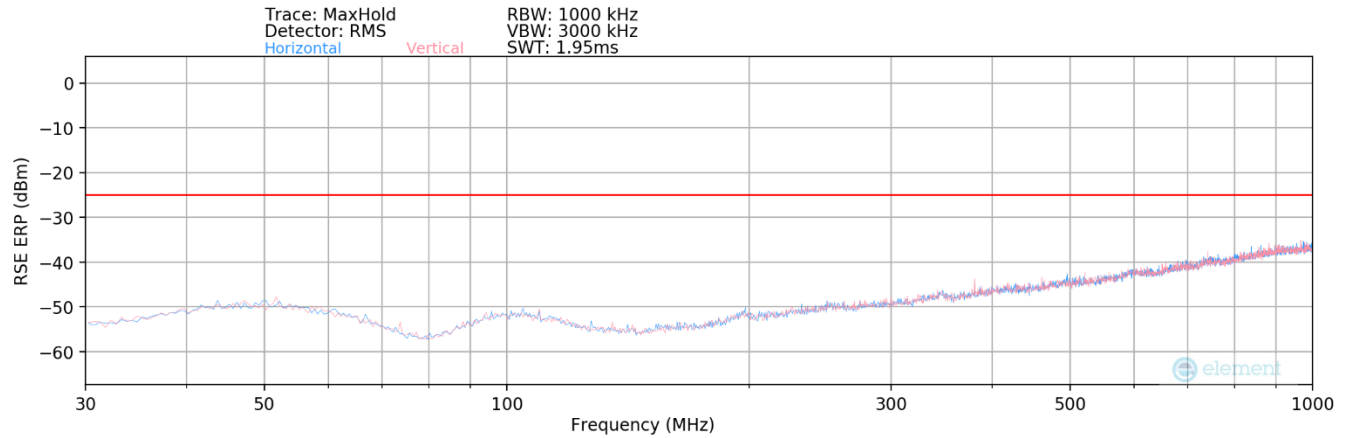
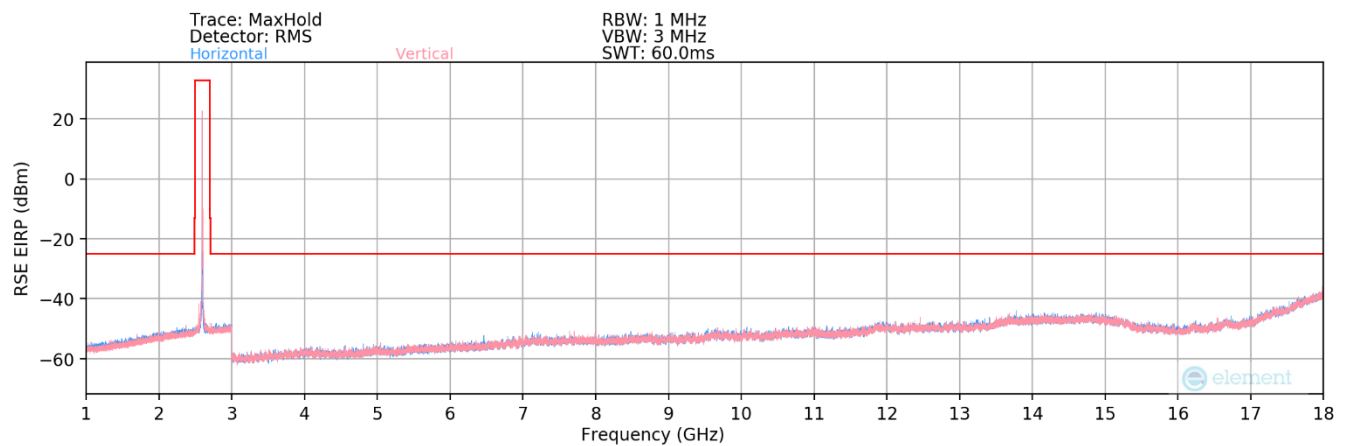


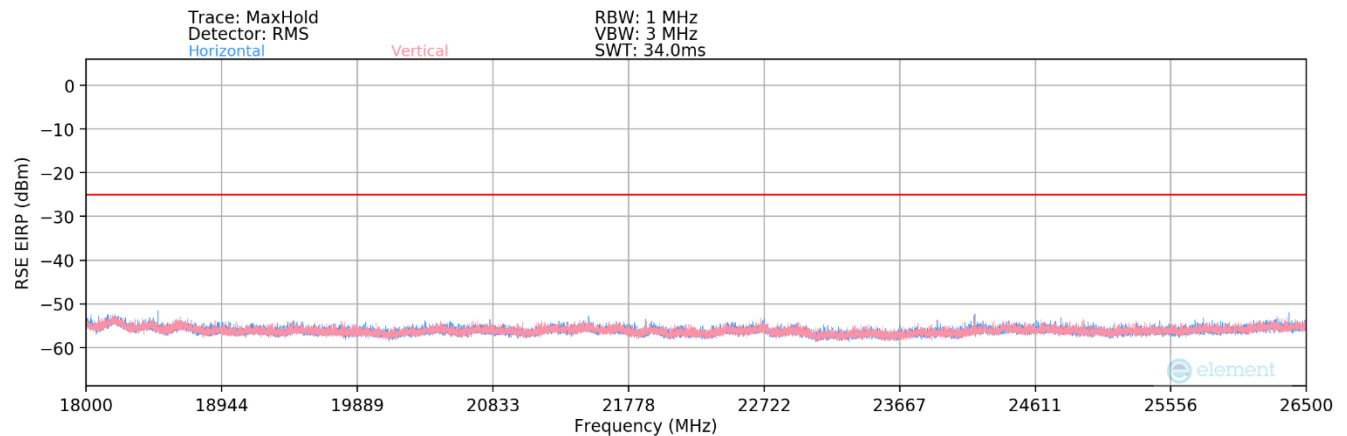
NR Band n41 MIMO – Ant F + ANT B



Plot 7-379. Radiated Spurious Plot (NR Band n41 – Ant E)



Plot 7-380. Radiated Spurious Plot (NR Band n41 – Ant E)



Plot 7-381. Radiated Spurious Plot (NR Band n41 – Ant E)

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Bandwidth (MHz):	100
Frequency (MHz):	2546.01
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]
5092.02	H	-	-	-75.35	1.93	33.58	-61.68	-25.00	-36.68
7638.03	H	-	-	-76.80	7.24	37.44	-57.82	-25.00	-32.82
10184.04	H	-	-	-80.08	10.88	37.80	-57.46	-25.00	-32.46
20368.08	H	-	-	-62.18	-3.37	41.45	-63.35	-25.00	-38.35
22914.09	H	-	-	-61.78	-3.60	41.62	-63.18	-25.00	-38.18

Table 7-129. Radiated Spurious Data (NR Band n41 MIMO – Low Channel – Ant F + Ant B)

Bandwidth (MHz):	100
Frequency (MHz):	2592.99
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]
5185.98	H	-	-	-75.55	2.23	33.68	-61.58	-25.00	-36.58
7778.97	H	-	-	-77.74	7.42	36.68	-58.57	-25.00	-33.57
10371.96	H	-	-	-80.04	11.13	38.09	-57.17	-25.00	-32.17
18150.93	H	-	-	-62.05	-3.22	41.73	-63.07	-25.00	-38.07
20743.92	H	-	-	-61.80	-3.37	41.83	-62.97	-25.00	-37.97
23336.91	H	-	-	-62.07	-3.60	41.33	-63.47	-25.00	-38.47

Table 7-130. Radiated Spurious Data (NR Band n41 MIMO – Mid Channel – Ant F + Ant B)

Bandwidth (MHz):	100
Frequency (MHz):	2640.00
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]
5280.00	H	-	-	-75.95	2.23	33.28	-61.98	-25.00	-36.98
7920.00	H	-	-	-77.48	7.39	36.91	-58.34	-25.00	-33.34
10560.00	H	-	-	-79.25	11.35	39.10	-56.15	-25.00	-31.15
18480.00	H	-	-	-62.02	-3.41	41.57	-63.23	-25.00	-38.23
21120.00	H	-	-	-61.95	-3.46	41.59	-63.21	-25.00	-38.21
23760.00	H	-	-	-62.43	-3.47	41.10	-63.70	-25.00	-38.70

Table 7-131. Radiated Spurious Data (NR Band n41 MIMO – High Channel – Ant F + Ant B)

Bandwidth (MHz):	100
Frequency (MHz):	2592.99
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]
294.23	H	-	-	-96.71	20.44	30.73	-66.68	-25.00	-41.68
550.70	H	-	-	-95.93	25.49	36.56	-60.85	-25.00	-35.85
950.46	H	-	-	-95.91	30.69	41.78	-55.63	-25.00	-30.63

Table 7-132. Radiated Spurious Data (NR Band n41 MIMO – Mid Channel – Ant F + Ant B)

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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 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

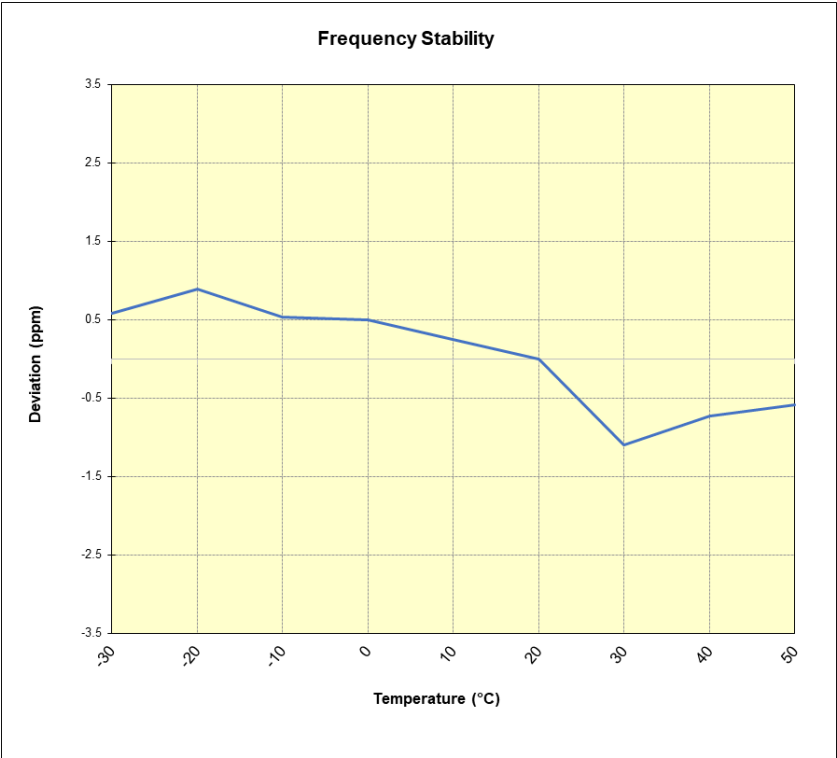
None

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LTE Band 30

LTE Band 30					
		Operating Frequency (Hz):		2,310,000,000	
		Ref. Voltage (VDC):		3.863	
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.863	- 30	2,310,102,082	1,334	0.0000577
		- 20	2,310,102,795	2,047	0.0000886
		- 10	2,310,101,986	1,238	0.0000536
		0	2,310,101,886	1,138	0.0000493
		+ 10	2,310,101,313	565	0.0000245
		+ 20 (Ref)	2,310,100,748	0	0.0000000
		+ 30	2,310,098,196	-2,552	-0.0001105
		+ 40	2,310,099,072	-1,676	-0.0000726
		+ 50	2,310,099,404	-1,344	-0.0000582
Battery Endpoint	3.174	+ 20	2,310,101,444	696	0.0000301

Table 7-133. LTE Band 30 Frequency Stability Data



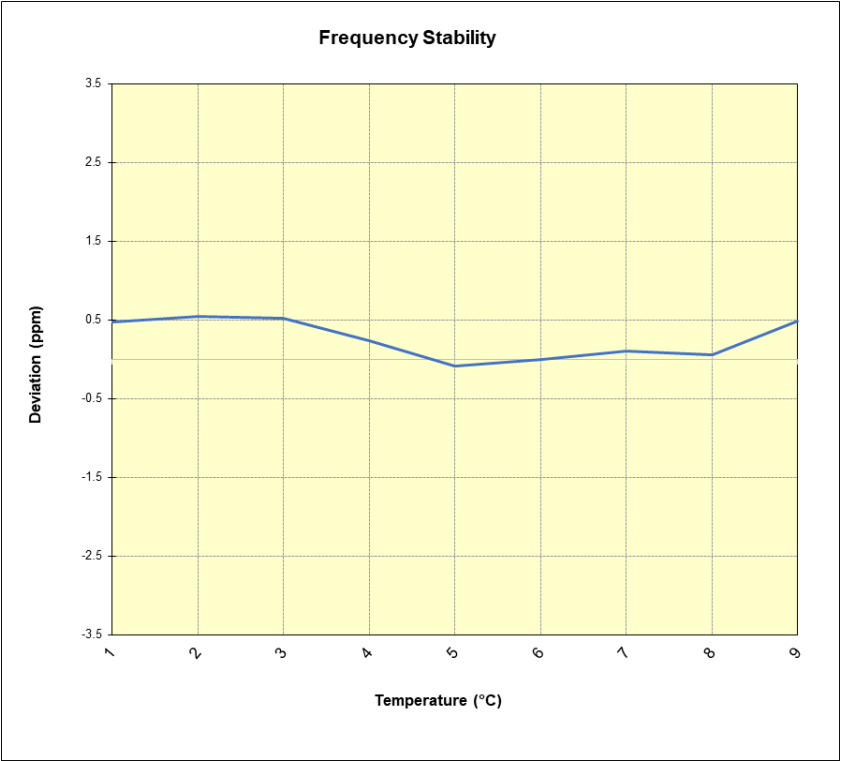
Plot 7-382. LTE Band 30 Frequency Stability Chart

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LTE Band 7

LTE Band 7					
Operating Frequency (Hz):			2,535,000,000		
Ref. Voltage (VDC):			3.863		
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.863	- 30	2,535,101,794	1,205	0.0000475
		- 20	2,535,101,959	1,370	0.0000540
		- 10	2,535,101,898	1,309	0.0000516
		0	2,535,101,168	579	0.0000228
		+ 10	2,535,100,367	-222	-0.0000088
		+ 20 (Ref)	2,535,100,589	0	0.0000000
		+ 30	2,535,100,863	274	0.0000108
		+ 40	2,535,100,721	132	0.0000052
		+ 50	2,535,101,817	1,228	0.0000484
Battery Endpoint	3.174	+ 20	2,535,101,111	522	0.0000206

Table 7-134. LTE Band 7 Frequency Stability Data



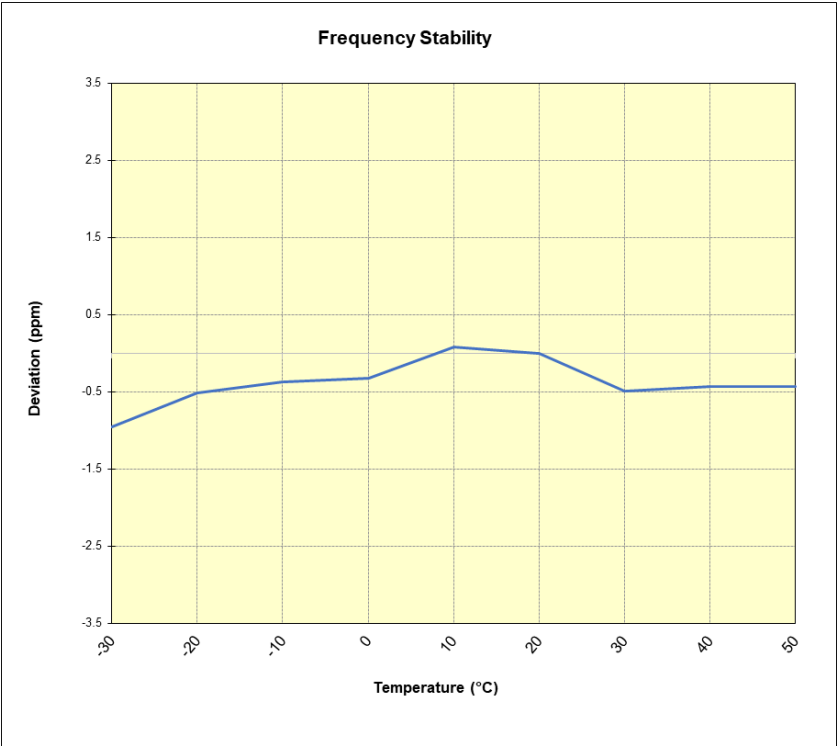
Plot 7-383. LTE Band 7 Frequency Stability Chart

FCC ID: A3LSMS938U	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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LTE Band 41

LTE Band 41/38					
Operating Frequency (Hz):			2,593,000,000		
Ref. Voltage (VDC):			3.863		
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.863	- 30	2,593,097,129	-2,479	-0.0000956
		- 20	2,593,098,259	-1,349	-0.0000520
		- 10	2,593,098,654	-954	-0.0000368
		0	2,593,098,752	-856	-0.0000330
		+ 10	2,593,099,804	196	0.0000076
		+ 20 (Ref)	2,593,099,608	0	0.0000000
		+ 30	2,593,098,323	-1,285	-0.0000496
		+ 40	2,593,098,495	-1,113	-0.0000429
		+ 50	2,593,098,499	-1,109	-0.0000428
Battery Endpoint	3.174	+ 20	2,593,100,144	536	0.0000207

Table 7-135. LTE Band 41(PC2) Frequency Stability Data



Plot 7-384. LTE Band 41(PC2) Frequency Stability Chart

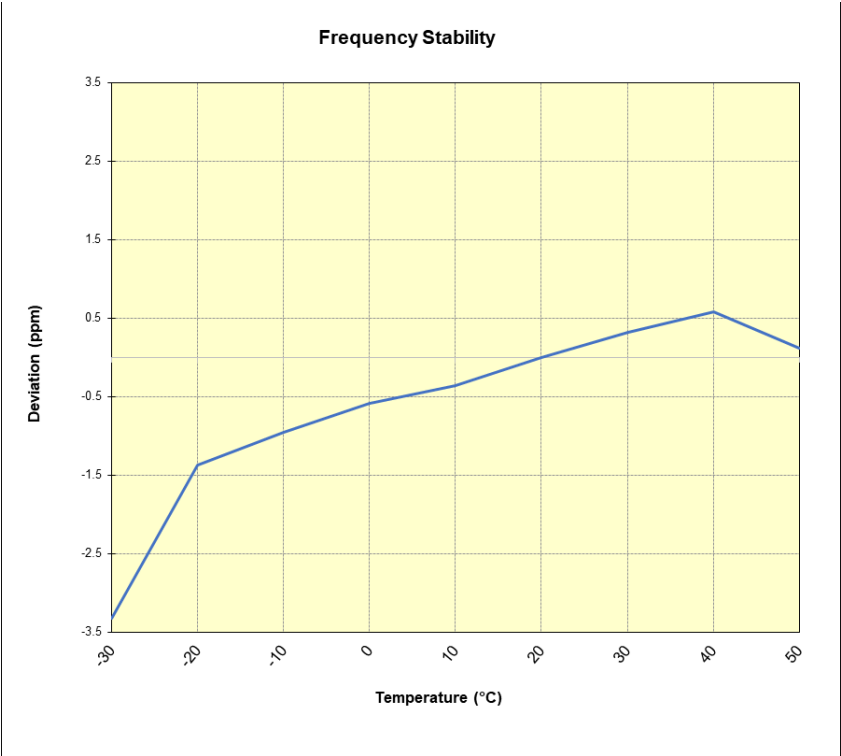
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NR Band n41

NR Band n41					
		Operating Frequency (Hz):		2,593,000,000	
		Ref. Voltage (VDC):		3.863	
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.863	- 30	2,593,085,352	-8,594	-0.0003314
		- 20	2,593,090,411	-3,535	-0.0001363
		- 10	2,593,091,475	-2,471	-0.0000953
		0	2,593,092,444	-1,502	-0.0000579
		+ 10	2,593,093,014	-932	-0.0000359
		+ 20 (Ref)	2,593,093,946	0	0.0000000
		+ 30	2,593,094,781	835	0.0000322
		+ 40	2,593,095,470	1,524	0.0000588
		+ 50	2,593,094,247	301	0.0000116
Battery Endpoint	3.174	+ 20	2,593,093,444	-502	-0.0000194

Table 7-136. NR Band n41 Frequency Stability Data



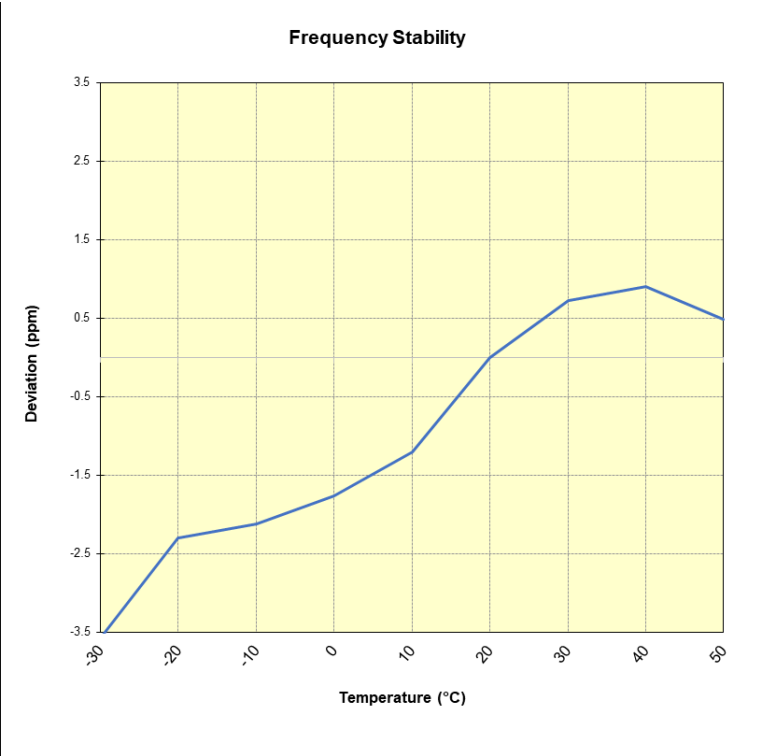
Plot 7-385. NR Band n41 Frequency Stability Chart

FCC ID: A3LSMS938U	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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NR Band n30

NR Band n30					
Operating Frequency (Hz):		2,310,000,000			
Ref. Voltage (VDC):		3.863			
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.863	- 30	2,310,092,066	-8,248	-0.0003570
		- 20	2,310,094,999	-5,315	-0.0002301
		- 10	2,310,095,411	-4,903	-0.0002122
		0	2,310,096,247	-4,067	-0.0001761
		+ 10	2,310,097,555	-2,759	-0.0001194
		+ 20 (Ref)	2,310,100,314	0	0.0000000
		+ 30	2,310,101,997	1,683	0.0000729
		+ 40	2,310,102,416	2,102	0.0000910
		+ 50	2,310,101,440	1,126	0.0000487
Battery Endpoint	3.174	+ 20	2,310,100,712	398	0.0000172

Table 7-137. NR Band n30 Frequency Stability Data



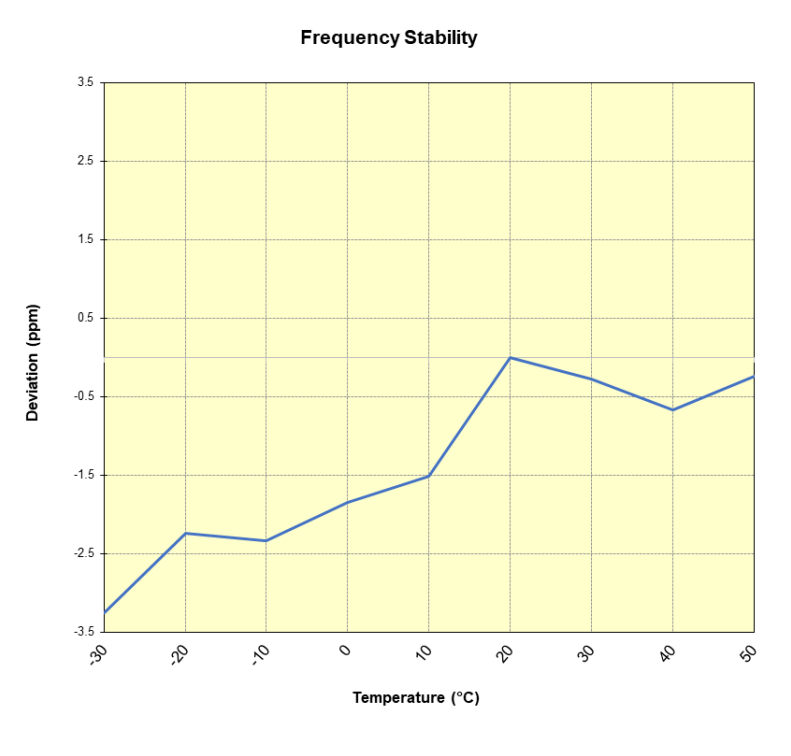
Plot 7-386. NR Band n30 Frequency Stability Chart

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NR Band n7

NR Band n7					
		Operating Frequency (Hz):		2,535,000,000	
		Ref. Voltage (VDC):		3.863	
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.863	- 30	2,535,091,903	-8,243	-0.0003252
		- 20	2,535,094,475	-5,671	-0.0002237
		- 10	2,535,094,224	-5,922	-0.0002336
		0	2,535,095,449	-4,697	-0.0001853
		+ 10	2,535,096,314	-3,832	-0.0001512
		+ 20 (Ref)	2,535,100,146	0	0.0000000
		+ 30	2,535,099,457	-689	-0.0000272
		+ 40	2,535,098,444	-1,702	-0.0000671
		+ 50	2,535,099,547	-599	-0.0000236
Battery Endpoint	3.174	+ 20	2,535,099,111	-1,035	-0.0000408

Table 7-138. NR Band n7 Frequency Stability Data



Plot 7-387. NR Band n7 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: A3LSMS938U** complies with all the requirements of Part 27 of the FCC rules.

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