



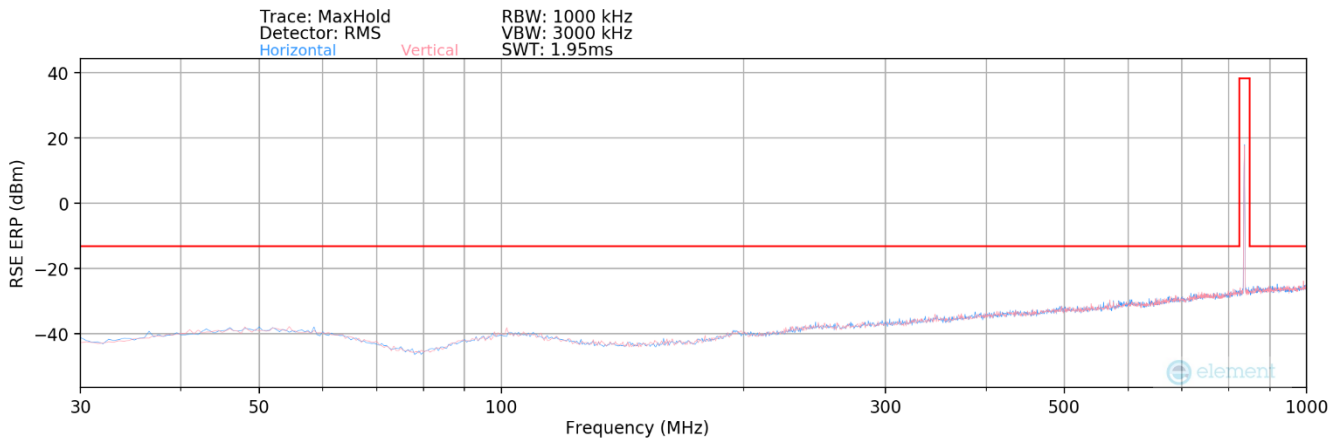
Bandwidth (MHz):	20 / 20
Frequency (MHz):	836.5 / 1745
RB / Offset:	1/53 / 1/50
Mode:	EN-DC
Anchor Band:	66

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]
2653.50	H	108	222	-67.73	-3.94	35.33	-59.92	-13.00	-46.92
3418.00	H	-	-	-77.08	-1.09	28.83	-66.43	-13.00	-53.43
3562.00	H	-	-	-77.24	-0.66	29.10	-66.16	-13.00	-53.16
4326.50	H	108	240	-70.44	0.46	37.02	-58.24	-13.00	-45.24
5091.00	H	-	-	-77.92	2.09	31.17	-64.08	-13.00	-51.08

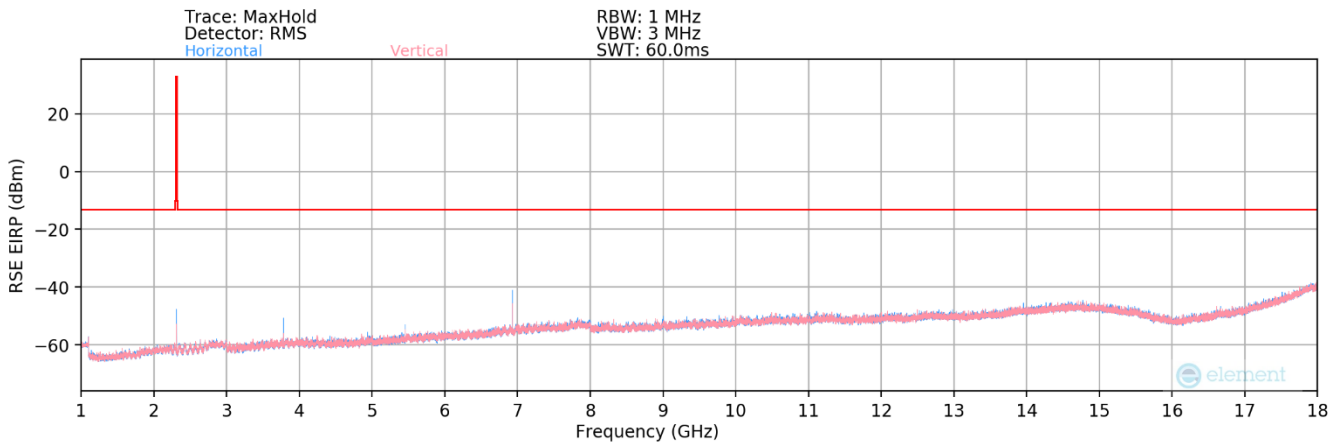
Table 7-31. Radiated Spurious Data (NR n5 – Band 66 Ant F)

FCC ID: A3LSMS918U	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2209010098-06.A3L	Test Dates: 9/8/2022 – 11/14/2022	EUT Type: Portable Handset	Page 89 of 101

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:	30

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]
199.50	H	-	-	-72.66	12.59	46.93	-48.33	-13.00	-35.33
437.50	H	-	-	-70.80	17.84	54.04	-41.21	-13.00	-28.21
637.00	H	-	-	-73.30	21.04	54.74	-40.52	-13.00	-27.52

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

FCC ID: A3LSMS918U	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2209010098-06.A3L	Test Dates: 9/8/2022 – 11/14/2022	EUT Type: Portable Handset	Page 90 of 101



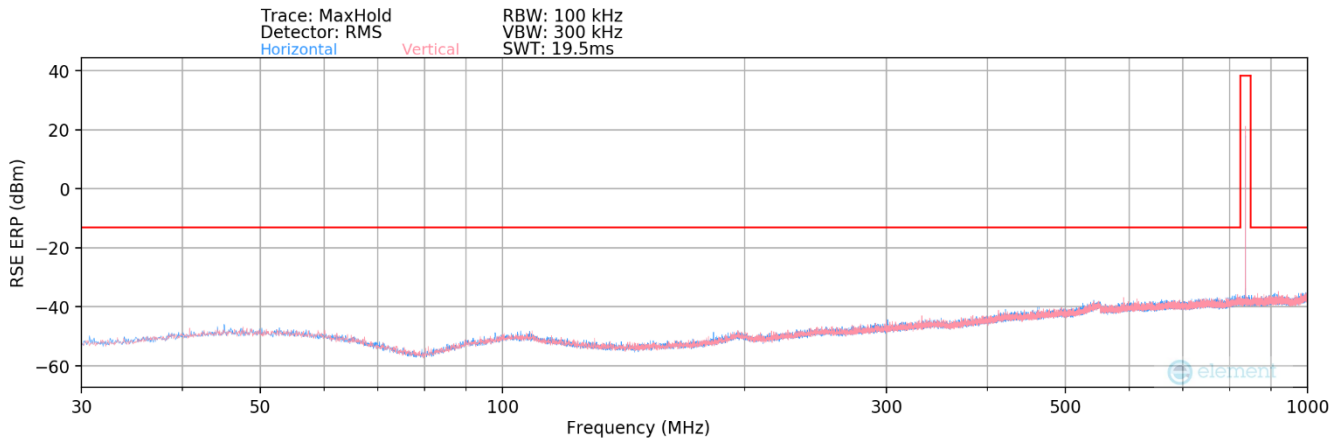
Bandwidth (MHz):	20 / 10
Frequency (MHz):	836.5 / 2310
RB / Offset:	1/53 / 1/25
Mode:	EN-DC
Anchor Band:	30

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]
3584.00	V	-	-	-76.96	-0.59	29.45	-65.81	-13.00	-52.81
3783.50	V	400	196	-74.53	0.31	32.78	-62.48	-13.00	-49.48
3983.00	V	-	-	-77.60	1.67	31.07	-64.19	-13.00	-51.19
4382.00	V	-	-	-77.07	0.37	30.30	-64.95	-13.00	-51.95
5456.50	V	400	200	-77.78	2.99	32.21	-63.05	-13.00	-50.05

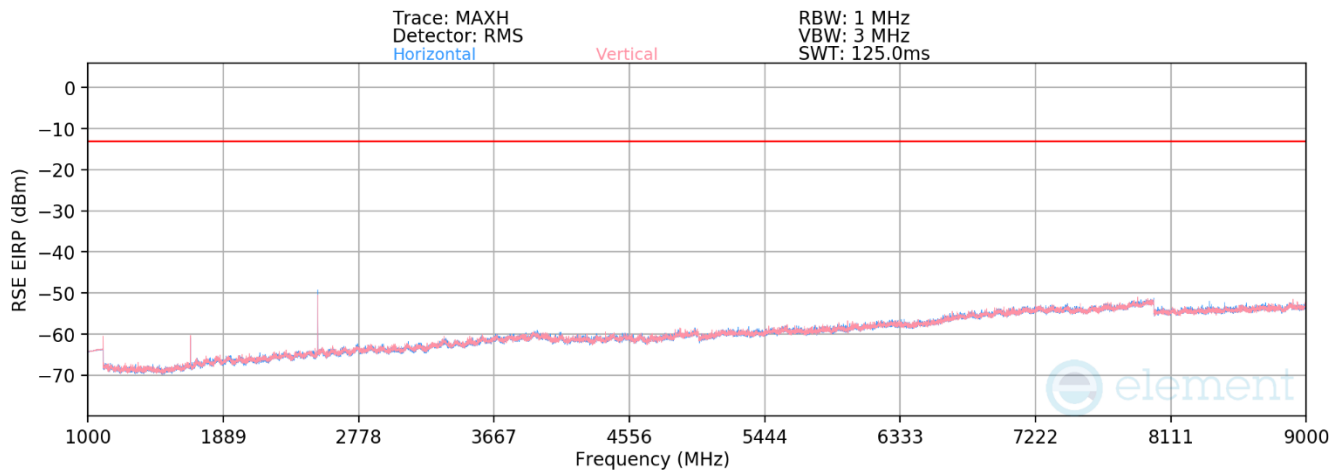
Table 7-33. Radiated Spurious Data (NR n5 – Band 30 Ant F)

FCC ID: A3LSMS918U	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2209010098-06.A3L	Test Dates: 9/8/2022 – 11/14/2022	EUT Type: Portable Handset	Page 91 of 101

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]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
481.92	H	-	-	-72.62	18.81	53.19	-42.07	-13.00	-29.07
547.20	H	-	-	-71.29	19.63	55.34	-39.92	-13.00	-26.92
905.94	H	-	-	-70.17	25.13	61.96	-33.30	-13.00	-20.30

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

FCC ID: A3LSMS918U	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	H	100	184	-64.09	-7.78	35.13	-60.12	-13.00	-47.12
2472.60	H	119	213	-53.55	-4.27	49.18	-46.07	-13.00	-33.07
3296.80	H	-	-	-69.00	-0.93	37.07	-58.19	-13.00	-45.19
4121.00	H	-	-	-69.20	0.78	38.58	-56.68	-13.00	-43.68
4945.20	H	-	-	-69.23	1.42	39.19	-56.07	-13.00	-43.07
5769.40	H	-	-	-69.28	3.60	41.32	-53.94	-13.00	-40.94

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	H	120	188	-61.57	-7.63	37.80	-57.45	-13.00	-44.45
2509.80	H	135	214	-54.63	-4.17	48.20	-47.06	-13.00	-34.06
3346.40	H	-	-	-68.33	-0.95	37.72	-57.54	-13.00	-44.54
4183.00	H	-	-	-68.57	0.38	38.81	-56.45	-13.00	-43.45
5019.60	H	-	-	-69.00	1.29	39.29	-55.97	-13.00	-42.97
5856.20	H	-	-	-70.74	4.36	40.62	-54.63	-13.00	-41.63

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

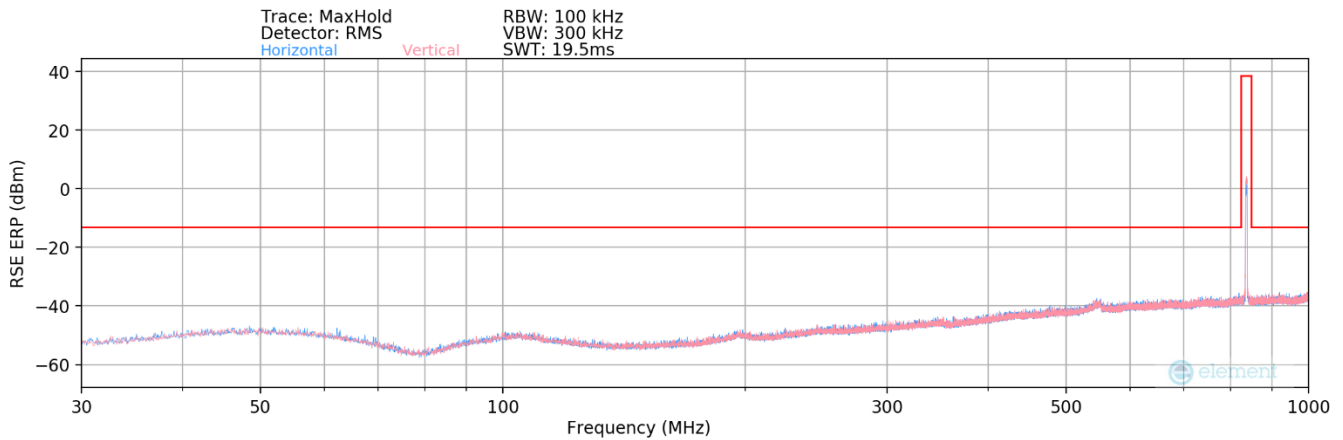
Mode:	GPRS 1 Tx Slot
Channel:	251
Frequency (MHz):	848.8

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	H	101	194	-63.83	-7.30	35.87	-59.39	-13.00	-46.39
2546.40	H	101	213	-53.75	-4.20	49.05	-46.21	-13.00	-33.21
3395.20	H	-	-	-68.98	-0.96	37.06	-58.20	-13.00	-45.20
4244.00	H	-	-	-68.89	0.33	38.44	-56.81	-13.00	-43.81
5092.80	H	-	-	-69.42	2.14	39.72	-55.54	-13.00	-42.54
5941.60	H	-	-	-70.19	4.41	41.22	-54.03	-13.00	-41.03

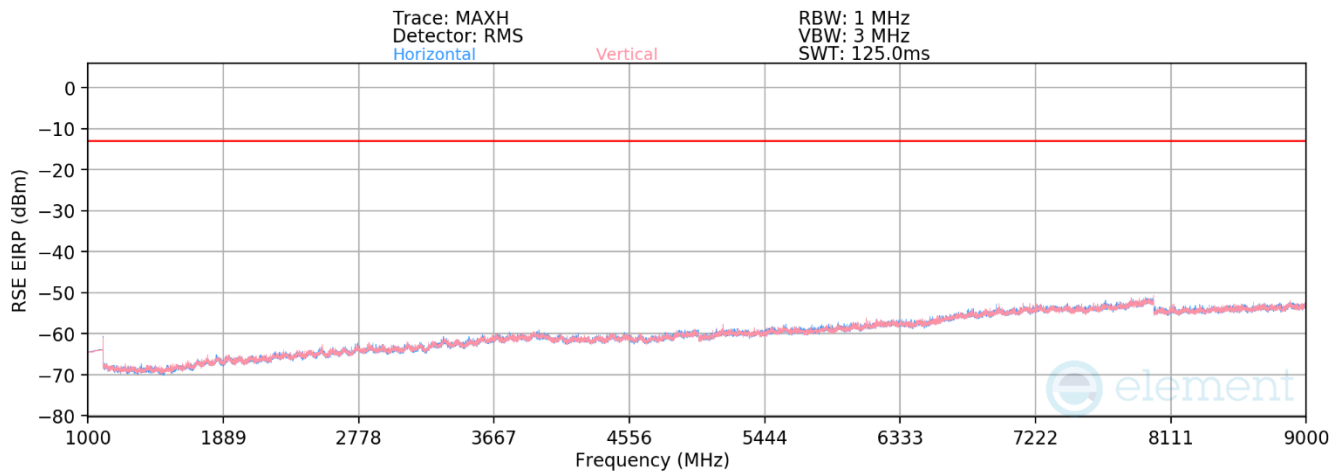
Table 7-37. Radiated Spurious Data (GPRS Cell – High Channel)

FCC ID: A3LSMS918U	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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WCDMA Cell



Plot 7-115. Radiated Spurious Plot (WCDMA Cell – Below 1GHz)



Plot 7-116. Radiated Spurious Plot (WCDMA Cell – Above 1GHz)

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]
468.78	H	-	-	-79.14	18.28	46.14	-49.12	-13.00	-36.12
548.70	H	-	-	-78.93	19.66	47.73	-47.52	-13.00	-34.52
989.16	H	-	-	-80.56	25.70	52.14	-43.12	-13.00	-30.12

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

FCC ID: A3LSMS918U	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	V	-	-	-74.63	-7.74	24.63	-70.63	-13.00	-57.63
2479.20	V	-	-	-75.85	-4.28	26.87	-68.39	-13.00	-55.39
3305.60	V	-	-	-77.10	-0.86	29.04	-66.22	-13.00	-53.22
4132.00	V	-	-	-77.24	0.75	30.51	-64.75	-13.00	-51.75
4958.40	V	-	-	-77.16	1.32	31.16	-64.10	-13.00	-51.10

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	V	-	-	-75.28	-7.63	24.09	-71.16	-13.00	-58.16
2509.80	V	-	-	-75.87	-4.17	26.96	-68.30	-13.00	-55.30
3346.40	V	-	-	-75.76	-0.95	30.29	-64.97	-13.00	-51.97
4183.00	V	-	-	-76.48	0.38	30.90	-64.36	-13.00	-51.36
5019.60	V	-	-	-77.15	1.29	31.14	-64.12	-13.00	-51.12

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	V	-	-	-75.49	-7.35	24.16	-71.10	-13.00	-58.10
2539.80	V	-	-	-75.07	-4.13	27.80	-67.46	-13.00	-54.46
3386.40	V	-	-	-77.07	-0.86	29.07	-66.19	-13.00	-53.19
4233.00	V	-	-	-76.95	0.48	30.53	-64.73	-13.00	-51.73
5079.60	V	-	-	-77.43	1.84	31.41	-63.85	-13.00	-50.85

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

FCC ID: A3LSMS918U	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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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

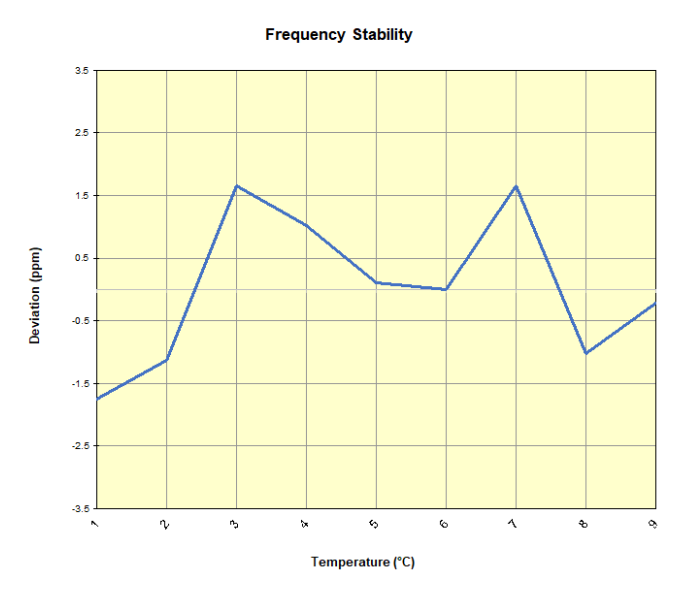
None

FCC ID: A3LSMS918U	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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LTE Band 26/5

LTE Band 26/5					
		Operating Frequency (Hz):		836,500,000	
		Ref. Voltage (VDC):		4.35	
		Deviation Limit:		± 0.00025% or 2.5 ppm	
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.35	- 30	836,490,116	-1,464	-0.0001750
		- 20	836,490,630	-950	-0.0001136
		- 10	836,492,962	1,382	0.0001652
		0	836,492,429	849	0.0001015
		+ 10	836,491,667	87	0.0000104
		+ 20 (Ref)	836,491,580	0	0.0000000
		+ 30	836,492,964	1,384	0.0001655
		+ 40	836,490,731	-849	-0.0001015
Battery Endpoint	3.69	+ 20	836,492,503	923	0.0001103

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



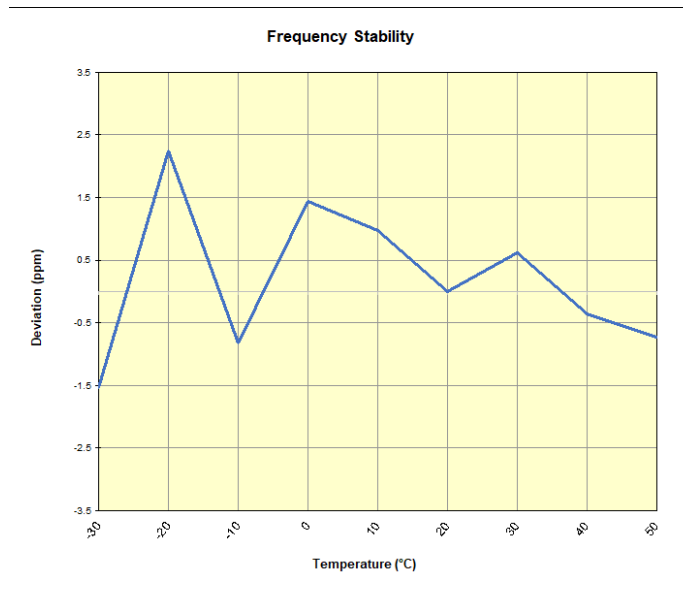
Plot 7-117. LTE Band 26/5 Frequency Stability Chart

FCC ID: A3LSMS918U	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
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NR Band n26/5

NR Band n5					
Operating Frequency (Hz):		836,500,000			
Ref. Voltage (VDC):		4.35			
Deviation Limit:		± 0.00025% or 2.5 ppm			
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.35	- 30	836,569,138	-1,279	-0.0001529
		- 20	836,572,298	1,881	0.0002248
		- 10	836,569,729	-688	-0.0000822
		0	836,571,616	1,199	0.0001433
		+ 10	836,571,239	822	0.0000983
		+ 20 (Ref)	836,570,417	0	0.0000000
		+ 30	836,570,936	519	0.0000620
		+ 40	836,570,120	-297	-0.0000355
Battery Endpoint	3.69	+ 20	836,571,348	931	0.0001113

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



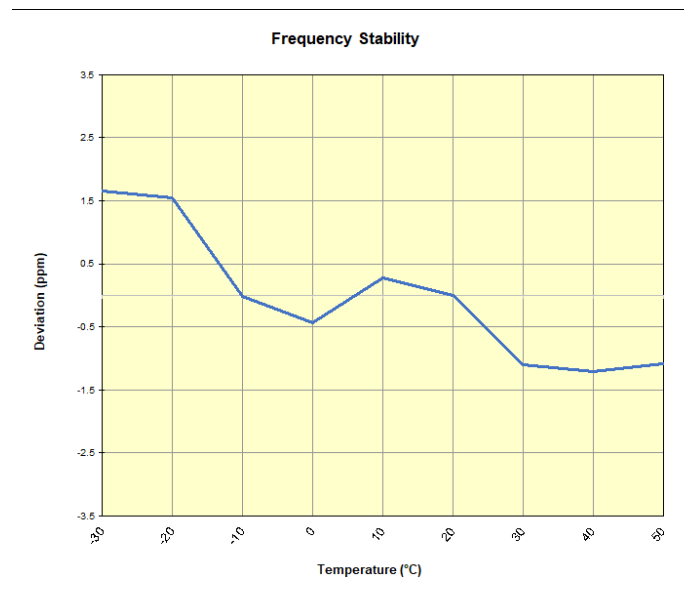
Plot 7-118. NR Band n26/5 Frequency Stability Chart

FCC ID: A3LSMS918U	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):		4.35	
		Deviation Limit:		± 0.00025% or 2.5 ppm	
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.35	- 30	836,603,667	1,380	0.0001650
		- 20	836,603,577	1,290	0.0001542
		- 10	836,602,273	-14	-0.0000017
		0	836,601,922	-365	-0.0000436
		+ 10	836,602,524	237	0.0000283
		+ 20 (Ref)	836,602,287	0	0.0000000
		+ 30	836,601,367	-920	-0.0001100
		+ 40	836,601,282	-1,005	-0.0001201
		+ 50	836,601,375	-912	-0.0001090
Battery Endpoint	3.69	+ 20	836,603,105	818	0.0000978

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



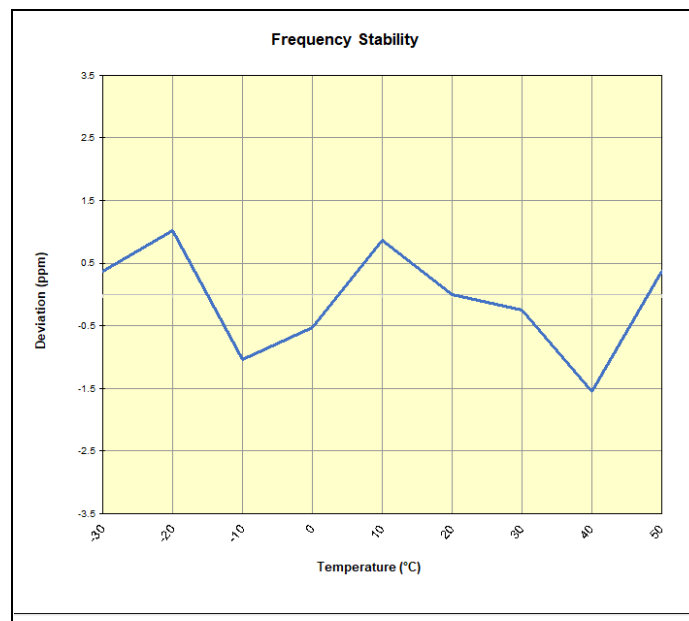
Plot 7-119. GSM/GPRS Cell Frequency Stability Chart

FCC ID: A3LSMS918U	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):		4.35	
		Deviation Limit:		± 0.00025% or 2.5 ppm	
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.35	- 30	836,600,834	309	0.0000369
		- 20	836,601,385	860	0.0001028
		- 10	836,599,663	-862	-0.0001030
		0	836,600,080	-445	-0.0000532
		+ 10	836,601,246	721	0.0000862
		+ 20 (Ref)	836,600,525	0	0.0000000
		+ 30	836,600,324	-201	-0.0000240
		+ 40	836,599,224	-1,301	-0.0001555
Battery Endpoint	3.69	+ 20	836,600,820	295	0.0000353

Table 7-45. WCDMA Cell Frequency Stability Data



Plot 7-120. WCDMA Cell Frequency Stability Chart

FCC ID: A3LSMS918U	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: A3LSMS918U** complies with all the requirements of Part 22 of the FCC rules.

FCC ID: A3LSMS918U	PART 22 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2209010098-06.A3L	Test Dates: 9/8/2022 – 11/14/2022	EUT Type: Portable Handset	Page 101 of 101