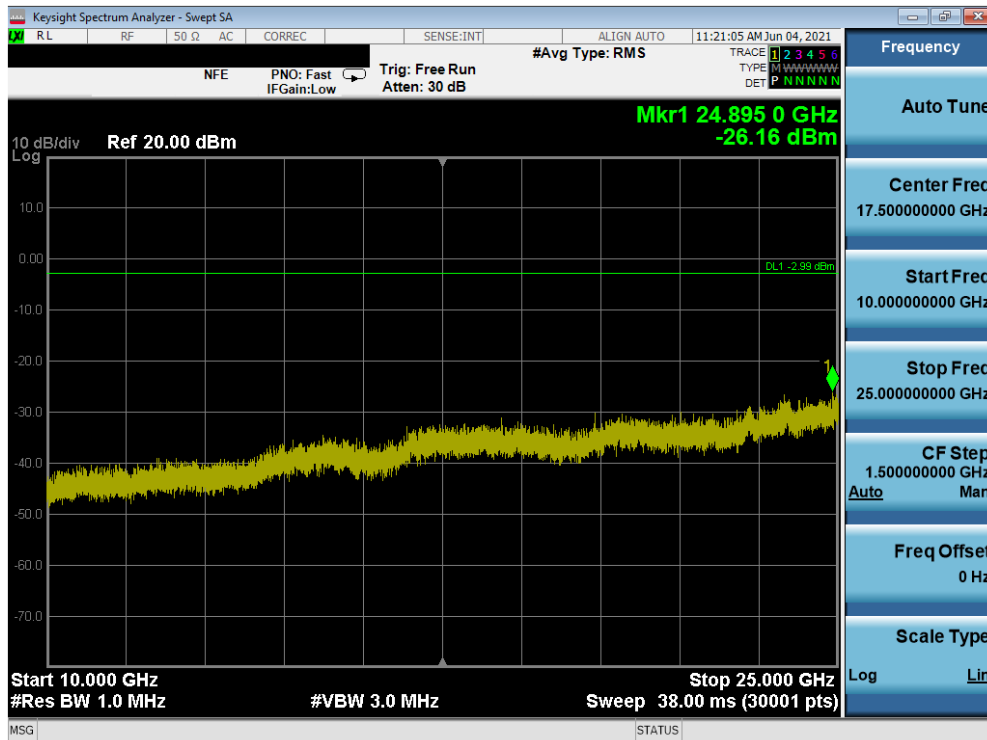
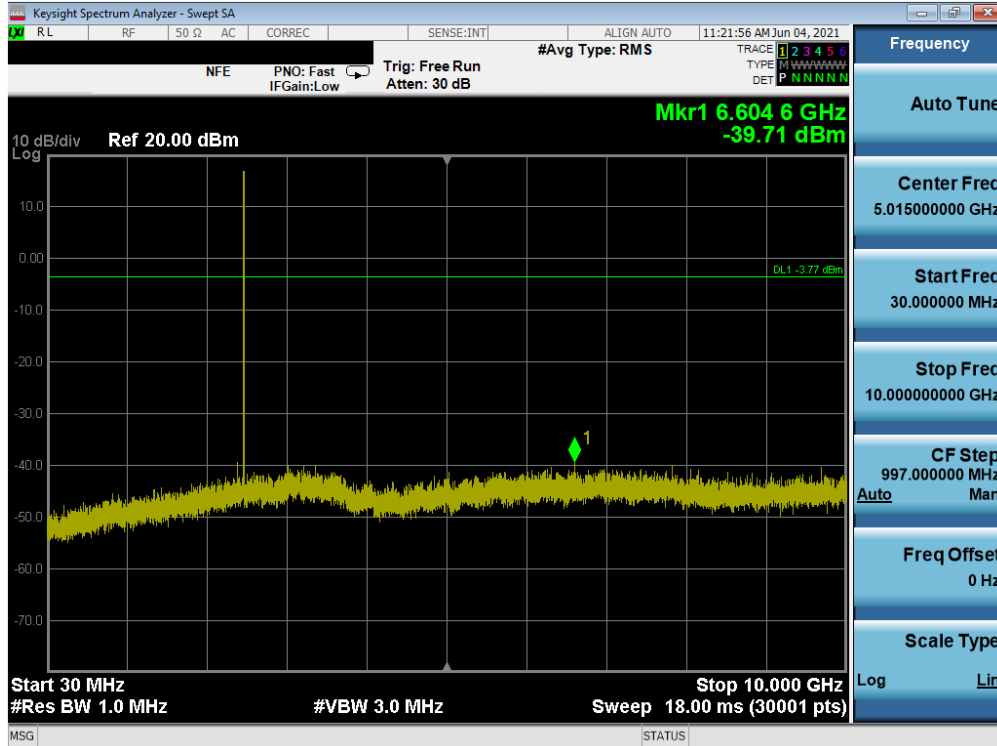


Plot 7-325. Conducted Spurious Plot (Bluetooth, 1Mbps – Ch. 39, iPA) – ANT1 (Q)

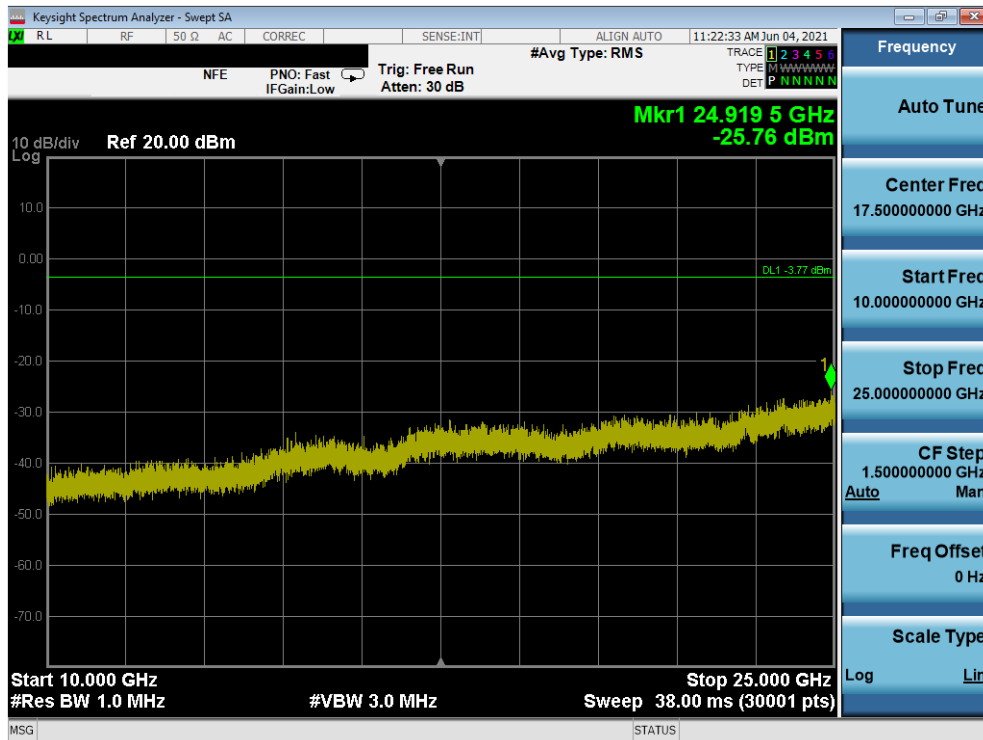


Plot 7-326. Conducted Spurious Plot (Bluetooth, 1Mbps – Ch. 39, iPA) – ANT1 (Q)

FCC ID: A3LSMF711U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset		Page 194 of 233



Plot 7-327. Conducted Spurious Plot (Bluetooth, 1Mbps – Ch. 78, iPA) – ANT1 (Q)



Plot 7-328. Conducted Spurious Plot (Bluetooth, 1Mbps – Ch. 78, iPA) – ANT1 (Q)

FCC ID: A3LSMF711U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset		Page 195 of 233

7.9 Radiated Spurious Emission Measurements – Above 1GHz

§15.205 §15.209 §15.247 (d); 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 maximum power and at the appropriate frequencies. 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 7-10 per Section 15.209 and RSS-Gen (8.9).

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

Table 7-10. Radiated Limits

Test Procedure Used

ANSI C63.10-2013 – Section 6.6.4.3

Test Settings

Average Field Strength Measurements per Section 4.1.4.2.3 of ANSI C63.10-2013

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 1kHz $\geq 1/\tau$ Hz, where τ = pulse width in seconds
4. Averaging type was set to RMS to ensure that video filtering was applied in the power domain
5. Detector = peak
6. Sweep time = auto
7. Trace mode = max hold
8. Trace was allowed to stabilize

Peak Field Strength Measurements per Section 4.1.4.2.2 of ANSI C63.10-2013

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW is set depending on measurement frequency, as specified in Table 7-11 below
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

FCC ID: A3LSMF711U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset	Page 196 of 233	

Frequency	RBW
9 – 150kHz	200 – 300Hz
0.15 – 30MHz	9 – 10kHz
30 – 1000MHz	100 – 120kHz
> 1000MHz	1MHz

Table 7-11. RBW as a Function of Frequency

Test Setup

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

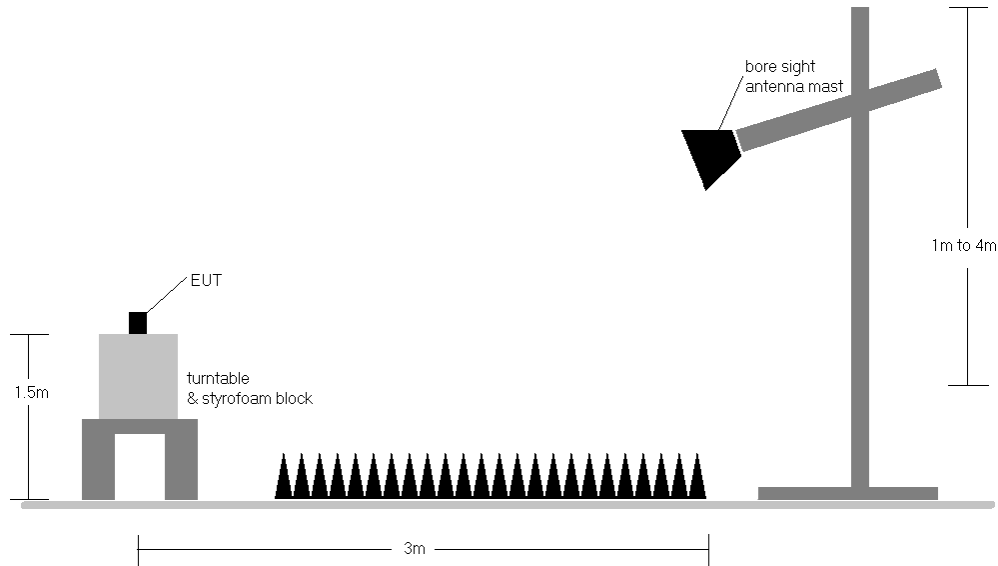


Figure 7-8. Radiated Test Setup >1GHz

Test Notes

1. All emissions lying in restricted bands specified in §15.205 and Section 8.10 of RSS-Gen are below the limit shown in Table 7-10.
2. No significant radiated emissions were found in the 2310 - 2390MHz restricted band.
3. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
4. This unit was tested with its standard battery.
5. The spectrum is measured from 9kHz to the 10th harmonic and the worst-case emissions are reported.
6. The duty cycle correction factor was not applied to noise floor measurements.
7. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. Any emissions found to be within 20dB of the limit are fully investigated and the results are shown in this section.
8. The "-" shown in the following RSE tables are used to denote a noise floor measurement.

FCC ID: A3LSMF711U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset		Page 197 of 233

9. This device will be manufactured using two different WIFI chipsets (N and Q) and each chipset supports two configurations: one is with screen open, and one is with screen closed. Both configurations for each chipset are tested, and the worst case radiated emissions data is shown in this report.

Sample Calculation

- Field Strength Level $_{[dB_{\mu V/m}]} = \text{Analyzer Level }_{[dBm]} + 107 + \text{AFCL }_{[dB/m]} + \text{Duty Cycle Correction }_{[dB]}$
- $\text{AFCL }_{[dB/m]} = \text{Antenna Factor }_{[dB/m]} + \text{Cable Loss }_{[dB]}$
- $\text{Margin }_{[dB]} = \text{Field Strength Level }_{[dB_{\mu V/m}]} - \text{Limit }_{[dB_{\mu V/m}]}$

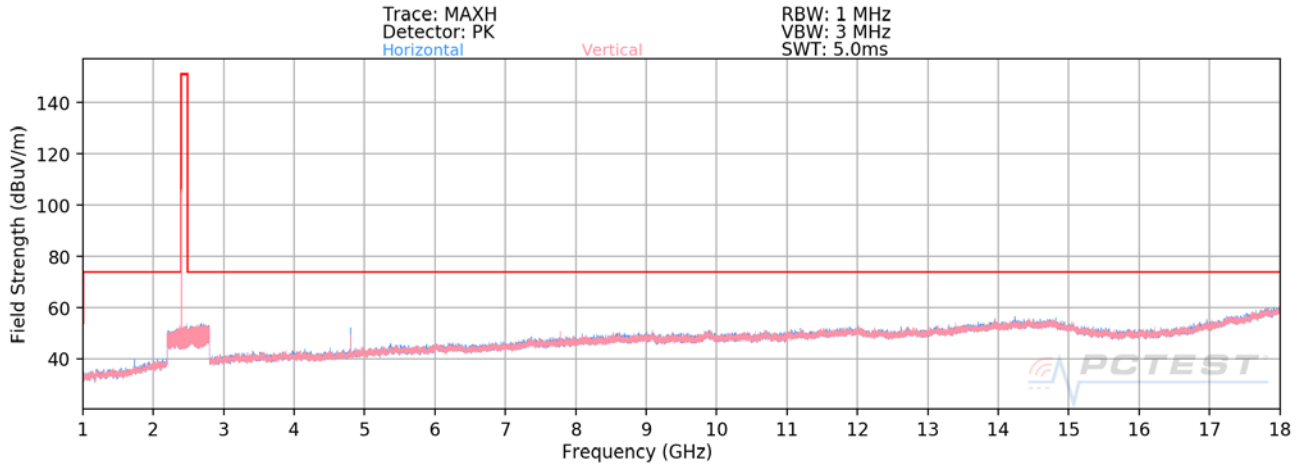
Duty Cycle Correction Factor Calculation

- Channel hop rate = 800 hops/second (AFH Mode)
- Adjusted channel hop rate for DH5 mode = 133.33 hops/second
- Time per channel hop = $1 / 133.33 \text{ hops/second} = 7.50 \text{ ms}$
- Time to cycle through all channels = $7.50 \times 20 \text{ channels} = 150 \text{ ms}$
- Number of times transmitter hits on one channel = $100 \text{ ms} / 150 \text{ ms} = 1 \text{ time(s)}$
- Worst case dwell time = 7.5 ms
- Duty cycle correction factor = $20\log_{10}(7.5\text{ms}/100\text{ms}) = -22.5 \text{ dB}$

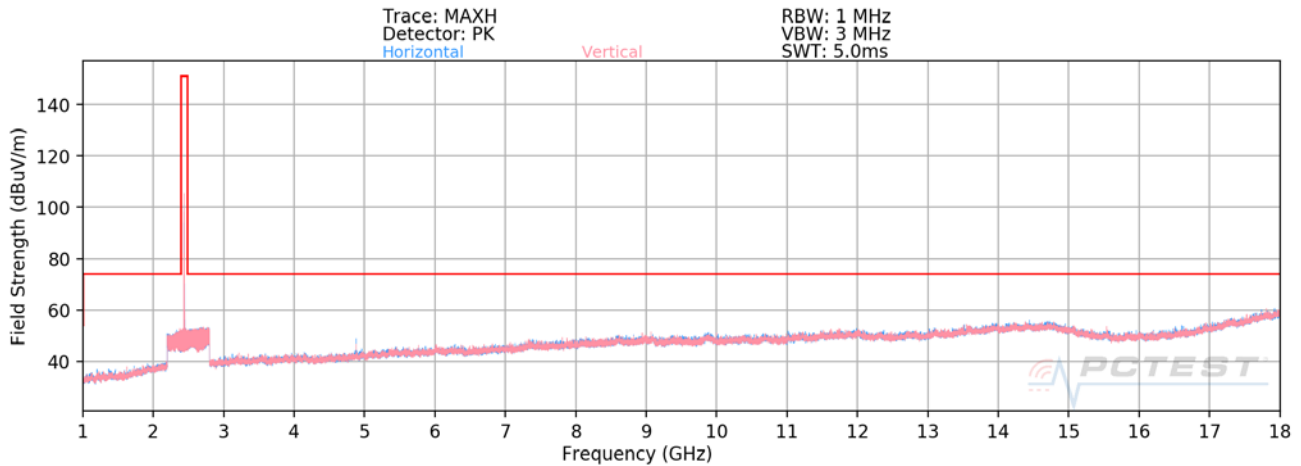
FCC ID: A3LSMF711U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset	Page 198 of 233	

Radiated Spurious Emission Measurements

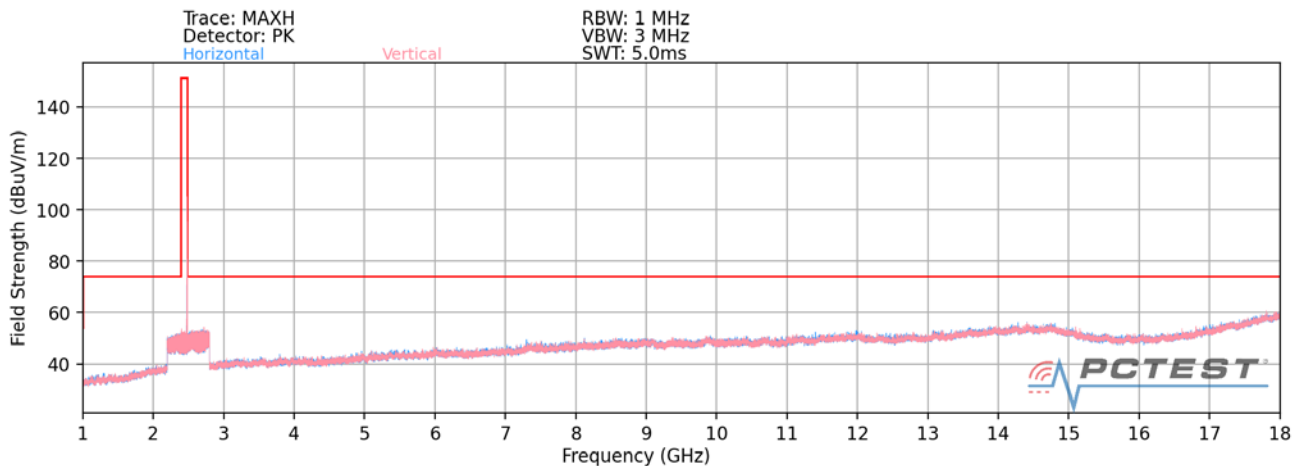
§15.205 §15.209 §15.247 (d); RSS-Gen [8.9]



Plot 7-329. Radiated Spurious Plot above 1GHz (BT- Ch. 0) – OPEN (N)

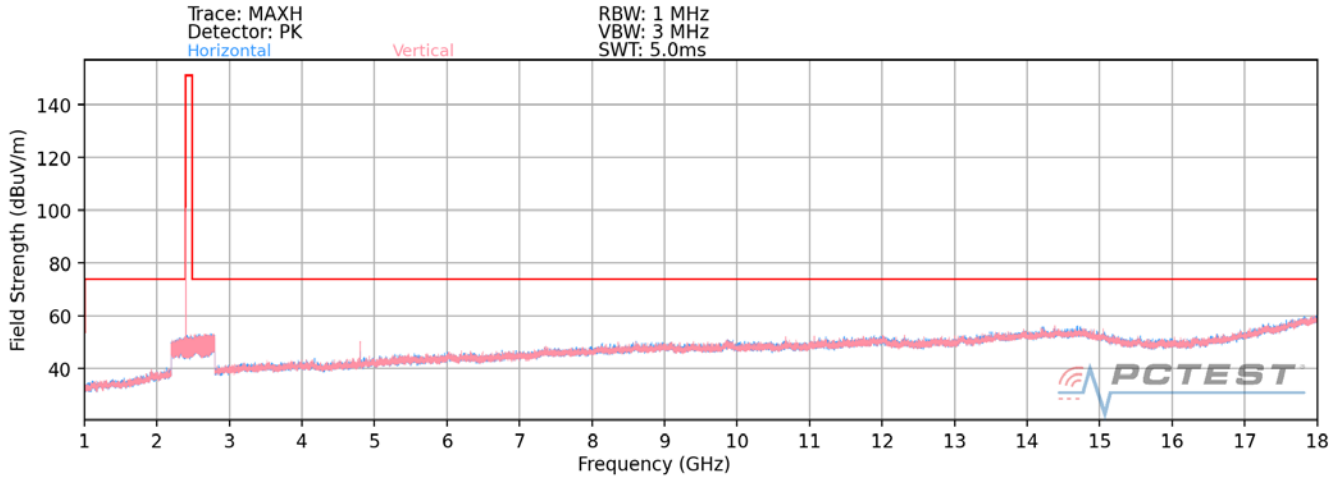


Plot 7-330. Radiated Spurious Plot above 1GHz (BT- Ch. 39) -- OPEN (N)

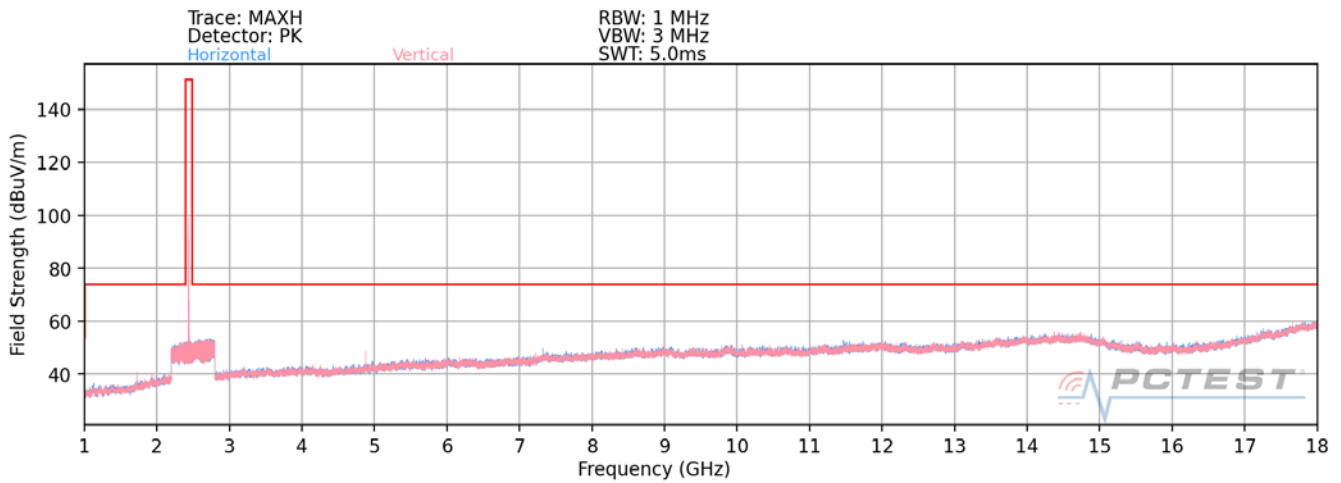


Plot 7-331. Radiated Spurious Plot above 1GHz (BT- Ch. 78) – OPEN (N)

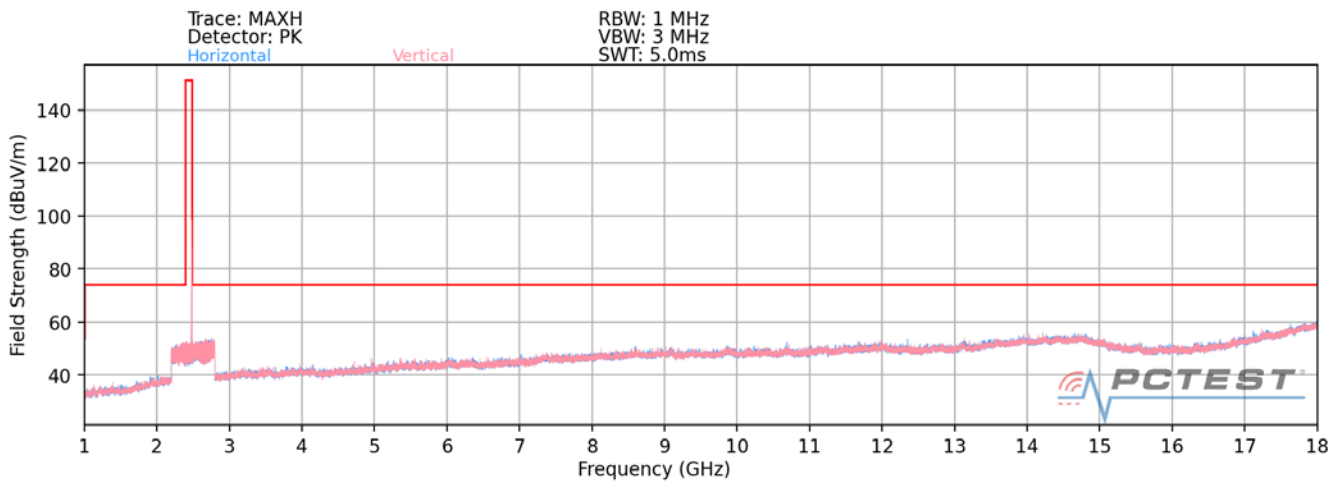
FCC ID: A3LSMF711U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset		Page 199 of 233



Plot 7-332. Radiated Spurious Plot above 1GHz (BT- Ch. 0) -- CLOSED (N)



Plot 7-333. Radiated Spurious Plot above 1GHz (BT- Ch. 39) -- CLOSED (N)

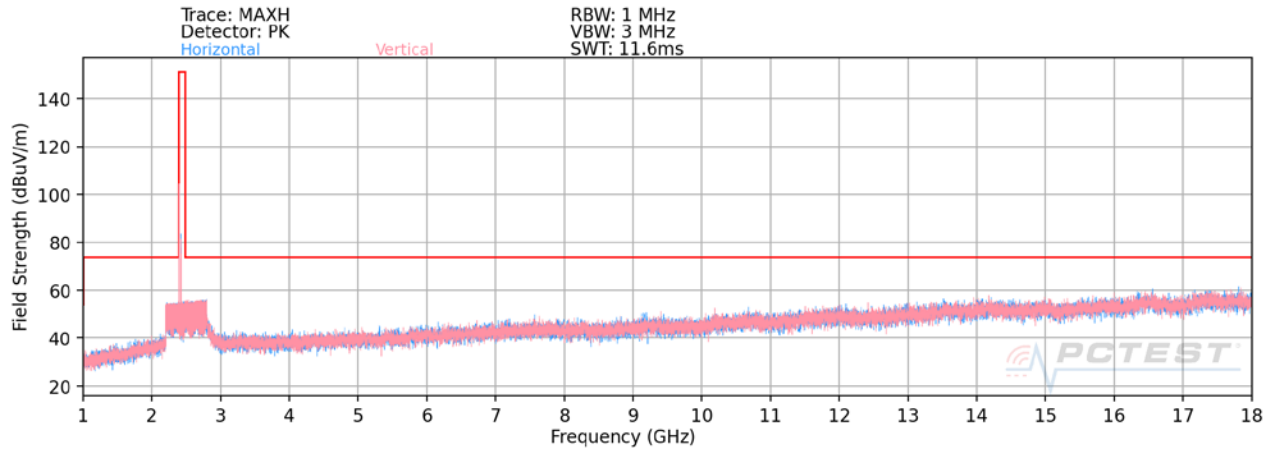


Plot 7-334. Radiated Spurious Plot above 1GHz (BT- Ch. 78) -- CLOSED (N)

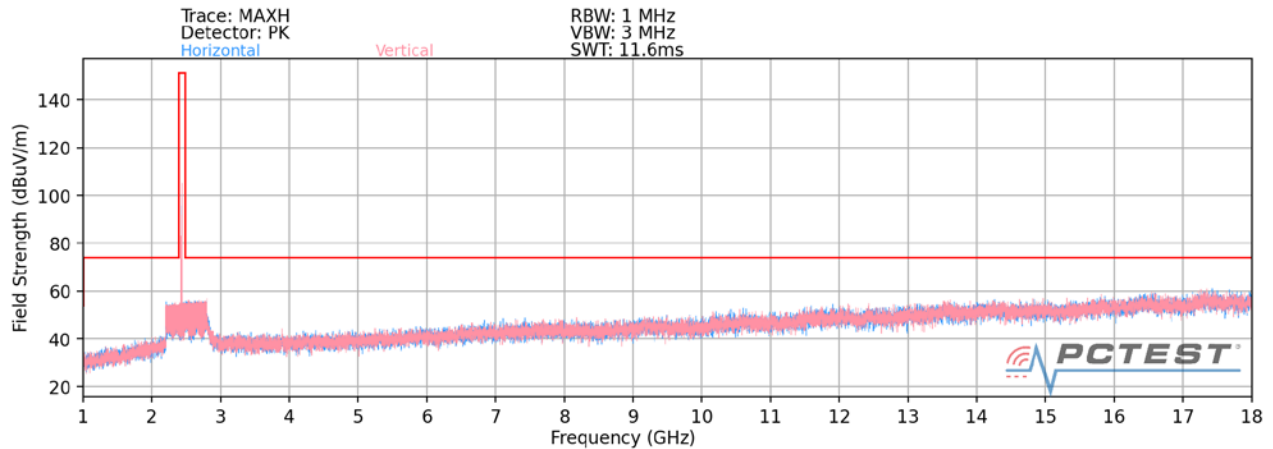
FCC ID: A3LSMF711U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset		Page 200 of 233

Radiated Spurious Emission Measurements

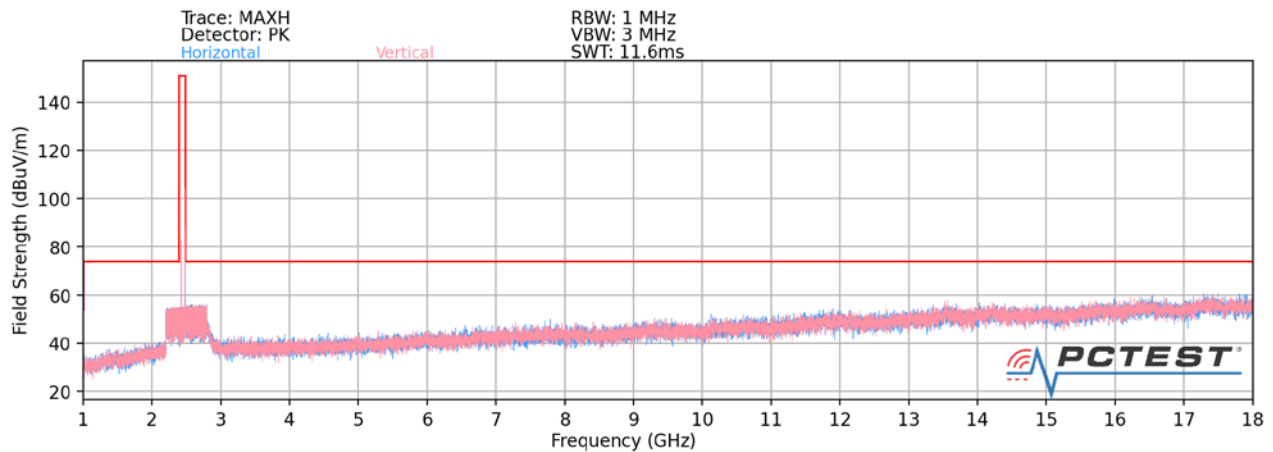
§15.205 §15.209 §15.247 (d); RSS-Gen [8.9]



Plot 7-335. Radiated Spurious Plot above 1GHz (BT- Ch. 0) – OPEN (Q)

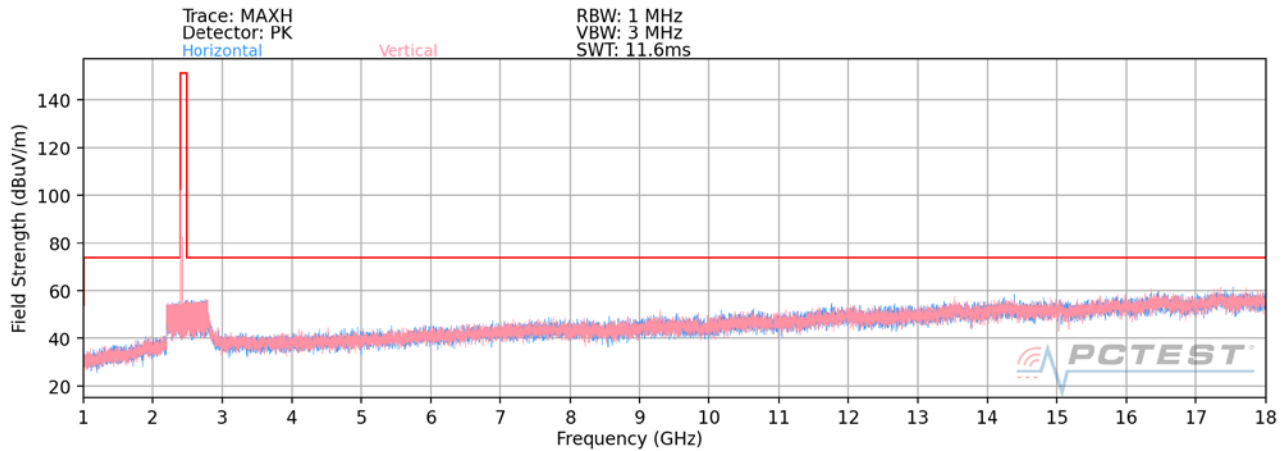


Plot 7-336. Radiated Spurious Plot above 1GHz (BT- Ch. 39) – OPEN (Q)

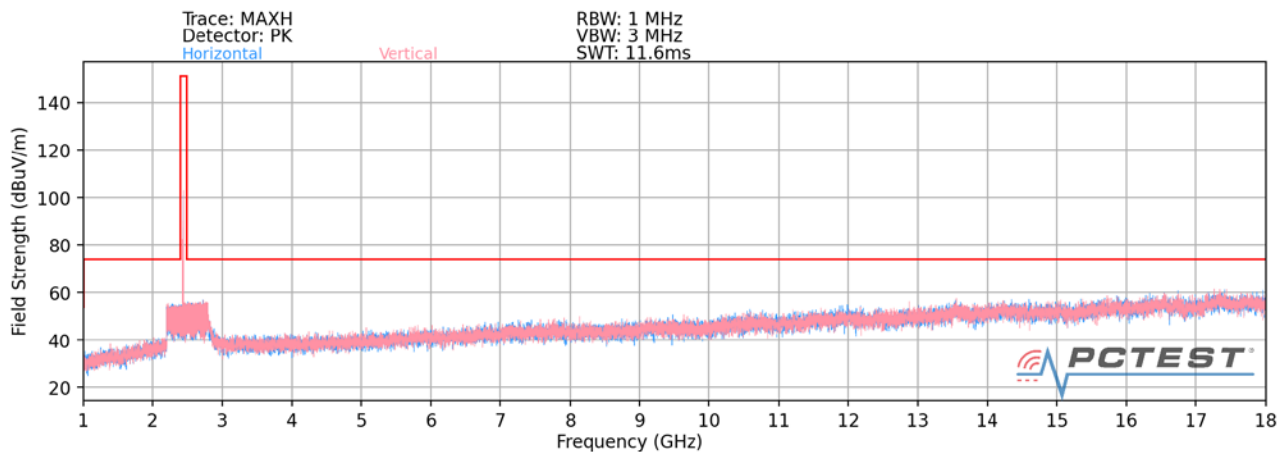


Plot 7-337. Radiated Spurious Plot above 1GHz (BT- Ch. 78) – OPEN (Q)

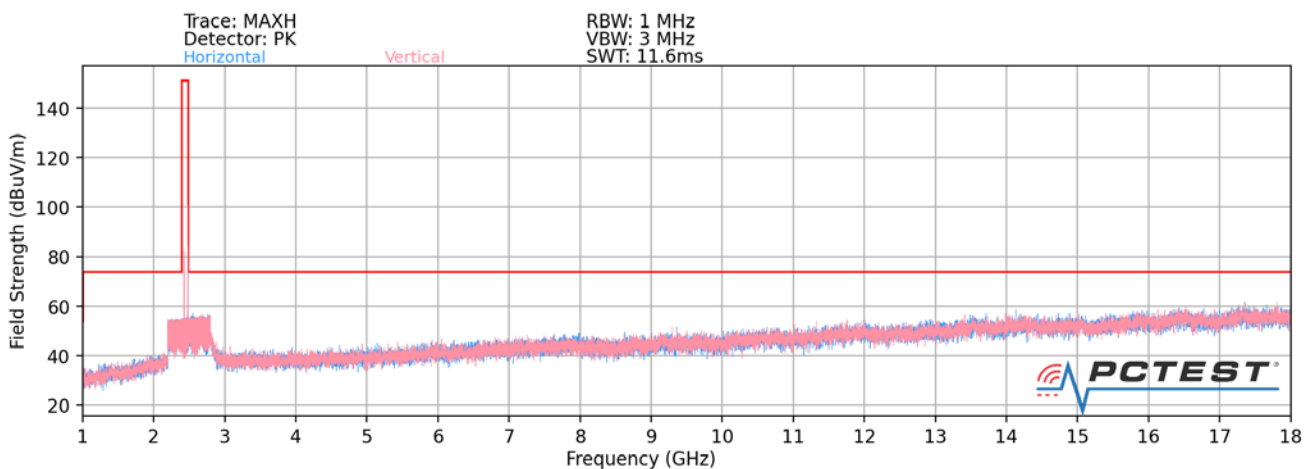
FCC ID: A3LSMF711U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset		Page 201 of 233



Plot 7-338. Radiated Spurious Plot above 1GHz (BT- Ch. 0) – CLOSED (Q)



Plot 7-339. Radiated Spurious Plot above 1GHz (BT- Ch. 39) – CLOSED (Q)

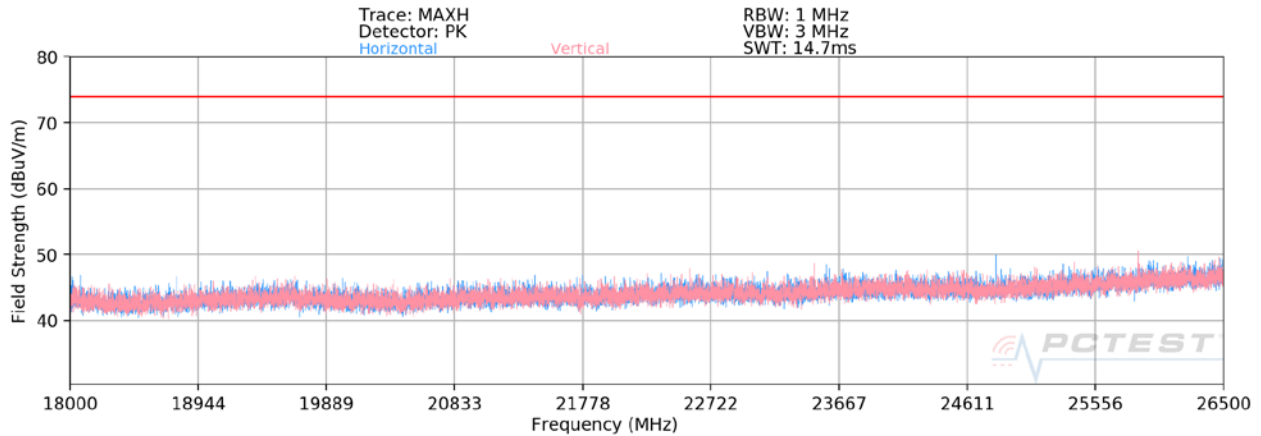


Plot 7-340. Radiated Spurious Plot above 1GHz (BT- Ch. 78) – CLOSED (Q)

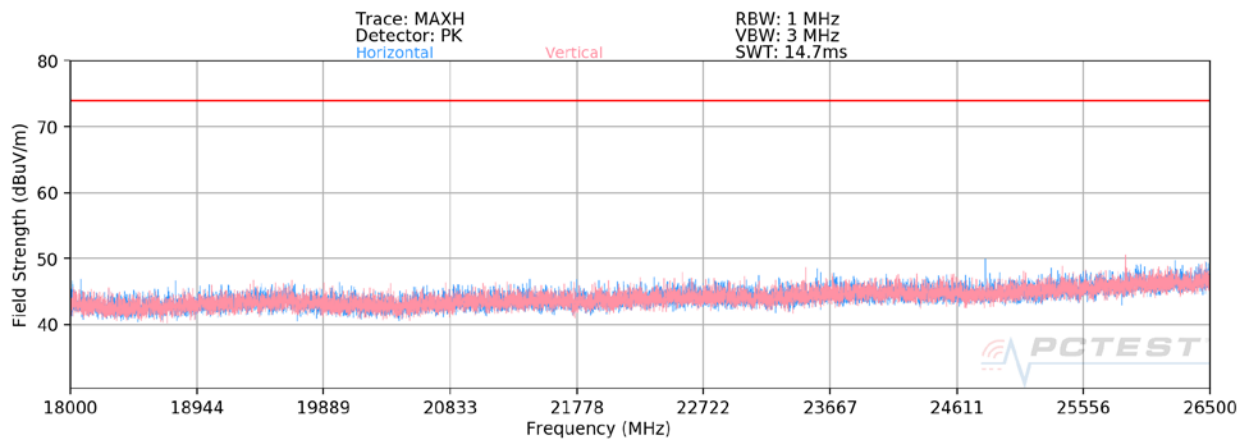
FCC ID: A3LSMF711U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset		Page 202 of 233

Radiated Spurious Emissions Measurements (Above 18GHz)

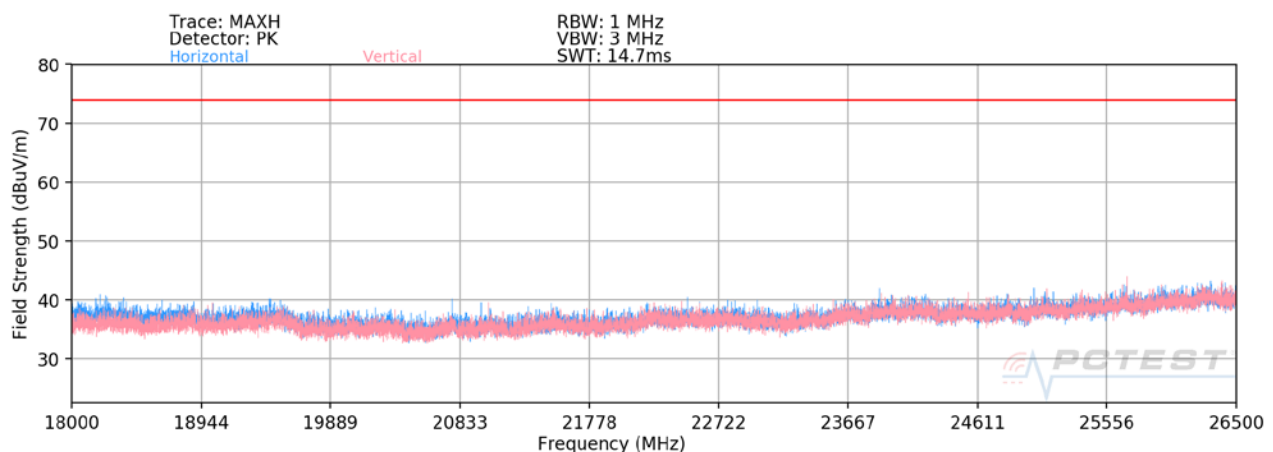
§15.209; RSS-Gen [8.9]



Plot 7-341. Radiated Spurious Plot above 18GHz – OPEN (N)

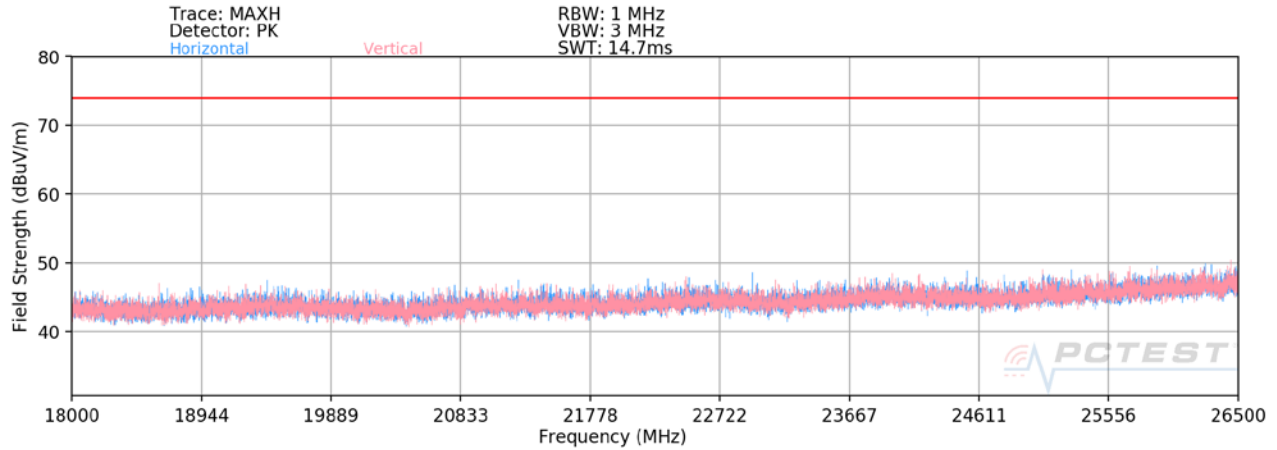


Plot 7-342. Radiated Spurious Plot above 18GHz – CLOSED (N)



Plot 7-343. Radiated Spurious Plot above 18GHz – OPEN (Q)

FCC ID: A3LSMF711U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset		Page 203 of 233



Plot 7-344. Radiated Spurious Plot above 18GHz – CLOSED (Q)

FCC ID: A3LSMF711U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset	Page 204 of 233	

Radiated Spurious Emission Measurements

§15.205 §15.209 §15.247 (d); RSS-Gen [8.9]

Worst Case Mode: Bluetooth
 Worst Case Data Rate: 1 Mbps
 Measurement Distance: 3 Meters
 Operating Frequency: 2402MHz
 Channel: 0

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Duty Cycle Correction [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4804.00	Avg	H	111	16	-75.63	3.24	-22.50	12.11	53.98	-41.87
4804.00	Peak	H	111	16	-64.85	3.24	0.00	45.39	73.98	-28.59
12010.00	Avg	H	-	-	-78.79	14.94	0.00	43.15	53.98	-10.83
12010.00	Peak	H	-	-	-67.67	14.94	0.00	54.27	73.98	-19.71

Table 7-12. Radiated Measurements – ANT0, ePA, OPEN (N)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4804.00	Avg	V	-	-	-80.89	9.56	35.67	53.98	-18.31
4804.00	Peak	V	-	-	-69.18	9.56	47.38	73.98	-26.60
12010.00	Avg	V	-	-	-83.71	24.11	47.40	53.98	-6.58
12010.00	Peak	V	-	-	-72.67	24.11	58.44	73.98	-15.54

Table 7-13. Radiated Measurements – ANT0, ePA, CLOSED (Q)

FCC ID: A3LSMF711U	 PCTEST [®] Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset	Page 205 of 233	

Radiated Spurious Emission Measurements

§15.205 §15.209 §15.247 (d); RSS-Gen [8.9]

Worst Case Mode:	Bluetooth
Worst Case Data Rate:	1 Mbps
Measurement Distance:	3 Meters
Operating Frequency:	2441 MHz
Channel:	39

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Duty Cycle Correction [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
4882.00	Avg	H	227	114	-69.70	3.65	-22.50	18.45	53.98	-35.53
4882.00	Peak	H	227	114	-62.17	3.65	0.00	48.48	73.98	-25.50
7323.00	Avg	H	116	118	-77.83	9.21	-22.50	15.88	53.98	-38.10
7323.00	Peak	H	116	118	-66.68	9.21	0.00	49.53	73.98	-24.45
12205.00	Avg	H	-	-	-79.08	13.67	0.00	41.59	53.98	-12.39
12205.00	Peak	H	-	-	-67.86	13.67	0.00	52.81	73.98	-21.17

Table 7-14. Radiated Measurements– ANT0, ePA, OPEN (N)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
4882.00	Avg	V	-	-	-80.90	9.47	35.57	53.98	-18.41
4882.00	Peak	V	-	-	-69.49	9.47	46.98	73.98	-27.00
7323.00	Avg	V	-	-	-82.53	15.67	40.14	53.98	-13.84
7323.00	Peak	V	-	-	-71.48	15.67	51.19	73.98	-22.79
12205.00	Avg	V	-	-	-84.29	23.55	46.26	53.98	-7.72
12205.00	Peak	V	-	-	-73.75	23.55	56.80	73.98	-17.18

Table 7-15. Radiated Measurements– ANT0, ePA, CLOSED (Q)

FCC ID: A3LSMF711U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset		Page 206 of 233

Radiated Spurious Emission Measurements

§15.205 §15.209 §15.247 (d); RSS-Gen [8.9]

Worst Case Mode:	Bluetooth
Worst Case Data Rate:	1 Mbps
Measurement Distance:	3 Meters
Operating Frequency:	2480MHz
Channel:	78

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Duty Cycle Correction [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
4960.00	Avg	H	121	127	-73.90	4.40	-22.50	15.00	53.98	-38.98
4960.00	Peak	H	121	127	-64.30	4.40	0.00	47.10	73.98	-26.88
7440.00	Avg	H	216	185	-77.81	8.90	-22.50	15.59	53.98	-38.39
7440.00	Peak	H	216	185	-66.94	8.90	0.00	48.96	73.98	-25.02
12400.00	Avg	H	-	-	-78.92	13.41	0.00	41.49	53.98	-12.49
12400.00	Peak	H	-	-	-67.66	13.41	0.00	52.75	73.98	-21.23

Table 7-16. Radiated Measurements – ANT0, ePA, OPEN (N)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
4960.00	Avg	V	-	-	-81.01	9.87	35.86	53.98	-18.12
4960.00	Peak	V	-	-	-69.78	9.87	47.09	73.98	-26.89
7440.00	Avg	V	-	-	-82.69	16.09	40.40	53.98	-13.58
7440.00	Peak	V	-	-	-71.55	16.09	51.54	73.98	-22.44
12400.00	Avg	V	-	-	-84.19	23.86	46.67	53.98	-7.31
12400.00	Peak	V	-	-	-73.12	23.86	57.74	73.98	-16.24

Table 7-17. Radiated Measurements – ANT0, ePA, CLOSED (Q)

FCC ID: A3LSMF711U	 PCTEST [®] Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset		Page 207 of 233

Radiated Spurious Emission Measurements

§15.205 §15.209 §15.247 (d); RSS-Gen [8.9]

Worst Case Mode: Bluetooth
 Worst Case Data Rate: 1 Mbps
 Measurement Distance: 3 Meters
 Operating Frequency: 2480MHz
 Channel: 78

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Duty Cycle Correction [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4960.00	Avg	H	195	232	-71.23	4.40	-22.50	17.67	53.98	-36.31
4960.00	Peak	H	195	232	-63.66	4.40	0.00	47.74	73.98	-26.24
7440.00	Avg	H	115	142	-77.35	8.90	-22.50	16.05	53.98	-37.93
7440.00	Peak	H	115	142	-66.44	8.90	0.00	49.46	73.98	-24.52
12400.00	Avg	H	-	-	-78.95	13.41	0.00	41.46	53.98	-12.52
12400.00	Peak	H	-	-	-67.97	13.41	0.00	52.44	73.98	-21.54

Table 7-18. Radiated Measurements with WCP – ANT0, ePA, (N)

Worst Case Mode: Bluetooth
 Worst Case Data Rate: 1 Mbps
 Measurement Distance: 3 Meters
 Operating Frequency: 2441MHz
 Channel: 39

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4882.00	Avg	V	-	-	-83.52	9.47	32.95	53.98	-21.03
4882.00	Peak	V	-	-	-69.64	9.47	46.83	73.98	-27.15
7323.00	Avg	V	-	-	-85.37	15.67	37.30	53.98	-16.68
7323.00	Peak	V	-	-	-70.96	15.67	51.71	73.98	-22.27
12205.00	Avg	V	-	-	-86.66	23.55	43.89	53.98	-10.09
12205.00	Peak	V	-	-	-72.61	23.55	57.94	73.98	-16.04

Table 7-19. Radiated Measurements with WCP – ANT0, ePA, (Q)

FCC ID: A3LSMF711U	 PCTEST [®] Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset		Page 208 of 233

Radiated Spurious Emission Measurements

§15.205 §15.209 §15.247 (d); RSS-Gen [8.9]

Worst Case Mode: Bluetooth
 Worst Case Data Rate: 1 Mbps
 Measurement Distance: 3 Meters
 Operating Frequency: 2402MHz
 Channel: 0

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4804.00	Avg	H	159	37	-67.89	6.43	45.54	53.98	-8.44
4804.00	Peak	H	159	37	-59.94	6.43	53.49	73.98	-20.49
12010.00	Avg	H	-	-	-81.96	18.38	43.42	53.98	-10.56
12010.00	Peak	H	-	-	-71.22	18.38	54.16	73.98	-19.82

Table 7-20. Radiated Measurements – ANT0, iPA, OPEN (N)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4804.00	Avg	V	-	-	-78.80	6.43	34.63	53.98	-19.35
4804.00	Peak	V	-	-	-67.21	6.43	46.22	73.98	-27.76
12010.00	Avg	V	-	-	-82.17	18.38	43.21	53.98	-10.77
12010.00	Peak	V	-	-	-69.79	18.38	55.59	73.98	-18.39

Table 7-21. Radiated Measurements – ANT0, iPA, CLOSED (Q)

FCC ID: A3LSMF711U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset		Page 209 of 233

Radiated Spurious Emission Measurements

§15.205 §15.209 §15.247 (d); RSS-Gen [8.9]

Worst Case Mode: Bluetooth
 Worst Case Data Rate: 1 Mbps
 Measurement Distance: 3 Meters
 Operating Frequency: 2441MHz
 Channel: 39

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4882.00	Avg	H	164	136	-71.44	6.88	42.44	53.98	-11.54
4882.00	Peak	H	164	136	-63.76	6.88	50.12	73.98	-23.86
7323.00	Avg	H	-	-	-80.14	12.84	39.70	53.98	-14.28
7323.00	Peak	H	-	-	-69.27	12.84	50.57	73.98	-23.41
12205.00	Avg	H	-	-	-81.43	18.62	44.19	53.98	-9.79
12205.00	Peak	H	-	-	-70.28	18.62	55.34	73.98	-18.64

Table 7-22. Radiated Measurements– ANT0, iPA, OPEN (N)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4882.00	Avg	V	-	-	-78.45	6.88	35.43	53.98	-18.55
4882.00	Peak	V	-	-	-67.61	6.88	46.27	73.98	-27.71
7323.00	Avg	V	-	-	-80.14	12.84	39.70	53.98	-14.28
7323.00	Peak	V	-	-	-68.63	12.84	51.21	73.98	-22.77
12205.00	Avg	V	-	-	-81.87	18.62	43.75	53.98	-10.23
12205.00	Peak	V	-	-	-70.18	18.62	55.44	73.98	-18.54

Table 7-23. Radiated Measurements– ANT0, iPA, CLOSED (Q)

FCC ID: A3LSMF711U	 PCTEST [®] Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset		Page 210 of 233

Radiated Spurious Emission Measurements

§15.205 §15.209 §15.247 (d); RSS-Gen [8.9]

Worst Case Mode:	Bluetooth
Worst Case Data Rate:	1 Mbps
Measurement Distance:	3 Meters
Operating Frequency:	2480MHz
Channel:	78

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]
4960.00	Avg	H	132	36	-70.35	6.66	43.31	53.98	-10.67
4960.00	Peak	H	132	36	-61.45	6.66	52.21	73.98	-21.77
7440.00	Avg	H	-	-	-80.34	13.08	39.74	53.98	-14.24
7440.00	Peak	H	-	-	-68.54	13.08	51.54	73.98	-22.44
12400.00	Avg	H	-	-	-81.94	18.77	43.83	53.98	-10.15
12400.00	Peak	H	-	-	-70.45	18.77	55.32	73.98	-18.66

Table 7-24. Radiated Measurements – ANT0, iPA, OPEN (N)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]
4960.00	Avg	V	-	-	-79.54	6.66	34.12	53.98	-19.86
4960.00	Peak	V	-	-	-64.87	6.66	48.79	73.98	-25.19
7440.00	Avg	V	-	-	-81.12	13.08	38.96	53.98	-15.02
7440.00	Peak	V	-	-	-69.45	13.08	50.63	73.98	-23.35
12400.00	Avg	V	-	-	-81.71	18.77	44.06	53.98	-9.92
12400.00	Peak	V	-	-	-70.29	18.77	55.48	73.98	-18.50

Table 7-25. Radiated Measurements – ANT0, iPA, CLOSED (Q)

FCC ID: A3LSMF711U	 PCTEST [®] Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset		Page 211 of 233

Radiated Spurious Emission Measurements

§15.205 §15.209 §15.247 (d); RSS-Gen [8.9]

Worst Case Mode: Bluetooth
 Worst Case Data Rate: 1 Mbps
 Measurement Distance: 3 Meters
 Operating Frequency: 2480MHz
 Channel: 78

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4960.00	Avg	H	195	232	-71.23	4.40	17.67	53.98	-36.31
4960.00	Peak	H	195	232	-63.66	4.40	47.74	73.98	-26.24
7440.00	Avg	H	115	142	-77.35	8.90	16.05	53.98	-37.93
7440.00	Peak	H	115	142	-66.44	8.90	49.46	73.98	-24.52
12400.00	Avg	H	-	-	-78.95	13.41	41.46	53.98	-12.52
12400.00	Peak	H	-	-	-67.97	13.41	52.44	73.98	-21.54

Table 7-26. Radiated Measurements with WCP – ANT0, iPA, (N)

Worst Case Mode: Bluetooth
 Worst Case Data Rate: 1 Mbps
 Measurement Distance: 3 Meters
 Operating Frequency: 2480MHz
 Channel: 78

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4960.00	Avg	V	104	90	-79.01	9.87	37.86	53.98	-16.12
4960.00	Peak	V	104	90	-68.43	9.87	48.44	73.98	-25.54
7440.00	Avg	V	-	-	-81.97	16.09	41.12	53.98	-12.86
7440.00	Peak	V	-	-	-72.16	16.09	50.93	73.98	-23.05
12400.00	Avg	V	-	-	-84.16	23.86	46.70	53.98	-7.28
12400.00	Peak	V	-	-	-73.45	23.86	57.41	73.98	-16.57

Table 7-27. Radiated Measurements with WCP – ANT0, iPA, (Q)

FCC ID: A3LSMF711U	 PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset		Page 212 of 233

Radiated Spurious Emission Measurements

§15.205 §15.209 §15.247 (d); RSS-Gen [8.9]

Worst Case Mode: Bluetooth
 Worst Case Data Rate: 1 Mbps
 Measurement Distance: 3 Meters
 Operating Frequency: 2402MHz
 Channel: 0

Frequency [MHz]	Detect or	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Duty Cycle Correction [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4804.00	Avg	H	119	145	-74.99	3.24	-22.50	12.75	53.98	-41.23
4804.00	Peak	H	119	145	-64.36	3.24	0.00	45.88	73.98	-28.10
12010.00	Avg	H	-	-	-79.13	14.94	0.00	42.81	53.98	-11.17
12010.00	Peak	H	-	-	-68.06	14.94	0.00	53.88	73.98	-20.10

Table 7-28. Radiated Measurements – ANT1, ePA, OPEN (N)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4804.00	Avg	H	-	-	-80.91	9.56	35.83	53.98	-18.15
4804.00	Peak	H	-	-	-69.22	9.56	48.09	73.98	-25.89
12010.00	Avg	H	-	-	-83.65	24.11	47.25	53.98	-6.73
12010.00	Peak	H	-	-	-71.59	24.11	59.52	73.98	-14.46

Table 7-29. Radiated Measurements – ANT1, ePA, CLOSED (Q)

FCC ID: A3LSMF711U	 PCTEST [®] Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset		Page 213 of 233

Radiated Spurious Emission Measurements

§15.205 §15.209 §15.247 (d); RSS-Gen [8.9]

Worst Case Mode:	Bluetooth
Worst Case Data Rate:	1 Mbps
Measurement Distance:	3 Meters
Operating Frequency:	2441 MHz
Channel:	39

Frequency [MHz]	Detect or	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Duty Cycle Correction [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4882.00	Avg	H	115	68	-74.37	3.65	-22.50	13.78	53.98	-40.20
4882.00	Peak	H	115	68	-64.16	3.65	0.00	46.49	73.98	-27.49
7323.00	Avg	H	-	-	-78.08	9.21	0.00	38.13	53.98	-15.85
7323.00	Peak	H	-	-	-66.71	9.21	0.00	49.50	73.98	-24.48
12205.00	Avg	H	-	-	-79.11	13.67	0.00	41.56	53.98	-12.42
12205.00	Peak	H	-	-	-67.55	13.67	0.00	53.12	73.98	-20.86

Table 7-30. Radiated Measurements – ANT1, ePA, OPEN (N)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4882.00	Avg	H	-	-	-81.02	9.47	35.55	53.98	-18.43
4882.00	Peak	H	-	-	-69.58	9.47	47.76	73.98	-26.22
7323.00	Avg	H	-	-	-82.56	15.67	40.07	53.98	-13.91
7323.00	Peak	H	-	-	-71.43	15.67	51.30	73.98	-22.68
12205.00	Avg	H	-	-	-84.32	23.55	46.42	53.98	-7.56
12205.00	Peak	H	-	-	-73.79	23.55	57.70	73.98	-16.28

Table 7-31. Radiated Measurements – ANT1, ePA, CLOSED (Q)

FCC ID: A3LSMF711U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset	Page 214 of 233	

Radiated Spurious Emission Measurements

§15.205 §15.209 §15.247 (d); RSS-Gen [8.9]

Worst Case Mode:	Bluetooth
Worst Case Data Rate:	1 Mbps
Measurement Distance:	3 Meters
Operating Frequency:	2480MHz
Channel:	78

Frequency [MHz]	Detect or	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Duty Cycle Correction [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4960.00	Avg	H	111	70	-74.76	4.40	-22.50	14.14	53.98	-39.84
4960.00	Peak	H	111	70	-65.20	4.40	0.00	46.20	73.98	-27.78
7440.00	Avg	H	-	-	-78.45	8.90	0.00	37.45	53.98	-16.53
7440.00	Peak	H	-	-	-67.13	8.90	0.00	48.77	73.98	-25.21
12400.00	Avg	H	-	-	-79.04	13.41	0.00	41.37	53.98	-12.61
12400.00	Peak	H	-	-	-68.02	13.41	0.00	52.39	73.98	-21.59

Table 7-32. Radiated Measurements – ANT1, ePA, OPEN (N)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4960.00	Avg	H	-	-	-81.13	9.87	35.85	53.98	-18.13
4960.00	Peak	H	-	-	-69.88	9.87	46.74	73.98	-27.24
7440.00	Avg	H	-	-	-82.73	16.09	40.23	53.98	-13.75
7440.00	Peak	H	-	-	-71.59	16.09	51.67	73.98	-22.31
12400.00	Avg	H	-	-	-84.21	23.86	46.59	53.98	-7.39
12400.00	Peak	H	-	-	-73.19	23.86	57.75	73.98	-16.23

Table 7-33. Radiated Measurements – ANT1, ePA, CLOSED (Q)

FCC ID: A3LSMF711U	 PCTEST [®] Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset		Page 215 of 233

Radiated Spurious Emission Measurements

§15.205 §15.209 §15.247 (d); RSS-Gen [8.9]

Worst Case Mode: Bluetooth
 Worst Case Data Rate: 1 Mbps
 Measurement Distance: 3 Meters
 Operating Frequency: 2402MHz
 Channel: 0

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4804.00	Avg	H	122	19	-77.08	6.43	35.83	53.98	-18.15
4804.00	Peak	H	122	19	-67.09	6.43	48.09	73.98	-25.89
12010.00	Avg	H	-	-	-81.96	18.38	47.25	53.98	-6.73
12010.00	Peak	H	-	-	-70.83	18.38	59.52	73.98	-14.46

Table 7-34. Radiated Measurements – ANT1, iPA, OPEN (N)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4804.00	Avg	H	-	-	-78.89	9.56	37.67	53.98	-16.31
4804.00	Peak	H	-	-	-67.05	9.56	49.51	73.98	-24.47
12010.00	Avg	H	-	-	-82.00	24.11	49.11	53.98	-4.87
12010.00	Peak	H	-	-	-69.98	24.11	61.13	73.98	-12.85

Table 7-35. Radiated Measurements – ANT1, iPA, CLOSED (Q)

FCC ID: A3LSMF711U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset		Page 216 of 233

Radiated Spurious Emission Measurements

§15.205 §15.209 §15.247 (d); RSS-Gen [8.9]

Worst Case Mode:	Bluetooth
Worst Case Data Rate:	1 Mbps
Measurement Distance:	3 Meters
Operating Frequency:	2441 MHz
Channel:	39

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4882.00	Avg	H	136	15	-79.18	6.88	35.55	53.98	-18.43
4882.00	Peak	H	136	15	-67.95	6.88	47.76	73.98	-26.22
7323.00	Avg	H	-	-	-80.25	12.84	40.07	53.98	-13.91
7323.00	Peak	H	-	-	-68.52	12.84	51.30	73.98	-22.68
12205.00	Avg	H	-	-	-81.86	18.62	46.42	53.98	-7.56
12205.00	Peak	H	-	-	-70.47	18.62	57.70	73.98	-16.28

Table 7-36. Radiated Measurements – ANT1, iPA, OPEN (N)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4882.00	Avg	H	-	-	-78.89	9.47	37.58	53.98	-16.40
4882.00	Peak	H	-	-	-67.75	9.47	48.72	73.98	-25.26
7323.00	Avg	H	-	-	-80.24	15.67	42.43	53.98	-11.55
7323.00	Peak	H	-	-	-69.22	15.67	53.45	73.98	-20.53
12205.00	Avg	H	-	-	-81.62	23.55	48.93	53.98	-5.05
12205.00	Peak	H	-	-	-70.29	23.55	60.26	73.98	-13.72

Table 7-37. Radiated Measurements – ANT1, iPA, CLOSED (Q)

FCC ID: A3LSMF711U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset	Page 217 of 233	

Radiated Spurious Emission Measurements

§15.205 §15.209 §15.247 (d); RSS-Gen [8.9]

Worst Case Mode:	Bluetooth
Worst Case Data Rate:	1 Mbps
Measurement Distance:	3 Meters
Operating Frequency:	2480MHz
Channel:	78

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4960.00	Avg	H	128	9	-76.65	6.66	35.85	53.98	-18.13
4960.00	Peak	H	128	9	-66.89	6.66	46.74	73.98	-27.24
7440.00	Avg	H	-	-	-80.26	13.08	40.23	53.98	-13.75
7440.00	Peak	H	-	-	-69.20	13.08	51.67	73.98	-22.31
12400.00	Avg	H	-	-	-82.03	18.77	46.59	53.98	-7.39
12400.00	Peak	H	-	-	-70.89	18.77	57.75	73.98	-16.23

Table 7-38. Radiated Measurements – ANT1, iPA, OPEN (N)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4960.00	Avg	H	-	-	-79.11	9.87	37.76	53.98	-16.22
4960.00	Peak	H	-	-	-67.49	9.87	49.38	73.98	-24.60
7440.00	Avg	H	-	-	-80.36	16.09	42.73	53.98	-11.25
7440.00	Peak	H	-	-	-69.23	16.09	53.86	73.98	-20.12
12400.00	Avg	H	-	-	-81.87	23.86	48.99	53.98	-4.99
12400.00	Peak	H	-	-	-70.48	23.86	60.38	73.98	-13.60

Table 7-39. Radiated Measurements – ANT1, iPA, CLOSED (Q)

FCC ID: A3LSMF711U	 PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset		Page 218 of 233

7.10 Radiated Restricted Band Edge Measurements

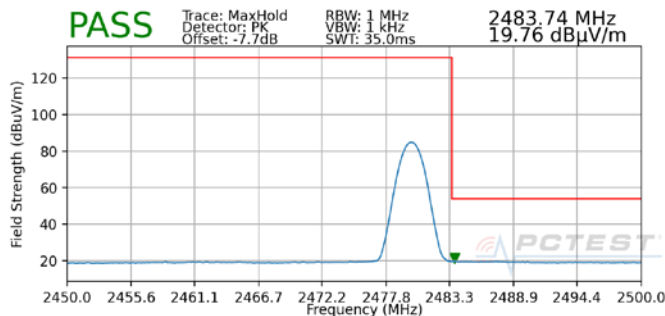
§15.205 §15.209 §15.247 (d); RSS-Gen [8.9]

The radiated restricted band edge measurements are measured with an EMI test receiver connected to the receive antenna while the EUT is transmitting. Two different amplitude offsets were used depending on whether peak or average measurements were measured. The average measurements use a duty cycle correction factor (DCCF).

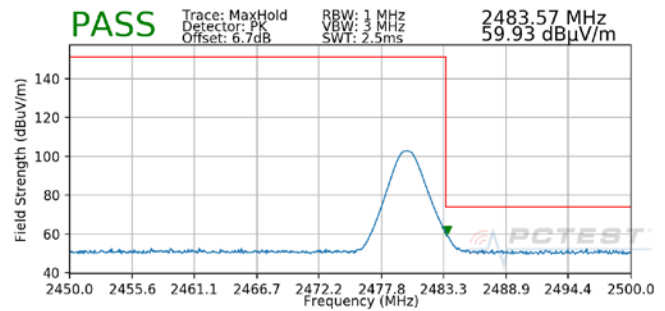
The amplitude offset shown in the following plots for average measurements was calculated using the formula:

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

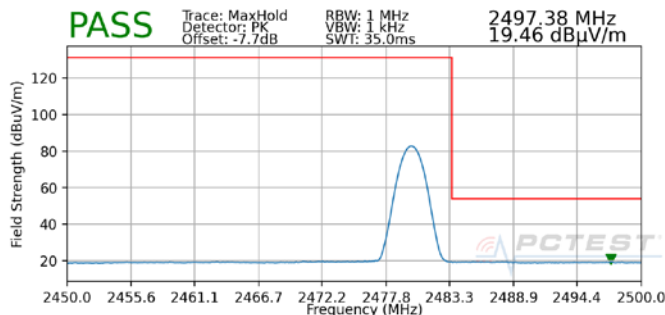
Worst Case Mode:	Bluetooth
Worst Case Data Rate:	1 Mbps
Measurement Distance:	3 Meters
Operating Frequency:	2480MHz
Channel:	78



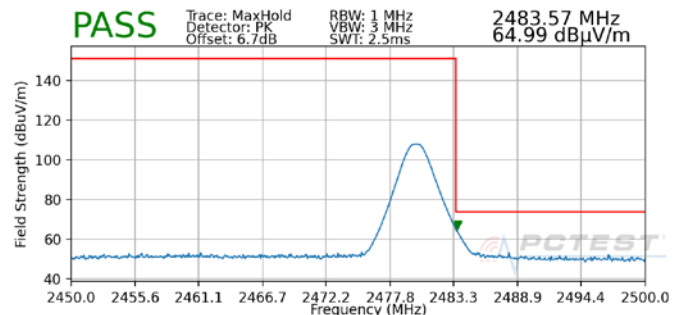
Plot 7-345. Radiated Restricted Upper Band Edge Measurement (Average) – ANT0 (N)



Plot 7-346. Radiated Restricted Upper Band Edge Measurement (Peak) – ANT0 (N)

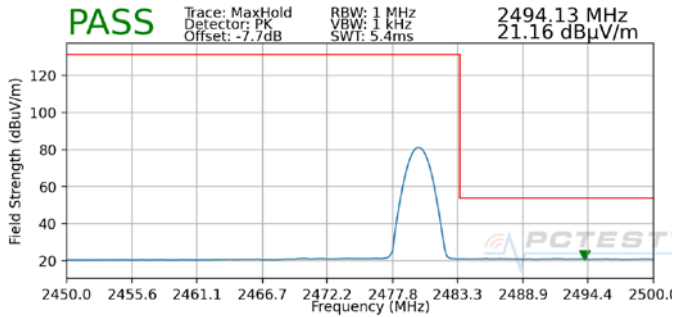


Plot 7-347. Radiated Restricted Upper Band Edge Measurement (Average) – ANT1 (N)

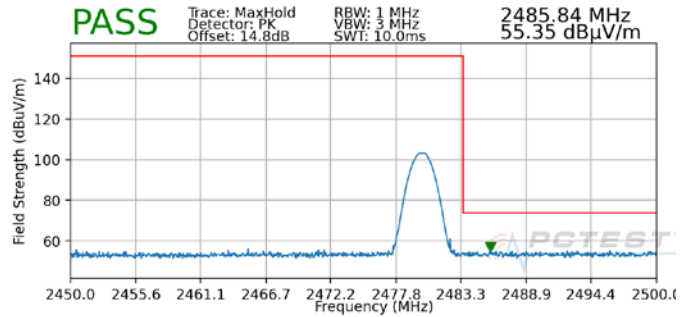


Plot 7-348. Radiated Restricted Upper Band Edge Measurement (Peak) – ANT1 (N)

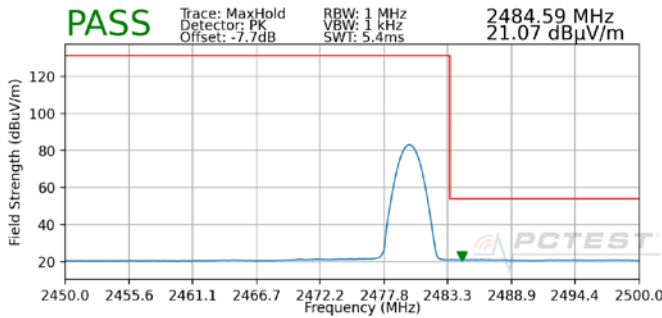
FCC ID: A3LSMF711U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset		Page 219 of 233



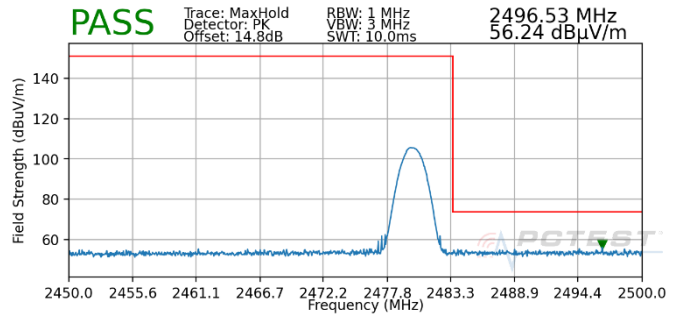
Plot 7-349. Radiated Restricted Upper Band Edge Measurement (Average) – ANT0 (Q)



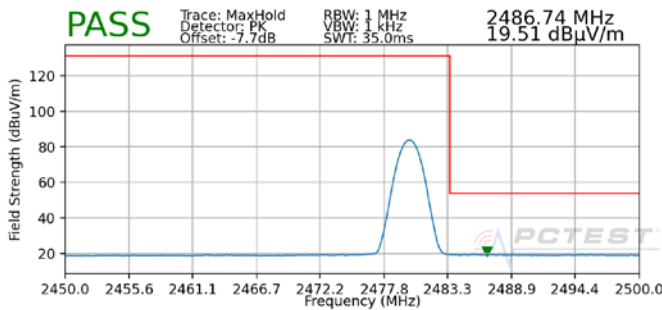
Plot 7-352. Radiated Restricted Upper Band Edge Measurement (Peak) – ANT0 (Q)



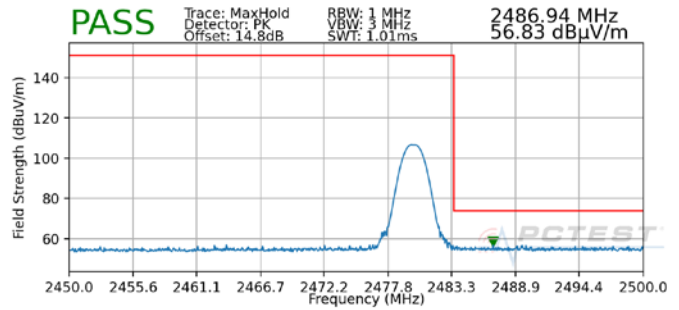
Plot 7-350. Radiated Restricted Upper Band Edge Measurement (Average) – ANT1 (Q)



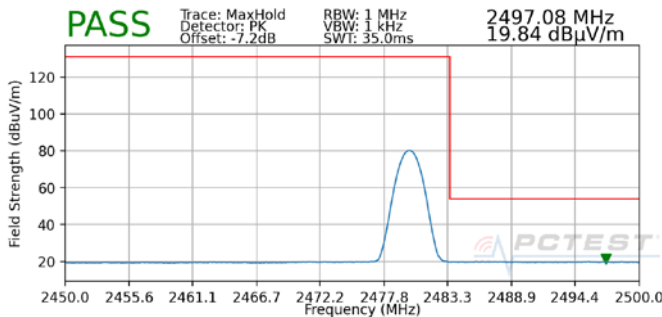
Plot 7-353. Radiated Restricted Upper Band Edge Measurement (Peak) – ANT1 (Q)



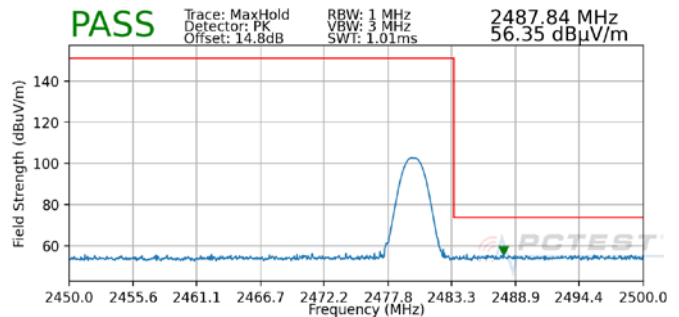
Plot 7-351. Radiated Restricted Upper Band Edge Measurement with WCP (Average) – ANT0 (N)



Plot 7-354. Radiated Restricted Upper Band Edge Measurement with WCP (Peak) – ANT0 (N)

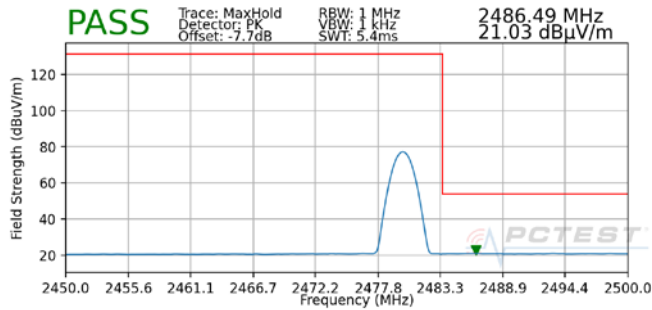


Plot 7-355. Radiated Restricted Upper Band Edge Measurement with WCP (Average) – ANT1 (N)

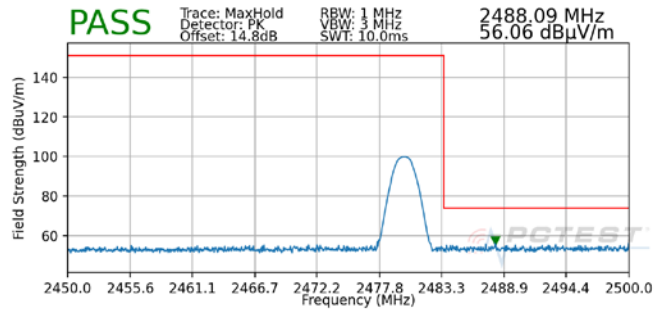


Plot 7-358. Radiated Restricted Upper Band Edge Measurement with WCP (Peak) – ANT1 (N)

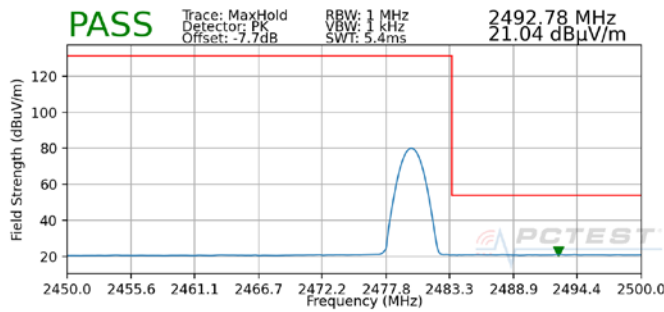
FCC ID: A3LSMF711U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset		Page 220 of 233



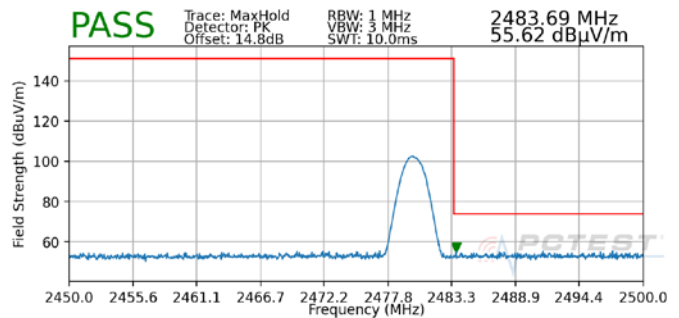
Plot 7-356. Radiated Restricted Upper Band Edge Measurement with WCP (Average) – ANT0 (Q)



Plot 7-359. Radiated Restricted Upper Band Edge Measurement with WCP (Peak) – ANT0 (Q)



Plot 7-357. Radiated Restricted Upper Band Edge Measurement with WCP (Average) – ANT1 (Q)



Plot 7-360. Radiated Restricted Upper Band Edge Measurement with WCP (Peak) – ANT1 (Q)

FCC ID: A3LSMF711U	 PCTEST Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset		Page 221 of 233

7.11 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 7-40 per Section 15.209 and RSS-Gen (8.9).

Frequency	Field Strength [μ 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 7-40. 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: A3LSMF711U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset	Page 222 of 233	

Test Setup

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

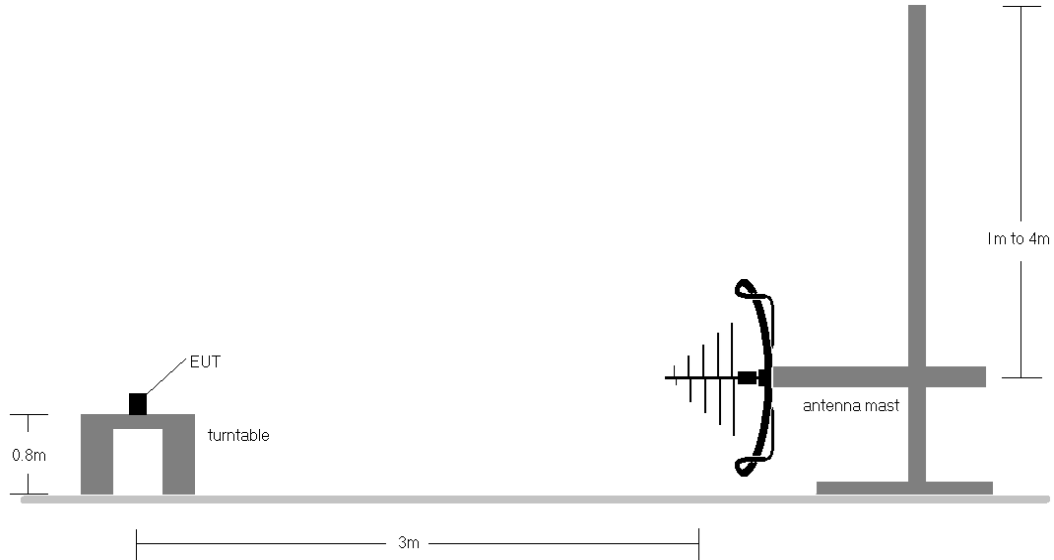


Figure 7-9. Radiated Test Setup < 1GHz

FCC ID: A3LSMF711U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset	Page 223 of 233	

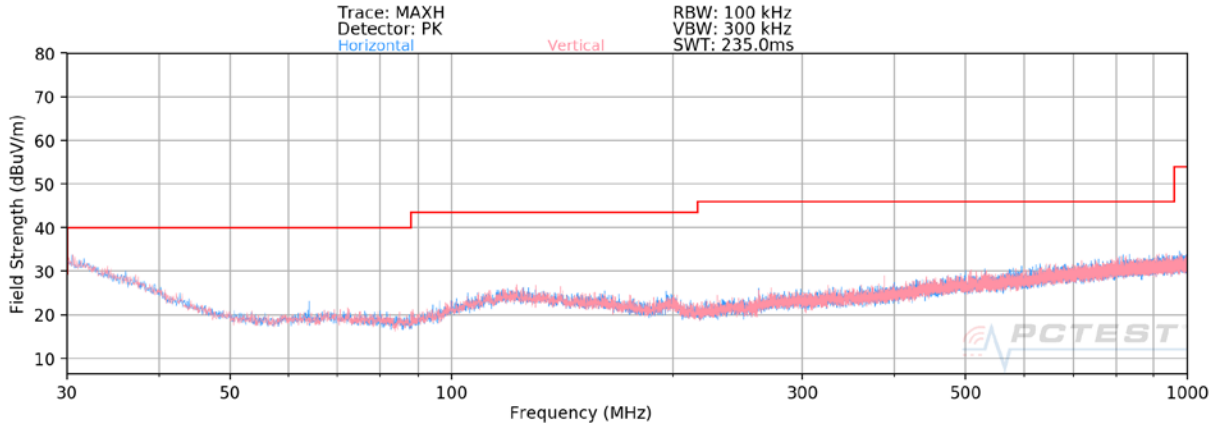
Test Notes

1. All emissions lying in restricted bands specified in §15.205 and RSS-Gen (8.10) are below the limit shown in Table 7-40.
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.
10. This device will be manufactured using two different WIFI chipsets (N and Q) and each chipset supports two configurations: one is with screen open, and one is with screen closed. Both configurations for each chipset are tested, and the worst case radiated emissions data is shown in this report.

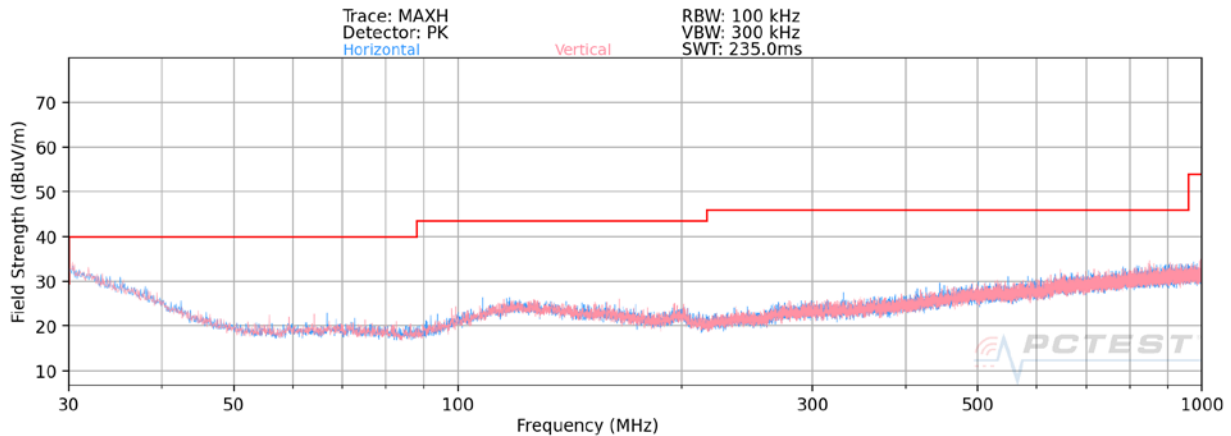
FCC ID: A3LSMF711U		MEASUREMENT REPORT (CERTIFICATION)	 Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset	Page 224 of 233

Radiated Spurious Emissions Measurements (Below 1GHz)

§15.209; RSS-Gen [8.9]



Plot 7-361. Radiated Spurious Plot below 1GHz – OPEN (N)



Plot 7-362. Radiated Spurious Plot below 1GHz – CLOSED (N)

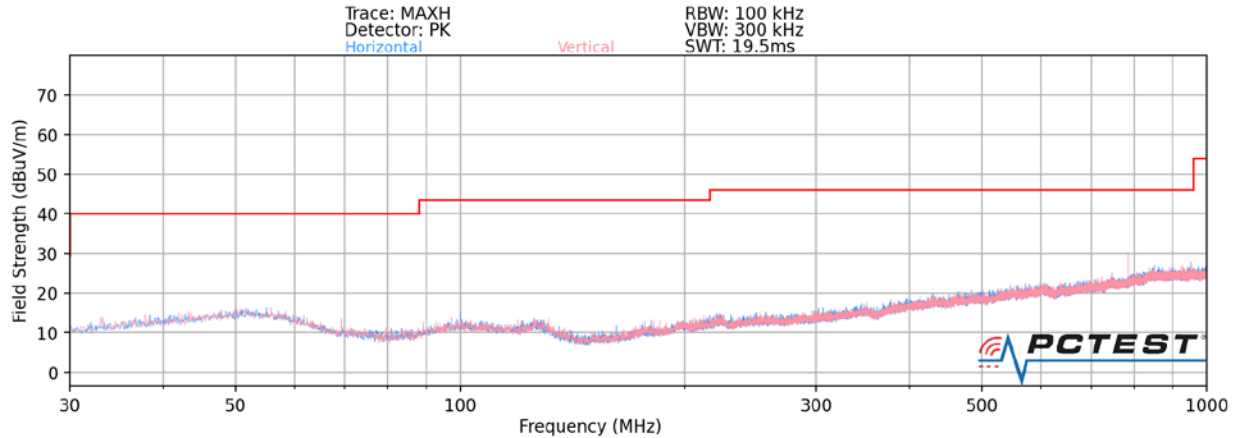
Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
32.05	Quasi-Peak	V	100	32	-97.23	25.29	35.06	40.00	-4.94
43.90	Quasi-Peak	H	102	192	-97.45	16.17	25.72	40.00	-14.28
75.26	Quasi-Peak	H	104	109	-96.58	13.35	23.77	40.00	-16.23
389.73	Quasi-Peak	V	162	308	-98.62	19.01	27.39	46.02	-18.63
409.05	Quasi-Peak	H	142	263	-99.46	19.87	27.41	46.02	-18.61
848.20	Quasi-Peak	H	261	111	-96.82	24.79	34.97	46.02	-11.05

Table 7-41. Radiated Spurious Emissions Below 1GHz – (N)

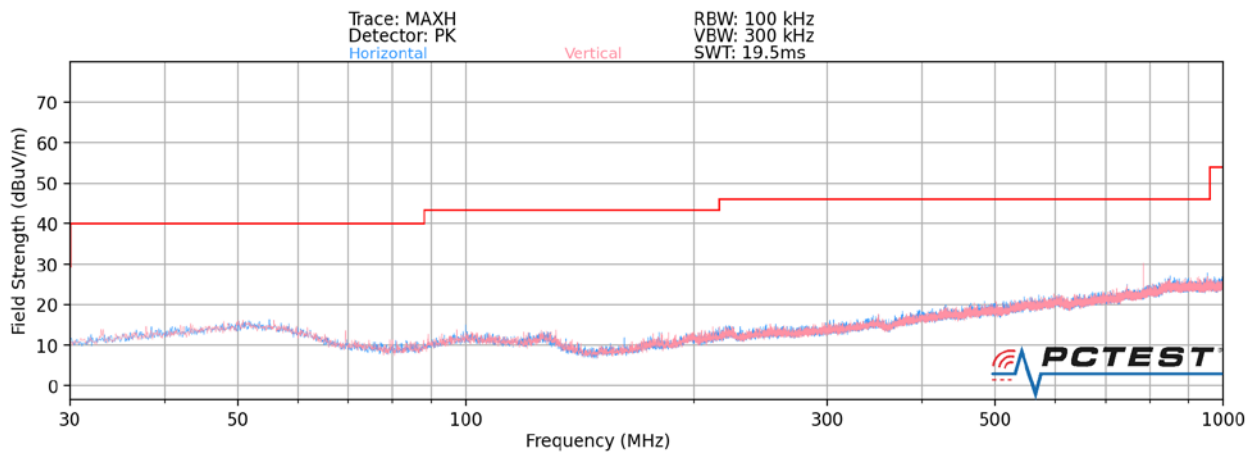
FCC ID: A3LSMF711U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset		Page 225 of 233

Radiated Spurious Emissions Measurements (Below 1GHz)

§15.209; RSS-Gen [8.9]



Plot 7-363. Radiated Spurious Plot below 1GHz – OPEN (Q)



Plot 7-364. Radiated Spurious Plot below 1GHz – CLOSED (Q)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]
52.00	Quasi-Peak	V	-	-	-82.41	-13.61	10.98	40.00	-29.02
101.00	Quasi-Peak	V	-	-	-83.41	-16.10	7.49	43.52	-36.03
134.00	Quasi-Peak	V	-	-	-81.38	-19.32	6.30	43.52	-37.22
217.00	Quasi-Peak	V	-	-	-81.21	-15.85	9.94	46.02	-36.08
608.00	Quasi-Peak	V	-	-	-82.11	-6.92	17.97	46.02	-28.05
789.00	Quasi-Peak	V	-	-	-82.03	-16.84	8.13	46.02	-37.90

Table 7-42. Radiated Spurious Emissions Below 1GHz – (Q)

FCC ID: A3LSMF711U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset		Page 226 of 233

7.12 Line Conducted Measurement Data

§15.207; RSS-Gen [8.8]

Test Overview and Limit

All AC line conducted spurious emissions are measured with a receiver connected to a grounded LISN 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 conducted spurious emissions. Only the conducted emissions of the configuration that produced the worst case emissions are reported in this section.

All conducted emissions must not exceed the limits shown in the table below, per Section 15.207 and RSS-Gen (8.8).

Frequency of emission (MHz)	Conducted Limit (dB μ V)	
	Quasi-peak	Average
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 – 30	60	50

Table 7-43. Conducted Limits

*Decreases with the logarithm of the frequency.

Test Procedures Used

ANSI C63.10-2013, Section 6.2

Test Settings

Quasi-Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the spurious emission of interest
2. RBW = 9kHz (for emissions from 150kHz – 30MHz)
3. Detector = quasi-peak
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

Average Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the spurious emission of interest
2. RBW = 9kHz (for emissions from 150kHz – 30MHz)
3. Detector = RMS
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

FCC ID: A3LSMF711U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset	Page 227 of 233	

Test Setup

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

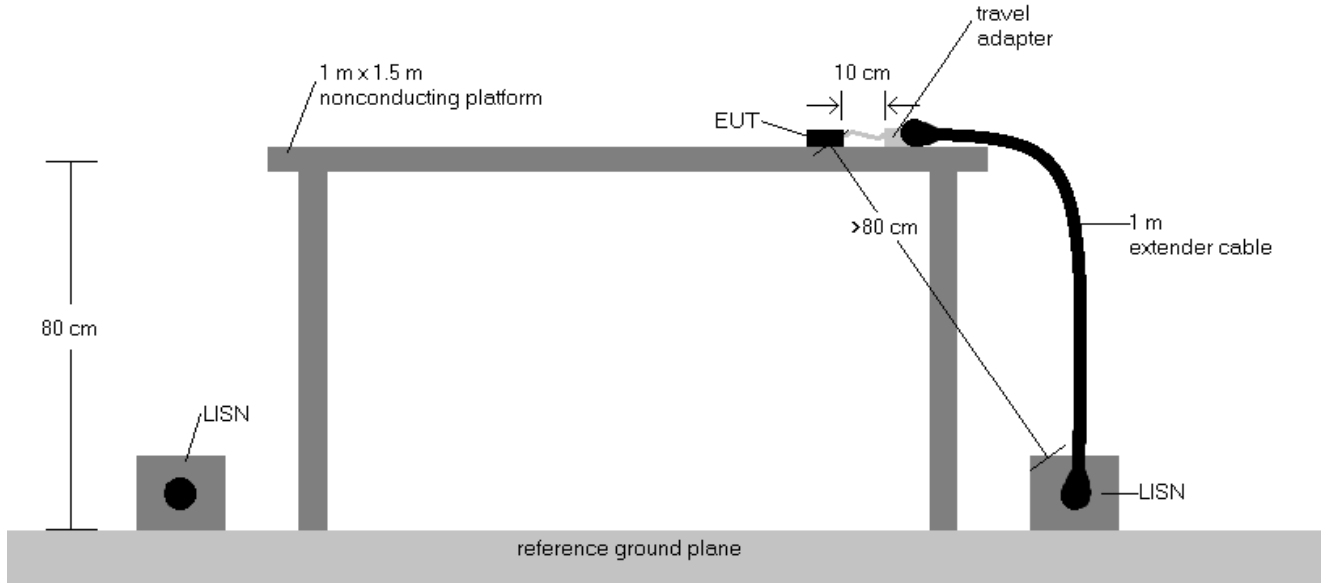
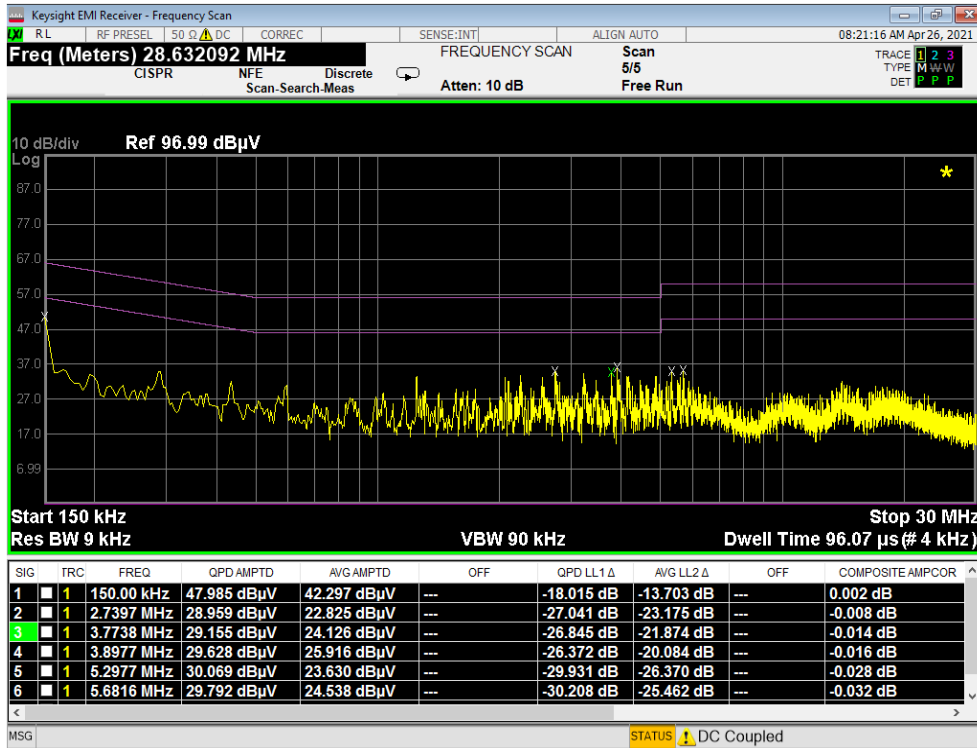


Figure 7-10. Test Instrument & Measurement Setup

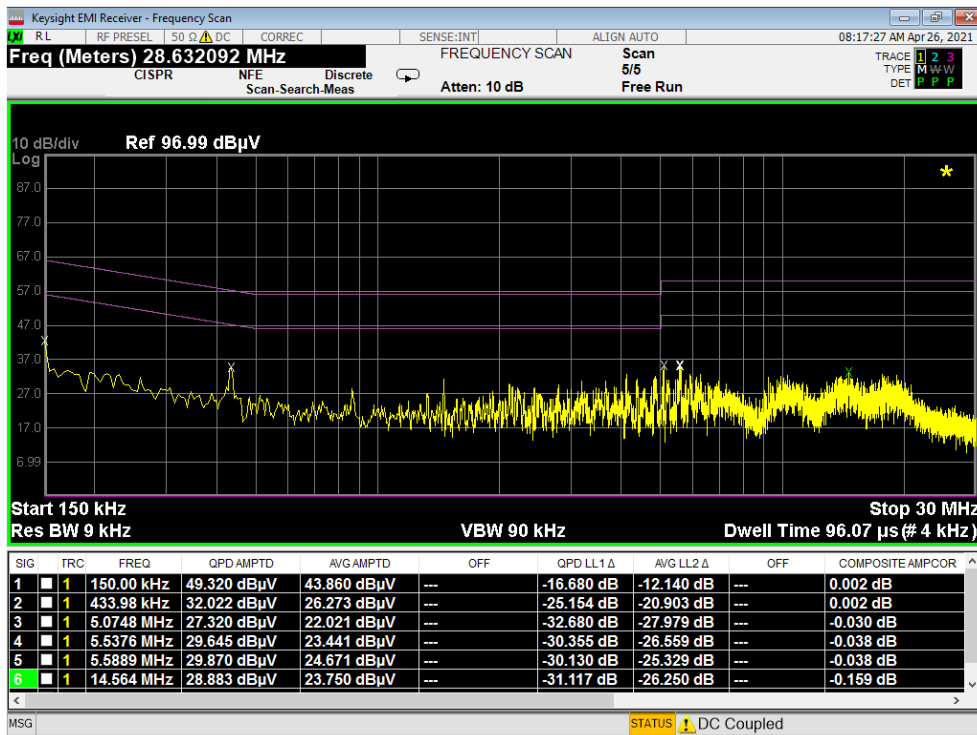
Test Notes

1. All modes of operation were investigated and the worst-case emissions are reported using mid channel. The emissions found were not affected by the choice of channel used during testing.
2. The limit for an intentional radiator from 150kHz to 30MHz are specified in 15.207 and RSS-Gen (8.8).
3. $\text{Corr. (dB)} = \text{Cable loss (dB)} + \text{LISN insertion factor (dB)}$
4. $\text{QP/AV Level (dB}\mu\text{V)} = \text{QP/AV Analyzer/Receiver Level (dB}\mu\text{V)} + \text{Corr. (dB)}$
5. $\text{Margin (dB)} = \text{QP/AV Limit (dB}\mu\text{V)} - \text{QP/AV Level (dB}\mu\text{V)}$
6. Traces shown in plot are made using a peak detector.
7. Deviations to the Specifications: None.

FCC ID: A3LSMF711U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset		Page 228 of 233

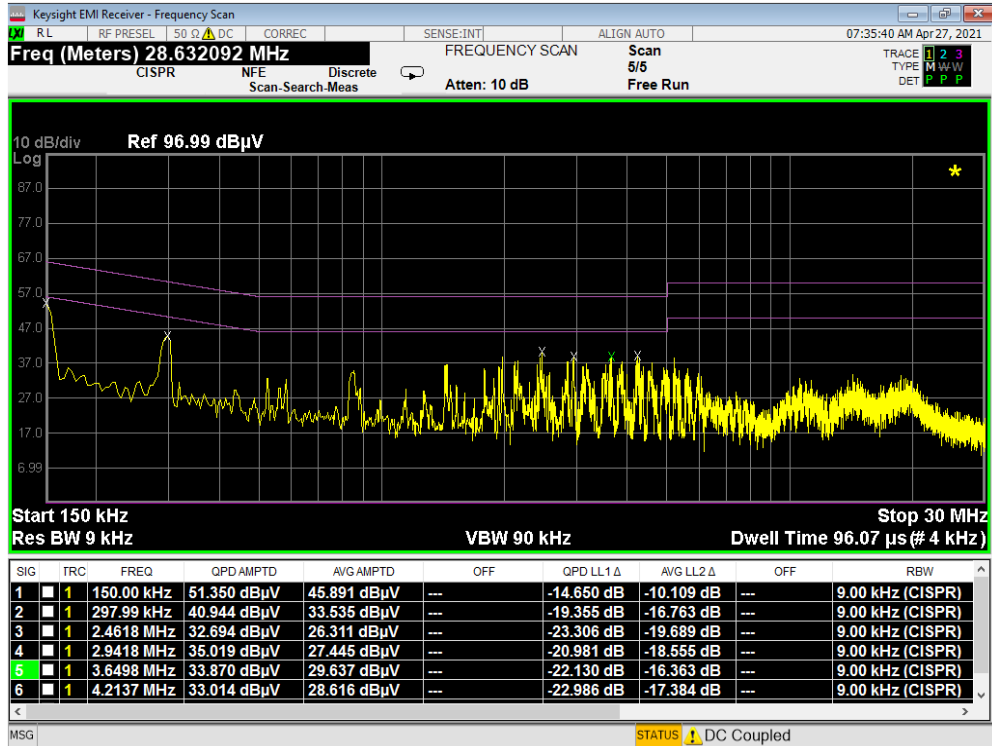


Plot 7-365. Line-Conducted Test Plot (L1) - (N)

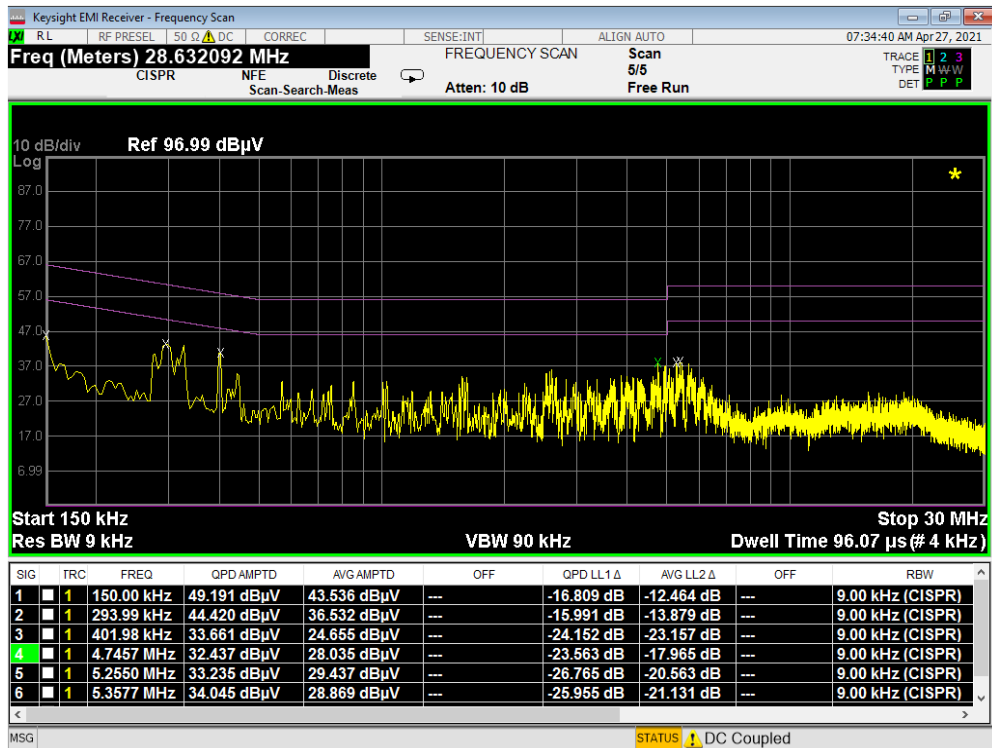


Plot 7-366. Line-Conducted Test Plot (N) - (N)

FCC ID: A3LSMF711U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset		Page 229 of 233

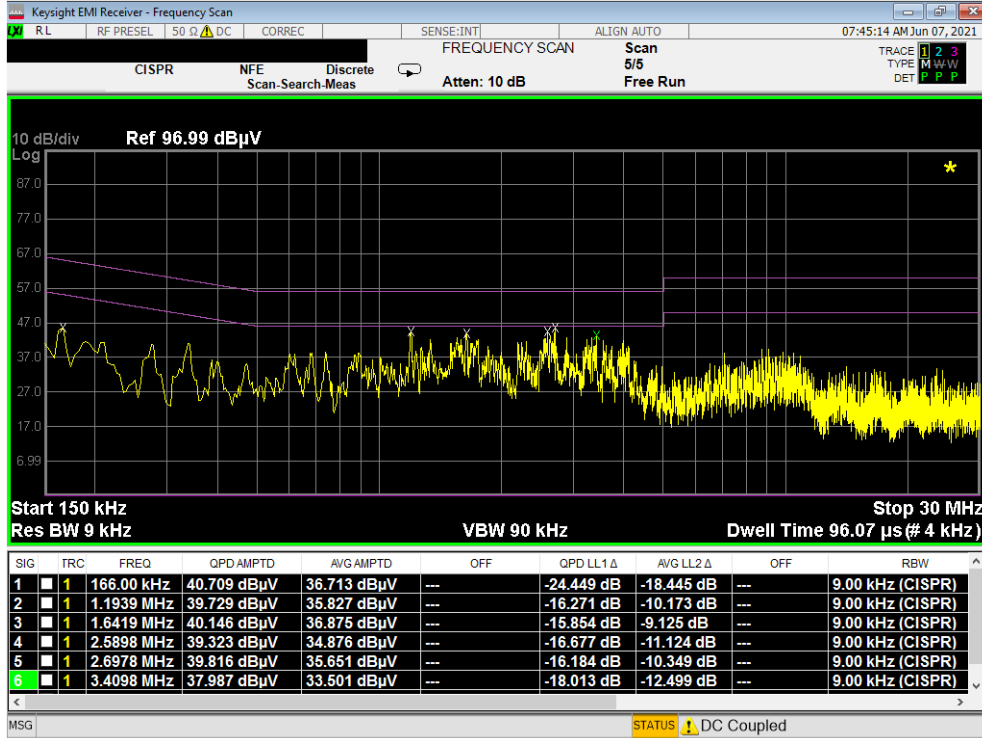


Plot 7-367. Line-Conducted Test Plot (L1) – (Q)

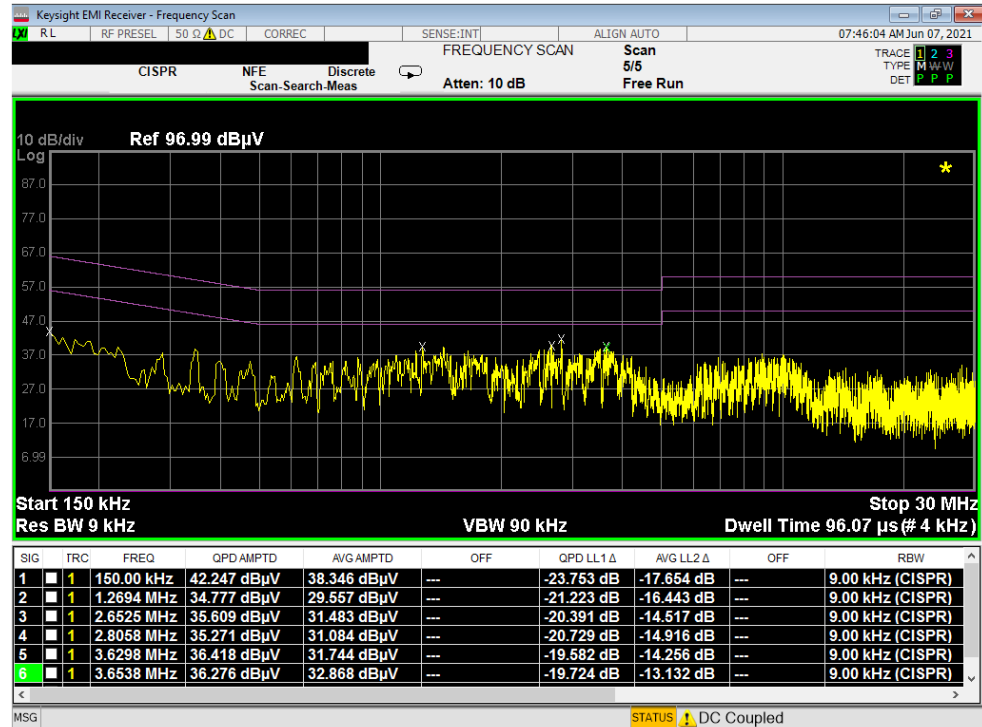


Plot 7-368. Line-Conducted Test Plot (N) – (Q)

FCC ID: A3LSMF711U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset		Page 230 of 233

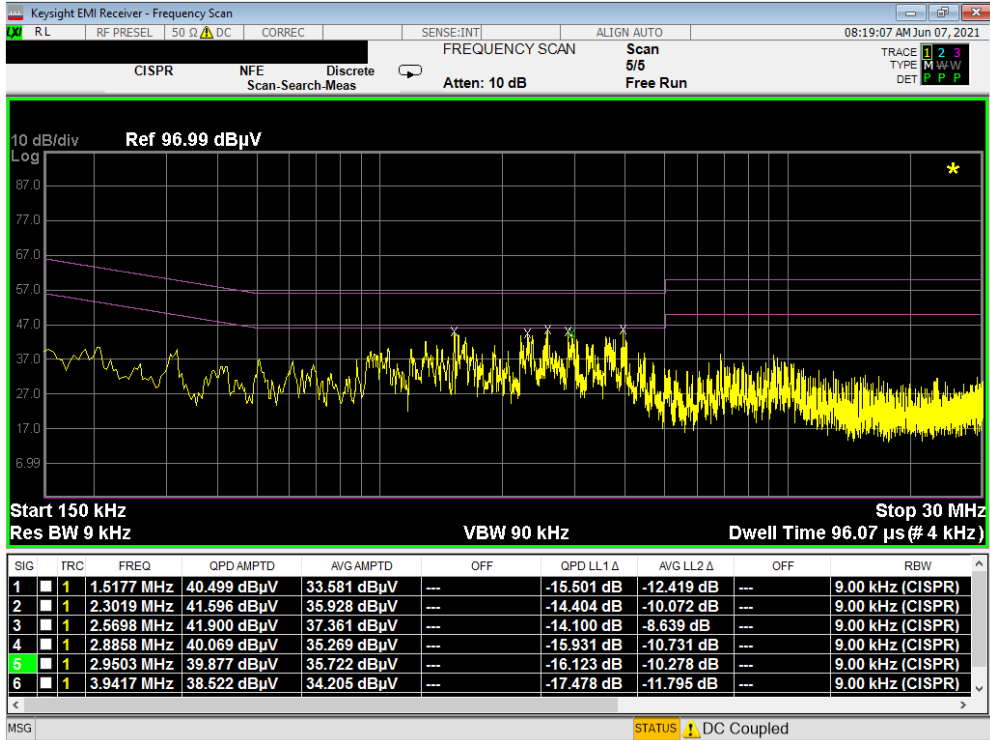


Plot 7-369. Line-Conducted Test Plot with WCP (L1) – (N)

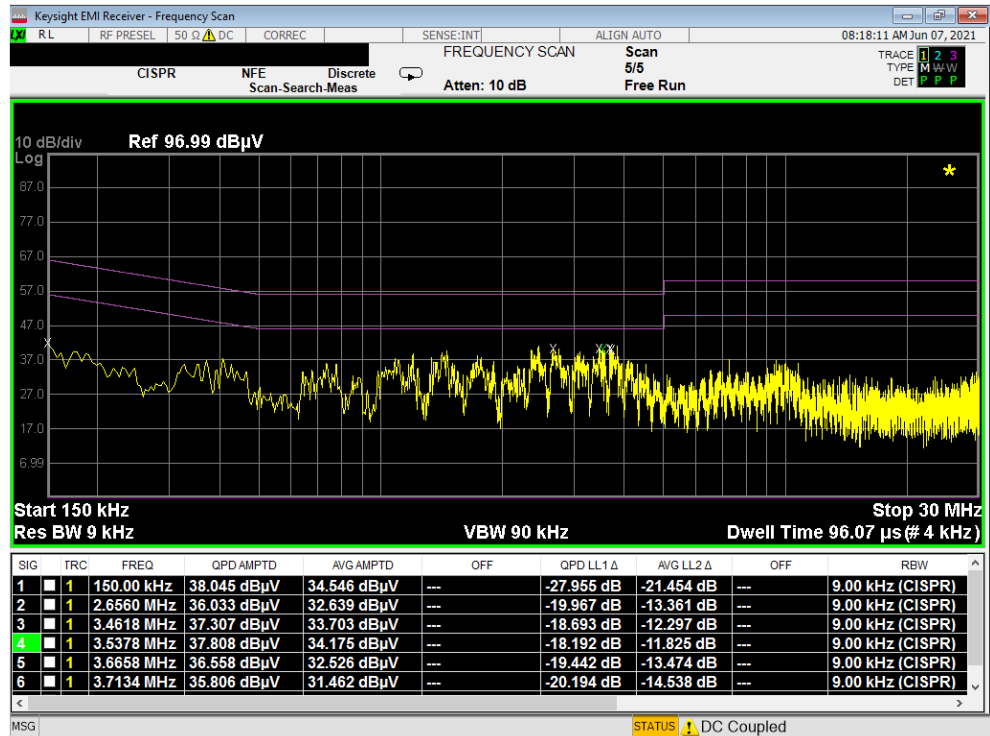


Plot 7-370. Line-Conducted Test Plot with WCP (N) – (N)

FCC ID: A3LSMF711U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset		Page 231 of 233



Plot 7-371. Line-Conducted Test Plot with WCP (L1) – (Q)



Plot 7-372. Line-Conducted Test Plot with WCP (N) – (Q)

FCC ID: A3LSMF711U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset		Page 232 of 233

CONCLUSION

The data collected relate only to the item(s) tested and show that the **Samsung Portable Handset FCC ID: A3LSMF711U** is in compliance with Part 15 Subpart C (15.247) of the FCC Rules.

FCC ID: A3LSMF711U		MEASUREMENT REPORT (CERTIFICATION)	 Approved by: Technical Manager
Test Report S/N: 1M2104070032-09-R1.A3L	Test Dates: 04/16/2021 - 04/29/2021	EUT Type: Portable Handset	Page 233 of 233