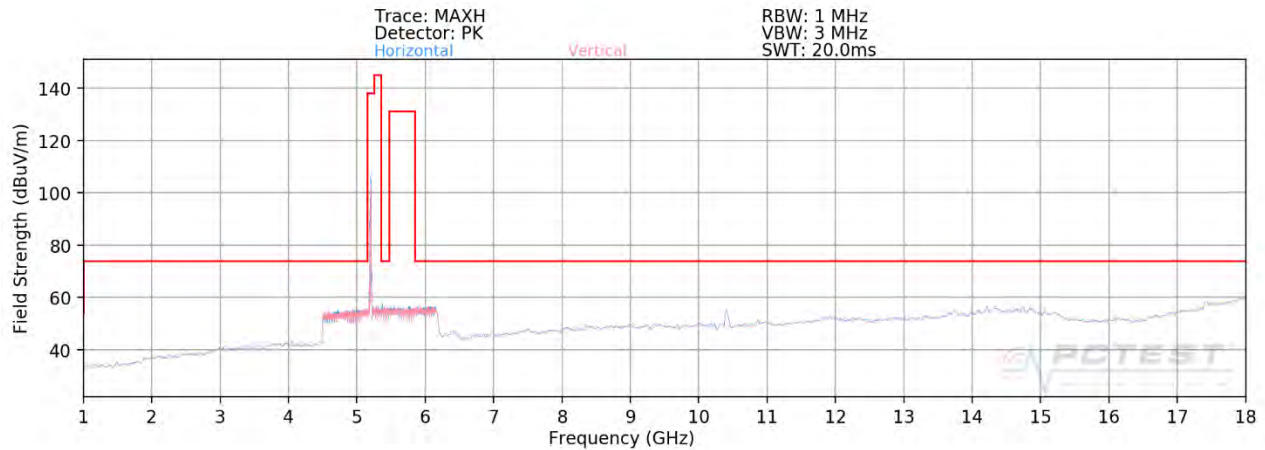
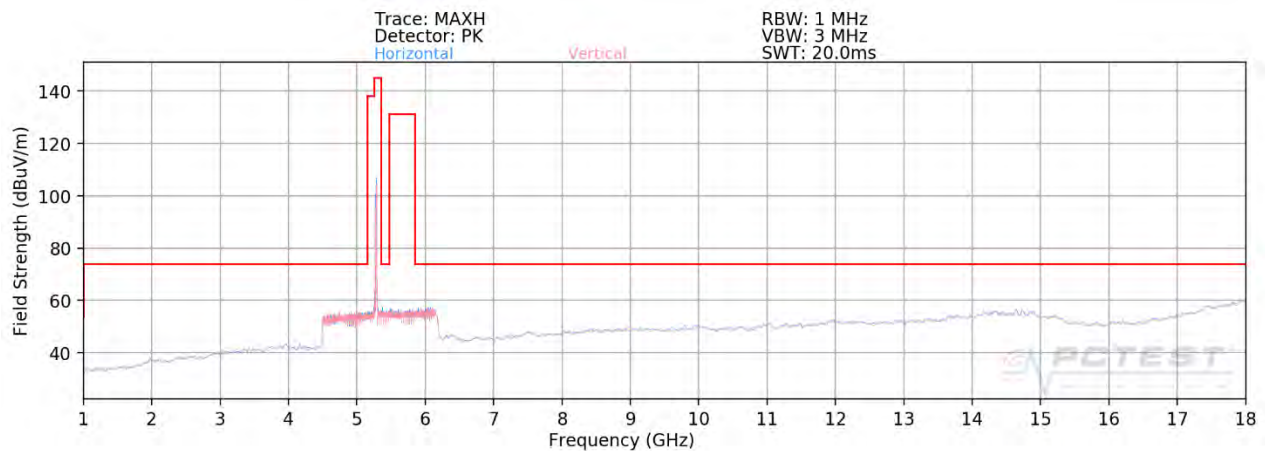


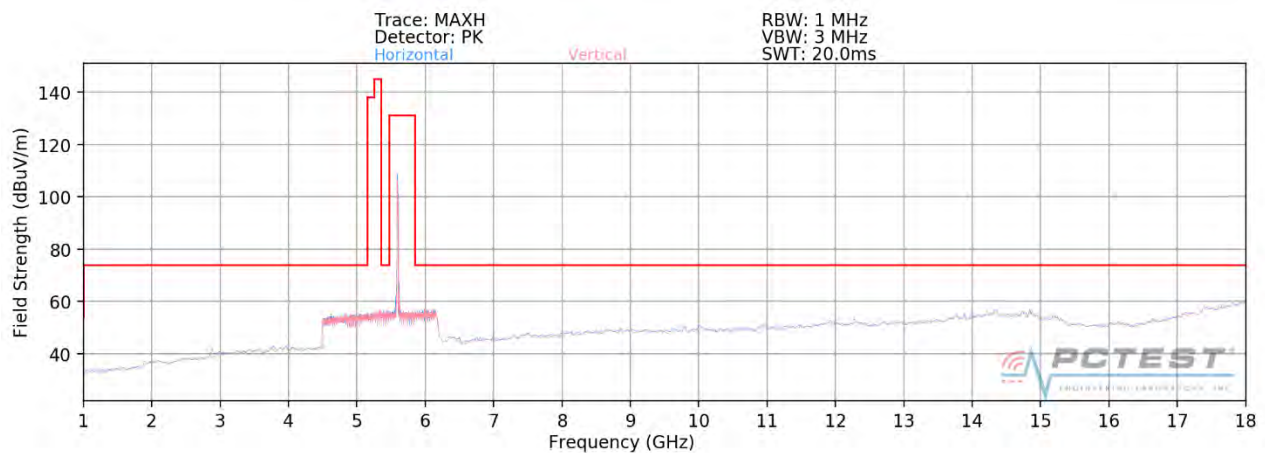
242 Tones



Plot 7-343. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax – U1 Ch. 40 – 242 Tones)

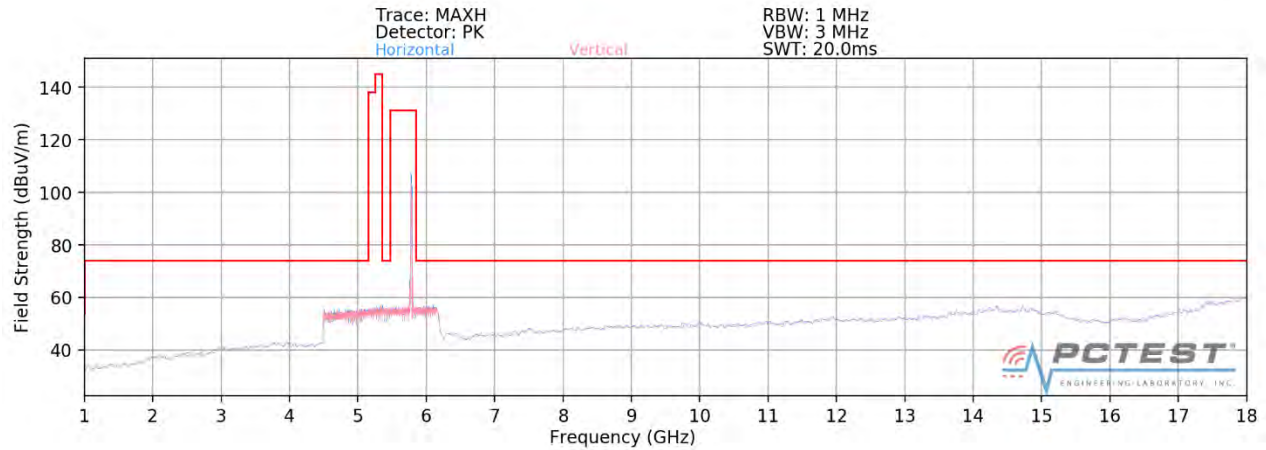


Plot 7-344. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax – U2A Ch. 56 – 242 Tones)



Plot 7-345. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax – U2C Ch. 120 – 242 Tones)

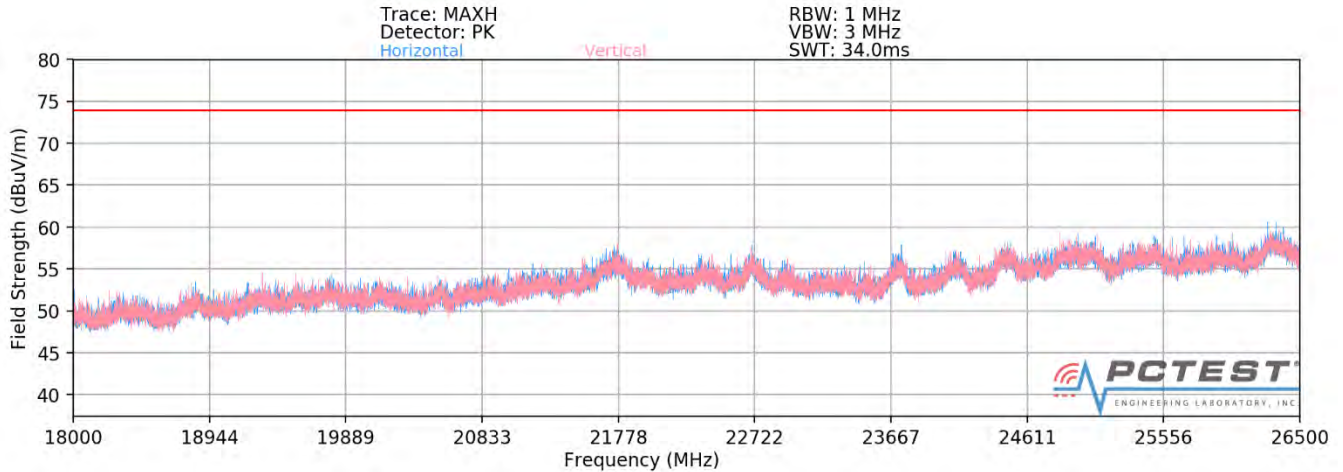
FCC ID: A3LSMN975JPN	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset		Page 252 of 301



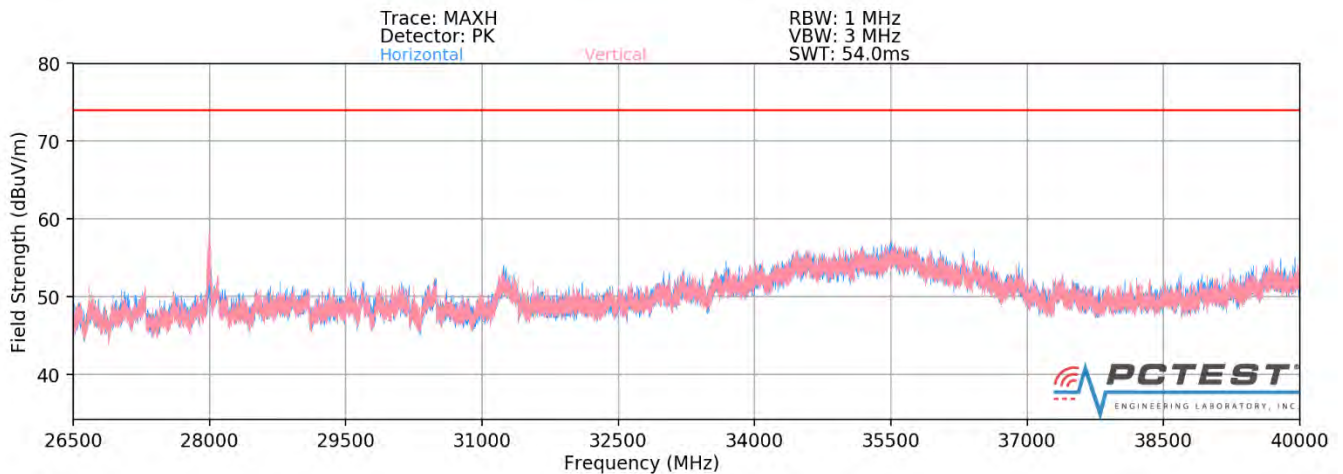
Plot 7-346. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax – U3 Ch. 157 – 242 Tones)

FCC ID: A3LSMN975JPN	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset		Page 253 of 301

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



Plot 7-347. Radiated Spurious Plot 18GHz - 26.5GHz SISO ANT2 (802.11ax - 242 Tones)



Plot 7-348. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT2 (802.11ax - 242 Tones)

FCC ID: A3LSMN975JPN	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset		Page 254 of 301

SISO Antenna-2 Radiated Spurious Emission Measurements

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

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5180MHz
Channel:	36

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10360.00	Peak	H	131	13	-67.55	18.82	0.00	58.27	68.20	-9.93
* 15540.00	Average	H	-	-	-84.95	28.27	0.00	50.32	53.98	-3.66
* 15540.00	Peak	H	-	-	-74.16	28.27	0.00	61.11	73.98	-12.87
* 20720.00	Average	H	-	-	-77.34	7.63	-9.54	27.75	53.98	-26.23
* 20720.00	Peak	H	-	-	-66.20	7.63	-9.54	38.89	73.98	-35.09
25900.00	Peak	H	-	-	-62.37	9.80	-9.54	44.89	68.20	-23.31

Table 7-110. 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]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10400.00	Peak	H	128	359	-67.73	18.78	0.00	58.05	68.20	-10.15
* 15600.00	Average	H	-	-	-84.47	27.80	0.00	50.33	53.98	-3.65
* 15600.00	Peak	H	-	-	-72.92	27.80	0.00	61.88	73.98	-12.10
* 20800.00	Average	H	-	-	-76.83	7.77	-9.54	28.40	53.98	-25.58
* 20800.00	Peak	H	-	-	-65.56	7.77	-9.54	39.67	73.98	-34.31
26000.00	Peak	H	-	-	-59.82	10.06	-9.54	47.70	68.20	-20.50

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

FCC ID: A3LSMN975JPN	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset	Page 255 of 301

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5240MHz
 Channel: 48

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10480.00	Peak	H	108	351	-70.27	20.06	0.00	56.79	68.20	-11.41
* 15720.00	Average	H	-	-	-84.49	27.64	0.00	50.15	53.98	-3.83
* 15720.00	Peak	H	-	-	-73.27	27.64	0.00	61.37	73.98	-12.61
* 20960.00	Average	H	-	-	-76.84	8.06	-9.54	28.68	53.98	-25.30
* 20960.00	Peak	H	-	-	-64.93	8.06	-9.54	40.59	73.98	-33.39
* 26200.00	Peak	H	-	-	-61.33	10.19	-9.54	46.32	68.20	-21.88

Table 7-112. 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]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10520.00	Peak	H	129	345	-70.50	19.70	0.00	56.20	68.20	-12.00
* 15780.00	Average	H	-	-	-84.44	27.31	0.00	49.87	53.98	-4.11
* 15780.00	Peak	H	-	-	-73.05	27.31	0.00	61.26	73.98	-12.72
* 21040.00	Average	H	-	-	-76.68	8.13	-9.54	28.91	53.98	-25.07
* 21040.00	Peak	H	-	-	-64.96	8.13	-9.54	40.63	73.98	-33.35
* 26300.00	Peak	H	-	-	-60.99	10.75	-9.54	47.22	68.20	-20.98

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

FCC ID: A3LSMN975JPN	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset	Page 256 of 301

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

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10560.00	Peak	H	103	358	-68.43	19.86	0.00	58.43	68.20	-9.77
* 15840.00	Average	H	-	-	-84.06	27.54	0.00	50.48	53.98	-3.50
* 15840.00	Peak	H	-	-	-73.08	27.54	0.00	61.46	73.98	-12.52
* 21120.00	Average	H	-	-	-77.35	8.29	-9.54	28.40	53.98	-25.58
* 21120.00	Peak	H	-	-	-65.10	8.29	-9.54	40.65	73.98	-33.33
26400.00	Peak	H	-	-	-65.61	10.53	-9.54	42.38	68.20	-25.82

Table 7-114. 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]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 10640.00	Average	H	212	361	-80.51	19.52	0.00	46.01	53.98	-7.97
* 10640.00	Peak	H	212	361	-69.78	19.52	0.00	56.74	73.98	-17.24
* 15960.00	Average	H	-	-	-84.61	27.84	0.00	50.23	53.98	-3.75
* 15960.00	Peak	H	-	-	-79.50	27.84	0.00	55.34	73.98	-18.64
* 21280.00	Average	H	-	-	-77.06	8.44	-9.54	28.84	53.98	-25.14
* 21280.00	Peak	H	-	-	-65.75	8.44	-9.54	40.15	73.98	-33.83
26600.00	Peak	H	-	-	-49.10	-5.12	-9.54	43.24	68.20	-24.96

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

FCC ID: A3LSMN975JPN	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset	Page 257 of 301

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5500MHz
 Channel: 100

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11000.00	Average	H	120	10	-82.81	20.35	0.00	44.54	53.98	-9.44
* 11000.00	Peak	H	120	10	-71.97	20.35	0.00	55.38	73.98	-18.60
16500.00	Peak	H	-	-	-73.73	28.54	0.00	61.81	68.20	-6.39
22000.00	Peak	H	-	-	-66.12	8.89	-9.54	40.23	68.20	-27.97
27500.00	Peak	H	150	330	-40.71	-6.38	-9.54	50.37	68.20	-17.83

Table 7-116. 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]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11200.00	Average	H	-	-	-83.44	20.31	0.00	43.87	53.98	-10.11
* 11200.00	Peak	H	-	-	-72.41	20.31	0.00	54.90	73.98	-19.08
16800.00	Peak	H	-	-	-72.87	28.88	0.00	63.01	68.20	-5.19
* 22400.00	Average	H	-	-	-77.78	9.64	-9.54	29.32	53.98	-24.66
* 22400.00	Peak	H	-	-	-66.41	9.64	-9.54	40.69	73.98	-33.29
28000.00	Peak	H	150	317	-42.39	-4.74	-9.54	50.33	68.20	-17.87

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

FCC ID: A3LSMN975JPN	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset	Page 258 of 301

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5720MHz
 Channel: 144

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11440.00	Average	H	-	-	-83.63	20.11	0.00	43.48	53.98	-10.50
* 11440.00	Peak	H	-	-	-72.18	20.11	0.00	54.93	73.98	-19.05
17160.00	Peak	H	-	-	-73.39	29.40	0.00	63.01	68.20	-5.19
* 22880.00	Average	H	-	-	-78.11	9.34	-9.54	28.69	53.98	-25.29
* 22880.00	Peak	H	-	-	-67.23	9.34	-9.54	39.57	73.98	-34.41
28600.00	Peak	H	150	308	-40.87	-6.22	-9.54	50.37	68.20	-17.83

Table 7-118. 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]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11490.00	Average	H	-	-	-83.44	20.55	0.00	44.11	53.98	-9.86
* 11490.00	Peak	H	-	-	-71.89	20.55	0.00	55.66	73.98	-18.31
17235.00	Peak	H	-	-	-72.92	29.71	0.00	63.79	68.20	-4.41
* 22980.00	Average	H	-	-	-78.32	9.49	-9.54	28.63	53.98	-25.35
* 22980.00	Peak	H	-	-	-66.88	9.49	-9.54	40.07	73.98	-33.91
28725.00	Peak	H	150	309	-39.50	-5.89	-9.54	52.07	68.20	-16.13

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

FCC ID: A3LSMN975JPN	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset	
			Page 259 of 301

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5785MHz
 Channel: 157

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11570.00	Average	H	-	-	-83.50	21.44	0.00	44.94	53.98	-9.04
* 11570.00	Peak	H	-	-	-72.66	21.44	0.00	55.78	73.98	-18.20
17355.00	Peak	H	-	-	-73.15	29.55	0.00	63.40	68.20	-4.80
23140.00	Peak	H	-	-	-66.59	9.28	-9.54	40.15	68.20	-28.05
28925.00	Peak	H	150	306	-39.46	-5.04	-9.54	52.96	68.20	-15.24

Table 7-120. 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

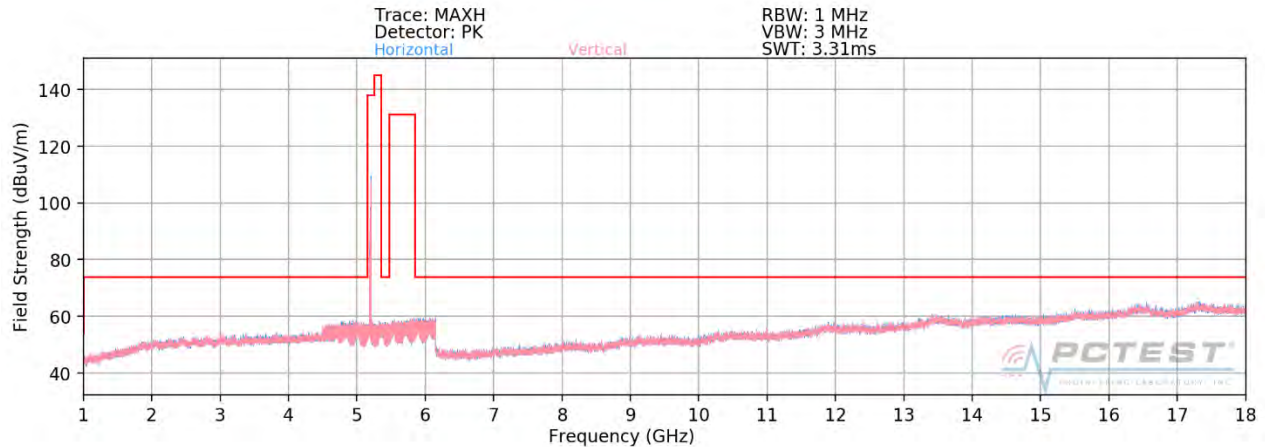
Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11650.00	Average	H	119	20	-81.59	20.88	0.00	46.29	53.98	-7.68
* 11650.00	Peak	H	119	20	-70.44	20.88	0.00	57.44	73.98	-16.53
17475.00	Peak	H	-	-	-72.98	30.26	0.00	64.28	68.20	-3.92
23300.00	Peak	H	-	-	-66.21	8.86	-9.54	40.11	68.20	-28.09
29125.00	Peak	H	150	307	-40.77	-7.31	-9.54	49.38	68.20	-18.82

Table 7-121. Radiated Measurements SISO ANT2 (242 Tones)

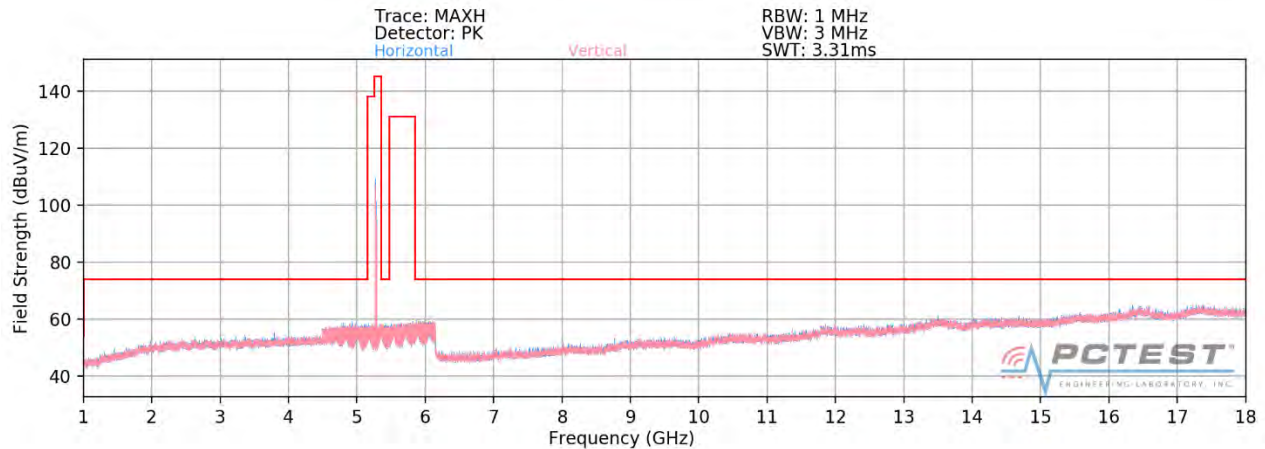
FCC ID: A3LSMN975JPN	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset	
			Page 260 of 301

7.6.3 MIMO Radiated Spurious Emission Measurements

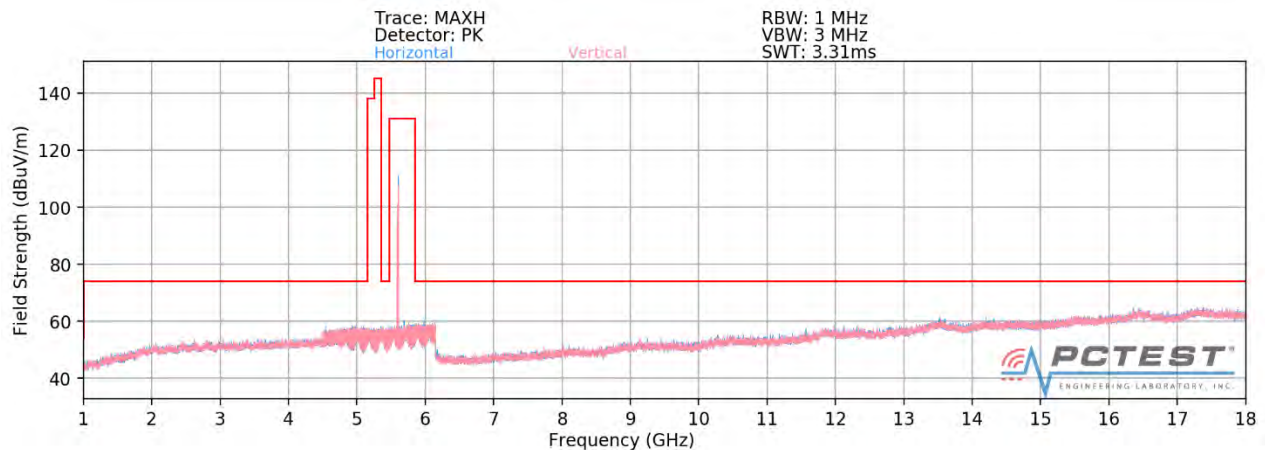
26 Tones



Plot 7-349. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U1 Ch. 40 – 26 Tones)

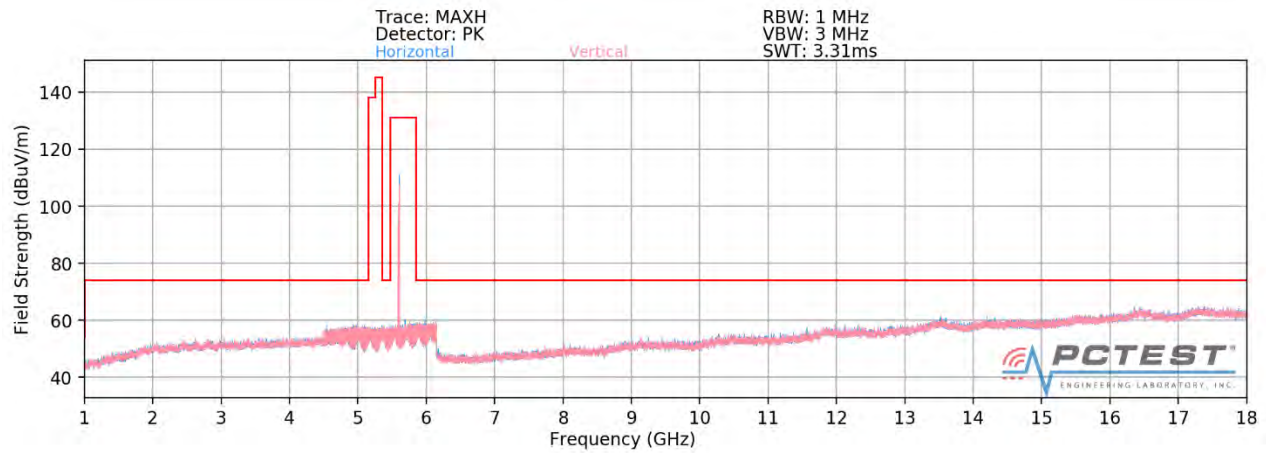


Plot 7-350. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U2A Ch. 56 – 26 Tones)



Plot 7-351. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U2C Ch. 120 – 26 Tones)

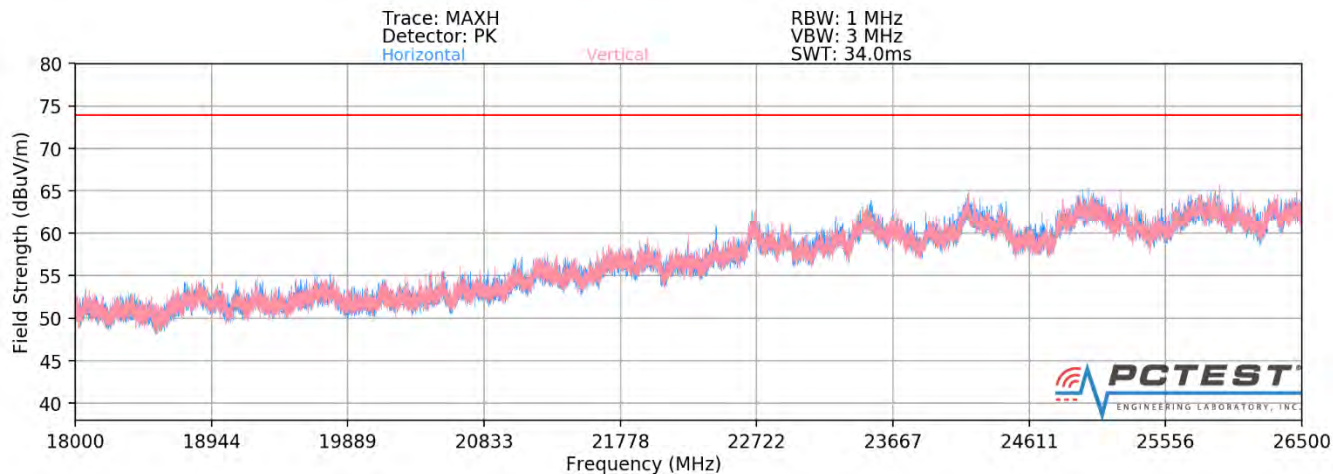
FCC ID: A3LSMN975JPN	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset		Page 261 of 301



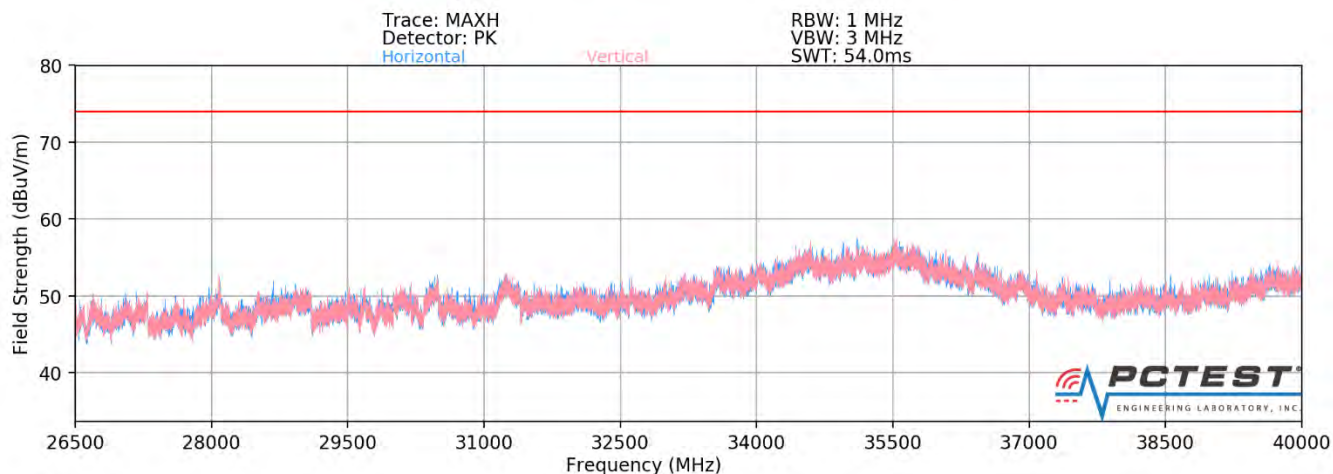
Plot 7-352. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U3 Ch. 157 – 26 Tones)

FCC ID: A3LSMN975JPN	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset		Page 262 of 301

MIMO Radiated Spurious Emissions Measurements (Above 18GHz)



Plot 7-353. Radiated Spurious Plot 18GHz - 26.5GHz MIMO (802.11ax - 26 Tones)



Plot 7-354. Radiated Spurious Plot 26.5GHz - 40GHz MIMO (802.11ax - 26 Tones)

FCC ID: A3LSMN975JPN	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset		Page 263 of 301

MIMO Radiated Spurious Emission Measurements (26 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: 4
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5180MHz
Channel: 36

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10360.00	Peak	H	101	342	-71.31	18.82	0.00	54.51	68.20	-13.69
* 15540.00	Average	H	-	-	-84.64	28.27	0.00	50.63	53.98	-3.35
* 15540.00	Peak	H	-	-	-74.29	28.27	0.00	60.98	73.98	-13.00
* 20720.00	Average	H	-	-	-77.90	7.63	-9.54	27.19	53.98	-26.79
* 20720.00	Peak	H	-	-	-66.60	7.63	-9.54	38.49	73.98	-35.49
25900.00	Peak	H	-	-	-65.11	9.80	-9.54	42.15	68.20	-26.05

Table 7-122. Radiated Measurements MIMO (26 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
Worst Case Transfer Rate: MCS0
RU Index: 4
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5200MHz
Channel: 40

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10400.00	Peak	H	101	344	-71.36	18.78	0.00	54.42	68.20	-13.78
* 15600.00	Average	H	-	-	-84.44	27.80	0.00	50.36	53.98	-3.62
* 15600.00	Peak	H	-	-	-73.48	27.80	0.00	61.32	73.98	-12.66
* 20800.00	Average	H	-	-	-78.04	7.77	-9.54	27.19	53.98	-26.79
* 20800.00	Peak	H	-	-	-66.57	7.77	-9.54	38.66	73.98	-35.32
26000.00	Peak	H	-	-	-65.28	10.06	-9.54	42.24	68.20	-25.96

Table 7-123. Radiated Measurements MIMO (26 Tones)

FCC ID: A3LSMN975JPN	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset	
			Page 264 of 301

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 4
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5240MHz
 Channel: 48

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10480.00	Peak	H	-	-	-71.16	20.06	0.00	55.90	68.20	-12.30
* 15720.00	Average	H	-	-	-84.64	27.64	0.00	50.00	53.98	-3.98
* 15720.00	Peak	H	-	-	-73.72	27.64	0.00	60.92	73.98	-13.06
* 20960.00	Average	H	-	-	-77.97	8.06	-9.54	27.55	53.98	-26.43
* 20960.00	Peak	H	-	-	-67.40	8.06	-9.54	38.12	73.98	-35.86
* 26200.00	Peak	H	-	-	-64.93	10.19	-9.54	42.72	68.20	-25.48

Table 7-124. Radiated Measurements MIMO (26 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 4
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5260MHz
 Channel: 52

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10520.00	Peak	H	-	-	-72.02	19.70	0.00	54.68	68.20	-13.52
* 15780.00	Average	H	-	-	-84.43	27.31	0.00	49.88	53.98	-4.10
* 15780.00	Peak	H	-	-	-73.27	27.31	0.00	61.04	73.98	-12.94
* 21040.00	Average	H	-	-	-77.57	8.13	-9.54	28.02	53.98	-25.96
* 21040.00	Peak	H	-	-	-66.30	8.13	-9.54	39.29	73.98	-34.69
* 26300.00	Peak	H	-	-	-64.45	10.75	-9.54	43.76	68.20	-24.44

Table 7-125. Radiated Measurements MIMO (26 Tones)

FCC ID: A3LSMN975JPN	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset	
			Page 265 of 301

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 4
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5280MHz
 Channel: 56

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10560.00	Peak	H	-	-	-71.93	19.86	0.00	54.93	68.20	-13.27
* 15840.00	Average	H	-	-	-84.24	27.54	0.00	50.30	53.98	-3.68
* 15840.00	Peak	H	-	-	-72.55	27.54	0.00	61.99	73.98	-11.99
* 21120.00	Average	H	-	-	-77.60	8.29	-9.54	28.15	53.98	-25.83
* 21120.00	Peak	H	-	-	-66.36	8.29	-9.54	39.39	73.98	-34.59
26400.00	Peak	H	-	-	-65.07	10.53	-9.54	42.92	68.20	-25.28

Table 7-126. Radiated Measurements MIMO (26 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 4
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5320MHz
 Channel: 64

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 10640.00	Average	H	-	-	-82.91	19.52	0.00	43.61	53.98	-10.37
* 10640.00	Peak	H	-	-	-72.14	19.52	0.00	54.38	73.98	-19.60
* 15960.00	Average	H	-	-	-84.51	27.84	0.00	50.33	53.98	-3.65
* 15960.00	Peak	H	-	-	-73.49	27.84	0.00	61.35	73.98	-12.63
* 21280.00	Average	H	-	-	-77.33	8.44	-9.54	28.57	53.98	-25.41
* 21280.00	Peak	H	-	-	-65.68	8.44	-9.54	40.22	73.98	-33.76
26600.00	Peak	H	-	-	-52.41	-5.12	-9.54	39.93	68.20	-28.27

Table 7-127. Radiated Measurements MIMO (26 Tones)

FCC ID: A3LSMN975JPN	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset	Page 266 of 301

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 4
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5500MHz
 Channel: 100

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11000.00	Average	H	245	21	-82.90	20.35	0.00	44.45	53.98	-9.53
* 11000.00	Peak	H	245	21	-71.42	20.35	0.00	55.93	73.98	-18.05
16500.00	Peak	H	-	-	-73.58	28.54	0.00	61.96	68.20	-6.24
22000.00	Peak	H	-	-	-66.29	8.89	-9.54	40.06	68.20	-28.14
27500.00	Peak	H	-	-	-51.02	-6.38	-9.54	40.06	68.20	-28.14

Table 7-128. Radiated Measurements MIMO (26 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 4
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5600MHz
 Channel: 120

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11200.00	Average	H	-	-	-83.63	20.31	0.00	43.68	53.98	-10.30
* 11200.00	Peak	H	-	-	-72.54	20.31	0.00	54.77	73.98	-19.21
16800.00	Peak	H	-	-	-73.74	28.88	0.00	62.14	68.20	-6.06
* 22400.00	Average	H	-	-	-70.19	9.64	-9.54	36.91	53.98	-17.07
* 22400.00	Peak	H	-	-	-58.95	9.64	-9.54	48.15	73.98	-25.83
28000.00	Peak	H	-	-	-51.74	-4.74	-9.54	40.98	68.20	-27.22

Table 7-129. Radiated Measurements MIMO (26 Tones)

FCC ID: A3LSMN975JPN		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset		Page 267 of 301

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 4
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5720MHz
 Channel: 144

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
*	11440.00	Average	H	-	-	-83.61	20.11	0.00	43.50	53.98	-10.48
*	11440.00	Peak	H	-	-	-72.75	20.11	0.00	54.36	73.98	-19.62
	17160.00	Peak	H	-	-	-72.98	29.40	0.00	63.42	68.20	-4.78
*	22880.00	Average	H	-	-	-78.36	9.34	-9.54	28.44	53.98	-25.54
*	22880.00	Peak	H	-	-	-67.52	9.34	-9.54	39.28	73.98	-34.70
	28600.00	Peak	H	-	-	-51.33	-6.22	-9.54	39.91	68.20	-28.29

Table 7-130. Radiated Measurements MIMO (26 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 4
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5745MHz
 Channel: 149

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
*	11490.00	Average	H	-	-	-83.43	20.55	0.00	44.12	53.98	-9.85
*	11490.00	Peak	H	-	-	-72.05	20.55	0.00	55.50	73.98	-18.47
	17235.00	Peak	H	-	-	-73.51	29.71	0.00	63.20	68.20	-5.00
*	22980.00	Average	H	-	-	-78.16	9.49	-9.54	28.79	53.98	-25.19
*	22980.00	Peak	H	-	-	-67.50	9.49	-9.54	39.45	73.98	-34.53
	28725.00	Peak	H	-	-	-50.81	-5.89	-9.54	40.76	68.20	-27.44

Table 7-131. Radiated Measurements MIMO (26 Tones)

FCC ID: A3LSMN975JPN	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset	
			Page 268 of 301

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 4
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5785MHz
 Channel: 157

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11570.00	Average	H	113	87	-83.55	21.44	0.00	44.89	53.98	-9.09
* 11570.00	Peak	H	113	87	-72.68	21.44	0.00	55.76	73.98	-18.22
17355.00	Peak	H	-	-	-72.26	29.55	0.00	64.29	68.20	-3.91
23140.00	Peak	H	-	-	-67.54	9.28	-9.54	39.20	68.20	-29.00
28925.00	Peak	H	-	-	-51.88	-5.04	-9.54	40.54	68.20	-27.66

Table 7-132. Radiated Measurements MIMO (26 Tones)

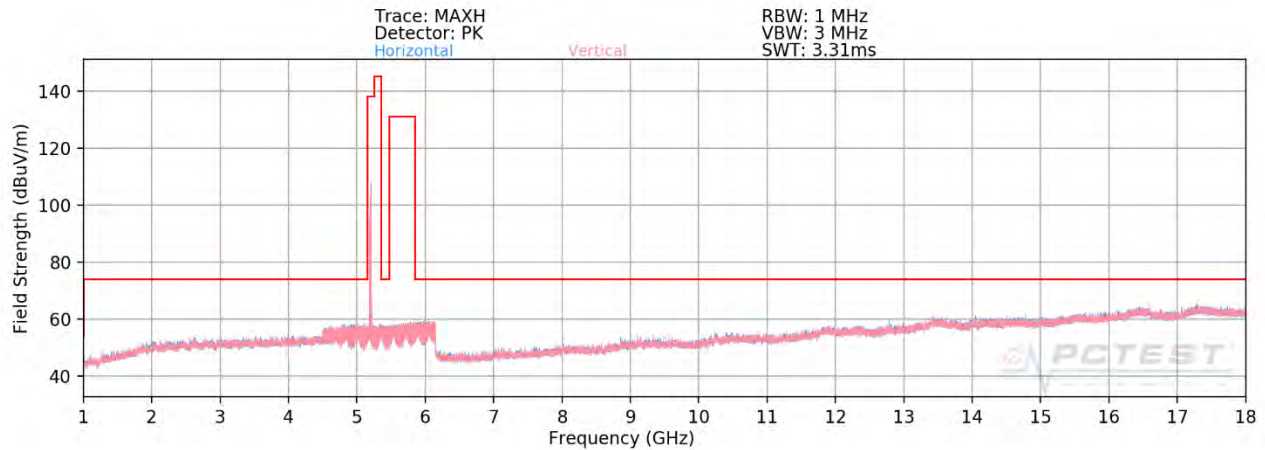
Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 4
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5825MHz
 Channel: 165

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11650.00	Average	H	257	5	-83.26	20.88	0.00	44.62	53.98	-9.35
* 11650.00	Peak	H	257	5	-69.77	20.88	0.00	58.11	73.98	-15.86
17475.00	Peak	H	-	-	-73.15	30.26	0.00	64.11	68.20	-4.09
23300.00	Peak	H	-	-	-67.58	8.86	-9.54	38.74	68.20	-29.46
29125.00	Peak	H	-	-	-51.04	-7.31	-9.54	39.11	68.20	-29.09

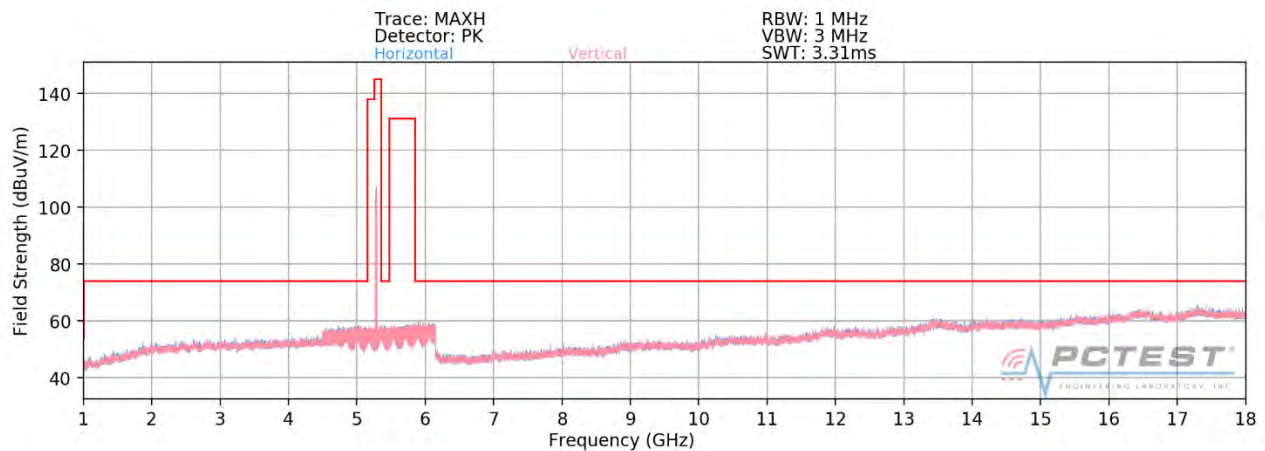
Table 7-133. Radiated Measurements MIMO (26 Tones)

FCC ID: A3LSMN975JPN		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset		Page 269 of 301

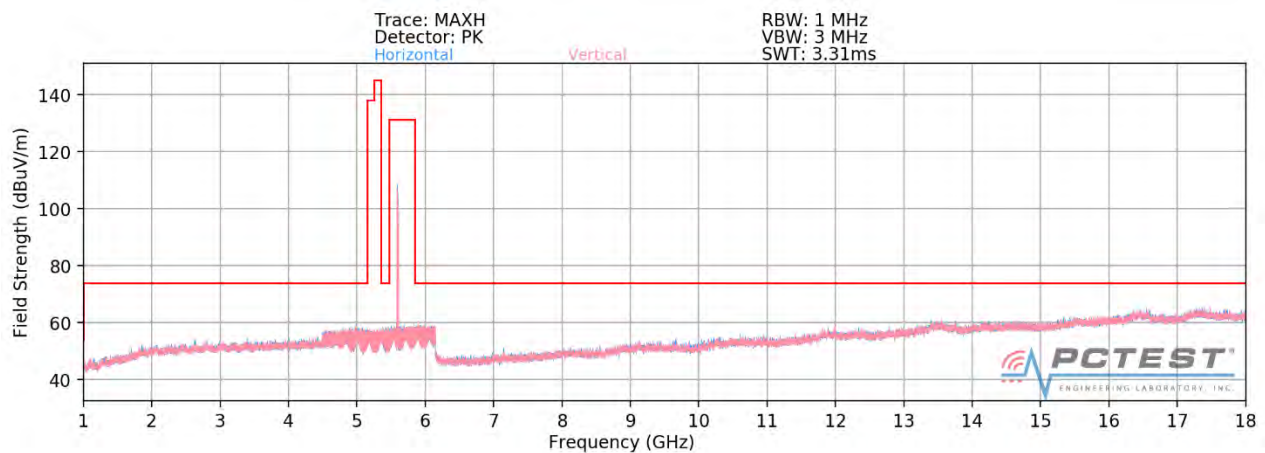
242 Tones



Plot 7-355. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U1 Ch. 40 – 242 Tones)

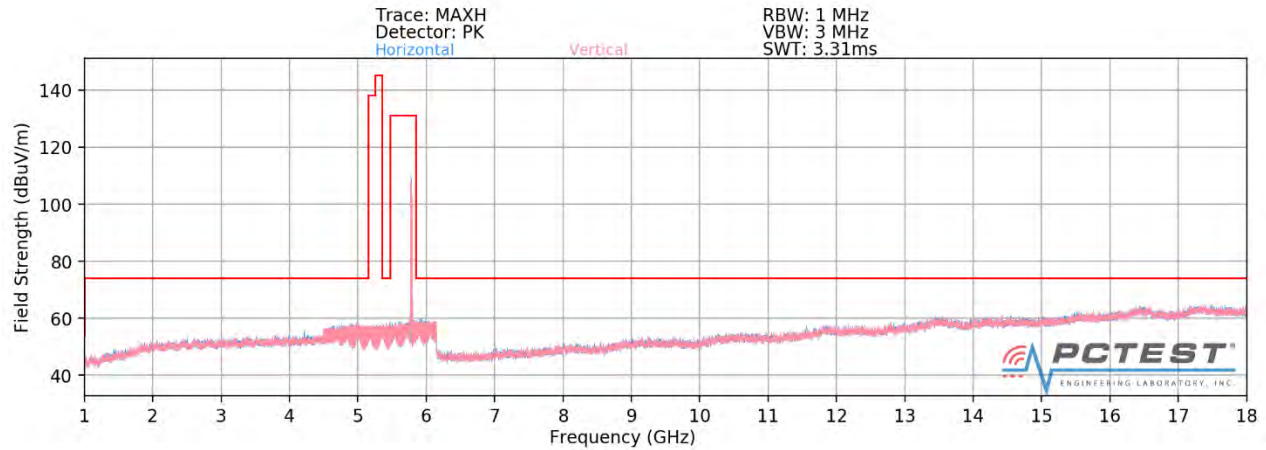


Plot 7-356. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U2A Ch. 56 – 242 Tones)



Plot 7-357. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U2C Ch. 120 – 242 Tones)

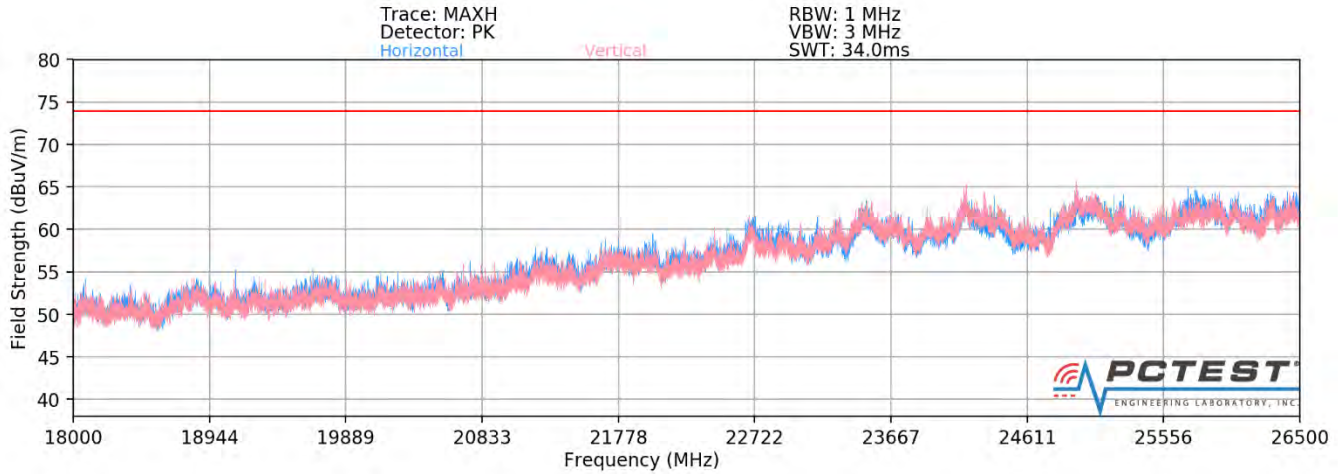
FCC ID: A3LSMN975JPN	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset		Page 270 of 301



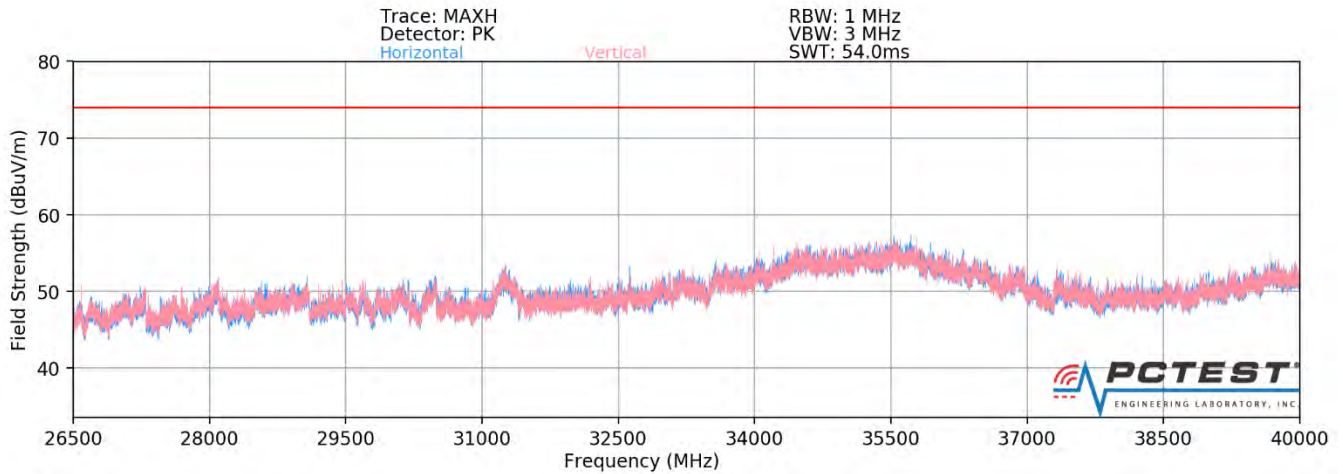
Plot 7-358. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U3 Ch. 157 – 242 Tones)

FCC ID: A3LSMN975JPN	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset		Page 271 of 301

MIMO Radiated Spurious Emissions Measurements (Above 18GHz)



Plot 7-359. Radiated Spurious Plot 18GHz - 26.5GHz MIMO (802.11ax – 242 Tones)



Plot 7-360. Radiated Spurious Plot 26.5GHz - 40GHz MIMO (802.11ax – 242 Tones)

FCC ID: A3LSMN975JPN	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset		Page 272 of 301

MIMO Radiated Spurious Emission Measurements (242 Tones)

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

Worst Case Mode: 802.11ax (20MHz BW)
Worst Case Transfer Rate: MCS0
RU Index: 61
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5180MHz
Channel: 36

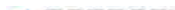
Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10360.00	Peak	V	274	358	-67.09	18.82	0.00	58.73	68.20	-9.47
* 15540.00	Average	V	-	-	-84.96	28.27	0.00	50.31	53.98	-3.67
* 15540.00	Peak	V	-	-	-73.71	28.27	0.00	61.56	73.98	-12.42
* 20720.00	Average	V	-	-	-77.54	7.63	-9.54	27.55	53.98	-26.43
* 20720.00	Peak	V	-	-	-66.85	7.63	-9.54	38.24	73.98	-35.74
25900.00	Peak	V	-	-	-64.96	9.80	-9.54	42.30	68.20	-25.90

Table 7-134. 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]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10400.00	Peak	V	264	4	-68.56	18.78	0.00	57.22	68.20	-10.98
* 15600.00	Average	V	-	-	-84.54	27.80	0.00	50.26	53.98	-3.72
* 15600.00	Peak	V	-	-	-73.25	27.80	0.00	61.55	73.98	-12.43
* 20800.00	Average	V	-	-	-77.73	7.77	-9.54	27.50	53.98	-26.48
* 20800.00	Peak	V	-	-	-66.65	7.77	-9.54	38.58	73.98	-35.40
26000.00	Peak	V	-	-	-65.09	10.06	-9.54	42.43	68.20	-25.77

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

FCC ID: A3LSMN975JPN	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset	Page 273 of 301

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5240MHz
 Channel: 48

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10480.00	Peak	V	-	-	-71.06	20.06	0.00	56.00	68.20	-12.20
* 15720.00	Average	V	-	-	-84.65	27.64	0.00	49.99	53.98	-3.99
* 15720.00	Peak	V	-	-	-73.88	27.64	0.00	60.76	73.98	-13.22
* 20960.00	Average	V	-	-	-77.52	8.06	-9.54	28.00	53.98	-25.98
* 20960.00	Peak	V	-	-	-66.47	8.06	-9.54	39.05	73.98	-34.93
26200.00	Peak	V	-	-	-65.51	10.19	-9.54	42.14	68.20	-26.06

Table 7-136. 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]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10520.00	Peak	V	257	363	-70.57	19.70	0.00	56.13	68.20	-12.07
* 15780.00	Average	V	-	-	-84.32	27.31	0.00	49.99	53.98	-3.99
* 15780.00	Peak	V	-	-	-73.42	27.31	0.00	60.89	73.98	-13.09
* 21040.00	Average	V	-	-	-77.81	8.13	-9.54	27.78	53.98	-26.20
* 21040.00	Peak	V	-	-	-66.57	8.13	-9.54	39.02	73.98	-34.96
26300.00	Peak	V	-	-	-65.47	10.75	-9.54	42.74	68.20	-25.46

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

FCC ID: A3LSMN975JPN		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset		Page 274 of 301

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

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10560.00	Peak	V	314	189	-71.31	19.86	0.00	55.55	68.20	-12.65
* 15840.00	Average	V	-	-	-84.23	27.54	0.00	50.31	53.98	-3.67
* 15840.00	Peak	V	-	-	-73.35	27.54	0.00	61.19	73.98	-12.79
* 21120.00	Average	V	-	-	-77.18	8.29	-9.54	28.57	53.98	-25.41
* 21120.00	Peak	V	-	-	-66.29	8.29	-9.54	39.46	73.98	-34.52
26400.00	Peak	V	-	-	-64.92	10.53	-9.54	43.07	68.20	-25.13

Table 7-138. 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]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 10640.00	Average	V	-	-	-82.89	19.52	0.00	43.63	53.98	-10.35
* 10640.00	Peak	V	-	-	-71.86	19.52	0.00	54.66	73.98	-19.32
* 15960.00	Average	V	-	-	-84.42	27.84	0.00	50.42	53.98	-3.56
* 15960.00	Peak	V	-	-	-73.33	27.84	0.00	61.51	73.98	-12.47
* 21280.00	Average	V	-	-	-77.26	8.44	-9.54	28.64	53.98	-25.34
* 21280.00	Peak	V	-	-	-66.26	8.44	-9.54	39.64	73.98	-34.34
26600.00	Peak	V	-	-	-51.64	-5.12	-9.54	40.70	68.20	-27.50

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

FCC ID: A3LSMN975JPN	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset	Page 275 of 301

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5500MHz
 Channel: 100

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11000.00	Average	V	101	25	-82.67	20.35	0.00	44.68	53.98	-9.30
* 11000.00	Peak	V	101	25	-71.33	20.35	0.00	56.02	73.98	-17.96
16500.00	Peak	V	-	-	-73.45	28.54	0.00	62.09	68.20	-6.11
22000.00	Peak	V	-	-	-65.18	8.89	-9.54	41.17	68.20	-27.03
27500.00	Peak	V	-	-	-51.11	-6.38	-9.54	39.97	68.20	-28.23

Table 7-140. 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]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11200.00	Average	V	101	12	-82.70	20.31	0.00	44.61	53.98	-9.37
* 11200.00	Peak	V	101	12	-71.01	20.31	0.00	56.30	73.98	-17.68
16800.00	Peak	V	-	-	-73.10	28.88	0.00	62.78	68.20	-5.42
* 22400.00	Average	V	-	-	-77.72	9.64	-9.54	29.38	53.98	-24.60
* 22400.00	Peak	V	-	-	-66.75	9.64	-9.54	40.35	73.98	-33.63
28000.00	Peak	V	-	-	-47.48	-4.74	-9.54	45.24	68.20	-22.96

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

FCC ID: A3LSMN975JPN		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset		Page 276 of 301

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5720MHz
 Channel: 144

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
*	11440.00	Average	V	101	49	-83.20	20.11	0.00	43.91	53.98	-10.07
*	11440.00	Peak	V	101	49	-71.60	20.11	0.00	55.51	73.98	-18.47
	17160.00	Peak	V	-	-	-73.47	29.40	0.00	62.93	68.20	-5.27
*	22880.00	Average	V	-	-	-78.07	9.34	-9.54	28.73	53.98	-25.25
*	22880.00	Peak	V	-	-	-67.07	9.34	-9.54	39.73	73.98	-34.25
	28600.00	Peak	V	-	-	-47.89	-6.22	-9.54	43.35	68.20	-24.85

Table 7-142. 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]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
*	11490.00	Average	V	-	-	-82.93	20.55	0.00	44.62	53.98	-9.35
*	11490.00	Peak	V	-	-	-72.14	20.55	0.00	55.41	73.98	-18.56
	17235.00	Peak	V	-	-	-73.34	29.71	0.00	63.37	68.20	-4.83
*	22980.00	Average	V	-	-	-78.20	9.49	-9.54	28.75	53.98	-25.23
*	22980.00	Peak	V	-	-	-66.31	9.49	-9.54	40.64	73.98	-33.34
	28725.00	Peak	V	150	23	-48.39	-5.89	-9.54	43.18	68.20	-25.02

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

FCC ID: A3LSMN975JPN	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset	
			Page 277 of 301

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5785MHz
 Channel: 157

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11570.00	Average	V	-	-	-82.99	21.44	0.00	45.45	53.98	-8.53
* 11570.00	Peak	V	-	-	-71.49	21.44	0.00	56.95	73.98	-17.03
17355.00	Peak	V	-	-	-73.07	29.55	0.00	63.48	68.20	-4.72
23140.00	Peak	V	-	-	-67.04	9.28	-9.54	39.70	68.20	-28.50
28925.00	Peak	V	150	21	-48.06	-5.04	-9.54	44.36	68.20	-23.84

Table 7-144. 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]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11650.00	Average	V	101	12	-82.19	20.88	0.00	45.69	53.98	-8.28
* 11650.00	Peak	V	101	12	-70.79	20.88	0.00	57.09	73.98	-16.88
17475.00	Peak	V	-	-	-73.38	30.26	0.00	63.88	68.20	-4.32
23300.00	Peak	V	-	-	-66.65	8.86	-9.54	39.67	68.20	-28.53
29125.00	Peak	V	150	20	-43.55	-7.31	-9.54	46.60	68.20	-21.60

Table 7-145. Radiated Measurements MIMO (242 Tones)

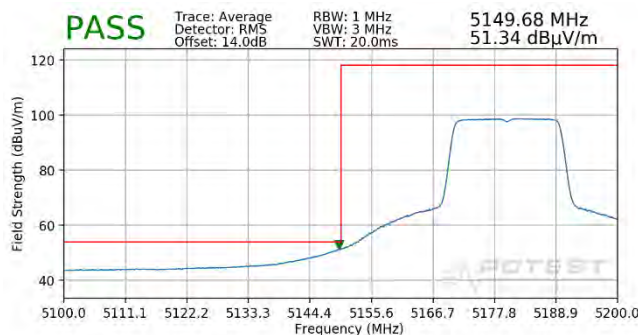
FCC ID: A3LSMN975JPN		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset		Page 278 of 301

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

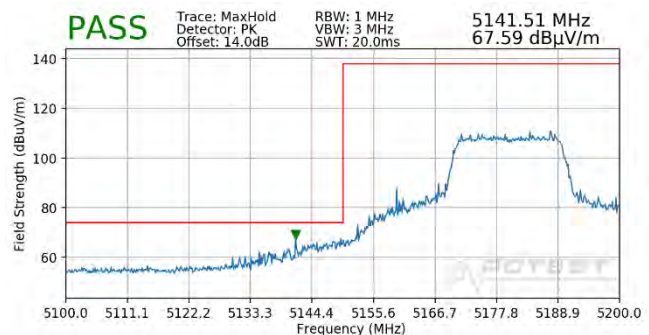
§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]; RSS-Gen [8.9]

242 Tones

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

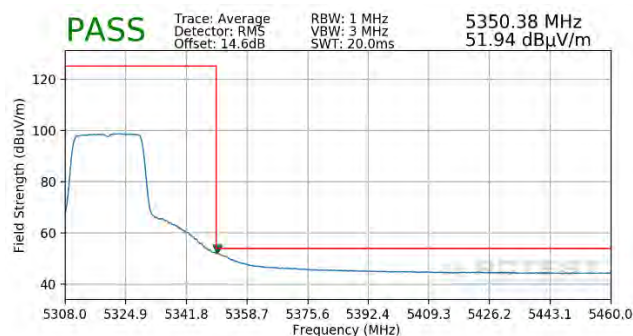


Plot 7-361. Radiated Lower Band Edge Plot SISO ANT1 (Average - UNII Band 1 - 242 Tones)

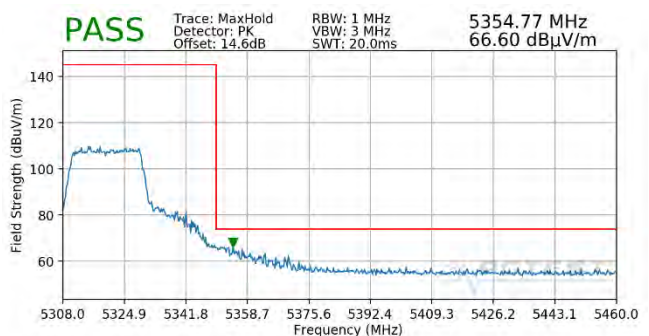


Plot 7-362. Radiated Lower Band Edge Plot SISO ANT1 (Peak - UNII Band 1 - 242 Tones)

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



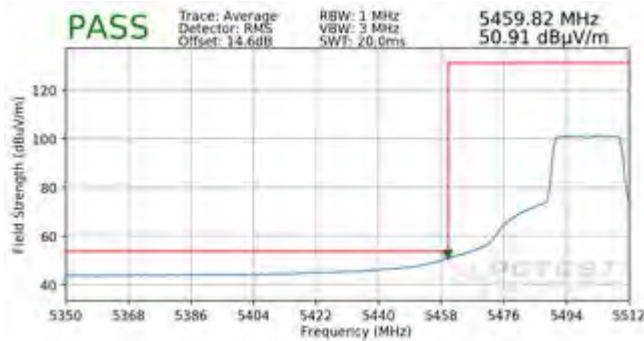
Plot 7-363. Radiated Upper Band Edge Plot SISO ANT1 (Average - UNII Band 2A - 242 Tones)



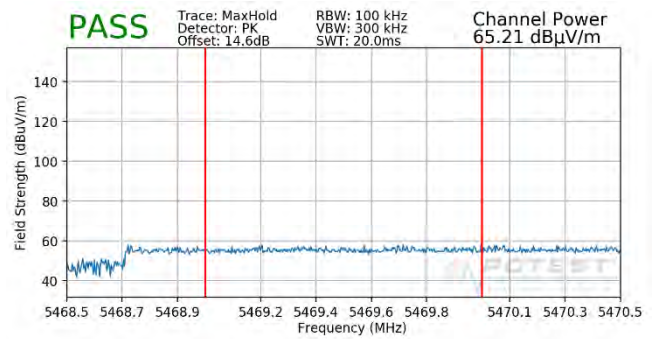
Plot 7-364. Radiated Upper Band Edge Plot SISO ANT1 (Peak - UNII Band 2A - 242 Tones)

FCC ID: A3LSMN975JPN	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset		Page 279 of 301

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

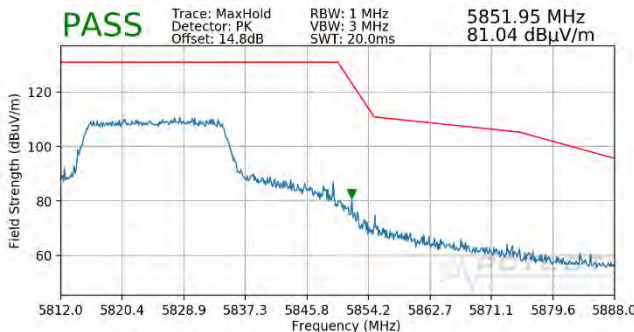


Plot 7-365. Radiated Lower Band Edge Plot SISO ANT1 (Average - UNII Band 2C - 242 Tones)



Plot 7-366. 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 7-367. Radiated Upper Band Edge Plot SISO ANT1 (Peak - UNII Band 3 - 242 Tones)

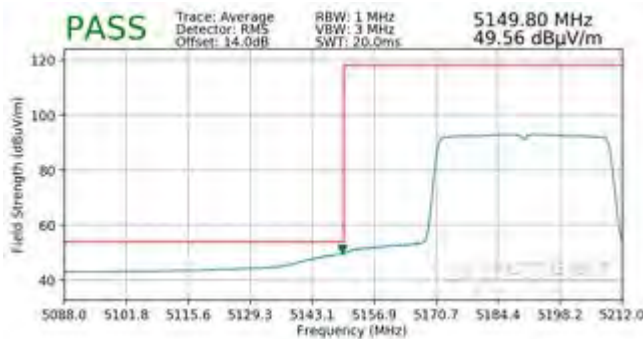
FCC ID: A3LSMN975JPN	 MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset		Page 280 of 301

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

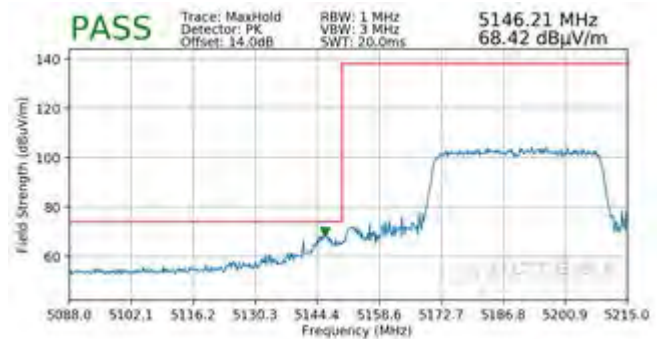
§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

484 Tones

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

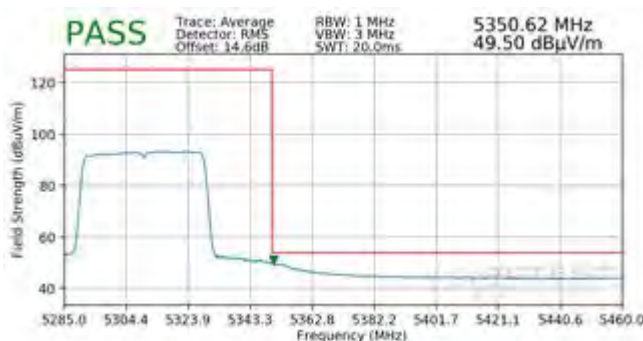


Plot 7-368. Radiated Lower Band Edge Plot SISO ANT1 (Average - UNII Band 1 - 484 Tones)

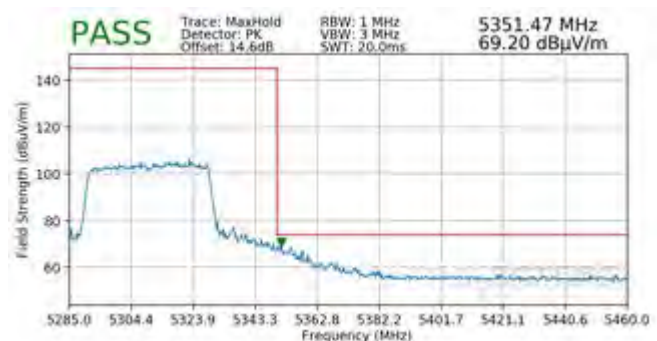


Plot 7-369. Radiated Lower Band Edge Plot SISO ANT1 (Peak - UNII Band 1 - 484 Tones)

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



Plot 7-370. Radiated Upper Band Edge Plot SISO ANT1 (Average - UNII Band 2A - 484 Tones)



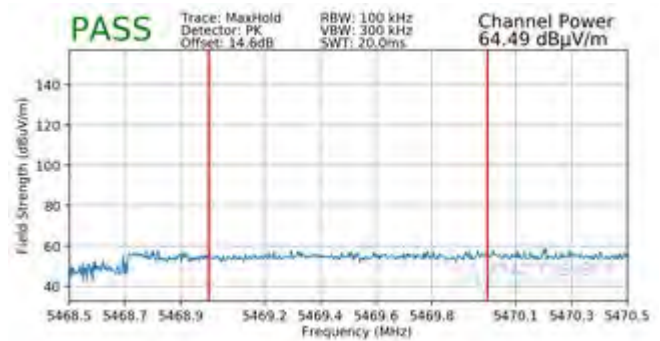
Plot 7-371. Radiated Upper Band Edge Plot SISO ANT1 (Peak - UNII Band 2A - 484 Tones)

FCC ID: A3LSMN975JPN	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset		Page 281 of 301

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

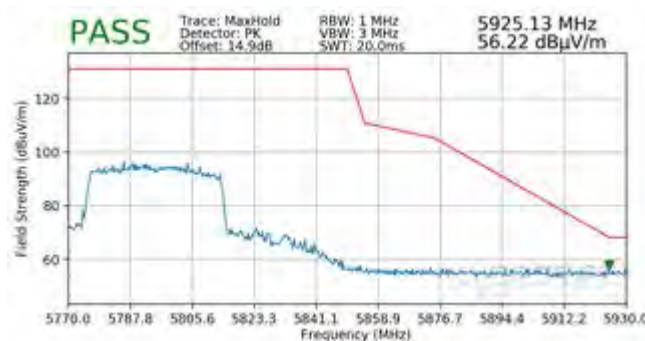


Plot 7-372. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 2C – 484 Tones)



Plot 7-373. 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 7-374. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 3 – 484 Tones)

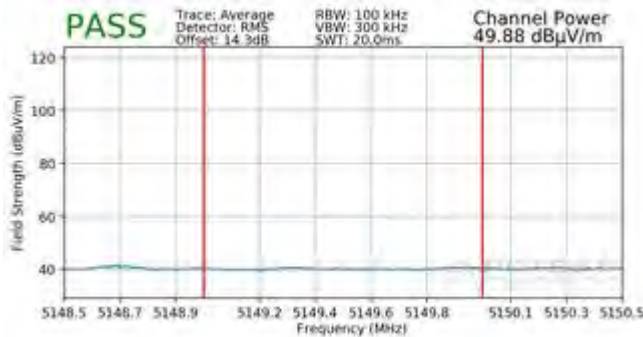
FCC ID: A3LSMN975JPN	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset		Page 282 of 301

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

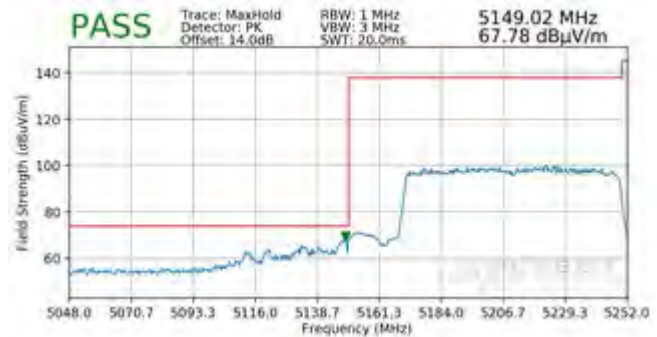
§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

996 Tones

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

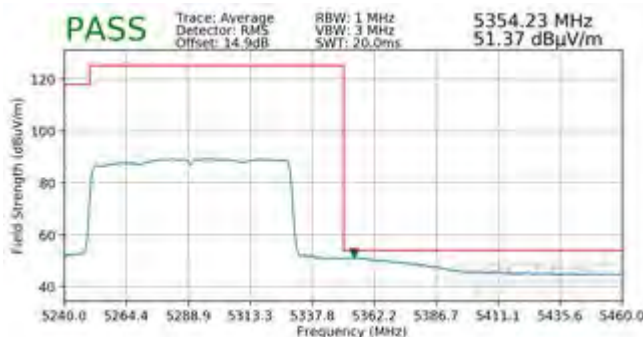


Plot 7-375. Radiated Lower Band Edge Plot SISO ANT1 (Average - UNII Band 1 - 996 Tones)

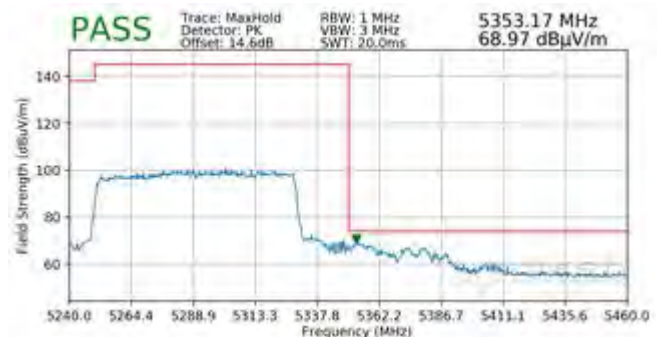


Plot 7-376. Radiated Lower Band Edge Plot SISO ANT1 (Peak - UNII Band 1 - 996 Tones)

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



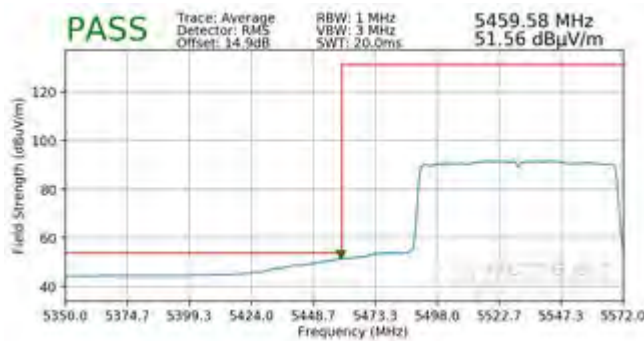
Plot 7-377. Radiated Upper Band Edge Plot SISO ANT1 (Average - UNII Band 2A - 996 Tones)



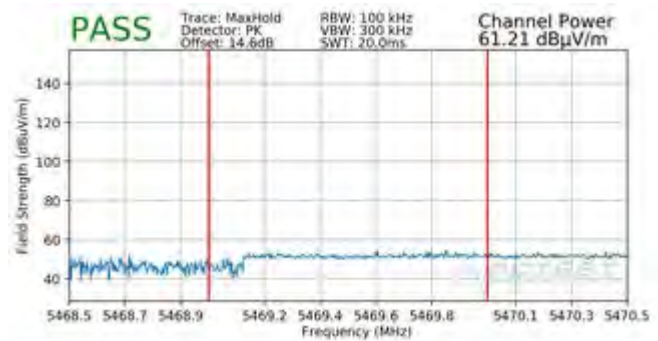
Plot 7-378. Radiated Upper Band Edge Plot SISO ANT1 (Peak - UNII Band 2A - 996 Tones)

FCC ID: A3LSMN975JPN	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset		Page 283 of 301

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

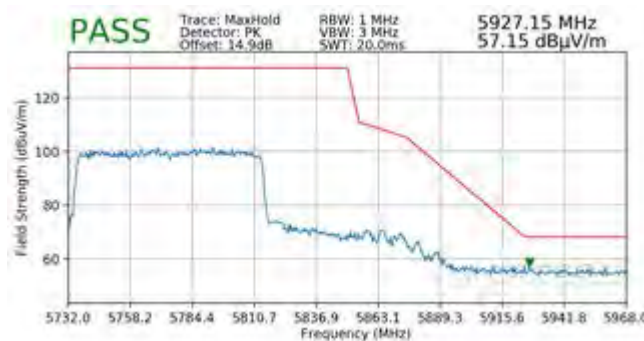


Plot 7-379. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 2C – 996 Tones)



Plot 7-380. 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 7-381. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 3 – 996 Tones)

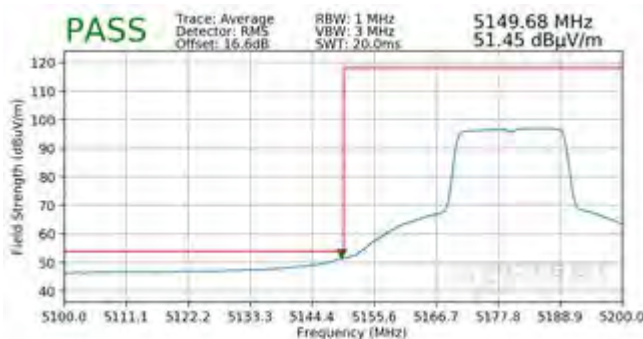
FCC ID: A3LSMN975JPN	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset		Page 284 of 301

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

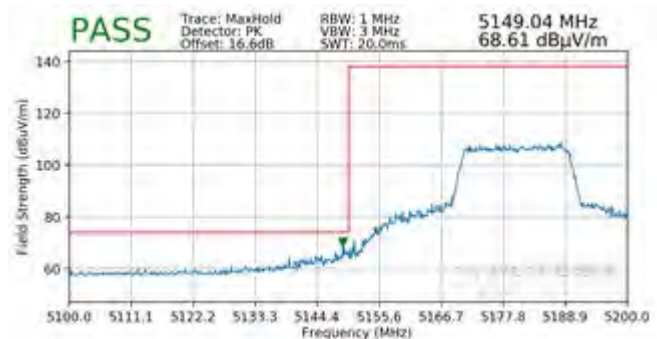
§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

242 Tones

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

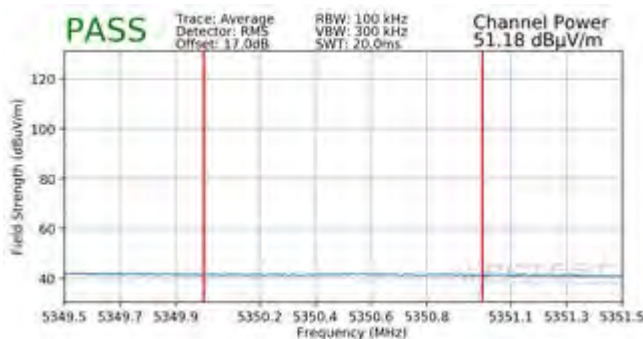


Plot 7-382. Radiated Lower Band Edge Plot SISO ANT2 (Average - UNII Band 1 - 242 Tones)

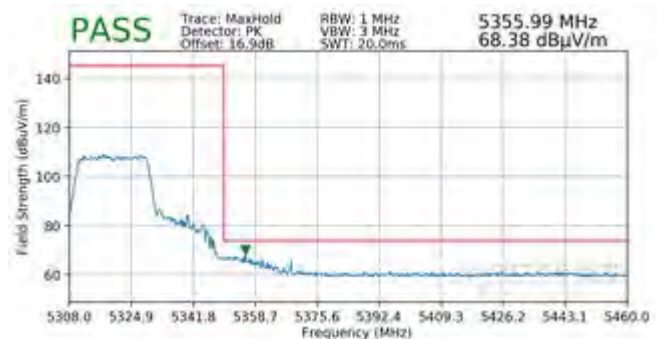


Plot 7-383. Radiated Lower Band Edge Plot SISO ANT2 (Peak - UNII Band 1 - 242 Tones)

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



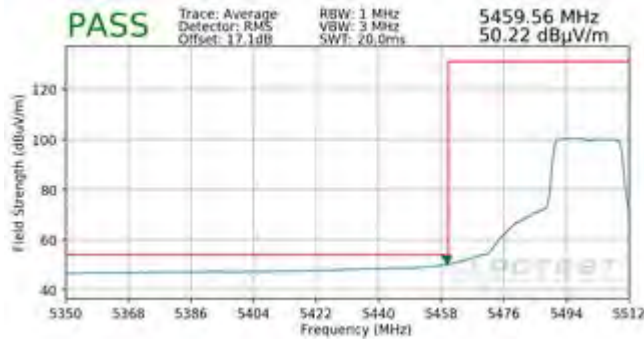
Plot 7-384. Radiated Upper Band Edge Plot SISO ANT2 (Average - UNII Band 2A - 242 Tones)



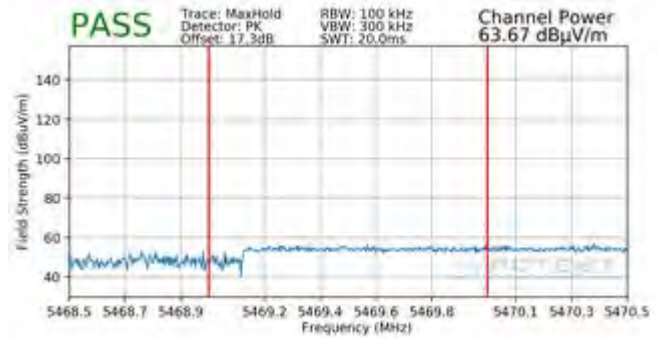
Plot 7-385. Radiated Upper Band Edge Plot SISO ANT2 (Peak - UNII Band 2A - 242 Tones)

FCC ID: A3LSMN975JPN	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset	Page 285 of 301

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

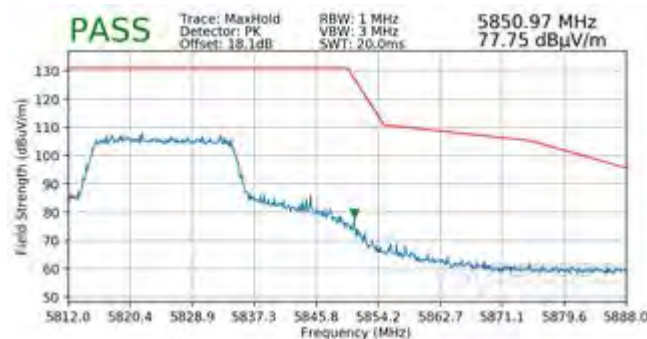


Plot 7-386. Radiated Lower Band Edge Plot SISO ANT2 (Average - UNII Band 2C - 242 Tones)



Plot 7-387. 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 7-388. Radiated Upper Band Edge Plot SISO ANT2 (Peak - UNII Band 3 - 242 Tones)

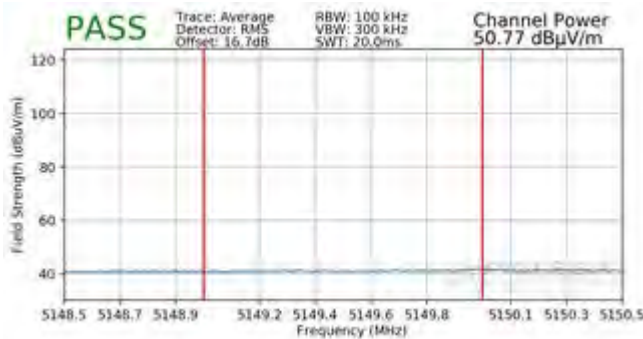
FCC ID: A3LSMN975JPN	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset	Page 286 of 301

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

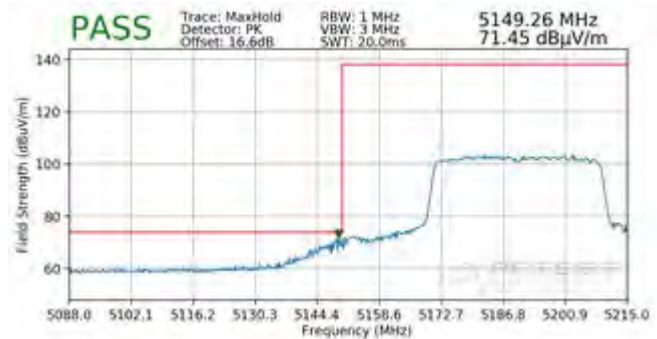
§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

484 Tones

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

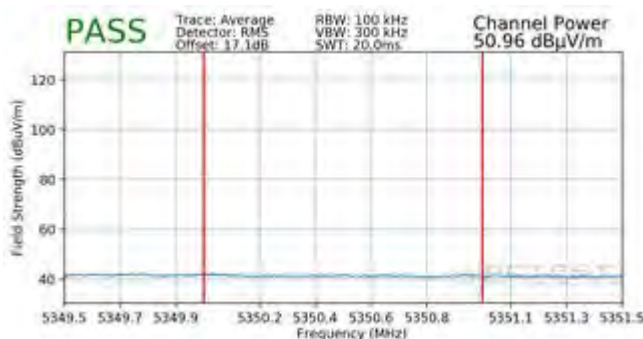


Plot 7-389. Radiated Lower Band Edge Plot SISO ANT2 (Average - UNII Band 1 - 484 Tones)

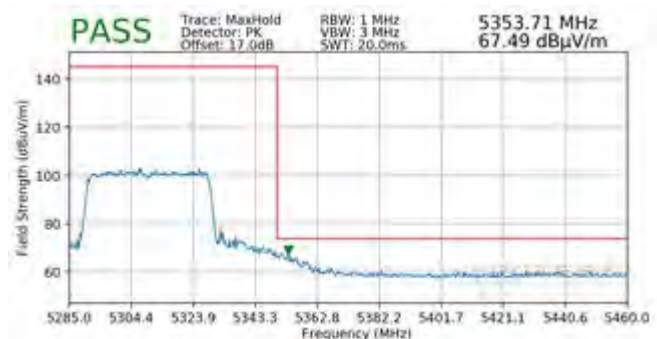


Plot 7-390. Radiated Lower Band Edge Plot SISO ANT2 (Peak - UNII Band 1 - 484 Tones)

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



Plot 7-391. Radiated Upper Band Edge Plot SISO ANT2 (Average - UNII Band 2A - 484 Tones)



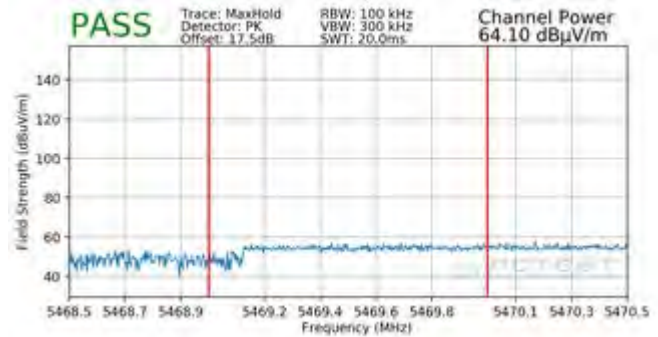
Plot 7-392. Radiated Upper Band Edge Plot SISO ANT2 (Peak - UNII Band 2A - 484 Tones)

FCC ID: A3LSMN975JPN	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset	Page 287 of 301

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

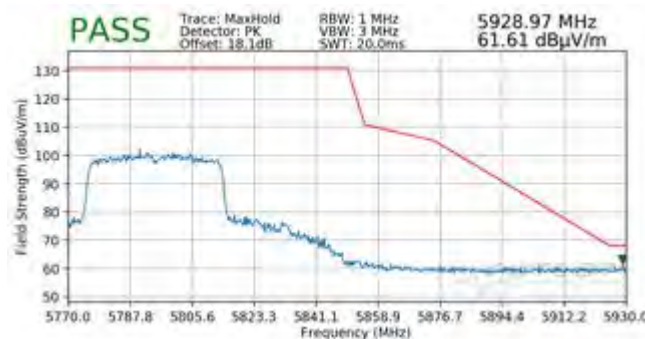


Plot 7-393. Radiated Lower Band Edge Plot SISO ANT2 (Average - UNII Band 2C - 484 Tones)



Plot 7-394. 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 7-395. Radiated Upper Band Edge Plot SISO ANT2 (Peak - UNII Band 3 - 484 Tones)

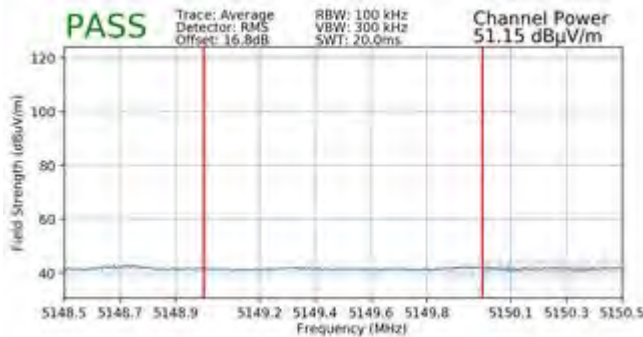
FCC ID: A3LSMN975JPN	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset	Page 288 of 301

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

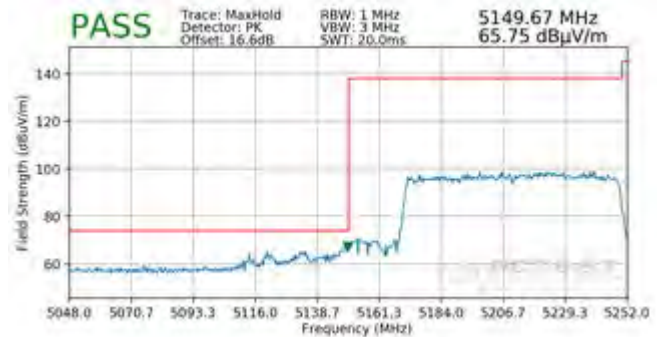
§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

996 Tones

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

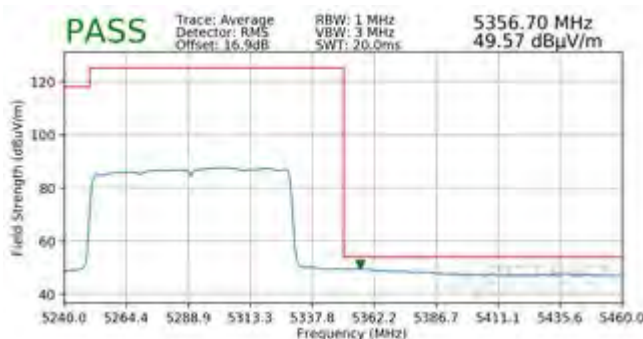


Plot 7-396. Radiated Lower Band Edge Plot SISO ANT2 (Average - UNII Band 1 - 996 Tones)

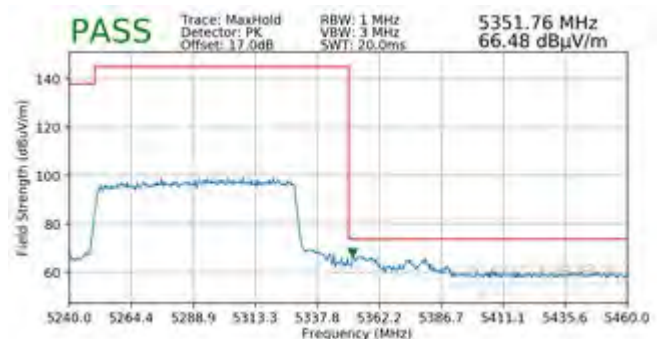


Plot 7-397. Radiated Lower Band Edge Plot SISO ANT2 (Peak - UNII Band 1 - 996 Tones)

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



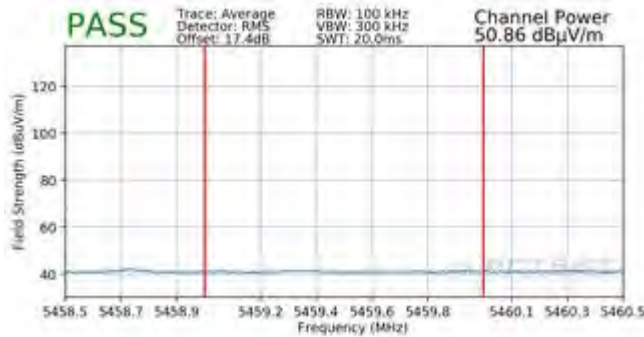
Plot 7-398. Radiated Upper Band Edge Plot SISO ANT2 (Average - UNII Band 2A - 996 Tones)



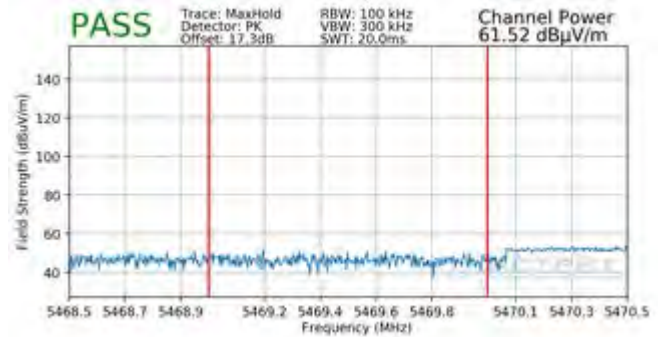
Plot 7-399. Radiated Upper Band Edge Plot SISO ANT2 (Peak - UNII Band 2A - 996 Tones)

FCC ID: A3LSMN975JPN	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset	Page 289 of 301

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

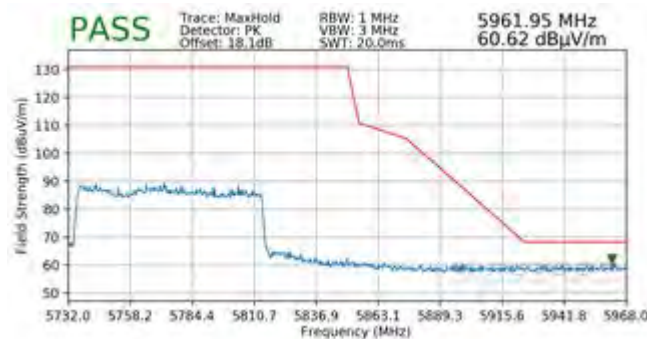


Plot 7-400. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 2C – 996 Tones)



Plot 7-401. 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



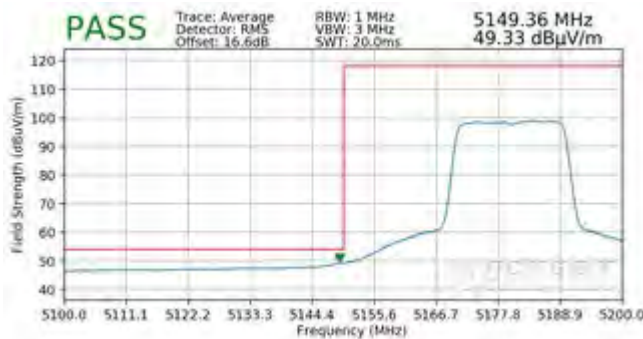
Plot 7-402. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 3 – 996 Tones)

FCC ID: A3LSMN975JPN	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset	Page 290 of 301

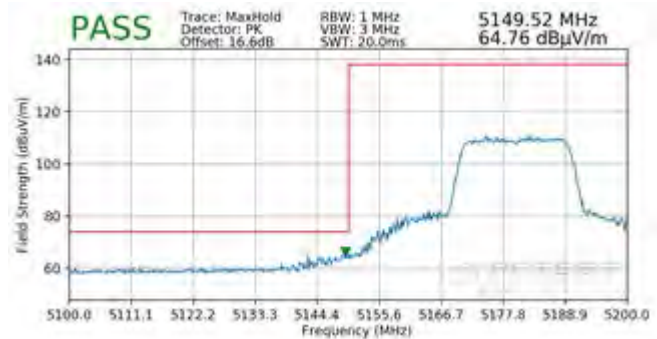
7.6.10 MIMO Radiated Band Edge Measurements (20MHz BW) §15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

242 Tones

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

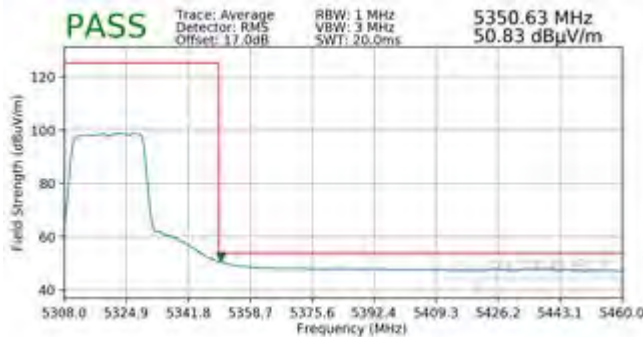


**Plot 7-403. Radiated Lower Band Edge Plot MIMO
(Average – UNII Band 1 – 242 Tones)**

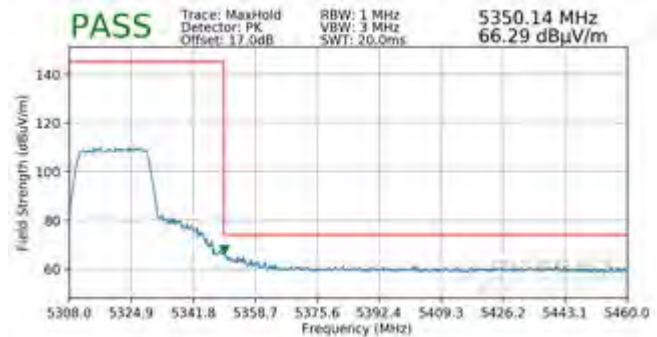


**Plot 7-404. Radiated Lower Band Edge Plot MIMO
(Peak – UNII Band 1 – 242 Tones)**

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



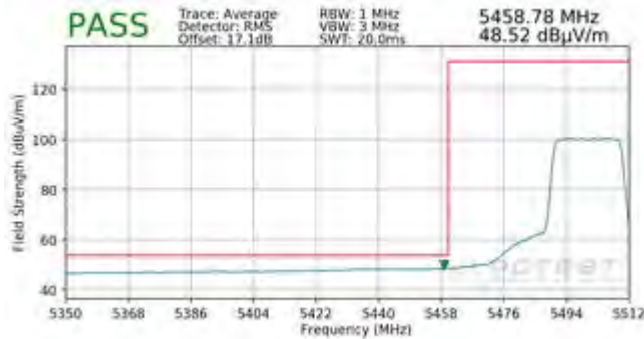
**Plot 7-405. Radiated Upper Band Edge Plot MIMO
(Average – UNII Band 2A – 242 Tones)**



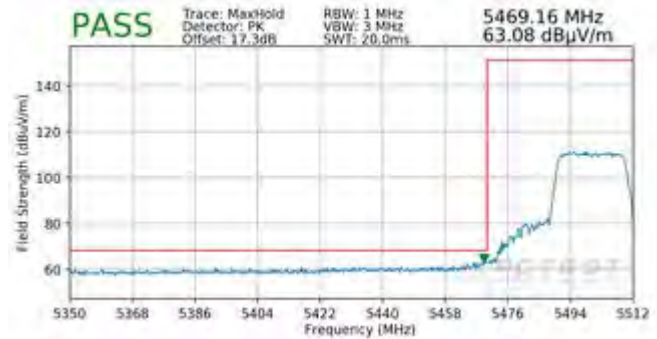
**Plot 7-406. Radiated Upper Band Edge Plot MIMO
(Peak – UNII Band 2A – 242 Tones)**

FCC ID: A3LSMN975JPN	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset	Page 291 of 301

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

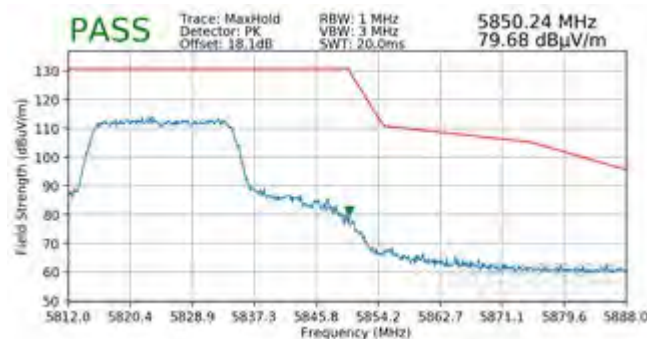


**Plot 7-407. Radiated Lower Band Edge Plot MIMO
(Average - UNII Band 2C - 242 Tones)**



**Plot 7-408. 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



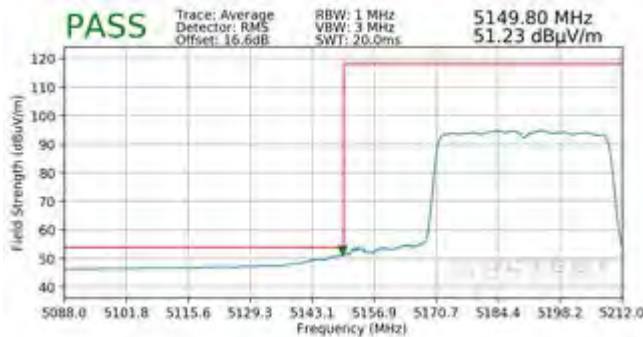
**Plot 7-409. Radiated Upper Band Edge Plot MIMO
(Peak - UNII Band 3 - 242 Tones)**

FCC ID: A3LSMN975JPN	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset	Page 292 of 301

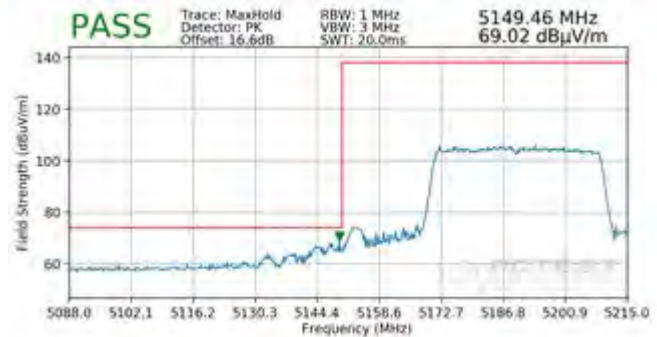
7.6.11 MIMO Radiated Band Edge Measurements (40MHz BW) §15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

484 Tones

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



Plot 7-410. Radiated Lower Band Edge Plot MIMO
(Average - UNII Band 1 - 484 Tones)

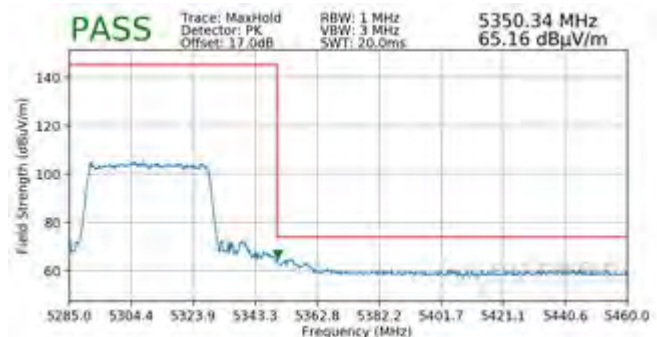


Plot 7-411. Radiated Lower Band Edge Plot MIMO
(Peak - UNII Band 1 - 484 Tones)

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



Plot 7-412. Radiated Upper Band Edge Plot MIMO
(Average - UNII Band 2A - 484 Tones)



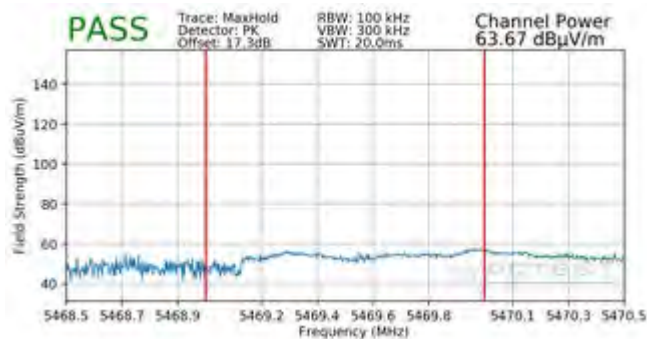
Plot 7-413. Radiated Upper Band Edge Plot MIMO
(Peak - UNII Band 2A - 484 Tones)

FCC ID: A3LSMN975JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset	Page 293 of 301

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

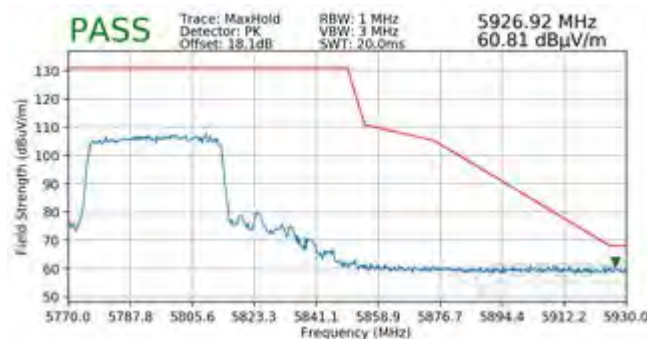


Plot 7-414. Radiated Lower Band Edge Plot MIMO (Average - UNII Band 2C - 484 Tones)



Plot 7-415. 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 7-416. Radiated Upper Band Edge Plot MIMO (Peak - UNII Band 3 - 484 Tones)

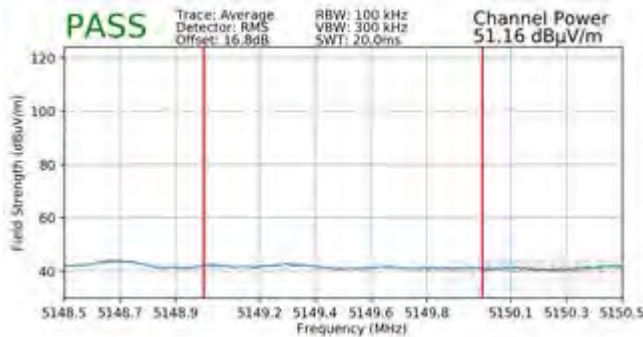
FCC ID: A3LSMN975JPN	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset	Page 294 of 301

7.6.12 MIMO Radiated Band Edge Measurements (80MHz BW)

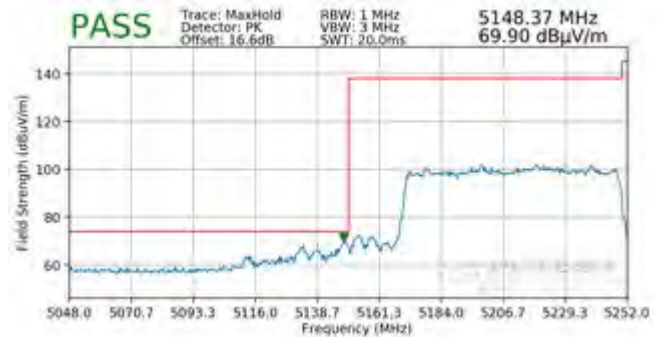
§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

996 Tones

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

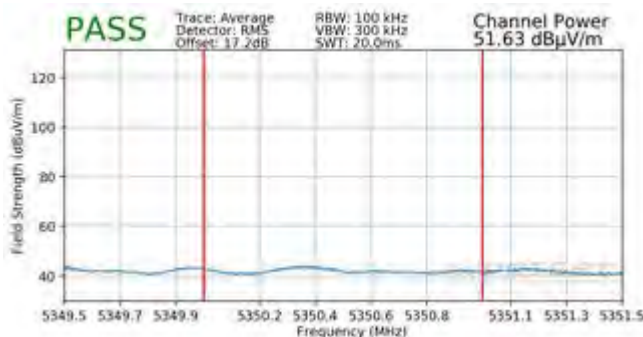


Plot 7-417. Radiated Lower Band Edge Plot MIMO (Average - UNII Band 1 - 996 Tones)

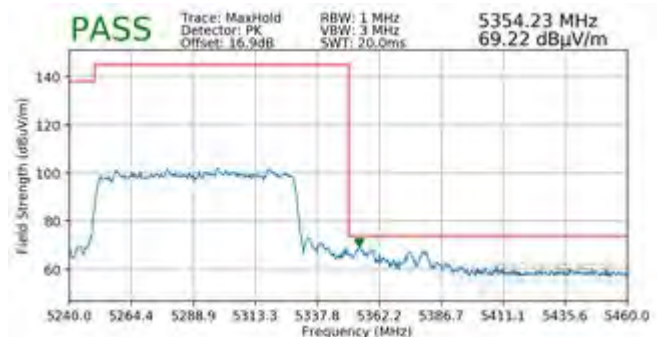


Plot 7-418. Radiated Lower Band Edge Plot MIMO (Peak - UNII Band 1 - 996 Tones)

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



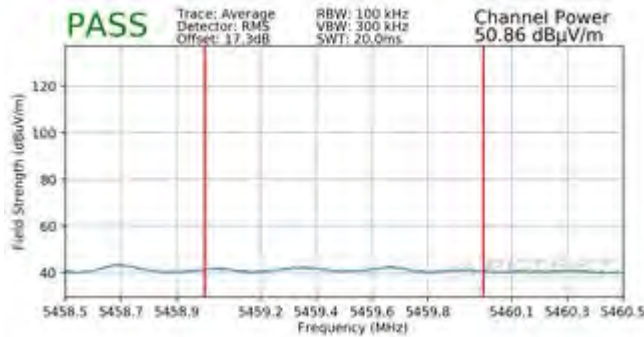
Plot 7-419. Radiated Upper Band Edge Plot MIMO (Average - UNII Band 2A - 996 Tones)



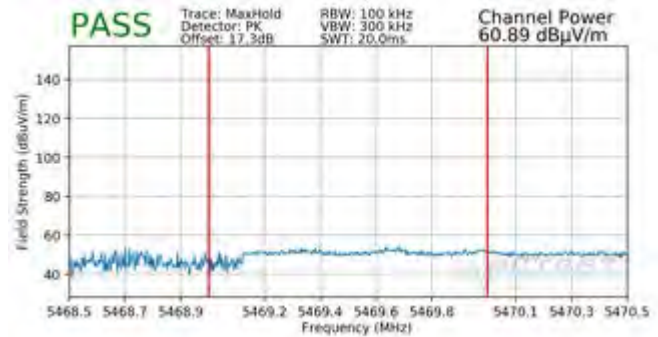
Plot 7-420. Radiated Upper Band Edge Plot MIMO (Peak - UNII Band 2A - 996 Tones)

FCC ID: A3LSMN975JPN	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset	Page 295 of 301

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

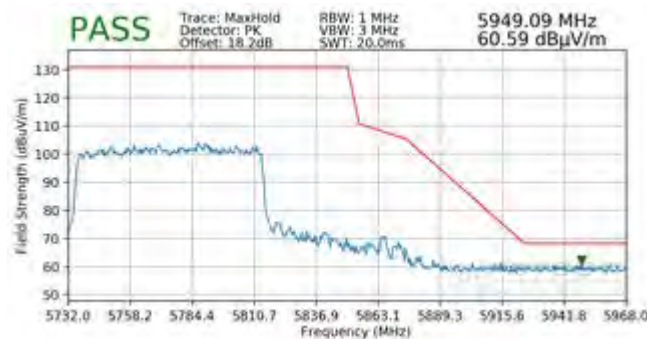


**Plot 7-421. Radiated Lower Band Edge Plot MIMO
(Average – UNII Band 2C – 996 Tones)**



**Plot 7-422. 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 7-423. Radiated Upper Band Edge Plot MIMO
(Peak – UNII Band 3 – 996 Tones)**

FCC ID: A3LSMN975JPN	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset	Page 296 of 301

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 7-140 per Section 15.209 and RSS-Gen (8.9).

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

Table 7-146. 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: A3LSMN975JPN	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset	Page 297 of 301

Test Setup

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

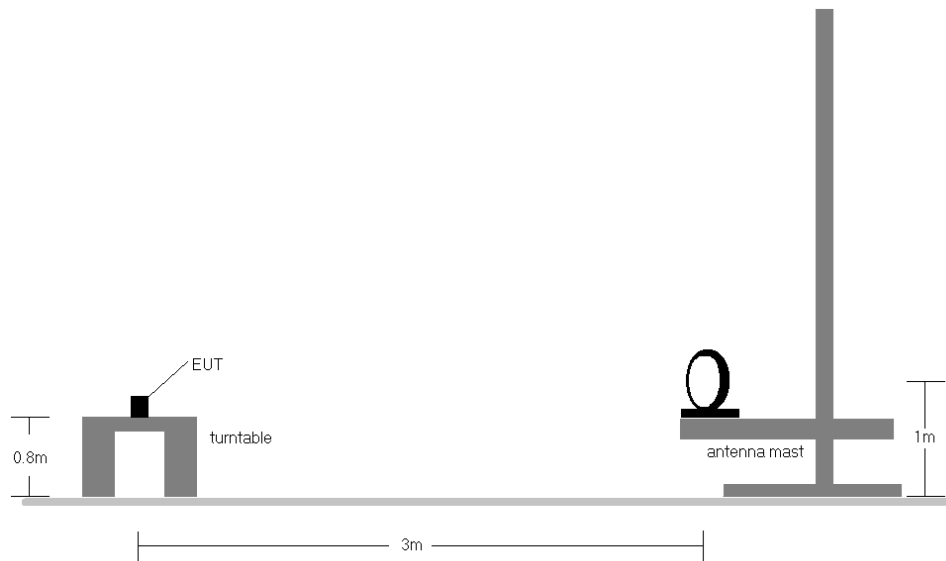


Figure 7-6. Radiated Test Setup < 30MHz

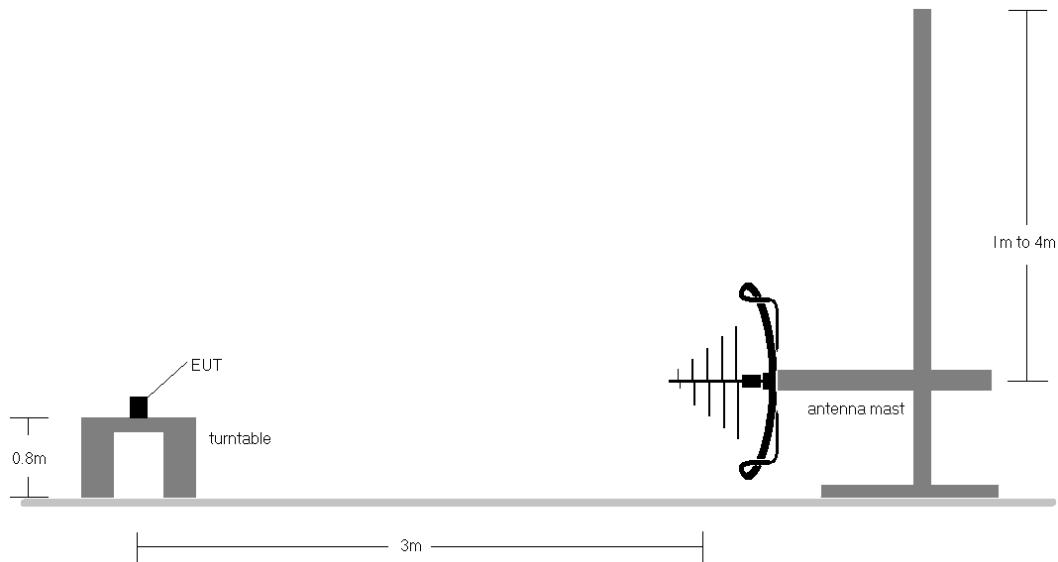


Figure 7-7. Radiated Test Setup < 1GHz

FCC ID: A3LSMN975JPN	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset	Page 298 of 301

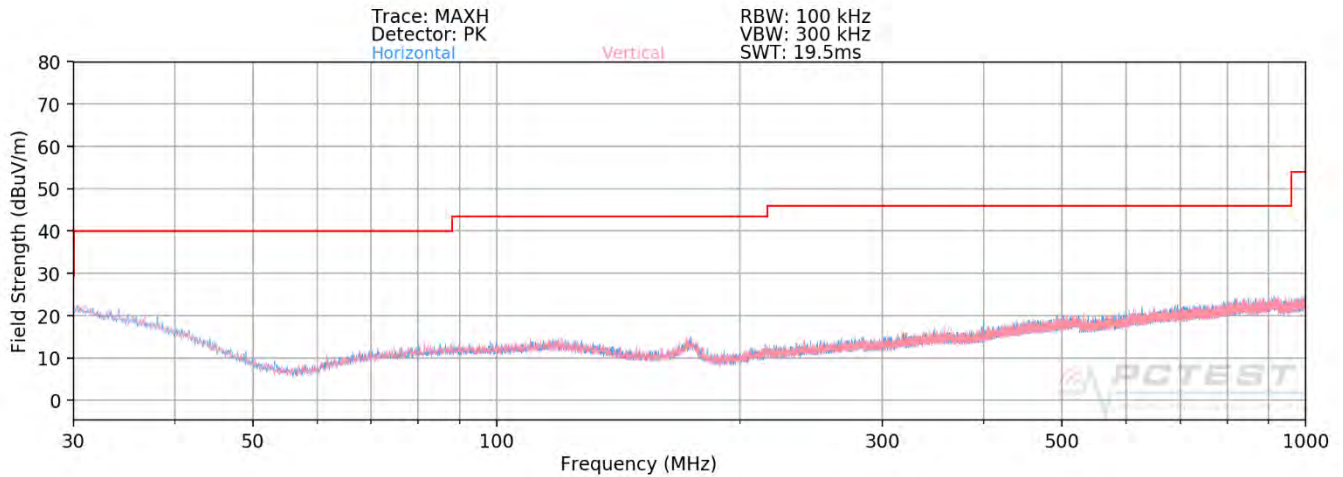
Test Notes

1. All emissions lying in restricted bands specified in §15.205 and RSS-Gen (8.10) are below the limit shown in Table 7-140.
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.

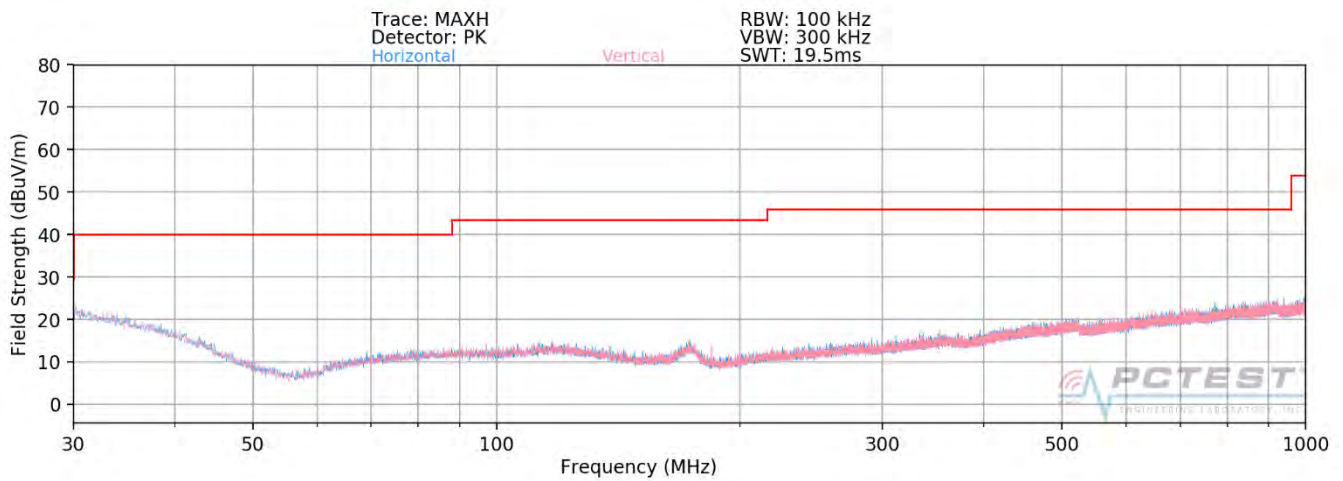
FCC ID: A3LSMN975JPN	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset	Page 299 of 301

MIMO Radiated Spurious Emissions Measurements (Below 1GHz)

§15.209; RSS-Gen [8.9]



Plot 7-424. Radiated Spurious Plot below 1GHz MIMO (802.11ax – 26 Tones – U2A Ch. 120)



Plot 7-425. Radiated Spurious Plot below 1GHz MIMO (802.11ax – 242 Tones – U2A Ch. 120)

FCC ID: A3LSMN975JPN	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset	Page 300 of 301

8.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Samsung Portable Handset FCC ID: A3LSMN975JPN** is in compliance with Part 15 Subpart E (15.407) of the FCC Rule.

FCC ID: A3LSMN975JPN		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1907090122-07.A3L	Test Dates: 05/20 - 07/09/2019	EUT Type: Portable Handset	Page 301 of 301