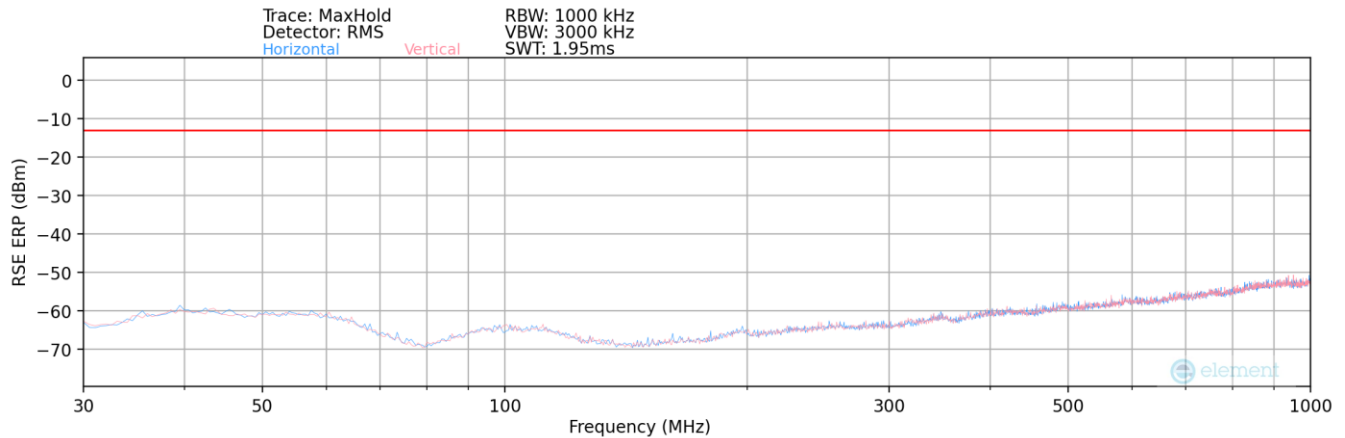
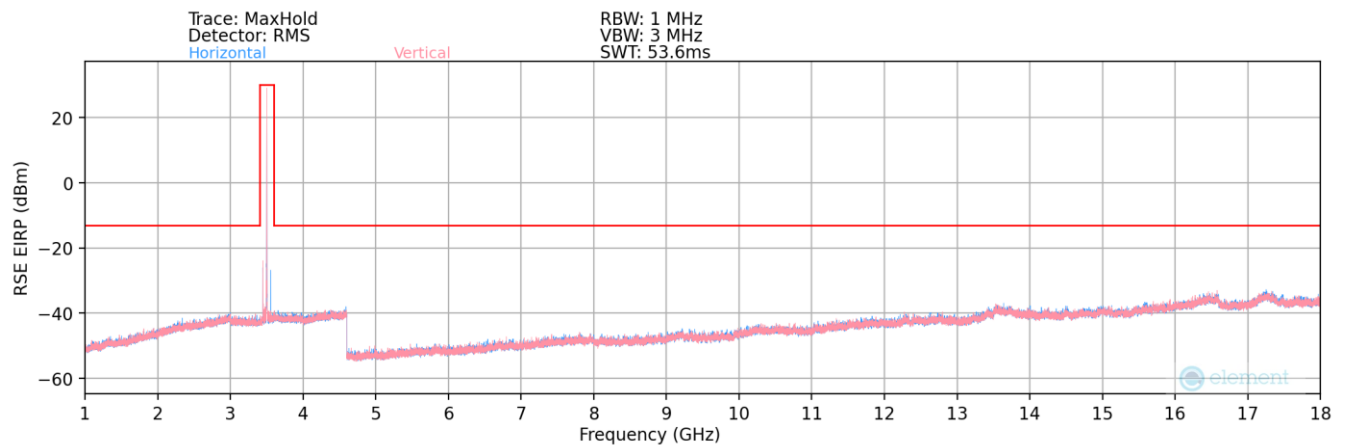


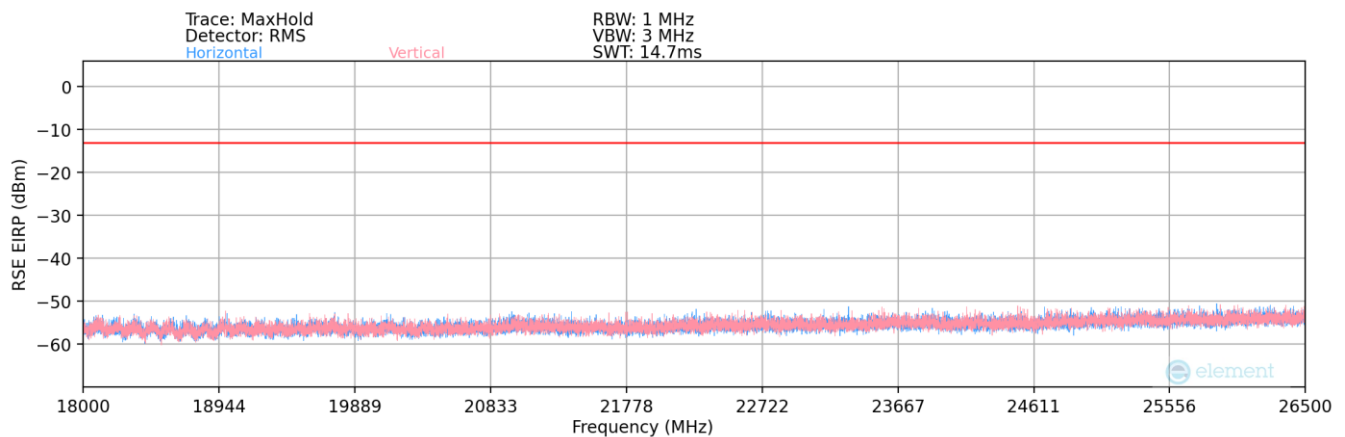
NR Band n77 – DoD Band – UL-MIMO



Plot 7-217. Radiated Spurious Plot (NR Band n77) – DoD Band – UL-MIMO

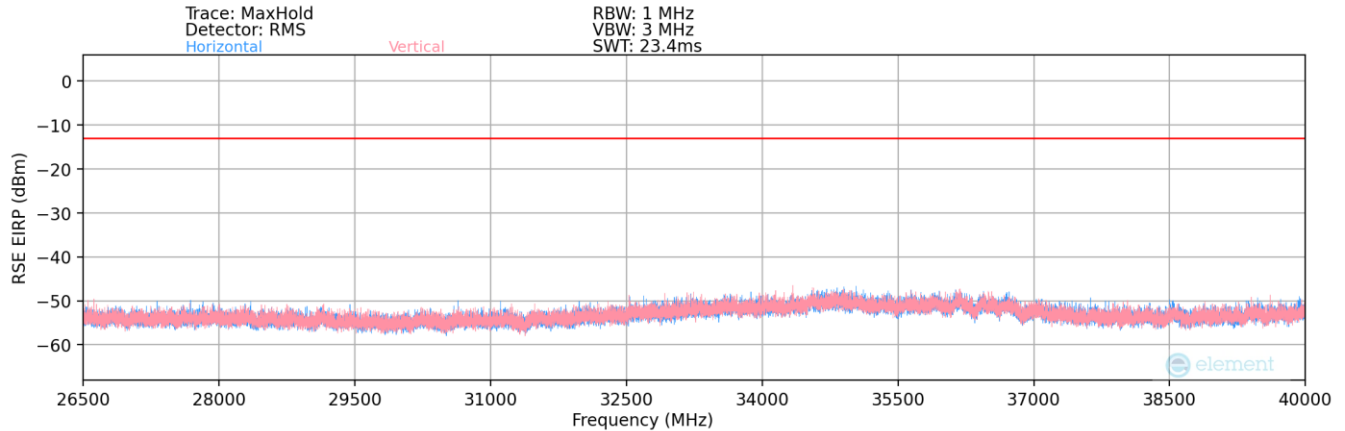


Plot 7-218. Radiated Spurious Plot (NR Band n77) – DoD Band – UL-MIMO



Plot 7-219. Radiated Spurious Plot (NR Band n77) – DoD Band – UL-MIMO

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Plot 7-220. Radiated Spurious Plot (NR Band n77) – DoD Band – UL-MIMO

Bandwidth (MHz):	100
Frequency (MHz):	3500.01
RB / Offset:	1 / 136

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]
39.00	V	-	-	-60.92	-12.78	33.30	-64.11	-13.00	-51.11
175.04	V	-	-	-65.19	-15.55	26.26	-71.14	-13.00	-58.14
582.39	V	-	-	-67.41	-4.87	34.72	-62.69	-13.00	-49.69

Table 7-42. Radiated Spurious Data (NR Band n77) – DoD Band – UL-MIMO

Bandwidth (MHz):	100
Frequency (MHz):	3500.01
RB / Offset:	1 / 136

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]
7000.02	V	131	353	-72.50	14.81	49.31	-45.95	-13.00	-32.95
10500.03	V	-	-	-73.18	20.12	53.94	-41.32	-13.00	-28.32
14000.04	V	105	333	-71.79	25.85	61.06	-34.20	-13.00	-21.20
17500.05	V	-	-	-74.68	29.56	61.88	-33.38	-13.00	-20.38
21000.06	V	-	-	-55.81	2.82	54.00	-50.80	-13.00	-37.80
24500.07	V	-	-	-55.39	4.12	55.73	-49.07	-13.00	-36.07

Table 7-43. Radiated Spurious Data (NR Band n77 – Mid Channel) – DoD Band – UL-MIMO

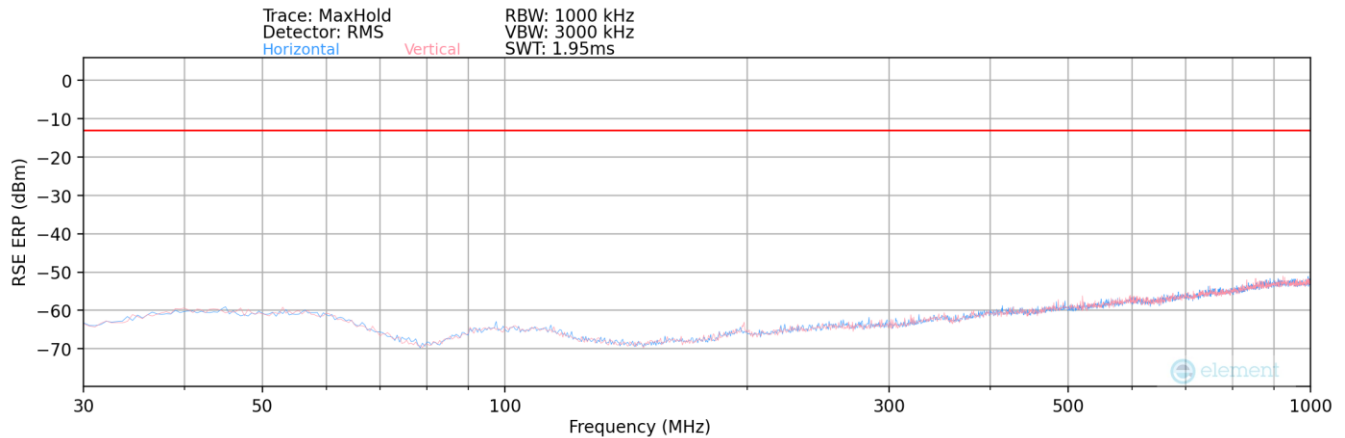
Case:	w/ Wireless Charging Pad
Bandwidth (MHz):	100
Frequency (MHz):	3500.01
RB / Offset:	1 / 136

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]
7000.02	V	-	-	-72.72	14.81	49.09	-46.17	-13.00	-33.17
10500.03	V	-	-	-73.17	20.12	53.95	-41.31	-13.00	-28.31
14000.04	V	247	352	-73.36	25.85	59.49	-35.77	-13.00	-22.77
17500.05	V	-	-	-74.60	29.56	61.96	-33.30	-13.00	-20.30

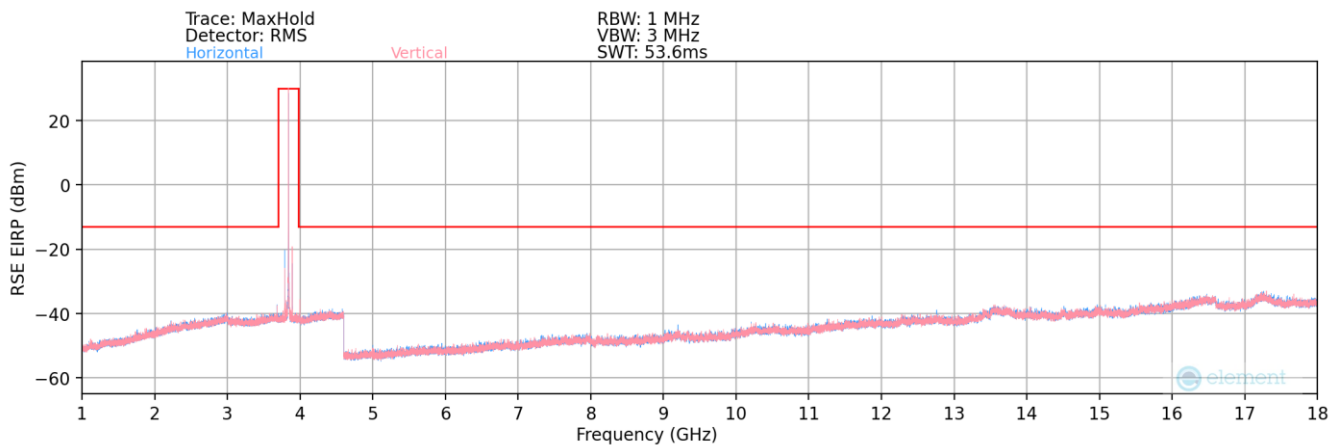
Table 7-44. Radiated Spurious Data (NR Band n77) – DoD Band – UL-MIMO – with WCP

FCC ID: A3LSMS948U	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
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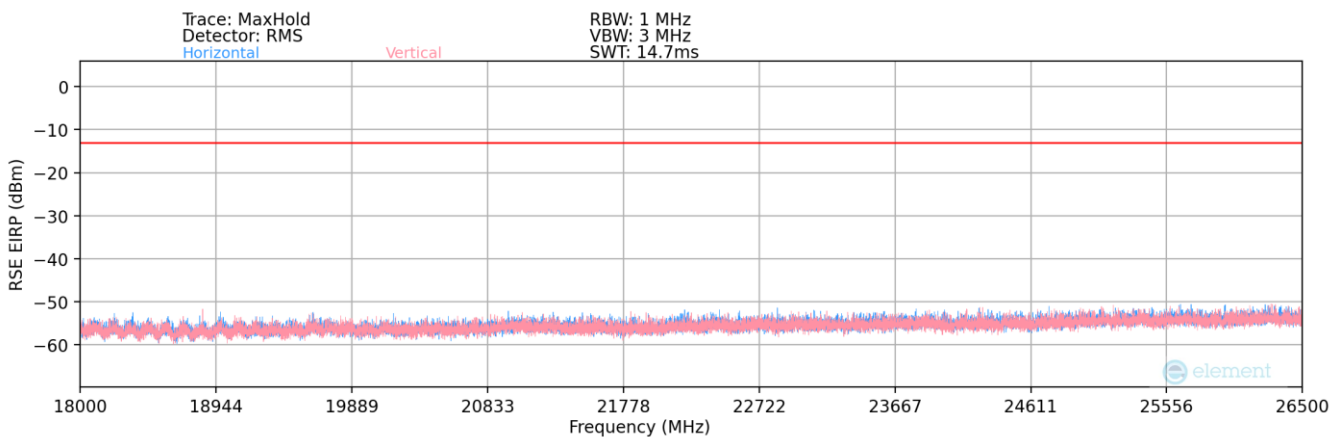
NR Band n77 – C-Band – UL-MIMO



Plot 7-221. Radiated Spurious Plot (NR Band n77) – C-Band – UL-MIMO

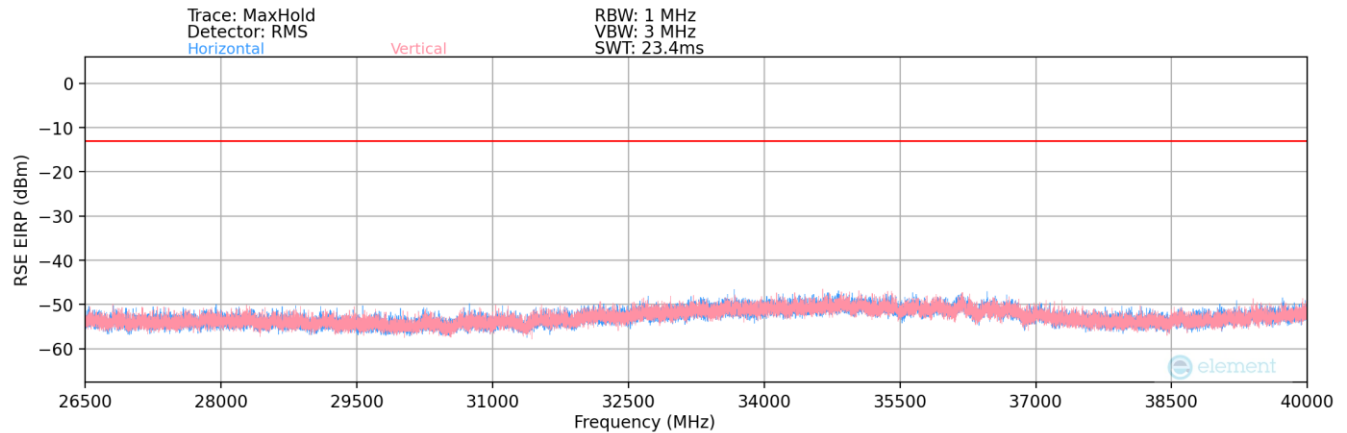


Plot 7-222. Radiated Spurious Plot (NR Band n77) – C-Band – UL-MIMO



Plot 7-223. Radiated Spurious Plot (NR Band n77) – C-Band – UL-MIMO

FCC ID: A3LSMS948U	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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Plot 7-224. Radiated Spurious Plot (NR Band n77) – C-Band – UL-MIMO

Bandwidth (MHz):	100
Frequency (MHz):	3750.00
RB / Offset:	1 / 136

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]
98.50	V	-	-	-62.47	-13.63	30.90	-66.51	-13.00	-53.51
508.58	V	-	-	-67.92	-6.50	32.58	-64.83	-13.00	-51.83

Table 7-45. Radiated Spurious Data (NR Band n77) – C-Band – UL-MIMO

Bandwidth (MHz):	100
Frequency (MHz):	3750.00
RB / Offset:	1 / 136

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]
7500.00	V	-	-	-72.48	15.93	50.45	-44.81	-13.00	-31.81
11250.00	V	-	-	-74.20	21.40	54.20	-41.06	-13.00	-28.06
15000.00	V	102	343	-72.37	26.41	61.04	-34.22	-13.00	-21.22
18750.00	V	-	-	-53.88	1.17	54.29	-50.51	-13.00	-37.51
22500.00	V	-	-	-55.16	3.45	55.29	-49.51	-13.00	-36.51
26250.00	V	-	-	-55.32	4.95	56.64	-48.16	-13.00	-35.16

Table 7-46. Radiated Spurious Data (NR Band n77 – Low Channel) – C-Band – UL-MIMO

FCC ID: A3LSMS948U	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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Bandwidth (MHz):	100
Frequency (MHz):	3840.00
RB / Offset:	1 / 136

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]
7680.00	V	184	29	-72.21	15.87	50.66	-44.59	-13.00	-31.59
11520.00	V	-	-	-74.14	22.36	55.22	-40.04	-13.00	-27.04
15360.00	V	184	330	-74.26	27.56	60.30	-34.95	-13.00	-21.95
19200.00	V	-	-	-54.08	1.64	54.56	-50.24	-13.00	-37.24
23040.00	V	-	-	-55.41	3.59	55.18	-49.62	-13.00	-36.62
26880.00	V	-	-	-55.25	5.12	56.88	-47.92	-13.00	-34.92

Table 7-47. Radiated Spurious Data (NR Band n77 – Mid Channel) – C-Band – UL-MIMO

Bandwidth (MHz):	100
Frequency (MHz):	3930.00
RB / Offset:	1 / 136

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]
7860.00	V	108	31	-72.00	16.02	51.02	-44.24	-13.00	-31.24
11790.00	V	-	-	-74.38	21.49	54.11	-41.14	-13.00	-28.14
15720.00	V	-	-	-75.35	28.48	60.13	-35.13	-13.00	-22.13
19650.00	V	-	-	-54.36	1.89	54.53	-50.27	-13.00	-37.27
23580.00	V	-	-	-55.29	3.98	55.69	-49.11	-13.00	-36.11
27510.00	V	-	-	-55.45	4.95	56.50	-48.30	-13.00	-35.30

Table 7-48. Radiated Spurious Data (NR Band n77 – High Channel) – C-Band – UL-MIMO

Case:	w/ Wireless Charging Pad
Bandwidth (MHz):	100
Frequency (MHz):	3750.00
RB / Offset:	1 / 136

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]
7500.00	V	-	-	-72.96	15.93	49.97	-45.29	-13.00	-32.29
11250.00	V	-	-	-74.04	21.40	54.36	-40.90	-13.00	-27.90
15000.00	V	-	-	-74.87	26.41	58.54	-36.72	-13.00	-23.72

Table 7-49. Radiated Spurious Data (NR Band n77) – C-Band – UL-MIMO – with WCP

FCC ID: A3LSMS948U	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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7.9 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 27, 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.

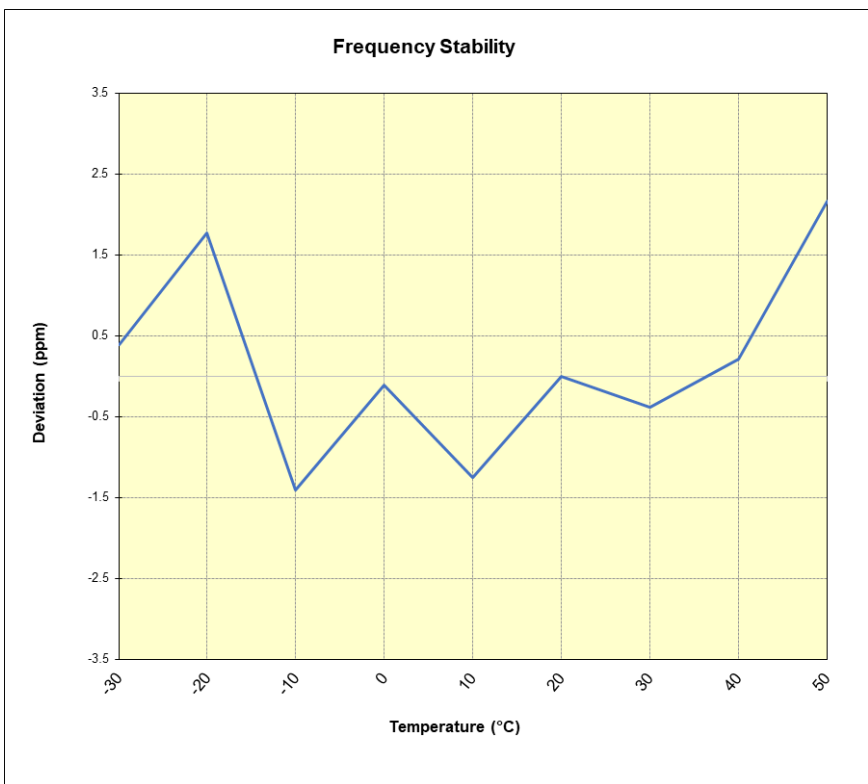
Test Notes

None

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NR Band n77					
		Operating Frequency (Hz):		3,840,000,000	
		Ref. Voltage (VDC):		4.464	
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.464	- 30	3,841,097,887	1,509	0.0000393
		- 20	3,841,103,207	6,829	0.0001778
		- 10	3,841,090,964	-5,414	-0.0001409
		0	3,841,095,950	-428	-0.0000111
		+ 10	3,841,091,591	-4,787	-0.0001246
		+ 20 (Ref)	3,841,096,378	0	0.0000000
		+ 30	3,841,094,932	-1,446	-0.0000376
		+ 40	3,841,097,218	840	0.0000219
		+ 50	3,841,104,706	8,328	0.0002168
Battery Endpoint	3.682	+ 20	3,841,093,583	-2,795	-0.0000728

Table 7-50. NR Band n77 Frequency Stability Data



Plot 7-225. NR Band n77 Frequency Stability Chart

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8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Samsung Portable Handset FCC ID: A3LSMS948U** complies with all the requirements of Part 27 of the FCC rules.

- END OF TEST REPORT -

FCC ID: A3LSMS948U	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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