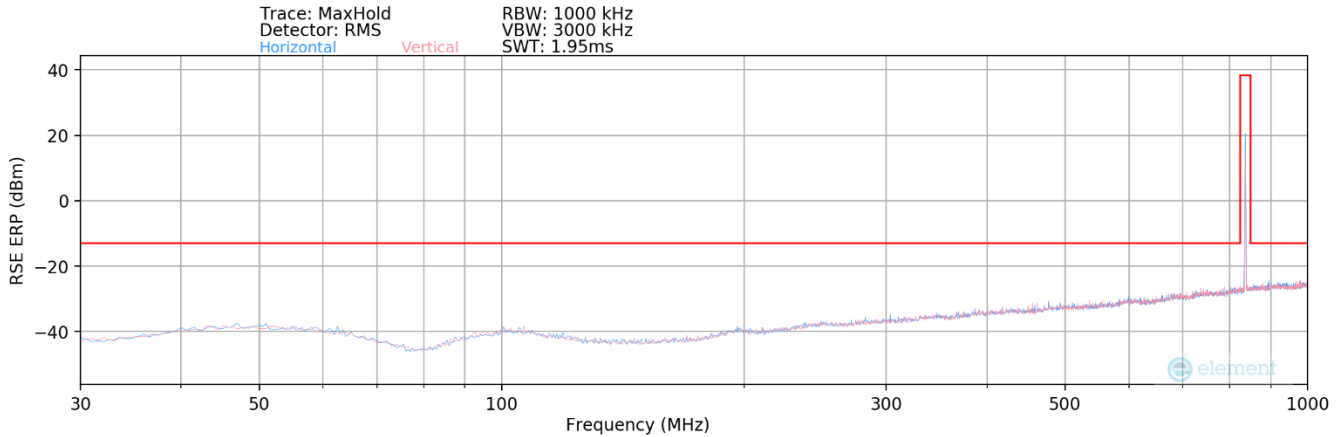
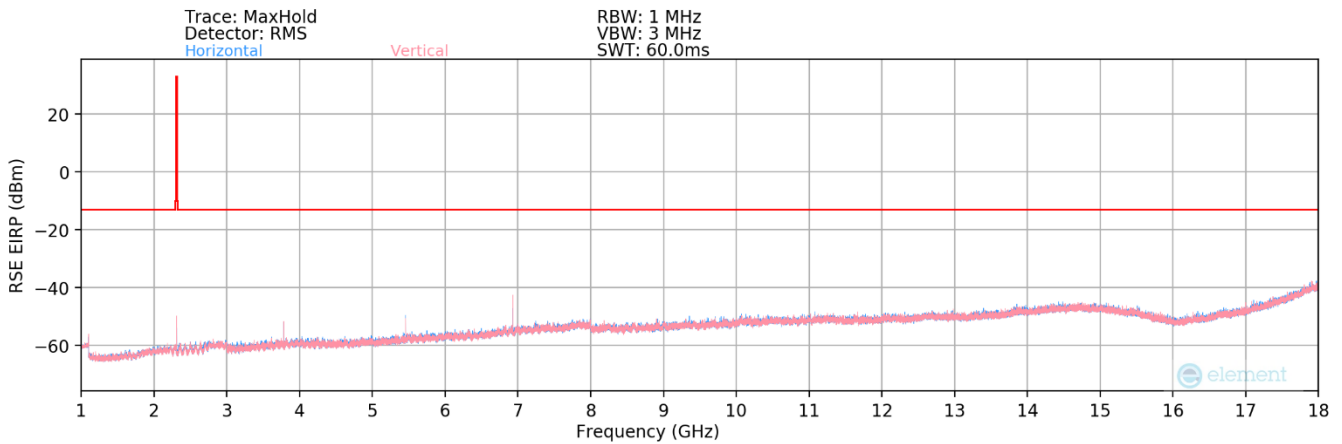


EN-DC NR n5 – LTE Band 30 (Ant F)



Plot 7-111. Radiated Spurious Plot (NR n5 – Band 30 Ant F – Below 1GHz)



Plot 7-112. Radiated Spurious Plot (NR n5 – Band 30 Ant F – Above 1GHz)

Bandwidth (MHz):	20 / 10
Frequency (MHz):	836.5 / 2310
RB / Offset:	1/53 / 1/25
Mode:	EN-DC
Anchor Band:	B30

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]
199.5	H	-	-	-72.53	12.59	47.06	-48.20	-13.00	-35.20
437.5	H	-	-	-71.01	17.84	53.83	-41.42	-13.00	-28.42
637.0	H	-	-	-73.43	21.04	54.61	-40.65	-13.00	-27.65

Table 7-32. Radiated Spurious Data (NR n5 – Band 30 Ant F – Below 1GHz)

FCC ID: A3LSMS911U	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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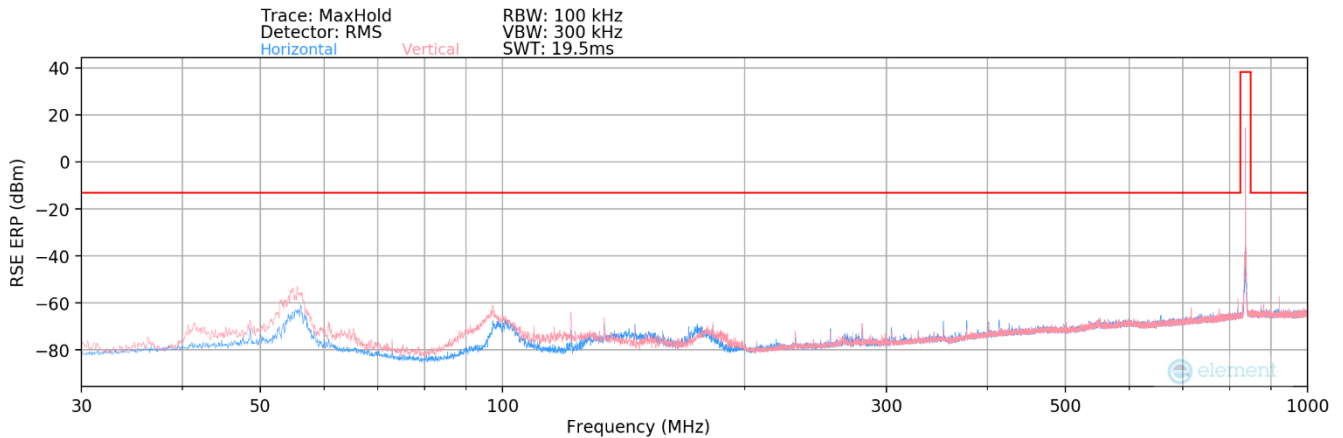
Bandwidth (MHz):	20 / 10
Frequency (MHz):	836.5 / 2310
RB / Offset:	1/53 / 1/25
Mode:	EN-DC
Anchor Band:	B30

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]
3783.5	V	317	328	-66.38	0.31	40.93	-54.33	-13.00	-41.33
3983.0	V	-	-	-78.06	1.67	30.61	-64.65	-13.00	-51.65
5257.0	V	-	-	-78.24	2.54	31.30	-63.95	-13.00	-50.95
5456.5	V	291	358	-75.28	2.99	34.71	-60.55	-13.00	-47.55
5656.0	V	-	-	-78.30	3.16	31.86	-63.39	-13.00	-50.39

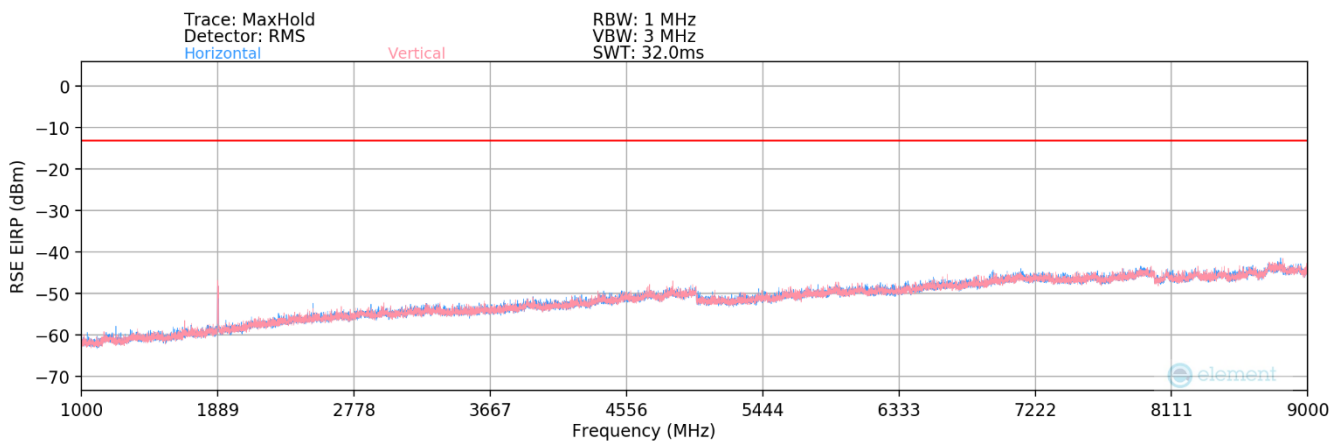
Table 7-33. Radiated Spurious Data (NR n5 – Band 30 Ant F)

FCC ID: A3LSMS911U	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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GSM/GPRS Cell



Plot 7-113. Radiated Spurious Plot (GPRS Cell – Below 1GHz)



Plot 7-114. Radiated Spurious Plot (GPRS Cell – Above 1GHz)

Mode:	GPRS 1 Tx Slot
Channel:	190
Frequency (MHz):	836.6

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]
55.30	V	204	244	-49.02	18.89	76.87	-18.38	-13.00	-5.38
97.20	V	120	46	-51.36	16.39	72.03	-23.22	-13.00	-10.22
121.60	V	152	50	-54.35	15.06	67.71	-27.55	-13.00	-14.55
279.60	V	150	46	-70.36	18.74	55.38	-39.88	-13.00	-26.88
716.00	V	149	286	-75.30	27.20	58.90	-36.36	-13.00	-23.36
921.60	V	291	353	-69.91	30.19	67.28	-27.98	-13.00	-14.98

Table 7-34. Radiated Spurious Data (GPRS Cell – Below 1GHz)

FCC ID: A3LSMS911U	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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Mode:	GPRS 1 Tx Slot
Channel:	128
Frequency (MHz):	824.2

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]
1648.40	V	178	209	-63.51	-0.19	43.30	-51.96	-13.00	-38.96
2472.60	V	178	226	-68.41	4.06	42.65	-52.61	-13.00	-39.61
3296.80	V	-	-	-70.59	6.52	42.93	-52.33	-13.00	-39.33
4121.00	V	-	-	-71.40	8.22	43.82	-51.44	-13.00	-38.44
4945.20	V	-	-	-71.57	9.68	45.11	-50.14	-13.00	-37.14

Table 7-35. Radiated Spurious Data (GPRS Cell – Low Channel)

Mode:	GPRS 1 Tx Slot
Channel:	190
Frequency (MHz):	836.6

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]
1673.20	V	202	201	-63.24	0.43	44.19	-51.06	-13.00	-38.06
2509.80	V	197	205	-69.46	4.12	41.66	-53.59	-13.00	-40.59
3346.40	V	-	-	-71.44	6.61	42.17	-53.09	-13.00	-40.09
4183.00	V	-	-	-71.83	8.25	43.42	-51.83	-13.00	-38.83
5019.60	V	-	-	-72.07	10.69	45.62	-49.64	-13.00	-36.64

Table 7-36. Radiated Spurious Data (GPRS Cell – Mid Channel)

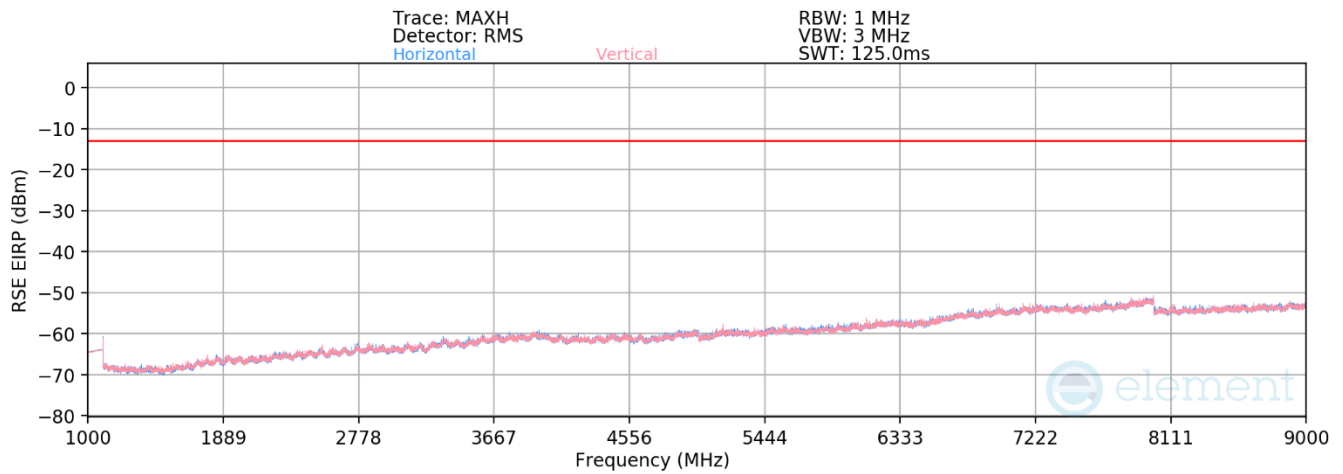
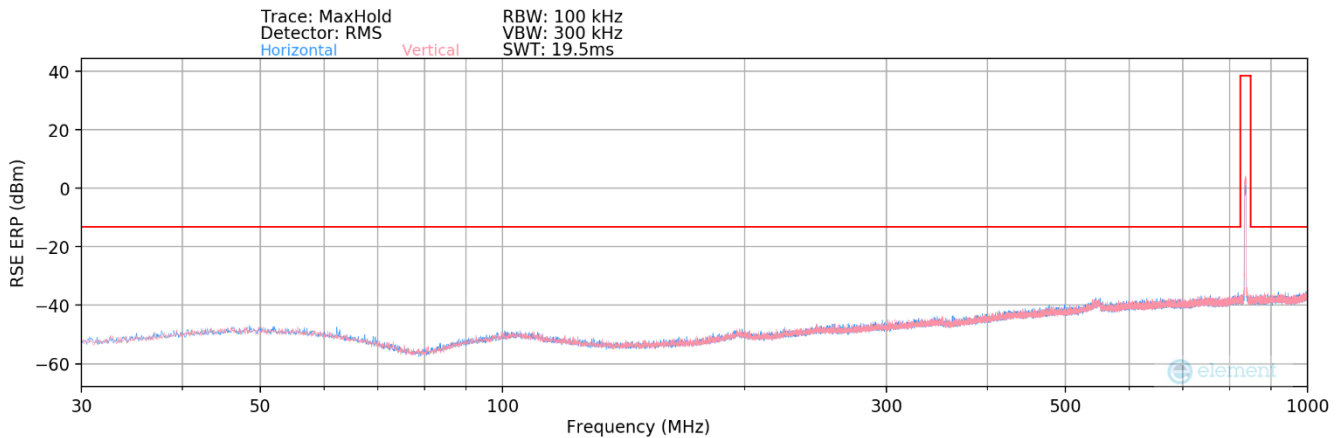
Mode:	GPRS 1 Tx Slot
Channel:	251
Frequency (MHz):	848.8

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]
1697.60	V	133	212	-63.86	0.67	43.81	-51.45	-13.00	-38.45
2546.40	V	133	203	-67.92	4.39	43.47	-51.78	-13.00	-38.78
3395.20	V	-	-	-70.89	6.40	42.51	-52.75	-13.00	-39.75
4244.00	V	-	-	-71.90	8.60	43.70	-51.56	-13.00	-38.56
5092.80	V	-	-	-71.97	10.20	45.23	-50.03	-13.00	-37.03

Table 7-37. Radiated Spurious Data (GPRS Cell – High Channel)

FCC ID: A3LSMS911U	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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WCDMA Cell



Mode:	WCDMA RMC
Channel:	4183
Frequency (MHz):	836.6

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]
444.36	V	-	-	-79.20	17.80	45.60	-49.65	-13.00	-36.65
560.99	V	-	-	-78.75	19.92	48.17	-47.08	-13.00	-34.08
911.04	V	-	-	-80.27	25.15	51.88	-43.38	-13.00	-30.38

Table 7-38. Radiated Spurious Data (WCDMA Cell – Below 1GHz)

FCC ID: A3LSMS911U	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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Mode:	WCDMA RMC
Channel:	4132
Frequency (MHz):	826.4

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]
1652.80	H	-	-	-74.53	-7.74	24.73	-70.53	-13.00	-57.53
2479.20	H	-	-	-75.47	-4.28	27.25	-68.01	-13.00	-55.01
3305.60	H	-	-	-77.12	-0.86	29.02	-66.24	-13.00	-53.24
4132.00	H	-	-	-77.22	0.75	30.53	-64.73	-13.00	-51.73
4958.40	H	-	-	-77.15	1.32	31.17	-64.09	-13.00	-51.09

Table 7-39. Radiated Spurious Data (WCDMA Cell – Low Channel)

Mode:	WCDMA RMC
Channel:	4183
Frequency (MHz):	836.6

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]
1673.20	H	-	-	-75.22	-7.63	24.15	-71.10	-13.00	-58.10
2509.80	H	-	-	-75.82	-4.17	27.01	-68.25	-13.00	-55.25
3346.40	H	-	-	-75.72	-0.95	30.33	-64.93	-13.00	-51.93
4183.00	H	-	-	-76.33	0.38	31.05	-64.21	-13.00	-51.21
5019.60	H	-	-	-77.06	1.29	31.23	-64.03	-13.00	-51.03

Table 7-40. Radiated Spurious Data (WCDMA Cell – Mid Channel)

Mode:	WCDMA RMC
Channel:	4233
Frequency (MHz):	846.6

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]
1693.20	H	-	-	-75.56	-7.35	24.09	-71.17	-13.00	-58.17
2539.80	H	-	-	-74.96	-4.13	27.91	-67.35	-13.00	-54.35
3386.40	H	-	-	-76.97	-0.86	29.17	-66.09	-13.00	-53.09
4233.00	H	-	-	-77.05	0.48	30.43	-64.83	-13.00	-51.83
5079.60	H	-	-	-77.25	1.84	31.59	-63.67	-13.00	-50.67

Table 7-41. Radiated Spurious Data (WCDMA Cell – High Channel)

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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 22 and RSS-132, the frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5 ppm) of the center frequency.

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

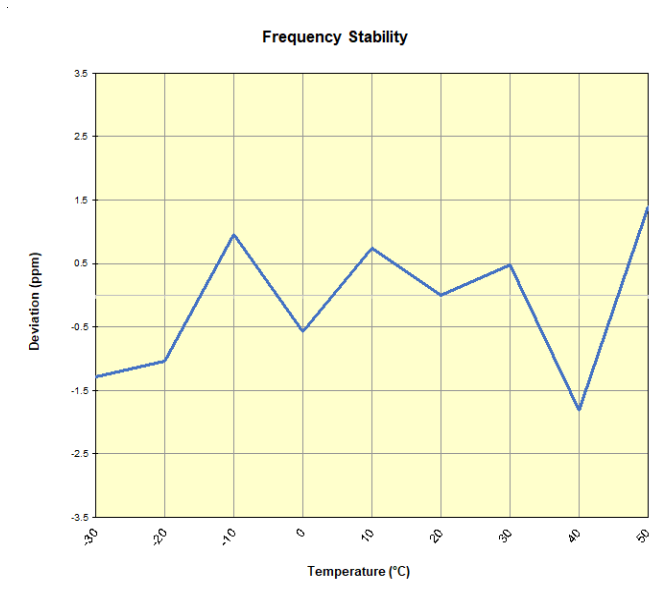
None

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LTE Band 26/5

LTE Band 26/5					
Operating Frequency (Hz):		836,500,000			
Ref. Voltage (VDC):		4.34			
Deviation Limit:		± 0.00025% or 2.5 ppm			
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.34	- 30	836,499,558	-1,071	-0.0001280
		- 20	836,499,761	-868	-0.0001038
		- 10	836,501,428	799	0.0000955
		0	836,500,154	-475	-0.0000568
		+ 10	836,501,249	620	0.0000741
		+ 20 (Ref)	836,500,629	0	0.0000000
		+ 30	836,501,031	402	0.0000481
		+ 40	836,499,116	-1,513	-0.0001809
Battery Endpoint	3.69	+ 20	836,500,522	-107	-0.0000128

Table 7-42. LTE Band 26/5 Frequency Stability Data



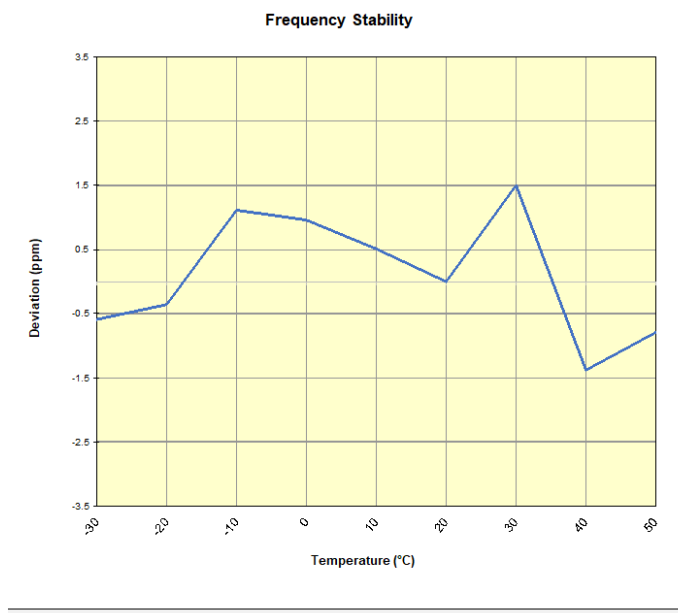
Plot 7-117. LTE Band 26/5 Frequency Stability Chart

FCC ID: A3LSMS911U	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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NR Band n26/5

NR Band n26/5					
		Operating Frequency (Hz):		836,500,000	
		Ref. Voltage (VDC):		4.34	
		Deviation Limit:		± 0.00025% or 2.5 ppm	
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.34	- 30	836,589,783	-492	-0.0000588
		- 20	836,589,982	-293	-0.0000350
		- 10	836,591,211	936	0.0001119
		0	836,591,084	809	0.0000967
		+ 10	836,590,698	423	0.0000506
		+ 20 (Ref)	836,590,275	0	0.0000000
		+ 30	836,591,537	1,262	0.0001509
		+ 40	836,589,124	-1,151	-0.0001376
Battery Endpoint	3.69	+ 20	836,589,132	-1,143	-0.0001366

Table 7-43. NR Band n26/5 Frequency Stability Data



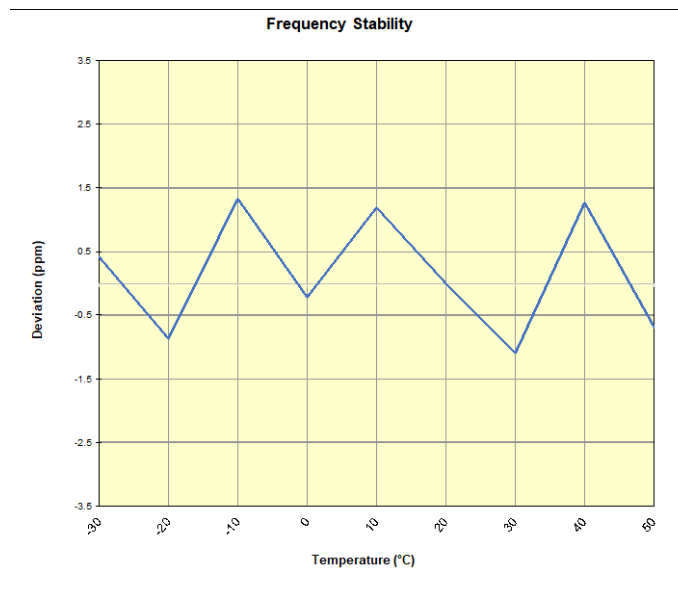
Plot 7-118. NR Band n26/5 Frequency Stability Chart

FCC ID: A3LSMS911U	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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GSM/GPRS Cell

GSM/GPRS Cellular					
Operating Frequency (Hz):		836,600,000			
Ref. Voltage (VDC):		4.34			
Deviation Limit:		± 0.00025% or 2.5 ppm			
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.34	- 30	836,594,981	355	0.0000424
		- 20	836,593,899	-727	-0.0000869
		- 10	836,595,745	1,119	0.0001338
		0	836,594,439	-187	-0.0000224
		+ 10	836,595,629	1,003	0.0001199
		+ 20 (Ref)	836,594,626	0	0.0000000
		+ 30	836,593,712	-914	-0.0001093
		+ 40	836,595,688	1,062	0.0001269
		+ 50	836,594,062	-564	-0.0000674
Battery Endpoint	3.69	+ 20	836,593,157	-1,469	-0.0001756

Table 7-44. GSM/GPRS Cell Frequency Stability Data



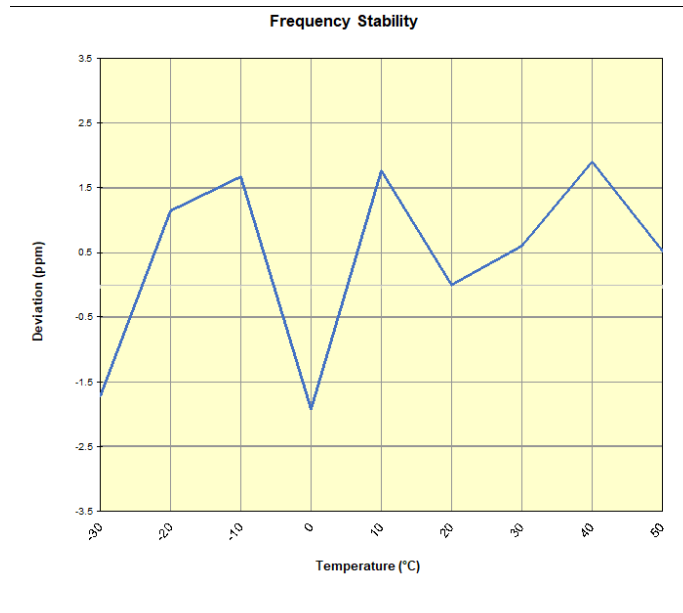
Plot 7-119. GSM/GPRS Cell Frequency Stability Chart

FCC ID: A3LSMS911U	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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WCDMA Cell

WCDMA Cellular					
		Operating Frequency (Hz):		836,600,000	
		Ref. Voltage (VDC):		4.34	
		Deviation Limit:		± 0.00025% or 2.5 ppm	
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.34	- 30	836,595,868	-1,440	-0.0001721
		- 20	836,598,261	953	0.0001139
		- 10	836,598,704	1,396	0.0001669
		0	836,595,702	-1,606	-0.0001920
		+ 10	836,598,781	1,473	0.0001761
		+ 20 (Ref)	836,597,308	0	0.0000000
		+ 30	836,597,810	502	0.0000600
		+ 40	836,598,898	1,590	0.0001901
		+ 50	836,597,751	443	0.0000530
Battery Endpoint	3.69	+ 20	836,595,379	-1,929	-0.0002306

Table 7-45. WCDMA Cell Frequency Stability Data



Plot 7-120. WCDMA Cell Frequency Stability Chart

FCC ID: A3LSMS911U	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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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: A3LSMS911U** complies with all the requirements of Part 22 of the FCC rules.

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Test Report S/N: 1M2209010096-01.A3L	Test Dates: 9/6/2022 – 11/7/2022	EUT Type: Portable Handset	Page 101 of 101