2.7 Transmitter Radiated Power (EIRP/ERP)

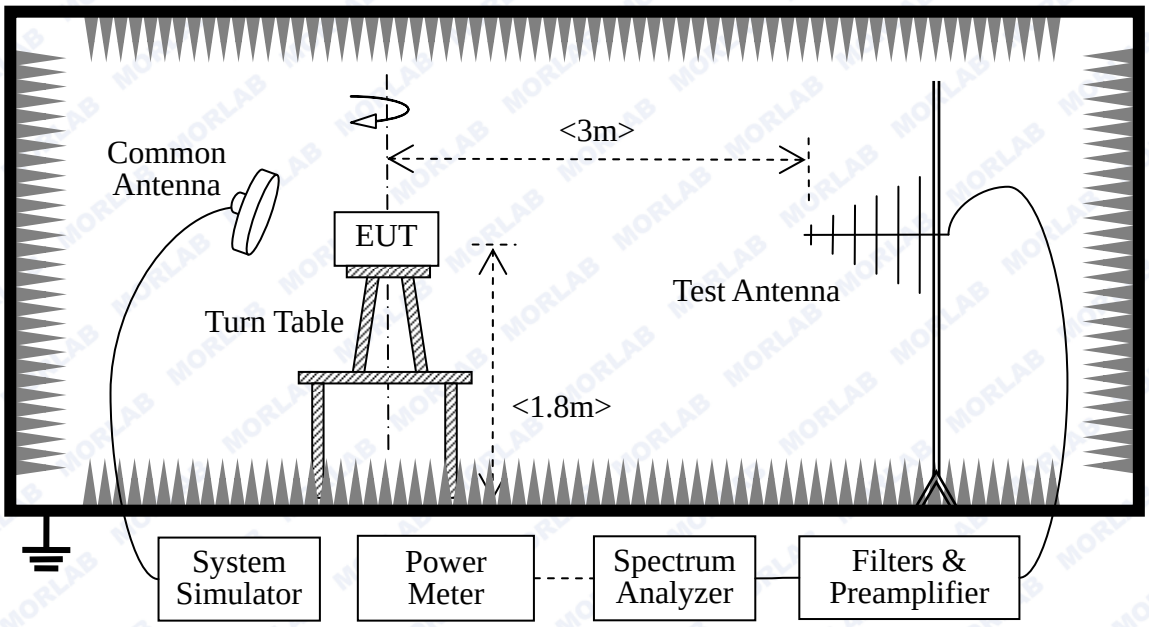
2.7.1 Requirement

According to FCC section 27.50 (d), fixed, mobile and portable (hand-held) stations in the 1710-1755MHz band are limited to 1wat EIRP.

Portable stations (hand-held devices) operating in the 704-716MHz band are limited to 3watts ERP.

2.7.2 Test Description

Test Setup:



The EUT, which is powered by the PC, is located in a 3m Full-Anechoic Chamber; the cable loss, air loss and so on of the site as factors are pre-calibrated using the "Substitution" method, and calculated to correct the reading.

A call is established between the EUT and the SS via a Common Antenna. The EUT is commanded by the SS to operate at the maximum and minimum output power, and only the test result of the maximum output power was recorded.

The Test Antenna is a Bi-Log one (used for 30MHz to 1GHz) or a Horn one (used for above 3GHz), and it's located at the same height as the EUT. The Filters consists of Notch Filters and High Pass Filter.

Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
System Simulator	Rohde& Schwarz	CMW500	1201.0002k50/ 124534/wk	2015.02.26	2016.02.25
Spectrum Analyzer	Rohde& Schwarz	FSL	10246	2015.02.26	2016.02.25
Spectrum Analyzer	Agilent	E4445A	MY44200685	2015.02.26	2016.02.25
Full-Anechoic Chamber	Albatross	9m*6m*6m	(n.a.)	2015.02.26	2016.02.25
Test Antenna - Bi-Log	Schwarzbeck	VULB 9163	9163-274	2015.02.26	2016.02.25
Test Antenna - Horn	Schwarzbeck	BBHA 9120C	9120C-384	2015.02.26	2016.02.25

2.7.3 Test Result

The EUT was verified under all configurations (RB size and offset) and the worst case radiated power reported for each modulation/channel bandwidth.

The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. The lowest, middle and highest channels are tested.

The substitution corrections are obtained as described below:

$A_{SUBST} = P_{SUBST_TX} - P_{SUBST_RX} - L_{SUBST_CABLES} + G_{SUBST_TX_ANT}$

$A_{TOT} = L_{CABLES} + A_{SUBST}$

Where A_{SUBST} is the final substitution correction including receive antenna gain.

P_{SUBST_TX} is signal generator level,

P_{SUBST_RX} is receiver level,

L_{SUBST_CABLES} is cable losses including TX cable,

$G_{SUBST_TX_ANT}$ is substitution antenna gain.

A_{TOT} is total correction factor including cable loss and substitution correction

During the test, the data of A_{TOT} was added in the Test Spectrum Analyze, so Spectrum Analyze reading is the final values which contain the data of A_{TOT}.

Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		EIRP
					RB Size	RB Offset	(dBm)
LTE Band 2	20MHz	L 18700	1860	QPSK	1	0	23.24
					100	0	22.17
				16-QAM	1	0	22.43
					100	0	21.57
		M 18900	1880	QPSK	1	0	23.15
					100	0	22.03
				16-QAM	1	0	22.39
					100	0	21.42
		H 19100	1900	QPSK	1	0	23.07
					100	0	22.11
				16-QAM	1	0	22.23
					100	0	21.65
Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		EIRP
					RB Size	RB Offset	(dBm)
LTE Band 2	15MHz	L 18675	1857.5	QPSK	1	0	23.45
					75	0	21.37
				16-QAM	1	0	22.87
					75	0	21.35
		M 18900	1880	QPSK	1	0	22.94
					75	0	20.38
				16-QAM	1	0	22.88
					75	0	20.35
		H 19125	1902.5	QPSK	1	0	23.01
					75	0	21.48
				16-QAM	1	0	22.89
					75	0	20.44
Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		EIRP
					RB Size	RB Offset	(dBm)
LTE Band 2	10MHz	L 18650	1855	QPSK	1	0	23.17
					50	0	21.34
				16-QAM	1	0	22.57
					50	0	20.29
		M 18900	1880	QPSK	1	0	23.08
					50	0	21.33
				16-QAM	1	0	22.94
					50	0	20.58
		H 19150	1905	QPSK	1	0	22.46
					50	0	20.85
				16-QAM	1	0	22.87
					50	0	20.61

Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		EIRP
					RB Size	RB Offset	(dBm)
LTE Band 2	5MHz	L 18625	1852.5	QPSK	1	0	23.14
					25	0	21.37
				16-QAM	1	0	22.82
					25	0	20.51
		M 18900	1880	QPSK	1	0	22.37
					25	0	20.49
				16-QAM	1	0	23.15
					25	0	21.39
		H 19175	1907.5	QPSK	1	0	22.67
					25	0	20.27
				16-QAM	1	0	22.54
					25	0	20.15
Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		EIRP
					RB Size	RB Offset	(dBm)
LTE Band 2	3MHz	L 18615	1851.5	QPSK	1	0	23.45
					15	0	20.98
				16-QAM	1	0	22.37
					15	0	20.01
		M 18900	1880	QPSK	1	0	23.30
					15	0	21.46
				16-QAM	1	0	22.57
					15	0	20.21
		H 19185	1908.5	QPSK	1	0	22.94
					15	0	20.31
				16-QAM	1	0	22.75
					15	0	20.11
Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		EIRP
					RB Size	RB Offset	(dBm)
LTE Band 2	1.4MHz	L 18607	1850.7	QPSK	1	0	23.12
					6	0	20.87
				16-QAM	1	0	23.01
					6	0	20.35
		18900	1880	QPSK	1	0	23.19
					6	0	21.02
				16-QAM	1	0	22.86
					6	0	20.15
		H 19193	1909.3	QPSK	1	0	23.08
					6	0	20.62
				16-QAM	1	0	22.54
					6	0	20.17

Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		EIRP
					RB Size	RB Offset	(dBm)
LTE Band 4	20MHz	L 20050	1720.0	QPSK	1	0	23.44
					100	0	21.17
				16-QAM	1	0	22.68
					100	0	20.34
		M 20175	1732.5	QPSK	1	0	23.17
					100	0	21.54
				16-QAM	1	0	22.35
					100	0	20.19
		H 20300	1745.0	QPSK	1	0	22.99
					100	0	20.87
				16-QAM	1	0	22.17
					100	0	20.21
Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		EIRP
					RB Size	RB Offset	(dBm)
LTE Band 4	15MHz	L 20025	1717.5	QPSK	1	0	23.45
					75	0	21.37
				16-QAM	1	0	22.84
					75	0	20.17
		M 20175	1732.5	QPSK	1	0	23.41
					75	0	21.07
				16-QAM	1	0	22.98
					75	0	20.31
		H 20325	1747.5	QPSK	1	0	23.07
					75	0	20.37
				16-QAM	1	0	22.54
					75	0	20.11
Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		EIRP
					RB Size	RB Offset	(dBm)
LTE Band 4	10MHz	L 20000	1715.0	QPSK	1	0	23.17
					50	0	21.40
				16-QAM	1	0	22.38
					50	0	20.16
		M 20175	1732.5	QPSK	1	0	23.24
					50	0	21.07
				16-QAM	1	0	22.89
					50	0	20.15
		H 20350	1750.0	QPSK	1	0	23.37
					50	0	21.13
				16-QAM	1	0	22..87
					50	0	20.61

Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		EIRP
					RB Size	RB Offset	(dBm)
LTE Band 4	5MHz	L 19975	1712.5	QPSK	1	0	22.86
					25	0	21.13
				16-QAM	1	0	22.51
					25	0	20.01
		M 20175	1732.5	QPSK	1	0	23.24
					25	0	21.27
				16-QAM	1	0	23.19
					25	0	21.31
		H 20375	1752.5	QPSK	1	0	22.98
					25	0	20.29
				16-QAM	1	0	22.46
					25	0	20.31
Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		EIRP
					RB Size	RB Offset	(dBm)
LTE Band 4	3MHz	L 19965	1711.5	QPSK	1	0	23.17
					15	0	21.34
				16-QAM	1	0	22.87
					15	0	20.41
		M 20175	1732.5	QPSK	1	0	22.92
					15	0	20.57
				16-QAM	1	0	22.36
					15	0	20.07
		H 20385	1753.5	QPSK	1	0	23.14
					15	0	21.57
				16-QAM	1	0	22.86
					15	0	20.11
Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		EIRP
					RB Size	RB Offset	(dBm)
LTE Band 4	1.4MHz	L 19957	1710.7	QPSK	1	0	23.15
					6	0	21.53
				16-QAM	1	0	22.94
					6	0	20.38
		M 20175	1732.5	QPSK	1	0	23.07
					6	0	21.01
				16-QAM	1	0	22.85
					6	0	20.14
		H 20393	1754.3	QPSK	1	0	23.19
					6	0	20.86
				16-QAM	1	0	22.77
					6	0	20.31

Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		ERP
					RB Size	RB Offset	(dBm)
LTE Band 5	10MHz	L 20450	829	QPSK	1	0	23.17
					50	0	21.31
				16-QAM	1	0	22.98
					50	0	20.51
		M 20525	836.5	QPSK	1	0	23.08
					50	0	20.67
				16-QAM	1	0	22.87
					50	0	20.14
		H 20600	844	QPSK	1	0	23.44
					50	0	21.31
				16-QAM	1	0	22.85
					50	0	20.47
Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		ERP
					RB Size	RB Offset	(dBm)
LTE Band 5	5MHz	L 20425	826.5	QPSK	1	0	23.16
					25	0	20.87
				16-QAM	1	0	22.65
					25	0	20.11
		M 20525	836.5	QPSK	1	0	23.42
					25	0	21.17
				16-QAM	1	0	22.61
					25	0	20.13
		H 20625	846.5	QPSK	1	0	23.09
					25	0	21.07
				16-QAM	1	0	22.87
					25	0	20.11
Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		ERP
					RB Size	RB Offset	(dBm)
LTE Band 5	3MHz	L 20415	825.5	QPSK	1	0	23.34
					15	0	21.17
				16-QAM	1	0	22.54
					15	0	20.31
		M 20525	836.5	QPSK	1	0	23.17
					15	0	21.01
				16-QAM	1	0	22.63
					15	0	20.15
		H 20635	847.5	QPSK	1	0	23.27
					15	0	20.91
				16-QAM	1	0	22.36
					15	0	20.11

Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		ERP
					RB Size	RB Offset	(dBm)
LTE Band 5	1.4MHz	L 20407	824.7	QPSK	1	0	22.87
					6	0	20.31
				16-QAM	1	0	22.54
					6	0	20.01
		M 20525	836.5	QPSK	1	0	23.11
					6	0	20.97
				16-QAM	1	0	22.75
					6	0	20.01
		H 20643	848.3	QPSK	1	0	23.24
					6	0	21.57
				16-QAM	1	0	22.83
					6	0	20.17

Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		EIRP
					RB Size	RB Offset	(dBm)
LTE Band 7	20MHz	L 20850	2510	QPSK	1	0	23.29
					100	0	21.01
				16-QAM	1	0	22.87
					100	0	20.14
		M 21100	2535	QPSK	1	0	23.46
					100	0	21.17
				16-QAM	1	0	22.86
					100	0	20.41
		H 21350	2560	QPSK	1	0	23.07
					100	0	20.77
				16-QAM	1	0	22.69
					100	0	20.31
Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		EIRP
					RB Size	RB Offset	(dBm)
LTE Band 7	15MHz	L 20825	2507.5	QPSK	1	0	23.51
					75	0	21.47
				16-QAM	1	0	22.86
					75	0	20.27
		M 21100	2535	QPSK	1	0	23.44
					75	0	21.31
				16-QAM	1	0	22.69
					75	0	20.51
		H 21375	2562.5	QPSK	1	0	23.34
					75	0	21.11
				16-QAM	1	0	22.68
					75	0	20.37

Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		EIRP
					RB Size	RB Offset	(dBm)
LTE Band 7	10MHz	L 20800	2505	QPSK	1	0	23.47
					50	0	21.15
				16-QAM	1	0	22.24
					50	0	20.07
		M 21100	2535	QPSK	1	0	23.16
					50	0	20.97
				16-QAM	1	0	22.63
					50	0	20.17
		H 21400	2565	QPSK	1	0	23.33
					50	0	21.18
				16-QAM	1	0	22.69
					50	0	20.23
Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		EIRP
					RB Size	RB Offset	(dBm)
LTE Band 7	5MHz	L 20775	2502.5	QPSK	1	0	23.19
					25	0	21.37
				16-QAM	1	0	22.85
					25	0	20.11
		M 21100	2535	QPSK	1	0	23.24
					25	0	21.37
				16-QAM	1	0	22.58
					25	0	20.61
		H 21425	2567.5	QPSK	1	0	23.12
					25	0	20.97
				16-QAM	1	0	22.64
					25	0	20.21

Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		ERP
					RB Size	RB Offset	(dBm)
LTE Band 17	10MHz	L 23780	709	QPSK	1	0	23.12
					50	0	21.01
				16-QAM	1	0	22.88
					50	0	20.27
		M 23790	710	QPSK	1	0	23.34
					50	0	21.57
				16-QAM	1	0	22.69
					50	0	20.21
		H 23800	711	QPSK	1	0	23.22
					50	0	20.87
				16-QAM	1	0	22.64
					50	0	20.31

Band	Band Width	Channel	Freq.(MHz)	Modulation	RB Configuration		ERP (dBm)
					RB Size	RB Offset	
LTE Band 17	5MHz	L 23755	706.5	QPSK	1	0	23.15
					25	0	20.67
				16-QAM	1	0	22.67
					25	0	20.17
		M 23790	710	QPSK	1	0	23.16
					25	0	20.81
				16-QAM	1	0	22.46
					25	0	20.11
		H 23825	713.5	QPSK	1	0	23.24
					25	0	21.07
				16-QAM	1	0	22.59
					25	0	20.13

2.8 Radiated Spurious Emissions

2.8.1 Requirement

According to FCC section 2.1053 and section 27.53(g), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43+10*log(P)dB. This calculated to be -13dBm.

2.8.2 Test Description

See section 2.7.2 of this report.

Note: when doing measurements above 1GHz, the EUT has been within the 3dB cone width of the horn antenna during horizontal antenna.

2.8.3 Test Result

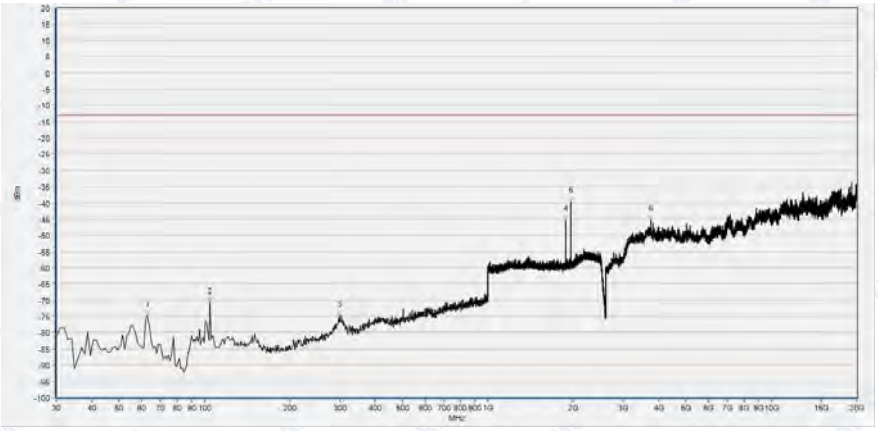
The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented.

Test Plots for the Whole Measurement Frequency Range:

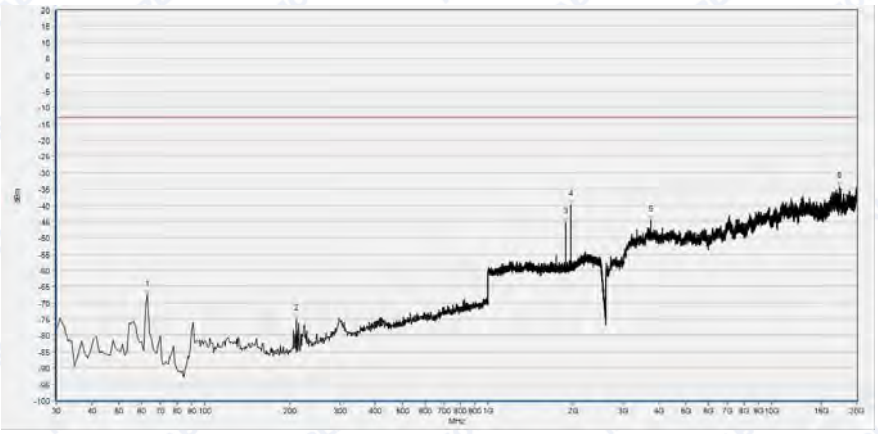
Note1: the power of the EUT transmitting frequency should be ignored.

Note2: All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

LTE Band 2 1.4MHz BW, Mid Channel, QPSK



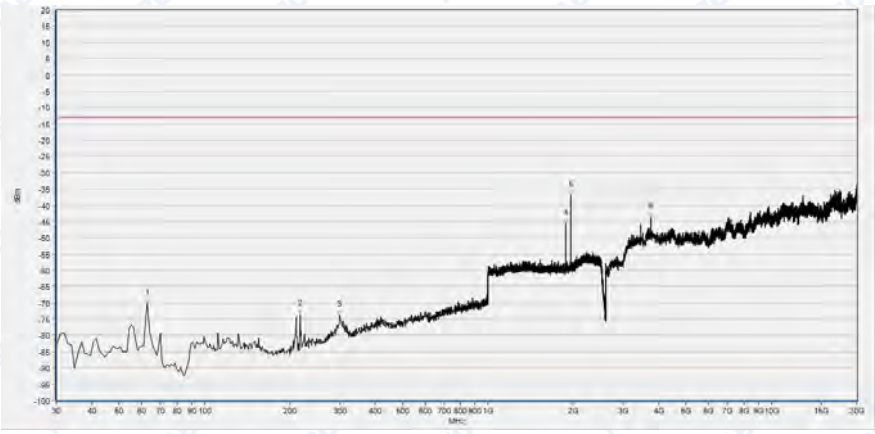
Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-74.79	-13.00	Horizontal	PASS
2	104.690	-70.70	-13.00	Horizontal	PASS
3	299.660	-74.85	-13.00	Horizontal	PASS
4	1880.352	-45.28	-13.00	Horizontal	PASS
5	1961.024	-39.62	-13.00	Horizontal	PASS
6	3758.101	-45.23	-13.00	Horizontal	PASS



Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-67.70	-13.00	Vertical	PASS
2	210.420	-74.93	-13.00	Vertical	PASS
3	1879.712	-45.33	-13.00	Vertical	PASS
4	1960.384	-39.86	-13.00	Vertical	PASS
5	3758.101	-44.69	-13.00	Vertical	PASS
6	17370.540	-34.38	-13.00	Vertical	PASS

LTE Band 2 1.4MHz BW, Mid Channel, 16QAM

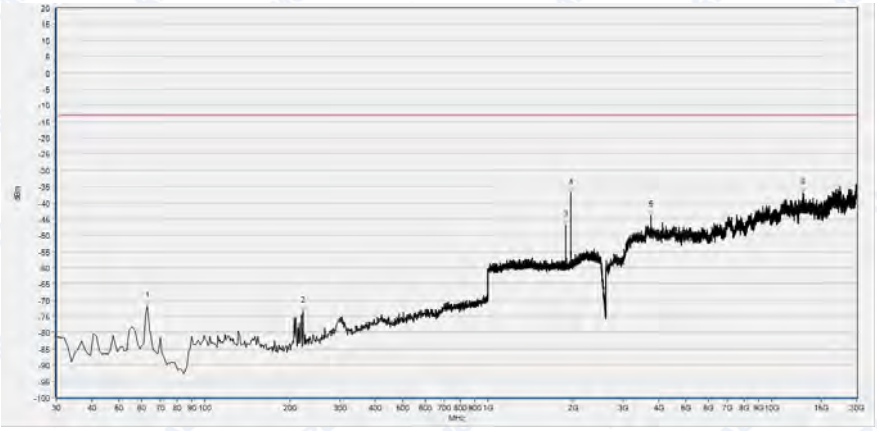
Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-73.15	-13.00	Horizontal	PASS
2	104.690	-71.20	-13.00	Horizontal	PASS
3	302.570	-74.79	-13.00	Horizontal	PASS
4	1880.352	-45.71	-13.00	Horizontal	PASS
5	1960.384	-38.57	-13.00	Horizontal	PASS
6	3761.266	-45.15	-13.00	Horizontal	PASS



Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-70.31	-13.00	Vertical	PASS
2	217.210	-73.58	-13.00	Vertical	PASS
3	299.660	-73.79	-13.00	Vertical	PASS
4	1879.712	-45.70	-13.00	Vertical	PASS
5	1960.384	-37.01	-13.00	Vertical	PASS
6	3761.266	-43.78	-13.00	Vertical	PASS

LTE Band 2 3MHz BW, Mid Channel, QPSK

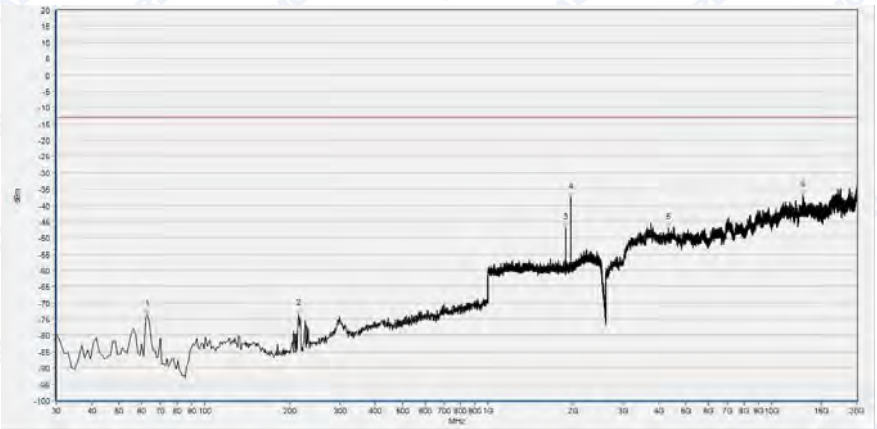
Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-77.05	-13.00	Horizontal	PASS
2	104.690	-70.87	-13.00	Horizontal	PASS
3	302.570	-74.45	-13.00	Horizontal	PASS
4	1881.633	-47.16	-13.00	Horizontal	PASS
5	1960.384	-37.98	-13.00	Horizontal	PASS
6	3761.266	-43.92	-13.00	Horizontal	PASS



Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-71.94	-13.00	Vertical	PASS
2	223.030	-73.43	-13.00	Vertical	PASS
3	1881.633	-46.78	-13.00	Vertical	PASS
4	1961.665	-37.04	-13.00	Vertical	PASS
5	3764.430	-43.84	-13.00	Vertical	PASS
6	12899.509	-37.07	-13.00	Vertical	PASS

LTE Band 2 3MHz BW, Mid Channel, 16QAM

Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	104.690	-70.50	-13.00	Horizontal	PASS
2	307.420	-74.77	-13.00	Horizontal	PASS
3	1881.633	-47.40	-13.00	Horizontal	PASS
4	1961.024	-36.71	-13.00	Horizontal	PASS
5	3764.430	-45.25	-13.00	Horizontal	PASS
6	18857.720	-34.44	-13.00	Horizontal	PASS



Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-73.64	-13.00	Vertical	PASS
2	215.270	-73.45	-13.00	Vertical	PASS
3	1881.633	-46.95	-13.00	Vertical	PASS
4	1959.744	-37.65	-13.00	Vertical	PASS
5	4324.495	-47.15	-13.00	Vertical	PASS
6	12899.509	-36.94	-13.00	Vertical	PASS

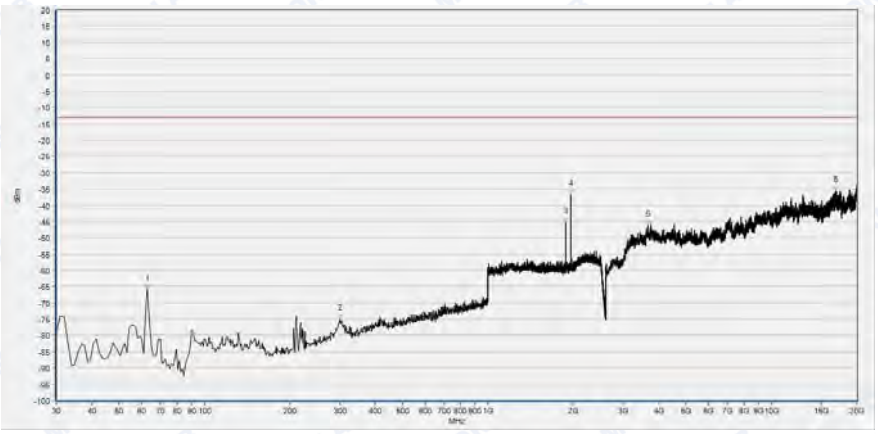
LTE Band 2 5MHz BW, Mid Channel, QPSK

Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-73.85	-13.00	Horizontal	PASS
2	104.690	-70.72	-13.00	Horizontal	PASS
3	302.570	-74.69	-13.00	Horizontal	PASS
4	1878.431	-45.00	-13.00	Horizontal	PASS
5	1959.744	-37.38	-13.00	Horizontal	PASS
6	17490.780	-34.59	-13.00	Horizontal	PASS

Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-69.01	-13.00	Vertical	PASS
2	214.300	-73.90	-13.00	Vertical	PASS
3	1878.431	-45.11	-13.00	Vertical	PASS
4	1960.384	-36.76	-13.00	Vertical	PASS
5	3777.087	-47.11	-13.00	Vertical	PASS
6	12874.195	-37.22	-13.00	Vertical	PASS

LTE Band 2 5MHz BW, Mid Channel, 16QAM

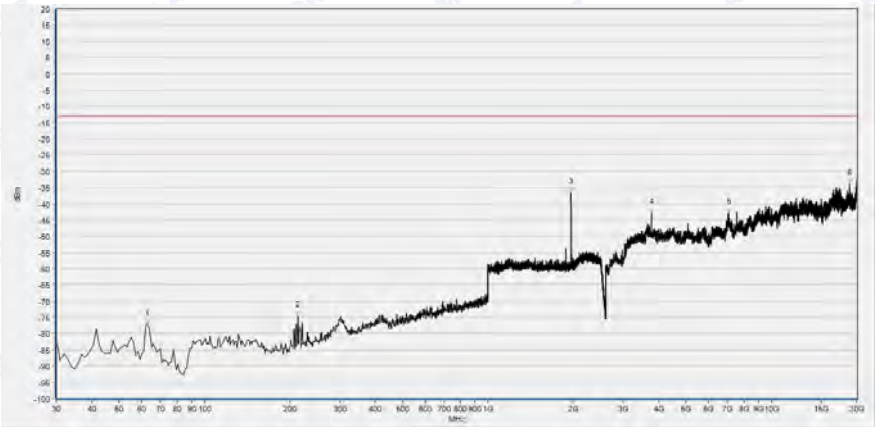
Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-73.97	-13.00	Horizontal	PASS
2	104.690	-71.62	-13.00	Horizontal	PASS
3	300.630	-75.00	-13.00	Horizontal	PASS
4	1878.431	-45.57	-13.00	Horizontal	PASS
5	1960.384	-37.64	-13.00	Horizontal	PASS
6	11738.243	-37.54	-13.00	Horizontal	PASS



Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-65.80	-13.00	Vertical	PASS
2	300.630	-74.93	-13.00	Vertical	PASS
3	1878.431	-45.18	-13.00	Vertical	PASS
4	1959.744	-36.86	-13.00	Vertical	PASS
5	3663.175	-46.18	-13.00	Vertical	PASS
6	16804.146	-35.68	-13.00	Vertical	PASS

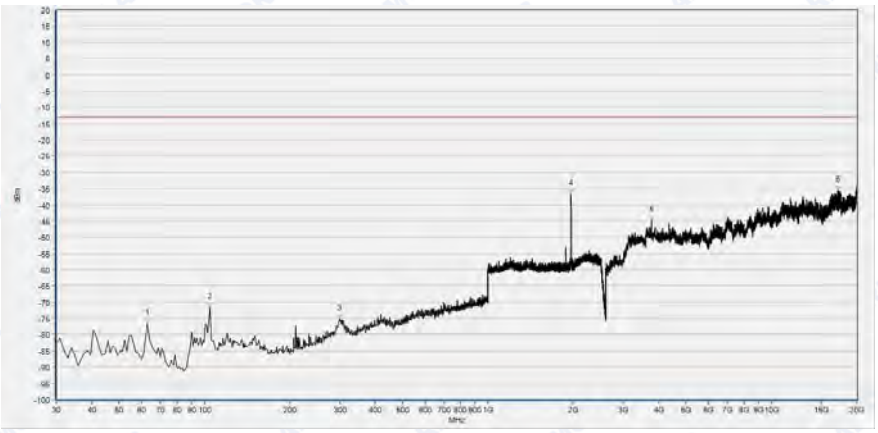
LTE Band 2 10MHz BW, Mid Channel, QPSK

Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	104.690	-71.15	-13.00	Horizontal	PASS
2	299.660	-73.66	-13.00	Horizontal	PASS
3	1963.585	-36.83	-13.00	Horizontal	PASS
4	3770.758	-43.72	-13.00	Horizontal	PASS
5	6985.597	-44.29	-13.00	Horizontal	PASS
6	18816.585	-34.09	-13.00	Horizontal	PASS



Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-77.31	-13.00	Vertical	PASS
2	213.330	-74.62	-13.00	Vertical	PASS
3	1959.744	-36.58	-13.00	Vertical	PASS
4	3770.758	-42.86	-13.00	Vertical	PASS
5	7071.031	-42.85	-13.00	Vertical	PASS
6	18883.033	-33.85	-13.00	Vertical	PASS

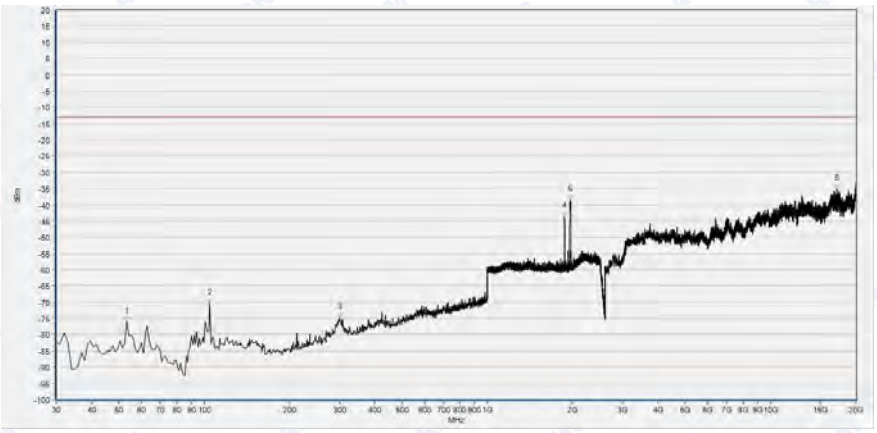
LTE Band 2 10MHz BW, Mid Channel, 16QAM



Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-76.49	-13.00	Horizontal	PASS
2	104.690	-71.52	-13.00	Horizontal	PASS
3	299.660	-75.18	-13.00	Horizontal	PASS
4	1963.585	-36.77	-13.00	Horizontal	PASS
5	3770.758	-44.89	-13.00	Horizontal	PASS
6	17114.239	-35.74	-13.00	Horizontal	PASS

Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-73.01	-13.00	Vertical	PASS
2	213.330	-74.54	-13.00	Vertical	PASS
3	1963.585	-34.69	-13.00	Vertical	PASS
4	3767.594	-43.60	-13.00	Vertical	PASS
5	11200.327	-38.46	-13.00	Vertical	PASS
6	17168.031	-35.50	-13.00	Vertical	PASS

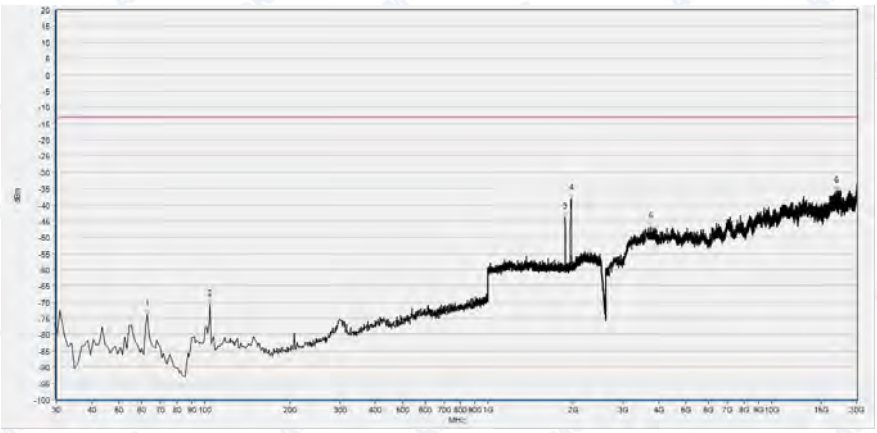
LTE Band 2 15MHz BW, Mid Channel, QPSK



Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	53.280	-76.15	-13.00	Horizontal	PASS
2	104.690	-70.54	-13.00	Horizontal	PASS
3	300.630	-74.86	-13.00	Horizontal	PASS
4	1873.950	-43.60	-13.00	Horizontal	PASS
5	1964.226	-38.55	-13.00	Horizontal	PASS
6	17164.866	-35.28	-13.00	Horizontal	PASS

Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-76.87	-13.00	Vertical	PASS
2	208.480	-71.51	-13.00	Vertical	PASS
3	1873.950	-43.71	-13.00	Vertical	PASS
4	1964.866	-38.63	-13.00	Vertical	PASS
5	3748.609	-45.25	-13.00	Vertical	PASS
6	12921.658	-37.10	-13.00	Vertical	PASS

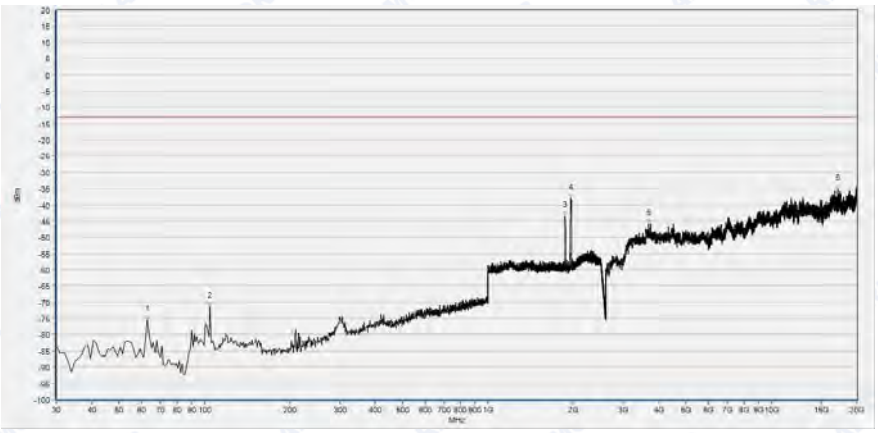
LTE Band 2 15MHz BW, Mid Channel, 16QAM



Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-73.95	-13.00	Horizontal	PASS
2	104.690	-70.66	-13.00	Horizontal	PASS
3	1873.950	-43.83	-13.00	Horizontal	PASS
4	1965.506	-38.20	-13.00	Horizontal	PASS
5	3748.609	-46.78	-13.00	Horizontal	PASS
6	16905.401	-35.92	-13.00	Horizontal	PASS

Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-70.61	-13.00	Vertical	PASS
2	216.240	-73.61	-13.00	Vertical	PASS
3	1873.950	-43.26	-13.00	Vertical	PASS
4	1961.665	-38.38	-13.00	Vertical	PASS
5	3748.609	-44.51	-13.00	Vertical	PASS
6	17376.869	-34.19	-13.00	Vertical	PASS

LTE Band 2 20MHz BW, Mid Channel, QPSK



Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-75.33	-13.00	Horizontal	PASS
2	104.690	-71.29	-13.00	Horizontal	PASS
3	1873.950	-43.57	-13.00	Horizontal	PASS
4	1962.305	-38.07	-13.00	Horizontal	PASS
5	3694.817	-45.90	-13.00	Horizontal	PASS
6	17114.239	-35.26	-13.00	Horizontal	PASS

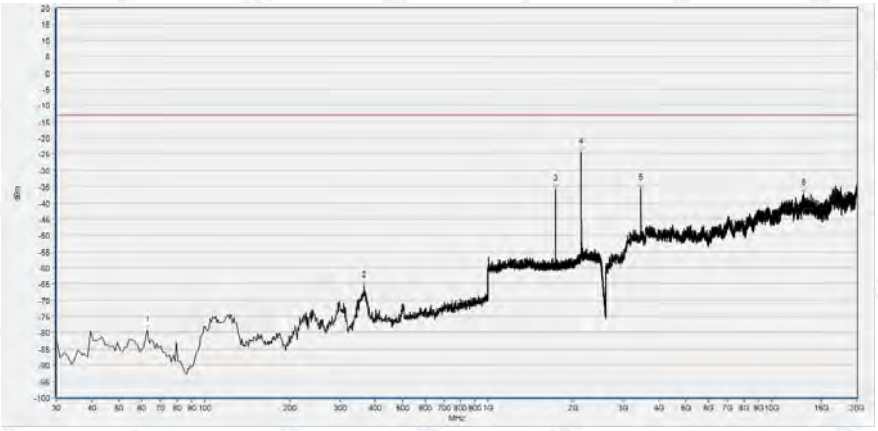
Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	40.670	-75.89	-13.00	Vertical	PASS
2	62.980	-74.88	-13.00	Vertical	PASS
3	210.420	-73.67	-13.00	Vertical	PASS
4	1873.950	-43.42	-13.00	Vertical	PASS
5	1960.384	-37.96	-13.00	Vertical	PASS
6	3748.609	-43.93	-13.00	Vertical	PASS

LTE Band 2 20MHz BW, Mid Channel, 16QAM

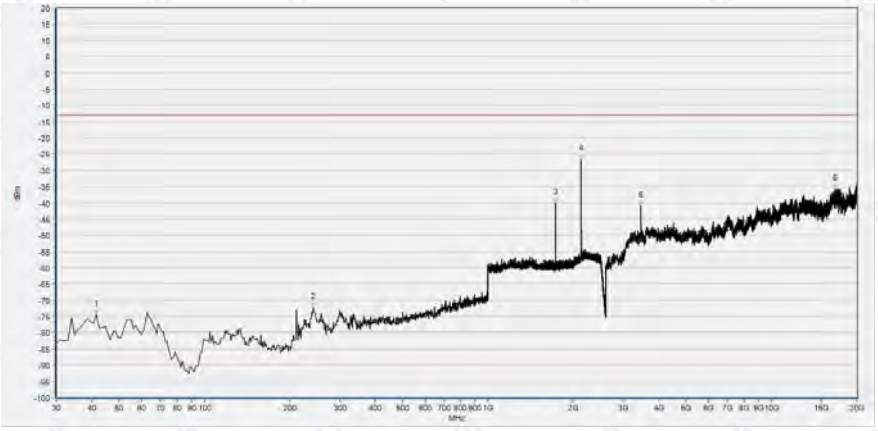
Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	39.700	-78.24	-13.00	Horizontal	PASS
2	104.690	-70.91	-13.00	Horizontal	PASS
3	1873.950	-43.76	-13.00	Horizontal	PASS
4	1964.226	-38.66	-13.00	Horizontal	PASS
5	3748.609	-45.73	-13.00	Horizontal	PASS
6	16490.889	-35.23	-13.00	Horizontal	PASS

Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	39.700	-72.44	-13.00	Vertical	PASS
2	62.980	-74.11	-13.00	Vertical	PASS
3	216.240	-72.51	-13.00	Vertical	PASS
4	1873.950	-43.59	-13.00	Vertical	PASS
5	1966.787	-37.91	-13.00	Vertical	PASS
6	12915.330	-37.06	-13.00	Vertical	PASS

LTE Band 4 1.4MHz BW, Mid Channel, QPSK



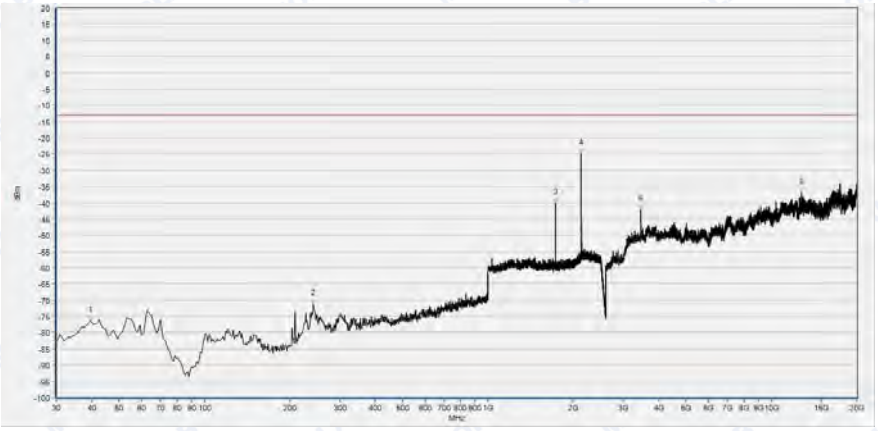
Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-79.11	-13.00	Horizontal	PASS
2	365.620	-65.66	-13.00	Horizontal	PASS
3	1731.813	-35.84	-13.00	Horizontal	PASS
4	2131.973	-24.58	-13.00	Horizontal	PASS
5	3463.830	-35.61	-13.00	Horizontal	PASS
6	12969.122	-37.31	-13.00	Horizontal	PASS



Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	41.640	-74.55	-13.00	Vertical	PASS
2	242.430	-72.27	-13.00	Vertical	PASS
3	1731.813	-40.22	-13.00	Vertical	PASS
4	2131.973	-26.75	-13.00	Vertical	PASS
5	3463.830	-40.95	-13.00	Vertical	PASS
6	16740.862	-35.87	-13.00	Vertical	PASS

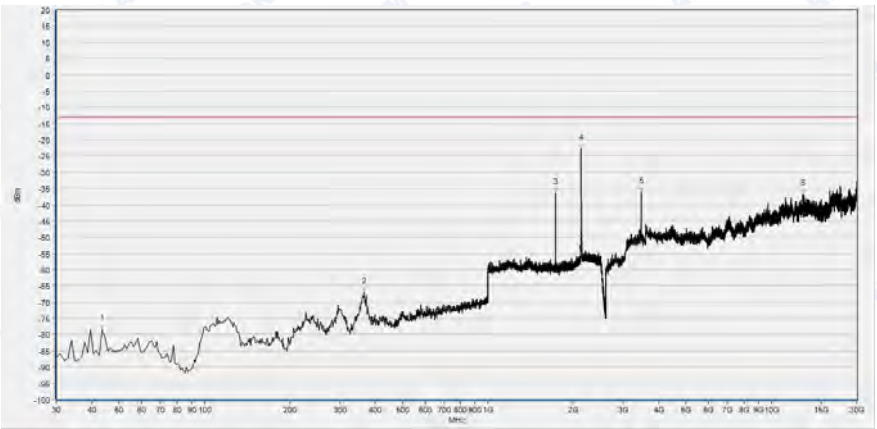
LTE Band 4 1.4MHz BW, Mid Channel, 16QAM

Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	39.700	-78.33	-13.00	Horizontal	PASS
2	121.180	-72.99	-13.00	Horizontal	PASS
3	365.620	-66.41	-13.00	Horizontal	PASS
4	1731.813	-35.98	-13.00	Horizontal	PASS
5	2132.613	-24.48	-13.00	Horizontal	PASS
6	3463.830	-35.85	-13.00	Horizontal	PASS

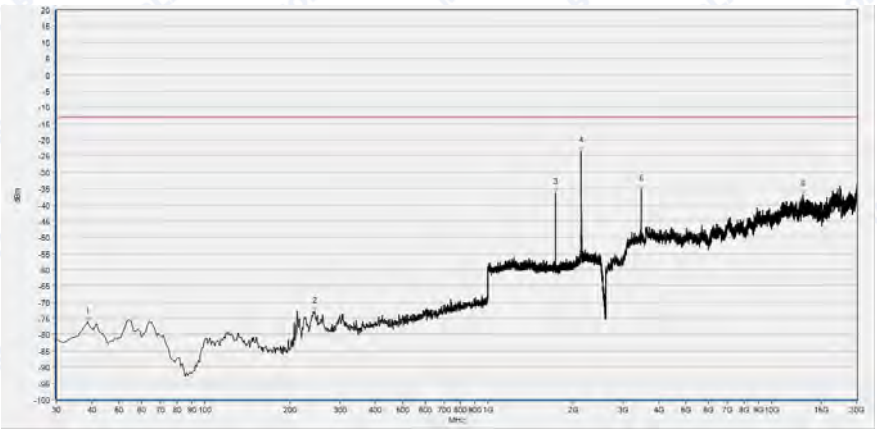


Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	39.700	-76.37	-13.00	Vertical	PASS
2	242.430	-71.18	-13.00	Vertical	PASS
3	1731.813	-40.09	-13.00	Vertical	PASS
4	2132.613	-24.94	-13.00	Vertical	PASS
5	3463.830	-42.21	-13.00	Vertical	PASS
6	12791.926	-37.08	-13.00	Vertical	PASS

LTE Band 4 3MHz BW, Mid Channel, QPSK

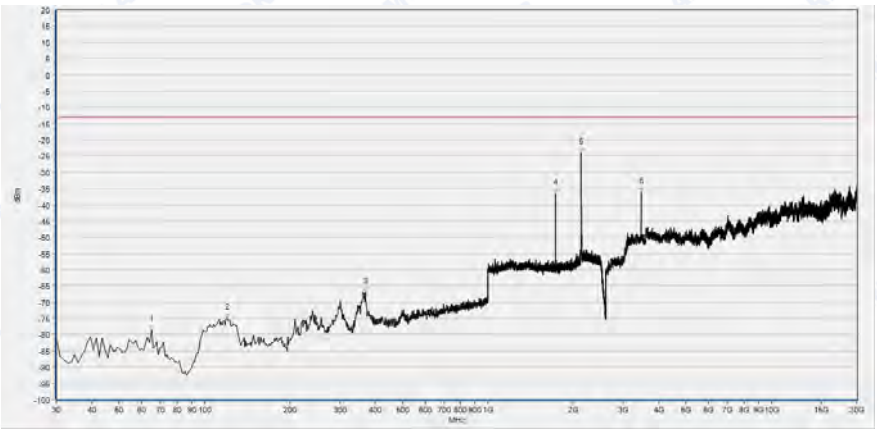


Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	43.580	-78.43	-13.00	Horizontal	PASS
2	366.590	-67.02	-13.00	Horizontal	PASS
3	1733.733	-36.33	-13.00	Horizontal	PASS
4	2132.613	-22.62	-13.00	Horizontal	PASS
5	3466.994	-36.11	-13.00	Horizontal	PASS
6	12918.494	-36.68	-13.00	Horizontal	PASS

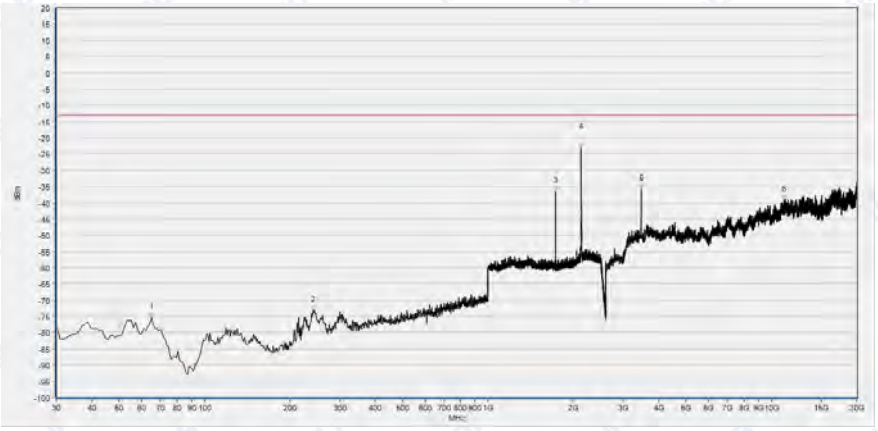


Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	38.730	-76.19	-13.00	Vertical	PASS
2	244.370	-72.89	-13.00	Vertical	PASS
3	1733.733	-36.32	-13.00	Vertical	PASS
4	2131.973	-23.51	-13.00	Vertical	PASS
5	3466.994	-35.42	-13.00	Vertical	PASS
6	12927.987	-36.99	-13.00	Vertical	PASS

LTE Band 4 3MHz BW, Mid Channel, 16QAM

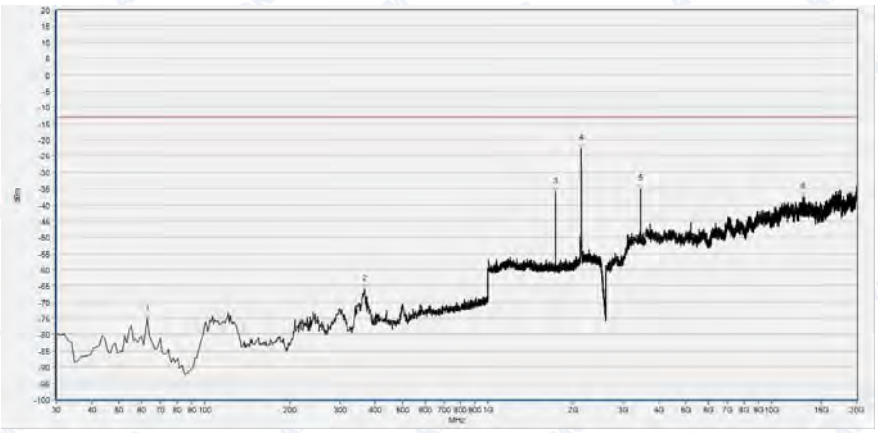


Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	64.920	-78.65	-13.00	Horizontal	PASS
2	120.210	-74.91	-13.00	Horizontal	PASS
3	369.500	-66.84	-13.00	Horizontal	PASS
4	1733.733	-36.45	-13.00	Horizontal	PASS
5	2133.253	-24.12	-13.00	Horizontal	PASS
6	3466.994	-36.00	-13.00	Horizontal	PASS



Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	64.920	-75.39	-13.00	Vertical	PASS
2	241.460	-73.23	-13.00	Vertical	PASS
3	1733.733	-36.65	-13.00	Vertical	PASS
4	2131.973	-23.05	-13.00	Vertical	PASS
5	3466.994	-35.83	-13.00	Vertical	PASS
6	11048.445	-39.15	-13.00	Vertical	PASS

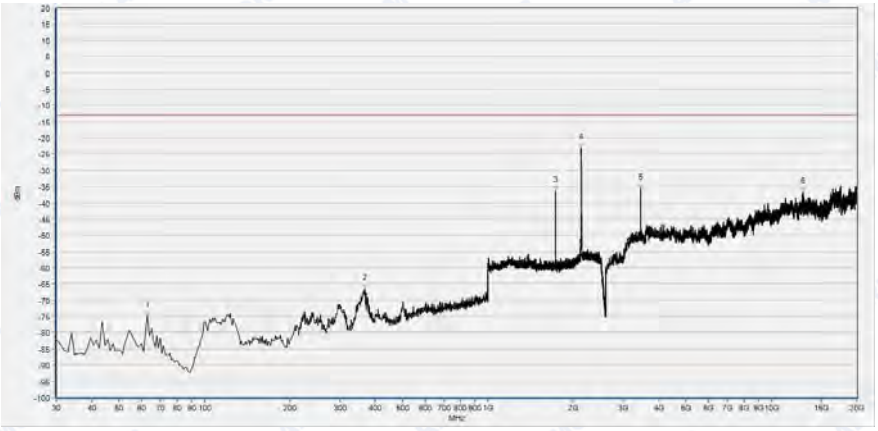
LTE Band 4 5MHz BW, Mid Channel, QPSK



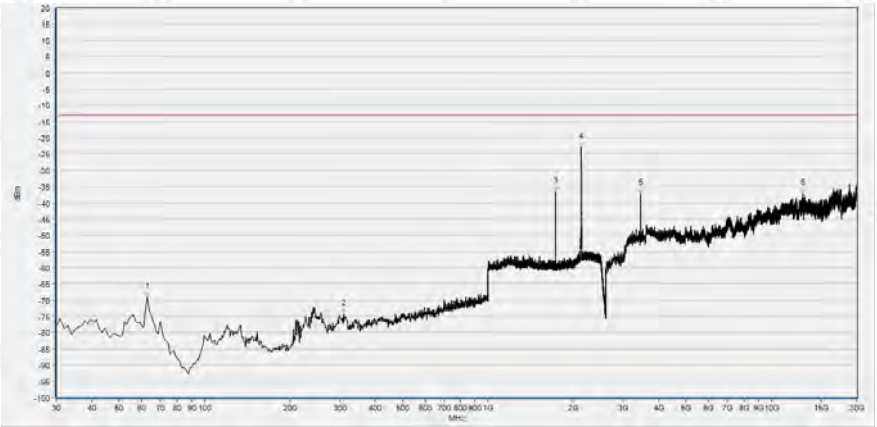
Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-75.17	-13.00	Horizontal	PASS
2	367.560	-66.04	-13.00	Horizontal	PASS
3	1729.892	-36.19	-13.00	Horizontal	PASS
4	2132.613	-22.63	-13.00	Horizontal	PASS
5	3460.666	-35.14	-13.00	Horizontal	PASS
6	12912.166	-37.69	-13.00	Horizontal	PASS

Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-72.13	-13.00	Vertical	PASS
2	209.450	-74.18	-13.00	Vertical	PASS
3	1730.532	-35.96	-13.00	Vertical	PASS
4	2133.253	-22.33	-13.00	Vertical	PASS
5	3460.666	-34.12	-13.00	Vertical	PASS
6	12950.136	-37.05	-13.00	Vertical	PASS

LTE Band 4 5MHz BW, Mid Channel, 16QAM

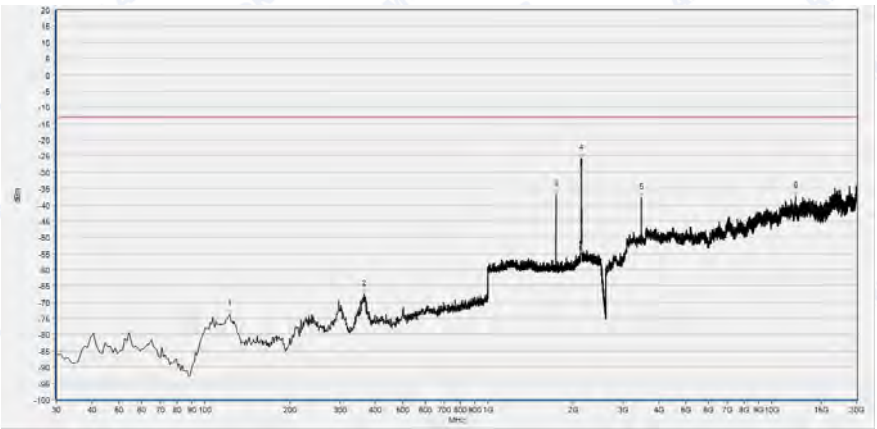


Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-74.80	-13.00	Horizontal	PASS
2	367.560	-66.45	-13.00	Horizontal	PASS
3	1729.892	-36.39	-13.00	Horizontal	PASS
4	2130.692	-23.02	-13.00	Horizontal	PASS
5	3460.666	-35.60	-13.00	Horizontal	PASS
6	12918.494	-36.70	-13.00	Horizontal	PASS

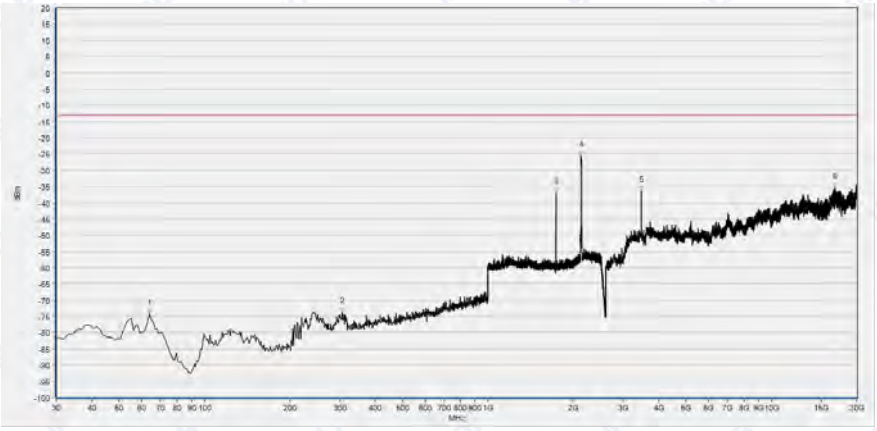


Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-69.24	-13.00	Vertical	PASS
2	309.360	-74.25	-13.00	Vertical	PASS
3	1729.892	-36.56	-13.00	Vertical	PASS
4	2130.692	-22.86	-13.00	Vertical	PASS
5	3460.666	-37.22	-13.00	Vertical	PASS
6	12880.524	-37.26	-13.00	Vertical	PASS

LTE Band 4 10MHz BW, Mid Channel, QPSK

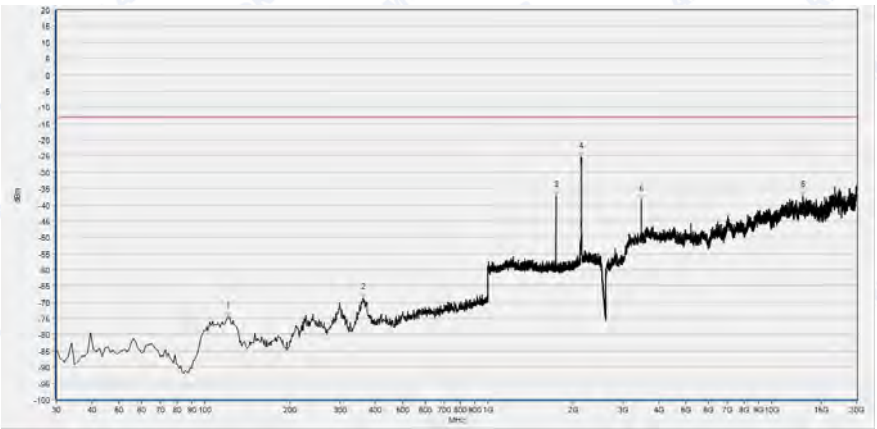


Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	122.150	-73.80	-13.00	Horizontal	PASS
2	366.590	-67.64	-13.00	Horizontal	PASS
3	1736.935	-37.06	-13.00	Horizontal	PASS
4	2133.253	-25.91	-13.00	Horizontal	PASS
5	3473.322	-37.88	-13.00	Horizontal	PASS
6	12178.069	-37.47	-13.00	Horizontal	PASS

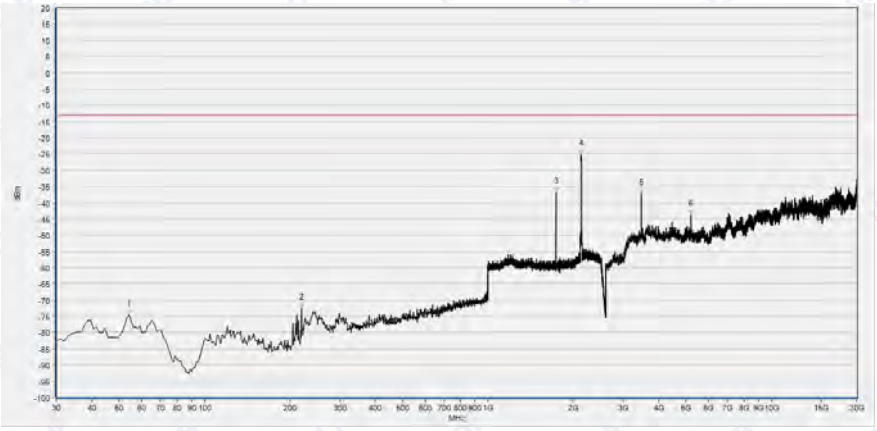


Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	63.950	-74.34	-13.00	Vertical	PASS
2	305.480	-73.66	-13.00	Vertical	PASS
3	1736.935	-36.92	-13.00	Vertical	PASS
4	2129.412	-25.68	-13.00	Vertical	PASS
5	3473.322	-36.29	-13.00	Vertical	PASS
6	16744.026	-35.50	-13.00	Vertical	PASS

LTE Band 4 10MHz BW, Mid Channel, 16QAM

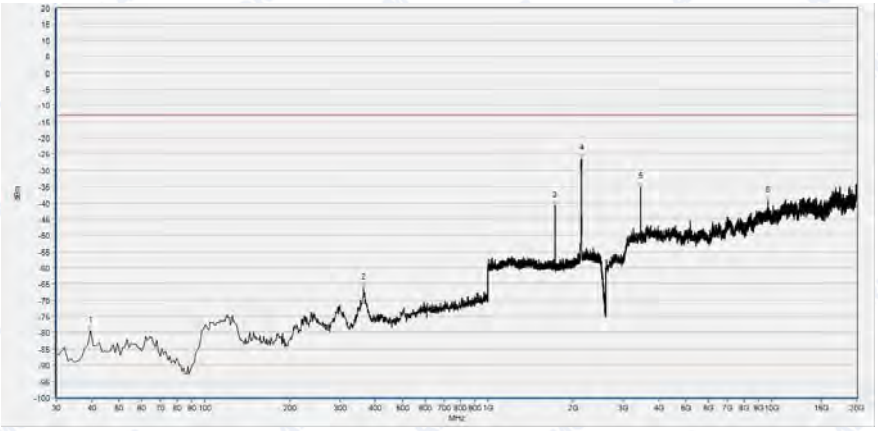


Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	121.180	-74.53	-13.00	Horizontal	PASS
2	362.710	-68.74	-13.00	Horizontal	PASS
3	1736.935	-37.29	-13.00	Horizontal	PASS
4	2131.973	-25.35	-13.00	Horizontal	PASS
5	3473.322	-38.47	-13.00	Horizontal	PASS
6	12893.181	-37.22	-13.00	Horizontal	PASS



Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	54.250	-74.60	-13.00	Vertical	PASS
2	220.120	-72.44	-13.00	Vertical	PASS
3	1736.935	-36.82	-13.00	Vertical	PASS
4	2131.973	-25.25	-13.00	Vertical	PASS
5	3473.322	-37.21	-13.00	Vertical	PASS
6	5210.475	-43.74	-13.00	Vertical	PASS

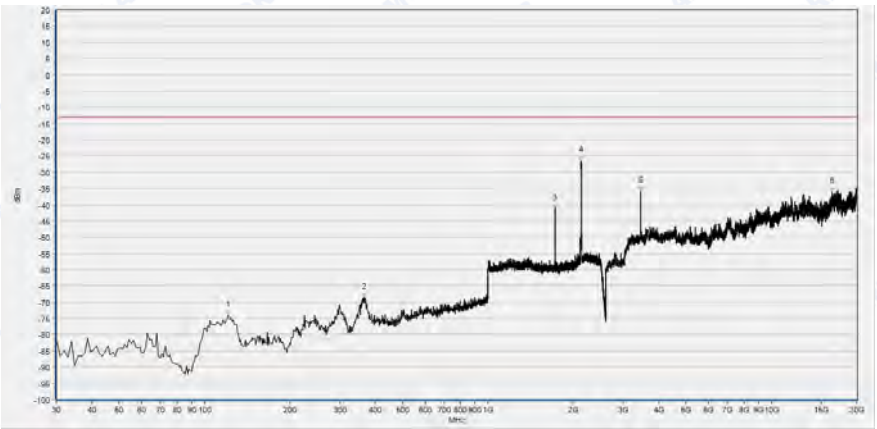
LTE Band 4 15MHz BW, Mid Channel, QPSK



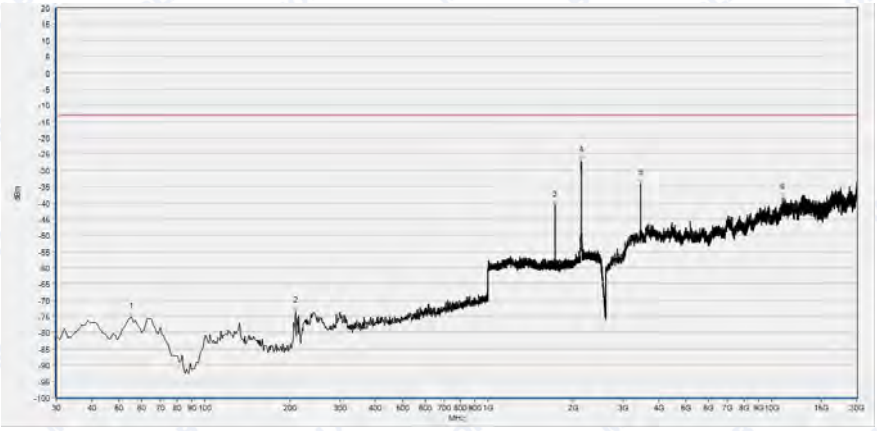
Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	39.700	-79.46	-13.00	Horizontal	PASS
2	363.680	-66.20	-13.00	Horizontal	PASS
3	1725.410	-40.98	-13.00	Horizontal	PASS
4	2137.095	-26.40	-13.00	Horizontal	PASS
5	3451.173	-35.19	-13.00	Horizontal	PASS
6	9716.312	-39.34	-13.00	Horizontal	PASS

Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	64.920	-76.14	-13.00	Vertical	PASS
2	210.420	-73.38	-13.00	Vertical	PASS
3	1725.410	-40.90	-13.00	Vertical	PASS
4	2128.131	-25.66	-13.00	Vertical	PASS
5	3451.173	-34.64	-13.00	Vertical	PASS
6	11728.751	-38.71	-13.00	Vertical	PASS

LTE Band 4 15MHz BW, Mid Channel, 16QAM



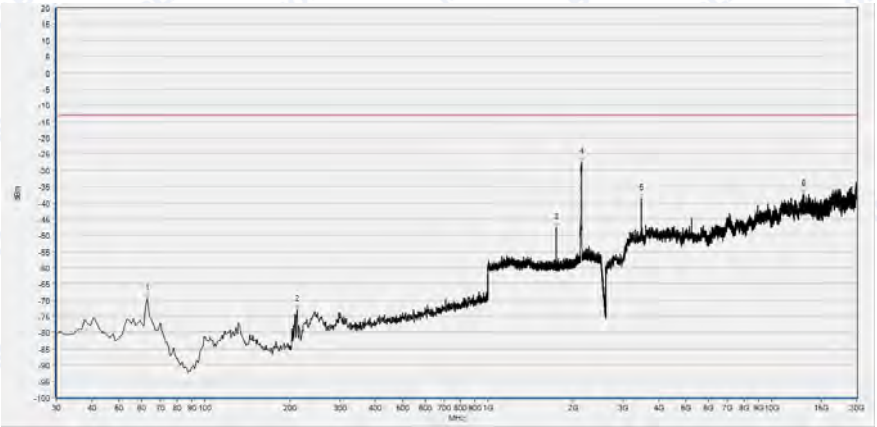
Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	121.180	-74.04	-13.00	Horizontal	PASS
2	364.650	-68.62	-13.00	Horizontal	PASS
3	1725.410	-41.17	-13.00	Horizontal	PASS
4	2126.851	-26.42	-13.00	Horizontal	PASS
5	3451.173	-35.91	-13.00	Horizontal	PASS
6	16335.843	-35.99	-13.00	Horizontal	PASS



Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	55.220	-75.09	-13.00	Vertical	PASS
2	209.450	-73.40	-13.00	Vertical	PASS
3	1725.410	-40.79	-13.00	Vertical	PASS
4	2133.253	-27.07	-13.00	Vertical	PASS
5	3451.173	-34.09	-13.00	Vertical	PASS
6	10956.683	-38.55	-13.00	Vertical	PASS

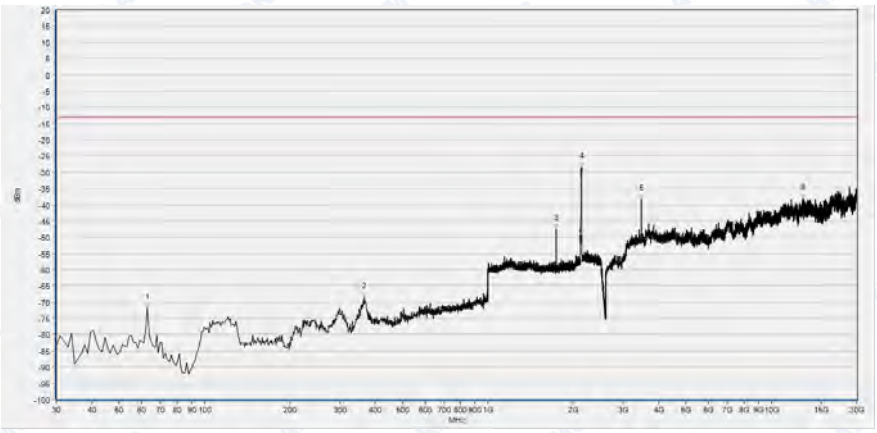
LTE Band 4 20MHz BW, Mid Channel, QPSK

Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.010	-74.32	-13.00	Horizontal	PASS
2	122.150	-74.71	-13.00	Horizontal	PASS
3	364.650	-67.97	-13.00	Horizontal	PASS
4	1741.417	-47.13	-13.00	Horizontal	PASS
5	2126.210	-28.20	-13.00	Horizontal	PASS
6	3482.815	-38.06	-13.00	Horizontal	PASS

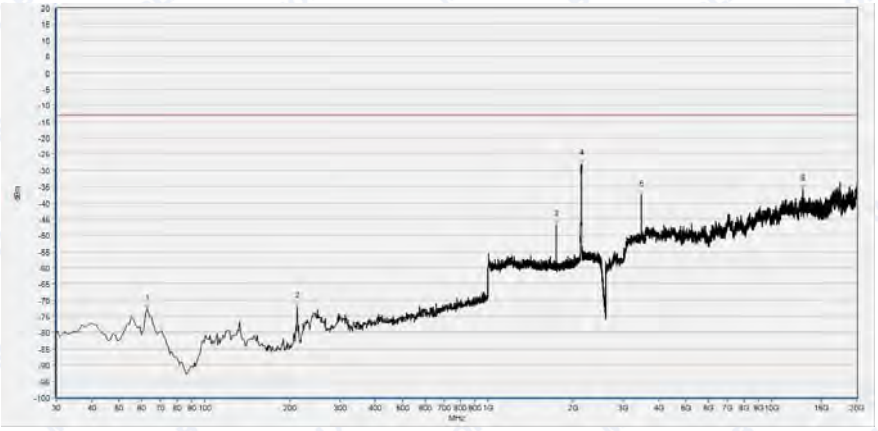


Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-69.52	-13.00	Vertical	PASS
2	212.360	-72.89	-13.00	Vertical	PASS
3	1741.417	-47.63	-13.00	Vertical	PASS
4	2135.814	-27.68	-13.00	Vertical	PASS
5	3482.815	-38.68	-13.00	Vertical	PASS
6	12962.793	-37.54	-13.00	Vertical	PASS

LTE Band 4 20MHz BW, Mid Channel, 16QAM

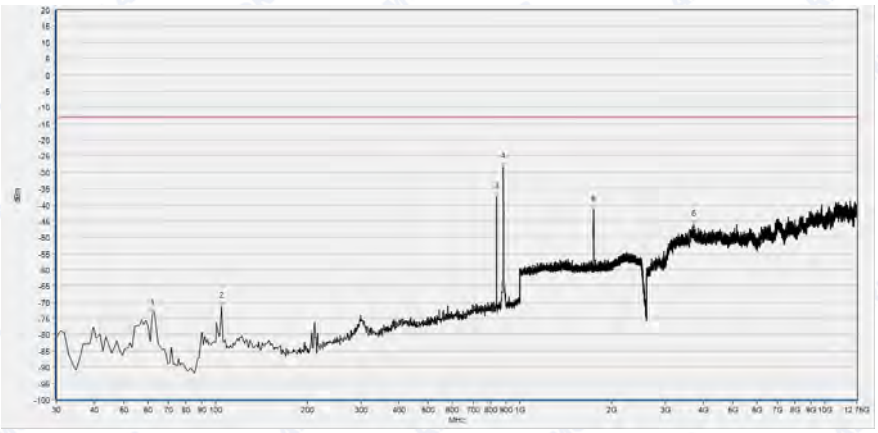


Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-71.78	-13.00	Horizontal	PASS
2	365.620	-68.53	-13.00	Horizontal	PASS
3	1741.417	-47.49	-13.00	Horizontal	PASS
4	2140.296	-28.47	-13.00	Horizontal	PASS
5	3482.815	-38.30	-13.00	Horizontal	PASS
6	12893.181	-38.10	-13.00	Horizontal	PASS

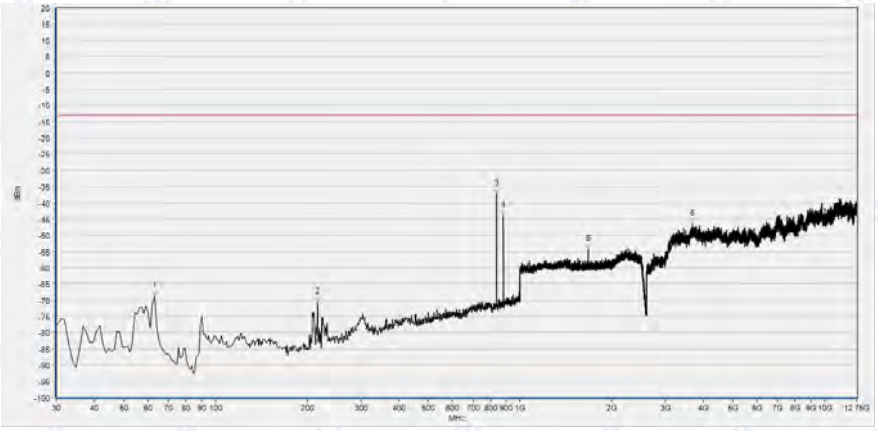


Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-72.74	-13.00	Vertical	PASS
2	212.360	-72.05	-13.00	Vertical	PASS
3	1741.417	-46.89	-13.00	Vertical	PASS
4	2139.656	-28.09	-13.00	Vertical	PASS
5	3482.815	-37.64	-13.00	Vertical	PASS
6	12883.688	-35.96	-13.00	Vertical	PASS

LTE Band 5 1.4MHz BW, Mid Channel, QPSK

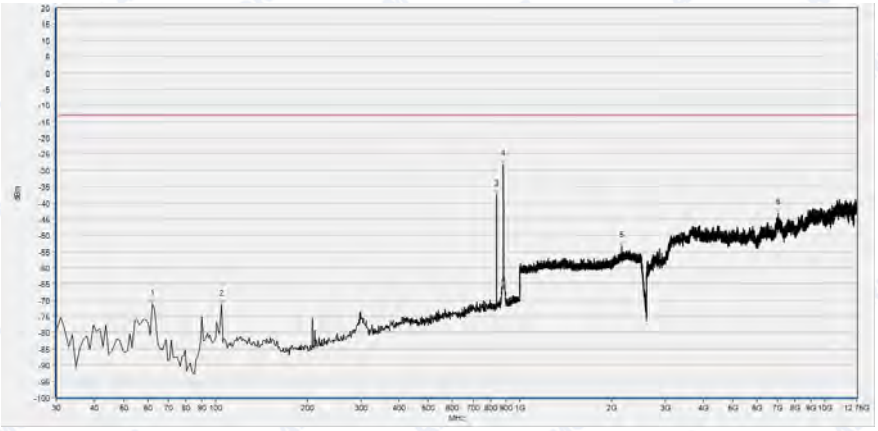


Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.010	-73.74	-13.00	Horizontal	PASS
2	104.690	-71.39	-13.00	Horizontal	PASS
3	836.070	-37.62	-13.00	Horizontal	PASS
4	881.660	-28.48	-13.00	Horizontal	PASS
5	1744.618	-41.58	-13.00	Horizontal	PASS
6	3720.395	-46.14	-13.00	Horizontal	PASS

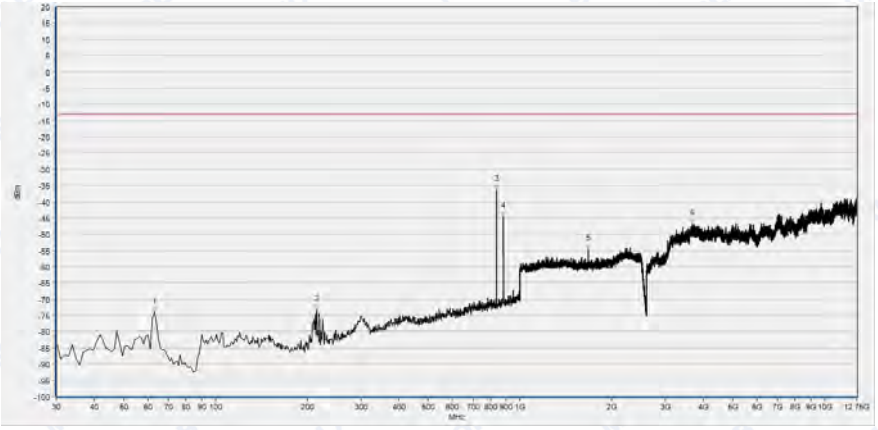


Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-68.70	-13.00	Vertical	PASS
2	216.240	-70.64	-13.00	Vertical	PASS
3	836.070	-37.23	-13.00	Vertical	PASS
4	881.660	-44.12	-13.00	Vertical	PASS
5	1672.909	-54.47	-13.00	Vertical	PASS
6	3674.250	-46.61	-13.00	Vertical	PASS

LTE Band 5 1.4MHz BW, Mid Channel, 16QAM

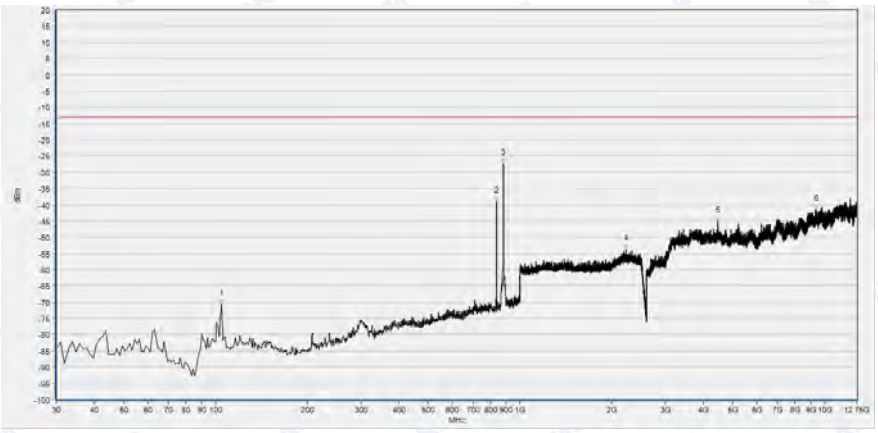


Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.010	-71.26	-13.00	Horizontal	PASS
2	104.690	-71.34	-13.00	Horizontal	PASS
3	836.070	-37.37	-13.00	Horizontal	PASS
4	881.660	-28.22	-13.00	Horizontal	PASS
5	2157.583	-53.33	-13.00	Horizontal	PASS
6	7026.205	-43.20	-13.00	Horizontal	PASS

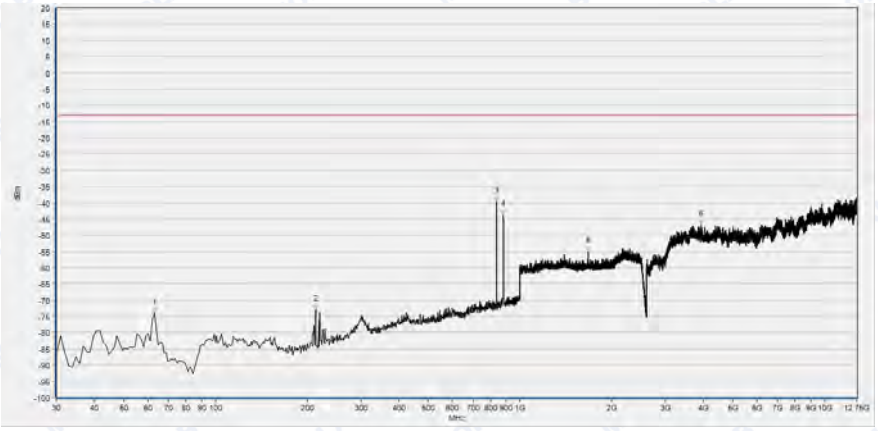


Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-74.15	-13.00	Vertical	PASS
2	215.270	-73.21	-13.00	Vertical	PASS
3	836.070	-36.29	-13.00	Vertical	PASS
4	881.660	-44.64	-13.00	Vertical	PASS
5	1672.909	-54.64	-13.00	Vertical	PASS
6	3668.712	-46.73	-13.00	Vertical	PASS

LTE Band 5 3MHz BW, Mid Channel, QPSK

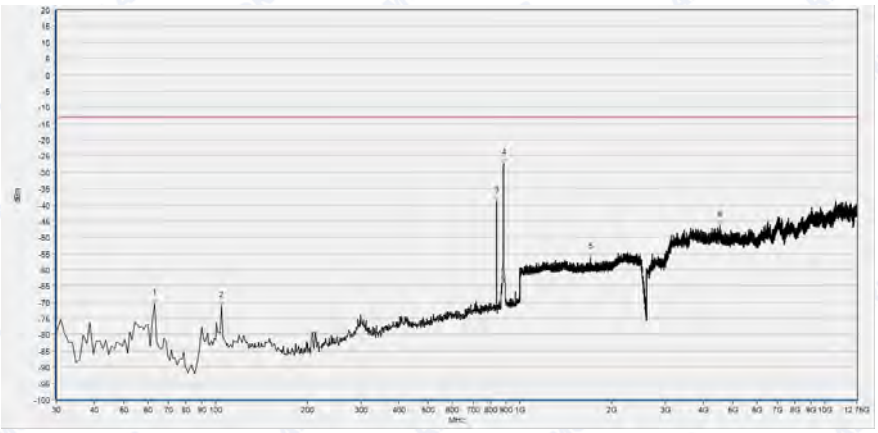


Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	104.690	-70.69	-13.00	Horizontal	PASS
2	838.010	-38.96	-13.00	Horizontal	PASS
3	881.660	-27.43	-13.00	Horizontal	PASS
4	2230.572	-53.68	-13.00	Horizontal	PASS
5	4469.785	-44.92	-13.00	Horizontal	PASS
6	9390.662	-41.41	-13.00	Horizontal	PASS

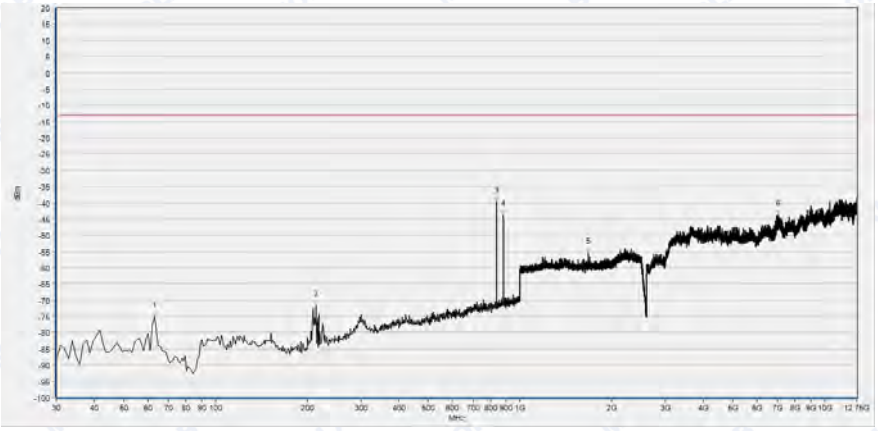


Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-74.01	-13.00	Vertical	PASS
2	213.330	-73.01	-13.00	Vertical	PASS
3	838.010	-39.59	-13.00	Vertical	PASS
4	880.690	-43.72	-13.00	Vertical	PASS
5	1676.751	-55.14	-13.00	Vertical	PASS
6	3938.198	-46.80	-13.00	Vertical	PASS

LTE Band 5 3MHz BW, Mid Channel, 16QAM

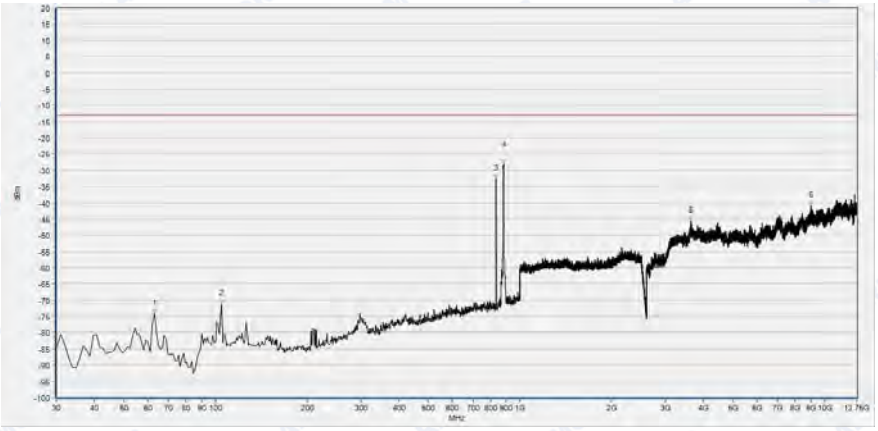


Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-70.49	-13.00	Horizontal	PASS
2	104.690	-71.21	-13.00	Horizontal	PASS
3	838.010	-38.85	-13.00	Horizontal	PASS
4	882.630	-27.33	-13.00	Horizontal	PASS
5	1701.721	-56.19	-13.00	Horizontal	PASS
6	4543.617	-46.35	-13.00	Horizontal	PASS

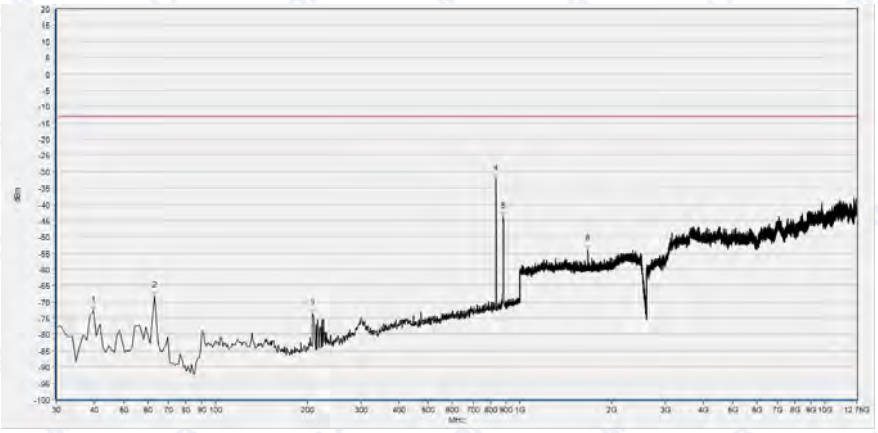


Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-75.00	-13.00	Vertical	PASS
2	213.330	-71.60	-13.00	Vertical	PASS
3	838.010	-39.66	-13.00	Vertical	PASS
4	880.690	-43.61	-13.00	Vertical	PASS
5	1676.110	-55.38	-13.00	Vertical	PASS
6	7024.359	-43.73	-13.00	Vertical	PASS

LTE Band 5 5MHz BW, Mid Channel, QPSK

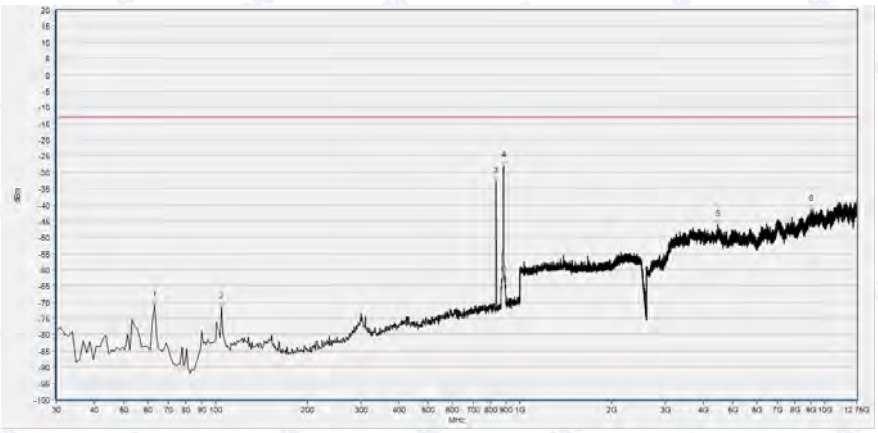


Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-74.35	-13.00	Horizontal	PASS
2	104.690	-71.18	-13.00	Horizontal	PASS
3	834.130	-32.66	-13.00	Horizontal	PASS
4	883.600	-28.02	-13.00	Horizontal	PASS
5	3641.026	-45.73	-13.00	Horizontal	PASS
6	8997.509	-41.03	-13.00	Horizontal	PASS

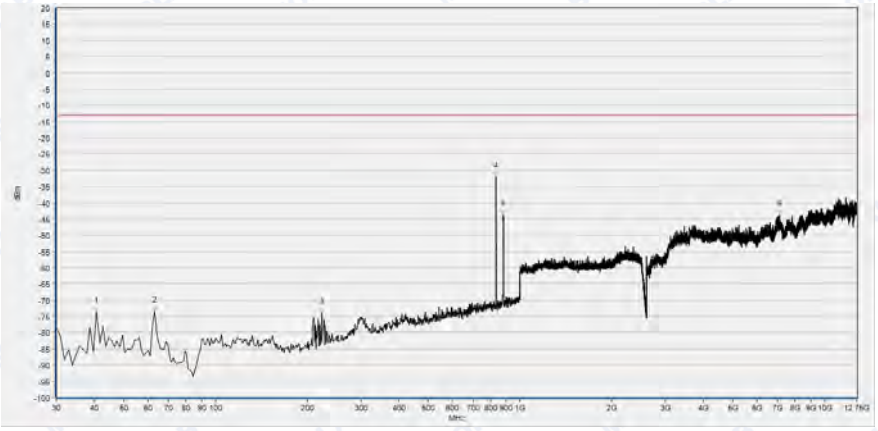


Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	39.700	-72.69	-13.00	Vertical	PASS
2	62.980	-68.37	-13.00	Vertical	PASS
3	208.480	-73.68	-13.00	Vertical	PASS
4	834.130	-32.19	-13.00	Vertical	PASS
5	879.720	-43.98	-13.00	Vertical	PASS
6	1669.068	-54.05	-13.00	Vertical	PASS

LTE Band 5 5MHz BW, Mid Channel, 16QAM

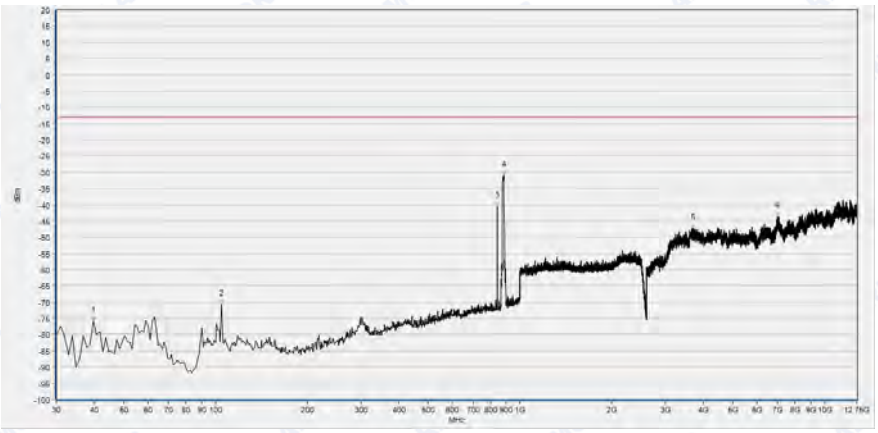


Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-70.94	-13.00	Horizontal	PASS
2	104.690	-71.58	-13.00	Horizontal	PASS
3	834.130	-32.96	-13.00	Horizontal	PASS
4	882.630	-28.05	-13.00	Horizontal	PASS
5	4456.865	-46.10	-13.00	Horizontal	PASS
6	9003.046	-41.43	-13.00	Horizontal	PASS

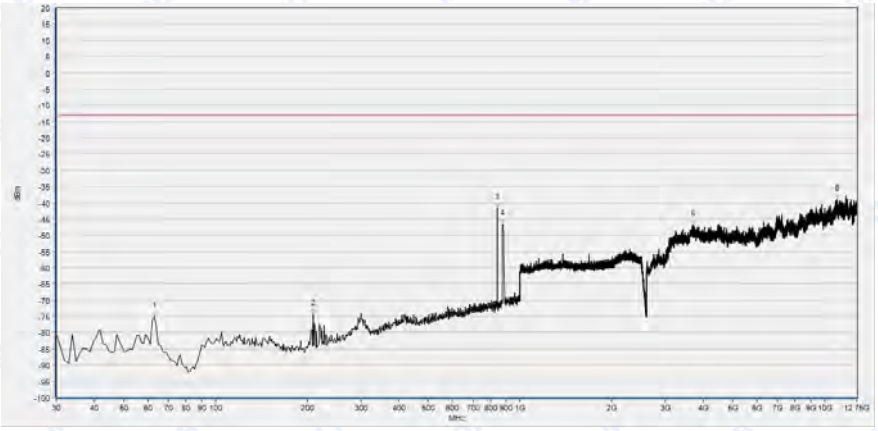


Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	40.670	-73.54	-13.00	Vertical	PASS
2	62.980	-73.45	-13.00	Vertical	PASS
3	223.030	-73.98	-13.00	Vertical	PASS
4	834.130	-32.11	-13.00	Vertical	PASS
5	879.720	-43.71	-13.00	Vertical	PASS
6	7109.265	-43.76	-13.00	Vertical	PASS

LTE Band 5 10MHz BW, Mid Channel, QPSK

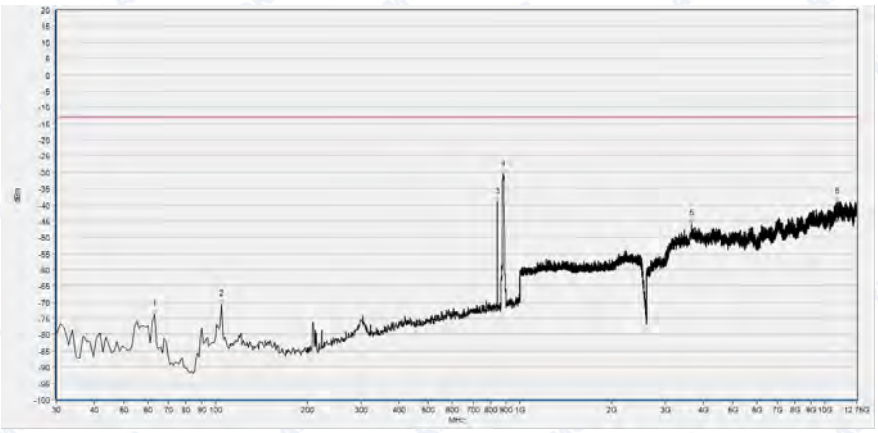


Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	39.700	-75.79	-13.00	Horizontal	PASS
2	104.690	-70.63	-13.00	Horizontal	PASS
3	840.920	-40.61	-13.00	Horizontal	PASS
4	884.570	-30.92	-13.00	Horizontal	PASS
5	3707.474	-47.35	-13.00	Horizontal	PASS
6	7002.209	-43.64	-13.00	Horizontal	PASS

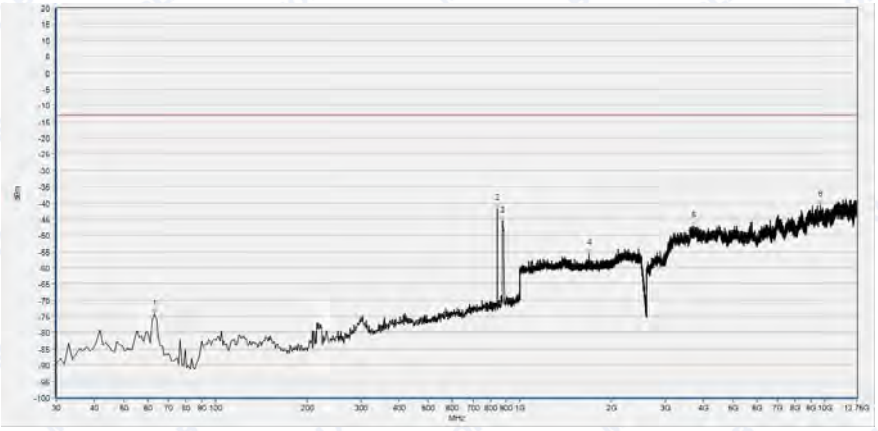


Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-75.02	-13.00	Vertical	PASS
2	209.450	-74.24	-13.00	Vertical	PASS
3	840.920	-41.71	-13.00	Vertical	PASS
4	876.810	-46.68	-13.00	Vertical	PASS
5	3690.862	-46.81	-13.00	Vertical	PASS
6	10990.962	-39.09	-13.00	Vertical	PASS

LTE Band 5 10MHz BW, Mid Channel, 16QAM



Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-73.90	-13.00	Horizontal	PASS
2	104.690	-70.62	-13.00	Horizontal	PASS
3	840.920	-39.30	-13.00	Horizontal	PASS
4	878.750	-30.73	-13.00	Horizontal	PASS
5	3653.946	-45.98	-13.00	Horizontal	PASS
6	10974.350	-39.22	-13.00	Horizontal	PASS



Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-74.27	-13.00	Vertical	PASS
2	840.920	-41.98	-13.00	Vertical	PASS
3	876.810	-45.65	-13.00	Vertical	PASS
4	1681.873	-55.84	-13.00	Vertical	PASS
5	3709.320	-47.28	-13.00	Vertical	PASS
6	9658.302	-40.81	-13.00	Vertical	PASS

LTE Band 7 5MHz BW, Mid Channel, QPSK

Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	33.880	-73.42	-25.00	Horizontal	PASS
2	119.240	-74.84	-25.00	Horizontal	PASS
3	409.270	-69.65	-25.00	Horizontal	PASS
4	1390.556	-56.28	-25.00	Horizontal	PASS
5	7599.454	-38.19	-25.00	Horizontal	PASS
6	16823.131	-32.02	-25.00	Horizontal	PASS

Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	51.340	-74.11	-25.00	Vertical	PASS
2	160.950	-68.92	-25.00	Vertical	PASS
3	310.330	-69.03	-25.00	Vertical	PASS
4	2194.718	-53.68	-25.00	Vertical	PASS
5	7602.619	-39.67	-25.00	Vertical	PASS
6	16813.639	-31.54	-25.00	Vertical	PASS

LTE Band 7 5MHz BW, Mid Channel, 16QAM

Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	39.700	-74.15	-25.00	Horizontal	PASS
2	119.240	-75.62	-25.00	Horizontal	PASS
3	422.850	-69.49	-25.00	Horizontal	PASS
4	2192.797	-54.70	-25.00	Horizontal	PASS
5	7605.783	-38.50	-25.00	Horizontal	PASS
6	16541.517	-32.50	-25.00	Horizontal	PASS

Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	59.100	-74.89	-25.00	Vertical	PASS
2	156.100	-69.49	-25.00	Vertical	PASS
3	432.550	-68.63	-25.00	Vertical	PASS
4	2208.163	-54.48	-25.00	Vertical	PASS
5	7605.783	-39.03	-25.00	Vertical	PASS
6	16816.803	-30.43	-25.00	Vertical	PASS

LTE Band 7 10MHz BW, Mid Channel, QPSK

Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	33.880	-73.01	-25.00	Horizontal	PASS
2	119.240	-75.02	-25.00	Horizontal	PASS
3	383.080	-71.26	-25.00	Horizontal	PASS
4	3239.171	-47.49	-25.00	Horizontal	PASS
5	7596.290	-36.18	-25.00	Horizontal	PASS
6	18860.884	-30.13	-25.00	Horizontal	PASS

Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	52.310	-73.26	-25.00	Vertical	PASS
2	148.340	-70.04	-25.00	Vertical	PASS
3	402.480	-71.22	-25.00	Vertical	PASS
4	2118.527	-54.86	-25.00	Vertical	PASS
5	4387.780	-47.27	-25.00	Vertical	PASS
6	7599.454	-40.90	-25.00	Vertical	PASS

LTE Band 7 10MHz BW, Mid Channel, 16QAM

Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	33.880	-72.81	-25.00	Horizontal	PASS
2	120.210	-75.42	-25.00	Horizontal	PASS
3	382.110	-70.65	-25.00	Horizontal	PASS
4	2174.230	-54.32	-25.00	Horizontal	PASS
5	7593.126	-37.78	-25.00	Horizontal	PASS
6	17180.687	-30.99	-25.00	Horizontal	PASS

Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	64.920	-72.96	-25.00	Vertical	PASS
2	147.370	-70.48	-25.00	Vertical	PASS
3	309.360	-68.66	-25.00	Vertical	PASS
4	2186.395	-54.25	-25.00	Vertical	PASS
5	7596.290	-38.26	-25.00	Vertical	PASS
6	16566.830	-32.49	-25.00	Vertical	PASS

LTE Band 7 15MHz BW, Mid Channel, QPSK

Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	33.880	-71.82	-25.00	Horizontal	PASS
2	120.210	-77.14	-25.00	Horizontal	PASS
3	398.600	-73.58	-25.00	Horizontal	PASS
4	2195.998	-53.53	-25.00	Horizontal	PASS
5	7001.418	-42.56	-25.00	Horizontal	PASS
6	16740.862	-31.74	-25.00	Horizontal	PASS

Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	52.310	-72.74	-25.00	Vertical	PASS
2	161.920	-69.68	-25.00	Vertical	PASS
3	402.480	-71.65	-25.00	Vertical	PASS
4	2486.034	-54.48	-25.00	Vertical	PASS
5	7615.276	-43.51	-25.00	Vertical	PASS
6	16791.489	-32.75	-25.00	Vertical	PASS

LTE Band 7 15MHz BW, Mid Channel, 16QAM

Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	39.700	-73.71	-25.00	Horizontal	PASS
2	120.210	-75.29	-25.00	Horizontal	PASS
3	400.540	-70.37	-25.00	Horizontal	PASS
4	3435.352	-47.81	-25.00	Horizontal	PASS
5	7605.783	-41.25	-25.00	Horizontal	PASS
6	17177.523	-32.11	-25.00	Horizontal	PASS

Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	52.310	-71.95	-25.00	Vertical	PASS
2	148.340	-70.04	-25.00	Vertical	PASS
3	403.450	-71.60	-25.00	Vertical	PASS
4	2195.998	-53.93	-25.00	Vertical	PASS
5	7608.947	-42.95	-25.00	Vertical	PASS
6	13465.903	-36.31	-25.00	Vertical	PASS

LTE Band 7 20MHz BW, Mid Channel, QPSK

Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	39.700	-74.95	-25.00	Horizontal	PASS
2	118.270	-77.09	-25.00	Horizontal	PASS
3	419.940	-71.05	-25.00	Horizontal	PASS
4	2215.206	-54.68	-25.00	Horizontal	PASS
5	7020.404	-43.91	-25.00	Horizontal	PASS
6	16791.489	-31.69	-25.00	Horizontal	PASS

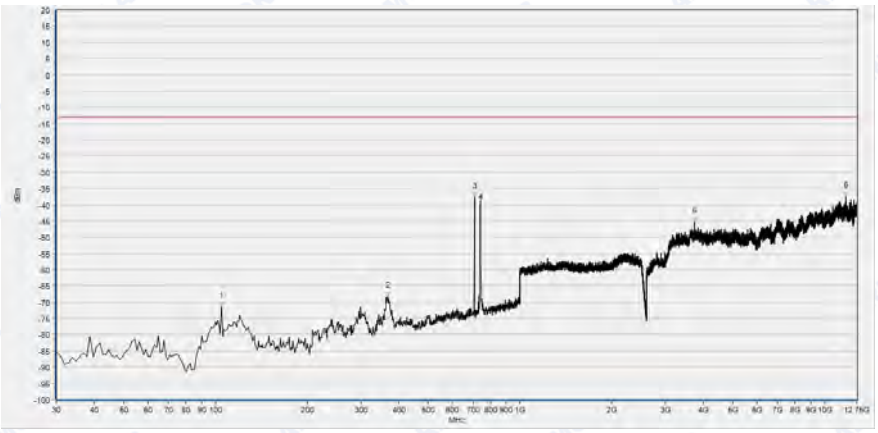
Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	53.280	-70.76	-25.00	Vertical	PASS
2	148.340	-69.78	-25.00	Vertical	PASS
3	303.540	-68.43	-25.00	Vertical	PASS
4	2482.833	-46.88	-25.00	Vertical	PASS
5	3641.026	-45.67	-25.00	Vertical	PASS
6	8960.065	-40.98	-25.00	Vertical	PASS

LTE Band 7 20MHz BW, Mid Channel, 16QAM

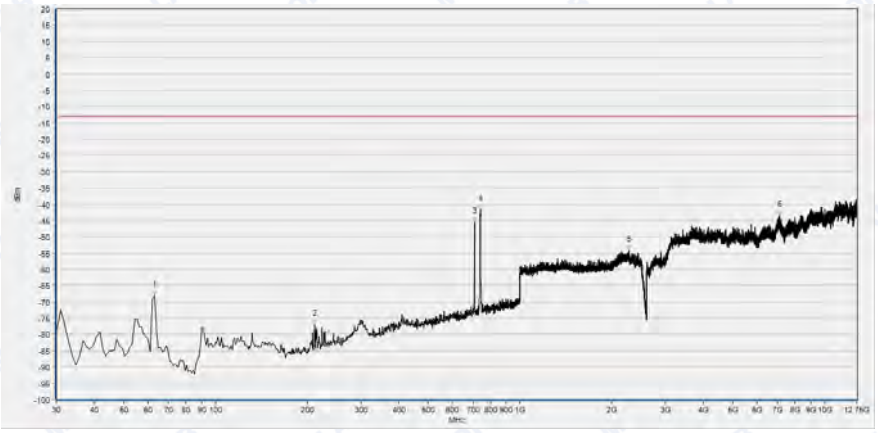
Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	39.700	-75.38	-25.00	Horizontal	PASS
2	117.300	-76.72	-25.00	Horizontal	PASS
3	415.090	-71.80	-25.00	Horizontal	PASS
4	2239.536	-53.81	-25.00	Horizontal	PASS
5	7042.553	-42.91	-25.00	Horizontal	PASS
6	16826.296	-32.01	-25.00	Horizontal	PASS

Mum.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	52.310	-72.26	-25.00	Vertical	PASS
2	161.920	-69.71	-25.00	Vertical	PASS
3	309.360	-71.02	-25.00	Vertical	PASS
4	1655.622	-57.23	-25.00	Vertical	PASS
5	7593.126	-42.88	-25.00	Vertical	PASS
6	16756.683	-32.08	-25.00	Vertical	PASS

LTE Band 17 5MHz BW, Mid Channel, QPSK

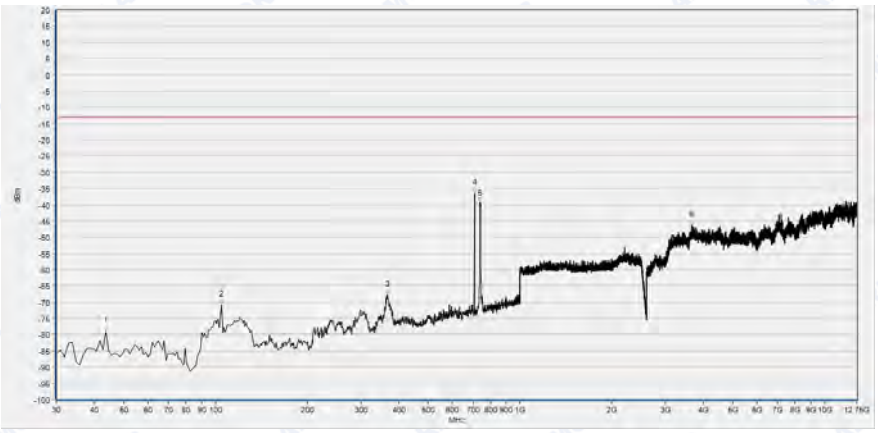


Num.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	104.690	-71.50	-13.00	Horizontal	PASS
2	368.530	-68.37	-13.00	Horizontal	PASS
3	708.030	-37.56	-13.00	Horizontal	PASS
4	740.040	-38.87	-13.00	Horizontal	PASS
5	3742.544	-45.34	-13.00	Horizontal	PASS
6	11732.970	-37.43	-13.00	Horizontal	PASS

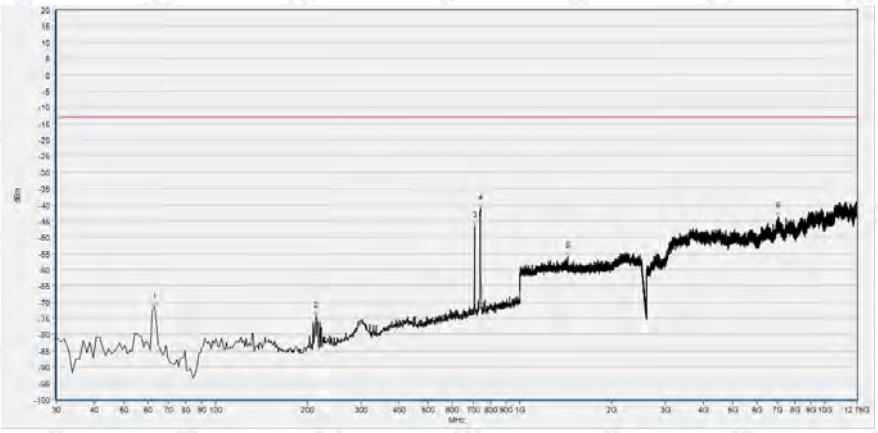


Num.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-68.13	-13.00	Vertical	PASS
2	211.390	-77.00	-13.00	Vertical	PASS
3	708.030	-45.50	-13.00	Vertical	PASS
4	740.040	-41.74	-13.00	Vertical	PASS
5	2274.110	-54.13	-13.00	Vertical	PASS
6	7107.420	-43.55	-13.00	Vertical	PASS

LTE Band 17 5MHz BW, Mid Channel, 16QAM

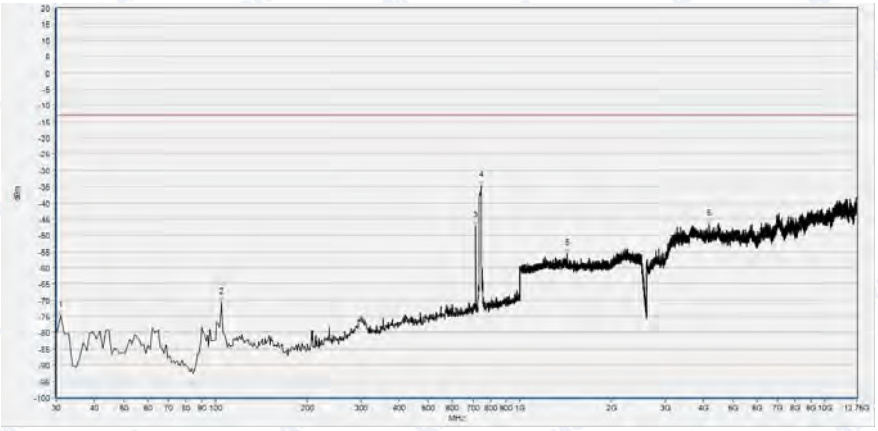


Num.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	43.580	-79.06	-13.00	Horizontal	PASS
2	104.690	-71.03	-13.00	Horizontal	PASS
3	366.590	-67.71	-13.00	Horizontal	PASS
4	708.030	-36.63	-13.00	Horizontal	PASS
5	738.100	-39.17	-13.00	Horizontal	PASS
6	3663.175	-46.41	-13.00	Horizontal	PASS

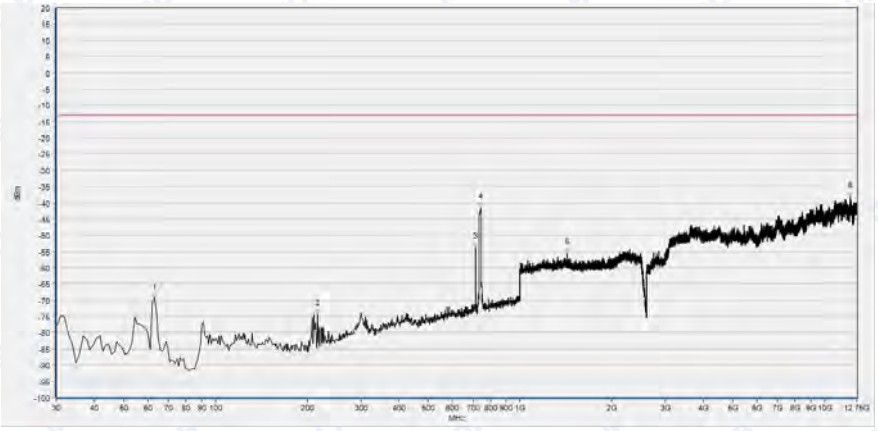


Num.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-71.60	-13.00	Vertical	PASS
2	213.330	-74.29	-13.00	Vertical	PASS
3	708.030	-46.68	-13.00	Vertical	PASS
4	740.040	-41.31	-13.00	Vertical	PASS
5	1433.453	-55.89	-13.00	Vertical	PASS
6	7040.971	-43.62	-13.00	Vertical	PASS

LTE Band 17 10MHz BW, Mid Channel, QPSK

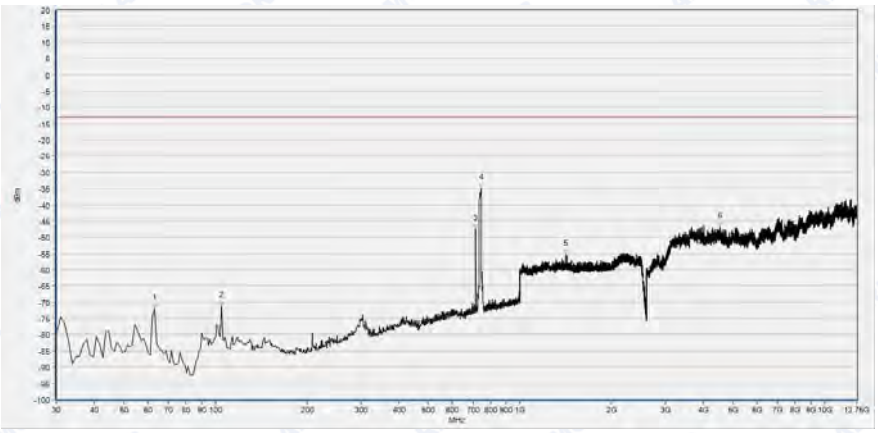


Num.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	30.970	-74.69	-13.00	Horizontal	PASS
2	104.690	-70.65	-13.00	Horizontal	PASS
3	714.820	-47.34	-13.00	Horizontal	PASS
4	743.920	-34.65	-13.00	Horizontal	PASS
5	1428.972	-55.75	-13.00	Horizontal	PASS
6	4174.459	-46.68	-13.00	Horizontal	PASS

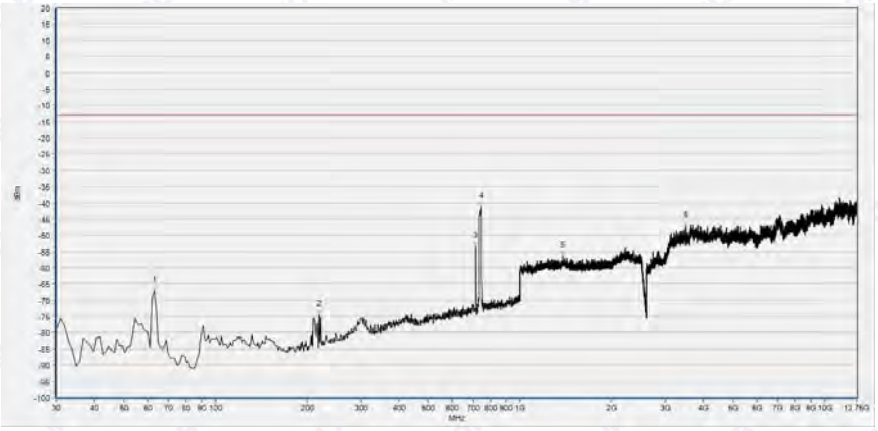


Num.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-69.36	-13.00	Vertical	PASS
2	216.240	-74.27	-13.00	Vertical	PASS
3	714.820	-53.78	-13.00	Vertical	PASS
4	742.950	-41.35	-13.00	Vertical	PASS
5	1429.612	-55.64	-13.00	Vertical	PASS
6	12146.427	-38.07	-13.00	Vertical	PASS

LTE Band 17 10MHz BW, Mid Channel, 16QAM



Num.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-72.11	-13.00	Horizontal	PASS
2	104.690	-71.08	-13.00	Horizontal	PASS
3	714.820	-47.45	-13.00	Horizontal	PASS
4	743.920	-35.00	-13.00	Horizontal	PASS
5	1407.843	-55.31	-13.00	Horizontal	PASS
6	4543.617	-46.80	-13.00	Horizontal	PASS



Num.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	62.980	-67.25	-13.00	Vertical	PASS
2	218.180	-74.60	-13.00	Vertical	PASS
3	714.820	-53.53	-13.00	Vertical	PASS
4	743.920	-41.12	-13.00	Vertical	PASS
5	1380.312	-56.42	-13.00	Vertical	PASS
6	3493.362	-47.33	-13.00	Vertical	PASS

***** END OF REPORT *****