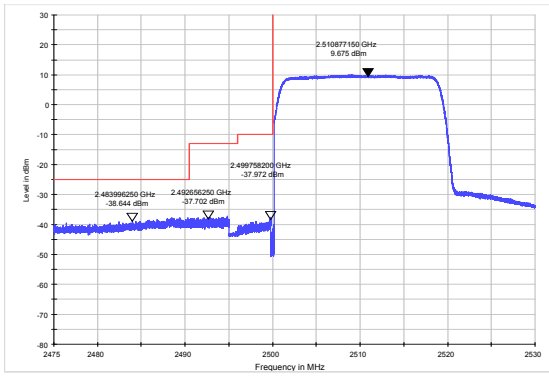
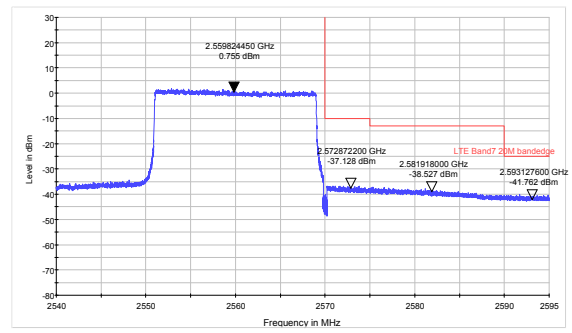


LTE Band 7 16QAM 20MHz CH-Low, 100%RB

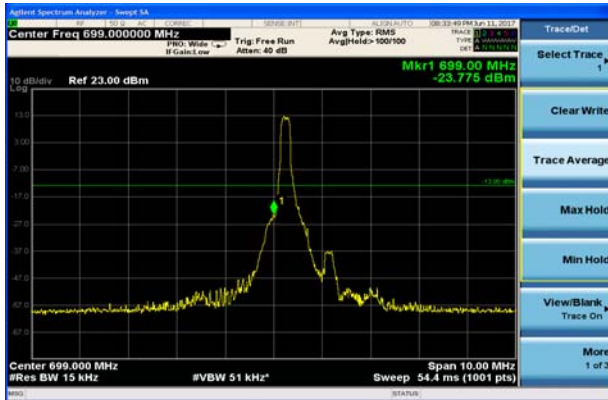


LTE Band 7 16QAM 20MHz CH-High, 100%RB





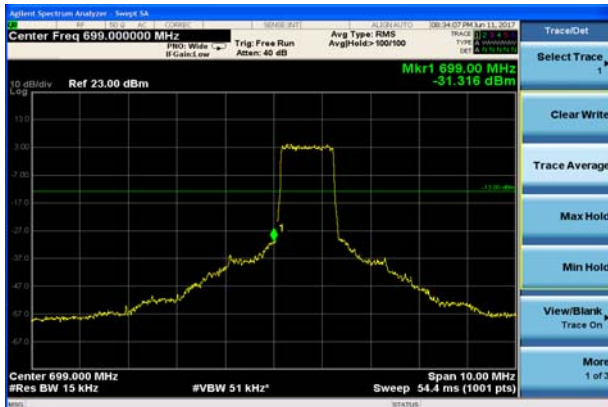
LTE Band 12 QPSK 1.4MHz CH-Low, 1 RB



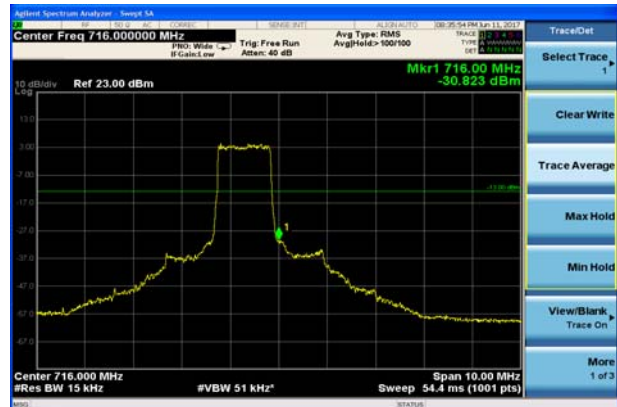
LTE Band 12 QPSK 1.4MHz CH-High, 1 RB



LTE Band 12 QPSK 1.4MHz CH-Low, 100%RB



LTE Band 12 QPSK 1.4MHz CH-High, 100%RB



LTE Band 12 QPSK 3MHz CH-Low, 1 RB



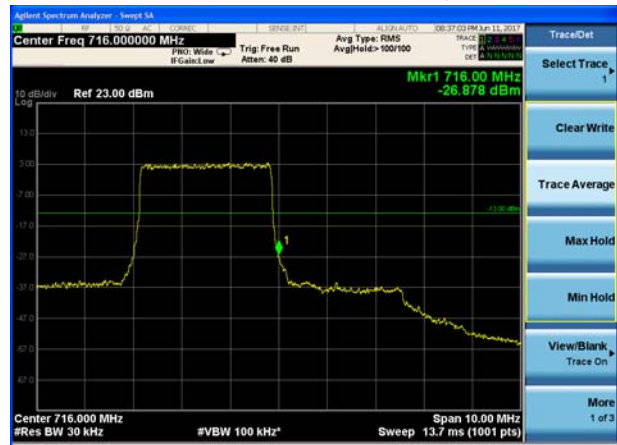
LTE Band 12 QPSK 3MHz CH-High, 1 RB



LTE Band 12 QPSK 3MHz CH-Low, 100%RB

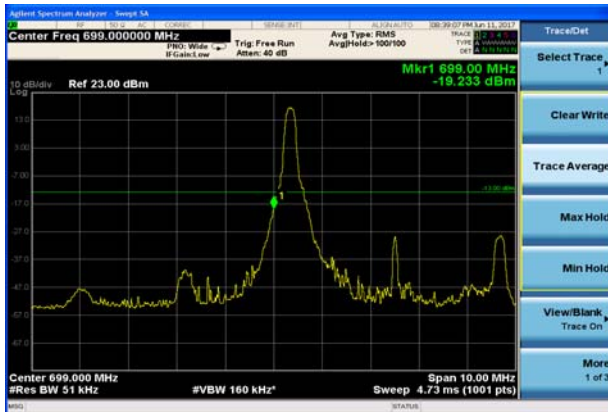


LTE Band 12 QPSK 3MHz CH-High, 100%RB

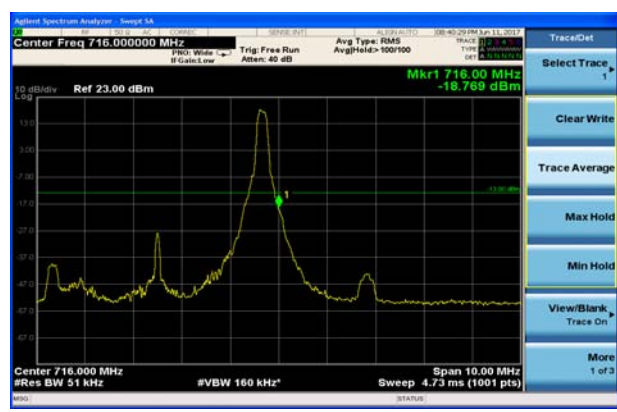




LTE Band 12 QPSK 5MHz CH-Low, 1 RB



LTE Band 12 QPSK 5MHz CH-High, 1 RB



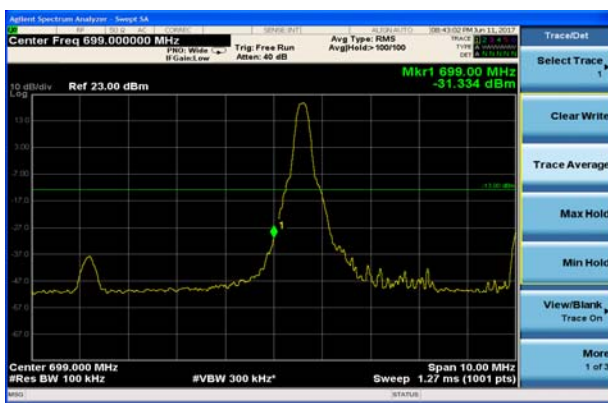
LTE Band 12 QPSK 5MHz CH-Low, 100%RB



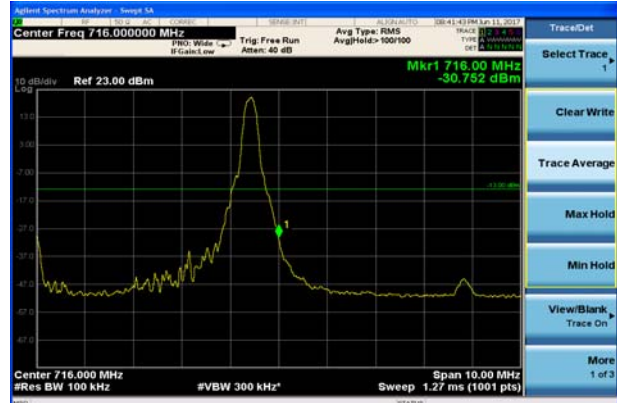
LTE Band 12 QPSK 5MHz CH-High, 100%RB



LTE Band 12 QPSK 10MHz CH-Low, 1 RB



LTE Band 12 QPSK 10MHz CH-High, 1 RB



LTE Band 12 QPSK 10MHz CH-Low, 100%RB

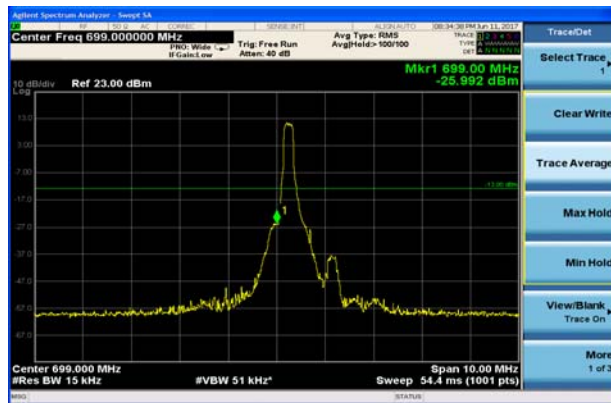


LTE Band 12 QPSK 10MHz CH-High, 100%RB

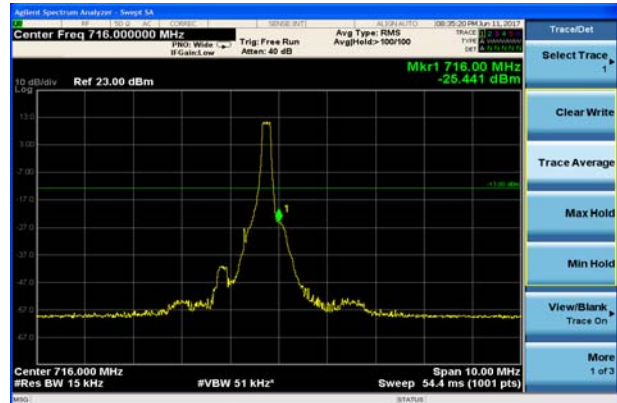




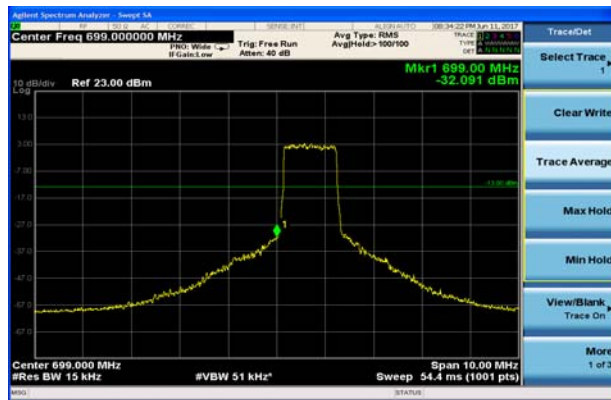
LTE Band 12 16QAM 1.4MHz CH-Low, 1 RB



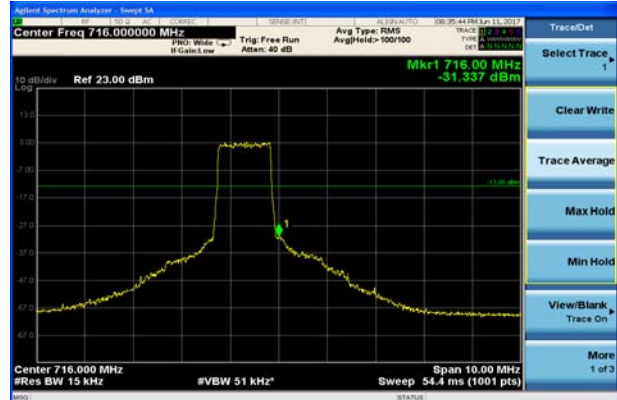
LTE Band 12 16QAM 1.4MHz CH-High, 1 RB



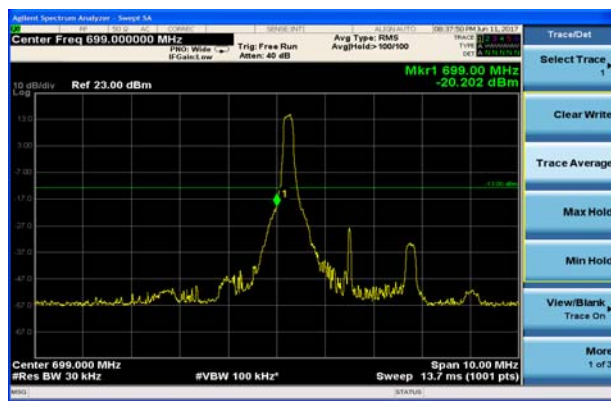
LTE Band 12 16QAM 1.4MHz CH-Low, 100%RB



LTE Band 12 16QAM 1.4MHz CH-High, 100%RB



LTE Band 12 16QAM 3MHz CH-Low, 1 RB



LTE Band 12 16QAM 3MHz CH-High, 1 RB



LTE Band 12 16QAM 3MHz CH-Low, 100%RB

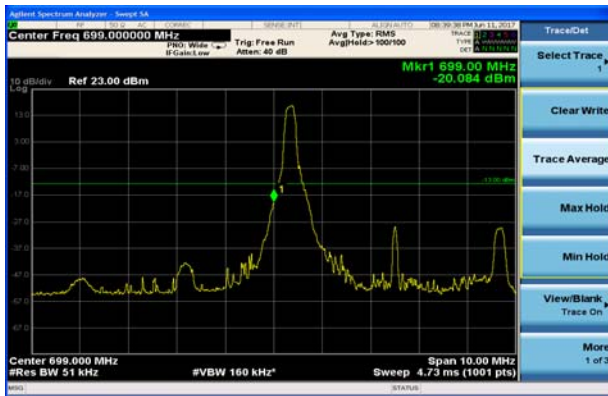


LTE Band 12 16QAM 3MHz CH-High, 100%RB

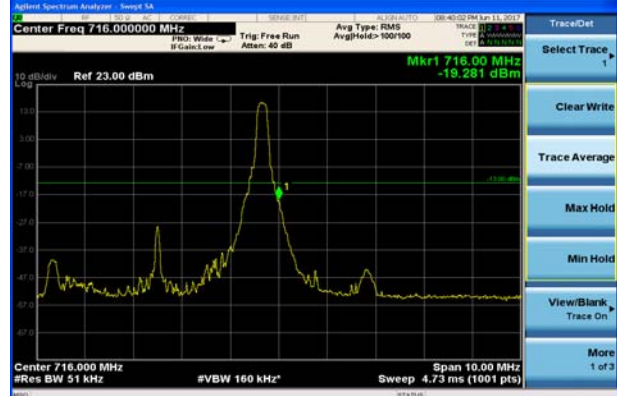




LTE Band 12 16QAM 5MHz CH-Low, 1 RB



LTE Band 12 16QAM 5MHz CH-High, 1 RB



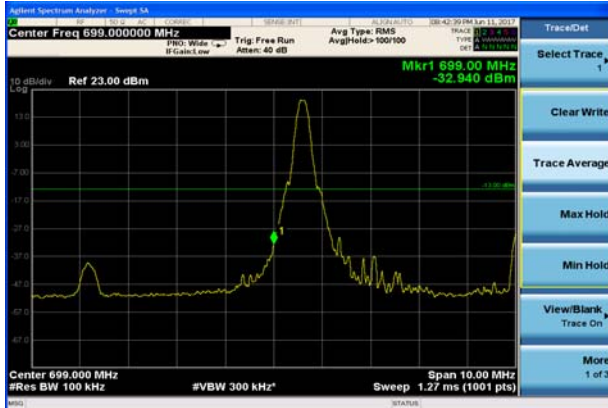
LTE Band 12 16QAM 5MHz CH-Low, 100%RB



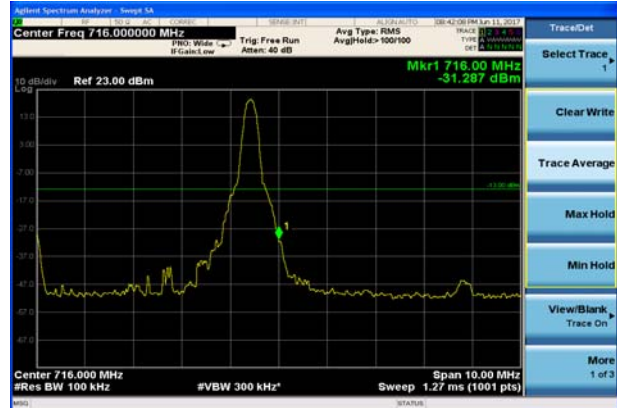
LTE Band 12 16QAM 5MHz CH-High, 100%RB



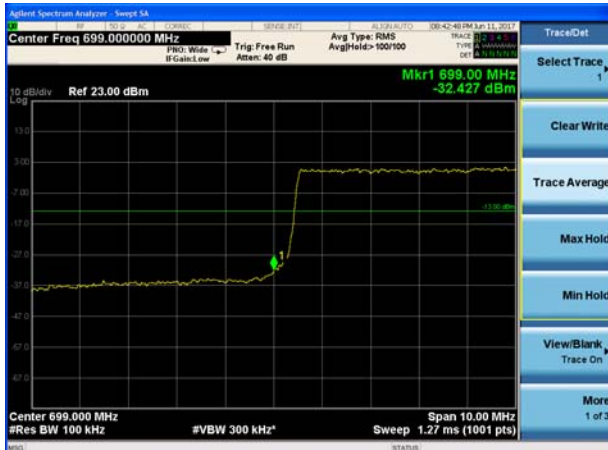
LTE Band 12 16QAM 10MHz CH-Low, 1 RB



LTE Band 12 16QAM 10MHz CH-High, 1 RB



LTE Band 12 16QAM 10MHz CH-Low, 100%RB

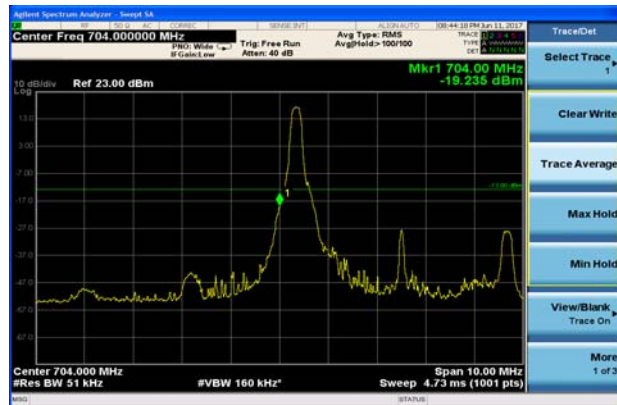


LTE Band 12 16QAM 10MHz CH-High, 100%RB

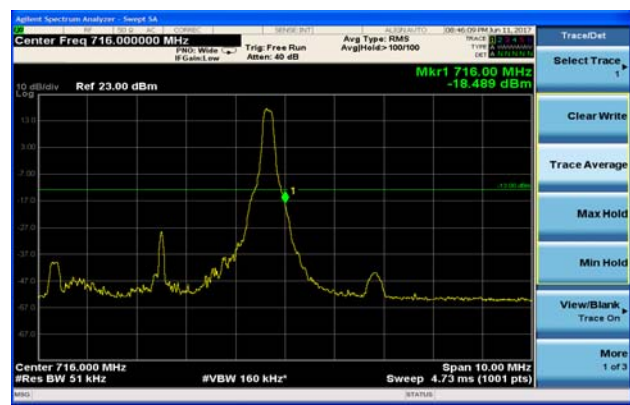




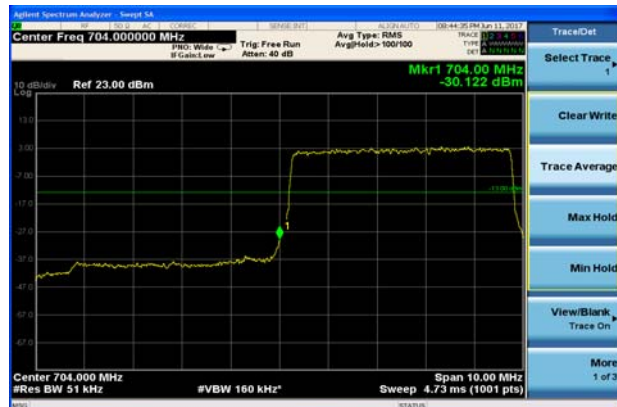
LTE Band 17 QPSK 5MHz CH-Low, 1 RB



LTE Band 17 QPSK 5MHz CH-High, 1 RB



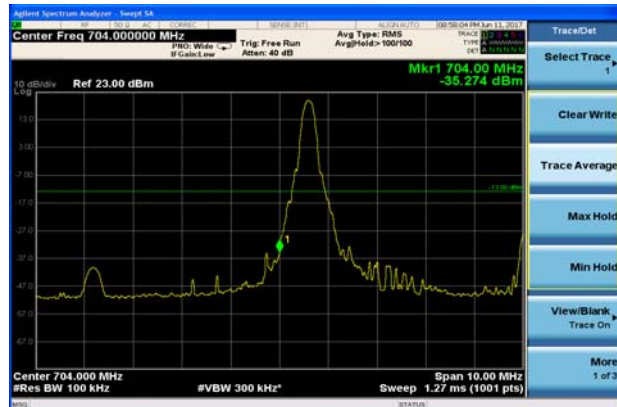
LTE Band 17 QPSK 5MHz CH-Low, 100%RB



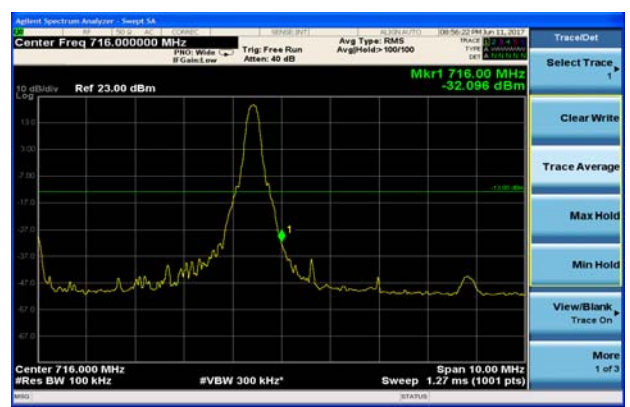
LTE Band 17 QPSK 5MHz CH-High, 100%RB



LTE Band 17 QPSK 10MHz CH-Low, 1 RB



LTE Band 17 QPSK 10MHz CH-High, 1 RB



LTE Band 17 QPSK 10MHz CH-Low, 100%RB

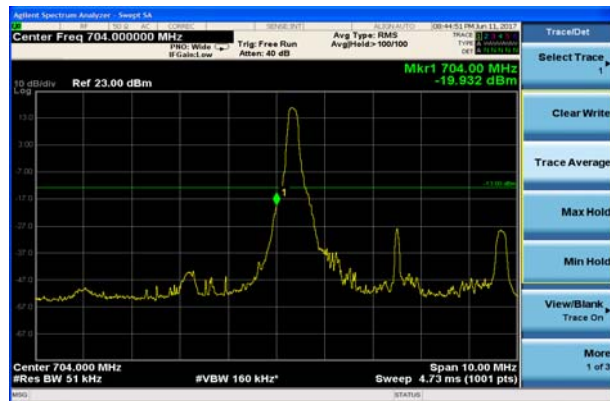


LTE Band 17 QPSK 10MHz CH-High, 100%RB

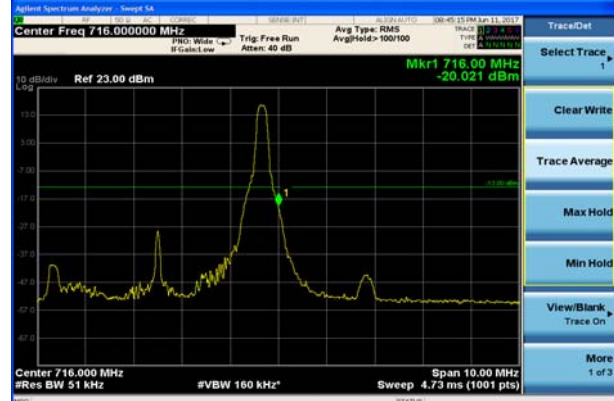




LTE Band 17 16QAM 5MHz CH-Low, 1 RB



LTE Band 17 16QAM 5MHz CH-High, 1 RB



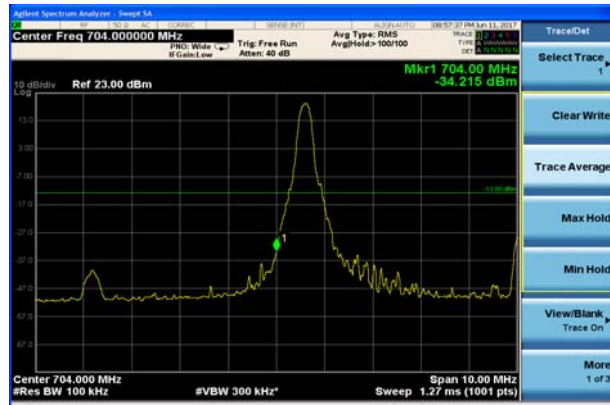
LTE Band 17 16QAM 5MHz CH-Low, 100%RB



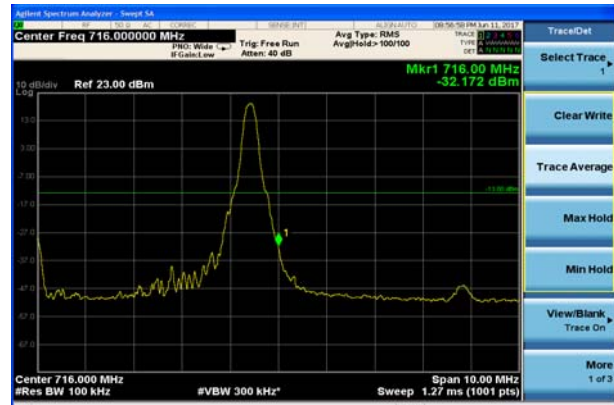
LTE Band 17 16QAM 5MHz CH-High, 100%RB



LTE Band 17 16QAM 10MHz CH-Low, 1 RB



LTE Band 17 16QAM 10MHz CH-High, 1 RB



LTE Band 17 16QAM 10MHz CH-Low, 100%RB



LTE Band 17 16QAM 10MHz CH-High, 100%RB



5.5 Peak-to-Average Power Ratio (PAPR)

Ambient condition

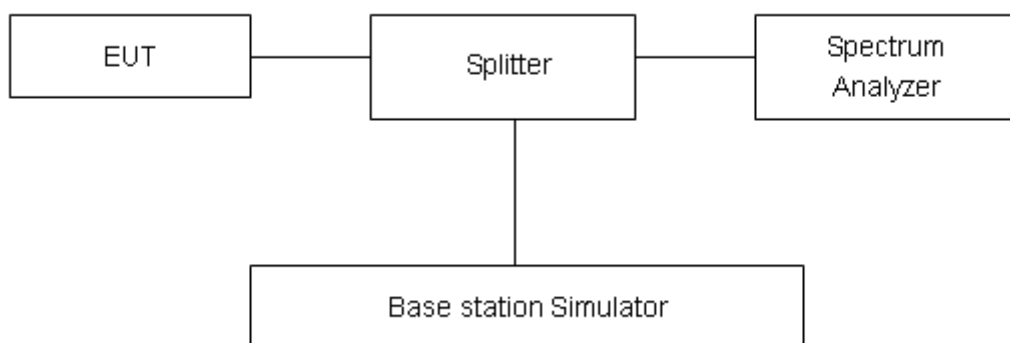
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Methods of Measurement

Measure the total peak power and record as PPk. And measure the total average power and record as PAvg. Both the peak and average power levels must be expressed in the same logarithmic units (e.g., dBm). Determine the PAPR from:

$$\text{PAPR (dB)} = \text{PPk (dBm)} - \text{PAvg (dBm)}.$$

Test Setup



Limits

Rule Part 27.50(d)(5) Equipment employed must be authorized in accordance with the provisions of 24.51. Power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (d)(6) of this section. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 0.4$ dB.

Test Results

LTE Band 4								
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
QPSK	1.4	19957	1710.7	25.68	20.57	5.11	≤13	PASS
		20175	1732.5	25.11	20.79	4.32	≤13	PASS
		20393	1754.3	25.27	20.51	4.76	≤13	PASS
	3	19965	1711.5	25.62	20.60	5.02	≤13	PASS
		20175	1732.5	25.19	20.83	4.36	≤13	PASS
		20385	1753.5	25.37	20.54	4.83	≤13	PASS
	5	19975	1712.5	25.64	20.58	5.06	≤13	PASS
		20175	1732.5	25.18	20.82	4.36	≤13	PASS
		20375	1752.5	25.38	20.52	4.86	≤13	PASS
	10	20000	1715	25.64	20.66	4.98	≤13	PASS
		20175	1732.5	25.11	20.84	4.27	≤13	PASS
		20350	1750	25.42	20.56	4.86	≤13	PASS
	15	20025	1717.5	25.50	20.64	4.86	≤13	PASS
		20175	1732.5	24.98	20.80	4.18	≤13	PASS
		20325	1747.5	25.38	20.51	4.87	≤13	PASS
	20	20050	1720	25.30	20.61	4.69	≤13	PASS
		20175	1732.5	25.03	20.75	4.28	≤13	PASS
		20300	1745	25.32	20.47	4.85	≤13	PASS
16QAM	1.4	19957	1710.7	25.57	19.65	5.92	≤13	PASS
		20175	1732.5	24.94	19.78	5.16	≤13	PASS
		20393	1754.3	25.15	19.49	5.66	≤13	PASS
	3	19965	1711.5	25.60	19.68	5.92	≤13	PASS
		20175	1732.5	25.03	19.82	5.21	≤13	PASS
		20385	1753.5	25.23	19.52	5.71	≤13	PASS
	5	19975	1712.5	25.54	19.66	5.88	≤13	PASS
		20175	1732.5	24.92	19.78	5.14	≤13	PASS
		20375	1752.5	25.14	19.47	5.67	≤13	PASS
	10	20000	1715	25.48	19.69	5.79	≤13	PASS
		20175	1732.5	24.95	19.83	5.12	≤13	PASS
		20350	1750	25.21	19.51	5.70	≤13	PASS
	15	20025	1717.5	25.30	19.66	5.64	≤13	PASS
		20175	1732.5	24.74	19.78	4.96	≤13	PASS
		20325	1747.5	25.43	19.47	5.96	≤13	PASS
	20	20050	1720	25.09	19.64	5.45	≤13	PASS
		20175	1732.5	24.89	19.74	5.15	≤13	PASS
		20300	1745	25.07	19.44	5.63	≤13	PASS

LTE Band 7								
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
QPSK	5	20775	2502.5	25.34	20.37	4.97	≤13	PASS
		21100	2535	25.57	20.42	5.15	≤13	PASS
		21425	2567.5	25.43	20.37	5.06	≤13	PASS
	10	20800	2505	25.35	20.45	4.90	≤13	PASS
		21100	2535	25.52	20.44	5.08	≤13	PASS
		21400	2565	25.53	20.41	5.12	≤13	PASS
	15	20825	2507.5	25.45	20.43	5.02	≤13	PASS
		21100	2535	25.61	20.40	5.21	≤13	PASS
		21375	2562.5	25.60	20.36	5.24	≤13	PASS
	20	20850	2510	25.35	20.40	4.95	≤13	PASS
		21100	2535	25.39	20.35	5.04	≤13	PASS
		21350	2560	25.42	20.32	5.10	≤13	PASS
16QAM	5	20775	2502.5	25.04	19.31	5.73	≤13	PASS
		21100	2535	25.24	19.32	5.92	≤13	PASS
		21425	2567.5	25.18	19.30	5.88	≤13	PASS
	10	20800	2505	25.07	19.34	5.73	≤13	PASS
		21100	2535	25.25	19.37	5.88	≤13	PASS
		21400	2565	25.27	19.34	5.93	≤13	PASS
	15	20825	2507.5	25.05	19.31	5.74	≤13	PASS
		21100	2535	25.22	19.32	5.90	≤13	PASS
		21375	2562.5	25.27	19.30	5.97	≤13	PASS
	20	20850	2510	25.02	19.29	5.73	≤13	PASS
		21100	2535	25.12	19.28	5.84	≤13	PASS
		21350	2560	25.16	19.27	5.89	≤13	PASS

LTE Band 12								
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
QPSK	1.4	23017	699.7	27.15	22.11	5.04	≤13	PASS
		23095	707.5	26.85	22.04	4.81	≤13	PASS
		23173	715.3	26.82	22.07	4.75	≤13	PASS
	3	23025	700.5	27.27	22.14	5.13	≤13	PASS
		23095	707.5	26.74	22.08	4.66	≤13	PASS
		23165	714.5	27.00	22.10	4.90	≤13	PASS
	5	23035	701.5	27.30	22.12	5.18	≤13	PASS
		23095	707.5	26.72	22.07	4.65	≤13	PASS
		23155	713.5	27.06	22.08	4.98	≤13	PASS
	10	23060	704	27.09	22.15	4.94	≤13	PASS
		23095	707.5	26.66	22.00	4.66	≤13	PASS
		23130	711	26.81	22.03	4.78	≤13	PASS
16QAM	1.4	23017	699.7	27.01	21.13	5.88	≤13	PASS
		23095	707.5	26.34	20.94	5.40	≤13	PASS
		23173	715.3	26.71	21.14	5.57	≤13	PASS
	3	23025	700.5	27.13	21.16	5.97	≤13	PASS
		23095	707.5	26.43	20.98	5.45	≤13	PASS
		23165	714.5	26.89	21.17	5.72	≤13	PASS
	5	23035	701.5	27.10	21.14	5.96	≤13	PASS
		23095	707.5	26.36	20.94	5.42	≤13	PASS
		23155	713.5	26.89	21.12	5.77	≤13	PASS
	10	23060	704	26.85	21.12	5.73	≤13	PASS
		23095	707.5	26.39	20.90	5.49	≤13	PASS
		23130	711	26.68	21.09	5.59	≤13	PASS

LTE Band 17								
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
QPSK	5	23755	706.5	26.76	22.01	4.75	≤13	PASS
		23790	710	27.10	22.41	4.69	≤13	PASS
		23825	713.5	27.01	22.00	5.01	≤13	PASS
	10	23780	709	26.72	22.04	4.68	≤13	PASS
		23790	710	27.03	22.34	4.69	≤13	PASS
		23800	711	26.73	21.95	4.78	≤13	PASS
16QAM	5	23755	706.5	26.72	21.18	5.54	≤13	PASS
		23790	710	26.74	21.29	5.45	≤13	PASS
		23825	713.5	27.03	21.23	5.80	≤13	PASS
	10	23780	709	26.66	21.16	5.50	≤13	PASS
		23790	710	26.76	21.25	5.51	≤13	PASS
		23800	711	26.78	21.20	5.58	≤13	PASS

5.6 Frequency Stability

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

1. Frequency Stability (Temperature Variation)

The temperature inside the climate chamber is varied from -30°C to +50°C in 10°C step size.

(1) With all power removed, the temperature was decreased to -10°C and permitted to stabilize for three hours.

(2) Measure the carrier frequency with the test equipment in a “call mode”. These measurements should be made within 1 minute of powering up the mobile station, to prevent significant self warming.

(3) Repeat the above measurements at 10°C increments from -30°C to +50°C. Allow at least 1.5 hours at each temperature, un-powered, before making measurements.

2. Frequency Stability (Voltage Variation)

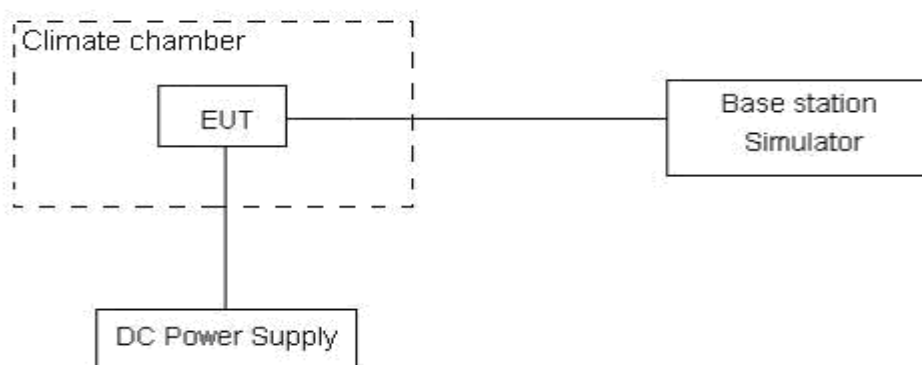
The frequency stability shall be measured with variation of primary supply voltage as follows:

(1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment.

(2) For hand carried, battery powered equipment, reduce primary supply voltage to the battery-operating end point which shall be specified by the manufacturer.

This transceiver is specified to operate with an input voltage of between 3.4 V and 4.35 V, with a nominal voltage of 3.8V.

Test setup



Limits

No specific frequency stability requirements in part 27.54

Measurement Uncertainty

The assessed measurement uncertainty to ensure 99.75% confidence level for the normal distribution is with the coverage factor $k = 3, U = 0.01\text{ppm}$.

Test Result

Bandwidth	Test status	LTE Band 4 Channel 20175 Test Results (ppm)	
		QPSK	16QAM
1.4MHz	-30°C/Normal Voltage	0.00130	0.00095
	-20°C/Normal Voltage	-0.00021	-0.00029
	-10°C/Normal Voltage	-0.00076	0.00030
	0°C/Normal Voltage	0.00207	-0.00065
	10°C/Normal Voltage	0.00119	0.00017
	20°C/Normal Voltage	0.00232	-0.00234
	30°C/Normal Voltage	-0.00162	0.00078
	40°C/Normal Voltage	-0.00191	0.00036
	50°C/Normal Voltage	-0.00148	-0.00085
	20°C/Min Voltage	-0.00184	-0.00054
	20°C/Max Voltage	-0.00124	-0.00184
3MHz	-30°C/Normal Voltage	0.00138	-0.00030
	-20°C/Normal Voltage	0.00184	-0.00069
	-10°C/Normal Voltage	-0.00025	-0.00192
	0°C/Normal Voltage	0.00071	0.00163
	10°C/Normal Voltage	0.00145	0.00129
	20°C/Normal Voltage	-0.00141	-0.00291
	30°C/Normal Voltage	0.00307	-0.00233
	40°C/Normal Voltage	0.00069	0.00099
	50°C/Normal Voltage	0.00051	-0.00044
	20°C/Min Voltage	-0.00095	0.00005
	20°C/Max Voltage	-0.00053	-0.00036
5MHz	-30°C/Normal Voltage	0.00142	0.00083
	-20°C/Normal Voltage	0.00083	0.00102
	-10°C/Normal Voltage	0.00111	-0.00102
	0°C/Normal Voltage	0.00272	-0.00115
	10°C/Normal Voltage	0.00143	0.00024
	20°C/Normal Voltage	0.00212	0.00063
	30°C/Normal Voltage	0.00266	-0.00117
	40°C/Normal Voltage	-0.00178	-0.00125
	50°C/Normal Voltage	-0.00171	-0.00095
	20°C/Min Voltage	-0.00153	0.00011
	20°C/Max Voltage	-0.00051	-0.00119
10MHz	-30°C/Normal Voltage	0.00119	0.00031
	-20°C/Normal Voltage	-0.00113	0.00063
	-10°C/Normal Voltage	0.00114	0.00080



	0°C/Normal Voltage	-0.00162	-0.00110
	10°C/Normal Voltage	0.00029	-0.00169
	20°C/Normal Voltage	0.00144	0.00130
	30°C/Normal Voltage	-0.00060	0.00183
	40°C/Normal Voltage	0.00113	-0.00190
	50°C/Normal Voltage	-0.00078	-0.00276
	20°C/Min Voltage	0.00096	-0.00118
	20°C/Max Voltage	-0.00118	0.00248
15MHz	-30°C/Normal Voltage	0.00066	-0.00017
	-20°C/Normal Voltage	0.00118	0.00190
	-10°C/Normal Voltage	0.00196	0.00058
	0°C/Normal Voltage	0.00028	0.00036
	10°C/Normal Voltage	0.00195	0.00006
	20°C/Normal Voltage	-0.00002	0.00125
	30°C/Normal Voltage	0.00068	0.00087
	40°C/Normal Voltage	-0.00113	-0.00190
	50°C/Normal Voltage	-0.00143	-0.00090
	20°C/Min Voltage	-0.00125	0.00154
	20°C/Max Voltage	0.00012	0.00009
20MHz	-30°C/Normal Voltage	0.00119	0.00101
	-20°C/Normal Voltage	0.00113	-0.00065
	-10°C/Normal Voltage	-0.00024	0.00079
	0°C/Normal Voltage	0.00300	0.00115
	10°C/Normal Voltage	-0.00154	0.00102
	20°C/Normal Voltage	-0.00036	-0.00025
	30°C/Normal Voltage	-0.00096	0.00021
	40°C/Normal Voltage	-0.00028	-0.00035
	50°C/Normal Voltage	-0.00086	-0.00200
	20°C/Min Voltage	0.00056	-0.00272
	20°C/Max Voltage	-0.00097	0.00102



Bandwidth	Test status	LTE Band 7 Channel 21100 Test Results (ppm)	
		QPSK	16QAM
5MHz	-30°C/Normal Voltage	-0.00006	-0.00121
	-20°C/Normal Voltage	0.00030	-0.00218
	-10°C/Normal Voltage	0.00068	-0.00174
	0°C/Normal Voltage	-0.00088	-0.00242
	10°C/Normal Voltage	-0.00237	0.00018
	20°C/Normal Voltage	-0.00120	0.00040
	30°C/Normal Voltage	-0.00181	-0.00254
	40°C/Normal Voltage	-0.00035	-0.00239
	50°C/Normal Voltage	-0.00010	-0.00005
	20°C/Min Voltage	-0.00039	-0.00245
	20°C/Max Voltage	-0.00080	-0.00055
10MHz	-30°C/Normal Voltage	-0.00085	-0.00271
	-20°C/Normal Voltage	-0.00057	0.00012
	-10°C/Normal Voltage	0.00000	-0.00161
	0°C/Normal Voltage	0.00084	0.00052
	10°C/Normal Voltage	-0.00206	-0.00033
	20°C/Normal Voltage	-0.00235	-0.00228
	30°C/Normal Voltage	-0.00277	-0.00193
	40°C/Normal Voltage	-0.00149	-0.00273
	50°C/Normal Voltage	-0.00137	-0.00129
	20°C/Min Voltage	-0.00196	-0.00219
	20°C/Max Voltage	-0.00105	0.00015
15MHz	-30°C/Normal Voltage	-0.00058	-0.00102
	-20°C/Normal Voltage	-0.00110	-0.00261
	-10°C/Normal Voltage	-0.00199	0.00085
	0°C/Normal Voltage	0.00003	-0.00049
	10°C/Normal Voltage	0.00049	-0.00287
	20°C/Normal Voltage	-0.00307	-0.00008
	30°C/Normal Voltage	-0.00079	0.00057
	40°C/Normal Voltage	-0.00223	-0.00147
	50°C/Normal Voltage	-0.00168	-0.00101
	20°C/Min Voltage	0.00022	-0.00262
	20°C/Max Voltage	0.00007	-0.00322
20MHz	-30°C/Normal Voltage	0.00051	0.00071
	-20°C/Normal Voltage	0.00245	0.00038
	-10°C/Normal Voltage	-0.00063	-0.00234
	0°C/Normal Voltage	-0.00228	-0.00152



	10°C/Normal Voltage	0.00029	-0.00075
	20°C/Normal Voltage	-0.00397	-0.00282
	30°C/Normal Voltage	-0.00303	-0.00194
	40°C/Normal Voltage	-0.00386	0.00011
	50°C/Normal Voltage	-0.00050	-0.00137
	20°C/Min Voltage	0.00040	0.00132
	20°C/Max Voltage	-0.00187	0.00035

Bandwidth	Test status	LTE Band 12 Channel 23095 Test Results (ppm)	
		QPSK	16QAM
1.4M	-30°C/Normal Voltage	-0.00247	-0.00147
	-20°C/Normal Voltage	0.00160	-0.00349
	-10°C/Normal Voltage	-0.00180	-0.00154
	0°C/Normal Voltage	-0.00088	-0.00267
	10°C/Normal Voltage	-0.00109	-0.00158
	20°C/Normal Voltage	-0.00335	0.00147
	30°C/Normal Voltage	0.00509	-0.00286
	40°C/Normal Voltage	-0.00236	-0.00329
	50°C/Normal Voltage	-0.00126	-0.00206
	20°C/Min Voltage	-0.00400	-0.00052
	20°C/Max Voltage	-0.00352	-0.00539
3M	-30°C/Normal Voltage	-0.00269	0.00068
	-20°C/Normal Voltage	-0.00314	0.00182
	-10°C/Normal Voltage	0.00006	0.00164
	0°C/Normal Voltage	-0.00155	-0.00126
	10°C/Normal Voltage	-0.00259	-0.00175
	20°C/Normal Voltage	-0.00247	-0.00079
	30°C/Normal Voltage	-0.00297	-0.00264
	40°C/Normal Voltage	-0.00512	-0.00058
	50°C/Normal Voltage	-0.00348	-0.00137
	20°C/Min Voltage	-0.00058	0.00278
	20°C/Max Voltage	-0.00459	-0.00069
5MHz	-30°C/Normal Voltage	0.00218	0.00428
	-20°C/Normal Voltage	-0.00164	-0.00286
	-10°C/Normal Voltage	-0.00442	-0.00517
	0°C/Normal Voltage	-0.00311	-0.00287
	10°C/Normal Voltage	0.00208	-0.00278
	20°C/Normal Voltage	-0.00033	-0.00189
	30°C/Normal Voltage	-0.00312	-0.00057
	40°C/Normal Voltage	-0.00119	-0.00093



	50°C/Normal Voltage	-0.00064	-0.00171
	20°C/Min Voltage	0.00182	-0.00297
	20°C/Max Voltage	-0.00328	0.00209
10MHz	-30°C/Normal Voltage	-0.00155	-0.00102
	-20°C/Normal Voltage	-0.00247	0.00222
	-10°C/Normal Voltage	-0.00277	0.00161
	0°C/Normal Voltage	-0.00526	0.00250
	10°C/Normal Voltage	-0.00137	-0.00187
	20°C/Normal Voltage	-0.00016	-0.00427
	30°C/Normal Voltage	-0.00161	0.00041
	40°C/Normal Voltage	-0.00113	-0.00127
	50°C/Normal Voltage	-0.00023	-0.00263
	20°C/Min Voltage	0.00243	-0.00079
	20°C/Max Voltage	0.00076	-0.00047

Bandwidth	Test status	LTE Band 17 Channel 23790 Test Results (ppm)	
		QPSK	16QAM
5MHz	-30°C/Normal Voltage	-0.00370	0.00111
	-20°C/Normal Voltage	-0.00206	-0.00034
	-10°C/Normal Voltage	-0.00227	0.00080
	0°C/Normal Voltage	-0.00144	-0.00182
	10°C/Normal Voltage	0.00103	0.00146
	20°C/Normal Voltage	-0.00117	-0.00075
	30°C/Normal Voltage	0.00254	0.00197
	40°C/Normal Voltage	0.00010	0.00262
	50°C/Normal Voltage	0.00037	0.00170
	20°C/Min Voltage	0.00145	-0.00317
	20°C/Max Voltage	-0.00393	-0.00169
10MHz	-30°C/Normal Voltage	-0.00154	-0.00294
	-20°C/Normal Voltage	0.00046	0.00186
	-10°C/Normal Voltage	-0.00179	0.00266
	0°C/Normal Voltage	-0.00127	0.00018
	10°C/Normal Voltage	-0.00301	-0.00214
	20°C/Normal Voltage	0.00123	-0.00135
	30°C/Normal Voltage	-0.00135	0.00244
	40°C/Normal Voltage	0.00024	0.00062
	50°C/Normal Voltage	0.00123	-0.00863
	20°C/Min Voltage	0.00041	-0.00113
	20°C/Max Voltage	-0.00159	-0.00048

5.7 Spurious Emissions at Antenna Terminals

Ambient condition

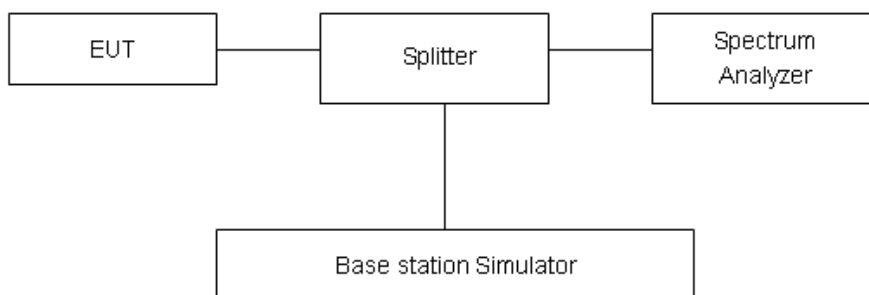
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The measurement is carried out using a spectrum analyzer. The spectrum analyzer scans from 30MHz to the 10th harmonic of the carrier. The peak detector is used. Set RBW=1MHz and VBW=3MHz, Sweep is set to ATUO.

Of those disturbances below (limit – 20 dB), the mark is not required for the EUT.

Test setup



Limits

Rule Part 27.53(h) specifies that “for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10} (P)$ dB..”

Rule Part 27.53 (g) For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log (P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

Rule Part 27.53(m) $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(4) of this section.



LTE Band 4/12/17 Limit	-13 dBm
LTE Band 7 Limit	-25 dBm

Measurement Uncertainty

The assessed measurement uncertainty to ensure 99.75% confidence level for the normal distribution is with the coverage factor $k = 1.96$.

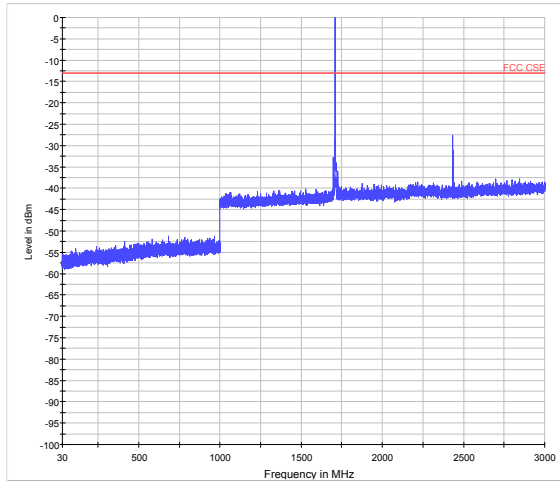
Frequency	Uncertainty
100kHz-2GHz	0.684 dB
2GHz-12.75GHz	1.407 dB

Test Result: PASS

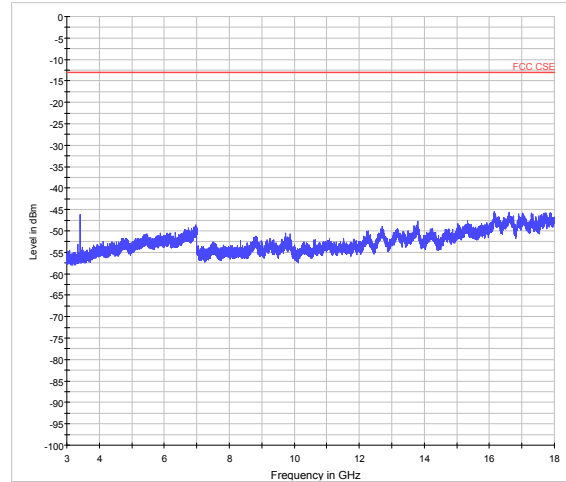
If disturbances were found more than 20dB below limit line, the mark is not required for the EUT.
The signal beyond the limit is carrier in the following plots.

Test Data File Name	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)
CSE_LTE B12_1.4M_CHLOW_RB1_0.03-1.5GHz	1398.3	-30.53	-13.00	17.53
CSE_LTE B12_1.4M_CHMID_RB1_0.03-1.5GHz	1414.0	-31.76	-13.00	18.76
CSE_LTE B12_1.4M_CHHIGH_RB1_0.03-1.5GHz	1429.6	-30.90	-13.00	17.90
CSE_LTE B12_1.4M_CHLOW_RB1_3-8GHz	2436.9	-32.75	-13.00	19.75
CSE_LTE B12_1.4M_CHMID_RB1_3-8GHz	2438.0	-33.26	-13.00	20.26
CSE_LTE B12_3M_CHLOW_RB1_0.03-1.5GHz	1398.6	-31.06	-13.00	18.06
CSE_LTE B12_3M_CHMID_RB1_0.03-1.5GHz	1412.5	-32.10	-13.00	19.10
CSE_LTE B12_3M_CHHIGH_RB1_0.03-1.5GHz	1426.7	-29.90	-13.00	16.90
CSE_LTE B12_5M_CHLOW_RB1_0.03-1.5GHz	1398.6	-31.47	-13.00	18.47
CSE_LTE B12_5M_CHMID_RB1_0.03-1.5GHz	1410.8	-31.50	-13.00	18.50
CSE_LTE B12_5M_CHHIGH_RB1_0.03-1.5GHz	1422.6	-30.30	-13.00	17.30
CSE_LTE B12_10M_CHLOW_RB1_0.03-1.5GHz	1399.1	-31.06	-13.00	18.06
CSE_LTE B12_10M_CHMID_RB1_0.03-1.5GHz	1406.1	-31.57	-13.00	18.57
CSE_LTE B12_10M_CHHIGH_RB1_0.03-1.5GHz	1413.3	-32.29	-13.00	19.29
CSE_LTE B17_5M_CHLOW_RB1_0.03-1.5GHz	1408.6	-30.98	-13.00	17.98
CSE_LTE B17_5M_CHMID_RB1_0.03-1.5GHz	1416.0	-32.28	-13.00	19.28
CSE_LTE B17_5M_CHHIGH_RB1_0.03-1.5GHz	1422.6	-30.90	-13.00	17.90
CSE_LTE B17_10M_CHLOW_RB1_0.03-1.5GHz	1409.1	-31.14	-13.00	18.14
CSE_LTE B17_10M_CHMID_RB1_0.03-1.5GHz	1411.1	-32.23	-13.00	19.23
CSE_LTE B17_10M_CHHIGH_RB1_0.03-1.5GHz	1413.1	-32.30	-13.00	19.30

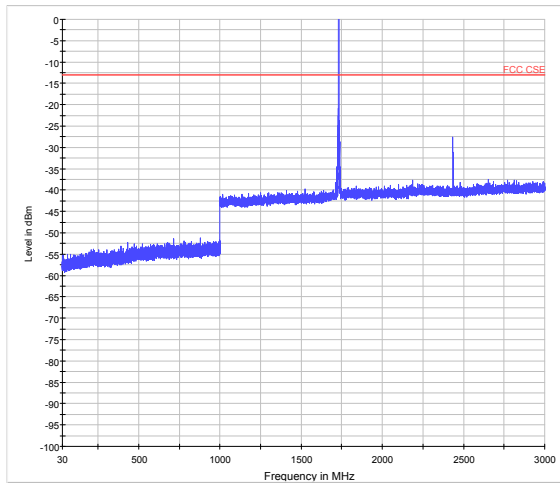
LTE Band 4 1.4MHz CH-Low 30MHz~3GHz



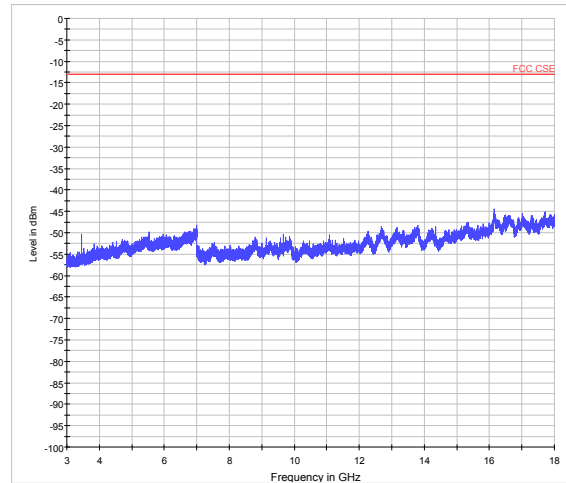
LTE Band 4 1.4MHz CH-Low 3GHz~18GHz



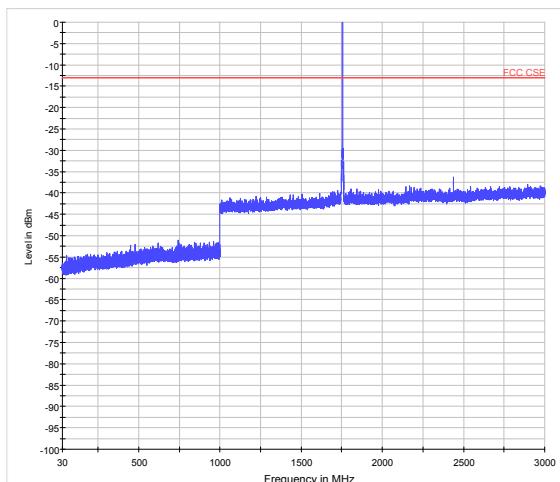
LTE Band 4 1.4MHz CH-Middle 30MHz~3GHz



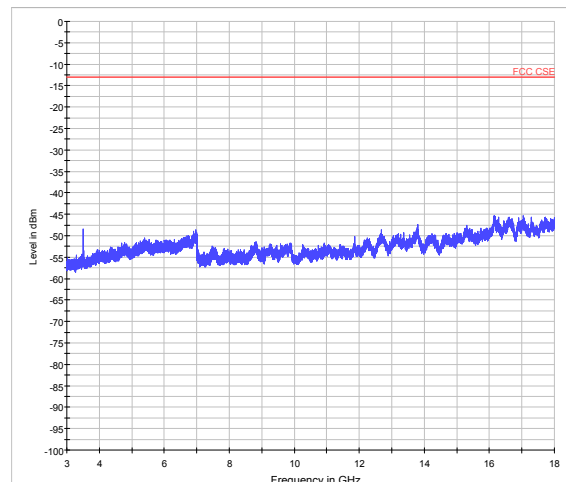
LTE Band 4 1.4MHz CH-Middle 3GHz~18GHz



LTE Band 4 1.4MHz CH-High 30MHz~3GHz

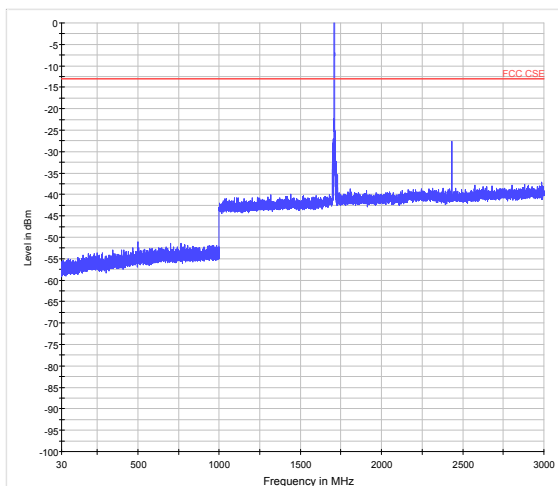


LTE Band 4 1.4MHz CH-High 3GHz~18GHz

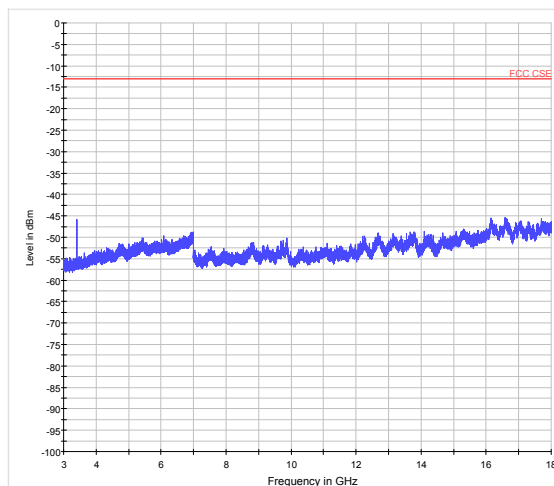




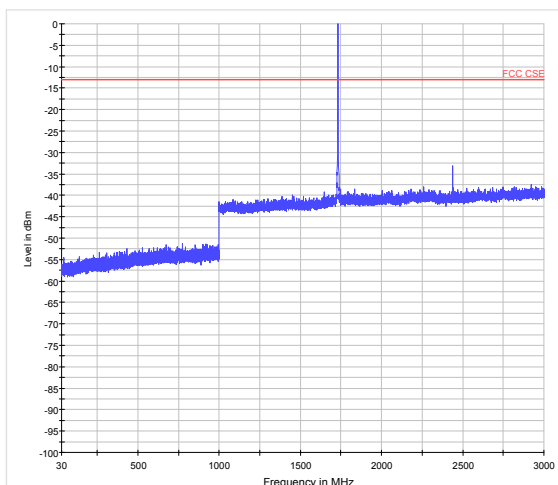
LTE Band 4 3MHz CH-Low 30MHz~3GHz



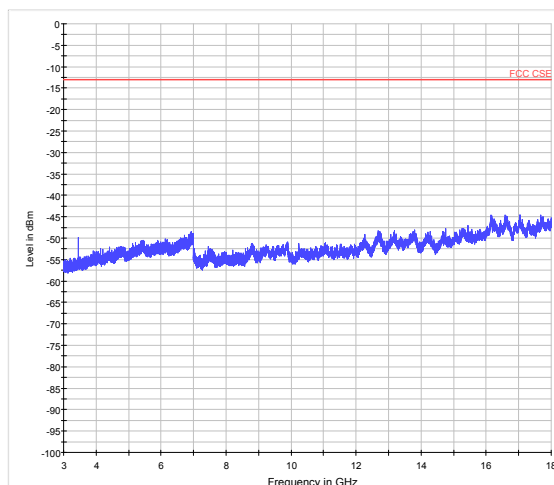
LTE Band 4 3MHz CH-Low 3GHz~18GHz



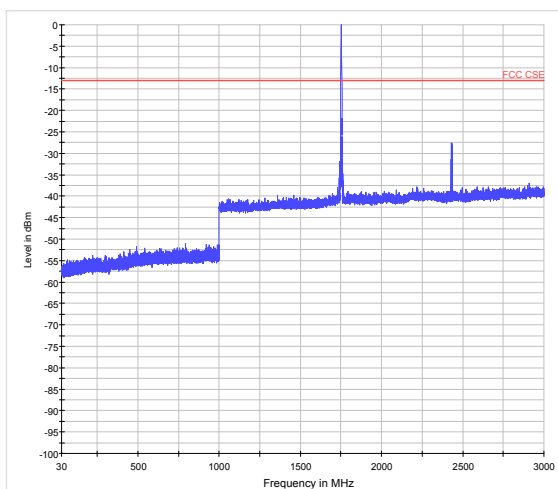
LTE Band 4 3MHz CH-Middle 30MHz~3GHz



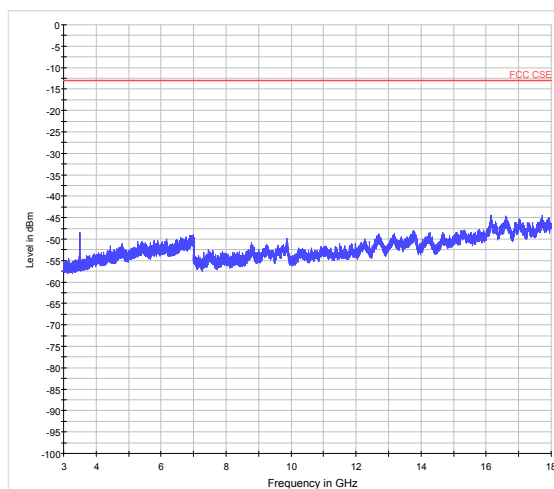
LTE Band 4 3MHz CH-Middle 3GHz~18GHz



LTE Band 4 3MHz CH-High 30MHz~3GHz

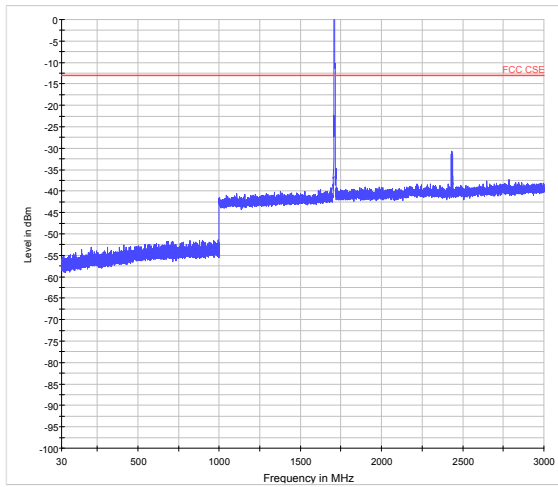


LTE Band 4 3MHz CH-High 3GHz~18GHz

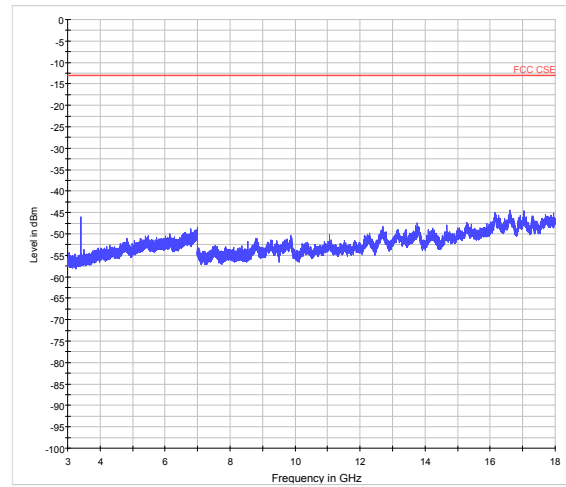




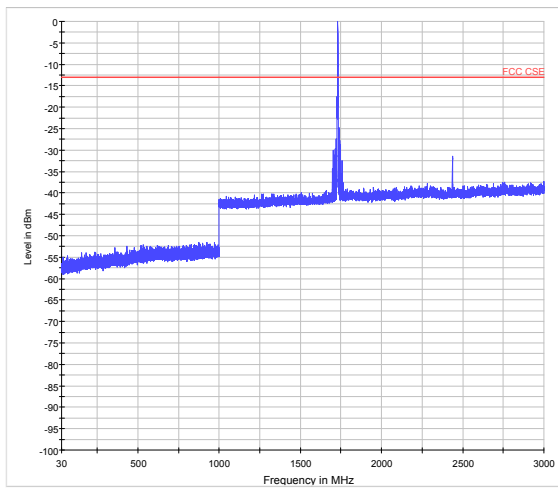
LTE Band 4 5MHz CH-Low 30MHz~3GHz



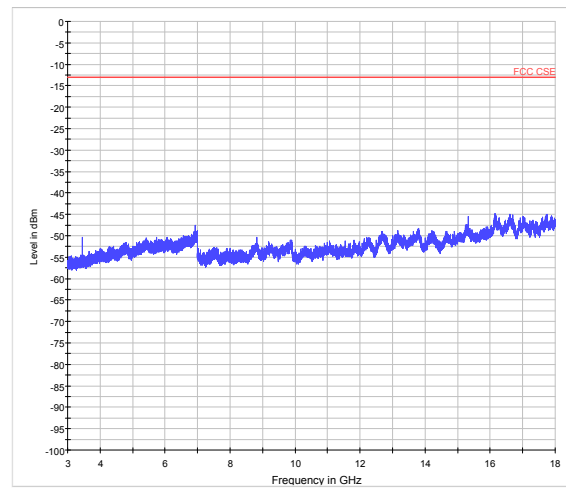
LTE Band 4 5MHz CH-Low 3GHz~18GHz



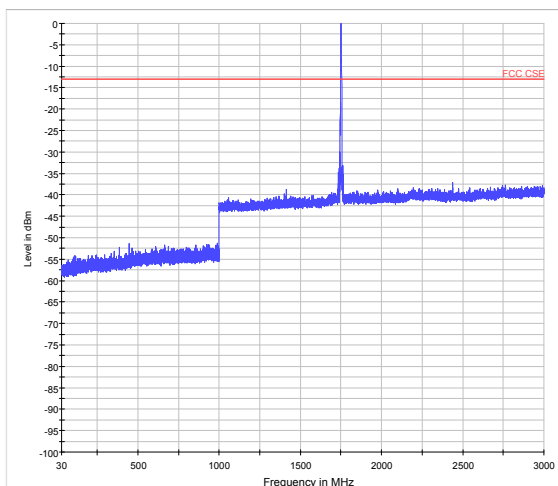
LTE Band 4 5MHz CH-Middle 30MHz~3GHz



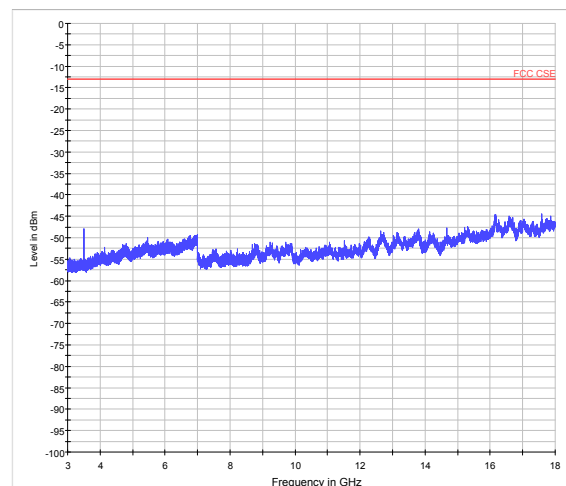
LTE Band 4 5MHz CH-Middle 3GHz~18GHz



LTE Band 4 5MHz CH-High 30MHz~3GHz

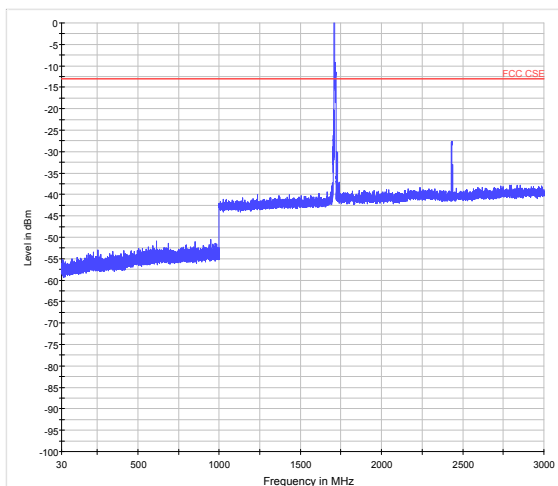


LTE Band 4 5MHz CH-High 3GHz~18GHz

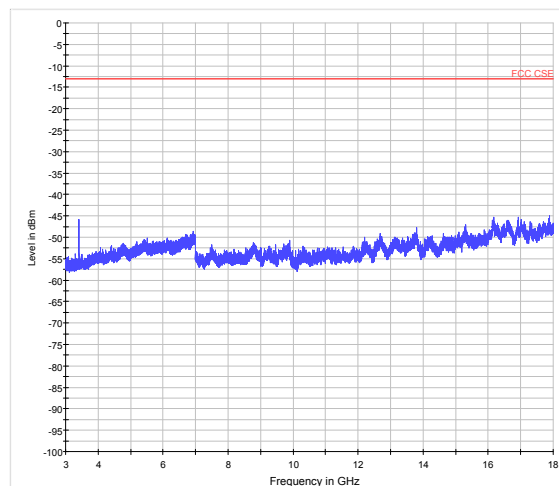




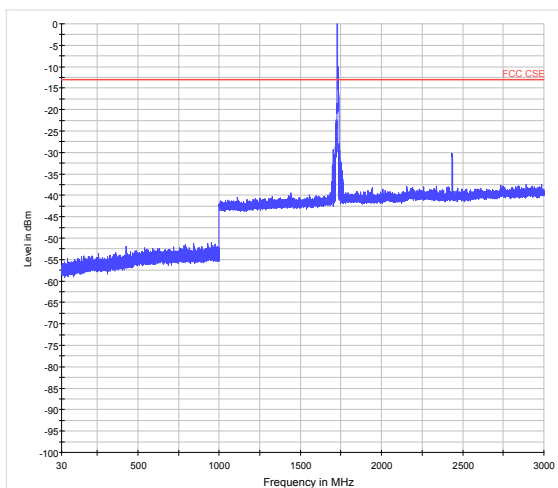
LTE Band 4 10MHz CH-Low 30MHz~3GHz



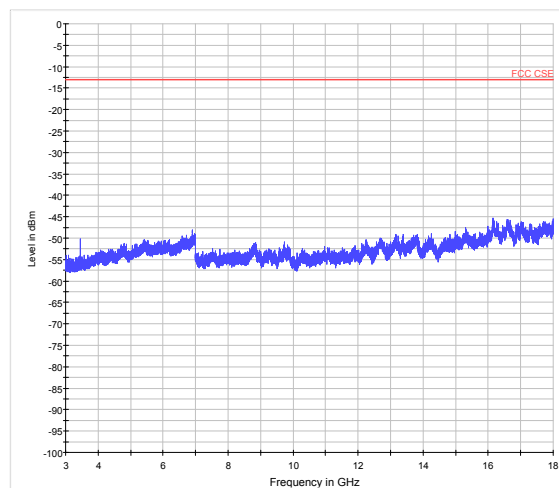
LTE Band 4 10MHz CH-Low 3GHz~18GHz



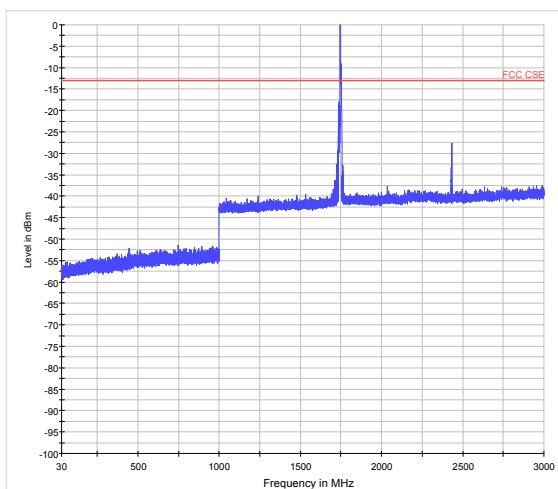
LTE Band 4 10MHz CH-Middle 30MHz~3GHz



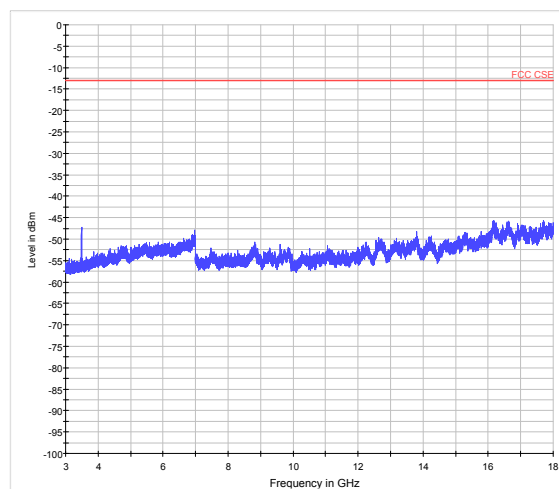
LTE Band 4 10MHz CH-Middle 3GHz~18GHz



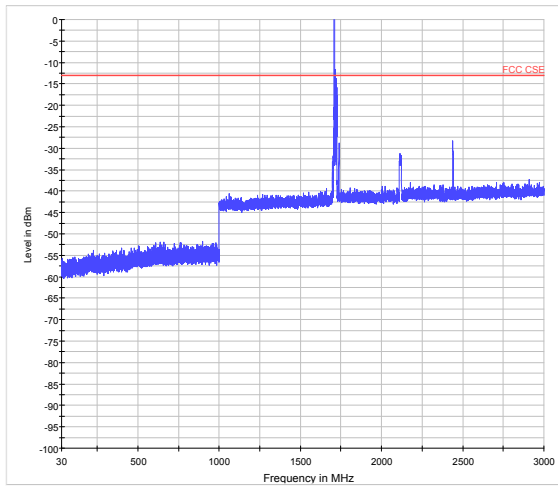
LTE Band 4 10MHz CH-High 30MHz~3GHz



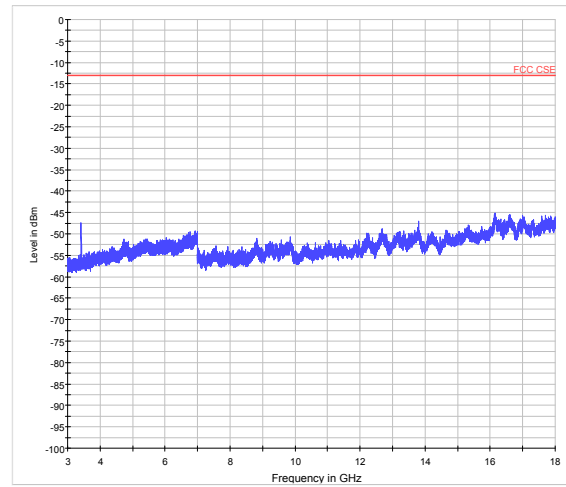
LTE Band 4 10MHz CH-High 3GHz~18GHz



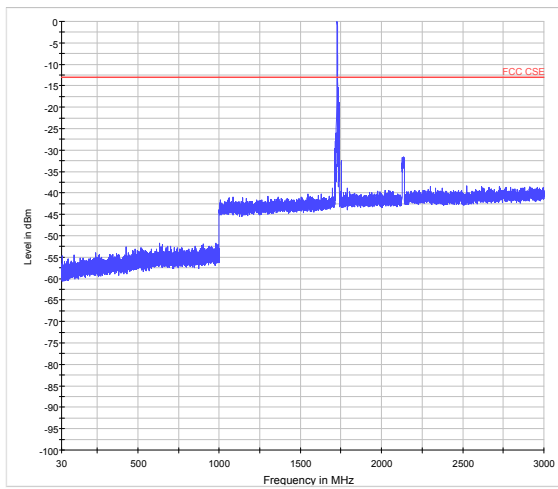
LTE Band 4 15MHz CH-Low 30MHz~3GHz



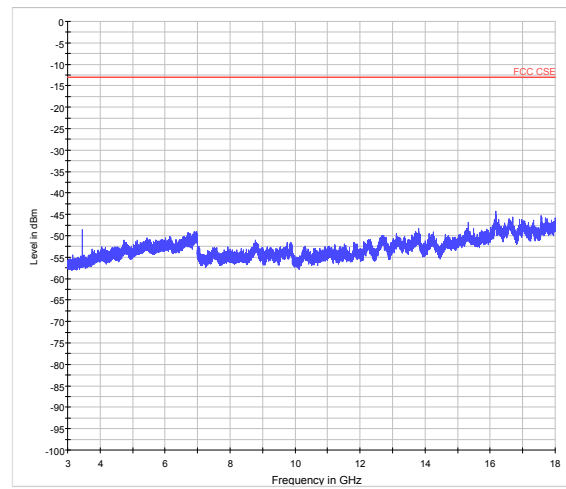
LTE Band 4 15MHz CH-Low 3GHz~18GHz



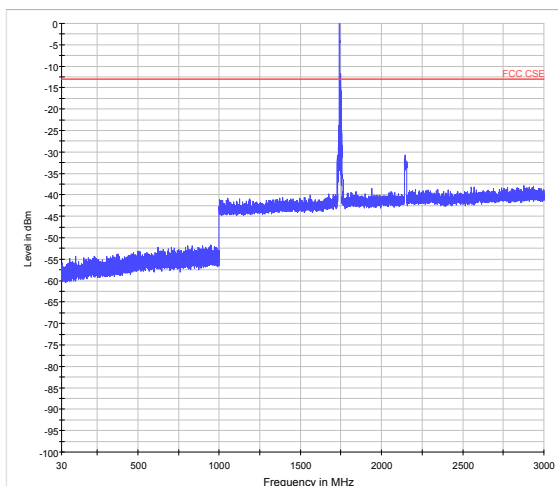
LTE Band 4 15MHz CH-Middle 30MHz~3GHz



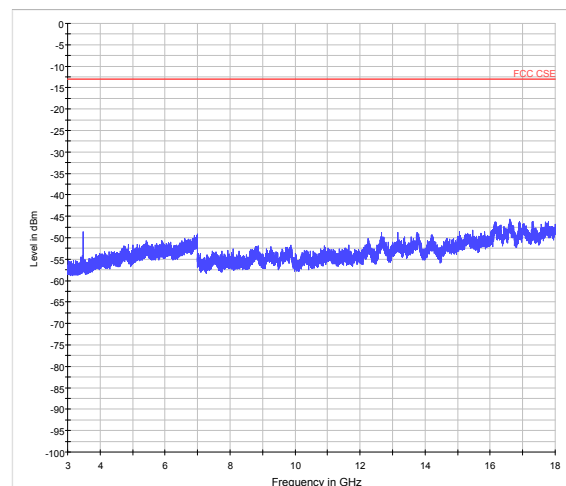
LTE Band 4 15MHz CH-Middle 3GHz~18GHz



LTE Band 4 15MHz CH-High 30MHz~3GHz

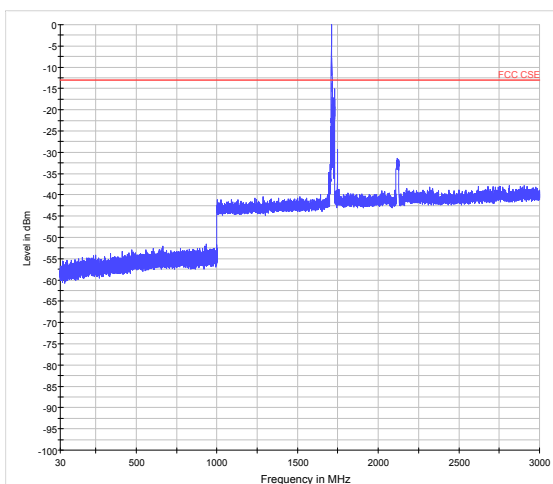


LTE Band 4 15MHz CH-High 3GHz~18GHz

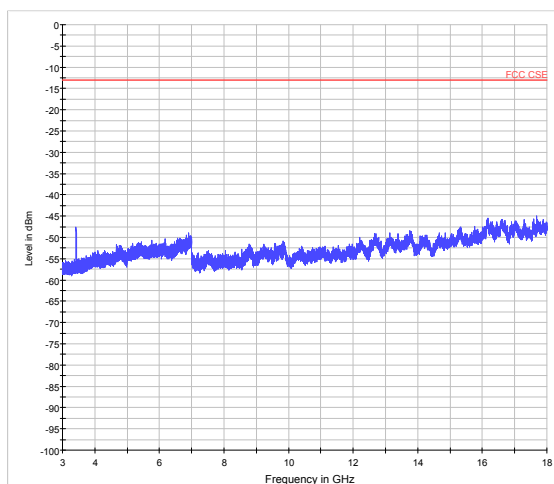




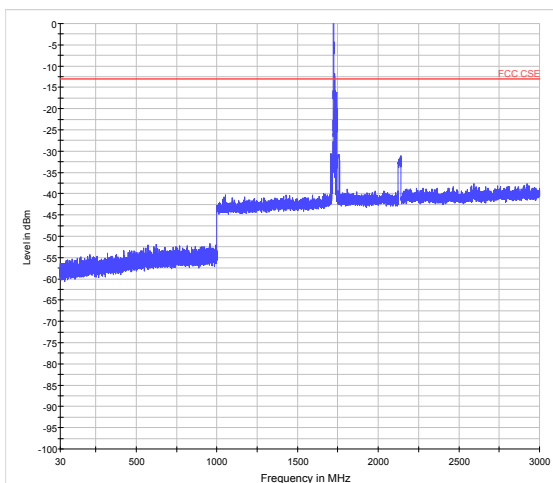
LTE Band 4 20MHz CH-Low 30MHz~3GHz



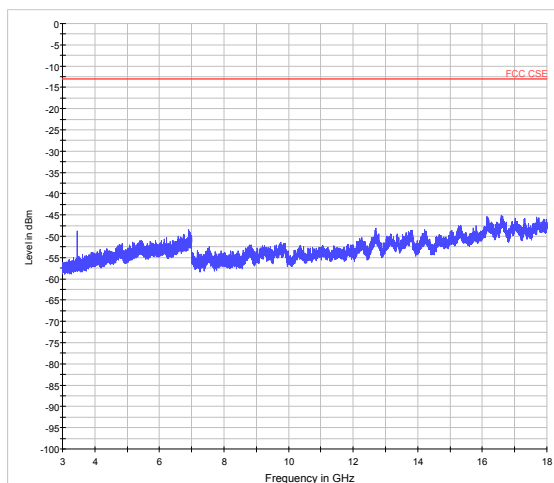
LTE Band 4 20MHz CH-Low 3GHz~18GHz



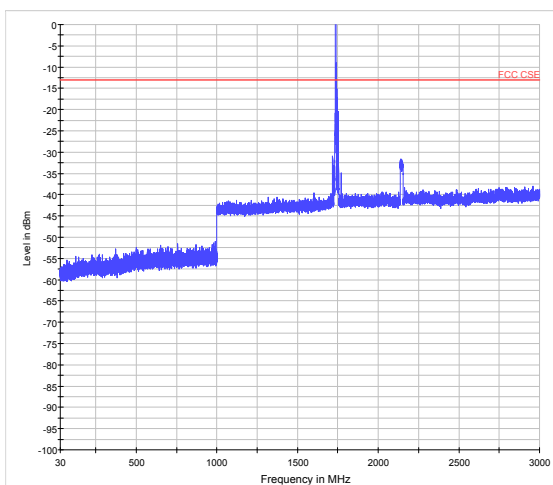
LTE Band 4 20MHz CH-Middle 30MHz~3GHz



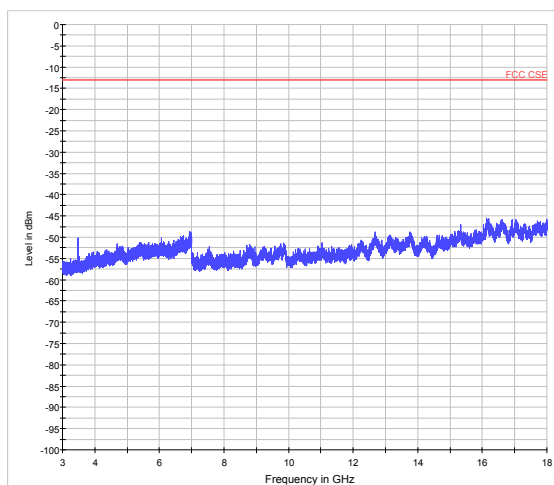
LTE Band 4 20MHz CH-Middle 3GHz~18GHz



LTE Band 4 20MHz CH-High 30MHz~3GHz

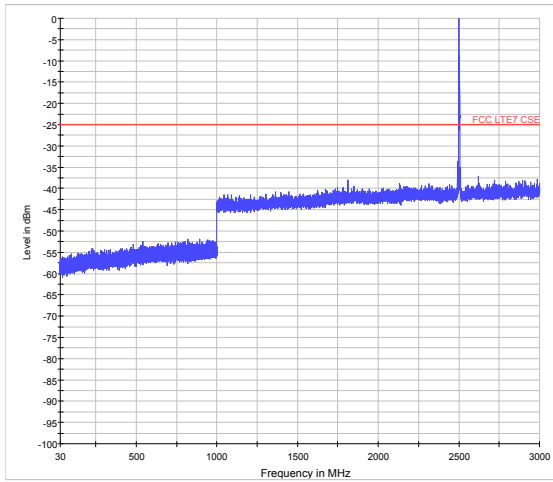


LTE Band 4 20MHz CH-High 3GHz~18GHz

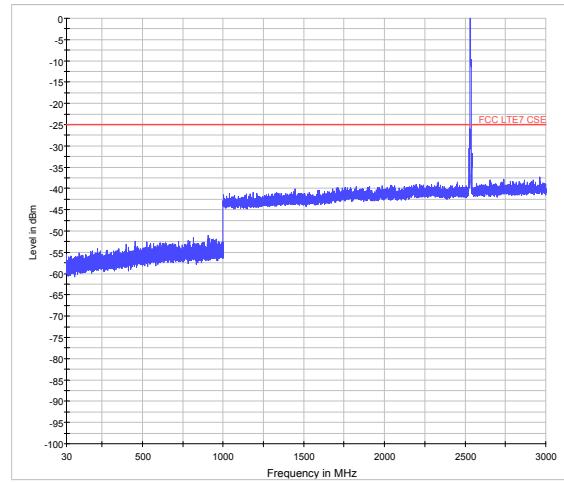




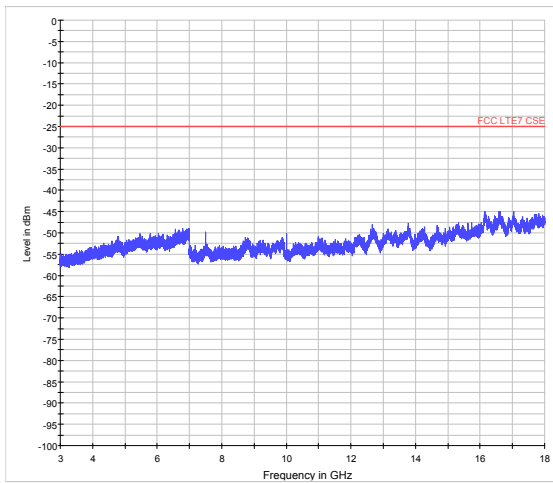
LTE Band 7 5MHz CH-Low 30MHz~3GHz



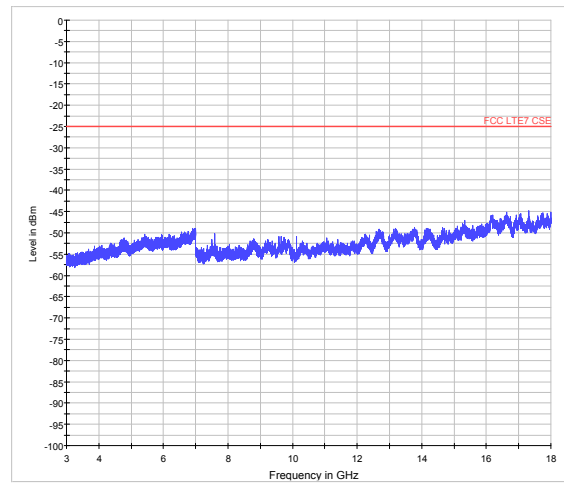
LTE Band 7 5MHz CH-Middle 30MHz~3GHz



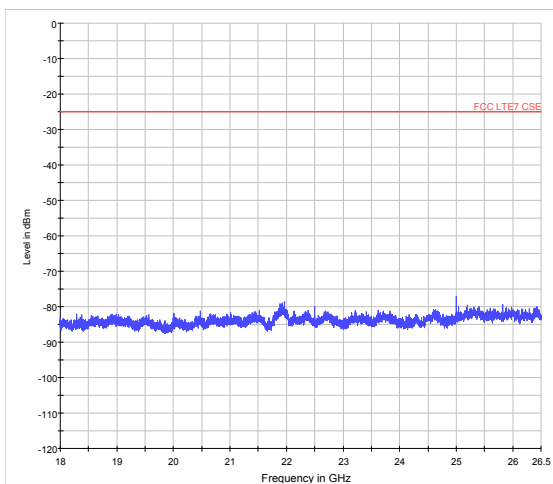
LTE Band 7 5MHz CH-Low 3GHz~18GHz



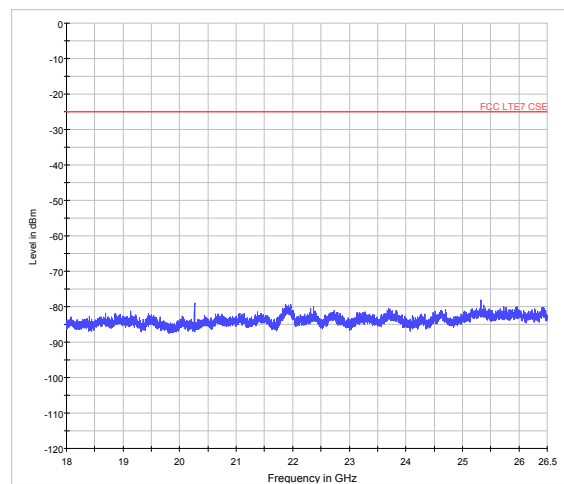
LTE Band 7 5MHz CH-Middle 3GHz~18GHz



LTE Band 7 5MHz CH-Low 18GHz~26.5GHz

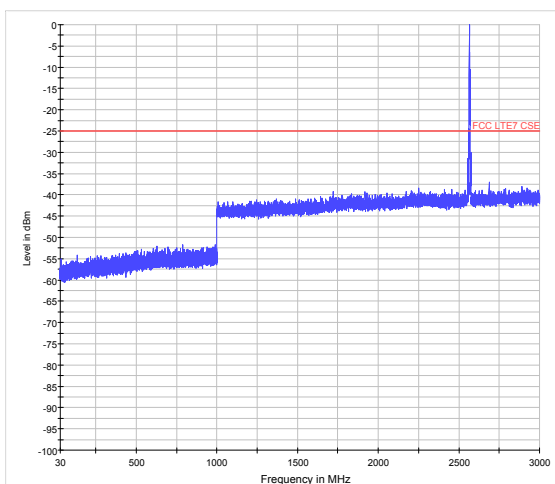


LTE Band 7 5MHz CH-Middle 18GHz~26.5GHz

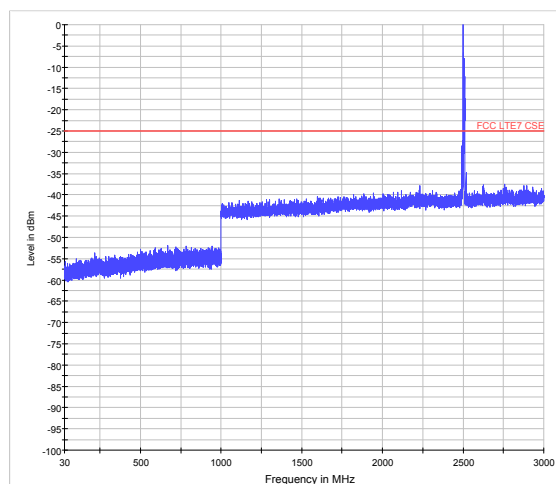




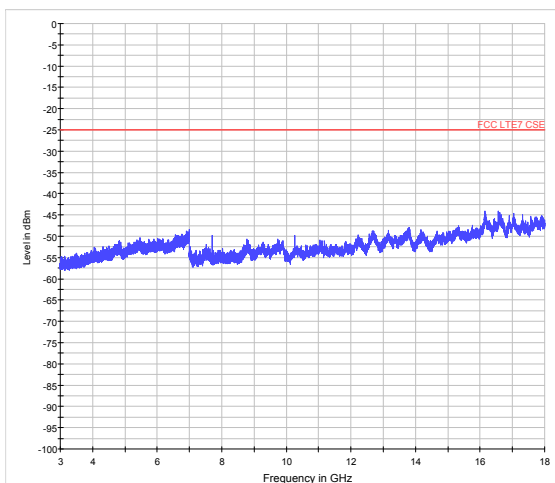
LTE Band 7 5MHz CH-High 30MHz~3GHz



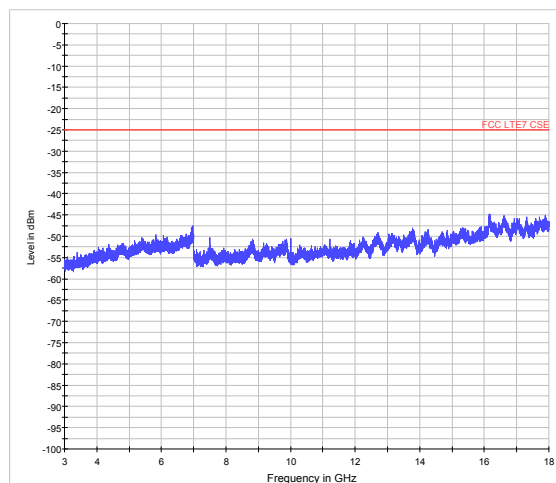
LTE Band 7 10MHz CH-Low 30MHz~3GHz



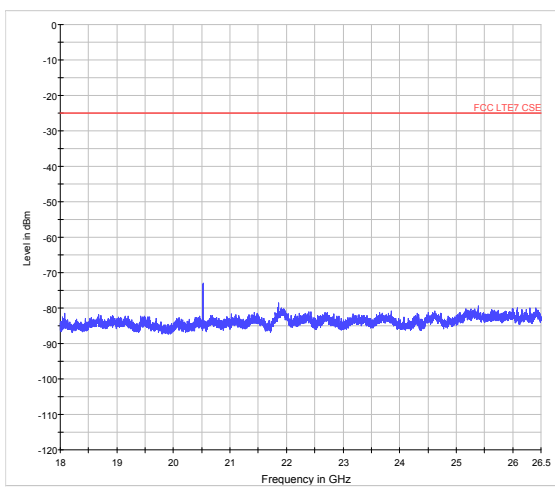
LTE Band 7 5MHz CH-High 3GHz~18GHz



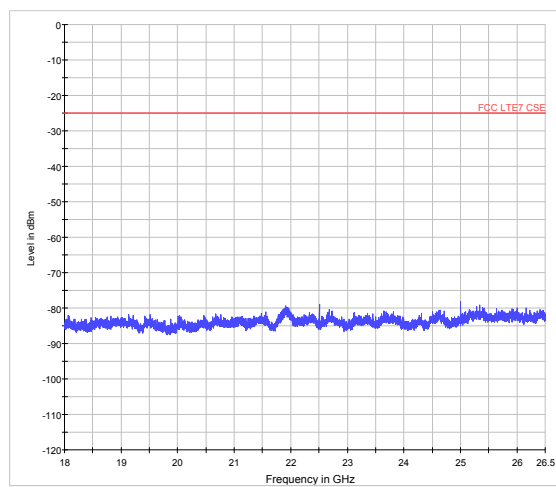
LTE Band 7 10MHz CH-Low 3GHz~18GHz



LTE Band 7 5MHz CH-High 18GHz~26.5GHz

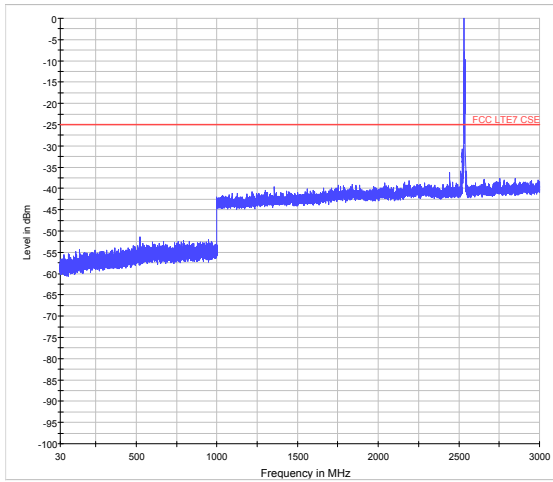


LTE Band 7 10MHz C CH-Low 18GHz~26.5GHz

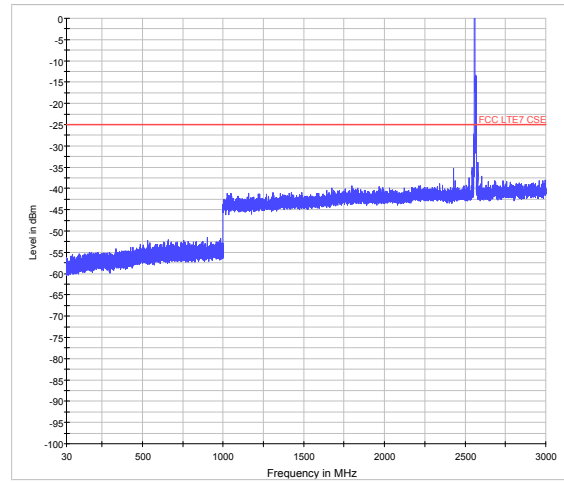




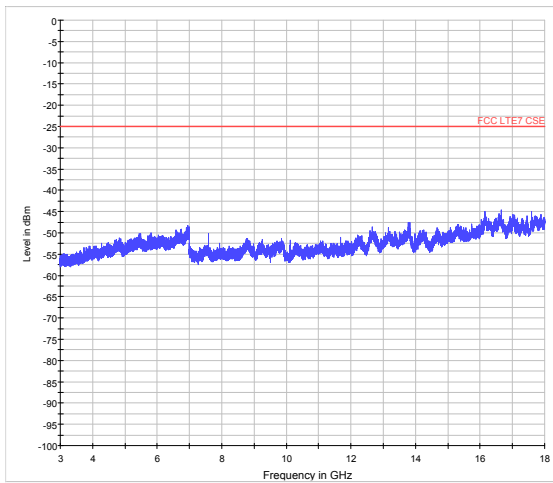
LTE Band 7 10MHz CH-Middle 30MHz~3GHz



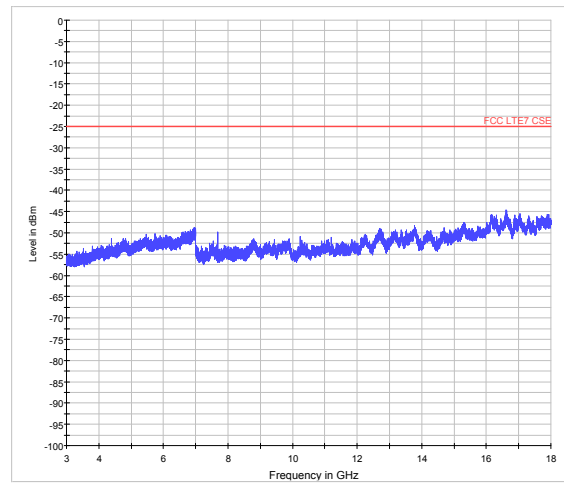
LTE Band 7 10MHz CH-High 30MHz~3GHz



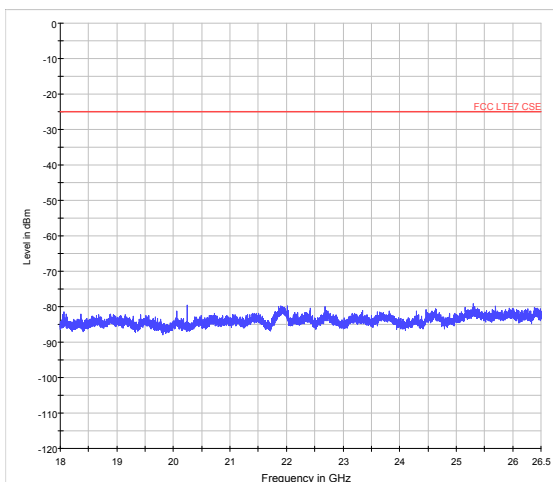
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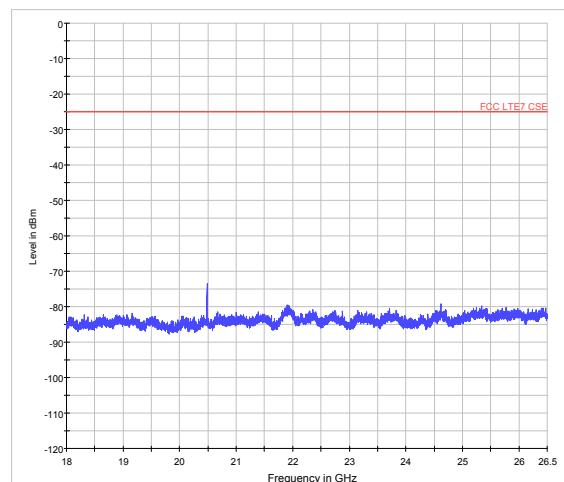
LTE Band 7 10MHz CH-High 3GHz~18GHz



LTE Band 7 10MHz CH-Middle 18GHz~26.5GHz

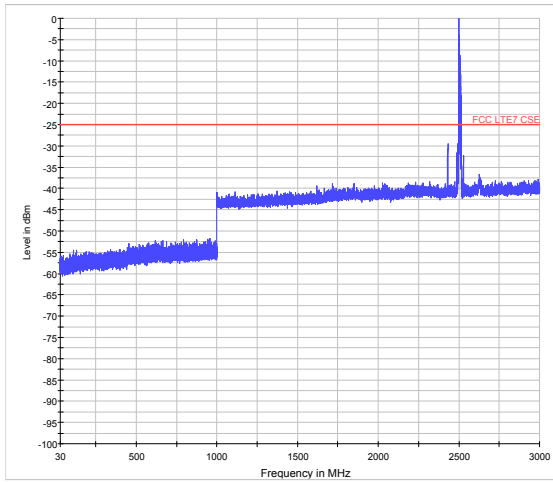


LTE Band 7 10MHz CH-High 18GHz~26.5GHz

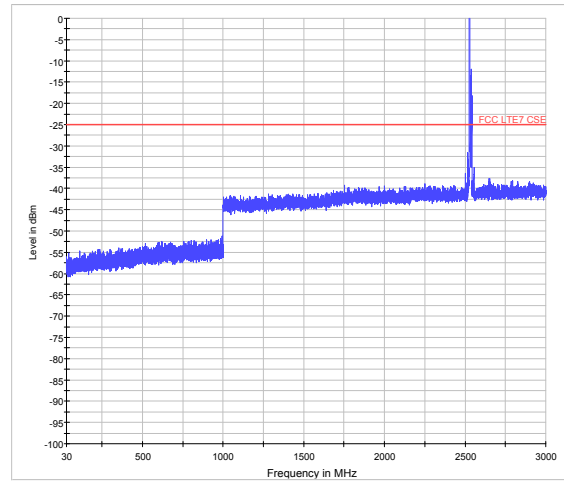




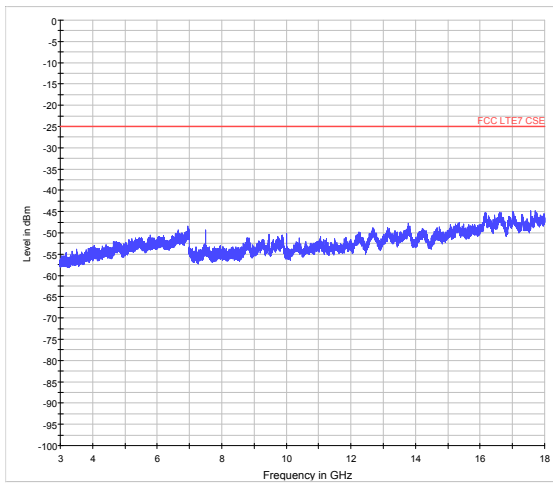
LTE Band 7 15MHz CH-Low 30MHz~3GHz



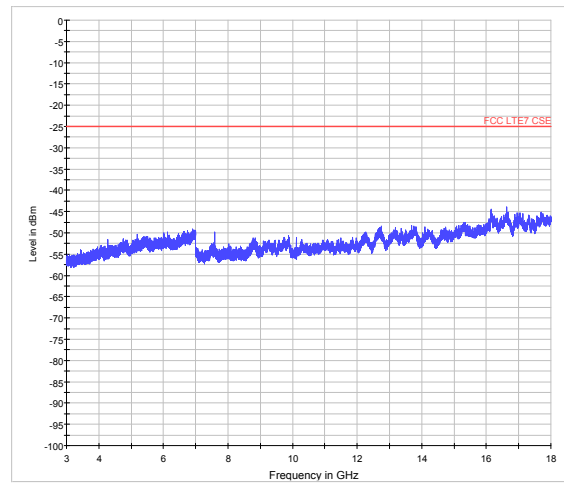
LTE Band 7 15MHz CH-Middle 30MHz~3GHz



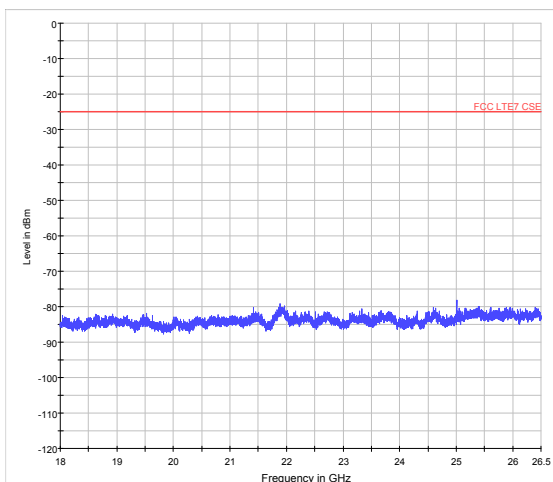
LTE Band 7 15MHz CH-Low 3GHz~18GHz



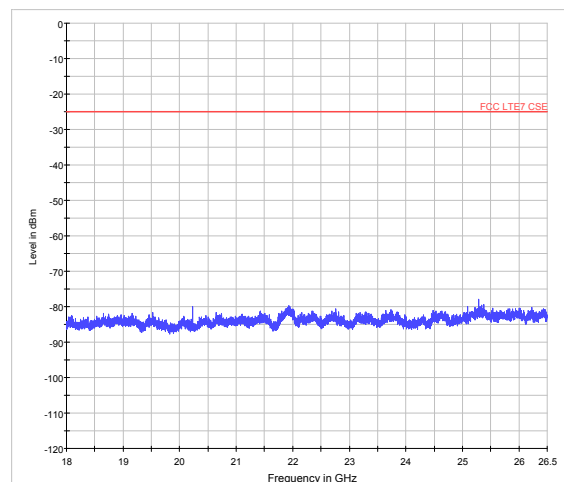
LTE Band 7 15MHz CH-Middle 3GHz~18GHz



LTE Band 7 15MHz CH-Low 18GHz~26.5GHz

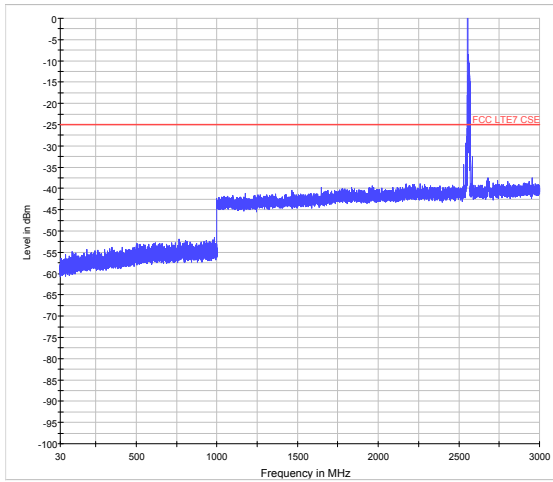


LTE Band 7 15MHz CH-Middle 18GHz~26.5GHz

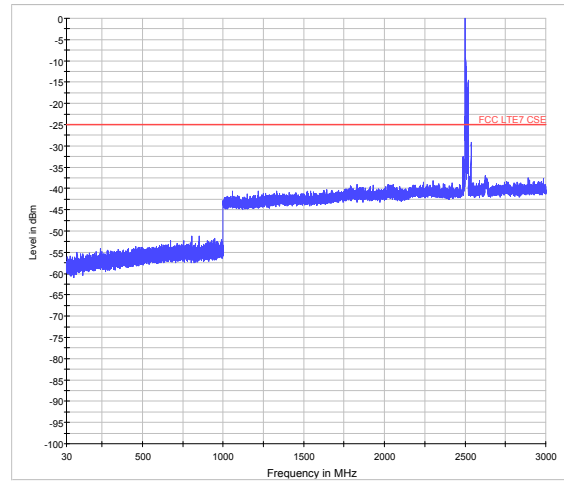




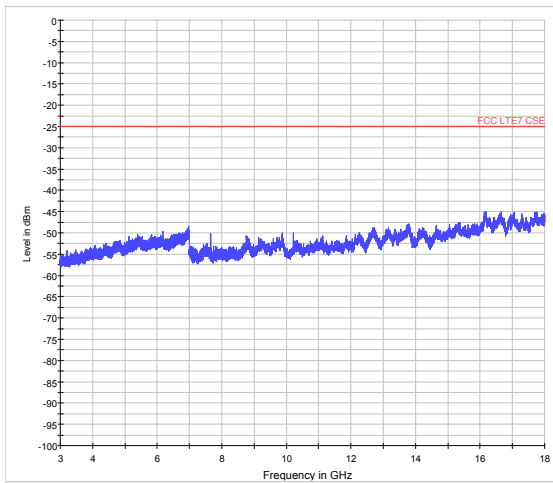
LTE Band 7 15MHz CH-High 30MHz~3GHz



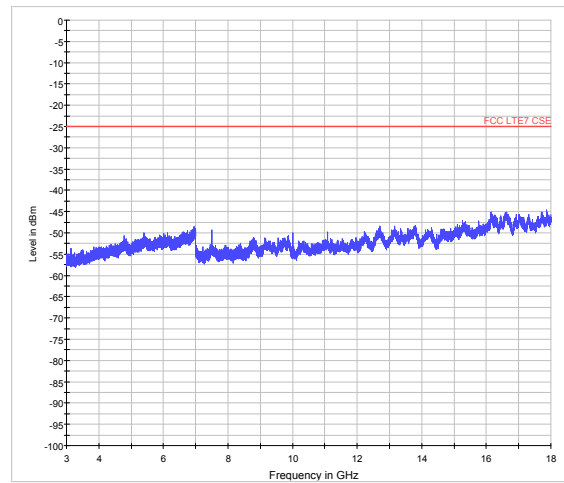
LTE Band 7 20MHz CH-Low 30MHz~3GHz



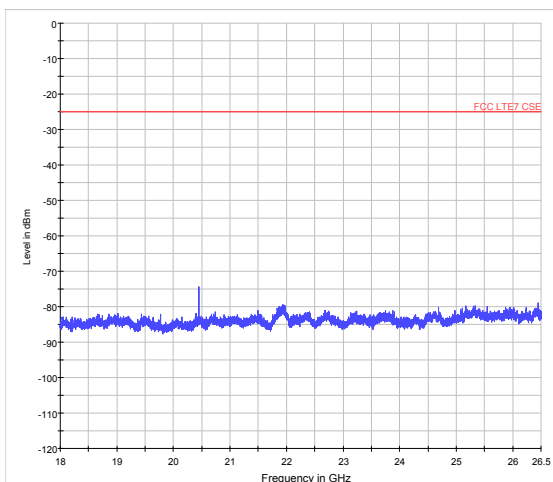
LTE Band 7 15MHz CH-High 3GHz~18GHz



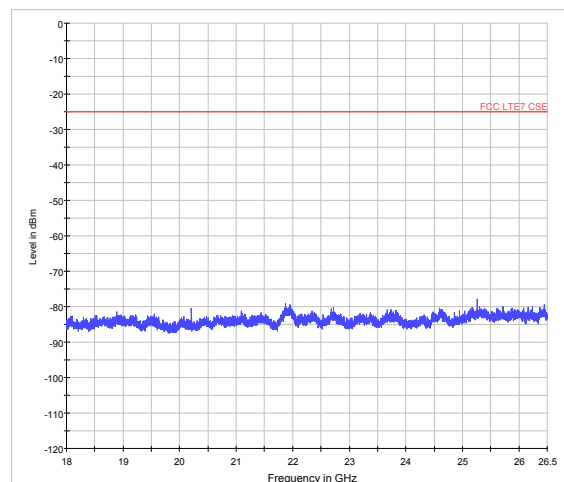
LTE Band 7 20MHz CH-Low 3GHz~18GHz



LTE Band 7 15MHz CH-High 18GHz~26.5GHz

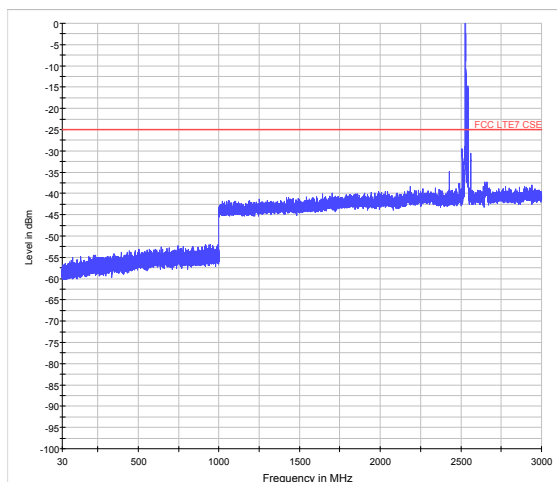


LTE Band 7 20MHz CH-Low 18GHz~26.5GHz

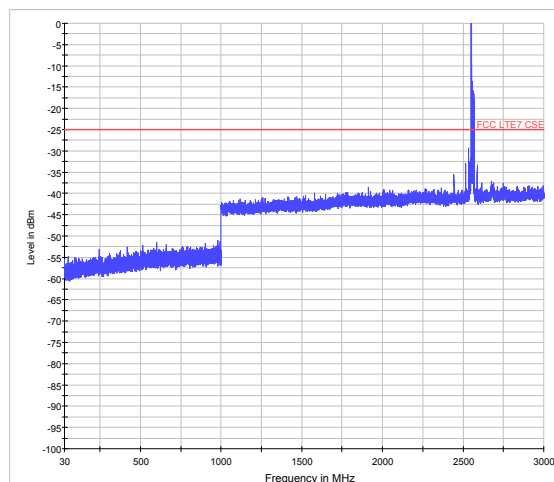




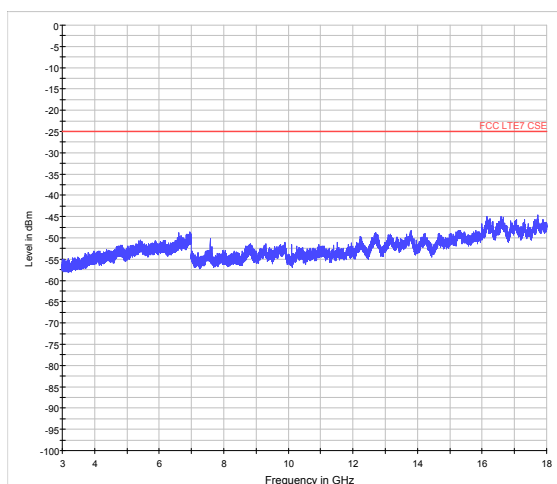
LTE Band 7 20MHz CH-Middle 30MHz~3GHz



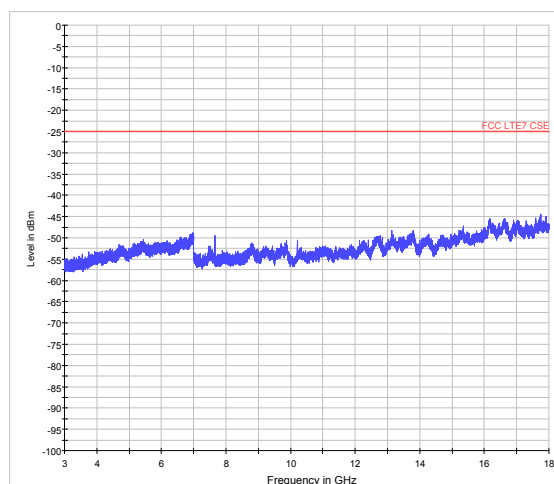
LTE Band 7 20MHz CH-High 30MHz~3GHz



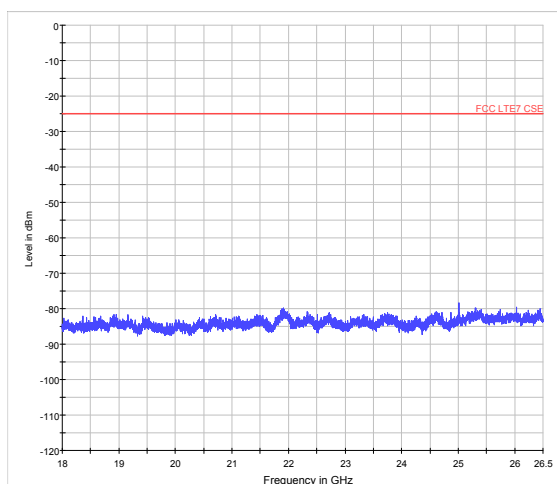
LTE Band 7 20MHz CH-Middle 3GHz~18GHz



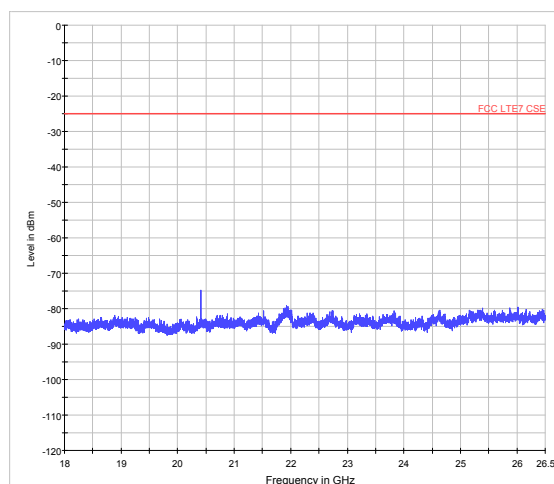
LTE Band 7 20MHz CH-High 3GHz~18GHz



LTE Band 7 20MHz CH-Middle 18GHz~26.5GHz

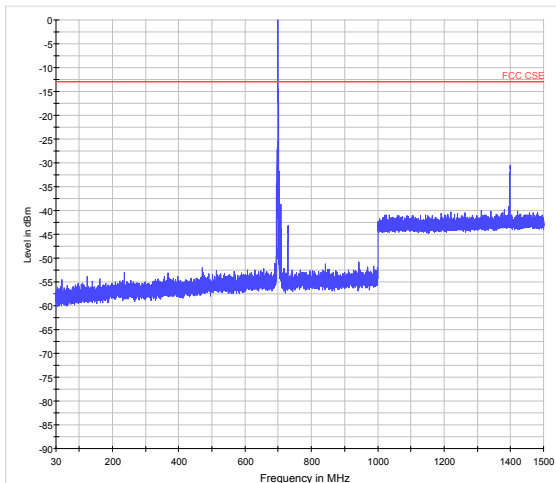


LTE Band 7 20MHz CH-High 18GHz~26.5GHz

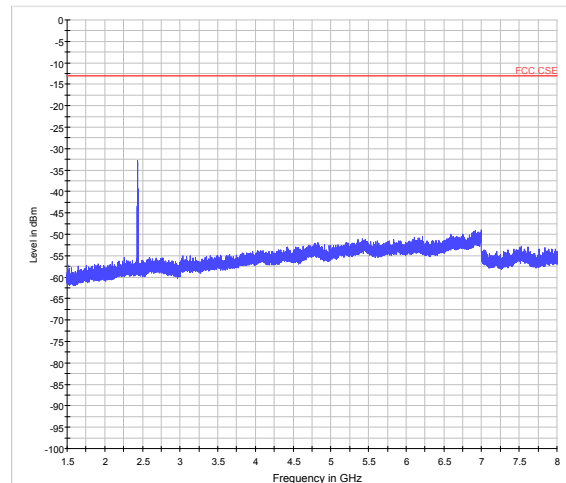




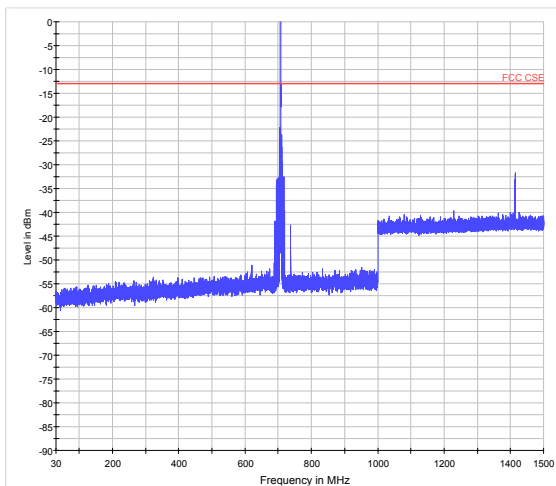
LTE Band 12 1.4MHz CH-Low 30MHz~1.5GHz



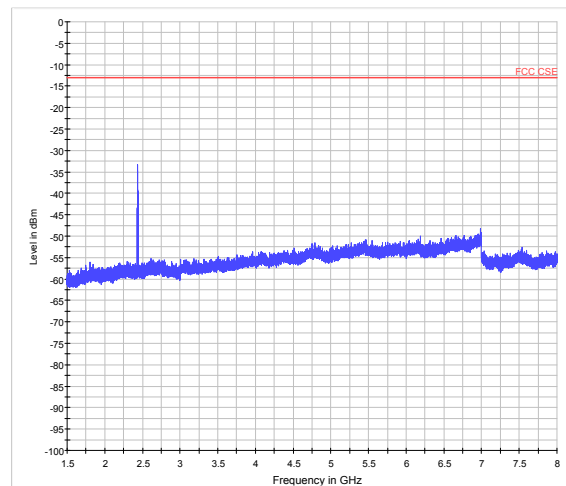
LTE Band 12 1.4MHz CH-Low 1.5GHz~8GHz



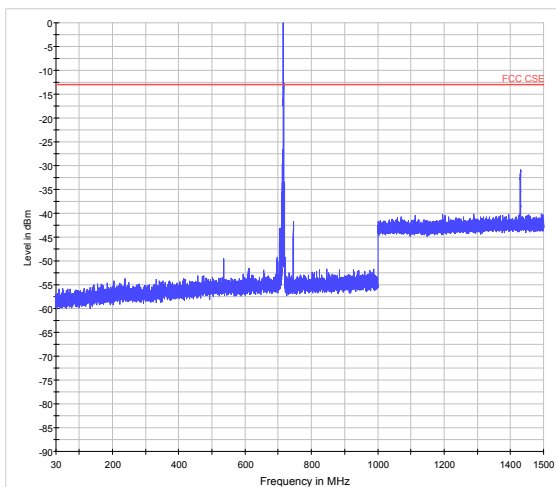
LTE Band 12 1.4MHz CH-Middle 30MHz~1.5GHz



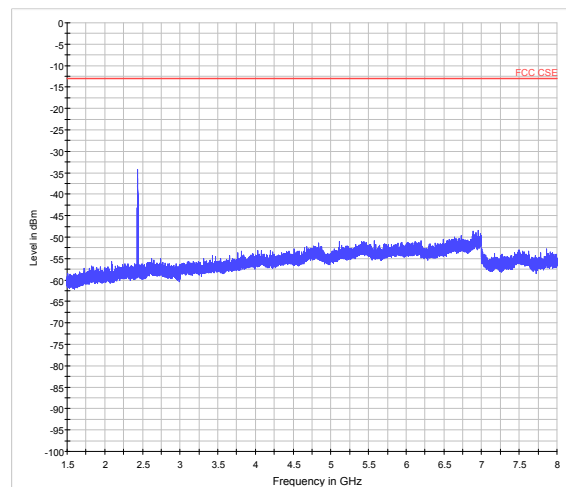
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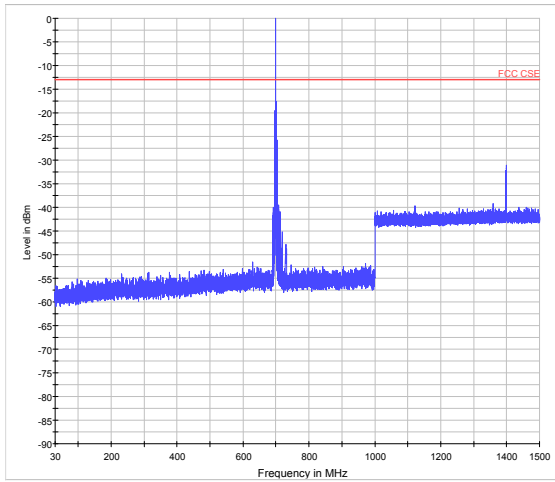
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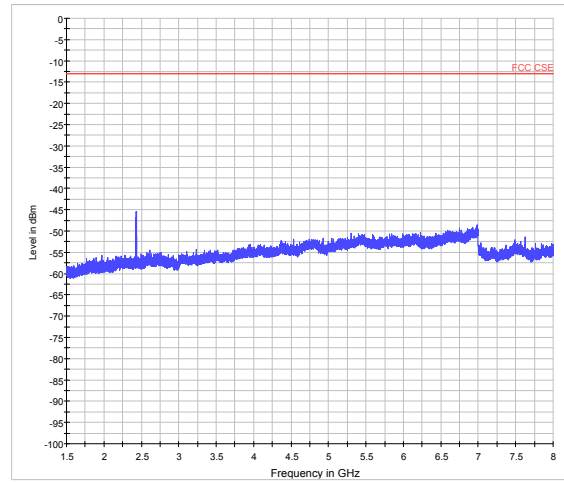
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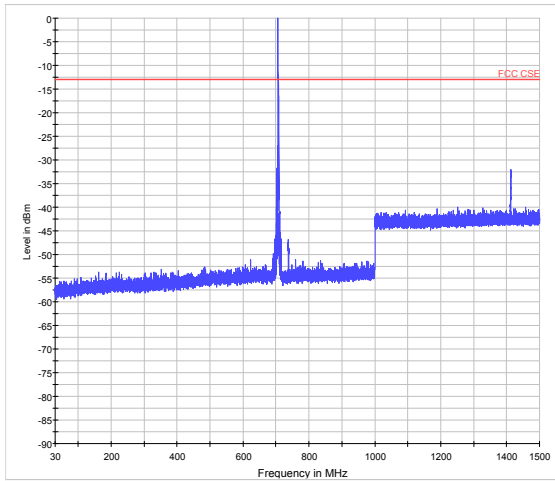
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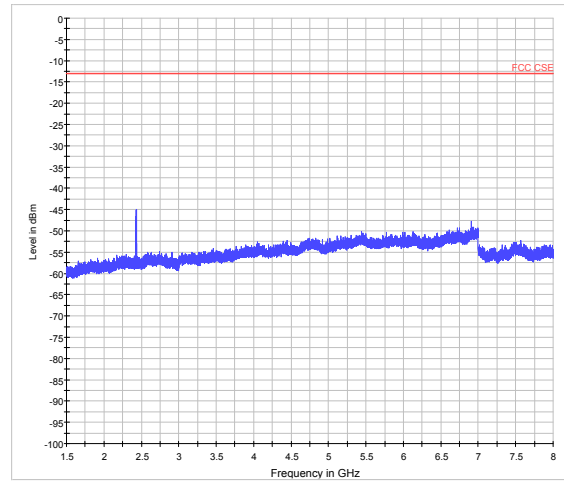
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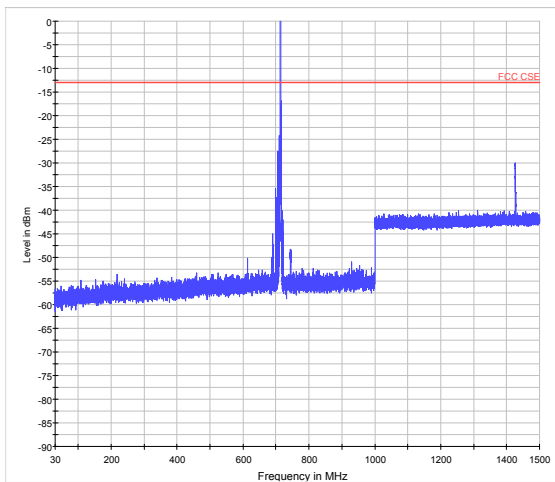
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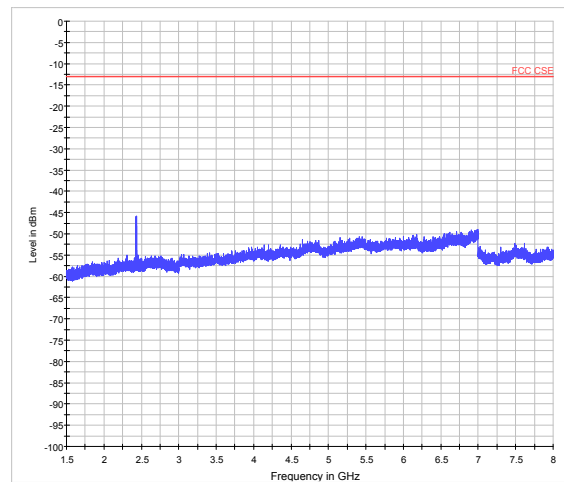
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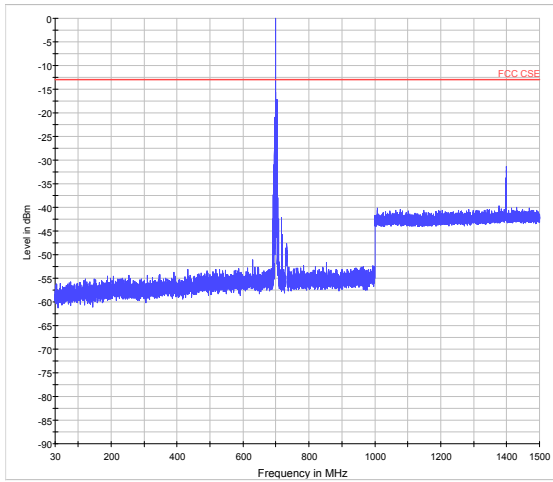
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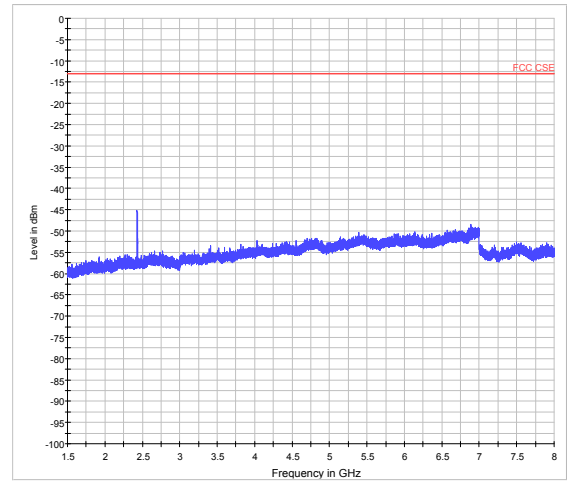
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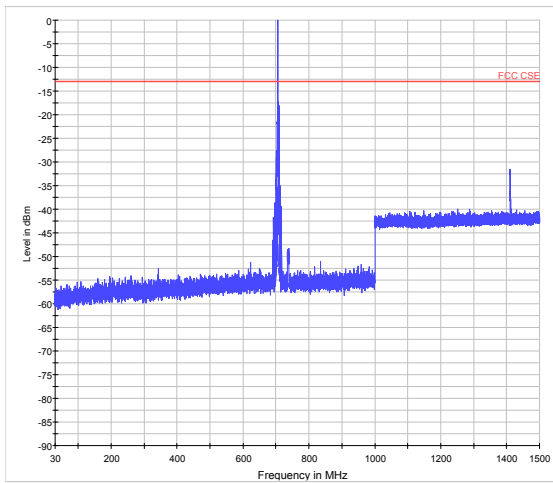
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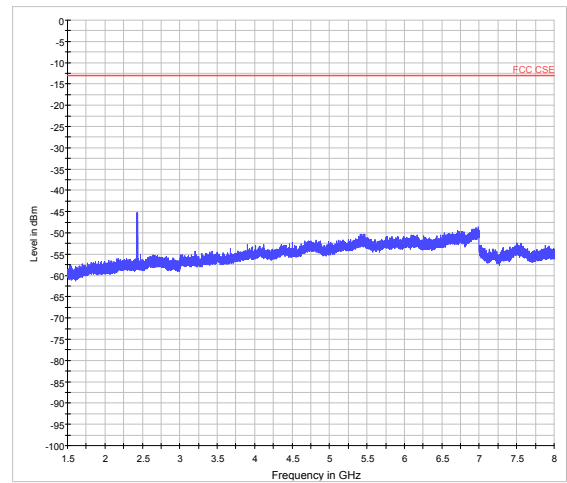
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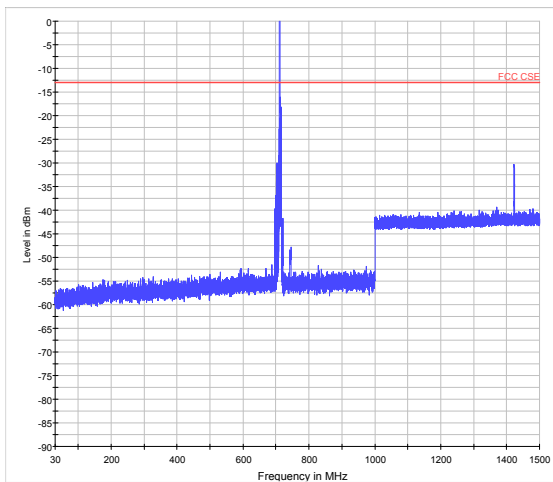
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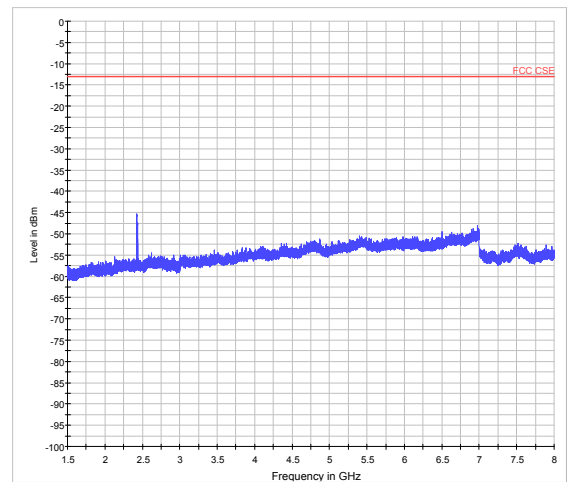
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LTE Band 12 5MHz CH-High 30MHz~1.5GHz

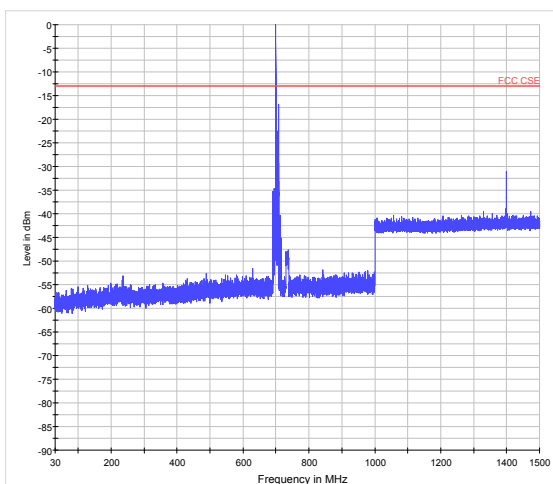


LTE Band 12 5MHz CH-High 1.5GHz~8GHz

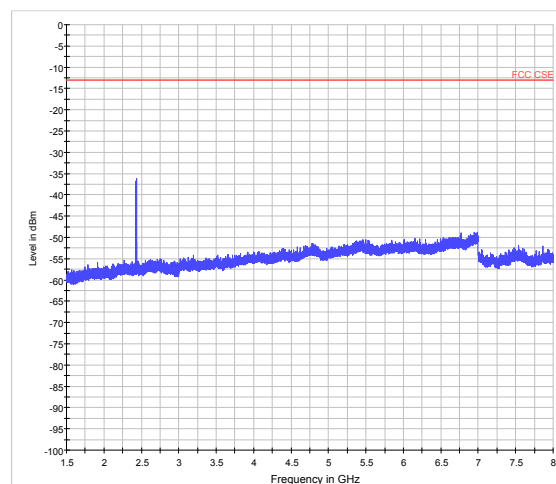




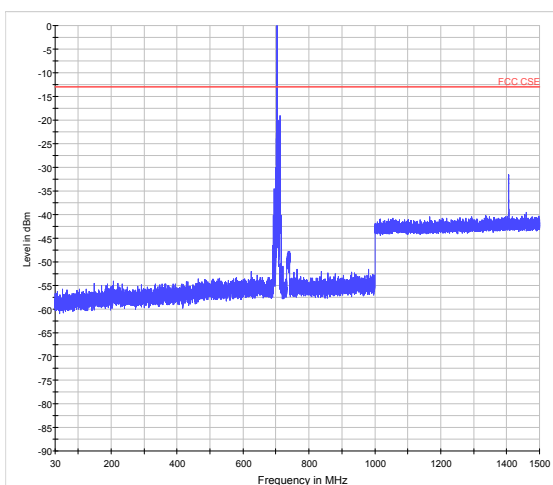
LTE Band 12 10MHz CH-Low 30MHz~1.5GHz



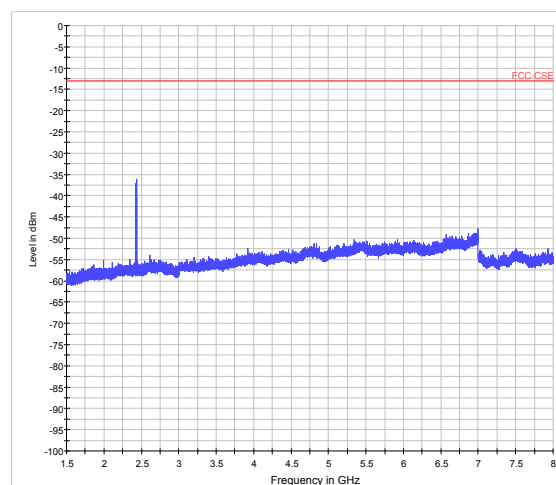
LTE Band 12 10MHz CH-Low 1.5GHz~8GHz



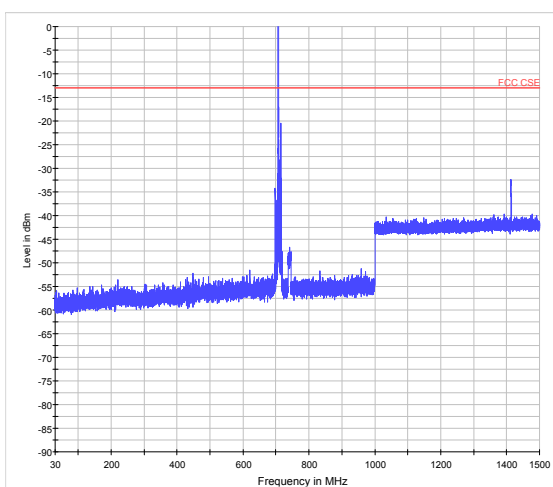
LTE Band 12 10MHz CH-Middle 30MHz~1.5GHz



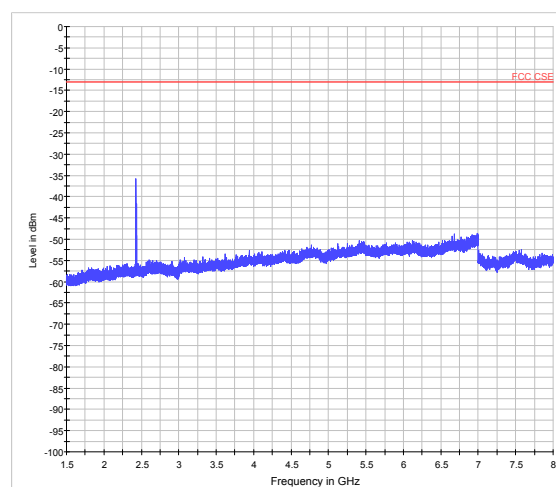
LTE Band 12 10MHz CH-Middle 1.5GHz~8GHz



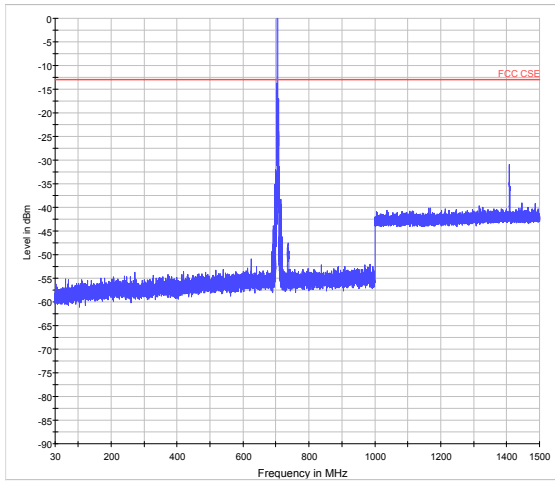
LTE Band 12 10MHz CH-High 30MHz~1.5GHz



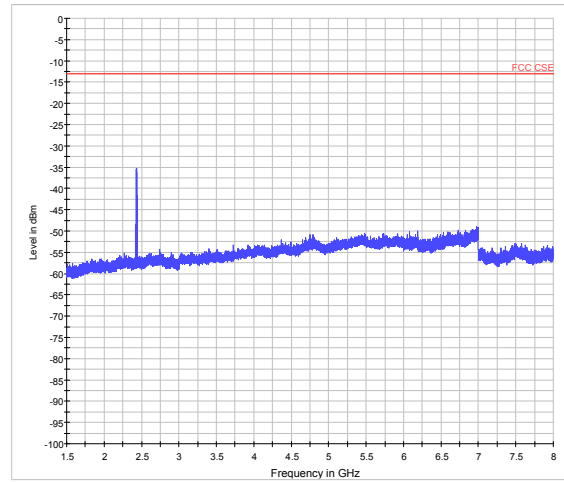
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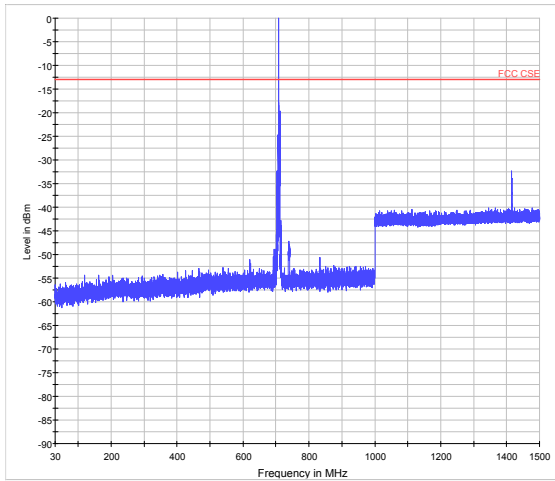
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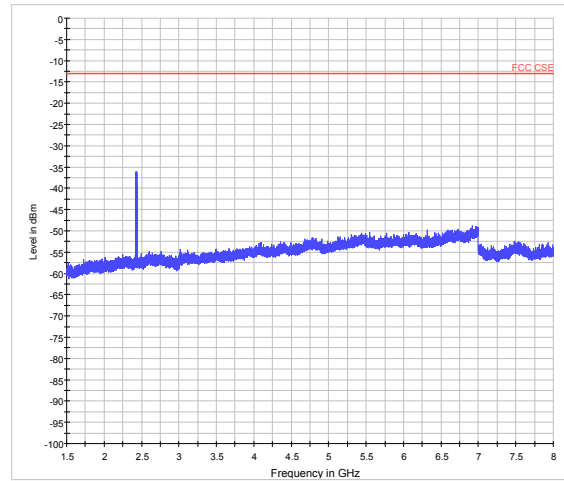
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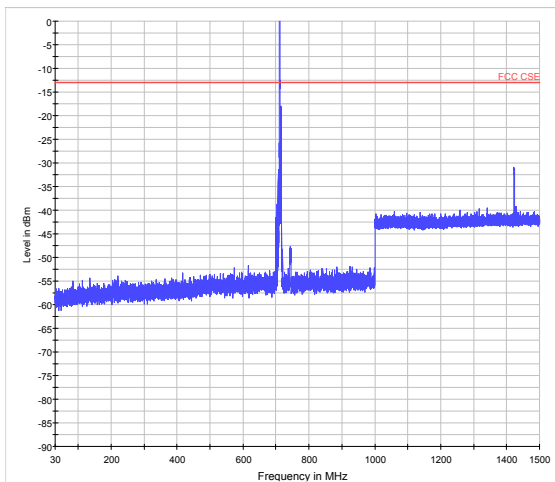
LTE Band 17 5MHz CH-Middle 30MHz~1.5GHz



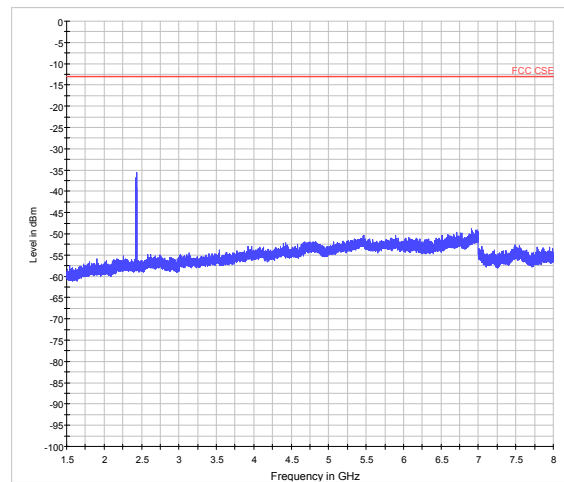
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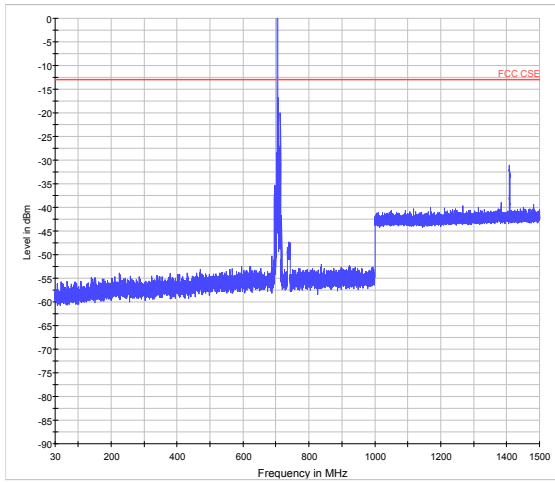
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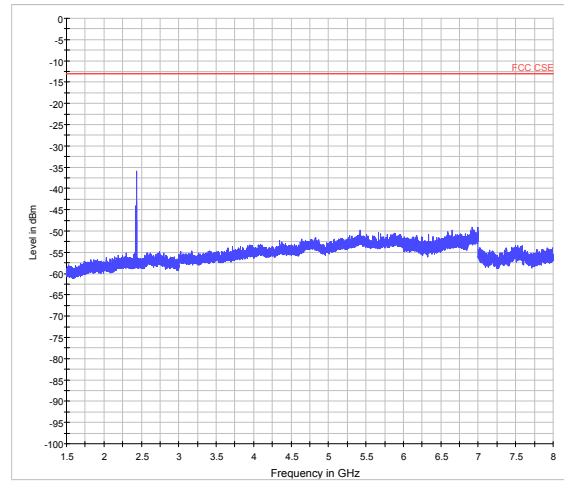
LTE Band 17 5MHz CH-High 1.5GHz~8GHz



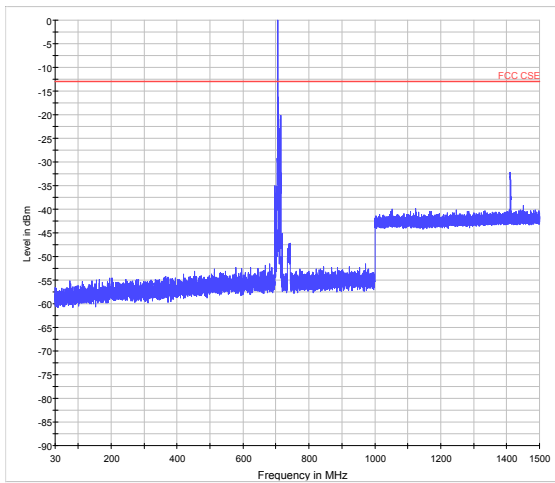
LTE Band 17 10MHz CH-Low 30MHz~1.5GHz



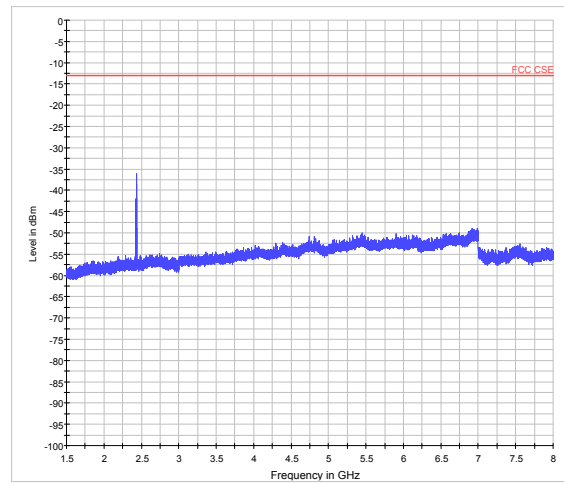
LTE Band 17 10MHz CH-Low 1.5GHz~8GHz



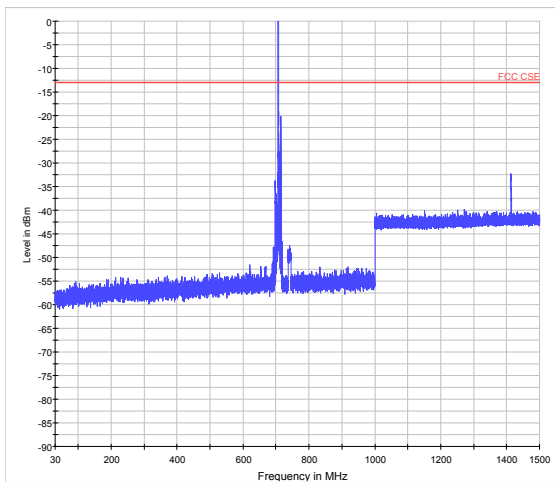
LTE Band 17 10MHz CH-Middle 30MHz~1.5GHz



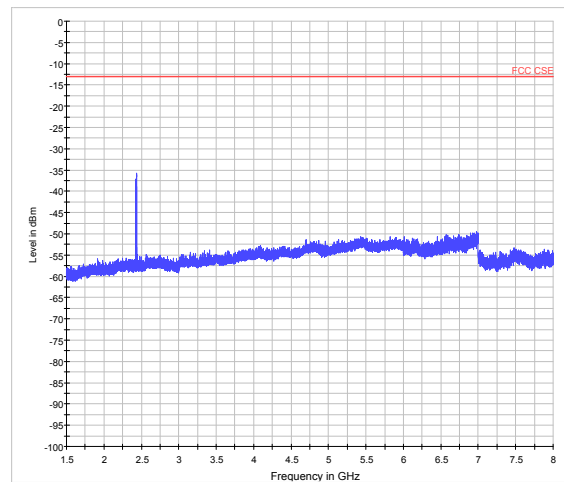
LTE Band 17 10MHz CH-Middle 1.5GHz~8GHz



LTE Band 17 10MHz CH-High 30MHz~1.5GHz



LTE Band 17 10MHz CH-High 1.5GHz~8GHz



5.8 Radiates Spurious Emission

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

1. The testing follows FCC KDB 971168 v02r02 Section 5.8 and ANSI / TIA-603-D-2010 Section 2.2.12.
2. Above 30MHz: The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H). Above 1GHz: (Note: the FCC's permission to use 1.5m as an alternative per TCBC Conf call of Dec. 2, 2014.) The EUT is placed on a turntable 1.5 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).
3. A log-periodic antenna or double-ridged waveguide horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
4. The EUT is then put into continuously transmitting mode at its maximum power level during the test. Set Test Receiver or Spectrum RBW=1MHz, VBW=3MHz, And the maximum value of the receiver should be recorded as (Pr).
5. The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (PMea) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (PMea) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
6. A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss (Pcl) ,the Substitution Antenna Gain (Ga) and the Amplifier Gain (PAg) should be recorded after test.
7. The measurement results are obtained as described below:

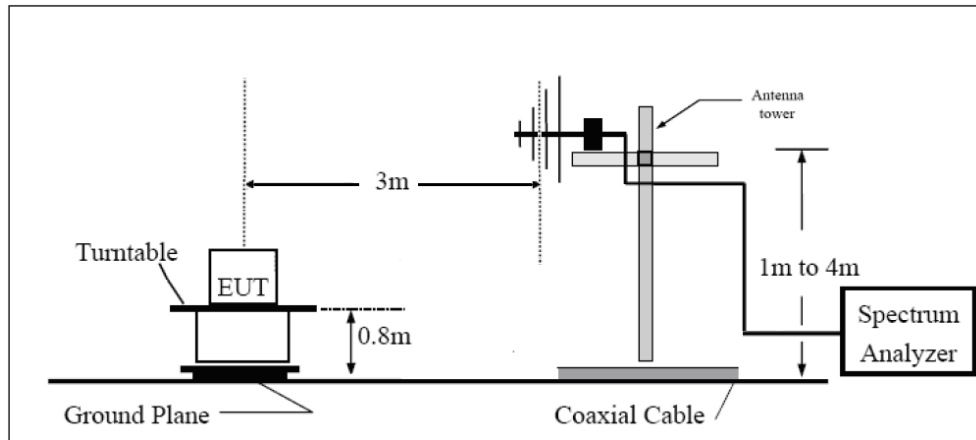
$$\text{Power(EIRP)} = \text{PMea} - \text{PAg} - \text{Pcl} + \text{Ga}$$
The measurement results are amend as described below:

$$\text{Power(EIRP)} = \text{PMea} - \text{Pcl} + \text{Ga}$$
8. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP

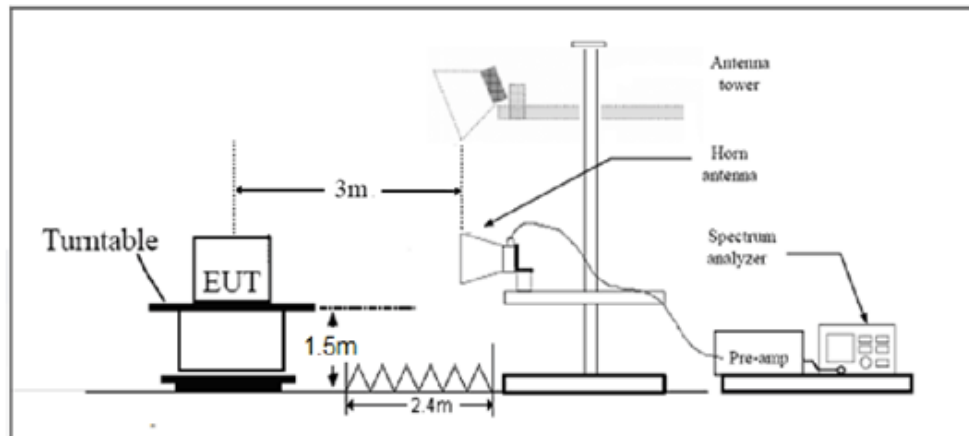
= EIRP-2.15dBi.

Test setup

30MHz~~~ 1GHz



Above 1GHz



Note: Area side:2.4mX3.6m

The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Z axis) and the worst case was recorded.

Limits

Rule Part 27.53(h) specifies that “ for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10}(P)$ dB.”

Rule Part 27.53(g) specifies that “For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log (P)$ dB.

Rule Part 27.53(m) $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(4) of this section.



LTE -4/12/17 Limit	-13 dBm
LTE -7 Limit	-25 dBm

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = \pm 1.96$, $U = \pm 3.55$ dB.

Test Result

LTE Band 4 QPSK 1.4MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3421.4	-55.55	2.6	10.15	Vertical	-48.0	-13.0	35.0	270
3	5132.1	-54.55	2.4	11.35	Vertical	-45.6	-13.0	32.6	180
4	6842.8	-50.55	4.5	10.85	Vertical	-44.2	-13.0	31.2	135
5	8553.5	-47.75	5.1	11.35	Vertical	-41.5	-13.0	28.5	270
6	10264.2	-45.75	5.3	11.95	Vertical	-39.1	-13.0	26.1	180
7	11974.9	-45.75	5.5	13.55	Vertical	-37.7	-13.0	24.7	225
8	13685.6	-43.55	6.3	13.75	Vertical	-36.1	-13.0	23.1	45
9	15396.3	-43.35	6.7	13.85	Vertical	-36.2	-13.0	23.2	270
10	17107.0	-42.55	6.8	14.25	Vertical	-35.1	-13.0	22.1	180

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 4 QPSK 1.4MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.0	-58.15	2.6	10.75	Vertical	-50.0	-13.0	37.0	135
3	5197.5	-54.45	2.4	11.05	Vertical	-45.8	-13.0	32.8	270
4	6930.0	-50.05	4.5	11.15	Vertical	-43.4	-13.0	30.4	180
5	8662.5	-47.15	5.1	11.35	Vertical	-40.9	-13.0	27.9	225
6	10395.0	-45.05	5.3	11.95	Vertical	-38.4	-13.0	25.4	270
7	12127.5	-45.05	5.5	13.55	Vertical	-37.0	-13.0	24.0	180



8	13860.0	-43.05	6.3	13.75	Vertical	-35.6	-13.0	22.6	135
9	15592.5	-43.15	6.7	13.85	Vertical	-36.0	-13.0	23.0	270
10	17325.0	-41.65	6.8	14.25	Vertical	-34.2	-13.0	21.2	180

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 4 QPSK 1.4MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3508.6	-56.55	2.6	10.15	Vertical	-49.0	-13.0	36.0	225
3	5262.9	-54.85	2.4	11.05	Vertical	-46.2	-13.0	33.2	45
4	7017.2	-48.85	4.5	11.15	Vertical	-42.2	-13.0	29.2	270
5	8771.5	-46.45	5.1	11.35	Vertical	-40.2	-13.0	27.2	180
6	10525.8	-44.55	5.3	11.95	Vertical	-37.9	-13.0	24.9	135
7	12280.1	-45.85	5.5	13.55	Vertical	-37.8	-13.0	24.8	270
8	14034.4	-42.75	6.3	13.75	Vertical	-35.3	-13.0	22.3	180
9	15788.7	-45.05	6.7	13.85	Vertical	-37.9	-13.0	24.9	225
10	17543.0	-41.75	6.8	14.25	Vertical	-34.3	-13.0	21.3	45

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 4 QPSK 3MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3423.0	-56.65	2.6	10.15	Vertical	-49.1	-13.0	36.1	90
3	5134.5	-54.45	2.4	11.35	Vertical	-45.5	-13.0	32.5	270
4	6846.0	-49.85	4.5	10.85	Vertical	-43.5	-13.0	30.5	180
5	8557.5	-47.35	5.1	11.35	Vertical	-41.1	-13.0	28.1	135
6	10269.0	-46.35	5.3	11.95	Vertical	-39.7	-13.0	26.7	270
7	11980.5	-45.45	5.5	13.55	Vertical	-37.4	-13.0	24.4	180
8	13692.0	-43.35	6.3	13.75	Vertical	-35.9	-13.0	22.9	225



9	15403.5	-43.35	6.7	13.85	Vertical	-36.2	-13.0	23.2	45
10	17115.0	-41.15	6.8	14.25	Vertical	-33.7	-13.0	20.7	90

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.



LTE Band 4 QPSK 3MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.0	-57.95	2.6	10.75	Vertical	-49.8	-13.0	36.8	180
3	5197.5	-54.45	2.4	11.05	Vertical	-45.8	-13.0	32.8	270
4	6930.0	-50.45	4.5	11.15	Vertical	-43.8	-13.0	30.8	45
5	8662.5	-47.65	5.1	11.35	Vertical	-41.4	-13.0	28.4	90
6	10395.0	-45.65	5.3	11.95	Vertical	-39.0	-13.0	26.0	135
7	12127.5	-45.55	5.5	13.55	Vertical	-37.5	-13.0	24.5	225
8	13860.0	-42.95	6.3	13.75	Vertical	-35.5	-13.0	22.5	180
9	15592.5	-43.35	6.7	13.85	Vertical	-36.2	-13.0	23.2	270
10	17325.0	-42.05	6.8	14.25	Vertical	-34.6	-13.0	21.6	45

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 4 QPSK 3MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3507.0	-56.85	2.6	10.15	Vertical	-49.3	-13.0	36.3	270
3	5260.5	-54.75	2.4	11.05	Vertical	-46.1	-13.0	33.1	180
4	7014.0	-48.75	4.5	11.15	Vertical	-42.1	-13.0	29.1	225
5	8767.5	-46.95	5.1	11.35	Vertical	-40.7	-13.0	27.7	45
6	10521.0	-43.85	5.3	11.95	Vertical	-37.2	-13.0	24.2	90
7	12274.5	-45.05	5.5	13.55	Vertical	-37.0	-13.0	24.0	180
8	14028.0	-41.75	6.3	13.75	Vertical	-34.3	-13.0	21.3	270
9	15781.5	-44.05	6.7	13.85	Vertical	-36.9	-13.0	23.9	135
10	17535.0	-42.15	6.8	14.25	Vertical	-34.7	-13.0	21.7	180

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 4 QPSK 5MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3425.0	-56.35	2.6	10.15	Vertical	-48.8	-13.0	35.8	225
3	5137.5	-54.05	2.4	11.35	Vertical	-45.1	-13.0	32.1	45
4	6850.0	-49.55	4.5	10.85	Vertical	-43.2	-13.0	30.2	90
5	8562.5	-48.35	5.1	11.35	Vertical	-42.1	-13.0	29.1	180
6	10275.0	-45.85	5.3	11.95	Vertical	-39.2	-13.0	26.2	270
7	11987.5	-45.25	5.5	13.55	Vertical	-37.2	-13.0	24.2	180
8	13700.0	-42.85	6.3	13.75	Vertical	-35.4	-13.0	22.4	225
9	15412.5	-43.25	6.7	13.85	Vertical	-36.1	-13.0	23.1	45
10	17125.0	-40.95	6.8	14.25	Vertical	-33.5	-13.0	20.5	90

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 4 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.0	-57.95	2.6	10.75	Vertical	-49.8	-13.0	36.8	180
3	5197.5	-54.25	2.4	11.05	Vertical	-45.6	-13.0	32.6	135
4	6930.0	-50.95	4.5	11.15	Vertical	-44.3	-13.0	31.3	270
5	8662.5	-47.95	5.1	11.35	Vertical	-41.7	-13.0	28.7	180
6	10395.0	-45.45	5.3	11.95	Vertical	-38.8	-13.0	25.8	225
7	12127.5	-45.15	5.5	13.55	Vertical	-37.1	-13.0	24.1	45
8	13860.0	-43.05	6.3	13.75	Vertical	-35.6	-13.0	22.6	90
9	15592.5	-43.65	6.7	13.85	Vertical	-36.5	-13.0	23.5	270
10	17325.0	-42.55	6.8	14.25	Vertical	-35.1	-13.0	22.1	180

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 4 QPSK 5MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3505.0	-57.25	2.6	10.15	Vertical	-49.7	-13.0	36.7	225
3	5257.5	-55.15	2.4	11.05	Vertical	-46.5	-13.0	33.5	45
4	7010.0	-49.35	4.5	11.15	Vertical	-42.7	-13.0	29.7	135
5	8762.5	-47.95	5.1	11.35	Vertical	-41.7	-13.0	28.7	180
6	10515.0	-44.55	5.3	11.95	Vertical	-37.9	-13.0	24.9	225
7	12267.5	-45.75	5.5	13.55	Vertical	-37.7	-13.0	24.7	45
8	14020.0	-42.75	6.3	13.75	Vertical	-35.3	-13.0	22.3	90
9	15772.5	-44.05	6.7	13.85	Vertical	-36.9	-13.0	23.9	270
10	17525.0	-42.35	6.8	14.25	Vertical	-34.9	-13.0	21.9	180

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 4 QPSK 10MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3430.0	-58.75	2.6	10.15	Vertical	-51.2	-13.0	38.2	225
3	5145.0	-54.65	2.4	11.35	Vertical	-45.7	-13.0	32.7	45
4	6860.0	-49.25	4.5	10.85	Vertical	-42.9	-13.0	29.9	90
5	8575.0	-47.65	5.1	11.35	Vertical	-41.4	-13.0	28.4	180
6	10290.0	-45.25	5.3	11.95	Vertical	-38.6	-13.0	25.6	270
7	12005.0	-46.15	5.5	13.55	Vertical	-38.1	-13.0	25.1	135
8	13720.0	-44.45	6.3	13.75	Vertical	-37.0	-13.0	24.0	180
9	15435.0	-43.35	6.7	13.85	Vertical	-36.2	-13.0	23.2	225
10	17150.0	-42.85	6.8	14.25	Vertical	-35.4	-13.0	22.4	45

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 4 QPSK 10MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.0	-58.05	2.6	10.75	Vertical	-49.9	-13.0	36.9	90
3	5197.5	-54.15	2.4	11.05	Vertical	-45.5	-13.0	32.5	180
4	6930.0	-49.35	4.5	11.15	Vertical	-42.7	-13.0	29.7	270
5	8662.5	-46.55	5.1	11.35	Vertical	-40.3	-13.0	27.3	180
6	10395.0	-45.75	5.3	11.95	Vertical	-39.1	-13.0	26.1	225
7	12127.5	-45.55	5.5	13.55	Vertical	-37.5	-13.0	24.5	45
8	13860.0	-42.85	6.3	13.75	Vertical	-35.4	-13.0	22.4	90
9	15592.5	-44.95	6.7	13.85	Vertical	-37.8	-13.0	24.8	180
10	17325.0	-42.25	6.8	14.25	Vertical	-34.8	-13.0	21.8	135

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 4 QPSK 10MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3500.0	-57.35	2.6	10.15	Vertical	-49.8	-13.0	36.8	270
3	5250.0	-55.35	2.4	11.05	Vertical	-46.7	-13.0	33.7	180
4	7000.0	-49.25	4.5	11.15	Vertical	-42.6	-13.0	29.6	225
5	8750.0	-46.15	5.1	11.35	Vertical	-39.9	-13.0	26.9	45
6	10500.0	-44.35	5.3	11.95	Vertical	-37.7	-13.0	24.7	90
7	12250.0	-44.75	5.5	13.55	Vertical	-36.7	-13.0	23.7	180
8	14000.0	-41.85	6.3	13.75	Vertical	-34.4	-13.0	21.4	270
9	15750.0	-44.65	6.7	13.85	Vertical	-37.5	-13.0	24.5	45
10	17500.0	-41.55	6.8	14.25	Vertical	-34.1	-13.0	21.1	135

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 4 QPSK 15MHz CH Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3435.0	-57.45	2.6	10.15	Vertical	-49.9	-13.0	36.9	45
3	5152.5	-54.75	2.4	11.35	Vertical	-45.8	-13.0	32.8	90
4	6870.0	-49.25	4.5	10.85	Vertical	-42.9	-13.0	29.9	90
5	8587.5	-45.55	5.1	11.35	Vertical	-39.3	-13.0	26.3	45
6	10305.0	-45.45	5.3	11.95	Vertical	-38.8	-13.0	25.8	135
7	12022.5	-45.25	5.5	13.55	Vertical	-37.2	-13.0	24.2	225
8	13740.0	-43.45	6.3	13.75	Vertical	-36.0	-13.0	23.0	45
9	15457.5	-43.95	6.7	13.85	Vertical	-36.8	-13.0	23.8	90
10	17175.0	-41.75	6.8	14.25	Vertical	-34.3	-13.0	21.3	135

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 4 QPSK 15MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.0	-57.35	2.6	10.75	Vertical	-49.2	-13.0	36.2	135
3	5197.5	-53.95	2.4	11.05	Vertical	-45.3	-13.0	32.3	45
4	6930.0	-49.35	4.5	11.15	Vertical	-42.7	-13.0	29.7	90
5	8662.5	-47.35	5.1	11.35	Vertical	-41.1	-13.0	28.1	180
6	10395.0	-46.45	5.3	11.95	Vertical	-39.8	-13.0	26.8	270
7	12127.5	-45.85	5.5	13.55	Vertical	-37.8	-13.0	24.8	225
8	13860.0	-42.65	6.3	13.75	Vertical	-35.2	-13.0	22.2	135
9	15592.5	-43.55	6.7	13.85	Vertical	-36.4	-13.0	23.4	225
10	17325.0	-41.55	6.8	14.25	Vertical	-34.1	-13.0	21.1	45

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 4 QPSK 15MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3495.0	-55.25	2.6	10.15	Vertical	-47.7	-13.0	34.7	90
3	5242.5	-54.75	2.4	11.05	Vertical	-46.1	-13.0	33.1	135
4	6990.0	-48.95	4.5	11.15	Vertical	-42.3	-13.0	29.3	225
5	8737.5	-45.35	5.1	11.35	Vertical	-39.1	-13.0	26.1	45
6	10485.0	-44.95	5.3	11.95	Vertical	-38.3	-13.0	25.3	90
7	12232.5	-44.75	5.5	13.55	Vertical	-36.7	-13.0	23.7	135
8	13980.0	-41.35	6.3	13.75	Vertical	-33.9	-13.0	20.9	135
9	15727.5	-42.15	6.7	13.85	Vertical	-35.0	-13.0	22.0	90
10	17475.0	-41.95	6.8	14.25	Vertical	-34.5	-13.0	21.5	225

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 4 QPSK 20MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3440.0	-57.85	2.6	10.15	Vertical	-50.3	-13.0	37.3	135
3	5160.0	-54.75	2.4	11.35	Vertical	-45.8	-13.0	32.8	90
4	6880.0	-48.85	4.5	10.85	Vertical	-42.5	-13.0	29.5	45
5	8600.0	-45.75	5.1	11.35	Vertical	-39.5	-13.0	26.5	90
6	10320.0	-45.25	5.3	11.95	Vertical	-38.6	-13.0	25.6	90
7	12040.0	-45.05	5.5	13.55	Vertical	-37.0	-13.0	24.0	135
8	13760.0	-41.55	6.3	13.75	Vertical	-34.1	-13.0	21.1	225
9	15480.0	-43.15	6.7	13.85	Vertical	-36.0	-13.0	23.0	135
10	17200.0	-42.55	6.8	14.25	Vertical	-35.1	-13.0	22.1	90

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 4 QPSK 20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.0	-58.05	2.6	10.75	Vertical	-49.9	-13.0	36.9	90
3	5197.5	-53.95	2.4	11.05	Vertical	-45.3	-13.0	32.3	45
4	6930.0	-50.05	4.5	11.15	Vertical	-43.4	-13.0	30.4	45
5	8662.5	-48.05	5.1	11.35	Vertical	-41.8	-13.0	28.8	180
6	10395.0	-45.45	5.3	11.95	Vertical	-38.8	-13.0	25.8	270
7	12127.5	-45.55	5.5	13.55	Vertical	-37.5	-13.0	24.5	225
8	13860.0	-42.65	6.3	13.75	Vertical	-35.2	-13.0	22.2	135
9	15592.5	-42.85	6.7	13.85	Vertical	-35.7	-13.0	22.7	180
10	17325.0	-42.15	6.8	14.25	Vertical	-34.7	-13.0	21.7	225

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 4 QPSK 20MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3490.0	-57.15	2.6	10.15	Vertical	-49.6	-13.0	36.6	45
3	5235.0	-53.85	2.4	11.05	Vertical	-45.2	-13.0	32.2	225
4	6980.0	-49.65	4.5	11.15	Vertical	-43.0	-13.0	30.0	135
5	8725.0	-46.05	5.1	11.35	Vertical	-39.8	-13.0	26.8	90
6	10470.0	-44.85	5.3	11.95	Vertical	-38.2	-13.0	25.2	45
7	12215.0	-44.75	5.5	13.55	Vertical	-36.7	-13.0	23.7	90
8	13960.0	-42.65	6.3	13.75	Vertical	-35.2	-13.0	22.2	45
9	15705.0	-44.15	6.7	13.85	Vertical	-37.0	-13.0	24.0	135
10	17450.0	-41.95	6.8	14.25	Vertical	-34.5	-13.0	21.5	90

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 7 QPSK 5MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5000.6	-54.25	2.00	9.15	Vertical	-47.1	-25.0	22.1	90
3	7501.1	-51.15	2.50	11.35	Vertical	-42.3	-25.0	17.3	180
4	10001.3	-47.85	4.20	12.05	Vertical	-40.0	-25.0	15.0	180
5	12512.5	-44.35	5.20	12.85	Vertical	-36.7	-25.0	11.7	270
6	15015.0	-44.93	5.50	14.23	Vertical	-36.2	-25.0	11.2	135
7	17517.5	-45.05	5.70	14.15	Vertical	-36.6	-25.0	11.6	180
8	20002.4	-41.86	6.30	13.76	Vertical	-34.4	-25.0	9.4	225
9	22502.7	-41.75	6.80	14.05	Vertical	-34.5	-25.0	9.5	45
10	25003.0	-40.54	6.90	14.84	Vertical	-32.6	-25.0	7.6	90

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 7 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5065.8	-54.45	2.00	9.15	Vertical	-47.3	-25.0	22.3	180
3	7598.6	-50.75	2.50	11.35	Vertical	-41.9	-25.0	16.9	180
4	10130.6	-46.45	4.20	12.05	Vertical	-38.6	-25.0	13.6	270
5	12675.0	-44.25	5.20	12.85	Vertical	-36.6	-25.0	11.6	135
6	15210.0	-47.03	5.50	14.23	Vertical	-38.3	-25.0	13.3	180
7	17745.0	-44.75	5.70	14.15	Vertical	-36.3	-25.0	11.3	225
8	20280.0	-43.66	6.30	13.76	Vertical	-36.2	-25.0	11.2	45
9	22815.0	-42.05	6.80	14.05	Vertical	-34.8	-25.0	9.8	90
10	25350.0	-42.14	6.90	14.84	Vertical	-34.2	-25.0	9.2	180

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 7 QPSK 5MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5130.8	-54.55	2.00	9.15	Vertical	-47.4	-25.0	22.4	270
3	7696.1	-50.85	2.50	11.35	Vertical	-42.0	-25.0	17.0	180
4	10261.1	-46.25	4.20	12.05	Vertical	-38.4	-25.0	13.4	270
5	12837.5	-44.65	5.20	12.85	Vertical	-37.0	-25.0	12.0	135
6	15405.0	-47.13	5.50	14.23	Vertical	-38.4	-25.0	13.4	180
7	17972.5	-45.05	5.70	14.15	Vertical	-36.6	-25.0	11.6	180
8	20540.0	-44.66	6.30	13.76	Vertical	-37.2	-25.0	12.2	270
9	23107.5	-42.05	6.80	14.05	Vertical	-34.8	-25.0	9.8	135
10	25675.0	-39.84	6.90	14.84	Vertical	-31.9	-25.0	6.9	180

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 7 QPSK 10MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5001.0	-48.55	2.00	9.15	Vertical	-41.4	-25.0	16.4	225
3	7515.0	-46.85	2.50	11.35	Vertical	-38.0	-25.0	13.0	45
4	10002.4	-42.95	4.20	12.05	Vertical	-35.1	-25.0	10.1	90
5	12525.0	-44.25	5.20	12.85	Vertical	-36.6	-25.0	11.6	180
6	15030.0	-44.93	5.50	14.23	Vertical	-36.2	-25.0	11.2	270
7	17535.0	-44.35	5.70	14.15	Vertical	-35.9	-25.0	10.9	180
8	20040.0	-44.16	6.30	13.76	Vertical	-36.7	-25.0	11.7	270
9	22545.0	-41.75	6.80	14.05	Vertical	-34.5	-25.0	9.5	135
10	25050.0	-40.74	6.90	14.84	Vertical	-32.8	-25.0	7.8	180

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 7 QPSK 10MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5070.0	-54.25	2.00	9.15	Vertical	-47.1	-25.0	22.1	225
3	75915.0	-50.35	2.50	11.35	Vertical	-41.5	-25.0	16.5	45
4	10140.0	-46.95	4.20	12.05	Vertical	-39.1	-25.0	14.1	90
5	12675.0	-44.25	5.20	12.85	Vertical	-36.6	-25.0	11.6	180
6	15210.0	-46.83	5.50	14.23	Vertical	-38.1	-25.0	13.1	270
7	17745.0	-44.85	5.70	14.15	Vertical	-36.4	-25.0	11.4	135
8	20280.0	-44.26	6.30	13.76	Vertical	-36.8	-25.0	11.8	180
9	22815.0	-42.05	6.80	14.05	Vertical	-34.8	-25.0	9.8	225
10	25350.0	-41.24	6.90	14.84	Vertical	-33.3	-25.0	8.3	45

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 7 QPSK 10MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5121.4	-55.65	2.00	10.15	Vertical	-47.5	-25.0	22.5	90
3	7681.9	-50.75	2.50	11.35	Vertical	-41.9	-25.0	16.9	180
4	10242.0	-46.15	4.20	12.05	Vertical	-38.3	-25.0	13.3	270
5	12825.0	-46.65	5.20	14.85	Vertical	-37.0	-25.0	12.0	135
6	15390.0	-45.43	5.50	13.23	Vertical	-37.7	-25.0	12.7	180
7	17955.0	-42.75	5.70	12.15	Vertical	-36.3	-25.0	11.3	225
8	20520.0	-44.16	6.30	13.76	Vertical	-36.7	-25.0	11.7	45
9	23085.0	-42.05	6.80	14.05	Vertical	-34.8	-25.0	9.8	90
10	25650.0	-40.84	6.90	14.84	Vertical	-32.9	-25.0	7.9	180

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 7 QPSK 15MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5001.8	-55.05	2.00	10.15	Vertical	-46.9	-25.0	21.9	180
3	7502.6	-50.95	2.50	11.35	Vertical	-42.1	-25.0	17.1	270
4	1000.4	-46.95	4.20	12.05	Vertical	-39.1	-25.0	14.1	135
5	12537.5	-46.15	5.20	14.85	Vertical	-36.5	-25.0	11.5	180
6	15045.0	-45.43	5.50	13.23	Vertical	-37.7	-25.0	12.7	225
7	17552.5	-42.45	5.70	12.15	Vertical	-36.0	-25.0	11.0	45
8	20060.0	-43.86	6.30	13.76	Vertical	-36.4	-25.0	11.4	180
9	22567.5	-41.95	6.80	14.05	Vertical	-34.7	-25.0	9.7	270
10	25075.0	-42.04	6.90	14.84	Vertical	-34.1	-25.0	9.1	135

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 7 QPSK 15MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5056.9	-55.35	2.00	10.15	Vertical	-47.2	-25.0	22.2	180
3	7584.8	-50.75	2.50	11.35	Vertical	-41.9	-25.0	16.9	225
4	10140.0	-46.95	4.20	12.05	Vertical	-39.1	-25.0	14.1	45
5	12675.0	-46.65	5.20	14.85	Vertical	-37.0	-25.0	12.0	90
6	15210.0	-45.53	5.50	13.23	Vertical	-37.8	-25.0	12.8	180
7	17745.0	-42.65	5.70	12.15	Vertical	-36.2	-25.0	11.2	270
8	20280.0	-44.56	6.30	13.76	Vertical	-37.1	-25.0	12.1	180
9	22815.0	-41.35	6.80	14.05	Vertical	-34.1	-25.0	9.1	180
10	25350.0	-41.34	6.90	14.84	Vertical	-33.4	-25.0	8.4	270

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 7 QPSK 15MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5112.0	-55.05	2.00	10.15	Vertical	-46.9	-25.0	21.9	135
3	7667.3	-50.95	2.50	11.35	Vertical	-42.1	-25.0	17.1	180
4	10250.0	-46.35	4.20	12.05	Vertical	-38.5	-25.0	13.5	225
5	12812.5	-46.75	5.20	14.85	Vertical	-37.1	-25.0	12.1	45
6	15375.0	-45.53	5.50	13.23	Vertical	-37.8	-25.0	12.8	90
7	17937.5	-42.85	5.70	12.15	Vertical	-36.4	-25.0	11.4	180
8	20500.0	-44.36	6.30	13.76	Vertical	-36.9	-25.0	11.9	270
9	23062.5	-41.65	6.80	14.05	Vertical	-34.4	-25.0	9.4	180
10	25625.0	-41.84	6.90	14.84	Vertical	-33.9	-25.0	8.9	270

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 7 QPSK 20MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5002.5	-55.75	2.00	10.15	Vertical	-47.6	-25.0	22.6	135
3	7503.4	-50.65	2.50	11.35	Vertical	-41.8	-25.0	16.8	180
4	10040.0	-46.25	4.20	12.05	Vertical	-38.4	-25.0	13.4	225
5	12550.0	-46.15	5.20	14.85	Vertical	-36.5	-25.0	11.5	45
6	15060.0	-45.53	5.50	13.23	Vertical	-37.8	-25.0	12.8	90
7	17570.0	-43.05	5.70	12.15	Vertical	-36.6	-25.0	11.6	180
8	20080.0	-44.16	6.30	13.76	Vertical	-36.7	-25.0	11.7	270
9	22590.0	-41.35	6.80	14.05	Vertical	-34.1	-25.0	9.1	135
10	25100.0	-41.64	6.90	14.84	Vertical	-33.7	-25.0	8.7	180

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 7 QPSK 20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5052.0	-54.95	2.00	10.15	Vertical	-46.8	-25.0	21.8	225
3	7578.0	-50.85	2.50	11.35	Vertical	-42.0	-25.0	17.0	45
4	10140.0	-46.45	4.20	12.05	Vertical	-38.6	-25.0	13.6	90
5	12675.0	-46.75	5.20	14.85	Vertical	-37.1	-25.0	12.1	180
6	15210.0	-45.43	5.50	13.23	Vertical	-37.7	-25.0	12.7	270
7	17745.0	-42.65	5.70	12.15	Vertical	-36.2	-25.0	11.2	180
8	20280.0	-44.66	6.30	13.76	Vertical	-37.2	-25.0	12.2	270
9	22815.0	-41.95	6.80	14.05	Vertical	-34.7	-25.0	9.7	135
10	25350.0	-42.14	6.90	14.84	Vertical	-34.2	-25.0	9.2	180

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 7 QPSK 20MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5102.3	-55.15	2.00	10.15	Vertical	-47.0	-25.0	22.0	225
3	7653.4	-50.45	2.50	11.35	Vertical	-41.6	-25.0	16.6	45
4	10240.0	-46.35	4.20	12.05	Vertical	-38.5	-25.0	13.5	90
5	12800.0	-46.05	5.20	14.85	Vertical	-36.4	-25.0	11.4	180
6	15360.0	-45.53	5.50	13.23	Vertical	-37.8	-25.0	12.8	270
7	17920.0	-42.55	5.70	12.15	Vertical	-36.1	-25.0	11.1	135
8	20480.0	-44.46	6.30	13.76	Vertical	-37.0	-25.0	12.0	225
9	23040.0	-41.65	6.80	14.05	Vertical	-34.4	-25.0	9.4	270
10	25600.0	-41.84	6.90	14.84	Vertical	-33.9	-25.0	8.9	45

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 12 QPSK 1.4MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1399.40	-58.16	2.00	10.15	Vertical	-52.16	-13.0	39.16	270
3	2099.10	-58.41	2.50	11.35	Vertical	-51.71	-13.0	38.71	180
4	2798.80	-55.64	4.20	10.85	Vertical	-51.14	-13.0	38.14	270
5	3498.50	-52.50	5.20	11.35	Vertical	-48.5	-13.0	35.50	45
6	4198.20	-52.70	5.50	11.95	Vertical	-48.4	-13.0	35.40	90
7	4897.90	-53.00	5.70	13.55	Vertical	-47.3	-13.0	34.30	180
8	5597.60	-52.50	6.30	13.75	Vertical	-47.2	-13.0	34.20	270
9	6297.30	-49.30	6.80	13.85	Vertical	-44.4	-13.0	31.40	180
10	6997.00	-47.30	6.90	14.25	Vertical	-42.1	-13.0	29.10	270

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 12 QPSK 1.4MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1415.00	-60.80	2.00	10.75	Vertical	-54.20	-13.0	41.20	135
3	2122.50	-57.36	2.51	11.05	Vertical	-50.97	-13.0	37.97	45
4	2830.00	-56.16	4.20	11.15	Vertical	-51.36	-13.0	38.36	90
5	3537.50	-52.10	5.20	11.15	Vertical	-48.3	-13.0	35.30	135
6	4245.00	-52.70	5.50	11.95	Vertical	-48.4	-13.0	35.40	180
7	4952.50	-52.80	5.70	13.55	Vertical	-47.1	-13.0	34.10	225
8	5660.00	-52.50	6.30	13.75	Vertical	-47.2	-13.0	34.20	225
9	6367.50	-49.20	6.80	13.85	Vertical	-44.3	-13.0	31.30	90
10	7075.00	-47.60	6.90	14.25	Vertical	-42.4	-13.0	29.40	180

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 12 QPSK 1.4MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1430.60	-59.68	2.00	10.15	Vertical	-53.68	-13.0	40.68	135
3	2145.90	-57.27	2.51	11.05	Vertical	-50.88	-13.0	37.88	90
4	2861.20	-56.24	4.20	11.15	Vertical	-51.44	-13.0	38.44	180
5	3576.50	-52.60	5.20	11.15	Vertical	-48.8	-13.0	35.80	270
6	4291.80	-53.10	5.50	11.95	Vertical	-48.80	-13.0	35.80	180
7	5007.10	-52.80	5.70	13.55	Vertical	-47.10	-13.0	34.10	270
8	5722.40	-52.50	6.30	13.75	Vertical	-47.20	-13.0	34.20	135
9	6437.70	-49.60	6.80	13.85	Vertical	-44.70	-13.0	31.70	180
10	7153.00	-47.10	6.90	14.25	Vertical	-41.90	-13.0	28.90	225

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 12 QPSK 3MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1401.00	-58.55	2.00	10.15	Vertical	-52.55	-13.0	39.55	270
3	2101.50	-57.89	2.51	11.35	Vertical	-51.20	-13.0	38.20	180
4	2802.00	-55.82	4.20	10.85	Vertical	-51.32	-13.0	38.32	270
5	3502.50	-52.70	5.20	11.35	Vertical	-48.70	-13.0	35.70	225
6	4203.00	-52.90	5.50	11.95	Vertical	-48.60	-13.0	35.60	90
7	4903.50	-53.30	5.70	13.55	Vertical	-47.60	-13.0	34.60	180
8	5604.00	-52.30	6.30	13.75	Vertical	-47.00	-13.0	34.00	270
9	6304.50	-49.40	6.80	13.85	Vertical	-44.50	-13.0	31.50	180
10	7005.00	-46.90	6.90	14.25	Vertical	-41.70	-13.0	28.70	270

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 12 QPSK 3MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1415.00	-60.96	2.00	10.75	Vertical	-54.36	-13.0	41.36	135
3	2122.50	-58.36	2.51	11.05	Vertical	-51.97	-13.0	38.97	45
4	2830.00	-55.93	4.20	11.15	Vertical	-51.13	-13.0	38.13	90
5	3537.50	-52.60	5.20	11.15	Vertical	-48.80	-13.0	35.80	135
6	4245.00	-52.40	5.50	11.95	Vertical	-48.10	-13.0	35.10	225
7	4952.50	-53.20	5.70	13.55	Vertical	-47.50	-13.0	34.50	90
8	5660.00	-52.50	6.30	13.75	Vertical	-47.20	-13.0	34.20	180
9	6367.50	-50.00	6.80	13.85	Vertical	-45.10	-13.0	32.10	270
10	7075.00	-46.90	6.90	14.25	Vertical	-41.70	-13.0	28.70	180

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 12 QPSK 3MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1429.00	-59.88	2.00	10.15	Vertical	-53.88	-13.0	40.88	270
3	2143.50	-58.27	2.51	11.05	Vertical	-51.88	-13.0	38.88	180
4	2858.00	-56.06	4.20	11.15	Vertical	-51.26	-13.0	38.26	270
5	3572.50	-52.10	5.20	11.15	Vertical	-48.30	-13.0	35.30	270
6	4287.00	-53.00	5.50	11.95	Vertical	-48.70	-13.0	35.70	135
7	5001.50	-52.70	5.70	13.55	Vertical	-47.00	-13.0	34.00	225
8	5716.00	-51.80	6.30	13.75	Vertical	-46.50	-13.0	33.50	90
9	6430.50	-49.50	6.80	13.85	Vertical	-44.60	-13.0	31.60	180
10	7145.00	-47.20	6.90	14.25	Vertical	-42.00	-13.0	29.00	270

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 12 QPSK 5MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1403.00	-59.55	2.00	10.15	Vertical	-53.55	-13.0	40.55	135
3	2104.50	-58.58	2.50	11.35	Vertical	-51.88	-13.0	38.88	45
4	2806.00	-55.25	4.20	10.85	Vertical	-50.75	-13.0	37.75	90
5	3507.50	-52.30	5.20	11.35	Vertical	-48.30	-13.0	35.30	180
6	4209.00	-53.00	5.50	11.95	Vertical	-48.70	-13.0	35.70	270
7	4910.50	-53.20	5.70	13.55	Vertical	-47.50	-13.0	34.50	225
8	5612.00	-52.50	6.30	13.75	Vertical	-47.20	-13.0	34.20	90
9	6313.50	-49.70	6.80	13.85	Vertical	-44.80	-13.0	31.80	180
10	7015.00	-47.10	6.90	14.25	Vertical	-41.90	-13.0	28.90	270

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 12 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1415.00	-60.39	2.00	10.75	Vertical	-53.79	-13.0	40.79	135
3	2122.50	-57.65	2.51	11.05	Vertical	-51.26	-13.0	38.26	90
4	2830.00	-56.13	4.20	11.15	Vertical	-51.33	-13.0	38.33	180
5	3537.50	-52.60	5.20	11.15	Vertical	-48.80	-13.0	35.80	180
6	4245.00	-52.50	5.50	11.95	Vertical	-48.20	-13.0	35.20	270
7	4952.50	-53.20	5.70	13.55	Vertical	-47.50	-13.0	34.50	135
8	5660.00	-52.40	6.30	13.75	Vertical	-47.10	-13.0	34.10	225
9	6367.50	-49.90	6.80	13.85	Vertical	-45.00	-13.0	32.00	90
10	7075.00	-47.70	6.90	14.25	Vertical	-42.50	-13.0	29.50	180

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 12 QPSK 5MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1427.00	-59.56	2.00	10.15	Vertical	-53.56	-13.0	40.56	270
3	2140.50	-58.02	2.51	11.05	Vertical	-51.63	-13.0	38.63	180
4	2854.00	-55.64	4.20	11.15	Vertical	-50.84	-13.0	37.84	270
5	3567.50	-53.30	5.20	11.15	Vertical	-49.5	-13.0	36.50	270
6	4281.00	-52.80	5.50	11.95	Vertical	-48.5	-13.0	35.51	180
7	4994.50	-52.10	5.70	13.55	Vertical	-46.4	-13.0	33.41	270
8	5708.00	-50.30	6.30	13.75	Vertical	-45.0	-13.0	31.99	135
9	6421.50	-49.70	6.80	13.85	Vertical	-44.8	-13.0	31.75	45
10	7135.00	-45.80	6.90	14.25	Vertical	-40.6	-13.0	27.61	90

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 12 QPSK 10MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1408.00	-59.79	2.00	10.15	Vertical	-53.79	-13.0	40.79	135
3	2112.00	-58.51	2.51	11.35	Vertical	-51.82	-13.0	38.82	45
4	2816.00	-55.83	4.20	10.85	Vertical	-51.33	-13.0	38.33	90
5	3520.00	-54.50	5.20	11.35	Vertical	-50.5	-13.0	37.54	90
6	4224.00	-52.30	5.50	11.95	Vertical	-48.0	-13.0	35.04	180
7	4928.00	-53.50	5.70	13.55	Vertical	-47.8	-13.0	34.76	270
8	5632.00	-51.50	6.30	13.75	Vertical	-46.2	-13.0	33.19	180
9	6336.00	-49.10	6.80	13.85	Vertical	-44.2	-13.0	31.18	270
10	7040.00	-46.30	6.90	14.25	Vertical	-41.1	-13.0	28.07	135

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 12 QPSK 10MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1415.00	-59.39	2.00	10.75	Vertical	-52.79	-13.0	39.79	225
3	2122.50	-57.41	2.51	11.05	Vertical	-51.02	-13.0	38.02	135
4	2830.00	-55.13	4.20	11.15	Vertical	-50.33	-13.0	37.33	180
5	3537.50	-52.53	5.20	11.15	Vertical	-48.73	-13.0	35.73	45
6	4245.00	-52.40	5.50	11.95	Vertical	-48.10	-13.0	35.10	90
7	4952.50	-52.83	5.70	13.55	Vertical	-47.13	-13.0	34.13	135
8	5660.00	-51.90	6.30	13.75	Vertical	-46.60	-13.0	33.60	90
9	6367.50	-50.26	6.80	13.85	Vertical	-45.36	-13.0	32.36	180
10	7075.00	-47.44	6.90	14.25	Vertical	-42.24	-13.0	29.24	270

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 12 QPSK 10MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1422.00	-59.99	2.00	10.15	Vertical	-53.99	-13.0	40.99	270
3	2133.00	-57.46	2.51	11.05	Vertical	-51.07	-13.0	38.07	225
4	2844.00	-55.24	4.20	11.15	Vertical	-50.44	-13.0	37.44	180
5	3555.00	-54.60	5.20	11.15	Vertical	-50.8	-13.0	37.84	180
6	4266.00	-53.30	5.50	11.95	Vertical	-49.0	-13.0	35.96	270
7	4977.00	-53.50	5.70	13.55	Vertical	-47.8	-13.0	34.83	135
8	5688.00	-51.20	6.30	13.75	Vertical	-45.9	-13.0	32.87	45
9	6399.00	-50.00	6.80	13.85	Vertical	-45.1	-13.0	32.09	90
10	7110.00	-46.60	6.90	14.25	Vertical	-41.4	-13.0	28.41	225

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 17 QPSK 5MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1497.0	-60.90	2.00	10.15	Vertical	-54.9	-13.0	41.88	135
3	2245.5	-58.90	2.50	11.35	Vertical	-52.2	-13.0	39.25	45
4	2994.0	-56.30	4.20	10.85	Vertical	-51.8	-13.0	38.79	90
5	3742.5	-53.70	5.20	11.35	Vertical	-49.7	-13.0	36.73	180
6	4491.0	-52.80	5.50	11.95	Vertical	-48.5	-13.0	35.49	270
7	5239.5	-51.80	5.70	13.55	Vertical	-46.1	-13.0	33.12	135
8	5988.0	-50.50	6.30	13.75	Vertical	-45.2	-13.0	32.18	45
9	6736.5	-48.60	6.80	13.85	Vertical	-43.7	-13.0	30.71	90
10	7485.0	-46.60	6.90	14.25	Vertical	-41.4	-13.0	28.42	135

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 17 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1502.0	-60.50	2.00	10.75	Vertical	-53.9	-13.0	40.88	135
3	2253.0	-57.59	2.51	11.05	Vertical	-51.2	-13.0	38.25	90
4	3004.0	-55.60	4.20	11.15	Vertical	-50.8	-13.0	37.79	180
5	3755.0	-53.10	5.20	11.15	Vertical	-49.3	-13.0	36.29	90
6	4506.0	-52.80	5.50	11.95	Vertical	-48.5	-13.0	35.54	180
7	5257.0	-53.10	5.70	13.55	Vertical	-47.4	-13.0	34.36	270
8	6008.0	-50.90	6.30	13.75	Vertical	-45.6	-13.0	32.62	180
9	6759.0	-48.40	6.80	13.85	Vertical	-43.5	-13.0	30.55	270
10	7510.0	-45.30	6.90	14.25	Vertical	-40.1	-13.0	27.12	135

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 17 QPSK 5MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1507.0	-59.80	2.00	10.15	Vertical	-53.8	-13.0	40.84	270
3	2260.5	-56.89	2.51	11.05	Vertical	-50.5	-13.0	37.51	180
4	3014.0	-56.00	4.20	11.15	Vertical	-51.2	-13.0	38.15	270
5	3767.5	-52.80	5.20	11.15	Vertical	-49.0	-13.0	36.00	45
6	4521.0	-52.10	5.50	11.95	Vertical	-47.8	-13.0	34.82	180
7	5274.5	-51.70	5.70	13.55	Vertical	-46.0	-13.0	32.98	270
8	6028.0	-51.50	6.30	13.75	Vertical	-46.2	-13.0	33.20	135
9	6781.5	-49.80	6.80	13.85	Vertical	-44.9	-13.0	31.85	45
10	7535.0	-45.80	6.90	14.25	Vertical	-40.6	-13.0	27.63	90

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 17 QPSK 10MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1502.0	-59.80	2.00	10.15	Vertical	-53.8	-13.0	40.76	135
3	2253.0	-58.39	2.51	11.35	Vertical	-51.7	-13.0	38.75	45
4	3004.0	-54.90	4.20	10.85	Vertical	-50.4	-13.0	37.36	90
5	3755.0	-53.60	5.20	11.35	Vertical	-49.6	-13.0	36.58	135
6	4506.0	-52.50	5.50	11.95	Vertical	-48.2	-13.0	35.22	90
7	5257.0	-52.40	5.70	13.55	Vertical	-46.7	-13.0	33.73	180
8	6008.0	-51.60	6.30	13.75	Vertical	-46.3	-13.0	33.31	270
9	6759.0	-49.70	6.80	13.85	Vertical	-44.8	-13.0	31.79	180
10	7510.0	-46.20	6.90	14.25	Vertical	-41.0	-13.0	27.99	270

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 17 QPSK 10MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1502.0	-59.50	2.00	10.75	Vertical	-52.9	-13.0	39.88	135
3	2253.0	-58.19	2.51	11.05	Vertical	-51.8	-13.0	38.76	90
4	3004.0	-56.60	4.20	11.15	Vertical	-51.8	-13.0	38.79	180
5	3755.0	-53.60	5.20	11.15	Vertical	-49.8	-13.0	36.79	135
6	4506.0	-52.40	5.50	11.95	Vertical	-48.1	-13.0	35.14	45
7	5257.0	-53.60	5.70	13.55	Vertical	-47.9	-13.0	34.89	180
8	6008.0	-50.60	6.30	13.75	Vertical	-45.3	-13.0	32.32	270
9	6759.0	-48.80	6.80	13.85	Vertical	-43.9	-13.0	30.88	135
10	7510.0	-46.30	6.90	14.25	Vertical	-41.1	-13.0	28.12	45

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 17 QPSK 10MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1502.0	-60.20	2.00	10.15	Vertical	-54.2	-13.0	41.16	270
3	2253.0	-57.69	2.51	11.05	Vertical	-51.3	-13.0	38.34	180
4	3004.0	-55.40	4.20	11.15	Vertical	-50.6	-13.0	37.59	270
5	3755.0	-53.60	5.20	11.15	Vertical	-49.8	-13.0	36.77	90
6	4506.0	-53.30	5.50	11.95	Vertical	-49.0	-13.0	36.00	135
7	5257.0	-53.30	5.70	13.55	Vertical	-47.6	-13.0	34.58	90
8	6008.0	-51.20	6.30	13.75	Vertical	-45.9	-13.0	32.90	180
9	6759.0	-49.90	6.80	13.85	Vertical	-45.0	-13.0	31.99	270
10	7510.0	-45.00	6.90	14.25	Vertical	-39.8	-13.0	26.79	180

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

6 Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Time
Base Station Simulator	R&S	CMW500	113645	2017-05-14	2018-05-13
Power Splitter	Hua Xiang	SHX-GF2-2-13	10120101	2017-05-14	2018-05-13
Universal Radio Communication Tester	Agilent	E5515C	MY48367192	2017-05-14	2018-05-13
Spectrum Analyzer	Agilent	N9010A	MY47191109	2017-05-14	2018-05-13
Signal Analyzer	R&S	FSV30	100815	2016-12-16	2017-12-15
Signal generator	R&S	SMB 100A	102594	2017-05-14	2018-05-13
EMI Test Receiver	R&S	ESCI	100948	2017-05-20	2018-05-19
Trilog Antenna	SCHWARZBECK	VUBL 9163	9163-201	2014-12-06	2017-12-05
Horn Antenna	R&S	HF907	100126	2014-12-06	2017-12-05
Horn Antenna	ETS-Lindgren	3160-09	00102643	2015-01-30	2018-01-29
Climatic Chamber	Re Ce	PT-30B	20101891	2015-07-18	2018-07-17
RF Cable	Agilent	SMA 15cm	0001	2017-02-06	2017-08-05

ANNEX A: EUT Appearance and Test Setup

A.1 EUT Appearance



Front Side



Back Side

a: EUT



b: Adapter



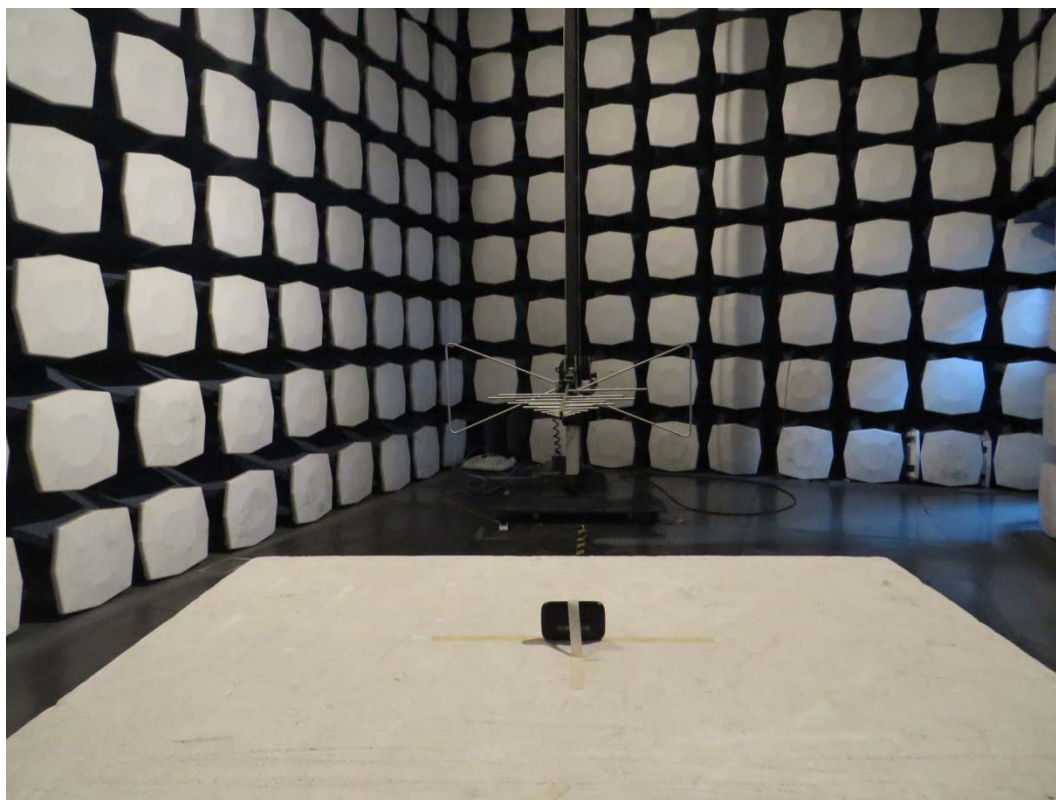
c: Battery



d: USB Cable

Picture 1 EUT and Accessory

A.2 Test Setup



Picture 2: Radiated Spurious Emissions Test setup