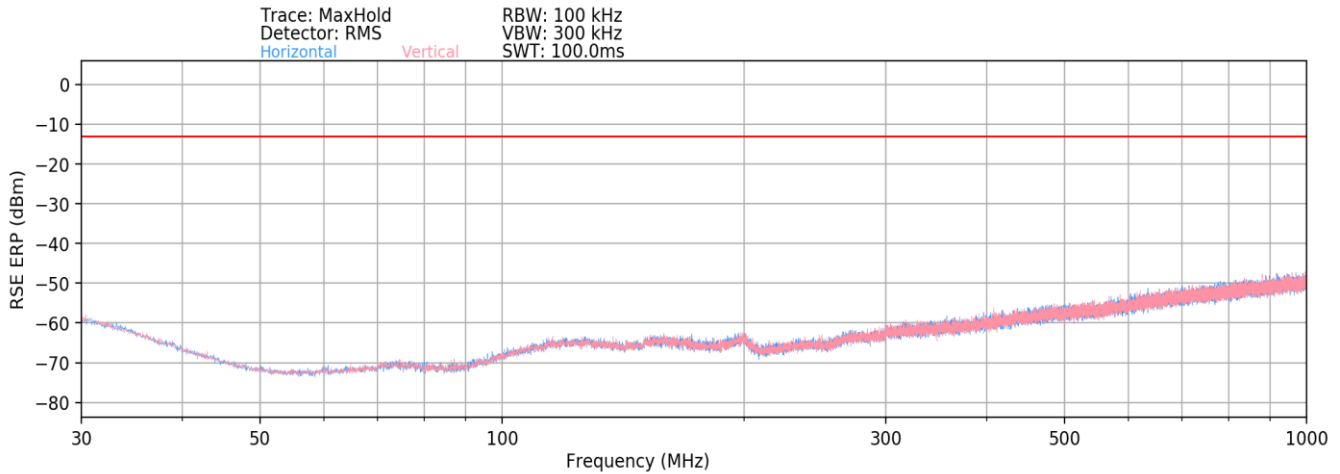
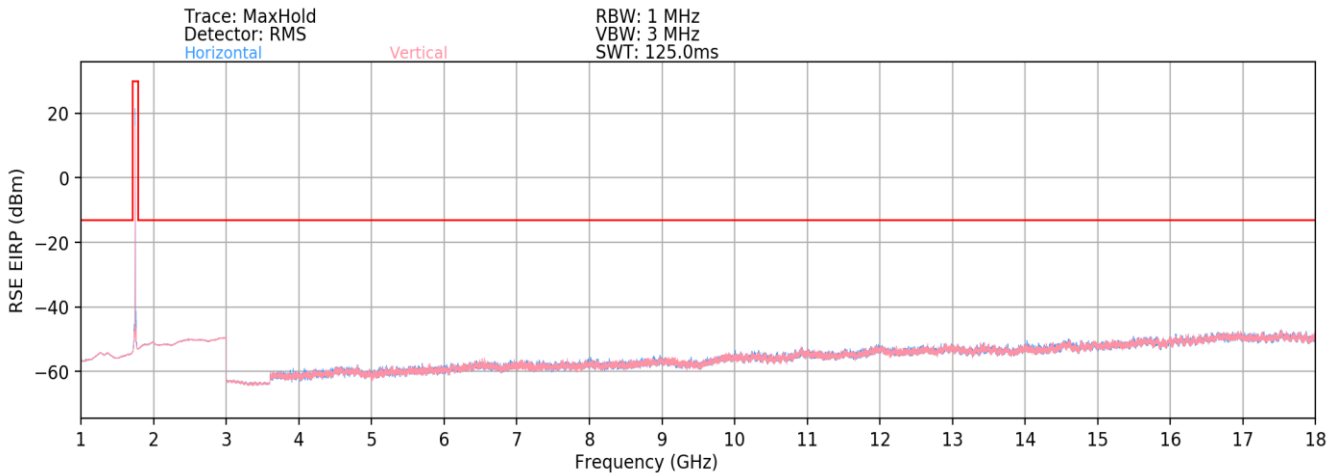


NR Band n66 – Ant4



Plot 7-331. Radiated Spurious Plot (NR Band n66 – Ant4)



Plot 7-332. Radiated Spurious Plot (NR Band n66 – Ant4)

Bandwidth (MHz):	40
Frequency (MHz):	1730
RB / Offset:	1 / 50
Mode:	Stand-alone

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]
3460.00	H	-	-	-78.52	2.77	31.25	-64.01	-13.00	-51.01
5190.00	H	-	-	-79.43	5.23	32.80	-62.46	-13.00	-49.46
6920.00	H	-	-	-80.26	7.73	34.47	-60.79	-13.00	-47.79

Table 7-41. Radiated Spurious Data (NR Band n66 – Low Channel – Ant4)

FCC ID: C3K1997	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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Bandwidth (MHz):	40
Frequency (MHz):	1745
RB / Offset:	1 / 50
Mode:	Stand-alone

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]
3490.00	H	-	-	-78.51	2.69	31.18	-64.08	-13.00	-51.08
5235.00	H	-	-	-79.53	5.03	32.50	-62.76	-13.00	-49.76
6980.00	H	-	-	-79.44	7.16	34.72	-60.54	-13.00	-47.54

Table 7-42. Radiated Spurious Data (NR Band n66 – Mid Channel – Ant4)

Bandwidth (MHz):	40
Frequency (MHz):	1760
RB / Offset:	1 / 50
Mode:	Stand-alone

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]
3520.00	H	-	-	-78.18	2.47	31.29	-63.97	-13.00	-50.97
5280.00	H	-	-	-79.33	5.00	32.67	-62.59	-13.00	-49.59
7040.00	H	-	-	-79.48	7.20	34.72	-60.54	-13.00	-47.54

Table 7-43. Radiated Spurious Data (NR Band n66 – High Channel – Ant4)

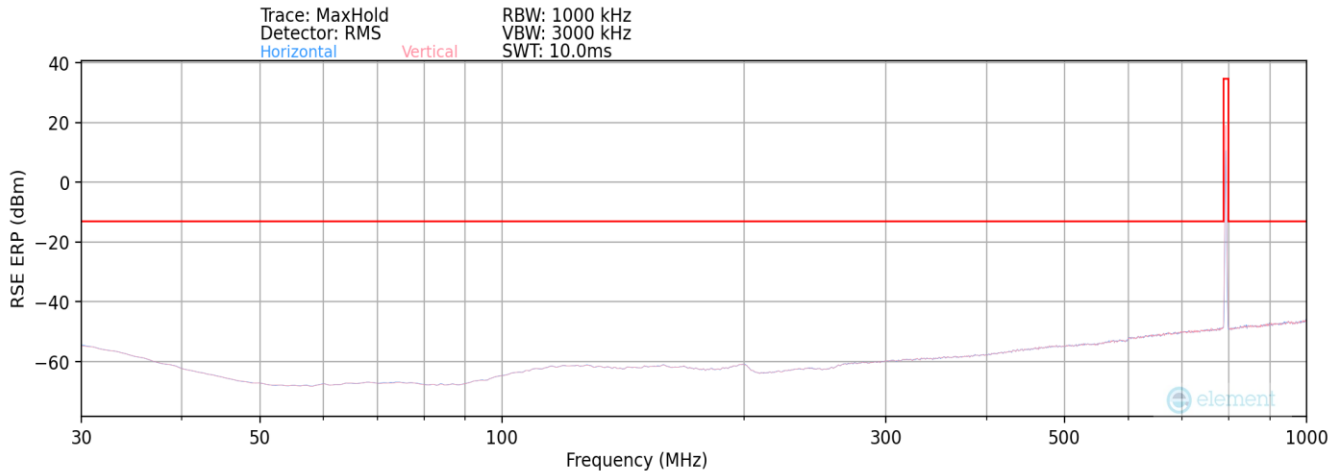
Bandwidth (MHz):	40
Frequency (MHz):	1745
RB / Offset:	1/108
Mode:	Stand-alone

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]
434.10	H	-	-	-91.39	24.53	40.14	-57.27	-13.00	-44.27
615.38	H	-	-	-90.87	27.12	43.25	-54.16	-13.00	-41.16

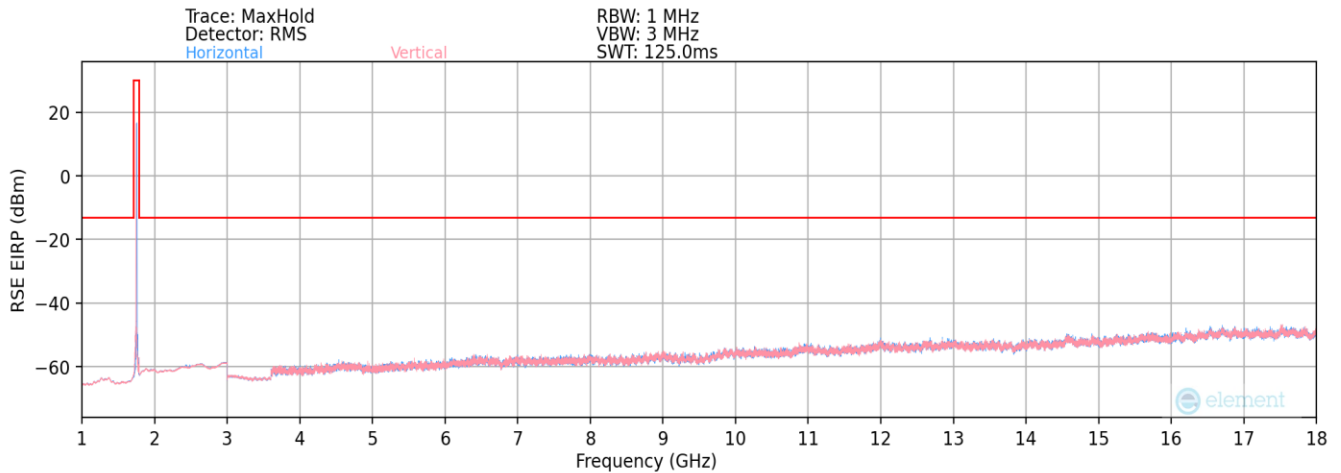
Table 7-44. Radiated Spurious Data (NR Band n66 – Ant4)

FCC ID: C3K1997	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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EN-DC n66 – Band 14



Plot 7-333. Radiated Spurious Plot (NR Band n66- Band 14)



Plot 7-334. Radiated Spurious Plot (NR Band n66- Band 14)

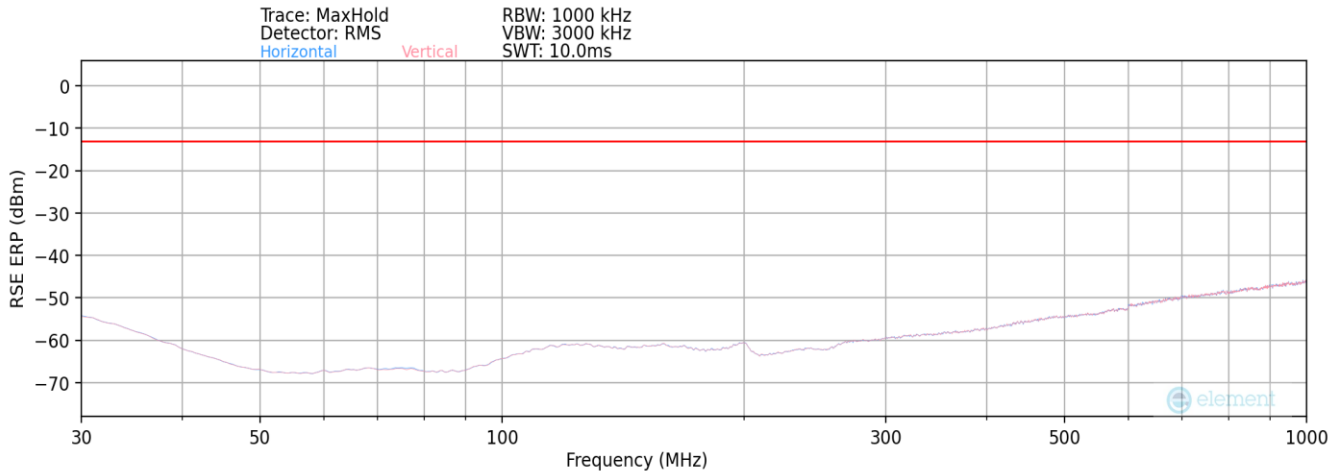
Bandwidth (MHz):	40
Frequency (MHz):	1745.0
RB / Offset:	1/108
Mode:	EN-DC
Anchor Band:	14

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]
159.00	H	-	-	-90.62	20.35	36.73	-58.53	-13.00	-45.53
2697.00	H	-	-	-77.47	1.17	30.70	-64.56	-13.00	-51.56
3649.00	H	-	-	-78.64	3.15	31.51	-63.75	-13.00	-50.75
4601.00	H	-	-	-78.81	4.67	32.86	-62.40	-13.00	-49.40
5553.00	H	-	-	-78.74	5.10	33.36	-61.90	-13.00	-48.90

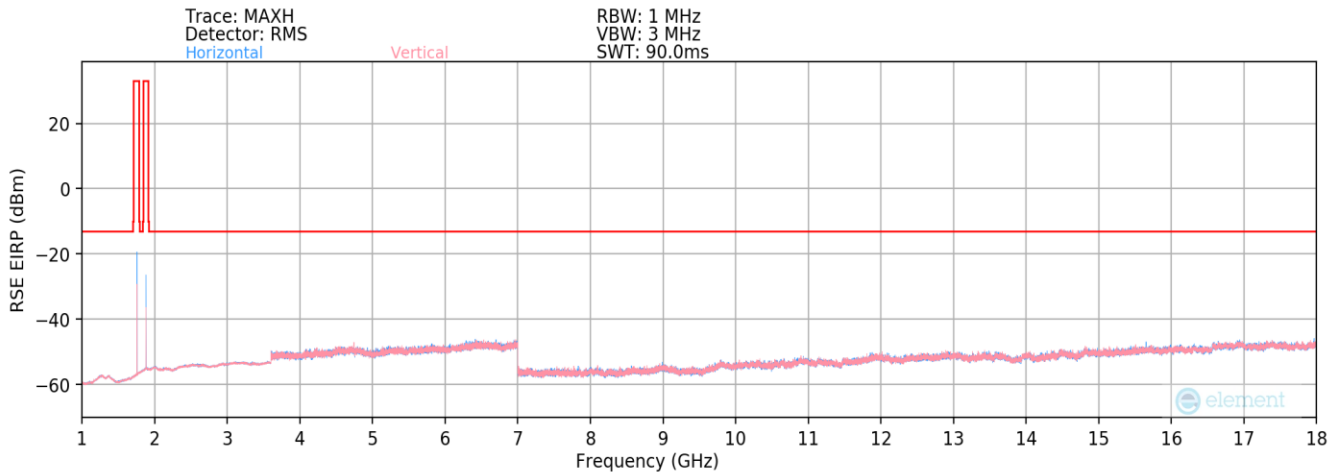
Table 7-45. Radiated Spurious Data (NR Band n66- Band 14)

FCC ID: C3K1997	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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EN-DC n66 – Band 2



Plot 7-335. Radiated Spurious Plot (NR Band n66- Band 2)



Plot 7-336. Radiated Spurious Plot (NR Band n66- Band 2)

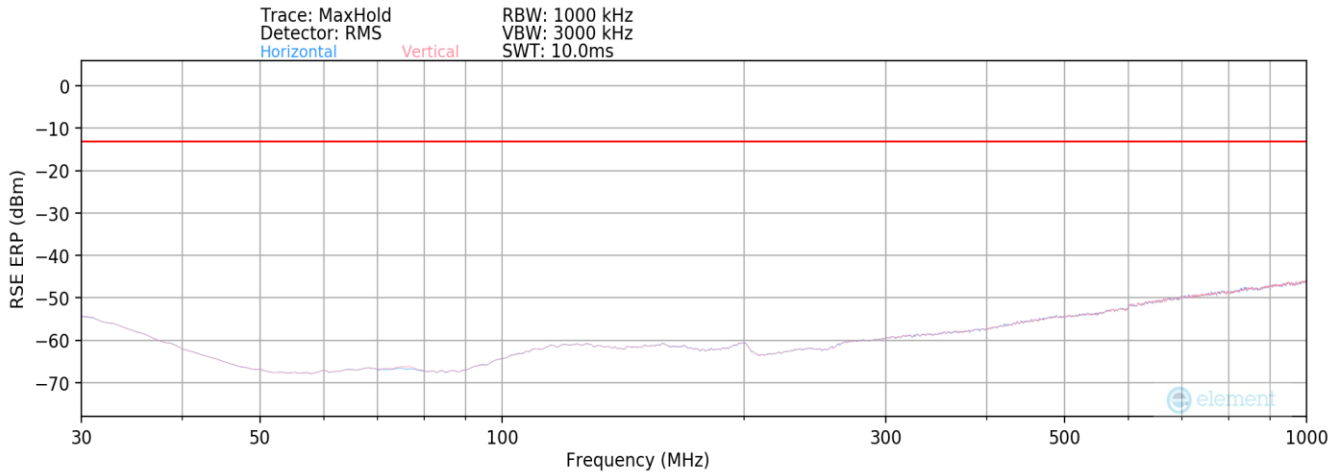
Bandwidth (MHz):	40
Frequency (MHz):	1745
RB / Offset:	1/108
Mode:	EN-DC
Anchor Band:	2

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]
665.00	H	-	-	-90.20	28.15	44.95	-50.31	-13.00	-37.31
1475.00	H	-	-	-77.21	5.65	35.44	-59.82	-13.00	-46.82
1610.00	H	-	-	-77.19	6.77	36.58	-58.68	-13.00	-45.68
2150.00	H	-	-	-78.98	10.64	38.66	-56.60	-13.00	-43.60

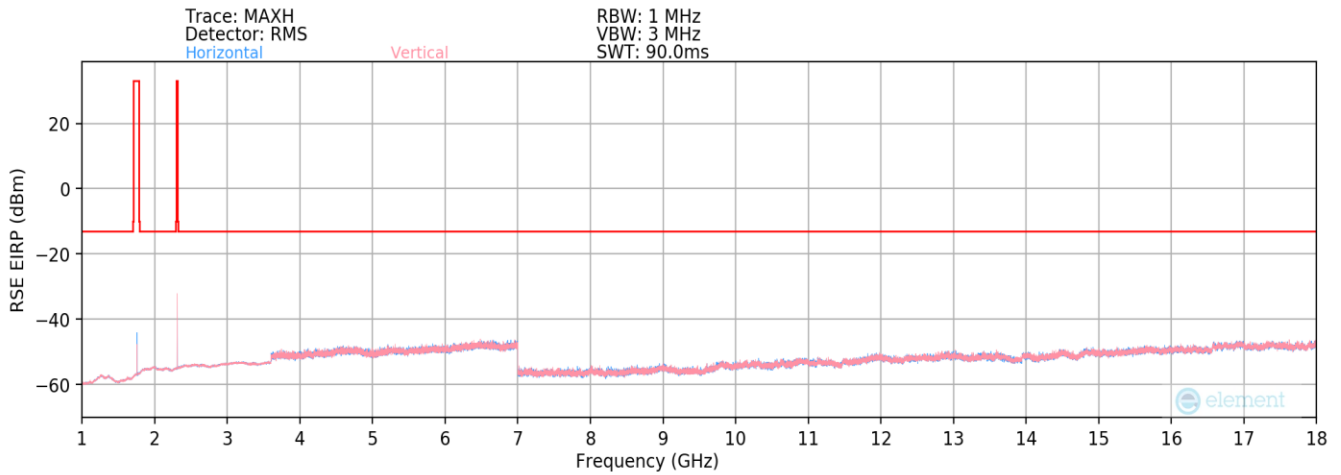
Table 7-46. Radiated Spurious Data (NR Band n66- Band 2)

FCC ID: C3K1997	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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EN-DC n66 – Band 30



Plot 7-337. Radiated Spurious Plot (NR Band n66- Band 30)



Plot 7-338. Radiated Spurious Plot (NR Band n66- Band 30)

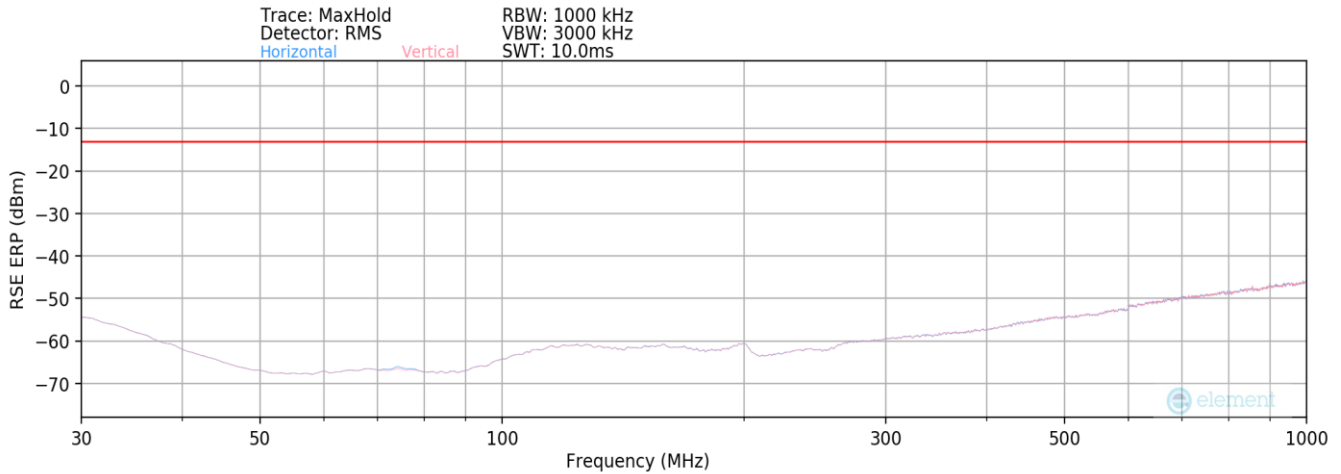
Bandwidth (MHz):	40
Frequency (MHz):	1745.0
RB / Offset:	1/108
Mode:	EN-DC
Anchor Band:	30

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]
615.00	V	-	-	-89.82	26.95	44.13	-51.12	-13.00	-38.12
2775.00	V	-	-	-77.40	31.85	61.45	-33.81	-13.00	-20.81
2875.00	V	-	-	-77.86	34.42	63.56	-31.69	-13.00	-18.69
3340.00	V	-	-	-77.62	12.72	42.10	-53.15	-13.00	-40.15

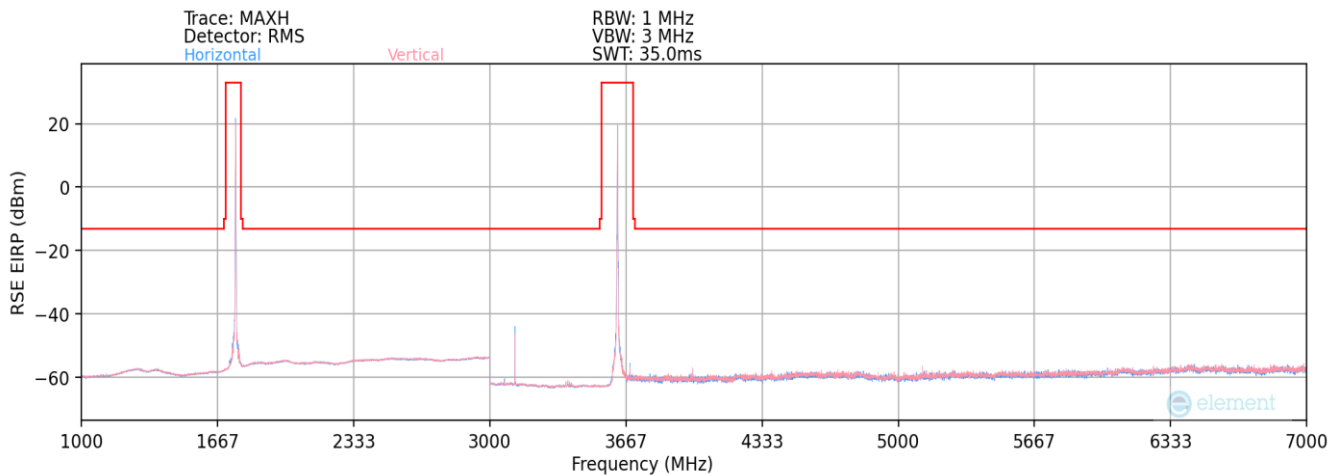
Table 7-47. Radiated Spurious Data (NR Band n66- Band 30)

FCC ID: C3K1997	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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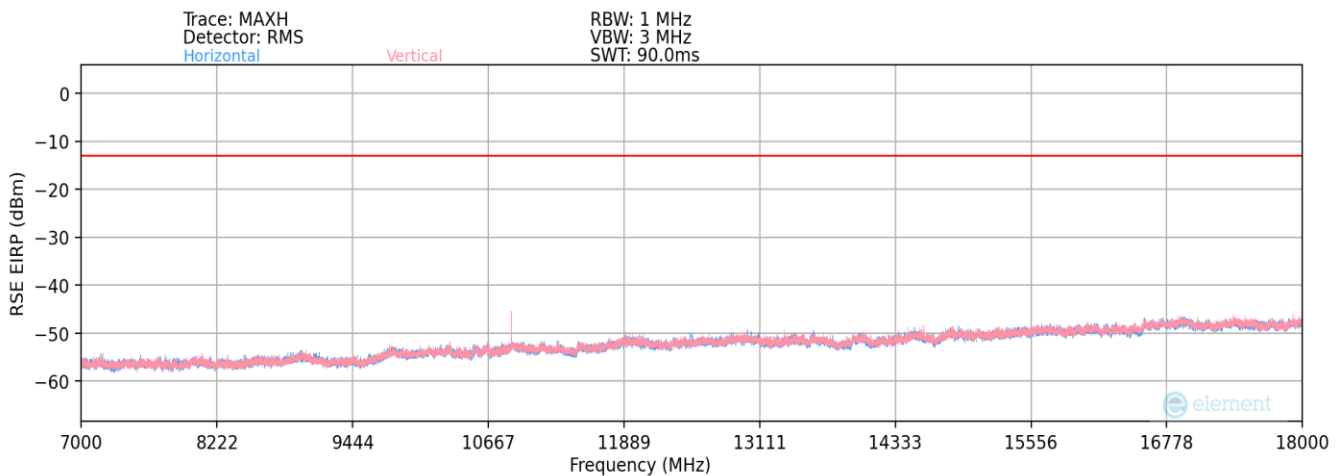
EN-DC n66 – Band 48



Plot 7-339. Radiated Spurious Plot (NR Band n66- Band 48)



Plot 7-340. Radiated Spurious Plot 1-7GHz (NR Band n66- Band 48)



Plot 7-341. Radiated Spurious Plot 7-18GHz (NR Band n66- Band 48)

FCC ID: C3K1997	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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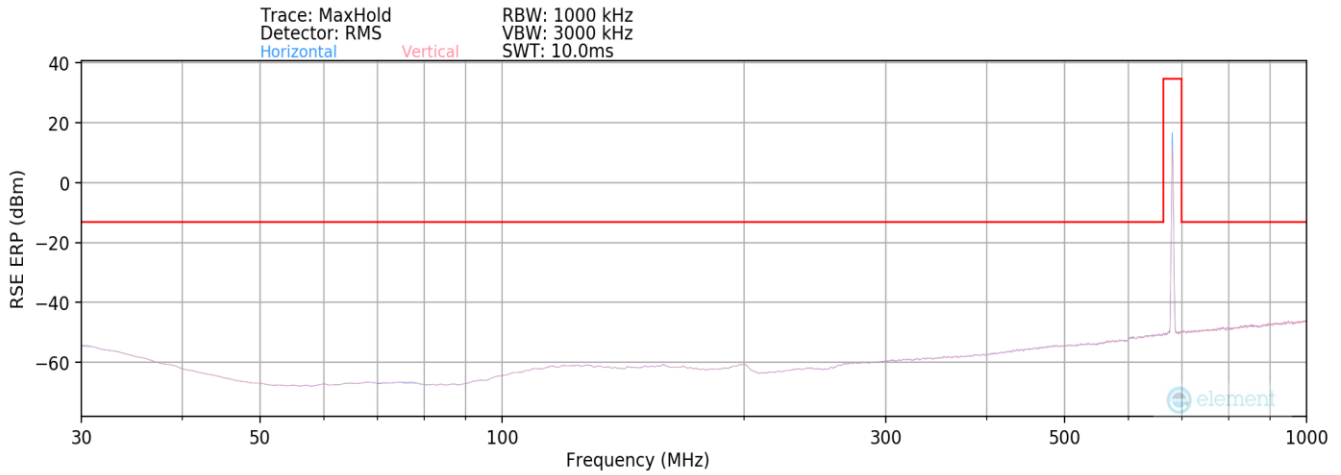
Bandwidth (MHz):	40
Frequency (MHz):	1745.0
RB / Offset:	1/108
Mode:	EN-DC
Anchor Band:	48

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]
135.00	H	-	-	-84.88	13.99	36.11	-59.14	-13.00	-46.14
3123.00	H	118	56	-68.19	13.99	52.80	-42.45	-13.00	-29.45
3994.00	H	344	308	-70.81	15.81	52.00	-43.26	-13.00	-30.26
7385.00	H	-	-	-79.79	7.78	34.99	-60.26	-13.00	-47.26
9265.00	H	-	-	-80.43	8.94	35.51	-59.75	-13.00	-46.75
9535.00	H	-	-	-81.18	9.82	35.64	-59.62	-13.00	-46.62
10875.00	V	244	182	-72.85	12.18	46.33	-48.92	-13.00	-35.92

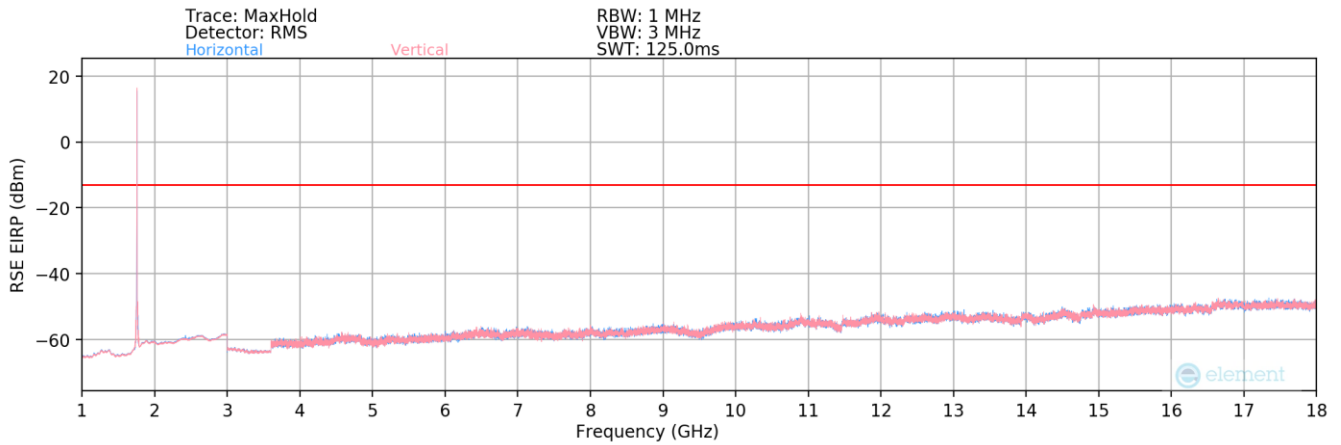
Table 7-48. Radiated Spurious Data (NR Band n66- Band 48)

FCC ID: C3K1997	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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EN-DC n71 – Band 66



Plot 7-342. Radiated Spurious Plot (NR Band n71- Band 66)



Plot 7-343. Radiated Spurious Plot (NR Band n71- Band 66)

Bandwidth (MHz):	20
Frequency (MHz):	680.5
RB / Offset:	1/53
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]
384.00	V	-	-	-90.28	22.75	39.47	-55.79	-13.00	-42.79
2513.00	V	-	-	-77.17	0.89	30.72	-64.54	-13.00	-51.54
2809.50	V	-	-	-77.57	0.79	30.22	-65.03	-13.00	-52.03
3577.50	V	-	-	-77.20	2.27	32.07	-63.19	-13.00	-50.19
3874.00	V	-	-	-78.42	3.09	31.67	-63.59	-13.00	-50.59

Table 7-49. Radiated Spurious Data (NR Band n71- Band 66)

FCC ID: C3K1997	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

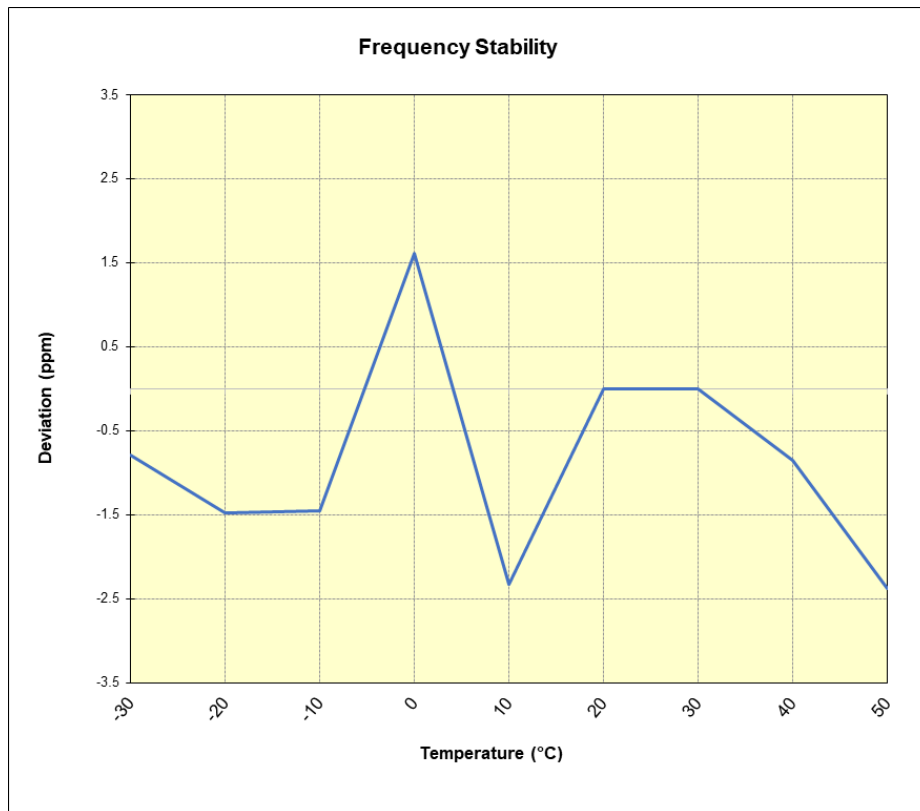
None.

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Frequency Stability / Temperature Variation

LTE Band 71					
		Operating Frequency (Hz):		680,500,000	
		Ref. Voltage (VDC):		7.60	
		Deviation Limit:		± 0.00025% or 2.5 ppm	
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	7.60	- 30	678,970,224	-534	-0.0000787
		- 20	678,969,760	-999	-0.0001471
		- 10	678,969,775	-984	-0.0001450
		0	678,971,854	1,095	0.0001612
		+ 10	678,969,181	-1,578	-0.0002324
		+ 20 (Ref)	678,970,759	0	0.0000000
		+ 30	678,970,764	5	0.0000007
		+ 40	678,970,182	-576	-0.0000849
		+ 50	678,969,143	-1,616	-0.0002379
Battery Endpoint	7.20	+ 20	678,970,562	-197	-0.0000290

Table 7-50. LTE Band 71 Frequency Stability Data



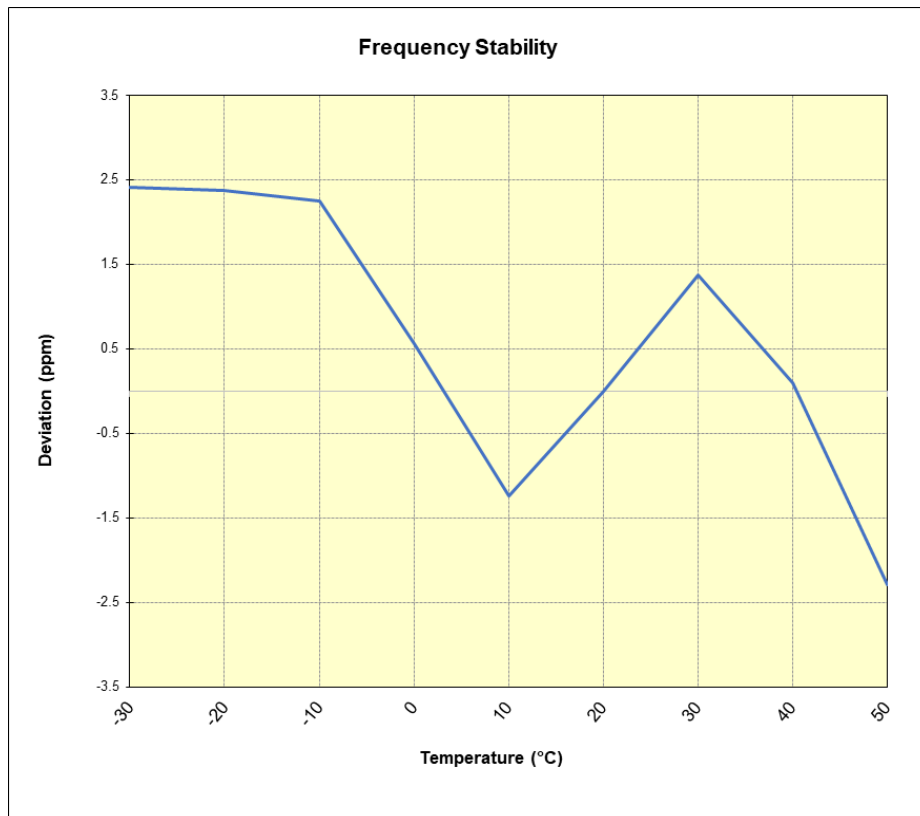
Plot 7-344. LTE Band 71 Frequency Stability Chart

FCC ID: C3K1997	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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Frequency Stability / Temperature Variation

LTE Band 12					
		Operating Frequency (Hz):		707,500,000	
		Ref. Voltage (VDC):		7.60	
		Deviation Limit:		± 0.00025% or 2.5 ppm	
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	7.60	- 30	707,676,487	1,711	0.0002418
		- 20	707,676,457	1,682	0.0002376
		- 10	707,676,368	1,593	0.0002251
		0	707,675,170	395	0.0000558
		+ 10	707,673,899	-876	-0.0001238
		+ 20 (Ref)	707,674,775	0	0.0000000
		+ 30	707,675,746	971	0.0001372
		+ 40	707,674,845	70	0.0000099
		+ 50	707,673,157	-1,618	-0.0002286
Battery Endpoint	7.20	+ 20	707,674,519	-256	-0.0000362

Table 7-51. LTE Band 12 Frequency Stability Data



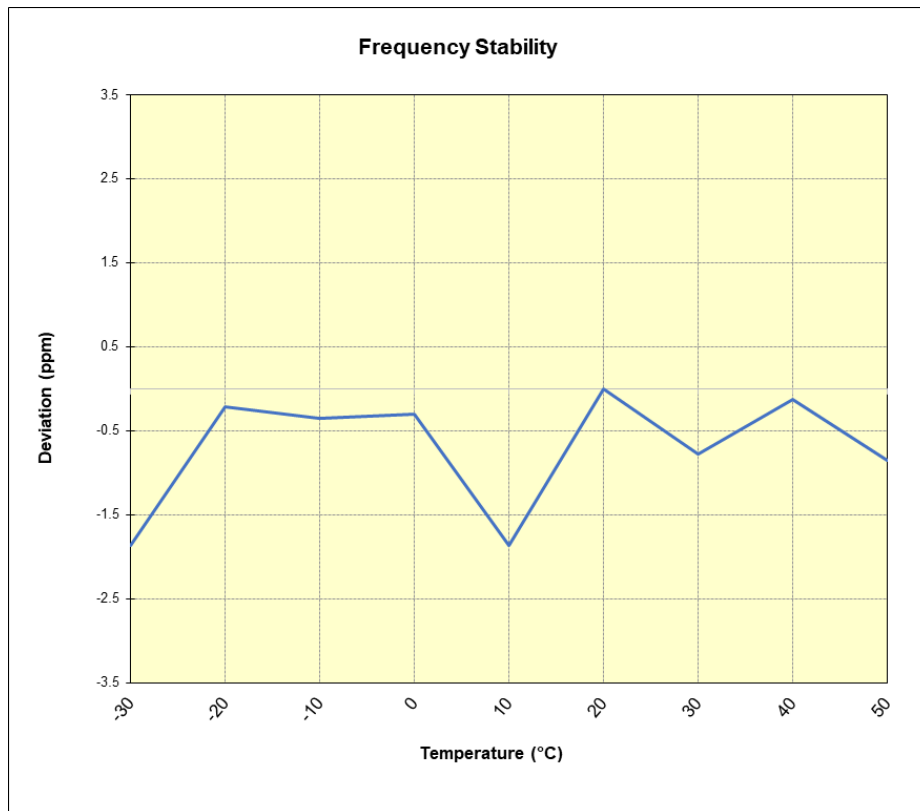
Plot 7-345. LTE Band 12 Frequency Stability Chart

FCC ID: C3K1997	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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Frequency Stability / Temperature Variation

LTE Band 13					
		Operating Frequency (Hz):		782,000,000	
		Ref. Voltage (VDC):		7.60	
		Deviation Limit:		± 0.00025% or 2.5 ppm	
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	7.60	- 30	780,470,305	-1,452	-0.0001861
		- 20	780,471,589	-168	-0.0000215
		- 10	780,471,488	-269	-0.0000345
		0	780,471,524	-234	-0.0000299
		+ 10	780,470,304	-1,453	-0.0001862
		+ 20 (Ref)	780,471,757	0	0.0000000
		+ 30	780,471,153	-604	-0.0000774
		+ 40	780,471,658	-99	-0.0000127
		+ 50	780,471,093	-665	-0.0000852
Battery Endpoint	7.20	+ 20	780,471,943	186	0.0000238

Table 7-52. LTE Band 13 Frequency Stability Data



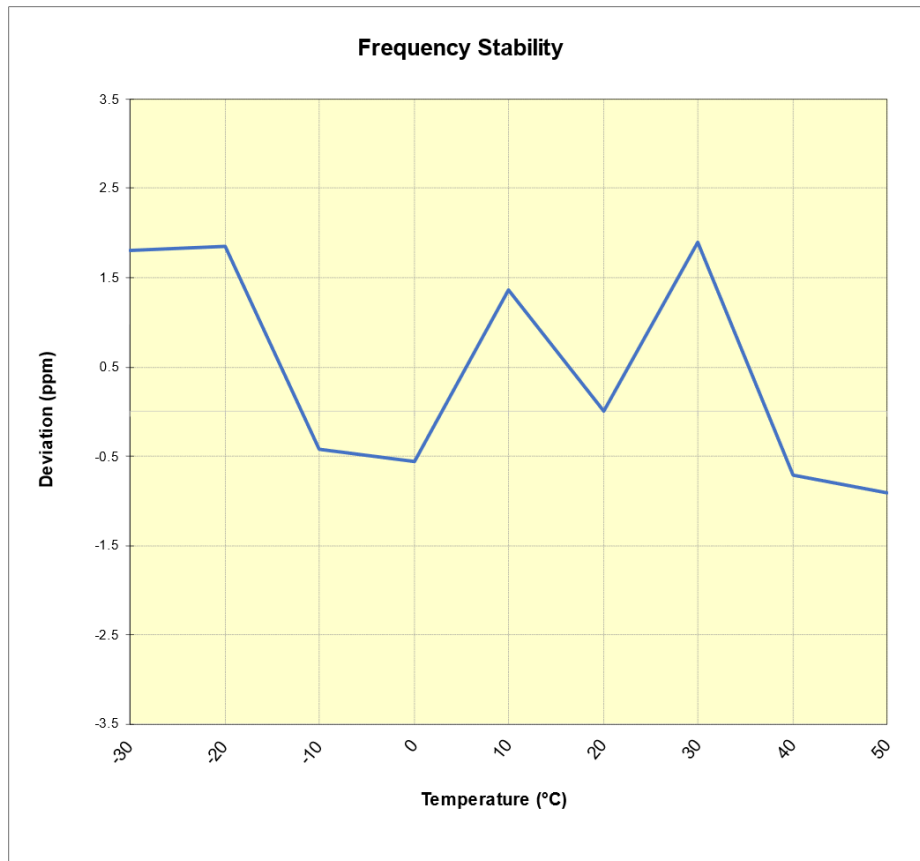
Plot 7-346. LTE Band 13 Frequency Stability Char

FCC ID: C3K1997	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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Frequency Stability / Temperature Variation

NR Band n71					
		Operating Frequency (Hz):		680,500,000	
		Ref. Voltage (VDC):		7.60	
		Deviation Limit:		± 0.00025% or 2.5 ppm	
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	7.60	- 30	680,581,867	1,233	0.0001812
		- 20	680,581,891	1,258	0.0001848
		- 10	680,580,343	-290	-0.0000426
		0	680,580,250	-383	-0.0000563
		+ 10	680,581,558	925	0.0001359
		+ 20 (Ref)	680,580,633	0	0.0000000
		+ 30	680,581,927	1,293	0.0001900
		+ 40	680,580,151	-483	-0.0000709
		+ 50	680,580,015	-619	-0.0000909
Battery Endpoint	7.20	+ 20	680,580,896	263	0.0000386

Table 7-53. NR Band n71 Frequency Stability Data



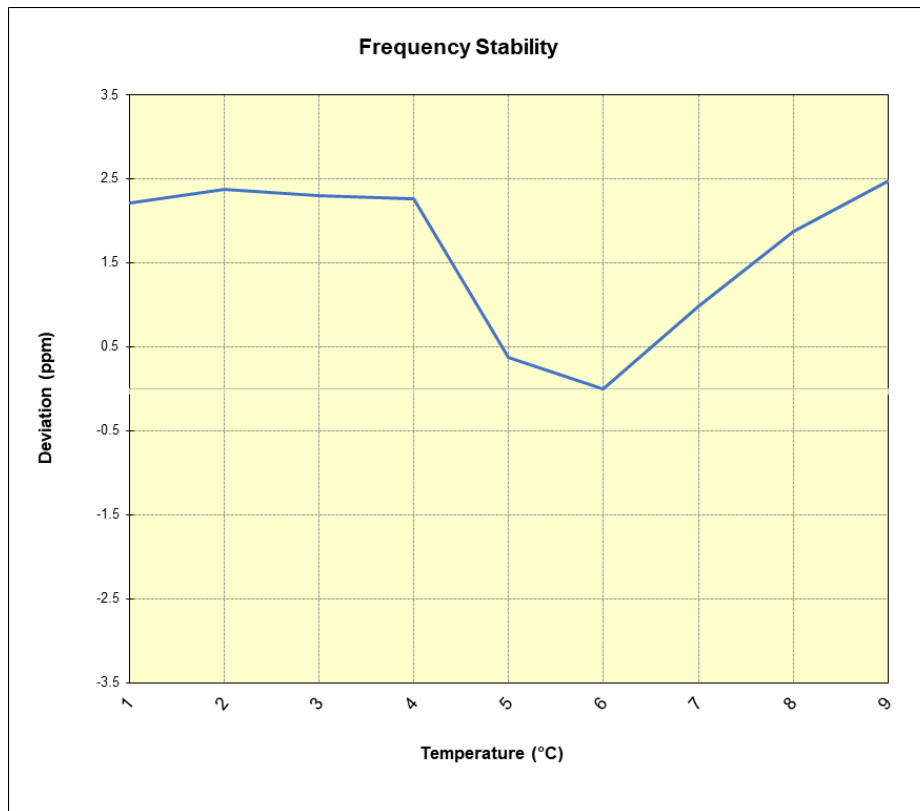
Plot 7-347. NR Band n71 Frequency Stability Chart

FCC ID: C3K1997	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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Frequency Stability / Temperature Variation

LTE Band 66/4					
		Operating Frequency (Hz):		1,745,000,000	
		Ref. Voltage (VDC):		7.60	
		Deviation Limit:		± 0.00025% or 2.5 ppm	
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	7.60	- 30	1,745,178,191	3,868	0.0002216
		- 20	1,745,178,468	4,145	0.0002375
		- 10	1,745,178,337	4,013	0.0002300
		0	1,745,178,277	3,954	0.0002266
		+ 10	1,745,174,987	664	0.0000380
		+ 20 (Ref)	1,745,174,323	0	0.0000000
		+ 30	1,745,176,043	1,719	0.0000985
		+ 40	1,745,177,610	3,286	0.0001883
		+ 50	1,745,178,652	4,328	0.0002480
Battery Endpoint	7.20	+ 20	1,745,173,591	-732	-0.0000420

Table 7-54. LTE Band 66/4 Frequency Stability Data



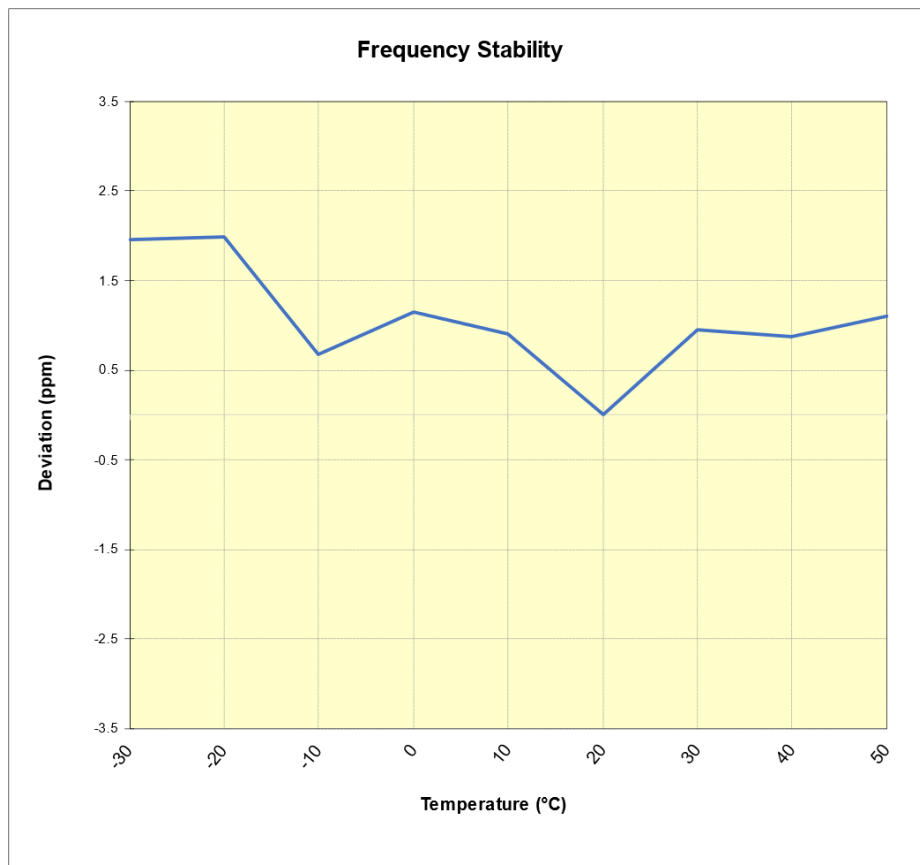
Plot 7-348. LTE Band 66/4 Frequency Stability Chart

FCC ID: C3K1997	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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Frequency Stability / Temperature Variation

NR Band n66					
Operating Frequency (Hz):		1,745,000,000			
Ref. Voltage (VDC):		7.60			
Deviation Limit:		± 0.00025% or 2.5 ppm			
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	7.60	- 30	1,745,082,756	3,423	0.0001961
		- 20	1,745,082,807	3,474	0.0001991
		- 10	1,745,080,521	1,188	0.0000680
		0	1,745,081,347	2,014	0.0001154
		+ 10	1,745,080,923	1,590	0.0000911
		+ 20 (Ref)	1,745,079,333	0	0.0000000
		+ 30	1,745,081,002	1,669	0.0000957
		+ 40	1,745,080,851	1,518	0.0000870
Battery Endpoint	7.20	+ 20	1,745,078,854	-479	-0.0000275

Table 7-55. NR Band n66 Frequency Stability Data



Plot 7-349. NR Band n66 Frequency Stability Chart

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8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Microsoft Corporation Portable Computing Device FCC ID: C3K1997** complies with all the requirements of Part 27 of the FCC rules.

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Test Report S/N: 1M2204040049-06-R1.C3K	Test Dates: 3/15/2022 - 08/10/2022	EUT Type: Portable Computing Device	Page 222 of 222