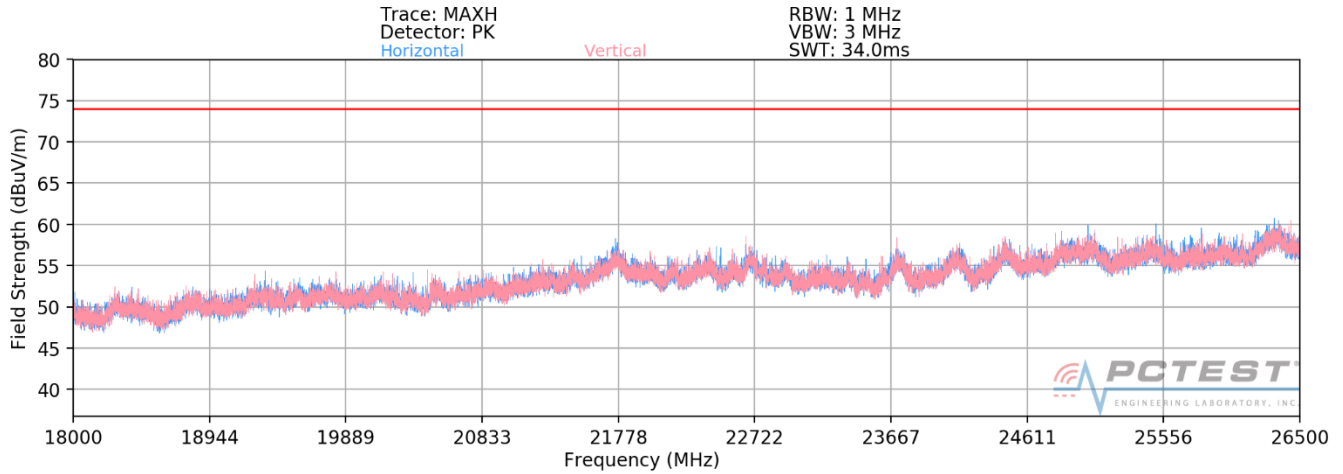
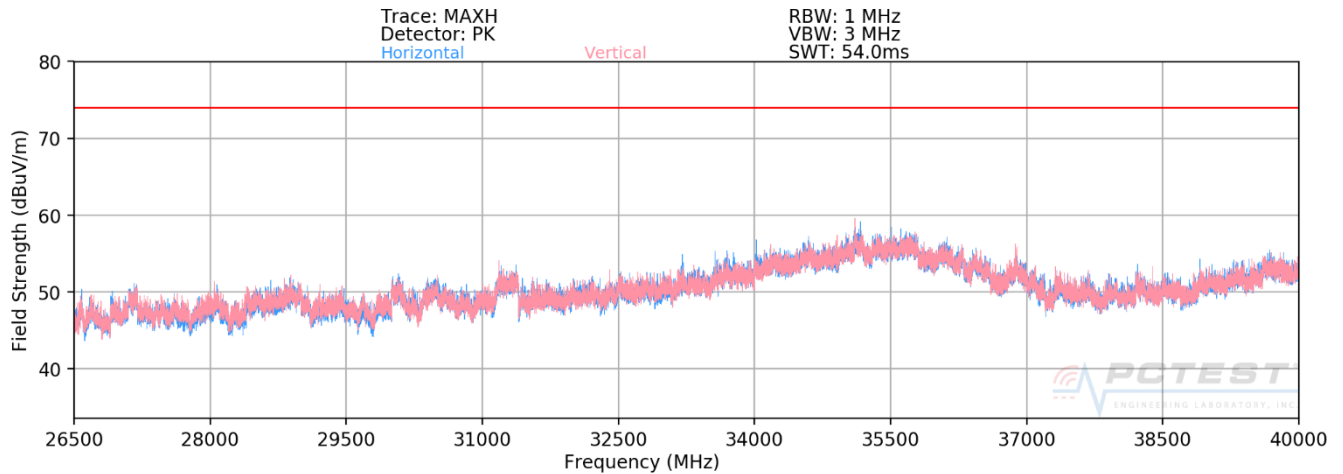


SISO Antenna-2 Radiated Spurious Emissions Measurements (Above 18GHz)



Plot 7-287. Radiated Spurious Plot 18GHz - 26.5GHz SISO ANT2 (802.11ax - 26 Tones)



Plot 7-288. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT2 (802.11ax - 26 Tones)

FCC ID: A3LSMG986U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 - 01/15/20	EUT Type: Portable Handset		Page 209 of 265

SISO Antenna-2 Radiated Spurious Emission Measurements

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

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	54
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5180MHz
Channel:	36

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10360.00	Peak	H	103	277	-72.06	18.27	0.00	53.21	68.20	-14.99
* 15540.00	Average	H	-	-	-86.23	28.22	0.00	48.99	53.98	-4.99
* 15540.00	Peak	H	-	-	-74.38	28.22	0.00	60.84	73.98	-13.14
* 20720.00	Average	H	-	-	-77.97	17.51	-9.54	37.00	53.98	-16.98
* 20720.00	Peak	H	-	-	-68.02	17.51	-9.54	46.95	73.98	-27.03
25900.00	Peak	H	-	-	-65.65	19.88	-9.54	51.69	68.20	-16.51

Table 7-88. Radiated Measurements SISO ANT2 (26 Tones)

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	54
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5200MHz
Channel:	40

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10400.00	Peak	H	-	-	-73.71	18.76	0.00	52.05	68.20	-16.15
* 15600.00	Average	H	-	-	-86.32	27.97	0.00	48.65	53.98	-5.33
* 15600.00	Peak	H	-	-	-75.35	27.97	0.00	59.62	73.98	-14.36
* 20800.00	Average	H	-	-	-77.91	17.87	-9.54	37.42	53.98	-16.56
* 20800.00	Peak	H	-	-	-67.10	17.87	-9.54	48.23	73.98	-25.75
26000.00	Peak	H	-	-	-65.70	20.15	-9.54	51.91	68.20	-16.29

Table 7-89. Radiated Measurements SISO ANT2 (26 Tones)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset		Page 210 of 265

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5240MHz
 Channel: 48

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10480.00	Peak	H	-	-	-74.43	19.02	0.00	51.59	68.20	-16.61
* 15720.00	Average	H	-	-	-86.43	27.74	0.00	48.31	53.98	-5.67
* 15720.00	Peak	H	-	-	-74.53	27.74	0.00	60.21	73.98	-13.77
* 20960.00	Average	H	-	-	-78.10	18.06	-9.54	37.42	53.98	-16.56
* 20960.00	Peak	H	-	-	-67.09	18.06	-9.54	48.43	73.98	-25.55
26200.00	Peak	H	-	-	-66.51	20.23	-9.54	51.18	68.20	-17.02

Table 7-90. Radiated Measurements SISO ANT2 (26 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5260MHz
 Channel: 52

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10520.00	Peak	H	-	-	-73.54	18.89	0.00	52.35	68.20	-15.85
* 15780.00	Average	H	-	-	-86.34	27.43	0.00	48.09	53.98	-5.89
* 15780.00	Peak	H	-	-	-74.47	27.43	0.00	59.96	73.98	-14.02
* 21040.00	Average	H	-	-	-77.70	18.36	-9.54	38.12	53.98	-15.86
* 21040.00	Peak	H	-	-	-67.06	18.36	-9.54	48.76	73.98	-25.22
26300.00	Peak	H	-	-	-65.58	20.96	-9.54	52.84	68.20	-15.36

Table 7-91. Radiated Measurements SISO ANT2 (26 Tones)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset		Page 211 of 265

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5280MHz
 Channel: 56

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10560.00	Peak	H	-	-	-73.66	18.87	0.00	52.21	68.20	-15.99
* 15840.00	Average	H	-	-	-86.38	28.80	0.00	49.42	53.98	-4.56
* 15840.00	Peak	H	-	-	-75.35	28.80	0.00	60.45	73.98	-13.53
* 21120.00	Average	H	-	-	-77.41	18.17	-9.54	38.22	53.98	-15.76
* 21120.00	Peak	H	-	-	-67.30	18.17	-9.54	48.33	73.98	-25.65
26400.00	Peak	H	-	-	-64.56	20.65	-9.54	53.55	68.20	-14.65

Table 7-92. Radiated Measurements SISO ANT2 (26 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5320MHz
 Channel: 64

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 10640.00	Average	H	-	-	-85.03	19.05	0.00	41.02	53.98	-12.96
* 10640.00	Peak	H	-	-	-74.01	19.05	0.00	52.04	73.98	-21.94
* 15960.00	Average	H	-	-	-86.37	27.12	0.00	47.75	53.98	-6.23
* 15960.00	Peak	H	-	-	-75.75	27.12	0.00	58.37	73.98	-15.61
* 21280.00	Average	H	-	-	-77.31	18.57	-9.54	38.72	53.98	-15.26
* 21280.00	Peak	H	-	-	-66.71	18.57	-9.54	49.32	73.98	-24.66
26600.00	Peak	H	-	-	-52.18	5.16	-9.54	50.44	68.20	-17.76

Table 7-93. Radiated Measurements SISO ANT2 (26 Tones)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset		Page 212 of 265

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5500MHz
 Channel: 100

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11000.00	Average	H	-	-	-85.18	19.60	0.00	41.42	53.98	-12.56
* 11000.00	Peak	H	-	-	-73.94	19.60	0.00	52.66	73.98	-21.32
16500.00	Peak	H	-	-	-75.09	28.33	0.00	60.24	68.20	-7.96
22000.00	Peak	H	-	-	-67.51	19.12	-9.54	49.07	68.20	-19.13
27500.00	Peak	H	-	-	-51.88	3.98	-9.54	49.56	68.20	-18.64

Table 7-94. Radiated Measurements SISO ANT2 (26 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5600MHz
 Channel: 120

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11200.00	Average	H	-	-	-85.30	19.94	0.00	41.64	53.98	-12.34
* 11200.00	Peak	H	-	-	-73.89	19.94	0.00	53.05	73.98	-20.93
16800.00	Peak	H	-	-	-74.62	30.43	0.00	62.81	68.20	-5.39
* 22400.00	Average	H	-	-	-78.05	20.03	-9.54	39.44	53.98	-14.54
* 22400.00	Peak	H	-	-	-67.43	20.03	-9.54	50.06	73.98	-23.92
28000.00	Peak	H	-	-	-52.08	4.70	-9.54	50.08	68.20	-18.12

Table 7-95. Radiated Measurements SISO ANT2 (26 Tones)

FCC ID: A3LSMG986U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset	Page 213 of 265

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5720MHz
 Channel: 144

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11440.00	Average	H	-	-	-84.80	19.66	0.00	41.86	53.98	-12.12
* 11440.00	Peak	H	-	-	-73.63	19.66	0.00	53.03	73.98	-20.95
17160.00	Peak	H	-	-	-74.20	30.32	0.00	63.12	68.20	-5.08
* 22880.00	Average	H	-	-	-78.24	19.50	-9.54	38.72	53.98	-15.26
* 22880.00	Peak	H	-	-	-67.16	19.50	-9.54	49.80	73.98	-24.18
28600.00	Peak	H	-	-	-52.37	5.14	-9.54	50.23	68.20	-17.97

Table 7-96. Radiated Measurements SISO ANT2 (26 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5745MHz
 Channel: 149

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11490.00	Average	H	-	-	-84.63	20.22	0.00	42.59	53.98	-11.39
* 11490.00	Peak	H	-	-	-73.37	20.22	0.00	53.85	73.98	-20.13
17235.00	Peak	H	-	-	-74.17	29.88	0.00	62.71	68.20	-5.49
* 22980.00	Average	H	-	-	-78.23	19.89	-9.54	39.12	53.98	-14.86
* 22980.00	Peak	H	-	-	-67.30	19.89	-9.54	50.05	73.98	-23.93
28725.00	Peak	H	-	-	-52.21	4.66	-9.54	49.91	68.20	-18.29

Table 7-97. Radiated Measurements SISO ANT2 (26 Tones)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset		Page 214 of 265

Worst Case Mode: 802.11ax (20MHz BW)
Worst Case Transfer Rate: MCS0
RU Index: 54
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5785MHz
Channel: 157

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11570.00	Average	H	-	-	-84.77	21.58	0.00	43.81	53.98	-10.17
* 11570.00	Peak	H	-	-	-73.30	21.58	0.00	55.28	73.98	-18.70
17355.00	Peak	H	-	-	-74.89	29.28	0.00	61.39	68.20	-6.81
23140.00	Peak	H	-	-	-67.11	19.59	-9.54	49.94	68.20	-18.26
28925.00	Peak	H	-	-	-53.20	4.43	-9.54	48.69	68.20	-19.51

Table 7-98. Radiated Measurements SISO ANT2 (26 Tones)

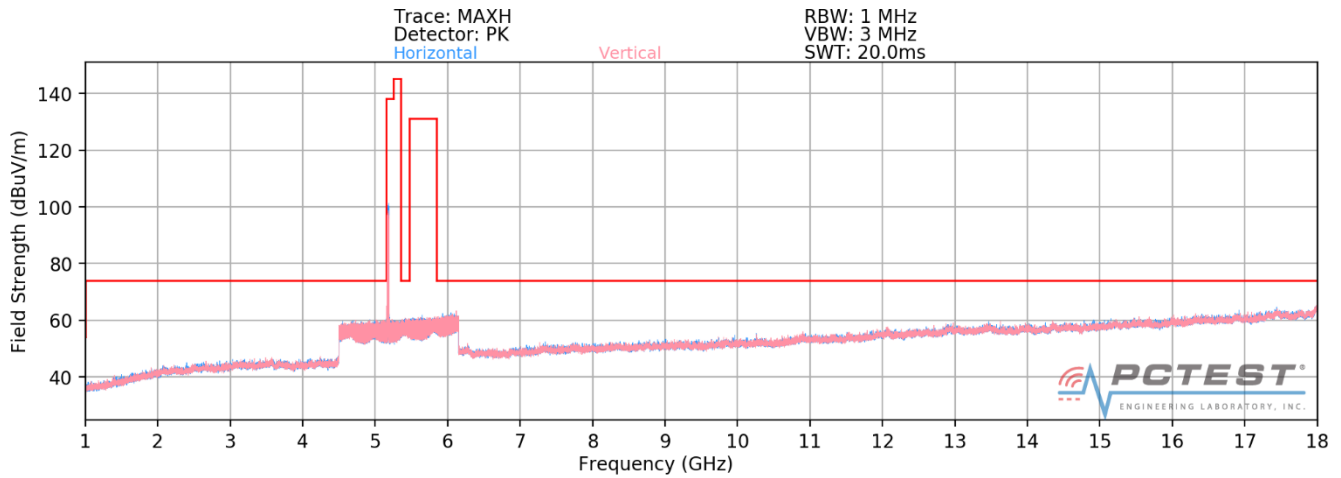
Worst Case Mode: 802.11ax (20MHz BW)
Worst Case Transfer Rate: MCS0
RU Index: 54
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5825MHz
Channel: 165

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11650.00	Average	H	-	-	-84.67	21.22	0.00	43.55	53.98	-10.43
* 11650.00	Peak	H	-	-	-73.69	21.22	0.00	54.53	73.98	-19.45
17475.00	Peak	H	-	-	-75.43	30.91	0.00	62.48	68.20	-5.72
23300.00	Peak	H	-	-	-66.60	18.93	-9.54	49.79	68.20	-18.41
29125.00	Peak	H	-	-	-51.50	3.48	-9.54	49.44	68.20	-18.76

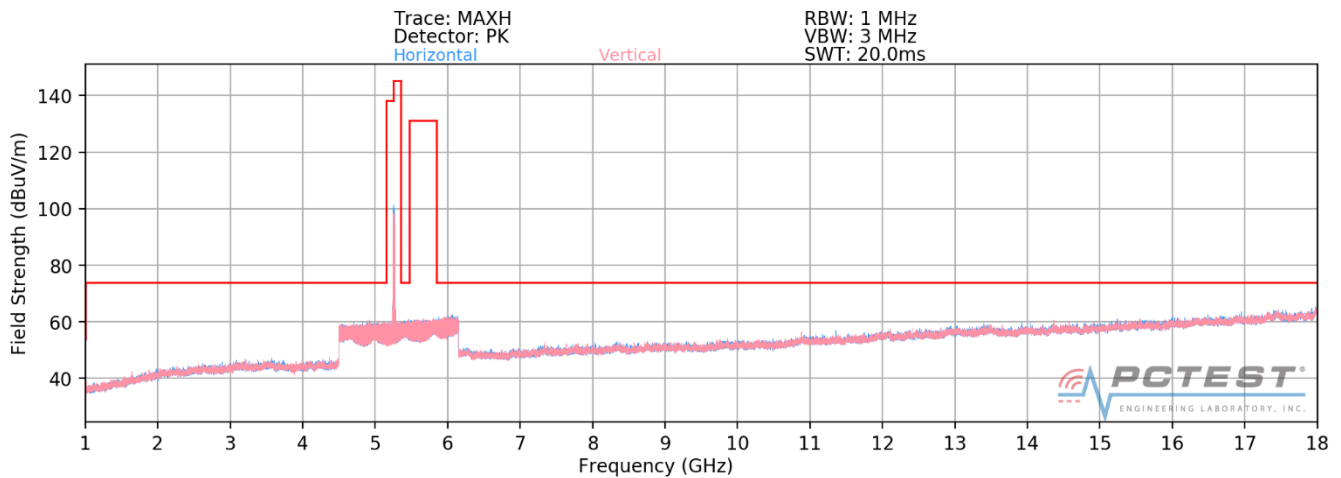
Table 7-99. Radiated Measurements SISO ANT2 (26 Tones)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset		Page 215 of 265

242 Tones

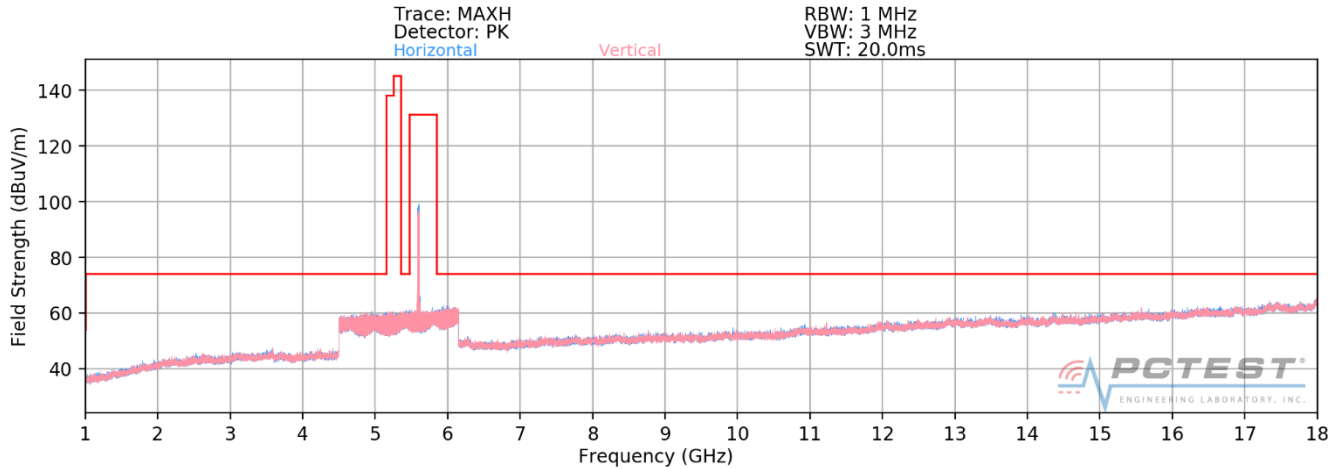


Plot 7-289. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax – U1 Ch. 40 – 242 Tones)

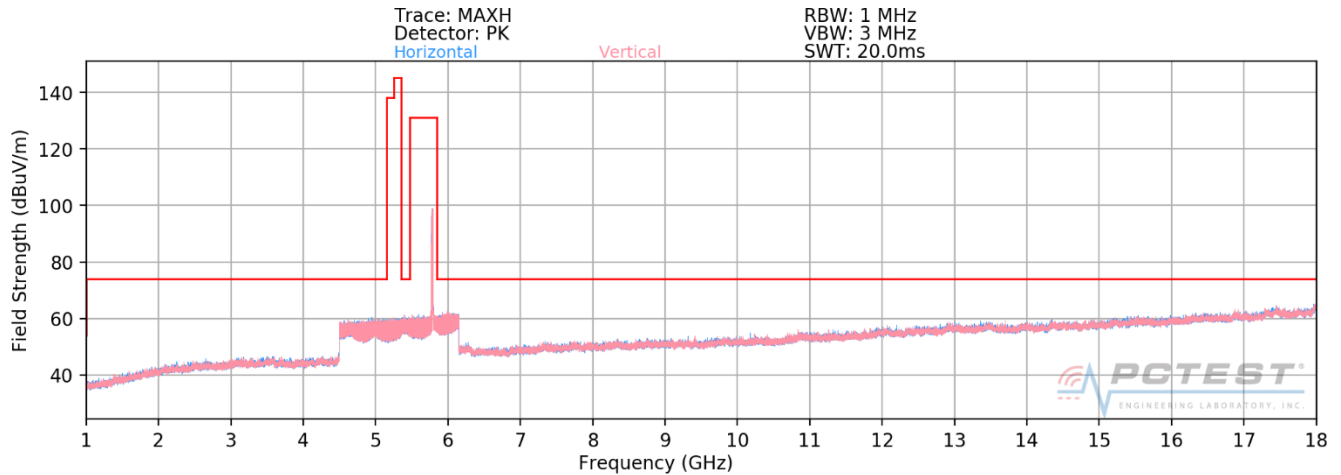


Plot 7-290. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax – U2A Ch. 56 – 242 Tones)

FCC ID: A3LSMG986U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset		Page 216 of 265



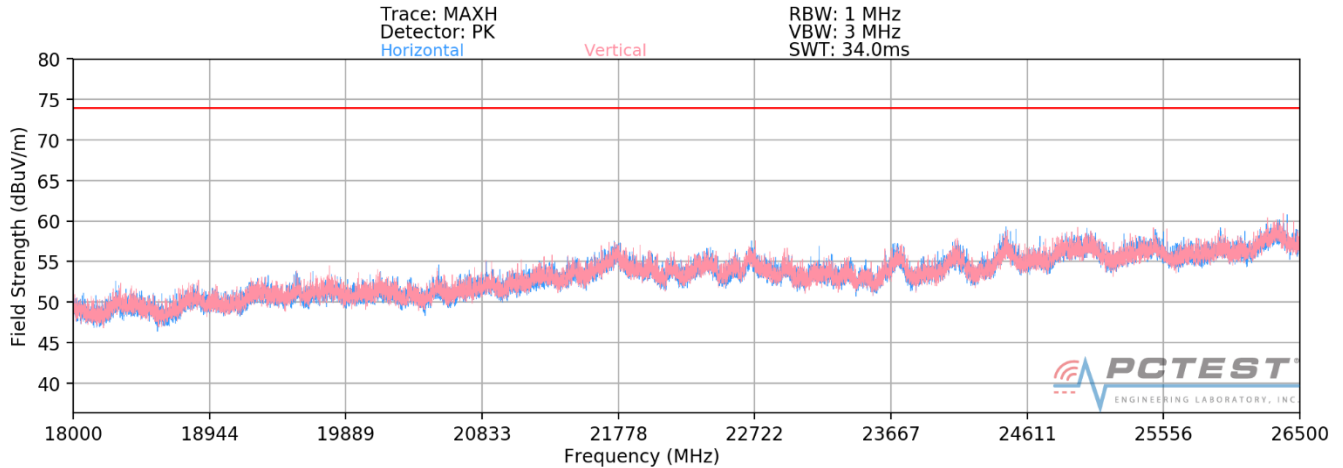
Plot 7-291. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax – U2C Ch. 120 – 242 Tones)



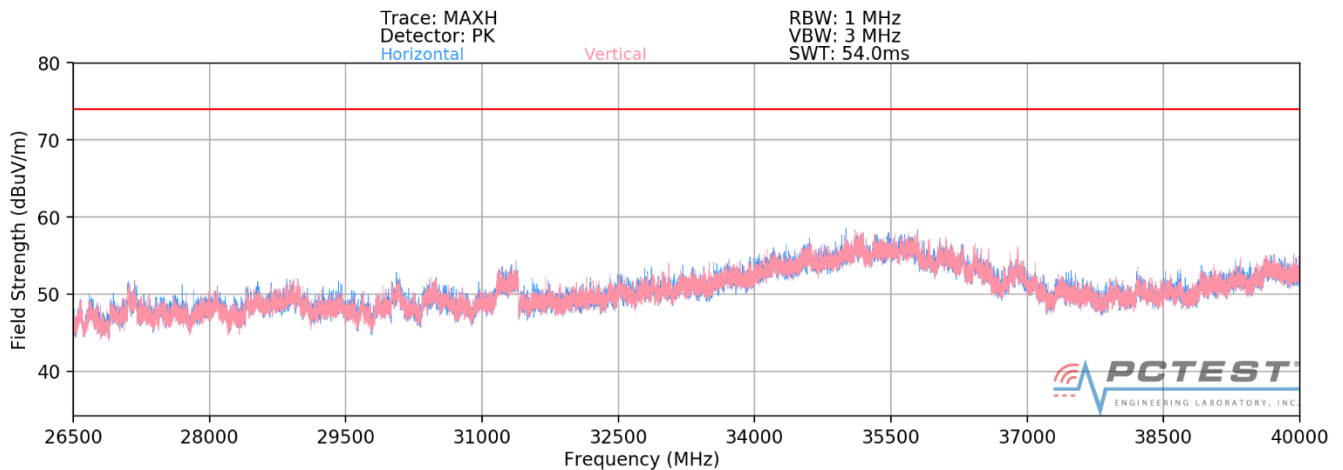
Plot 7-292. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax – U3 Ch. 157 – 242 Tones)

FCC ID: A3LSMG986U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset		Page 217 of 265

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



Plot 7-293. Radiated Spurious Plot 18GHz - 26.5GHz SISO ANT2 (802.11ax - 242 Tones)



Plot 7-294. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT2 (802.11ax - 242 Tones)

FCC ID: A3LSMG986U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 - 01/15/20	EUT Type: Portable Handset		Page 218 of 265

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	-	-	-73.62	18.27	0.00	51.65	68.20	-16.55
* 15540.00	Average	H	-	-	-85.76	28.22	0.00	49.46	53.98	-4.52
* 15540.00	Peak	H	-	-	-75.85	28.22	0.00	59.37	73.98	-14.61
* 20720.00	Average	H	-	-	-77.99	17.51	-9.54	36.98	53.98	-17.00
* 20720.00	Peak	H	-	-	-67.77	17.51	-9.54	47.20	73.98	-26.78
25900.00	Peak	H	-	-	-66.36	19.88	-9.54	50.98	68.20	-17.22

Table 7-100. 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	-	-	-72.81	18.76	0.00	52.95	68.20	-15.25
* 15600.00	Average	H	-	-	-86.05	27.97	0.00	48.92	53.98	-5.06
* 15600.00	Peak	H	-	-	-74.31	27.97	0.00	60.66	73.98	-13.32
* 20800.00	Average	H	-	-	-77.94	17.87	-9.54	37.39	53.98	-16.59
* 20800.00	Peak	H	-	-	-66.59	17.87	-9.54	48.74	73.98	-25.24
26000.00	Peak	H	-	-	-66.43	20.15	-9.54	51.18	68.20	-17.02

Table 7-101. Radiated Measurements SISO ANT2 (242 Tones)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset		Page 219 of 265

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	-	-	-73.92	19.02	0.00	52.10	68.20	-16.10
* 15720.00	Average	H	-	-	-86.23	27.74	0.00	48.51	53.98	-5.47
* 15720.00	Peak	H	-	-	-74.98	27.74	0.00	59.76	73.98	-14.22
* 20960.00	Average	H	-	-	-77.99	18.06	-9.54	37.53	53.98	-16.45
* 20960.00	Peak	H	-	-	-67.70	18.06	-9.54	47.82	73.98	-26.16
* 26200.00	Peak	H	-	-	-66.49	20.23	-9.54	51.20	68.20	-17.00

Table 7-102. 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	-	-	-73.75	18.89	0.00	52.14	68.20	-16.06
* 15780.00	Average	H	-	-	-86.08	27.43	0.00	48.35	53.98	-5.63
* 15780.00	Peak	H	-	-	-74.85	27.43	0.00	59.58	73.98	-14.40
* 21040.00	Average	H	-	-	-77.84	18.36	-9.54	37.98	53.98	-16.00
* 21040.00	Peak	H	-	-	-67.91	18.36	-9.54	47.91	73.98	-26.07
* 26300.00	Peak	H	-	-	-64.99	20.96	-9.54	53.43	68.20	-14.77

Table 7-103. Radiated Measurements SISO ANT2 (242 Tones)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset		Page 220 of 265

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	-	-	-73.62	18.87	0.00	52.25	68.20	-15.95
* 15840.00	Average	H	-	-	-86.23	28.80	0.00	49.57	53.98	-4.41
* 15840.00	Peak	H	-	-	-74.63	28.80	0.00	61.17	73.98	-12.81
* 21120.00	Average	H	-	-	-77.44	18.17	-9.54	38.19	53.98	-15.79
* 21120.00	Peak	H	-	-	-66.83	18.17	-9.54	48.80	73.98	-25.18
26400.00	Peak	H	-	-	-65.21	20.65	-9.54	52.90	68.20	-15.30

Table 7-104. 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	-	-	-84.83	19.05	0.00	41.22	53.98	-12.76
* 10640.00	Peak	H	-	-	-73.04	19.05	0.00	53.01	73.98	-20.97
* 15960.00	Average	H	-	-	-86.77	27.12	0.00	47.35	53.98	-6.63
* 15960.00	Peak	H	-	-	-74.73	27.12	0.00	59.39	73.98	-14.59
* 21280.00	Average	H	-	-	-77.23	18.57	-9.54	38.80	53.98	-15.18
* 21280.00	Peak	H	-	-	-66.68	18.57	-9.54	49.35	73.98	-24.63
26600.00	Peak	H	-	-	-53.32	5.16	-9.54	49.30	68.20	-18.90

Table 7-105. Radiated Measurements SISO ANT2 (242 Tones)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset		Page 221 of 265

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	-	-	-85.13	19.60	0.00	41.47	53.98	-12.51
* 11000.00	Peak	H	-	-	-73.56	19.60	0.00	53.04	73.98	-20.94
16500.00	Peak	H	-	-	-73.88	28.33	0.00	61.45	68.20	-6.75
22000.00	Peak	H	-	-	-66.91	19.12	-9.54	49.67	68.20	-18.53
27500.00	Peak	H	-	-	-51.66	3.98	-9.54	49.78	68.20	-18.42

Table 7-106. 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	-	-	-85.07	19.94	0.00	41.87	53.98	-12.11
* 11200.00	Peak	H	-	-	-73.58	19.94	0.00	53.36	73.98	-20.62
16800.00	Peak	H	-	-	-74.71	30.43	0.00	62.72	68.20	-5.48
* 22400.00	Average	H	-	-	-77.84	20.03	-9.54	39.65	53.98	-14.33
* 22400.00	Peak	H	-	-	-67.34	20.03	-9.54	50.15	73.98	-23.83
28000.00	Peak	H	-	-	-52.34	4.70	-9.54	49.82	68.20	-18.38

Table 7-107. Radiated Measurements SISO ANT2 (242 Tones)

FCC ID: A3LSMG986U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset	Page 222 of 265

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

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11440.00	Average	H	-	-	-84.61	19.66	0.00	42.05	53.98	-11.93
* 11440.00	Peak	H	-	-	-73.67	19.66	0.00	52.99	73.98	-20.99
17160.00	Peak	H	-	-	-74.94	30.32	0.00	62.38	68.20	-5.82
* 22880.00	Average	H	-	-	-78.18	19.50	-9.54	38.78	53.98	-15.20
* 22880.00	Peak	H	-	-	-67.61	19.50	-9.54	49.35	73.98	-24.63
28600.00	Peak	H	-	-	-52.15	5.14	-9.54	50.45	68.20	-17.75

Table 7-108. 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	-	-	-84.66	20.22	0.00	42.56	53.98	-11.42
* 11490.00	Peak	H	-	-	-73.56	20.22	0.00	53.66	73.98	-20.32
17235.00	Peak	H	-	-	-74.46	29.88	0.00	62.42	68.20	-5.78
* 22980.00	Average	H	-	-	-78.14	19.89	-9.54	39.21	53.98	-14.77
* 22980.00	Peak	H	-	-	-67.88	19.89	-9.54	49.47	73.98	-24.51
28725.00	Peak	H	-	-	-52.21	4.66	-9.54	49.91	68.20	-18.29

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

FCC ID: A3LSMG986U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset	
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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	-	-	-84.96	21.58	0.00	43.62	53.98	-10.36
* 11570.00	Peak	H	-	-	-73.90	21.58	0.00	54.68	73.98	-19.30
17355.00	Peak	H	-	-	-74.63	29.28	0.00	61.65	68.20	-6.55
23140.00	Peak	H	-	-	-67.61	19.59	-9.54	49.44	68.20	-18.76
28925.00	Peak	H	-	-	-52.21	4.43	-9.54	49.68	68.20	-18.52

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: 5825MHz
 Channel: 165

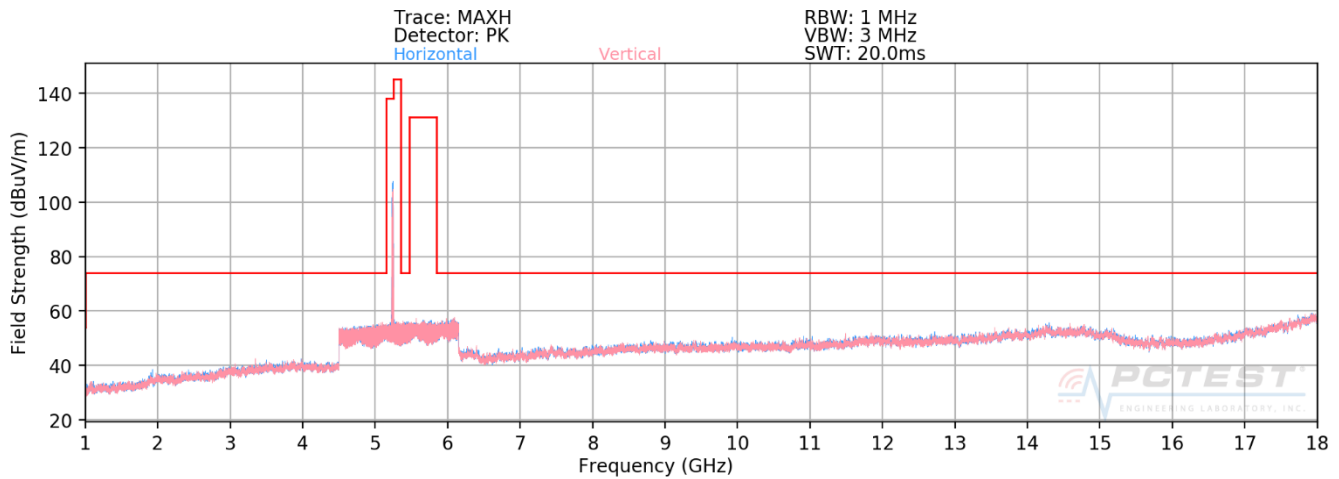
Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11650.00	Average	H	-	-	-85.05	21.22	0.00	43.17	53.98	-10.81
* 11650.00	Peak	H	-	-	-74.24	21.22	0.00	53.98	73.98	-20.00
17475.00	Peak	H	-	-	-75.57	30.91	0.00	62.34	68.20	-5.86
23300.00	Peak	H	-	-	-66.54	18.93	-9.54	49.85	68.20	-18.35
29125.00	Peak	H	-	-	-51.49	3.48	-9.54	49.45	68.20	-18.75

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

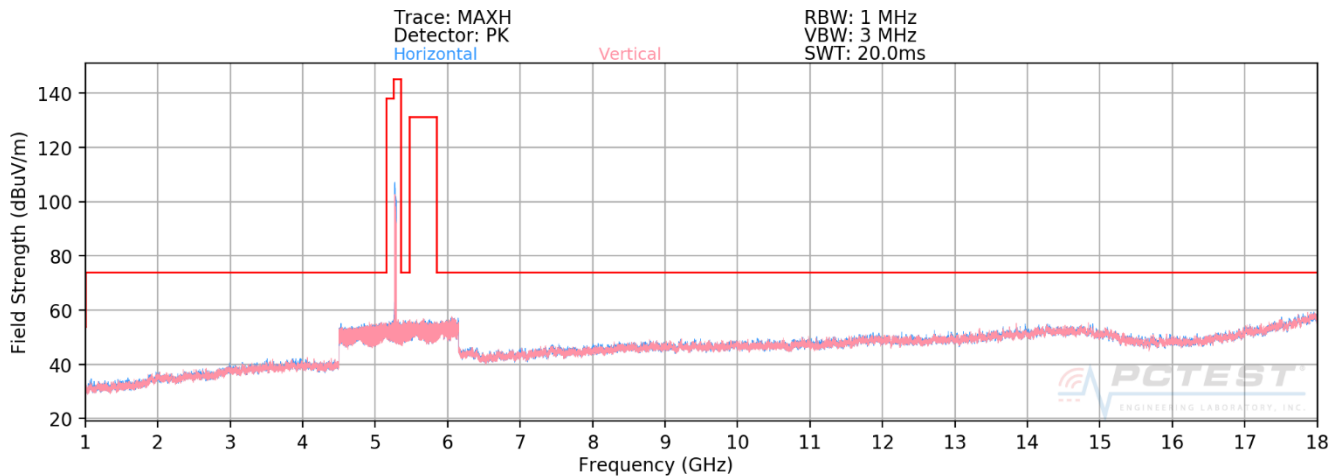
FCC ID: A3LSMG986U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset	
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7.6.3 MIMO Radiated Spurious Emission Measurements

26 Tones

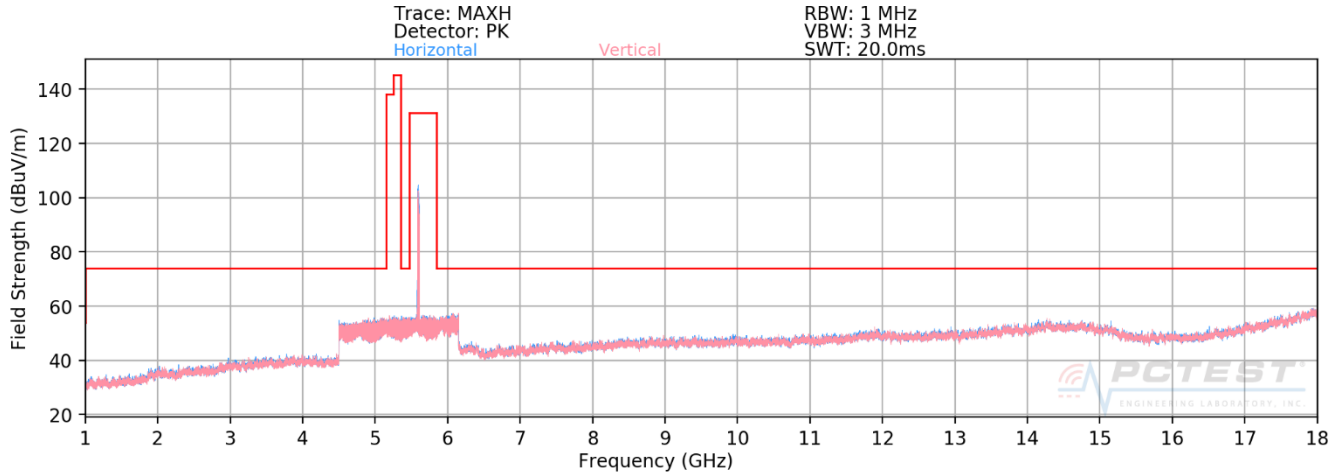


Plot 7-295. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U1 Ch. 40 – 26 Tones)

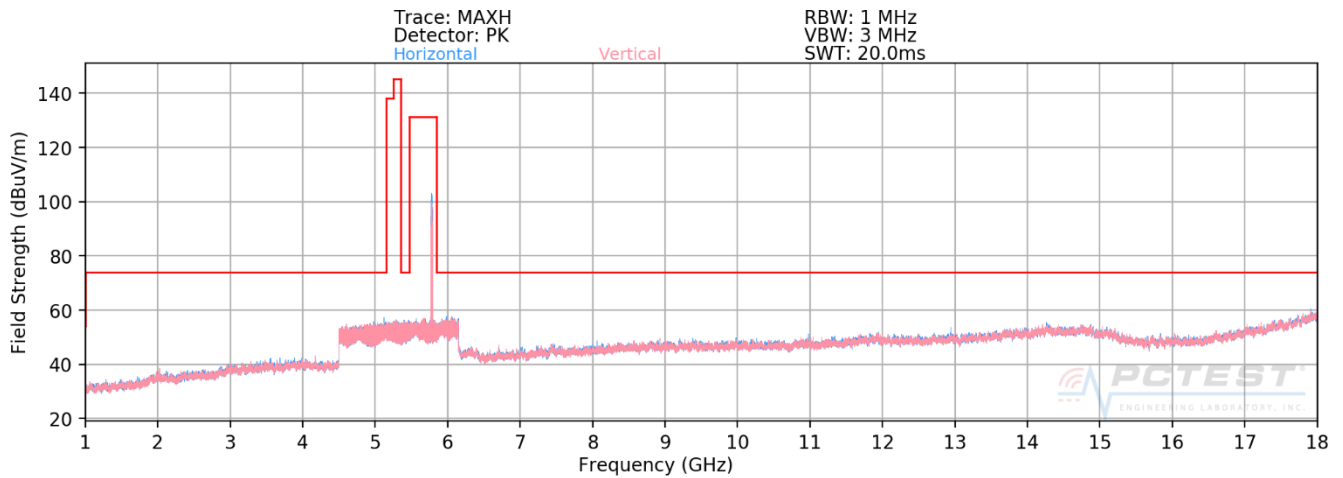


Plot 7-296. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U2A Ch. 56 – 26 Tones)

FCC ID: A3LSMG986U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset		Page 225 of 265



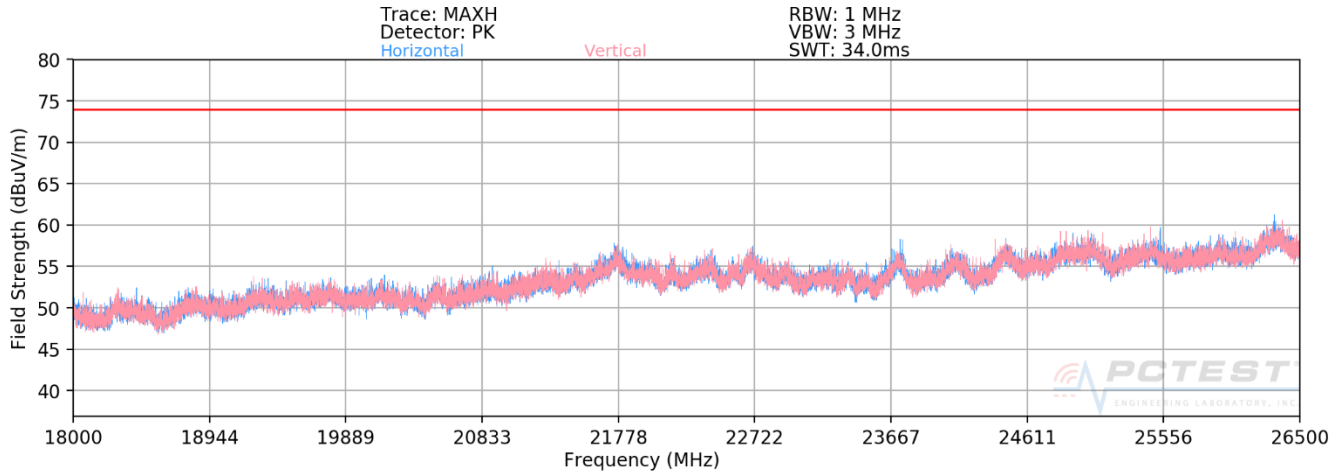
Plot 7-297. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U2C Ch. 120 – 26 Tones)



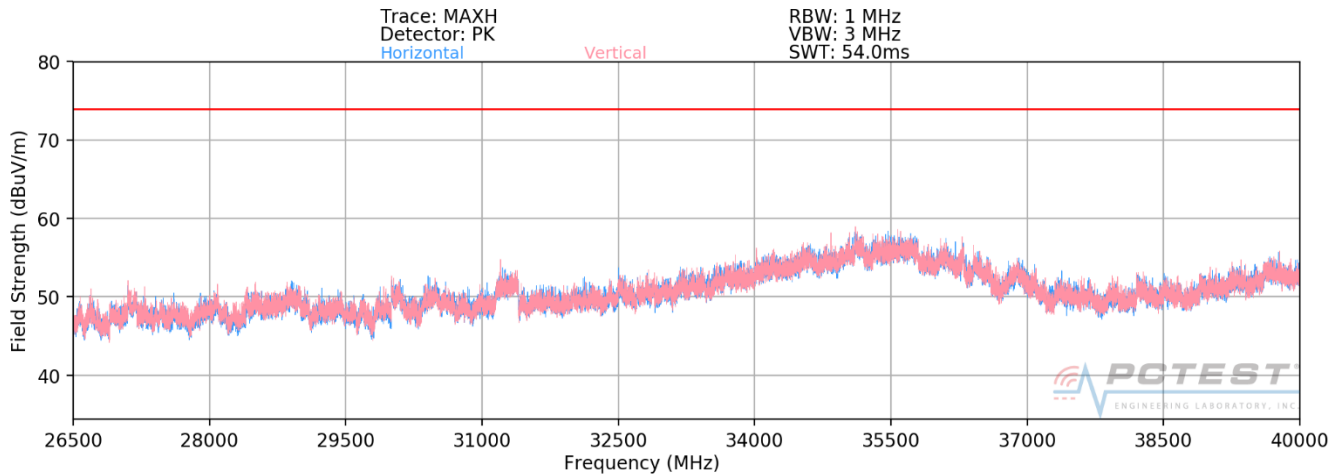
Plot 7-298. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U3 Ch. 157 – 26 Tones)

FCC ID: A3LSMG986U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset		Page 226 of 265

MIMO Radiated Spurious Emissions Measurements (Above 18GHz)



Plot 7-299. Radiated Spurious Plot 18GHz - 26.5GHz MIMO (802.11ax – 26 Tones)



Plot 7-300. Radiated Spurious Plot 26.5GHz - 40GHz MIMO (802.11ax – 26 Tones)

FCC ID: A3LSMG986U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset		Page 227 of 265

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: 54
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5180MHz
Channel: 36

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10360.00	Peak	V	-	-	-69.38	15.23	0.00	52.85	68.20	-15.35
* 15540.00	Average	V	-	-	-83.03	22.71	0.00	46.68	53.98	-7.30
* 15540.00	Peak	V	-	-	-70.30	22.71	0.00	59.41	73.98	-14.57
* 20720.00	Average	V	-	-	-79.60	17.51	-9.54	35.37	53.98	-18.61
* 20720.00	Peak	V	-	-	-67.67	17.51	-9.54	47.30	73.98	-26.68
25900.00	Peak	V	-	-	-66.19	19.88	-9.54	51.15	68.20	-17.05

Table 7-112. Radiated Measurements MIMO (26 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
Worst Case Transfer Rate: MCS0
RU Index: 54
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5200MHz
Channel: 40

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10400.00	Peak	V	-	-	-70.20	15.67	0.00	52.47	68.20	-15.73
* 15600.00	Average	V	-	-	-82.69	22.46	0.00	46.77	53.98	-7.21
* 15600.00	Peak	V	-	-	-69.72	22.46	0.00	59.74	73.98	-14.24
* 20800.00	Average	V	-	-	-79.06	17.87	-9.54	36.27	53.98	-17.71
* 20800.00	Peak	V	-	-	-66.31	17.87	-9.54	49.02	73.98	-24.96
26000.00	Peak	V	-	-	-66.04	20.15	-9.54	51.57	68.20	-16.63

Table 7-113. Radiated Measurements MIMO (26 Tones)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset		Page 228 of 265

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5240MHz
 Channel: 48

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10480.00	Peak	V	-	-	-69.88	15.49	0.00	52.61	68.20	-15.59
* 15720.00	Average	V	-	-	-82.93	22.45	0.00	46.52	53.98	-7.46
* 15720.00	Peak	V	-	-	-70.47	22.45	0.00	58.98	73.98	-15.00
* 20960.00	Average	V	-	-	-78.30	18.06	-9.54	37.22	53.98	-16.76
* 20960.00	Peak	V	-	-	-67.23	18.06	-9.54	48.29	73.98	-25.69
* 26200.00	Peak	V	-	-	-66.28	20.23	-9.54	51.41	68.20	-16.79

Table 7-114. Radiated Measurements MIMO (26 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5260MHz
 Channel: 52

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10520.00	Peak	V	-	-	-69.93	15.86	0.00	52.93	68.20	-15.27
* 15780.00	Average	V	-	-	-83.21	22.77	0.00	46.56	53.98	-7.42
* 15780.00	Peak	V	-	-	-70.26	22.77	0.00	59.51	73.98	-14.47
* 21040.00	Average	V	-	-	-77.81	18.36	-9.54	38.01	53.98	-15.97
* 21040.00	Peak	V	-	-	-66.04	18.36	-9.54	49.78	73.98	-24.20
* 26300.00	Peak	V	-	-	-65.95	20.96	-9.54	52.47	68.20	-15.73

Table 7-115. Radiated Measurements MIMO (26 Tones)

FCC ID: A3LSMG986U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset	
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Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 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	-	-	-69.73	15.70	0.00	52.97	68.20	-15.23
* 15840.00	Average	V	-	-	-83.08	22.66	0.00	46.58	53.98	-7.40
* 15840.00	Peak	V	-	-	-70.16	22.66	0.00	59.50	73.98	-14.48
* 21120.00	Average	V	-	-	-77.66	18.17	-9.54	37.97	53.98	-16.01
* 21120.00	Peak	V	-	-	-66.06	18.17	-9.54	49.57	73.98	-24.41
26400.00	Peak	V	-	-	-66.35	20.65	-9.54	51.76	68.20	-16.44

Table 7-116. Radiated Measurements MIMO (26 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5320MHz
 Channel: 64

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 10640.00	Average	V	-	-	-82.56	16.03	0.00	40.47	53.98	-13.51
* 10640.00	Peak	V	-	-	-69.93	16.03	0.00	53.10	73.98	-20.88
* 15960.00	Average	V	-	-	-83.49	23.09	0.00	46.60	53.98	-7.38
* 15960.00	Peak	V	-	-	-70.19	23.09	0.00	59.90	73.98	-14.08
* 21280.00	Average	V	-	-	-77.60	18.57	-9.54	38.43	53.98	-15.55
* 21280.00	Peak	V	-	-	-66.57	18.57	-9.54	49.46	73.98	-24.52
26600.00	Peak	V	-	-	-50.86	5.16	-9.54	51.76	68.20	-16.44

Table 7-117. Radiated Measurements MIMO (26 Tones)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset		Page 230 of 265

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5500MHz
 Channel: 100

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11000.00	Average	V	-	-	-81.59	16.51	0.00	41.92	53.98	-12.06
* 11000.00	Peak	V	-	-	-69.91	16.51	0.00	53.60	73.98	-20.38
16500.00	Peak	V	-	-	-70.56	24.17	0.00	60.61	68.20	-7.59
22000.00	Peak	V	-	-	-66.07	19.12	-9.54	50.51	68.20	-17.69
27500.00	Peak	V	-	-	-49.71	3.98	-9.54	51.73	68.20	-16.47

Table 7-118. Radiated Measurements MIMO (26 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5580MHz
 Channel: 116

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	-	-	-81.68	16.73	0.00	42.05	53.98	-11.93
* 11200.00	Peak	V	-	-	-69.65	16.73	0.00	54.08	73.98	-19.90
16800.00	Peak	V	-	-	-70.15	24.00	0.00	60.85	68.20	-7.35
* 22400.00	Average	V	-	-	-78.35	20.03	-9.54	39.14	53.98	-14.84
* 22400.00	Peak	V	-	-	-67.32	20.03	-9.54	50.17	73.98	-23.81
28000.00	Peak	V	-	-	-50.35	4.70	-9.54	51.81	68.20	-16.39

Table 7-119. Radiated Measurements MIMO (26 Tones)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset		Page 231 of 265

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5700MHz
 Channel: 140

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	199	316	-80.63	17.29	0.00	43.66	53.98	-10.32
* 11440.00	Peak	V	199	316	-65.98	17.29	0.00	58.31	73.98	-15.67
17160.00	Peak	V	-	-	-70.19	24.37	0.00	61.18	68.20	-7.02
* 22880.00	Average	V	-	-	-78.59	19.50	-9.54	38.37	53.98	-15.61
* 22880.00	Peak	V	-	-	-67.12	19.50	-9.54	49.84	73.98	-24.14
28600.00	Peak	V	-	-	-50.68	5.14	-9.54	51.92	68.20	-16.28

Table 7-120. Radiated Measurements MIMO (26 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5745MHz
 Channel: 149

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11490.00	Average	V	115	339	-81.09	17.63	0.00	43.54	53.98	-10.43
* 11490.00	Peak	V	115	339	-67.79	17.63	0.00	56.84	73.98	-17.13
17235.00	Peak	V	-	-	-70.53	25.01	0.00	61.48	68.20	-6.72
* 22980.00	Average	V	-	-	-78.34	19.89	-9.54	39.01	53.98	-14.97
* 22980.00	Peak	V	-	-	-66.28	19.89	-9.54	51.07	73.98	-22.91
28725.00	Peak	V	-	-	-51.06	4.66	-9.54	51.06	68.20	-17.14

Table 7-121. Radiated Measurements MIMO (26 Tones)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset		Page 232 of 265

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5785MHz
 Channel: 157

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11570.00	Average	V	252	323	-80.14	17.35	0.00	44.21	53.98	-9.77
* 11570.00	Peak	V	252	323	-66.71	17.35	0.00	57.64	73.98	-16.34
17355.00	Peak	V	-	-	-71.04	26.08	0.00	62.04	68.20	-6.16
23140.00	Peak	V	-	-	-66.83	19.59	-9.54	50.22	68.20	-17.98
28925.00	Peak	V	-	-	-49.95	4.43	-9.54	51.94	68.20	-16.26

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

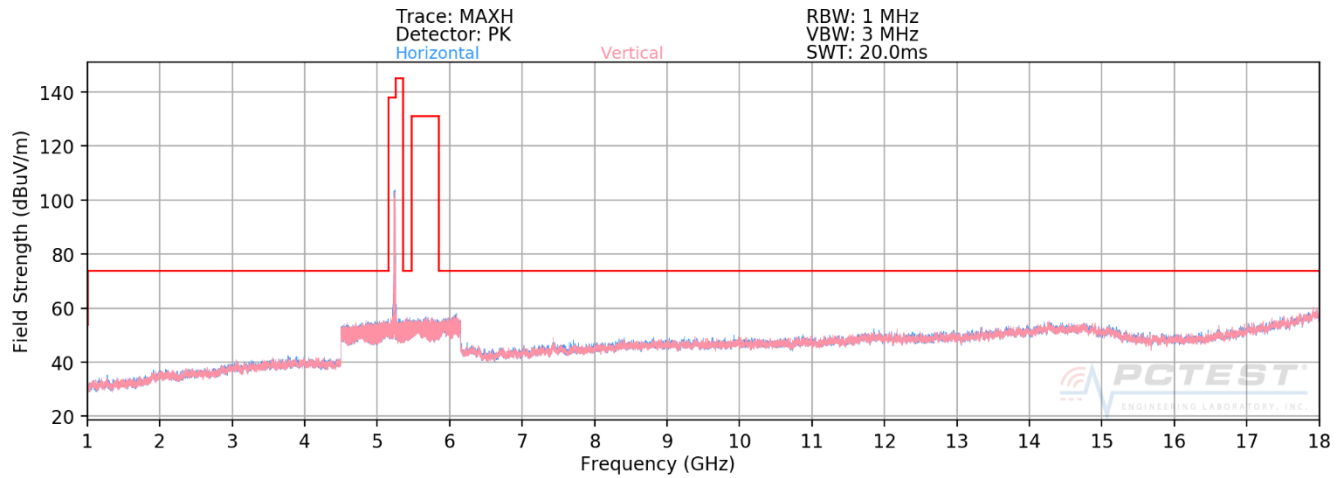
Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5825MHz
 Channel: 165

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11650.00	Average	V	262	328	-80.56	17.57	0.00	44.01	53.98	-9.96
* 11650.00	Peak	V	262	328	-67.76	17.57	0.00	56.81	73.98	-17.16
17475.00	Peak	V	-	-	-70.24	26.23	0.00	62.99	68.20	-5.21
23300.00	Peak	V	-	-	-65.80	18.93	-9.54	50.59	68.20	-17.61
29125.00	Peak	V	-	-	-50.89	3.48	-9.54	50.05	68.20	-18.15

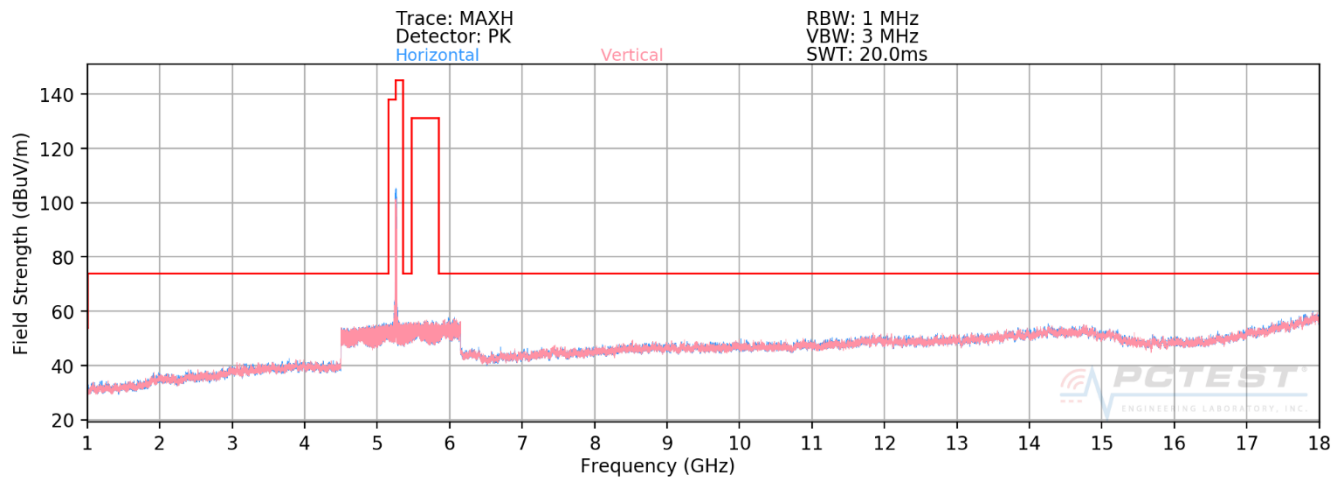
Table 7-123. Radiated Measurements MIMO (26 Tones)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset		Page 233 of 265

242 Tones

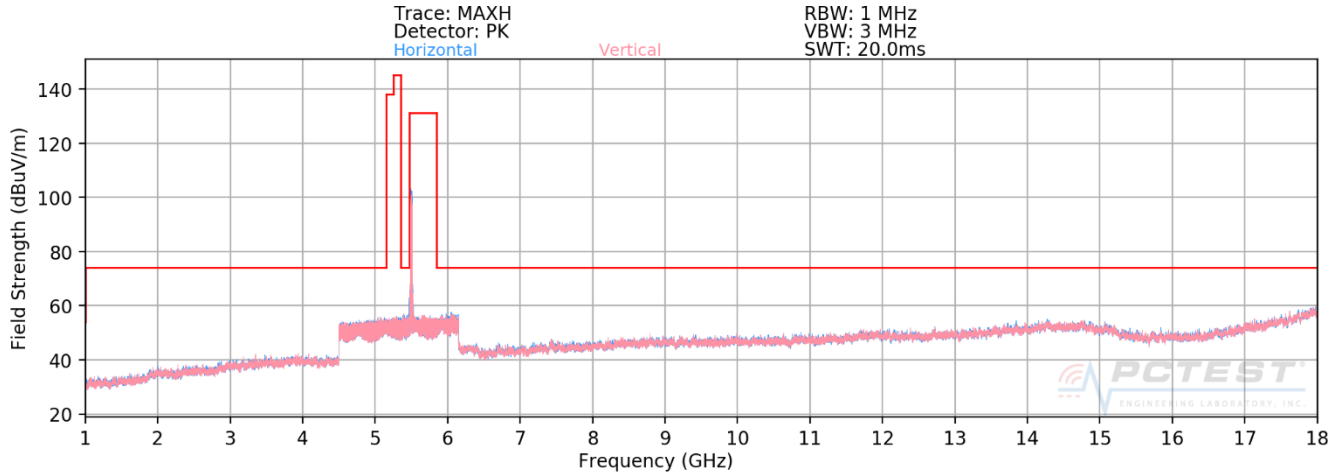


Plot 7-301. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U1 Ch. 40 – 242 Tones)

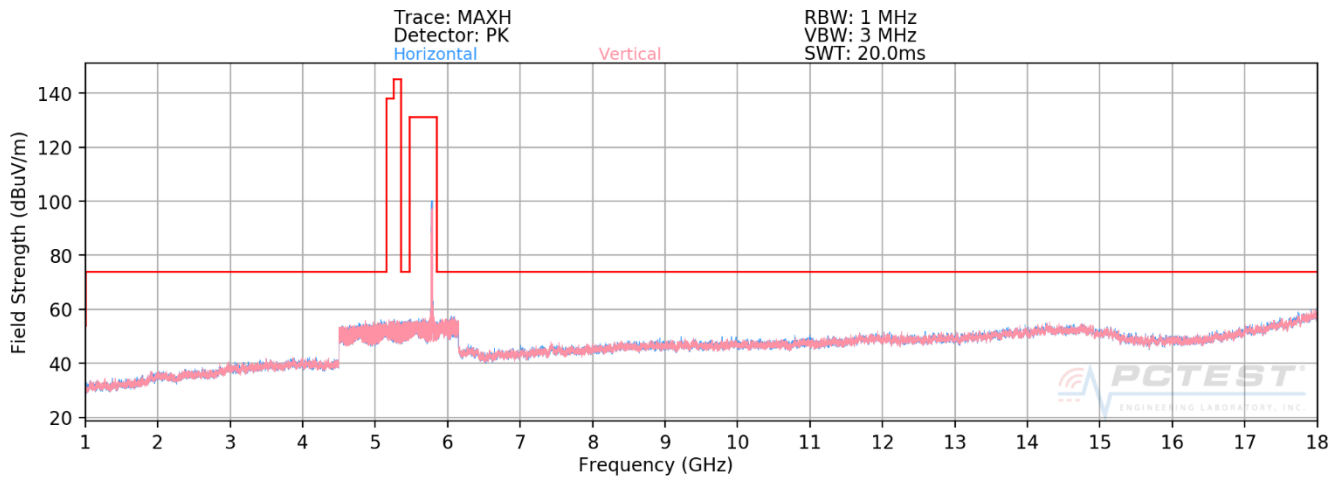


Plot 7-302. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U2A Ch. 56 – 242 Tones)

FCC ID: A3LSMG986U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset	
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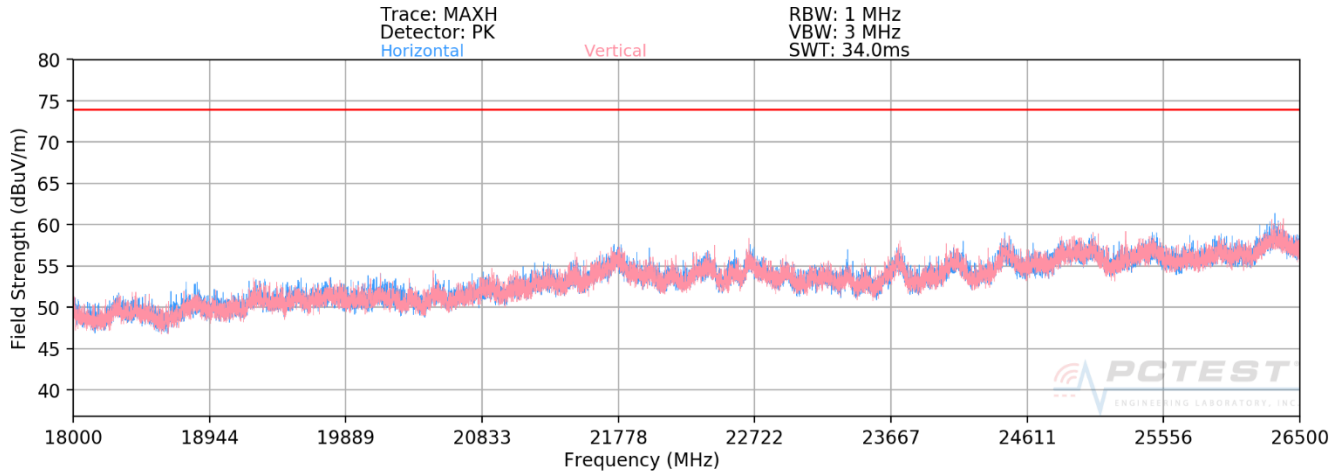
Plot 7-303. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U2C Ch. 120 – 242 Tones)



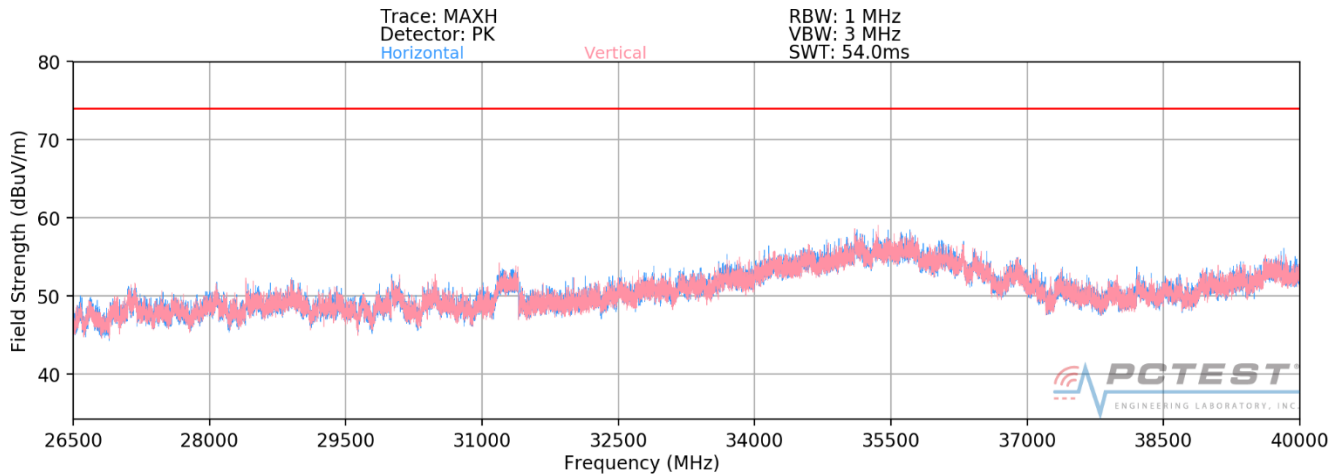
Plot 7-304. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U3 Ch. 157 – 242 Tones)

FCC ID: A3LSMG986U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset		Page 235 of 265

MIMO Radiated Spurious Emissions Measurements (Above 18GHz)



Plot 7-305. Radiated Spurious Plot 18GHz - 26.5GHz MIMO (802.11ax – 242 Tones)



Plot 7-306. Radiated Spurious Plot 26.5GHz - 40GHz MIMO (802.11ax – 242 Tones)

FCC ID: A3LSMG986U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset		Page 236 of 265

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	-	-	-70.44	15.23	0.00	51.79	68.20	-16.41
* 15540.00	Average	V	-	-	-83.10	22.71	0.00	46.61	53.98	-7.37
* 15540.00	Peak	V	-	-	-70.40	22.71	0.00	59.31	73.98	-14.67
* 20720.00	Average	V	-	-	-77.87	17.51	-9.54	37.10	53.98	-16.88
* 20720.00	Peak	V	-	-	-67.61	17.51	-9.54	47.36	73.98	-26.62
25900.00	Peak	V	-	-	-66.19	19.88	-9.54	51.15	68.20	-17.05

Table 7-124. 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	-	-	-69.98	15.67	0.00	52.69	68.20	-15.51
* 15600.00	Average	V	-	-	-82.85	22.46	0.00	46.61	53.98	-7.37
* 15600.00	Peak	V	-	-	-69.61	22.46	0.00	59.85	73.98	-14.13
* 20800.00	Average	V	-	-	-77.99	17.87	-9.54	37.34	53.98	-16.64
* 20800.00	Peak	V	-	-	-67.02	17.87	-9.54	48.31	73.98	-25.67
26000.00	Peak	V	-	-	-65.81	20.15	-9.54	51.80	68.20	-16.40

Table 7-125. Radiated Measurements MIMO (242 Tones)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset		Page 237 of 265

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	-	-	-70.03	15.49	0.00	52.46	68.20	-15.74
* 15720.00	Average	V	-	-	-82.88	22.45	0.00	46.57	53.98	-7.41
* 15720.00	Peak	V	-	-	-70.10	22.45	0.00	59.35	73.98	-14.63
* 20960.00	Average	V	-	-	-78.07	18.06	-9.54	37.45	53.98	-16.53
* 20960.00	Peak	V	-	-	-67.88	18.06	-9.54	47.64	73.98	-26.34
* 26200.00	Peak	V	-	-	-66.34	20.23	-9.54	51.35	68.20	-16.85

Table 7-126. 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	-	-	-70.22	15.86	0.00	52.64	68.20	-15.56
* 15780.00	Average	V	-	-	-83.04	22.77	0.00	46.73	53.98	-7.25
* 15780.00	Peak	V	-	-	-70.18	22.77	0.00	59.59	73.98	-14.39
* 21040.00	Average	V	-	-	-77.58	18.36	-9.54	38.24	53.98	-15.74
* 21040.00	Peak	V	-	-	-67.49	18.36	-9.54	48.33	73.98	-25.65
* 26300.00	Peak	V	-	-	-65.19	20.96	-9.54	53.23	68.20	-14.97

Table 7-127. Radiated Measurements MIMO (242 Tones)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset		Page 238 of 265

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	-	-	-69.73	15.70	0.00	52.97	68.20	-15.23
* 15840.00	Average	V	-	-	-83.17	22.66	0.00	46.49	53.98	-7.49
* 15840.00	Peak	V	-	-	-70.75	22.66	0.00	58.91	73.98	-15.07
* 21120.00	Average	V	-	-	-77.64	18.17	-9.54	37.99	53.98	-15.99
* 21120.00	Peak	V	-	-	-67.27	18.17	-9.54	48.36	73.98	-25.62
26400.00	Peak	V	-	-	-66.71	20.65	-9.54	51.40	68.20	-16.80

Table 7-128. 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	-	-	-82.54	16.03	0.00	40.49	53.98	-13.49
* 10640.00	Peak	V	-	-	-70.01	16.03	0.00	53.02	73.98	-20.96
* 15960.00	Average	V	-	-	-83.53	23.09	0.00	46.56	53.98	-7.42
* 15960.00	Peak	V	-	-	-70.82	23.09	0.00	59.27	73.98	-14.71
* 21280.00	Average	V	-	-	-77.28	18.57	-9.54	38.75	53.98	-15.23
* 21280.00	Peak	V	-	-	-66.78	18.57	-9.54	49.25	73.98	-24.73
26600.00	Peak	V	-	-	-53.17	5.16	-9.54	49.45	68.20	-18.75

Table 7-129. Radiated Measurements MIMO (242 Tones)

FCC ID: A3LSMG986U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset	
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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	-	-	-81.71	16.51	0.00	41.80	53.98	-12.18
* 11000.00	Peak	V	-	-	-69.89	16.51	0.00	53.62	73.98	-20.36
16500.00	Peak	V	-	-	-70.54	24.17	0.00	60.63	68.20	-7.57
22000.00	Peak	V	-	-	-67.25	19.12	-9.54	49.33	68.20	-18.87
27500.00	Peak	V	-	-	-51.58	3.98	-9.54	49.86	68.20	-18.34

Table 7-130. 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: 5580MHz
 Channel: 116

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	-	-	-81.77	16.73	0.00	41.96	53.98	-12.02
* 11200.00	Peak	V	-	-	-69.87	16.73	0.00	53.86	73.98	-20.12
16800.00	Peak	V	-	-	-71.34	24.00	0.00	59.66	68.20	-8.54
* 22400.00	Average	V	-	-	-77.95	20.03	-9.54	39.54	53.98	-14.44
* 22400.00	Peak	V	-	-	-67.10	20.03	-9.54	50.39	73.98	-23.59
28000.00	Peak	V	-	-	-52.68	4.70	-9.54	49.48	68.20	-18.72

Table 7-131. Radiated Measurements MIMO (242 Tones)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset		Page 240 of 265

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5700MHz
 Channel: 140

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	-	-	-82.76	17.29	0.00	41.53	53.98	-12.45
* 11440.00	Peak	V	-	-	-69.44	17.29	0.00	54.85	73.98	-19.13
17160.00	Peak	V	-	-	-70.21	24.37	0.00	61.16	68.20	-7.04
* 22880.00	Average	V	-	-	-78.25	19.50	-9.54	38.71	53.98	-15.27
* 22880.00	Peak	V	-	-	-67.81	19.50	-9.54	49.15	73.98	-24.83
28600.00	Peak	V	-	-	-51.29	5.14	-9.54	51.31	68.20	-16.89

Table 7-132. 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	-	-	-82.98	17.63	0.00	41.65	53.98	-12.32
* 11490.00	Peak	V	-	-	-71.26	17.63	0.00	53.37	73.98	-20.60
17235.00	Peak	V	-	-	-70.79	25.01	0.00	61.22	68.20	-6.98
* 22980.00	Average	V	-	-	-78.04	19.89	-9.54	39.31	53.98	-14.67
* 22980.00	Peak	V	-	-	-67.02	19.89	-9.54	50.33	73.98	-23.65
28725.00	Peak	V	-	-	-51.32	4.66	-9.54	50.80	68.20	-17.40

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

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset		Page 241 of 265

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	226	338	-81.48	17.35	0.00	42.87	53.98	-11.11
* 11570.00	Peak	V	226	338	-68.26	17.35	0.00	56.09	73.98	-17.89
17355.00	Peak	V	-	-	-71.47	26.08	0.00	61.61	68.20	-6.59
23140.00	Peak	V	-	-	-68.16	19.59	-9.54	48.89	68.20	-19.31
28925.00	Peak	V	-	-	-51.35	4.43	-9.54	50.54	68.20	-17.66

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: 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	107	318	-81.35	17.57	0.00	43.22	53.98	-10.75
* 11650.00	Peak	V	107	318	-68.43	17.57	0.00	56.14	73.98	-17.83
17475.00	Peak	V	-	-	-70.84	26.23	0.00	62.39	68.20	-5.81
23300.00	Peak	V	-	-	-66.61	18.93	-9.54	49.78	68.20	-18.42
29125.00	Peak	V	-	-	-50.26	3.48	-9.54	50.68	68.20	-17.52

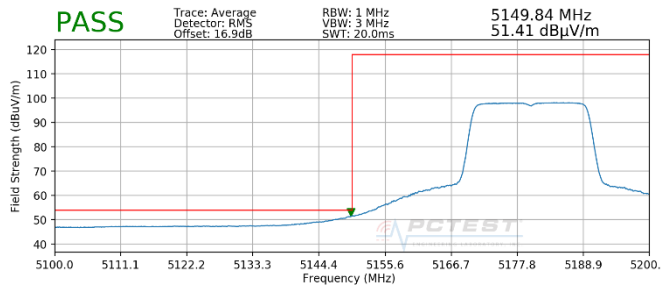
Table 7-135. Radiated Measurements MIMO (242 Tones)

FCC ID: A3LSMG986U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset		Page 242 of 265

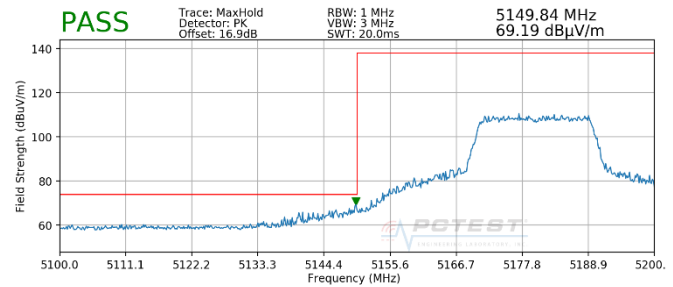
7.6.4 SISO Antenna-1 Radiated Band Edge Measurements (20MHz BW) §15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]; RSS-Gen [8.9]

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

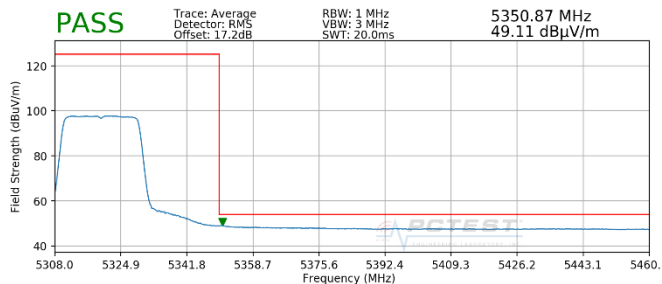


Plot 7-307. Radiated Lower Band Edge Plot SISO ANT1 (Average - UNII Band 1 - 242 Tones)

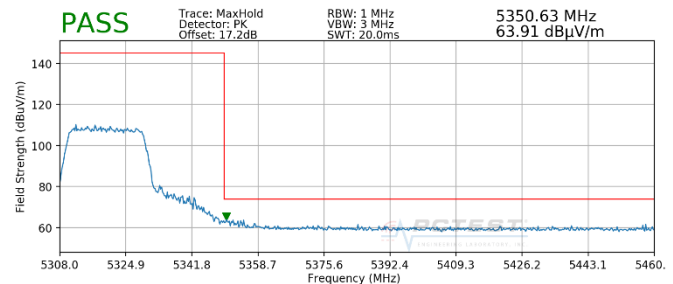


Plot 7-308. Radiated Lower Band Edge Plot SISO ANT1 (Peak - UNII Band 1 - 242 Tones)

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



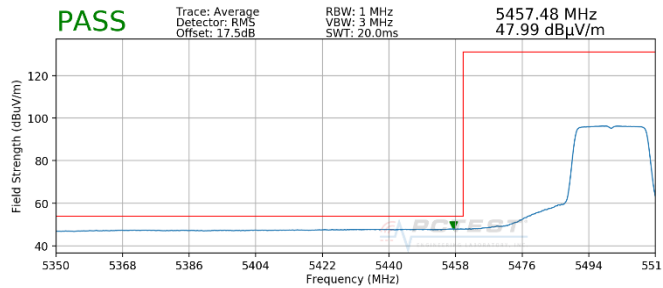
Plot 7-309. Radiated Upper Band Edge Plot SISO ANT1 (Average - UNII Band 2A - 242 Tones)



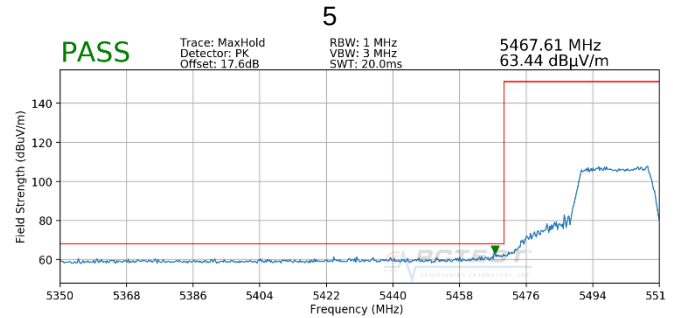
Plot 7-310. Radiated Upper Band Edge Plot SISO ANT1 (Peak - UNII Band 2A - 242 Tones)

FCC ID: A3LSMG986U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 - 01/15/20	EUT Type: Portable Handset		Page 243 of 265

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

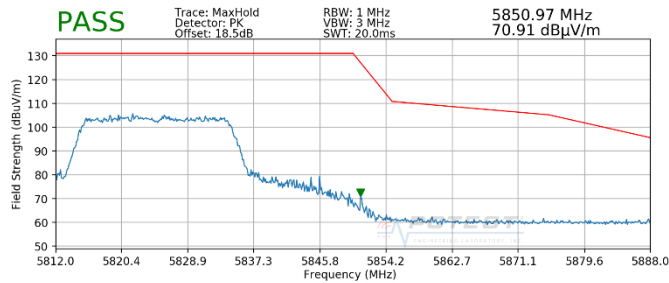


Plot 7-311. Radiated Lower Band Edge Plot SISO ANT1 (Average - UNII Band 2C - 242 Tones)



Plot 7-312. 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 7-313. Radiated Upper Band Edge Plot SISO ANT1 (Peak - UNII Band 3 - 242 Tones)

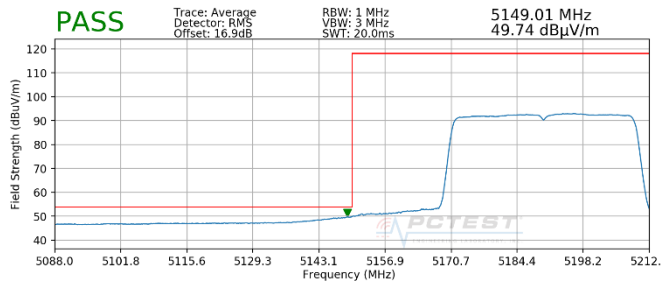
FCC ID: A3LSMG986U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 - 01/15/20	EUT Type: Portable Handset	Page 244 of 265

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

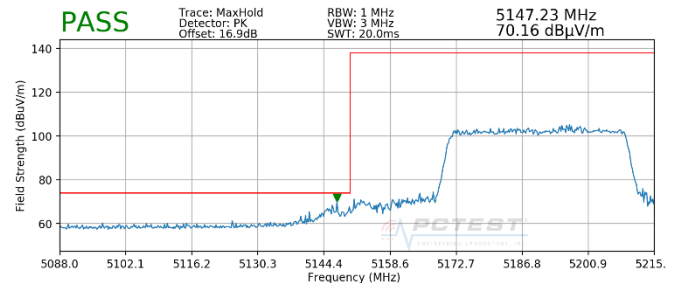
§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

484 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	62
Distance of Measurements:	3 Meters
Operating Frequency:	5190MHz
Channel:	38

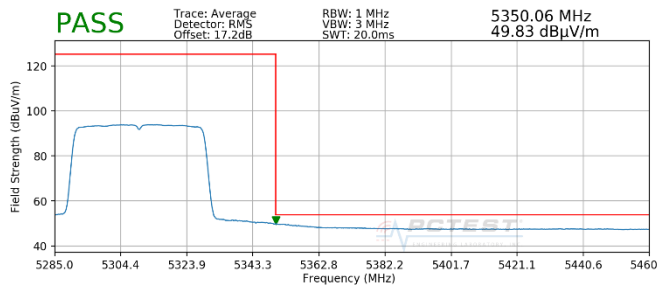


Plot 7-314. Radiated Lower Band Edge Plot SISO ANT1 (Average - UNII Band 1 - 484 Tones)

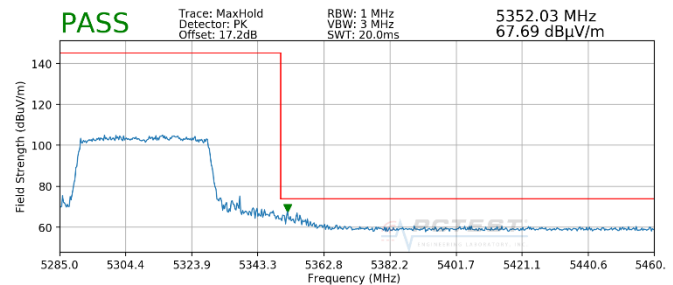


Plot 7-315. Radiated Lower Band Edge Plot SISO ANT1 (Peak - UNII Band 1 - 484 Tones)

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



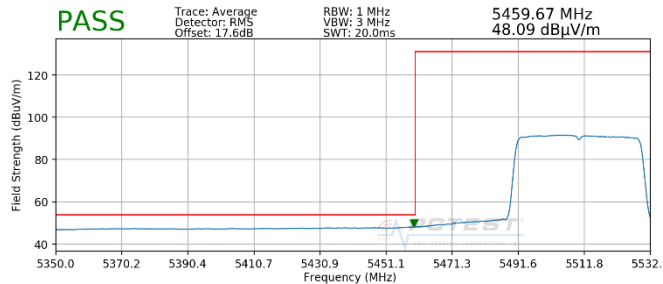
Plot 7-316. Radiated Upper Band Edge Plot SISO ANT1 (Average - UNII Band 2A - 484 Tones)



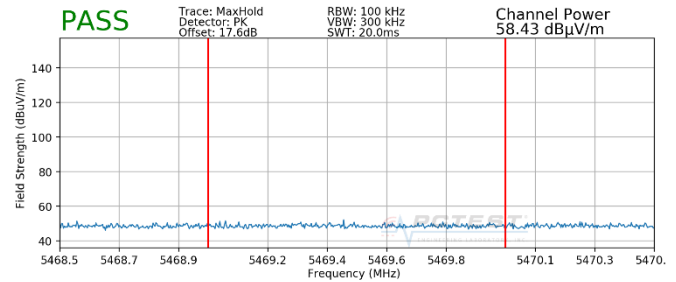
Plot 7-317. Radiated Upper Band Edge Plot SISO ANT1 (Peak - UNII Band 2A - 484 Tones)

FCC ID: A3LSMG986U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 - 01/15/20	EUT Type: Portable Handset		Page 245 of 265

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 62
Distance of Measurements: 3 Meters
Operating Frequency: 5510MHz
Channel: 102

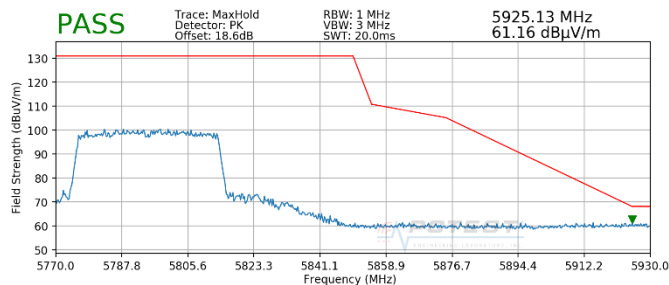


Plot 7-318. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 2C – 484 Tones)



Plot 7-319. 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: 62
Distance of Measurements: 3 Meters
Operating Frequency: 5795MHz
Channel: 159



Plot 7-320. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 3 – 484 Tones)

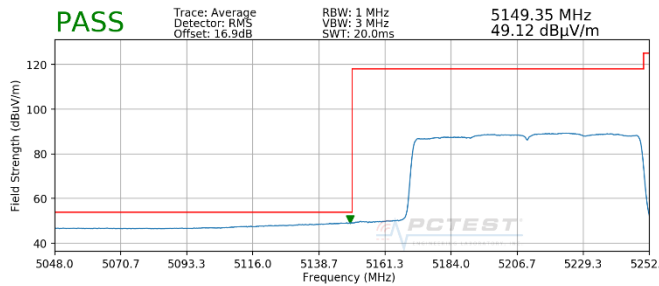
FCC ID: A3LSMG986U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 – 01/15/20	EUT Type: Portable Handset		Page 246 of 265

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

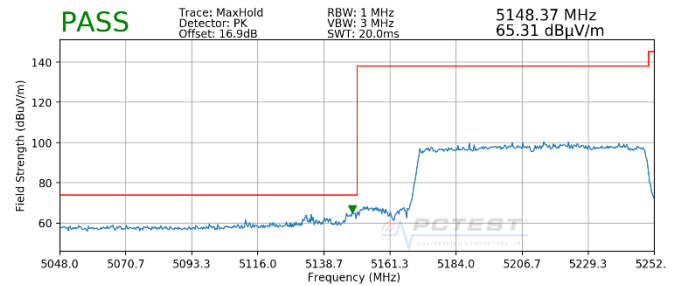
§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

996 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	64
Distance of Measurements:	3 Meters
Operating Frequency:	5210MHz
Channel:	42

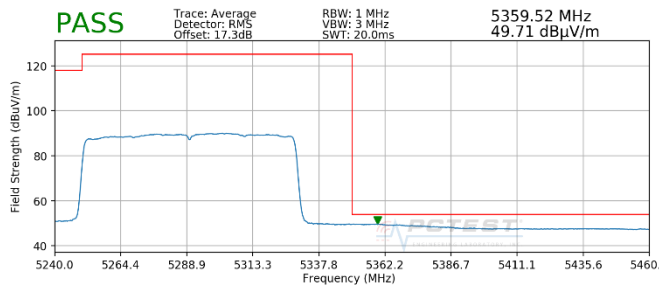


Plot 7-321. Radiated Lower Band Edge Plot SISO ANT1 (Average - UNII Band 1 - 996 Tones)

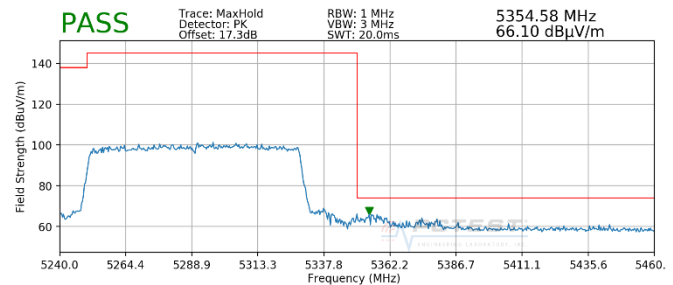


Plot 7-322. Radiated Lower Band Edge Plot SISO ANT1 (Peak - UNII Band 1 - 996 Tones)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	64
Distance of Measurements:	3 Meters
Operating Frequency:	5290MHz
Channel:	58



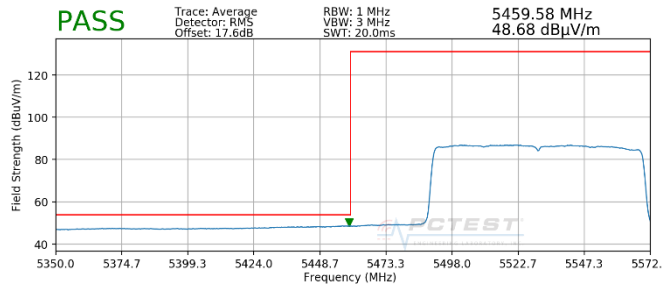
Plot 7-323. Radiated Upper Band Edge Plot SISO ANT1 (Average - UNII Band 2A - 996 Tones)



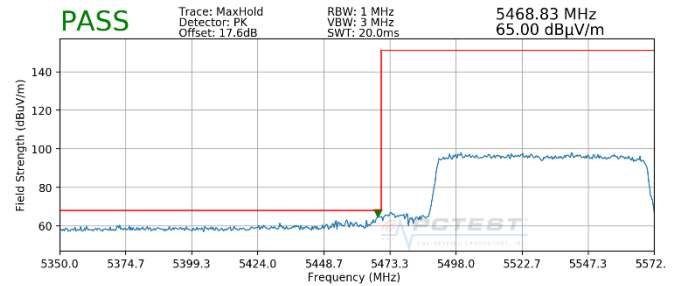
Plot 7-324. Radiated Upper Band Edge Plot SISO ANT1 (Peak - UNII Band 2A - 996 Tones)

FCC ID: A3LSMG986U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 - 01/15/20	EUT Type: Portable Handset		Page 247 of 265

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 64
Distance of Measurements: 3 Meters
Operating Frequency: 5530MHz
Channel: 106

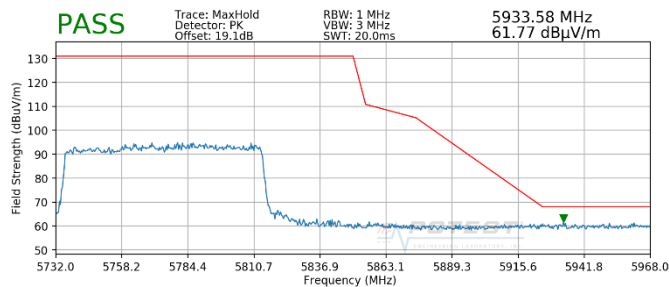


Plot 7-325. Radiated Lower Band Edge Plot SISO ANT1 (Average - UNII Band 2C - 996 Tones)



Plot 7-326. 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: 64
Distance of Measurements: 3 Meters
Operating Frequency: 5775MHz
Channel: 155



Plot 7-327. Radiated Upper Band Edge Plot SISO ANT1 (Peak - UNII Band 3 - 996 Tones)

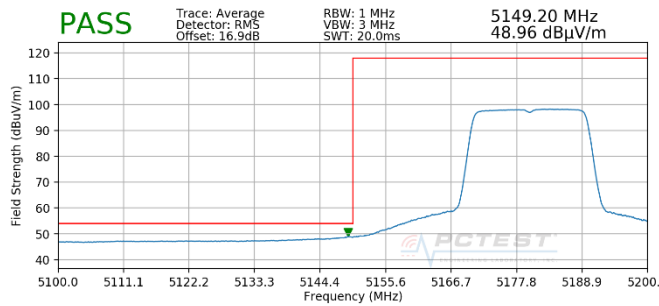
FCC ID: A3LSMG986U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11/19 - 01/15/20	EUT Type: Portable Handset		Page 248 of 265

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

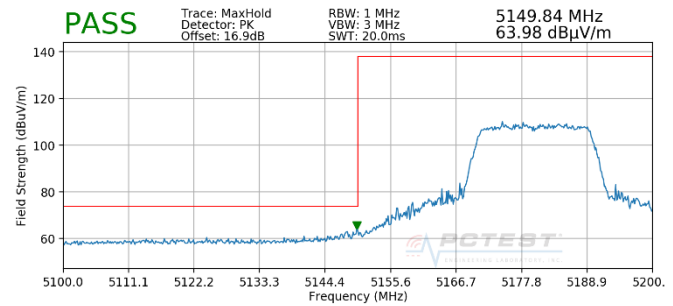
§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

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

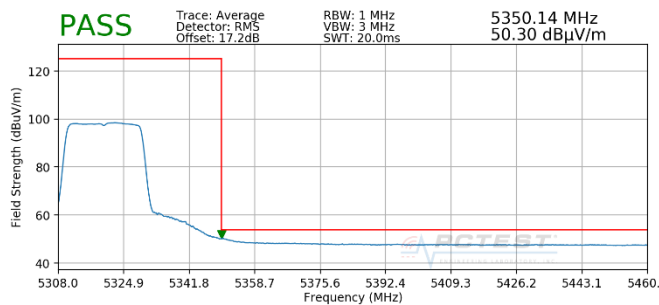


Plot 7-328. Radiated Lower Band Edge Plot SISO ANT2 (Average - UNII Band 1 - 242 Tones)

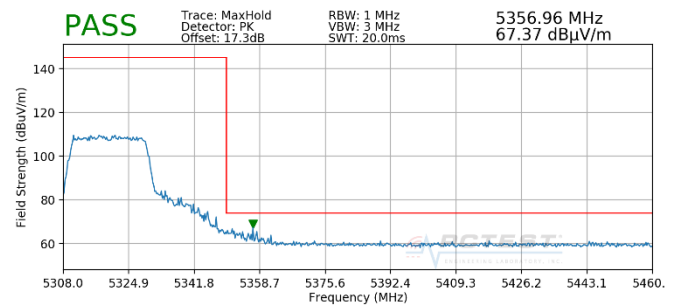


Plot 7-329. Radiated Lower Band Edge Plot SISO ANT2 (Peak - UNII Band 1 - 242 Tones)

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



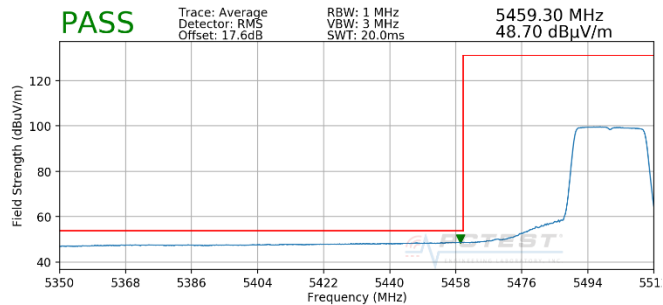
Plot 7-330. Radiated Upper Band Edge Plot SISO ANT2 (Average - UNII Band 2A - 242 Tones)



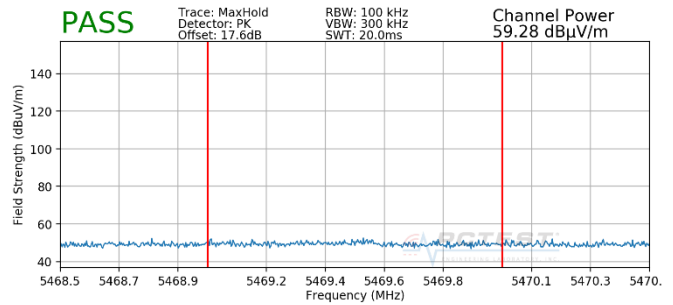
Plot 7-331. Radiated Upper Band Edge Plot SISO ANT2 (Peak - UNII Band 2A - 242 Tones)

FCC ID: A3LSMG986U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11 - 12/06/2019	EUT Type: Portable Handset		Page 249 of 265

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

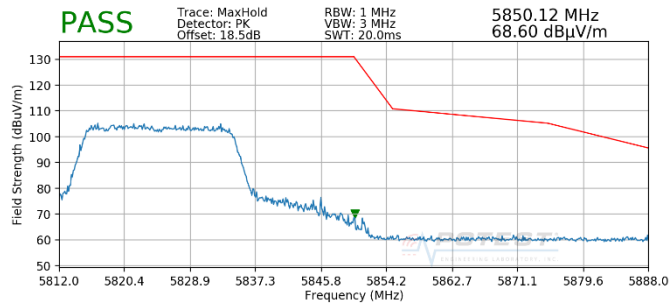


Plot 7-332. Radiated Lower Band Edge Plot SISO ANT2 (Average - UNII Band 2C - 242 Tones)



Plot 7-333. 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 7-334. Radiated Upper Band Edge Plot SISO ANT2 (Peak - UNII Band 3 - 242 Tones)

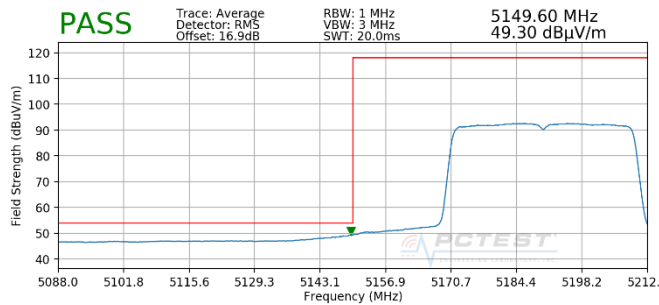
FCC ID: A3LSMG986U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11 - 12/06/2019	EUT Type: Portable Handset		Page 250 of 265

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

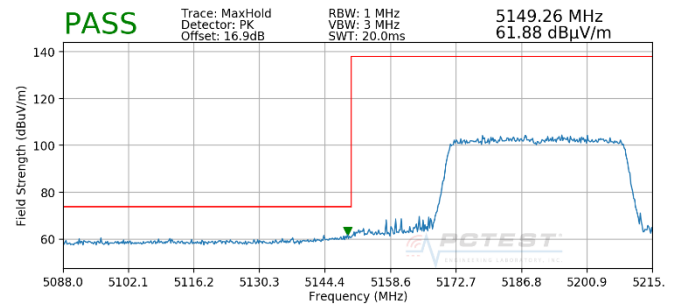
§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

484 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	62
Distance of Measurements:	3 Meters
Operating Frequency:	5190MHz
Channel:	38

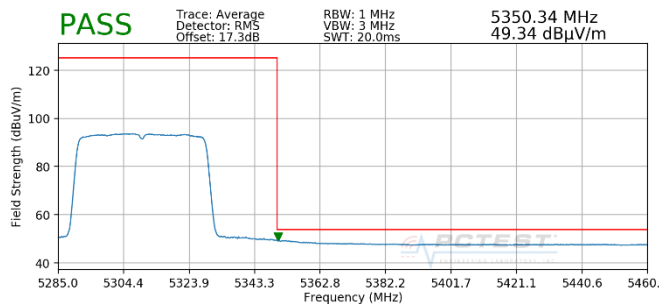


Plot 7-335. Radiated Lower Band Edge Plot SISO ANT2 (Average - UNII Band 1 - 484 Tones)

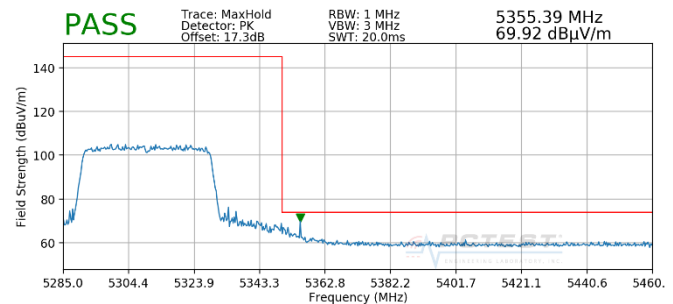


Plot 7-336. Radiated Lower Band Edge Plot SISO ANT2 (Peak - UNII Band 1 - 484 Tones)

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



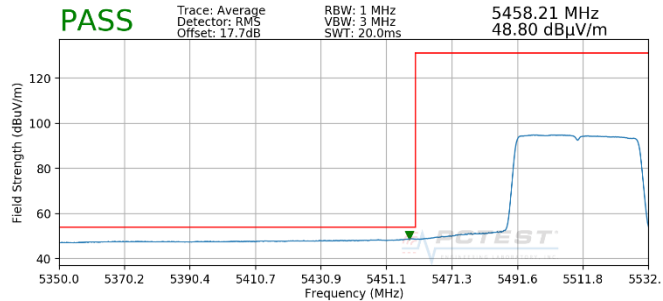
Plot 7-337. Radiated Upper Band Edge Plot SISO ANT2 (Average - UNII Band 2A - 484 Tones)



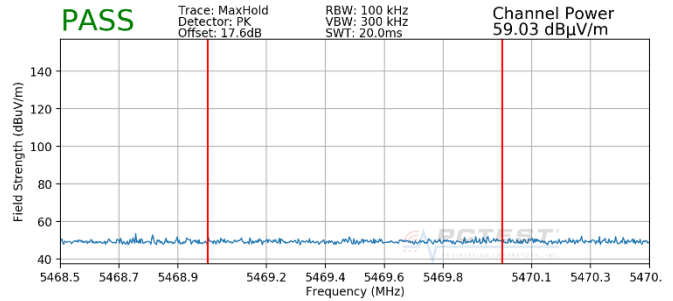
Plot 7-338. Radiated Upper Band Edge Plot SISO ANT2 (Peak - UNII Band 2A - 484 Tones)

FCC ID: A3LSMG986U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11 - 12/06/2019	EUT Type: Portable Handset		Page 251 of 265

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 62
Distance of Measurements: 3 Meters
Operating Frequency: 5510MHz
Channel: 102

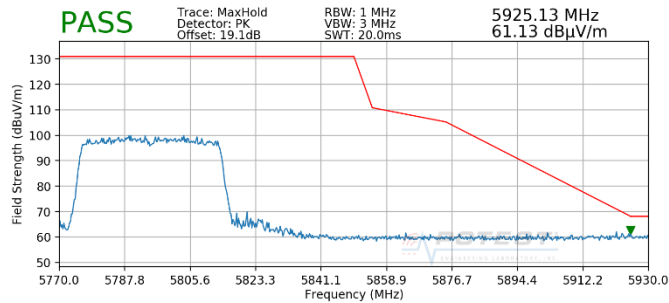


Plot 7-339. Radiated Lower Band Edge Plot SISO ANT2 (Average - UNII Band 2C - 484 Tones)



Plot 7-340. 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: 62
Distance of Measurements: 3 Meters
Operating Frequency: 5795MHz
Channel: 159



Plot 7-341. Radiated Upper Band Edge Plot SISO ANT2 (Peak - UNII Band 3 - 484 Tones)

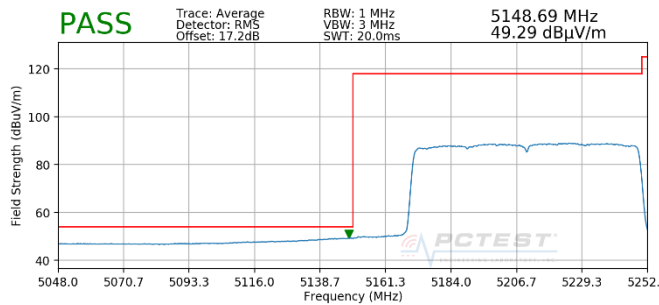
FCC ID: A3LSMG986U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11 - 12/06/2019	EUT Type: Portable Handset		Page 252 of 265

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

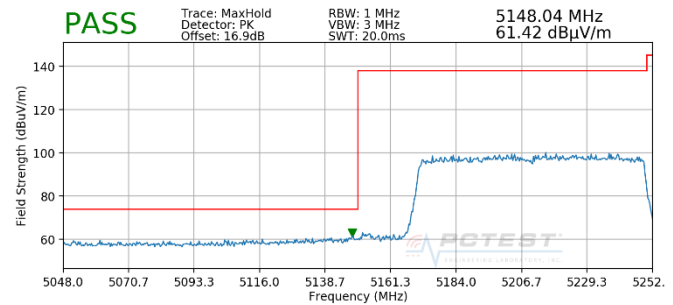
§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

996 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	64
Distance of Measurements:	3 Meters
Operating Frequency:	5210MHz
Channel:	42

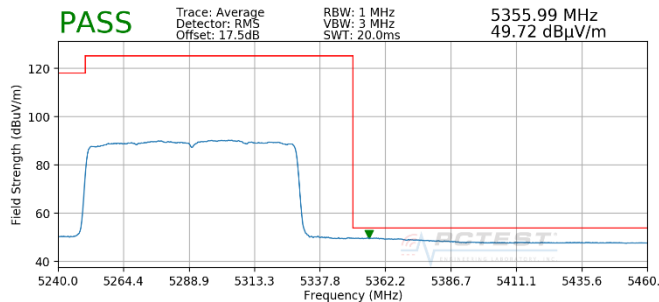


Plot 7-342. Radiated Lower Band Edge Plot SISO ANT2 (Average - UNII Band 1 - 996 Tones)

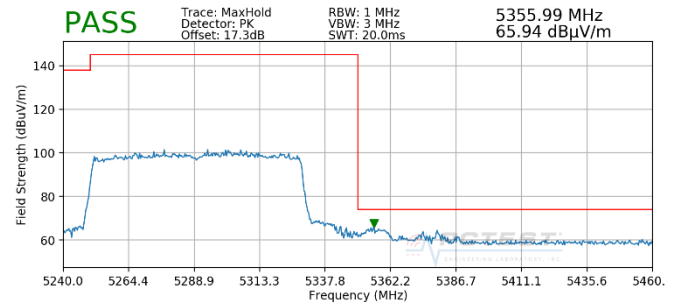


Plot 7-343. Radiated Lower Band Edge Plot SISO ANT2 (Peak - UNII Band 1 - 996 Tones)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	64
Distance of Measurements:	3 Meters
Operating Frequency:	5290MHz
Channel:	58



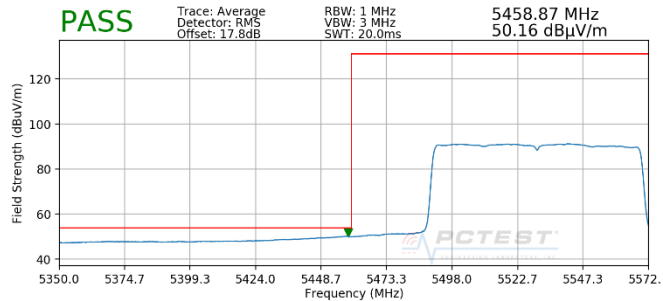
Plot 7-344. Radiated Upper Band Edge Plot SISO ANT2 (Average - UNII Band 2A - 996 Tones)



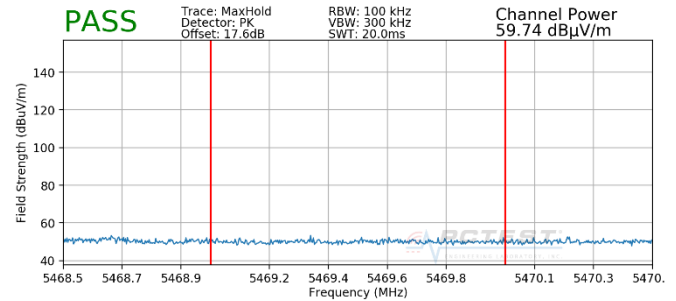
Plot 7-345. Radiated Upper Band Edge Plot SISO ANT2 (Peak - UNII Band 2A - 996 Tones)

FCC ID: A3LSMG986U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11 - 12/06/2019	EUT Type: Portable Handset		Page 253 of 265

Worst Case Mode: 802.11ax
 Worst Case Transfer Rate: MCS0
 RU Index: 64
 Distance of Measurements: 3 Meters
 Operating Frequency: 5530MHz
 Channel: 106

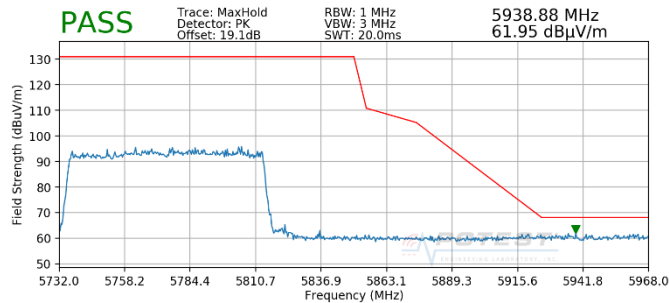


Plot 7-346. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 2C – 996 Tones)



Plot 7-347. 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: 64
 Distance of Measurements: 3 Meters
 Operating Frequency: 5775MHz
 Channel: 155



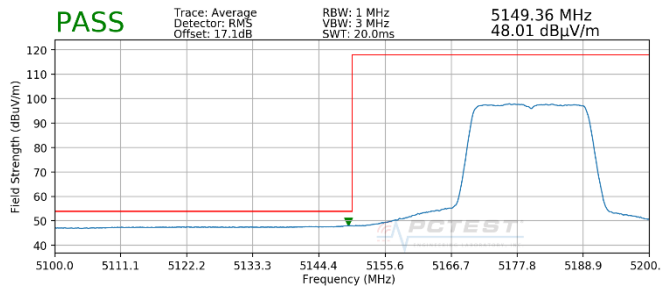
Plot 7-348. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 3 – 996 Tones)

FCC ID: A3LSMG986U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
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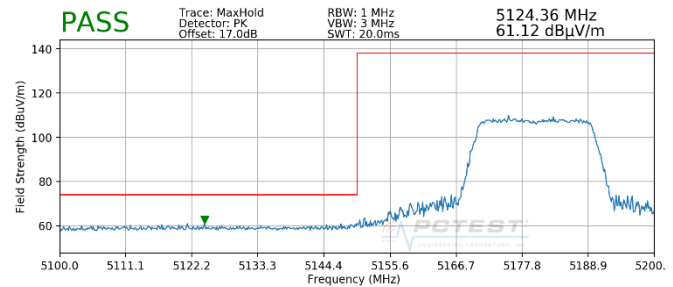
7.6.10 MIMO Radiated Band Edge Measurements (20MHz BW) §15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

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

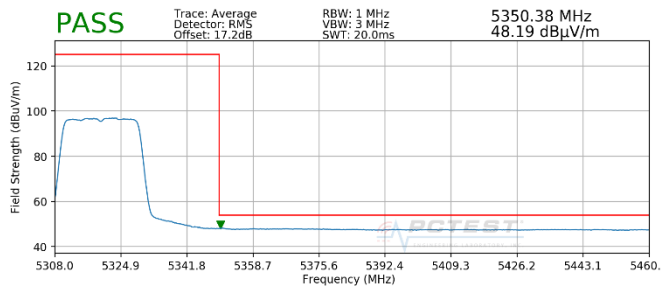


**Plot 7-349. Radiated Lower Band Edge Plot MIMO
(Average - UNII Band 1 - 242 Tones)**

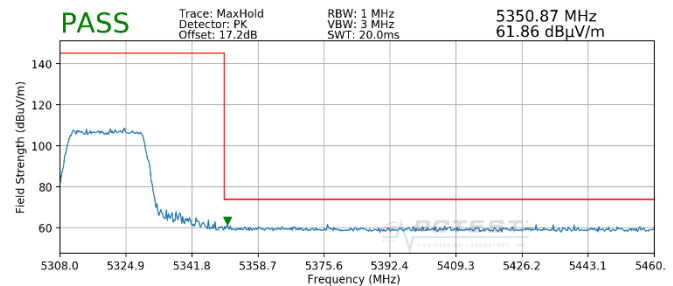


**Plot 7-350. Radiated Lower Band Edge Plot MIMO
(Peak - UNII Band 1 - 242 Tones)**

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



**Plot 7-351. Radiated Upper Band Edge Plot MIMO
(Average - UNII Band 2A - 242 Tones)**



**Plot 7-352. Radiated Upper Band Edge Plot MIMO
(Peak - UNII Band 2A - 242 Tones)**

FCC ID: A3LSMG986U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1910220166-09.A3L	Test Dates: 10/11 - 12/06/2019	EUT Type: Portable Handset		Page 255 of 265