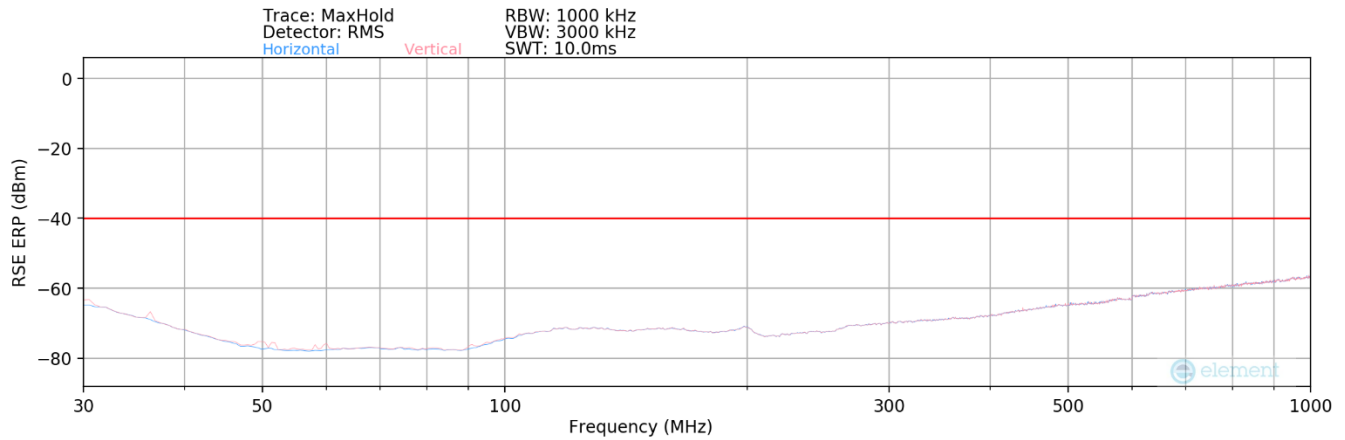


NR Band n48 – Ant F




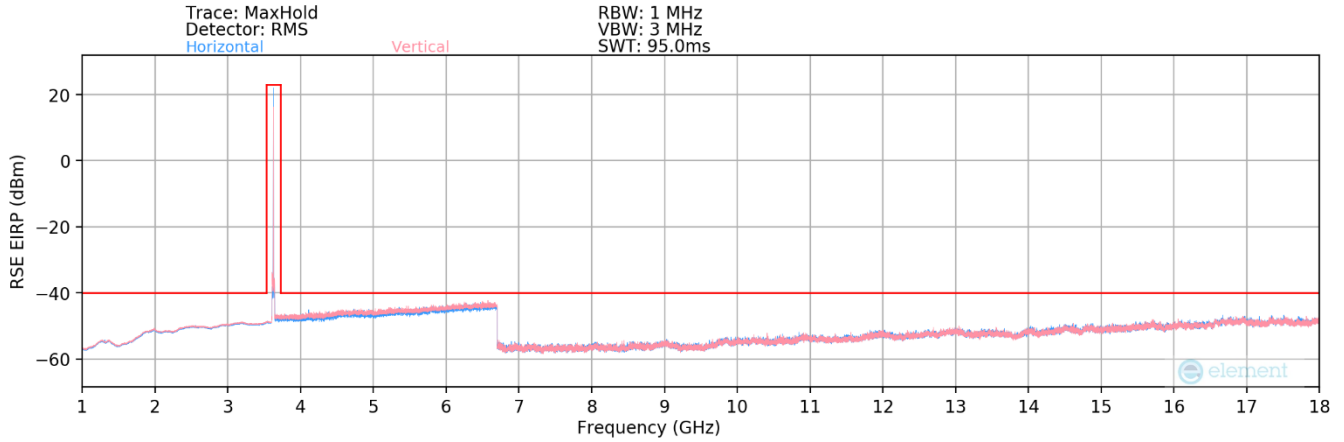
Plot 7-162. Radiated Spurious Plot 30MHz-1GHz(NR Band n48 – Ant F)

Bandwidth (MHz):	40
Frequency (MHz):	3625.0
Modulation Signal:	QPSK
RB Config (Size / Offset):	1 / 53

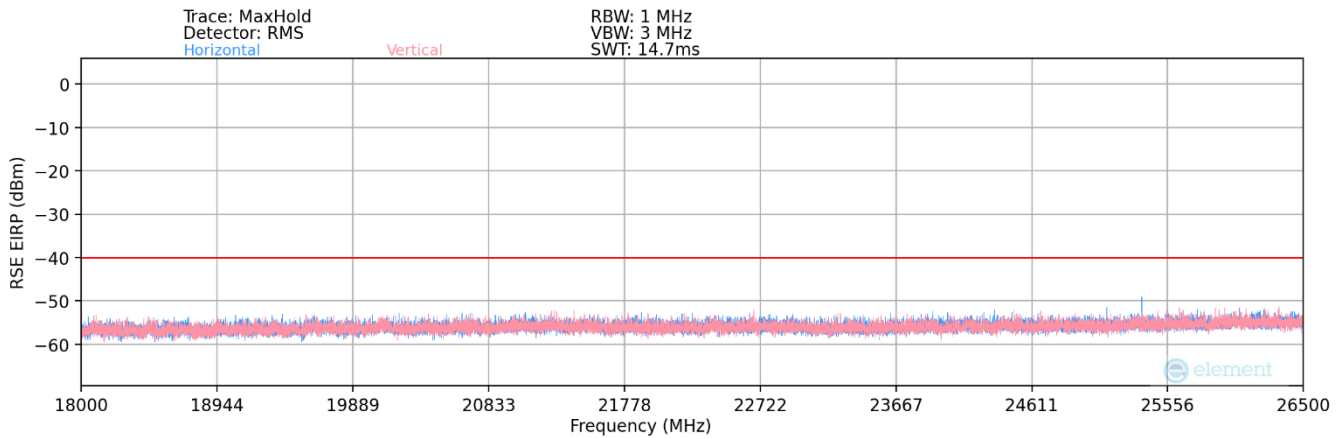
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	ERP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
36.61	V	-	-	-88.19	22.68	41.49	-55.92	-40.00	-15.92
50.32	V	-	-	-88.17	14.71	33.54	-63.87	-40.00	-23.87
59.94	V	-	-	-88.24	14.17	32.93	-64.48	-40.00	-24.48

Table 7-24. Radiated Spurious Data 30MHz-1GHz (NR Band n48 – Mid Channel – Ant F)

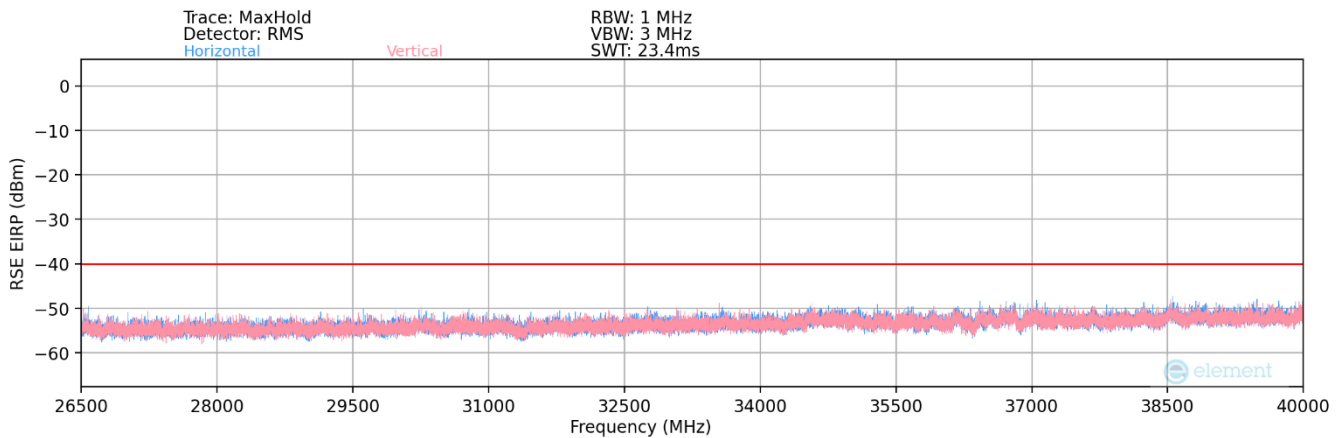
FCC ID: A3LSMS916U	 PART 96 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N: 1M2209010097-07.A3L	Test Dates: 09/02/2022 - 11/21/2022	EUT Type: Portable Handset
		Page 117 of 139




Plot 7-163. Radiated Spurious Plot 1-18GHz(NR Band n48 – Ant F)



Plot 7-164. Radiated Spurious Plot 18-26.5GHz(NR Band n48 – Ant F)



Plot 7-165. Radiated Spurious Plot 26.5-40GHz(NR Band n48 – Ant F)

FCC ID: A3LSMS916U	 PART 96 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2209010097-07.A3L	Test Dates: 09/02/2022 - 11/21/2022	EUT Type: Portable Handset	Page 118 of 139

Bandwidth (MHz):	40
Frequency (MHz):	3570.0
Modulation Signal:	QPSK
RB Config (Size / Offset):	1 / 53

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7140.00	V	238	344	-76.37	8.26	38.89	-56.37	-40.00	-16.37
10710.00	V	-	-	-78.54	12.00	40.46	-54.80	-40.00	-14.80
14280.00	V	336	358	-74.12	15.04	47.92	-47.33	-40.00	-7.33
17850.00	V	-	-	-79.77	17.84	45.07	-50.19	-40.00	-10.19
21420.00	V	-	-	-57.23	3.84	53.61	-51.19	-40.00	-11.19
24990.00	V	-	-	-57.44	4.37	53.93	-50.87	-40.00	-10.87
28560.00	V	-	-	-57.14	5.31	55.17	-49.63	-40.00	-9.63

Table 7-25. Radiated Spurious Data (NR Band n48 – Low Channel - Ant F)

Bandwidth (MHz):	40
Frequency (MHz):	3625.0
Modulation Signal:	QPSK
RB Config (Size / Offset):	1 / 53


Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7250.00	V	314	344	-76.02	7.59	38.57	-56.69	-40.00	-16.69
10875.00	V	-	-	-78.32	11.86	40.54	-54.71	-40.00	-14.71
14500.00	V	231	58	-76.90	15.32	45.42	-49.84	-40.00	-9.84
18125.00	V	-	-	-56.19	1.42	52.23	-52.57	-40.00	-12.57
21750.00	V	-	-	-57.71	3.83	53.11	-51.69	-40.00	-11.69
25375.00	V	150	9	-55.68	4.45	55.77	-49.03	-40.00	-9.03
29000.00	V	-	-	-57.45	5.53	55.08	-49.72	-40.00	-9.72
32625.00	V	-	-	-58.40	6.85	55.45	-49.35	-40.00	-9.35

Table 7-26. Radiated Spurious Data (NR Band n48 – Mid Channel - Ant F)

Bandwidth (MHz):	40
Frequency (MHz):	3680.0
Modulation Signal:	QPSK
RB Config (Size / Offset):	1 / 53

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7360.00	V	-	-	-77.09	7.93	37.84	-57.42	-40.00	-17.42
11040.00	V	130	336	-75.86	12.09	43.23	-52.03	-40.00	-12.03
14720.00	V	343	350	-77.33	15.58	45.25	-50.01	-40.00	-10.01
18400.00	V	-	-	-56.55	1.43	51.88	-52.92	-40.00	-12.92
22080.00	V	-	-	-58.10	3.75	52.65	-52.15	-40.00	-12.15
25760.00	V	-	-	-57.34	4.60	54.26	-50.54	-40.00	-10.54
29440.00	V	-	-	-57.57	5.88	55.31	-49.49	-40.00	-9.49

Table 7-27. Radiated Spurious Data (NR Band n48 – High Channel - Ant F)

FCC ID: A3LSMS916U	 PART 96 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N: 1M2209010097-07.A3L	Test Dates: 09/02/2022 - 11/21/2022	EUT Type: Portable Handset
		Page 119 of 139



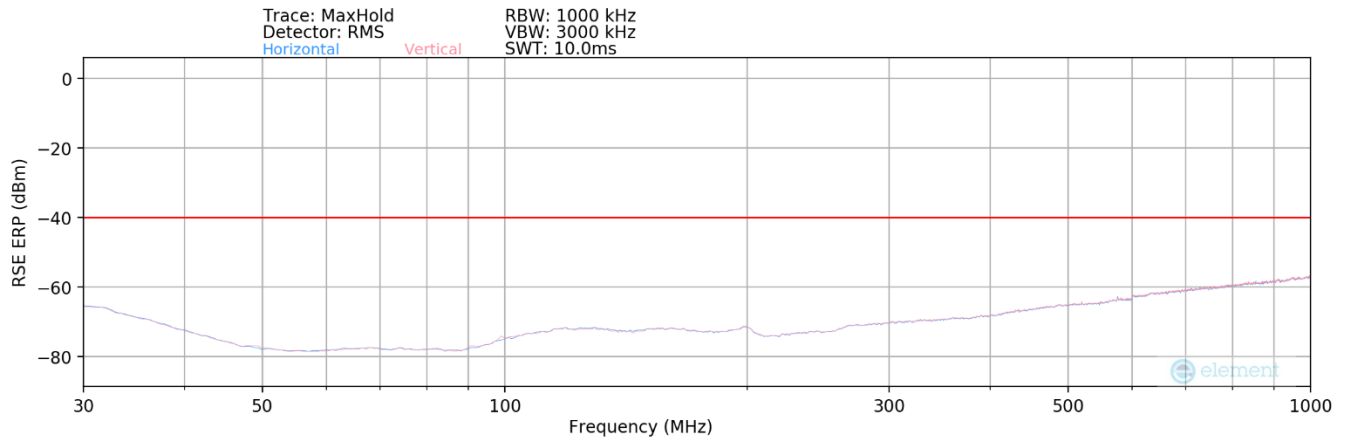
Case:	w/ Wireless Charging Pad
Bandwidth (MHz):	40
Frequency (MHz):	3570.0
Modulation Signal:	QPSK
RB Config (Size / Offset):	1 / 53

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7140.00	V	-	-	-76.88	8.26	38.38	-56.88	-40.00	-16.88
10710.00	V	-	-	-79.12	12.00	39.88	-55.38	-40.00	-15.38
14280.00	V	230	13	-76.24	15.04	45.80	-49.45	-40.00	-9.45
17850.00	V	-	-	-79.99	17.84	44.85	-50.41	-40.00	-10.41

Table 7-28. Radiated Spurious Data with WCP (NR Band n48 – Ant F)

FCC ID: A3LSMS916U	PART 96 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N: 1M2209010097-07.A3L	Test Dates: 09/02/2022 - 11/21/2022	EUT Type: Portable Handset
		Page 120 of 139

NR Band n48 – Ant C




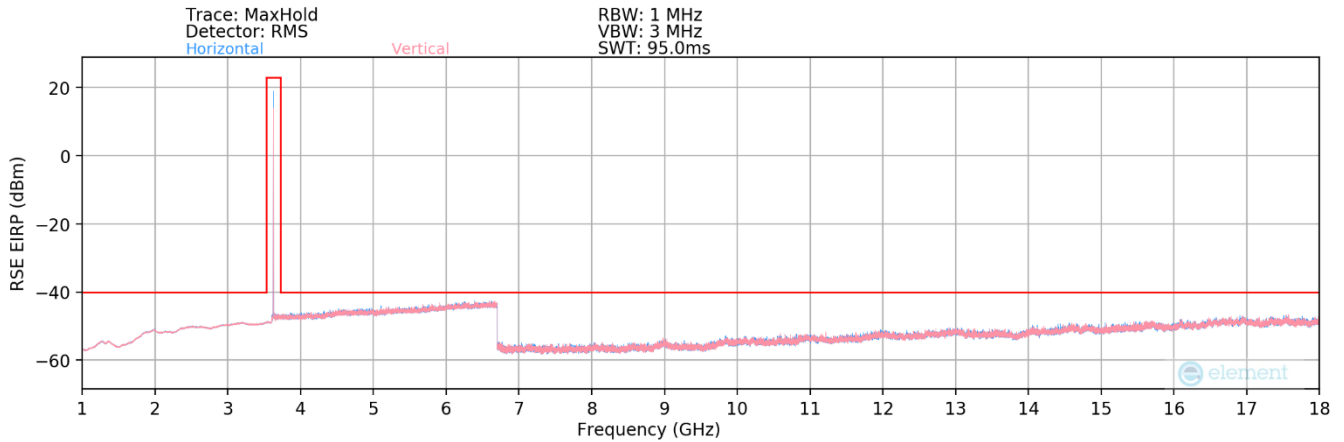
Plot 7-166. Radiated Spurious Plot 30MHz-1GHz(NR Band n48 – Ant C)

Bandwidth (MHz):	40
Frequency (MHz):	3625.0
Modulation Signal:	QPSK
RB Config (Size / Offset):	1 / 53
Detector / Trace Mode:	RMS / Max Hold
RBW / VBW:	1M/3M

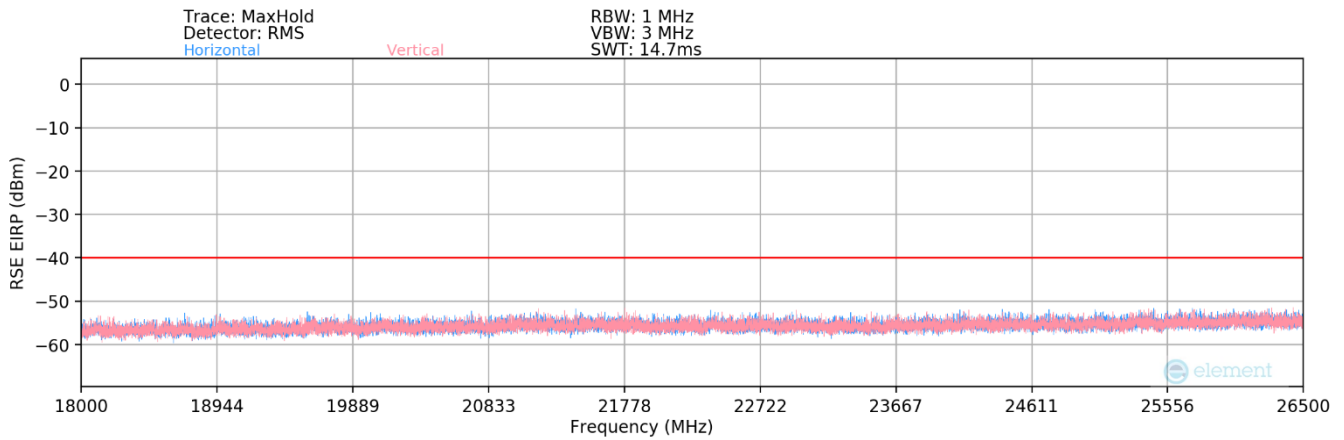
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB μ V/m]	ERP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
260.98	V	-	-	-87.61	19.86	39.25	-58.16	-40.00	-18.16

Table 7-29. Radiated Spurious Data 30MHz-1GHz (NR Band n48 – Mid Channel – Ant C)

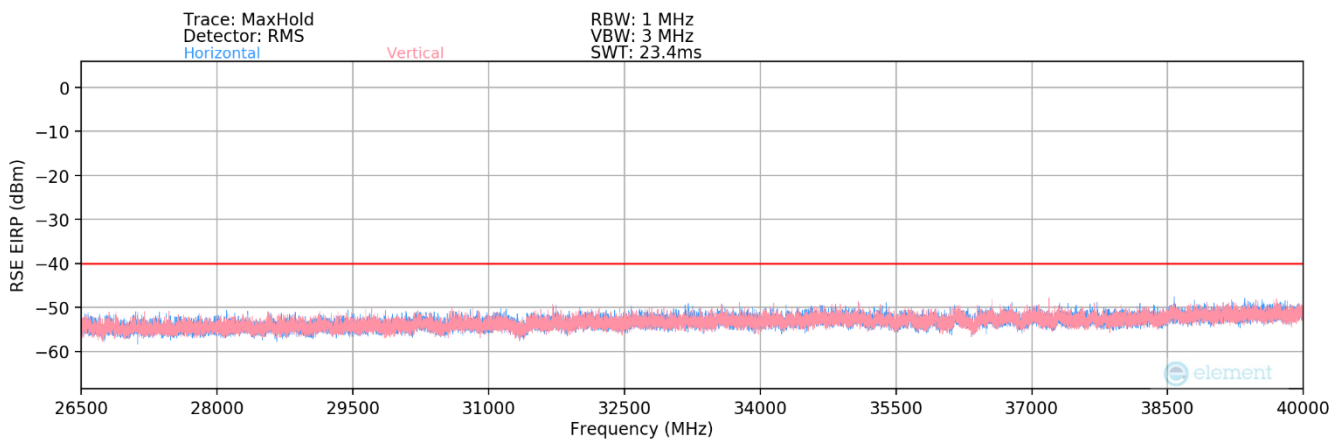
FCC ID: A3LSMS916U	 PART 96 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N: 1M2209010097-07.A3L	Test Dates: 09/02/2022 - 11/21/2022	EUT Type: Portable Handset
		Page 121 of 139




Plot 7-167. Radiated Spurious Plot 1-18GHz (NR Band n48 – Ant C)



Plot 7-168. Radiated Spurious Plot 18-26.5GHz(NR Band n48 – Ant C)



Plot 7-169. Radiated Spurious Plot 26.5-40GHz(NR Band n48 – Ant C)

FCC ID: A3LSMS916U	 PART 96 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2209010097-07.A3L	Test Dates: 09/02/2022 - 11/21/2022	EUT Type: Portable Handset	Page 122 of 139

Bandwidth (MHz):	40
Frequency (MHz):	3570.0
Modulation Signal:	QPSK
RB Config (Size / Offset):	1 / 53
Detector / Trace Mode:	RMS / Max Hold
RBW / VBW:	1MHz / 3MHz

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7140.00	V	382	254	-76.53	8.26	38.73	-56.53	-40.00	-16.53
10710.00	V	-	-	-78.78	12.00	40.22	-55.04	-40.00	-15.04
14280.00	V	-	-	-79.53	15.04	42.51	-52.74	-40.00	-12.74
17850.00	V	-	-	-79.61	17.84	45.23	-50.03	-40.00	-10.03

Table 7-30. Radiated Spurious Data (NR Band n48 – Low Channel - Ant C)

Sample #:	2690M/2660M
Bandwidth (MHz):	40
Frequency (MHz):	3625.0
Modulation Signal:	QPSK
RB Config (Size / Offset):	1 / 53
Detector / Trace Mode:	RMS / Max Hold
RBW / VBW:	1MHz / 3MHz


Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7250.00	V	257	244	-75.48	7.59	39.11	-56.15	-40.00	-16.15
10875.00	V	-	-	-78.46	11.86	40.40	-54.85	-40.00	-14.85
14500.00	V	-	-	-79.40	15.32	42.92	-52.34	-40.00	-12.34

Table 7-31. Radiated Spurious Data (NR Band n48 – Mid Channel - Ant C)

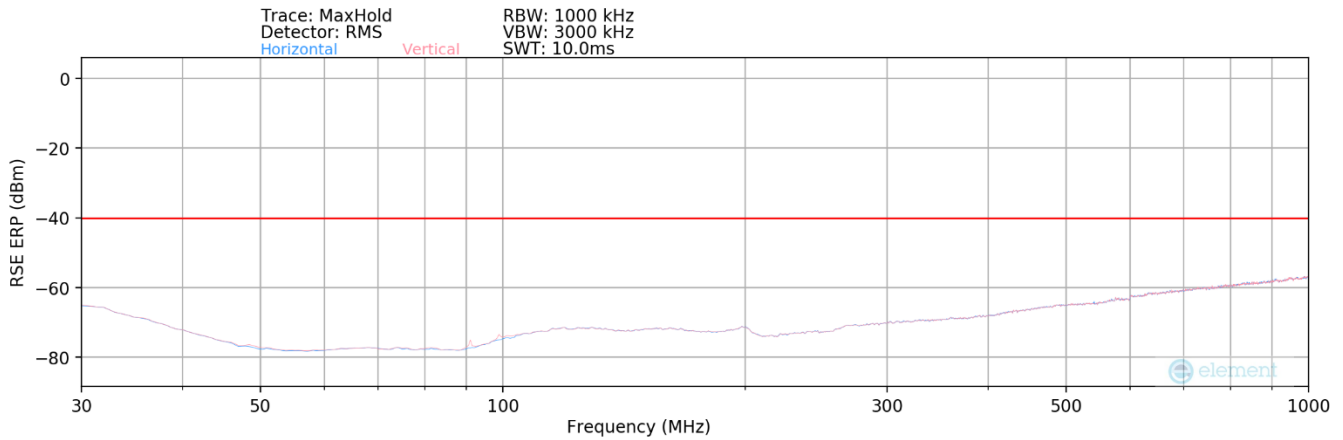
Sample #:	2690M/2660M
Bandwidth (MHz):	40
Frequency (MHz):	3680.0
Modulation Signal:	QPSK
RB Config (Size / Offset):	1 / 53
Detector / Trace Mode:	RMS / Max Hold
RBW / VBW:	1MHz / 3MHz

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7360.00	V	272	55	-76.02	7.93	38.91	-56.35	-40.00	-16.35
11040.00	V	-	-	-78.32	12.09	40.77	-54.49	-40.00	-14.49
14720.00	V	-	-	-79.47	15.58	43.11	-52.15	-40.00	-12.15

Table 7-32. Radiated Spurious Data (NR Band n48 – High Channel - Ant C)

FCC ID: A3LSMS916U	 PART 96 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N: 1M2209010097-07.A3L	Test Dates: 09/02/2022 - 11/21/2022	EUT Type: Portable Handset
		Page 123 of 139

NR Band n48 – Ant I




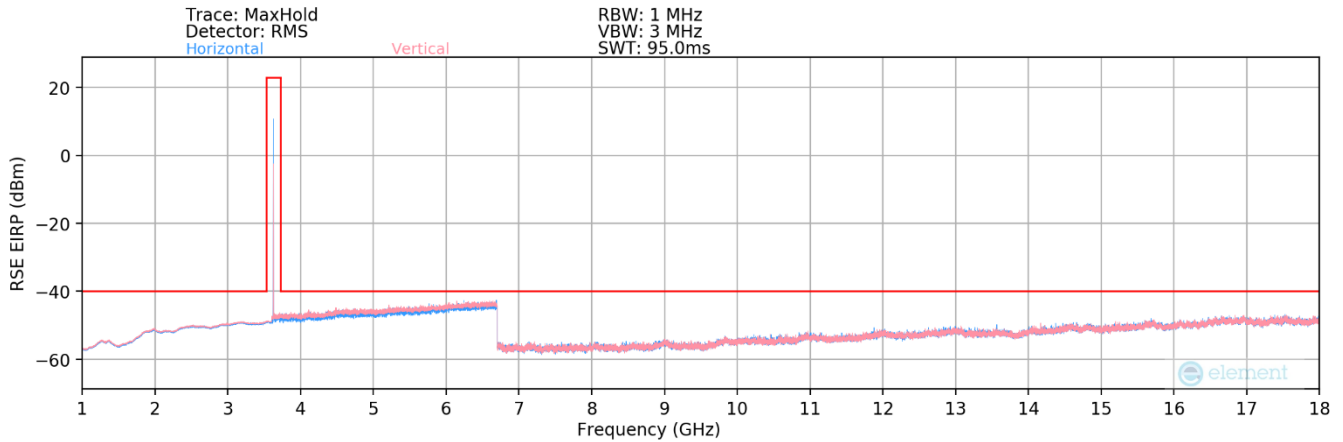
Plot 7-170. Radiated Spurious Plot 30MHz-1GHz(NR Band n48 – Ant I)

Bandwidth (MHz):	40
Frequency (MHz):	3625.0
Modulation Signal:	QPSK
RB Config (Size / Offset):	1 / 53
Detector / Trace Mode:	RMS / Max Hold
RBW / VBW:	1M/3M

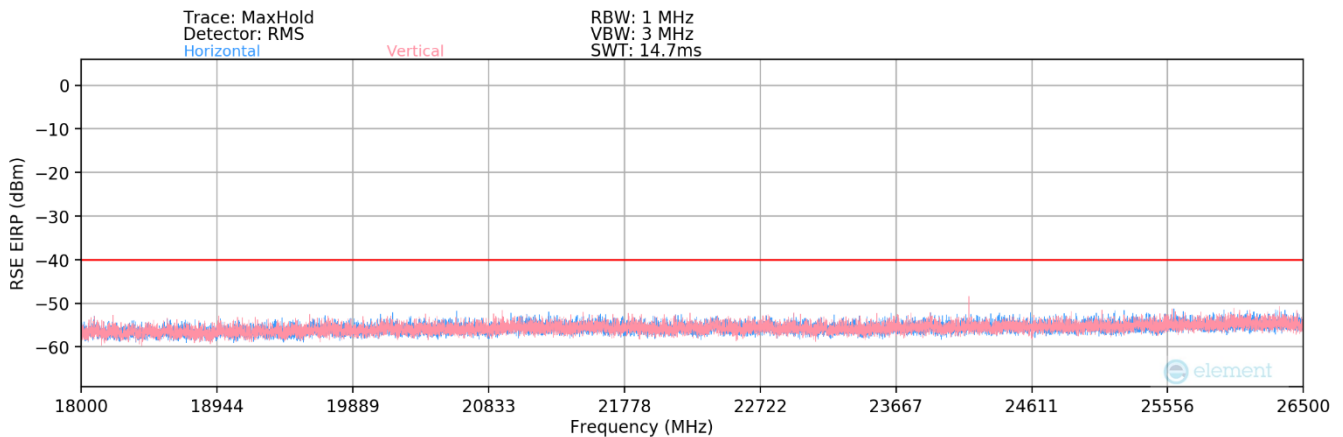
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB μ V/m]	ERP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
191.42	H	-	-	-87.11	18.88	38.77	-58.64	-40.00	-18.64

Table 7-33. Radiated Spurious Data 30MHz-1GHz (NR Band n48 – Mid Channel – Ant I)

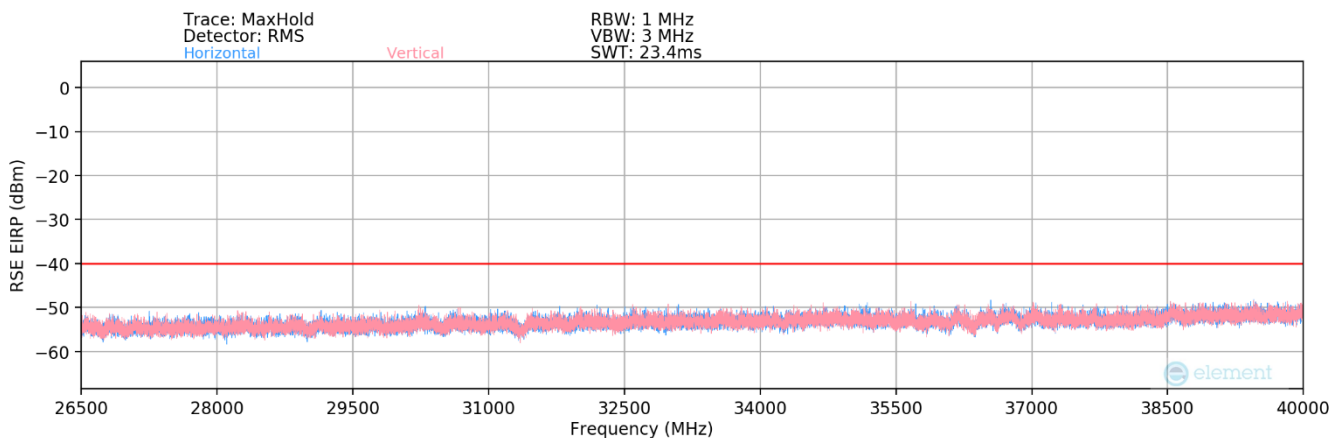
FCC ID: A3LSMS916U	 PART 96 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N: 1M2209010097-07.A3L	Test Dates: 09/02/2022 - 11/21/2022	EUT Type: Portable Handset
		Page 124 of 139



Plot 7-171. Radiated Spurious Plot 1-18GHz (NR Band n48 – Ant I)



Plot 7-172. Radiated Spurious Plot 18-26.5GHz (NR Band n48 – Ant I)



Plot 7-173. Radiated Spurious Plot 26.5-40GHz (NR Band n48 – Ant I)

FCC ID: A3LSMS916U	PART 96 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N: 1M2209010097-07.A3L	Test Dates: 09/02/2022 - 11/21/2022	EUT Type: Portable Handset
		Page 125 of 139

Sample #:	2660M
Bandwidth (MHz):	40
Frequency (MHz):	3570.0
Modulation Signal:	QPSK
RB Config (Size / Offset):	1 / 53
Detector / Trace Mode:	RMS / Max Hold
RBW / VBW:	1MHz / 3MHz

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB μ V/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7140.00	H	-	-	-76.87	8.26	38.39	-56.87	-40.00	-16.87
10710.00	H	-	-	-78.71	12.00	40.29	-54.97	-40.00	-14.97
14280.00	H	-	-	-79.25	15.04	42.79	-52.46	-40.00	-12.46

Table 7-34. Radiated Spurious Data (NR Band n48 – Low Channel - Ant I)

Sample #:	2660M
Bandwidth (MHz):	40
Frequency (MHz):	3625.0
Modulation Signal:	QPSK
RB Config (Size / Offset):	1 / 53
Detector / Trace Mode:	RMS / Max Hold
RBW / VBW:	1MHz / 3MHz


Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB μ V/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7250.00	H	-	-	-76.26	7.59	38.33	-56.93	-40.00	-16.93
10875.00	H	-	-	-78.10	11.86	40.76	-54.49	-40.00	-14.49
14500.00	H	-	-	-79.56	15.32	42.76	-52.50	-40.00	-12.50

Table 7-35. Radiated Spurious Data (NR Band n48 – Mid Channel - Ant I)

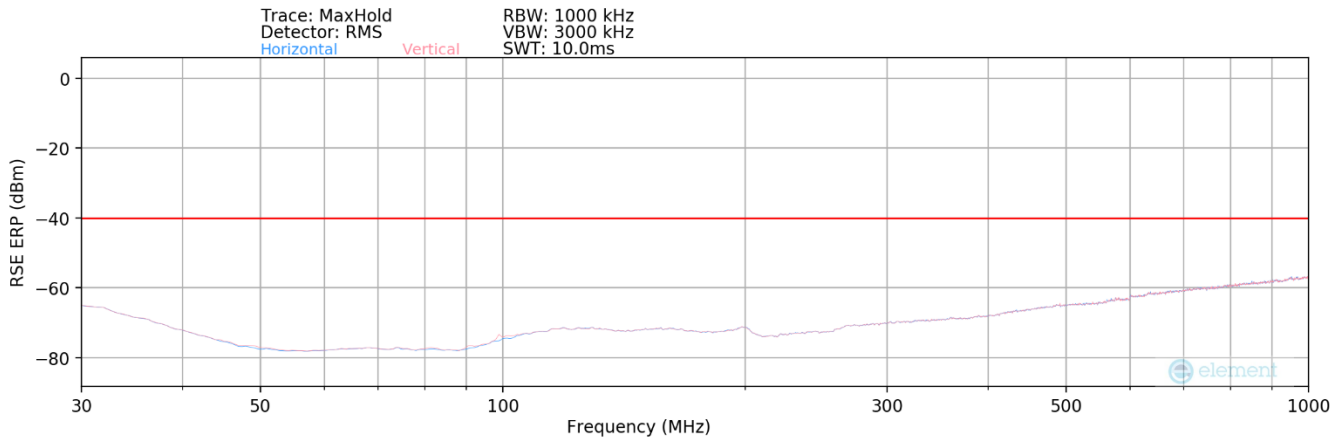
Sample #:	2660M
Bandwidth (MHz):	40
Frequency (MHz):	3680.0
Modulation Signal:	QPSK
RB Config (Size / Offset):	1 / 53
Detector / Trace Mode:	RMS / Max Hold
RBW / VBW:	1MHz / 3MHz

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB μ V/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7360.00	H	-	-	-77.10	7.93	37.83	-57.43	-40.00	-17.43
11040.00	H	-	-	-78.28	12.09	40.81	-54.45	-40.00	-14.45
14720.00	H	-	-	-79.72	15.58	42.86	-52.40	-40.00	-12.40

Table 7-36. Radiated Spurious Data (NR Band n48 – High Channel - Ant I)

FCC ID: A3LSMS916U	 PART 96 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N: 1M2209010097-07.A3L	Test Dates: 09/02/2022 - 11/21/2022	EUT Type: Portable Handset
		Page 126 of 139

NR Band n48 – Ant D



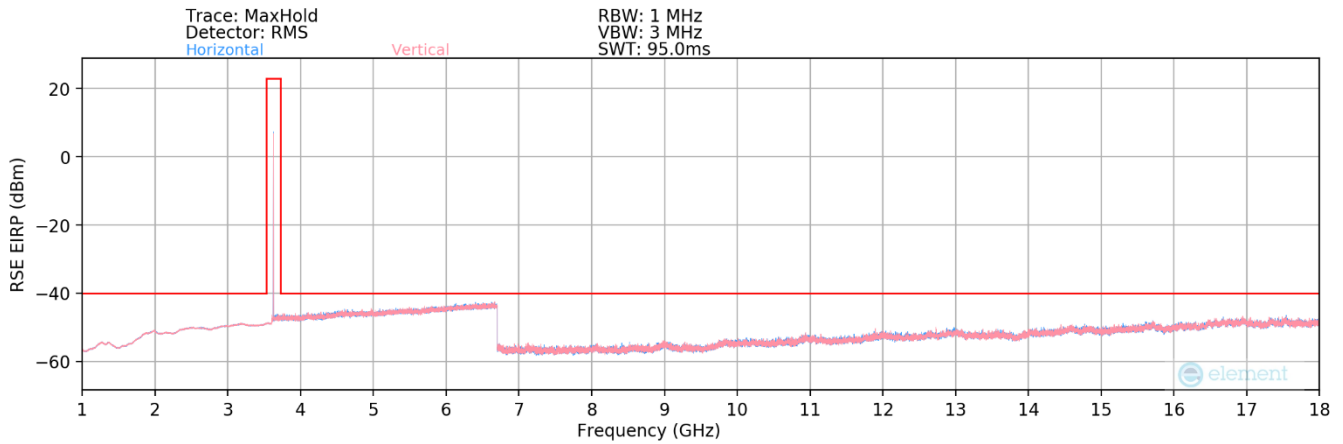
Plot 7-174. Radiated Spurious Plot 30MHz-1GHz(NR Band n48 – Ant D)

Bandwidth (MHz):	40
Frequency (MHz):	3625.0
Modulation Signal:	QPSK
RB Config (Size / Offset):	1 / 53
Detector / Trace Mode:	RMS / Max Hold
RBW / VBW:	100kHz / 300kHz

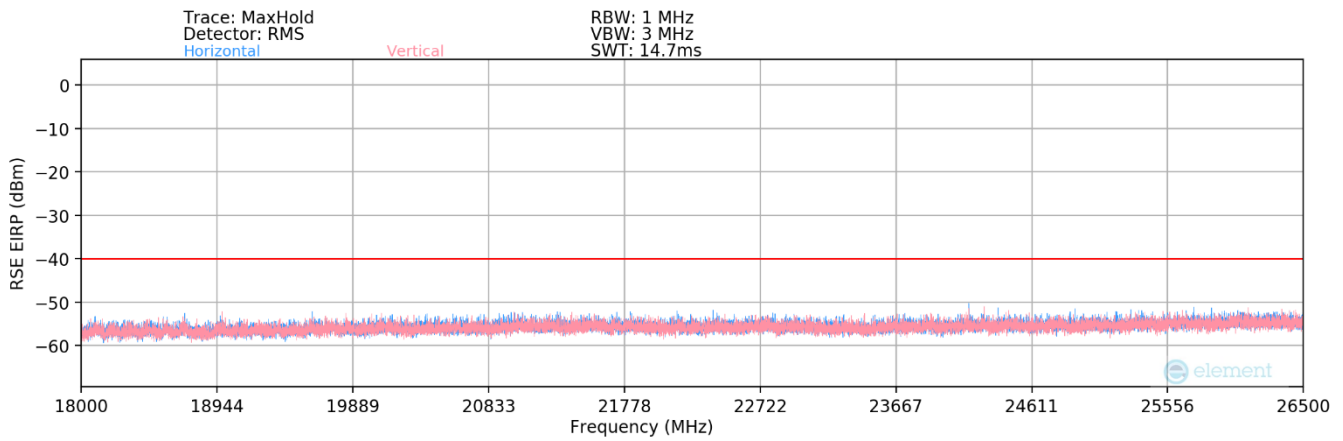
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	ERP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
96.40	V	-	-	-87.05	16.40	36.35	-61.05	-40.00	-21.05

Table 7-37. Radiated Spurious Data 30MHz-1GHz (NR Band n48 – Mid Channel – Ant D)

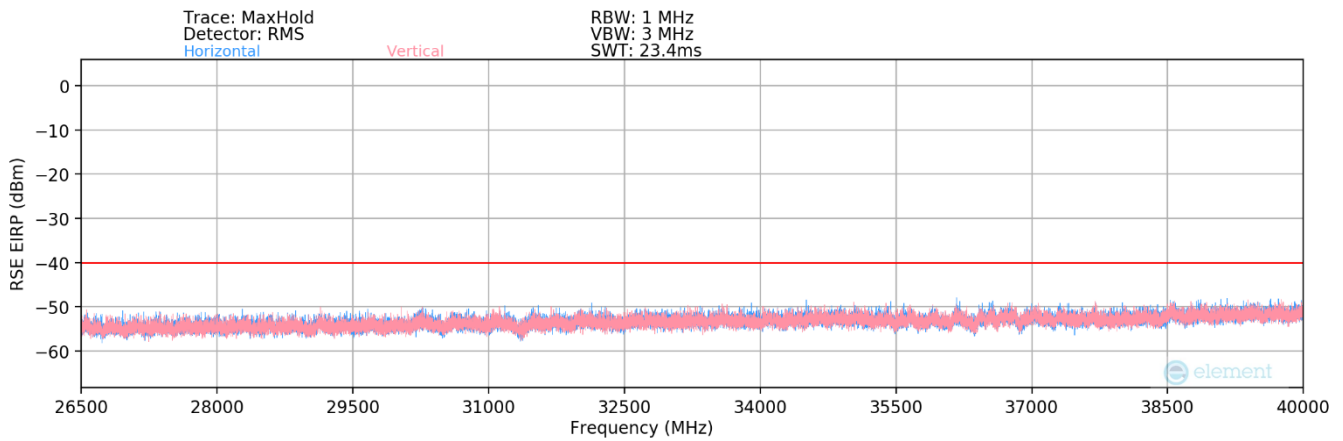
FCC ID: A3LSMS916U	PART 96 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N: 1M2209010097-07.A3L	Test Dates: 09/02/2022 - 11/21/2022	EUT Type: Portable Handset
		Page 127 of 139




Plot 7-175. Radiated Spurious Plot 1-18GHz (NR Band n48 – Ant D)



Plot 7-176. Radiated Spurious Plot 18-26.5GHz (NR Band n48 – Ant D)



Plot 7-177. Radiated Spurious Plot 26.5-40GHz (NR Band n48 – Ant D)

FCC ID: A3LSMS916U	 PART 96 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2209010097-07.A3L	Test Dates: 09/02/2022 - 11/21/2022	EUT Type: Portable Handset	Page 128 of 139

Sample #:	2690M/2660M
Bandwidth (MHz):	40
Frequency (MHz):	3570.0
Modulation Signal:	QPSK
RB Config (Size / Offset):	1 / 53
Detector / Trace Mode:	RMS / Max Hold
RBW / VBW:	1MHz / 3MHz

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7140.00	V	132	355	-75.82	8.26	39.44	-55.82	-40.00	-15.82
10710.00	V	-	-	-78.56	12.00	40.44	-54.82	-40.00	-14.82
14280.00	V	-	-	-79.33	15.04	42.71	-52.54	-40.00	-12.54
17850.00	V	-	-	-79.58	17.84	45.26	-50.00	-40.00	-10.00

Table 7-38. Radiated Spurious Data (NR Band n48 – Low Channel - Ant D)

Sample #:	2690M/2660M
Bandwidth (MHz):	40
Frequency (MHz):	3625.0
Modulation Signal:	QPSK
RB Config (Size / Offset):	1 / 53
Detector / Trace Mode:	RMS / Max Hold
RBW / VBW:	1MHz / 3MHz


Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7250.00	V	137	349	-73.71	7.59	40.88	-54.38	-40.00	-14.38
10875.00	V	-	-	-78.30	11.86	40.56	-54.69	-40.00	-14.69
14500.00	V	-	-	-79.45	15.32	42.87	-52.39	-40.00	-12.39

Table 7-39. Radiated Spurious Data (NR Band n48 – Mid Channel - Ant D)

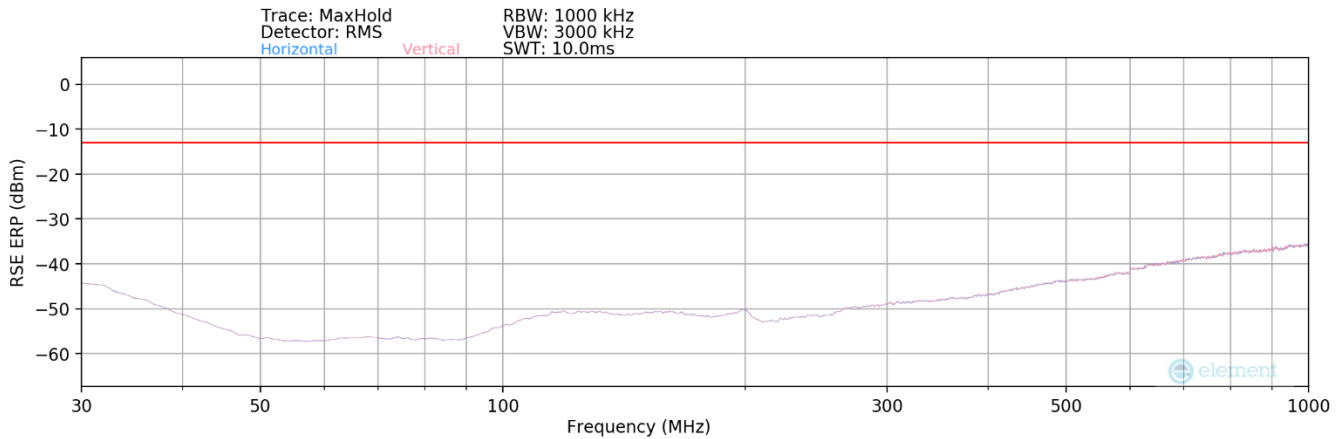
Sample #:	2690M/2660M
Bandwidth (MHz):	40
Frequency (MHz):	3680.0
Modulation Signal:	QPSK
RB Config (Size / Offset):	1 / 53
Detector / Trace Mode:	RMS / Max Hold
RBW / VBW:	1MHz / 3MHz

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
7360.00	V	135	56	-73.37	7.93	41.56	-53.70	-40.00	-13.70
11040.00	V	-	-	-77.99	12.09	41.10	-54.16	-40.00	-14.16
14720.00	V	-	-	-79.12	15.58	43.46	-51.80	-40.00	-11.80

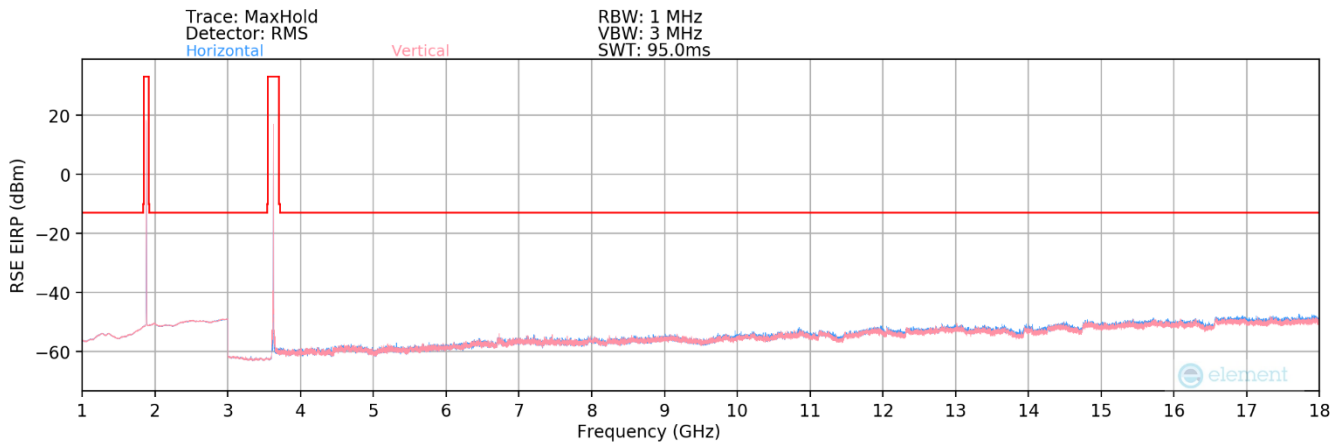
Table 7-40. Radiated Spurious Data (NR Band n48 – High Channel - Ant D)

FCC ID: A3LSMS916U	 PART 96 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N: 1M2209010097-07.A3L	Test Dates: 09/02/2022 - 11/21/2022	EUT Type: Portable Handset
		Page 129 of 139

EN-DC: NR Band n48 – LTE Band 2



Plot 7-178. Radiated Spurious Plot 30MHz-1GHz (EN-DC: NR Band n48 – LTE Band 2)



Plot 7-179. Radiated Spurious Plot 1-18GHz (EN-DC: NR Band n48 – LTE Band 2)

Bandwidth (MHz):	40/20
Frequency (MHz):	3625 & 1880
Modulation Signal:	QPSK
RB Config (Size / Offset):	1/53 & 1/50
Detector / Trace Mode:	RMS / Max Hold
RBW / VBW:	1MHz / 3MHz

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
405.00	V	-	-	-100.25	23.40	30.15	-65.11	-40.00	-25.11
7520.00	V	-	-	-77.77	8.21	37.44	-57.82	-40.00	-17.82
9400.00	V	-	-	-79.24	9.65	37.41	-57.84	-40.00	-17.84
10875.00	V	-	-	-78.58	11.86	40.28	-54.97	-40.00	-14.97

Table 7-41. Radiated Spurious Data (EN-DC: NR Band n48 – LTE Band 2)

FCC ID: A3LSMS916U	PART 96 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N: 1M2209010097-07.A3L	Test Dates: 09/02/2022 - 11/21/2022	EUT Type: Portable Handset
		Page 130 of 139

7.8 Frequency Stability / Temperature Variation

Test Overview and Limit

Frequency stability testing is performed in accordance with the guidelines of ANSI C63.26-2015. The frequency stability of the transmitter is measured by:

- a.) **Temperature:** The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.
- b.) **Primary Supply Voltage:** The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

For Part 96, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Test Procedure Used

ANSI C63.26-2015 – Section 5.6

Test Settings


1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
2. The equipment is turned on in a “standby” condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

Test Setup

The EUT was connected via an RF cable to a spectrum analyzer with the EUT placed inside an environmental chamber.

Test Notes

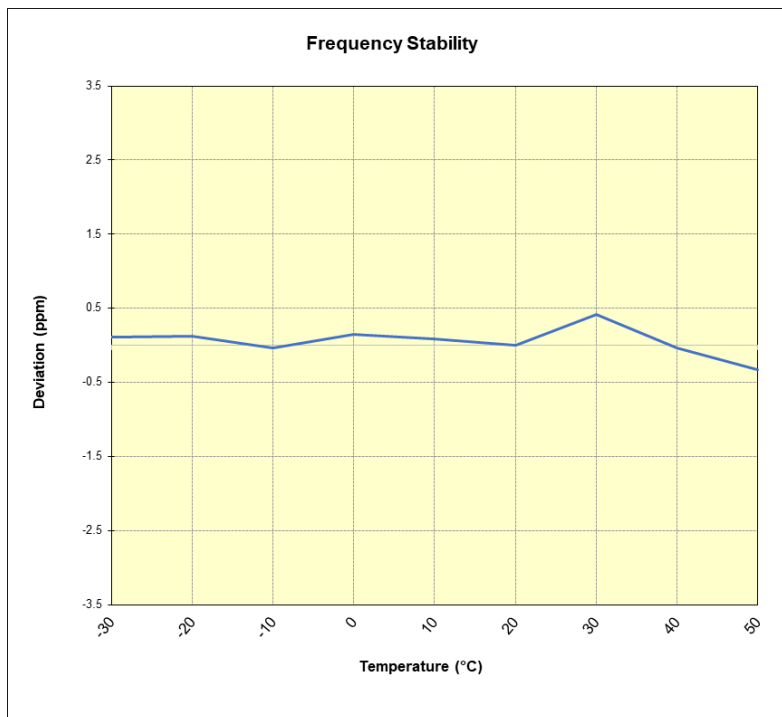
None

FCC ID: A3LSMS916U	 PART 96 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N: 1M2209010097-07.A3L	Test Dates: 09/02/2022 - 11/21/2022	EUT Type: Portable Handset
		Page 131 of 139


Frequency Stability / Temperature Variation

LTE Band 48					
		Operating Frequency (Hz):		3,625,000,000	
		Ref. Voltage (VDC):		4.35	
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.35	- 30	3,625,091,458	419	0.0000116
		- 20	3,625,091,477	439	0.0000121
		- 10	3,625,090,928	-111	-0.0000031
		0	3,625,091,576	537	0.0000148
		+ 10	3,625,091,368	330	0.0000091
		+ 20 (Ref)	3,625,091,039	0	0.0000000
		+ 30	3,625,092,570	1,531	0.0000422
		+ 40	3,625,090,911	-127	-0.0000035
Battery Endpoint	3.69	+ 20	3,625,091,949	910	0.0000251

Table 7-42. LTE Band 48 Frequency Stability Data



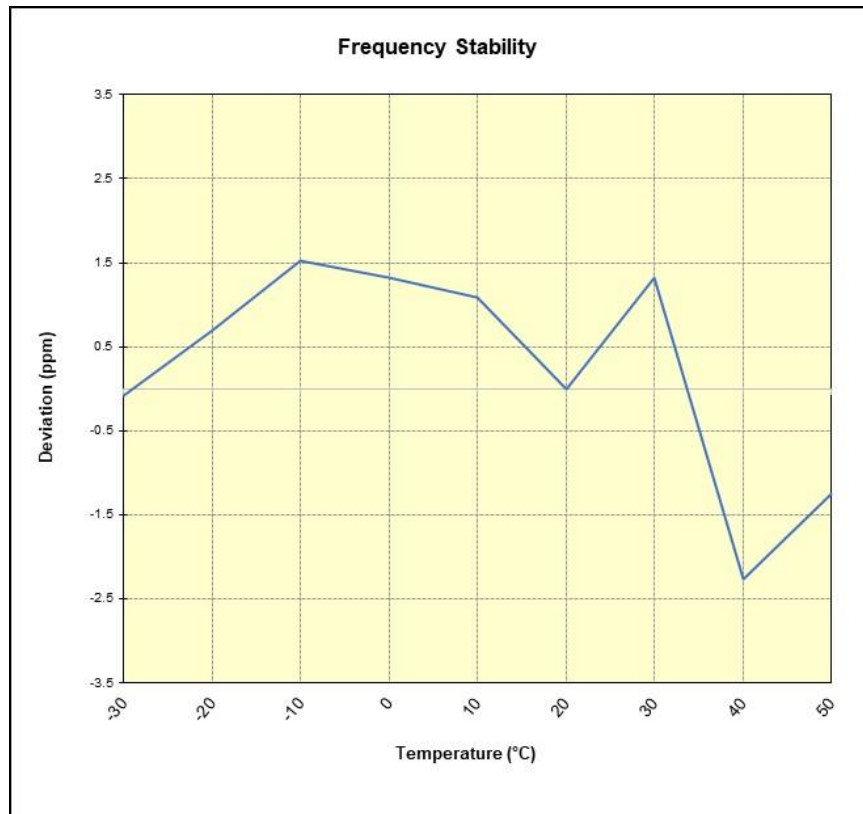
Plot 7-180. LTE Band 48 Frequency Stability Chart

FCC ID: A3LSMS916U	 PART 96 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N: 1M2209010097-07.A3L	Test Dates: 09/02/2022 - 11/21/2022	EUT Type: Portable Handset
		Page 132 of 139


Frequency Stability / Temperature Variation

NR Band n48					
Operating Frequency (Hz):		3,625,000,000			
Ref. Voltage (VDC):		4.35			
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.35	- 30	3,625,253,660	-329	-0.0000091
		- 20	3,625,256,514	2,525	0.0000697
		- 10	3,625,259,499	5,510	0.0001520
		0	3,625,258,783	4,794	0.0001322
		+ 10	3,625,257,919	3,930	0.0001084
		+ 20 (Ref)	3,625,253,989	0	0.0000000
		+ 30	3,625,258,753	4,764	0.0001314
		+ 40	3,625,245,782	-8,207	-0.0002264
Battery Endpoint	3.69	+ 20	3,625,246,502	-7,487	-0.0002065

Table 7-43. NR Band n48 Frequency Stability Data



Plot 7-181. NR Band n48 Frequency Stability Chart

FCC ID: A3LSMS916U	 PART 96 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N: 1M2209010097-07.A3L	Test Dates: 09/02/2022 - 11/21/2022	EUT Type: Portable Handset
		Page 133 of 139



7.9 End User Device Additional Requirement (CBSD Protocol)

Test Overview and Limit

End user device additional requirements are tested per the test procedures listed below. During testing, the EUT is connected to a certified LTE CBSD (Ruckus FCC ID: S9GQ910US00) and an NR CBSD (AirSpan FCC ID: PIDAV2700) as a companion device to show compliance with Part 96.47.

End User Devices may operate only if they can positively receive and decode an authorization signal transmitted by a CBSD, including the frequencies and power limits for their operation.

An End User Device must discontinue operations, change frequencies, or change its operational power level within 10 seconds of receiving instructions from its associated CBSD.

Test Procedure Used

KDB 940660 D01 v03, WINNF-18-IN-00178 v1.0.0.00, WINNF-TS-0122 v1.0.2


Test Setup/Method

The EUT was connected via an RF cable to a certified CBSD and spectrum analyzer. The following procedure is performed by applying WINNF-TS-0122 CBRS CBSD Test Specification.

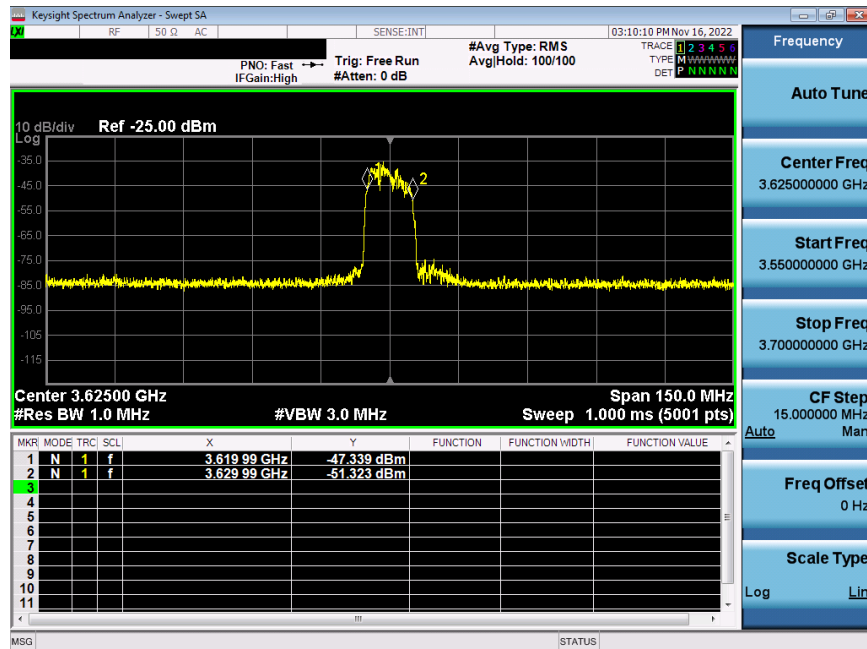
1. Run#1:
 - a. Setup WINNF.PT.C.HBT.1 with 3615MHz – 3635MHz.
 - b. Enable AP/CBSD service.
 - c. Check EUT Tx frequency.
 - d. Disable AP/CBSD service and check EUT stop transmission within 10s.
2. Run#2:
 - a. Setup WINNF.PT.C.HBT.1 with 3660MHz – 3680MHz.
 - b. Enable AP/CBSD service.
 - c. Check EUT Tx frequency.
 - d. Disable AP/CBSD service and check EUT stop transmission within 10s.

Test Notes

The EUT is an End User Device.

FCC ID: A3LSMS916U	 PART 96 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N: 1M2209010097-07.A3L	Test Dates: 09/02/2022 - 11/21/2022	EUT Type: Portable Handset
		Page 134 of 139

LTE Band 48 Run#1:



Plot 7-182. Run#1 End User Device Frequency of Operations



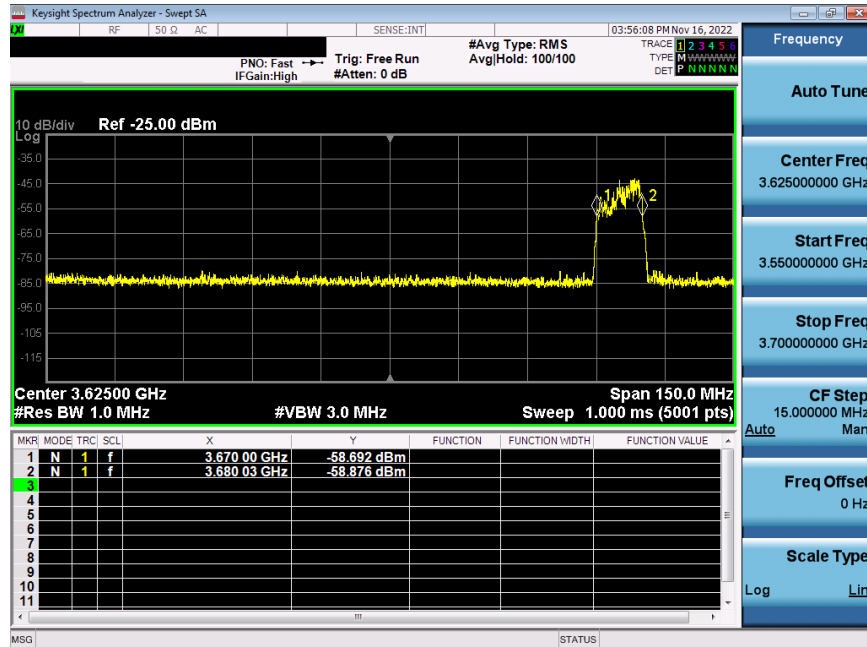
Plot 7-183. Run#1 End User Device Discontinues Operations within 10s

Note:

- Marker 1: CBSD sends instructions to discontinue LTE operations.
- Marker 2: EUT discontinues operation.
- Marker 3: 10 seconds elapsed time from CBSD sending instructions to EUT.

FCC ID: A3LSMS916U	PART 96 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N: 1M2209010097-07.A3L	Test Dates: 09/02/2022 - 11/21/2022	EUT Type: Portable Handset
		Page 135 of 139

LTE Band 48 Run#2:



Plot 7-184. Run#2 End User Device Frequency of Operations



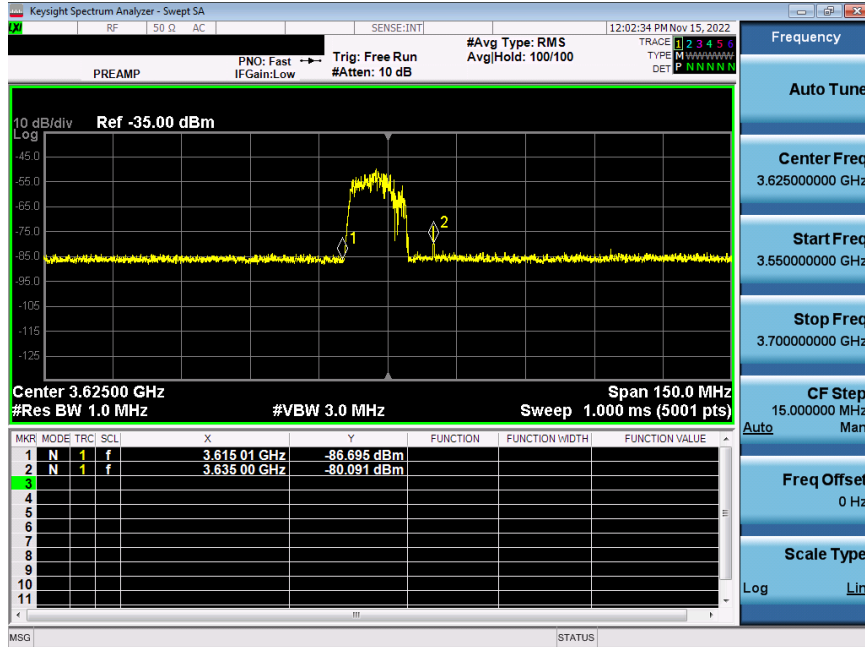
Plot 7-185. Run#2 End User Device Discontinues Operations within 10s

Note:

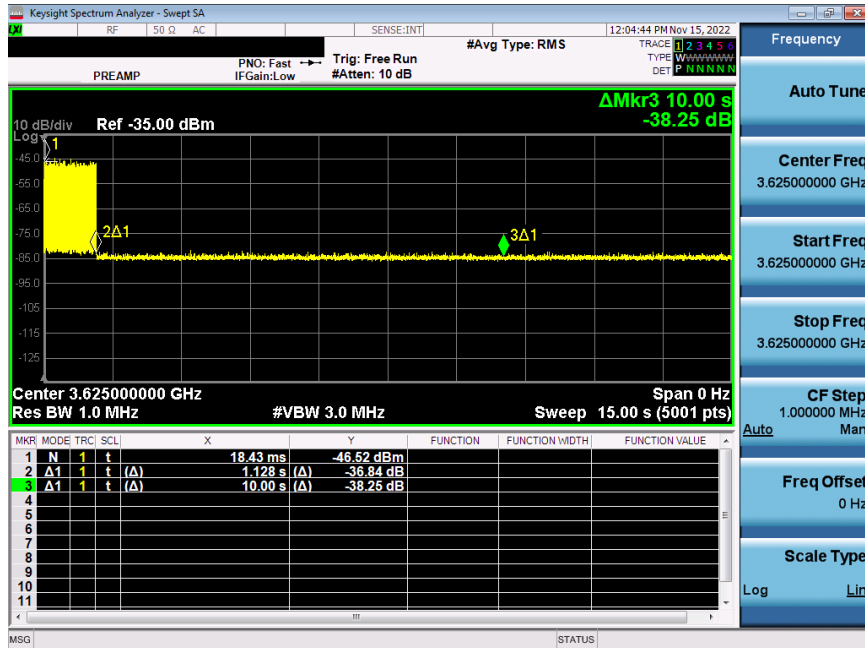
- Marker 1: CBSD sends instructions to discontinue LTE operations.
- Marker 2: EUT discontinues operation.
- Marker 3: 10 seconds elapsed time from CBSD sending instructions to EUT.

FCC ID: A3LSMS916U	PART 96 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N: 1M2209010097-07.A3L	Test Dates: 09/02/2022 - 11/21/2022	EUT Type: Portable Handset
		Page 136 of 139

NR Band n48 Run#1:



Plot 7-186. Run#1 End User Device Frequency of Operations



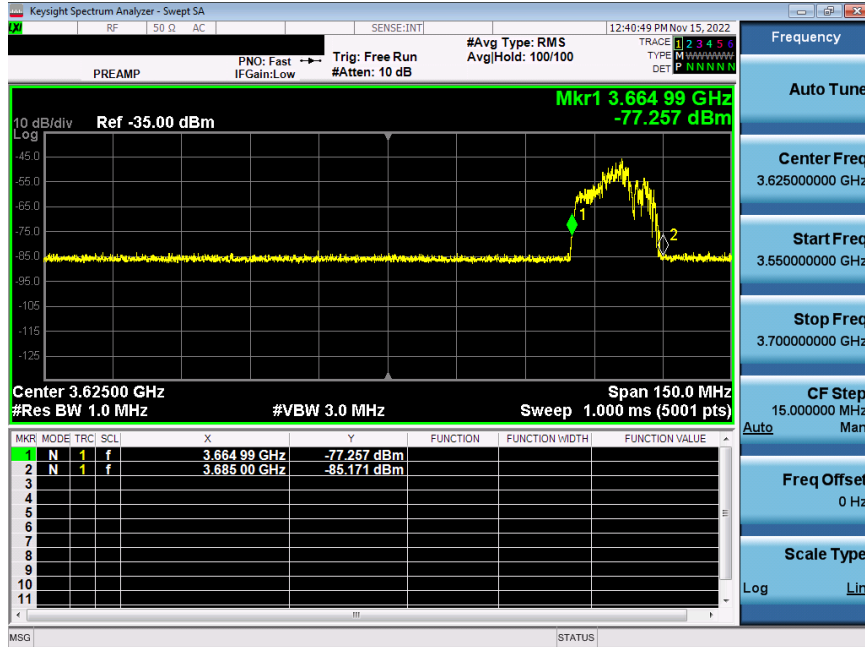
Plot 7-187. Run#1 End User Device Discontinues Operations within 10s

Note:

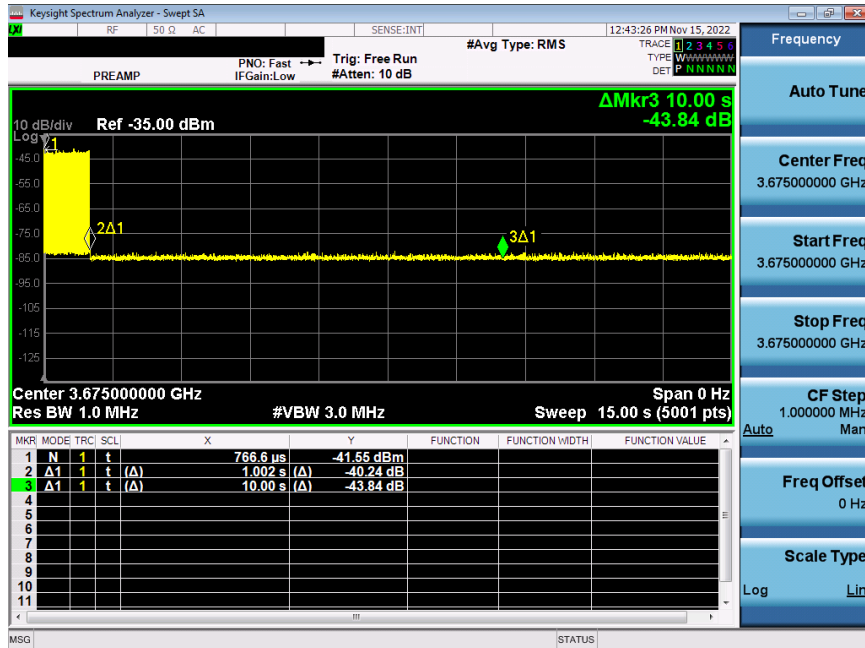
- Marker 1: CBSD sends instructions to discontinue NR operations.
- Marker 2: EUT discontinues operation.
- Marker 3: 10 seconds elapsed time from CBSD sending instructions to EUT.

FCC ID: A3LSMS916U	PART 96 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N: 1M2209010097-07.A3L	Test Dates: 09/02/2022 - 11/21/2022	EUT Type: Portable Handset
		Page 137 of 139

NR Band n48 Run#2:



Plot 7-188. Run#2 End User Device Frequency of Operations



Plot 7-189. Run#2 End User Device Discontinues Operations within 10s


Note:

- Marker 1: CBSD sends instructions to discontinue NR operations.
- Marker 2: EUT discontinues operation.
- Marker 3: 10 seconds elapsed time from CBSD sending instructions to EUT.

FCC ID: A3LSMS916U	PART 96 MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N: 1M2209010097-07.A3L	Test Dates: 09/02/2022 - 11/21/2022	EUT Type: Portable Handset
		Page 138 of 139

8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Samsung Portable Handset FCC ID: A3LSMS916U** complies with all of the End User Device requirements of Part 96 of the FCC Rules for LTE operation only.

FCC ID: A3LSMS916U	 PART 96 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2209010097-07.A3L	Test Dates: 09/02/2022 - 11/21/2022	EUT Type: Portable Handset	Page 139 of 139