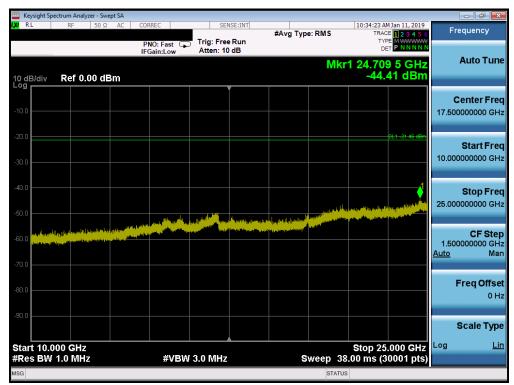


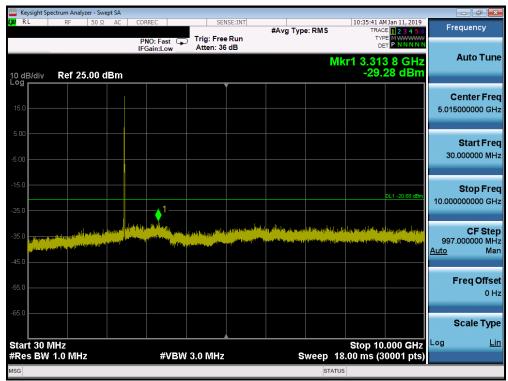
Plot 7-97. Conducted Spurious Plot SISO ANT1 (802.11ax OFDMA- 52 Tones - Ch. 6)



Plot 7-98. Conducted Spurious Plot SISO ANT1 (802.11ax OFDMA- 52 Tones - Ch. 6)

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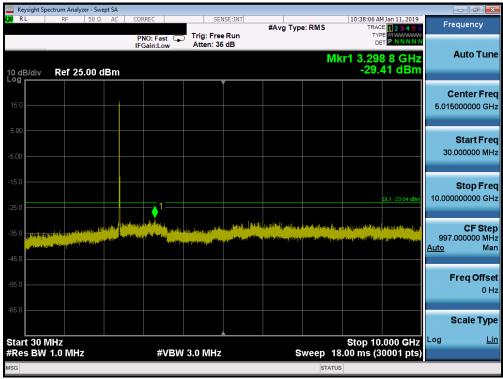
Plot 7-99. Conducted Spurious Plot SISO ANT1 (802.11ax OFDMA- 52 Tones - Ch. 11)



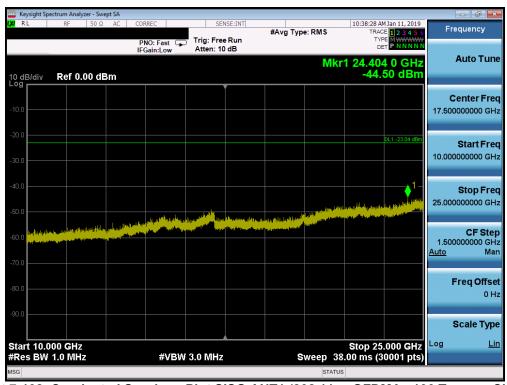
Plot 7-100. Conducted Spurious Plot SISO ANT1 (802.11ax OFDMA- 52 Tones - Ch. 11)

FCC ID: A3LSMG9750	PCTEST INDICATED AC	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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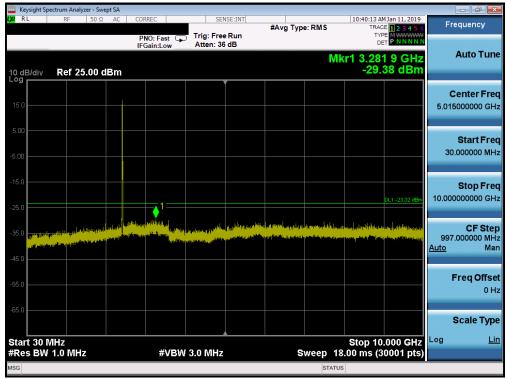
Plot 7-101. Conducted Spurious Plot SISO ANT1 (802.11ax OFDMA - 106 Tones - Ch. 1)



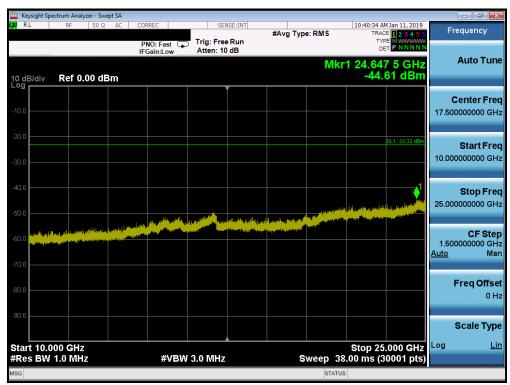
Plot 7-102. Conducted Spurious Plot SISO ANT1 (802.11ax OFDMA- 106 Tones - Ch. 1)

FCC ID: A3LSMG9750	PETEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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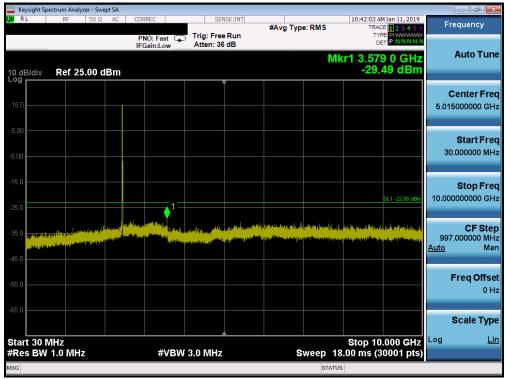
Plot 7-103. Conducted Spurious Plot SISO ANT1 (802.11ax OFDMA- 106 Tones - Ch. 6)



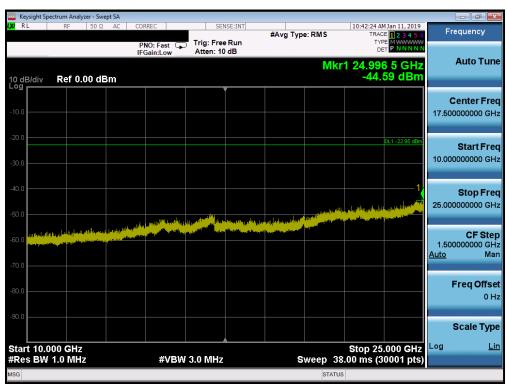
Plot 7-104. Conducted Spurious Plot SISO ANT1 (802.11ax OFDMA- 106 Tones - Ch. 6)

FCC ID: A3LSMG9750	PETEST -	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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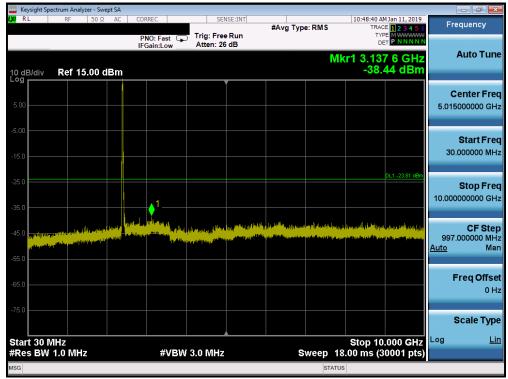
Plot 7-105. Conducted Spurious Plot SISO ANT1 (802.11ax OFDMA- 106 Tones - Ch. 11)



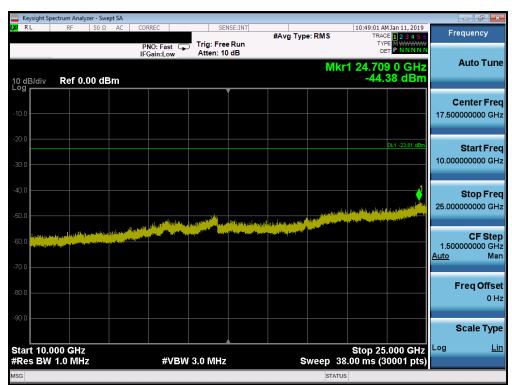
Plot 7-106. Conducted Spurious Plot SISO ANT1 (802.11ax OFDMA- 106 Tones - Ch. 11)

FCC ID: A3LSMG9750	PETEST INNUISATE OF	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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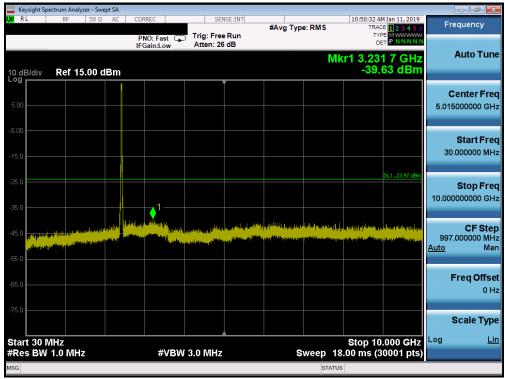
Plot 7-107. Conducted Spurious Plot SISO ANT1 (802.11ax OFDMA - 242 Tones - Ch. 1)



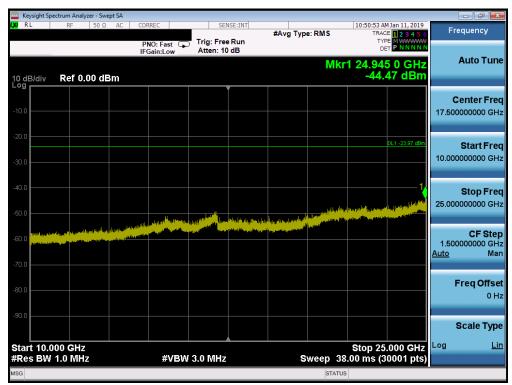
Plot 7-108. Conducted Spurious Plot SISO ANT1 (802.11ax OFDMA- 242 Tones - Ch. 1)

FCC ID: A3LSMG9750	PCTEST INDICATED AC	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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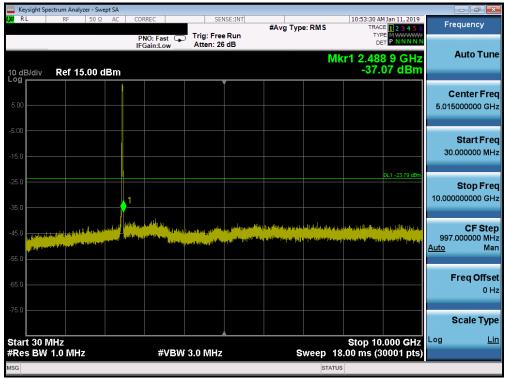
Plot 7-109. Conducted Spurious Plot SISO ANT1 (802.11ax OFDMA- 242 Tones - Ch. 6)



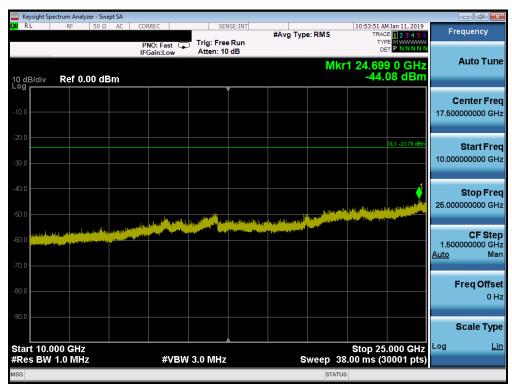
Plot 7-110. Conducted Spurious Plot SISO ANT1 (802.11ax OFDMA- 242 Tones - Ch. 6)

FCC ID: A3LSMG9750	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-111. Conducted Spurious Plot SISO ANT1 (802.11ax OFDMA- 242 Tones - Ch. 11)

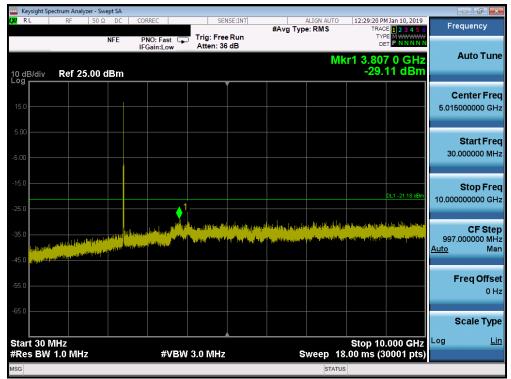


Plot 7-112. Conducted Spurious Plot SISO ANT1 (802.11ax OFDMA- 242 Tones - Ch. 11)

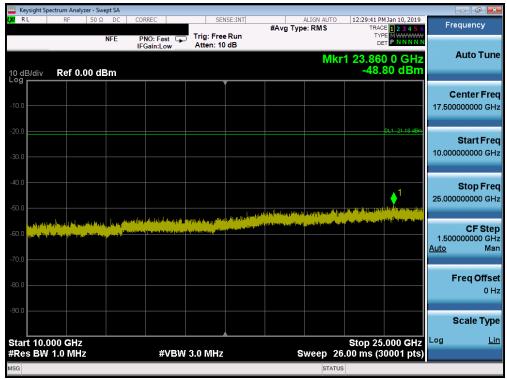
FCC ID: A3LSMG9750	PCTEST INDICATED AC	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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## SISO Antenna-2 Conducted Spurious Emissions



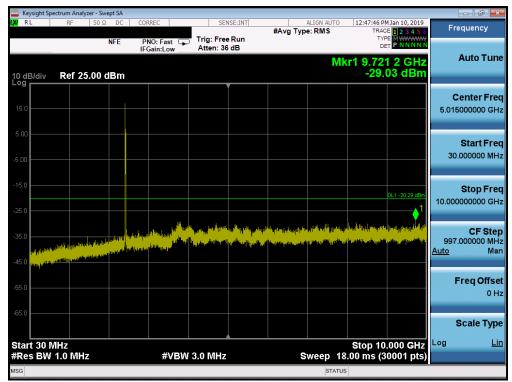
Plot 7-113. Conducted Spurious Plot SISO ANT2 (802.11ax OFDMA – 26 Tones – Ch. 1)



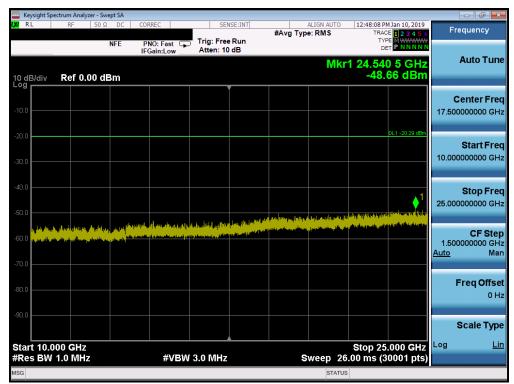
Plot 7-114. Conducted Spurious Plot SISO ANT2 (802.11ax OFDMA- 26 Tones - Ch. 1)

FCC ID: A3LSMG9750	PCTEST INDICATED AC	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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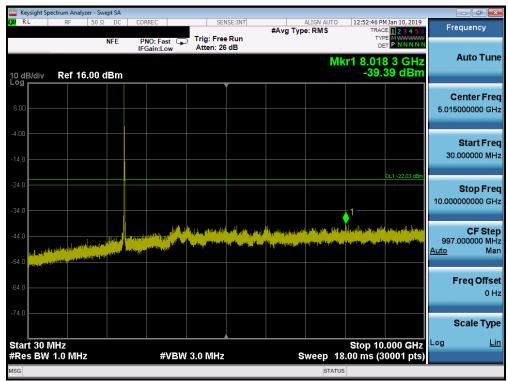
Plot 7-115. Conducted Spurious Plot SISO ANT2 (802.11ax OFDMA- 26 Tones - Ch. 6)



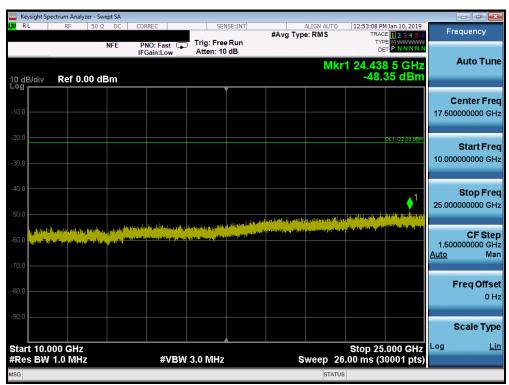
Plot 7-116. Conducted Spurious Plot SISO ANT2 (802.11ax OFDMA- 26 Tones - Ch. 6)

FCC ID: A3LSMG9750	PETEST INDUSTRIAL OF	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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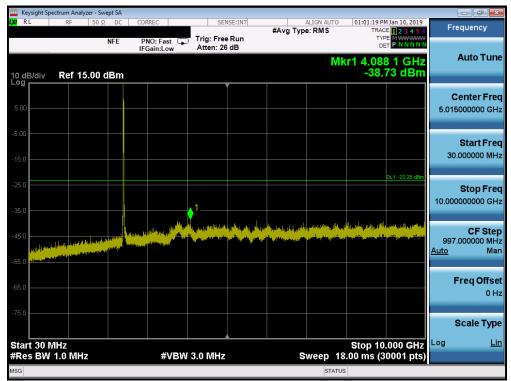
Plot 7-117. Conducted Spurious Plot SISO ANT2 (802.11ax OFDMA- 26 Tones - Ch. 11)



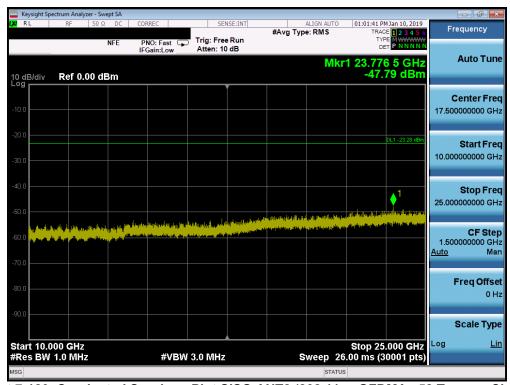
Plot 7-118. Conducted Spurious Plot SISO ANT2 (802.11ax OFDMA- 26 Tones - Ch. 11)

FCC ID: A3LSMG9750	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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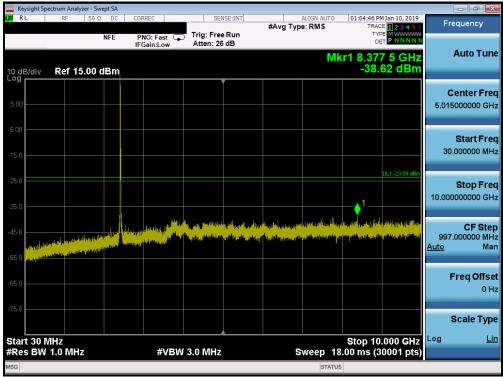
Plot 7-119. Conducted Spurious Plot SISO ANT2 (802.11ax OFDMA – 52Tones – Ch. 1)



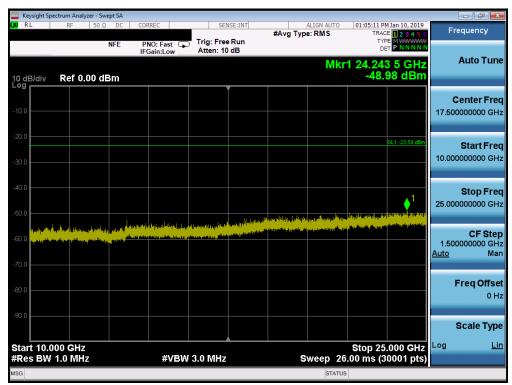
Plot 7-120. Conducted Spurious Plot SISO ANT2 (802.11ax OFDMA- 52 Tones - Ch. 1)

FCC ID: A3LSMG9750	PETEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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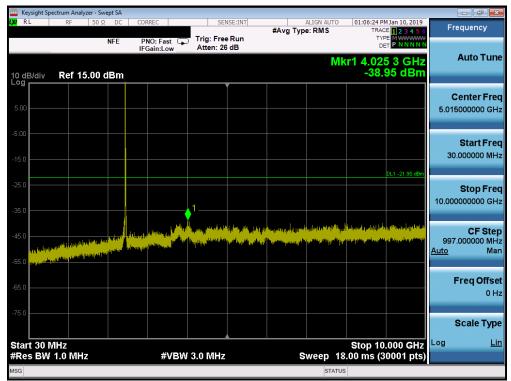
Plot 7-121. Conducted Spurious Plot SISO ANT2 (802.11ax OFDMA- 52 Tones - Ch. 6)



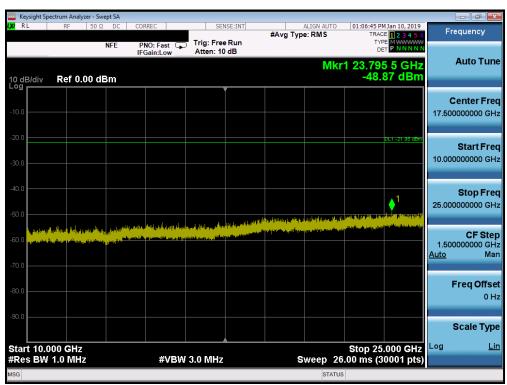
Plot 7-122. Conducted Spurious Plot SISO ANT2 (802.11ax OFDMA- 52 Tones - Ch. 6)

FCC ID: A3LSMG9750	PETEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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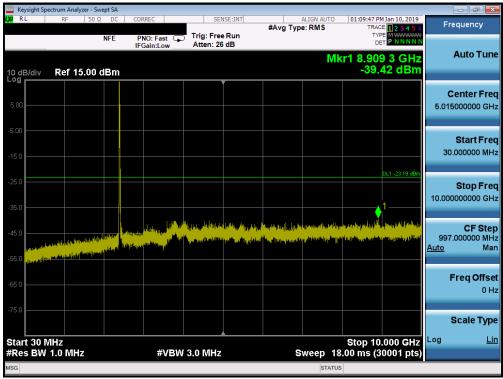
Plot 7-123. Conducted Spurious Plot SISO ANT2 (802.11ax OFDMA- 52 Tones - Ch. 11)



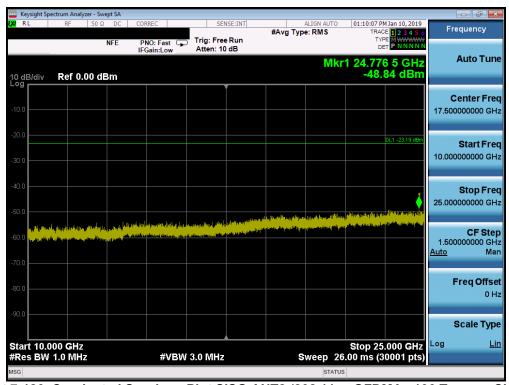
Plot 7-124. Conducted Spurious Plot SISO ANT2 (802.11ax OFDMA- 52 Tones - Ch. 11)

FCC ID: A3LSMG9750	PCTEST INDICATED AC	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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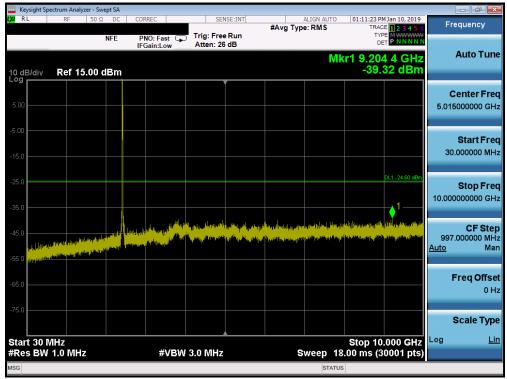
Plot 7-125. Conducted Spurious Plot SISO ANT2 (802.11ax OFDMA - 106 Tones - Ch. 1)



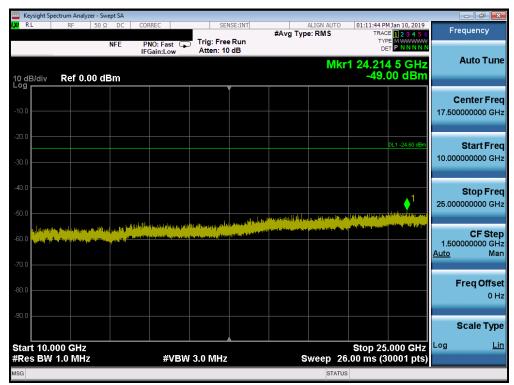
Plot 7-126. Conducted Spurious Plot SISO ANT2 (802.11ax OFDMA- 106 Tones - Ch. 1)

FCC ID: A3LSMG9750	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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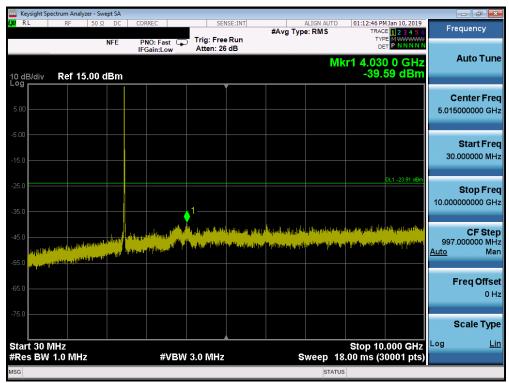
Plot 7-127. Conducted Spurious Plot SISO ANT2 (802.11ax OFDMA- 106 Tones - Ch. 6)



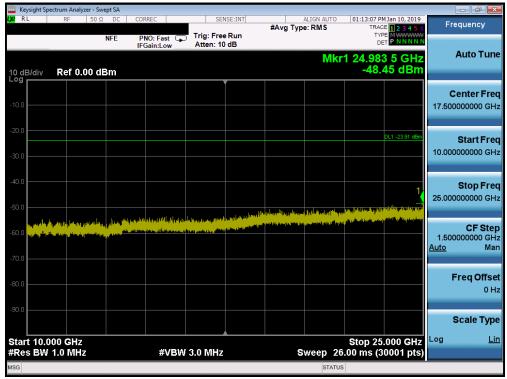
Plot 7-128. Conducted Spurious Plot SISO ANT2 (802.11ax OFDMA- 106 Tones - Ch. 6)

FCC ID: A3LSMG9750	PCTEST INDICATED AC	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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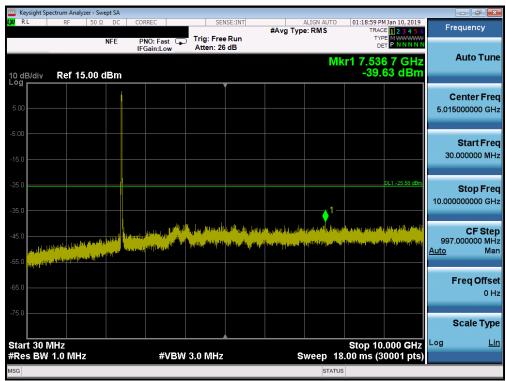
Plot 7-129. Conducted Spurious Plot SISO ANT2 (802.11ax OFDMA- 106 Tones - Ch. 11)



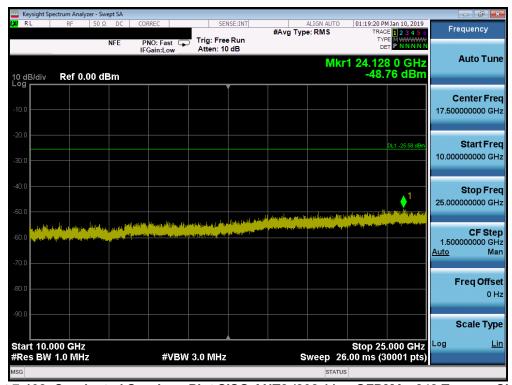
Plot 7-130. Conducted Spurious Plot SISO ANT2 (802.11ax OFDMA- 106 Tones - Ch. 11)

FCC ID: A3LSMG9750	PETEST -	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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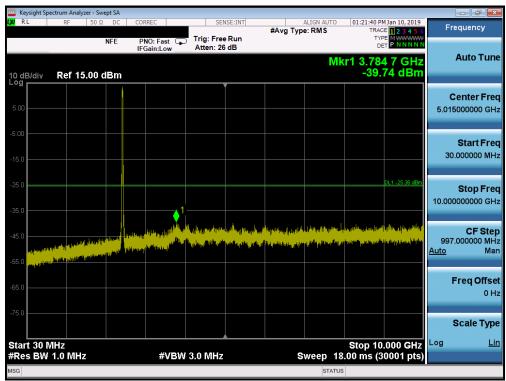
Plot 7-131. Conducted Spurious Plot SISO ANT2 (802.11ax OFDMA - 242 Tones - Ch. 1)



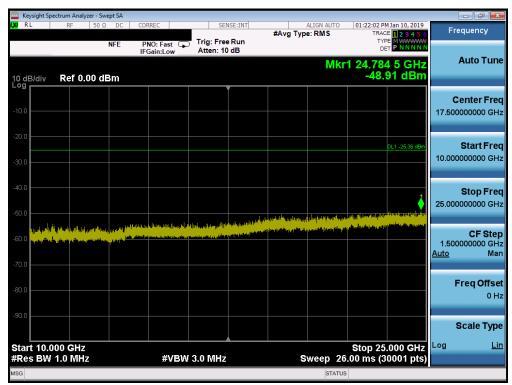
Plot 7-132. Conducted Spurious Plot SISO ANT2 (802.11ax OFDMA- 242 Tones - Ch. 1)

FCC ID: A3LSMG9750	PCTEST INDICATED AC	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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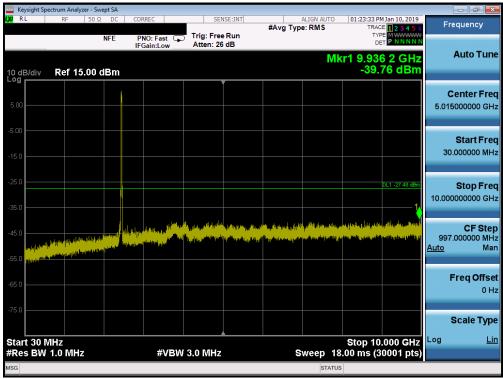
Plot 7-133. Conducted Spurious Plot SISO ANT2 (802.11ax OFDMA- 242 Tones - Ch. 6)



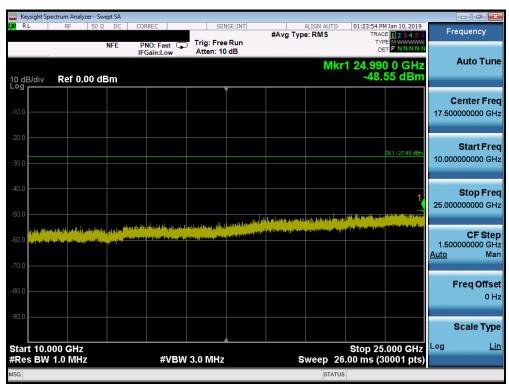
Plot 7-134. Conducted Spurious Plot SISO ANT2 (802.11ax OFDMA- 242 Tones - Ch. 6)

FCC ID: A3LSMG9750	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-135. Conducted Spurious Plot SISO ANT2 (802.11ax OFDMA- 242 Tones - Ch. 11)



Plot 7-136. Conducted Spurious Plot SISO ANT2 (802.11ax OFDMA- 242 Tones - Ch. 11)

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## 7.7 Radiated Spurious Emission Measurements – Above 1 GHz §15.247(d) §15.205 & §15.209;

#### **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 7-19 per Section 15.209 and RSS-Gen (8.9).

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

Table 7-19. Radiated Limits

## **Test Procedures Used**

ANSI C63.10-2013 – Section 6.6.4.3 KDB 558074 D01 v05 – Sections 8.6, 8.7

### **Test Settings**

#### **Average Field Strength Measurements**

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

## Peak Field Strength Measurements

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

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#### **Test Setup**

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

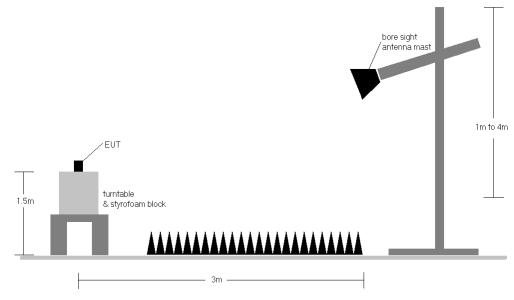


Figure 7-6. Test Instrument & Measurement Setup

#### **Test Notes**

- The optional test procedures for antenna port conducted measurements of unwanted emissions per the guidance of KDB 558074 D01 v05 were not used to evaluate this device for compliance to radiated limits.
   All radiated spurious emissions levels were measured in a radiated test setup.
- 2. All emissions lying in restricted bands specified in Section 15.205 and Section 8.10 of RSS-Gen are below the limit shown in Table 7-19.
- 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.

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- 8. The "-" shown in the following RSE tables are used to denote a noise floor measurement.
- 9. Some band edge measurements were performed using a channel integration method to determine compliance with the out of band average radiated spurious emissions limit in the 2483.5 2500MHz band. Per KDB 558074 D01 v05 Section 13.3, a measurement was performed using a RBW of 100kHz at the frequency with highest emission outside of band edge. For integration that does not start at 2483.5MHz, consideration was taken to ensure the worst case emission is in the 1MHz spectrum. The results were integrated up to the 1MHz reference bandwidth to show compliance with the 15.209 radiated limit for emissions greater than 1GHz.
- 10. For radiated measurements, emissions were investigated for the fully-loaded RU configuration and for all of the partially-loaded RU configurations. Among all of the available partially-loaded RU configurations, only the configuration with the worst case emissions is reported.

#### **Sample Calculations**

#### **Determining Spurious Emissions Levels**

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

#### **Radiated Band Edge Measurement Offset**

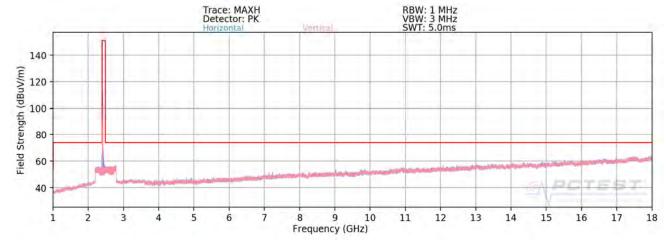
The amplitude offset shown in the radiated restricted band edge plots in Section 7.7 was calculated using the formula:

Offset (dB) = (Antenna Factor + Cable Loss + Attenuator) - Preamplifier Gain

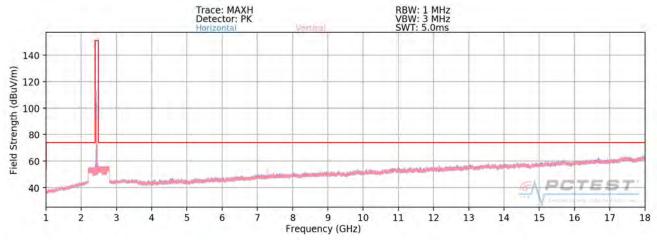
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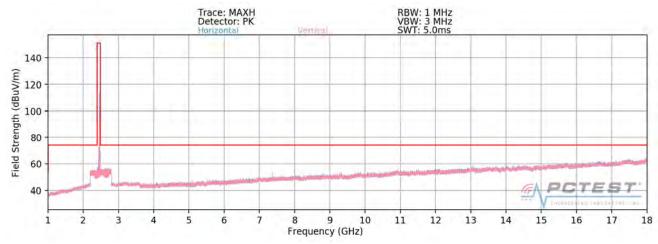
## 7.7.1 SISO Antenna-1 Radiated Spurious Emission Measurements §15.247(d) §15.205 & §15.209;



Plot 7-137. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax OFDMA – 52 Tones – Ch. 1)



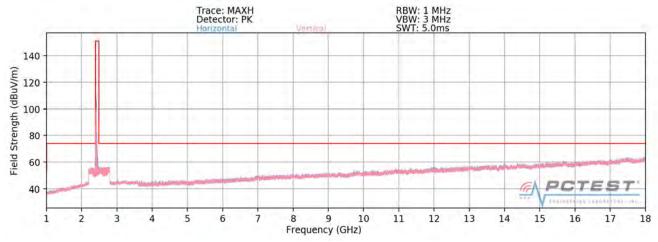
Plot 7-138. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax OFDMA - 52 Tones - Ch. 6)



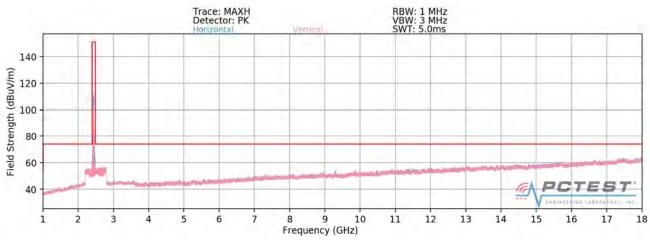
Plot 7-139. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax OFDMA - 52 Tones - Ch. 11)

FCC ID: A3LSMG9750	PETEST INNUISATE OF	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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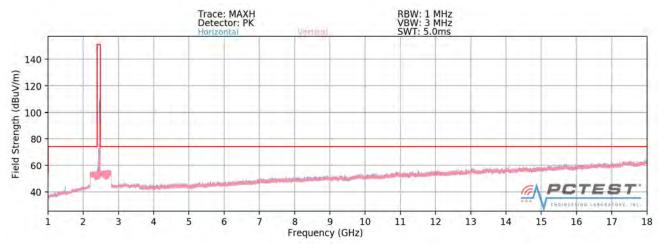




Plot 7-140. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax OFDMA - 242 Tones - Ch. 1)



Plot 7-141. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax OFDMA - 242 Tones - Ch. 6)

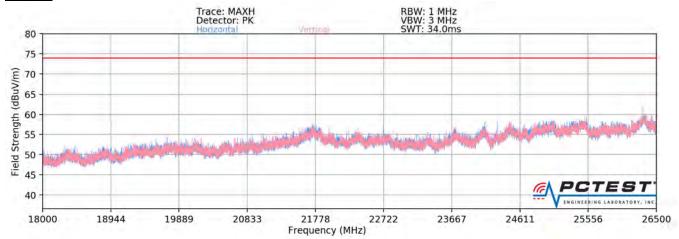


Plot 7-142. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax OFDMA – 242 Tones – Ch. 11)

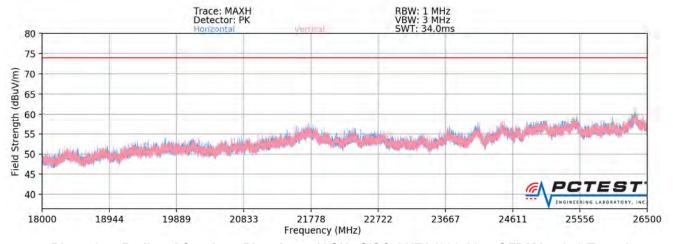
FCC ID: A3LSMG9750	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 105 of 149
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# SISO Antenna-1 Radiated Spurious Emissions Measurements (Above 18GHz) §15.209;



Plot 7-143. Radiated Spurious Plot above 18GHz SISO ANT1 (802.11ax OFDMA – 52 Tones)



Plot 7-144. Radiated Spurious Plot above 18GHz SISO ANT1 (802.11ax OFDMA - 242 Tones)

FCC ID: A3LSMG9750	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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## SISO Antenna-1 Radiated Spurious Emission Measurements §15.247(d) §15.205 & §15.209;

Worst Case Mode:

Worst Case Transfer Rate:

RU Index

Distance of Measurements:

Operating Frequency:

Channel:

802.11ax OFDMA

MCS0

40

3 Meters

2412MHz

01

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]
4824.00	Avg	Н	-	-	-81.42	8.84	34.42	53.98	-19.56
4824.00	Peak	Н	-	-	-70.72	8.84	45.12	73.98	-28.86
12060.00	Avg	Н	-	-	-84.47	21.88	44.41	53.98	-9.57
12060.00	Peak	Н	-	-	-72.95	21.88	55.93	73.98	-18.05

Table 7-20. Radiated Measurements SISO ANT1 (52 Tones)

Worst Case Mode:

Worst Case Transfer Rate:

RU Index

Distance of Measurements:

Operating Frequency:

Channel:

802.11ax OFDMA

MCS0

40

3 Meters

2437MHz

06

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]
4874.00	Avg	Н	-	-	-82.16	8.39	33.23	53.98	-20.75
4874.00	Peak	Н	-	-	-70.72	8.39	44.67	73.98	-29.31
7311.00	Avg	Н	212	318	-81.35	14.07	39.72	53.98	-14.26
7311.00	Peak	Н	212	318	-66.85	14.07	54.22	73.98	-19.76
12185.00	Avg	Н	-	-	-84.40	21.73	44.33	53.98	-9.65
12185.00	Peak	Н	-	-	-73.40	21.73	55.33	73.98	-18.65

Table 7-21. Radiated Measurements SISO ANT1 (52 Tones)

FCC ID: A3LSMG9750	PETEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 107 of 149
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Worst Case Mode: 802.11ax OFDMA

Worst Case Transfer Rate: MCS0

**RU** Index

40

Distance of Measurements:

3 Meters

Operating Frequency:

2462MHz

Channel:

11

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]
4924.00	Avg	Н	-	-	-82.40	8.79	33.39	53.98	-20.59
4924.00	Peak	Н	-	-	-70.85	8.79	44.94	73.98	-29.04
7386.00	Avg	Н	321	75	-83.44	13.59	37.15	53.98	-16.83
7386.00	Peak	Н	321	75	-71.68	13.59	48.91	73.98	-25.07
12310.00	Avg	Н	-	-	-85.01	21.90	43.89	53.98	-10.09
12310.00	Peak	Н	-	-	-72.61	21.90	56.29	73.98	-17.69

Table 7-22. Radiated Measurements SISO ANT1 (52 Tones)

Worst Case Mode: 802.11ax OFDMA

Worst Case Transfer Rate: MCS0

40

**RU** Index

3 Meters

Distance of Measurements:

Operating Frequency:

2437MHz

Channel:

06

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]
4874.00	Avg	Н	-	-	-81.59	8.39	33.80	53.98	-20.18
4874.00	Peak	Н	-	-	-70.40	8.39	44.99	73.98	-28.99
7311.00	Avg	Н	166	3	-83.76	14.07	37.31	53.98	-16.67
7311.00	Peak	Н	166	3	-71.86	14.07	49.21	73.98	-24.77
12185.00	Avg	Н	-	-	-84.58	21.73	44.15	53.98	-9.83
12185.00	Peak	Н	-	-	-72.77	21.73	55.96	73.98	-18.02

Table 7-23. Radiated Measurements SISO ANT1 with WCP (52 Tones)

FCC ID: A3LSMG9750	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 108 of 149
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Worst Case Mode: 802.11ax OFDMA

Worst Case Transfer Rate: MCS0

**RU** Index

61

Distance of Measurements:

3 Meters

Operating Frequency:

2412MHz

Channel:

01

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]
4824.00	Avg	Н	-	-	-81.25	8.84	34.59	53.98	-19.39
4824.00	Peak	Н	-	-	-69.81	8.84	46.03	73.98	-27.95
12060.00	Avg	Н	-	-	-83.55	21.88	45.33	53.98	-8.65
12060.00	Peak	Н	-	-	-72.18	21.88	56.70	73.98	-17.28

Table 7-24. Radiated Measurements SISO ANT1 (242 Tones)

Worst Case Mode: 802.11ax OFDMA

Worst Case Transfer Rate: MCS0

**RU** Index 61

Distance of Measurements:

Operating Frequency:

Channel:

3 Meters

2437MHz

06

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]
4874.00	Avg	Н	-	-	-81.14	8.39	34.25	53.98	-19.73
4874.00	Peak	Н	-	-	-69.67	8.39	45.72	73.98	-28.26
7311.00	Avg	Н	-	-	-82.55	14.07	38.52	53.98	-15.46
7311.00	Peak	Н	-	-	-71.25	14.07	49.82	73.98	-24.16
12185.00	Avg	Н	-	-	-83.79	21.73	44.94	53.98	-9.04
12185.00	Peak	Н	-	-	-72.52	21.73	56.21	73.98	-17.77

Table 7-25. Radiated Measurements SISO ANT1 (242 Tones)

FCC ID: A3LSMG9750	PETEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 109 of 149
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Worst Case Mode: 802.11ax OFDMA

Worst Case Transfer Rate: MCS0

**RU** Index 61

Distance of Measurements: 3 Meters

Operating Frequency: 2462MHz

Channel: 11

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]
4924.00	Avg	Н	-	-	-80.84	8.79	34.95	53.98	-19.03
4924.00	Peak	Н	-	-	-69.54	8.79	46.25	73.98	-27.73
7386.00	Avg	Н	-	-	-82.69	13.59	37.90	53.98	-16.08
7386.00	Peak	Н	-	-	-71.42	13.59	49.17	73.98	-24.81
12310.00	Avg	Н	-	-	-84.03	21.90	44.87	53.98	-9.11
12310.00	Peak	Н	-	-	-72.88	21.90	56.02	73.98	-17.96

Table 7-26. Radiated Measurements SISO ANT1 (242 Tones)

Worst Case Mode: 802.11ax OFDMA

Worst Case Transfer Rate: MCS0

**RU** Index 61

Distance of Measurements: 3 Meters

Operating Frequency: 2412MHz

Channel: 01

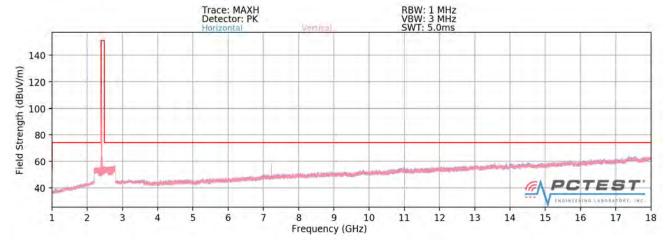
Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4824.00	Avg	Н	-	-	-81.57	8.84	34.27	53.98	-19.71
4824.00	Peak	Н	-	-	-70.28	8.84	45.56	73.98	-28.42
12060.00	Avg	Н	-	-	-83.64	21.88	45.24	53.98	-8.74
12060.00	Peak	Н	-	-	-72.39	21.88	56.49	73.98	-17.49

Table 7-27. Radiated Measurements SISO ANT1 with WCP (242 Tones)

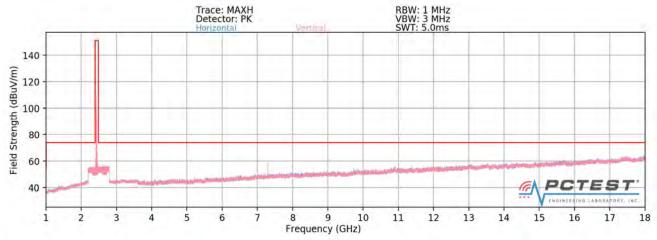
FCC ID: A3LSMG9750	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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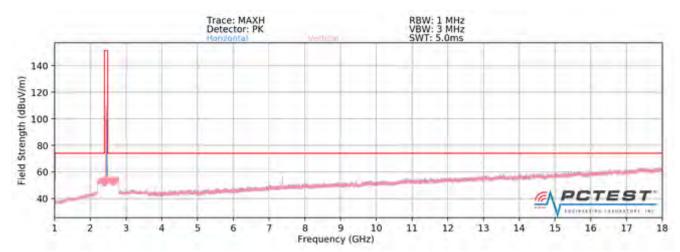
## 7.7.2 SISO Antenna-2 Radiated Spurious Emission Measurements §15.247(d) §15.205 & §15.209;



Plot 7-145. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax OFDMA – 26 Tones – Ch. 1)



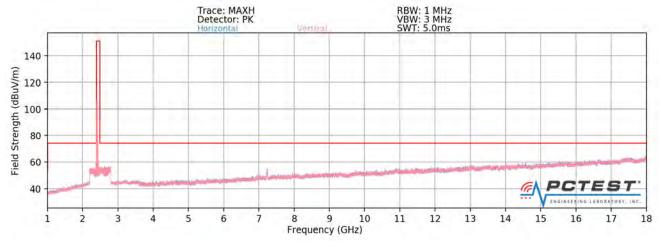
Plot 7-146. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax OFDMA - 26 Tones - Ch. 6)



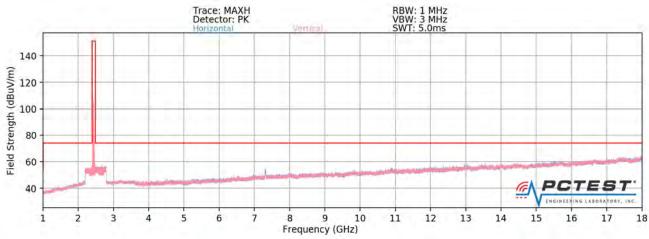
Plot 7-147. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax OFDMA – 26 Tones – Ch. 11)

FCC ID: A3LSMG9750	PETEST INNERSHIP OF	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 111 of 149
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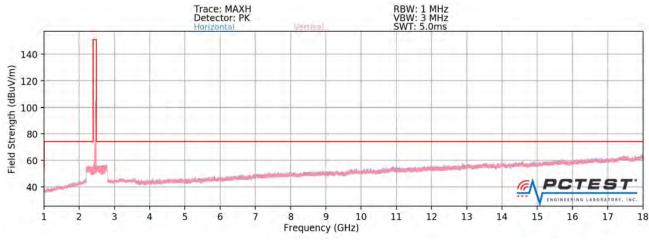




Plot 7-148. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax OFDMA - 242 Tones - Ch. 1)



Plot 7-149. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax OFDMA - 242 Tones - Ch. 6)

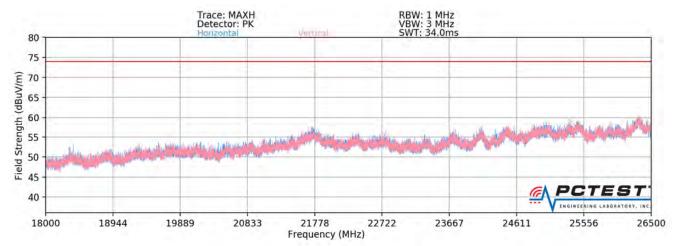


Plot 7-150. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax OFDMA – 242 Tones – Ch. 11)

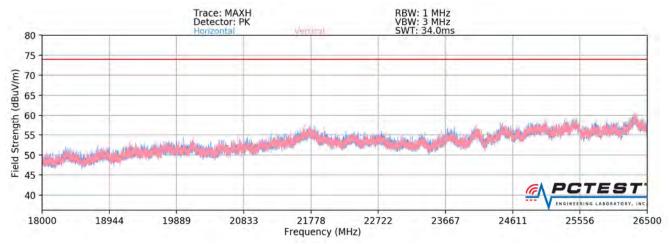
FCC ID: A3LSMG9750	PETEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:         Test Dates:           1M1811120202-14.A3L         10/31/2018-1/17/2019		EUT Type:	Page 112 of 149
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# SISO Antenna-2 Radiated Spurious Emissions Measurements (Above 18GHz) §15.209;



Plot 7-151. Radiated Spurious Plot above 18GHz SISO ANT2 (802.11ax OFDMA - 106 Tones)



Plot 7-152. Radiated Spurious Plot above 18GHz SISO ANT2 (802.11ax OFDMA - 242 Tones)

FCC ID: A3LSMG9750	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 113 of 149
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## SISO Antenna-2 Radiated Spurious Emission Measurements §15.247(d) §15.205 & §15.209;

Worst Case Mode: 802.11ax OFDMA Worst Case Transfer Rate: MCS0 **RU** Index 8 Distance of Measurements: 3 Meters Operating Frequency: 2412MHz Channel: 01

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]
4824.00	Avg	V	-	-	-81.67	8.84	34.17	53.98	-19.81
4824.00	Peak	V	-	-	-71.64	8.84	44.20	73.98	-29.78
12060.00	Avg	V	-	-	-83.87	21.88	45.01	53.98	-8.97
12060.00	Peak	V	-	-	-71.08	21.88	57.80	73.98	-16.18

Table 7-28. Radiated Measurements SISO ANT2 (26 Tones)

Worst Case Mode: 802.11ax OFDMA Worst Case Transfer Rate: MCS0 **RU** Index 8 Distance of Measurements: 3 Meters Operating Frequency: 2437MHz Channel: 06

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]
4874.00	Avg	V	-	-	-81.56	8.39	33.83	53.98	-20.15
4874.00	Peak	V	-	-	-71.41	8.39	43.98	73.98	-30.00
7311.00	Avg	V	108	186	-80.08	14.07	40.99	53.98	-12.99
7311.00	Peak	V	108	186	-66.33	14.07	54.74	73.98	-19.24
12185.00	Avg	V	-	-	-84.50	21.73	44.23	53.98	-9.75
12185.00	Peak	V	-	-	-72.02	21.73	56.71	73.98	-17.27

Table 7-29. Radiated Measurements SISO ANT2 (26 Tones)

FCC ID: A3LSMG9750	PETEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
-		EUT Type:	Page 114 of 140
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Worst Case Mode: 802.11ax OFDMA

Worst Case Transfer Rate: MCS0

RU Index 8

Distance of Measurements: 3 Meters

Operating Frequency: 2462MHz

Channel: 11

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]
4924.00	Avg	V	-	-	-82.07	8.79	33.72	53.98	-20.26
4924.00	Peak	V	-	-	-72.37	8.79	43.42	73.98	-30.56
7386.00	Avg	V	115	179	-82.63	13.59	37.96	53.98	-16.02
7386.00	Peak	V	115	179	-70.75	13.59	49.84	73.98	-24.14
12310.00	Avg	V	-	-	-83.61	21.90	45.29	53.98	-8.69
12310.00	Peak	V	-	-	-71.86	21.90	57.04	73.98	-16.94

Table 7-30. Radiated Measurements SISO ANT2 (26 Tones)

Worst Case Mode: 802.11ax OFDMA

Worst Case Transfer Rate: MCS0

RU Index 8

Distance of Measurements: 3 Meters

Operating Frequency: 2437MHz

Channel: 06

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]
4874.00	Avg	V	-	-	-82.01	8.39	33.38	53.98	-20.60
4874.00	Peak	V	-	-	-71.13	8.39	44.26	73.98	-29.72
7311.00	Avg	V	-	-	-81.56	14.07	39.51	53.98	-14.47
7311.00	Peak	V	-	-	-69.66	14.07	51.41	73.98	-22.57
12185.00	Avg	V	-	-	-84.45	21.73	44.28	53.98	-9.70
12185.00	Peak	V	-	-	-73.09	21.73	55.64	73.98	-18.34

Table 7-31. Radiated Measurements SISO ANT2 (26 Tones)

FCC ID: A3LSMG9750	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 115 of 149
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Worst Case Mode: 802.11ax OFDMA

61

Worst Case Transfer Rate: MCS0

RU Index

Distance of Measurements: 3 Meters

Operating Frequency: 2412MHz

Channel: 01

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]
4824.00	Avg	V	-	-	-81.47	8.84	34.37	53.98	-19.61
4824.00	Peak	V	-	-	-70.44	8.84	45.40	73.98	-28.58
12060.00	Avg	V	-	-	-83.63	21.88	45.25	53.98	-8.73
12060.00	Peak	V	-	-	-72.43	21.88	56.45	73.98	-17.53

Table 7-32. Radiated Measurements SISO ANT2 (242 Tones)

Worst Case Mode: 802.11ax OFDMA

Worst Case Transfer Rate: MCS0

RU Index 61

Distance of Measurements: 3 Meters

Operating Frequency: 2437MHz

Channel: 06

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]
4874.00	Avg	V	-	-	-80.96	8.39	34.43	53.98	-19.55
4874.00	Peak	V	-	-	-70.37	8.39	45.02	73.98	-28.96
7311.00	Avg	V	111	183	-80.53	14.07	40.54	53.98	-13.44
7311.00	Peak	V	111	183	-68.86	14.07	52.21	73.98	-21.77
12185.00	Avg	V	-	-	-83.81	21.73	44.92	53.98	-9.06
12185.00	Peak	V	-	-	-73.55	21.73	55.18	73.98	-18.80

Table 7-33. Radiated Measurements SISO ANT2 (242 Tones)

FCC ID: A3LSMG9750	PCTEST INDICATED AC	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Page 116 of 149	
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Worst Case Transfer Rate: MCS0

**RU** Index 61

Distance of Measurements: 3 Meters

Operating Frequency: 2462MHz

Channel: 11

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]
4924.00	Avg	V	-	-	-81.03	8.79	34.76	53.98	-19.22
4924.00	Peak	V	-	-	-70.21	8.79	45.58	73.98	-28.40
7386.00	Avg	V	-	-	-82.84	13.59	37.75	53.98	-16.23
7386.00	Peak	V	-	-	-71.98	13.59	48.61	73.98	-25.37
12310.00	Avg	V	-	-	-84.30	21.90	44.60	53.98	-9.38
12310.00	Peak	V	-	-	-73.80	21.90	55.10	73.98	-18.88

Table 7-34. Radiated Measurements SISO ANT2 (242 Tones)

Worst Case Mode: 802.11ax OFDMA

Worst Case Transfer Rate: MCS0

**RU** Index 61

Distance of Measurements: 3 Meters

Operating Frequency: 2437MHz

Channel: 06

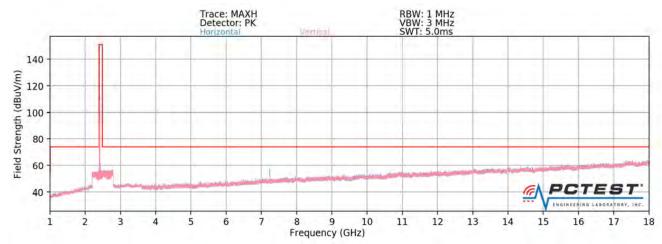
Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4874.00	Avg	V	-	-	-81.22	8.39	34.17	53.98	-19.81
4874.00	Peak	V	-	-	-70.68	8.39	44.71	73.98	-29.27
7311.00	Avg	V	-	-	-79.37	14.07	41.70	53.98	-12.28
7311.00	Peak	V	-	-	-69.28	14.07	51.79	73.98	-22.19
12185.00	Avg	V	-	-	-84.05	21.73	44.68	53.98	-9.30
12185.00	Peak	V	-	-	-73.54	21.73	55.19	73.98	-18.79

Table 7-35. Radiated Measurements SISO ANT2 with WCP (242 Tones)

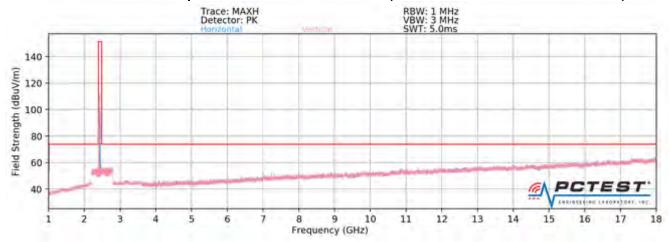
FCC ID: A3LSMG9750	PETEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 117 of 149
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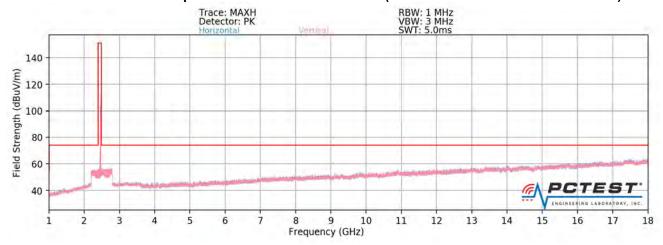
### 7.7.3 MIMO Radiated Spurious Emission Measurements §15.247(d) §15.205 & §15.209;



Plot 7-153. Radiated Spurious Plot above 1GHz MIMO (802.11ax OFDMA - 26 Tones - Ch. 1)



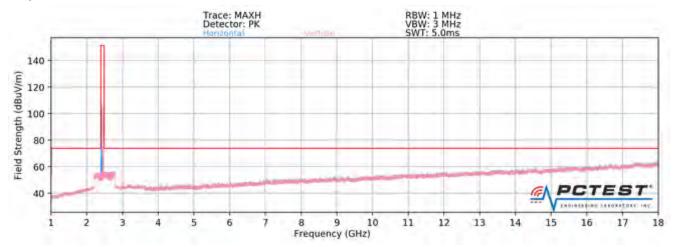
Plot 7-154. Radiated Spurious Plot above 1GHz MIMO (802.11ax OFDMA - 26 Tones - Ch. 6)



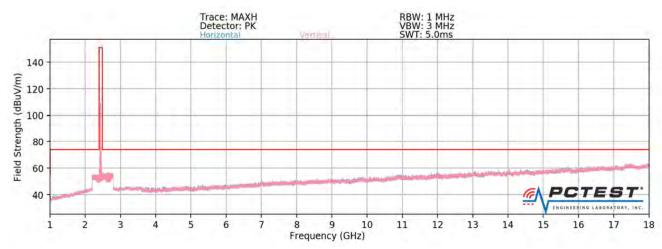
Plot 7-155. Radiated Spurious Plot above 1GHz MIMO (802.11ax OFDMA - 26 Tones - Ch. 11)

FCC ID: A3LSMG9750	PETEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 118 of 149
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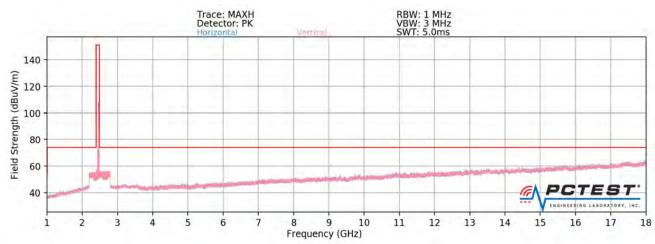




Plot 7-156. Radiated Spurious Plot above 1GHz MIMO (802.11ax OFDMA – 242 Tones – Ch. 1)



Plot 7-157. Radiated Spurious Plot above 1GHz MIMO (802.11ax OFDMA – 242 Tones – Ch. 6)

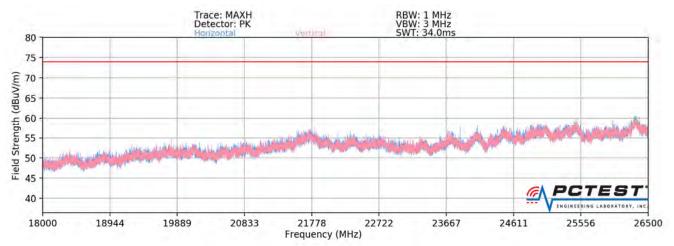


Plot 7-158. Radiated Spurious Plot above 1GHz MIMO (802.11ax OFDMA – 242 Tones – Ch. 11)

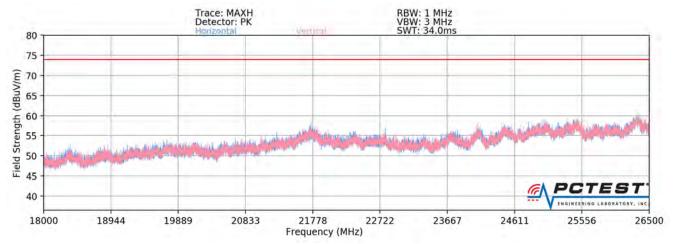
FCC ID: A3LSMG9750	PETEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
·		EUT Type:	Page 119 of 149
		Portable Handset	Page 119 01 149



## MIMO Radiated Spurious Emissions Measurements (Above 18GHz) §15.209;



Plot 7-159. Radiated Spurious Plot above 18GHz MIMO (802.11ax OFDMA – 106 Tones)



Plot 7-160. Radiated Spurious Plot above 18GHz MIMO (802.11ax OFDMA - 242 Tones)

FCC ID: A3LSMG9750	PCTEST INDICATE CHARACTER OF C	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 120 of 149
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#### **MIMO Radiated Spurious Emission Measurements** §15.247(d) §15.205 & §15.209;

Worst Case Mode: 802.11ax OFDMA Worst Case Transfer Rate: MCS0 **RU** Index 4 Distance of Measurements: 3 Meters Operating Frequency: 2412MHz Channel: 01

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]
4824.00	Avg	V	-	-	-80.69	8.84	35.15	53.98	-18.83
4824.00	Peak	V	-	-	-71.38	8.84	44.46	73.98	-29.52
12060.00	Avg	V	-	-	-84.08	21.88	44.80	53.98	-9.18
12060.00	Peak	V	-	-	-72.69	21.88	56.19	73.98	-17.79

#### Table 7-36. Radiated Measurements MIMO (26 Tones)

Worst Case Mode: 802.11ax OFDMA Worst Case Transfer Rate: MCS0 **RU** Index 4 Distance of Measurements: 3 Meters 2437MHz Operating Frequency: Channel: 06

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]
4874.00	Avg	V	-	-	-80.57	8.39	34.82	53.98	-19.16
4874.00	Peak	V	-	-	-70.03	8.39	45.36	73.98	-28.62
7311.00	Avg	V	115	184	-81.43	14.07	39.64	53.98	-14.34
7311.00	Peak	V	115	184	-67.45	14.07	53.62	73.98	-20.36
12185.00	Avg	V	-	-	-83.67	21.73	45.06	53.98	-8.92
12185.00	Peak	V	-	-	-71.97	21.73	56.76	73.98	-17.22

Table 7-37. Radiated Measurements MIMO (26 Tones)

FCC ID: A3LSMG9750	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogg 101 of 140
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Worst Case Transfer Rate: MCS0

**RU** Index 4

Distance of Measurements: 3 Meters

Operating Frequency: 2462MHz

Channel: 11

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]
4924.00	Avg	V	-	-	-80.77	8.79	35.02	53.98	-18.96
4924.00	Peak	V	-	-	-70.30	8.79	45.49	73.98	-28.49
7386.00	Avg	V	108	359	-79.84	13.59	40.75	53.98	-13.23
7386.00	Peak	V	108	359	-67.38	13.59	53.21	73.98	-20.77
12310.00	Avg	V	-	-	-84.03	21.90	44.87	53.98	-9.11
12310.00	Peak	V	-	-	-72.83	21.90	56.07	73.98	-17.91

Table 7-38. Radiated Measurements MIMO (26 Tones)

Worst Case Mode: 802.11ax OFDMA

Worst Case Transfer Rate: MCS0

**RU** Index

Distance of Measurements:

Operating Frequency:

Channel:

4

3 Meters 2437MHz

06

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]
4874.00	Avg	V	-	-	-81.36	8.39	34.03	53.98	-19.95
4874.00	Peak	V	-	-	-71.43	8.39	43.96	73.98	-30.02
7311.00	Avg	V	149	219	-81.84	14.07	39.23	53.98	-14.75
7311.00	Peak	V	149	219	-71.16	14.07	49.91	73.98	-24.07
12185.00	Avg	V	-	-	-84.63	21.73	44.10	53.98	-9.88
12185.00	Peak	V	-	-	-73.17	21.73	55.56	73.98	-18.42

Table 7-39. Radiated Measurements MIMO with WCP (26 Tones)

FCC ID: A3LSMG9750	PETEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dags 122 of 140
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Worst Case Transfer Rate: MCS0

61

**RU** Index

Distance of Measurements:

3 Meters

Operating Frequency:

2412MHz

Channel:

01

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]
4824.00	Avg	V	-	-	-82.39	8.84	33.45	53.98	-20.53
4824.00	Peak	V	-	-	-71.00	8.84	44.84	73.98	-29.14
12060.00	Avg	V	-	-	-83.64	21.88	45.24	53.98	-8.74
12060.00	Peak	V	-	-	-72.08	21.88	56.80	73.98	-17.18

Table 7-40. Radiated Measurements MIMO (242 Tones)

Worst Case Mode: 802.11ax OFDMA

Worst Case Transfer Rate: MCS0

61

**RU** Index

Distance of Measurements:

3 Meters

Operating Frequency:

2437MHz

Channel:

06

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]
4874.00	Avg	V	-	-	-81.37	8.39	34.02	53.98	-19.96
4874.00	Peak	V	-	-	-71.39	8.39	44.00	73.98	-29.98
7311.00	Avg	V	-	-	-81.84	14.07	39.23	53.98	-14.75
7311.00	Peak	V	-	-	-69.84	14.07	51.23	73.98	-22.75
12185.00	Avg	V	-	-	-83.18	21.73	45.55	53.98	-8.43
12185.00	Peak	V	-	-	-72.30	21.73	56.43	73.98	-17.55

Table 7-41. Radiated Measurements MIMO (242 Tones)

FCC ID: A3LSMG9750	PETEST VINITED IN THE CASE OF C	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 122 of 140
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Worst Case Transfer Rate: MCS0

**RU** Index 61

Distance of Measurements: 3 Meters

Operating Frequency: 2462MHz

Channel: 11

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]
4924.00	Avg	V	-	-	-81.64	8.79	34.15	53.98	-19.83
4924.00	Peak	V	-	-	-69.08	8.79	46.71	73.98	-27.27
7386.00	Avg	V	-	-	-81.87	13.59	38.72	53.98	-15.26
7386.00	Peak	V	-	-	-72.34	13.59	48.25	73.98	-25.73
12310.00	Avg	V	-	-	-85.38	21.90	43.52	53.98	-10.46
12310.00	Peak	V	-	-	-74.37	21.90	54.53	73.98	-19.45

Table 7-42. Radiated Measurements MIMO (242 Tones)

Worst Case Mode: 802.11ax OFDMA

Worst Case Transfer Rate: MCS0

**RU** Index 61

Distance of Measurements: 3 Meters

**Operating Frequency:** 2437MHz

Channel: 06

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]
4874.00	Avg	V	-	-	-79.68	8.39	35.71	53.98	-18.27
4874.00	Peak	V	-	-	-71.30	8.39	44.09	73.98	-29.89
7311.00	Avg	V	-	-	-81.39	14.07	39.68	53.98	-14.30
7311.00	Peak	V	-	-	-70.10	14.07	50.97	73.98	-23.01
12185.00	Avg	V	-	-	-84.08	21.73	44.65	53.98	-9.33
12185.00	Peak	V	-	-	-74.31	21.73	54.42	73.98	-19.56

Table 7-43. Radiated Measurements MIMO with WCP (242 Tones)

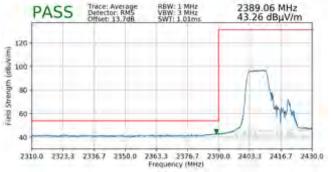
FCC ID: A3LSMG9750	PCTEST INDICATED AC	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 124 of 149
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#### 7.7.4 SISO Antenna-1 Radiated Restricted Band Edge Measurements §15.205 §15.209;

The radiated restricted band edge measurements are measured with an EMI test receiver connected to the receive antenna while the EUT is transmitting.

Worst Case Mode: 802.11ax OFDMA Worst Case Transfer Rate: MCS<sub>0</sub> **RU Index** 53 Distance of Measurements: 3 Meters Operating Frequency: 2412MHz Channel: 1

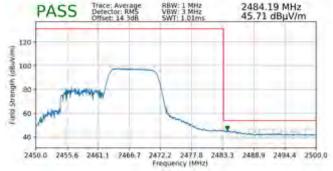


Plot 7-161. Radiated Restricted Lower Band Edge Measurement SISO ANT1 (Average – 106 Tones)

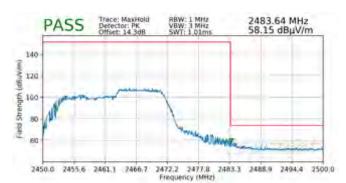


Plot 7-162. Radiated Restricted Lower Band Edge Measurement SISO ANT1 (Peak – 106 Tones)

Worst Case Mode: 802.11ax OFDMA Worst Case Transfer Rate: MCS<sub>0</sub> **RU Index** 54 Distance of Measurements: 3 Meters Operating Frequency: 2462MHz Channel: 11



Plot 7-163. Radiated Restricted Upper Band Edge **Measurement SISO ANT1 (Average – 106 Tones)** 



Plot 7-164. Radiated Restricted Upper Band Edge Measurement SISO ANT1 (Peak – 106 Tones)

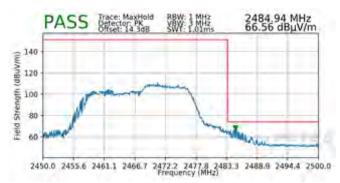
FCC ID: A3LSMG9750	PETEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 125 of 149
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Worst Case Mode: 802.11ax OFDMA Worst Case Transfer Rate: MCS0 **RU Index** 54 3 Meters Distance of Measurements: Operating Frequency: 2467MHz Channel: 12



Plot 7-165. Radiated Restricted Upper Band Edge Measurement SISO ANT1 (Average – 106 Tones)



Plot 7-166. Radiated Restricted Upper Band Edge Measurement SISO ANT1 (Peak - 106 Tones)

Worst Case Mode: 802.11ax OFDMA Worst Case Transfer Rate: MCS0 **RU** Index 54 Distance of Measurements: 3 Meters Operating Frequency: 2472MHz Channel: 13



Plot 7-167. Radiated Restricted Upper Band Edge Measurement SISO ANT1 (Average – 106 Tones)



Plot 7-168. Radiated Restricted Upper Band Edge Measurement SISO ANT1 (Peak - 106 Tones)

FCC ID: A3LSMG9750	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Worst Case Mode: 802.11ax OFDMA Worst Case Transfer Rate: MCS0 **RU** Index 61

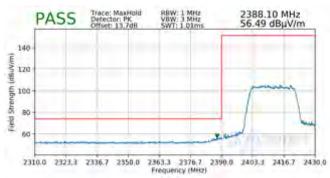
Distance of Measurements:

3 Meters 2412MHz 1

Operating Frequency: Channel:

1	PASS	ASS Trace: Average NB Detector: RMS VB Offset: 13.7dB SV		2389.66 MHz 44.43 dBµV/m
20-				
00-				
50-				
60-				
40				
231	0.0 2323,3	2336.7 2350.0	2363,3 2376,7 23 Frequency (MHz)	90.0 2403.3 2416.7 2

Plot 7-169. Radiated Restricted Lower Band Edge Measurement SISO ANT1 (Average – 242 Tones)

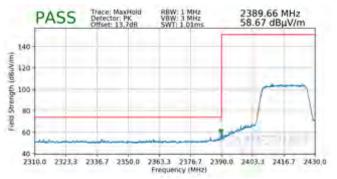


Plot 7-170. Radiated Restricted Lower Band Edge Measurement SISO ANT1 (Peak – 242 Tones)

Worst Case Mode: 802.11ax OFDMA Worst Case Transfer Rate: MCS0 **RU Index** 61 Distance of Measurements: 3 Meters Operating Frequency: 2417MHz Channel:



Plot 7-171. Radiated Restricted Lower Band Edge Measurement SISO ANT1 (Average – 242 Tones)



Plot 7-172. Radiated Restricted Lower Band Edge Measurement SISO ANT1 (Peak - 242 Tones)

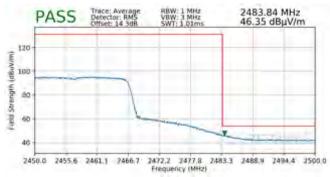
FCC ID: A3LSMG9750	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 127 of 149
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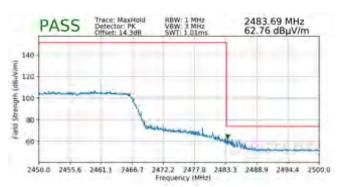
Channel:

Worst Case Mode: 802.11ax OFDMA Worst Case Transfer Rate: MCS0 **RU** Index 61 Distance of Measurements: 3 Meters Operating Frequency: 2457MHz

10



Plot 7-173. Radiated Restricted Upper Band Edge Measurement SISO ANT1 (Average – 242 Tones)

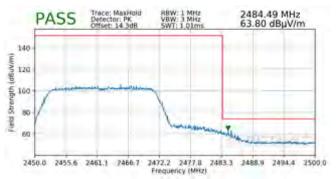


Plot 7-174. Radiated Restricted Upper Band Edge Measurement SISO ANT1 (Peak - 242 Tones)

Worst Case Mode: 802.11ax OFDMA Worst Case Transfer Rate: MCS0 **RU** Index 61 Distance of Measurements: 3 Meters 2462MHz Operating Frequency: Channel: 11



Plot 7-175. Radiated Restricted Upper Band Edge Measurement SISO ANT1 (Average – 242 Tones)

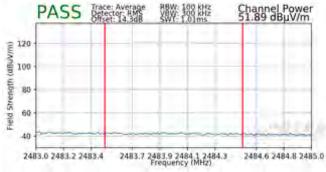


Plot 7-176. Radiated Restricted Upper Band Edge Measurement SISO ANT1 (Peak – 242 Tones)

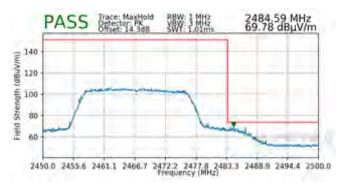
FCC ID: A3LSMG9750	PETEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 128 of 149
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Worst Case Mode: 802.11ax OFDMA Worst Case Transfer Rate: MCS0 **RU** Index 61 Distance of Measurements: 3 Meters Operating Frequency: 2467MHz Channel: 12



Plot 7-177. Radiated Restricted Upper Band Edge Measurement SISO ANT1 (Average – 242 Tones)

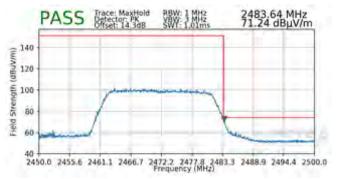


Plot 7-178. Radiated Restricted Upper Band Edge Measurement SISO ANT1 (Peak - 242 Tones)

Worst Case Mode: 802.11ax OFDMA Worst Case Transfer Rate: MCS0 **RU** Index 61 Distance of Measurements: 3 Meters 2472MHz Operating Frequency: Channel: 13



Plot 7-179. Radiated Restricted Upper Band Edge Measurement SISO ANT1 (Average – 242 Tones)



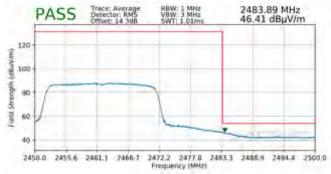
Plot 7-180. Radiated Restricted Upper Band Edge Measurement SISO ANT1 (Peak – 242 Tones)

FCC ID: A3LSMG9750	PETEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 129 of 149
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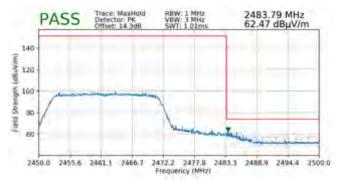


Worst Case Mode:
Worst Case Transfer Rate:
RU Index
Distance of Measurements:
Operating Frequency:
Channel:

802.11ax OFDMA
MCS0
61
3 Meters
2462MHz
11



Plot 7-181. Radiated Restricted Band Edge Measurement SISO ANT1 with WCP (Average – 242 Tones)



Plot 7-182. Radiated Restricted Band Edge Measurement SISO ANT1 with WCP (Peak – 242 Tones)

FCC ID: A3LSMG9750	PETEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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## 7.7.5 SISO Antenna-2 Radiated Restricted Band Edge Measurements §15.205 §15.209;

The radiated restricted band edge measurements are measured with an EMI test receiver connected to the receive antenna while the EUT is transmitting.

Worst Case Mode:

Worst Case Transfer Rate:

RU Index
Distance of Measurements:
Operating Frequency:

Channel:

802.11ax OFDMA

MCS0

53

3 Meters

2412MHz

1



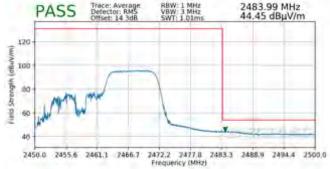
Plot 7-183. Radiated Restricted Lower Band Edge Measurement SISO ANT2 (Average – 106 Tones)



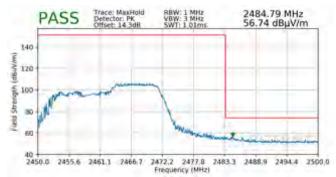
Plot 7-184. Radiated Restricted Lower Band Edge Measurement SISO ANT2 (Peak – 106 Tones)

Worst Case Mode:
Worst Case Transfer Rate:
RU Index
Distance of Measurements:
Operating Frequency:
Channel:

802.11ax OFDMA
MCS0
54
3 Meters
2462MHz
11



Plot 7-185. Radiated Restricted Upper Band Edge Measurement SISO ANT2 (Average – 106 Tones)



Plot 7-186. Radiated Restricted Upper Band Edge Measurement SISO ANT2 (Peak – 106 Tones)

FCC ID: A3LSMG9750	PETEST VINITED IN THE CASE OF C	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Worst Case Mode:
Worst Case Transfer Rate:
RU Index
Distance of Measurements:
Operating Frequency:
Channel:

802.11ax OFDMA
MCS0
54
3 Meters
2467MHz
12

F	PASS	Trace: Average Detector: RMS Offset: 14,3dB	RBW: 1 MHz SWY: 1.01ms	2483.74 MHz 46.68 dBμV/m
120				
80		J		
60	J	Manual A		
40				

Plot 7-187. Radiated Restricted Upper Band Edge Measurement SISO ANT2 (Average – 106 Tones)

Worst Case Mode:

Worst Case Transfer Rate:

RU Index

Distance of Measurements:

Operating Frequency:

Channel:

802.11ax OFDMA

MCS0

61

3 Meters

2472MHz

13



Plot 7-188. Radiated Restricted Upper Band Edge Measurement SISO ANT2 (Peak – 106 Tones)



Plot 7-189. Radiated Restricted Upper Band Edge Measurement SISO ANT2 (Average – 242 Tones)



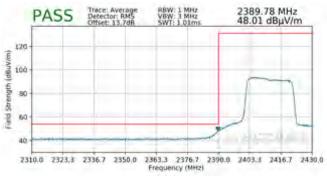
Plot 7-190. Radiated Restricted Upper Band Edge Measurement SISO ANT2 (Peak – 242 Tones)

FCC ID: A3LSMG9750	PETEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Worst Case Mode: 802.11ax OFDMA Worst Case Transfer Rate: MCS<sub>0</sub> **RU Index** 61

Distance of Measurements: 3 Meters 2412MHz Operating Frequency: Channel: 1



Plot 7-191. Radiated Restricted Lower Band Edge Measurement SISO ANT2 (Average – 242 Tones)



Plot 7-192. Radiated Restricted Lower Band Edge Measurement SISO ANT2 (Peak - 242 Tones)

Worst Case Mode: 802.11ax OFDMA Worst Case Transfer Rate: MCS0 **RU Index** 61 Distance of Measurements: 3 Meters Operating Frequency: 2417MHz Channel:



ot 7-193. Radiated Restricted Lower Band Edge Measurement SISO ANT2 (Average – 242 Tones)



Plot 7-194. Radiated Restricted Lower Band Edge Measurement SISO ANT2 (Peak - 242 Tones)

FCC ID: A3LSMG9750	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Worst Case Mode: 802.11ax OFDMA Worst Case Transfer Rate: MCS0 **RU** Index 61 Distance of Measurements: 3 Meters Operating Frequency: 2457MHz Channel: 10



Plot 7-195. Radiated Restricted Upper Band Edge Measurement SISO ANT2 (Average – 242 Tones)

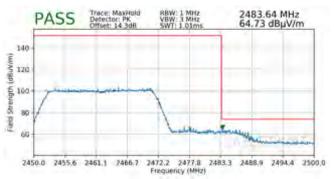


Plot 7-196. Radiated Restricted Upper Band Edge Measurement SISO ANT2 (Peak - 242 Tones)

Worst Case Mode: 802.11ax OFDMA Worst Case Transfer Rate: MCS0 **RU** Index 61 Distance of Measurements: 3 Meters 2462MHz Operating Frequency: Channel: 11



Plot 7-197. Radiated Restricted Upper Band Edge Measurement SISO ANT2 (Average – 242 Tones)



Plot 7-198. Radiated Restricted Upper Band Edge Measurement SISO ANT2 (Peak – 242 Tones)

FCC ID: A3LSMG9750	PETEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Worst Case Mode:
Worst Case Transfer Rate:
RU Index
Distance of Measurements:
Operating Frequency:
Channel:

802.11ax OFDMA
MCS0
61
3 Meters
2467MHz
12



Plot 7-199. Radiated Restricted Upper Band Edge Measurement SISO ANT2 (Average – 242 Tones)



Plot 7-200. Radiated Restricted Upper Band Edge Measurement SISO ANT2 (Peak – 242 Tones)

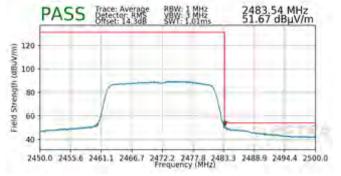
Worst Case Mode:

Worst Case Transfer Rate:

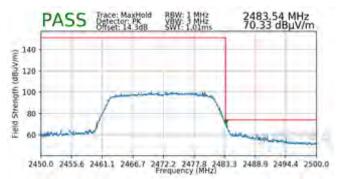
RU Index
Distance of Measurements:
Operating Frequency:
Channel:

802.11ax OFDMA

MCS0
61
3 Meters
2472MHz
13



Plot 7-201. Radiated Restricted Upper Band Edge Measurement SISO ANT2 (Average – 242 Tones)



Plot 7-202. Radiated Restricted Upper Band Edge Measurement SISO ANT2 (Peak – 242 Tones)

FCC ID: A3LSMG9750	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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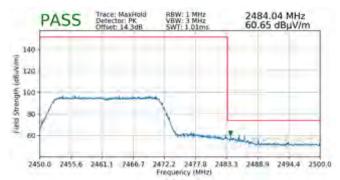


Worst Case Mode:
Worst Case Transfer Rate:
RU Index
Distance of Measurements:
Operating Frequency:
Channel:

802.11ax OFDMA
MCS0
61
3 Meters
2462MHz
11



Plot 7-203. Radiated Restricted Band Edge Measurement SISO ANT2 with WCP (Average – 242 Tones)



Plot 7-204. Radiated Restricted Band Edge Measurement SISO ANT2 with WCP (Peak – 242 Tones)

FCC ID: A3LSMG9750	PETEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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## 7.7.6 MIMO Radiated Restricted Band Edge Measurements §15.205 §15.209;

The radiated restricted band edge measurements are measured with an EMI test receiver connected to the receive antenna while the EUT is transmitting.

Worst Case Mode:

Worst Case Transfer Rate:

RU Index
Distance of Measurements:
Operating Frequency:

Channel:

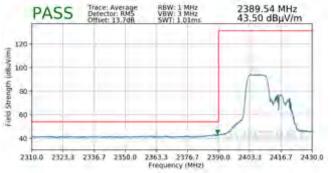
802.11ax OFDMA

MCS0

53

3 Meters

2412MHz



Plot 7-205. Radiated Restricted Lower Band Edge Measurement MIMO (Average – 106 Tones)



Plot 7-206. Radiated Restricted Lower Band Edge Measurement MIMO (Peak – 106 Tones)

Worst Case Mode:

Worst Case Transfer Rate:

RU Index

Distance of Measurements:

Operating Frequency:

Channel:

802.11ax OFDMA

MCS0

54

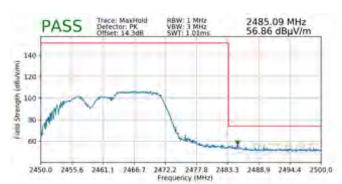
3 Meters

2462MHz

11



Plot 7-207. Radiated Restricted Upper Band Edge Measurement MIMO (Average – 106 Tones)



Plot 7-208. Radiated Restricted Upper Band Edge Measurement MIMO (Peak – 106 Tones)

FCC ID: A3LSMG9750	PETEST INDUSTRIES CHEMICAL OF C	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Channel:

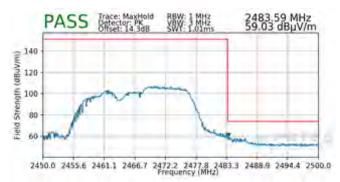
Worst Case Mode:
Worst Case Transfer Rate:
RU Index
Distance of Measurements:
Operating Frequency:

802.11ax OFDMA
MCS0
54
3 Meters
2467MHz

12

FF	133	Trace: Average Detector: RMS Offset: 14,3dB	RBW: 1 MHZ VBW: 1 MHZ SWY: 1.01ms	2483.59 MHz 46.60 dBμV/m
20				
.00	Т	1		
80	N	a should be		
60	M			1260
40	2455.6	2461.1 2466.7 2	472.2 Z477.8 248 Frequency (MHz)	3.3 2488.9 2494.4 25

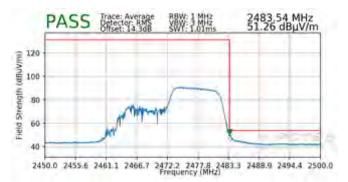
Plot 7-209. Radiated Restricted Upper Band Edge Measurement MIMO (Average – 106 Tones)



Plot 7-210. Radiated Restricted Upper Band Edge Measurement MIMO (Peak – 106 Tones)

Worst Case Mode:
Worst Case Transfer Rate:
RU Index
Distance of Measurements:
Operating Frequency:
Channel:

802.11ax OFDMA
MCS0
54
3 Meters
2472MHz
13



Plot 7-211. Radiated Restricted Upper Band Edge Measurement MIMO (Average – 106 Tones)



Plot 7-212. Radiated Restricted Upper Band Edge Measurement MIMO (Peak – 106 Tones)

FCC ID: A3LSMG9750	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Worst Case Mode: 802.11ax OFDMA
Worst Case Transfer Rate: MCS0
RU Index 61
Distance of Measurements: 3 Meters
Operating Frequency: 2412MHz

Channel:

PAS	De De	ece: Average stector: RM5 fset: 13,7dB	RBW: 1 MH VBW: 3 MH SWT: 1,01r	iz iz ns. 4	389.90 M 6.37 dBµ\	Hz //m
20-			-		-	
00-					-	
80-						1
60					-	1
40		_	-		10-4	

Plot 7-213. Radiated Restricted Lower Band Edge Measurement MIMO (Average – 242 Tones)



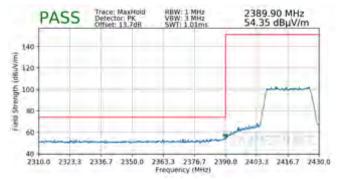
Plot 7-214. Radiated Restricted Lower Band Edge Measurement MIMO (Peak – 242 Tones)

Worst Case Mode:
Worst Case Transfer Rate:
RU Index
Distance of Measurements:
Operating Frequency:
Channel:

802.11ax OFDMA
MCS0
61
3 Meters
2417MHz
2



Plot 7-215. Radiated Restricted Lower Band Edge Measurement MIMO (Average – 242 Tones)



Plot 7-216. Radiated Restricted Lower Band Edge Measurement MIMO (Peak – 242 Tones)

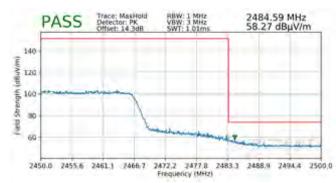
FCC ID: A3LSMG9750	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Worst Case Mode: 802.11ax OFDMA Worst Case Transfer Rate: MCS0 **RU** Index 61 Distance of Measurements: 3 Meters Operating Frequency: 2457MHz Channel: 10



Plot 7-217. Radiated Restricted Upper Band Edge Measurement MIMO (Average – 242 Tones)

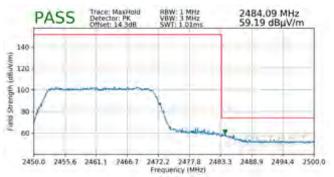


Plot 7-218. Radiated Restricted Upper Band Edge Measurement MIMO (Peak - 242 Tones)

Worst Case Mode: 802.11ax OFDMA Worst Case Transfer Rate: MCS0 **RU** Index 61 Distance of Measurements: 3 Meters 2462MHz Operating Frequency: Channel: 11



Plot 7-219. Radiated Restricted Upper Band Edge Measurement MIMO (Average - 242 Tones)



Plot 7-220. Radiated Restricted Upper Band Edge Measurement MIMO (Peak - 242 Tones)

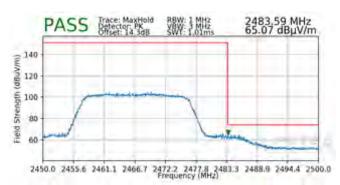
FCC ID: A3LSMG9750	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Worst Case Mode: 802.11ax OFDMA Worst Case Transfer Rate: MCS0 **RU** Index 61 Distance of Measurements: 3 Meters Operating Frequency: 2467MHz Channel: 12



Plot 7-221. Radiated Restricted Upper Band Edge Measurement MIMO (Average – 242 Tones)

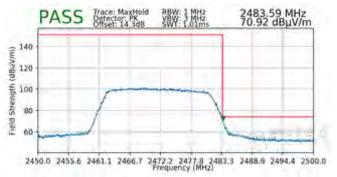


Plot 7-222. Radiated Restricted Upper Band Edge Measurement MIMO (Peak - 242 Tones)

Worst Case Mode: 802.11ax OFDMA Worst Case Transfer Rate: MCS0 **RU** Index 61 Distance of Measurements: 3 Meters 2472MHz Operating Frequency: Channel: 13



Plot 7-223. Radiated Restricted Upper Band Edge Measurement MIMO (Average - 242 Tones)



Plot 7-224. Radiated Restricted Upper Band Edge Measurement MIMO (Peak - 242 Tones)

FCC ID: A3LSMG9750	PCTEST INDICATED AC	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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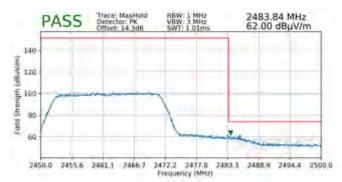


Worst Case Mode:
Worst Case Transfer Rate:
RU Index
Distance of Measurements:
Operating Frequency:
Channel:

802.11ax OFDMA
MCS0
61
3 Meters
2462MHz
11



Plot 7-225. Radiated Restricted Band Edge Measurement MIMO with WCP (Average – 242 Tones)



Plot 7-226. Radiated Restricted Band Edge Measurement MIMO with WCP (Peak – 242 Tones)

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#### Radiated Spurious Emissions Measurements – Below 1GHz 7.8 §15.209;

#### **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 7-44 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 7-44. Radiated Limits

#### **Test Procedures Used**

ANSI C63.10-2013

#### **Test Settings**

#### **Quasi-Peak Field Strength Measurements**

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

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#### **Test Setup**

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

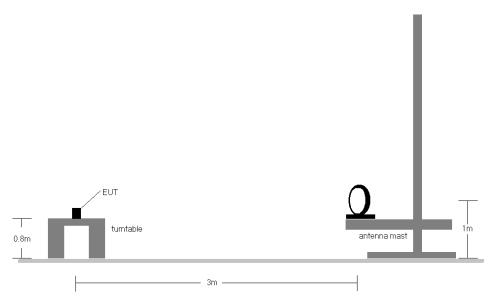


Figure 7-7. Radiated Test Setup < 30Mhz

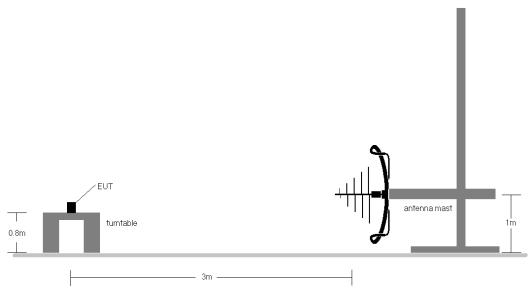


Figure 7-8. Radiated Test Setup < 1GHz

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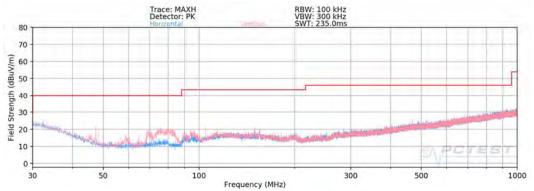


#### **Test Notes**

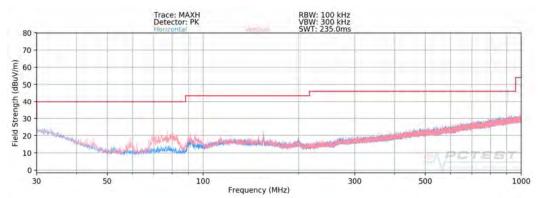
- 1. All emissions lying in restricted bands specified in §15.205 and RSS-Gen(8.10) are below the limit shown in Table 7-44.
- 2. The broadband receive antenna is manipulated through vertical and horizontal polarizations during the tests. The EUT is manipulated through three orthogonal planes.
- 3. This 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.



# SISO Antenna-1 Radiated Spurious Emissions Measurements (Below 1GHz) §15.209;



Plot 7-227. Radiated Spurious Plot below 1GHz SISO ANT1 (106 Tones)

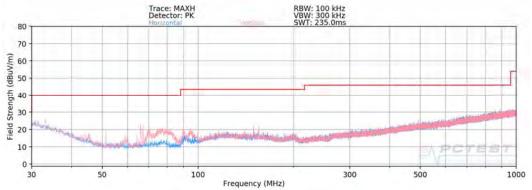


Plot 7-228. Radiated Spurious Plot below 1GHz SISO ANT1 (242 Tones)

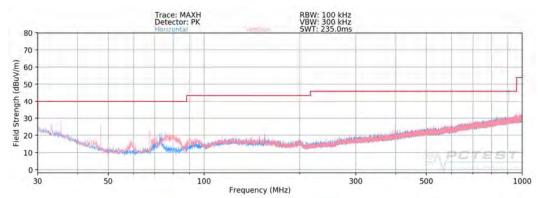
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### SISO Antenna-2 Radiated Spurious Emissions Measurements (Below 1GHz) §15.209;



Plot 7-229. Radiated Spurious Plot below 1GHz SISO ANT2 (106 Tones)

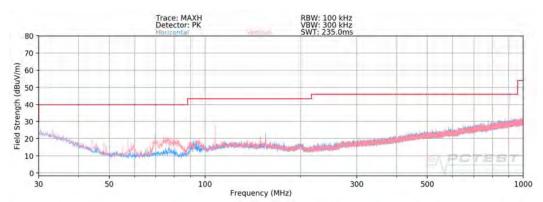


Plot 7-230. Radiated Spurious Plot below 1GHz SISO ANT2 (242 Tones)

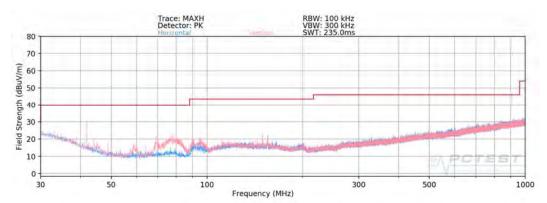
FCC ID: A3LSMG9750	PETEST INDUSTRIES CHEMICAL OF C	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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# MIMO Radiated Spurious Emissions Measurements (Below 1GHz) §15.209;



Plot 7-231. Radiated Spurious Plot below 1GHz MIMO (106 Tones)



Plot 7-232. Radiated Spurious Plot below 1GHz MIMO (242 Tones)

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#### CONCLUSION 8.0

The data collected relate only the item(s) tested and show that the Samsung Portable Handset FCC ID: A3LSMG9750 is in compliance with Part 15 Subpart C (15.247) of the FCC Rules.

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