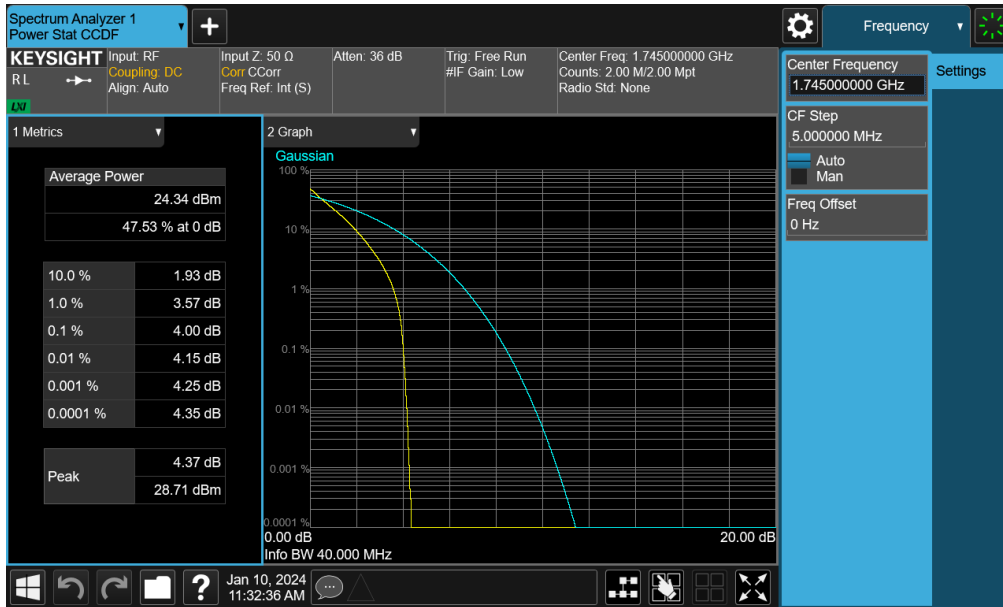
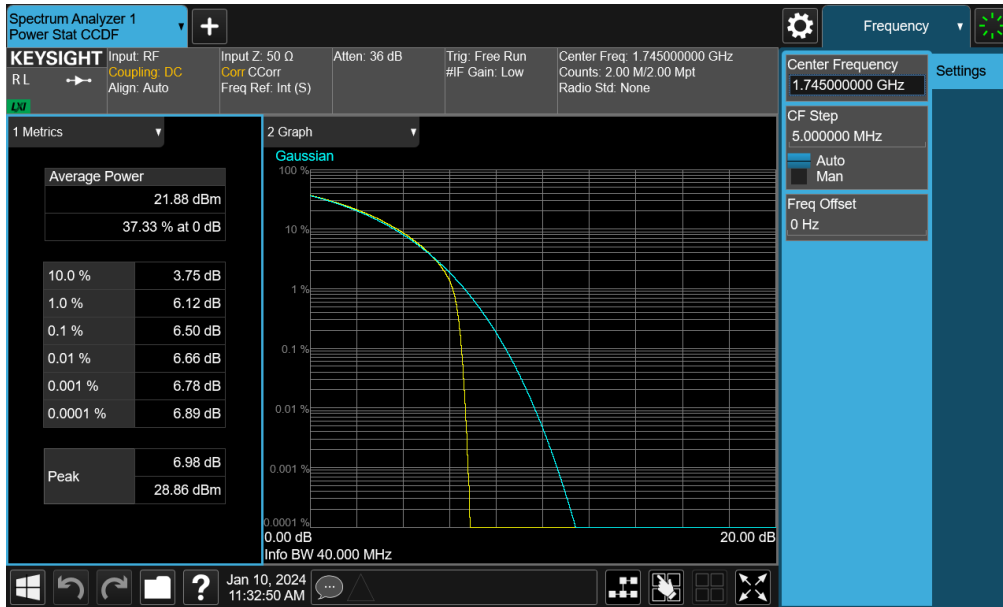


NR Band n66 – Ant4

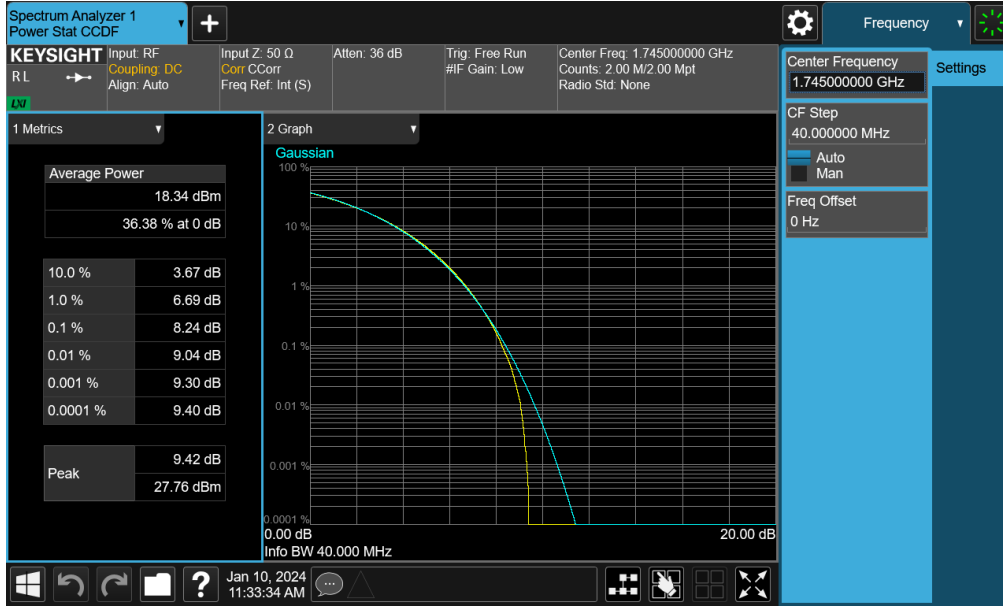


Plot 7-180. PAR Plot (NR Band n66 - 40.0MHz DFT-s-OFDM BPSK - Full RB - Ant4)



Plot 7-181. PAR Plot (NR Band n66 - 40.0MHz CP-OFDM QPSK - Full RB - Ant4)

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Plot 7-182. PAR Plot (NR Band n66 - 40.0MHz CP-OFDM 256-QAM - Full RB - Ant4)

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7.7 Radiated Power (ERP/EIRP)

Test Overview

Effective Radiated Power (ERP) and Equivalent Isotropic Radiated Power (EIRP) measurements are performed using the substitution method described in ANSI C63.26-2015 with the EUT transmitting into an integral antenna. Measurements are performed using vertically and horizontally polarized broadband horn antennas. All measurements are performed as RMS average measurements while the EUT is operating at maximum power, and at the appropriate frequencies.

Test Procedures Used

ANSI C63.26-2015 – Section 5.2.4.4

Test Settings

1. Radiated power measurements are performed using the signal analyzer’s “channel power” measurement capability for signals with continuous operation.
2. RBW = 1 – 5% of the expected OBW, not to exceed 1MHz
3. VBW $\geq 3 \times$ RBW
4. Span = 1.5 times the OBW
5. No. of sweep points $\geq 2 \times$ span / RBW
6. Detector = RMS
7. Trigger is set to “free run” for signals with continuous operation with the sweep times set to “auto”.
8. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation.
9. Trace mode = trace averaging (RMS) over 100 sweeps
10. The trace was allowed to stabilize

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Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

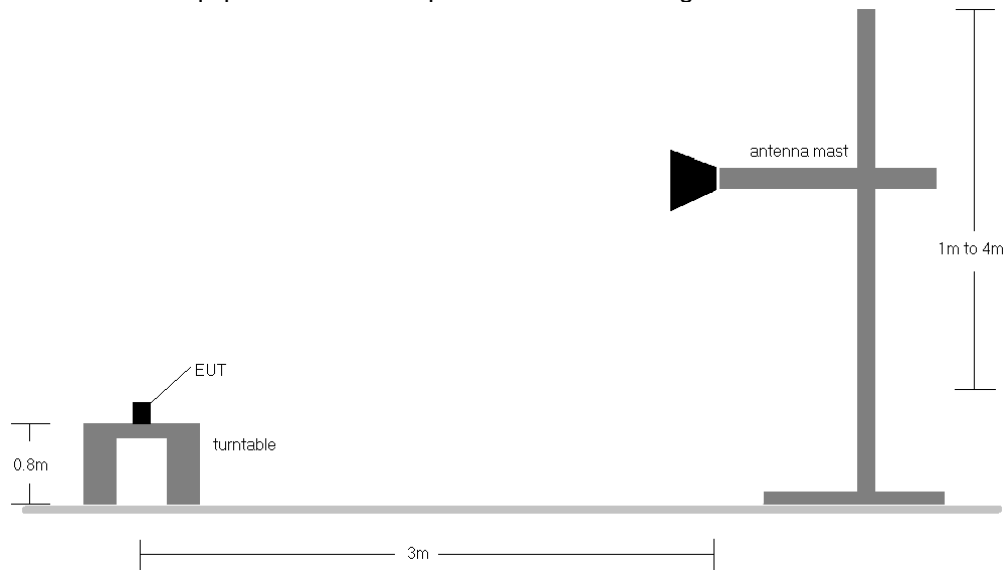


Figure 7-6. Radiated Test Setup <1GHz

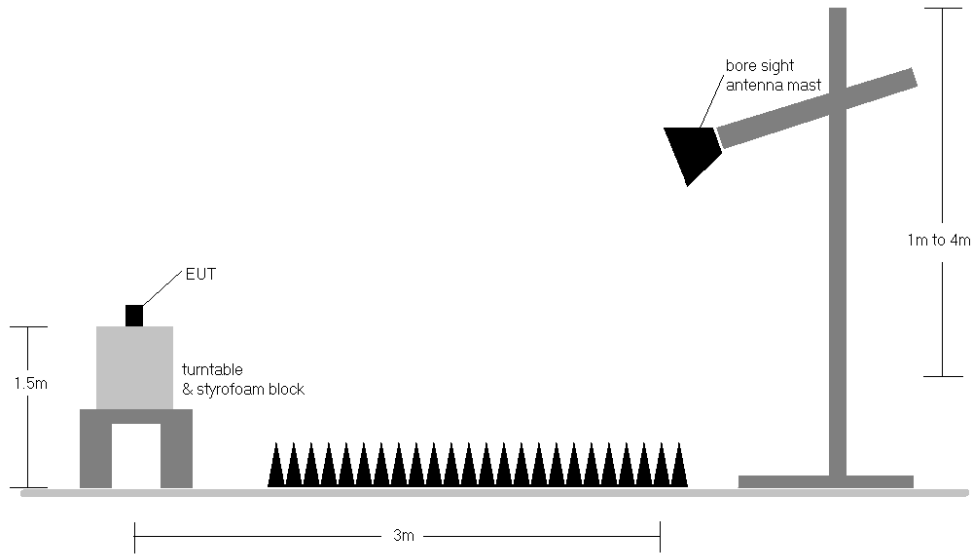


Figure 7-7. Radiated Test Setup >1GHz

Test Notes

- 1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.
- 2) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst-case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.

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- 3) This unit was tested with its standard battery.
- 4) For NR operation, all subcarrier spacings (SCS) and transmission schemes (e.g. CP-OFDM and DFT-s-OFDM) were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

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Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
20 MHz	QPSK	673.00	H	138	90	0.69	1 / 50	21.69	20.23	0.105	34.77	-14.54
	QPSK	680.50	H	139	85	0.81	1 / 50	22.06	20.72	0.118	34.77	-14.05
	QPSK	688.00	H	150	85	0.93	1 / 50	21.95	20.73	0.118	34.77	-14.04
	16-QAM	688.00	H	150	85	0.93	1 / 50	21.37	20.15	0.104	34.77	-14.62
15 MHz	QPSK	670.50	H	138	90	0.65	1 / 37	21.93	20.43	0.110	34.77	-14.34
	QPSK	680.50	H	139	85	0.81	1 / 37	22.33	20.99	0.126	34.77	-13.78
	QPSK	690.50	H	150	85	0.97	1 / 37	21.98	20.80	0.120	34.77	-13.97
	16-QAM	690.50	H	150	85	0.97	1 / 37	21.29	20.11	0.103	34.77	-14.66
10 MHz	QPSK	668.00	H	138	90	0.61	1 / 0	21.95	20.41	0.110	34.77	-14.36
	QPSK	680.50	H	139	85	0.81	1 / 25	22.27	20.93	0.124	34.77	-13.84
	QPSK	693.00	H	150	85	1.01	1 / 0	21.95	20.81	0.121	34.77	-13.96
	16-QAM	693.00	H	150	85	1.01	1 / 0	21.62	20.48	0.112	34.77	-14.29
5 MHz	QPSK	665.50	H	138	90	0.57	1 / 12	21.73	20.15	0.103	34.77	-14.62
	QPSK	680.50	H	139	85	0.81	1 / 0	22.25	20.91	0.123	34.77	-13.86
	QPSK	695.50	H	150	85	1.05	1 / 12	21.78	20.68	0.117	34.77	-14.09
	16-QAM	680.50	H	139	85	0.81	1 / 12	21.71	20.37	0.109	34.77	-14.40

Table 7-16. ERP Data (LTE Band 71 – Ant4)

Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
10 MHz	QPSK	704.00	H	257	266	1.14	1 / 49	20.61	19.60	0.091	34.77	-15.17
	QPSK	707.50	H	254	254	1.16	1 / 25	20.48	19.49	0.089	34.77	-15.28
	QPSK	711.00	H	257	256	1.17	1 / 25	20.79	19.81	0.096	34.77	-14.96
	16-QAM	711.00	H	257	256	1.17	1 / 25	19.81	18.83	0.076	34.77	-15.94
5 MHz	QPSK	701.50	H	257	266	1.13	1 / 12	20.54	19.52	0.090	34.77	-15.25
	QPSK	707.50	H	254	254	1.16	1 / 12	20.42	19.43	0.088	34.77	-15.34
	QPSK	713.50	H	257	256	1.19	1 / 0	20.42	19.45	0.088	34.77	-15.32
	16-QAM	701.50	H	257	266	1.13	1 / 12	19.69	18.67	0.074	34.77	-16.10
3 MHz	QPSK	700.50	H	257	266	1.12	1 / 0	20.42	19.39	0.087	34.77	-15.38
	QPSK	707.50	H	254	254	1.16	1 / 7	20.39	19.40	0.087	34.77	-15.37
	QPSK	714.50	H	257	256	1.19	1 / 7	20.28	19.32	0.086	34.77	-15.45
	16-QAM	700.50	H	257	266	1.12	1 / 0	19.97	18.94	0.078	34.77	-15.83
1.4 MHz	QPSK	699.70	H	257	266	1.12	1 / 5	20.61	19.58	0.091	34.77	-15.19
	QPSK	707.50	H	254	254	1.16	1 / 3	20.32	19.33	0.086	34.77	-15.44
	QPSK	715.30	H	257	256	1.20	1 / 3	20.29	19.33	0.086	34.77	-15.44
	16-QAM	699.70	H	257	266	1.12	1 / 0	19.68	18.65	0.073	34.77	-16.12

Table 7-17. ERP Data (LTE Band 12 – Ant4)

Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
10 MHz	QPSK	782.00	V	161	299	0.89	1 / 25	22.38	21.12	0.129	34.77	-13.65
	16-QAM	782.00	V	161	299	0.89	1 / 25	21.42	20.16	0.104	34.77	-14.61
5 MHz	QPSK	779.50	V	161	299	0.94	1 / 12	22.43	21.21	0.132	34.77	-13.56
	QPSK	782.00	V	161	299	0.89	1 / 12	22.49	21.23	0.133	34.77	-13.54
	QPSK	784.50	V	161	299	0.85	1 / 12	22.57	21.27	0.134	34.77	-13.50
	16-QAM	779.50	V	161	299	0.94	1 / 12	21.59	20.37	0.109	34.77	-14.40

Table 7-18. ERP Data (LTE Band 13 – Ant4)

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
20 MHz	$\pi/2$ BPSK	673.00	H	101	275	0.69	1 / 104	22.21	20.75	0.119	34.77	-14.02
	$\pi/2$ BPSK	680.50	H	100	280	0.81	1 / 53	22.32	20.98	0.125	34.77	-13.79
	$\pi/2$ BPSK	688.00	H	102	276	0.93	1 / 1	22.49	21.27	0.134	34.77	-13.50
	QPSK	673.00	H	101	275	0.69	1 / 104	22.42	20.96	0.125	34.77	-13.81
	QPSK	680.50	H	100	280	0.81	1 / 53	22.13	20.79	0.120	34.77	-13.98
	QPSK	688.00	H	102	276	0.93	1 / 1	22.25	21.03	0.127	34.77	-13.74
15 MHz	16-QAM	673.00	H	101	275	0.69	1 / 104	21.51	20.05	0.101	34.77	-14.72
	$\pi/2$ BPSK	670.50	H	101	275	0.65	1 / 39	22.15	20.65	0.116	34.77	-14.12
	$\pi/2$ BPSK	680.50	H	100	280	0.81	1 / 39	22.35	21.01	0.126	34.77	-13.77
	$\pi/2$ BPSK	690.50	H	102	276	0.97	1 / 77	22.48	21.30	0.135	34.77	-13.47
	QPSK	670.50	H	101	275	0.65	1 / 39	22.34	20.84	0.121	34.77	-13.93
	QPSK	680.50	H	100	280	0.81	1 / 39	22.17	20.83	0.121	34.77	-13.94
10 MHz	QPSK	690.50	H	102	276	0.97	1 / 77	22.14	20.96	0.125	34.77	-13.81
	16-QAM	670.50	H	101	275	0.65	1 / 39	21.46	19.96	0.099	34.77	-14.81
	$\pi/2$ BPSK	668.00	H	101	275	0.61	1 / 26	22.22	20.67	0.117	34.77	-14.10
	$\pi/2$ BPSK	680.50	H	100	280	0.81	1 / 26	22.25	20.91	0.123	34.77	-13.86
	$\pi/2$ BPSK	693.00	H	102	276	1.01	1 / 26	22.30	21.16	0.130	34.77	-13.62
	QPSK	668.00	H	101	275	0.61	1 / 26	22.31	20.76	0.119	34.77	-14.01
5 MHz	QPSK	680.50	H	100	280	0.81	1 / 26	22.18	20.84	0.121	34.77	-13.93
	QPSK	693.00	H	102	276	1.01	1 / 26	22.02	20.88	0.122	34.77	-13.89
	16-QAM	668.00	H	101	275	0.61	1 / 26	21.59	20.05	0.101	34.77	-14.72
	$\pi/2$ BPSK	665.50	H	101	275	0.57	1 / 12	22.28	20.69	0.117	34.77	-14.08
	$\pi/2$ BPSK	680.50	H	100	280	0.81	1 / 12	22.26	20.92	0.124	34.77	-13.85
	$\pi/2$ BPSK	695.50	H	102	276	1.05	1 / 12	22.42	21.32	0.135	34.77	-13.45
20 MHz	QPSK	665.50	H	101	275	0.57	1 / 12	22.41	20.82	0.121	34.77	-13.95
	QPSK	680.50	H	100	280	0.81	1 / 12	22.13	20.79	0.120	34.77	-13.98
	QPSK	695.50	H	102	276	1.05	1 / 12	22.06	20.96	0.125	34.77	-13.81
	16-QAM	665.50	H	101	275	0.57	1 / 12	21.57	19.99	0.100	34.77	-14.78
	QPSK (CP-OFDM)	688.00	H	102	276	0.93	1 / 1	20.80	19.58	0.091	34.77	-15.19

Table 7-19. EIRP Data (NR Band n71 – Ant4)

Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
15 MHz	$\pi/2$ BPSK	706.50	H	128	272	1.15	1 / 39	23.15	22.15	0.164	34.77	-12.62
	$\pi/2$ BPSK	707.50	H	102	271	1.16	1 / 1	22.98	21.99	0.158	34.77	-12.78
	$\pi/2$ BPSK	708.50	H	125	274	1.16	1 / 1	23.19	22.20	0.166	34.77	-12.57
	QPSK	706.50	H	128	272	1.15	1 / 39	22.84	21.84	0.153	34.77	-12.93
	QPSK	707.50	H	102	271	1.16	1 / 1	22.85	21.86	0.153	34.77	-12.91
	QPSK	708.50	H	125	274	1.16	1 / 1	23.17	22.18	0.165	34.77	-12.59
10 MHz	16-QAM	706.50	H	128	272	1.15	1 / 39	22.07	21.07	0.128	34.77	-13.70
	$\pi/2$ BPSK	704.00	H	128	272	1.14	1 / 1	23.16	22.15	0.164	34.77	-12.62
	$\pi/2$ BPSK	707.50	H	102	271	1.16	1 / 1	22.92	21.93	0.156	34.77	-12.84
	$\pi/2$ BPSK	711.00	H	125	274	1.17	1 / 26	23.14	22.17	0.165	34.77	-12.60
	QPSK	704.00	H	128	272	1.14	1 / 1	22.70	21.69	0.148	34.77	-13.08
	QPSK	707.50	H	102	271	1.16	1 / 1	22.72	21.73	0.149	34.77	-13.04
5 MHz	QPSK	711.00	H	125	274	1.17	1 / 26	23.13	22.15	0.164	34.77	-12.62
	16-QAM	704.00	H	128	272	1.14	1 / 1	22.09	21.08	0.128	34.77	-13.69
	$\pi/2$ BPSK	701.50	H	128	272	1.13	1 / 12	23.16	22.14	0.164	34.77	-12.63
	$\pi/2$ BPSK	707.50	H	102	271	1.16	1 / 12	22.81	21.82	0.152	34.77	-12.95
	$\pi/2$ BPSK	713.50	H	125	274	1.19	1 / 12	23.16	22.20	0.166	34.77	-12.57
	QPSK	701.50	H	128	272	1.13	1 / 12	22.88	21.86	0.153	34.77	-12.91
15 MHz	QPSK	707.50	H	102	271	1.16	1 / 12	22.70	21.71	0.148	34.77	-13.06
	QPSK	713.50	H	125	274	1.19	1 / 12	23.07	22.11	0.163	34.77	-12.66
	16-QAM	701.50	H	128	272	1.13	1 / 12	22.06	21.04	0.127	34.77	-13.73
	QPSK (CP-OFDM)	708.50	H	125	274	1.16	1/1	21.77	20.78	0.120	34.77	-13.99

Table 7-20. EIRP Data (NR Band n12 – Ant4)

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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Frequency [MHz]	Mode	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1712.40	WCDMA1700	H	127	213	21.95	2.89	24.84	0.305	30.00	-5.16
1732.60	WCDMA1700	H	178	217	21.31	2.86	24.17	0.261	30.00	-5.83
1752.60	WCDMA1700	H	133	219	19.59	2.83	22.42	0.175	30.00	-7.58

Table 7-21. EIRP Data (WCDMA AWS – Ant1)

Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
20 MHz	QPSK	1720.00	V	241	249	2.90	1 / 99	20.26	23.16	0.207	30.00	-6.84
	QPSK	1745.00	V	228	243	2.94	1 / 99	20.39	23.33	0.215	30.00	-6.67
	QPSK	1770.00	V	241	257	3.02	1 / 50	19.62	22.64	0.184	30.00	-7.36
	16-QAM	1745.00	V	228	243	2.94	1 / 99	19.72	22.66	0.185	30.00	-7.34
15 MHz	QPSK	1717.50	V	241	249	2.89	1 / 74	20.14	23.04	0.201	30.00	-6.96
	QPSK	1745.00	V	228	243	2.94	1 / 74	20.26	23.20	0.209	30.00	-6.80
	QPSK	1772.50	V	241	257	3.03	1 / 74	19.67	22.70	0.186	30.00	-7.30
	16-QAM	1745.00	V	228	243	2.94	1 / 37	19.79	22.73	0.188	30.00	-7.27
10 MHz	QPSK	1715.00	V	241	249	2.89	1 / 0	20.28	23.17	0.207	30.00	-6.83
	QPSK	1745.00	V	228	243	2.94	1 / 25	20.53	23.47	0.222	30.00	-6.53
	QPSK	1775.00	V	241	257	3.04	1 / 25	19.62	22.66	0.185	30.00	-7.34
	16-QAM	1745.00	V	228	243	2.94	1 / 49	19.95	22.89	0.195	30.00	-7.11
5 MHz	QPSK	1712.50	V	241	249	2.88	1 / 12	20.28	23.17	0.207	30.00	-6.83
	QPSK	1745.00	V	228	243	2.94	1 / 0	20.69	23.63	0.231	30.00	-6.37
	QPSK	1777.50	V	241	257	3.05	1 / 12	19.63	22.68	0.185	30.00	-7.32
	16-QAM	1745.00	V	228	243	2.94	1 / 12	19.99	22.93	0.196	30.00	-7.07
3 MHz	QPSK	1711.50	V	241	249	2.88	1 / 7	20.21	23.09	0.204	30.00	-6.91
	QPSK	1745.00	V	228	243	2.94	1 / 0	20.44	23.38	0.218	30.00	-6.62
	QPSK	1778.50	V	241	257	3.05	1 / 0	19.81	22.86	0.193	30.00	-7.14
	16-QAM	1745.00	V	228	243	2.94	1 / 0	20.04	22.98	0.199	30.00	-7.02
1.4 MHz	QPSK	1710.70	V	241	249	2.88	1 / 5	20.24	23.12	0.205	30.00	-6.88
	QPSK	1745.00	V	228	243	2.94	1 / 3	20.51	23.45	0.221	30.00	-6.55
	QPSK	1779.30	V	241	257	3.05	1 / 3	19.66	22.71	0.187	30.00	-7.29
	16-QAM	1745.00	V	228	243	2.94	1 / 5	20.08	23.02	0.201	30.00	-6.98

Table 7-22. EIRP Data (LTE Band 66/4 – Ant1)

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]
40 MHz	$\pi/2$ BPSK	1730.00	V	297	250	2.92	1 / 108	20.76	23.68	0.233	30.00
	$\pi/2$ BPSK	1745.00	V	297	259	2.94	1 / 108	20.15	23.09	0.204	30.00
	$\pi/2$ BPSK	1760.00	V	290	262	2.99	1 / 108	20.07	23.06	0.202	30.00
	QPSK	1730.00	V	297	250	2.92	1 / 108	21.01	23.93	0.247	30.00
	QPSK	1745.00	V	297	259	2.94	1 / 108	20.17	23.11	0.205	30.00
	QPSK	1760.00	V	290	262	2.99	1 / 108	20.27	23.26	0.212	30.00
	16-QAM	1730.00	V	297	250	2.92	1 / 108	19.99	22.91	0.195	30.00
30 MHz	$\pi/2$ BPSK	1725.00	V	297	250	2.91	1 / 80	20.86	23.77	0.238	30.00
	$\pi/2$ BPSK	1745.00	V	297	259	2.94	1 / 80	20.18	23.12	0.205	30.00
	$\pi/2$ BPSK	1765.00	V	290	262	3.00	1 / 1	20.00	23.00	0.200	30.00
	QPSK	1725.00	V	297	250	2.91	1 / 80	21.03	23.94	0.248	30.00
	QPSK	1745.00	V	297	259	2.94	1 / 80	20.20	23.14	0.206	30.00
	QPSK	1765.00	V	290	262	3.00	1 / 1	20.29	23.29	0.213	30.00
	16-QAM	1725.00	V	297	250	2.91	1 / 80	20.02	22.93	0.196	30.00
25 MHz	$\pi/2$ BPSK	1722.50	V	297	250	2.90	1 / 1	20.85	23.75	0.237	30.00
	$\pi/2$ BPSK	1745.00	V	297	259	2.94	1 / 66	20.14	23.09	0.203	30.00
	$\pi/2$ BPSK	1767.50	V	290	262	3.02	1 / 1	20.07	23.09	0.203	30.00
	QPSK	1722.50	V	297	250	2.90	1 / 1	21.12	24.02	0.252	30.00
	QPSK	1745.00	V	297	259	2.94	1 / 66	20.14	23.08	0.203	30.00
	QPSK	1767.50	V	290	262	3.02	1 / 1	20.34	23.36	0.217	30.00
	16-QAM	1722.50	V	297	250	2.90	1 / 1	20.05	22.95	0.197	30.00
20 MHz	$\pi/2$ BPSK	1720.00	V	297	250	2.90	1 / 104	20.86	23.76	0.238	30.00
	$\pi/2$ BPSK	1745.00	V	297	259	2.94	1 / 53	20.12	23.06	0.202	30.00
	$\pi/2$ BPSK	1770.00	V	290	262	3.02	1 / 1	20.00	23.03	0.201	30.00
	QPSK	1720.00	V	297	250	2.90	1 / 104	21.06	23.96	0.249	30.00
	QPSK	1745.00	V	297	259	2.94	1 / 1	20.16	23.10	0.204	30.00
	QPSK	1770.00	V	290	262	3.02	1 / 1	20.28	23.30	0.214	30.00
	16-QAM	1720.00	V	297	250	2.90	1 / 104	19.92	22.82	0.192	30.00
15 MHz	$\pi/2$ BPSK	1717.50	V	297	250	2.89	1 / 77	20.81	23.71	0.235	30.00
	$\pi/2$ BPSK	1745.00	V	297	259	2.94	1 / 39	20.13	23.07	0.203	30.00
	$\pi/2$ BPSK	1772.50	V	290	262	3.03	1 / 1	19.92	22.94	0.197	30.00
	QPSK	1717.50	V	297	250	2.89	1 / 77	21.06	23.96	0.249	30.00
	QPSK	1745.00	V	297	259	2.94	1 / 1	20.14	23.08	0.203	30.00
	QPSK	1772.50	V	290	262	3.03	1 / 1	20.18	23.21	0.209	30.00
	16-QAM	1717.50	V	297	250	2.89	1 / 77	20.03	22.92	0.196	30.00
10 MHz	$\pi/2$ BPSK	1715.00	V	297	250	2.89	1 / 1	20.60	23.49	0.223	30.00
	$\pi/2$ BPSK	1745.00	V	297	259	2.94	1 / 26	19.98	22.92	0.196	30.00
	$\pi/2$ BPSK	1775.00	V	290	262	3.04	1 / 50	19.72	22.76	0.189	30.00
	QPSK	1715.00	V	297	250	2.89	1 / 1	20.85	23.74	0.236	30.00
	QPSK	1745.00	V	297	259	2.94	1 / 26	20.04	22.99	0.199	30.00
	QPSK	1775.00	V	290	262	3.04	1 / 50	20.03	23.07	0.203	30.00
	16-QAM	1715.00	V	297	250	2.89	1 / 1	19.74	22.63	0.183	30.00
5 MHz	$\pi/2$ BPSK	1712.50	V	297	250	2.88	1 / 12	20.77	23.66	0.232	30.00
	$\pi/2$ BPSK	1745.00	V	297	259	2.94	1 / 12	19.92	22.87	0.193	30.00
	$\pi/2$ BPSK	1777.50	V	290	262	3.05	1 / 12	19.67	22.71	0.187	30.00
	QPSK	1712.50	V	297	250	2.88	1 / 12	20.98	23.86	0.243	30.00
	QPSK	1745.00	V	297	259	2.94	1 / 12	19.97	22.91	0.196	30.00
	QPSK	1777.50	V	290	262	3.05	1 / 12	19.89	22.93	0.196	30.00
	16-QAM	1712.50	V	297	250	2.88	1 / 12	19.85	22.73	0.188	30.00
40 MHz	QPSK (CP-OFDM)	1730.00	V	297	250	2.92	1/108	19.47	22.39	0.173	30.00

Table 7-23. EIRP Data (NR Band n66 – Ant1)

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
40 MHz	$\pi/2$ BPSK	1730.00	H	178	296	2.86	1 / 108	16.91	19.77	0.095	30.00	-10.23
	$\pi/2$ BPSK	1745.00	H	165	281	2.84	1 / 108	16.88	19.72	0.094	30.00	-10.28
	$\pi/2$ BPSK	1760.00	H	171	310	2.81	1 / 108	16.77	19.58	0.091	30.00	-10.42
	QPSK	1730.00	H	178	296	2.86	1 / 108	16.98	19.84	0.096	30.00	-10.16
	QPSK	1745.00	H	165	281	2.84	1 / 108	16.89	19.73	0.094	30.00	-10.27
	QPSK	1760.00	H	171	310	2.81	1 / 108	16.43	19.24	0.084	30.00	-10.76
	16-QAM	1730.00	H	178	296	2.86	1 / 108	16.05	18.91	0.078	30.00	-11.09
30 MHz	$\pi/2$ BPSK	1725.00	H	178	296	2.87	1 / 80	17.07	19.95	0.099	30.00	-10.05
	$\pi/2$ BPSK	1745.00	H	165	281	2.84	1 / 1	16.92	19.76	0.095	30.00	-10.24
	$\pi/2$ BPSK	1765.00	H	171	310	2.80	1 / 158	16.65	19.45	0.088	30.00	-10.55
	QPSK	1725.00	H	178	296	2.87	1 / 80	17.18	20.05	0.101	30.00	-9.95
	QPSK	1745.00	H	165	281	2.84	1 / 1	16.72	19.56	0.090	30.00	-10.44
	QPSK	1765.00	H	171	310	2.80	1 / 158	16.50	19.30	0.085	30.00	-10.70
	16-QAM	1725.00	H	178	296	2.87	1 / 80	16.23	19.10	0.081	30.00	-10.90
25 MHz	$\pi/2$ BPSK	1722.50	H	178	296	2.88	1 / 1	17.12	20.00	0.100	30.00	-10.00
	$\pi/2$ BPSK	1745.00	H	165	281	2.84	1 / 77	17.01	19.85	0.097	30.00	-10.15
	$\pi/2$ BPSK	1767.50	H	171	310	2.79	1 / 1	16.79	19.58	0.091	30.00	-10.42
	QPSK	1722.50	H	178	296	2.88	1 / 1	17.24	20.12	0.103	30.00	-9.88
	QPSK	1745.00	H	165	281	2.84	1 / 77	16.98	19.82	0.096	30.00	-10.18
	QPSK	1767.50	H	171	310	2.79	1 / 1	16.45	19.24	0.084	30.00	-10.76
	16-QAM	1722.50	H	178	296	2.88	1 / 1	16.38	19.26	0.084	30.00	-10.74
20 MHz	$\pi/2$ BPSK	1720.00	H	178	296	2.88	1 / 1	17.11	19.98	0.100	30.00	-10.02
	$\pi/2$ BPSK	1745.00	H	165	281	2.84	1 / 53	16.88	19.72	0.094	30.00	-10.28
	$\pi/2$ BPSK	1770.00	H	171	310	2.79	1 / 104	16.73	19.52	0.090	30.00	-10.48
	QPSK	1720.00	H	178	296	2.88	1 / 1	17.06	19.94	0.099	30.00	-10.06
	QPSK	1745.00	H	165	281	2.84	1 / 53	16.63	19.47	0.089	30.00	-10.53
	QPSK	1770.00	H	171	310	2.79	1 / 104	16.40	19.19	0.083	30.00	-10.81
	16-QAM	1720.00	H	178	296	2.88	1 / 1	16.43	19.30	0.085	30.00	-10.70
15 MHz	$\pi/2$ BPSK	1717.50	H	178	296	2.88	1 / 77	17.09	19.97	0.099	30.00	-10.03
	$\pi/2$ BPSK	1745.00	H	165	281	2.84	1 / 1	16.97	19.81	0.096	30.00	-10.19
	$\pi/2$ BPSK	1772.50	H	171	310	2.78	1 / 39	16.73	19.51	0.089	30.00	-10.49
	QPSK	1717.50	H	178	296	2.88	1 / 77	17.08	19.96	0.099	30.00	-10.04
	QPSK	1745.00	H	165	281	2.84	1 / 1	16.91	19.76	0.095	30.00	-10.24
	QPSK	1772.50	H	171	310	2.78	1 / 39	16.21	19.00	0.079	30.00	-11.00
	16-QAM	1745.00	H	165	281	2.84	1 / 1	16.47	19.31	0.085	30.00	-10.69
10 MHz	$\pi/2$ BPSK	1715.00	H	178	296	2.88	1 / 26	16.94	19.83	0.096	30.00	-10.17
	$\pi/2$ BPSK	1745.00	H	165	281	2.84	1 / 26	16.95	19.79	0.095	30.00	-10.21
	$\pi/2$ BPSK	1775.00	H	171	310	2.78	1 / 1	16.54	19.31	0.085	30.00	-10.69
	QPSK	1715.00	H	178	296	2.88	1 / 26	16.92	19.81	0.096	30.00	-10.19
	QPSK	1745.00	H	165	281	2.84	1 / 26	16.91	19.75	0.094	30.00	-10.25
	QPSK	1775.00	H	171	310	2.78	1 / 1	16.46	19.24	0.084	30.00	-10.76
	16-QAM	1715.00	H	178	296	2.88	1 / 26	16.18	19.06	0.081	30.00	-10.94
5 MHz	$\pi/2$ BPSK	1712.50	H	178	296	2.89	1 / 12	16.95	19.83	0.096	30.00	-10.17
	$\pi/2$ BPSK	1745.00	H	165	281	2.84	1 / 12	16.76	19.60	0.091	30.00	-10.40
	$\pi/2$ BPSK	1777.50	H	171	310	2.77	1 / 12	16.63	19.40	0.087	30.00	-10.60
	QPSK	1712.50	H	178	296	2.89	1 / 1	17.08	19.97	0.099	30.00	-10.03
	QPSK	1745.00	H	165	281	2.84	1 / 12	16.73	19.57	0.091	30.00	-10.43
	QPSK	1777.50	H	171	310	2.77	1 / 12	16.46	19.23	0.084	30.00	-10.77
	16-QAM	1712.50	H	178	296	2.89	1 / 1	16.12	19.01	0.080	30.00	-10.99
40 MHz	QPSK (CP-OFDM)	1730.00	H	178	296	2.86	1/108	15.44	18.30	0.068	30.00	-11.70

Table 7-24. EIRP Data (NR Band n66 – Ant4)

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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7.8 Radiated Spurious Emissions Measurements

Test Overview

Radiated spurious emissions measurements are performed using the field strength conversion method described in ANSI C63.26-2015 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using hybrid (biconical/log) antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas. All measurements are performed as RMS measurements while the EUT is operating at maximum power, and at the appropriate frequencies.

Test Procedures Used

ANSI C63.26-2015 – Section 5.5.4

Test Settings

1. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
2. VBW $\geq 3 \times$ RBW
3. Span = 1.5 times the OBW
4. No. of sweep points $\geq 2 \times$ span / RBW
5. Detector = RMS
6. Trace mode = Average (Max Hold for pulsed emissions)
7. The trace was allowed to stabilize

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Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

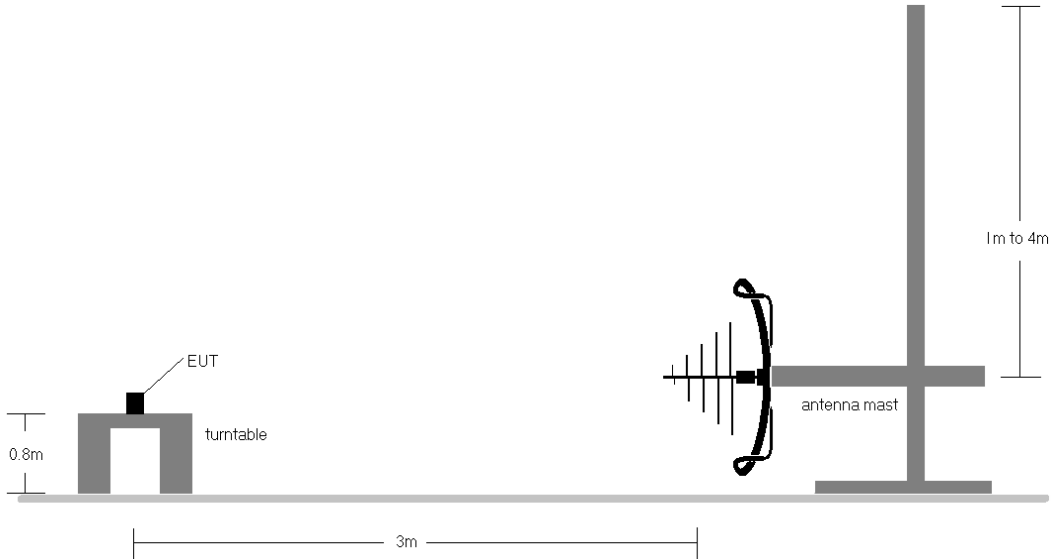


Figure 7-8. Test Instrument & Measurement Setup < 1GHz

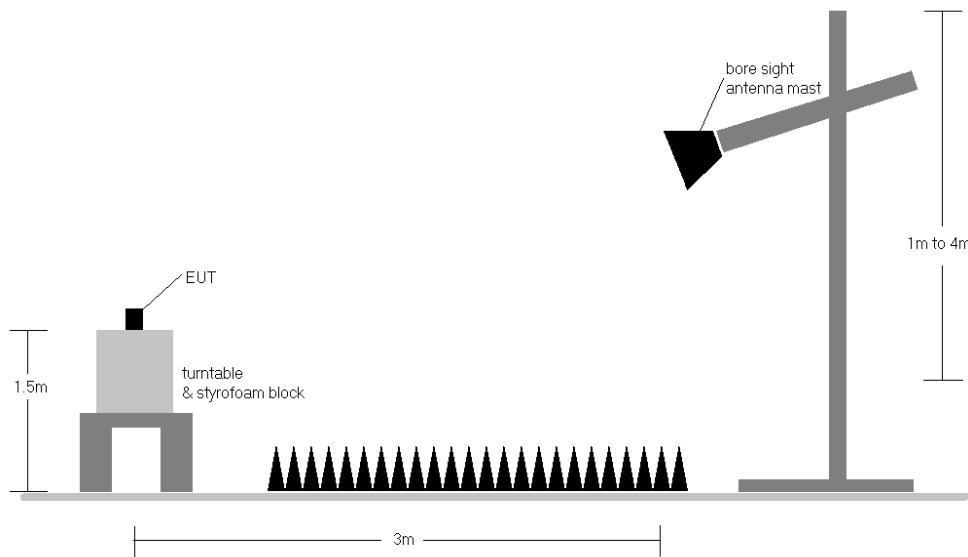


Figure 7-9. Test Instrument & Measurement Setup > 1GHz

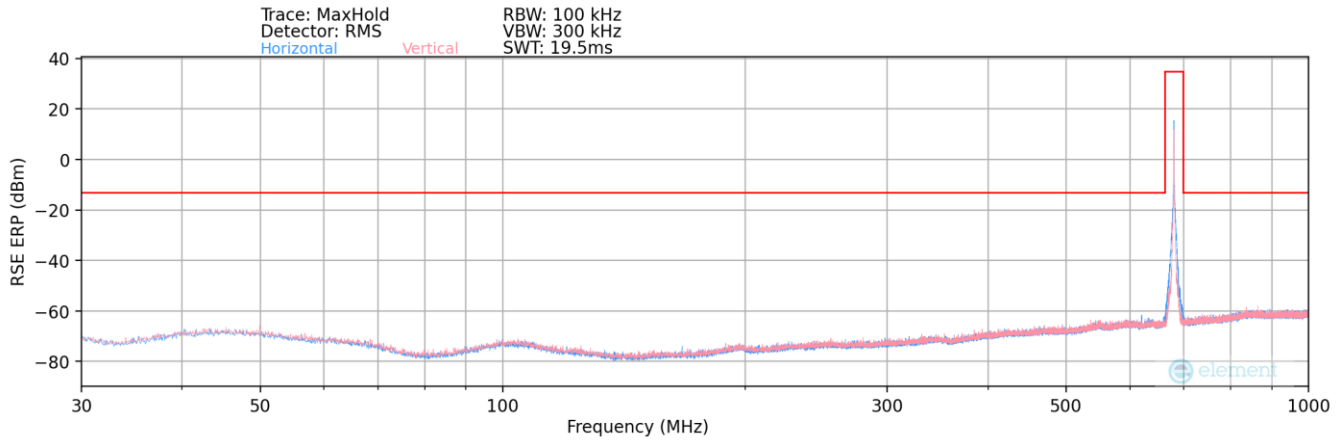
FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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Test Notes

- 1) Field strengths are calculated using the Measurement quantity conversions in ANSI C63.26-2015 Section 5.2.7:
 - a) $E(\text{dB}\mu\text{V}/\text{m}) = \text{Measured amplitude level (dBm)} + 107 + \text{Cable Loss (dB)} + \text{Antenna Factor (dB/m)}$
 - b) $\text{EIRP (dBm)} = E(\text{dB}\mu\text{V}/\text{m}) + 20\log D - 104.8$; where D is the measurement distance in meters.
- 2) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.
- 3) This unit was tested with its standard battery.
- 4) The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter. The worst-case emissions are reported.
- 5) Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
- 6) The "-" shown in the following RSE tables are used to denote a noise floor measurement.
- 7) ULCA spurious emissions measurements were evaluated for the two contiguous channels using various combinations of RB size, RB offset, modulation, and channel bandwidth. Channel bandwidth data is shown in the tables below based only on the channel bandwidths that were supported in this device.
- 8) For NR operation, all subcarrier spacings (SCS) and transmission schemes (e.g. CP-OFDM and DFT-s-OFDM) were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.
- 9) Spurious emission in EN-DC Operating mode with Sub 6GHz NR carrier as well as an LTE carrier (anchor) has been checked and was found to not to be the worst case. Spurious emissions from the NR carrier device are subject to the rules under which the NR carrier operates. Spurious emissions caused by the LTE carrier must meet the requirements of the rules under which the LTE carrier operates.

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LTE Band 71 – Ant4

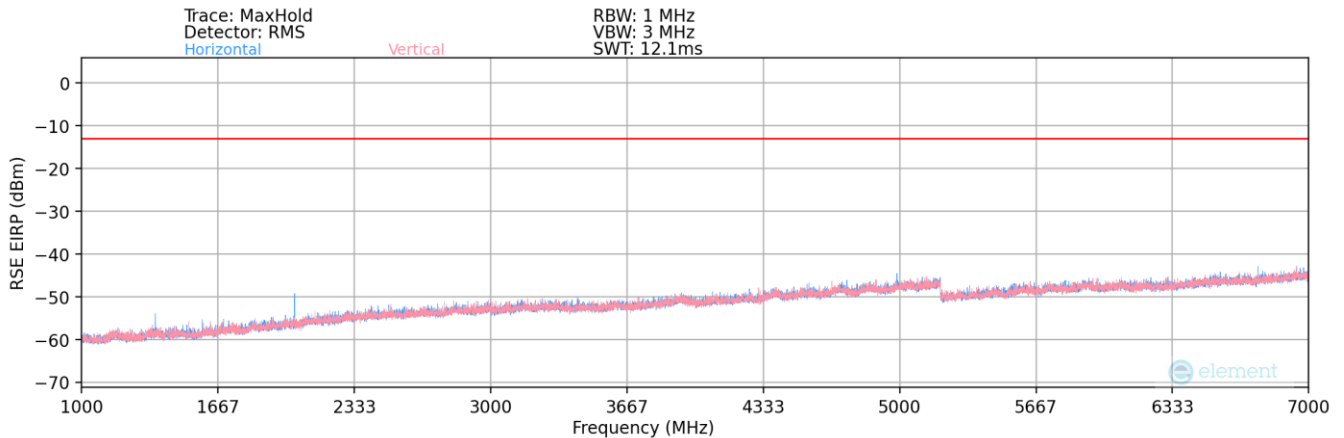


Plot 7-183. Radiated Spurious Plot Below 1GHz (LTE Band 71 – Ant4)

Bandwidth (MHz):	20
Frequency (MHz):	680.5
RB / Offset:	1 / 50

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB μ V/m]	ERP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
604.60	H	-	-	-86.32	-4.53	16.15	-81.26	-13.00	-68.26

Table 7-25. Radiated Spurious Data (LTE Band 71 – Mid Channel – Ant4)



Plot 7-184. Radiated Spurious Plot Above 1GHz (LTE Band 71 – Ant4)

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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Bandwidth (MHz):	20
Frequency (MHz):	673
RB / Offset:	1 / 50

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]
1346.00	H	315	155	-74.22	-0.67	32.11	-63.15	-13.00	-50.15
2019.00	H	307	56	-73.66	2.08	35.42	-59.84	-13.00	-46.84
2692.00	H	-	-	-79.06	4.77	32.71	-62.55	-13.00	-49.55
3365.00	H	-	-	-79.72	6.55	33.83	-61.42	-13.00	-48.42
4038.00	H	-	-	-80.03	8.05	35.02	-60.24	-13.00	-47.24

Table 7-26. Radiated Spurious Data (LTE Band 71 – Low Channel – Ant4)

Bandwidth (MHz):	20
Frequency (MHz):	680.5
RB / Offset:	1 / 50

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]
1361.00	H	226	151	-68.52	-0.71	37.77	-57.49	-13.00	-44.49
2041.50	H	206	36	-72.41	1.64	36.23	-59.02	-13.00	-46.02
2722.00	H	-	-	-79.31	4.76	32.45	-62.81	-13.00	-49.81
3402.50	H	-	-	-79.67	6.43	33.76	-61.50	-13.00	-48.50
4083.00	H	-	-	-80.03	8.23	35.20	-60.06	-13.00	-47.06

Table 7-27. Radiated Spurious Data (LTE Band 71 – Mid Channel – Ant4)

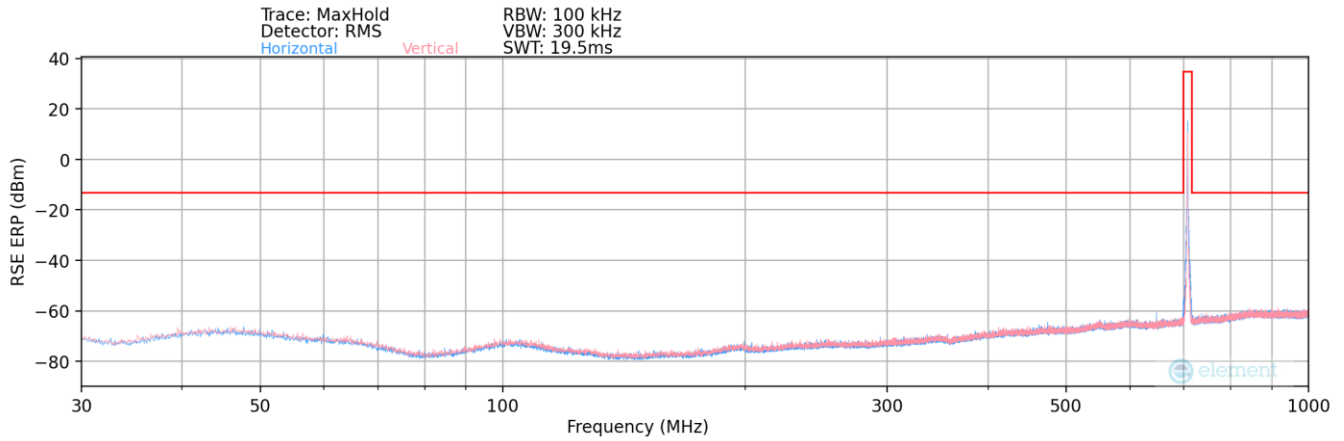
Bandwidth (MHz):	20
Frequency (MHz):	688
RB / Offset:	1 / 50

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]
1376.00	H	200	24	-75.60	-0.87	30.53	-64.73	-13.00	-51.73
2064.00	H	392	51	-72.20	1.71	36.51	-58.75	-13.00	-45.75
2752.00	H	-	-	-79.32	4.44	32.12	-63.13	-13.00	-50.13
3440.00	H	-	-	-79.83	6.87	34.04	-61.22	-13.00	-48.22
4128.00	H	-	-	-80.31	8.23	34.92	-60.34	-13.00	-47.34

Table 7-28. Radiated Spurious Data (LTE Band 71 – High Channel – Ant4)

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2312040120-10.C3K	Test Dates: 1/4/2024 - 3/14/2024	EUT Type: Portable Computing Device	Page 145 of 174

LTE Band 12 – Ant4

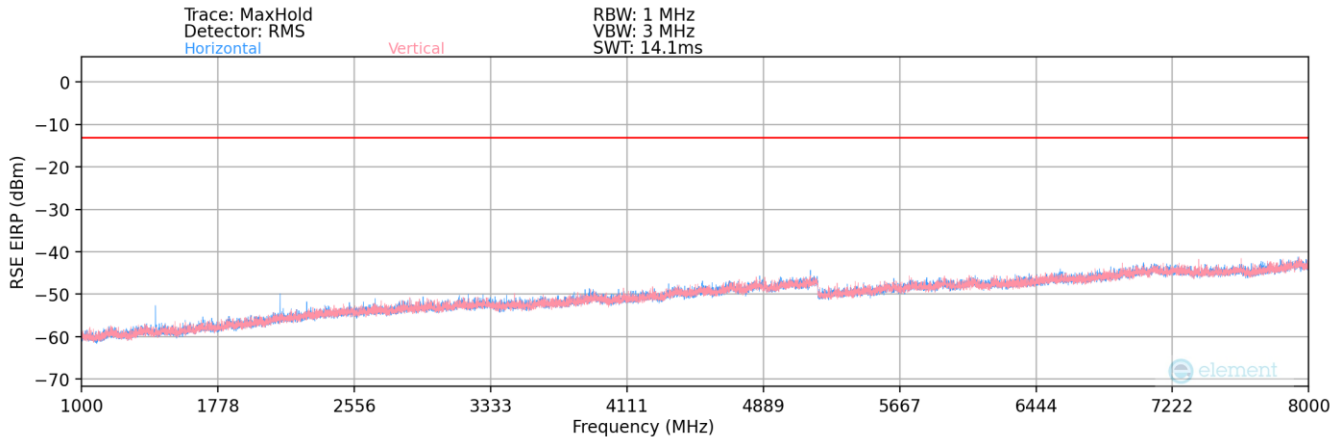


Plot 7-185. Radiated Spurious Plot Below 1GHz (LTE Band 12 – Ant4)

Bandwidth (MHz):	10
Frequency (MHz):	704
RB / Offset:	1 / 25

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB μ V/m]	ERP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
626.20	H	-	-	-86.45	-4.68	15.87	-81.54	-13.00	-68.54

Table 7-29. Radiated Spurious Data (LTE Band 12 – Mid Channel – Ant4)



Plot 7-186. Radiated Spurious Plot Above 1GHz (LTE Band 12 – Ant4)

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2312040120-10.C3K	Test Dates: 1/4/2024 - 3/14/2024	EUT Type: Portable Computing Device	Page 146 of 174



Bandwidth (MHz):	10
Frequency (MHz):	704
RB / Offset:	1 / 25

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]
1408.00	H	178	17	-71.88	-1.44	33.68	-61.58	-13.00	-48.58
2112.00	H	143	50	-75.17	2.82	34.65	-60.61	-13.00	-47.61
2816.00	H	-	-	-79.12	5.17	33.05	-62.20	-13.00	-49.20
3520.00	H	-	-	-79.55	6.83	34.28	-60.98	-13.00	-47.98
4224.00	H	-	-	-80.18	8.52	35.34	-59.92	-13.00	-46.92

Table 7-30. Radiated Spurious Data (LTE Band 12 – Low Channel – Ant4)

Bandwidth (MHz):	10
Frequency (MHz):	707.5
RB / Offset:	1 / 25

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]
1415.00	H	265	15	-70.52	-1.49	34.99	-60.27	-13.00	-47.27
2122.50	H	156	296	-75.04	2.84	34.80	-60.46	-13.00	-47.46
2830.00	H	-	-	-79.05	5.39	33.34	-61.91	-13.00	-48.91
3537.50	H	-	-	-79.76	6.77	34.01	-61.25	-13.00	-48.25
4245.00	H	-	-	-80.28	8.64	35.36	-59.90	-13.00	-46.90

Table 7-31. Radiated Spurious Data (LTE Band 12 – Mid Channel – Ant4)

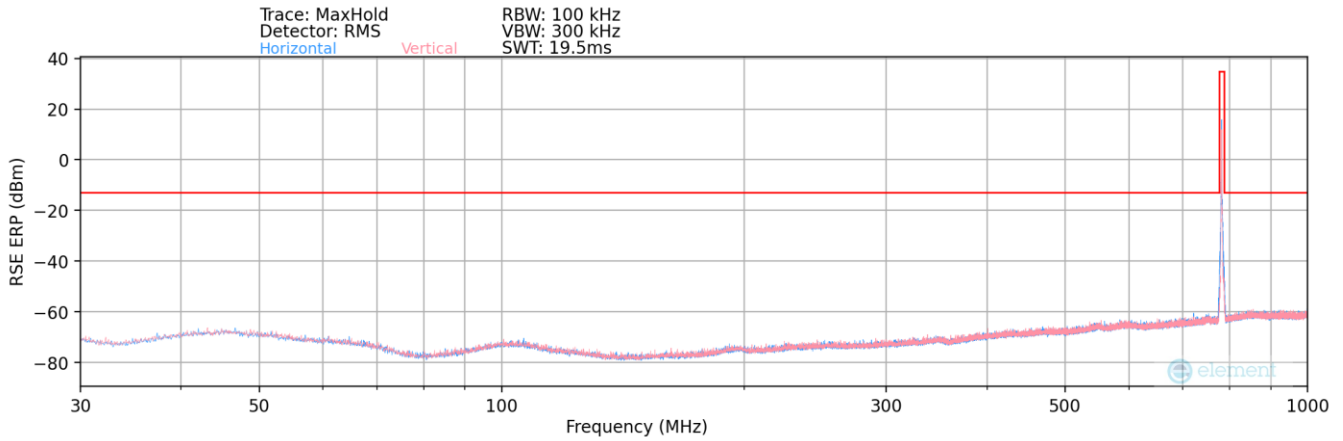
Bandwidth (MHz):	10
Frequency (MHz):	711
RB / Offset:	1 / 25

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]
1422.00	H	184	20	-72.56	-1.39	33.05	-62.21	-13.00	-49.21
2133.00	H	103	47	-73.75	2.78	36.03	-59.23	-13.00	-46.23
2844.00	H	-	-	-79.12	5.29	33.17	-62.09	-13.00	-49.09
3555.00	H	-	-	-79.72	6.73	34.01	-61.25	-13.00	-48.25
4266.00	H	-	-	-80.25	8.55	35.30	-59.96	-13.00	-46.96

Table 7-32. Radiated Spurious Data (LTE Band 12 – High Channel – Ant4)

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2312040120-10.C3K	Test Dates: 1/4/2024 - 3/14/2024	EUT Type: Portable Computing Device	Page 147 of 174

LTE Band 13 – Ant4

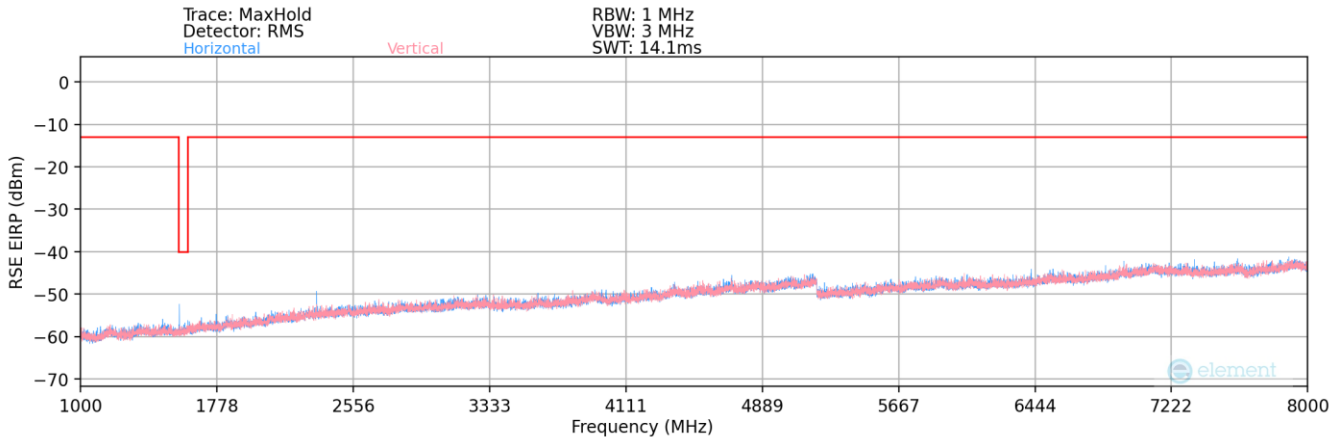


Plot 7-187. Radiated Spurious Plot Below 1GHz (LTE Band 13 – Ant4)

Mode:	Stand Alone
Frequency (MHz):	782
RB / Offset:	1 / 25

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]
710.11	H	-	-	-86.32	-3.16	17.52	-79.88	-13.00	-66.88

Table 7-33. Radiated Spurious Data (LTE Band 13 – Mid Channel – Ant4)



Plot 7-188. Radiated Spurious Plot Above 1GHz (LTE Band 13 – Ant4)

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2312040120-10.C3K	Test Dates: 1/4/2024 - 3/14/2024	EUT Type: Portable Computing Device	Page 148 of 174



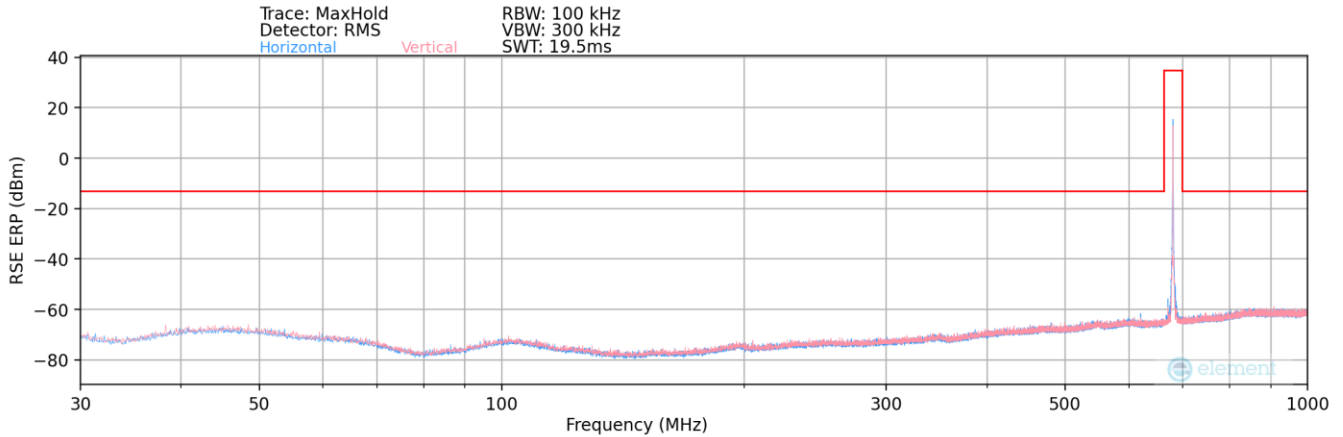
Bandwidth (MHz):	10
Frequency (MHz):	782
RB / Offset:	1 / 25

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]
1564.00	H	160	85	-67.99	-0.86	38.15	-57.11	-40.00	-17.11
2346.00	H	123	64	-69.47	3.65	41.18	-54.08	-13.00	-41.08
3128.00	H	-	-	-79.59	6.01	33.42	-61.83	-13.00	-48.83
3910.00	H	-	-	-80.40	8.43	35.03	-60.23	-13.00	-47.23
4692.00	H	-	-	-80.56	10.03	36.47	-58.79	-13.00	-45.79

Table 7-34. Radiated Spurious Data (LTE Band 13 – Mid Channel – Ant4)

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2312040120-10.C3K	Test Dates: 1/4/2024 - 3/14/2024	EUT Type: Portable Computing Device	Page 149 of 174

NR Band n71 – Ant4

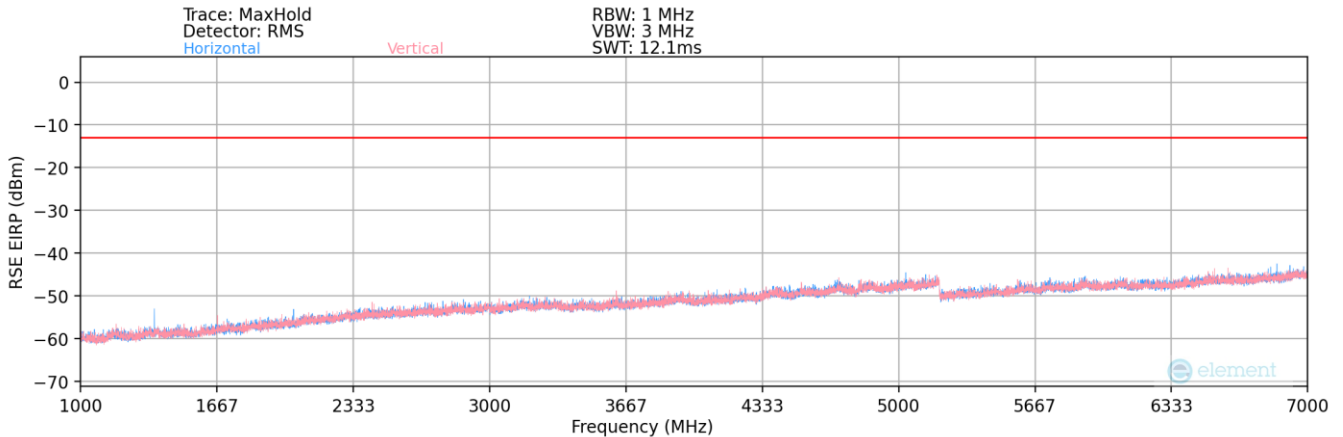


Plot 7-189. Radiated Spurious Plot Below 1GHz (NR Band n71 – Ant4)

Mode:	Stand Alone
Frequency (MHz):	680.5
RB / Offset:	1 / 53
Detector / Trace Mode:	RMS / Average

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]
606.55	H	181	82	-72.05	-4.50	30.45	-66.96	-13.00	-53.96

Table 7-35. Radiated Spurious Data (NR Band n71 – Mid Channel – Ant4)



Plot 7-190. Radiated Spurious Plot Above 1GHz (NR Band n71 – Ant4)

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2312040120-10.C3K	Test Dates: 1/4/2024 - 3/14/2024	EUT Type: Portable Computing Device	Page 150 of 174

Bandwidth (MHz):	20
Frequency (MHz):	673
RB / Offset:	1 / 53
Detector / Trace Mode:	RMS / Average

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB μ V/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1346.00	H	161	54	-71.96	-6.87	28.17	-67.08	-13.00	-54.08
2019.00	H	213	52	-70.32	-2.93	33.75	-61.51	-13.00	-48.51
2692.00	H	-	-	-77.15	-2.37	27.48	-67.78	-13.00	-54.78
3365.00	H	-	-	-77.38	-1.06	28.56	-66.69	-13.00	-53.69
4038.00	H	-	-	-78.26	1.91	30.65	-64.60	-13.00	-51.60

Table 7-36. Radiated Spurious Data (NR Band n71 – Low Channel – Ant4)

Bandwidth (MHz):	20
Frequency (MHz):	680.5
RB / Offset:	1 / 53
Detector / Trace Mode:	RMS / Average

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB μ V/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1361.00	H	150	141	-63.20	-6.84	36.96	-58.30	-13.00	-45.30
2041.50	H	146	306	-64.42	-2.67	39.91	-55.35	-13.00	-42.35
2722.00	H	-	-	-77.07	-2.73	27.20	-68.06	-13.00	-55.06
3402.50	H	145	158	-75.34	-0.94	30.72	-64.53	-13.00	-51.53
4083.00	H	-	-	-78.59	1.71	30.12	-65.13	-13.00	-52.13
4763.50	H	-	-	-78.79	3.17	31.38	-63.88	-13.00	-50.88

Table 7-37. Radiated Spurious Data (NR Band n71 – Mid Channel – Ant4)

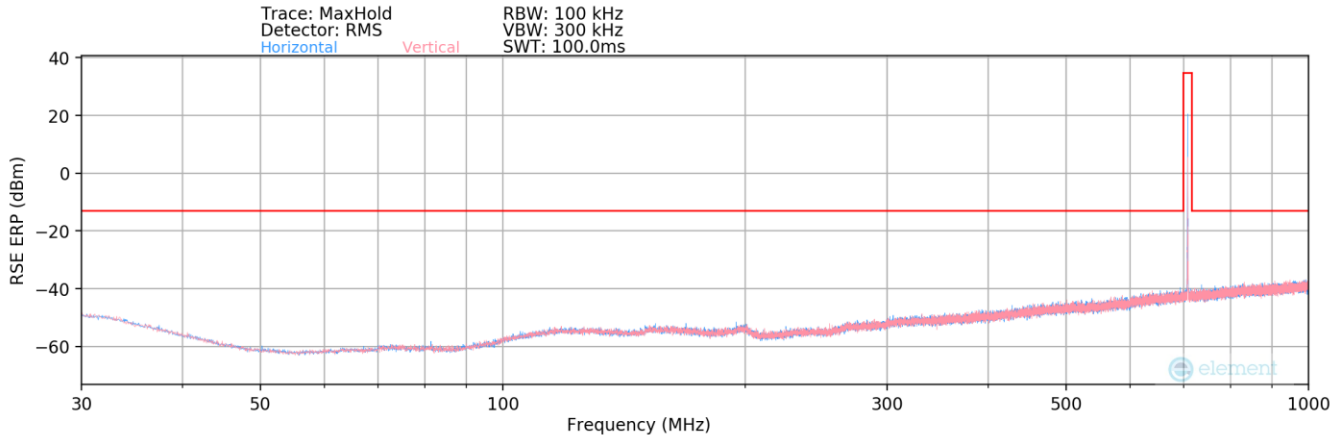
Bandwidth (MHz):	20
Frequency (MHz):	688
RB / Offset:	1 / 53
Detector / Trace Mode:	RMS / Average

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB μ V/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1376.00	H	313	33	-70.93	-6.78	29.29	-65.97	-13.00	-52.97
2064.00	H	194	301	-66.22	-2.56	38.22	-57.04	-13.00	-44.04
2752.00	H	-	-	-77.17	-2.84	26.99	-68.27	-13.00	-55.27
3440.00	H	-	-	-77.42	-0.82	28.76	-66.50	-13.00	-53.50
4128.00	H	-	-	-77.88	1.74	30.86	-64.40	-13.00	-51.40

Table 7-38. Radiated Spurious Data (NR Band n71 – High Channel – Ant4)

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2312040120-10.C3K	Test Dates: 1/4/2024 - 3/14/2024	EUT Type: Portable Computing Device	Page 151 of 174

NR Band n12 – Ant4

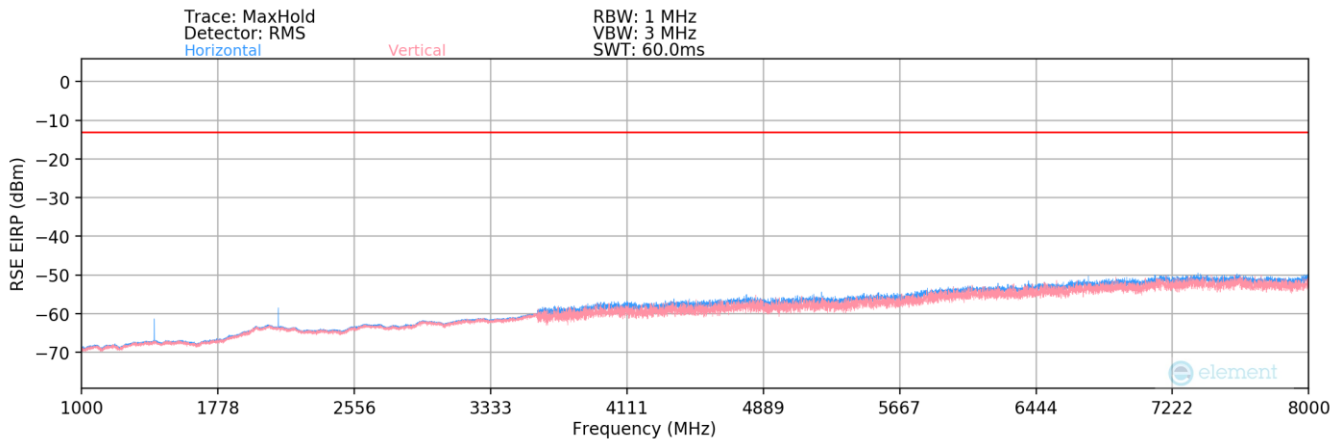


Plot 7-191. Radiated Spurious Plot Below 1GHz (NR Band n12 – Ant4)

Mode:	Stand Alone
Bandwidth (MHz):	15
Frequency (MHz):	707.5
Detector / Trace Mode:	RMS / Average

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]
826.00	H	-	-	-90.23	30.61	47.38	-50.02	-13.00	-37.02

Table 7-39. Radiated Spurious Data (NR Band n12 – Mid Channel – Ant4)



Plot 7-192. Radiated Spurious Plot Above 1GHz (NR Band n12 – Ant4)

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2312040120-10.C3K	Test Dates: 1/4/2024 - 3/14/2024	EUT Type: Portable Computing Device	Page 152 of 174

Bandwidth (MHz):	15
Frequency (MHz):	706.5
RB / Offset:	1 / 39
Detector / Trace Mode:	RMS / Average

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]
1413.00	H	284	20	-65.53	-6.68	34.79	-60.47	-13.00	-47.47
2119.50	H	142	301	-63.30	-2.71	40.99	-54.27	-13.00	-41.27
2826.00	H	-	-	-77.47	-2.65	26.88	-68.38	-13.00	-55.38
3532.50	H	-	-	-77.72	-0.21	29.07	-66.18	-13.00	-53.18
4239.00	H	-	-	-77.69	1.62	30.93	-64.32	-13.00	-51.32

Table 7-40. Radiated Spurious Data (NR Band n12 – Low Channel – Ant4)

Bandwidth (MHz):	15
Frequency (MHz):	707.5
RB / Offset:	1 / 39
Detector / Trace Mode:	RMS / Average

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]
1415.00	H	142	16	-65.40	-6.69	34.91	-60.35	-13.00	-47.35
2122.50	H	151	308	-66.59	-2.75	37.66	-57.59	-13.00	-44.59
2830.00	H	-	-	-77.66	-2.62	26.72	-68.53	-13.00	-55.53
3537.50	H	-	-	-77.69	-0.14	29.17	-66.09	-13.00	-53.09
4245.00	H	-	-	-77.74	1.69	30.95	-64.30	-13.00	-51.30

Table 7-41. Radiated Spurious Data (NR Band n12 – Mid Channel – Ant4)

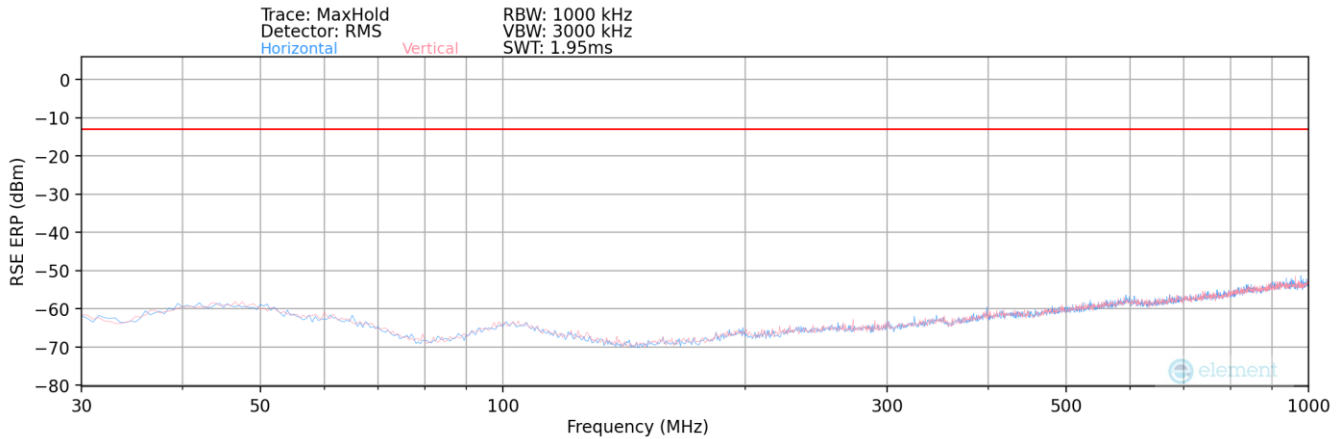
Bandwidth (MHz):	15
Frequency (MHz):	708.5
RB / Offset:	1 / 39
Detector / Trace Mode:	RMS / Average

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]
1417.00	H	146	1	-65.44	-6.70	34.86	-60.39	-13.00	-47.39
2125.50	H	145	296	-66.75	-2.78	37.47	-57.79	-13.00	-44.79
2834.00	H	-	-	-77.48	-2.59	26.93	-68.33	-13.00	-55.33
3542.50	H	-	-	-77.83	-0.06	29.11	-66.15	-13.00	-53.15
4251.00	H	-	-	-77.89	1.76	30.87	-64.38	-13.00	-51.38

Table 7-42. Radiated Spurious Data (NR Band n12 – High Channel – Ant4)

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2312040120-10.C3K	Test Dates: 1/4/2024 - 3/14/2024	EUT Type: Portable Computing Device	Page 153 of 174

WCDMA AWS – Ant1

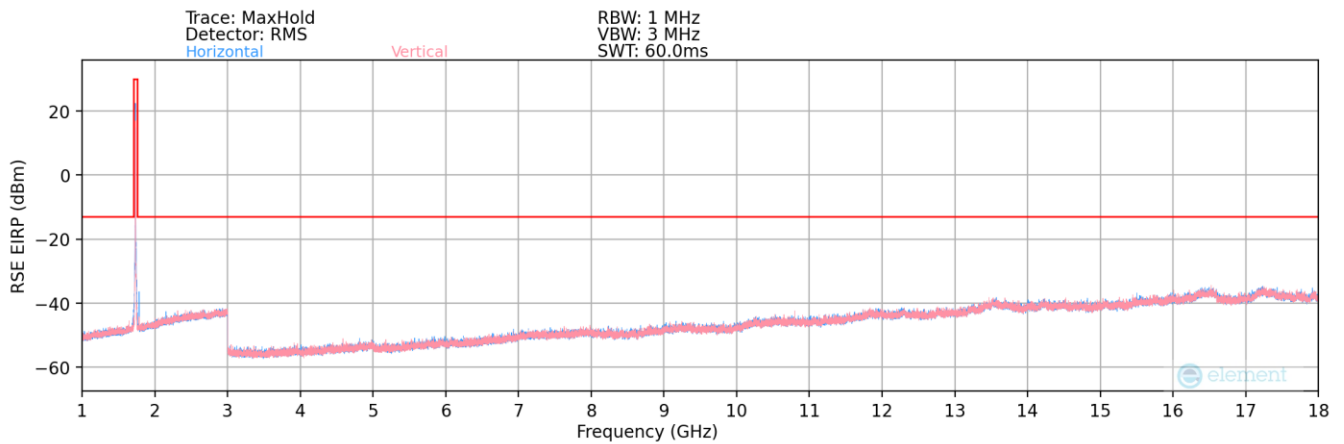


Plot 7-193. Radiated Spurious Plot Below 1GHz (WCDMA AWS – Ant1)

Mode:	WCDMA RMC
Channel:	1413
Frequency (MHz):	1732.6

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]
739.21	H	-	-	-76.79	-2.90	27.31	-70.10	-13.00	-57.10

Table 7-43. Radiated Spurious Data (WCDMA AWS – Mid Channel – Ant1)



Plot 7-194. Radiated Spurious Plot Above 1GHz (WCDMA AWS – Ant1)

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2312040120-10.C3K	Test Dates: 1/4/2024 - 3/14/2024	EUT Type: Portable Computing Device	Page 154 of 174



Mode:	WCDMA RMC
Channel:	1312
Frequency (MHz):	1712.4

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]
3424.80	H	-	-	-79.58	7.14	34.56	-60.70	-13.00	-47.70
5137.20	H	-	-	-81.22	10.64	36.42	-58.83	-13.00	-45.83
6849.60	H	-	-	-81.75	14.11	39.36	-55.90	-13.00	-42.90

7-44. Radiated Spurious Data (WCDMA AWS – Low Channel – Ant1)

Mode:	WCDMA RMC
Channel:	1413
Frequency (MHz):	1732.6

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]
3465.20	H	-	-	-79.40	6.92	34.52	-60.74	-13.00	-47.74
5197.80	H	103	70	-73.65	10.37	43.72	-51.53	-13.00	-38.53
6930.40	H	-	-	-81.73	13.80	39.07	-56.18	-13.00	-43.18
8663.00	H	-	-	-83.19	17.24	41.05	-54.21	-13.00	-41.21
10395.60	H	-	-	-83.21	19.97	43.76	-51.50	-13.00	-38.50

Table 7-45. Radiated Spurious Data (WCDMA AWS – Mid Channel – Ant1)

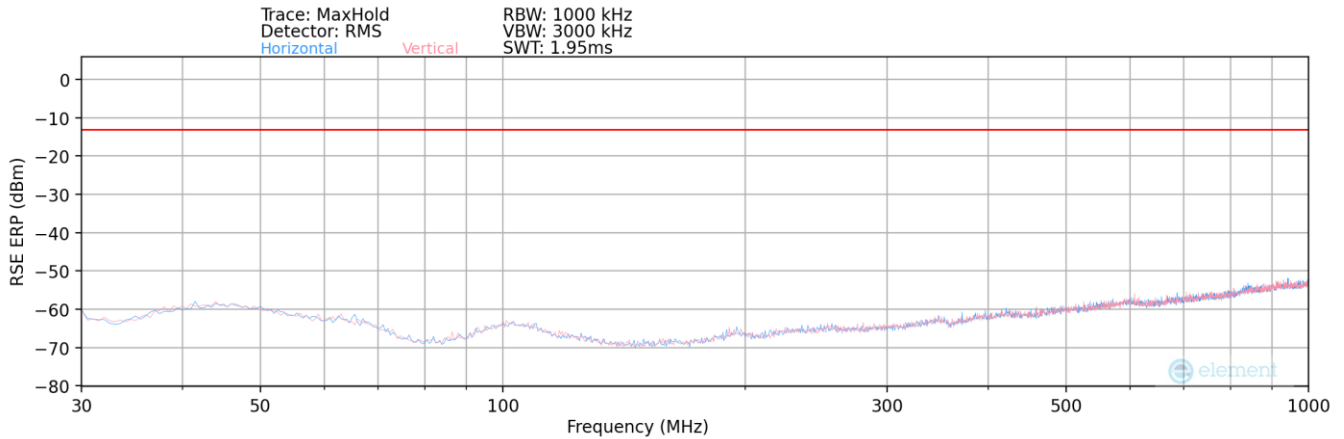
Mode:	WCDMA RMC
Channel:	1513
Frequency (MHz):	1752.6

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]
3505.20	H	-	-	-79.73	7.16	34.43	-60.83	-13.00	-47.83
5257.80	H	-	-	-81.16	10.24	36.08	-59.18	-13.00	-46.18
7010.40	H	-	-	-81.94	14.64	39.70	-55.56	-13.00	-42.56

Table 7-46. Radiated Spurious Data (WCDMA AWS – High Channel – Ant1)

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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LTE Band 66/4 – Ant1

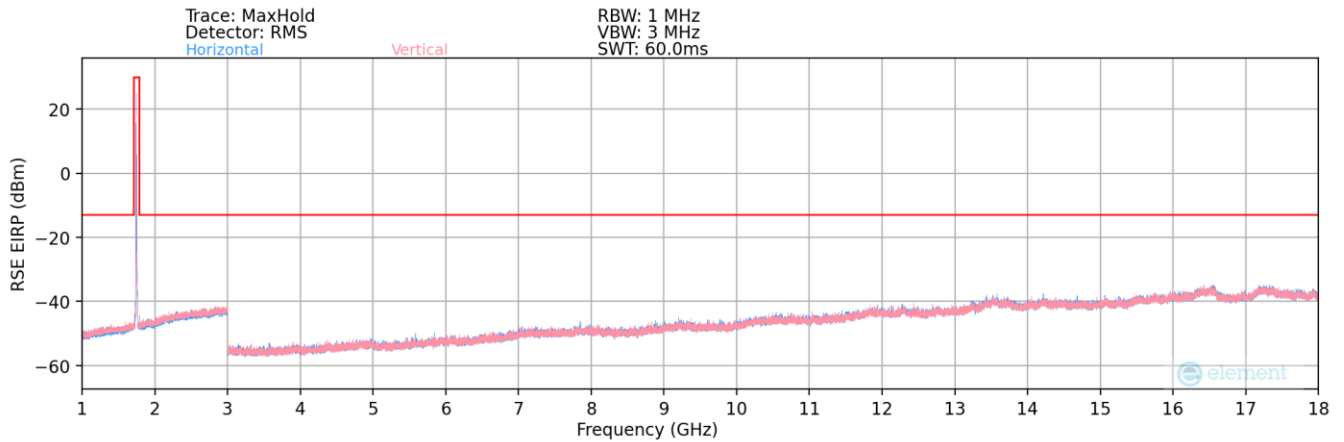


Plot 7-195. Radiated Spurious Plot Below 1GHz (LTE Band 66/4 – Ant1)

Bandwidth (MHz):	20
Frequency (MHz):	1745
RB / Offset:	1 / 50

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]
741.27	H	-	-	-76.87	-2.79	27.34	-70.06	-13.00	-57.06

Table 7-47. Radiated Spurious Data (LTE Band 66/4 – Mid Channel – Ant1)



Plot 7-196. Radiated Spurious Plot Above 1GHz (LTE Band 66/4 – Ant1)

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2312040120-10.C3K	Test Dates: 1/4/2024 - 3/14/2024	EUT Type: Portable Computing Device	Page 156 of 174



Bandwidth (MHz):	20
Frequency (MHz):	1720
RB / Offset:	1 / 50

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]
3440.00	H	104	226	-76.62	7.14	37.52	-57.74	-13.00	-44.74
5160.00	H	110	204	-65.08	10.63	52.55	-42.71	-13.00	-29.71
6880.00	H	-	-	-81.46	13.76	39.30	-55.96	-13.00	-42.96
8600.00	H	-	-	-82.88	16.92	41.04	-54.22	-13.00	-41.22
10320.00	H	-	-	-83.03	19.33	43.30	-51.96	-13.00	-38.96

Table 7-48. Radiated Spurious Data (LTE Band 66/4 – Low Channel – Ant1)

Bandwidth (MHz):	20
Frequency (MHz):	1745
RB / Offset:	1 / 50

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	103	221	-78.52	7.16	35.64	-59.62	-13.00	-46.62
5235.00	H	105	202	-65.59	10.18	51.59	-43.67	-13.00	-30.67
6980.00	H	-	-	-81.74	13.94	39.20	-56.06	-13.00	-43.06
8725.00	H	-	-	-82.64	16.55	40.91	-54.35	-13.00	-41.35
10470.00	H	-	-	-82.87	19.44	43.57	-51.69	-13.00	-38.69

Table 7-49. Radiated Spurious Data (LTE Band 66/4 – Mid Channel – Ant1)

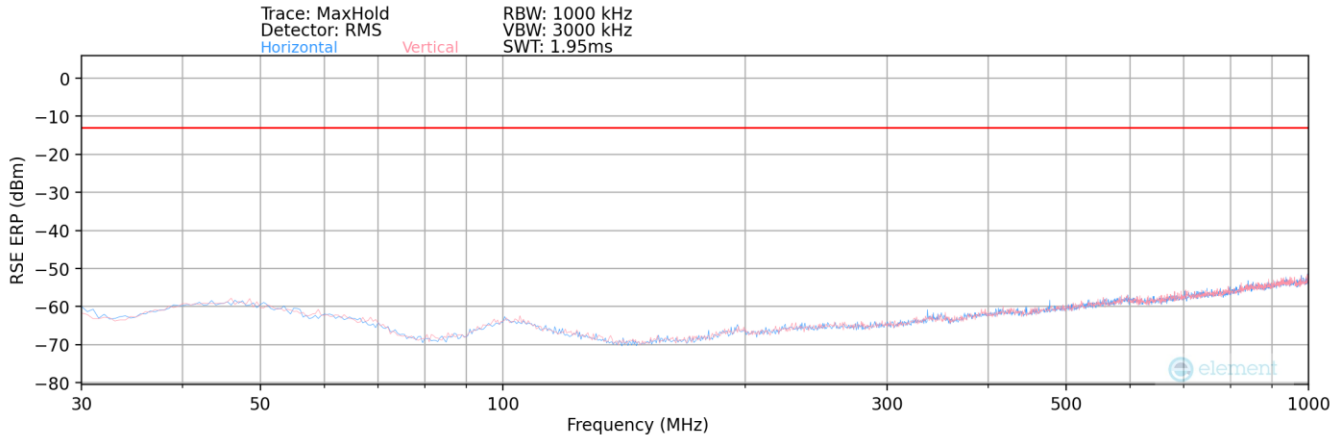
Bandwidth (MHz):	20
Frequency (MHz):	1770
RB / Offset:	1 / 50

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]
3540.00	H	128	220	-79.14	7.23	35.09	-60.16	-13.00	-47.16
5310.00	H	110	271	-70.33	10.69	47.36	-47.90	-13.00	-34.90
7080.00	H	-	-	-81.70	14.31	39.61	-55.64	-13.00	-42.64
8850.00	H	-	-	-82.93	16.63	40.70	-54.56	-13.00	-41.56
10620.00	H	-	-	-83.06	19.84	43.78	-51.48	-13.00	-38.48

Table 7-50. Radiated Spurious Data (LTE Band 66/4 – High Channel – Ant1)

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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NR Band n66 – Ant1

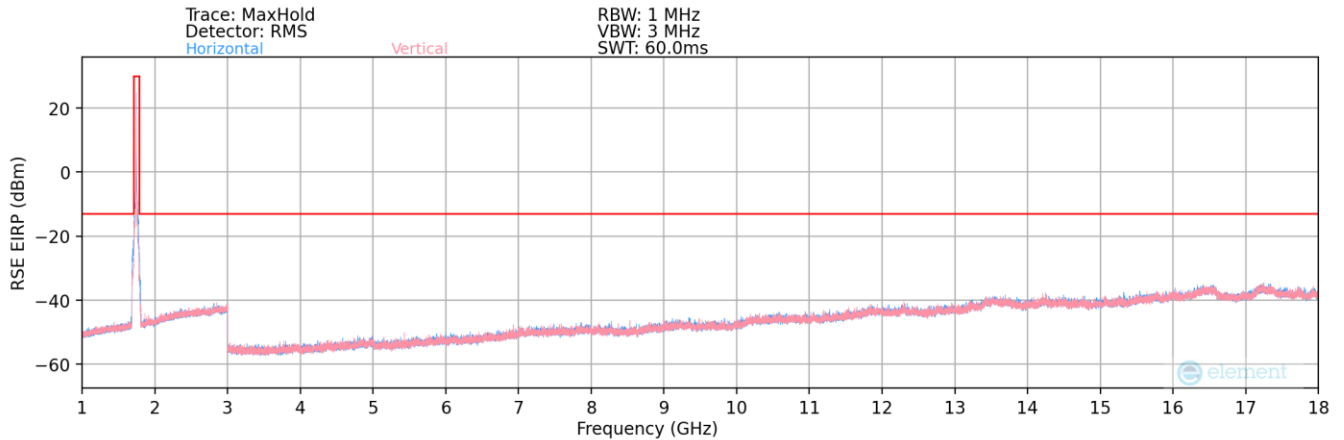


Plot 7-197. Radiated Spurious Plot Below 1GHz (NR Band n66 – Ant1)

Bandwidth (MHz):	40
Frequency (MHz):	1745
RB / Offset:	1 / 108
Detector / Trace Mode:	RMS / Average

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]
839.18	H	-	-	-77.02	-1.27	28.71	-68.70	-13.00	-55.70

Table 7-51. Radiated Spurious Data (NR Band n66 – Mid Channel – Ant1)



Plot 7-198. Radiated Spurious Plot Above 1GHz (NR Band n66 – Ant1)

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2312040120-10.C3K	Test Dates: 1/4/2024 - 3/14/2024	EUT Type: Portable Computing Device	Page 158 of 174



Bandwidth (MHz):	40
Frequency (MHz):	1730
RB / Offset:	1 / 108
Detector / Trace Mode:	RMS / Average

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	-	-	-79.62	6.92	34.30	-60.96	-13.00	-47.96
5190.00	H	112	68	-77.42	10.50	40.08	-55.18	-13.00	-42.18
6920.00	H	-	-	-81.73	13.72	38.99	-56.27	-13.00	-43.27
8650.00	H	-	-	-83.29	17.01	40.72	-54.54	-13.00	-41.54

Table 7-52. Radiated Spurious Data (NR Band n66 – Low Channel – Ant1)

Bandwidth (MHz):	40
Frequency (MHz):	1745
RB / Offset:	1 / 108
Detector / Trace Mode:	RMS / Average

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	-	-	-79.63	7.16	34.53	-60.73	-13.00	-47.73
5235.00	H	114	259	-80.39	10.18	36.79	-58.47	-13.00	-45.47
6980.00	H	-	-	-81.68	13.94	39.26	-56.00	-13.00	-43.00
8725.00	H	-	-	-82.66	16.55	40.89	-54.37	-13.00	-41.37

Table 7-53. Radiated Spurious Data (NR Band n66 – Mid Channel – Ant1)

Bandwidth (MHz):	40
Frequency (MHz):	1760
RB / Offset:	1 / 108
Detector / Trace Mode:	RMS / Average

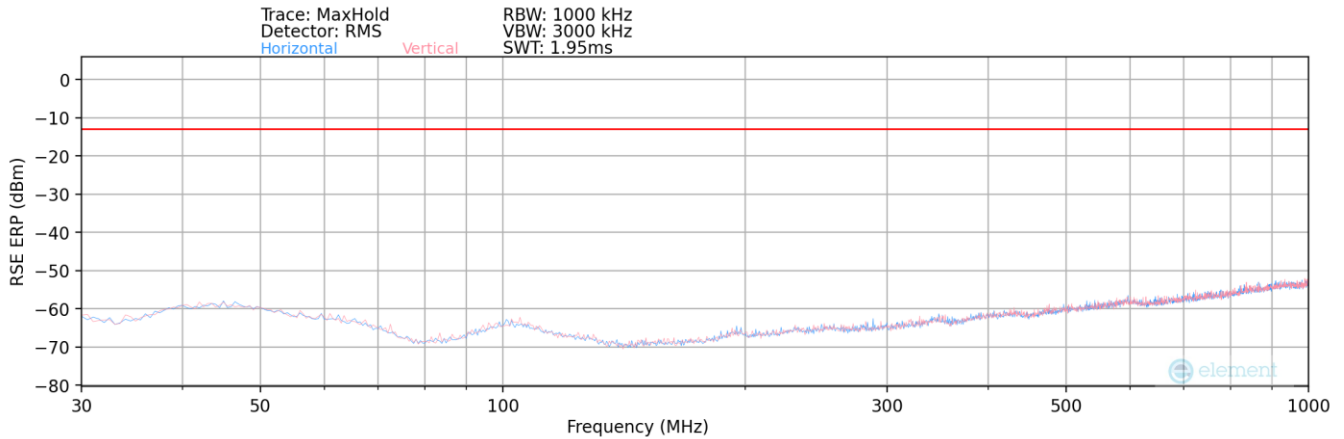
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3520.00	H	-	-	-79.90	7.10	34.20	-61.06	-13.00	-48.06
5280.00	H	174	289	-80.48	10.33	36.85	-58.40	-13.00	-45.40
7040.00	H	-	-	-82.08	14.85	39.77	-55.48	-13.00	-42.48
8800.00	H	-	-	-82.91	16.99	41.08	-54.18	-13.00	-41.18

Table 7-54. Radiated Spurious Data (NR Band n66 – High Channel – Ant1)

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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ULCA LTE Band 66 – Ant1



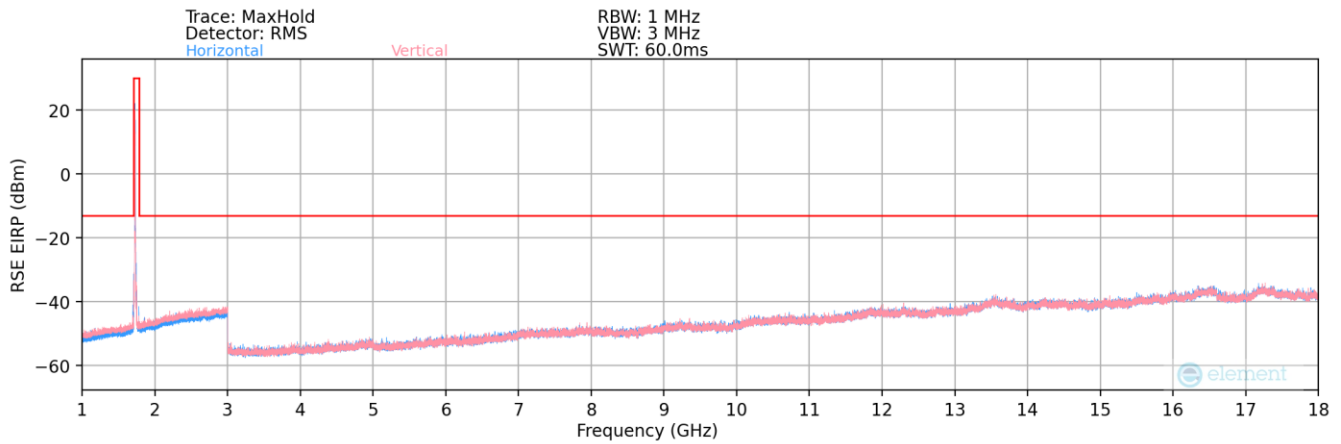
Plot 7-199. Radiated Spurious Plot Below 1GHz (ULCA LTE Band 66 – Ant1)

PCC Bandwidth (MHz):	20
PCC Frequency (MHz):	1745.0
PCC RB / Offset:	1 / 99
SCC Bandwidth (MHz):	20
SCC Frequency (MHz):	1764.8
SCC RB / Offset:	1 / 0

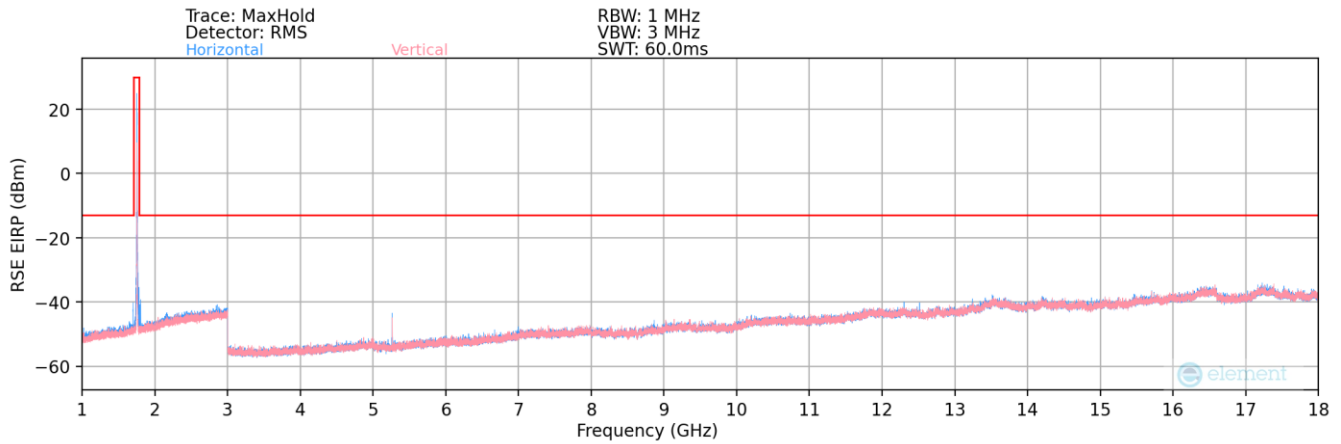
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	ERP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
728.12	H	-	-	-76.53	-3.05	27.42	-69.99	-13.00	-56.99

Table 7-55. Radiated Spurious Data (ULCA LTE Band 66 – Mid Channel – Ant1)

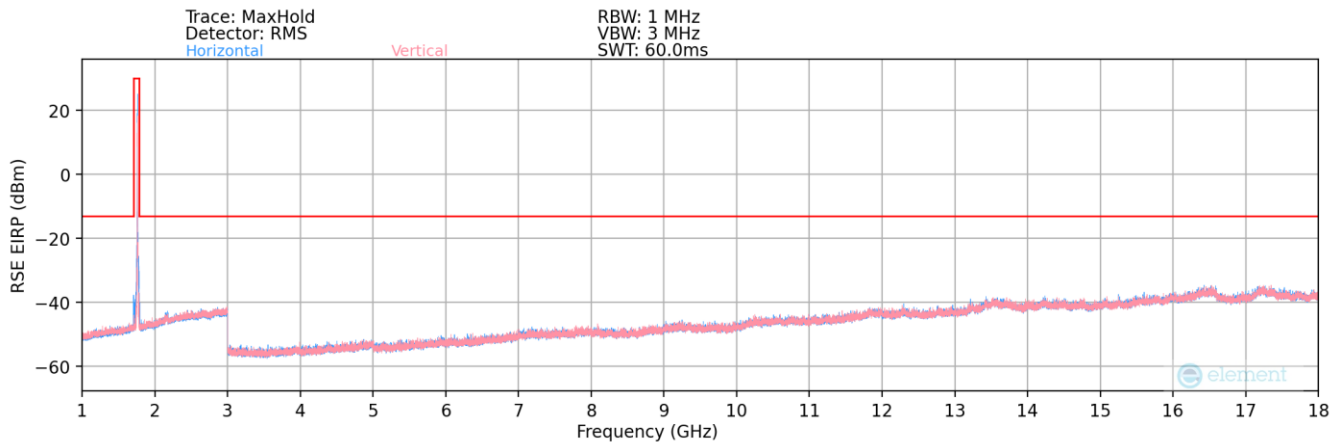
FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2312040120-10.C3K	Test Dates: 1/4/2024 - 3/14/2024	EUT Type: Portable Computing Device	Page 160 of 174



Plot 7-200. Radiated Spurious Plot Above 1GHz (ULCA LTE Band 66 – Low Channel – Ant1)



Plot 7-201. Radiated Spurious Plot Above 1GHz (ULCA LTE Band 66 – Mid Channel – Ant1)



Plot 7-202. Radiated Spurious Plot Above 1GHz (ULCA LTE Band 66 – High Channel – Ant1)

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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PCC Bandwidth (MHz):	20
PCC Frequency (MHz):	1720.0
PCC RB / Offset:	1 / 99
SCC Bandwidth (MHz):	20
SCC Frequency (MHz):	1739.8
SCC RB / Offset:	1 / 0

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]
3440.00	H	-	-	-79.58	7.14	34.56	-60.70	-13.00	-47.70
5160.00	H	134	276	-79.63	10.63	38.00	-57.26	-13.00	-44.26
6880.00	H	-	-	-81.94	13.76	38.82	-56.44	-13.00	-43.44
8600.00	H	-	-	-83.65	16.92	40.27	-54.99	-13.00	-41.99
10320.00	H	-	-	-82.89	19.33	43.44	-51.82	-13.00	-38.82

Table 7-56. Radiated Spurious Data (ULCA LTE Band 66 – Low Channel – Ant1)

PCC Bandwidth (MHz):	20
PCC Frequency (MHz):	1745.0
PCC RB / Offset:	1 / 99
SCC Bandwidth (MHz):	20
SCC Frequency (MHz):	1764.8
SCC RB / Offset:	1 / 0

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	-	-	-79.82	7.16	34.34	-60.92	-13.00	-47.92
5235.00	H	145	270	-72.10	10.18	45.08	-50.18	-13.00	-37.18
6980.00	H	-	-	-82.02	13.94	38.92	-56.34	-13.00	-43.34
8725.00	H	-	-	-83.11	16.55	40.44	-54.82	-13.00	-41.82
10470.00	H	-	-	-83.18	19.44	43.26	-52.00	-13.00	-39.00

Table 7-57. Radiated Spurious Data (ULCA LTE Band 66 – Mid Channel – Ant1)

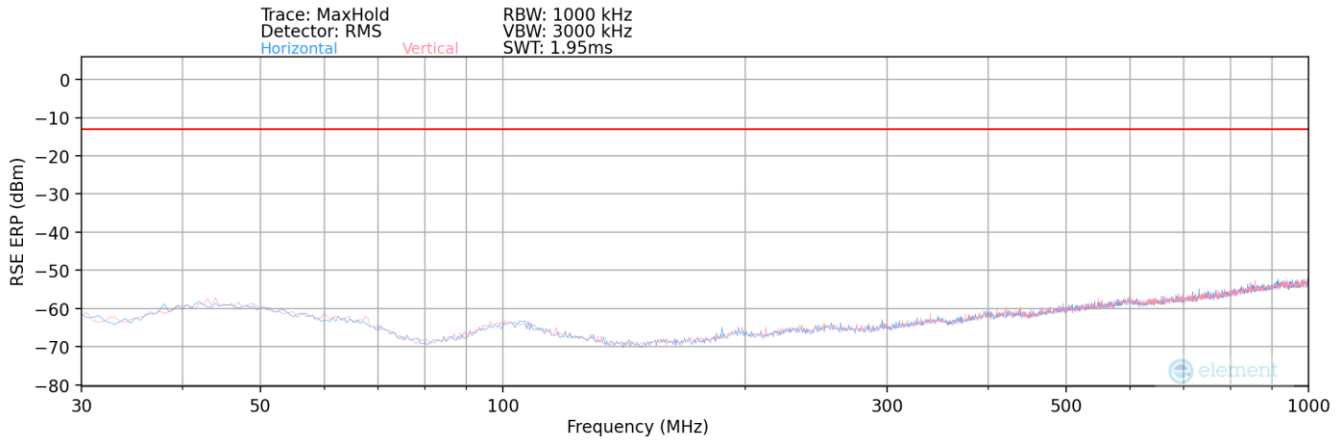
PCC Bandwidth (MHz):	20
PCC Frequency (MHz):	1770.0
PCC RB / Offset:	1 / 0
SCC Bandwidth (MHz):	20
SCC Frequency (MHz):	1750.2
SCC RB / Offset:	1 / 99

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]
3540.00	H	-	-	-80.10	7.23	34.13	-61.12	-13.00	-48.12
5310.00	H	-	-	-82.35	10.69	35.34	-59.92	-13.00	-46.92
7080.00	H	-	-	-82.43	14.31	38.88	-56.37	-13.00	-43.37

Table 7-58. Radiated Spurious Data (ULCA LTE Band 66 – High Channel – Ant1)

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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NR Band n66 – Ant4

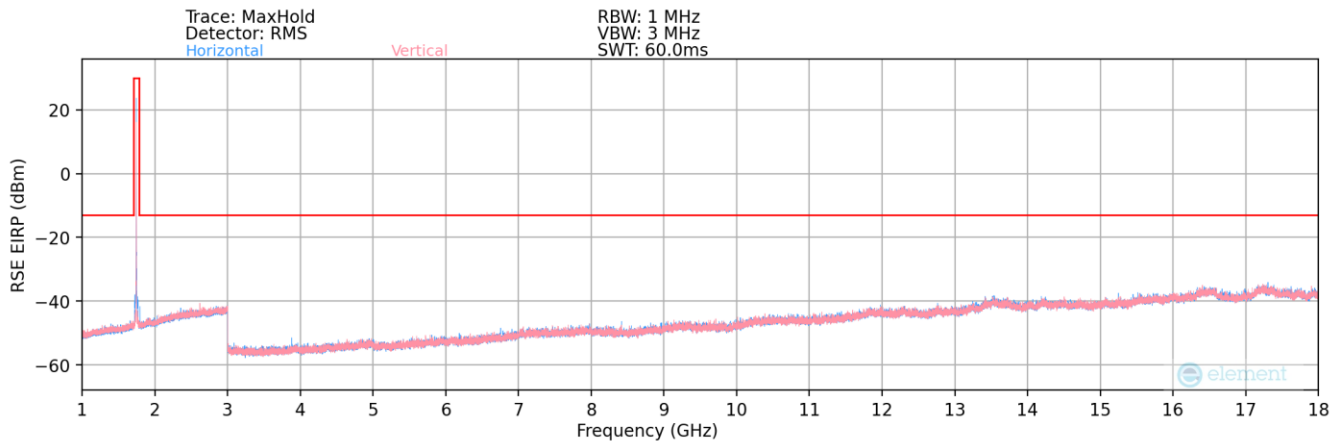


Plot 7-203. Radiated Spurious Plot Below 1GHz (NR Band n66 – Ant4)

Mode:	40
Channel:	1745
Frequency (MHz):	1 / 108
Detector / Trace Mode:	RMS / Average

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]
795.49	H	-	-	-77.16	-2.24	27.60	-69.81	-13.00	-56.81

Table 7-59. Radiated Spurious Data (NR Band n66 – Mid Channel – Ant4)



Plot 7-204. Radiated Spurious Plot Above 1GHz (NR Band n66 – Ant4)

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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Bandwidth (MHz):	40
Frequency (MHz):	1730
RB / Offset:	1 / 108
Detector / Trace Mode:	RMS / Average

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	-	-	-79.60	6.92	34.32	-60.94	-13.00	-47.94
5190.00	H	-	-	-80.87	10.50	36.63	-58.63	-13.00	-45.63
6920.00	H	-	-	-81.86	13.72	38.86	-56.40	-13.00	-43.40

Table 7-60. Radiated Spurious Data (NR Band n66 – Low Channel – Ant4)

Bandwidth (MHz):	40
Frequency (MHz):	1745
RB / Offset:	1 / 108
Detector / Trace Mode:	RMS / Average

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	-	-	-79.76	7.16	34.40	-60.86	-13.00	-47.86
5235.00	H	-	-	-81.31	10.18	35.87	-59.39	-13.00	-46.39
6980.00	H	-	-	-81.80	13.94	39.14	-56.12	-13.00	-43.12

Table 7-61. Radiated Spurious Data (NR Band n66 – Mid Channel – Ant4)

Bandwidth (MHz):	40
Frequency (MHz):	1760
RB / Offset:	1 / 108
Detector / Trace Mode:	RMS / Average

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	-	-	-79.84	7.10	34.26	-61.00	-13.00	-48.00
5280.00	H	-	-	-81.14	10.33	36.19	-59.06	-13.00	-46.06
7040.00	H	-	-	-82.18	14.85	39.67	-55.58	-13.00	-42.58

Table 7-62. Radiated Spurious Data (NR Band n66 – High Channel – Ant4)

FCC ID: C3K2077 IC: 3048A-2077	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.

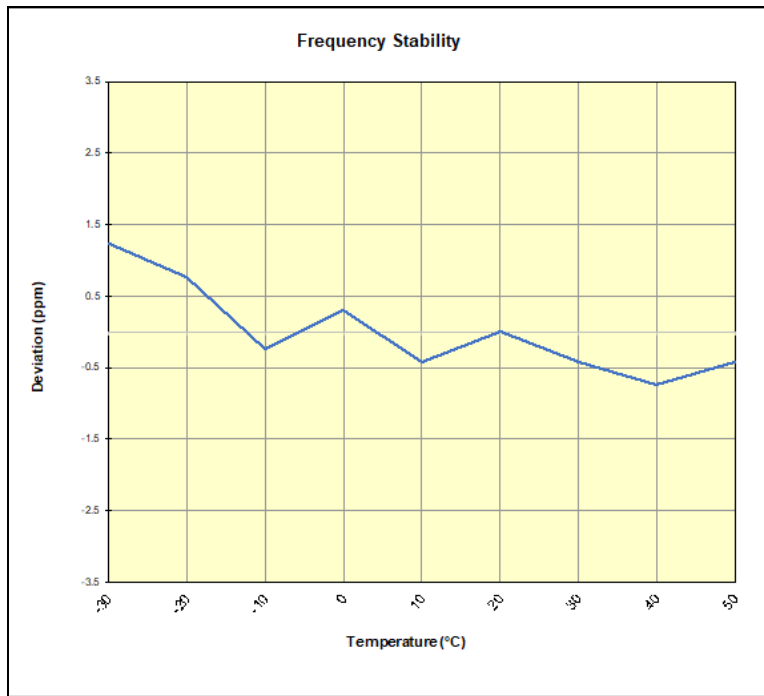
Test Notes

None

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2312040120-10.C3K	Test Dates: 1/4/2024 - 3/14/2024	EUT Type: Portable Computing Device	Page 165 of 174

LTE Band 71					
		Operating Frequency (Hz):		680,500,000	
		Ref. Voltage (VDC):		8.8	
		Deviation Limit:		± 0.00025% or 2.5 ppm	
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	8.8	- 30	680,503,127	842	0.0001238
		- 20	680,502,805	520	0.0000764
		- 10	680,502,128	-157	-0.0000231
		0	680,502,489	204	0.0000300
		+ 10	680,501,998	-287	-0.0000422
		+ 20 (Ref)	680,502,285	0	0.0000000
		+ 30	680,501,999	-286	-0.0000420
		+ 40	680,501,786	-499	-0.0000733
Battery Endpoint	6.0	+ 20	680,502,459	175	0.0000257

Table 7-63. LTE Band 71 Frequency Stability Data

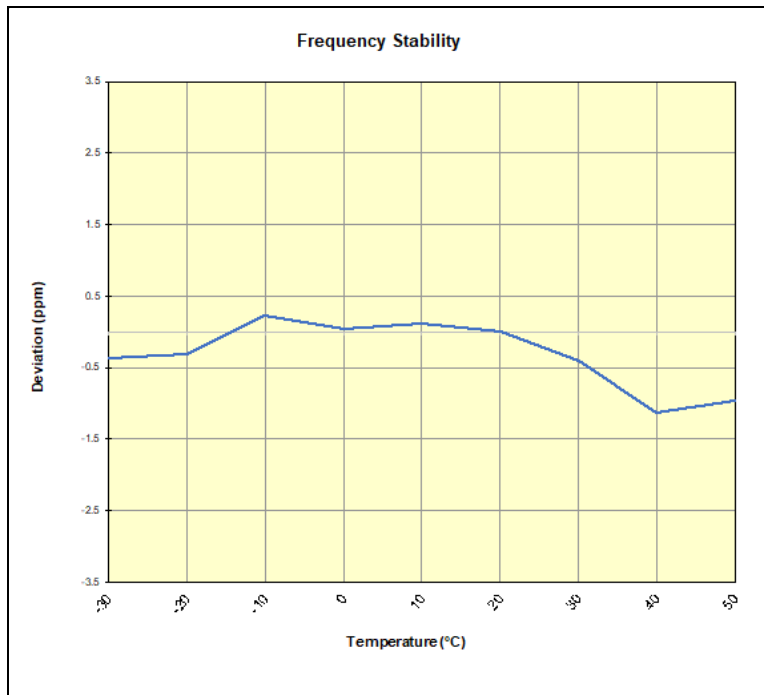


Plot 7-205. LTE Band 71 Frequency Stability Chart

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2312040120-10.C3K	Test Dates: 1/4/2024 - 3/14/2024	EUT Type: Portable Computing Device	Page 166 of 174

LTE Band 12					
		Operating Frequency (Hz):		707,500,000	
		Ref. Voltage (VDC):		8.8	
		Deviation Limit:		± 0.00025% or 2.5 ppm	
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	8.8	- 30	707,502,713	-260	-0.0000367
		- 20	707,502,751	-222	-0.0000313
		- 10	707,503,135	162	0.0000229
		0	707,502,996	23	0.0000033
		+ 10	707,503,056	83	0.0000117
		+ 20 (Ref)	707,502,973	0	0.0000000
		+ 30	707,502,682	-291	-0.0000412
		+ 40	707,502,170	-803	-0.0001135
Battery Endpoint	6.0	+ 20	707,503,065	92	0.0000130

Table 7-64. LTE Band 12 Frequency Stability Data

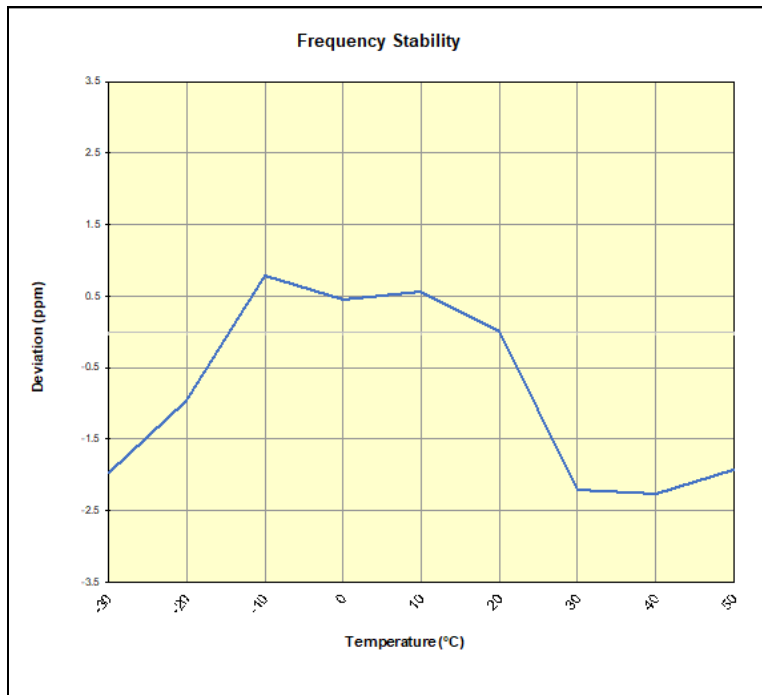


Plot 7-206. LTE Band 12 Frequency Stability Chart

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2312040120-10.C3K	Test Dates: 1/4/2024 - 3/14/2024	EUT Type: Portable Computing Device	Page 167 of 174

LTE Band 13					
		Operating Frequency (Hz):		782,000,000	
		Ref. Voltage (VDC):		8.8	
		Deviation Limit:		± 0.00025% or 2.5 ppm	
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	8.8	- 30	782,001,738	-1,540	-0.0001969
		- 20	782,002,531	-746	-0.0000954
		- 10	782,003,893	615	0.0000787
		0	782,003,629	352	0.0000450
		+ 10	782,003,724	446	0.0000570
		+ 20 (Ref)	782,003,278	0	0.0000000
		+ 30	782,001,555	-1,723	-0.0002203
		+ 40	782,001,509	-1,768	-0.0002261
Battery Endpoint	6.0	+ 20	782,003,566	289	0.0000369

Table 7-65. LTE Band 13 Frequency Stability Data

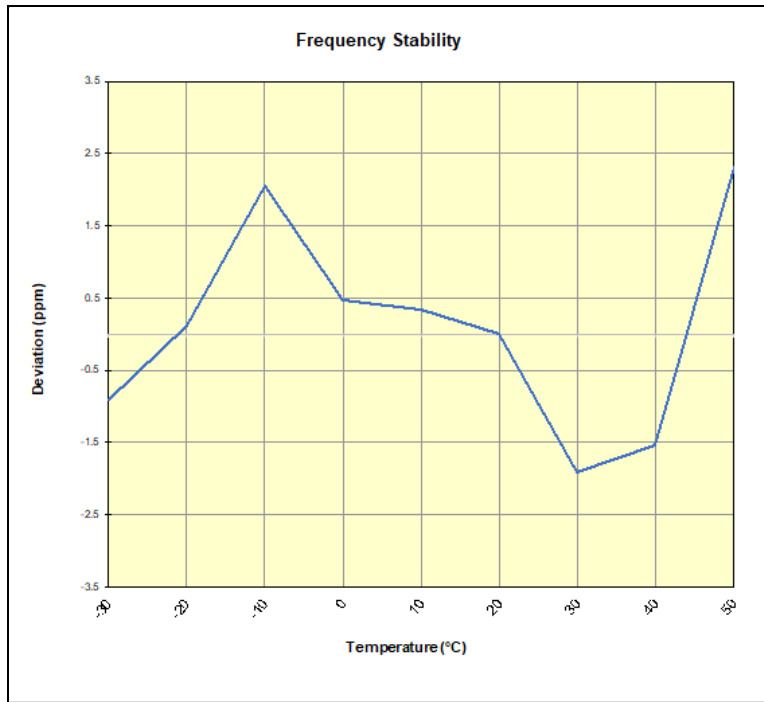


Plot 7-207. LTE Band 13 Frequency Stability Chart

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2312040120-10.C3K	Test Dates: 1/4/2024 - 3/14/2024	EUT Type: Portable Computing Device	Page 168 of 174

NR Band n71					
		Operating Frequency (Hz):		680,500,000	
		Ref. Voltage (VDC):		8.8	
		Deviation Limit:		± 0.00025% or 2.5 ppm	
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	8.8	- 30	680,491,875	-619	-0.0000910
		- 20	680,492,572	77	0.0000114
		- 10	680,493,889	1,394	0.0002049
		0	680,492,817	323	0.0000474
		+ 10	680,492,723	228	0.0000336
		+ 20 (Ref)	680,492,494	0	0.0000000
		+ 30	680,491,198	-1,297	-0.0001906
		+ 40	680,491,449	-1,046	-0.0001537
Battery Endpoint	6.0	+ 20	680,492,574	80	0.0000117

Table 7-66. NR Band n71 Frequency Stability Data

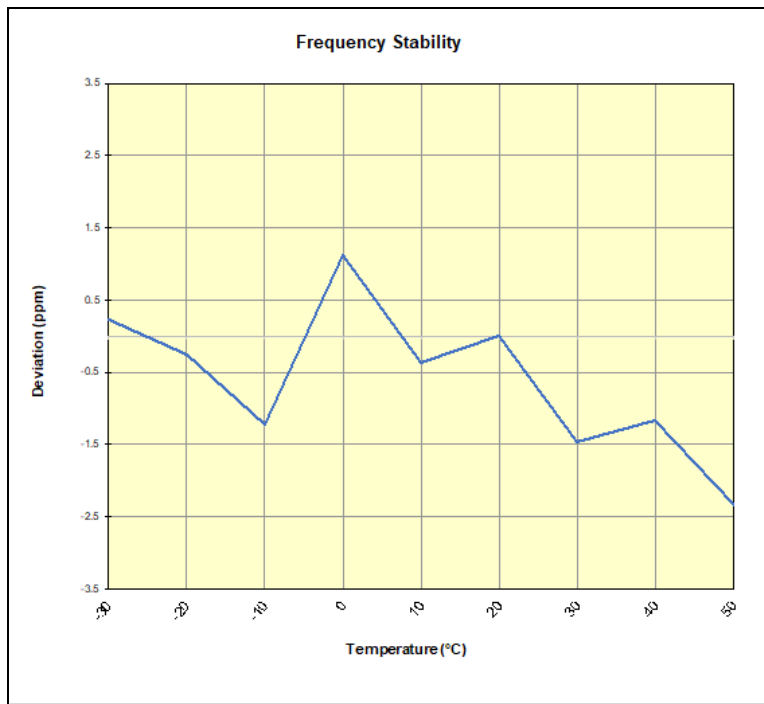


Plot 7-208. NR Band n71 Frequency Stability Chart

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2312040120-10.C3K	Test Dates: 1/4/2024 - 3/14/2024	EUT Type: Portable Computing Device	Page 169 of 174

NR Band n12					
		Operating Frequency (Hz):		707,500,000	
		Ref. Voltage (VDC):		8.8	
		Deviation Limit:		± 0.00025% or 2.5 ppm	
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	8.8	- 30	707,494,422	159	0.0000225
		- 20	707,494,081	-182	-0.0000258
		- 10	707,493,391	-872	-0.0001233
		0	707,495,050	787	0.0001112
		+ 10	707,494,000	-263	-0.0000371
		+ 20 (Ref)	707,494,263	0	0.0000000
		+ 30	707,493,230	-1,033	-0.0001460
		+ 40	707,493,433	-830	-0.0001173
Battery Endpoint	6.0	+ 20	707,493,747	-516	-0.0000730

Table 7-67. NR Band n12 Frequency Stability Data

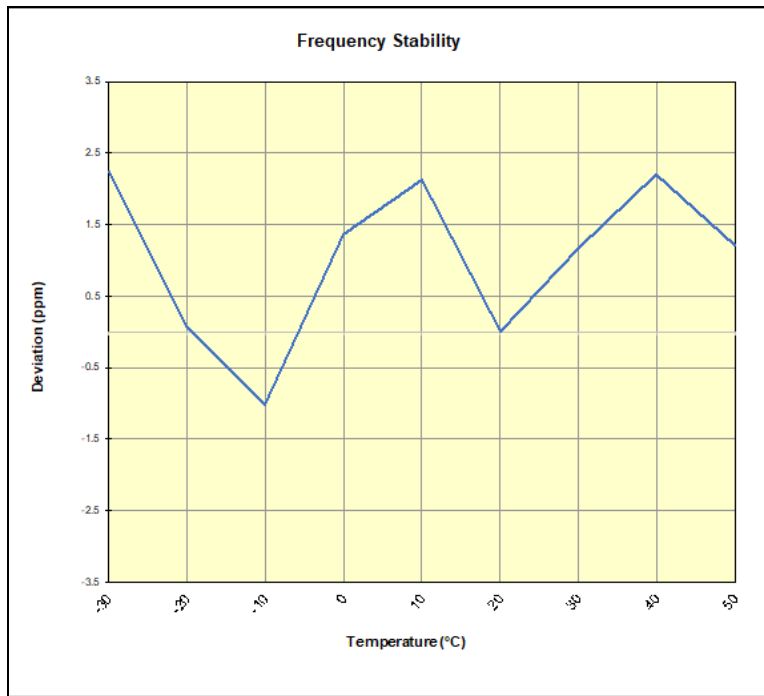


Plot 7-209. NR Band n12 Frequency Stability Chart

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2312040120-10.C3K	Test Dates: 1/4/2024 - 3/14/2024	EUT Type: Portable Computing Device	Page 170 of 174

WCDMA AWS					
		Operating Frequency (Hz):		1,732,600,000	
		Ref. Voltage (VDC):		8.8	
		Deviation Limit:		± 0.00025% or 2.5 ppm	
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	8.8	- 30	1,732,605,804	3,884	0.0002242
		- 20	1,732,602,044	125	0.0000072
		- 10	1,732,600,144	-1,776	-0.0001025
		0	1,732,604,284	2,364	0.0001365
		+ 10	1,732,605,615	3,696	0.0002133
		+ 20 (Ref)	1,732,601,919	0	0.0000000
		+ 30	1,732,603,942	2,022	0.0001167
		+ 40	1,732,605,729	3,809	0.0002199
Battery Endpoint	6.0	+ 20	1,732,605,175	3,256	0.0001879

Table 7-68. WCDMA AWS Frequency Stability Data

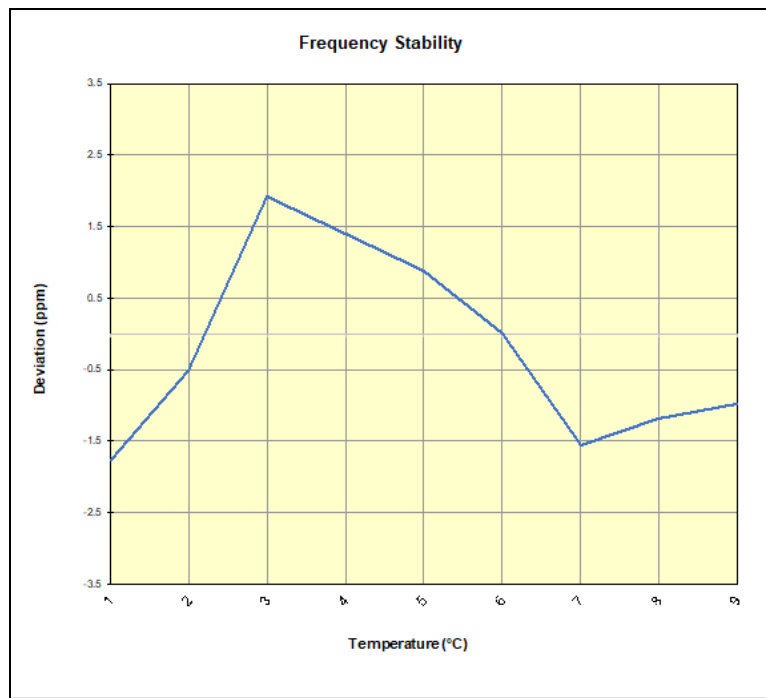


Plot 7-210. WCDMA AWS Frequency Stability Chart

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2312040120-10.C3K	Test Dates: 1/4/2024 - 3/14/2024	EUT Type: Portable Computing Device	Page 171 of 174

LTE Band 66/4					
Operating Frequency (Hz):		1,745,000,000			
Ref. Voltage (VDC):		8.8			
Deviation Limit:		± 0.00025% or 2.5 ppm			
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	8.8	- 30	1,745,001,175	-3,065	-0.0001756
		- 20	1,745,003,326	-914	-0.0000524
		- 10	1,745,007,600	3,361	0.0001926
		0	1,745,006,687	2,447	0.0001402
		+ 10	1,745,005,771	1,531	0.0000878
		+ 20 (Ref)	1,745,004,240	0	0.0000000
		+ 30	1,745,001,519	-2,720	-0.0001559
		+ 40	1,745,002,179	-2,060	-0.0001181
Battery Endpoint	6.0	+ 20	1,745,004,052	-188	-0.0000108

Table 7-69. LTE Band 66/4 Frequency Stability Data

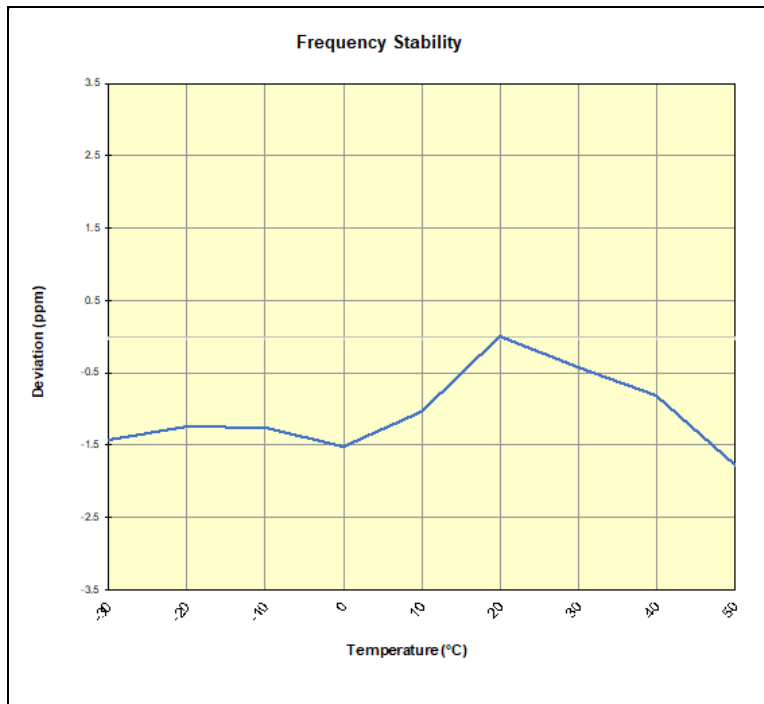


Plot 7-211. LTE Band 66/4 Frequency Stability Chart

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2312040120-10.C3K	Test Dates: 1/4/2024 - 3/14/2024	EUT Type: Portable Computing Device	Page 172 of 174

NR Band n66					
		Operating Frequency (Hz):		1,745,000,000	
		Ref. Voltage (VDC):		8.8	
		Deviation Limit:		± 0.00025% or 2.5 ppm	
Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	8.8	- 30	1,744,992,224	-2,503	-0.0001434
		- 20	1,744,992,557	-2,171	-0.0001244
		- 10	1,744,992,524	-2,203	-0.0001262
		0	1,744,992,059	-2,669	-0.0001529
		+ 10	1,744,992,914	-1,813	-0.0001039
		+ 20 (Ref)	1,744,994,727	0	0.0000000
		+ 30	1,744,993,997	-730	-0.0000418
		+ 40	1,744,993,318	-1,409	-0.0000807
Battery Endpoint	6.0	+ 20	1,744,992,975	-1,752	-0.0001004

Table 7-70. NR Band n66 Frequency Stability Data



Plot 7-212. NR Band n66 Frequency Stability Chart

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2312040120-10.C3K	Test Dates: 1/4/2024 - 3/14/2024	EUT Type: Portable Computing Device	Page 173 of 174

8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Microsoft Corporation Portable Computing Device FCC ID: C3K2077 / IC: 3048A-2077** complies with all the requirements of Part 27 of the FCC rules and RSS-130, RSS-139 of the ISED rules.

FCC ID: C3K2077 IC: 3048A-2077	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2312040120-10.C3K	Test Dates: 1/4/2024 - 3/14/2024	EUT Type: Portable Computing Device	Page 174 of 174