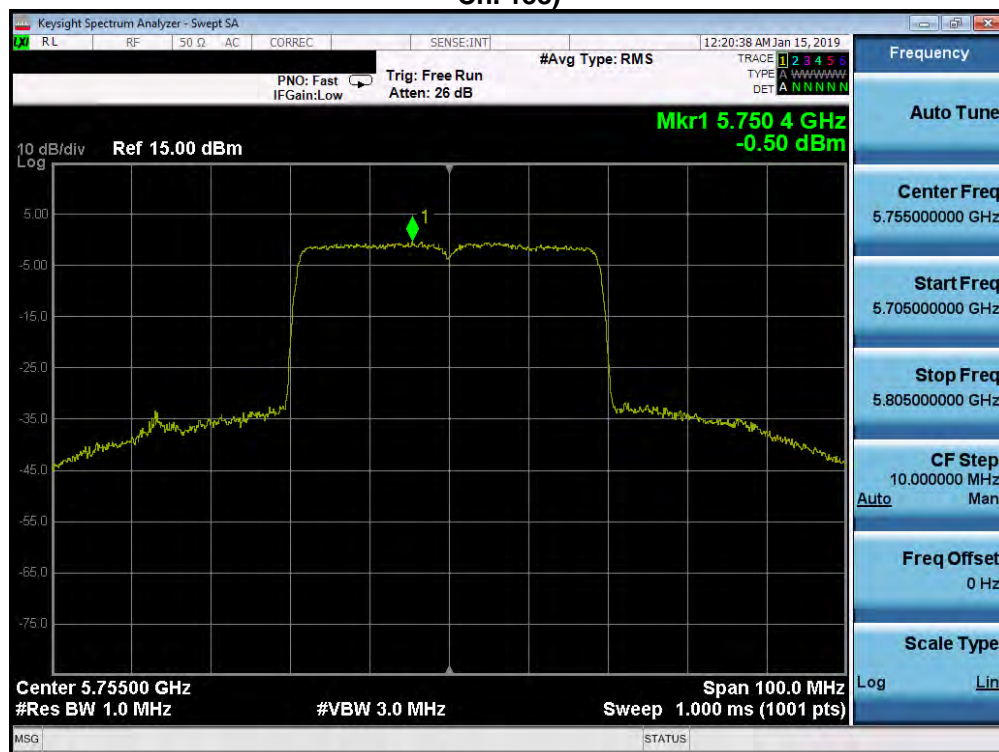
Plot 7-614. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 484 Tones (UNII Band 2C) – Ch. 122)

FCC ID: A3LSMG9730	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 396 of 514



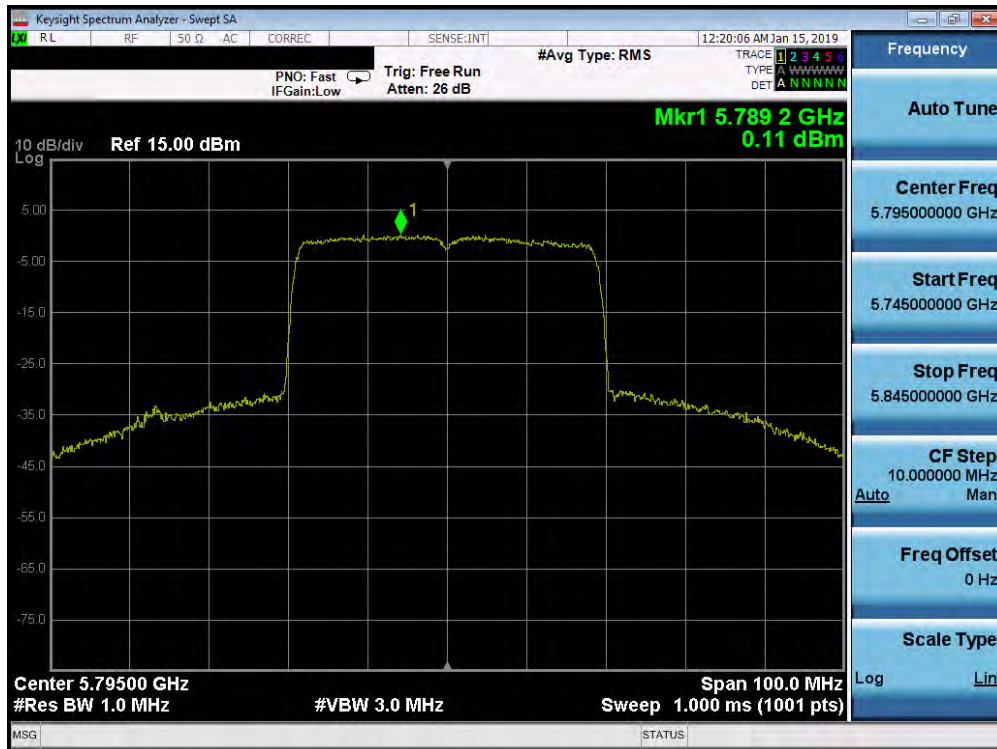


Plot 7-615. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 484 Tones (UNII Band 2C) – Ch. 138)



Plot 7-616. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 3) – Ch. 151)

FCC ID: A3LSMG9730	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 397 of 514



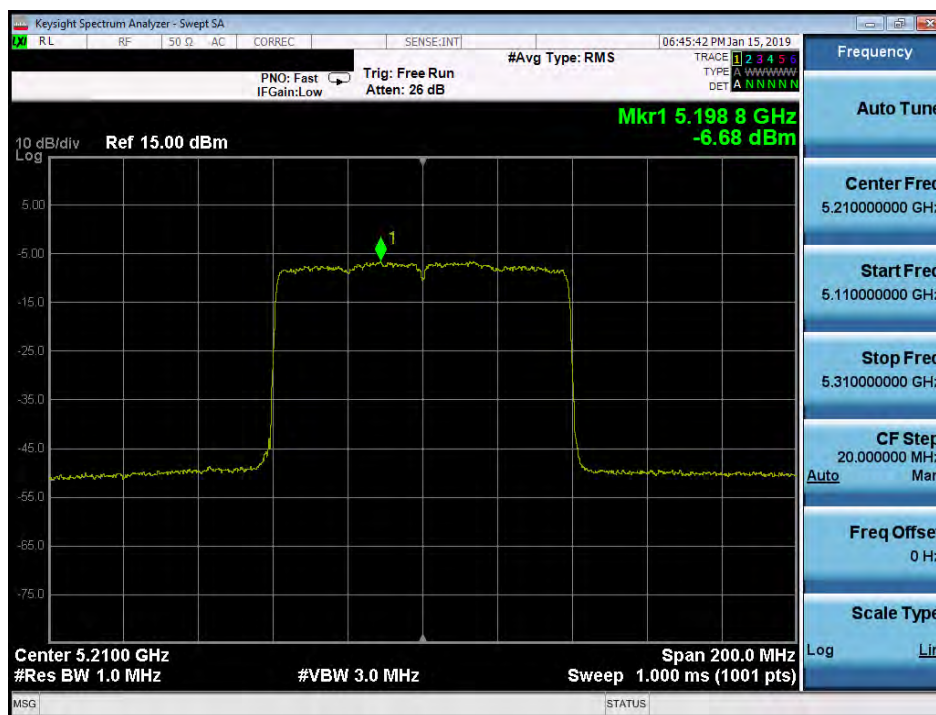
Plot 7-617. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 3) – Ch. 159)



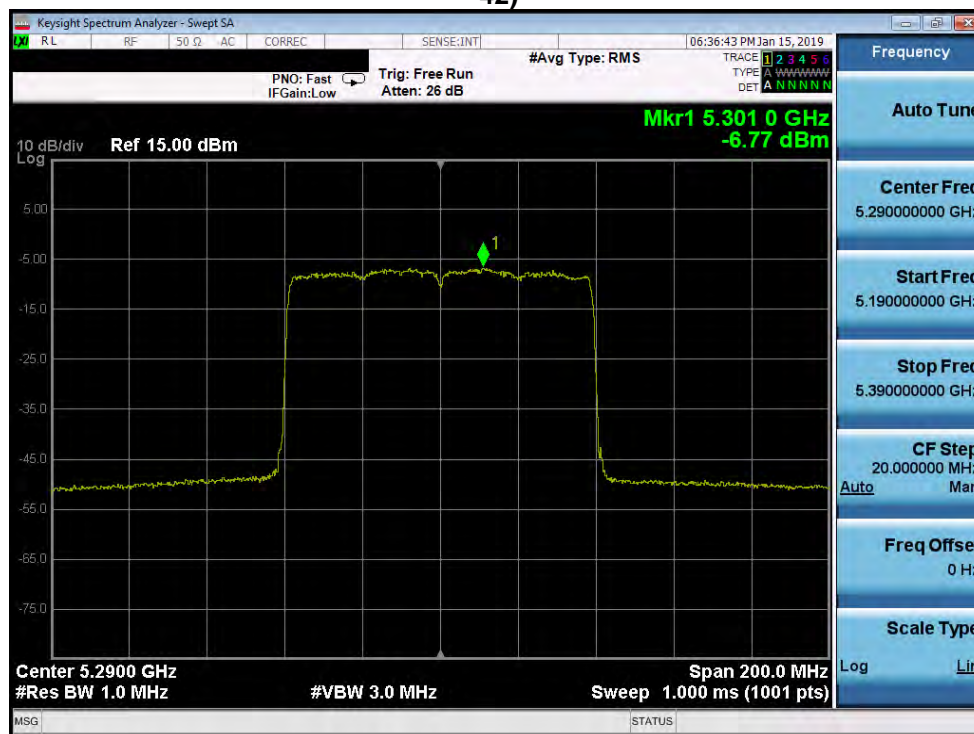
Plot 7-618. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 484 Tones (UNII Band 3) – Ch. 155)

FCC ID: A3LSMG9730	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 398 of 514

## MIMO Antenna-2 Power Spectral Density Measurements (996 Tones)



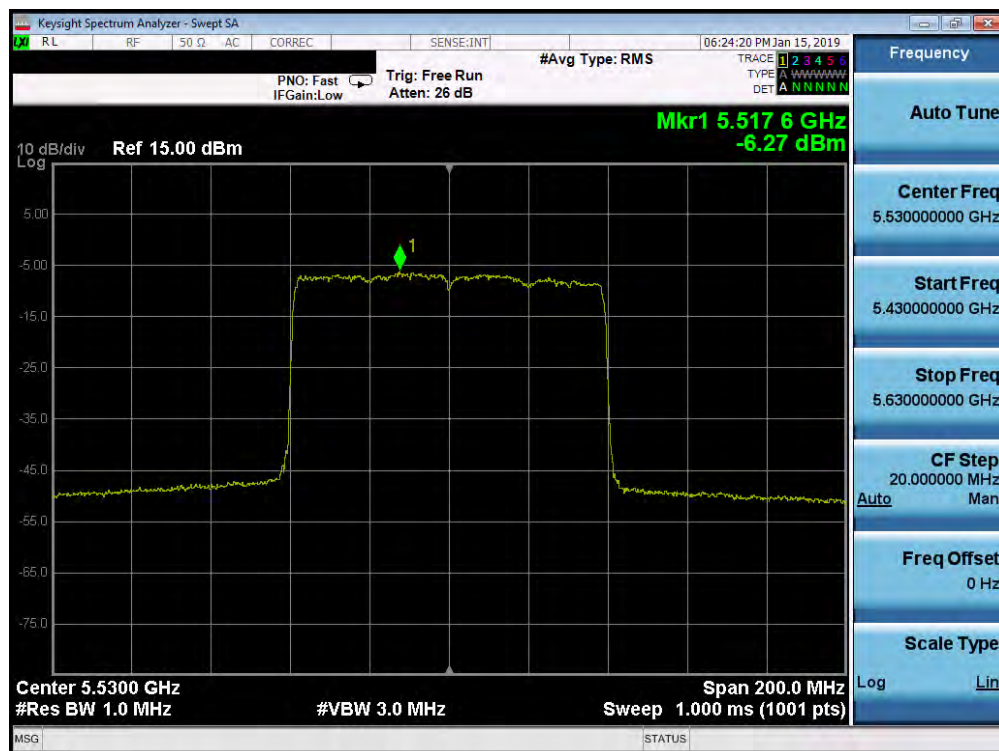
Plot 7-619. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 996 Tones (UNII Band 1) – Ch. 42)



Plot 7-620. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 996 Tones (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMG9730	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 399 of 514



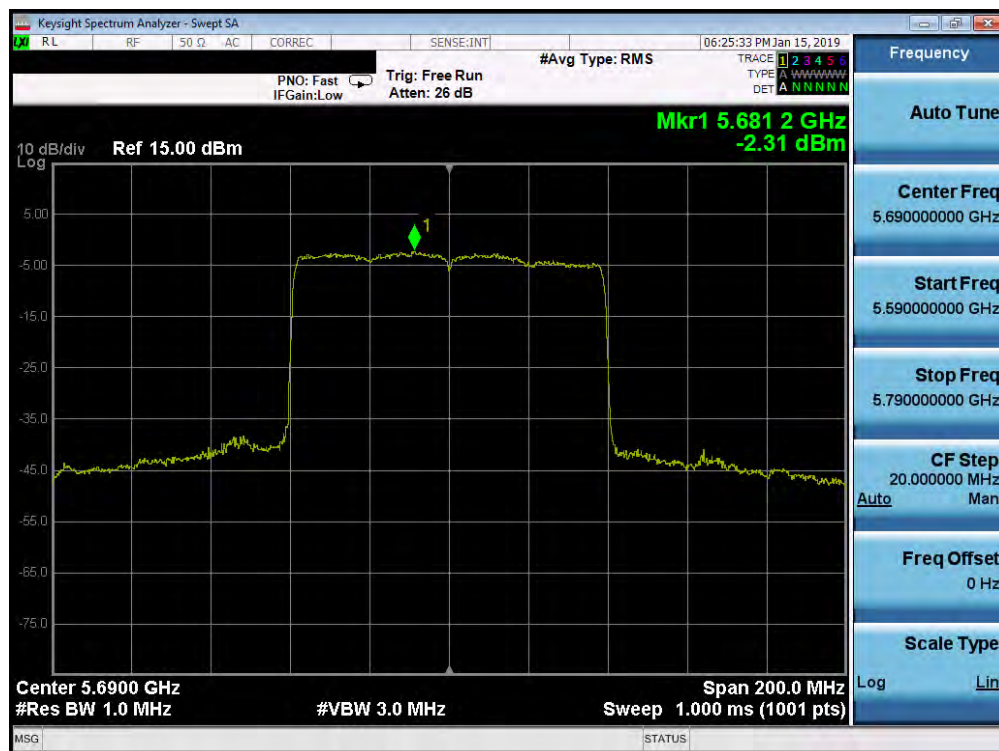


Plot 7-621. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 996 Tones (UNII Band 2C) – Ch. 106)



Plot 7-622. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 996 Tones (UNII Band 2C) – Ch. 122)

FCC ID: A3LSMG9730	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 400 of 514



Plot 7-623. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 996 Tones (UNII Band 2C) – Ch. 138)



Plot 7-624. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 996 Tones (UNII Band 3) – Ch. 155)

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 401 of 514

## 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 7-30 per Section 15.209 and RSS-Gen (8.9).***

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

**Table 7-117. 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

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 402 of 514



### Peak Measurements above 1GHz

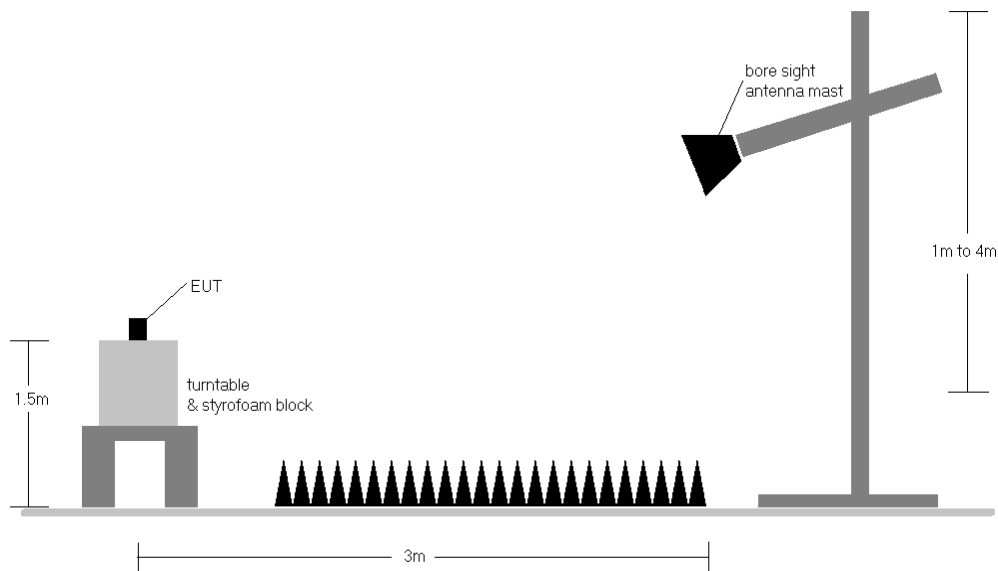
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

### 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: A3LSMG9730	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 403 of 514

## 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 7-117.
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 7-117. 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 dB $\mu$ V/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 68.2dB $\mu$ V/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

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

### Radiated Band Edge Measurement Offset

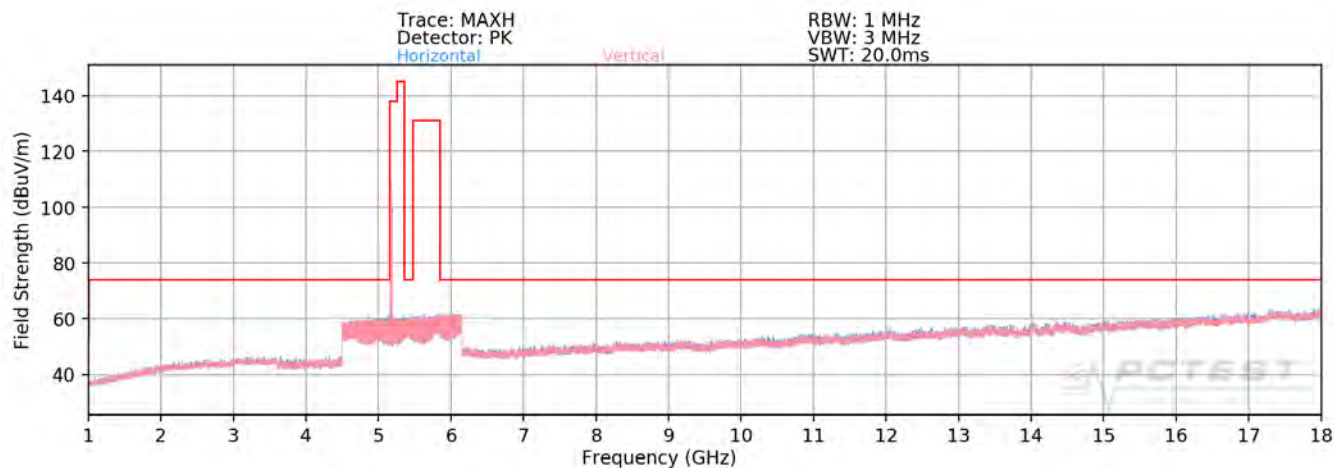
- The amplitude offset shown in the radiated restricted band edge plots was calculated using the formula:

$$\text{Offset (dB)} = (\text{Antenna Factor} + \text{Cable Loss} + \text{Attenuator}) - \text{Preamplifier Gain}$$

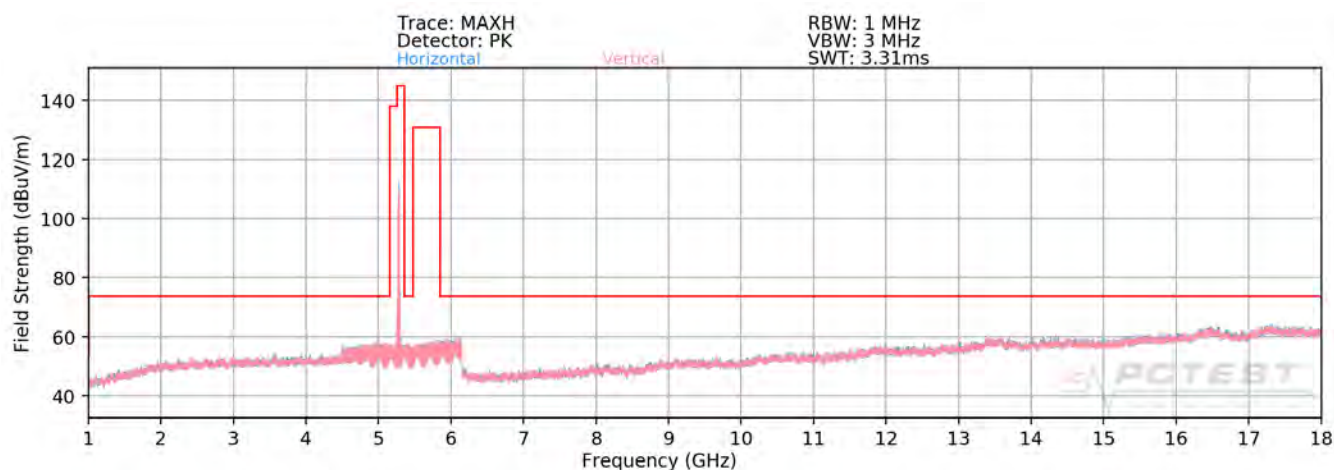
FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 404 of 514

## 7.6.1 SISO Antenna-1 Radiated Spurious Emission Measurements

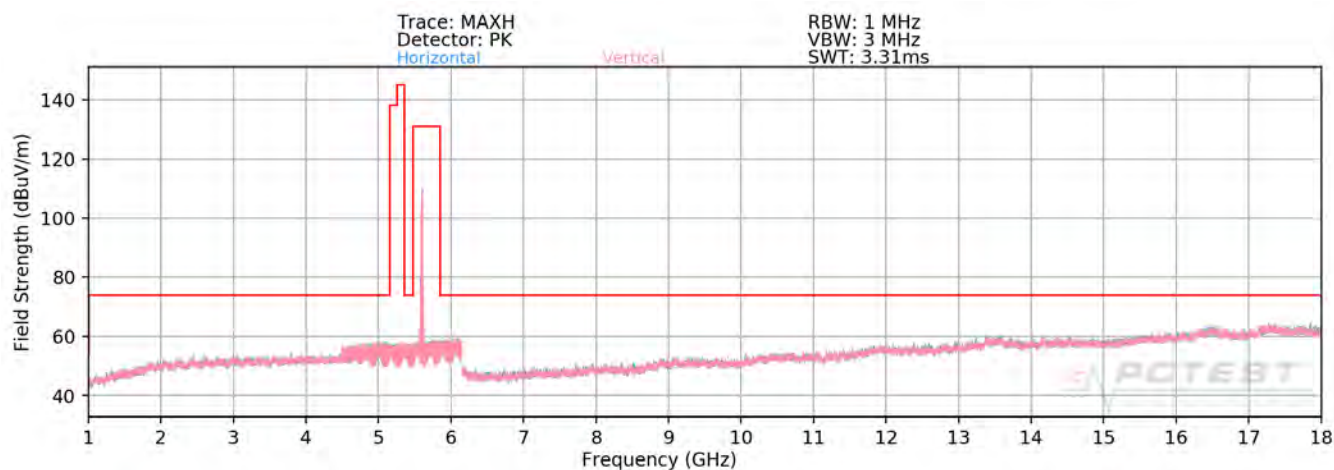
### 106 Tones



**Plot 7-625. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax – U1 Ch. 40 – 106 Tones )**



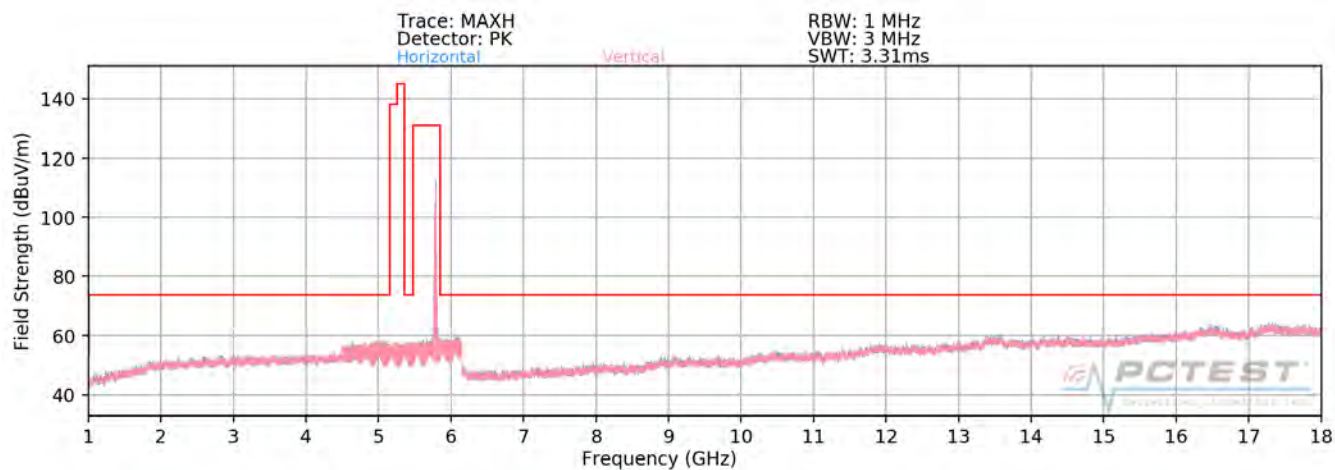
**Plot 7-626. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax – U2A Ch. 56 – 106 Tones)**



FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 405 of 514



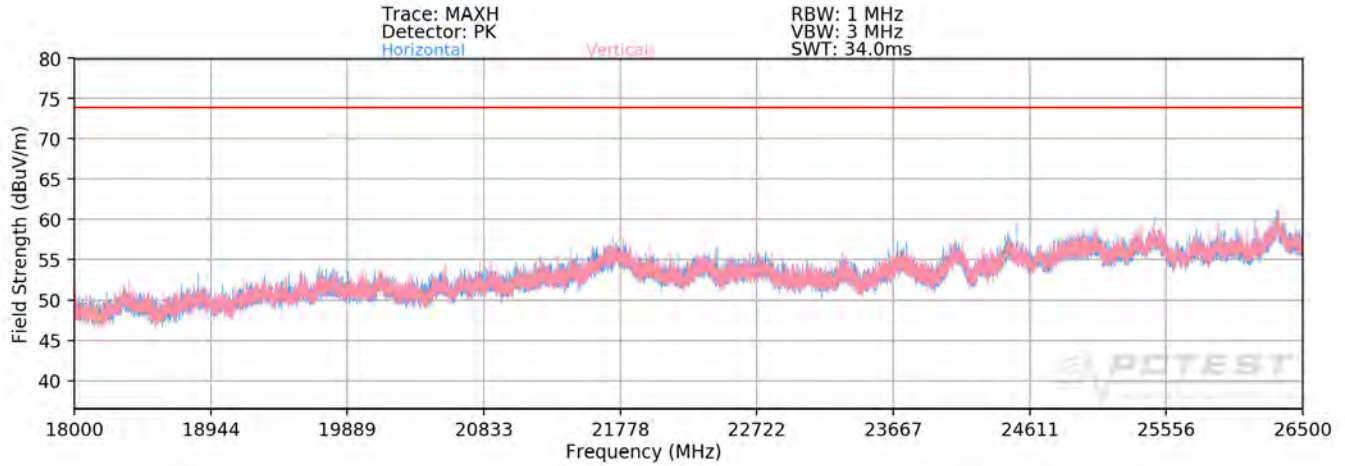
**Plot 7-627. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax – U2C Ch. 120 – 106 Tones)**



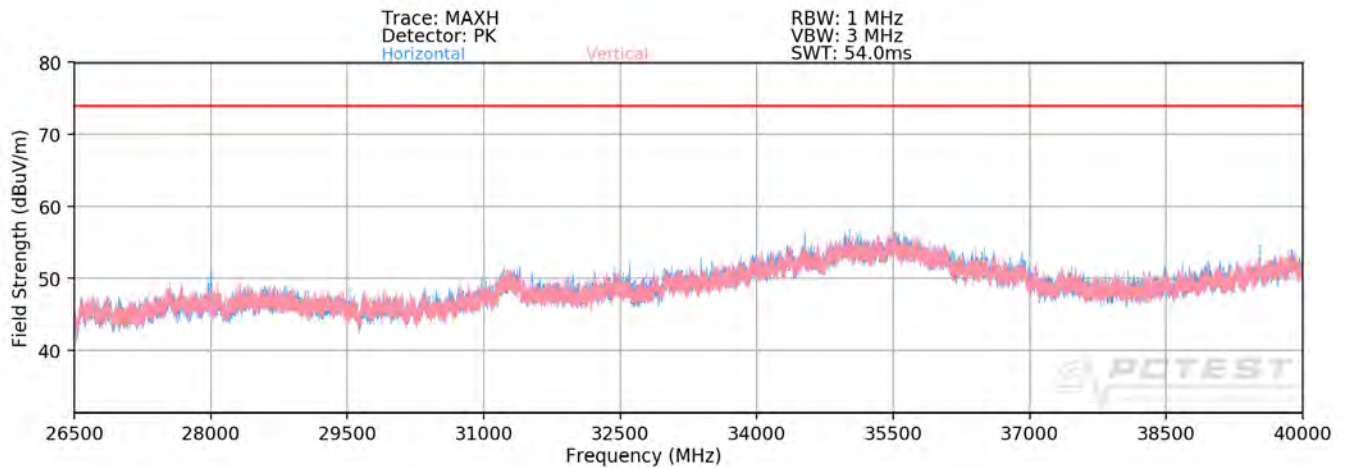
**Plot 7-628. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax – U3 Ch. 157 – 106 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 406 of 514

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



**Plot 7-629. Radiated Spurious Plot 18GHz - 26.5GHz SISO ANT1 (802.11ax – 106 Tones)**



**Plot 7-630. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT1 (802.11ax – 106 Tones)**

FCC ID: A3LSMG9730	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>MEASUREMENT REPORT (CERTIFICATION)</b>	<b>SAMSUNG</b>	Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 407 of 514

## 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:	53
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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10360.00	Peak	V	-	-	-72.15	18.75	53.60	68.20	-14.60
* 15540.00	Average	V	-	-	-86.25	28.13	48.88	53.98	-5.10
* 15540.00	Peak	V	-	-	-74.80	28.13	60.33	73.98	-13.65
* 20720.00	Average	V	-	-	-77.26	7.38	27.58	53.98	-26.40
* 20720.00	Peak	V	-	-	-67.31	7.38	37.53	73.98	-36.45
25900.00	Peak	V	-	-	-66.14	9.85	41.17	68.20	-27.03

Table 7-118. Radiated Measurements SISO ANT1 (106 Tones)

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	53
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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10400.00	Peak	V	-	-	-72.05	19.45	54.40	68.20	-13.80
* 15600.00	Average	V	-	-	-86.01	27.65	48.64	53.98	-5.34
* 15600.00	Peak	V	-	-	-74.04	27.65	60.61	73.98	-13.37
* 20800.00	Average	V	-	-	-78.50	7.85	26.80	53.98	-27.17
* 20800.00	Peak	V	-	-	-67.82	7.85	37.48	73.98	-36.49
26000.00	Peak	V	-	-	-66.31	10.44	41.58	68.20	-26.62

Table 7-119. Radiated Measurements SISO ANT1 (106 Tones)

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 408 of 514



Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10480.00	Peak	V	-	-	-72.75	19.76	54.01	68.20	-14.19
* 15720.00	Average	V	-	-	-85.82	27.55	48.73	53.98	-5.25
* 15720.00	Peak	V	-	-	-73.68	27.55	60.87	73.98	-13.11
* 20960.00	Average	V	-	-	-78.33	7.75	26.88	53.98	-27.10
* 20960.00	Peak	V	-	-	-67.76	7.75	37.45	73.98	-36.53
26200.00	Peak	V	-	-	-66.01	10.26	41.71	68.20	-26.49

**Table 7-120. Radiated Measurements SISO ANT1 (106 Tones)**

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10360.00	Peak	V	-	-	-72.25	18.75	53.50	68.20	-14.70
* 15540.00	Average	V	-	-	-86.44	28.13	48.69	53.98	-5.29
* 15540.00	Peak	V	-	-	-75.01	28.13	60.12	73.98	-13.86
* 20720.00	Average	V	-	-	-77.53	7.38	27.31	53.98	-26.67
* 20720.00	Peak	V	-	-	-67.51	7.38	37.33	73.98	-36.65
25900.00	Peak	V	-	-	-66.19	9.85	41.12	68.20	-27.08

**Table 7-121. Radiated Measurements SISO ANT1 (106 Tones)with WCP**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 409 of 514

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10520.00	Peak	V	-	-	-72.30	19.25	53.95	68.20	-14.25
* 15780.00	Average	V	-	-	-86.28	27.22	47.94	53.98	-6.04
* 15780.00	Peak	V	-	-	-73.99	27.22	60.23	73.98	-13.75
* 21040.00	Average	V	-	-	-77.99	7.78	27.25	53.98	-26.73
* 21040.00	Peak	V	-	-	-67.35	7.78	37.89	73.98	-36.09
26300.00	Peak	V	-	-	-67.15	10.58	40.89	68.20	-27.31

**Table 7-122. Radiated Measurements SISO ANT1 (106 Tones)**

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10560.00	Peak	V	-	-	-72.13	19.37	54.24	68.20	-13.96
* 15840.00	Average	V	-	-	-85.99	27.28	48.29	53.98	-5.69
* 15840.00	Peak	V	-	-	-74.05	27.28	60.23	73.98	-13.75
* 21120.00	Average	V	-	-	-77.22	17.26	37.50	53.98	-16.48
* 21120.00	Peak	V	-	-	-67.88	17.26	46.84	73.98	-27.14
26400.00	Peak	V	-	-	-65.33	19.67	51.80	68.20	-16.40

**Table 7-123. Radiated Measurements SISO ANT1 (106 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 410 of 514

Worst Case Mode: 802.11ax (20MHz BW)  
Worst Case Transfer Rate: MCS0  
RU Index: 53  
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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 10640.00	Average	V	-	-	-84.26	20.07	42.81	53.98	-11.17
* 10640.00	Peak	V	-	-	-72.27	20.07	54.80	73.98	-19.18
* 15960.00	Average	V	-	-	-85.95	27.42	48.47	53.98	-5.51
* 15960.00	Peak	V	-	-	-73.15	27.42	61.27	73.98	-12.71
* 21280.00	Average	V	-	-	-77.11	17.51	37.86	53.98	-16.12
* 21280.00	Peak	V	-	-	-67.55	17.51	47.42	73.98	-26.56
26600.00	Peak	V	-	-	-51.15	1.44	47.75	68.20	-20.45

**Table 7-124. Radiated Measurements SISO ANT1 (106 Tones)**

Worst Case Mode: 802.11ax (20MHz BW)  
Worst Case Transfer Rate: MCS0  
RU Index: 53  
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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 10640.00	Average	V	-	-	-84.55	20.07	42.52	53.98	-11.46
* 10640.00	Peak	V	-	-	-72.97	20.07	54.10	73.98	-19.88
* 15960.00	Average	V	-	-	-86.14	27.42	48.28	53.98	-5.70
* 15960.00	Peak	V	-	-	-73.28	27.42	61.14	73.98	-12.84
* 21280.00	Average	V	-	-	-77.61	17.51	37.36	53.98	-16.62
* 21280.00	Peak	V	-	-	-67.88	17.51	47.09	73.98	-26.89
26600.00	Peak	V	-	-	-51.35	1.44	47.55	68.20	-20.65

**Table 7-125. Radiated Measurements SISO ANT1 (106 Tones)with WCP**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 411 of 514

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11000.00	Average	V	-	-	-85.30	20.71	42.41	53.98	-11.57
* 11000.00	Peak	V	-	-	-73.09	20.71	54.62	73.98	-19.36
16500.00	Peak	V	-	-	-73.30	28.80	62.50	68.20	-5.70
22000.00	Peak	V	-	-	-66.51	8.71	39.66	68.20	-28.54
27500.00	Peak	V	-	-	-51.99	-9.42	36.05	68.20	-32.15

**Table 7-126. Radiated Measurements SISO ANT1 (106 Tones)**

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11200.00	Average	V	-	-	-84.91	20.02	42.11	53.98	-11.87
* 11200.00	Peak	V	-	-	-72.23	20.02	54.79	73.98	-19.19
16800.00	Peak	V	-	-	-73.16	28.89	62.73	68.20	-5.47
* 22400.00	Average	V	-	-	-78.14	9.30	28.62	53.98	-25.36
* 22400.00	Peak	V	-	-	-67.21	9.30	39.55	73.98	-34.43
28000.00	Peak	V	-	-	-49.30	-9.24	38.92	68.20	-29.28

**Table 7-127. Radiated Measurements SISO ANT1 (106 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 412 of 514



Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11440.00	Average	V	-	-	-85.31	20.76	42.45	53.98	-11.53
* 11440.00	Peak	V	-	-	-72.68	20.76	55.08	73.98	-18.90
17160.00	Peak	V	-	-	-73.26	29.65	63.39	68.20	-4.81
* 22880.00	Average	V	-	-	-78.10	8.86	28.22	53.98	-25.76
* 22880.00	Peak	V	-	-	-67.77	8.86	38.55	73.98	-35.43
28600.00	Peak	V	-	-	-52.48	-9.13	35.85	68.20	-32.35

**Table 7-128. Radiated Measurements SISO ANT1 (106 Tones)**

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11440.00	Average	V	-	-	-86.11	20.76	41.65	53.98	-12.33
* 11440.00	Peak	V	-	-	-72.99	20.76	54.77	73.98	-19.21
17160.00	Peak	V	-	-	-73.47	29.65	63.18	68.20	-5.02
* 22880.00	Average	V	-	-	-77.18	8.86	29.14	53.98	-24.84
* 22880.00	Peak	V	-	-	-66.55	8.86	39.77	73.98	-34.21
28600.00	Peak	V	-	-	-48.14	-9.13	40.19	68.20	-28.01

**Table 7-129. Radiated Measurements SISO ANT1 (106 Tones)with WCP**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 413 of 514

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11490.00	Average	V	-	-	-85.01	20.29	42.28	53.98	-11.70
* 11490.00	Peak	V	-	-	-72.47	20.29	54.82	73.98	-19.16
17235.00	Peak	V	-	-	-73.89	29.45	62.56	68.20	-5.64
* 22980.00	Average	V	-	-	-77.59	8.38	28.25	53.98	-25.73
* 22980.00	Peak	V	-	-	-67.46	8.38	38.38	73.98	-35.60
28725.00	Peak	V	-	-	-51.99	-8.87	36.60	68.20	-31.60

**Table 7-130. Radiated Measurements SISO ANT1 (106 Tones)**

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11570.00	Average	V	-	-	-84.81	20.87	43.06	53.98	-10.92
* 11570.00	Peak	V	-	-	-72.24	20.87	55.63	73.98	-18.35
17355.00	Peak	V	-	-	-73.60	29.88	63.28	68.20	-4.92
23140.00	Peak	V	-	-	-68.11	8.78	38.13	68.20	-30.07
28925.00	Peak	V	-	-	-52.43	-8.79	36.24	68.20	-31.96

**Table 7-131. Radiated Measurements SISO ANT1 (106 Tones)**

FCC ID: A3LSMG9730	 <b>MEASUREMENT REPORT (CERTIFICATION)</b> 		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset	Page 414 of 514

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11650.00	Average	V	-	-	-84.79	21.73	43.94	53.98	-10.04
* 11650.00	Peak	V	-	-	-72.28	21.73	56.45	73.98	-17.53
17475.00	Peak	V	-	-	-74.01	30.16	63.15	68.20	-5.05
23300.00	Peak	V	-	-	-68.01	8.78	38.23	68.20	-29.97
29125.00	Peak	V	-	-	-48.89	-8.79	39.78	68.20	-28.42

**Table 7-132. Radiated Measurements SISO ANT1 (106 Tones)**

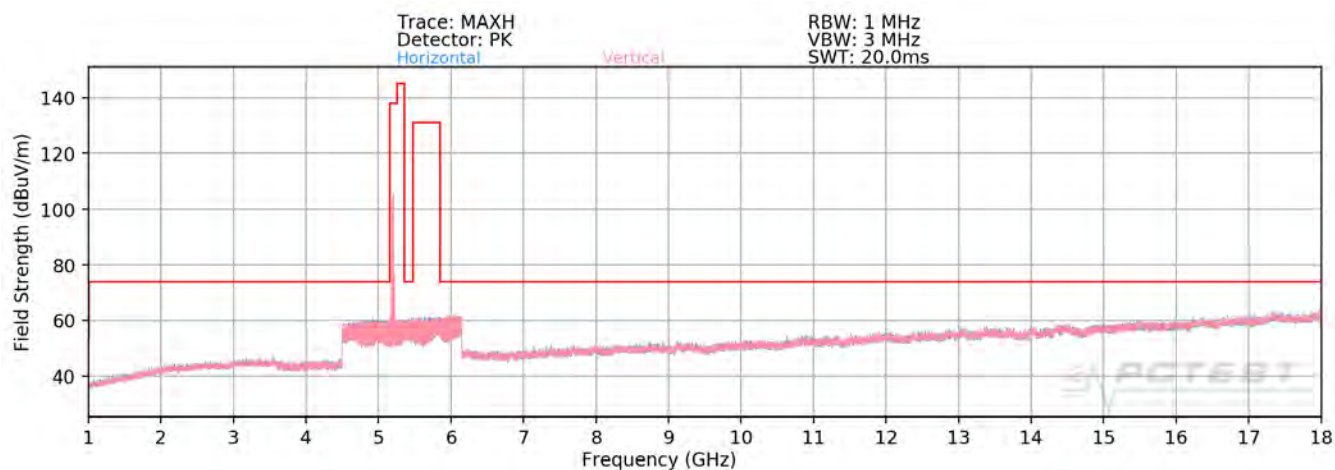
Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5785MHz  
 Channel: 157

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11570.00	Average	V	-	-	-84.82	20.87	43.05	53.98	-10.93
* 11570.00	Peak	V	-	-	-72.46	20.87	55.41	73.98	-18.57
17355.00	Peak	V	-	-	-73.77	29.88	63.11	68.20	-5.09
23140.00	Peak	V	-	-	-67.71	8.78	38.53	68.20	-29.67
28925.00	Peak	V	-	-	-52.53	-8.79	36.14	68.20	-32.06

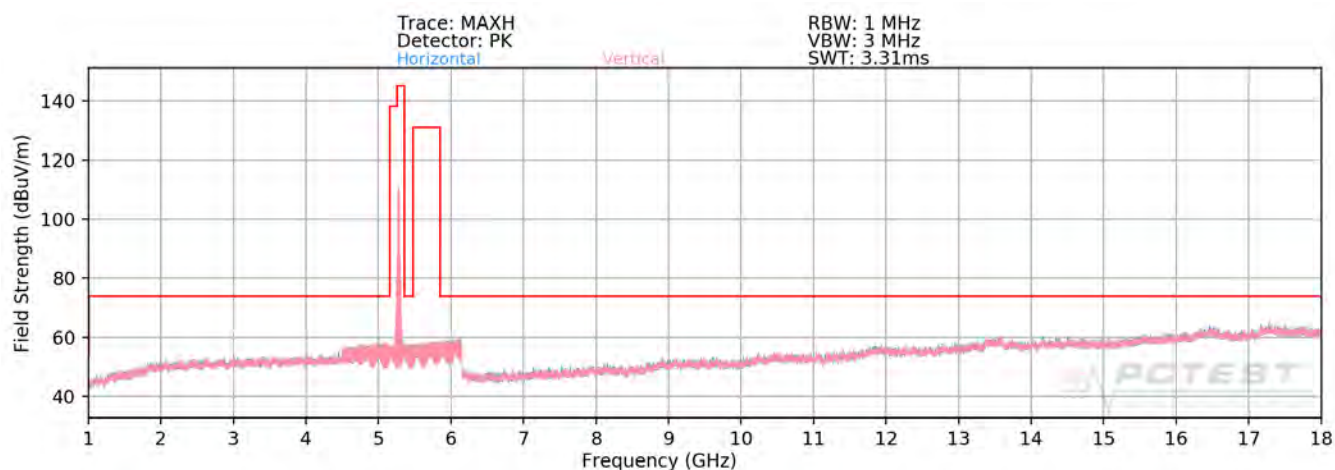
**Table 7-133. Radiated Measurements SISO ANT1 (106 Tones)with WCP**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 415 of 514

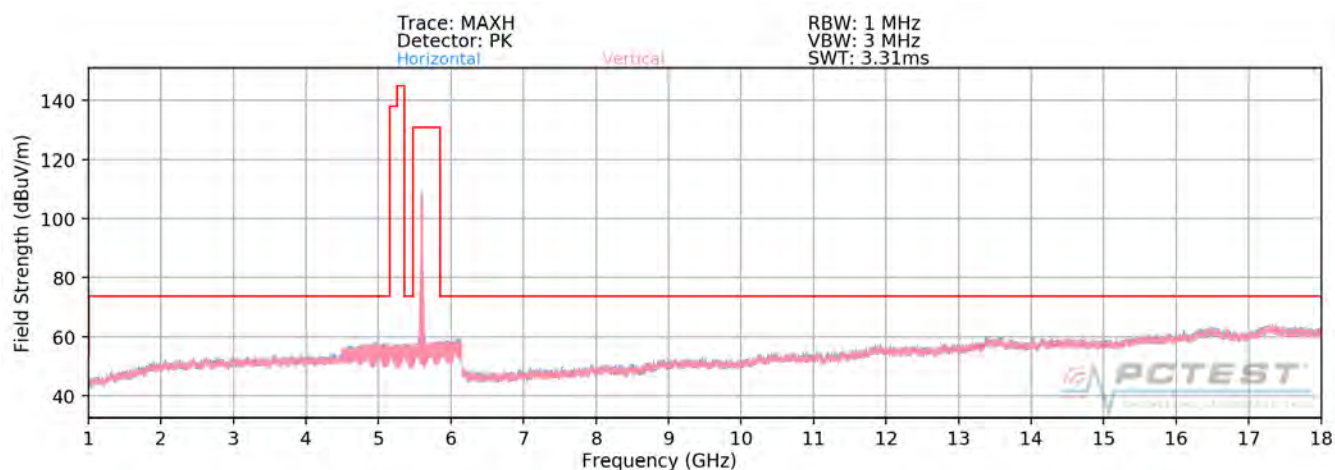
## 242 Tones



**Plot 7-631. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax – U1 Ch. 40 – 242 Tones )**



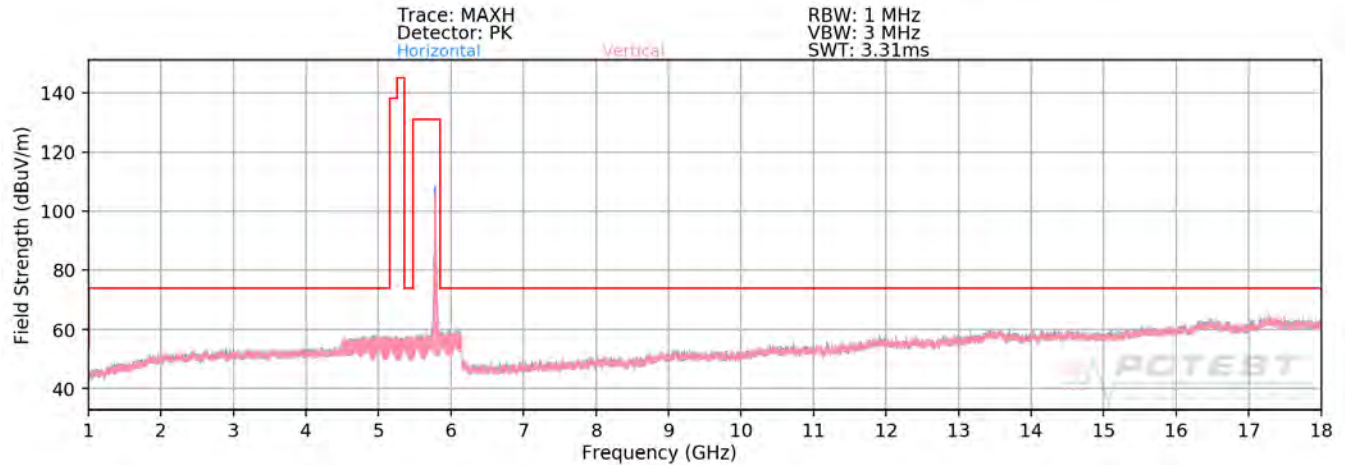
**Plot 7-632. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax – U2A Ch. 56 – 242 Tones)**



**Plot 7-633. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax – U2C Ch. 120 – 242 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 416 of 514

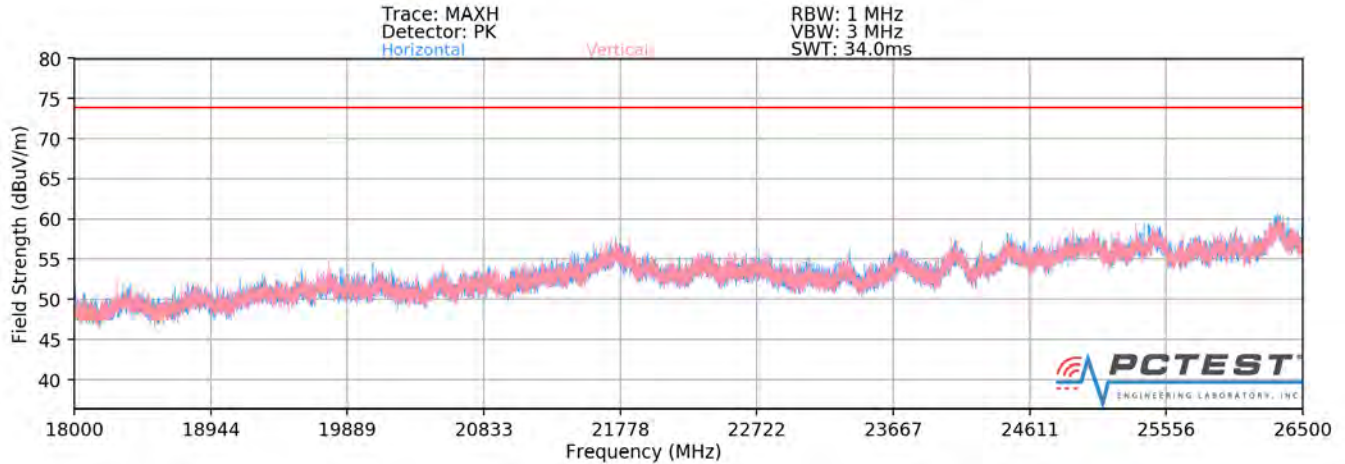




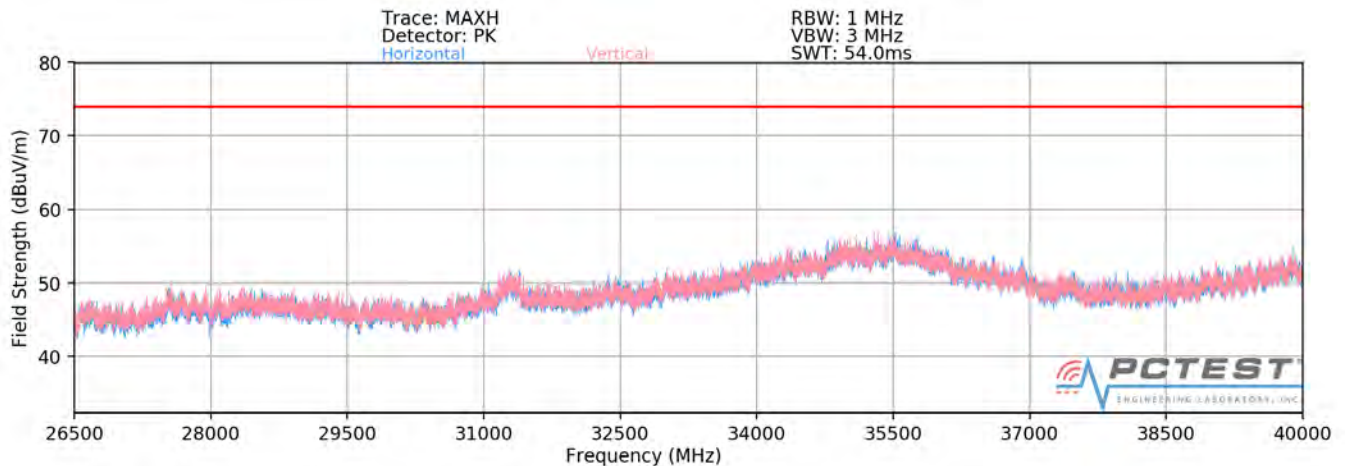
**Plot 7-634. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax – U3 Ch. 157 – 242 Tones)**

FCC ID: A3LSMG9730	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>MEASUREMENT REPORT (CERTIFICATION)</b>	<b>SAMSUNG</b>	Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 417 of 514

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



**Plot 7-635. Radiated Spurious Plot 18GHz - 26.5GHz SISO ANT1 (802.11ax – 242 Tones)**



**Plot 7-636. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT1 (802.11ax – 242 Tones)**

FCC ID: A3LSMG9730	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>MEASUREMENT REPORT (CERTIFICATION)</b>	<b>SAMSUNG</b>	Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 418 of 514

## 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10360.00	Peak	V	-	-	-71.61	18.75	54.14	68.20	-14.06
* 15540.00	Average	V	-	-	-86.10	28.13	49.03	53.98	-4.95
* 15540.00	Peak	V	-	-	-73.64	28.13	61.49	73.98	-12.49
* 20720.00	Average	V	-	-	-78.05	7.38	26.79	53.98	-27.19
* 20720.00	Peak	V	-	-	-68.03	7.38	36.81	73.98	-37.17
25900.00	Peak	V	-	-	-66.61	9.85	40.70	68.20	-27.50

Table 7-134. Radiated Measurements SISO ANT1 (242 Tones)

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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10400.00	Peak	V	-	-	-72.19	19.45	54.26	68.20	-13.94
* 15600.00	Average	V	-	-	-85.78	27.65	48.87	53.98	-5.11
* 15600.00	Peak	V	-	-	-73.57	27.65	61.08	73.98	-12.90
* 20800.00	Average	V	-	-	-78.46	7.85	26.84	53.98	-27.14
* 20800.00	Peak	V	-	-	-67.78	7.85	37.52	73.98	-36.46
26000.00	Peak	V	-	-	-66.27	10.44	41.62	68.20	-26.58

Table 7-135. Radiated Measurements SISO ANT1 (242 Tones)

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 419 of 514

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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10480.00	Peak	V	-	-	-74.83	19.76	51.93	68.20	-16.27
* 15720.00	Average	V	-	-	-85.80	27.55	48.75	53.98	-5.23
* 15720.00	Peak	V	-	-	-75.57	27.55	58.98	73.98	-15.00
* 20960.00	Average	V	-	-	-78.19	7.75	27.01	53.98	-26.97
* 20960.00	Peak	V	-	-	-67.58	7.75	37.63	73.98	-36.35
26200.00	Peak	V	-	-	-65.64	10.26	42.07	68.20	-26.13

**Table 7-136. Radiated Measurements SISO ANT1 (242 Tones)**

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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10520.00	Peak	V	-	-	-74.54	19.25	51.71	68.20	-16.49
* 15780.00	Average	V	-	-	-84.93	27.22	49.29	53.98	-4.69
* 15780.00	Peak	V	-	-	-75.84	27.22	58.38	73.98	-15.60
* 21040.00	Average	V	-	-	-77.80	7.78	27.44	53.98	-26.54
* 21040.00	Peak	V	-	-	-67.65	7.78	37.58	73.98	-36.40
26300.00	Peak	V	-	-	-67.32	10.58	40.72	68.20	-27.48

**Table 7-137. Radiated Measurements SISO ANT1 (242 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 420 of 514



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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10560.00	Peak	V	-	-	-74.79	19.37	51.58	68.20	-16.62
* 15840.00	Average	V	-	-	-84.97	27.28	49.31	53.98	-4.67
* 15840.00	Peak	V	-	-	-75.80	27.28	58.48	73.98	-15.50
* 21120.00	Average	V	-	-	-77.19	17.26	37.53	53.98	-16.45
* 21120.00	Peak	V	-	-	-66.95	17.26	47.76	73.98	-26.22
26400.00	Peak	V	-	-	-65.15	19.67	51.98	68.20	-16.22

**Table 7-138. Radiated Measurements SISO ANT1 (242 Tones)**

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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 10640.00	Average	V	-	-	-83.36	20.07	43.71	53.98	-10.27
* 10640.00	Peak	V	-	-	-75.97	20.07	51.10	73.98	-22.88
* 15960.00	Average	V	-	-	-84.99	27.42	49.43	53.98	-4.55
* 15960.00	Peak	V	-	-	-76.89	27.42	57.53	73.98	-16.45
* 21280.00	Average	V	-	-	-77.47	17.51	37.50	53.98	-16.48
* 21280.00	Peak	V	-	-	-67.42	17.51	47.55	73.98	-26.43
26600.00	Peak	V	-	-	-51.13	1.44	47.77	68.20	-20.43

**Table 7-139. Radiated Measurements SISO ANT1 (242 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 421 of 514

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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11000.00	Average	V	-	-	-85.49	20.71	42.22	53.98	-11.76
* 11000.00	Peak	V	-	-	-72.01	20.71	55.70	73.98	-18.28
16500.00	Peak	V	-	-	-73.02	28.80	62.78	68.20	-5.42
22000.00	Peak	V	-	-	-67.26	8.71	38.91	68.20	-29.29
27500.00	Peak	V	-	-	-51.39	-9.42	36.65	68.20	-31.55

**Table 7-140. Radiated Measurements SISO ANT1 (242 Tones)**

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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11200.00	Average	V	-	-	-84.37	20.02	42.65	53.98	-11.33
* 11200.00	Peak	V	-	-	-71.73	20.02	55.29	73.98	-18.69
16800.00	Peak	V	-	-	-72.62	28.89	63.27	68.20	-4.93
* 22400.00	Average	V	-	-	-77.82	9.30	28.93	53.98	-25.04
* 22400.00	Peak	V	-	-	-67.48	9.30	39.28	73.98	-34.70
28000.00	Peak	V	-	-	-49.23	-9.24	38.99	68.20	-29.21

**Table 7-141. Radiated Measurements SISO ANT1 (242 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 422 of 514

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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11440.00	Average	V	-	-	-85.27	20.76	42.49	53.98	-11.49
* 11440.00	Peak	V	-	-	-73.35	20.76	54.41	73.98	-19.57
17160.00	Peak	V	-	-	-73.89	29.65	62.76	68.20	-5.44
* 22880.00	Average	V	-	-	-79.00	8.86	27.31	53.98	-26.66
* 22880.00	Peak	V	-	-	-68.32	8.86	37.99	73.98	-35.99
28600.00	Peak	V	-	-	-52.96	-9.13	35.37	68.20	-32.83

**Table 7-142. Radiated Measurements SISO ANT1 (242 Tones)**

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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11490.00	Average	V	-	-	-83.92	20.29	43.37	53.98	-10.61
* 11490.00	Peak	V	-	-	-75.81	20.29	51.48	73.98	-22.50
17235.00	Peak	V	-	-	-76.23	29.45	60.22	68.20	-7.98
* 22980.00	Average	V	-	-	-77.87	8.38	27.97	53.98	-26.01
* 22980.00	Peak	V	-	-	-67.78	8.38	38.06	73.98	-35.92
28725.00	Peak	V	-	-	-52.39	-8.87	36.20	68.20	-32.00

**Table 7-143. Radiated Measurements SISO ANT1 (242 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 423 of 514

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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11570.00	Average	V	-	-	-83.76	20.87	44.11	53.98	-9.87
* 11570.00	Peak	V	-	-	-75.23	20.87	52.64	73.98	-21.34
17355.00	Peak	V	-	-	-76.65	29.88	60.23	68.20	-7.97
23140.00	Peak	V	-	-	-67.39	8.78	38.85	68.20	-29.35
28925.00	Peak	V	-	-	-52.73	-8.79	35.94	68.20	-32.26

**Table 7-144. Radiated Measurements SISO ANT1 (242 Tones)**

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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11650.00	Average	V	-	-	-83.57	21.73	45.16	53.98	-8.82
* 11650.00	Peak	V	-	-	-75.02	21.73	53.71	73.98	-20.27
17475.00	Peak	V	-	-	-75.61	30.16	61.55	68.20	-6.65
23300.00	Peak	V	-	-	-66.35	9.23	40.33	68.20	-27.87
29125.00	Peak	V	-	-	-48.44	-9.66	39.36	68.20	-28.84

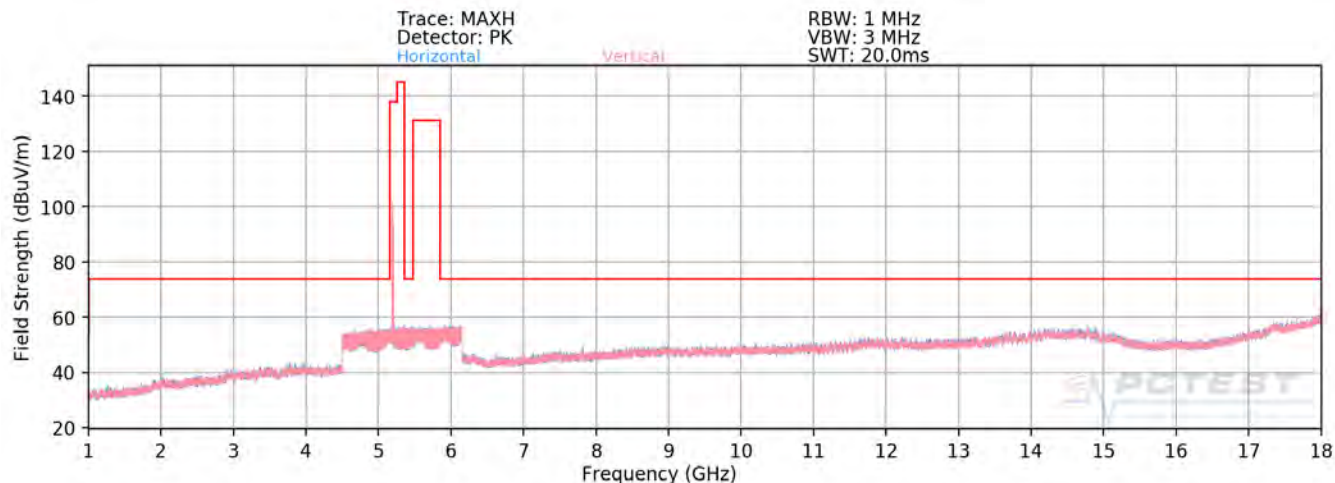
**Table 7-145. Radiated Measurements SISO ANT1 (242 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 424 of 514

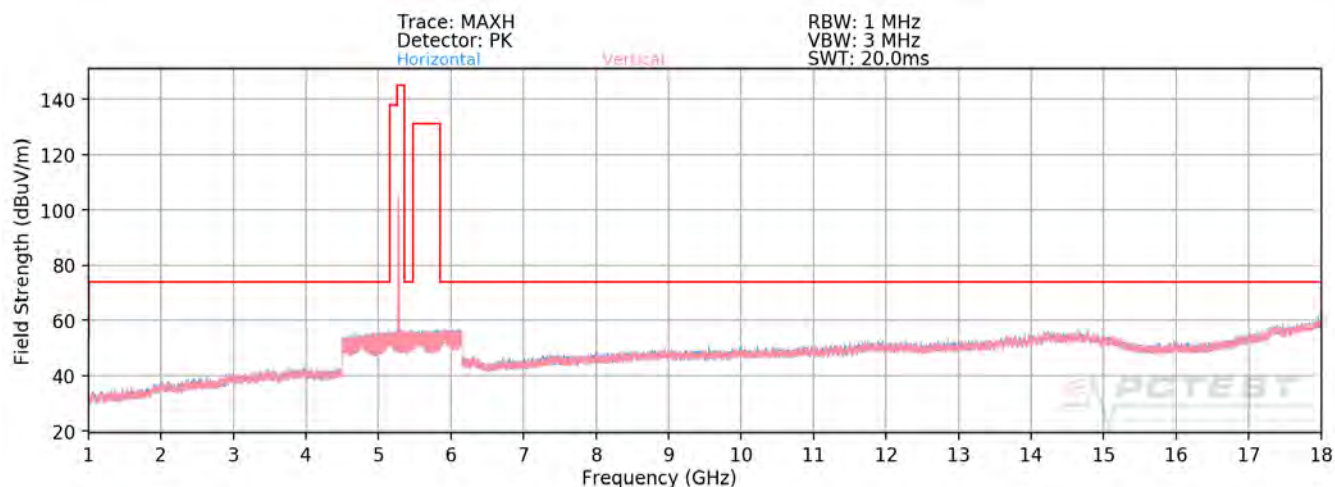


## 7.6.2 SISO Antenna-2 Radiated Spurious Emission Measurements

### 106 Tones

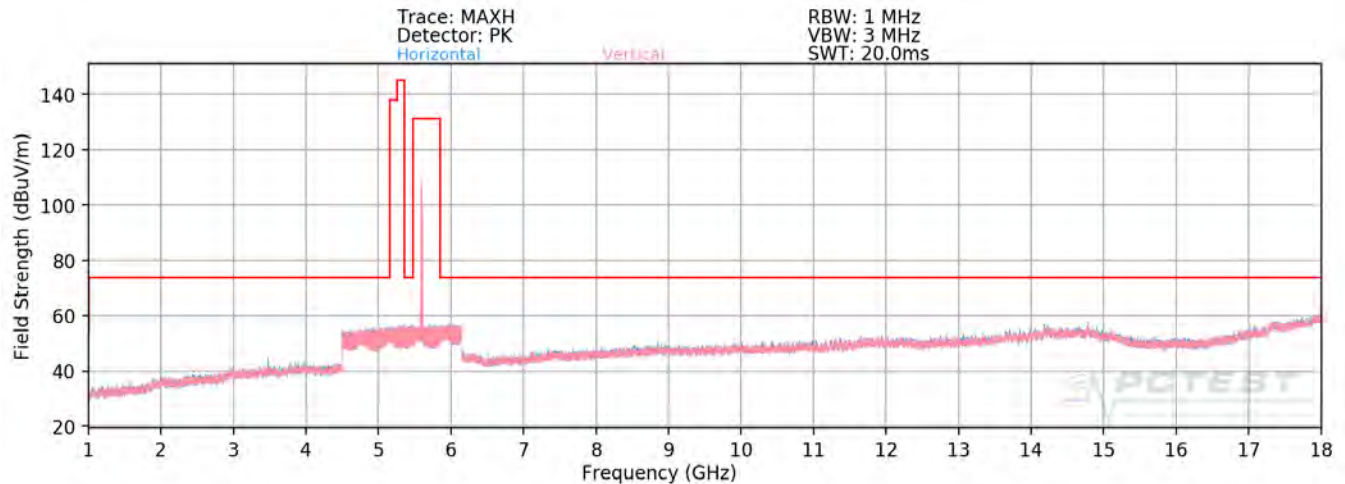


**Plot 7-637. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax – U1 Ch. 40 – 106 Tones )**

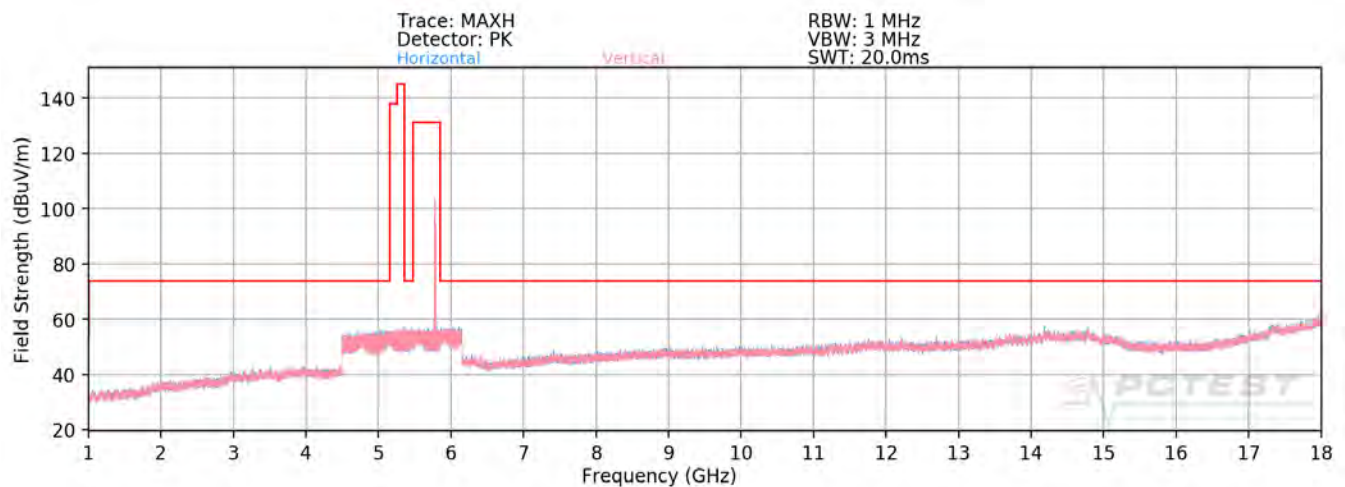


**Plot 7-638. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax – U2A Ch. 56 – 106 Tones)**

FCC ID: A3LSMG9730	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>MEASUREMENT REPORT (CERTIFICATION)</b>	<b>SAMSUNG</b>	Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 425 of 514



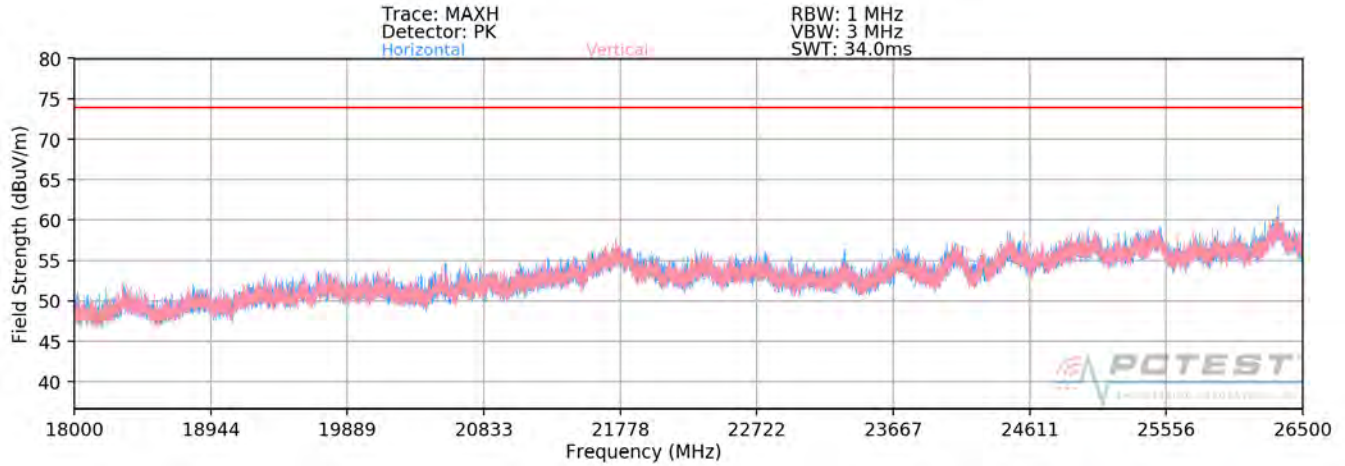
**Plot 7-639. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax – U2C Ch. 120 – 106 Tones)**



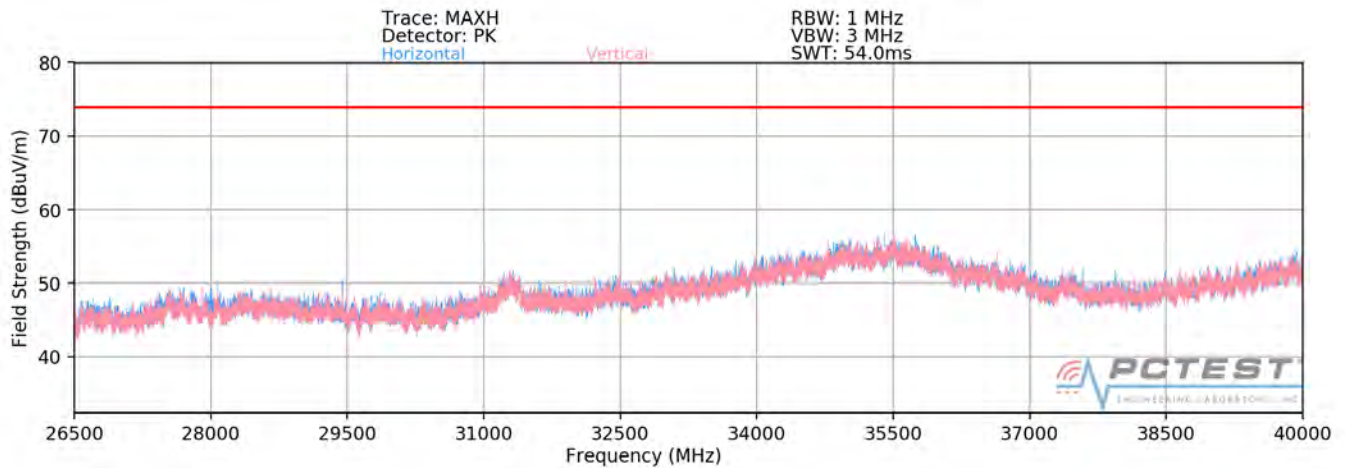
**Plot 7-640. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax – U3 Ch. 157 – 106 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 426 of 514

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



**Plot 7-641. Radiated Spurious Plot 18GHz - 26.5GHz SISO ANT2 (802.11ax – 106 Tones)**



**Plot 7-642. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT2 (802.11ax – 106 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 427 of 514

## SISO Antenna-2 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:	53
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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10360.00	Peak	H	120	287	-69.91	12.74	49.83	68.20	-18.37
* 15540.00	Average	H	-	-	-81.81	15.28	40.47	53.98	-13.51
* 15540.00	Peak	H	-	-	-70.58	15.28	51.70	73.98	-22.28
* 20720.00	Average	H	-	-	-78.00	7.38	26.84	53.98	-27.14
* 20720.00	Peak	H	-	-	-67.99	7.38	36.85	73.98	-37.13
25900.00	Peak	H	-	-	-66.50	9.85	40.81	68.20	-27.39

Table 7-146. Radiated Measurements SISO ANT2 (106 Tones)

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	53
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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10400.00	Peak	H	331	307	-69.41	12.24	49.83	68.20	-18.37
* 15600.00	Average	H	-	-	-82.42	15.40	39.98	53.98	-13.99
* 15600.00	Peak	H	-	-	-70.71	15.40	51.69	73.98	-22.28
* 20800.00	Average	H	-	-	-78.11	7.85	27.19	53.98	-26.78
* 20800.00	Peak	H	-	-	-67.35	7.85	37.95	73.98	-36.02
26000.00	Peak	H	-	-	-66.78	10.44	41.11	68.20	-27.09

Table 7-147. Radiated Measurements SISO ANT2 (106 Tones)

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 428 of 514



Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10480.00	Peak	H	-	-	-68.83	12.41	50.58	68.20	-17.62
* 15720.00	Average	H	-	-	-82.19	16.70	41.51	53.98	-12.47
* 15720.00	Peak	H	-	-	-70.29	16.70	53.41	73.98	-20.57
* 20960.00	Average	H	-	-	-78.25	7.75	26.96	53.98	-27.02
* 20960.00	Peak	H	-	-	-67.42	7.75	37.79	73.98	-36.19
26200.00	Peak	H	-	-	-65.55	10.26	42.17	68.20	-26.03

**Table 7-148. Radiated Measurements SISO ANT2 (106 Tones)**

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10480.00	Peak	H	-	-	-68.83	12.41	50.58	68.20	-17.62
* 15720.00	Average	H	-	-	-82.19	16.70	41.51	53.98	-12.47
* 15720.00	Peak	H	-	-	-70.29	16.70	53.41	73.98	-20.57
* 20960.00	Average	H	-	-	-78.44	7.75	26.77	53.98	-27.21
* 20960.00	Peak	H	-	-	-67.66	7.75	37.55	73.98	-36.43
26200.00	Peak	H	-	-	-65.92	10.26	41.80	68.20	-26.40

**Table 7-149. Radiated Measurements SISO ANT2 (106 Tones)with WCP**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 429 of 514

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10520.00	Peak	H	-	-	-69.64	13.16	50.52	68.20	-17.68
* 15780.00	Average	H	-	-	-82.11	16.21	41.10	53.98	-12.88
* 15780.00	Peak	H	-	-	-71.07	16.21	52.14	73.98	-21.84
* 21040.00	Average	H	-	-	-78.46	7.78	26.78	53.98	-27.20
* 21040.00	Peak	H	-	-	-68.14	7.78	37.10	73.98	-36.88
26300.00	Peak	H	-	-	-66.58	10.58	41.46	68.20	-26.74

**Table 7-150. Radiated Measurements SISO ANT2 (106 Tones)**

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10560.00	Peak	H	-	-	-70.83	13.66	49.83	68.20	-18.37
* 15840.00	Average	H	-	-	-82.36	15.64	40.28	53.98	-13.70
* 15840.00	Peak	H	-	-	-70.20	15.64	52.44	73.98	-21.54
* 21120.00	Average	H	-	-	-77.87	17.26	36.85	53.98	-17.13
* 21120.00	Peak	H	-	-	-66.85	17.26	47.87	73.98	-26.11
26400.00	Peak	H	-	-	-65.11	19.67	52.02	68.20	-16.18

**Table 7-151. Radiated Measurements SISO ANT2 (106 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 430 of 514

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 10640.00	Average	H	-	-	-81.23	14.15	39.92	53.98	-14.06
* 10640.00	Peak	H	-	-	-69.49	14.15	51.66	73.98	-22.32
* 15960.00	Average	H	-	-	-82.10	15.01	39.91	53.98	-14.07
* 15960.00	Peak	H	-	-	-70.28	15.01	51.73	73.98	-22.25
* 21280.00	Average	H	-	-	-78.05	17.51	36.92	53.98	-17.06
* 21280.00	Peak	H	-	-	-67.44	17.51	47.53	73.98	-26.45
26600.00	Peak	H	-	-	-50.99	1.44	47.91	68.20	-20.29

**Table 7-152. Radiated Measurements SISO ANT2 (106 Tones)**

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10520.00	Peak	H	-	-	-69.55	13.16	50.61	68.20	-17.59
* 15780.00	Average	H	-	-	-82.01	16.21	41.20	53.98	-12.78
* 15780.00	Peak	H	-	-	-70.89	16.21	52.32	73.98	-21.66
* 21040.00	Average	H	-	-	-78.40	7.78	26.84	53.98	-27.14
* 21040.00	Peak	H	-	-	-67.77	7.78	37.47	73.98	-36.51
26300.00	Peak	H	-	-	-65.14	10.58	42.90	68.20	-25.30

**Table 7-153. Radiated Measurements SISO ANT2 (106 Tones)with WCP**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 431 of 514

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11000.00	Average	H	-	-	-80.98	17.61	43.63	53.98	-10.35
* 11000.00	Peak	H	-	-	-69.79	17.61	54.82	73.98	-19.16
16500.00	Peak	H	-	-	-71.01	25.31	61.30	68.20	-6.90
22000.00	Peak	H	-	-	-68.51	8.71	37.66	68.20	-30.54
27500.00	Peak	H	-	-	-52.01	-9.42	36.03	68.20	-32.17

**Table 7-154. Radiated Measurements SISO ANT2 (106 Tones)**

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11200.00	Average	H	-	-	-80.99	16.98	42.99	53.98	-10.99
* 11200.00	Peak	H	-	-	-70.01	16.98	53.97	73.98	-20.01
16800.00	Peak	H	-	-	-69.55	24.87	62.32	68.20	-5.88
* 22400.00	Average	H	-	-	-78.33	9.30	28.43	53.98	-25.55
* 22400.00	Peak	H	-	-	-66.99	9.30	39.77	73.98	-34.21
28000.00	Peak	H	-	-	-49.52	-9.24	38.70	68.20	-29.50

**Table 7-155. Radiated Measurements SISO ANT2 (106 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 432 of 514

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11440.00	Average	H	-	-	-81.83	18.07	43.24	53.98	-10.74
* 11440.00	Peak	H	-	-	-70.21	18.07	54.86	73.98	-19.12
17160.00	Peak	H	-	-	-70.12	24.98	61.86	68.20	-6.34
* 22880.00	Average	H	-	-	-78.16	8.86	28.16	53.98	-25.82
* 22880.00	Peak	H	-	-	-67.44	8.86	38.88	73.98	-35.10
28600.00	Peak	H	-	-	-52.35	-9.13	35.97	68.20	-32.23

**Table 7-156. Radiated Measurements SISO ANT2 (106 Tones)**

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11200.00	Average	H	-	-	-81.23	16.98	42.75	53.98	-11.23
* 11200.00	Peak	H	-	-	-70.55	16.98	53.43	73.98	-20.55
16800.00	Peak	H	-	-	-69.37	24.87	62.50	68.20	-5.70
* 22400.00	Average	H	-	-	-77.78	9.30	28.98	53.98	-25.00
* 22400.00	Peak	H	-	-	-67.56	9.30	39.20	73.98	-34.78
28000.00	Peak	H	-	-	-49.44	-9.24	38.78	68.20	-29.42

**Table 7-157. Radiated Measurements SISO ANT2 (106 Tones)with WCP**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 433 of 514



Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11490.00	Average	H	292	289	-79.79	15.22	42.43	53.98	-11.55
* 11490.00	Peak	H	292	289	-66.78	15.22	55.44	73.98	-18.54
17235.00	Peak	H	-	-	-69.45	19.54	57.09	68.20	-11.11
* 22980.00	Average	H	-	-	-77.82	8.38	28.02	53.98	-25.96
* 22980.00	Peak	H	-	-	-66.84	8.38	39.00	73.98	-34.98
28725.00	Peak	H	-	-	-52.10	-8.87	36.49	68.20	-31.71

**Table 7-158. Radiated Measurements SISO ANT2 (106 Tones)**

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11570.00	Average	H	292	301	-79.92	15.02	42.10	53.98	-11.88
* 11570.00	Peak	H	292	301	-67.46	15.02	54.56	73.98	-19.42
17355.00	Peak	H	-	-	-69.85	23.41	60.56	68.20	-7.64
23140.00	Peak	H	-	-	-66.94	8.78	39.30	68.20	-28.90
28925.00	Peak	H	-	-	-51.43	-8.79	37.24	68.20	-30.96

**Table 7-159. Radiated Measurements SISO ANT2 (106 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 434 of 514

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11650.00	Average	H	397	16	-79.42	14.92	42.50	53.98	-11.48
* 11650.00	Peak	H	397	16	-69.91	14.92	52.01	73.98	-21.97
17475.00	Peak	H	-	-	-70.11	21.86	58.75	68.20	-9.45
23300.00	Peak	H	-	-	-65.87	9.23	40.82	68.20	-27.38
29125.00	Peak	H	-	-	-49.13	-9.66	38.67	68.20	-29.53

**Table 7-160. Radiated Measurements SISO ANT2 (106 Tones)**

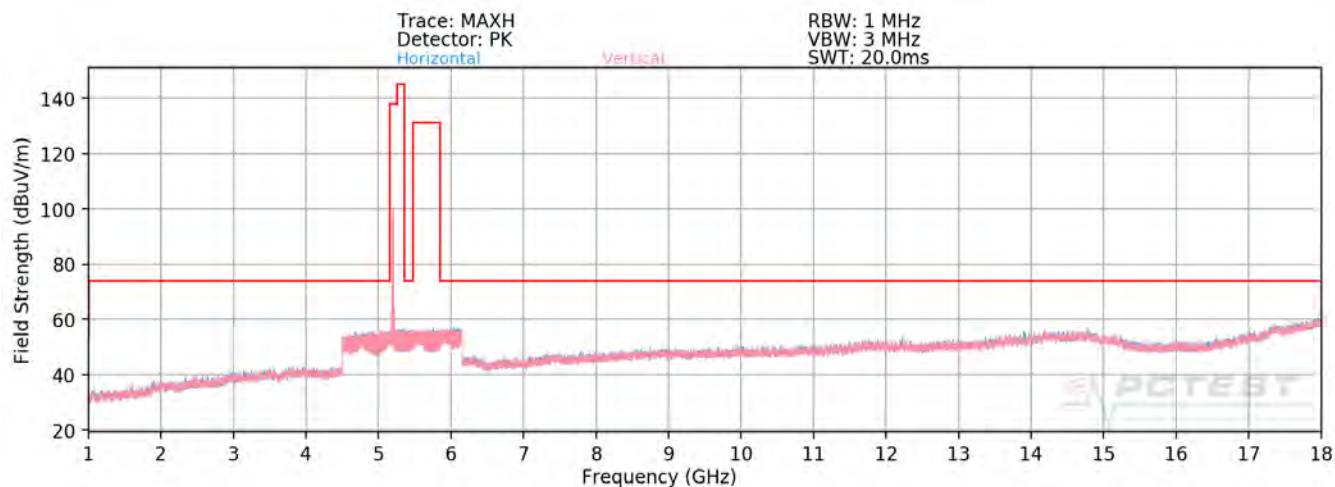
Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5825MHz  
 Channel: 165

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11650.00	Average	H	167	41	-79.42	14.92	42.50	53.98	-11.48
* 11650.00	Peak	H	167	41	-69.91	14.92	52.01	73.98	-21.97
17475.00	Peak	H	-	-	-70.51	21.86	58.35	68.20	-9.85
23300.00	Peak	H	-	-	-65.86	9.23	40.83	68.20	-27.37
29125.00	Peak	H	-	-	-49.89	-9.66	37.91	68.20	-30.29

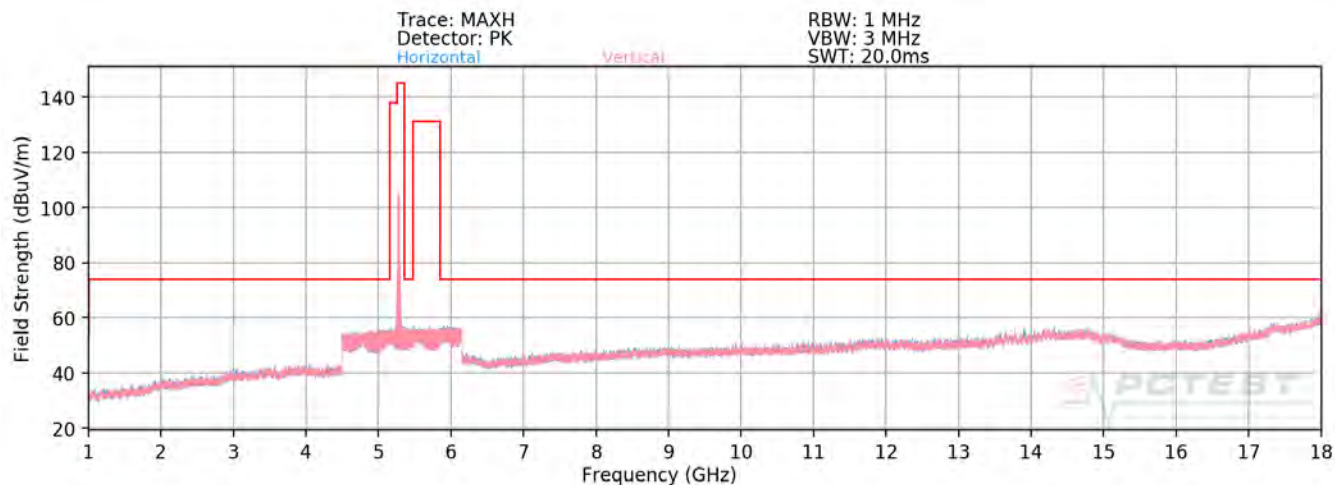
**Table 7-161. Radiated Measurements SISO ANT2 (106 Tones)with WCP**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 435 of 514

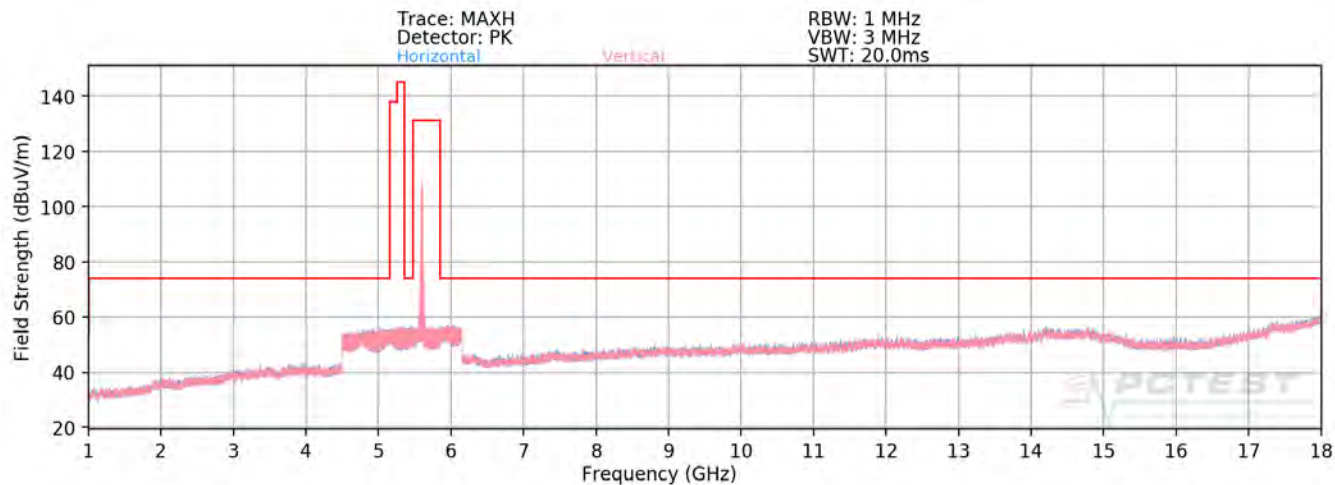
## 242 Tones



**Plot 7-643. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax – U1 Ch. 40 – 242 Tones )**

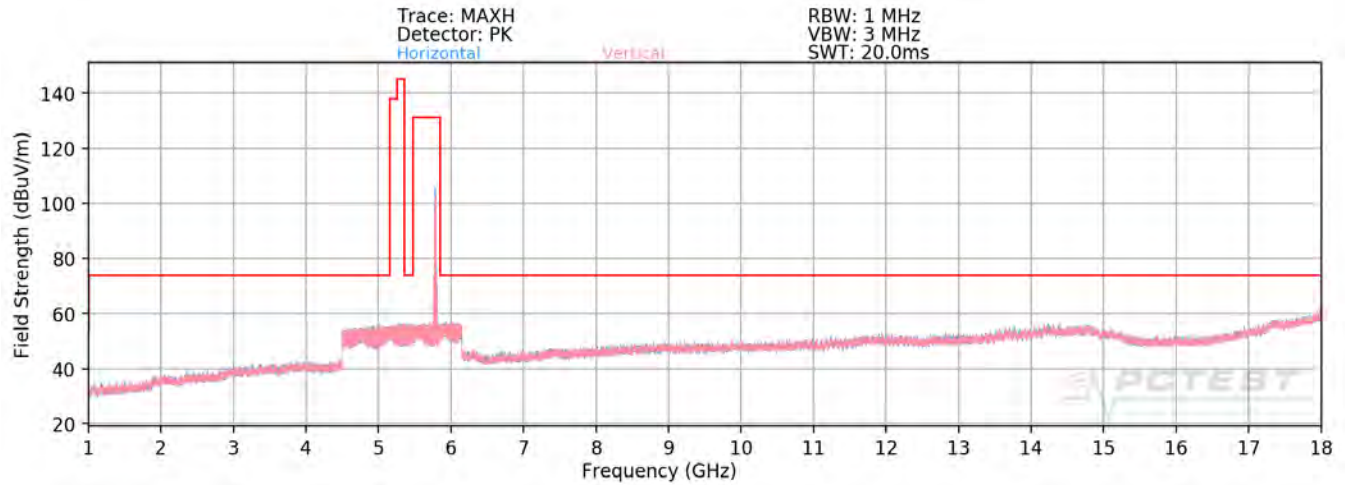


**Plot 7-644. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax – U2A Ch. 56 – 242 Tones)**



FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 436 of 514

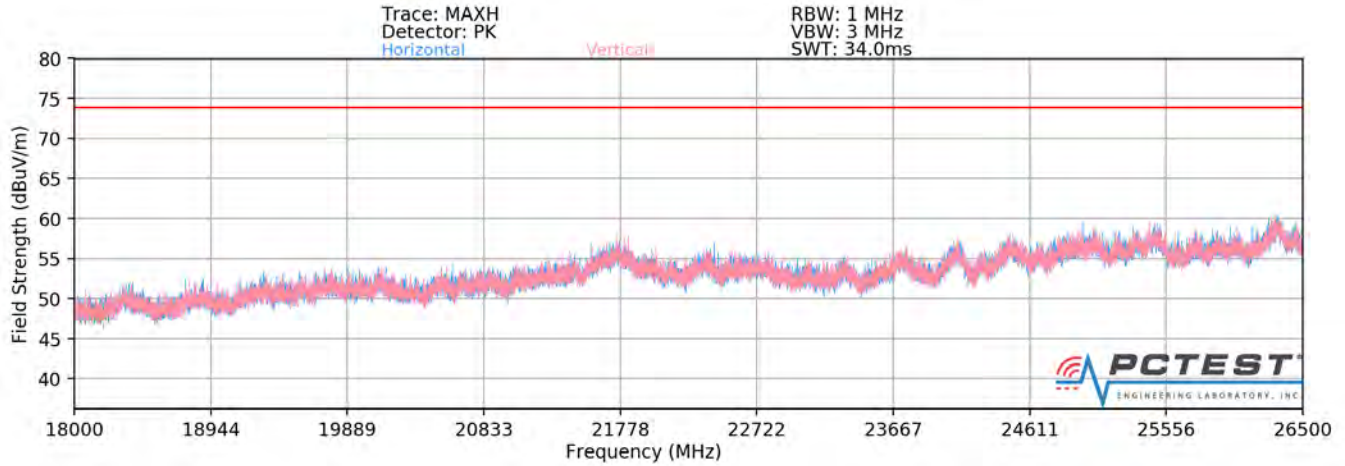
**Plot 7-645. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax – U2C Ch. 120 – 242 Tones)**



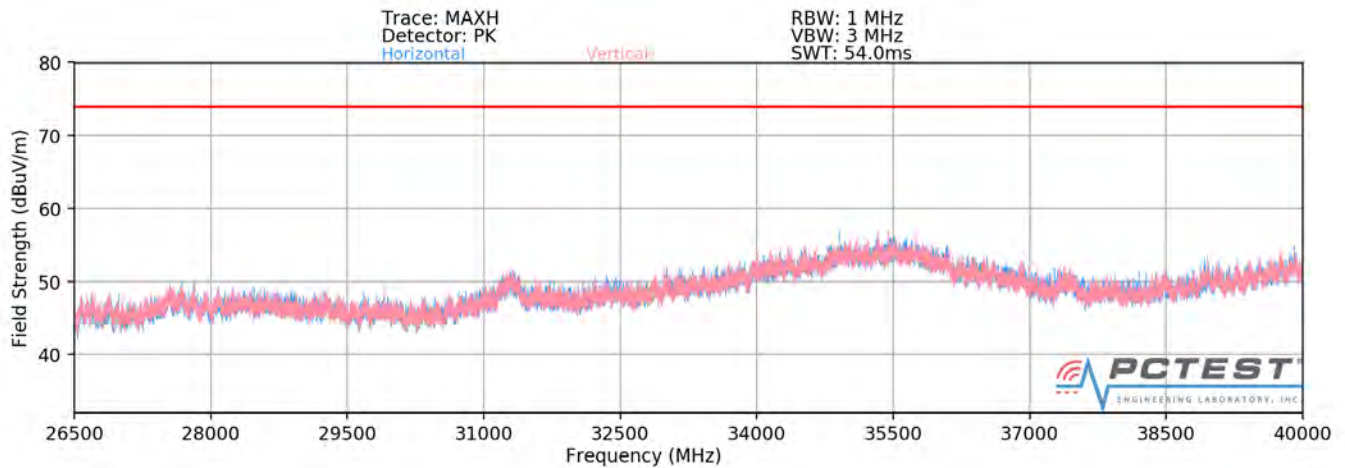
**Plot 7-646. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax – U3 Ch. 157 – 242 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 437 of 514

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



**Plot 7-647. Radiated Spurious Plot 18GHz - 26.5GHz SISO ANT2 (802.11ax – 242 Tones)**



**Plot 7-648. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT2 (802.11ax – 242 Tones)**

FCC ID: A3LSMG9730	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>MEASUREMENT REPORT (CERTIFICATION)</b>	<b>SAMSUNG</b>	Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 438 of 514



## SISO Antenna-2 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10360.00	Peak	H	114	293	-69.11	12.74	50.63	68.20	-17.57
* 15540.00	Average	H	-	-	-81.33	15.28	40.95	53.98	-13.03
* 15540.00	Peak	H	-	-	-70.11	15.28	52.17	73.98	-21.81
* 20720.00	Average	H	-	-	-77.74	7.38	27.10	53.98	-26.88
* 20720.00	Peak	H	-	-	-67.65	7.38	37.20	73.98	-36.78
25900.00	Peak	H	-	-	-66.47	9.85	40.85	68.20	-27.35

Table 7-162. Radiated Measurements SISO ANT2 (242 Tones)

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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10400.00	Peak	H	322	305	-69.99	12.24	49.25	68.20	-18.95
* 15600.00	Average	H	-	-	-81.98	15.40	40.42	53.98	-13.55
* 15600.00	Peak	H	-	-	-70.55	15.40	51.85	73.98	-22.12
* 20800.00	Average	H	-	-	-78.24	7.85	27.07	53.98	-26.91
* 20800.00	Peak	H	-	-	-67.94	7.85	37.37	73.98	-36.61
26000.00	Peak	H	-	-	-66.66	10.44	41.23	68.20	-26.97

Table 7-163. Radiated Measurements SISO ANT2 (242 Tones)

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 439 of 514

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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10480.00	Peak	H	-	-	-69.15	12.41	50.26	68.20	-17.94
* 15720.00	Average	H	-	-	-82.75	16.70	40.95	53.98	-13.03
* 15720.00	Peak	H	-	-	-70.80	16.70	52.90	73.98	-21.08
* 20960.00	Average	H	-	-	-77.81	7.75	27.39	53.98	-26.59
* 20960.00	Peak	H	-	-	-67.66	7.75	37.54	73.98	-36.44
26200.00	Peak	H	-	-	-65.67	10.26	42.04	68.20	-26.16

**Table 7-164. Radiated Measurements SISO ANT2 (242 Tones)**

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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10520.00	Peak	H	-	-	-69.78	13.16	50.38	68.20	-17.82
* 15780.00	Average	H	-	-	-81.78	16.21	41.43	53.98	-12.55
* 15780.00	Peak	H	-	-	-70.66	16.21	52.55	73.98	-21.43
* 21040.00	Average	H	-	-	-77.76	7.78	27.47	53.98	-26.51
* 21040.00	Peak	H	-	-	-68.03	7.78	37.21	73.98	-36.77
26300.00	Peak	H	-	-	-67.02	10.58	41.01	68.20	-27.19

**Table 7-165. Radiated Measurements SISO ANT2 (242 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 440 of 514

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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10560.00	Peak	H	-	-	-70.51	13.66	50.15	68.20	-18.05
* 15840.00	Average	H	-	-	-82.11	15.64	40.53	53.98	-13.45
* 15840.00	Peak	H	-	-	-70.00	15.64	52.64	73.98	-21.34
* 21120.00	Average	H	-	-	-77.61	17.26	37.11	53.98	-16.87
* 21120.00	Peak	H	-	-	-67.28	17.26	47.44	73.98	-26.54
26400.00	Peak	H	-	-	-65.69	19.67	51.44	68.20	-16.76

**Table 7-166. Radiated Measurements SISO ANT2 (242 Tones)**

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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 10640.00	Average	H	-	-	-81.51	14.15	39.64	53.98	-14.34
* 10640.00	Peak	H	-	-	-69.50	14.15	51.65	73.98	-22.33
* 15960.00	Average	H	-	-	-82.01	15.01	40.00	53.98	-13.98
* 15960.00	Peak	H	-	-	-69.87	15.01	52.14	73.98	-21.84
* 21280.00	Average	H	-	-	-77.60	17.51	37.37	53.98	-16.61
* 21280.00	Peak	H	-	-	-67.67	17.51	47.30	73.98	-26.68
26600.00	Peak	H	-	-	-51.40	1.44	47.49	68.20	-20.71

**Table 7-167. Radiated Measurements SISO ANT2 (242 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 441 of 514

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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11000.00	Average	H	-	-	-81.45	17.61	43.16	53.98	-10.82
* 11000.00	Peak	H	-	-	-69.50	17.61	55.11	73.98	-18.87
16500.00	Peak	H	-	-	-71.19	25.31	61.12	68.20	-7.08
22000.00	Peak	H	-	-	-67.36	8.71	38.80	68.20	-29.40
27500.00	Peak	H	-	-	-51.87	-9.42	36.16	68.20	-32.04

**Table 7-168. Radiated Measurements SISO ANT2 (242 Tones)**

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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11200.00	Average	H	-	-	-81.44	16.98	42.54	53.98	-11.44
* 11200.00	Peak	H	-	-	-69.62	16.98	54.36	73.98	-19.62
16800.00	Peak	H	-	-	-69.39	24.87	62.48	68.20	-5.72
* 22400.00	Average	H	-	-	-78.01	9.30	28.75	53.98	-25.23
* 22400.00	Peak	H	-	-	-67.06	9.30	39.70	73.98	-34.28
28000.00	Peak	H	-	-	-49.23	-9.24	38.99	68.20	-29.21

**Table 7-169. Radiated Measurements SISO ANT2 (242 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 442 of 514

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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11440.00	Average	H	-	-	-82.72	18.07	42.35	53.98	-11.63
* 11440.00	Peak	H	-	-	-70.44	18.07	54.63	73.98	-19.35
17160.00	Peak	H	-	-	-70.48	24.98	61.50	68.20	-6.70
* 22880.00	Average	H	-	-	-78.65	8.86	27.67	53.98	-26.31
* 22880.00	Peak	H	-	-	-68.14	8.86	38.18	73.98	-35.80
28600.00	Peak	H	-	-	-52.78	-9.13	35.55	68.20	-32.65

**Table 7-170. Radiated Measurements SISO ANT2 (242 Tones)**

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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11490.00	Average	H	288	293	-80.11	15.22	42.11	53.98	-11.87
* 11490.00	Peak	H	288	293	-69.99	15.22	52.23	73.98	-21.75
17235.00	Peak	H	-	-	-70.14	19.54	56.40	68.20	-11.80
* 22980.00	Average	H	-	-	-77.76	8.38	28.08	53.98	-25.90
* 22980.00	Peak	H	-	-	-67.96	8.38	37.88	73.98	-36.10
28725.00	Peak	H	-	-	-52.38	-8.87	36.21	68.20	-31.99

**Table 7-171. Radiated Measurements SISO ANT2 (242 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 443 of 514



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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11570.00	Average	H	280	275	-80.56	15.02	41.46	53.98	-12.52
* 11570.00	Peak	H	280	275	-68.99	15.02	53.03	73.98	-20.95
17355.00	Peak	H	-	-	-70.22	23.41	60.19	68.20	-8.01
23140.00	Peak	H	-	-	-67.44	8.78	38.80	68.20	-29.40
28925.00	Peak	H	-	-	-52.55	-8.79	36.12	68.20	-32.08

**Table 7-172. Radiated Measurements SISO ANT2 (242 Tones)**

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

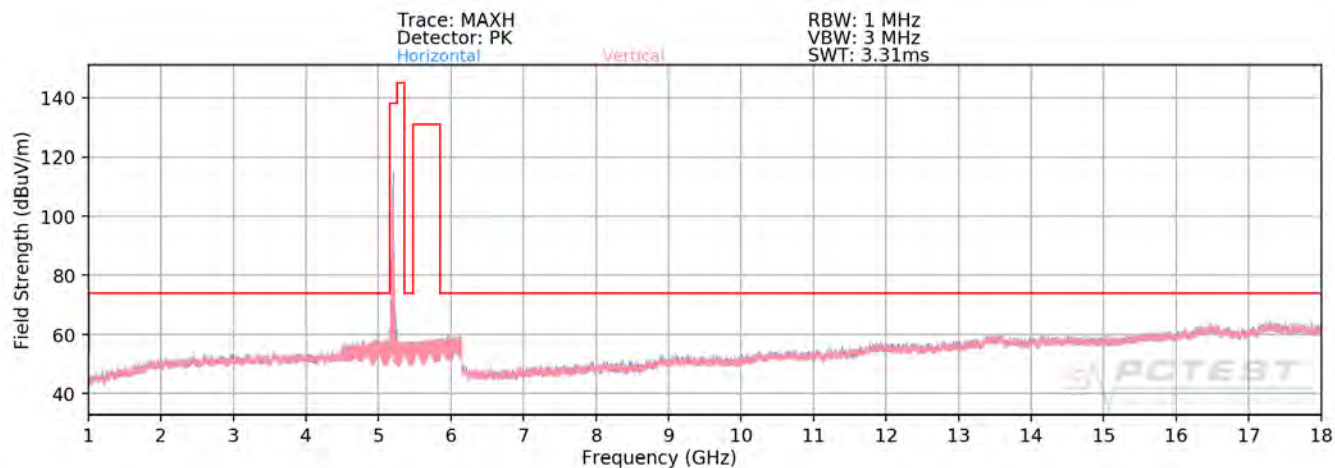
Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11650.00	Average	H	375	11	-80.69	14.92	41.23	53.98	-12.75
* 11650.00	Peak	H	375	11	-70.11	14.92	51.81	73.98	-22.17
17475.00	Peak	H	-	-	-70.88	21.86	57.98	68.20	-10.22
23300.00	Peak	H	-	-	-65.90	9.23	40.78	68.20	-27.42
29125.00	Peak	H	-	-	-48.41	-9.66	39.39	68.20	-28.81

**Table 7-173. Radiated Measurements SISO ANT2 (242 Tones)**

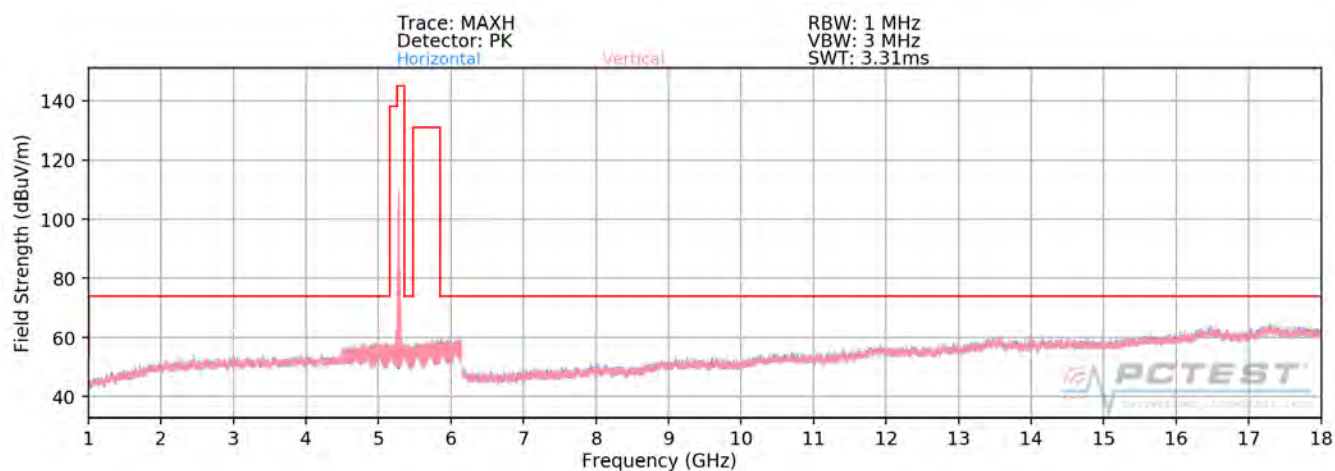
FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 444 of 514

## 7.6.3 MIMO Radiated Spurious Emission Measurements

### 106 Tones

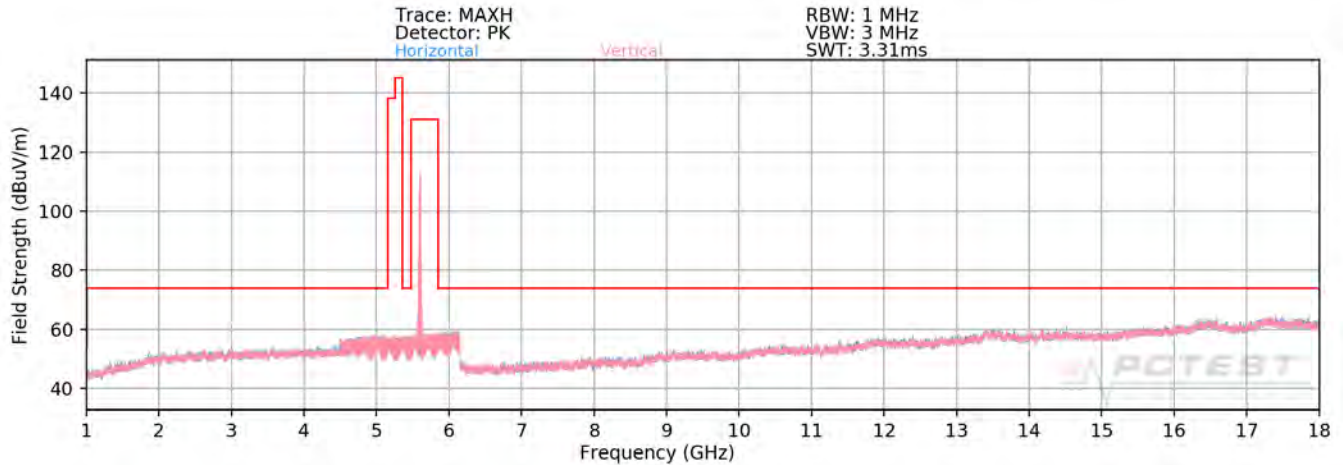


**Plot 7-649. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U1 Ch. 40 – 106 Tones )**

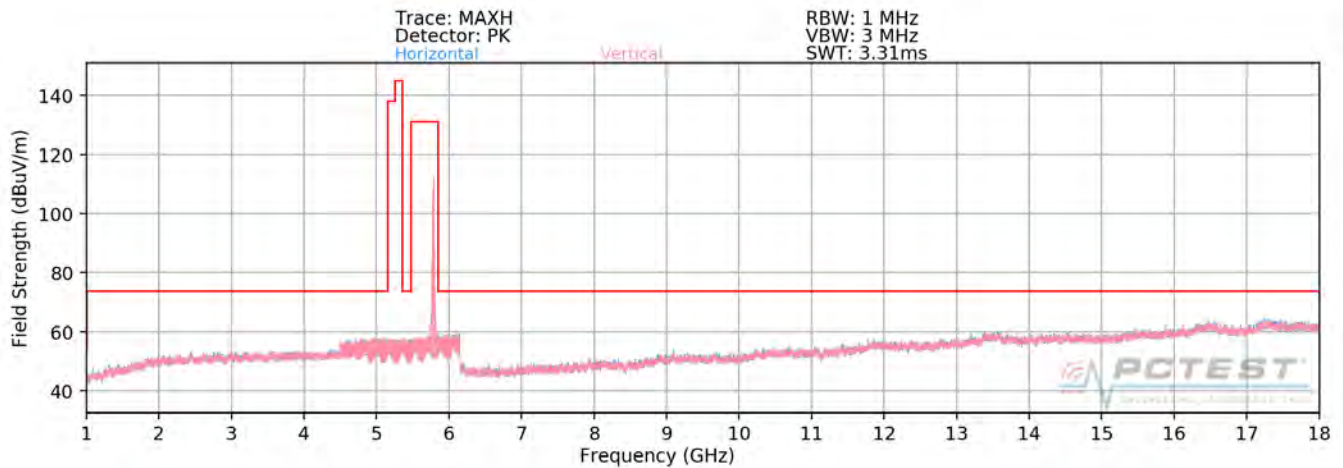


**Plot 7-650. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U2A Ch. 56 – 106 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 445 of 514



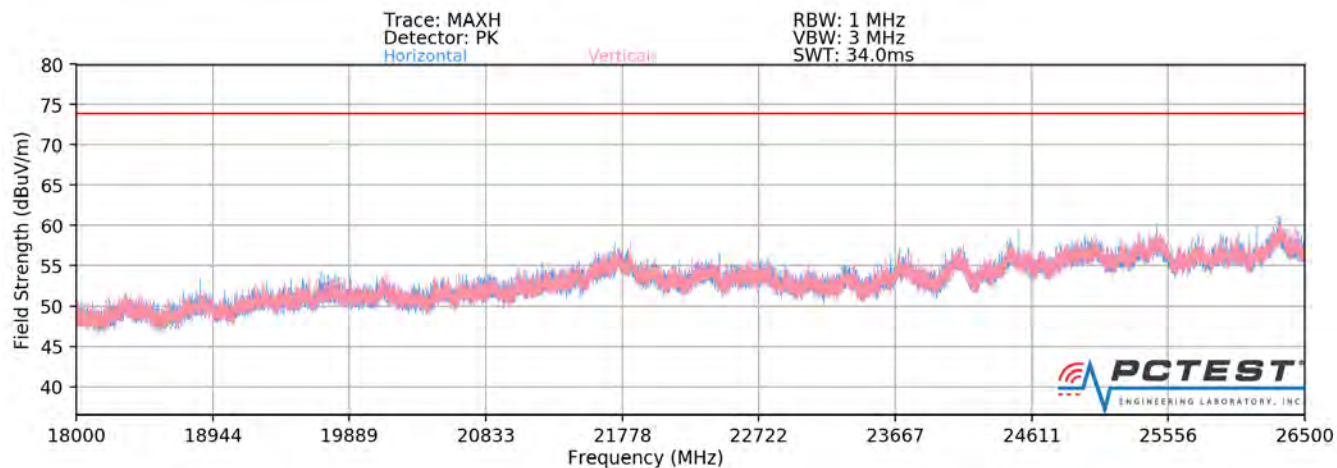
**Plot 7-651. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U2C Ch. 120 – 106 Tones)**



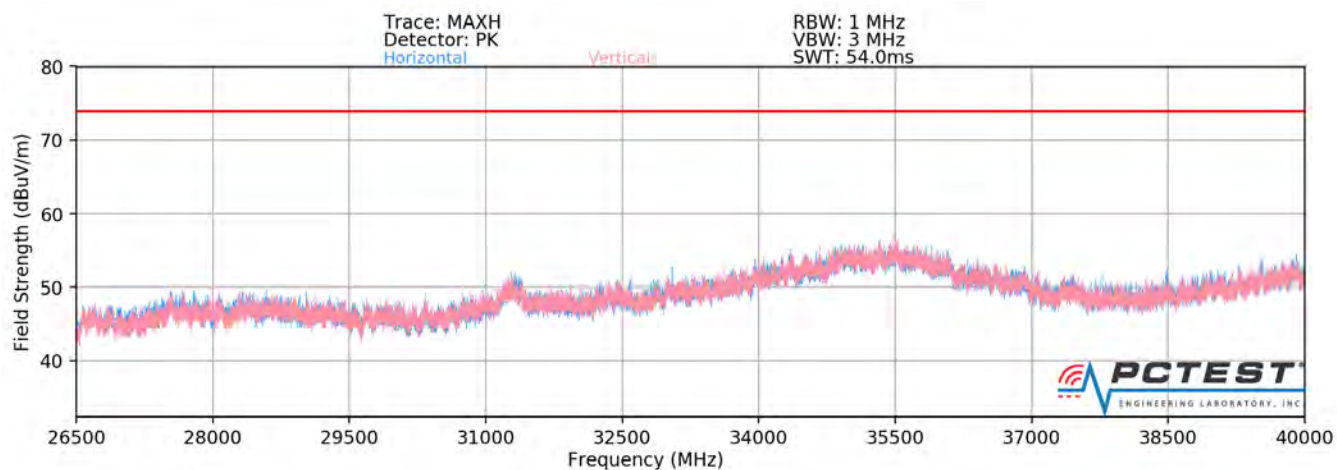
**Plot 7-652. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U3 Ch. 157 – 106 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 446 of 514

## MIMO Radiated Spurious Emissions Measurements (Above 18GHz)



**Plot 7-653. Radiated Spurious Plot 18GHz - 26.5GHz MIMO (802.11ax – 106 Tones)**



**Plot 7-654. Radiated Spurious Plot 26.5GHz - 40GHz MIMO (802.11ax – 106 Tones)**

FCC ID: A3LSMG9730	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>MEASUREMENT REPORT (CERTIFICATION)</b>	<b>SAMSUNG</b>	Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 447 of 514

## 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:	53
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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10360.00	Peak	H	-	-	-69.14	12.74	50.60	68.20	-17.60
* 15540.00	Average	H	-	-	-82.75	15.28	39.53	53.98	-14.45
* 15540.00	Peak	H	-	-	-71.06	15.28	51.22	73.98	-22.76
* 20720.00	Average	H	-	-	-78.13	7.38	26.71	53.98	-27.27
* 20720.00	Peak	H	-	-	-67.86	7.38	36.98	73.98	-37.00
25900.00	Peak	H	-	-	-65.54	9.85	41.77	68.20	-26.43

Table 7-174. Radiated Measurements MIMO (106 Tones)

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	53
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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10400.00	Peak	H	-	-	-69.95	12.24	49.29	68.20	-18.91
* 15600.00	Average	H	-	-	-83.00	15.40	39.40	53.98	-14.57
* 15600.00	Peak	H	-	-	-71.00	15.40	51.40	73.98	-22.57
* 20800.00	Average	H	-	-	-78.20	7.85	27.10	53.98	-26.87
* 20800.00	Peak	H	-	-	-67.42	7.85	37.88	73.98	-36.09
26000.00	Peak	H	-	-	-66.62	10.44	41.27	68.20	-26.93

Table 7-175. Radiated Measurements MIMO (106 Tones)

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 448 of 514



Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10480.00	Peak	H	-	-	-68.77	12.41	50.64	68.20	-17.56
* 15720.00	Average	H	-	-	-83.20	16.70	40.50	53.98	-13.48
* 15720.00	Peak	H	-	-	-71.25	16.70	52.45	73.98	-21.53
* 20960.00	Average	H	-	-	-77.99	7.75	27.22	53.98	-26.76
* 20960.00	Peak	H	-	-	-67.05	7.75	38.16	73.98	-35.82
26200.00	Peak	H	-	-	-65.81	10.26	41.91	68.20	-26.29

**Table 7-176. Radiated Measurements MIMO (106 Tones)**

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10360.00	Peak	H	-	-	-68.95	12.74	50.79	68.20	-17.41
* 15540.00	Average	H	-	-	-82.04	15.28	40.24	53.98	-13.74
* 15540.00	Peak	H	-	-	-69.92	15.28	52.36	73.98	-21.62
* 20720.00	Average	H	-	-	-78.26	7.38	26.58	53.98	-27.40
* 20720.00	Peak	H	-	-	-67.89	7.38	36.95	73.98	-37.03
25900.00	Peak	H	-	-	-65.84	9.85	41.47	68.20	-26.73

**Table 7-177. Radiated Measurements MIMO (106 Tones)with WCP**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 449 of 514

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10520.00	Peak	H	270	20	-67.70	13.16	52.46	68.20	-15.74
* 15780.00	Average	H	203	335	-80.75	16.21	42.46	53.98	-11.52
* 15780.00	Peak	H	203	335	-59.87	16.21	63.34	73.98	-10.64
* 21040.00	Average	H	-	-	-78.46	7.78	26.78	53.98	-27.20
* 21040.00	Peak	H	-	-	-68.11	7.78	37.13	73.98	-36.85
26300.00	Peak	H	-	-	-67.33	10.58	40.71	68.20	-27.49

**Table 7-178. Radiated Measurements MIMO (106 Tones)**

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10560.00	Peak	H	-	-	-69.76	13.66	50.90	68.20	-17.30
* 15840.00	Average	H	-	-	-81.92	15.64	40.72	53.98	-13.26
* 15840.00	Peak	H	-	-	-69.90	15.64	52.74	73.98	-21.24
* 21120.00	Average	H	-	-	-78.15	17.26	36.57	53.98	-17.41
* 21120.00	Peak	H	-	-	-67.46	17.26	47.26	73.98	-26.72
26400.00	Peak	H	-	-	-65.72	19.67	51.41	68.20	-16.79

**Table 7-179. Radiated Measurements MIMO (106 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 450 of 514

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 10640.00	Average	H	-	-	-82.33	14.15	38.82	53.98	-15.16
* 10640.00	Peak	H	-	-	-69.52	14.15	51.63	73.98	-22.35
* 15960.00	Average	H	-	-	-82.05	15.01	39.96	53.98	-14.02
* 15960.00	Peak	H	-	-	-69.87	15.01	52.14	73.98	-21.84
* 21280.00	Average	H	-	-	-78.05	17.51	36.92	53.98	-17.06
* 21280.00	Peak	H	-	-	-67.41	17.51	47.56	73.98	-26.42
26600.00	Peak	H	-	-	-51.33	1.44	47.57	68.20	-20.63

**Table 7-180. Radiated Measurements MIMO (106 Tones)**

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10520.00	Peak	H	-	-	-69.80	13.16	50.36	68.20	-17.84
* 15780.00	Average	H	-	-	-82.69	16.21	40.52	53.98	-13.46
* 15780.00	Peak	H	-	-	-71.19	16.21	52.02	73.98	-21.96
* 21040.00	Average	H	-	-	-78.84	7.78	26.40	53.98	-27.58
* 21040.00	Peak	H	-	-	-67.23	7.78	38.01	73.98	-35.97
26300.00	Peak	H	-	-	-66.14	10.58	41.90	68.20	-26.30

**Table 7-181. Radiated Measurements MIMO (106 Tones)with WCP**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 451 of 514

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
*	11000.00	Average	H	-	-	-81.72	13.55	38.83	53.98	-15.15
*	11000.00	Peak	H	-	-	-70.04	13.55	50.51	73.98	-23.47
	16500.00	Peak	H	-	-	-71.13	16.10	51.97	68.20	-16.23
	22000.00	Peak	H	-	-	-66.56	8.71	39.61	68.20	-28.59
	27500.00	Peak	H	-	-	-50.88	-9.42	37.16	68.20	-31.04

**Table 7-182. Radiated Measurements MIMO (106 Tones)**

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
*	11200.00	Average	H	-	-	-82.19	13.31	38.12	53.98	-15.86
*	11200.00	Peak	H	-	-	-70.57	13.31	49.74	73.98	-24.24
	16800.00	Peak	H	-	-	-71.21	17.53	53.32	68.20	-14.88
*	22400.00	Average	H	-	-	-77.24	9.30	29.52	53.98	-24.46
*	22400.00	Peak	H	-	-	-67.29	9.30	39.47	73.98	-34.51
	28000.00	Peak	H	-	-	-49.23	-9.24	38.99	68.20	-29.21

**Table 7-183. Radiated Measurements MIMO (106 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 452 of 514

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
*	11440.00	Average	H	-	-	-82.69	15.10	39.41	53.98	-14.57
*	11440.00	Peak	H	-	-	-70.42	15.10	51.68	73.98	-22.30
	17160.00	Peak	H	-	-	-70.30	18.83	55.53	68.20	-12.67
*	22880.00	Average	H	-	-	-78.95	8.86	27.37	53.98	-26.61
*	22880.00	Peak	H	-	-	-68.72	8.86	37.60	73.98	-36.38
	28600.00	Peak	H	-	-	-52.63	-9.13	35.70	68.20	-32.50

**Table 7-184. Radiated Measurements MIMO (106 Tones)**

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
*	11000.00	Average	H	-	-	-81.43	13.55	39.12	53.98	-14.86
*	11000.00	Peak	H	-	-	-69.53	13.55	51.02	73.98	-22.96
	16500.00	Peak	H	-	-	-70.74	16.10	52.36	68.20	-15.84
	22000.00	Peak	H	-	-	-65.36	8.71	40.81	68.20	-27.39
	27500.00	Peak	H	-	-	-50.54	-9.42	37.50	68.20	-30.70

**Table 7-185. Radiated Measurements MIMO (106 Tones)with WCP**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 453 of 514



Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11490.00	Average	H	397	18	-81.10	15.22	41.12	53.98	-12.86
* 11490.00	Peak	H	397	18	-67.51	15.22	54.71	73.98	-19.27
17235.00	Peak	H	-	-	-70.76	19.54	55.78	68.20	-12.42
* 22980.00	Average	H	-	-	-78.22	8.38	27.62	53.98	-26.36
* 22980.00	Peak	H	-	-	-67.24	8.38	38.60	73.98	-35.38
28725.00	Peak	H	-	-	-51.65	-8.87	36.94	69.20	-32.26

**Table 7-186. Radiated Measurements MIMO (106 Tones)**

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11570.00	Average	H	-	-	-81.66	15.02	40.36	53.98	-13.62
* 11570.00	Peak	H	-	-	-70.39	15.02	51.63	73.98	-22.35
17355.00	Peak	H	-	-	-70.78	23.41	59.63	68.20	-8.57
23140.00	Peak	H	-	-	-67.33	8.78	38.91	68.20	-29.29
28925.00	Peak	H	-	-	-52.46	-8.79	36.21	68.20	-31.99

**Table 7-187. Radiated Measurements MIMO (106 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 454 of 514

Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11650.00	Average	H	400	17	-77.57	14.92	44.35	53.98	-9.63
* 11650.00	Peak	H	400	17	-67.14	14.92	54.78	73.98	-19.20
17475.00	Peak	H	-	-	-71.03	21.86	57.83	68.20	-10.37
23300.00	Peak	H	-	-	-65.72	9.23	40.97	68.20	-27.23
29125.00	Peak	H	-	-	-49.61	-9.66	38.19	68.20	-30.01

**Table 7-188. Radiated Measurements MIMO (106 Tones)**

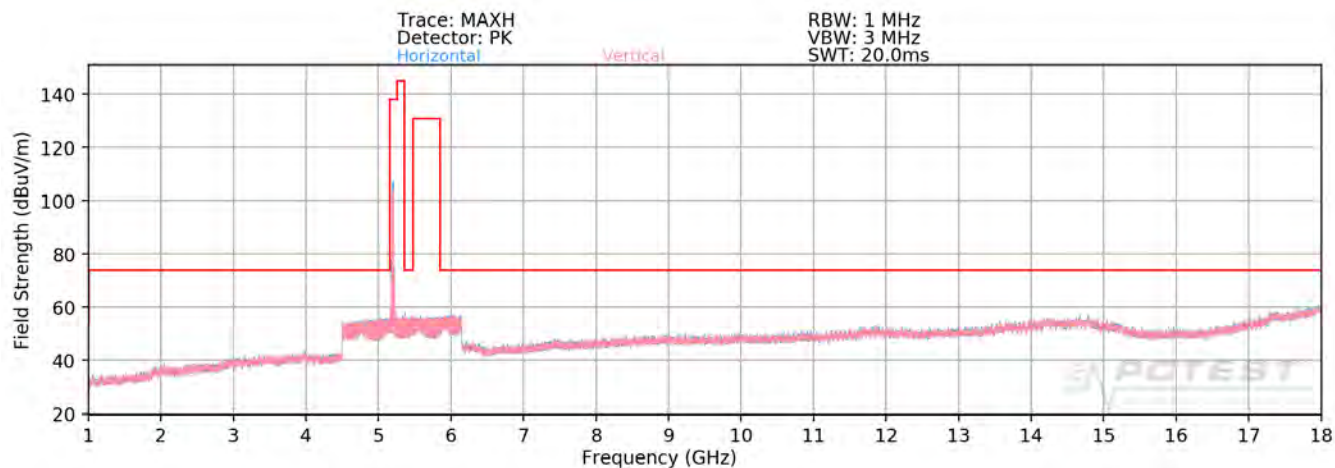
Worst Case Mode: 802.11ax (20MHz BW)  
 Worst Case Transfer Rate: MCS0  
 RU Index: 53  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5745MHz  
 Channel: 149

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11490.00	Average	H	-	-	-81.65	15.22	40.57	53.98	-13.41
* 11490.00	Peak	H	-	-	-70.63	15.22	51.59	73.98	-22.39
17235.00	Peak	H	-	-	-71.33	19.54	55.21	68.20	-12.99
* 22980.00	Average	H	-	-	-78.14	8.38	27.70	53.98	-26.28
* 22980.00	Peak	H	-	-	-68.14	8.38	37.70	73.98	-36.28
28725.00	Peak	H	-	-	-52.36	-8.87	36.23	69.20	-32.97

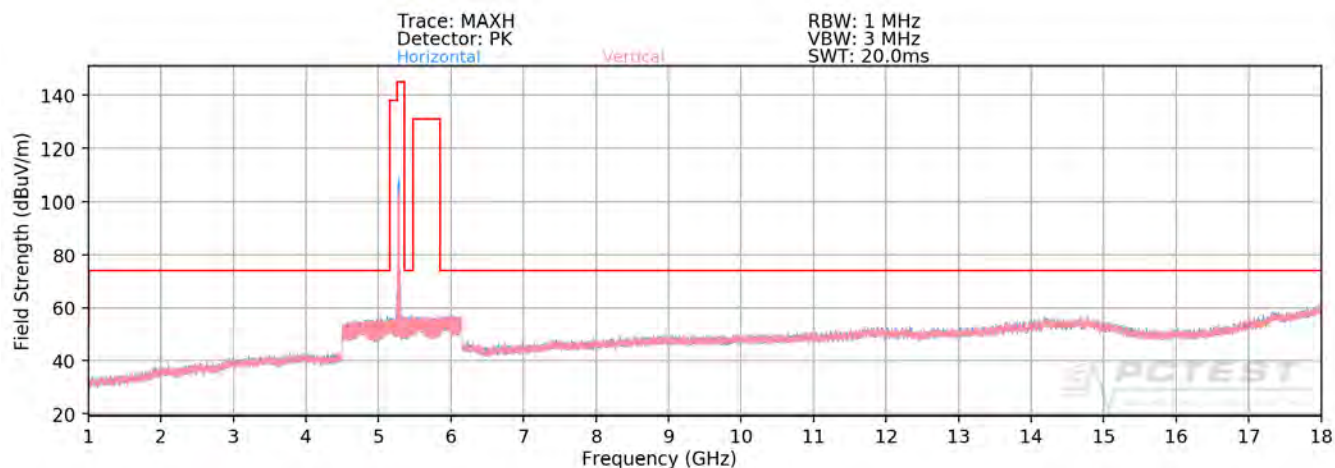
**Table 7-189. Radiated Measurements MIMO (106 Tones)with WCP**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 455 of 514

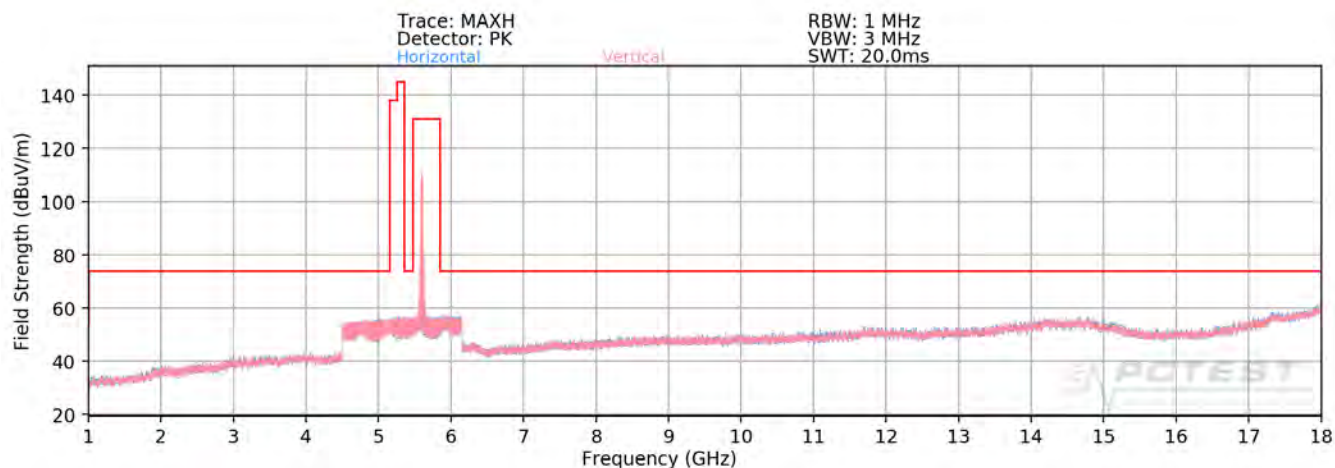
## 242 Tones



**Plot 7-655. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U1 Ch. 40 – 242 Tones )**

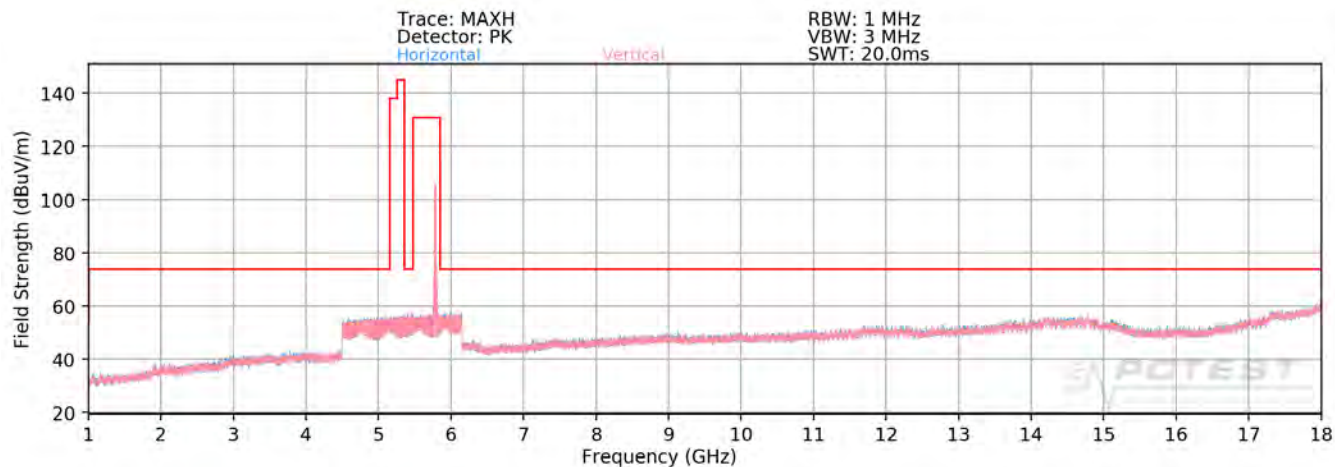


**Plot 7-656. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U2A Ch. 56 – 242 Tones)**



**Plot 7-657. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U2C Ch. 120 – 242 Tones)**

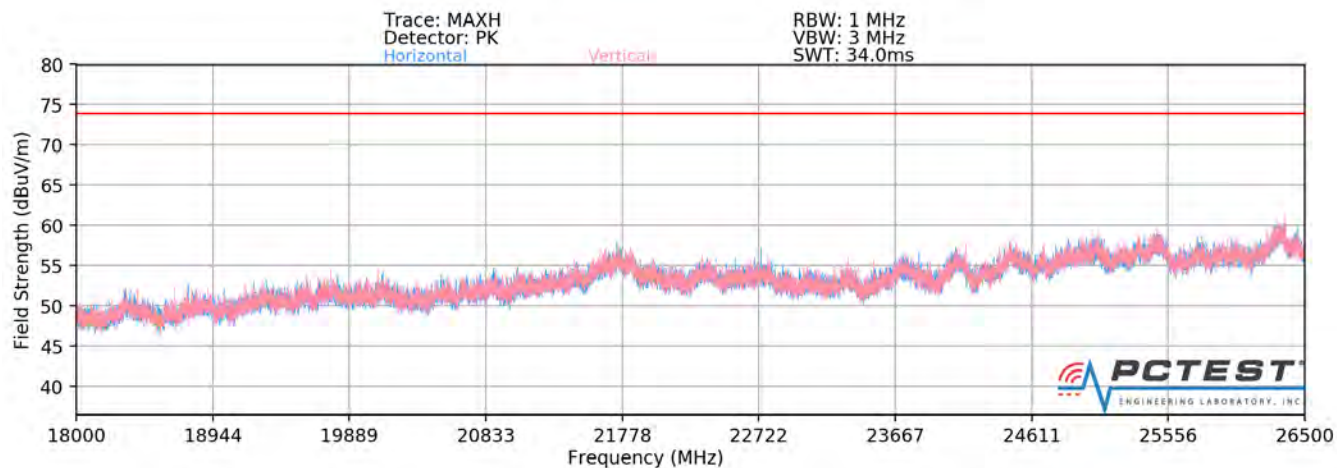
FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 456 of 514



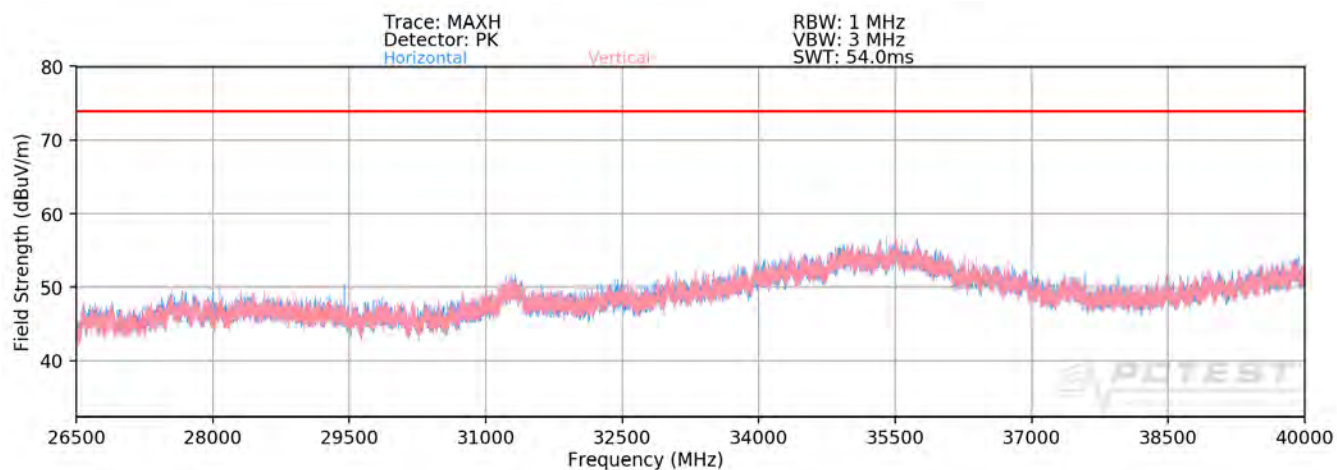
**Plot 7-658. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U3 Ch. 157 – 242 Tones)**

FCC ID: A3LSMG9730	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>MEASUREMENT REPORT (CERTIFICATION)</b>	<b>SAMSUNG</b>	Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 457 of 514

## MIMO Radiated Spurious Emissions Measurements (Above 18GHz)



**Plot 7-659. Radiated Spurious Plot 18GHz - 26.5GHz MIMO (802.11ax – 242 Tones)**



**Plot 7-660. Radiated Spurious Plot 26.5GHz - 40GHz MIMO (802.11ax – 242 Tones)**

FCC ID: A3LSMG9730	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>MEASUREMENT REPORT (CERTIFICATION)</b>	<b>SAMSUNG</b>	Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 458 of 514



## 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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10360.00	Peak	H	-	-	-69.69	12.74	50.05	68.20	-18.15
* 15540.00	Average	H	-	-	-82.70	15.28	39.58	53.98	-14.40
* 15540.00	Peak	H	-	-	-70.64	15.28	51.64	73.98	-22.34
* 20720.00	Average	H	-	-	-77.27	7.38	27.57	53.98	-26.40
* 20720.00	Peak	H	-	-	-67.75	7.38	37.09	73.98	-36.89
25900.00	Peak	H	-	-	-66.20	9.85	41.11	68.20	-27.09

Table 7-190. Radiated Measurements MIMO (242 Tones)

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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10400.00	Peak	H	-	-	-69.59	12.24	49.65	68.20	-18.55
* 15600.00	Average	H	-	-	-82.86	15.40	39.54	53.98	-14.43
* 15600.00	Peak	H	-	-	-71.48	15.40	50.92	73.98	-23.05
* 20800.00	Average	H	-	-	-78.32	7.85	26.98	53.98	-27.00
* 20800.00	Peak	H	-	-	-67.79	7.85	37.52	73.98	-36.46
26000.00	Peak	H	-	-	-66.37	10.44	41.52	68.20	-26.68

Table 7-191. Radiated Measurements MIMO (242 Tones)

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 459 of 514

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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10480.00	Peak	H	-	-	-69.47	12.41	49.94	68.20	-18.26
* 15720.00	Average	H	-	-	-83.32	16.70	40.38	53.98	-13.60
* 15720.00	Peak	H	-	-	-71.12	16.70	52.58	73.98	-21.40
* 20960.00	Average	H	-	-	-77.99	7.75	27.21	53.98	-26.77
* 20960.00	Peak	H	-	-	-68.28	7.75	36.93	73.98	-37.05
26200.00	Peak	H	-	-	-65.92	10.26	41.80	68.20	-26.40

**Table 7-192. Radiated Measurements MIMO (242 Tones)**

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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10520.00	Peak	H	-	-	-69.48	13.16	50.68	68.20	-17.52
* 15780.00	Average	H	205	346	-81.83	16.21	41.38	53.98	-12.60
* 15780.00	Peak	H	205	346	-66.70	16.21	56.51	73.98	-17.47
* 21040.00	Average	H	-	-	-77.86	7.78	27.37	53.98	-26.61
* 21040.00	Peak	H	-	-	-67.48	7.78	37.76	73.98	-36.22
26300.00	Peak	H	-	-	-66.99	10.58	41.05	68.20	-27.15

**Table 7-193. Radiated Measurements MIMO (242 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 460 of 514

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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10560.00	Peak	H	-	-	-69.55	13.66	51.11	68.20	-17.09
* 15840.00	Average	H	-	-	-82.01	15.64	40.63	53.98	-13.35
* 15840.00	Peak	H	-	-	-70.11	15.64	52.53	73.98	-21.45
* 21120.00	Average	H	-	-	-77.70	17.26	37.02	53.98	-16.96
* 21120.00	Peak	H	-	-	-67.09	17.26	47.63	73.98	-26.35
26400.00	Peak	H	-	-	-65.33	19.67	51.80	68.20	-16.40

**Table 7-194. Radiated Measurements MIMO (242 Tones)**

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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 10640.00	Average	H	-	-	-82.11	14.15	39.04	53.98	-14.94
* 10640.00	Peak	H	-	-	-69.89	14.15	51.26	73.98	-22.72
* 15960.00	Average	H	-	-	-81.99	15.01	40.02	53.98	-13.96
* 15960.00	Peak	H	-	-	-70.13	15.01	51.88	73.98	-22.10
* 21280.00	Average	H	-	-	-77.27	17.51	37.70	53.98	-16.28
* 21280.00	Peak	H	-	-	-67.62	17.51	47.34	73.98	-26.64
26600.00	Peak	H	-	-	-51.56	1.44	47.34	68.20	-20.86

**Table 7-195. Radiated Measurements MIMO (242 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 461 of 514

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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11000.00	Average	H	-	-	-81.63	13.55	38.92	53.98	-15.06
* 11000.00	Peak	H	-	-	-69.44	13.55	51.11	73.98	-22.87
16500.00	Peak	H	-	-	-70.46	16.10	52.64	68.20	-15.56
22000.00	Peak	H	-	-	-67.53	8.71	38.63	68.20	-29.57
27500.00	Peak	H	-	-	-51.62	-9.42	36.42	68.20	-31.78

**Table 7-196. Radiated Measurements MIMO (242 Tones)**

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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11200.00	Average	H	-	-	-82.01	13.31	38.30	53.98	-15.68
* 11200.00	Peak	H	-	-	-70.04	13.31	50.27	73.98	-23.71
16800.00	Peak	H	-	-	-70.99	17.53	53.54	68.20	-14.66
* 22400.00	Average	H	-	-	-77.90	9.30	28.86	53.98	-25.12
* 22400.00	Peak	H	-	-	-67.14	9.30	39.62	73.98	-34.36
28000.00	Peak	H	-	-	-49.43	-9.24	38.79	68.20	-29.41

**Table 7-197. Radiated Measurements MIMO (242 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 462 of 514

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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11440.00	Average	H	-	-	-82.69	15.10	39.41	53.98	-14.57
* 11440.00	Peak	H	-	-	-70.42	15.10	51.68	73.98	-22.30
17160.00	Peak	H	-	-	-70.30	18.83	55.53	68.20	-12.67
* 22880.00	Average	H	-	-	-78.50	8.86	27.81	53.98	-26.17
* 22880.00	Peak	H	-	-	-67.80	8.86	38.52	73.98	-35.46
28600.00	Peak	H	-	-	-52.79	-9.13	35.54	68.20	-32.66

**Table 7-198. Radiated Measurements MIMO (242 Tones)**

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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11490.00	Average	H	-	-	-82.11	15.22	40.11	53.98	-13.87
* 11490.00	Peak	H	-	-	-69.39	15.22	52.83	73.98	-21.15
17235.00	Peak	H	-	-	-69.99	19.54	56.55	68.20	-11.65
* 22980.00	Average	H	-	-	-77.90	8.38	27.94	53.98	-26.04
* 22980.00	Peak	H	-	-	-67.78	8.38	38.06	73.98	-35.92
28725.00	Peak	H	-	-	-51.95	-8.87	36.64	69.20	-32.56

**Table 7-199. Radiated Measurements MIMO (242 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 463 of 514



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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11570.00	Average	H	-	-	-81.36	15.02	40.66	53.98	-13.32
* 11570.00	Peak	H	-	-	-70.21	15.02	51.81	73.98	-22.17
17355.00	Peak	H	-	-	-71.01	23.41	59.40	68.20	-8.80
23140.00	Peak	H	-	-	-67.33	8.78	38.90	68.20	-29.30
28925.00	Peak	H	-	-	-51.98	-8.79	36.68	68.20	-31.52

**Table 7-200. Radiated Measurements MIMO (242 Tones)**

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]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11650.00	Average	H	-	-	-80.21	14.92	41.71	53.98	-12.27
* 11650.00	Peak	H	-	-	-71.12	14.92	50.80	73.98	-23.18
17475.00	Peak	H	-	-	-70.85	21.86	58.01	68.20	-10.19
23300.00	Peak	H	-	-	-65.13	9.23	41.56	68.20	-26.64
29125.00	Peak	H	-	-	-47.74	-9.66	40.06	68.20	-28.14

**Table 7-201. Radiated Measurements MIMO (242 Tones)**

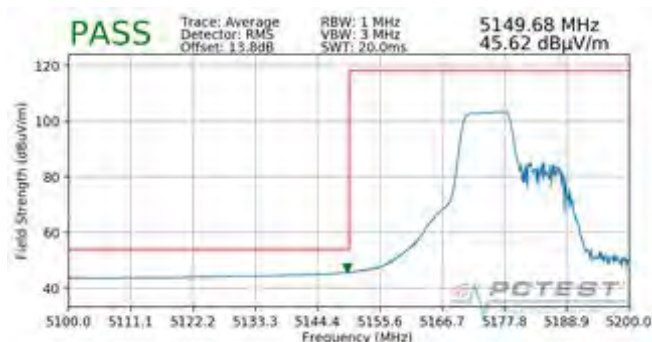
FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 464 of 514

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

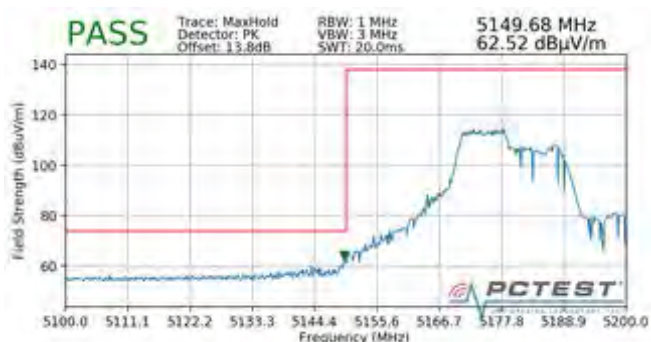
§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]; RSS-Gen [8.9]

### 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

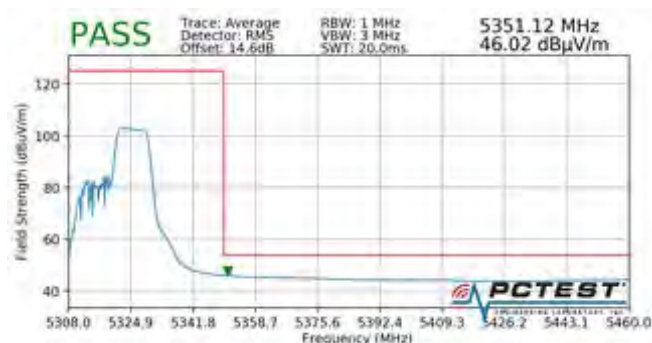


Plot 7-661. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 1 – 106 Tones)



Plot 7-662. 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



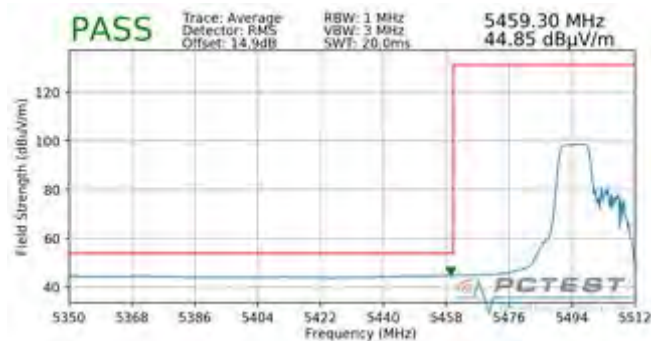
Plot 7-663. Radiated Upper Band Edge Plot SISO ANT1 (Average – UNII Band 2A – 106 Tones)



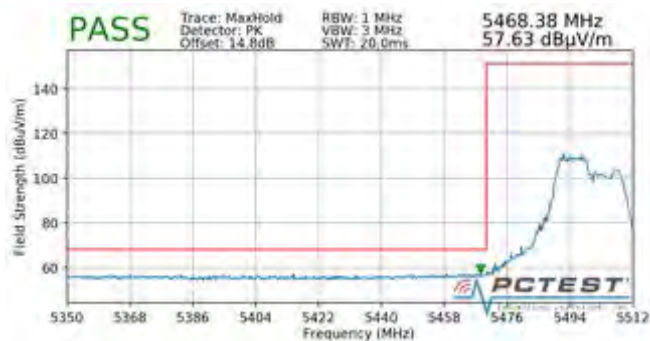
Plot 7-664. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 2A – 106 Tones)

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 465 of 514

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

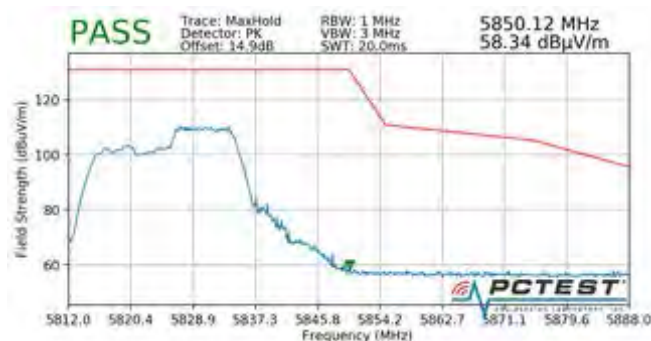


**Plot 7-665. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 2C – 106 Tones)**



**Plot 7-666. 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

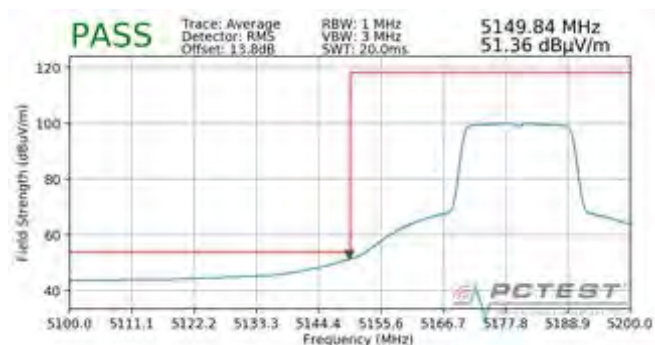


**Plot 7-667. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 3 – 106 Tones)**

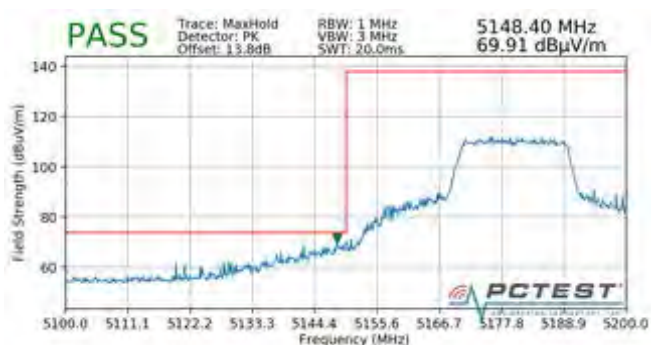
FCC ID: A3LSMG9730	 <b>MEASUREMENT REPORT (CERTIFICATION)</b> 		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset	Page 466 of 514

## 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 7-668. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 1 – 242 Tones)**



**Plot 7-669. 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



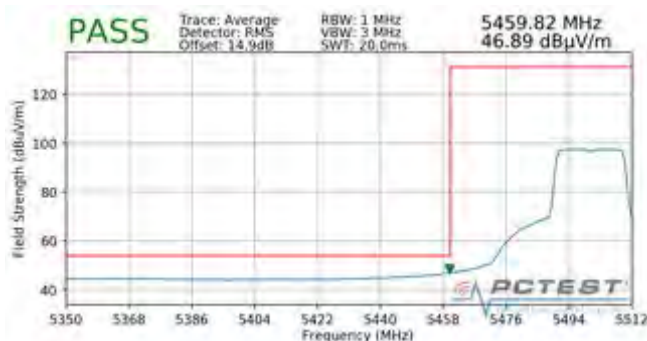
**Plot 7-670. Radiated Upper Band Edge Plot SISO ANT1 (Average – UNII Band 2A – 242 Tones)**



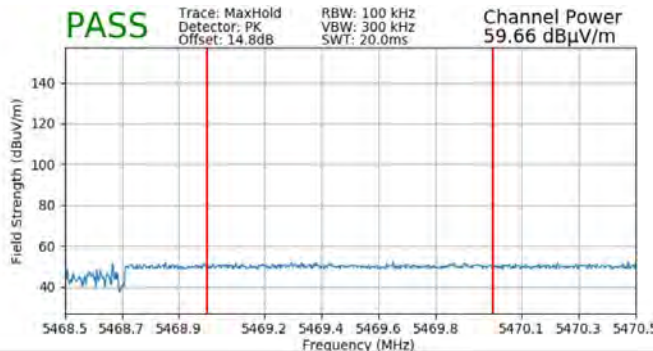
**Plot 7-671. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 2A – 242 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 467 of 514

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

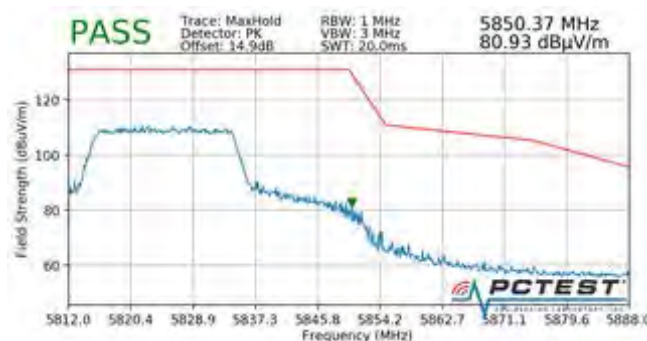


**Plot 7-672. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 2C – 242 Tones)**



**Plot 7-673. 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

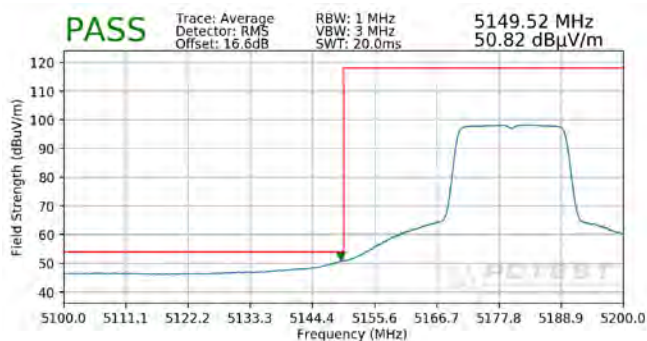


**Plot 7-674. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 3 – 242 Tones)**

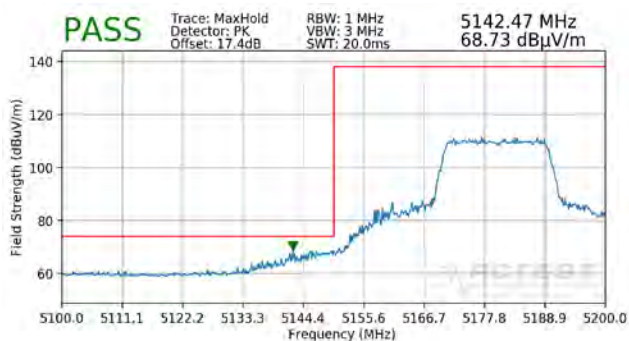
FCC ID: A3LSMG9730	 <b>MEASUREMENT REPORT (CERTIFICATION)</b> 		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset	Page 468 of 514



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



**Plot 7-675. Radiated Band Edge Plot SISO ANT1  
(Average – WCP – 242 Tones)**



**Plot 7-676. Radiated Band Edge Plot SISO ANT1  
(Peak – WCP – 242 Tones)**

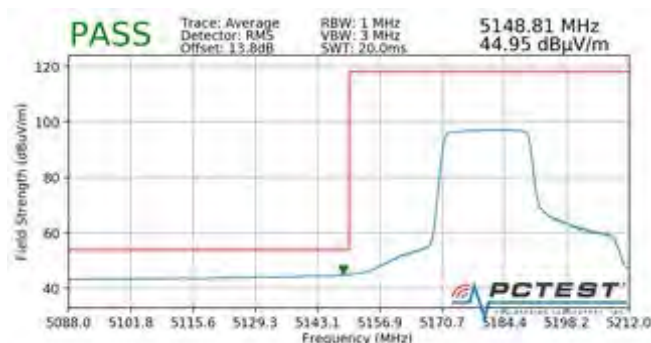
FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 469 of 514

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

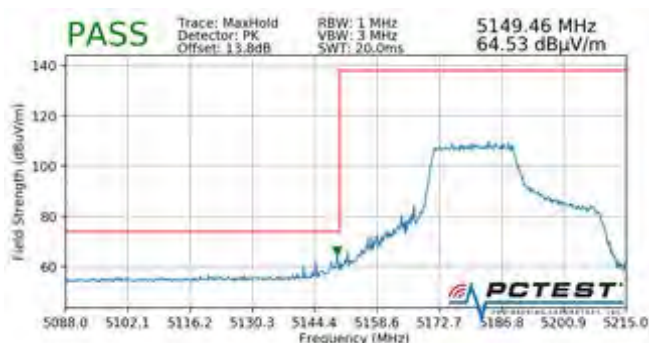
\$15.407(b.1)(b.2) \$15.205 \$15.209; RSS-Gen [8.9]

### 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

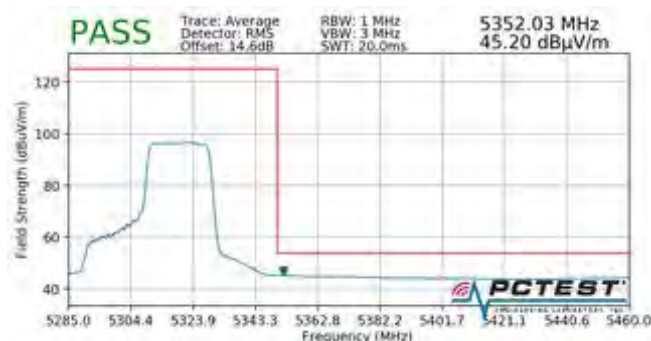


**Plot 7-677. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 1 – 242 Tones)**

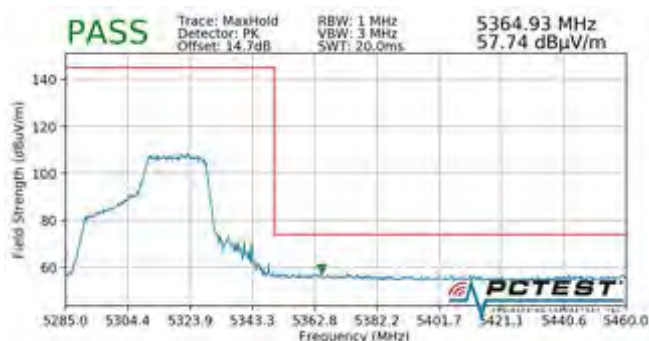


**Plot 7-678. Radiated Lower Band Edge Plot SISO ANT1 (Peak – UNII Band 1 – 242 Tones)**

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



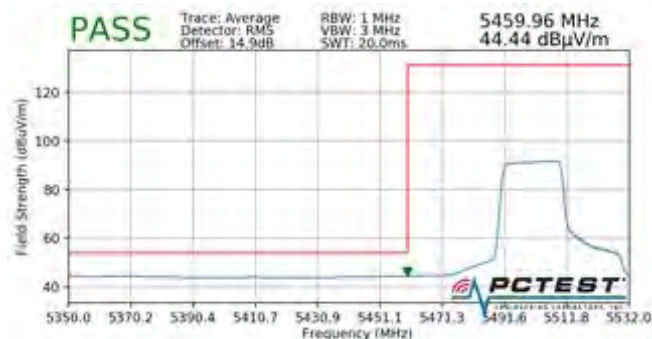
**Plot 7-679. Radiated Upper Band Edge Plot SISO ANT1 (Average – UNII Band 2A – 242 Tones)**



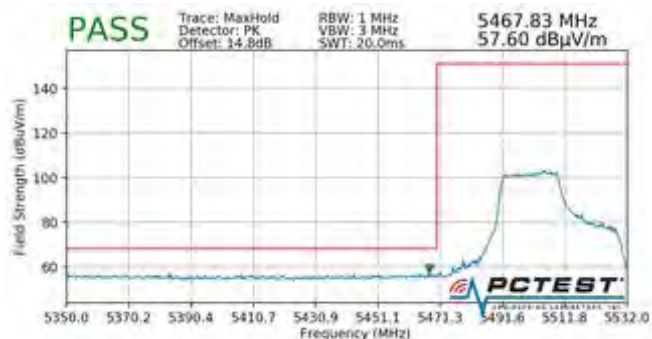
**Plot 7-680. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 2A – 242 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 470 of 514

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

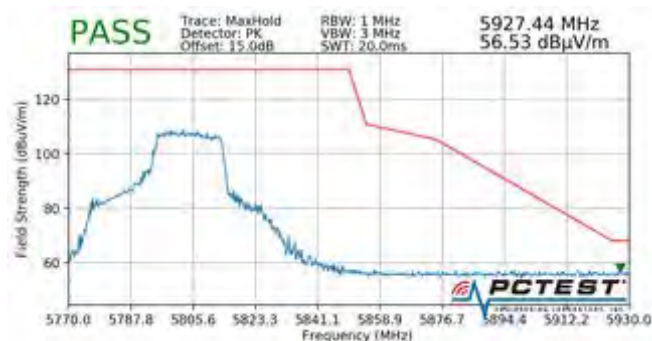


**Plot 7-681. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 2C – 242 Tones)**



**Plot 7-682. 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

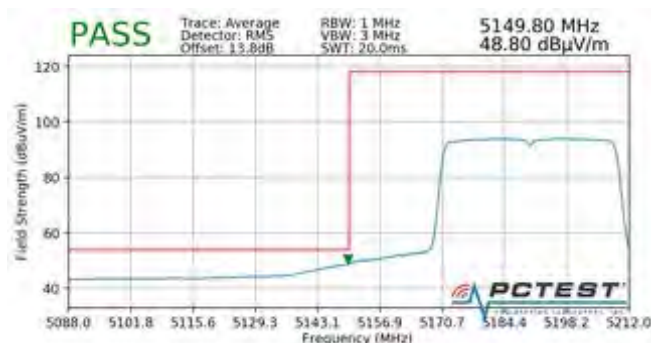


**Plot 7-683. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 3 – 242 Tones)**

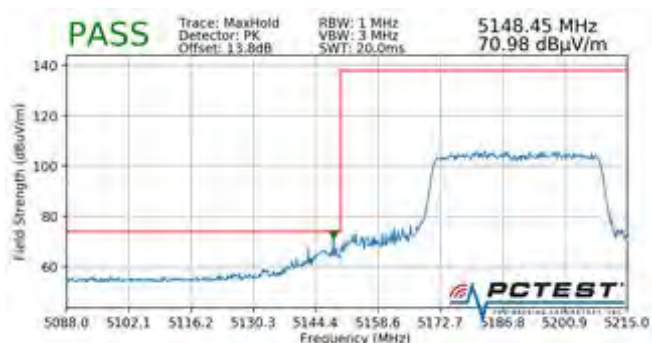
FCC ID: A3LSMG9730	 <b>MEASUREMENT REPORT (CERTIFICATION)</b> 		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset	Page 471 of 514

## 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 7-684. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 1 – 484 Tones)**

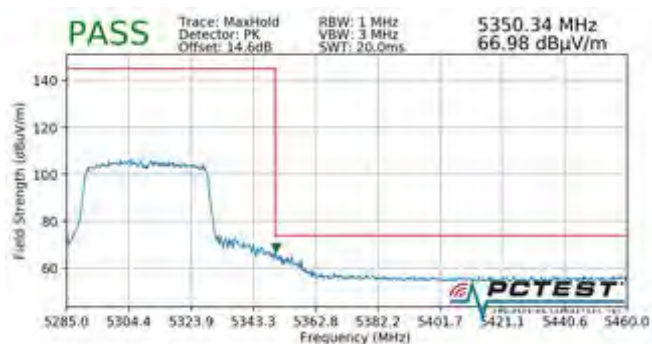


**Plot 7-685. Radiated Lower Band Edge Plot SISO ANT1 (Peak – UNII Band 1 – 484 Tones)**

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



**Plot 7-686. Radiated Upper Band Edge Plot SISO ANT1 (Average – UNII Band 2A – 484 Tones)**



**Plot 7-687. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 2A – 484 Tones)**

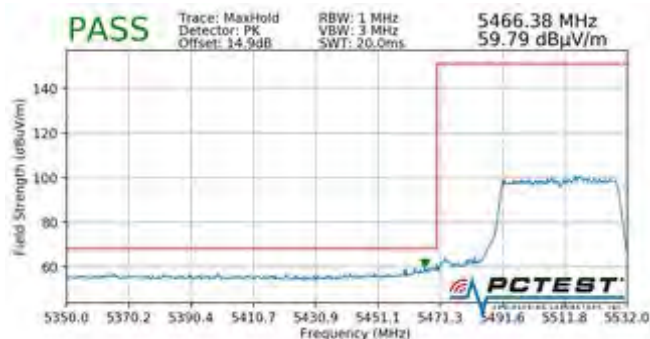
FCC ID: A3LSMG9730	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 472 of 514



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

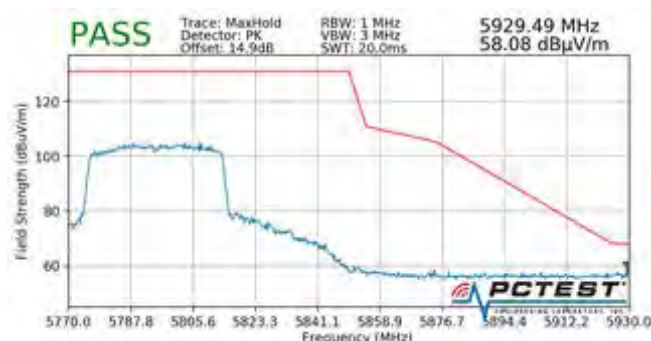


**Plot 7-688. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 2C – 484 Tones)**



**Plot 7-689. 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

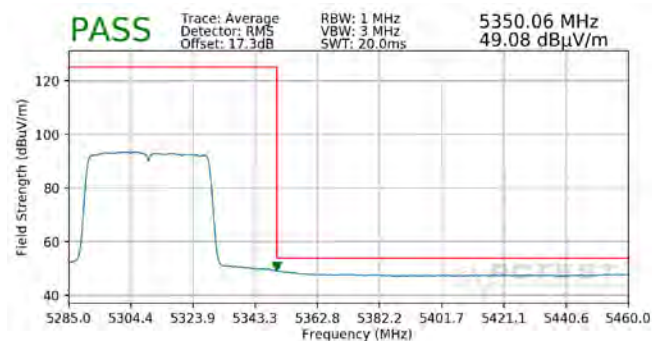


**Plot 7-690. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 3 – 484 Tones)**

FCC ID: A3LSMG9730	 <b>MEASUREMENT REPORT (CERTIFICATION)</b> 		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset	Page 473 of 514



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



**Plot 7-691. Radiated Band Edge Plot SISO ANT1  
(Average – WCP – 484 Tones)**



**Plot 7-692. Radiated Band Edge Plot SISO ANT1  
(Peak – WCP – 484 Tones)**

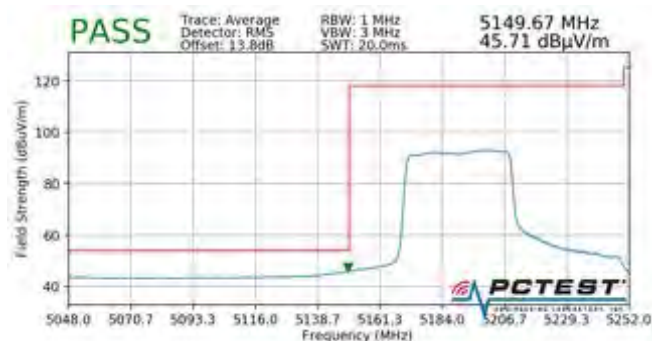
FCC ID: A3LSMG9730	 <b>MEASUREMENT REPORT (CERTIFICATION)</b> 		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset	Page 474 of 514

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

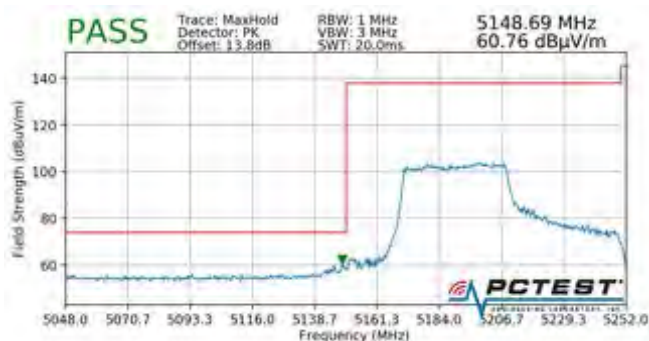
\$15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

### 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

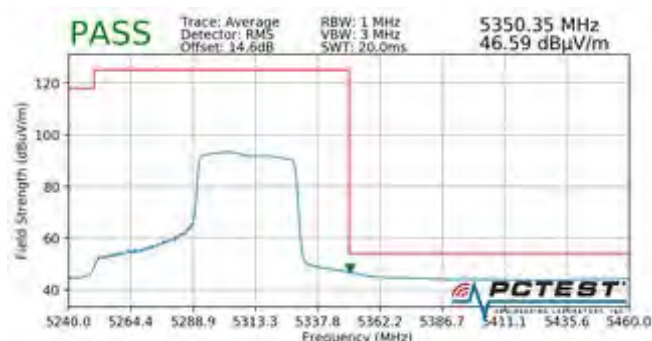


**Plot 7-693. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 1 – 484 Tones)**



**Plot 7-694. 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



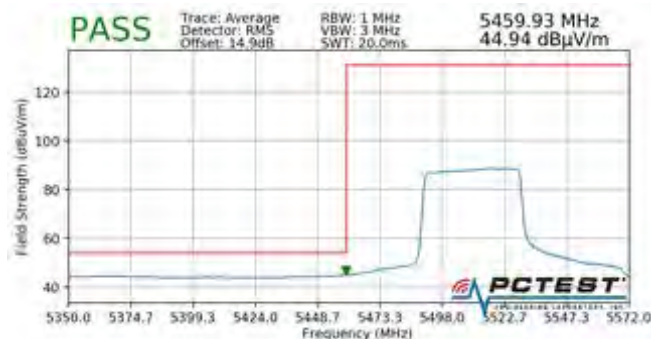
**Plot 7-695. Radiated Upper Band Edge Plot SISO ANT1 (Average – UNII Band 2A – 484 Tones)**



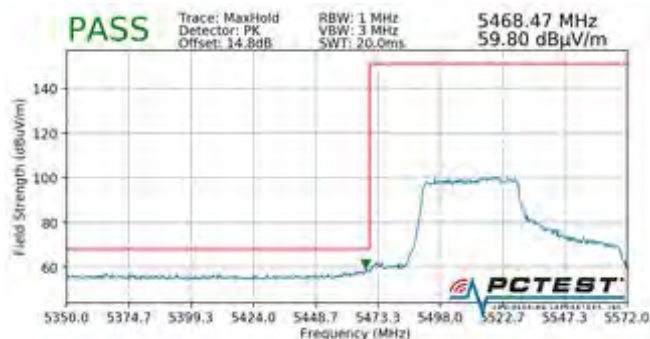
**Plot 7-696. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 2A – 484 Tones)**

FCC ID: A3LSMG9730	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 475 of 514

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

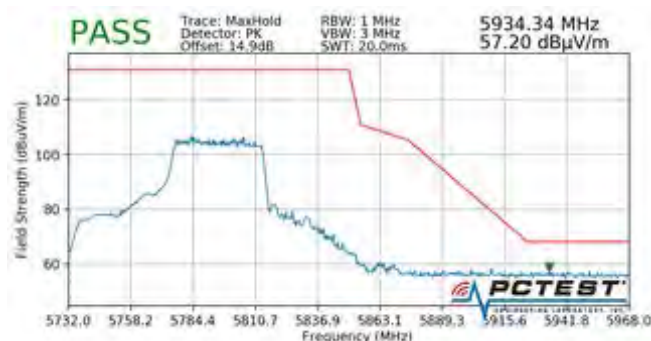


**Plot 7-697. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 2C – 484 Tones)**



**Plot 7-698. 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

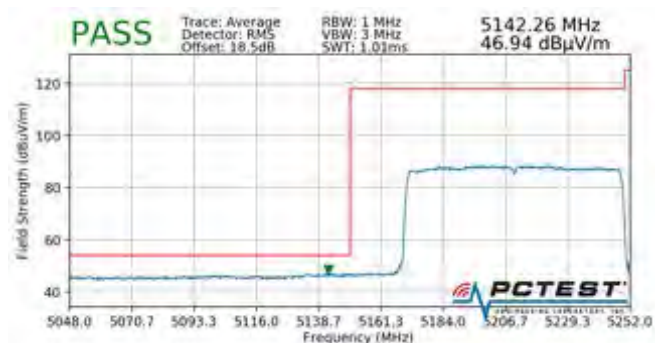


**Plot 7-699. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 3 – 484 Tones)**

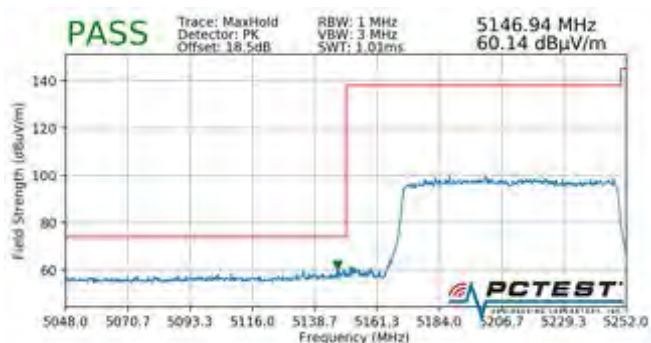
FCC ID: A3LSMG9730	 <b>MEASUREMENT REPORT (CERTIFICATION)</b> 		Approved by: Quality Manager
Test Report S/N: 1M1811230206-15.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset	Page 476 of 514

## 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

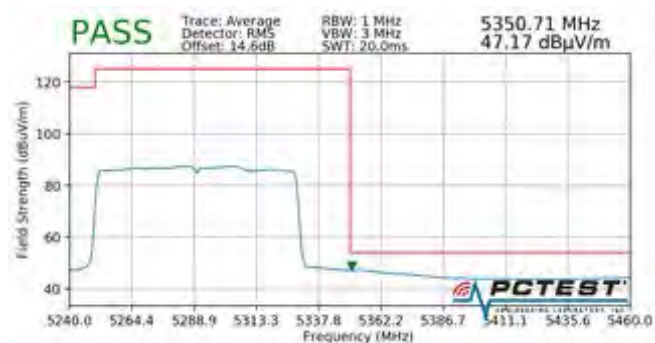


**Plot 7-700. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 1 – 996 Tones)**



**Plot 7-701. 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 7-702. Radiated Upper Band Edge Plot SISO ANT1 (Average – UNII Band 2A – 996 Tones)**

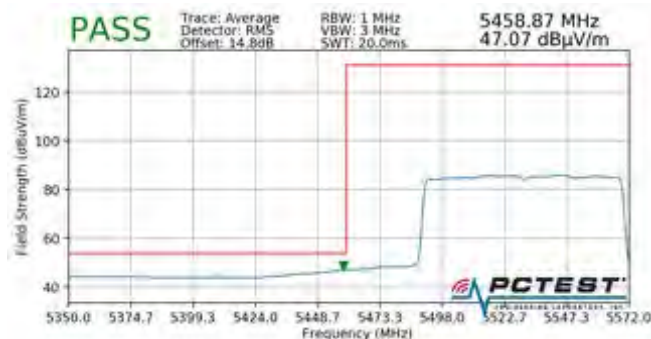


**Plot 7-703. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 2A – 996 Tones)**

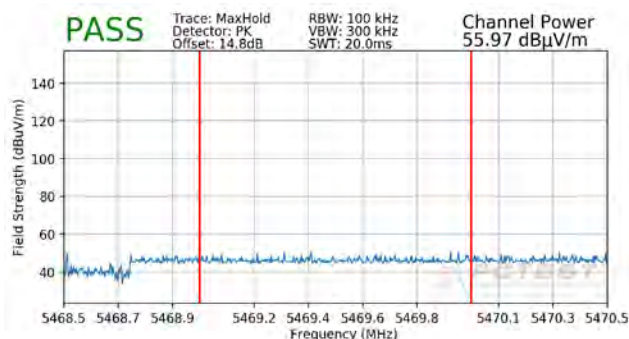
FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 477 of 514



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

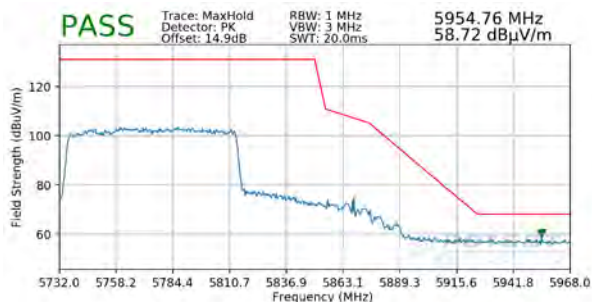


**Plot 7-704. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 2C – 996 Tones)**



**Plot 7-705. Radiated Lower Band Edge Plot SISO ANT1 (Peak – UNII Band 2C – 996 Tones)**

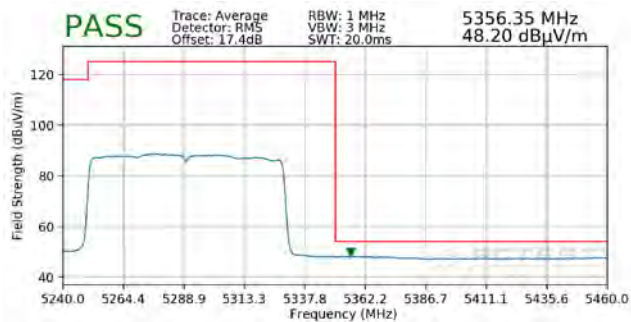
Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index	67
Distance of Measurements:	3 Meters
Operating Frequency:	5775MHz
Channel:	155



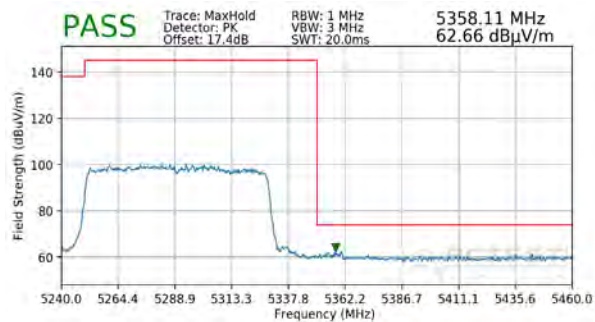
**Plot 7-706. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 3 – 996 Tones)**

FCC ID: A3LSMG9730	 <b>MEASUREMENT REPORT (CERTIFICATION)</b> 		Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset	Page 478 of 514

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



**Plot 7-707. Radiated Band Edge Plot SISO ANT1  
(Average – WCP – 996 Tones)**



**Plot 7-708. Radiated Band Edge Plot SISO ANT1  
(Peak – WCP – 996 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 479 of 514

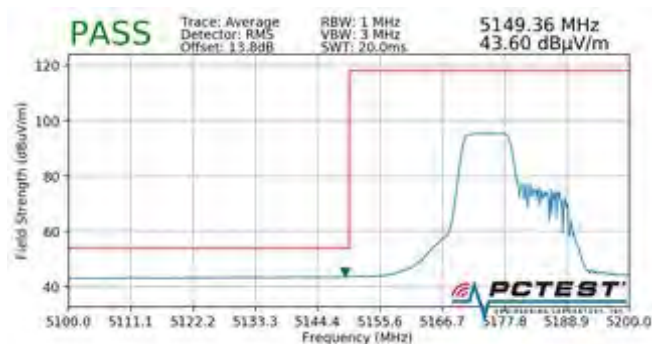


## 7.6.7 SISO Antenna-2 Radiated Band Edge Measurements (20MHz BW)

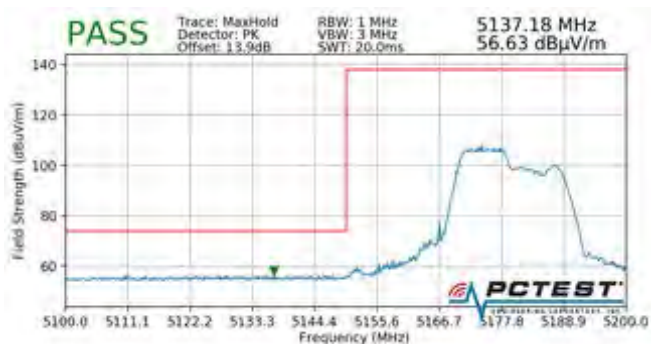
§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]; RSS-Gen [8.9]

### 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

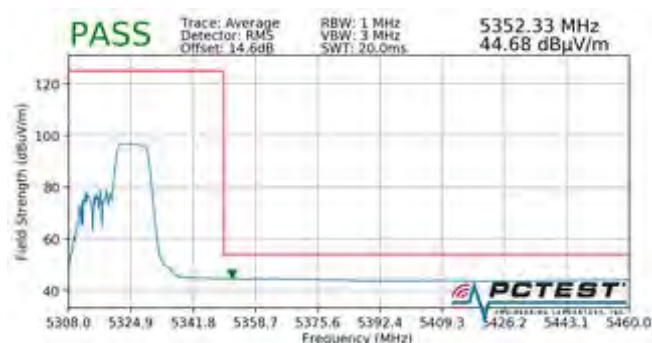


**Plot 7-709. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 1 – 106 Tones)**

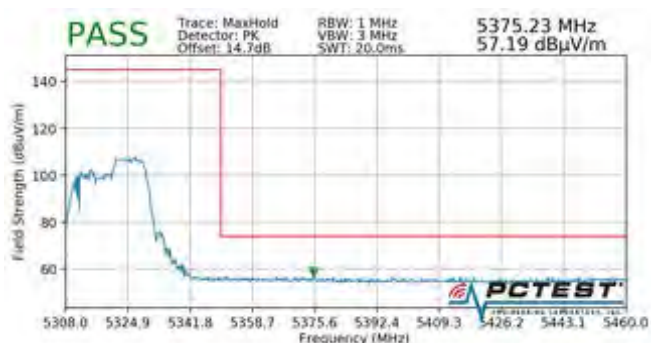


**Plot 7-710. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 1 – 106 Tones)**

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



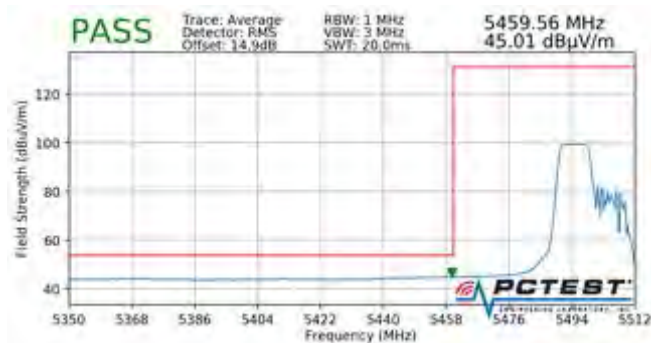
**Plot 7-711. Radiated Upper Band Edge Plot SISO ANT2 (Average – UNII Band 2A – 106 Tones)**



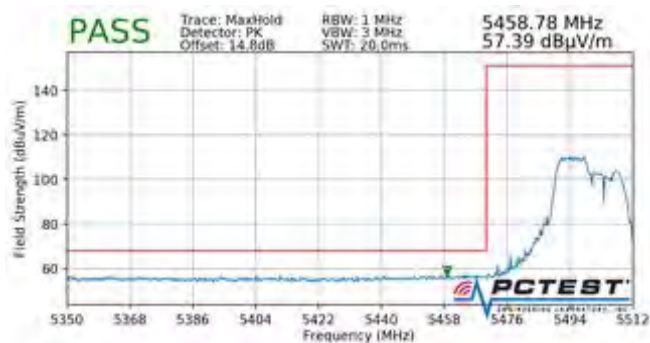
**Plot 7-712. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 2A – 106 Tones)**

FCC ID: A3LSMG9730	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 480 of 514

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

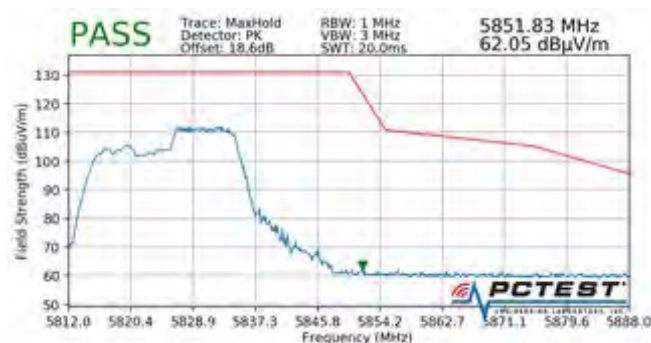


**Plot 7-713. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 2C – 106 Tones)**



**Plot 7-714. 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 7-715. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 3 – 106 Tones)**

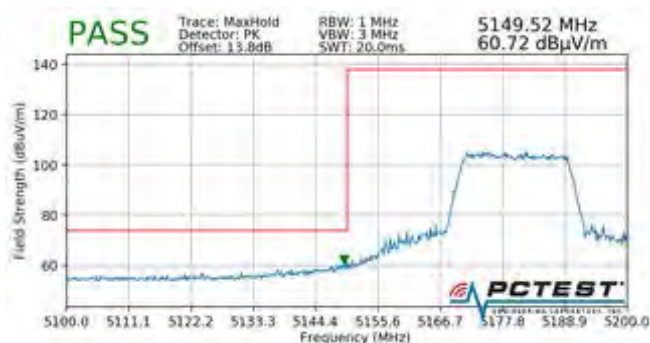
FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 481 of 514

## 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 7-716. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 1 – 242 Tones)**

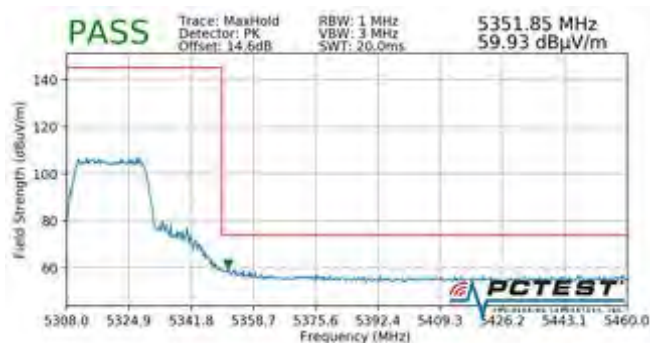


**Plot 7-717. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 1 – 242 Tones)**

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



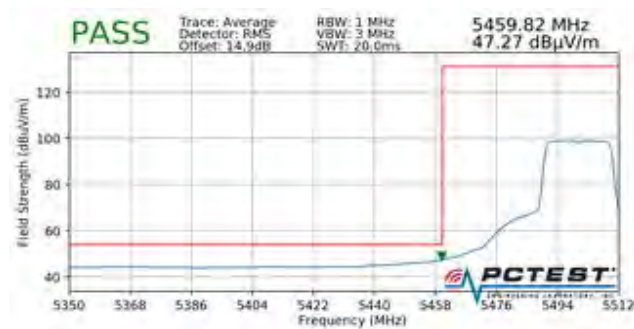
**Plot 7-718. Radiated Upper Band Edge Plot SISO ANT2 (Average – UNII Band 2A – 242 Tones)**



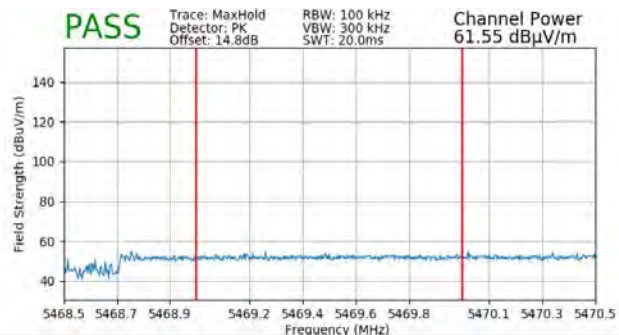
**Plot 7-719. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 2A – 242 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 482 of 514

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

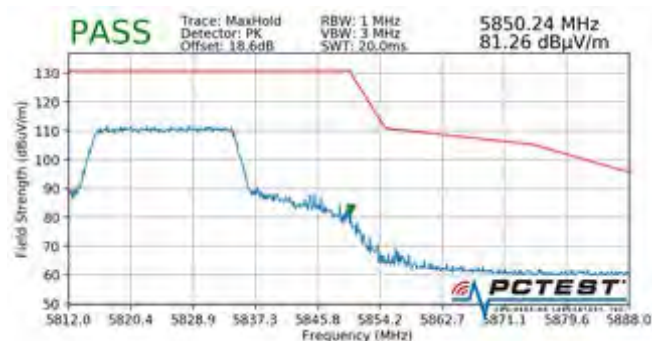


**Plot 7-720. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 2C – 242 Tones)**



**Plot 7-721. 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

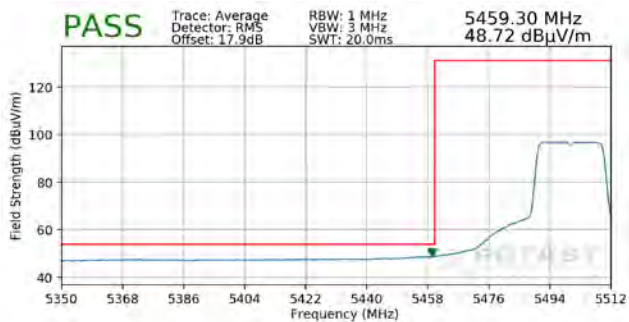


**Plot 7-722. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 3 – 242 Tones)**

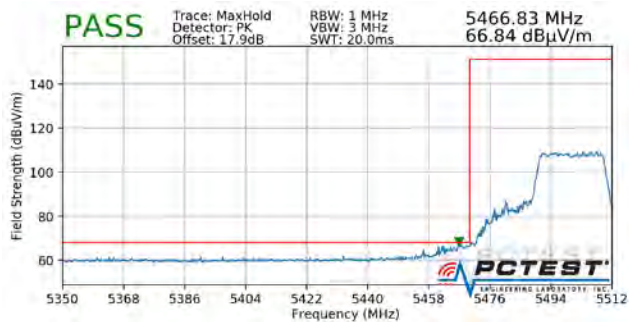
FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 483 of 514



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



**Plot 7-723. Radiated Band Edge Plot SISO ANT2  
(Average – WCP – 242 Tones)**



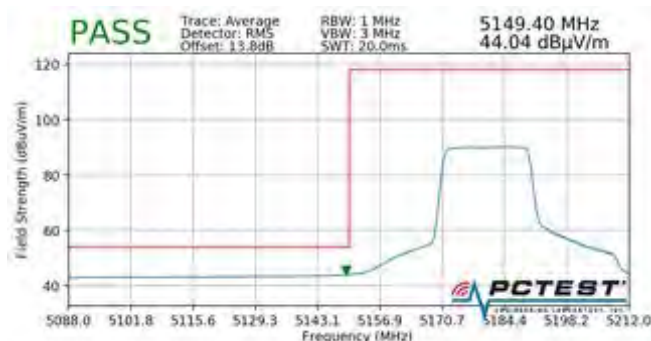
**Plot 7-724. Radiated Band Edge Plot SISO ANT2  
(Peak – WCP – 242 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 484 of 514

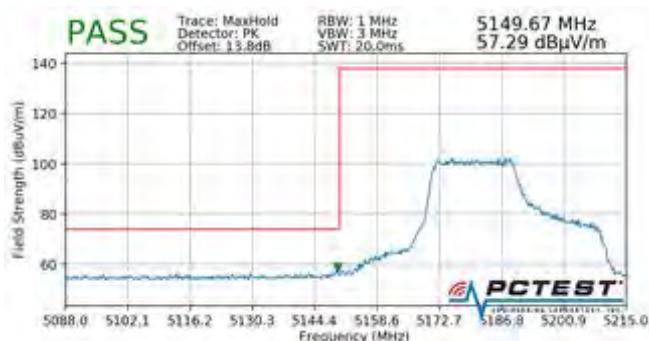
## 7.6.8 SISO Antenna-2 Radiated Band Edge Measurements (40MHz BW) §15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

### 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

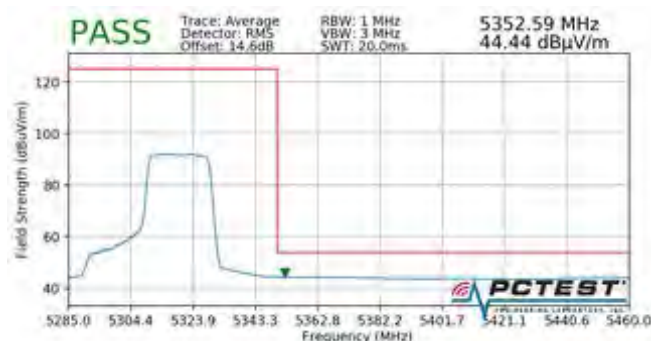


**Plot 7-725. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 1 – 242 Tones)**

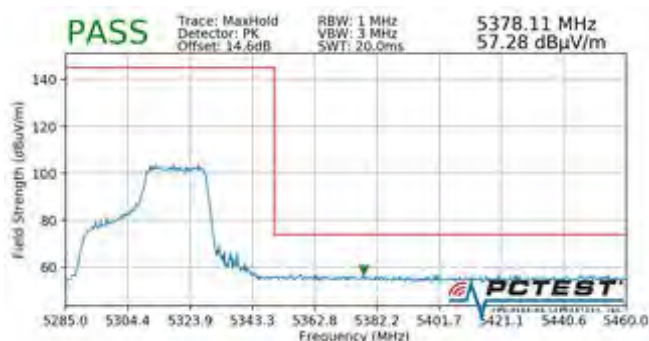


**Plot 7-726. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 1 – 242 Tones)**

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



**Plot 7-727. Radiated Upper Band Edge Plot SISO ANT2 (Average – UNII Band 2A – 242 Tones)**



**Plot 7-728. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 2A – 242 Tones)**

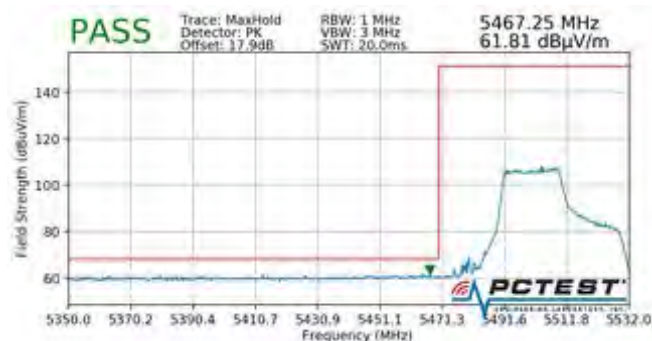
FCC ID: A3LSMG9730	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 485 of 514



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

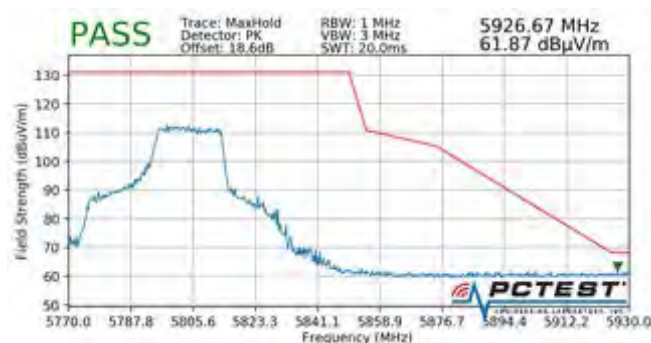


**Plot 7-729. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 2C – 242 Tones)**



**Plot 7-730. 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

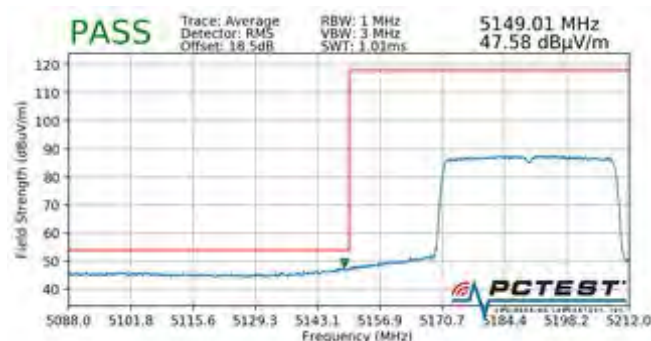


**Plot 7-731. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 3 – 242 Tones)**

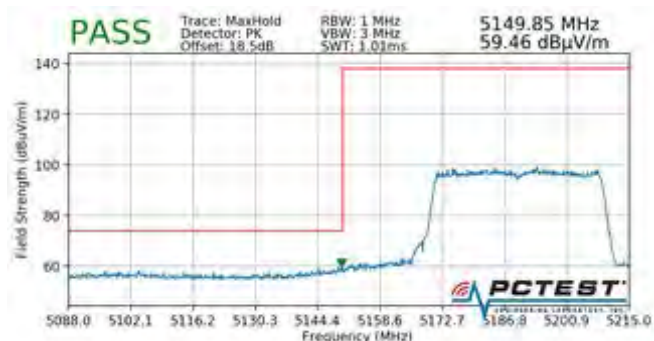
FCC ID: A3LSMG9730	 <b>MEASUREMENT REPORT (CERTIFICATION)</b> 		Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset	Page 486 of 514

## 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

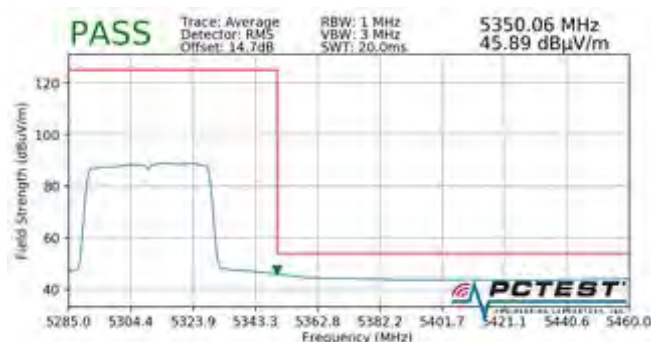


**Plot 7-732. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 1 – 484 Tones)**

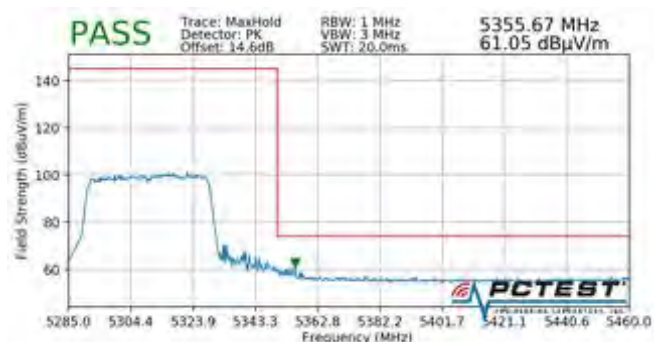


**Plot 7-733. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 1 – 484 Tones)**

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



**Plot 7-734. Radiated Upper Band Edge Plot SISO ANT2 (Average – UNII Band 2A – 484 Tones)**



**Plot 7-735. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 2A – 484 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 487 of 514

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

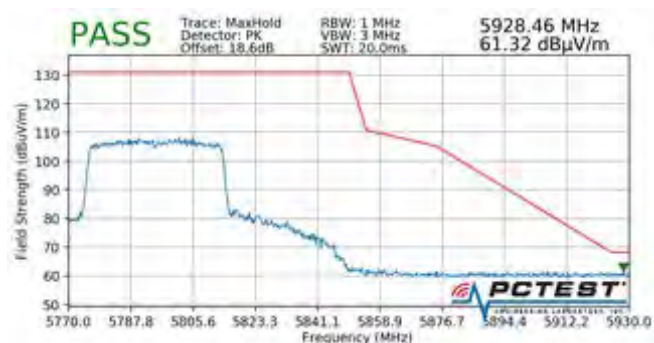


**Plot 7-736. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 2C – 484 Tones)**



**Plot 7-737. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 2C – 484 Tones)**

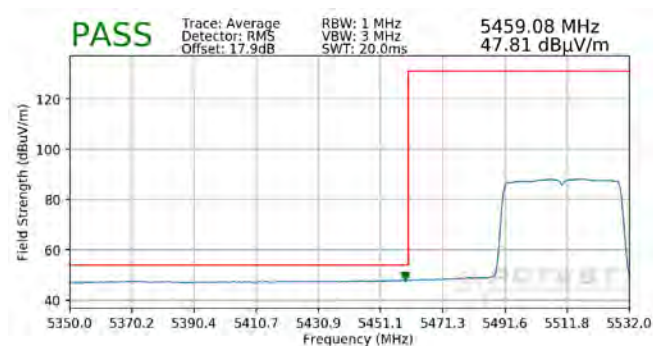
Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index	65
Distance of Measurements:	3 Meters
Operating Frequency:	5795MHz
Channel:	159



**Plot 7-738. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 3 – 484 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 488 of 514

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



**Plot 7-739. Radiated Band Edge Plot SISO ANT2  
(Average – WCP – 484 Tones)**



**Plot 7-740. Radiated Band Edge Plot SISO ANT2  
(Peak – WCP – 484 Tones)**

FCC ID: A3LSMG9730	 <b>MEASUREMENT REPORT (CERTIFICATION)</b> 		Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset	Page 489 of 514

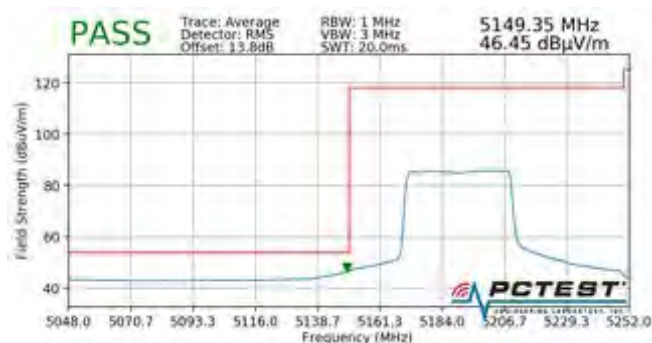


## 7.6.9 SISO Antenna-2 Radiated Band Edge Measurements (80MHz BW)

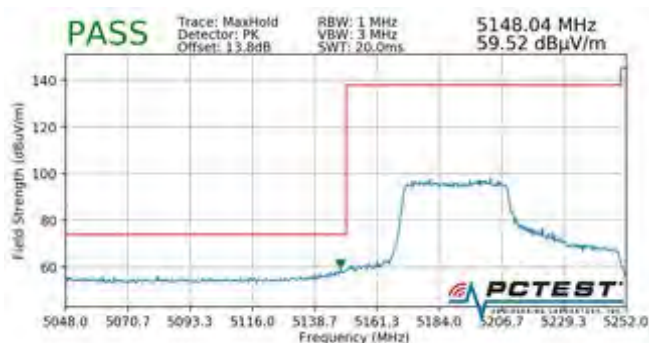
\$15.407(b.1)(b.2) \$15.205 \$15.209; RSS-Gen [8.9]

### 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

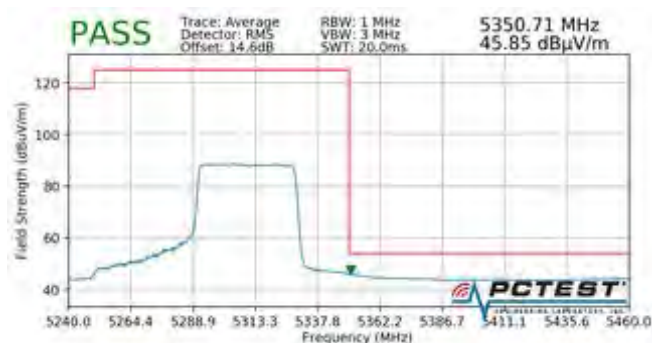


**Plot 7-741. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 1 – 484 Tones)**

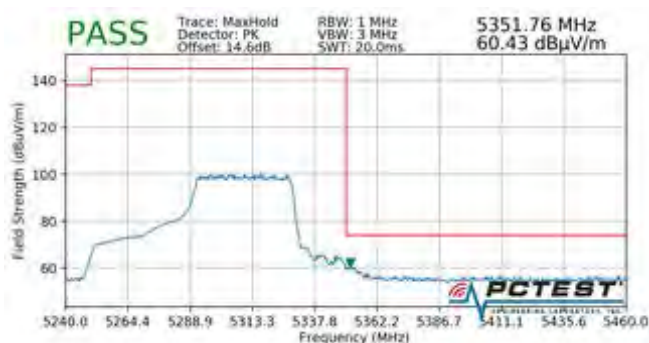


**Plot 7-742. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 1 – 484 Tones)**

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



**Plot 7-743. Radiated Upper Band Edge Plot SISO ANT2 (Average – UNII Band 2A – 484 Tones)**

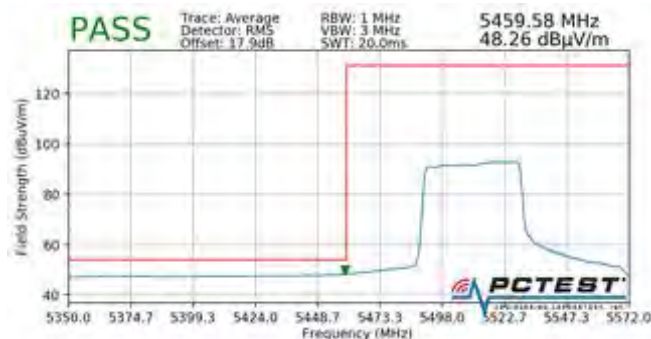


**Plot 7-744. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 2A – 484 Tones)**

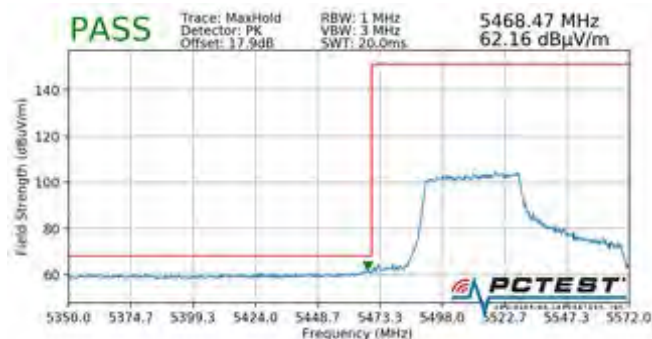
FCC ID: A3LSMG9730	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 490 of 514



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

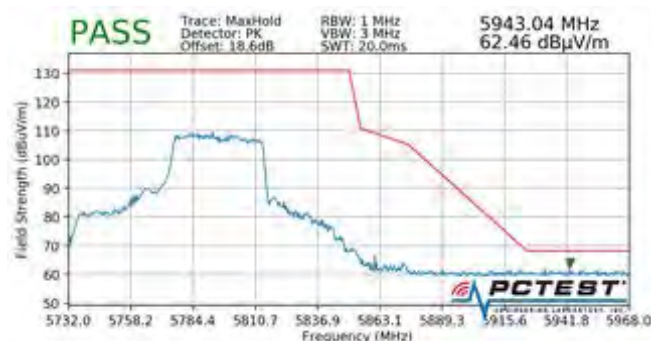


**Plot 7-745. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 2C – 484 Tones)**



**Plot 7-746. 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

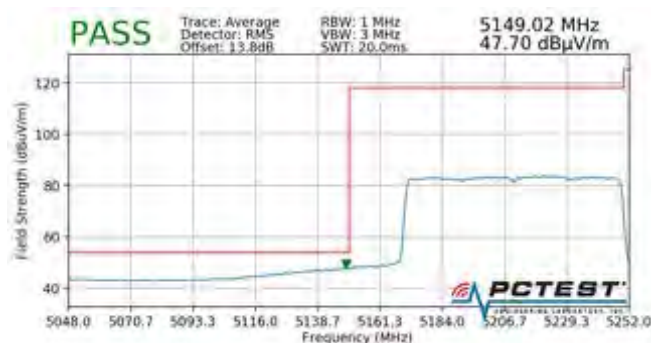


**Plot 7-747. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 3 – 484 Tones)**

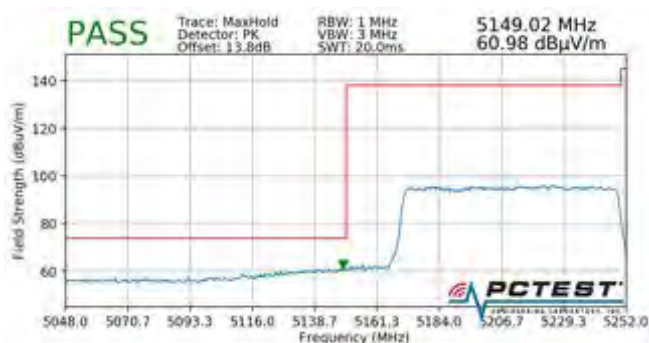
FCC ID: A3LSMG9730	 <b>MEASUREMENT REPORT (CERTIFICATION)</b> 		Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset	Page 491 of 514

## 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

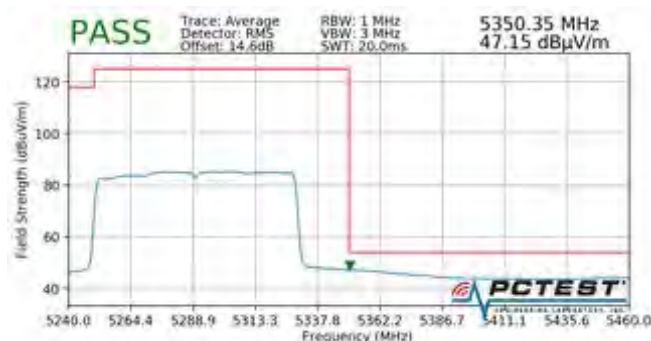


**Plot 7-748. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 1 – 996 Tones)**

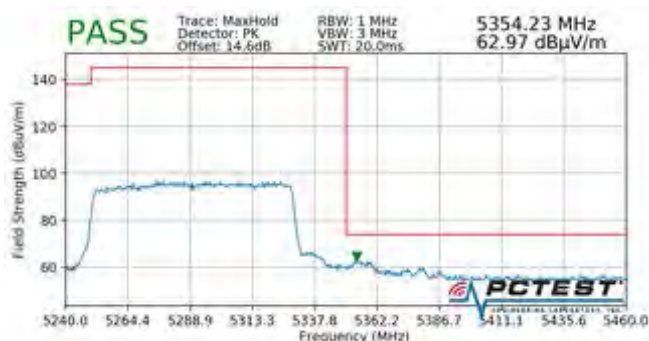


**Plot 7-749. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 1 – 996 Tones)**

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



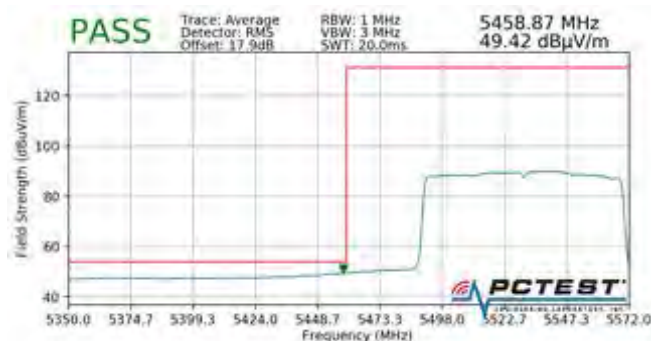
**Plot 7-750. Radiated Upper Band Edge Plot SISO ANT2 (Average – UNII Band 2A – 996 Tones)**



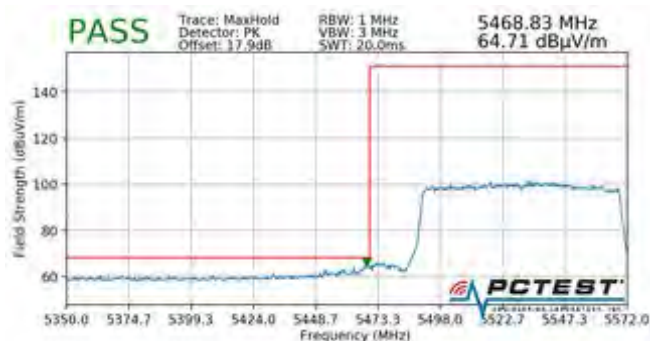
**Plot 7-751. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 2A – 996 Tones)**

FCC ID: A3LSMG9730	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 492 of 514

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

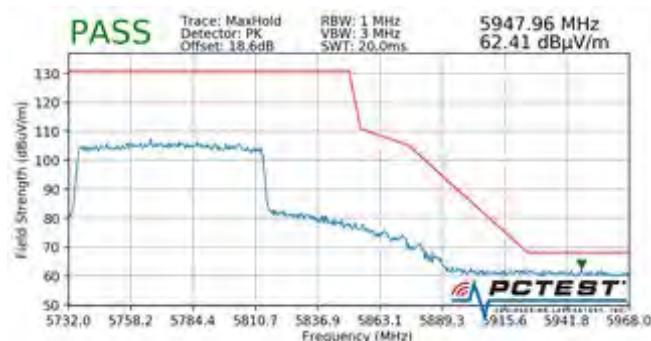


**Plot 7-752. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 2C – 996 Tones)**



**Plot 7-753. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 2C – 996 Tones)**

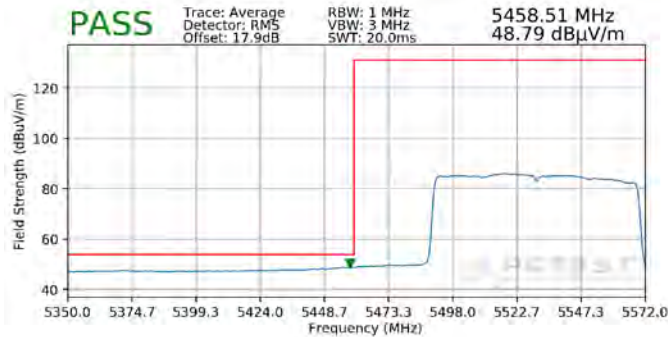
Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index	67
Distance of Measurements:	3 Meters
Operating Frequency:	5775MHz
Channel:	155



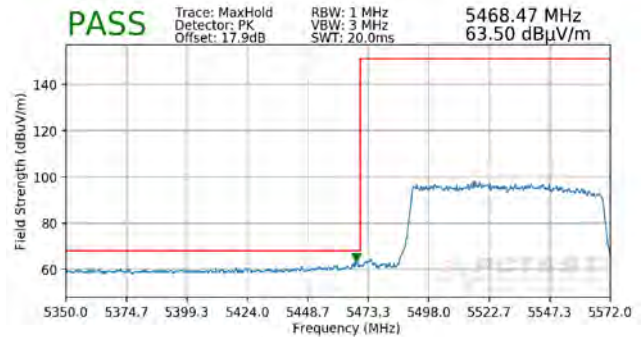
**Plot 7-754. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 3 – 996 Tones)**

FCC ID: A3LSMG9730	 <b>MEASUREMENT REPORT (CERTIFICATION)</b> 		Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset	Page 493 of 514

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



**Plot 7-755. Radiated Band Edge Plot SISO ANT2  
(Average – WCP – 996 Tones)**



**Plot 7-756. Radiated Band Edge Plot SISO ANT2  
(Peak – WCP – 996 Tones)**

FCC ID: A3LSMG9730	 <b>MEASUREMENT REPORT (CERTIFICATION)</b> 		Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset	Page 494 of 514

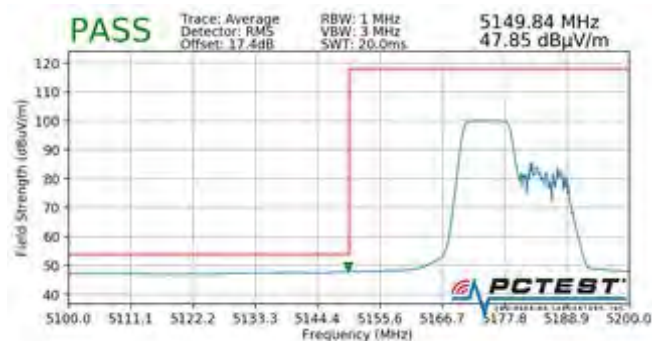


## 7.6.10 MIMO Radiated Band Edge Measurements (20MHz BW)

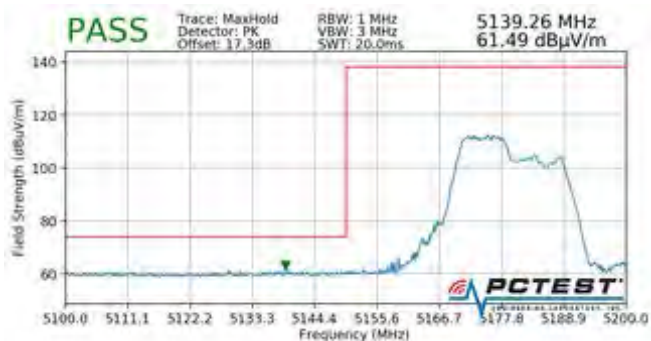
§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]; RSS-Gen [8.9]

### 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

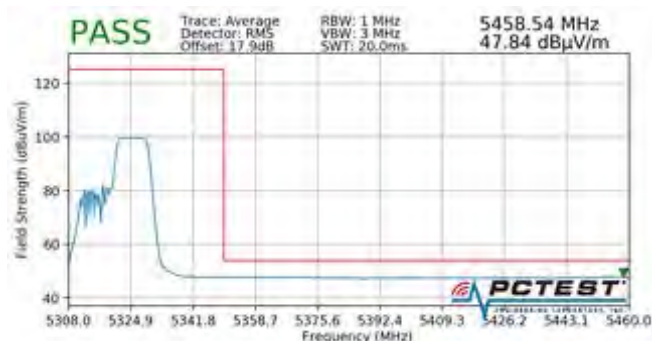


Plot 7-757. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 1 – 106 Tones)



Plot 7-758. 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 7-759. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 2A – 106 Tones)

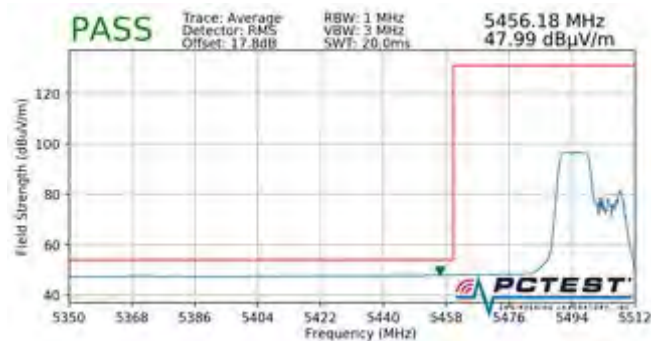


Plot 7-760. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 2A – 106 Tones)

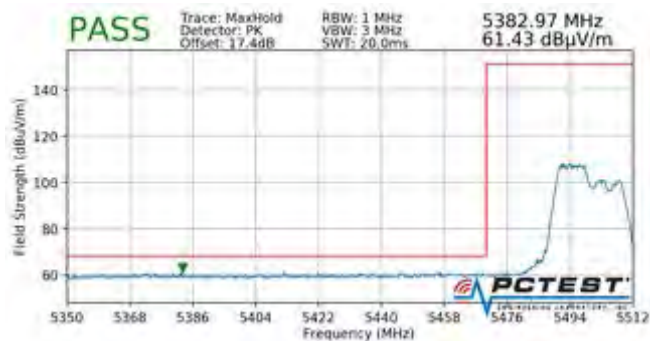
FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 495 of 514



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

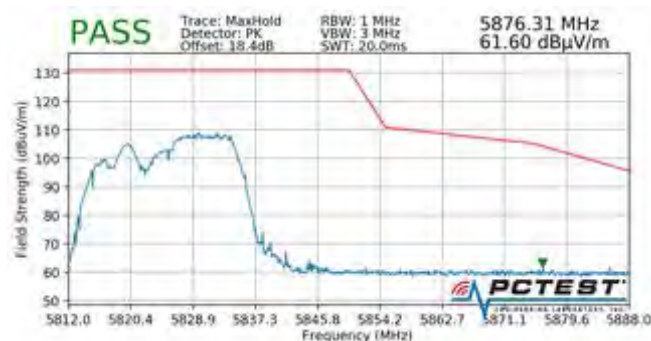


**Plot 7-761. Radiated Lower Band Edge Plot MIMO  
(Average – UNII Band 2C – 106 Tones)**



**Plot 7-762. 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

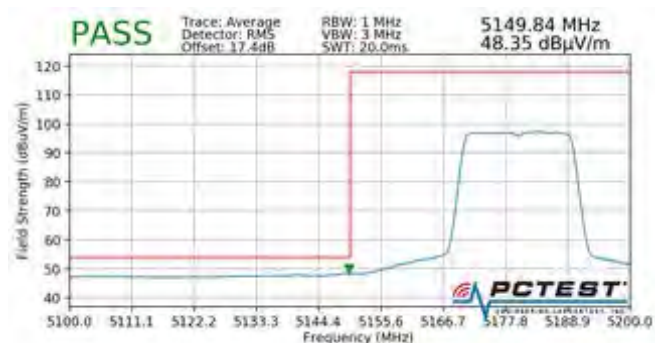


**Plot 7-763. Radiated Upper Band Edge Plot MIMO  
(Peak – UNII Band 3 – 106 Tones)**

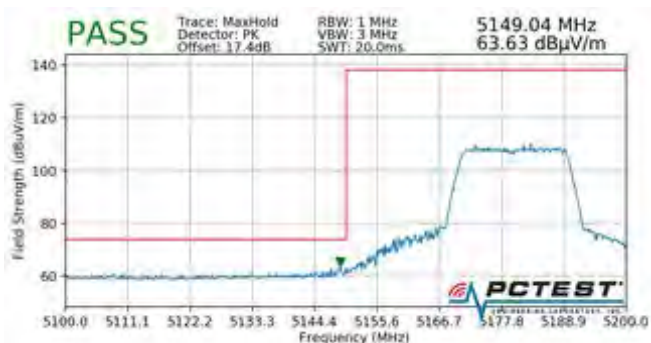
FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 496 of 514

## 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 7-764. Radiated Lower Band Edge Plot MIMO  
(Average – UNII Band 1 – 242 Tones)**



**Plot 7-765. 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



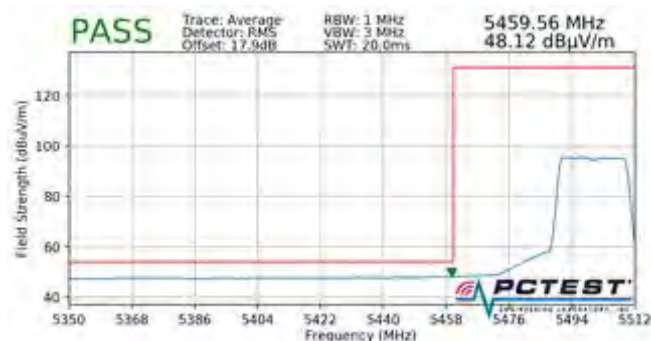
**Plot 7-766. Radiated Upper Band Edge Plot MIMO  
(Average – UNII Band 2A – 242 Tones)**



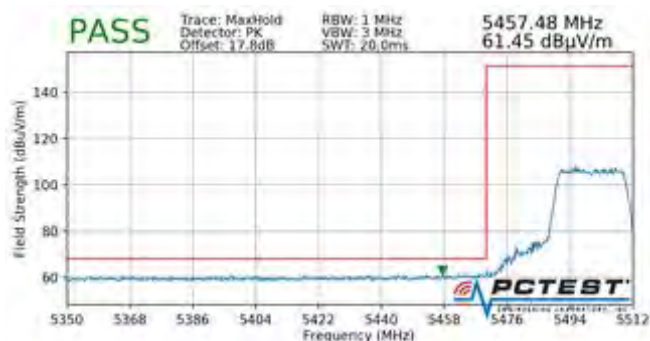
**Plot 7-767. Radiated Upper Band Edge Plot MIMO  
(Peak – UNII Band 2A – 242 Tones)**

FCC ID: A3LSMG9730	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 497 of 514

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

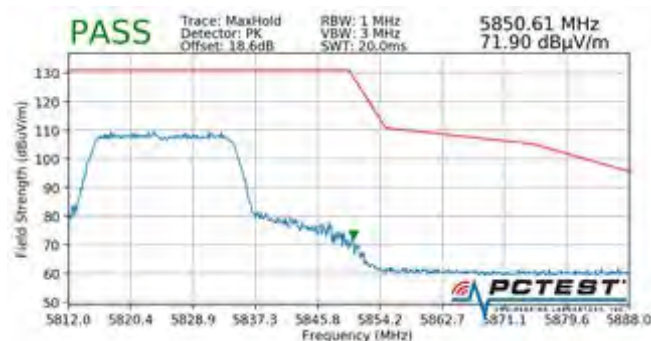


**Plot 7-768. Radiated Lower Band Edge Plot MIMO  
(Average – UNII Band 2C – 242 Tones)**



**Plot 7-769. Radiated Lower Band Edge Plot MIMO  
(Peak – UNII Band 2C – 242 Tones)**

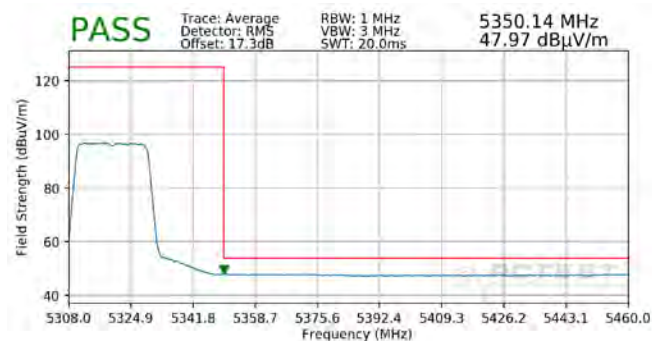
Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index	61
Distance of Measurements:	3 Meters
Operating Frequency:	5825MHz
Channel:	165



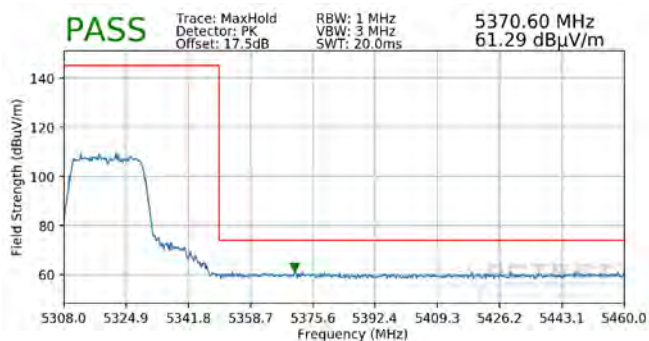
**Plot 7-770. Radiated Upper Band Edge Plot MIMO  
(Peak – UNII Band 3 – 242 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 498 of 514

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



**Plot 7-771. Radiated Band Edge Plot MIMO  
(Average – WCP – 242 Tones)**



**Plot 7-772. Radiated Band Edge Plot MIMO (Peak –  
WCP – 242 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 499 of 514

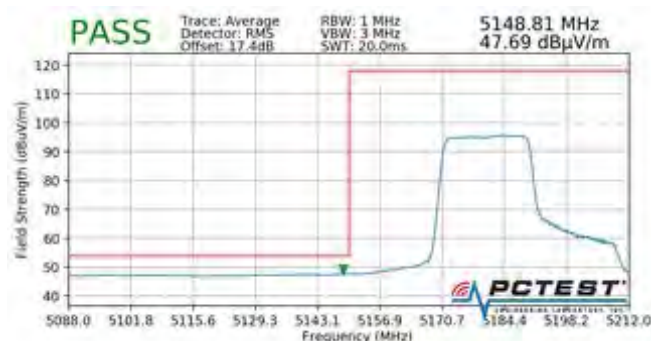


## 7.6.11 MIMO Radiated Band Edge Measurements (40MHz BW)

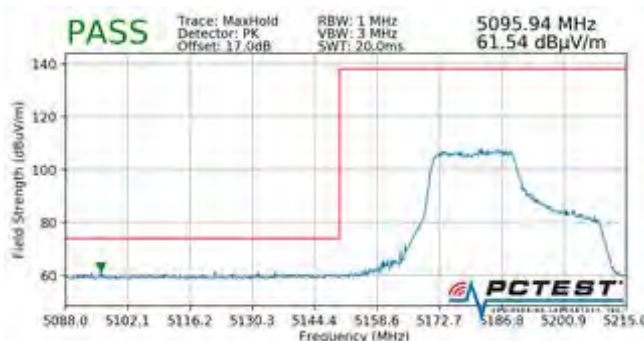
\$15.407(b.1)(b.2) \$15.205 \$15.209; RSS-Gen [8.9]

### 242 Tones

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

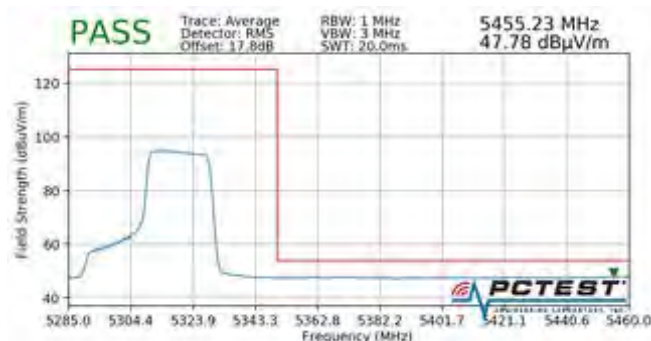


**Plot 7-773. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 1 – 242 Tones)**

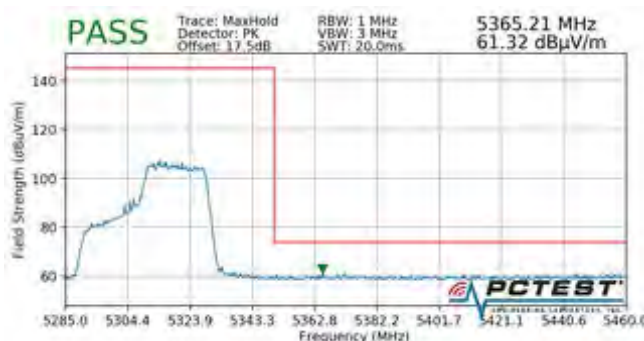


**Plot 7-774. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 1 – 242 Tones)**

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



**Plot 7-775. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 2A – 242 Tones)**



**Plot 7-776. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 2A – 242 Tones)**

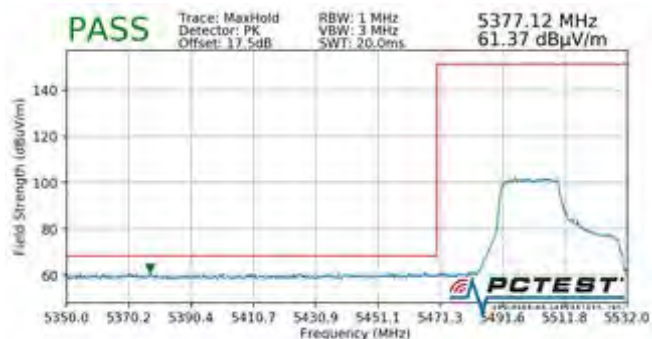
FCC ID: A3LSMG9730	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 500 of 514



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

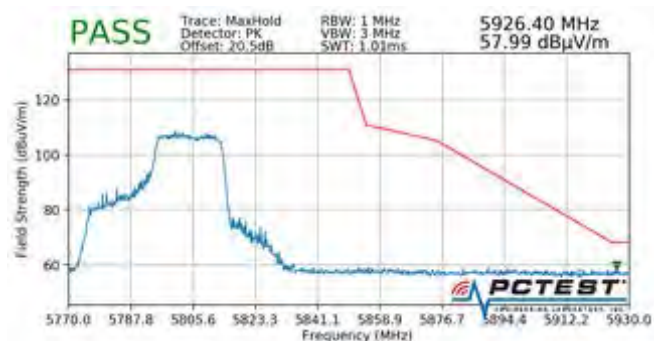


**Plot 7-777. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 2C – 242 Tones)**



**Plot 7-778. 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

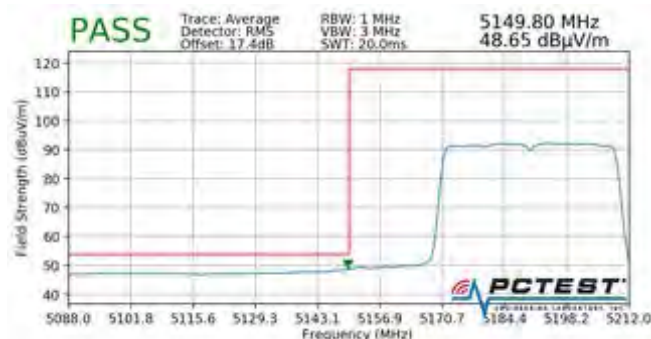


**Plot 7-779. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 3 – 242 Tones)**

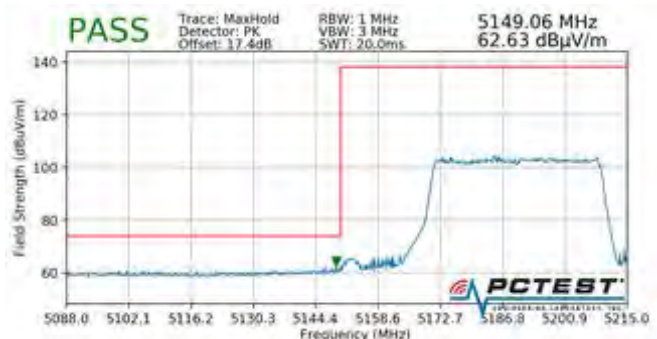
FCC ID: A3LSMG9730	 <b>MEASUREMENT REPORT (CERTIFICATION)</b> 		Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset	Page 501 of 514

## 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

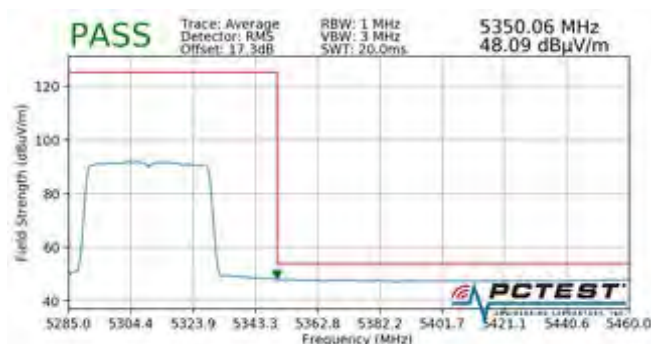


**Plot 7-780. Radiated Lower Band Edge Plot MIMO  
(Average – UNII Band 1 – 484 Tones)**

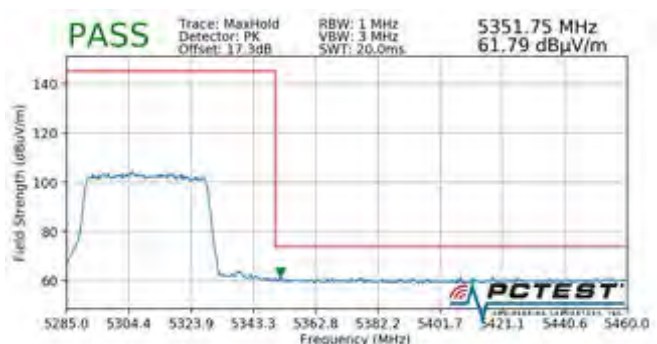


**Plot 7-781. Radiated Lower Band Edge Plot MIMO  
(Peak – UNII Band 1 – 484 Tones)**

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



**Plot 7-782. Radiated Upper Band Edge Plot MIMO  
(Average – UNII Band 2A – 484 Tones)**



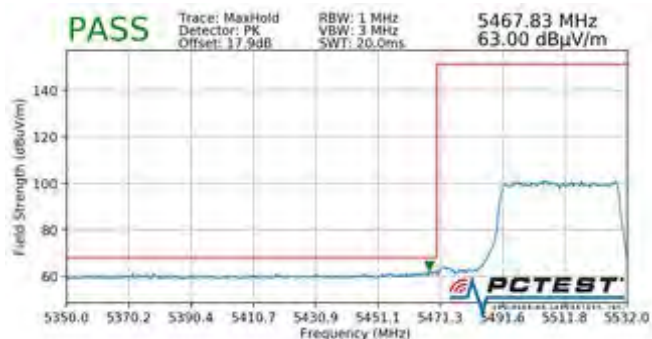
**Plot 7-783. Radiated Upper Band Edge Plot MIMO  
(Peak – UNII Band 2A – 484 Tones)**

FCC ID: A3LSMG9730	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 502 of 514

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

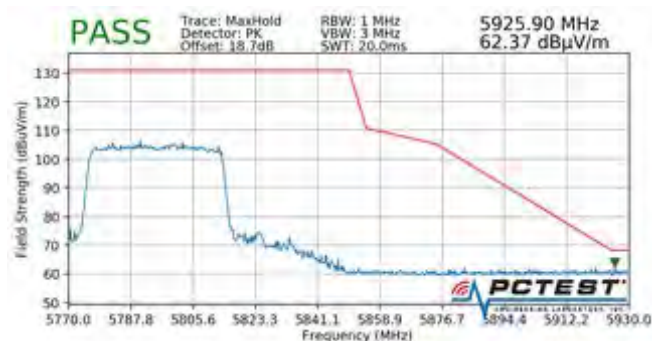


**Plot 7-784. Radiated Lower Band Edge Plot MIMO  
(Average – UNII Band 2C – 484 Tones)**



**Plot 7-785. Radiated Lower Band Edge Plot MIMO  
(Peak – UNII Band 2C – 484 Tones)**

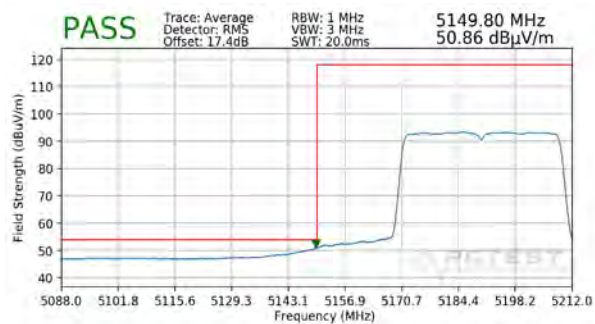
Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index	65
Distance of Measurements:	3 Meters
Operating Frequency:	5795MHz
Channel:	159



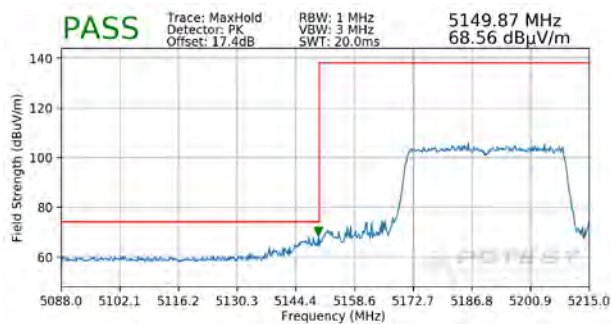
**Plot 7-786. Radiated Upper Band Edge Plot MIMO  
(Peak – UNII Band 3 – 484 Tones)**

FCC ID: A3LSMG9730	 <b>MEASUREMENT REPORT (CERTIFICATION)</b> 		Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset	Page 503 of 514

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



**Plot 7-787. Radiated Band Edge Plot MIMO  
(Average – WCP – 484 Tones)**



**Plot 7-788. Radiated Band Edge Plot MIMO (Peak –  
WCP – 484 Tones)**

FCC ID: A3LSMG9730	 <b>PCTEST</b> ENGINEERING LABORATORY, INC.		<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Quality Manager
<b>Test Report S/N:</b> 1M1810250195-18.A3L	<b>Test Dates:</b> 10/23 - 1/26/2018	<b>EUT Type:</b> Portable Handset			Page 504 of 514

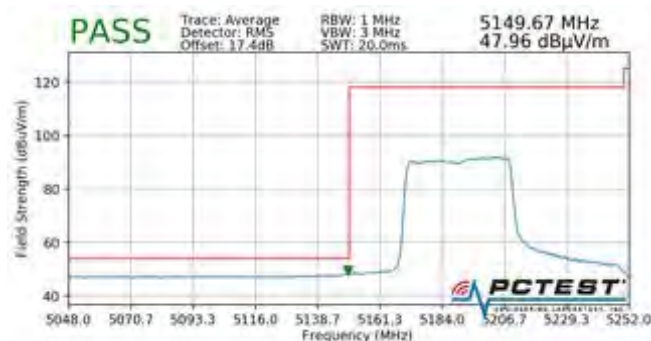


## 7.6.12 MIMO Radiated Band Edge Measurements (80MHz BW)

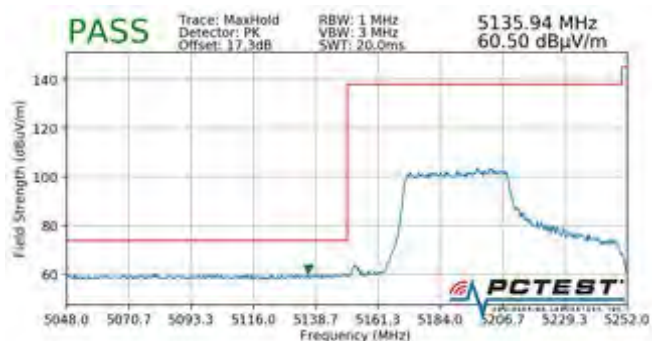
\$15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

### 484 Tones

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



**Plot 7-789. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 1 – 484 Tones)**

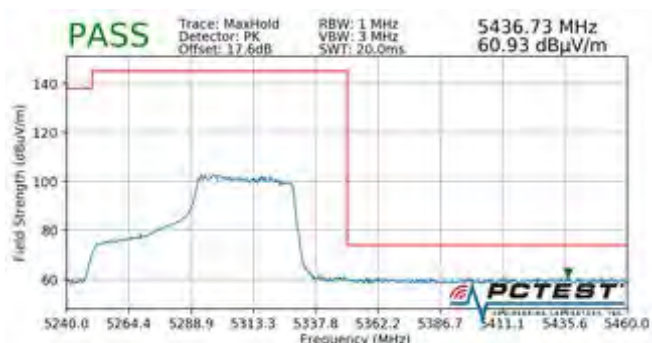


**Plot 7-790. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 1 – 484 Tones)**

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



**Plot 7-791. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 2A – 484 Tones)**

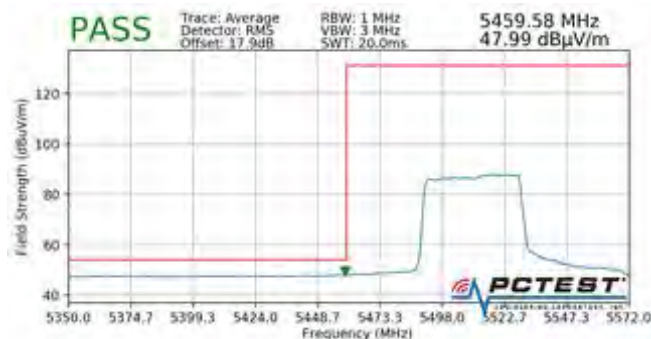


**Plot 7-792. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 2A – 484 Tones)**

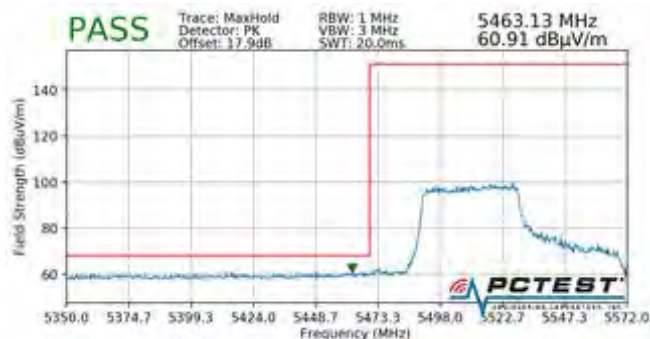
FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 505 of 514



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

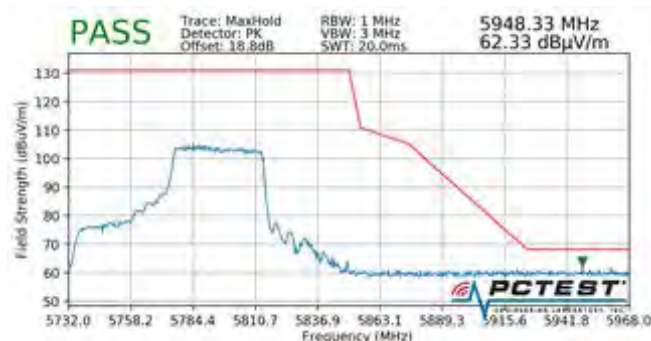


**Plot 7-793. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 2C – 484 Tones)**



**Plot 7-794. 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

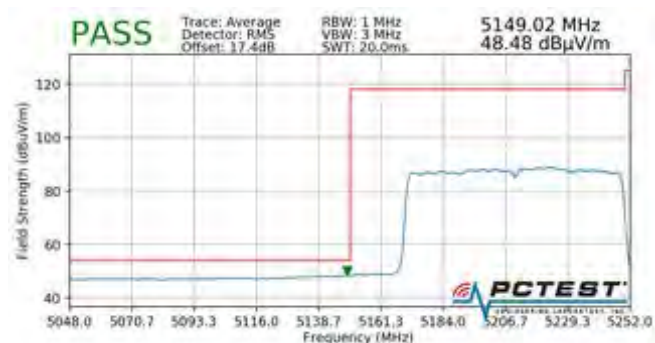


**Plot 7-795. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 3 – 484 Tones)**

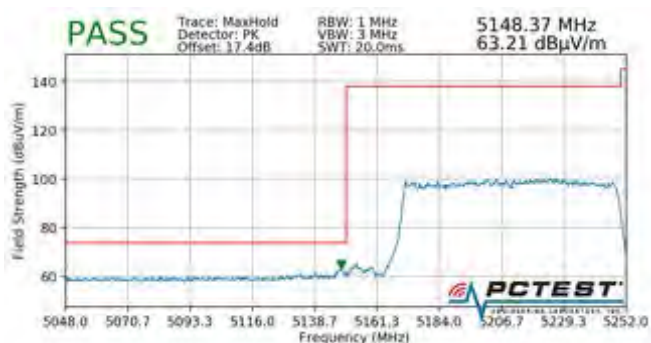
FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 506 of 514

## 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

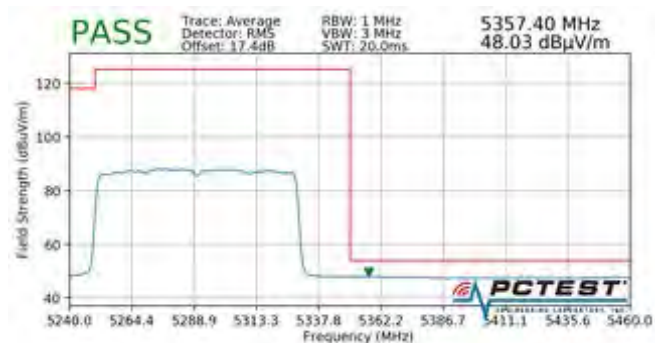


**Plot 7-796. Radiated Lower Band Edge Plot MIMO  
(Average – UNII Band 1 – 996 Tones)**

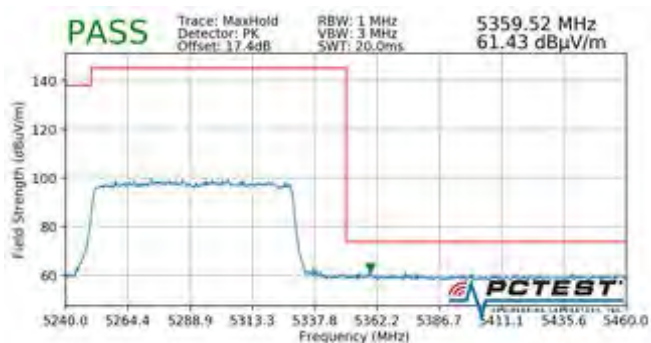


**Plot 7-797. Radiated Lower Band Edge Plot MIMO  
(Peak – UNII Band 1 – 996 Tones)**

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



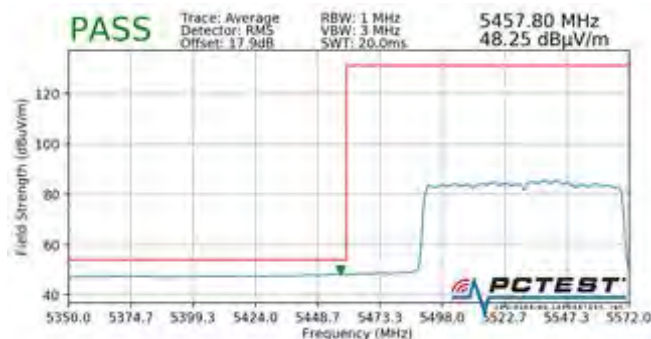
**Plot 7-798. Radiated Upper Band Edge Plot MIMO  
(Average – UNII Band 2A – 996 Tones)**



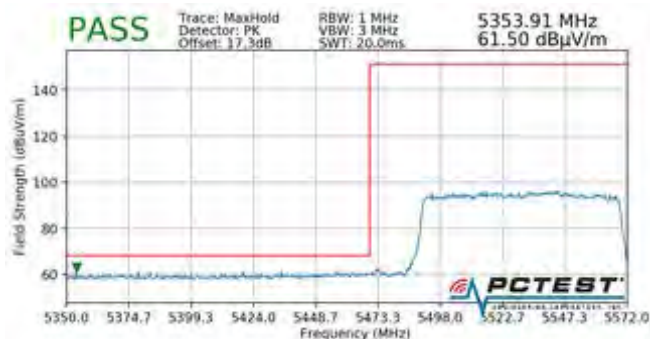
**Plot 7-799. Radiated Upper Band Edge Plot MIMO  
(Peak – UNII Band 2A – 996 Tones)**

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 507 of 514

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

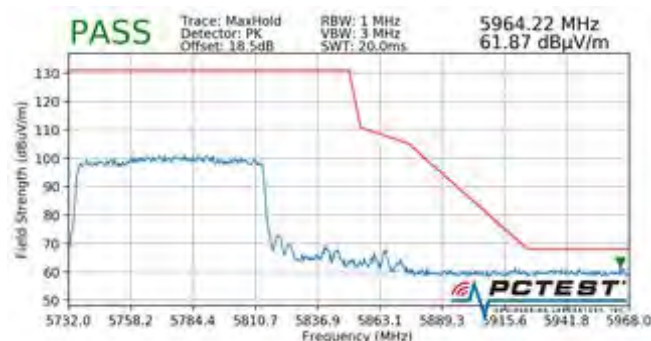


**Plot 7-800. Radiated Lower Band Edge Plot MIMO  
(Average – UNII Band 2C – 996 Tones)**



**Plot 7-801. Radiated Lower Band Edge Plot MIMO  
(Peak – UNII Band 2C – 996 Tones)**

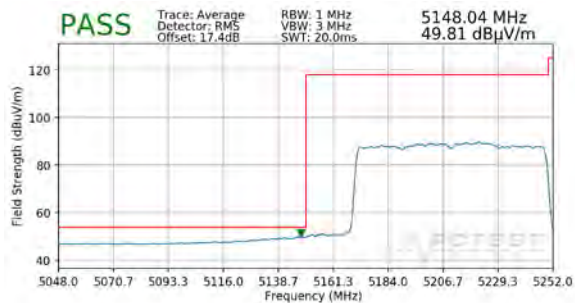
Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index	67
Distance of Measurements:	3 Meters
Operating Frequency:	5775MHz
Channel:	155



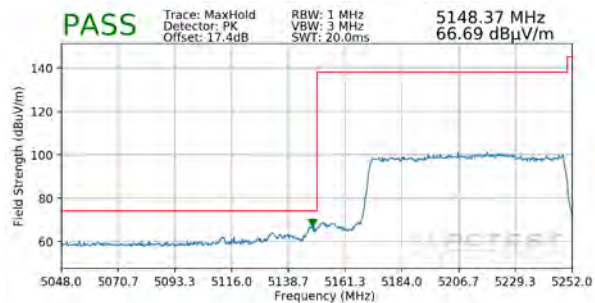
**Plot 7-802. Radiated Upper Band Edge Plot MIMO  
(Peak – UNII Band 3 – 996 Tones)**

FCC ID: A3LSMG9730	 <b>MEASUREMENT REPORT (CERTIFICATION)</b> 		Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset	Page 508 of 514

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



**Plot 7-803. Radiated Band Edge Plot MIMO  
(Average - WCP - 996 Tones)**



**Plot 7-804. Radiated Band Edge Plot MIMO (Peak -  
WCP - 996 Tones)**

FCC ID: A3LSMG9730	 <b>MEASUREMENT REPORT (CERTIFICATION)</b> 		Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset	Page 509 of 514

## 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 7-202 per Section 15.209 and RSS-Gen (8.9).***

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

**Table 7-202. Radiated Limits**

### Test Procedures Used

ANSI C63.10-2013

### Test Settings

#### Quasi-Peak Field Strength Measurements

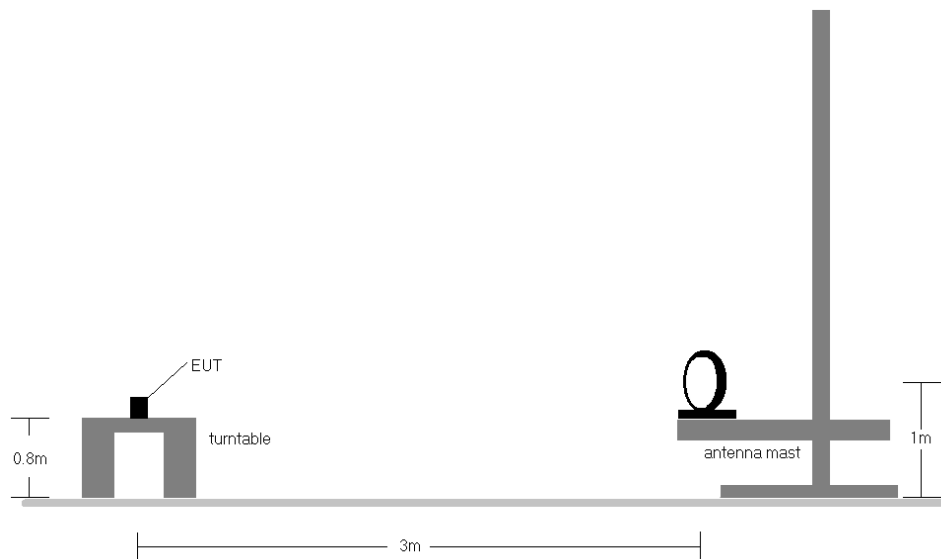
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 120kHz (for emissions from 30MHz – 1GHz)
3. Detector = quasi-peak
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 510 of 514

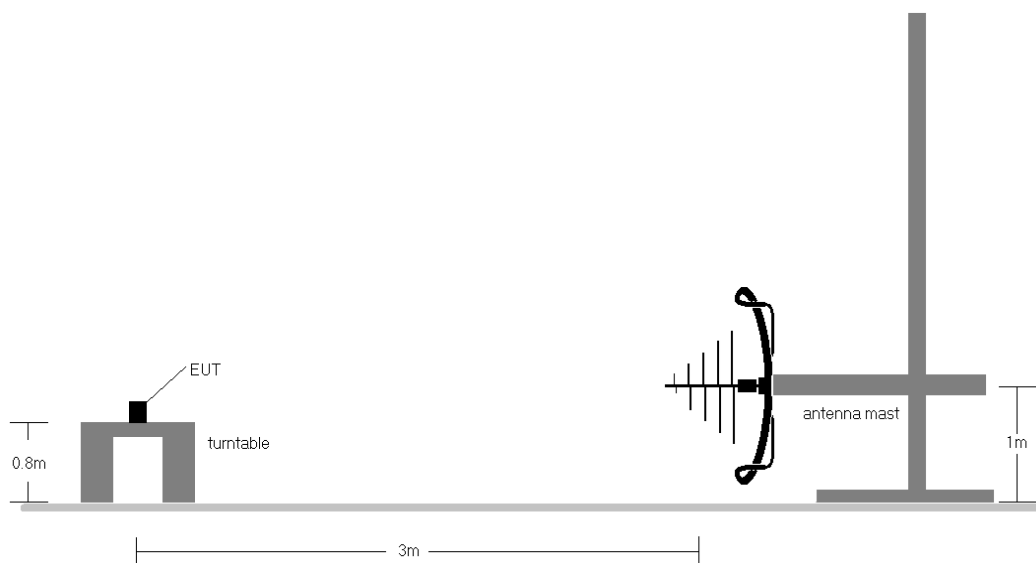


## Test Setup

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**

<b>FCC ID:</b> A3LSMG9730		<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Quality Manager
<b>Test Report S/N:</b> 1M1810250195-18.A3L	<b>Test Dates:</b> 10/23 - 1/26/2018	<b>EUT Type:</b> Portable Handset		Page 511 of 514

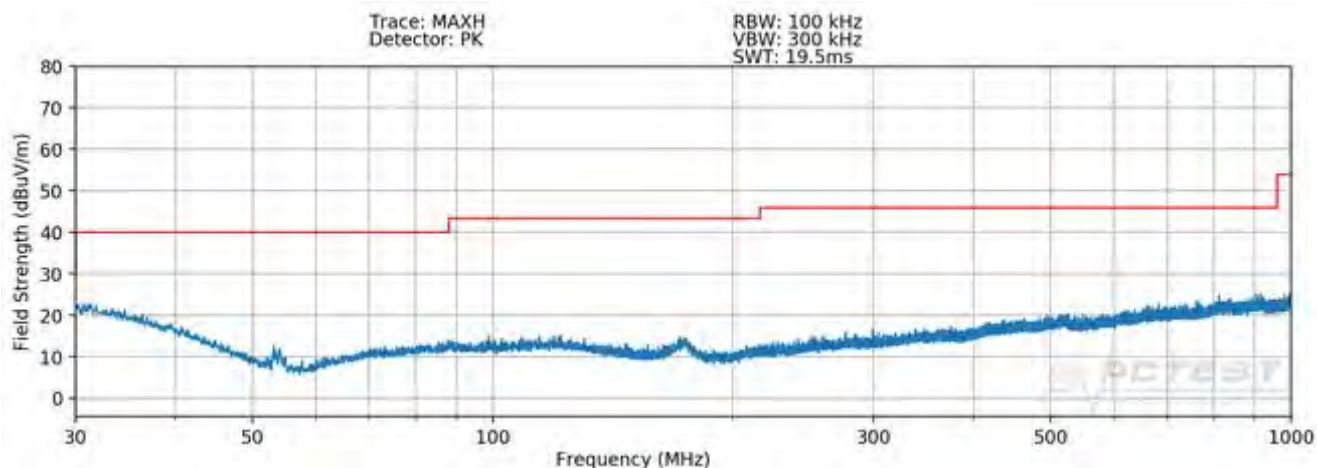
## Test Notes

1. All emissions lying in restricted bands specified in §15.205 and RSS-Gen (8.10) are below the limit shown in Table 7-202.
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.

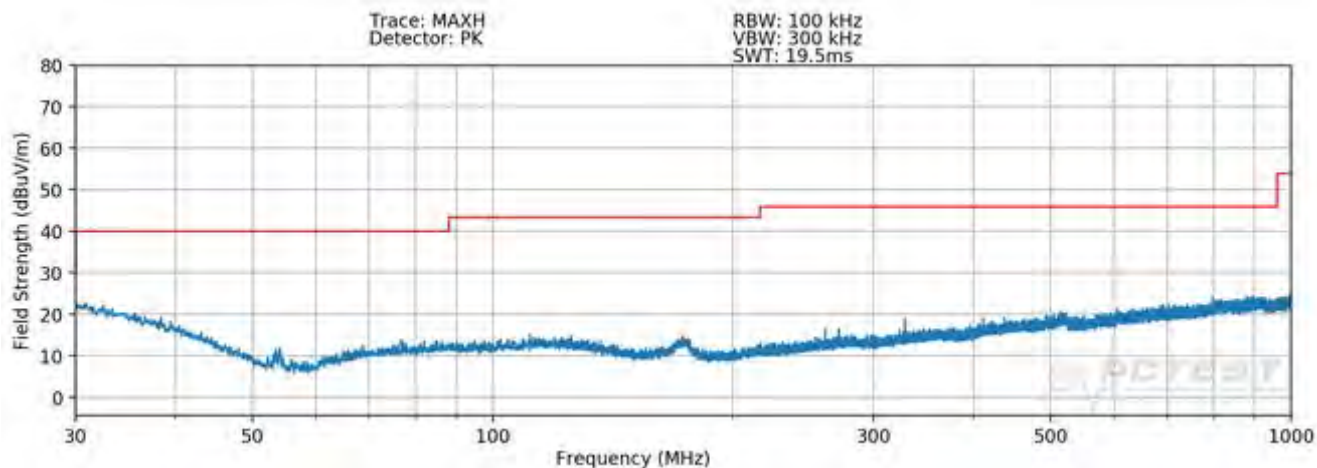
<b>FCC ID:</b> A3LSMG9730		<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Quality Manager
<b>Test Report S/N:</b> 1M1810250195-18.A3L	<b>Test Dates:</b> 10/23 - 1/26/2018	<b>EUT Type:</b> Portable Handset		Page 512 of 514

## MIMO Radiated Spurious Emissions Measurements (Below 1GHz)

§15.209; RSS-Gen [8.9]



**Plot 7-805. Radiated Spurious Plot below 1GHz MIMO (802.11ax – 106 Tones – U3 Ch. 157)**



**Plot 7-806. Radiated Spurious Plot below 1GHz MIMO (802.11ax – 242 Tones – U3 Ch. 157)**

FCC ID: A3LSMG9730	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 513 of 514

## 8.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Samsung Portable Handset FCC ID: A3LSMG9730** is in compliance with Part 15 Subpart E (15.407) of the FCC Rules.

FCC ID: A3LSMG9730		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1810250195-18.A3L	Test Dates: 10/23 - 1/26/2018	EUT Type: Portable Handset		Page 514 of 514