Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	EUT Config	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	π/2 BPSK	1730.0	V	Half	142	301	4.30	1 / 214	13.89	18.19	0.066	30.00	-11.81
	π/2 BPSK	1745.0	V	Half	146	289	4.39	1 / 1	14.20	**18.59**	0.072	30.00	-11.41
	π/2 BPSK	1760.0	V	Half	142	296	4.52	1 / 1	13.87	18.39	0.069	30.00	-11.61
	QPSK	1730.0	V	Half	142	301	4.30	1 / 214	13.88	18.18	0.066	30.00	-11.82
	QPSK	1745.0	V	Half	146	289	4.39	1 / 1	14.16	18.55	0.072	30.00	-11.45
	QPSK	1760.0	V	Half	142	296	4.52	1 / 1	13.79	18.31	0.068	30.00	-11.69
	16-QAM	1745.0	V	Half	146	289	4.39	1 / 1	12.90	17.29	0.054	30.00	-12.71
30 MHz	π/2 BPSK	1725.0	V	Half	142	301	4.37	1 / 1	13.83	18.19	0.066	30.00	-11.81
	π/2 BPSK	1745.0	V	Half	146	289	4.39	1 / 1	14.21	18.60	0.072	30.00	-11.40
	π/2 BPSK	1765.0	V	Half	142	296	4.53	1 / 158	14.00	18.52	0.071	30.00	-11.48
	QPSK	1725.0	V	Half	142	301	4.37	1 / 1	13.91	18.28	0.067	30.00	-11.72
	QPSK	1745.0	V	Half	146	289	4.39	1 / 1	13.90	18.29	0.067	30.00	-11.71
	QPSK	1765.0	V	Half	142	296	4.53	1 / 158	13.82	18.34	0.068	30.00	-11.66
	16-QAM	1745.0	V	Half	146	289	4.39	1 / 1	13.15	17.54	0.057	30.00	-12.46
25 MHz	π/2 BPSK	1722.5	V	Half	142	301	4.37	1 / 64	13.81	18.18	0.066	30.00	-11.82
	π/2 BPSK	1745.0	V	Half	146	289	4.39	1 / 1	14.14	18.53	0.071	30.00	-11.47
	π/2 BPSK	1767.5	V	Half	142	296	4.53	1 / 131	14.25	**18.78**	0.075	30.00	-11.22
	QPSK	1722.5	V	Half	142	301	4.37	1 / 64	13.86	18.23	0.066	30.00	-11.77
	QPSK	1745.0	V	Half	146	289	4.39	1 / 1	13.91	18.30	0.068	30.00	-11.70
	QPSK	1767.5	V	Half	142	296	4.53	1 / 131	13.74	18.27	0.067	30.00	-11.73
	16-QAM	1767.5	V	Half	142	296	4.53	1 / 131	12.90	17.42	0.055	30.00	-12.58
20 MHz	π/2 BPSK	1720.0	V	Half	142	301	4.44	1 / 1	13.99	18.43	0.070	30.00	-11.57
	π/2 BPSK	1745.0	V	Half	146	289	4.39	1 / 1	14.18	**18.57**	0.072	30.00	-11.43
	π/2 BPSK	1770.0	V	Half	142	296	4.53	1 / 104	13.92	18.45	0.070	30.00	-11.55
	QPSK	1720.0	V	Half	142	301	4.44	1 / 1	13.84	18.28	0.067	30.00	-11.72
	QPSK	1745.0	V	Half	146	289	4.39	1 / 1	13.90	18.29	0.068	30.00	-11.71
	QPSK	1770.0	V	Half	142	296	4.53	1 / 104	13.71	18.24	0.067	30.00	-11.76
	16-QAM	1745.0	V	Half	146	289	4.39	1 / 1	12.67	17.06	0.051	30.00	-12.94
15 MHz	π/2 BPSK	1717.5	V	Half	142	301	4.39	1 / 77	13.93	18.32	0.068	30.00	-11.68
	π/2 BPSK	1745.0	V	Half	146	289	4.39	1 / 1	14.11	18.50	0.071	30.00	-11.50
	π/2 BPSK	1772.5	V	Half	142	296	4.51	1 / 77	14.08	**18.59**	0.072	30.00	-11.41
	QPSK	1717.5	V	Half	142	301	4.39	1 / 77	13.93	18.31	0.068	30.00	-11.69
	QPSK	1745.0	V	Half	146	289	4.39	1 / 1	13.91	18.30	0.068	30.00	-11.70
	QPSK	1772.5	V	Half	142	296	4.51	1 / 77	13.87	18.38	0.069	30.00	-11.62
	16-QAM	1772.5	V	Half	142	296	4.51	1 / 77	12.82	17.33	0.054	30.00	-12.67
10 MHz	π/2 BPSK	1715.0	V	Half	142	301	4.34	1 / 50	13.97	18.31	0.068	30.00	-11.69
	π/2 BPSK	1745.0	V	Half	146	289	4.39	1 / 1	13.83	18.22	0.066	30.00	-11.78
	π/2 BPSK	1775.0	V	Half	142	296	4.49	1 / 50	14.05	**18.54**	0.071	30.00	-11.46
	QPSK	1715.0	V	Half	142	301	4.34	1 / 50	13.97	18.31	0.068	30.00	-11.69
	QPSK	1745.0	V	Half	146	289	4.39	1 / 1	13.72	18.11	0.065	30.00	-11.89
	QPSK	1775.0	V	Half	142	296	4.49	1 / 50	13.81	18.31	0.068	30.00	-11.69
	16-QAM	1775.0	V	Half	142	296	4.49	1 / 50	13.11	17.60	0.058	30.00	-12.40
5 MHz	π/2 BPSK	1712.5	V	Half	142	301	4.30	1 / 23	14.18	18.47	0.070	30.00	-11.53
	π/2 BPSK	1745.0	V	Half	146	289	4.39	1 / 23	14.21	**18.60**	0.072	30.00	-11.40
	π/2 BPSK	1777.5	V	Half	142	296	4.47	1 / 23	13.92	18.40	0.069	30.00	-11.60
	QPSK	1712.5	V	Half	142	301	4.30	1 / 23	13.92	18.21	0.066	30.00	-11.79
	QPSK	1745.0	V	Half	146	289	4.39	1 / 23	13.69	18.08	0.064	30.00	-11.92
	QPSK	1777.5	V	Half	142	296	4.47	1 / 23	13.74	18.22	0.066	30.00	-11.78
	16-QAM	1745.0	V	Half	146	289	4.39	1 / 23	12.90	17.29	0.054	30.00	-12.71
40 MHz	QPSK (CP-OFDM)	1745.0	V	Half	146	289	4.39	1 / 1	12.70	17.09	0.051	30.00	-12.91
	QPSK (Opposite Pol.)	1745.0	H	Half	197	181	4.39	1 / 161	13.66	18.05	0.064	30.00	-11.95
	QPSK (WCP)	1745.0	V	Half	146	237	4.39	1 / 54	11.49	15.88	0.039	30.00	-14.12
	QPSK	1760.0	H	Open	109	174	4.52	1 / 108	13.78	18.30	0.068	30.00	-11.70

Table 7-21. EIRP Data (NR Band n66 – Ant A)

Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	EUT Config	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	1720.0	V	Half	149	274	4.44	1 / 99	13.78	18.22	0.066	30.00	-11.78
	QPSK	1745.0	V	Half	143	266	4.39	1 / 99	15.15	**19.54**	0.090	30.00	-10.46
	QPSK	1770.0	V	Half	135	266	4.53	1 / 0	14.20	18.73	0.075	30.00	-11.27
	16-QAM	1745.0	V	Half	143	266	4.39	1 / 99	14.50	18.89	0.077	30.00	-11.11
15 MHz	QPSK	1717.5	V	Half	149	274	4.39	1 / 74	13.97	18.36	0.069	30.00	-11.64
	QPSK	1745.0	V	Half	143	266	4.39	1 / 74	15.26	**19.65**	0.092	30.00	-10.35
	QPSK	1772.5	V	Half	135	266	4.51	1 / 74	14.24	18.75	0.075	30.00	-11.25
	16-QAM	1745.0	V	Half	143	266	4.39	1 / 74	14.39	18.78	0.076	30.00	-11.22
10 MHz	QPSK	1715.0	V	Half	149	274	4.34	1 / 49	13.98	18.32	0.068	30.00	-11.68
	QPSK	1745.0	V	Half	143	266	4.39	1 / 25	15.29	**19.68**	0.093	30.00	-10.32
	QPSK	1775.0	V	Half	135	266	4.49	1 / 25	14.40	18.89	0.077	30.00	-11.11
	16-QAM	1745.0	V	Half	143	266	4.39	1 / 25	14.36	18.75	0.075	30.00	-11.25
5 MHz	QPSK	1712.5	V	Half	149	274	4.30	1 / 24	14.22	18.51	0.071	30.00	-11.49
	QPSK	1745.0	V	Half	143	266	4.39	1 / 12	15.42	**19.81**	0.096	30.00	-10.19
	QPSK	1777.5	V	Half	135	266	4.47	1 / 12	14.55	19.03	0.080	30.00	-10.97
	16-QAM	1745.0	V	Half	143	266	4.39	1 / 12	14.72	19.11	0.081	30.00	-10.89
3 MHz	QPSK	1711.5	V	Half	149	274	4.28	1 / 7	14.36	18.64	0.073	30.00	-11.36
	QPSK	1745.0	V	Half	143	266	4.39	1 / 14	15.22	**19.61**	0.091	30.00	-10.39
	QPSK	1778.5	V	Half	135	266	4.47	1 / 14	14.40	18.87	0.077	30.00	-11.13
	16-QAM	1745.0	V	Half	143	266	4.39	1 / 14	14.34	18.73	0.075	30.00	-11.27
1.4 MHz	QPSK	1710.7	V	Half	149	274	4.26	1 / 3	14.03	18.30	0.068	30.00	-11.70
	QPSK	1745.0	V	Half	143	266	4.39	1 / 0	15.30	**19.69**	0.093	30.00	-10.31
	QPSK	1779.3	V	Half	135	266	4.46	1 / 3	14.47	18.93	0.078	30.00	-11.07
	16-QAM	1745.0	V	Half	143	266	4.39	1 / 0	14.34	18.73	0.075	30.00	-11.27
20 MHz	QPSK (Opposite Pol.)	1745.0	H	Half	185	241	4.39	1 / 99	14.59	18.98	0.079	30.00	-11.02
	QPSK (WCP)	1745.0	V	Half	198	282	4.39	1 / 99	14.84	19.23	0.084	30.00	-10.77
	QPSK	1770.0	V	Open	164	258	4.53	1 / 50	14.92	19.45	0.088	30.00	-10.55

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

Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	EUT Config	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	π/2 BPSK	1730.0	H	Open	168	271	4.30	1 / 1	13.54	17.84	0.061	30.00	-12.16
	π/2 BPSK	1745.0	H	Open	167	265	4.39	1 / 214	13.74	**18.13**	0.065	30.00	-11.87
	π/2 BPSK	1760.0	H	Open	164	264	4.52	1 / 1	13.56	18.08	0.064	30.00	-11.92
	QPSK	1730.0	H	Open	168	271	4.30	1 / 1	13.45	17.75	0.060	30.00	-12.25
	QPSK	1745.0	H	Open	167	265	4.39	1 / 214	13.65	18.04	0.064	30.00	-11.96
	QPSK	1760.0	H	Open	164	264	4.52	1 / 1	13.50	18.02	0.063	30.00	-11.98
	16-QAM	1745.0	H	Open	167	265	4.39	1 / 214	12.96	17.35	0.054	30.00	-12.65
30 MHz	π/2 BPSK	1725.0	H	Open	168	271	4.37	1 / 80	13.65	18.02	0.063	30.00	-11.98
	π/2 BPSK	1745.0	H	Open	167	265	4.39	1 / 1	13.98	18.37	0.069	30.00	-11.63
	π/2 BPSK	1765.0	H	Open	164	264	4.53	1 / 158	13.67	18.20	0.066	30.00	-11.80
	QPSK	1725.0	H	Open	168	271	4.37	1 / 80	13.50	17.86	0.061	30.00	-12.14
	QPSK	1745.0	H	Open	167	265	4.39	1 / 1	13.36	17.75	0.060	30.00	-12.25
	QPSK	1765.0	H	Open	164	264	4.53	1 / 158	13.80	18.32	0.068	30.00	-11.68
	16-QAM	1745.0	H	Open	167	265	4.39	1 / 1	13.45	17.84	0.061	30.00	-12.16
25 MHz	π/2 BPSK	1722.5	H	Open	168	271	4.37	1 / 131	14.01	18.38	0.069	30.00	-11.62
	π/2 BPSK	1745.0	H	Open	167	265	4.39	1 / 1	13.79	18.18	0.066	30.00	-11.82
	π/2 BPSK	1767.5	H	Open	164	264	4.53	1 / 131	13.58	18.10	0.065	30.00	-11.90
	QPSK	1722.5	H	Open	168	271	4.37	1 / 131	13.34	17.71	0.059	30.00	-12.29
	QPSK	1745.0	H	Open	167	265	4.39	1 / 1	13.43	17.82	0.061	30.00	-12.18
	QPSK	1767.5	H	Open	164	264	4.53	1 / 131	14.13	18.65	0.073	30.00	-11.35
	16-QAM	1767.5	H	Open	164	264	4.53	1 / 131	12.20	16.72	0.047	30.00	-13.28
20 MHz	π/2 BPSK	1720.0	H	Open	168	271	4.44	1 / 104	13.54	17.98	0.063	30.00	-12.02
	π/2 BPSK	1745.0	H	Open	167	265	4.39	1 / 1	13.79	18.18	0.066	30.00	-11.82
	π/2 BPSK	1770.0	H	Open	164	264	4.53	1 / 104	13.57	18.10	0.065	30.00	-11.90
	QPSK	1720.0	H	Open	168	271	4.44	1 / 104	13.27	17.71	0.059	30.00	-12.29
	QPSK	1745.0	H	Open	167	265	4.39	1 / 1	13.43	17.82	0.061	30.00	-12.18
	QPSK	1770.0	H	Open	164	264	4.53	1 / 104	14.13	**18.65**	0.073	30.00	-11.35
	16-QAM	1770.0	H	Open	164	264	4.53	1 / 104	12.20	16.73	0.047	30.00	-13.27
15 MHz	π/2 BPSK	1717.5	H	Open	168	271	4.39	1 / 77	13.44	17.83	0.061	30.00	-12.17
	π/2 BPSK	1745.0	H	Open	167	265	4.39	1 / 1	13.27	17.66	0.058	30.00	-12.34
	π/2 BPSK	1772.5	H	Open	164	264	4.51	1 / 77	13.64	**18.15**	0.065	30.00	-11.85
	QPSK	1717.5	H	Open	168	271	4.39	1 / 77	13.24	17.63	0.058	30.00	-12.37
	QPSK	1745.0	H	Open	167	265	4.39	1 / 1	13.14	17.53	0.057	30.00	-12.47
	QPSK	1772.5	H	Open	164	264	4.51	1 / 77	13.49	18.00	0.063	30.00	-12.00
	16-QAM	1772.5	H	Open	164	264	4.51	1 / 77	12.61	17.12	0.052	30.00	-12.88
10 MHz	π/2 BPSK	1715.0	H	Open	168	271	4.34	1 / 50	13.43	17.77	0.060	30.00	-12.23
	π/2 BPSK	1745.0	H	Open	167	265	4.39	1 / 1	13.09	17.48	0.056	30.00	-12.52
	π/2 BPSK	1775.0	H	Open	164	264	4.49	1 / 50	13.34	17.83	0.061	30.00	-12.17
	QPSK	1715.0	H	Open	168	271	4.34	1 / 50	13.27	17.62	0.058	30.00	-12.38
	QPSK	1745.0	H	Open	167	265	4.39	1 / 1	12.94	17.33	0.054	30.00	-12.67
	QPSK	1775.0	H	Open	164	264	4.49	1 / 50	13.76	**18.25**	0.067	30.00	-11.75
	16-QAM	1775.0	H	Open	164	264	4.49	1 / 50	11.83	16.32	0.043	30.00	-13.68
5 MHz	π/2 BPSK	1712.5	H	Open	168	271	4.30	1 / 23	13.40	17.69	0.059	30.00	-12.31
	π/2 BPSK	1745.0	H	Open	167	265	4.39	1 / 1	13.01	17.40	0.055	30.00	-12.60
	π/2 BPSK	1777.5	H	Open	164	264	4.47	1 / 23	13.59	18.06	0.064	30.00	-11.94
	QPSK	1712.5	H	Open	168	271	4.30	1 / 23	13.26	17.56	0.057	30.00	-12.44
	QPSK	1745.0	H	Open	167	265	4.39	1 / 1	12.65	17.04	0.051	30.00	-12.96
	QPSK	1777.5	H	Open	164	264	4.47	1 / 23	13.60	**18.07**	0.064	30.00	-11.93
	16-QAM	1777.5	H	Open	164	264	4.47	1 / 23	12.24	16.71	0.047	30.00	-13.29
40 MHz	QPSK (CP-OFDM)	1745.0	H	Open	167	265	4.39	1 / 214	11.79	16.18	0.041	30.00	-13.82
	QPSK (Opposite Pol.)	1745.0	V	Open	222	259	4.39	1 / 214	12.93	17.32	0.054	30.00	-12.68
	QPSK (WCP)	1745.0	H	Open	162	287	4.39	1 / 108	13.54	17.93	0.062	30.00	-12.07
	QPSK	1760.0	V	Half	139	273	4.52	1 / 161	13.48	18.00	0.063	30.00	-12.00

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

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 ≥ 3 x RBW
3. Span = 1.5 times the OBW
4. No. of sweep points ≥ 2 x span / RBW
5. Detector = RMS
6. Trace mode = Average (Max Hold for pulsed emissions)
7. The trace was allowed to stabilize

Test Setup

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

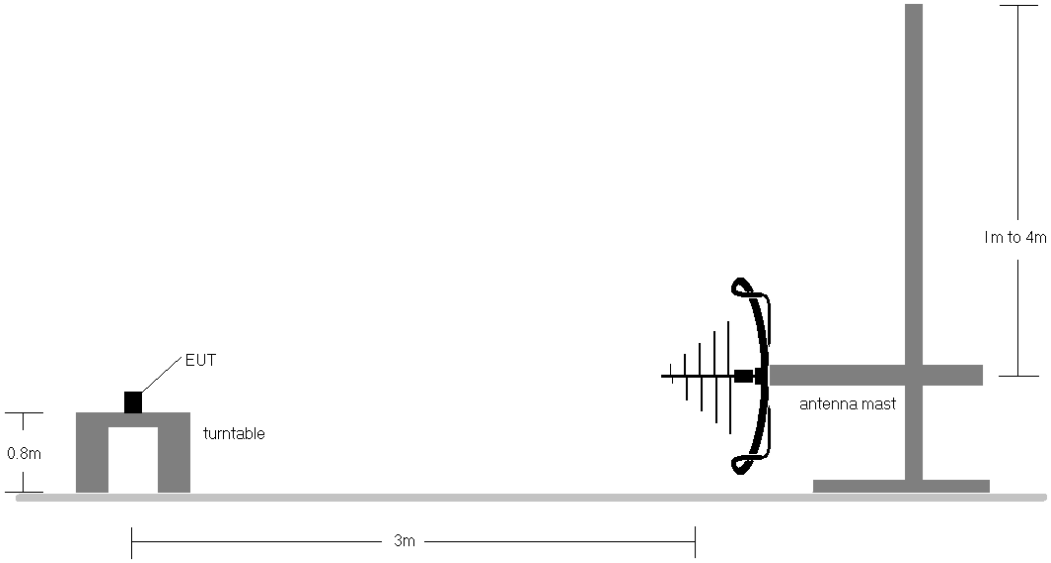


Figure 7-8. Test Instrument & Measurement Setup < 1GHz

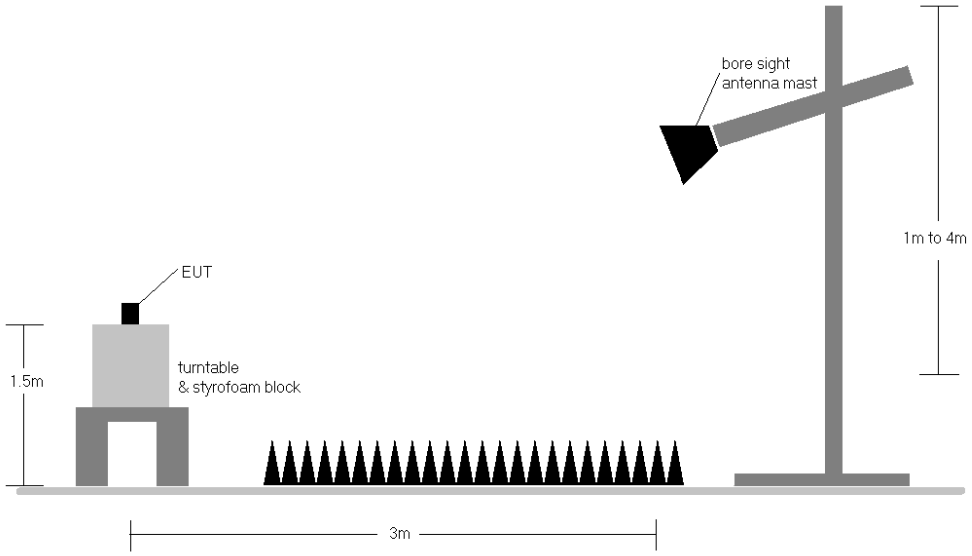


Figure 7-9. Test Instrument & Measurement Setup > 1GHz

Test Notes

1) Field strengths are calculated using the Measurement quantity conversions in ANSI C63.26-2015 Section 5.2.7:
   a) E(dBµV/m) = Measured amplitude level (dBm) + 107 + Cable Loss (dB) + Antenna Factor (dB/m)
   b) EIRP (dBm) = E(dBµV/m) + 20logD – 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.

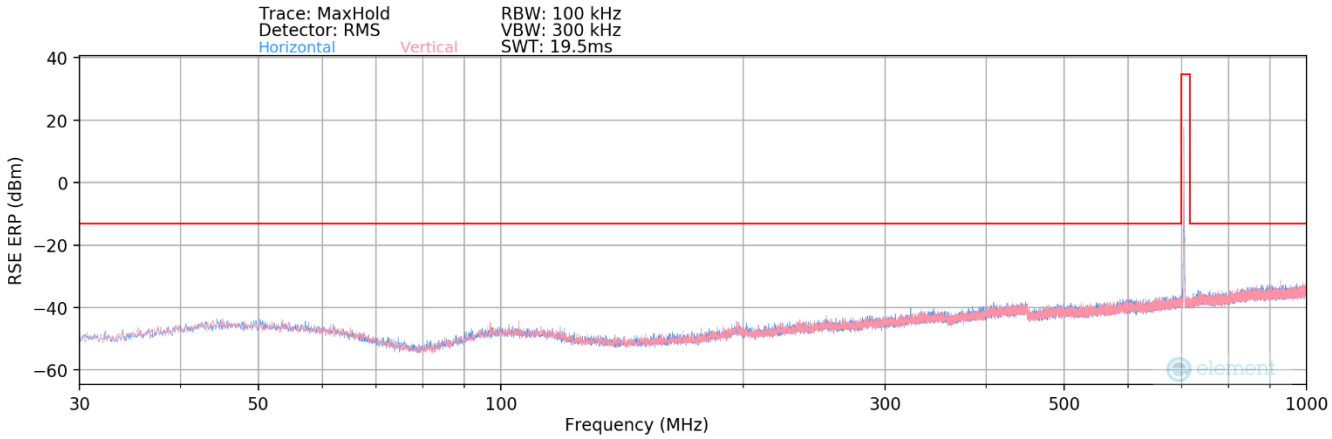
5) Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.

6) The "-" shown in the following RSE tables are used to denote a noise floor measurement.

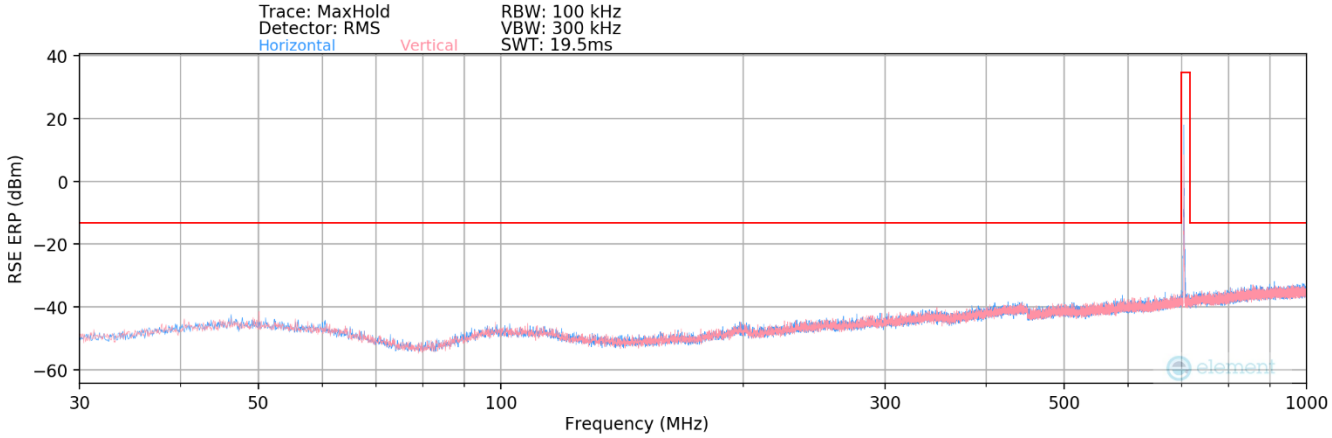
7) For NR operation, all subcarrier spacings (SCS) and transmission schemes (e.g. CP-OFDM and DFT-s-OFDM) were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

8) Spurious emission in EN-DC Operating mode with Sub 6GHz NR carrier as well as an LTE carrier (anchor) has been checked. The EUT was configured through software to transmit in a standalone mode as this was found to produce the worst case emissions.

LTE Band 12 – Ant A



Plot 7-133. Radiated Spurious Plot Below 1GHz (LTE Band 12 – Ant A) – HALF OPEN

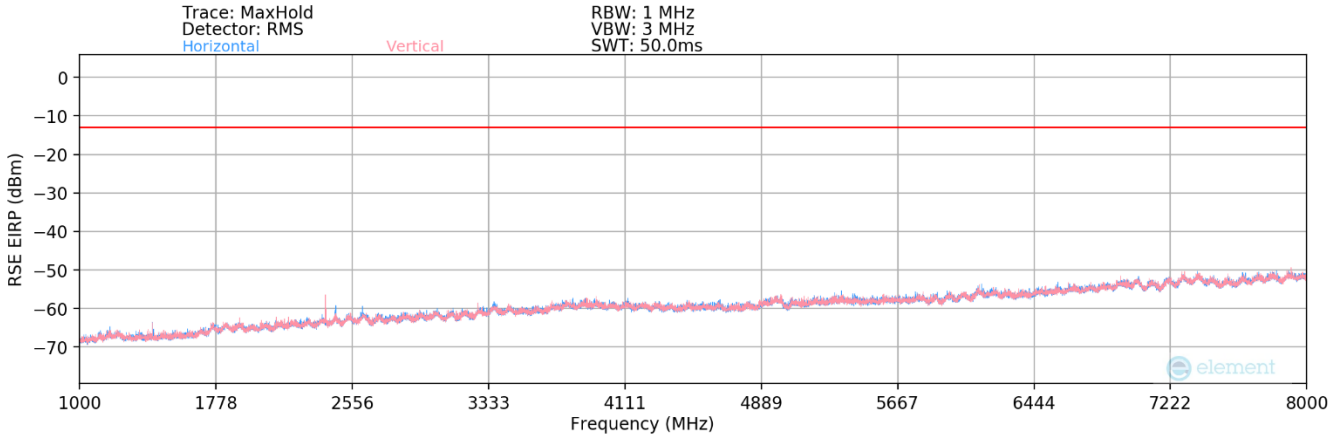


Plot 7-134. Radiated Spurious Plot Below 1GHz (LTE Band 12 – Ant A) – OPEN

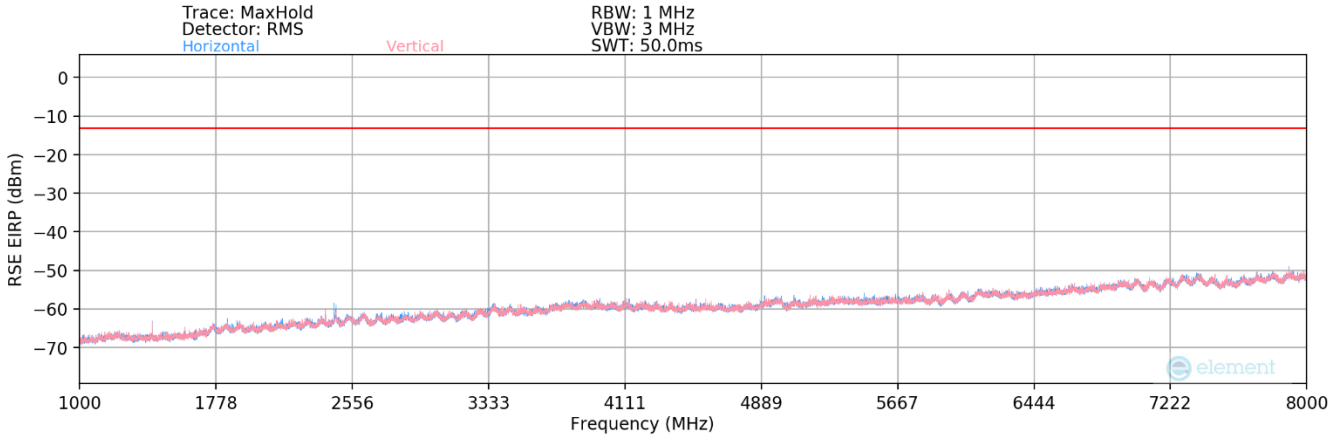
Bandwidth (MHz):	10
Frequency (MHz):	704
RB / Offset:	1 / 25

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	ERP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
442.01	H	-	-	-80.60	23.37	49.77	-47.64	-13.00	-34.64
693.11	H	-	-	-82.09	27.92	52.83	-44.58	-13.00	-31.58
753.15	H	-	-	-82.05	28.45	53.40	-44.00	-13.00	-31.00

Table 7-24. Radiated Spurious Data Below 1GHz (LTE Band 12 – Ant A) – HALF OPEN



Plot 7-135. Radiated Spurious Plot Above 1GHz (LTE Band 12 – Ant A) – HALF OPEN



Plot 7-136. Radiated Spurious Plot Above 1GHz (LTE Band 12 – Ant A) – HALF OPEN

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	149	183	-68.49	-10.08	28.43	-66.83	-13.00	-53.83
2112.00	H	158	192	-68.31	-6.68	32.01	-63.25	-13.00	-50.25
2816.00	H	-	-	-75.29	-5.10	26.61	-68.65	-13.00	-55.65
3520.00	H	-	-	-74.84	-2.21	29.95	-65.31	-13.00	-52.31
4224.00	H	-	-	-75.45	-0.35	31.20	-64.06	-13.00	-51.06
4928.00	H	-	-	-76.32	0.85	31.53	-63.73	-13.00	-50.73
5632.00	H	-	-	-76.72	2.25	32.53	-62.72	-13.00	-49.72

Table 7-25. Radiated Spurious Data Above 1GHz (LTE Band 12 – Low Channel – Ant A) – HALF OPEN

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	156	189	-67.42	-10.07	29.51	-65.75	-13.00	-52.75
2122.50	H	149	187	-73.11	-6.61	27.28	-67.98	-13.00	-54.98
2830.00	H	-	-	-75.22	-4.96	26.82	-68.44	-13.00	-55.44
3537.50	H	-	-	-74.93	-2.53	29.54	-65.71	-13.00	-52.71
4245.00	H	-	-	-75.69	-0.65	30.66	-64.60	-13.00	-51.60
4952.50	H	-	-	-76.39	1.07	31.68	-63.58	-13.00	-50.58
5660.00	H	-	-	-76.57	2.20	32.63	-62.63	-13.00	-49.63

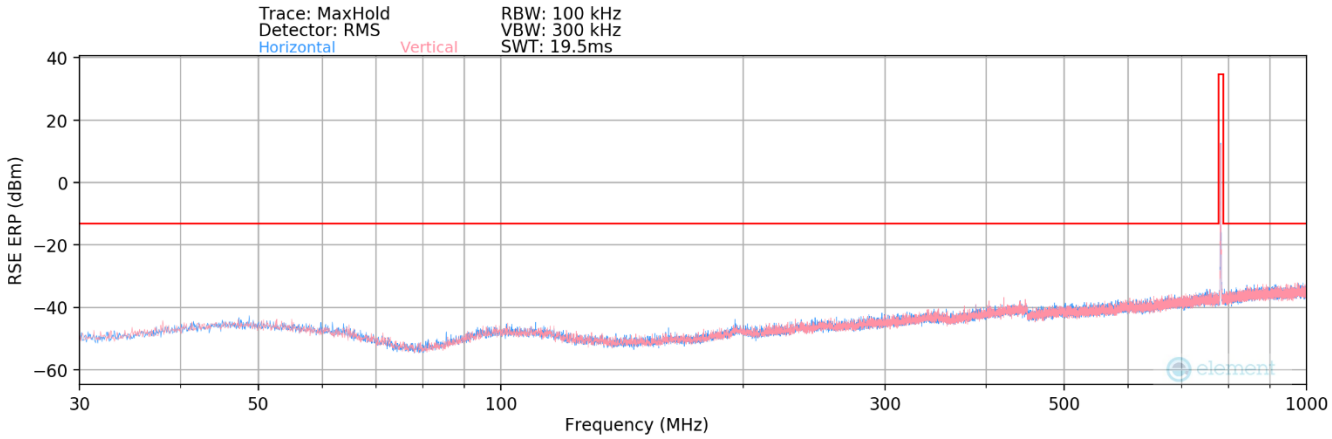
Table 7-26. Radiated Spurious Data Above 1GHz (LTE Band 12 – Mid Channel – Ant A) – HALF OPEN

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

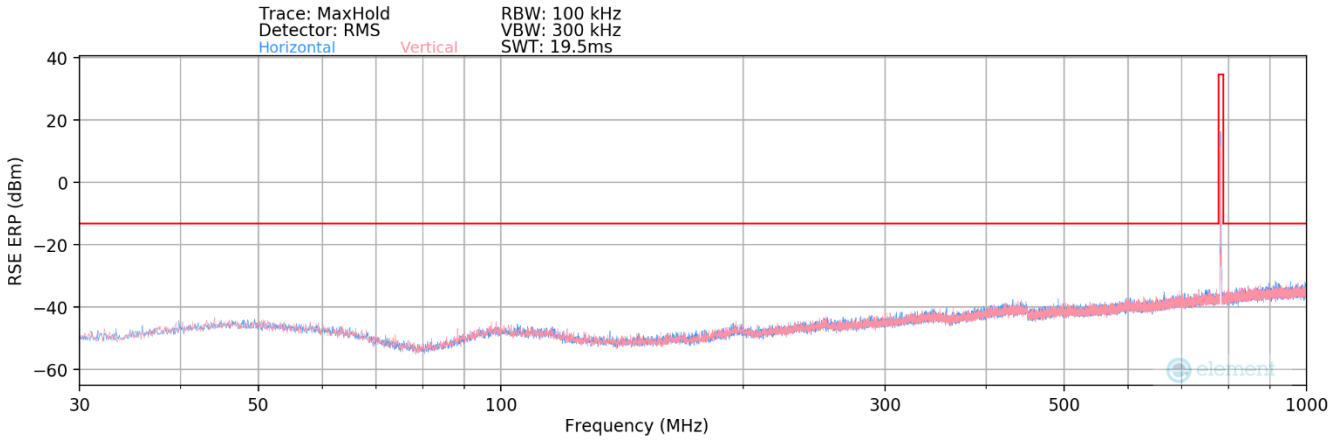
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1422.00	H	150	191	-70.08	-10.06	26.86	-68.40	-13.00	-55.40
2133.00	H	149	193	-69.55	-6.63	30.82	-64.43	-13.00	-51.43
2844.00	H	-	-	-75.09	-4.74	27.17	-68.09	-13.00	-55.09
3555.00	H	-	-	-74.73	-2.54	29.73	-65.52	-13.00	-52.52
4266.00	H	-	-	-76.00	-0.66	30.34	-64.91	-13.00	-51.91
4977.00	H	-	-	-76.47	1.35	31.88	-63.38	-13.00	-50.38
5688.00	H	-	-	-76.63	1.90	32.27	-62.99	-13.00	-49.99

Table 7-27. Radiated Spurious Data Above 1GHz (LTE Band 12 – High Channel – Ant A) – HALF OPEN

LTE Band 13 – Ant A



Plot 7-137. Radiated Spurious Plot Below 1GHz (LTE Band 13 – Ant A) – CLOSE

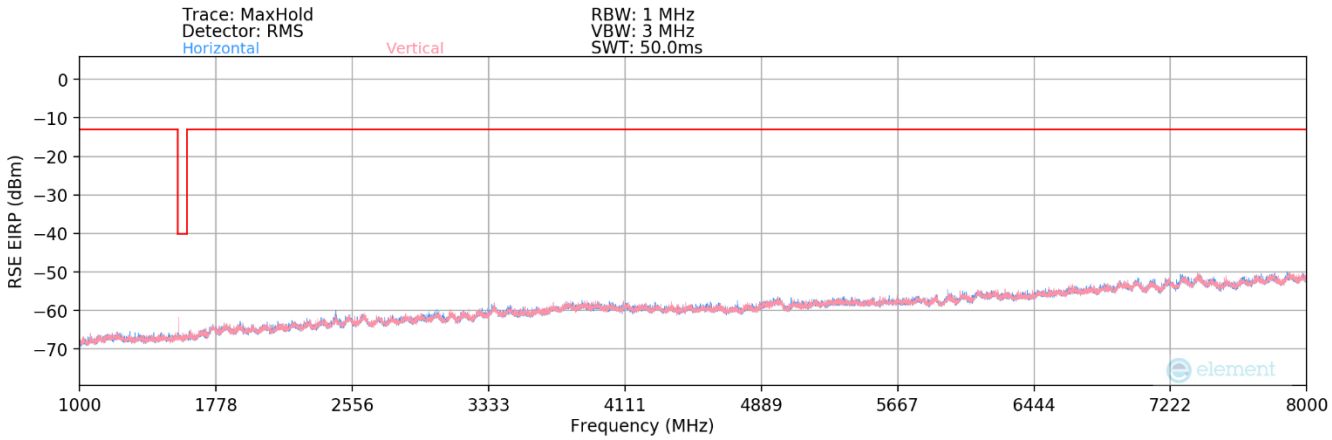


Plot 7-138. Radiated Spurious Plot Below 1GHz (LTE Band 13 – Ant A) – OPEN

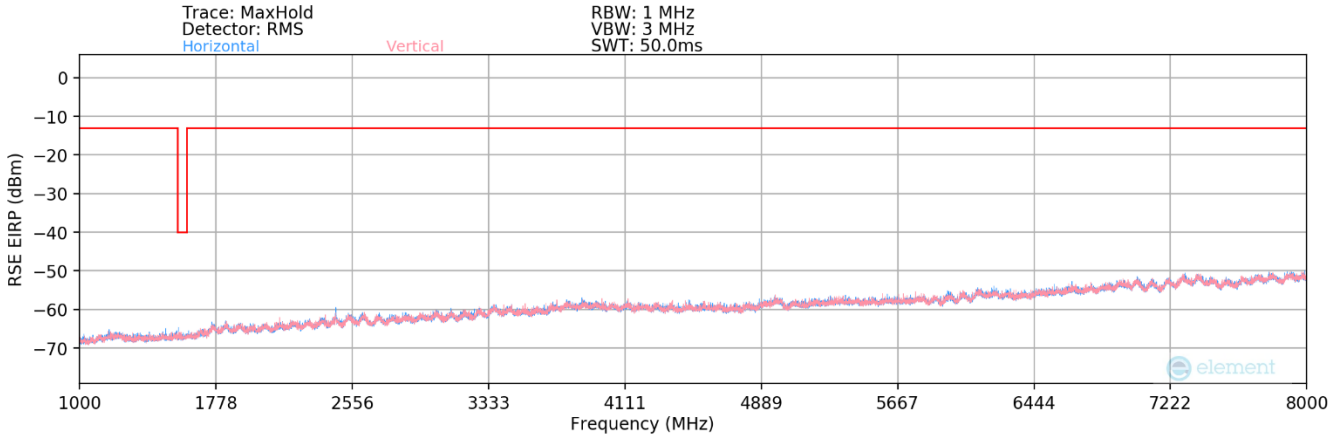
Bandwidth (MHz):	10
Frequency (MHz):	782
RB / Offset:	1 / 25

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	ERP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
441.54	V	-	-	-80.75	23.36	49.61	-47.79	-13.00	-34.79
754.42	V	-	-	-82.16	28.61	53.45	-43.96	-13.00	-30.96
824.52	V	-	-	-81.83	29.58	54.75	-42.66	-13.00	-29.66

Table 7-28. Radiated Spurious Data Below 1GHz (LTE Band 13 – Ant A) – CLOSE



Plot 7-139. Radiated Spurious Plot Above 1GHz (LTE Band 13 – Ant A) – CLOSED



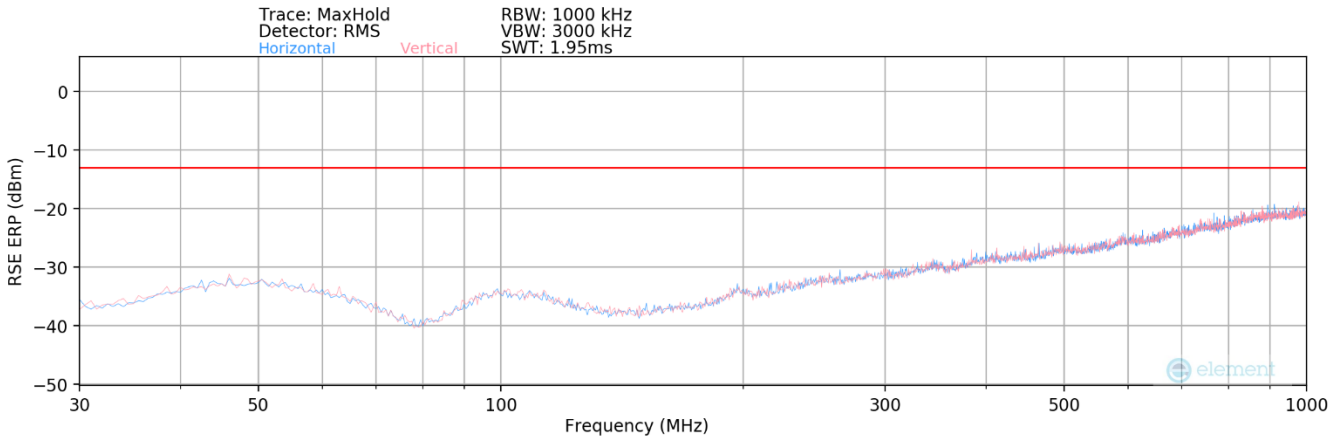
Plot 7-140. Radiated Spurious Plot Above 1GHz (LTE Band 13 – Ant A) – OPEN

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

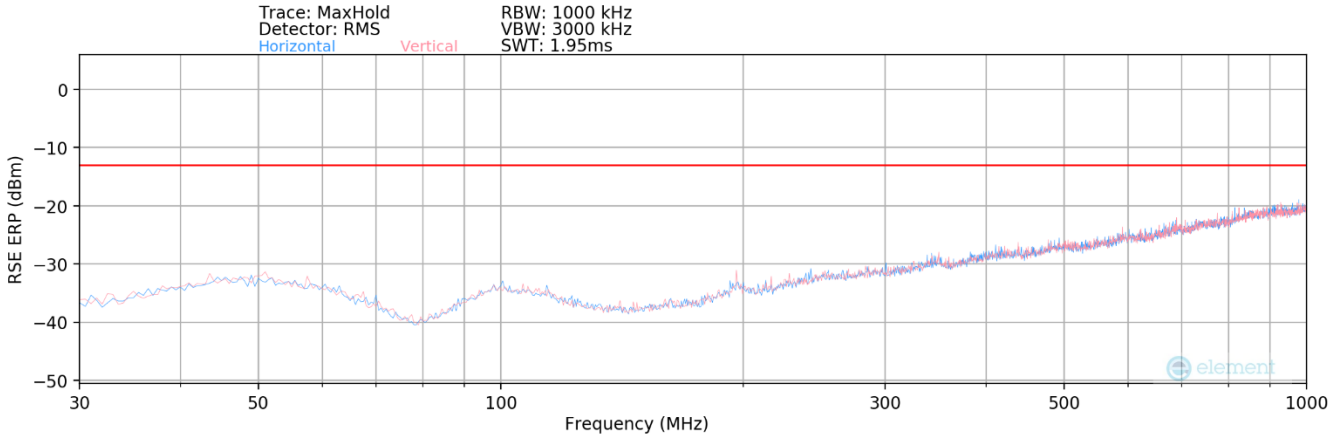
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1564.00	V	133	177	-69.64	-9.36	28.00	-67.26	-40.00	-27.26
2346.00	V	145	183	-73.79	-5.69	27.52	-67.74	-13.00	-54.74
3128.00	V	-	-	-74.53	-3.21	29.26	-66.00	-13.00	-53.00
3910.00	V	-	-	-75.74	-0.28	30.98	-64.28	-13.00	-51.28
4692.00	V	-	-	-76.51	-0.42	30.07	-65.19	-13.00	-52.19
5474.00	V	-	-	-76.87	1.91	32.04	-63.21	-13.00	-50.21
6256.00	V	-	-	-77.54	3.73	33.19	-62.07	-13.00	-49.07

Table 7-29. Radiated Spurious Data Above (LTE Band 13 – Mid Channel – Ant A) – CLOSE

LTE Band 66/4 – Ant A



Plot 7-141. Radiated Spurious Plot Below 1GHz (LTE Band 66/4 – Ant A) – CLOSE

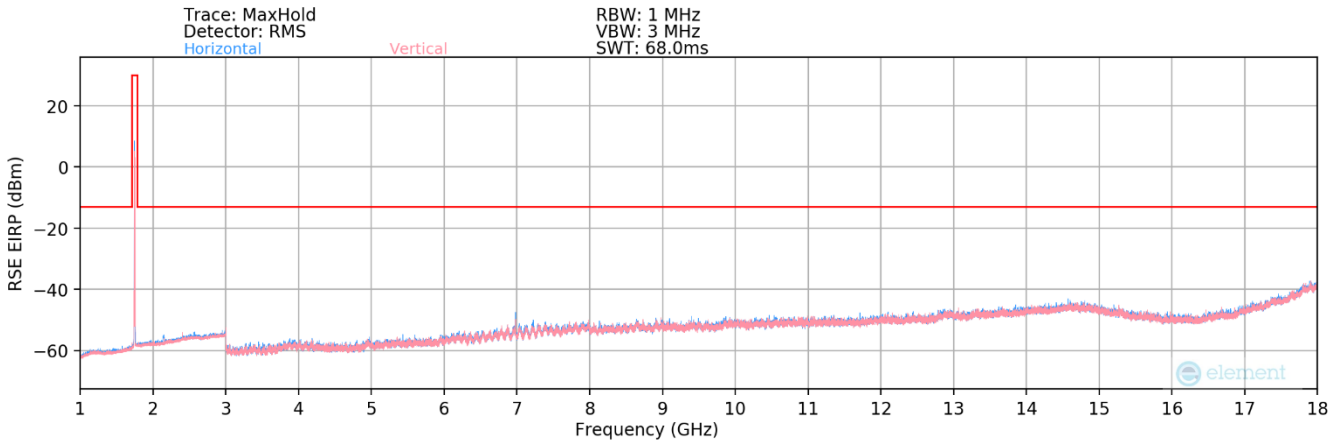


Plot 7-142. Radiated Spurious Plot Below 1GHz (LTE Band 66/4 – Ant A) – OPEN

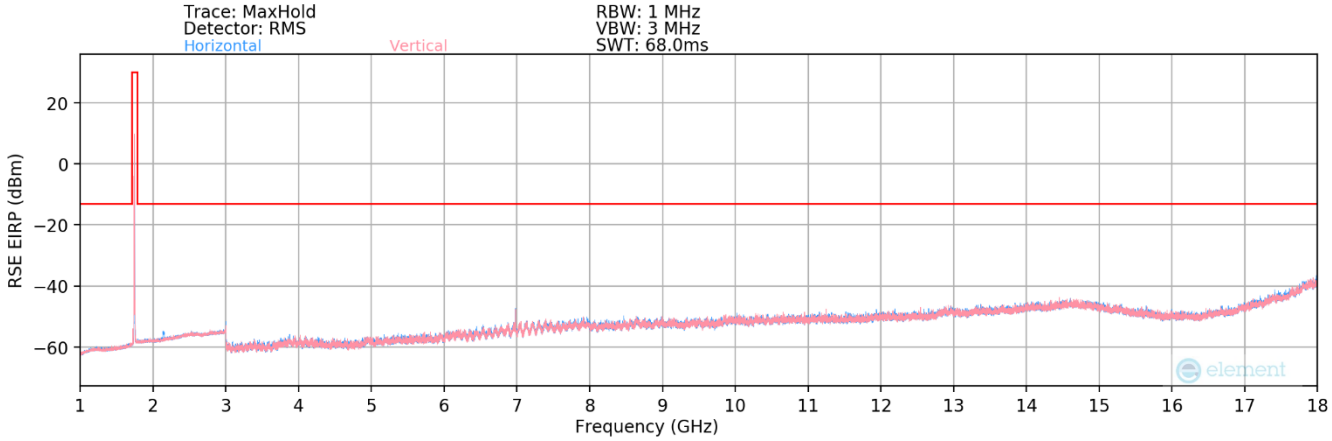
Bandwidth (MHz):	20
Frequency (MHz):	1720
RB / Offset:	1/0

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]
195.57	H	-	-	-81.88	18.50	43.62	-53.79	-13.00	-40.79
448.75	H	-	-	-81.83	23.45	48.62	-48.79	-13.00	-35.79
887.11	H	-	-	-81.78	30.30	55.52	-41.88	-13.00	-28.88

Table 7-30. Radiated Spurious Data Below 1GHz (LTE Band 66/4 – Ant A) – CLOSE



Plot 7-143. Radiated Spurious Plot Above 1GHz (LTE Band 66/4 – Ant A) – CLOSE



Plot 7-144. Radiated Spurious Plot Above 1GHz (LTE Band 66/4 – Ant A) – OPEN

Bandwidth (MHz):	20
Frequency (MHz):	1720
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	216	232	-74.88	-1.39	30.73	-64.53	-13.00	-51.53
5160.00	H	-	-	-76.03	0.99	31.96	-63.30	-13.00	-50.30
6880.00	H	225	232	-67.95	6.10	45.15	-50.10	-13.00	-37.10
8600.00	H	-	-	-79.20	8.79	36.59	-58.67	-13.00	-45.67
10320.00	H	-	-	-81.07	11.09	37.02	-58.24	-13.00	-45.24
12040.00	H	-	-	-81.55	13.43	38.88	-56.38	-13.00	-43.38
13760.00	H	-	-	-81.41	16.06	41.65	-53.61	-13.00	-40.61
15480.00	H	-	-	-81.49	15.38	40.89	-54.37	-13.00	-41.37

Table 7-31. Radiated Spurious Data Above (LTE Band 66/4 – Low Channel – Ant A) – CLOSE

Bandwidth (MHz):	20
Frequency (MHz):	1745
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	250	234	-75.61	-1.53	29.86	-65.39	-13.00	-52.39
5235.00	H	-	-	-76.40	1.39	31.99	-63.27	-13.00	-50.27
6980.00	H	220	227	-68.46	5.98	44.52	-50.73	-13.00	-37.73
8725.00	H	-	-	-77.87	8.52	37.65	-57.61	-13.00	-44.61
10470.00	H	-	-	-79.56	11.27	38.71	-56.55	-13.00	-43.55
12215.00	H	-	-	-80.45	13.00	39.55	-55.71	-13.00	-42.71
13960.00	H	-	-	-81.29	16.04	41.75	-53.51	-13.00	-40.51
15705.00	H	-	-	-81.76	14.79	40.03	-55.22	-13.00	-42.22

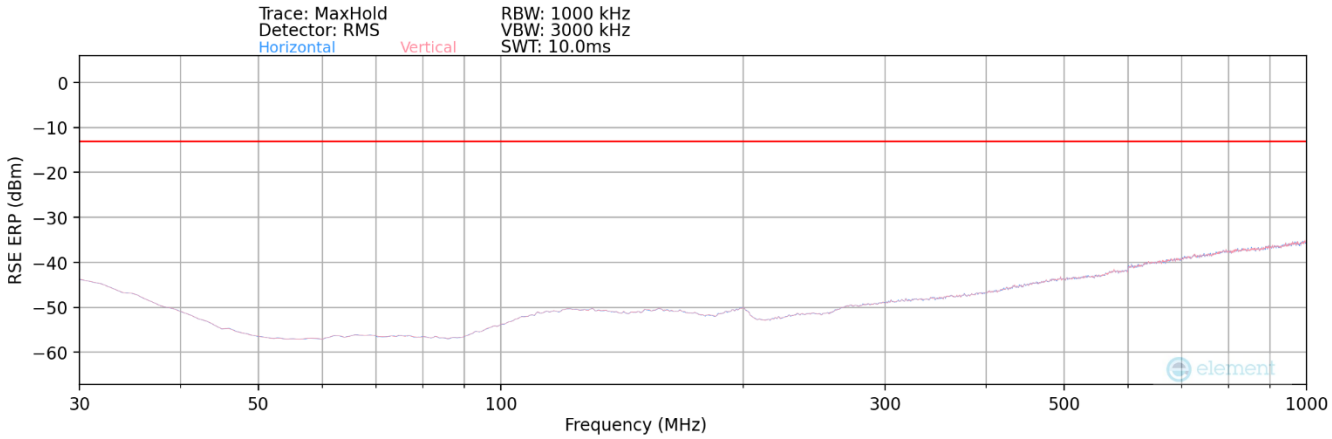
Table 7-32. Radiated Spurious Data Above 1GHz (LTE Band 66/4 – Mid Channel – Ant A) – CLOSE

Bandwidth (MHz):	20
Frequency (MHz):	1770
RB / Offset:	1 / 0

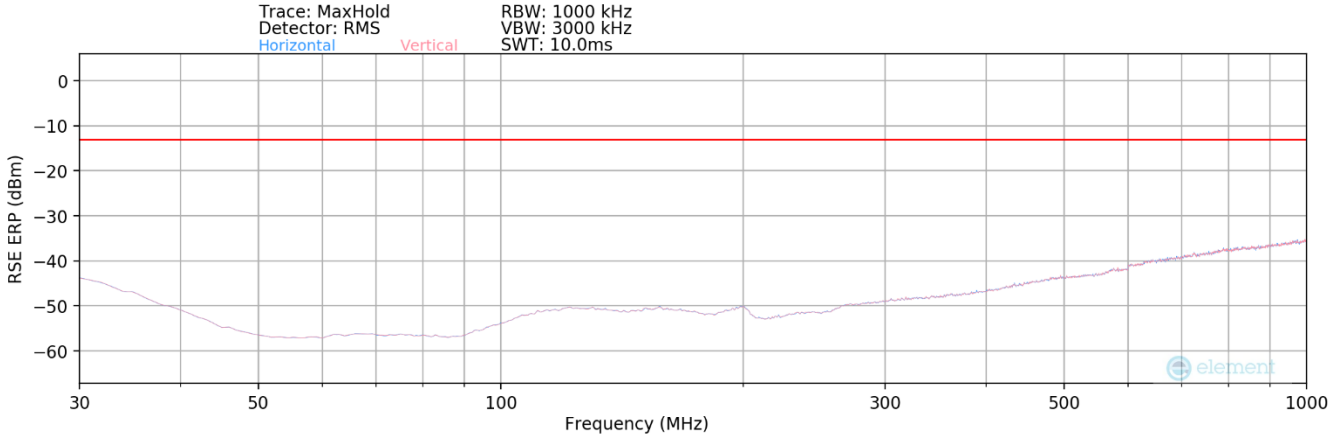
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3540.00	H	224	253	-75.15	-1.51	30.34	-64.92	-13.00	-51.92
5310.00	H	-	-	-76.70	1.87	32.17	-63.09	-13.00	-50.09
7080.00	H	226	239	-71.59	5.32	40.73	-54.52	-13.00	-41.52
8850.00	H	-	-	-79.09	8.88	36.79	-58.47	-13.00	-45.47
10620.00	H	-	-	-80.10	11.71	38.61	-56.65	-13.00	-43.65
12390.00	H	-	-	-81.59	13.35	38.76	-56.50	-13.00	-43.50
14160.00	H	-	-	-81.43	17.22	42.79	-52.47	-13.00	-39.47
15930.00	H	-	-	-81.53	14.49	39.96	-55.30	-13.00	-42.30

Table 7-33. Radiated Spurious Data Above 1GHz (LTE Band 66/4 – High Channel – Ant A) – CLOSE

NR Band n66 – Ant A



Plot 7-145. Radiated Spurious Plot Below 1GHz (NR Band n66 – Ant A) – OPEN

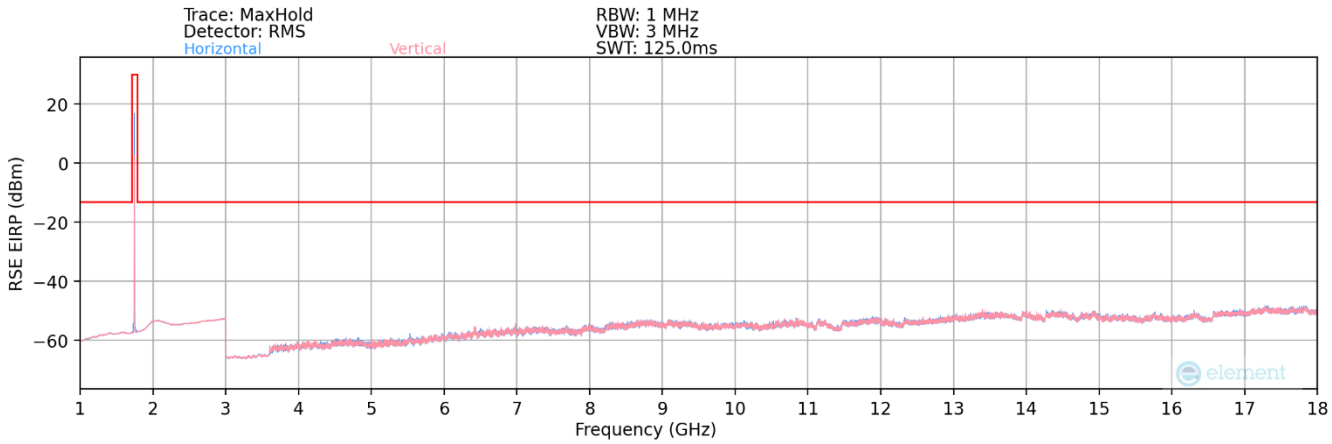


Plot 7-146. Radiated Spurious Plot Below 1GHz (NR Band n66 – Ant A) – CLOSE

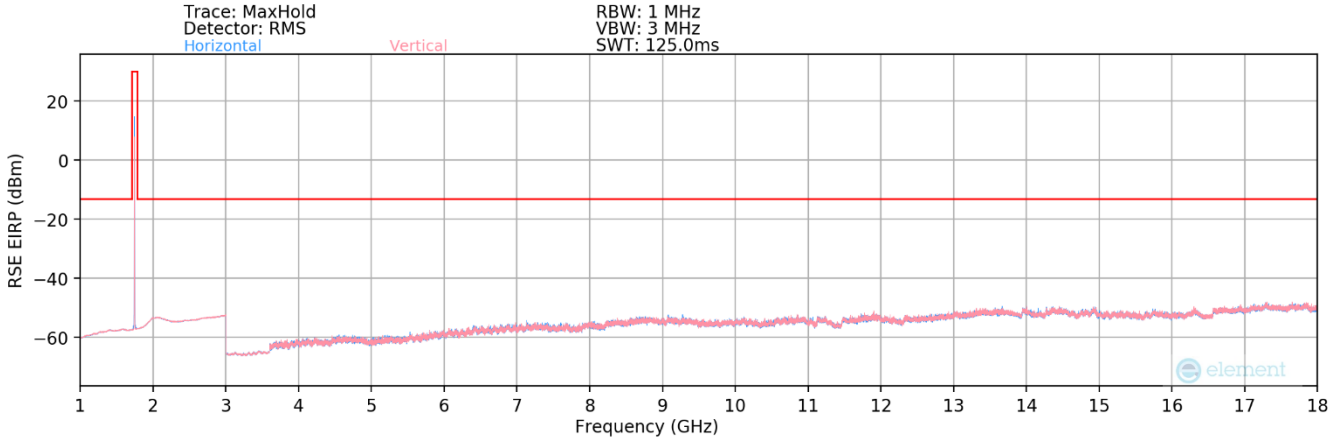
Bandwidth (MHz):	40
Frequency (MHz):	1745
RB / Offset:	1 / 108

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]
120.99	V	-	-	-83.42	-6.27	17.31	-77.94	-13.00	-64.94
195.03	V	-	-	-83.28	-7.01	16.71	-78.55	-13.00	-65.55
524.75	V	-	-	-83.19	-0.27	23.54	-71.72	-13.00	-58.72

Table 7-34. Radiated Spurious Data Below 1GHz (NR Band n66 – Ant A) – OPEN



Plot 7-147. Radiated Spurious Plot Above 1GHz (NR Band n66 – Ant A) – OPEN



Plot 7-148. Radiated Spurious Plot Above 1GHz (NR Band n66 – Ant A) – CLOSE

Bandwidth (MHz):	40
Frequency (MHz):	1730
RB / Offset:	1 / 108

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	V	36	325	-75.63	-1.01	30.36	-64.90	-13.00	-51.90
5190.00	V	-	-	-78.28	2.45	31.17	-64.09	-13.00	-51.09
6920.00	V	150	72	-78.42	7.75	36.33	-58.93	-13.00	-45.93
8650.00	V	-	-	-79.07	11.34	39.27	-55.99	-13.00	-42.99
10380.00	V	-	-	-79.62	11.69	39.07	-56.19	-13.00	-43.19
12110.00	V	-	-	-79.79	13.98	41.19	-54.07	-13.00	-41.07

Table 7-35. Radiated Spurious Data Above 1GHz (NR Band n66 – Low Channel – Ant A) – OPEN

Bandwidth (MHz):	40
Frequency (MHz):	1745
RB / Offset:	1 / 108

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	V	147	35	-74.75	-0.72	31.53	-63.73	-13.00	-50.73
5235.00	V	-	-	-78.10	2.48	31.38	-63.88	-13.00	-50.88
6980.00	V	257	352	-75.90	7.42	38.52	-56.73	-13.00	-43.73
8725.00	V	-	-	-78.67	11.03	39.36	-55.90	-13.00	-42.90
10470.00	V	-	-	-79.86	12.05	39.19	-56.06	-13.00	-43.06
12215.00	V	-	-	-79.80	13.94	41.14	-54.11	-13.00	-41.11

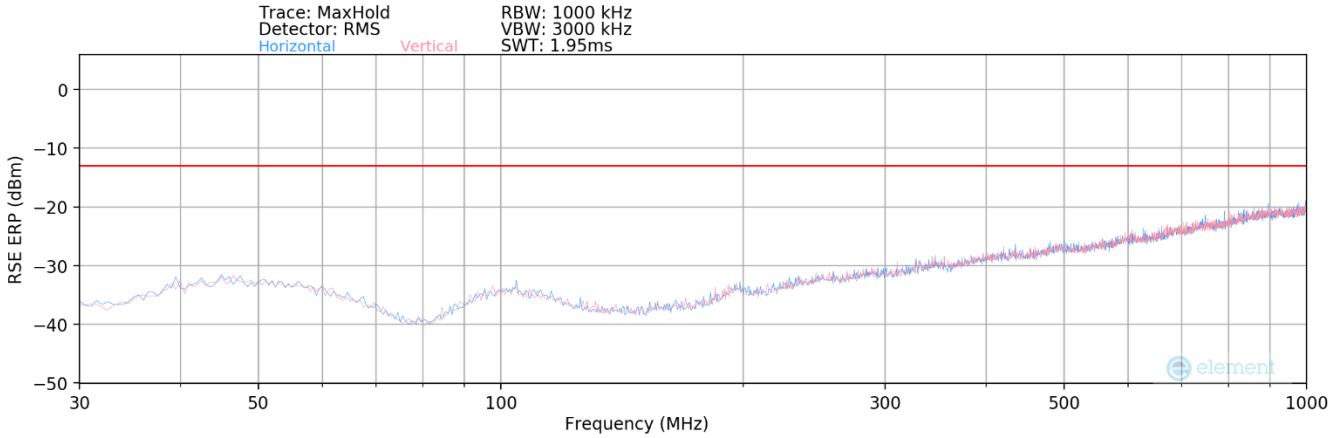
Table 7-36. Radiated Spurious Data Above 1GHz (NR Band n66 – Mid Channel – Ant A) – OPEN

Bandwidth (MHz):	40
Frequency (MHz):	1760
RB / Offset:	1 / 108

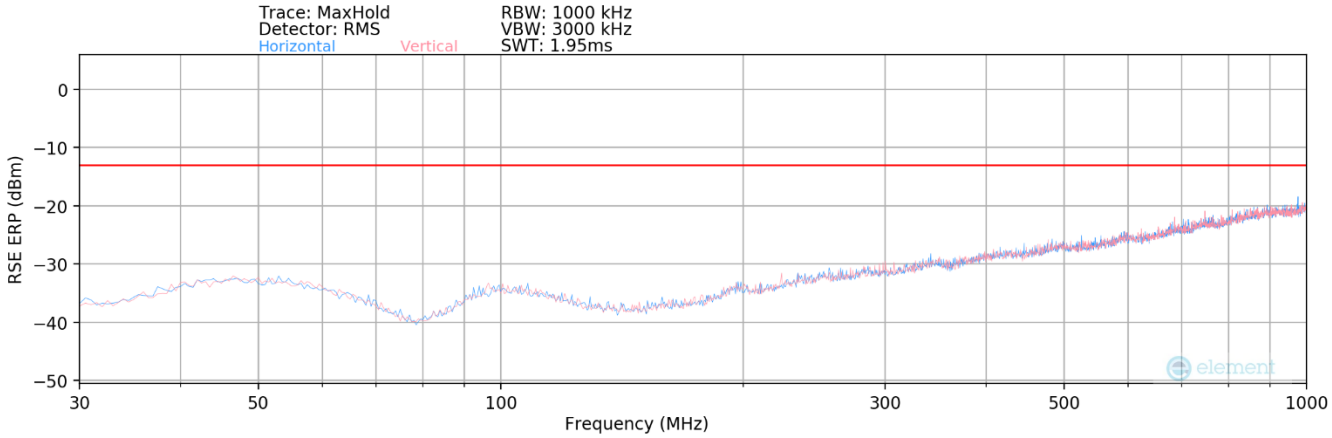
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3520.00	V	148	424	-75.61	-0.69	30.70	-64.56	-13.00	-51.56
5280.00	V	-	-	-77.93	2.67	31.74	-63.52	-13.00	-50.52
7040.00	V	392	237	-75.55	7.45	38.90	-56.35	-13.00	-43.35
8800.00	V	-	-	-78.54	11.36	39.82	-55.44	-13.00	-42.44
10560.00	V	-	-	-80.05	12.40	39.35	-55.91	-13.00	-42.91
12320.00	V	-	-	-79.89	13.77	40.88	-54.38	-13.00	-41.38

Table 7-37. Radiated Spurious Data Above 1GHz (NR Band n66 – High Channel – Ant A) – OPEN

LTE Band 66/4 – Ant I



Plot 7-149. Radiated Spurious Plot Below 1GHz (LTE Band 66/4 – Ant I) – CLOSE

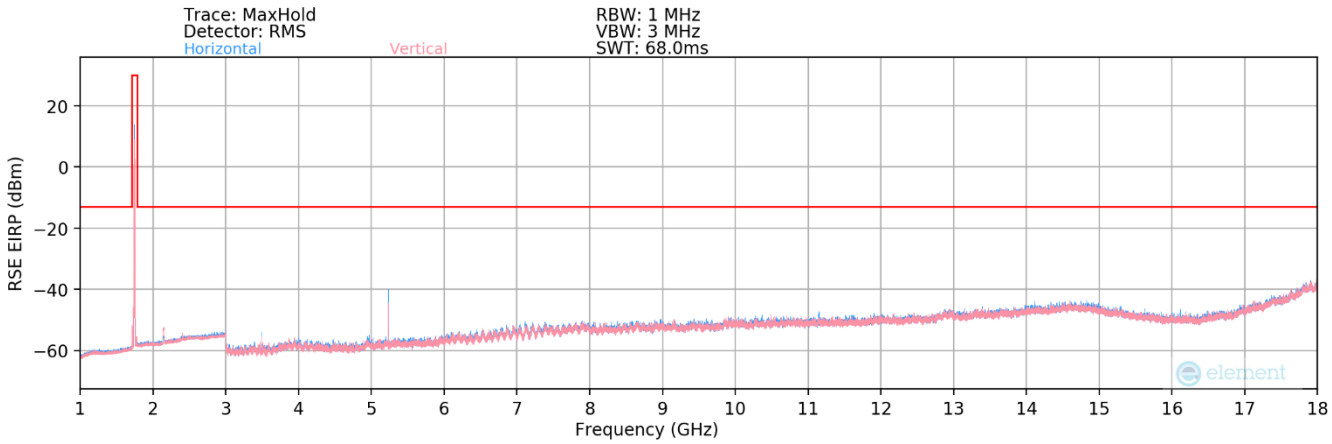


Plot 7-150. Radiated Spurious Plot Below 1GHz (LTE Band 66/4 – Ant I) – OPEN

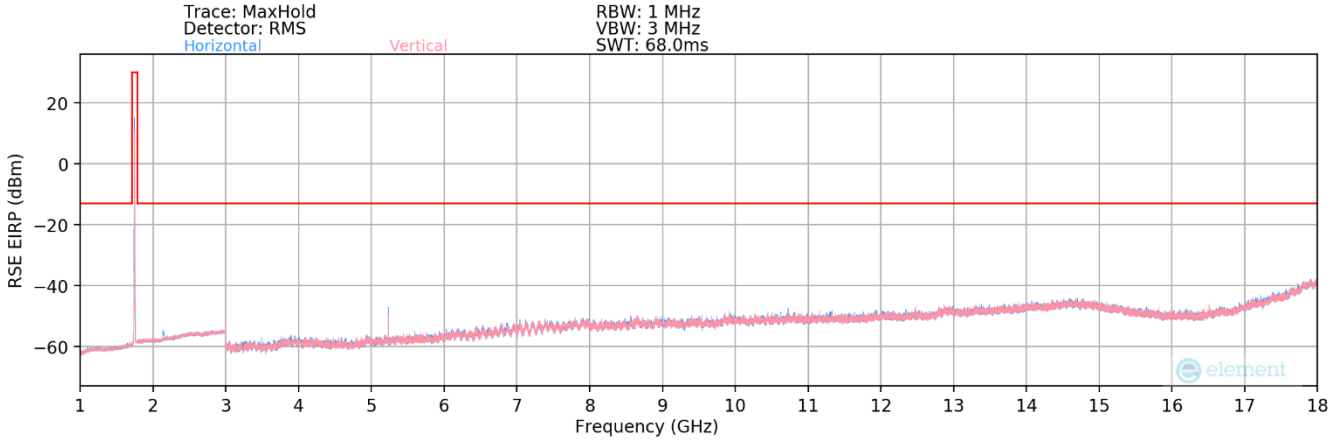
Bandwidth (MHz):	20
Frequency (MHz):	1745
RB / Offset:	1 / 99

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	ERP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
475.35	H	-	-	-79.10	24.14	52.04	-45.36	-13.00	-32.36
566.63	H	-	-	-78.90	25.56	53.66	-43.75	-13.00	-30.75
883.27	H	-	-	-81.98	30.26	55.28	-42.13	-13.00	-29.13

Table 7-38. Radiated Spurious Data Below 1GHz (LTE Band 66/4 – Ant I) – CLOSE



Plot 7-151. Radiated Spurious Plot Above 1GHz (LTE Band 66/4 – Ant I) – CLOSE



Plot 7-152. Radiated Spurious Plot Above 1GHz (LTE Band 66/4 – Ant I) – OPEN

Bandwidth (MHz):	20
Frequency (MHz):	1720
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]
3440.00	H	110	225	-68.81	-1.39	36.80	-58.46	-13.00	-45.46
5160.00	H	107	230	-58.46	0.99	49.53	-45.73	-13.00	-32.73
6880.00	H	-	-	-76.53	6.10	36.57	-58.68	-13.00	-45.68
8600.00	H	-	-	-79.10	8.79	36.69	-58.57	-13.00	-45.57
10320.00	H	-	-	-80.63	11.09	37.46	-57.80	-13.00	-44.80
12040.00	H	-	-	-81.10	13.43	39.33	-55.93	-13.00	-42.93
13760.00	H	-	-	-80.82	16.06	42.24	-53.02	-13.00	-40.02

Table 7-39. Radiated Spurious Data Above (LTE Band 66/4 – Low Channel – Ant I) – CLOSE

Bandwidth (MHz):	20
Frequency (MHz):	1745
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]
3490.00	H	118	222	-67.39	-1.53	38.08	-57.17	-13.00	-44.17
5235.00	H	110	226	-57.67	1.39	50.72	-44.54	-13.00	-31.54
6980.00	H	-	-	-76.98	5.98	36.00	-59.25	-13.00	-46.25
8725.00	H	-	-	-77.65	8.52	37.87	-57.39	-13.00	-44.39
10470.00	H	-	-	-79.32	11.27	38.95	-56.31	-13.00	-43.31
12215.00	H	-	-	-80.29	13.00	39.71	-55.55	-13.00	-42.55
13960.00	H	-	-	-80.73	16.04	42.31	-52.95	-13.00	-39.95

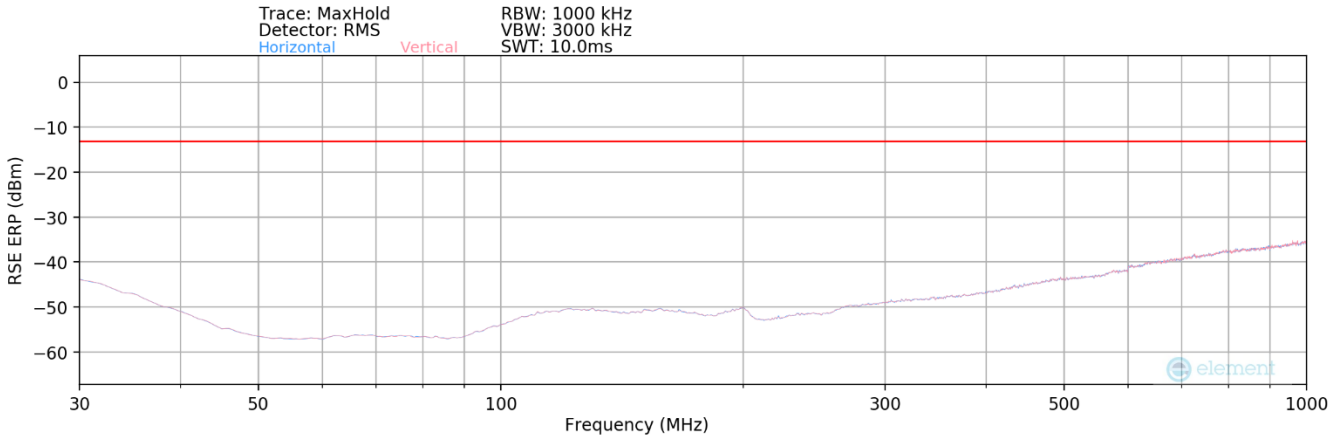
Table 7-40. Radiated Spurious Data Above 1GHz (LTE Band 66/4 – Mid Channel – Ant I) – CLOSE

Bandwidth (MHz):	20
Frequency (MHz):	1770
RB / Offset:	1 / 99

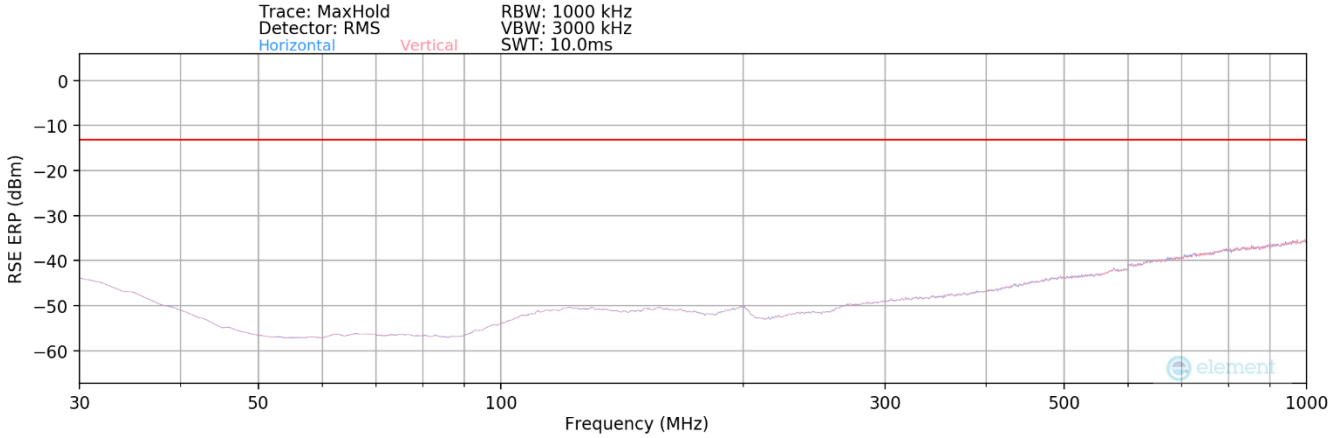
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3540.00	H	108	221	-69.63	-1.51	35.86	-59.40	-13.00	-46.40
5310.00	H	111	224	-58.34	1.87	50.53	-44.73	-13.00	-31.73
7080.00	H	-	-	-77.80	5.32	34.52	-60.73	-13.00	-47.73
8850.00	H	-	-	-78.35	8.88	37.53	-57.73	-13.00	-44.73
10620.00	H	-	-	-79.68	11.71	39.03	-56.23	-13.00	-43.23
12390.00	H	-	-	-80.91	13.35	39.44	-55.82	-13.00	-42.82
14160.00	H	-	-	-81.07	17.22	43.15	-52.11	-13.00	-39.11

Table 7-41. Radiated Spurious Data Above 1GHz (LTE Band 66/4 – High Channel – Ant I) – CLOSE

NR Band n66 – Ant I



Plot 7-153. Radiated Spurious Plot Below 1GHz (NR Band n66 – Ant I) – OPEN

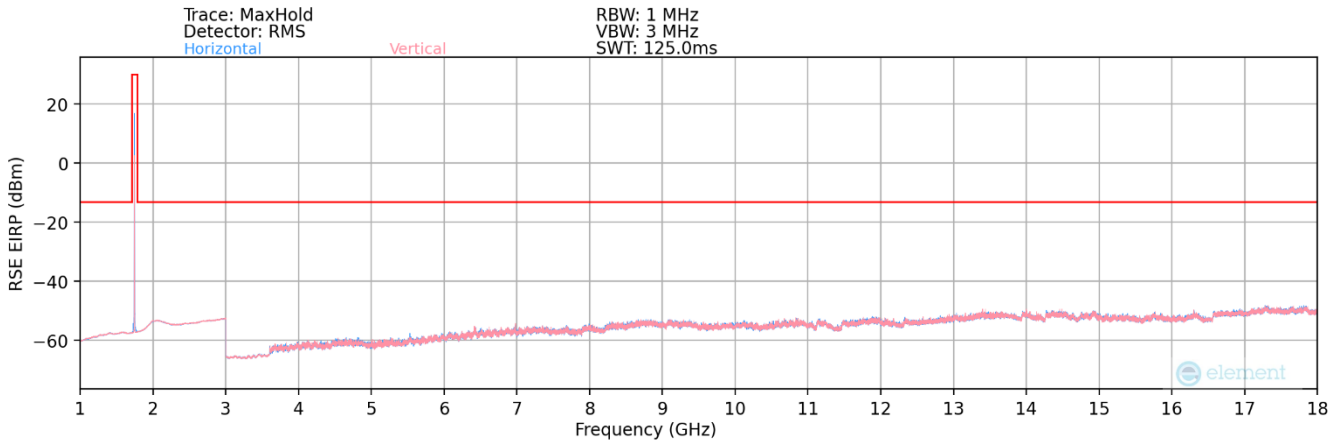


Plot 7-154. Radiated Spurious Plot Below 1GHz (NR Band n66 – Ant I) – CLOSE

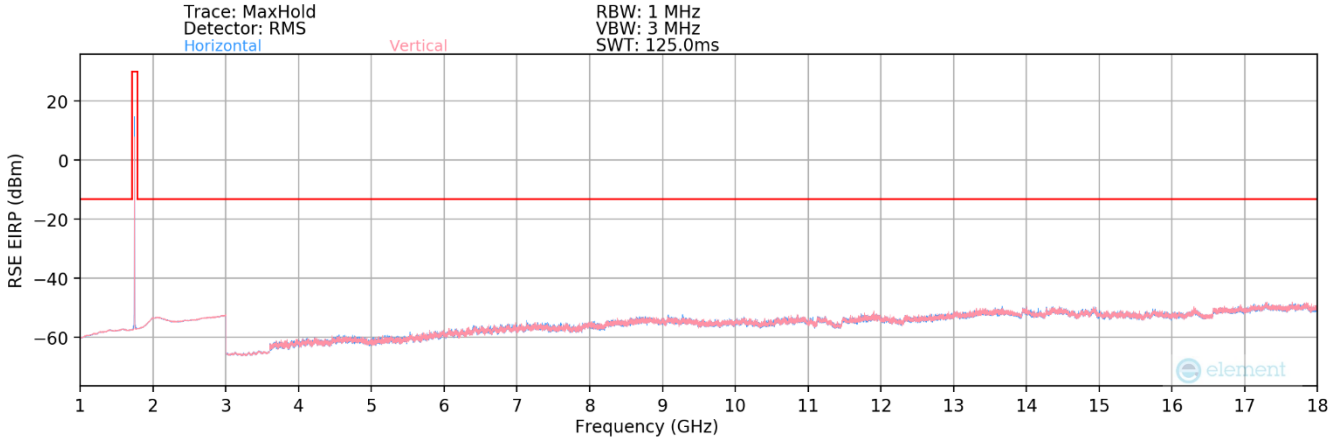
Bandwidth (MHz):	40
Frequency (MHz):	1745
RB / Offset:	1 / 108

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]
820.03	H	-	-	-89.69	30.45	47.76	-49.65	-13.00	-36.65

Table 7-42. Radiated Spurious Data Below 1GHz (NR Band n66 – Ant I) – OPEN



Plot 7-155. Radiated Spurious Plot Above 1GHz (NR Band n66 – Ant I) – OPEN



Plot 7-156. Radiated Spurious Plot Above 1GHz (NR Band n66 – Ant I) – CLOSE

Bandwidth (MHz):	40
Frequency (MHz):	1730
RB / Offset:	1 / 108

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	137	236	-76.70	0.28	30.58	-64.68	-13.00	-51.68
5190.00	H	-	-	-79.34	3.49	31.15	-64.10	-13.00	-51.10
6920.00	H	-	-	-79.81	8.36	35.55	-59.71	-13.00	-46.71
8650.00	H	-	-	-80.45	10.99	37.54	-57.72	-13.00	-44.72

Table 7-43. Radiated Spurious Data Above 1GHz (NR Band n66 – Low Channel – Ant I) – OPEN

Bandwidth (MHz):	40
Frequency (MHz):	1745
RB / Offset:	1 / 108

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	122	227	-75.97	-0.08	30.95	-64.30	-13.00	-51.30
5235.00	H	-	-	-79.23	3.24	31.01	-64.25	-13.00	-51.25
6980.00	H	-	-	-78.93	7.55	35.62	-59.63	-13.00	-46.63
8725.00	H	-	-	-79.85	10.82	37.97	-57.29	-13.00	-44.29

Table 7-44. Radiated Spurious Data Above 1GHz (NR Band n66 – Mid Channel – Ant I) – OPEN

Bandwidth (MHz):	40
Frequency (MHz):	1760
RB / Offset:	1 / 108

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	127	245	-76.92	-0.16	29.92	-65.33	-13.00	-52.33
5280.00	H	-	-	-78.89	3.34	31.45	-63.81	-13.00	-50.81
7040.00	H	-	-	-78.91	7.70	35.79	-59.47	-13.00	-46.47
8800.00	H	-	-	-79.85	10.78	37.93	-57.33	-13.00	-44.33

Table 7-45. Radiated Spurious Data Above 1GHz (NR Band n66 – High Channel – Ant I) – OPEN

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

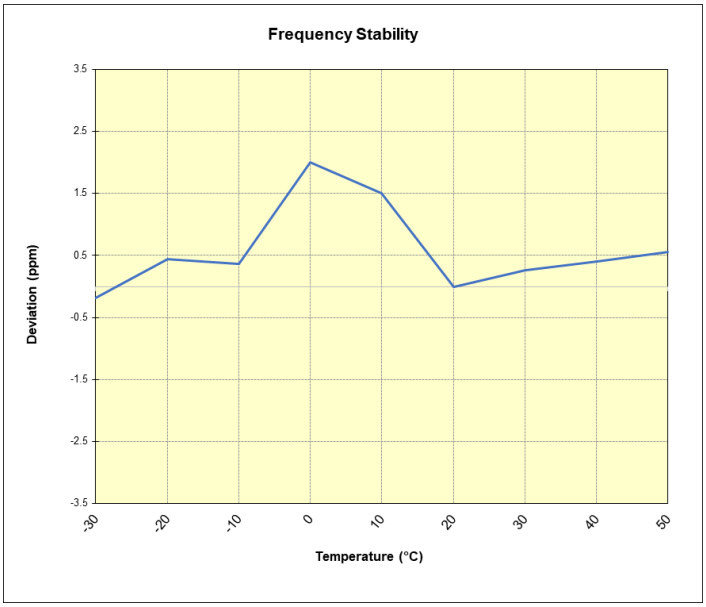
Frequency Stability / Temperature Variation

LTE Band 12

Operating Frequency (Hz):	707,500,000
Ref. Voltage (VDC):	4.15
Deviation Limit:	± 0.00025% or 2.5 ppm

Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.15	- 30	707,635,231	-133	-0.0000188
		- 20	707,635,678	314	0.0000443
		- 10	707,635,624	260	0.0000367
		0	707,636,779	1,415	0.0002000
		+ 10	707,636,426	1,062	0.0001501
		+ 20 (Ref)	707,635,364	0	0.0000000
		+ 30	707,635,553	189	0.0000267
		+ 40	707,635,649	285	0.0000402
		+ 50	707,635,758	394	0.0000557
Battery Endpoint	3.71	+ 20	707,635,789	425	0.0000600

Table 7-46. LTE Band 12 Frequency Stability Data



Plot 7-157. LTE Band 12 Frequency Stability Chart

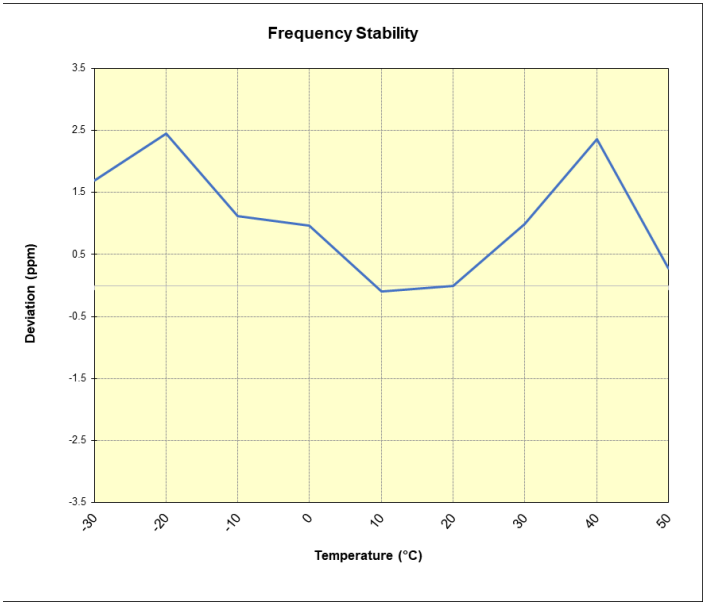
Frequency Stability / Temperature Variation

LTE Band 13

Operating Frequency (Hz):	782,000,000
Ref. Voltage (VDC):	4.15
Deviation Limit:	± 0.00025% or 2.5 ppm

Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.15	- 30	782,504,152	1,329	0.0001698
		- 20	782,504,739	1,916	0.0002448
		- 10	782,503,704	881	0.0001126
		0	782,503,582	760	0.0000971
		+ 10	782,502,747	-76	-0.0000097
		+ 20 (Ref)	782,502,823	0	0.0000000
		+ 30	782,503,598	775	0.0000990
		+ 40	782,504,667	1,845	0.0002357
		+ 50	782,503,042	219	0.0000280
Battery Endpoint	3.71	+ 20	782,503,474	651	0.0000832

Table 7-47. LTE Band 13 Frequency Stability Data



Plot 7-158. LTE Band 13 Frequency Stability Chart

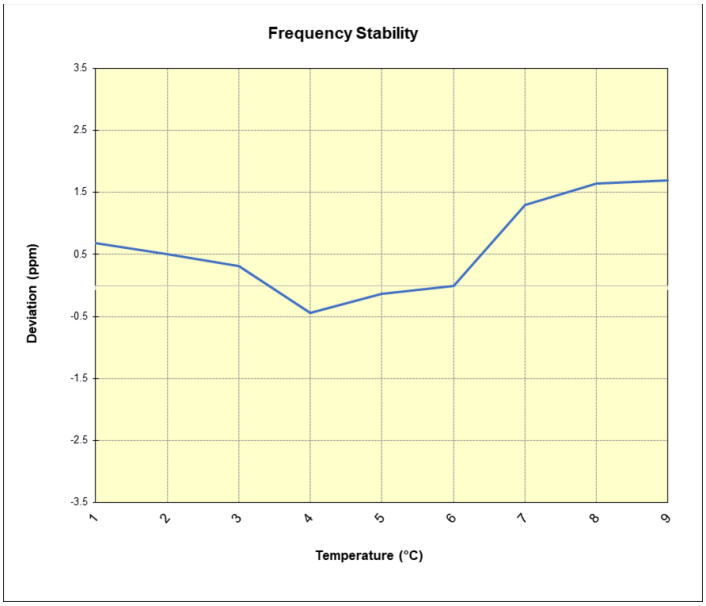
Frequency Stability / Temperature Variation

LTE Band 66/4

Operating Frequency (Hz):	1,745,000,000
Ref. Voltage (VDC):	4.15
Deviation Limit:	± 0.00025% or 2.5 ppm

Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.15	- 30	1,754,557,245	1,193	0.0000680
		- 20	1,754,556,942	890	0.0000507
		- 10	1,754,556,611	559	0.0000318
		0	1,754,555,279	-773	-0.0000441
		+ 10	1,754,555,813	-239	-0.0000136
		+ 20 (Ref)	1,754,556,052	0	0.0000000
		+ 30	1,754,558,331	2,279	0.0001299
		+ 40	1,754,558,935	2,883	0.0001643
		+ 50	1,754,559,026	2,974	0.0001695
Battery Endpoint	3.71	+ 20	1,754,557,474	1,422	0.0000810

Table 7-48. LTE Band 66/4 Frequency Stability Data



Plot 7-159. LTE Band 66/4 Frequency Stability Chart

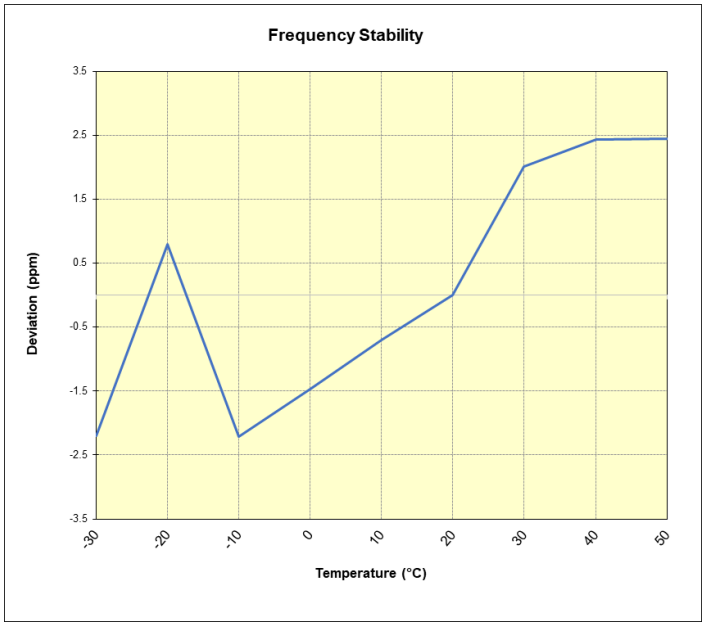
Frequency Stability / Temperature Variation

NR Band n66

Operating Frequency (Hz):	1,745,000,000
Ref. Voltage (VDC):	4.15
Deviation Limit:	± 0.00025% or 2.5 ppm

Voltage (%)	Power (VDC)	Temp (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.15	- 30	1,745,092,411	-3,833	-0.0002196
		- 20	1,745,097,642	1,398	0.0000801
		- 10	1,745,092,388	-3,856	-0.0002210
		0	1,745,093,678	-2,566	-0.0001470
		+ 10	1,745,095,020	-1,224	-0.0000701
		+ 20 (Ref)	1,745,096,244	0	0.0000000
		+ 30	1,745,099,742	3,498	0.0002004
		+ 40	1,745,100,497	4,253	0.0002437
		+ 50	1,745,100,520	4,276	0.0002450
Battery Endpoin	3.71	+ 20	1,745,098,333	2,089	0.0001197

Table 7-49. NR Band n66 Frequency Stability Data



Plot 7-160. NR Band n66 Frequency Stability Chart

8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Samsung Portable Handset FCC ID: A3LSMF731JPN** complies with all the requirements of Part 27 of the FCC rules.