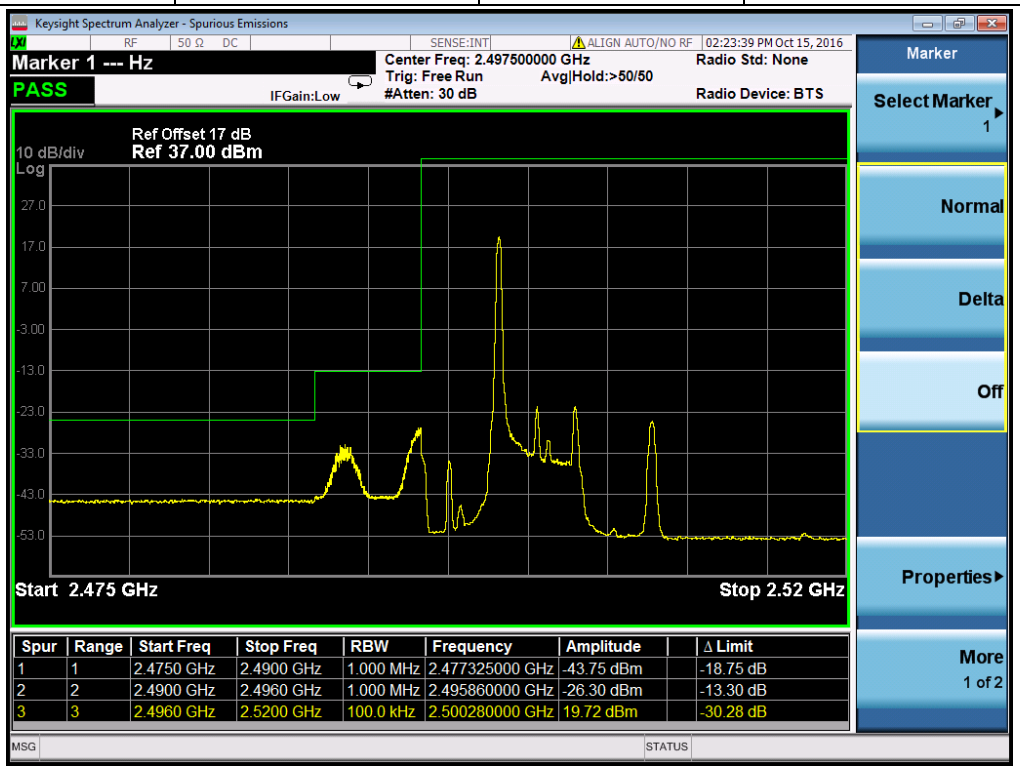
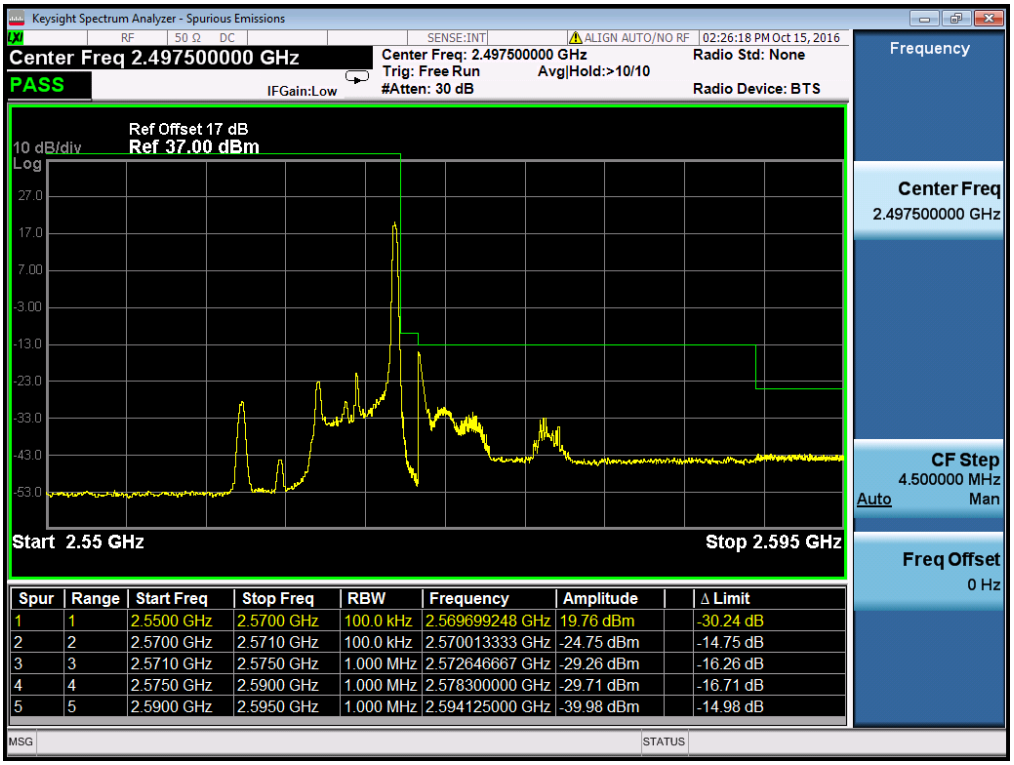
Band	LTE Band 7	Modulation	QPSK
Bandwidth	5MHz		

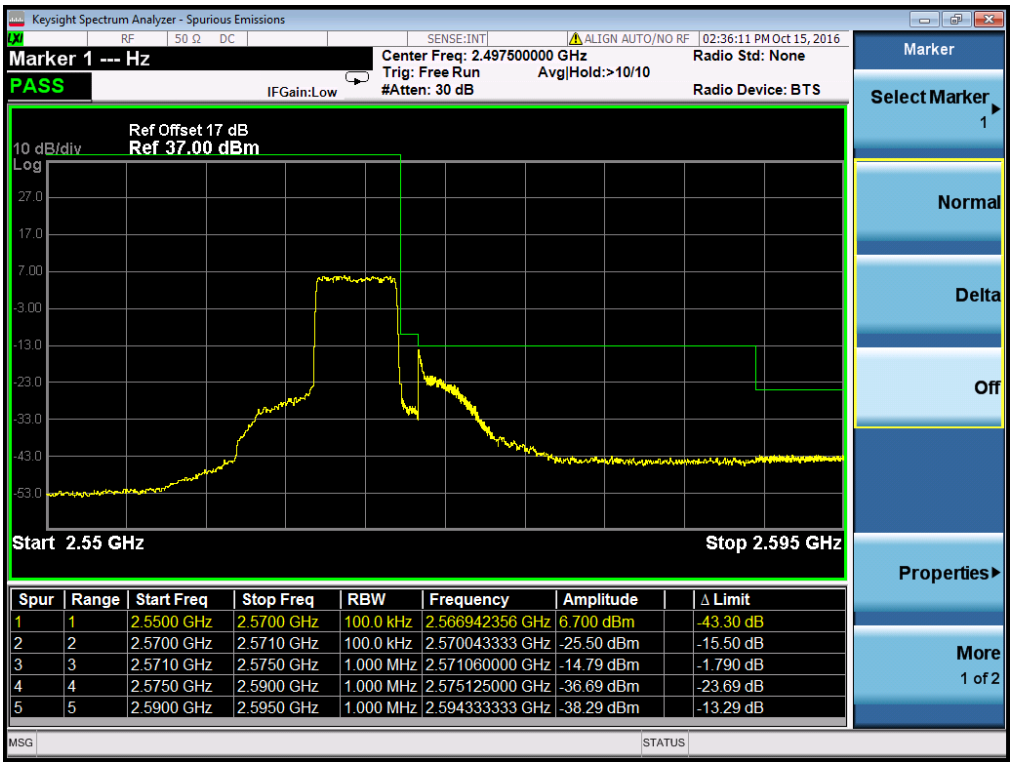


Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0

Lower Band Edge Plot for QPSK-RB Size 25, RB Offset 0

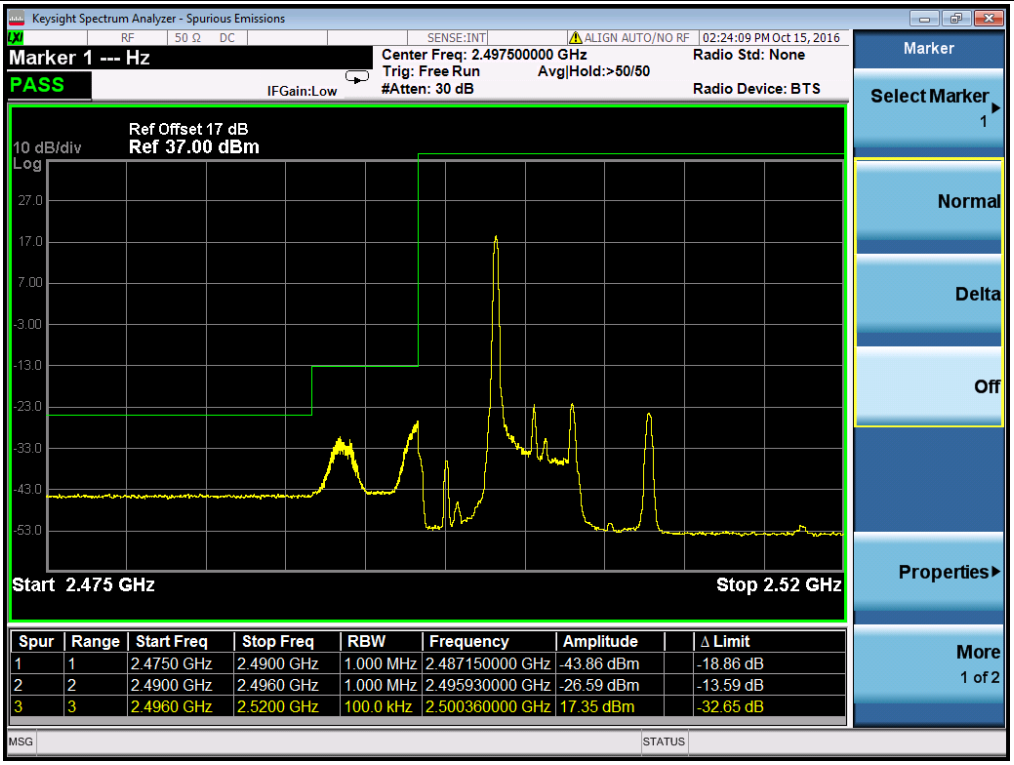


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 24

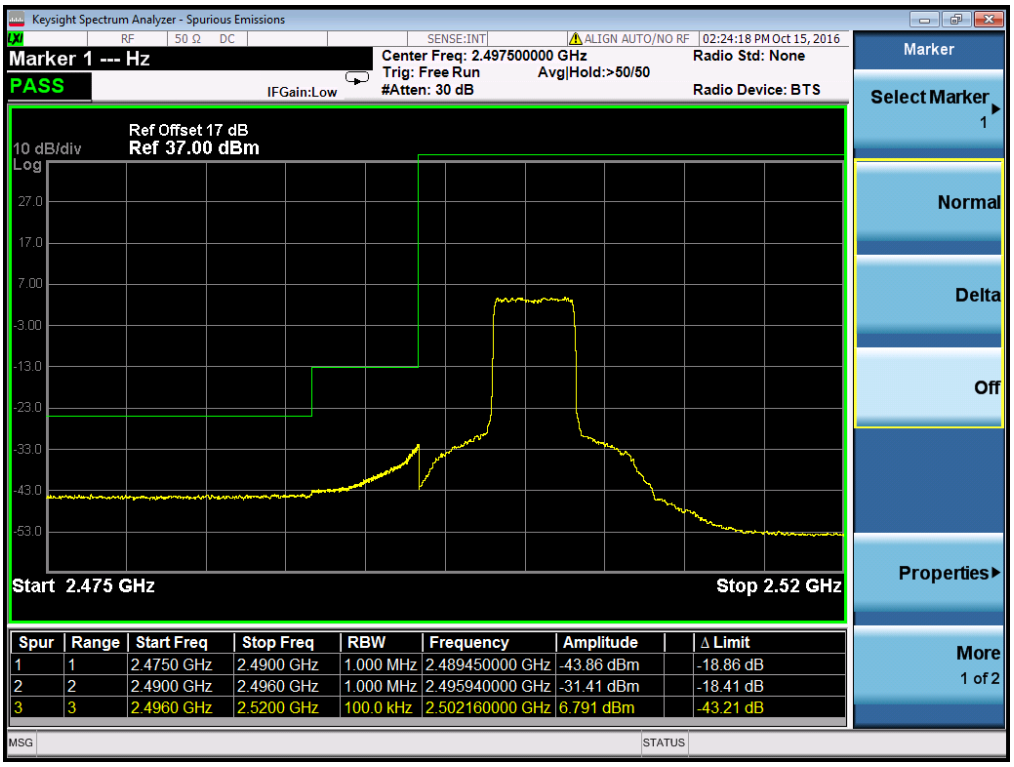


Higher Band Edge Plot for QPSK-RB Size 25, RB Offset 0

Band	LTE Band 7	Modulation	16QAM
Bandwidth	5MHz		



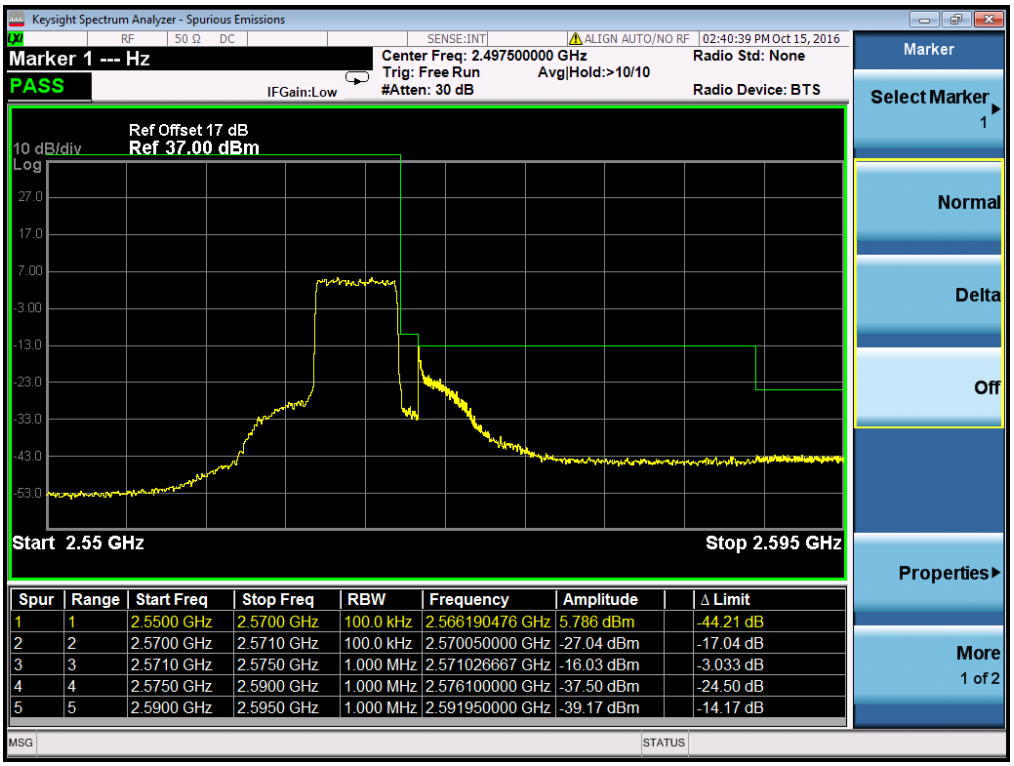
Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Lower Band Edge Plot for 16QAM -RB Size 25, RB Offset 0

Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.5500 GHz	2.5700 GHz	100.0 kHz	2.569649123 GHz	6.522 dBm	-43.48 dB
2	2	2.5700 GHz	2.5710 GHz	100.0 kHz	2.570016667 GHz	-37.40 dBm	-27.40 dB
3	3	2.5710 GHz	2.5750 GHz	1.000 MHz	2.571093333 GHz	-16.60 dBm	-3.603 dB
4	4	2.5750 GHz	2.5900 GHz	1.000 MHz	2.577950000 GHz	-44.73 dBm	-31.73 dB
5	5	2.5900 GHz	2.5950 GHz	1.000 MHz	2.594866667 GHz	-51.49 dBm	-26.49 dB

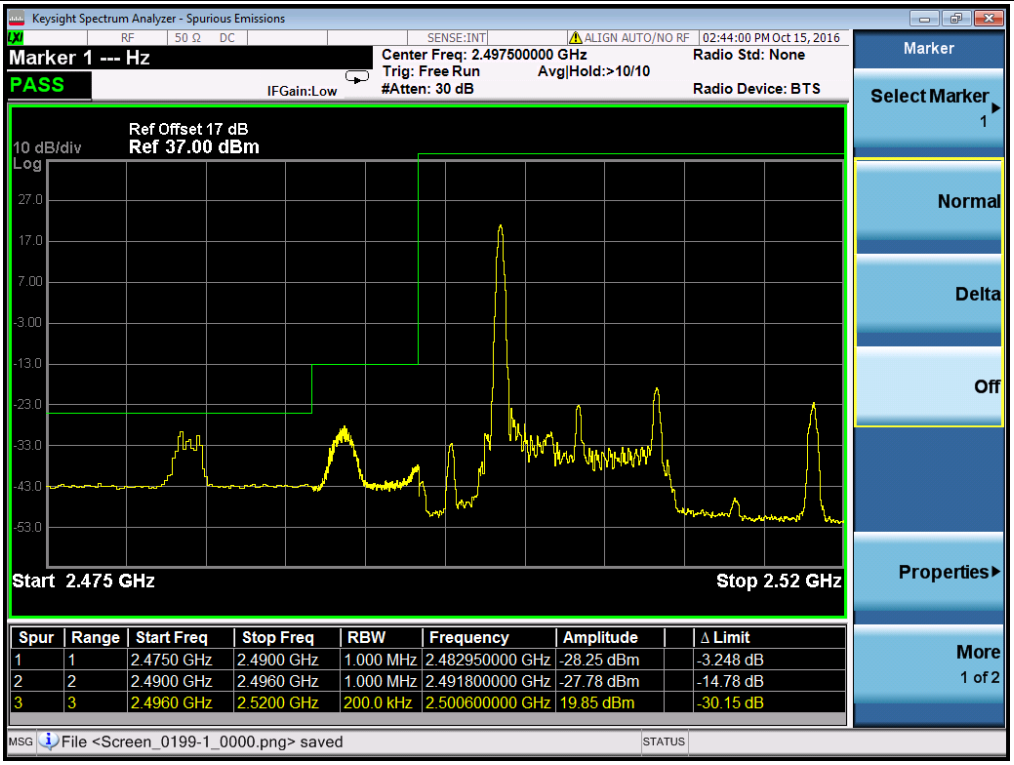
Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 24



Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.5500 GHz	2.5700 GHz	100.0 kHz	2.566190476 GHz	5.786 dBm	-44.21 dB
2	2	2.5700 GHz	2.5710 GHz	100.0 kHz	2.570050000 GHz	-27.04 dBm	-17.04 dB
3	3	2.5710 GHz	2.5750 GHz	1.000 MHz	2.571026667 GHz	-16.03 dBm	-3.033 dB
4	4	2.5750 GHz	2.5900 GHz	1.000 MHz	2.576100000 GHz	-37.50 dBm	-24.50 dB
5	5	2.5900 GHz	2.5950 GHz	1.000 MHz	2.591950000 GHz	-39.17 dBm	-14.17 dB

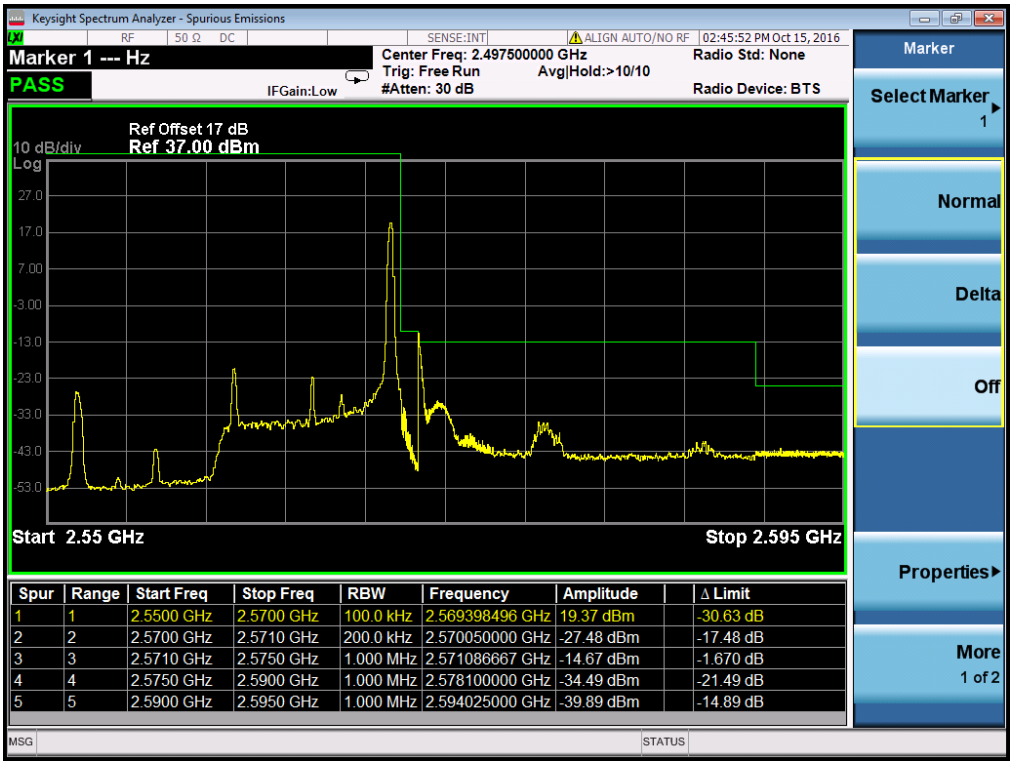
Higher Band Edge Plot for 16QAM -RB Size 25, RB Offset 0

Band	LTE Band 7	Modulation	QPSK
Bandwidth	10MHz		



Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0

Lower Band Edge Plot for QPSK-RB Size 50, RB Offset 0



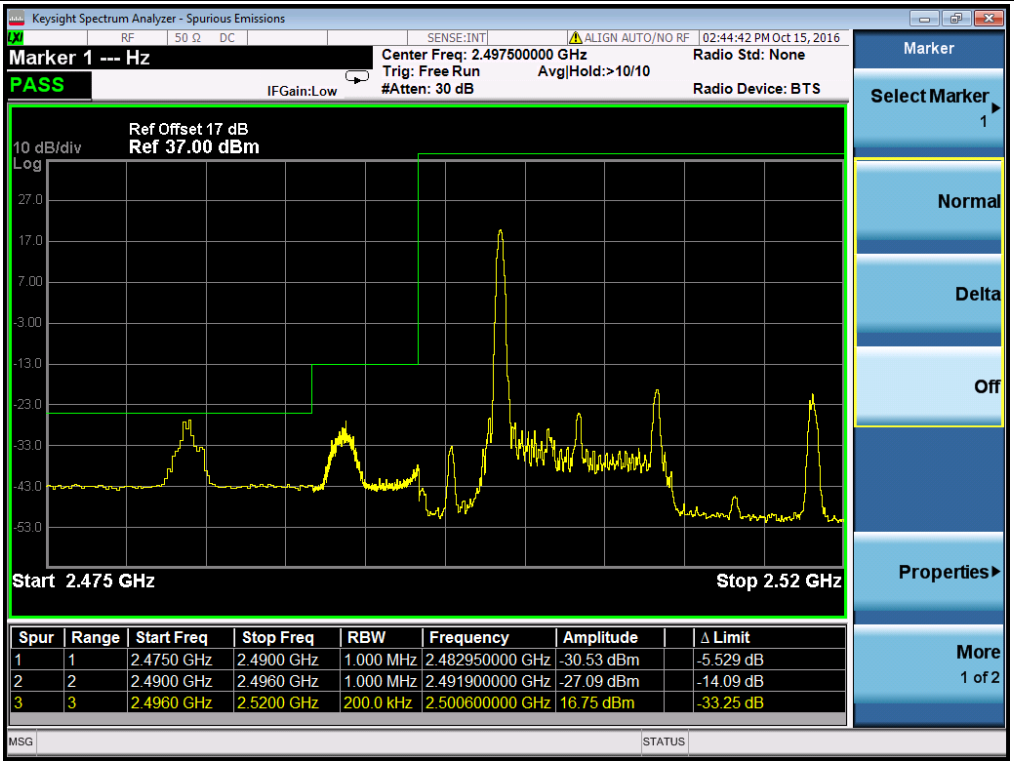
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.5500 GHz	2.5700 GHz	100.0 kHz	2.569398496 GHz	19.37 dBm	-30.63 dB
2	2	2.5700 GHz	2.5710 GHz	200.0 kHz	2.570050000 GHz	-27.48 dBm	-17.48 dB
3	3	2.5710 GHz	2.5750 GHz	1.000 MHz	2.571086667 GHz	-14.67 dBm	-1.670 dB
4	4	2.5750 GHz	2.5900 GHz	1.000 MHz	2.578100000 GHz	-34.49 dBm	-21.49 dB
5	5	2.5900 GHz	2.5950 GHz	1.000 MHz	2.594025000 GHz	-39.89 dBm	-14.89 dB

Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 49

Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.5500 GHz	2.5700 GHz	100.0 kHz	2.562431078 GHz	3.635 dBm	-46.37 dB
2	2	2.5700 GHz	2.5710 GHz	200.0 kHz	2.570033333 GHz	-24.58 dBm	-14.58 dB
3	3	2.5710 GHz	2.5750 GHz	1.000 MHz	2.571140000 GHz	-19.30 dBm	-6.301 dB
4	4	2.5750 GHz	2.5900 GHz	1.000 MHz	2.576125000 GHz	-27.32 dBm	-14.32 dB
5	5	2.5900 GHz	2.5950 GHz	1.000 MHz	2.593000000 GHz	-39.20 dBm	-14.20 dB

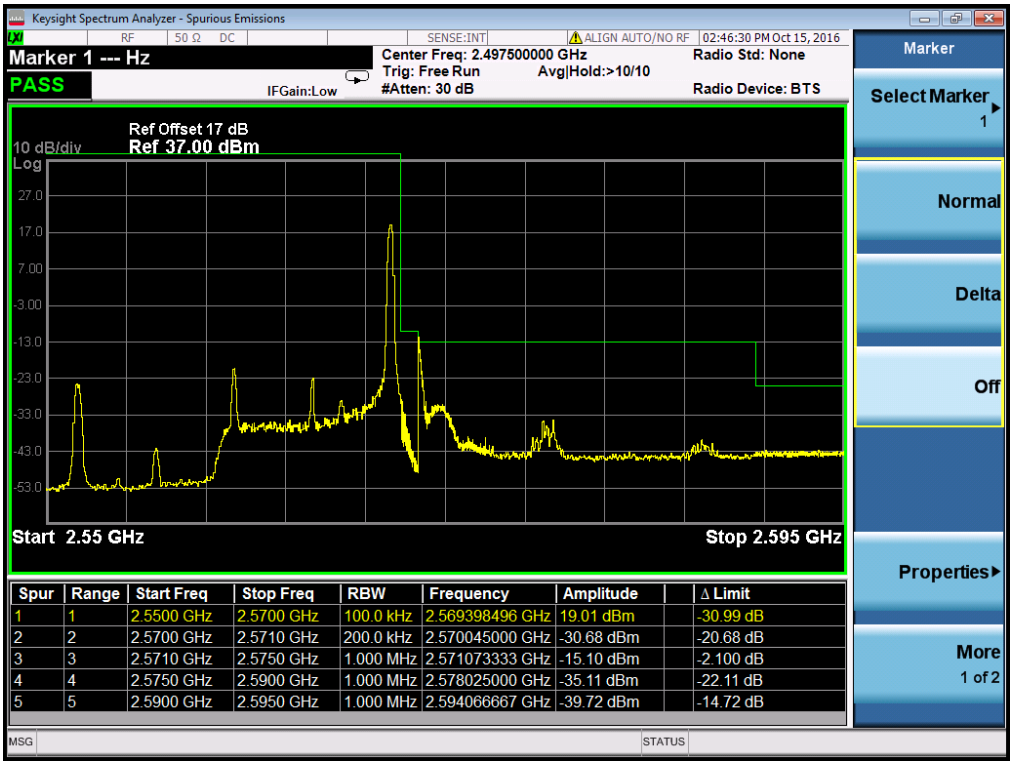
Higher Band Edge Plot for QPSK-RB Size 50, RB Offset 0

Band	LTE Band 7	Modulation	16QAM
Bandwidth	10MHz		



Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0

Lower Band Edge Plot for 16QAM -RB Size 50, RB Offset 0



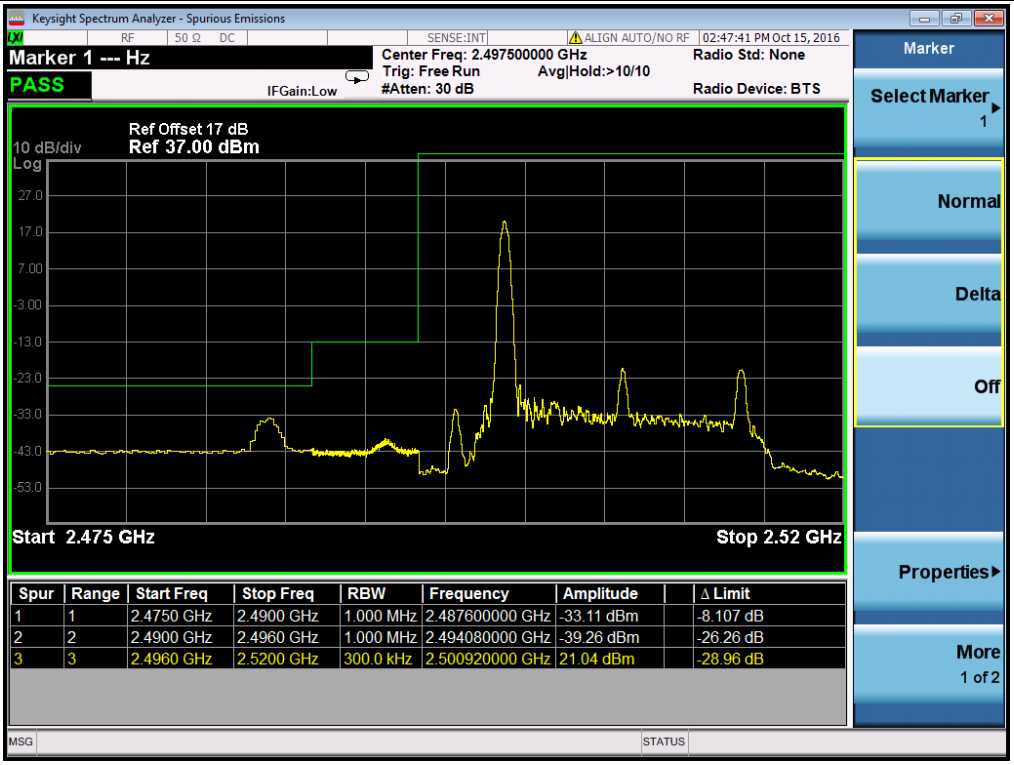
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.5500 GHz	2.5700 GHz	100.0 kHz	2.569398496 GHz	19.01 dBm	-30.99 dB
2	2	2.5700 GHz	2.5710 GHz	200.0 kHz	2.570045000 GHz	-30.68 dBm	-20.68 dB
3	3	2.5710 GHz	2.5750 GHz	1.000 MHz	2.571073333 GHz	-15.10 dBm	-2.100 dB
4	4	2.5750 GHz	2.5900 GHz	1.000 MHz	2.578025000 GHz	-35.11 dBm	-22.11 dB
5	5	2.5900 GHz	2.5950 GHz	1.000 MHz	2.594066667 GHz	-39.72 dBm	-14.72 dB

Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 49

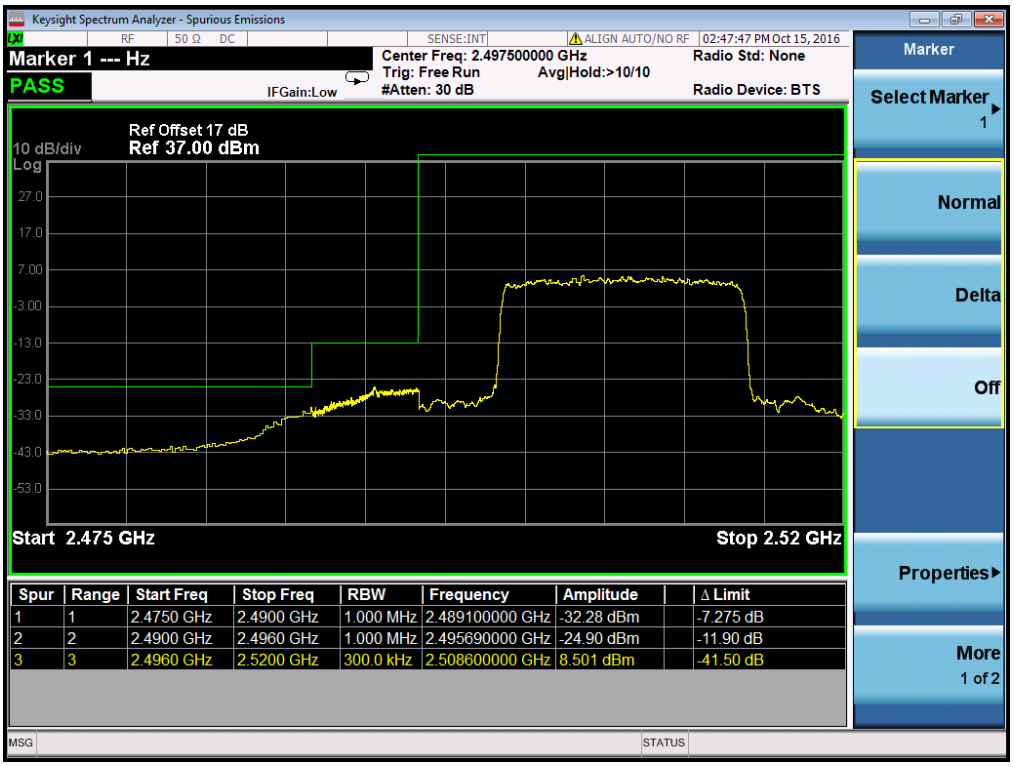
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.5500 GHz	2.5700 GHz	100.0 kHz	2.562080201 GHz	2.710 dBm	-47.29 dB
2	2	2.5700 GHz	2.5710 GHz	200.0 kHz	2.570136667 GHz	-27.09 dBm	-17.09 dB
3	3	2.5710 GHz	2.5750 GHz	1.000 MHz	2.571426667 GHz	-21.29 dBm	-8.288 dB
4	4	2.5750 GHz	2.5900 GHz	1.000 MHz	2.575225000 GHz	-28.69 dBm	-15.69 dB
5	5	2.5900 GHz	2.5950 GHz	1.000 MHz	2.590733333 GHz	-38.86 dBm	-13.86 dB

Higher Band Edge Plot for 16QAM -RB Size 50, RB Offset 0

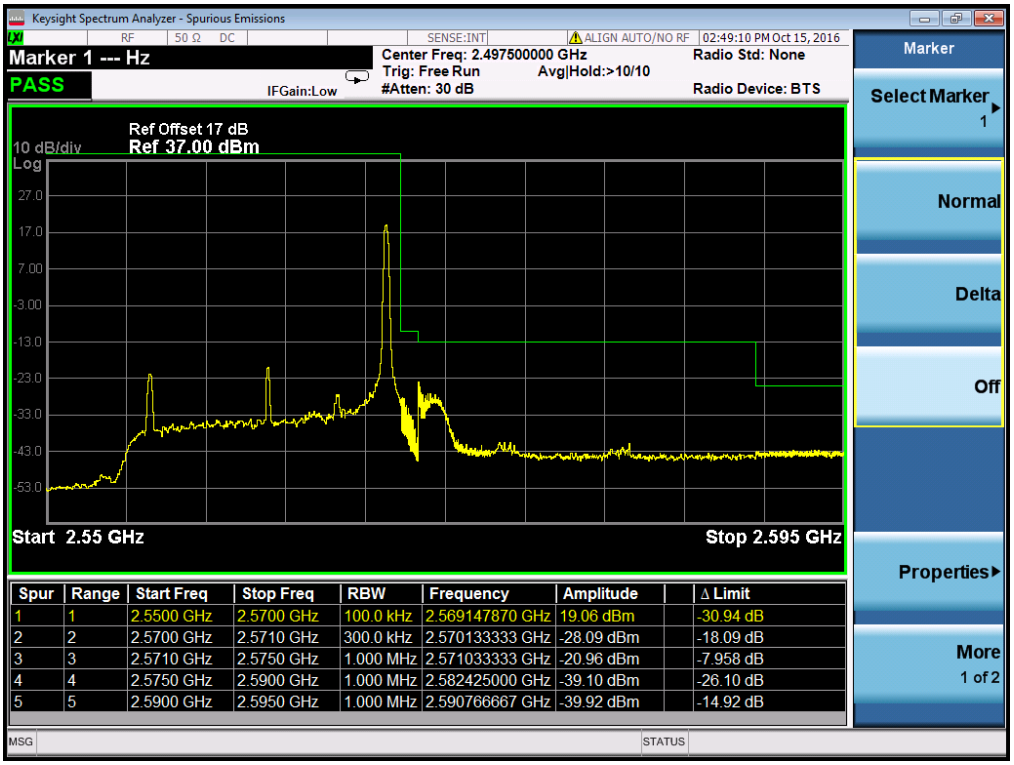
Band	LTE Band 7	Modulation	QPSK
Bandwidth	15MHz		



Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Lower Band Edge Plot for QPSK -RB Size 75, RB Offset 0



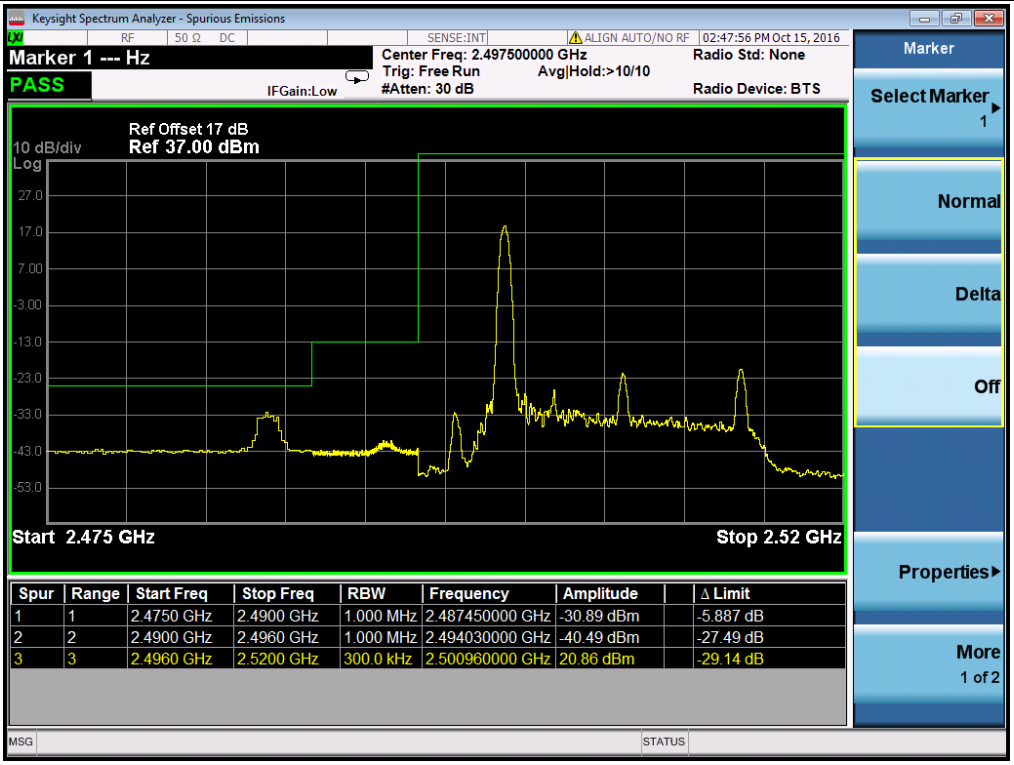
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.5500 GHz	2.5700 GHz	100.0 kHz	2.569147870 GHz	19.06 dBm	-30.94 dB
2	2	2.5700 GHz	2.5710 GHz	300.0 kHz	2.570133333 GHz	-28.09 dBm	-18.09 dB
3	3	2.5710 GHz	2.5750 GHz	1.000 MHz	2.571033333 GHz	-20.96 dBm	-7.958 dB
4	4	2.5750 GHz	2.5900 GHz	1.000 MHz	2.582425000 GHz	-39.10 dBm	-26.10 dB
5	5	2.5900 GHz	2.5950 GHz	1.000 MHz	2.590766667 GHz	-39.92 dBm	-14.92 dB

Higher Band Edge Plot for QPSK -RB Size 1, RB Offset 74

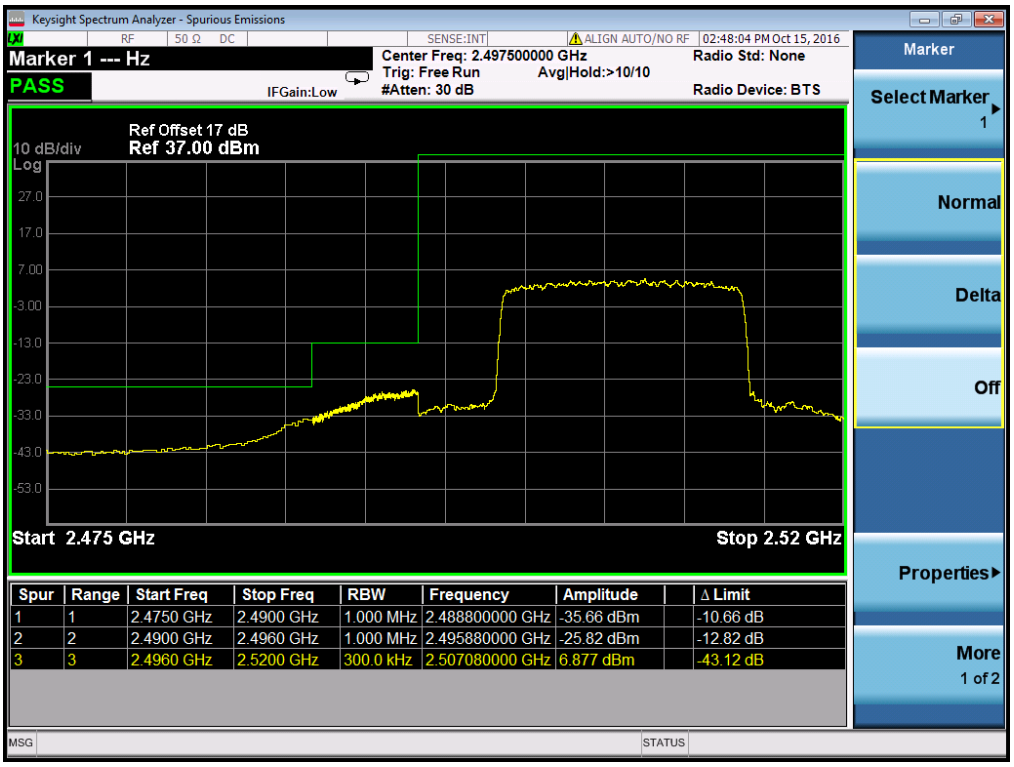
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.5500 GHz	2.5700 GHz	100.0 kHz	2.558872180 GHz	1.978 dBm	-48.02 dB
2	2	2.5700 GHz	2.5710 GHz	300.0 kHz	2.570131667 GHz	-25.22 dBm	-15.22 dB
3	3	2.5710 GHz	2.5750 GHz	1.000 MHz	2.572253333 GHz	-20.62 dBm	-7.617 dB
4	4	2.5750 GHz	2.5900 GHz	1.000 MHz	2.575475000 GHz	-26.30 dBm	-13.30 dB
5	5	2.5900 GHz	2.5950 GHz	1.000 MHz	2.591733333 GHz	-38.98 dBm	-13.98 dB

Higher Band Edge Plot for QPSK -RB Size 75, RB Offset 0

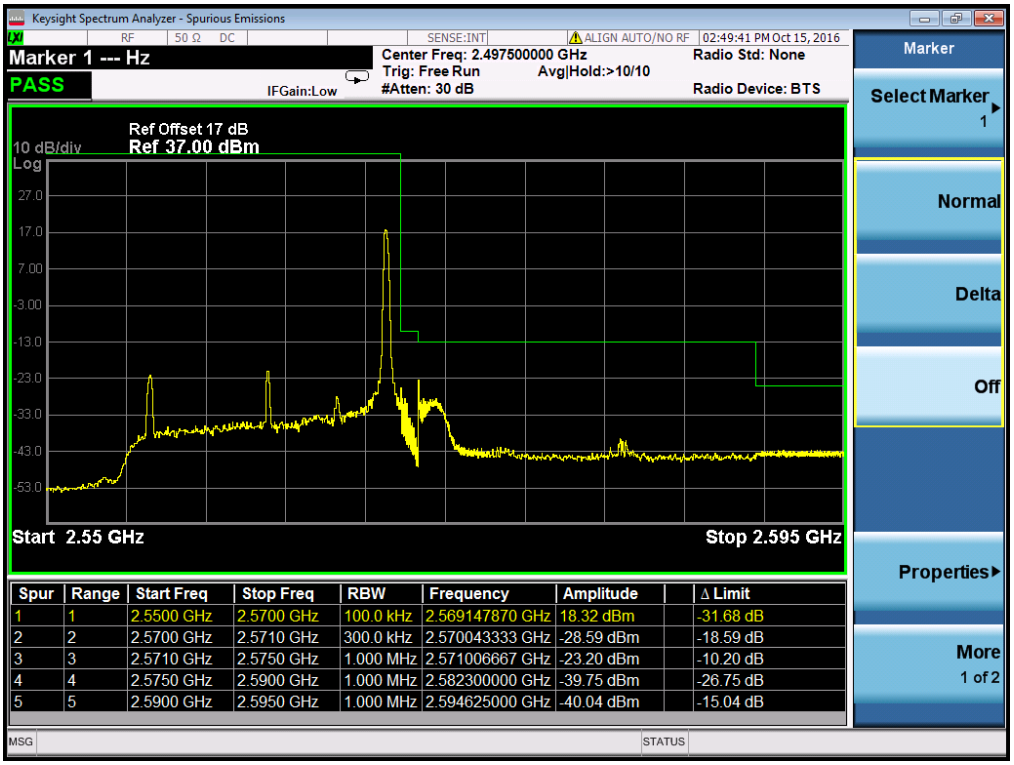
Band	LTE Band 7	Modulation	16QAM
Bandwidth	15MHz		



Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Lower Band Edge Plot for 16QAM -RB Size 75, RB Offset 0



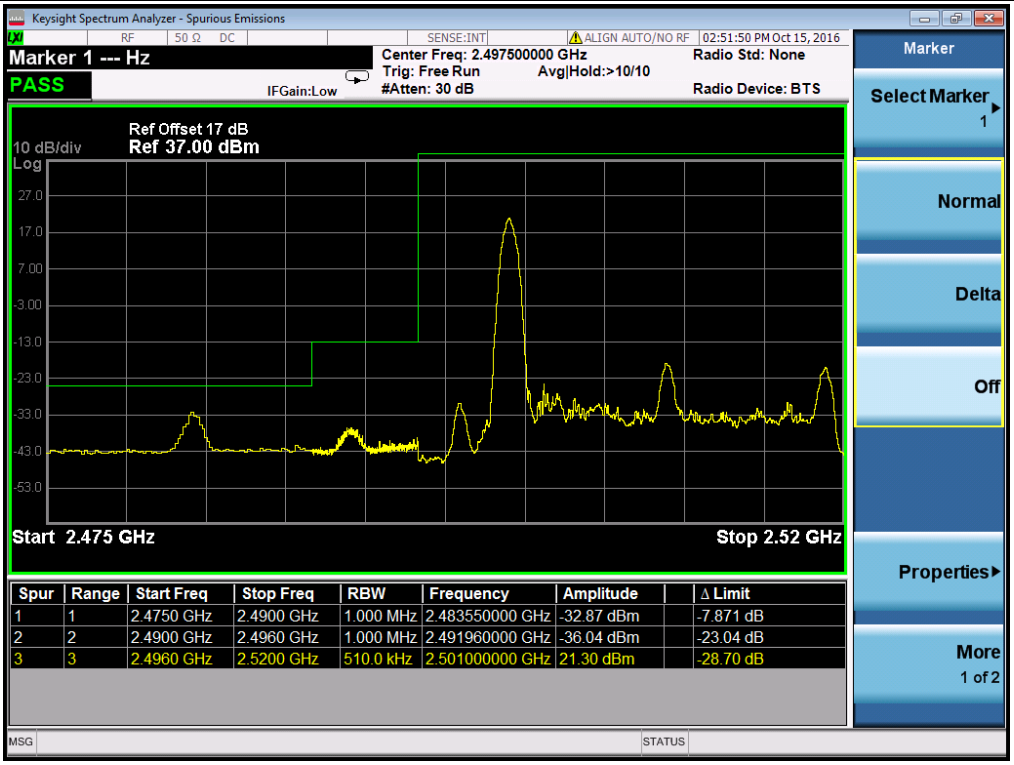
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.5500 GHz	2.5700 GHz	100.0 kHz	2.569147870 GHz	18.32 dBm	-31.68 dB
2	2	2.5700 GHz	2.5710 GHz	300.0 kHz	2.570043333 GHz	-28.59 dBm	-18.59 dB
3	3	2.5710 GHz	2.5750 GHz	1.000 MHz	2.571006667 GHz	-23.20 dBm	-10.20 dB
4	4	2.5750 GHz	2.5900 GHz	1.000 MHz	2.582300000 GHz	-39.75 dBm	-26.75 dB
5	5	2.5900 GHz	2.5950 GHz	1.000 MHz	2.594625000 GHz	-40.04 dBm	-15.04 dB

Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 74

Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.5500 GHz	2.5700 GHz	100.0 kHz	2.563533835 GHz	1.420 dBm	-48.58 dB
2	2	2.5700 GHz	2.5710 GHz	300.0 kHz	2.570405000 GHz	-27.39 dBm	-17.39 dB
3	3	2.5710 GHz	2.5750 GHz	1.000 MHz	2.571560000 GHz	-23.04 dBm	-10.04 dB
4	4	2.5750 GHz	2.5900 GHz	1.000 MHz	2.575775000 GHz	-27.89 dBm	-14.89 dB
5	5	2.5900 GHz	2.5950 GHz	1.000 MHz	2.590650000 GHz	-38.80 dBm	-13.80 dB

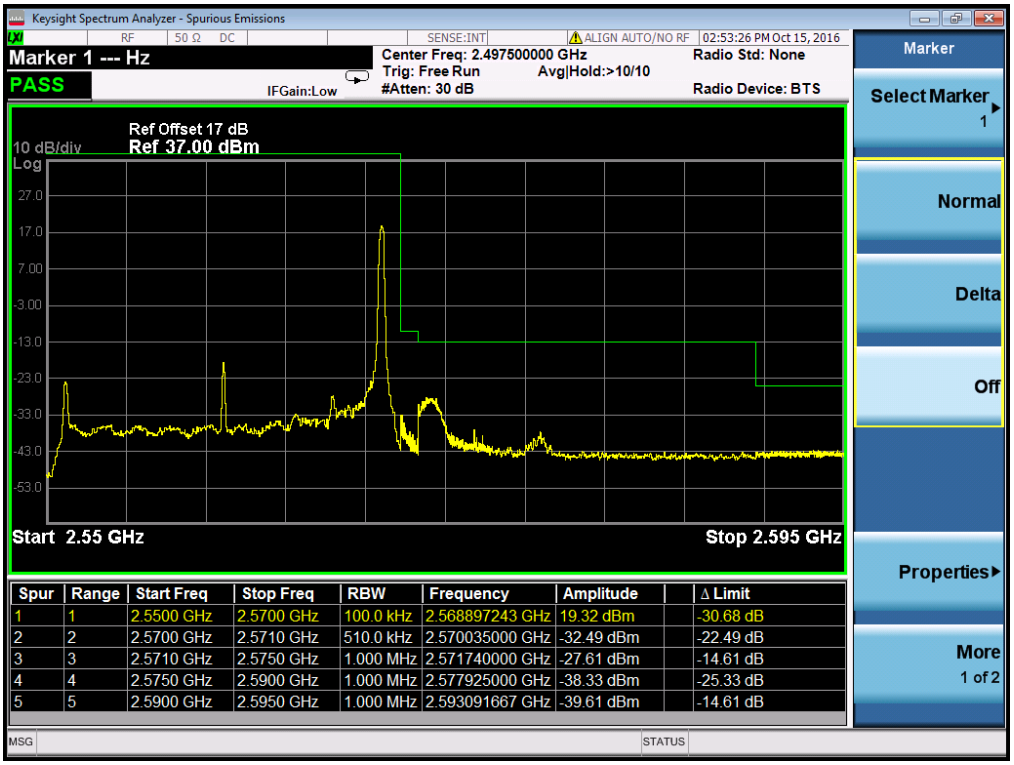
Higher Band Edge Plot for 16QAM -RB Size 75, RB Offset 0

Band	LTE Band 7	Modulation	QPSK
Bandwidth	20MHz		



Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0

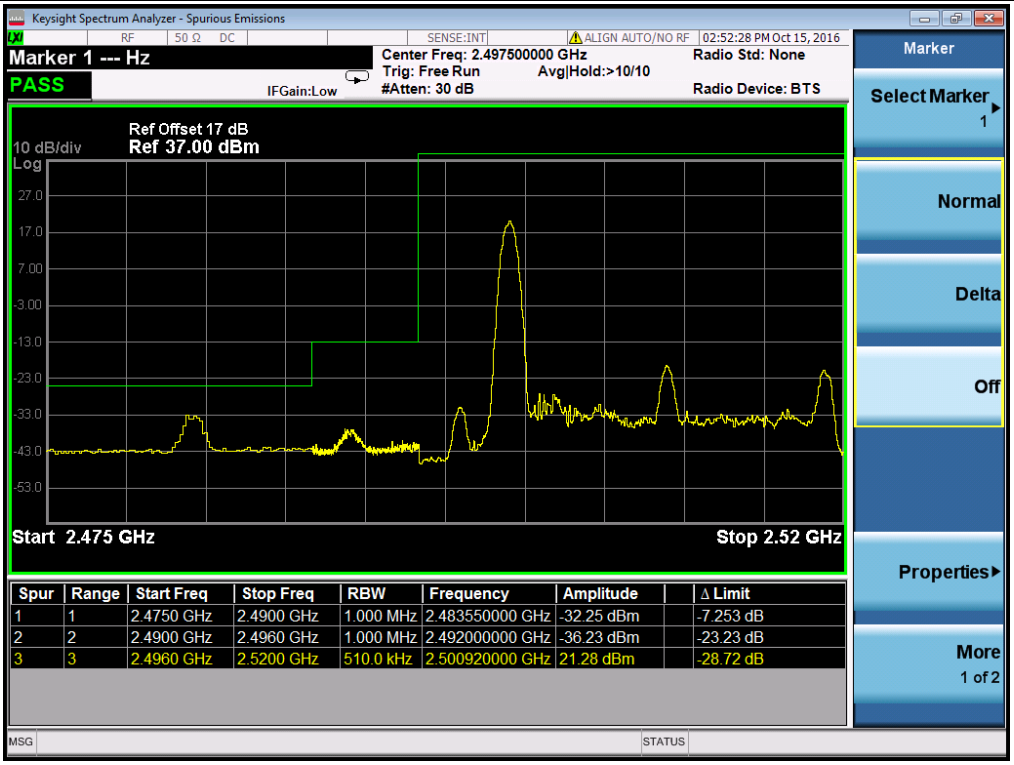
Lower Band Edge Plot for QPSK -RB Size 100, RB Offset 0



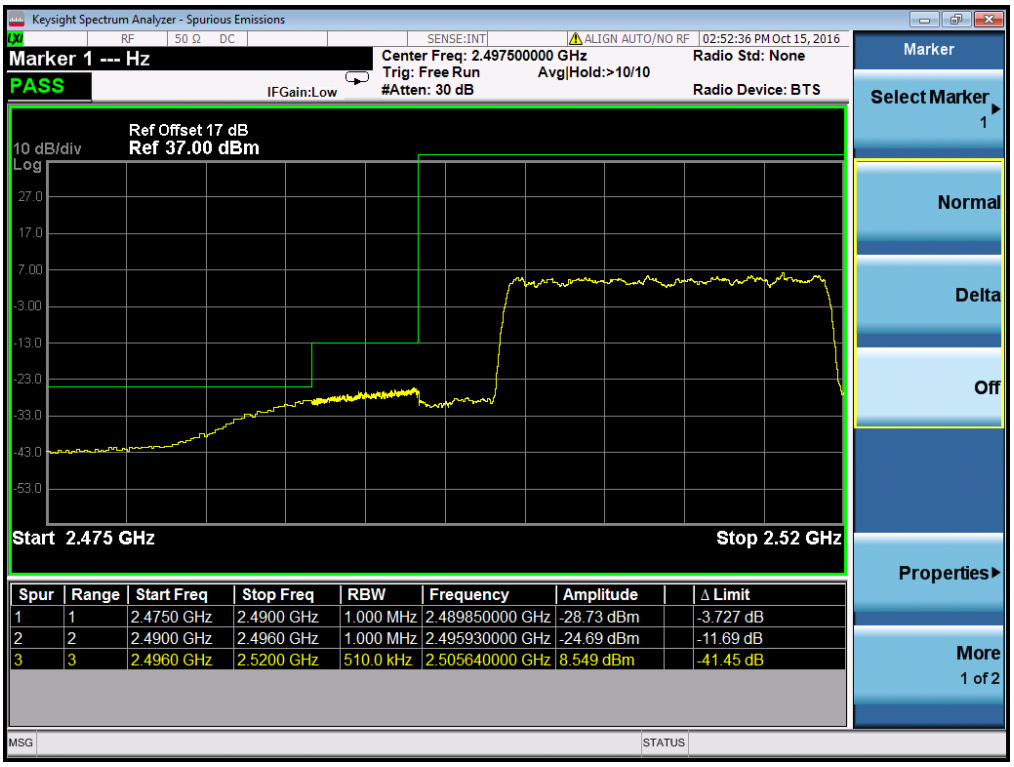
Higher Band Edge Plot for QPSK -RB Size 1, RB Offset 99

Higher Band Edge Plot for QPSK -RB Size 100, RB Offset 0

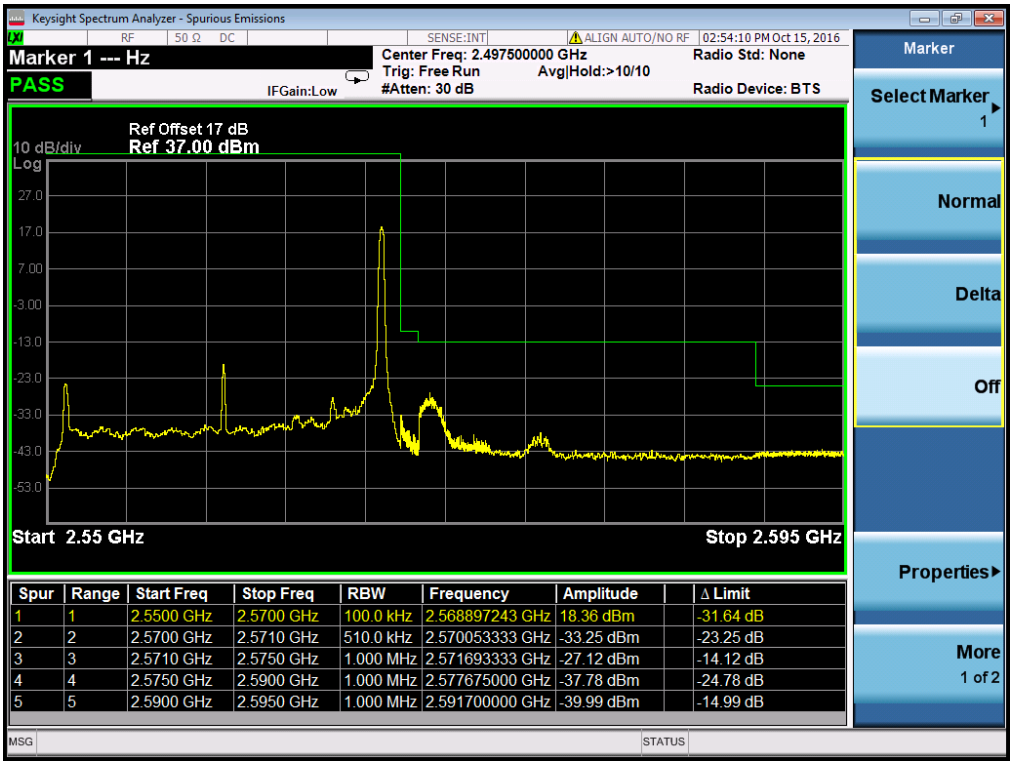
Band	LTE Band 7	Modulation	16QAM
Bandwidth	20MHz		



Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Lower Band Edge Plot for 16QAM -RB Size 100, RB Offset 0



Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.5500 GHz	2.5700 GHz	100.0 kHz	2.568897243 GHz	18.36 dBm	-31.64 dB
2	2	2.5700 GHz	2.5710 GHz	510.0 kHz	2.570053333 GHz	-33.25 dBm	-23.25 dB
3	3	2.5710 GHz	2.5750 GHz	1.000 MHz	2.571693333 GHz	-27.12 dBm	-14.12 dB
4	4	2.5750 GHz	2.5900 GHz	1.000 MHz	2.577675000 GHz	-37.78 dBm	-24.78 dB
5	5	2.5900 GHz	2.5950 GHz	1.000 MHz	2.591700000 GHz	-39.99 dBm	-14.99 dB

Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 99

Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.5500 GHz	2.5700 GHz	100.0 kHz	2.551253133 GHz	0.456 dBm	-49.54 dB
2	2	2.5700 GHz	2.5710 GHz	510.0 kHz	2.570203333 GHz	-25.11 dBm	-15.11 dB
3	3	2.5710 GHz	2.5750 GHz	1.000 MHz	2.572653333 GHz	-22.74 dBm	-9.737 dB
4	4	2.5750 GHz	2.5900 GHz	1.000 MHz	2.575250000 GHz	-25.83 dBm	-12.83 dB
5	5	2.5900 GHz	2.5950 GHz	1.000 MHz	2.590750000 GHz	-39.26 dBm	-14.26 dB

Higher Band Edge Plot for 16QAM -RB Size 100, RB Offset 0

2.7 Transmitter Radiated Power (EIRP/ERP)

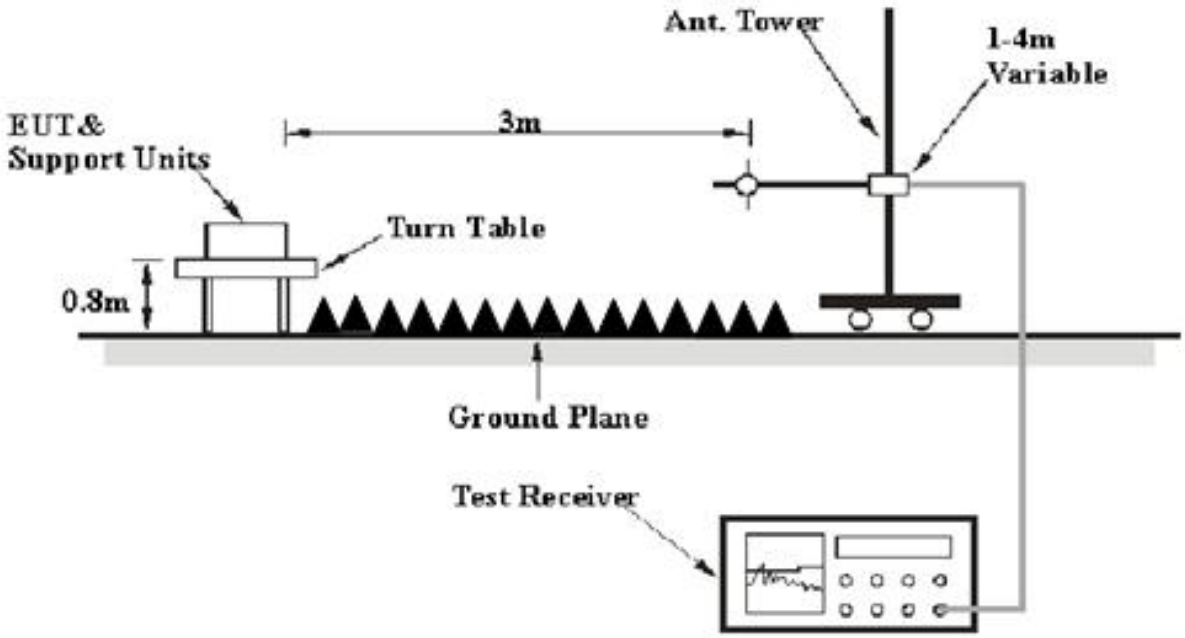
2.7.1 Requirement

Equivalent isotropic radiated power output measurements by substitution method according to ANSI /TIA / EIA-603-C-2004, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas. License Digital Systems v02r02. Mobile and portable (hand-held) stations operating are limited to average EIRP of 2 watts with LTE band 2 / 7 and 1 watt with LTE band 4.

2.7.2 Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

2.7.3 Test Setup



2.7.4 Test Procedures

1. The EUT was placed on a turntable with 1.5 meter height in a fully anechoic chamber.
2. The EUT was set at 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and a spectrum analyzer which used a channel power option across EUT's signal

bandwidth per section 4.0 of KDB 971168 D01v02r02.

4. The table was rotated 360 degrees to determine the position of the highest radiated power.
5. The height of the receiving antenna is adjusted to look for the maximum ERP/EIRP.
6. Taking the record of maximum ERP/EIRP.
7. A dipole antenna was substituted in place of the EUT and was driven by a signal generator.
8. The conducted power at the terminal of the dipole antenna is measured.
9. Repeat step 3 to step 5 to get the maximum ERP/EIRP of the substitution antenna.
10. ERP/EIRP = Ps + Et – Es + Gs = Ps + Rt – Rs + Gs

Ps (dBm)：Input power to substitution antenna.

Gs (dBi or dBd)：Substitution antenna Gain.

Et = Rt + AF

Es = Rs + AF

AF (dB/m)：Receive antenna factor

Rt：The highest received signal in spectrum analyzer for EUT.

Rs：The highest received signal in spectrum analyzer for substitution antenna.

2.7.5 Test Result of ERP/EIRP

1. LTE Band 2 Test Verdict:

LTE Band	BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	EIRP (dBm)	H/V	Verdict
			RB Size	RB Offset				
2	1.4	QPSK	1	0	1850.7	**23.65**	H	PASS
2	1.4	QPSK	1	0	1880	23.64	H	PASS
2	1.4	QPSK	1	0	1909.3	23.59	H	PASS
2	1.4	QPSK	1	0	1850.7	23.18	V	PASS
2	1.4	QPSK	1	0	1880	23.15	V	PASS
2	1.4	QPSK	1	0	1909.3	23.17	V	PASS
2	1.4	16QAM	1	0	1850.7	**22.78**	H	PASS
2	1.4	16QAM	1	0	1880	22.72	H	PASS
2	1.4	16QAM	1	0	1909.3	22.75	H	PASS
2	1.4	16QAM	1	0	1850.7	22.22	V	PASS
2	1.4	16QAM	1	0	1880	22.27	V	PASS
2	1.4	16QAM	1	0	1909.3	22.28	V	PASS
2	3	QPSK	1	0	1851.5	23.69	H	PASS
2	3	QPSK	1	0	1880	**23.70**	H	PASS
2	3	QPSK	1	0	1909.3	23.66	H	PASS
2	3	QPSK	1	0	1851.5	23.22	V	PASS
2	3	QPSK	1	0	1880	23.17	V	PASS
2	3	QPSK	1	0	1909.3	23.18	V	PASS
2	3	16QAM	1	0	1851.5	22.77	H	PASS
2	3	16QAM	1	0	1880	22.78	H	PASS
2	3	16QAM	1	0	1909.3	**22.82**	H	PASS
2	3	16QAM	1	0	1851.5	22.31	V	PASS
2	3	16QAM	1	0	1880	22.25	V	PASS
2	3	16QAM	1	0	1909.3	22.23	V	PASS
2	5	QPSK	1	0	1852.5	23.67	H	PASS
2	5	QPSK	1	0	1880	23.64	H	PASS
2	5	QPSK	1	0	1907.5	**23.69**	H	PASS
2	5	QPSK	1	0	1852.5	23.12	V	PASS
2	5	QPSK	1	0	1880	23.19	V	PASS
2	5	QPSK	1	0	1907.5	23.15	V	PASS
2	5	16QAM	1	0	1852.5	22.72	H	PASS
2	5	16QAM	1	0	1880	22.70	H	PASS
2	5	16QAM	1	0	1907.5	**22.77**	H	PASS
2	5	16QAM	1	0	1852.5	22.25	V	PASS
2	5	16QAM	1	0	1880	22.24	V	PASS
2	5	16QAM	1	0	1907.5	22.19	V	PASS

LTE Band	BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	EIRP (dBm)	H/V	Verdict
			RB Size	RB Offset				
2	10	QPSK	1	0	1855	**23.75**	H	PASS
2	10	QPSK	1	0	1880	23.69	H	PASS
2	10	QPSK	1	0	1905	23.72	H	PASS
2	10	QPSK	1	0	1855	23.25	V	PASS
2	10	QPSK	1	0	1880	23.24	V	PASS
2	10	QPSK	1	0	1905	23.28	V	PASS
2	10	16QAM	1	0	1855	22.81	H	PASS
2	10	16QAM	1	0	1880	22.80	H	PASS
2	10	16QAM	1	0	1905	**22.84**	H	PASS
2	10	16QAM	1	0	1855	22.24	V	PASS
2	10	16QAM	1	0	1880	22.20	V	PASS
2	10	16QAM	1	0	1905	22.25	V	PASS
2	15	QPSK	1	0	1857.5	23.78	H	PASS
2	15	QPSK	1	0	1880	**23.79**	H	PASS
2	15	QPSK	1	0	1902.5	23.76	H	PASS
2	15	QPSK	1	0	1857.5	23.25	V	PASS
2	15	QPSK	1	0	1880	23.31	V	PASS
2	15	QPSK	1	0	1902.5	23.27	V	PASS
2	15	16QAM	1	0	1857.5	22.79	H	PASS
2	15	16QAM	1	0	1880	**22.87**	H	PASS
2	15	16QAM	1	0	1902.5	22.83	H	PASS
2	15	16QAM	1	0	1857.5	22.29	V	PASS
2	15	16QAM	1	0	1880	22.32	V	PASS
2	15	16QAM	1	0	1902.5	22.27	V	PASS
2	20	QPSK	1	0	1860	**23.76**	H	PASS
2	20	QPSK	1	0	1880	23.75	H	PASS
2	20	QPSK	1	0	1900	23.76	H	PASS
2	20	QPSK	1	0	1860	23.25	V	PASS
2	20	QPSK	1	0	1880	23.19	V	PASS
2	20	QPSK	1	0	1900	23.22	V	PASS
2	20	16QAM	1	0	1860	22.81	H	PASS
2	20	16QAM	1	0	1880	22.84	H	PASS
2	20	16QAM	1	0	1900	**22.85**	H	PASS
2	20	16QAM	1	0	1860	22.31	V	PASS
2	20	16QAM	1	0	1880	22.26	V	PASS
2	20	16QAM	1	0	1900	22.24	V	PASS

2. LTE Band 4 Test Verdict:

LTE Band	BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	EIRP (dBm)	H/V	Verdict
			RB Size	RB Offset				
4	1.4	QPSK	3	0	1710.7	23.21	H	PASS
4	1.4	QPSK	3	2	1732.5	23.24	H	PASS
4	1.4	QPSK	1	2	1754.3	**23.25**	H	PASS
4	1.4	QPSK	3	0	1710.7	22.86	V	PASS
4	1.4	QPSK	3	2	1732.5	22.84	V	PASS
4	1.4	QPSK	1	2	1754.3	22.87	V	PASS
4	1.4	16QAM	3	2	1710.7	22.39	H	PASS
4	1.4	16QAM	3	2	1732.5	**22.40**	H	PASS
4	1.4	16QAM	3	2	1754.3	22.37	H	PASS
4	1.4	16QAM	3	2	1710.7	21.87	V	PASS
4	1.4	16QAM	3	2	1732.5	21.81	V	PASS
4	1.4	16QAM	3	2	1754.3	21.82	V	PASS
4	3	QPSK	1	0	1711.5	23.21	H	PASS
4	3	QPSK	1	0	1732.5	**23.27**	H	PASS
4	3	QPSK	1	7	1753.5	23.25	H	PASS
4	3	QPSK	1	0	1711.5	22.80	V	PASS
4	3	QPSK	1	0	1732.5	22.84	V	PASS
4	3	QPSK	1	7	1753.5	22.81	V	PASS
4	3	16QAM	1	14	1711.5	22.32	H	PASS
4	3	16QAM	1	14	1732.5	22.34	H	PASS
4	3	16QAM	1	14	1753.5	**22.37**	H	PASS
4	3	16QAM	1	14	1711.5	21.87	V	PASS
4	3	16QAM	1	14	1732.5	21.82	V	PASS
4	3	16QAM	1	14	1753.5	21.90	V	PASS
4	5	QPSK	1	12	1712.5	23.27	H	PASS
4	5	QPSK	1	24	1732.5	**23.32**	H	PASS
4	5	QPSK	1	24	1752.5	23.29	H	PASS
4	5	QPSK	1	12	1712.5	22.76	V	PASS
4	5	QPSK	1	24	1732.5	22.80	V	PASS
4	5	QPSK	1	24	1752.5	22.78	V	PASS
4	5	16QAM	1	24	1712.5	22.35	H	PASS
4	5	16QAM	1	0	1732.5	22.31	H	PASS
4	5	16QAM	1	0	1752.5	**22.39**	H	PASS
4	5	16QAM	1	24	1712.5	21.72	V	PASS
4	5	16QAM	1	0	1732.5	21.85	V	PASS
4	5	16QAM	1	0	1752.5	21.78	V	PASS

LTE Band	BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	EIRP (dBm)	H/V	Verdict
			RB Size	RB Offset				
4	10	QPSK	1	24	1715	**23.29**	H	PASS
4	10	QPSK	1	0	1732.5	23.25	H	PASS
4	10	QPSK	1	24	1750	23.26	H	PASS
4	10	QPSK	1	24	1715	22.77	V	PASS
4	10	QPSK	1	0	1732.5	22.82	V	PASS
4	10	QPSK	1	24	1750	22.76	V	PASS
4	10	16QAM	1	24	1715	22.31	H	PASS
4	10	16QAM	1	0	1732.5	**22.36**	H	PASS
4	10	16QAM	1	24	1750	22.33	H	PASS
4	10	16QAM	1	24	1715	21.82	V	PASS
4	10	16QAM	1	0	1732.5	21.75	V	PASS
4	10	16QAM	1	24	1750	21.83	V	PASS
4	15	QPSK	1	74	1717.5	23.34	H	PASS
4	15	QPSK	1	74	1732.5	**23.38**	H	PASS
4	15	QPSK	1	0	1747.5	23.33	H	PASS
4	15	QPSK	1	74	1717.5	22.83	V	PASS
4	15	QPSK	1	74	1732.5	22.85	V	PASS
4	15	QPSK	1	0	1747.5	22.79	V	PASS
4	15	16QAM	1	74	1717.5	22.34	H	PASS
4	15	16QAM	1	0	1732.5	22.30	H	PASS
4	15	16QAM	1	0	1747.5	**22.39**	H	PASS
4	15	16QAM	1	74	1717.5	21.86	V	PASS
4	15	16QAM	1	0	1732.5	21.81	V	PASS
4	15	16QAM	1	0	1747.5	21.89	V	PASS
4	20	QPSK	1	0	1720	23.28	H	PASS
4	20	QPSK	1	0	1732.5	**23.32**	H	PASS
4	20	QPSK	1	0	1745	23.29	H	PASS
4	20	QPSK	1	0	1720	22.79	V	PASS
4	20	QPSK	1	0	1732.5	22.84	V	PASS
4	20	QPSK	1	0	1745	22.86	V	PASS
4	20	16QAM	1	0	1720	22.33	H	PASS
4	20	16QAM	1	0	1732.5	22.30	H	PASS
4	20	16QAM	1	0	1745	**22.34**	H	PASS
4	20	16QAM	1	0	1720	21.83	V	PASS
4	20	16QAM	1	0	1732.5	21.86	V	PASS
4	20	16QAM	1	0	1745	21.84	V	PASS

3. LTE Band 5 Test Verdict:

LTE Band	BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	EIRP (dBm)	H/V	Verdict
			RB Size	RB Offset				
5	1.4	QPSK	3	0	824.7	24.28	H	PASS
5	1.4	QPSK	3	2	836.5	24.30	H	PASS
5	1.4	QPSK	1	2	848.3	**24.31**	H	PASS
5	1.4	QPSK	3	0	824.7	23.78	V	PASS
5	1.4	QPSK	3	2	836.5	23.81	V	PASS
5	1.4	QPSK	1	2	848.3	23.77	V	PASS
5	1.4	16QAM	3	2	824.7	23.26	H	PASS
5	1.4	16QAM	3	2	836.5	**23.28**	H	PASS
5	1.4	16QAM	3	2	848.3	23.25	H	PASS
5	1.4	16QAM	3	2	824.7	22.77	V	PASS
5	1.4	16QAM	3	2	836.5	22.81	V	PASS
5	1.4	16QAM	3	2	848.3	22.75	V	PASS
5	3	QPSK	1	0	825.5	24.27	H	PASS
5	3	QPSK	1	0	836.5	**24.28**	H	PASS
5	3	QPSK	1	7	847.5	24.25	H	PASS
5	3	QPSK	1	0	825.5	23.80	V	PASS
5	3	QPSK	1	0	836.5	23.84	V	PASS
5	3	QPSK	1	7	847.5	23.81	V	PASS
5	3	16QAM	1	14	825.5	23.22	H	PASS
5	3	16QAM	1	14	836.5	23.24	H	PASS
5	3	16QAM	1	14	847.5	**23.25**	H	PASS
5	3	16QAM	1	14	825.5	22.84	V	PASS
5	3	16QAM	1	14	836.5	22.77	V	PASS
5	3	16QAM	1	14	847.5	22.80	V	PASS
5	5	QPSK	1	12	826.5	24.30	H	PASS
5	5	QPSK	1	24	836.5	**24.34**	H	PASS
5	5	QPSK	1	24	846.5	24.29	H	PASS
5	5	QPSK	1	12	826.5	23.86	V	PASS
5	5	QPSK	1	24	836.5	23.80	V	PASS
5	5	QPSK	1	24	846.5	23.84	V	PASS
5	5	16QAM	1	24	826.5	23.25	H	PASS
5	5	16QAM	1	0	836.5	23.27	H	PASS
5	5	16QAM	1	0	846.5	**23.30**	H	PASS
5	5	16QAM	1	24	826.5	22.82	V	PASS
5	5	16QAM	1	0	836.5	22.85	V	PASS
5	5	16QAM	1	0	846.5	22.78	V	PASS

LTE Band	BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	EIRP (dBm)	H/V	Verdict
			RB Size	RB Offset				
5	10	QPSK	1	24	829	24.27	H	PASS
5	10	QPSK	1	0	836.5	**24.30**	H	PASS
5	10	QPSK	1	24	844	24.24	H	PASS
5	10	QPSK	1	24	829	23.85	V	PASS
5	10	QPSK	1	0	836.5	23.82	V	PASS
5	10	QPSK	1	24	844	23.78	V	PASS
5	10	16QAM	1	24	829	23.24	H	PASS
5	10	16QAM	1	0	836.5	**23.27**	H	PASS
5	10	16QAM	1	24	844	23.23	H	PASS
5	10	16QAM	1	24	829	22.85	V	PASS
5	10	16QAM	1	0	836.5	22.87	V	PASS
5	10	16QAM	1	24	844	22.83	V	PASS

4. LTE Band 7 Test Verdict:

LTE Band	BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	ERP (dBm)	H/V	Verdict
			RB Size	RB Offset				
7	5	QPSK	1	12	2502.5	24.16	H	PASS
7	5	QPSK	1	0	2535	24.10	H	PASS
7	5	QPSK	1	24	2567.5	**24.18**	H	PASS
7	5	QPSK	1	12	2502.5	23.76	V	PASS
7	5	QPSK	1	0	2535	23.70	V	PASS
7	5	QPSK	1	24	2567.5	23.75	V	PASS
7	5	16QAM	1	24	2502.5	23.25	H	PASS
7	5	16QAM	1	24	2535	23.22	H	PASS
7	5	16QAM	1	0	2567.5	**23.27**	H	PASS
7	5	16QAM	1	24	2502.5	22.72	V	PASS
7	5	16QAM	1	24	2535	22.75	V	PASS
7	5	16QAM	1	0	2567.5	22.78	V	PASS
7	10	QPSK	1	24	2505	**24.15**	H	PASS
7	10	QPSK	1	49	2535	24.09	H	PASS
7	10	QPSK	1	24	2565	24.11	H	PASS
7	10	QPSK	1	24	2505	23.73	V	PASS
7	10	QPSK	1	49	2535	23.78	V	PASS
7	10	QPSK	1	24	2565	23.75	V	PASS
7	10	16QAM	1	24	2505	23.20	H	PASS
7	10	16QAM	1	49	2535	23.18	H	PASS
7	10	16QAM	1	24	2565	**23.23**	H	PASS
7	10	16QAM	1	24	2505	22.82	V	PASS
7	10	16QAM	1	49	2535	22.75	V	PASS
7	10	16QAM	1	24	2565	22.83	V	PASS
7	15	QPSK	1	37	2507.5	**24.21**	H	PASS
7	15	QPSK	1	74	2535	24.13	H	PASS
7	15	QPSK	1	0	2562.5	24.10	H	PASS
7	15	QPSK	1	37	2507.5	23.75	V	PASS
7	15	QPSK	1	74	2535	23.70	V	PASS
7	15	QPSK	1	0	2562.5	23.79	V	PASS
7	15	16QAM	1	37	2507.5	23.24	H	PASS
7	15	16QAM	1	18	2535	23.20	H	PASS
7	15	16QAM	1	0	2562.5	**23.31**	H	PASS
7	15	16QAM	1	37	2507.5	22.86	V	PASS
7	15	16QAM	1	18	2535	22.81	V	PASS
7	15	16QAM	1	0	2562.5	22.79	V	PASS

LTE Band	BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	ERP (dBm)	H/V	Verdict
			RB Size	RB Offset				
7	20	QPSK	1	0	2510	24.18	H	PASS
7	20	QPSK	1	0	2535	24.15	H	PASS
7	20	QPSK	1	0	2560	**24.19**	H	PASS
7	20	QPSK	1	0	2510	23.79	V	PASS
7	20	QPSK	1	0	2535	23.74	V	PASS
7	20	QPSK	1	0	2560	23.75	V	PASS
7	20	16QAM	1	0	2510	23.23	H	PASS
7	20	16QAM	1	0	2535	**23.26**	H	PASS
7	20	16QAM	1	0	2560	23.25	H	PASS
7	20	16QAM	1	0	2510	22.83	V	PASS
7	20	16QAM	1	0	2535	22.86	V	PASS
7	20	16QAM	1	0	2560	22.91	V	PASS

2.8 Radiated Out of Band Emissions

2.8.1 Requirement

The radiated spurious emission was measured by substitution method according to ANSI / TIA /EIA-603-C-2004. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

For Band 7

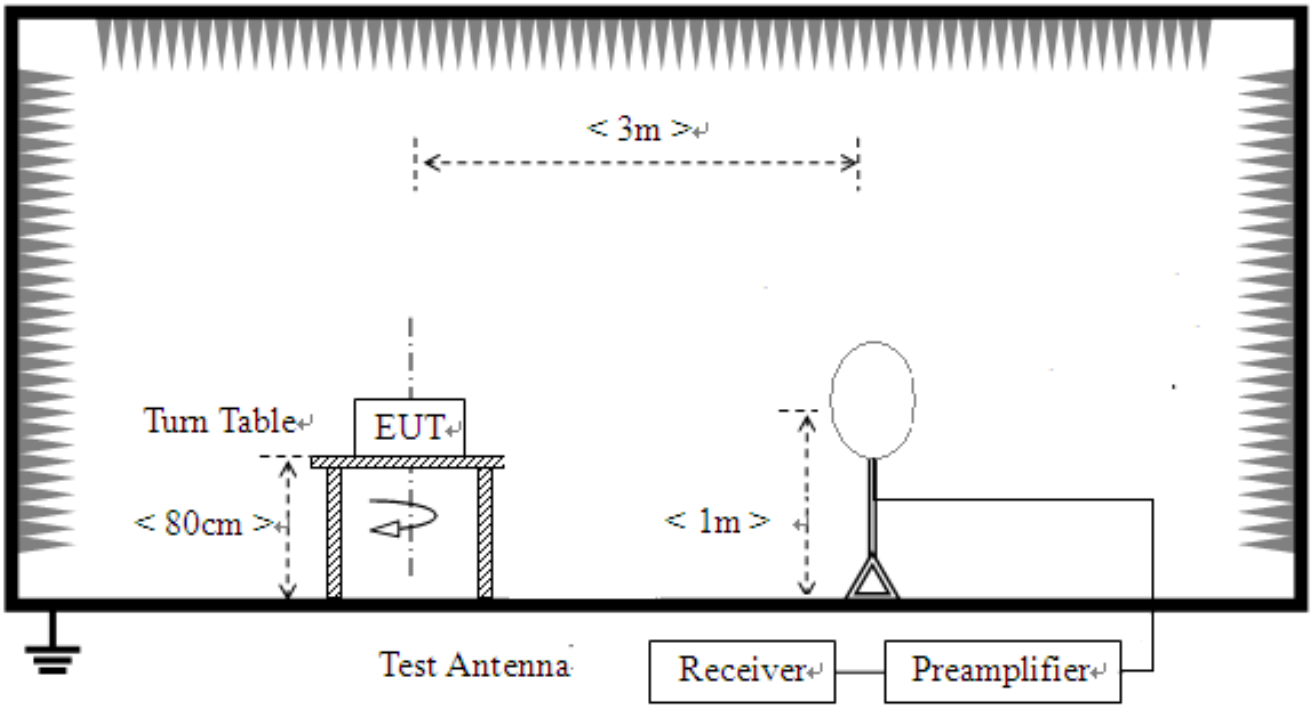
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 55 + 10 log (P) dB.

2.8.2 Measuring Instruments

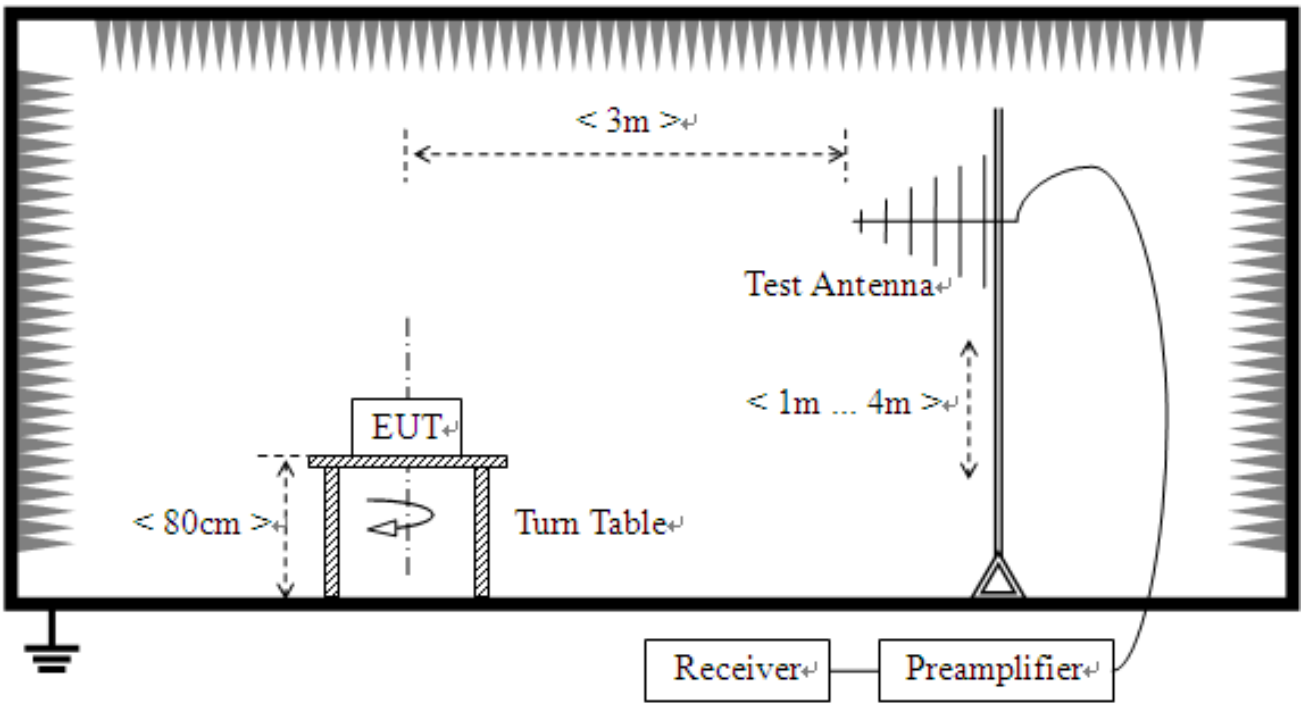
The measuring equipment is listed in the section 3 of this test report.

2.8.3 Test Setup

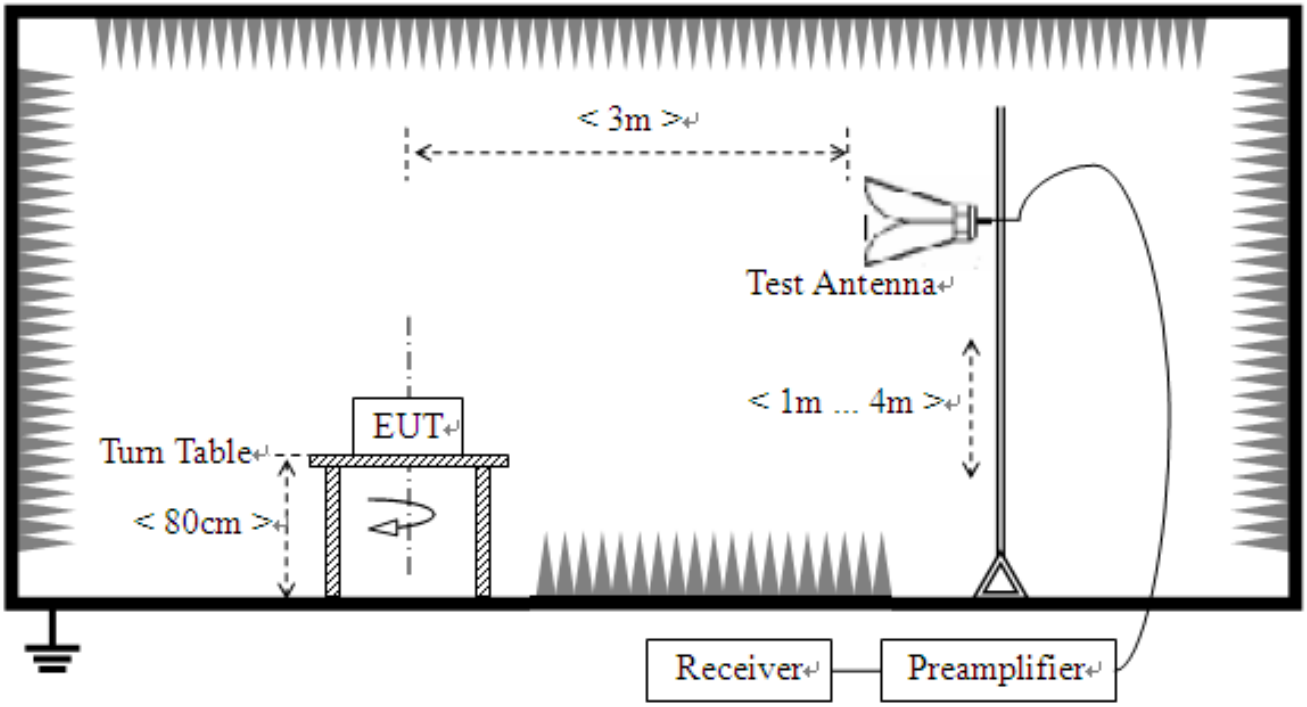
For radiated emissions from 9kHz to 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



2.8.4 Test Procedures

1. The EUT was placed on a rotatable wooden table with 0.8 meter above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

    The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)

    = P(W)- [43 + 10log(P)] (dB)

    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)

    = -13dBm.

    <For Band 7>

    The limit line is derived from 55+ 10log(P)dB below the transmitter power P(Watts)

    = P(W)- [55 + 10log(P)] (dB)

    = [30 + 10log(P)] (dBm) - [55 + 10log(P)] (dB)

    = -25dBm.
11. All Spurious Emission tests were performed in X, Y, Z axis direction and low, middle, high channel. And only the worst axis test condition was recorded in this test report.
12. The spectrum is measured from 9 KHz to the 10^{th} harmonic of the fundamental frequency of the transmitter using CISPR quasi peak detector below 1GHz. The worst case emissions are reported however emissions whose levels were not within 20dB of the respective limits were not reported.

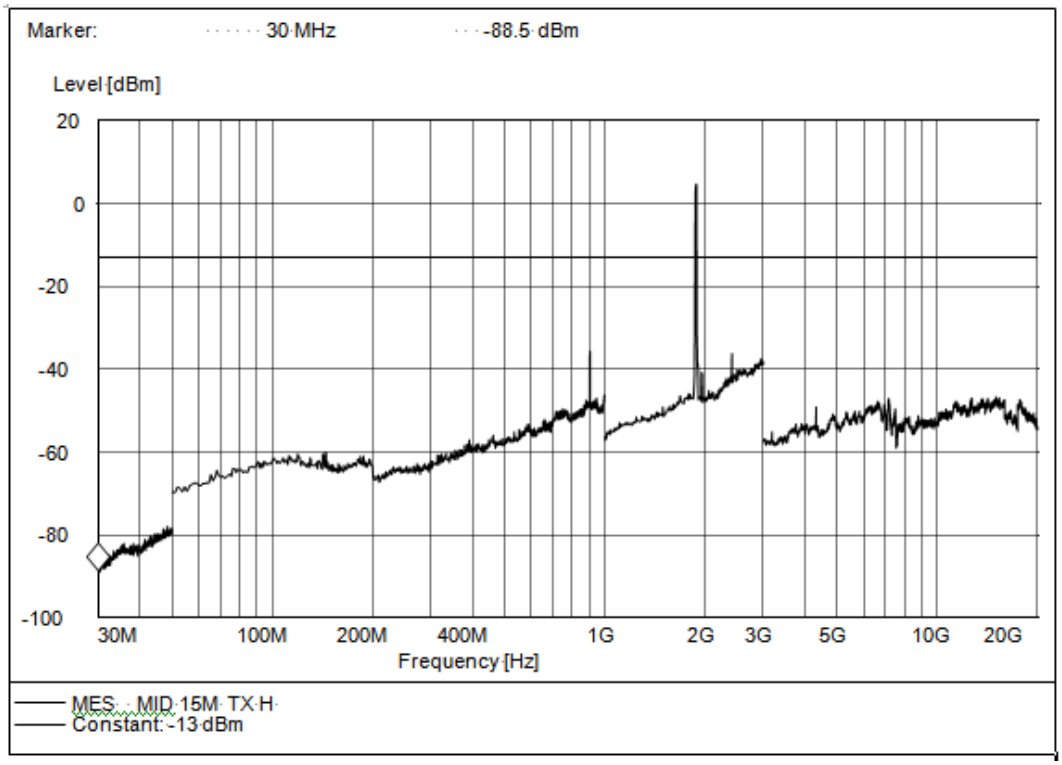
13. The maximum RB configurations of the Radiated Spurious Emissions as RB Size 1, RB Offset 0

2.8.5 Test Result (Plots) of Radiated Spurious Emission

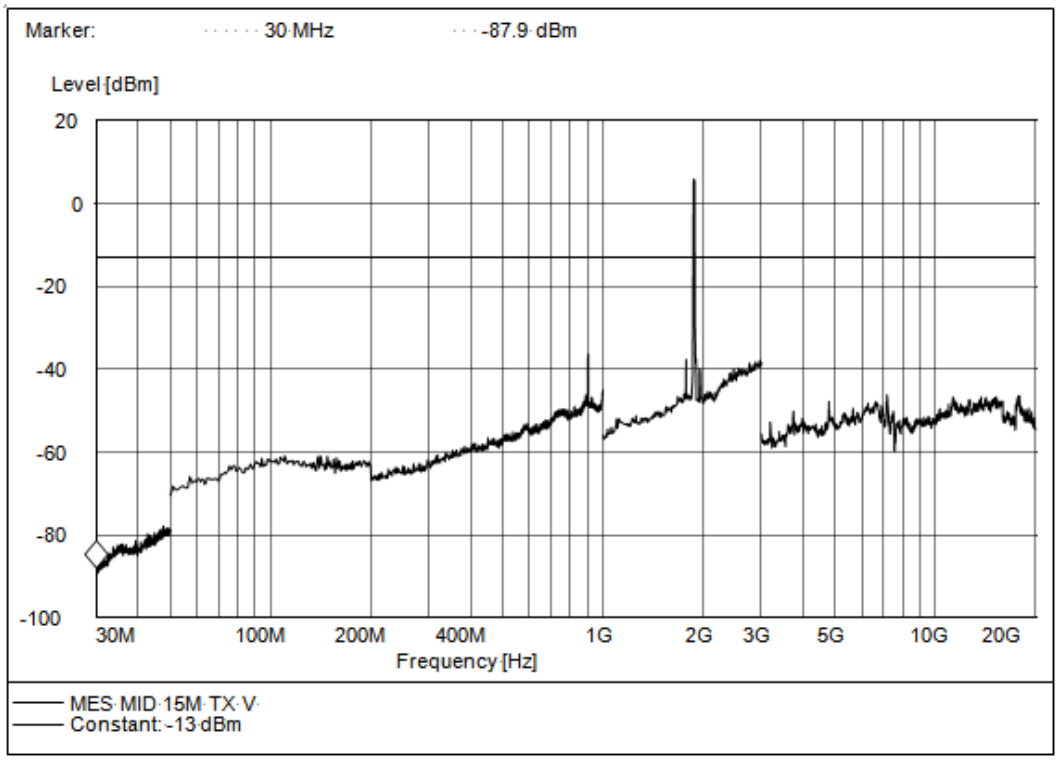
Note1: For 9 KHz to 30MHz: the amplitude of spurious emissions is attenuated by more than 20dB below the permissible value, so we not provide the test result here.

Note2: For band 2,4,7, all of the bandwidth were tested and found 15MHz bandwidth is the worst bandwidth，the worst case were recorded in this report.

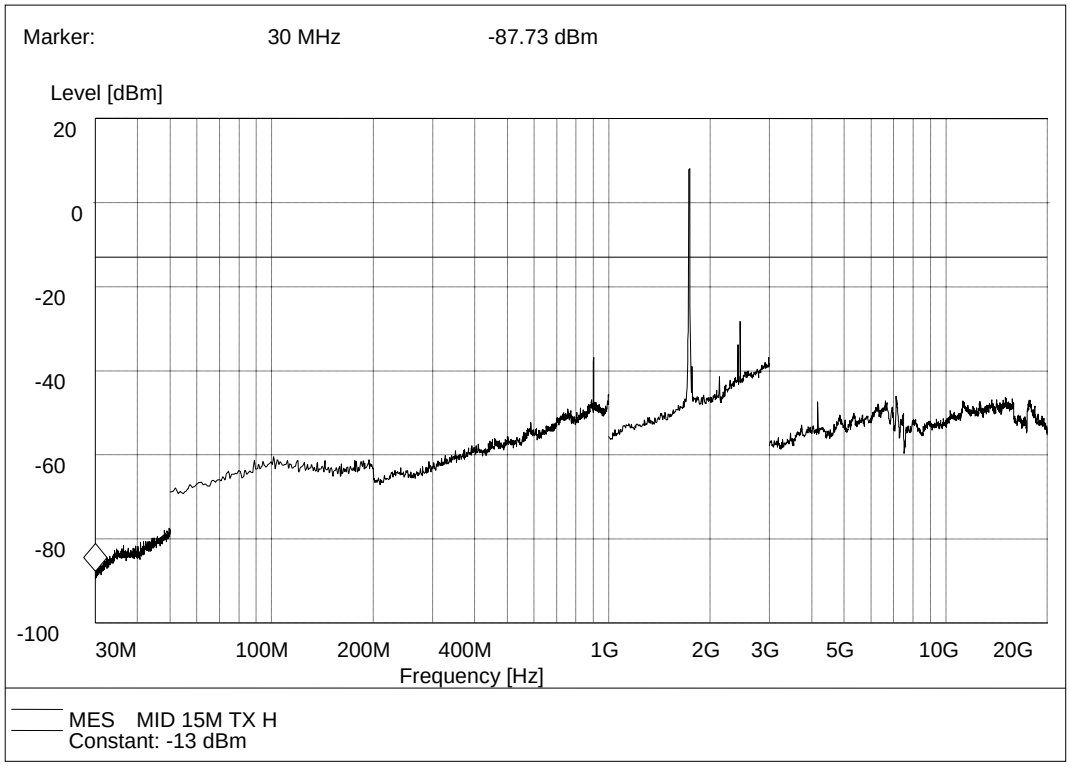
Note3: For band 5, all of the bandwidth were tested and found 5MHz bandwidth is the worst bandwidth，the worst case were recorded in this report.



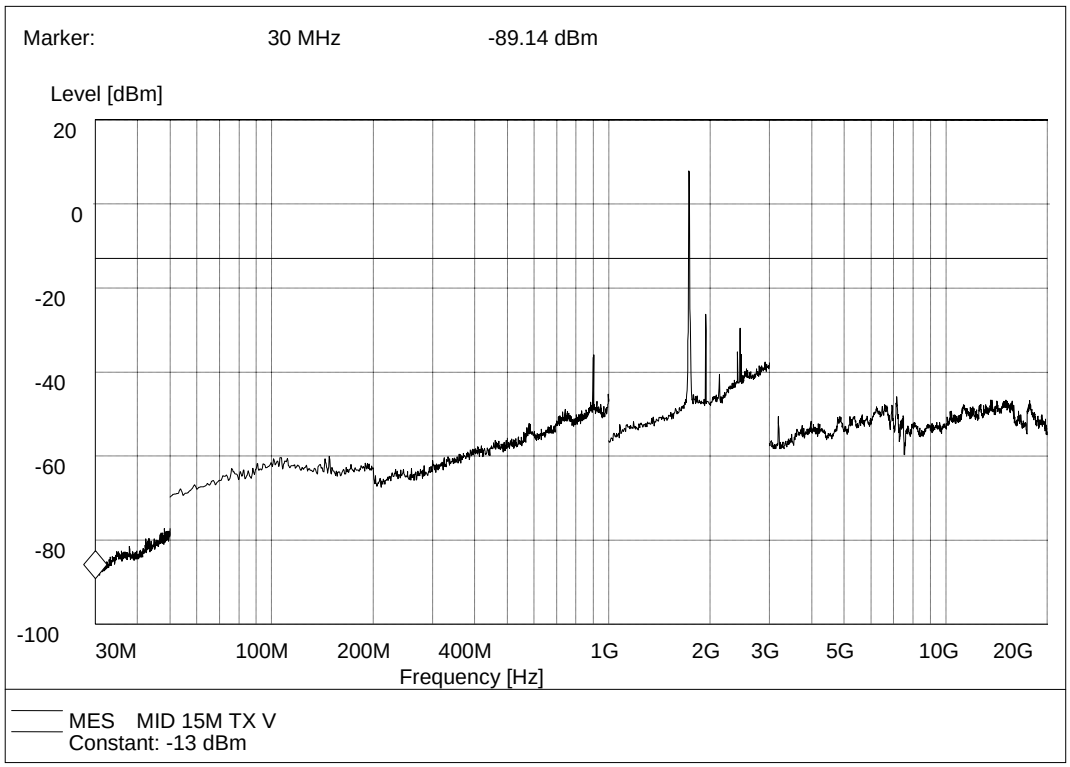
LTE Band 2 QPSK 15MHz BW Test Antenna Horizontal



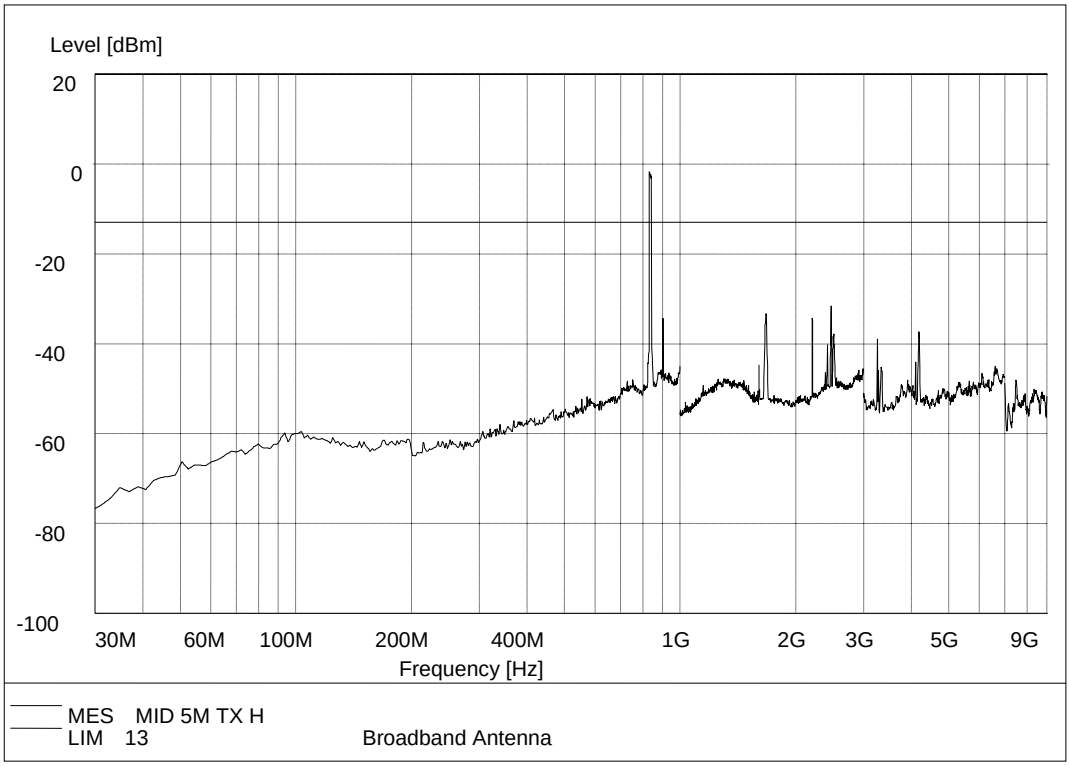
LTE Band 2 QPSK 15MHz BW Test Antenna Vertical



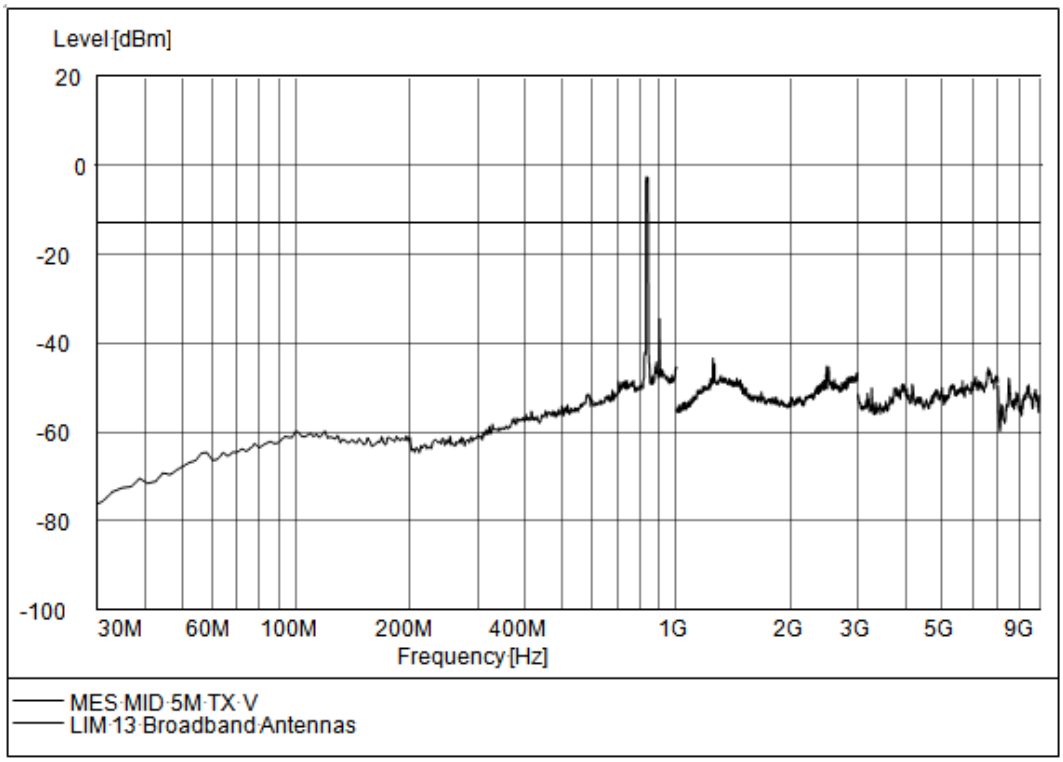
` LTE Band 4 QPSK 15MHz BW Test Antenna Horizontal



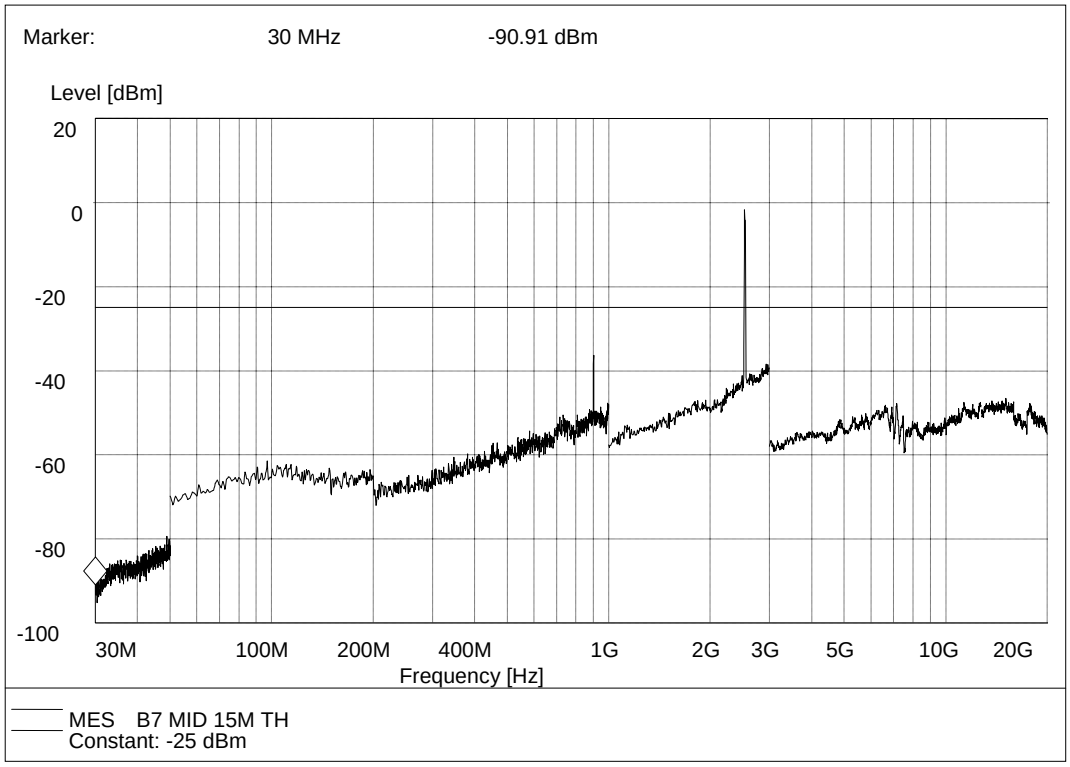
LTE Band 4 QPSK 15MHz BW Test Antenna Vertical



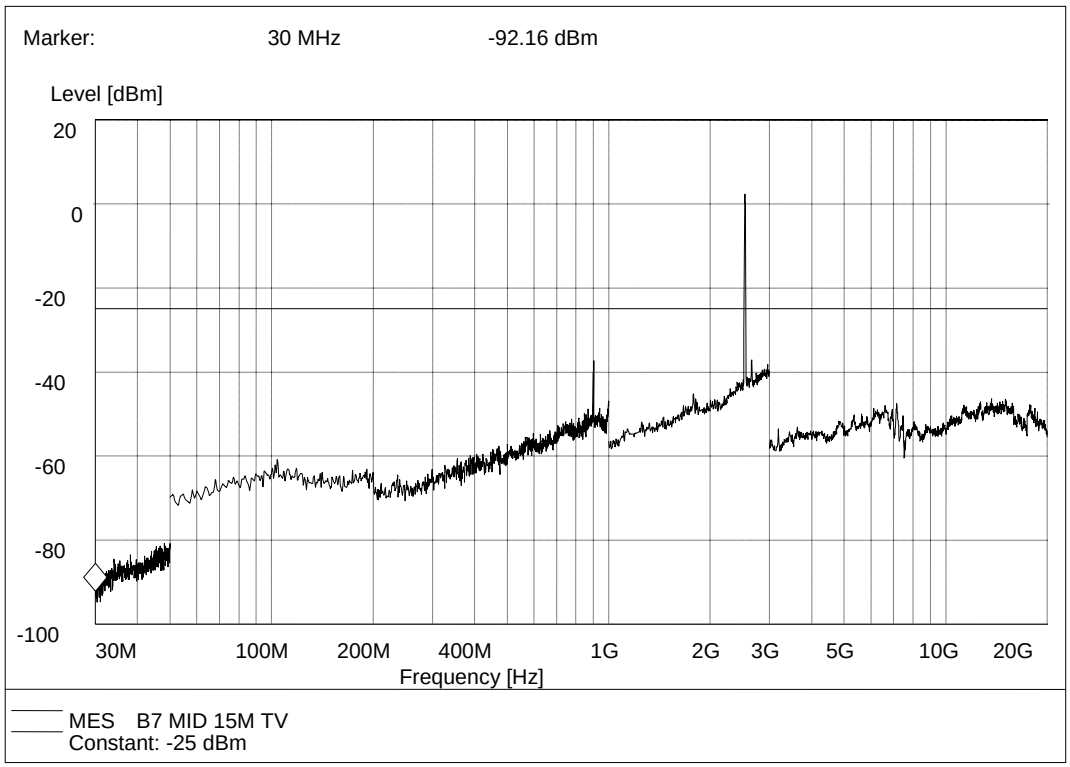
LTE Band 5 QPSK 5MHz BW Test Antenna Horizontal



LTE Band 5 QPSK 5MHz BW Test Antenna Vertical



LTE Band 7 QPSK 15MHz BW Test Antenna Horizontal



LTE Band 7 QPSK 15MHz BW Test Antenna Vertical

3. LIST OF MEASURING EQUIPMENT

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI TEST RECEIVER	Rohde&Schwarz	ESI 26	100009	2015/11/02
2	RF TEST PANEL	Rohde&Schwarz	TS / RSP	335015/ 0017	N/A
3	EMI TEST SOFTWARE	Rohde&Schwarz	ESK1	N/A	N/A
4	Ultra-Broadband Antenna	ShwarzBeck	VULB9163	538	2015/11/08
5	Ultra-Broadband Antenna	ShwarzBeck	VULB9163	539	2015/11/08
6	HORN ANTENNA	ShwarzBeck	9120D	1011	2015/11/08
7	HORN ANTENNA	ShwarzBeck	9120D	1012	2015/11/08
8	Loop Antenna	Rohde&Schwarz	HZ-9	838622\013	2015/11/08
9	HORN ANTENNA	Rohde&Schwarz	HF906	10068	2015/11/02
10	HORN ANTENNA	Rohde&Schwarz	HF906	10039	2015/11/02
11	Pre-amplifer	ShwarzBeck	BBV 9743	9743-0022	2015/11/02
12	Pre-amplifier	ShwarzBeck	BBV 9718	BBV 9718	2015/11/02
13	TURNTABLE	MATURO	TT2.0	N/A	N/A
14	ANTENNA MAST	MATURO	TAM-4.0-P	N/A	N/A
15	EMI TEST SOFTWARE	Audix	E3	N/A	N/A
16	Test cable	Siva Cables Italy	RG 58A/U	W14.02	2015/12/05
17	Climate Chamber	ESPEC	EL-10KA	05107008	2015/11/02
18	Spectrum Analyzer	Kysight	N9030A	ATO-67098	2016/07/19
19	Power Meter	Rohde&Schwarz	NRP2	1020.1809.02	2016.06.02
20	Power Sensor	Rohde&Schwarz	NRP-Z81	823.3618.03	2016.06.02
21	System Simulator	Rohde&Schwarz	CMU200	112012	2015/11/2
22	System Simulator	R&S	CMW500	148888	2016.06.02

4. UNCERTAINTY OF EVALUATION

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2

Measurement	Frequency	Uncertainty
Conducted Emission	9kHz~30MHz	3.39dB
Radiated Emission	30MHz~1000MHz	4.24dB
	1G~18GHz	5.16dB
	18G~40GHz	5.54dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

** END OF REPORT **