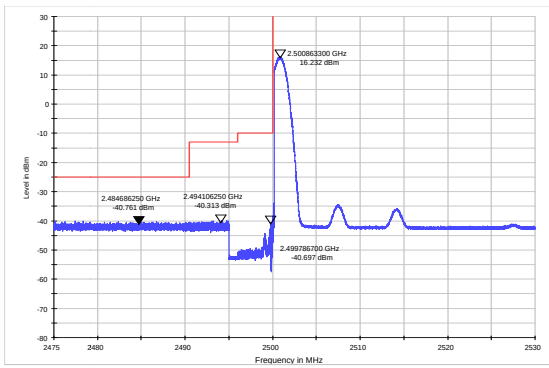
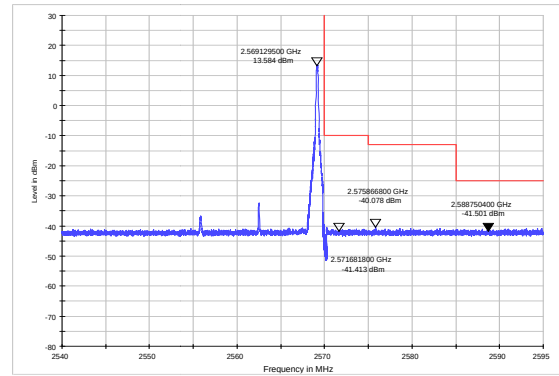




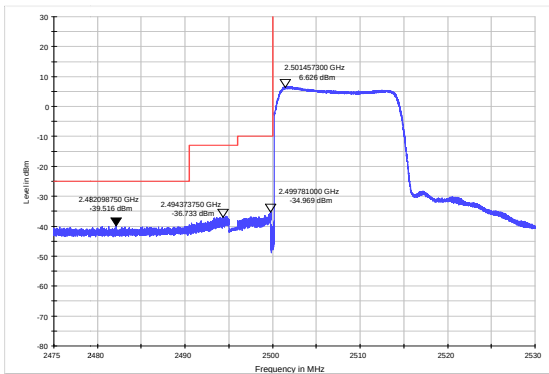
LTE Band 7 16QAM 15MHz CH-Low, RB 1



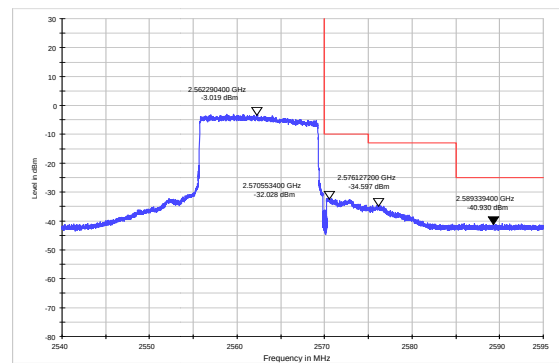
LTE Band 7 16QAM 15MHz CH-High, RB 1



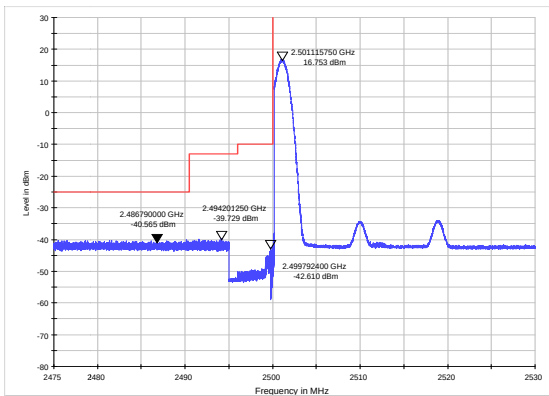
LTE Band 7 16QAM 15MHz CH-Low, RB 75



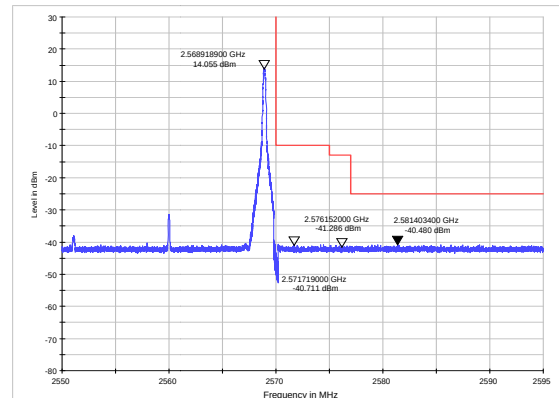
LTE Band 7 16QAM 15MHz CH-High, RB 75



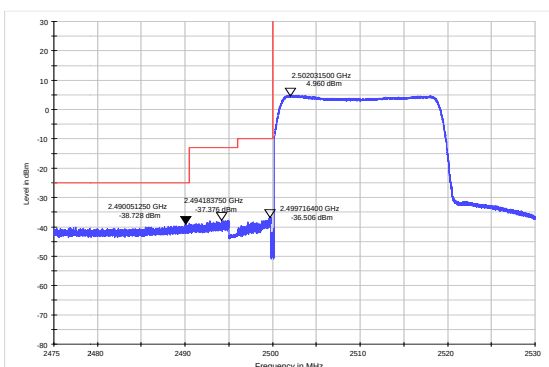
LTE Band 7 16QAM 20MHz CH-Low, RB 1



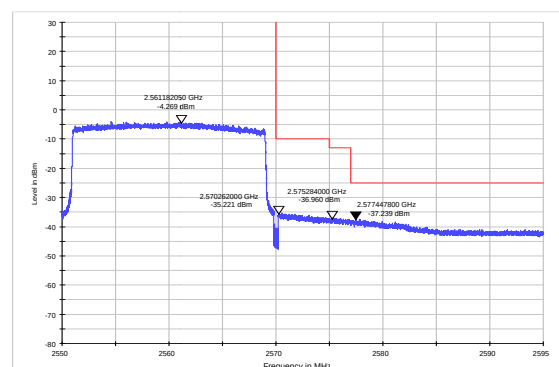
LTE Band 7 16QAM 20MHz CH-High, RB 1



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



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



4.5 Peak-to-Average Power Ratio (PAPR)

Ambient condition

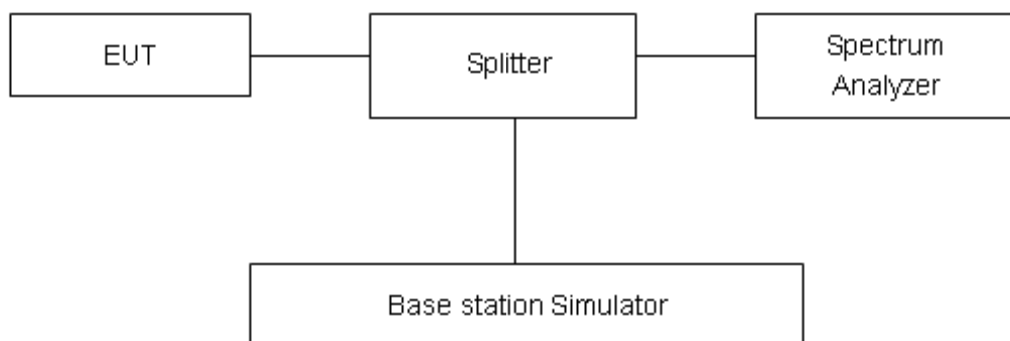
Temperature	Relative humidity
21°C ~25°C	40%~60%

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

WCDMA Band IV	Channel	Frequency (MHz)	Peak(dBm)	Avg(dBm)	PAPR(dB)	Conclusion
RMC	1312	1712.4	25.54	22.38	3.16	PASS
	1413	1732.6	25.51	22.28	3.23	PASS
	1513	1752.6	25.69	22.45	3.24	PASS

LTE Band 4							
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Conclusion
QPSK	1.4	19957	1710.7	27.77	22.31	5.46	PASS
		20175	1732.5	27.54	22.44	5.10	PASS
		20393	1754.3	27.50	22.51	4.99	PASS
	3	19965	1711.5	27.38	22.34	5.04	PASS
		20175	1732.5	27.63	22.48	5.15	PASS
		20385	1753.5	27.61	22.54	5.07	PASS
	5	19975	1712.5	27.43	22.32	5.11	PASS
		20175	1732.5	27.65	22.47	5.18	PASS
		20375	1752.5	27.61	22.52	5.09	PASS
	10	20000	1715	27.44	22.40	5.04	PASS
		20175	1732.5	27.57	22.49	5.08	PASS
		20350	1750	27.60	22.56	5.04	PASS
	15	20025	1717.5	27.63	22.38	5.25	PASS
		20175	1732.5	27.73	22.45	5.28	PASS
		20325	1747.5	27.70	22.51	5.19	PASS
	20	20050	1720	27.43	22.35	5.08	PASS
		20175	1732.5	27.46	22.40	5.06	PASS
		20300	1745	27.49	22.47	5.02	PASS
16QAM	1.4	19957	1710.7	27.20	21.43	5.77	PASS
		20175	1732.5	27.40	21.52	5.88	PASS
		20393	1754.3	27.40	21.55	5.85	PASS
	3	19965	1711.5	27.35	21.46	5.89	PASS
		20175	1732.5	27.54	21.56	5.98	PASS
		20385	1753.5	27.48	21.58	5.90	PASS
	5	19975	1712.5	27.33	21.44	5.89	PASS
		20175	1732.5	27.46	21.52	5.94	PASS
		20375	1752.5	27.38	21.53	5.85	PASS
	10	20000	1715	27.31	21.47	5.84	PASS
		20175	1732.5	27.45	21.57	5.88	PASS
		20350	1750	27.40	21.57	5.83	PASS



	15	20025	1717.5	27.38	21.44	5.94	PASS
		20175	1732.5	27.50	21.52	5.98	PASS
		20325	1747.5	27.45	21.53	5.92	PASS
	20	20050	1720	27.24	21.42	5.82	PASS
		20175	1732.5	27.32	21.48	5.84	PASS
		20300	1745	27.28	21.50	5.78	PASS

LTE Band 7							
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Conclusion
QPSK	5	20775	2502.5	26.54	21.52	5.02	PASS
		21100	2535	26.69	21.66	5.03	PASS
		21425	2567.5	26.65	21.71	4.94	PASS
	10	20800	2505	26.62	21.60	5.02	PASS
		21100	2535	26.64	21.68	4.96	PASS
		21400	2565	26.63	21.75	4.88	PASS
	15	20825	2507.5	26.86	21.58	5.28	PASS
		21100	2535	26.85	21.64	5.21	PASS
		21375	2562.5	26.78	21.70	5.08	PASS
	20	20850	2510	26.58	21.55	5.03	PASS
		21100	2535	26.59	21.59	5.00	PASS
		21350	2560	26.51	21.66	4.85	PASS
16QAM	5	20775	2502.5	26.15	20.42	5.73	PASS
		21100	2535	26.03	20.32	5.71	PASS
		21425	2567.5	26.16	20.47	5.69	PASS
	10	20800	2505	26.20	20.45	5.75	PASS
		21100	2535	26.06	20.37	5.69	PASS
		21400	2565	26.12	20.51	5.61	PASS
	15	20825	2507.5	26.33	20.42	5.91	PASS
		21100	2535	26.15	20.32	5.83	PASS
		21375	2562.5	26.19	20.47	5.72	PASS
	20	20850	2510	26.18	20.40	5.78	PASS
		21100	2535	25.96	20.28	5.68	PASS
		21350	2560	26.06	20.44	5.62	PASS

4.6 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)

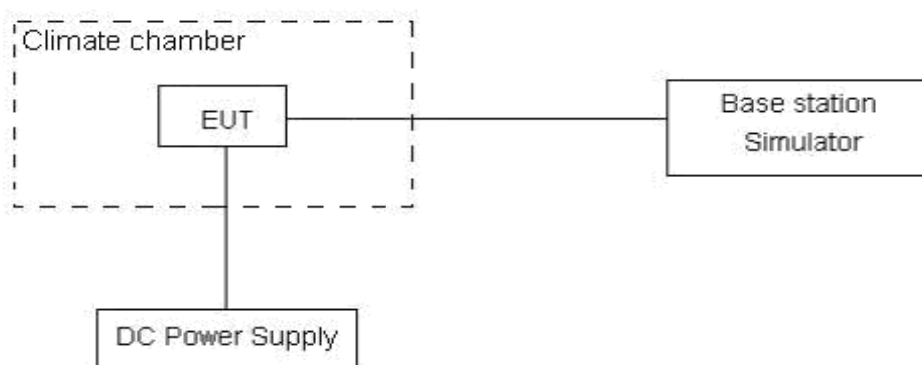
The frequency stability shall be measured with variation of primary supply voltage as follows:

(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 3.6 V and 4.4 V, with a nominal voltage of 3.85V.

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

WCDMA Band IV

Test status	WCDMA Band IV Channel 1413 RMC	
	Test Results (ppm)	Conclusion
-30°C/Normal Voltage	-0.000204	PASS
-20°C/Normal Voltage	0.000032	PASS
-10°C/Normal Voltage	-0.000399	PASS
0°C/Normal Voltage	-0.000342	PASS
10°C/Normal Voltage	0.000410	PASS
20°C/Normal Voltage	0.000300	PASS
30°C/Normal Voltage	0.000221	PASS
40°C/Normal Voltage	0.000012	PASS
50°C/Normal Voltage	0.000337	PASS
20°C/Min Voltage	-0.000700	PASS
20°C/Max Voltage	-0.000400	PASS

Bandwidth	Test status	LTE Band 4 Channel 20175 Test Results (ppm)		
		QPSK	16QAM	Conclusion
1.4MHz	-30°C/Normal Voltage	-0.00460	-0.00618	PASS
	-20°C/Normal Voltage	-0.00546	0.00703	PASS
	-10°C/Normal Voltage	0.00255	0.00503	PASS
	0°C/Normal Voltage	-0.00479	-0.00234	PASS
	10°C/Normal Voltage	0.00283	0.00053	PASS
	20°C/Normal Voltage	-0.00775	-0.00063	PASS
	30°C/Normal Voltage	0.00317	-0.00691	PASS
	40°C/Normal Voltage	0.00679	-0.00202	PASS
	50°C/Normal Voltage	-0.00310	-0.00797	PASS
	20°C/Min Voltage	0.00360	0.00438	PASS
	20°C/Max Voltage	0.00404	0.00587	PASS
3MHz	-30°C/Normal Voltage	0.00115	0.00155	PASS
	-20°C/Normal Voltage	-0.00334	0.00178	PASS
	-10°C/Normal Voltage	0.00099	-0.00255	PASS
	0°C/Normal Voltage	0.00080	-0.00770	PASS
	10°C/Normal Voltage	-0.00041	0.00166	PASS
	20°C/Normal Voltage	-0.00310	0.00189	PASS
	30°C/Normal Voltage	0.00502	-0.00244	PASS
	40°C/Normal Voltage	-0.00589	0.00146	PASS
	50°C/Normal Voltage	0.00446	0.00504	PASS



	20°C/Min Voltage	0.00280	0.00373	PASS
	20°C/Max Voltage	0.00145	-0.00079	PASS
5MHz	-30°C/Normal Voltage	0.00427	0.00470	PASS
	-20°C/Normal Voltage	-0.00499	0.00490	PASS
	-10°C/Normal Voltage	0.00414	0.00059	PASS
	0°C/Normal Voltage	0.00392	-0.00453	PASS
	10°C/Normal Voltage	0.00273	0.00482	PASS
	20°C/Normal Voltage	-0.00732	-0.00506	PASS
	30°C/Normal Voltage	0.00814	0.00423	PASS
	40°C/Normal Voltage	-0.00277	0.00459	PASS
	50°C/Normal Voltage	-0.00756	0.00816	PASS
	20°C/Min Voltage	-0.00593	0.00687	PASS
	20°C/Max Voltage	0.00458	-0.00234	PASS
10MHz	-30°C/Normal Voltage	0.00130	0.00152	PASS
	-20°C/Normal Voltage	-0.00329	-0.00243	PASS
	-10°C/Normal Voltage	0.00224	-0.00236	PASS
	0°C/Normal Voltage	-0.00433	-0.00587	PASS
	10°C/Normal Voltage	0.00375	-0.00520	PASS
	20°C/Normal Voltage	-0.00189	-0.00635	PASS
	30°C/Normal Voltage	0.00307	-0.00632	PASS
	40°C/Normal Voltage	0.00618	-0.00710	PASS
	50°C/Normal Voltage	-0.00170	-0.00671	PASS
	20°C/Min Voltage	0.00279	0.00283	PASS
	20°C/Max Voltage	-0.00542	0.00203	PASS
15MHz	-30°C/Normal Voltage	0.00268	-0.00292	PASS
	-20°C/Normal Voltage	-0.00190	-0.00105	PASS
	-10°C/Normal Voltage	0.00363	-0.00097	PASS
	0°C/Normal Voltage	0.00295	-0.00445	PASS
	10°C/Normal Voltage	0.00514	0.00379	PASS
	20°C/Normal Voltage	-0.00051	-0.00493	PASS
	30°C/Normal Voltage	0.00445	0.00490	PASS
	40°C/Normal Voltage	0.00756	-0.00571	PASS
	50°C/Normal Voltage	0.00513	-0.00533	PASS
	20°C/Min Voltage	0.00417	-0.00423	PASS
	20°C/Max Voltage	-0.00403	0.00342	PASS
20MHz	-30°C/Normal Voltage	0.00134	-0.00155	PASS
	-20°C/Normal Voltage	-0.00325	-0.00245	PASS
	-10°C/Normal Voltage	0.00230	-0.00230	PASS
	0°C/Normal Voltage	-0.00438	-0.00582	PASS
	10°C/Normal Voltage	0.00490	-0.00406	PASS



	20°C/Normal Voltage	-0.00079	-0.00518	PASS
	30°C/Normal Voltage	0.00421	-0.00516	PASS
	40°C/Normal Voltage	-0.00622	-0.00708	PASS
	50°C/Normal Voltage	-0.00171	-0.00672	PASS
	20°C/Min Voltage	0.00393	0.00397	PASS
	20°C/Max Voltage	-0.00429	0.00313	PASS

Bandwidth	Test status	LTE Band 7 Channel 21100 Test Results (ppm)		
		QPSK	16QAM	Conclusion
5MHz	-30°C/Normal Voltage	-0.00262	0.00082	PASS
	-20°C/Normal Voltage	0.00275	-0.00258	PASS
	-10°C/Normal Voltage	0.00298	-0.00202	PASS
	0°C/Normal Voltage	-0.00205	-0.00085	PASS
	10°C/Normal Voltage	-0.00274	0.00155	PASS
	20°C/Normal Voltage	0.00263	0.00167	PASS
	30°C/Normal Voltage	0.00088	-0.00173	PASS
	40°C/Normal Voltage	-0.00252	-0.00154	PASS
	50°C/Normal Voltage	-0.00197	0.00005	PASS
	20°C/Min Voltage	0.00080	0.00115	PASS
	20°C/Max Voltage	0.00143	0.00258	PASS
10MHz	-30°C/Normal Voltage	0.00241	0.00060	PASS
	-20°C/Normal Voltage	0.00253	-0.00279	PASS
	-10°C/Normal Voltage	0.00277	-0.00224	PASS
	0°C/Normal Voltage	-0.00227	-0.00108	PASS
	10°C/Normal Voltage	0.00252	0.00132	PASS
	20°C/Normal Voltage	0.00242	0.00145	PASS
	30°C/Normal Voltage	0.00066	-0.00195	PASS
	40°C/Normal Voltage	-0.00273	-0.00174	PASS
	50°C/Normal Voltage	-0.00218	-0.00283	PASS
	20°C/Min Voltage	0.00061	0.00093	PASS
	20°C/Max Voltage	0.00121	0.00235	PASS
15MHz	-30°C/Normal Voltage	0.00200	0.00020	PASS
	-20°C/Normal Voltage	0.00212	-0.00320	PASS
	-10°C/Normal Voltage	0.00237	-0.00265	PASS
	0°C/Normal Voltage	-0.00268	-0.00147	PASS
	10°C/Normal Voltage	0.00211	-0.00093	PASS
	20°C/Normal Voltage	0.00201	-0.00106	PASS
	30°C/Normal Voltage	-0.00344	0.00234	PASS
	40°C/Normal Voltage	0.00314	-0.00215	PASS
	50°C/Normal Voltage	-0.00260	-0.00058	PASS



	20°C/Min Voltage	0.00018	0.00054	PASS
	20°C/Max Voltage	0.00081	0.00195	PASS
20MHz	-30°C/Normal Voltage	-0.00194	0.00153	PASS
	-20°C/Normal Voltage	0.00345	-0.00189	PASS
	-10°C/Normal Voltage	-0.00370	-0.00131	PASS
	0°C/Normal Voltage	0.00276	-0.00014	PASS
	10°C/Normal Voltage	0.00344	0.00225	PASS
	20°C/Normal Voltage	0.00333	0.00239	PASS
	30°C/Normal Voltage	-0.00020	-0.00101	PASS
	40°C/Normal Voltage	-0.00181	-0.00081	PASS
	50°C/Normal Voltage	-0.00127	0.00074	PASS
	20°C/Min Voltage	0.00151	0.00187	PASS
	20°C/Max Voltage	0.00213	-0.00189	PASS

4.7 Spurious Emissions at Antenna Terminals

Ambient condition

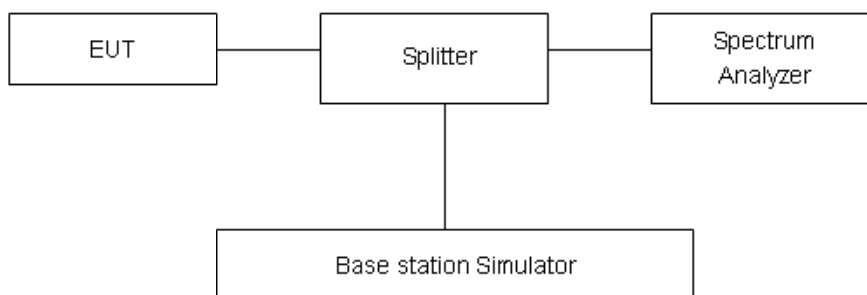
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

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. RBW and VBW are set to 100 kHz for the carrier frequency, or RBW and VBW are set to 1MHz (other frequency), Sweep is set to ATUO.

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

Test setup



Limits

LTE -4 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..”

LTE -7 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 Limit	-13 dBm
LTE -7 Limit	-25 dBm

Measurement Uncertainty

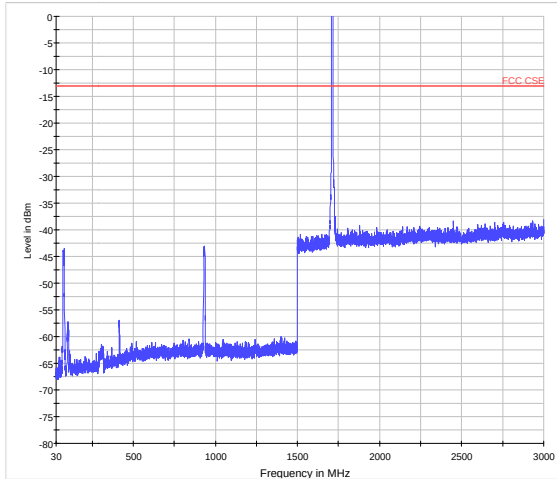
The assessed measurement uncertainty to ensure 99.75% confidence level for the normal distribution is with the coverage factor $k = 1.96$.

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

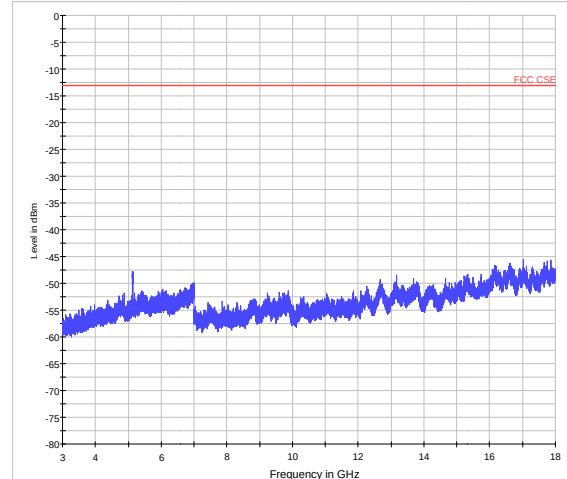
**Test Result: PASS**

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.

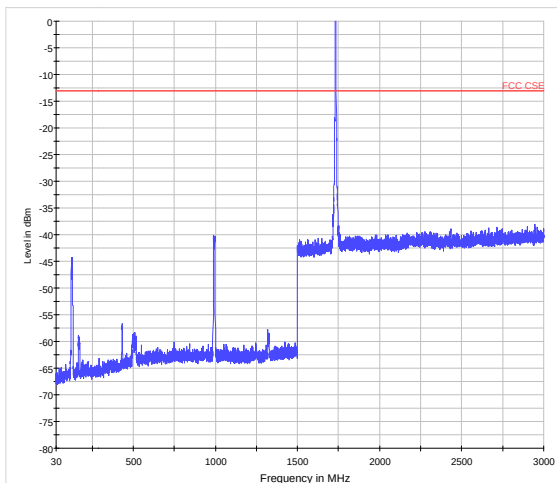
WCDMA Band IV CH-Low 30MHz~3GHz



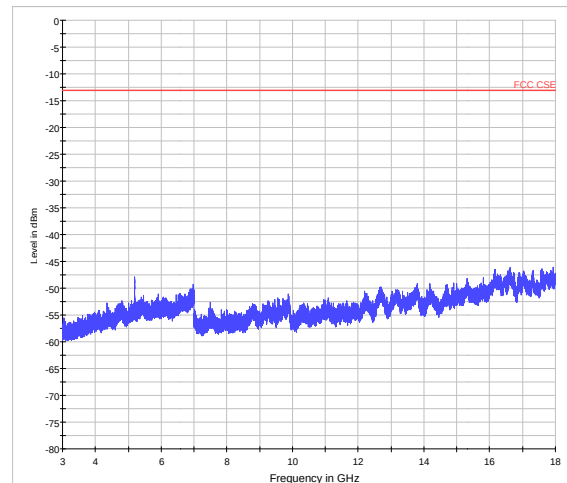
WCDMA Band IV CH-Low 3GHz ~18GHz



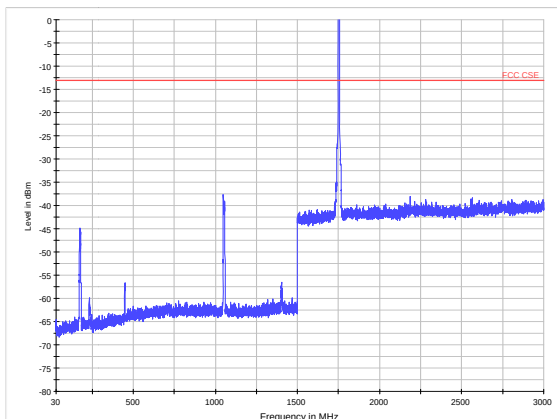
WCDMA Band IV CH-Middle 30MHz~3GHz



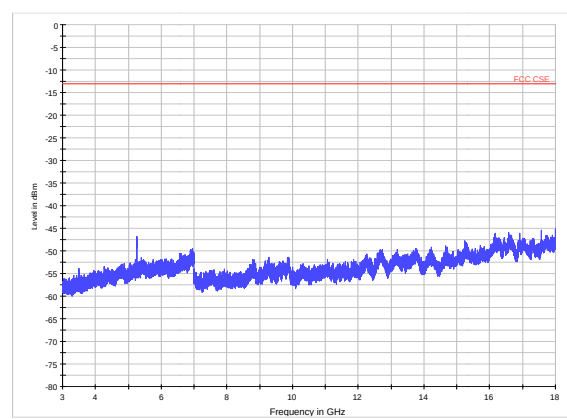
WCDMA Band IV CH-Middle 3GHz ~18GHz



WCDMA Band IV CH-High 30MHz~3GHz

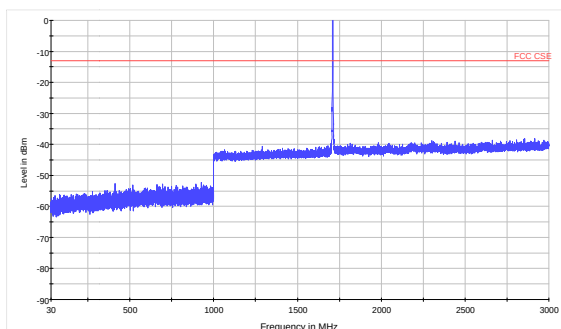


WCDMA Band IV CH-High 3GHz ~18GHz

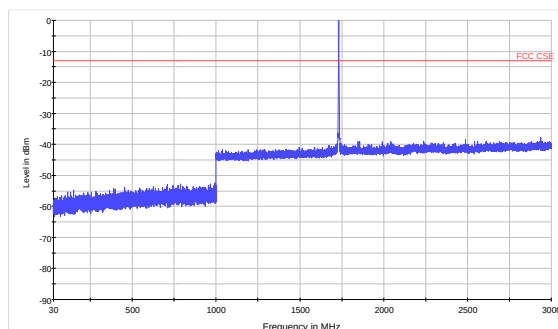




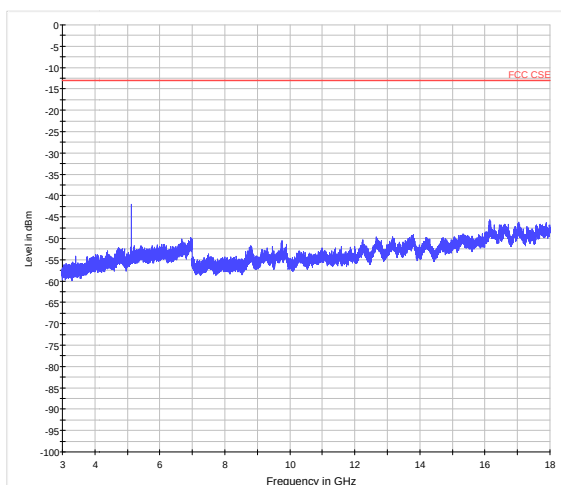
LTE Band 4 1.4MHz CH-Low 30MHz~3GHz



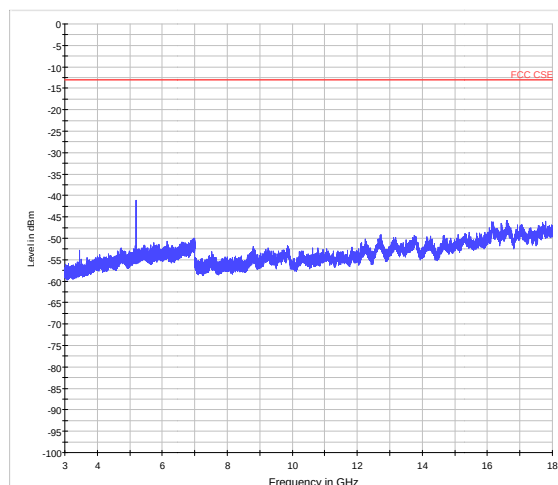
LTE Band 4 1.4MHz CH-Middle 30MHz~3GHz



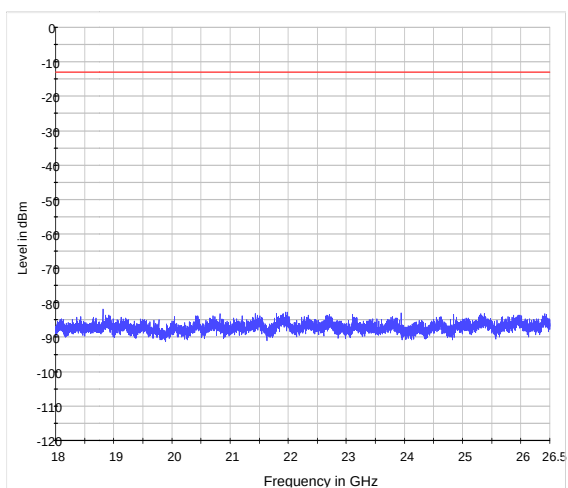
LTE Band 4 1.4MHz CH-Low 3GHz~18GHz



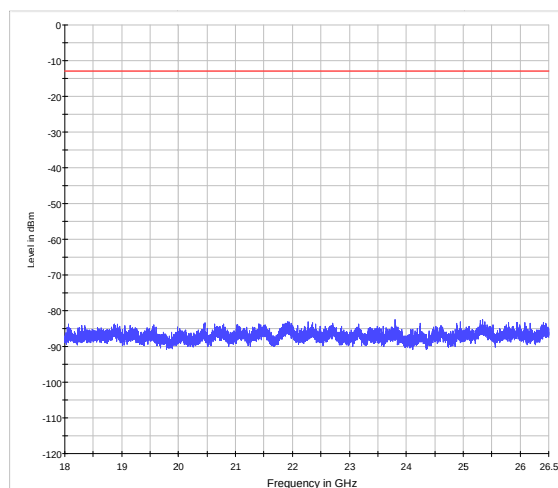
LTE Band 4 1.4MHz CH-Middle 3GHz~18GHz



LTE Band 4 1.4MHz CH-Low 18GHz~26.5GHz

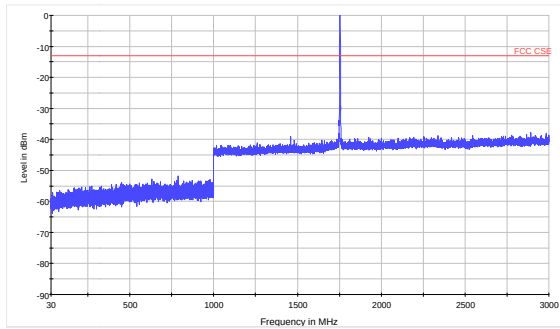


LTE Band 4 1.4MHz CH-Middle 18GHz~26.5GHz

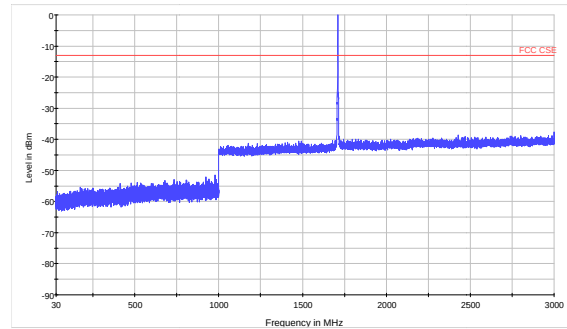




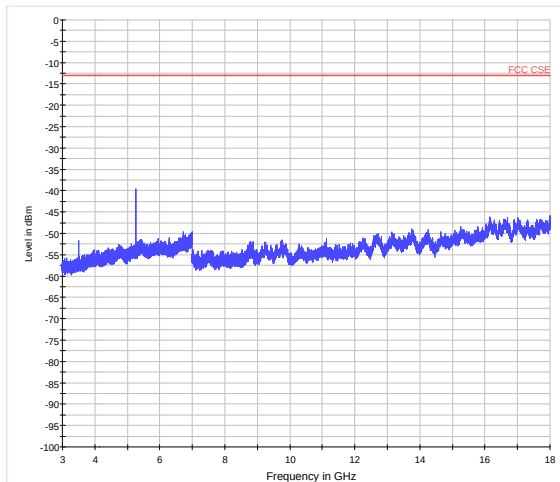
LTE Band 4 1.4MHz CH-High 30MHz~3GHz



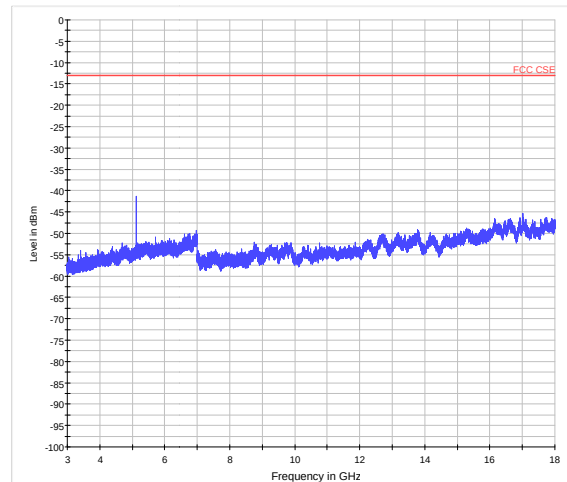
LTE Band 4 3MHz CH-Low 30MHz~3GHz



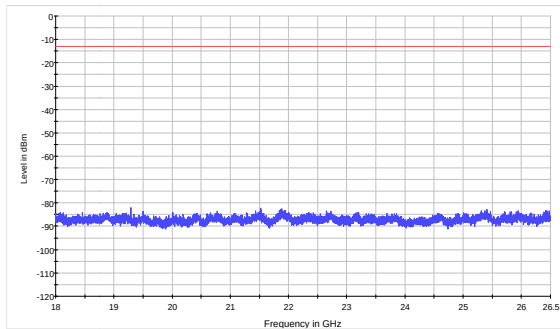
LTE Band 4 1.4MHz CH-High 3GHz~18GHz



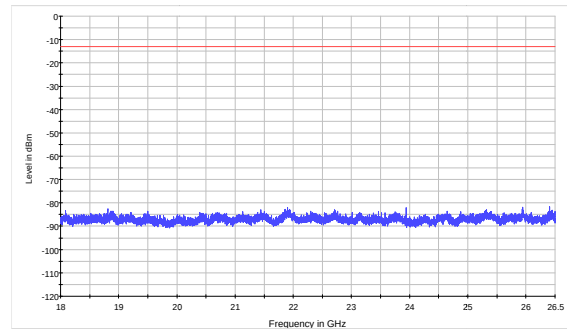
LTE Band 4 3MHz CH-Low 3GHz~18GHz



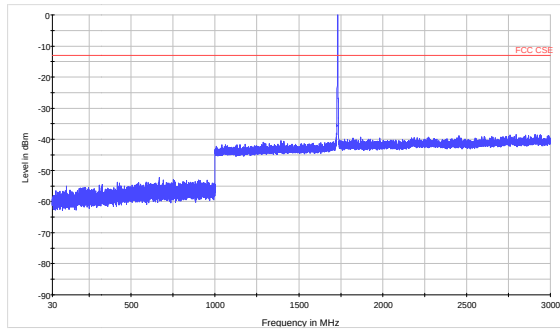
LTE Band 4 1.4MHz CH-High 18GHz~26.5GHz



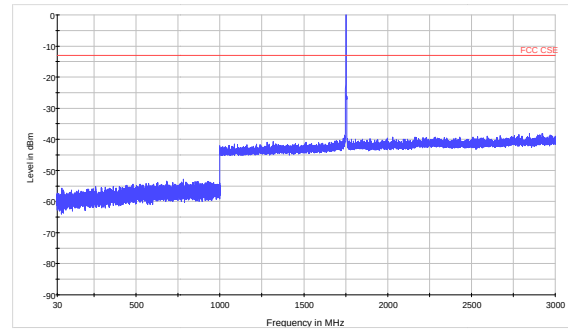
LTE Band 4 3MHz CH-Low 18GHz~26.5GHz



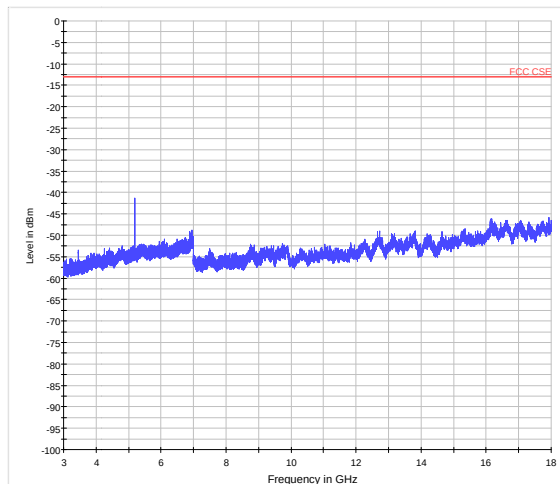
LTE Band 4 3MHz CH-Middle 30MHz~3GHz



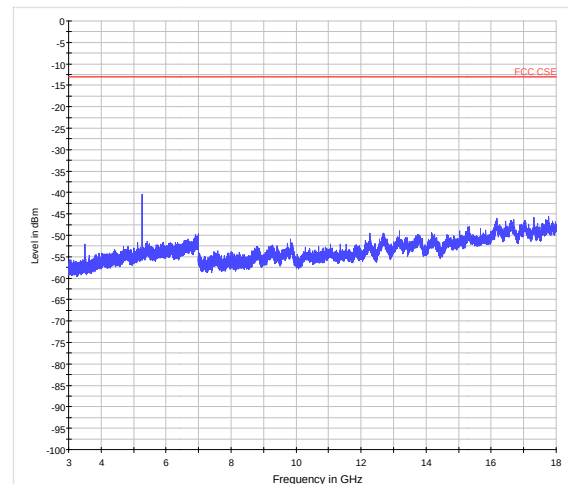
LTE Band 4 3MHz CH-High 30MHz~3GHz



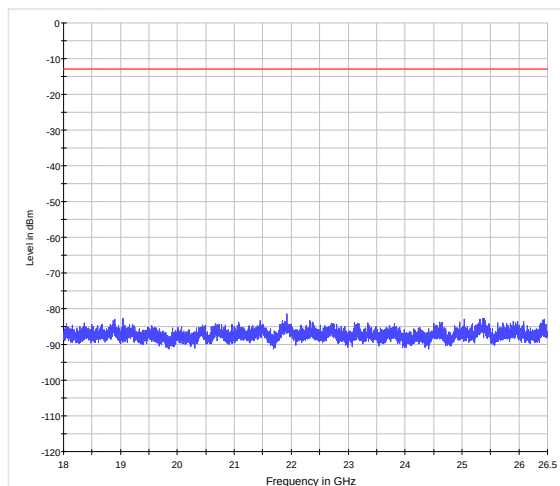
LTE Band 4 3MHz CH-Middle 3GHz~18GHz



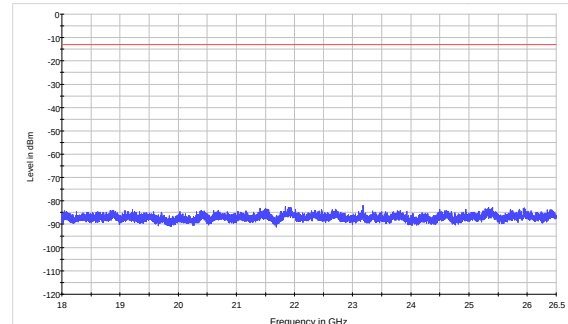
LTE Band 4 3MHz CH-High 3GHz~18GHz



LTE Band 4 3MHz CH-Middle 18GHz~26.5GHz

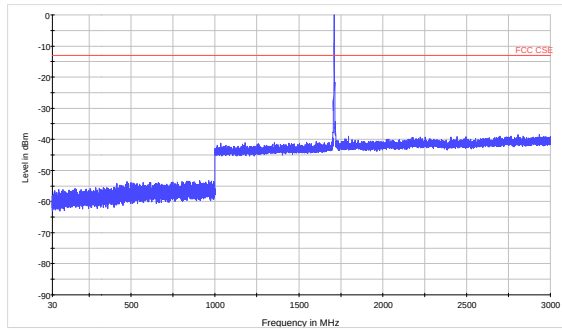


LTE Band 4 3MHz CH-High 18GHz~26.5GHz

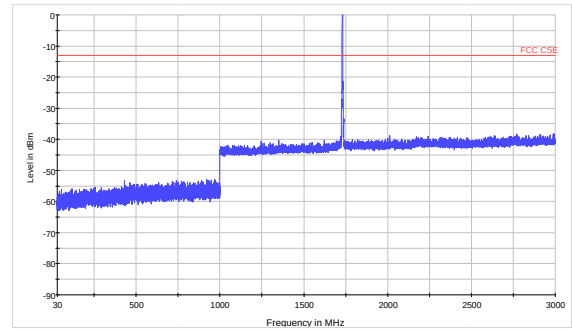




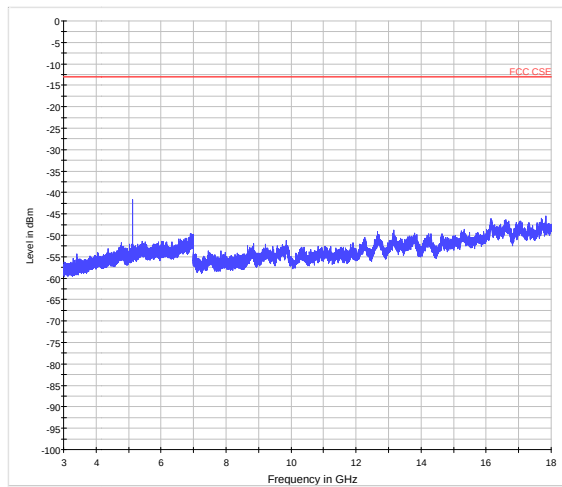
LTE Band 4 5MHz CH-Low 30MHz~3GHz



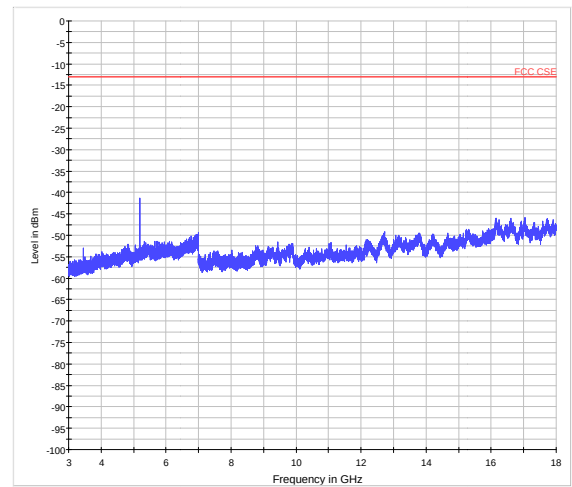
LTE Band 4 5MHz CH-Middle 30MHz~3GHz



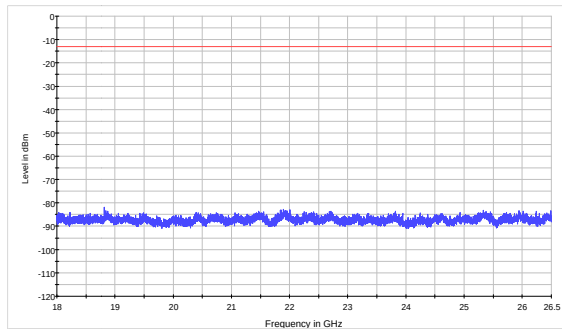
LTE Band 4 5MHz CH-Low 3GHz~18GHz



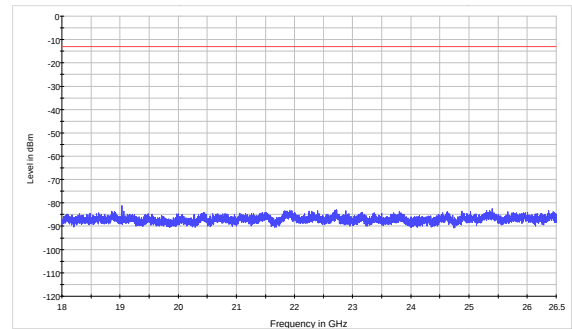
LTE Band 4 5MHz CH-Middle 3GHz~18GHz



LTE Band 4 5MHz CH-Low 18GHz~26.5GHz

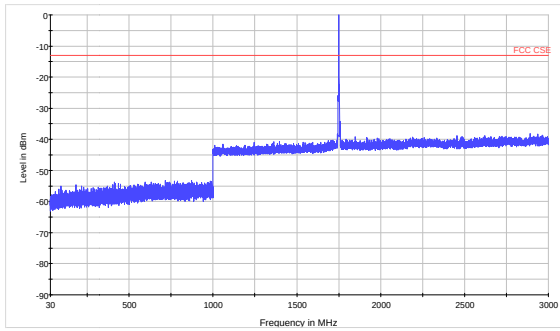


LTE Band 4 5MHz CH-Middle 18GHz~26.5GHz

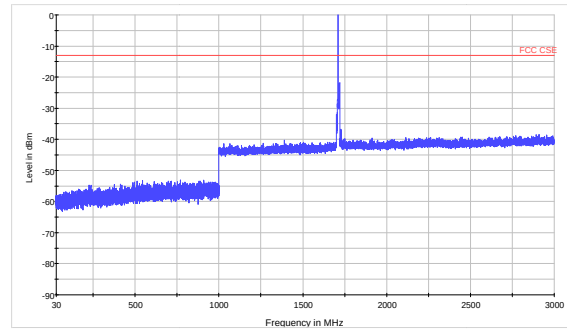




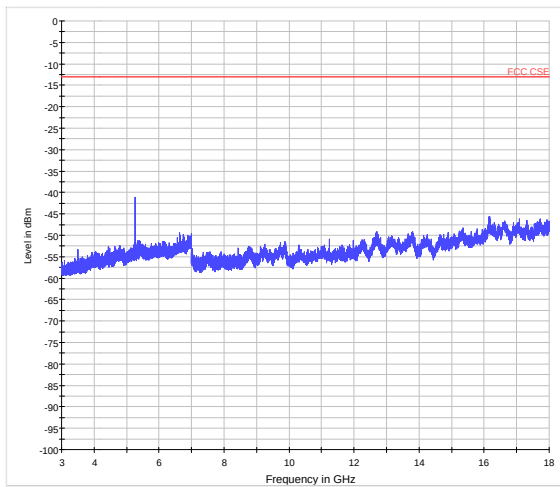
LTE Band 4 5MHz CH-High 30MHz~3GHz



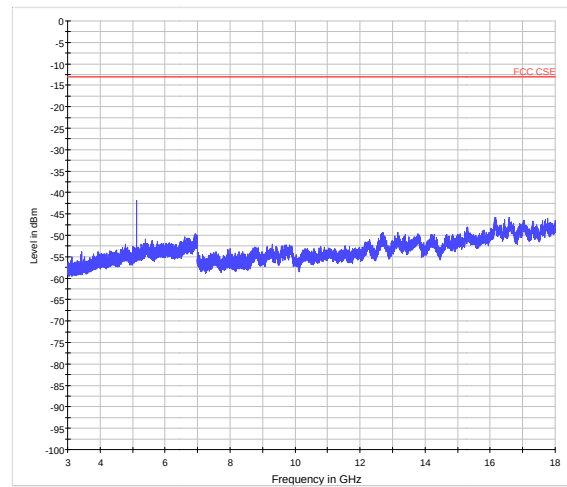
LTE Band 4 10MHz CH-Low 30MHz~3GHz



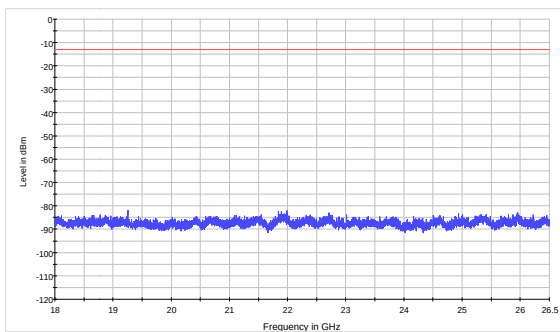
LTE Band 4 5MHz CH-High 3GHz~18GHz



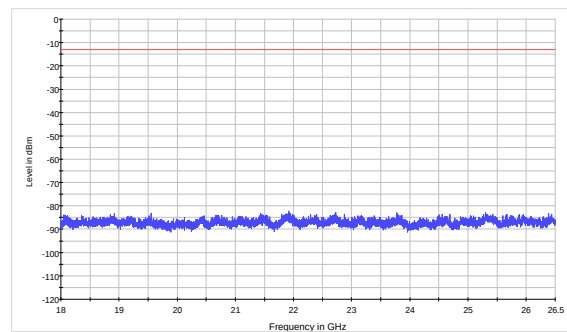
LTE Band 4 10MHz CH-Low 3GHz~18GHz



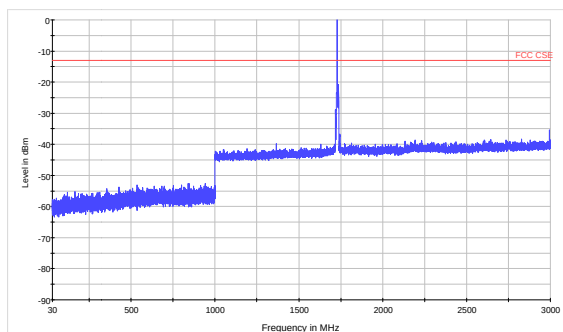
LTE Band 4 5MHz CH-High 18GHz~26.5GHz



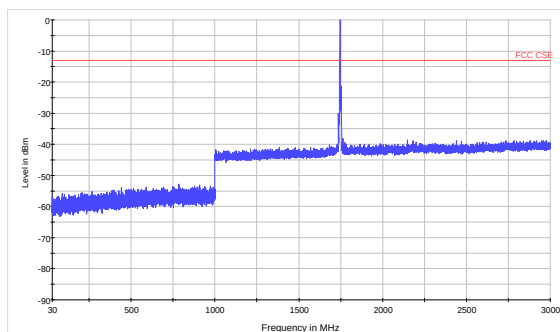
LTE Band 4 10MHz CH-Low 18GHz~26.5GHz



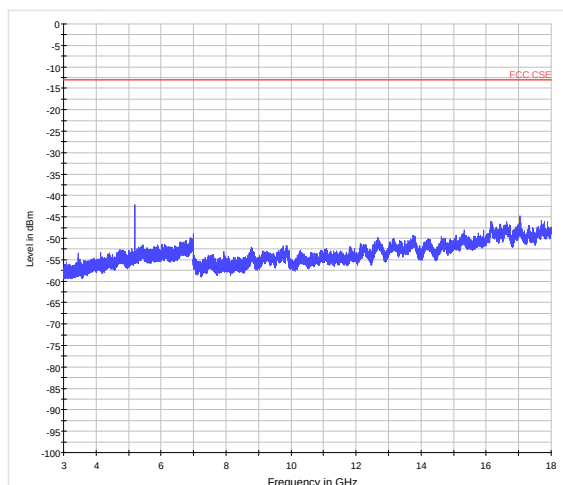
LTE Band 4 10MHz CH-Middle 30MHz~3GHz



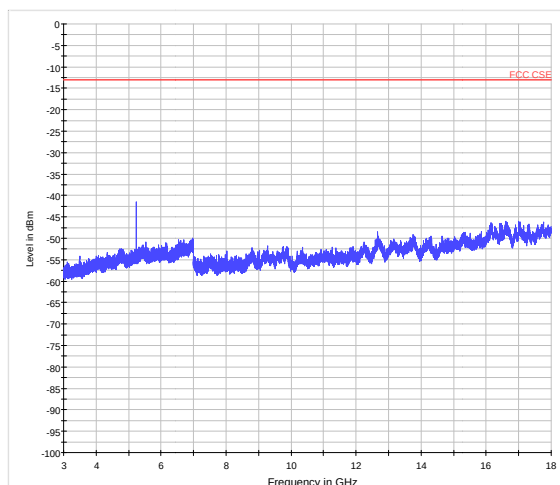
LTE Band 4 10MHz CH-High 30MHz~3GHz



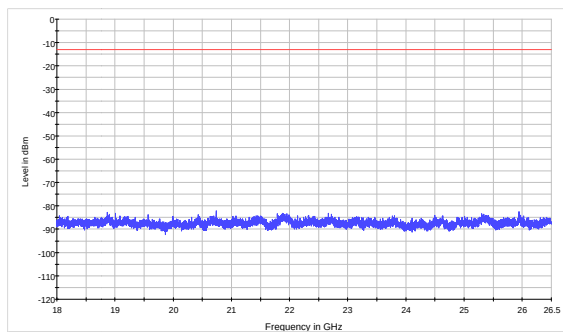
LTE Band 4 10MHz CH-Middle 3GHz~18GHz



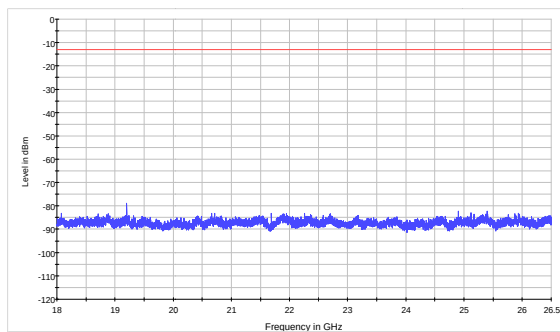
LTE Band 4 10MHz CH-High 3GHz~18GHz



LTE Band 4 10MHz CH-Middle 18GHz~26.5GHz

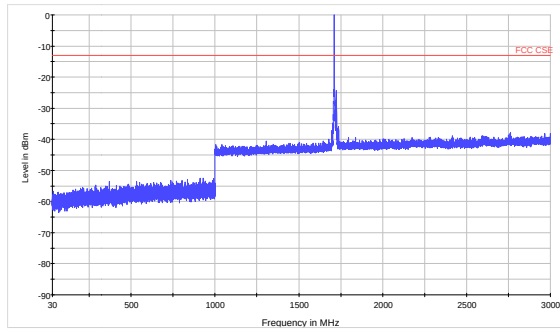


LTE Band 4 10MHz CH-High 18GHz~26.5GHz

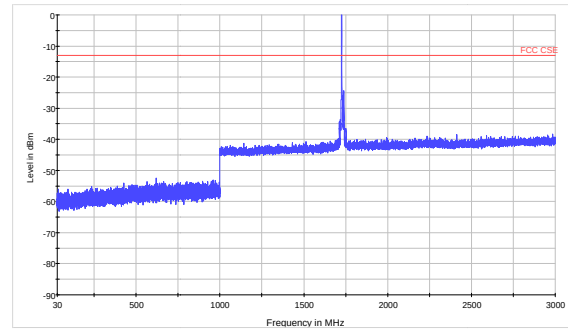




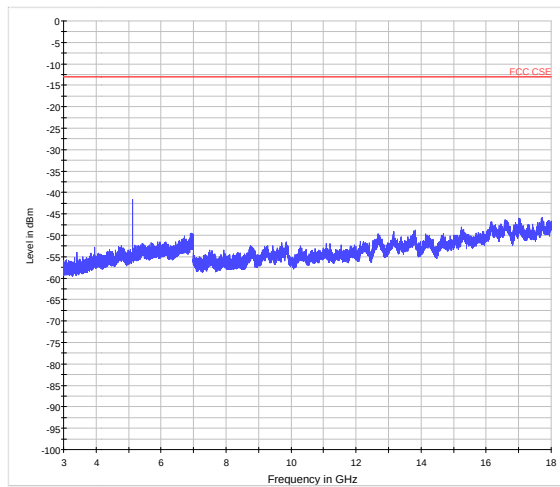
LTE Band 4 15MHz CH-Low 30MHz~3GHz



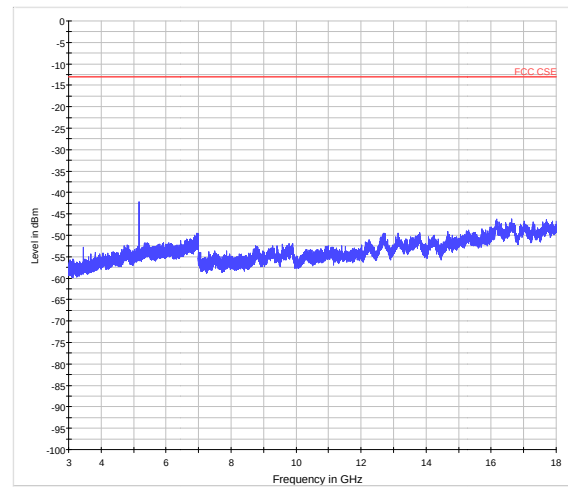
LTE Band 4 15MHz CH-Middle 30MHz~3GHz



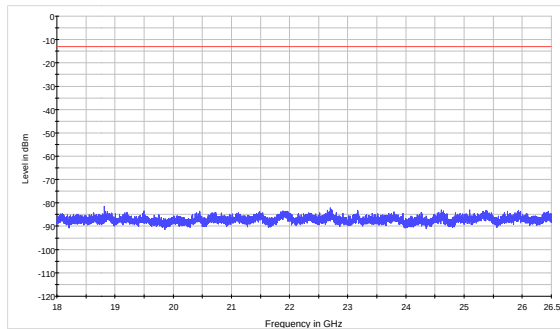
LTE Band 4 15MHz CH-Low 3GHz~18GHz



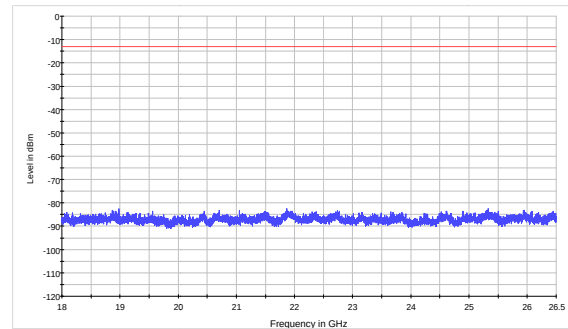
LTE Band 4 15MHz CH-Middle 3GHz~18GHz



LTE Band 4 15MHz CH-Low 18GHz~26.5GHz

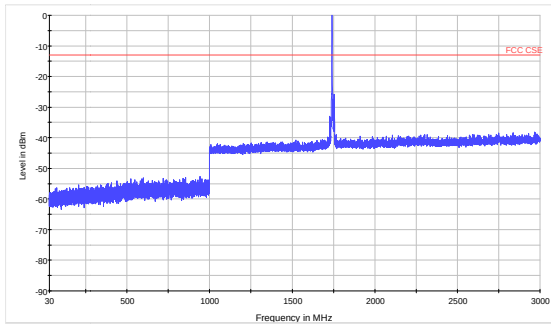


LTE Band 4 15MHz CH-Middle 18GHz~26.5GHz

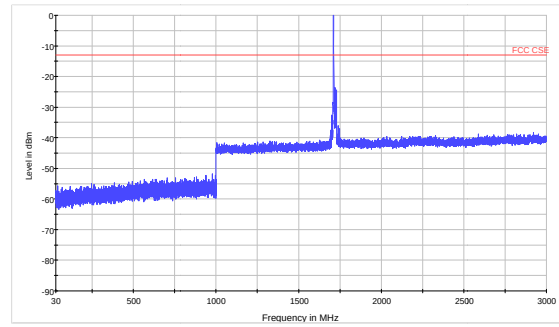




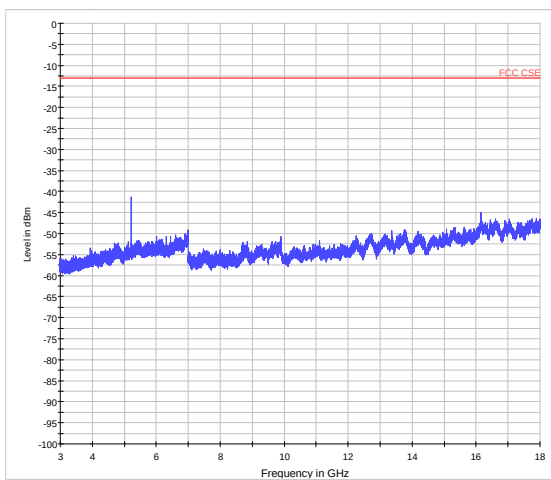
LTE Band 4 15MHz CH-High 30MHz~3GHz



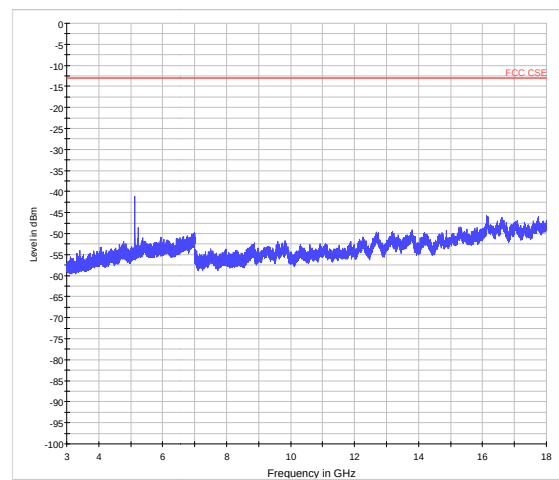
LTE Band 4 20MHz CH-Low 30MHz~3GHz



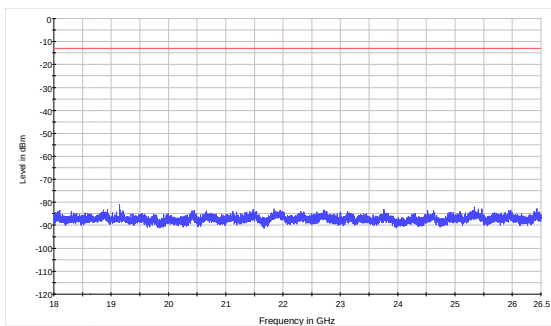
LTE Band 4 15MHz CH-High 3GHz~18GHz



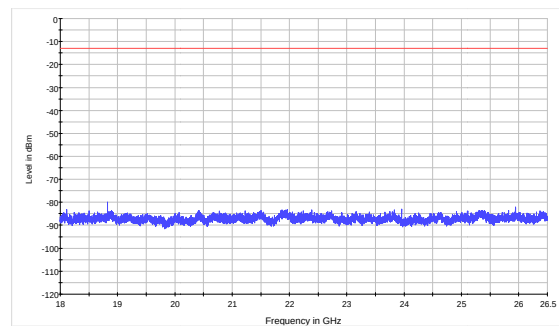
LTE Band 4 20MHz CH-Low 3GHz~18GHz



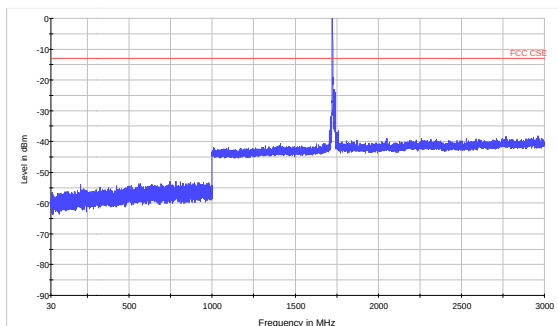
LTE Band 4 15MHz CH-High 18GHz~26.5GHz



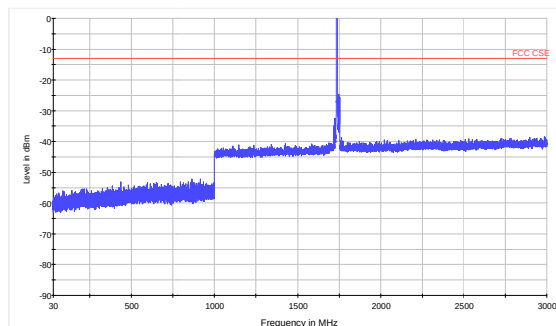
LTE Band 4 20MHz CH-Low 18GHz~26.5GHz



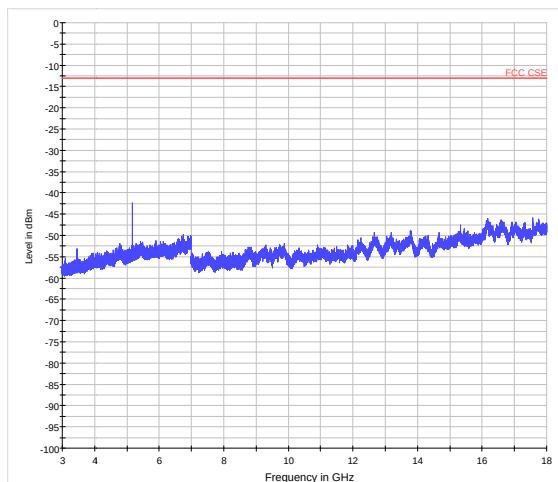
LTE Band 4 20MHz CH-Middle 30MHz~3GHz



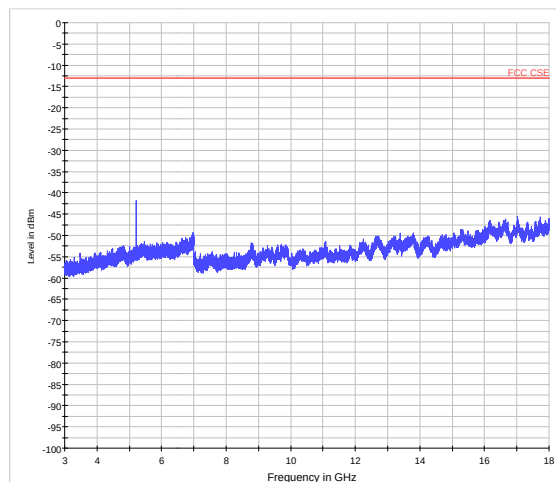
LTE Band 4 20MHz CH-High 30MHz~3GHz



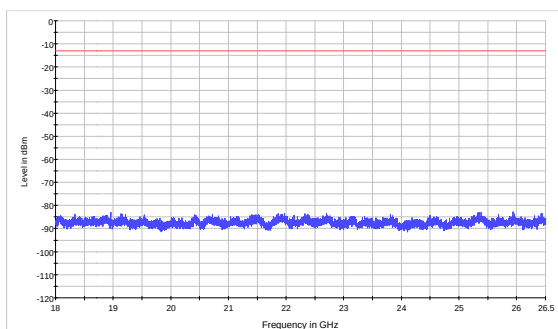
LTE Band 4 20MHz CH-Middle 3GHz~18GHz



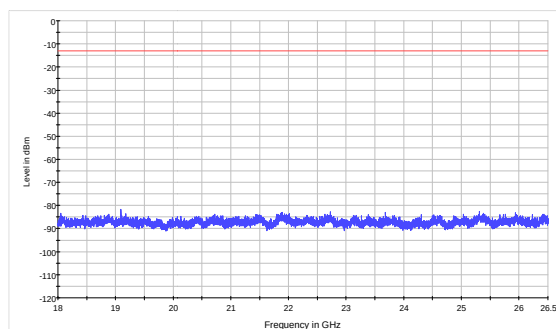
LTE Band 4 20MHz CH-High 3GHz~18GHz



LTE Band 4 20MHz CH-Middle 18GHz~26.5GHz

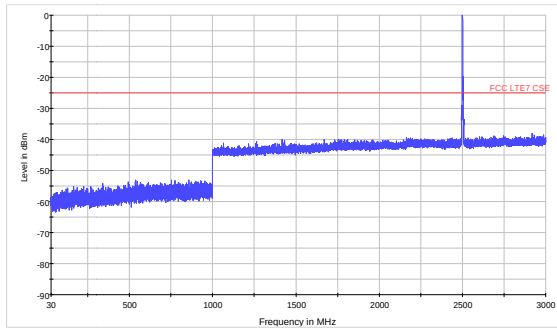


LTE Band 4 20MHz CH-High 18GHz~26.5GHz

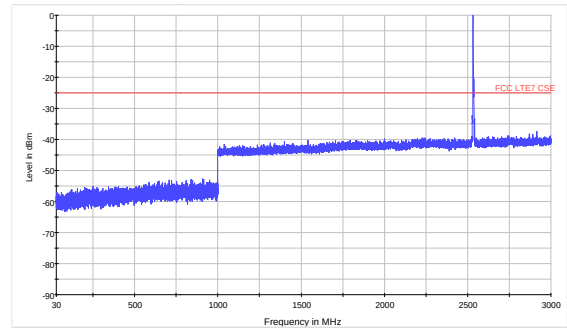




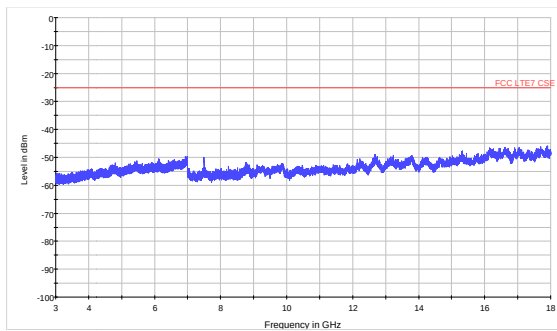
LTE Band 7 5MHz CH-Low 30MHz~3GHz



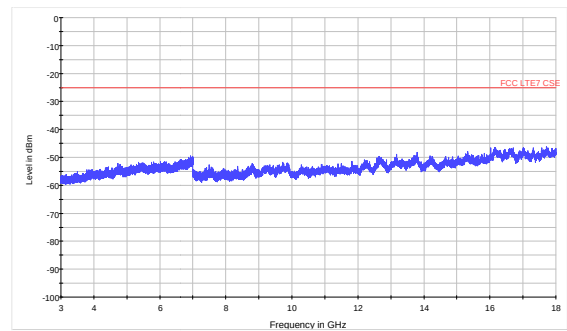
LTE Band 7 5MHz CH-Middle 30MHz~3GHz



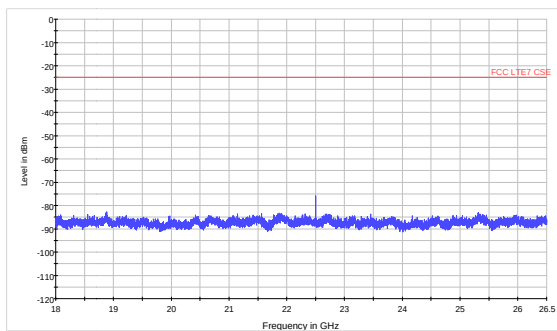
LTE Band 7 5MHz CH-Low 3GHz~18GHz



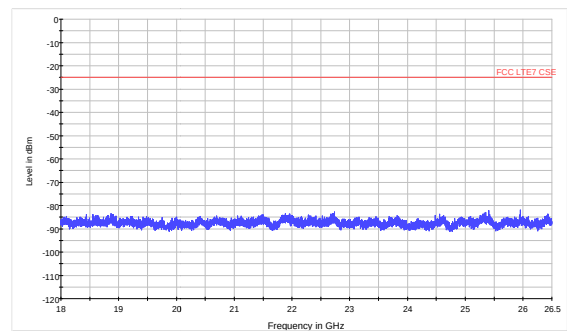
LTE Band 7 5MHz CH-Middle 3GHz~18GHz



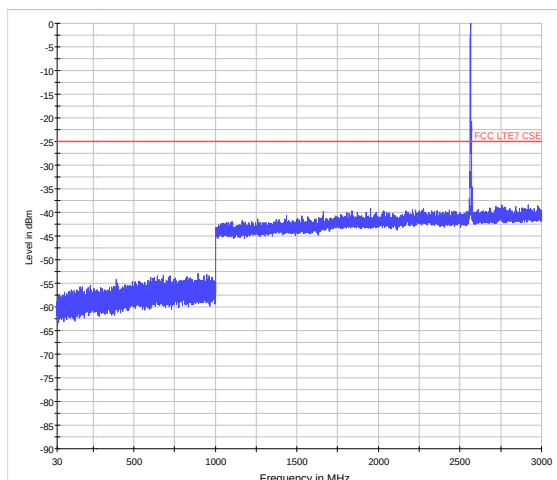
LTE Band 7 5MHz CH-Low 18GHz~26.5GHz



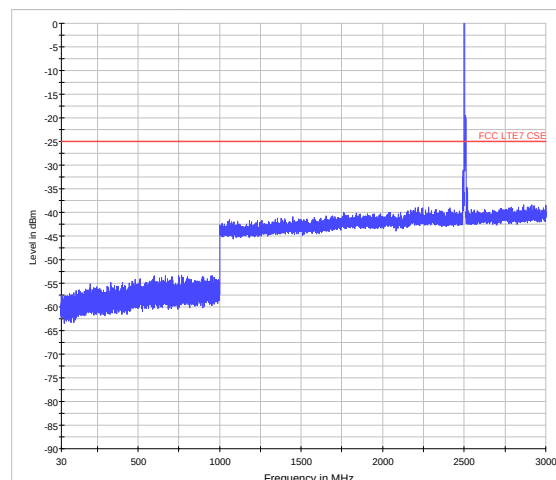
LTE Band 7 5MHz CH-Middle 18GHz~26.5GHz



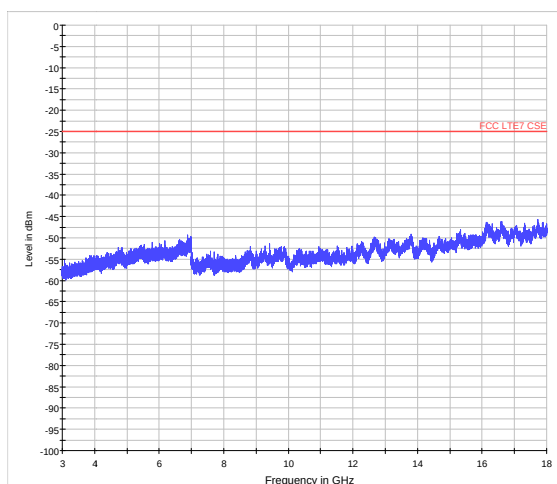
LTE Band 7 5MHz CH-High 30MHz~3GHz



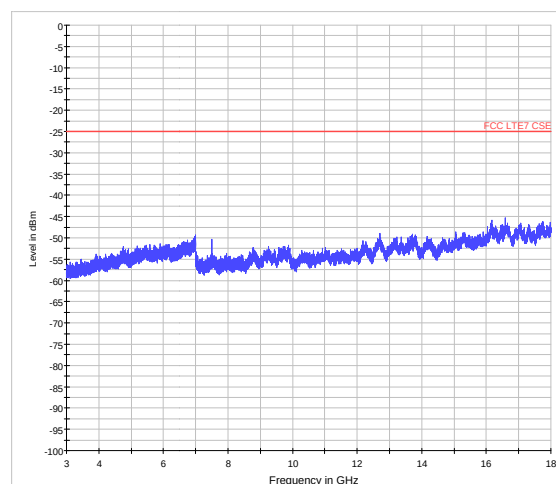
LTE Band 7 10MHz CH-Low 30MHz~3GHz



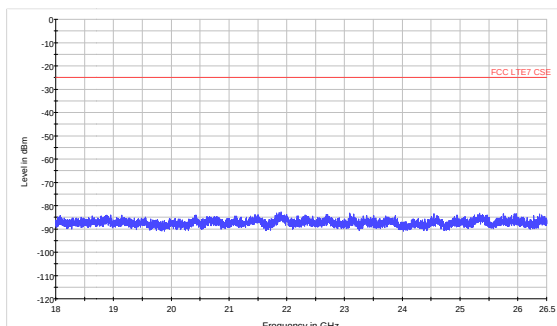
LTE Band 7 5MHz CH-High 3GHz~18GHz



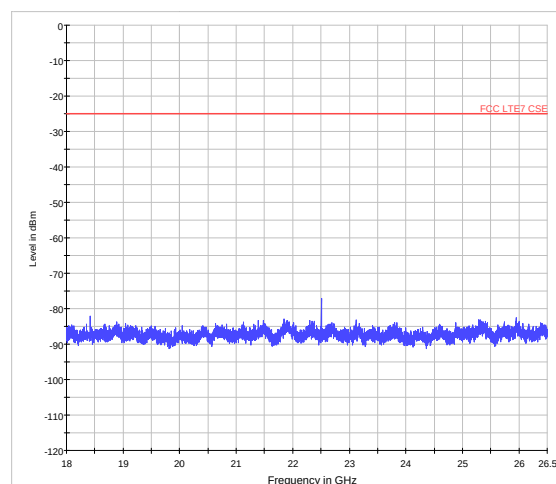
LTE Band 7 10MHz CH-Low 3GHz~18GHz



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

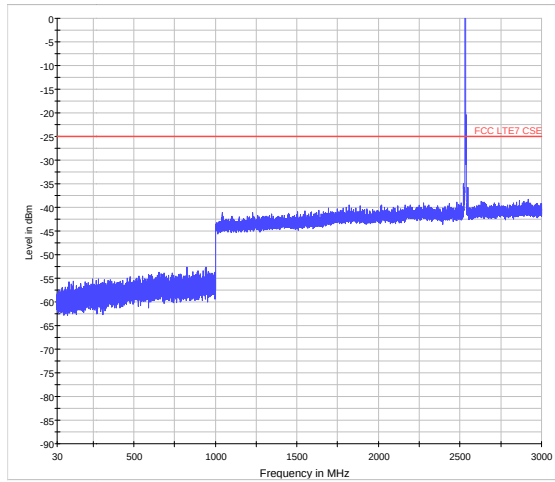


LTE Band 7 10MHz C CH-Low 18GHz~26.5GHz

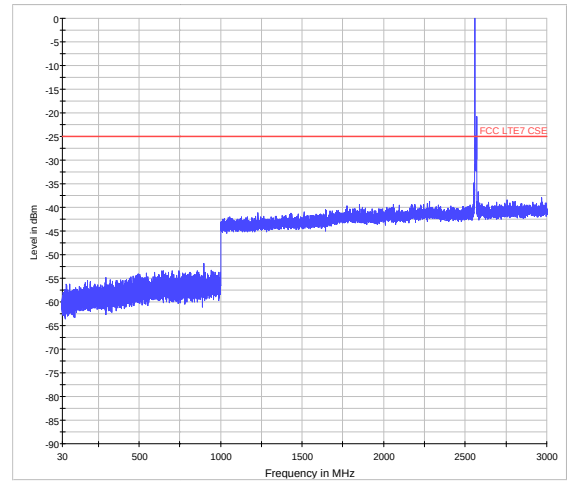




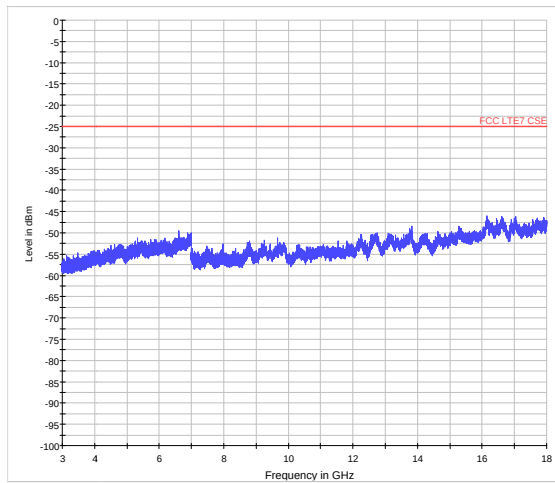
LTE Band 7 10MHz CH-Middle 30MHz~3GHz



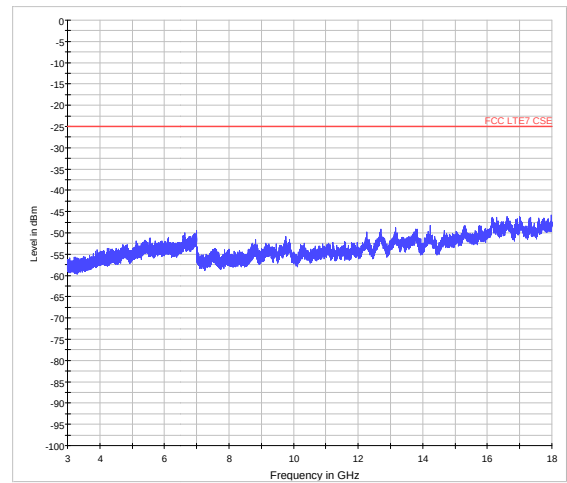
LTE Band 7 10MHz CH-High 30MHz~3GHz



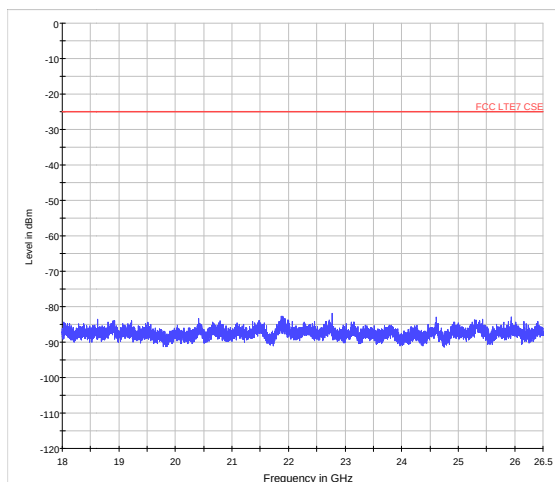
LTE Band 7 10MHz CH-Middle 3GHz~18GHz



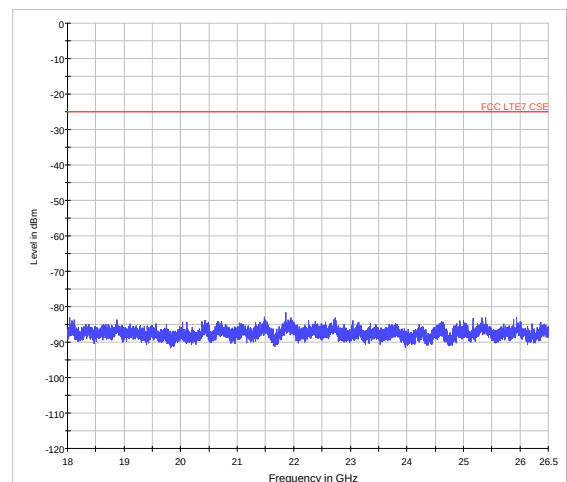
LTE Band 7 10MHz CH-High 3GHz~18GHz



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

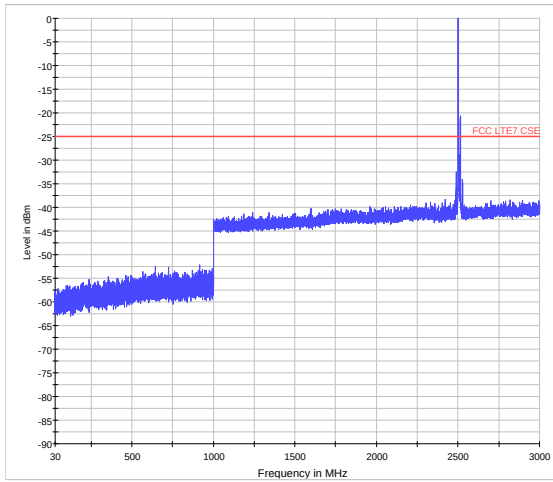


LTE Band 7 10MHz CH-High 18GHz~26.5GHz

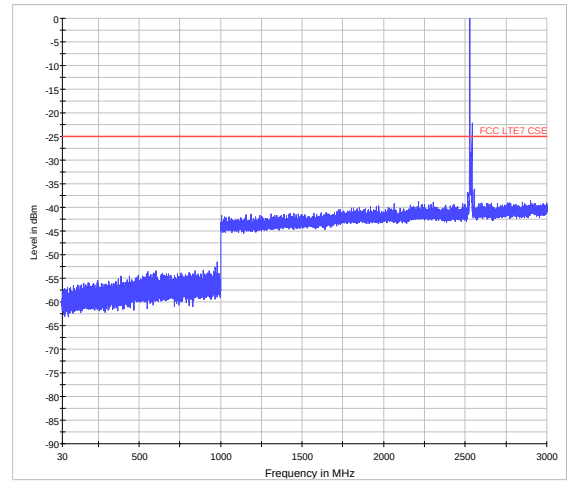




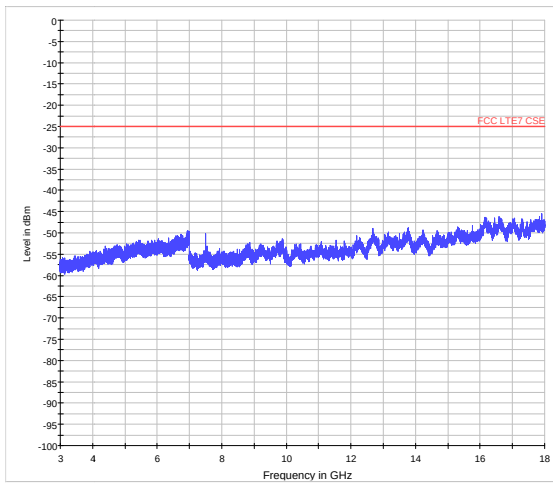
LTE Band 7 15MHz CH-Low 30MHz~3GHz



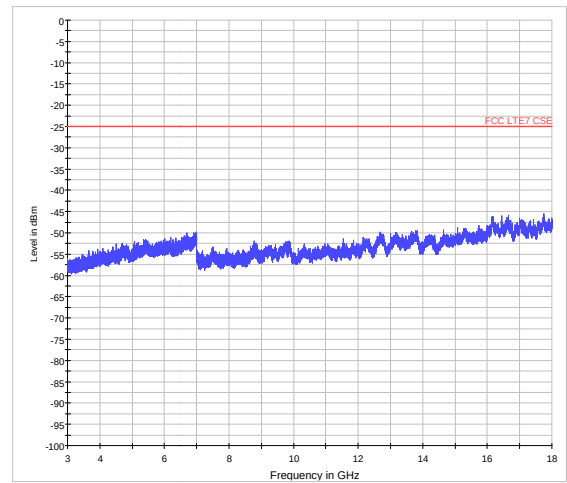
LTE Band 7 15MHz CH-Middle 30MHz~3GHz



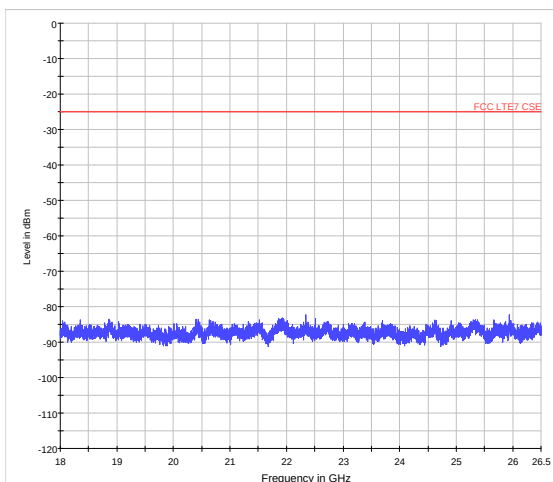
LTE Band 7 15MHz CH-Low 3GHz~18GHz



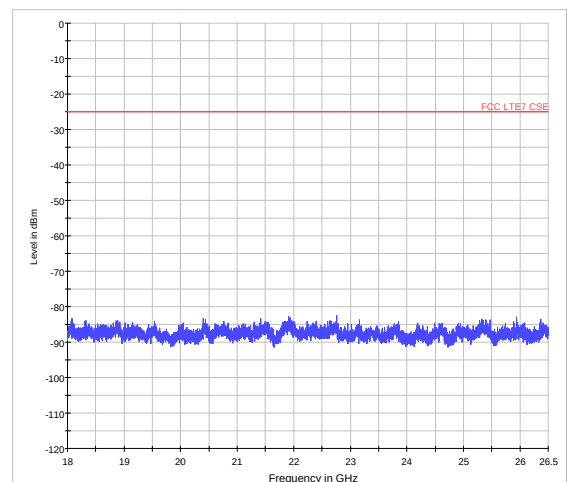
LTE Band 7 15MHz CH-Middle 3GHz~18GHz



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

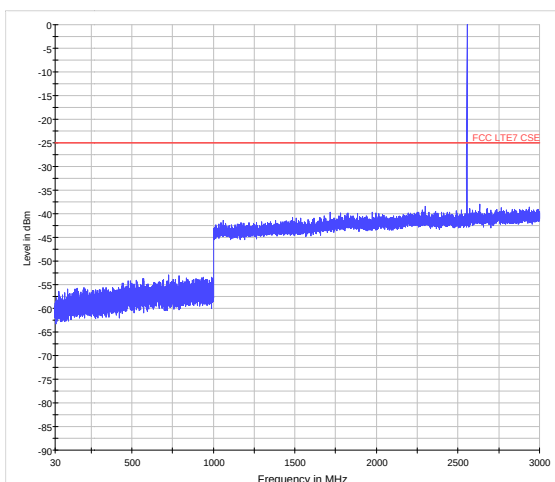


LTE Band 7 15MHz CH-Middle 18GHz~26.5GHz

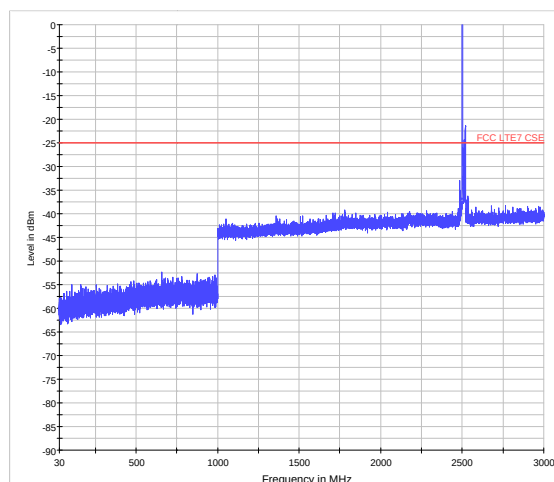




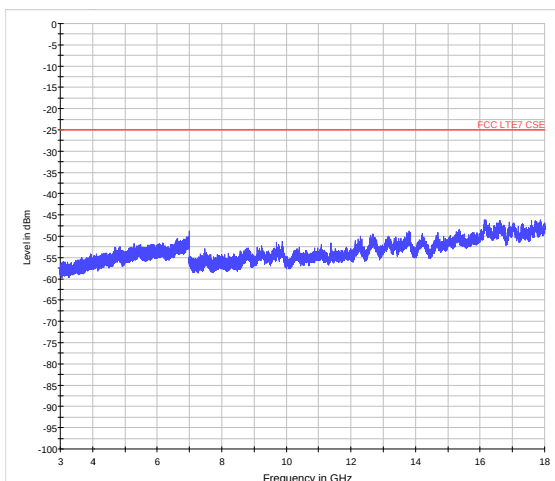
LTE Band 7 15MHz CH-High 30MHz~3GHz



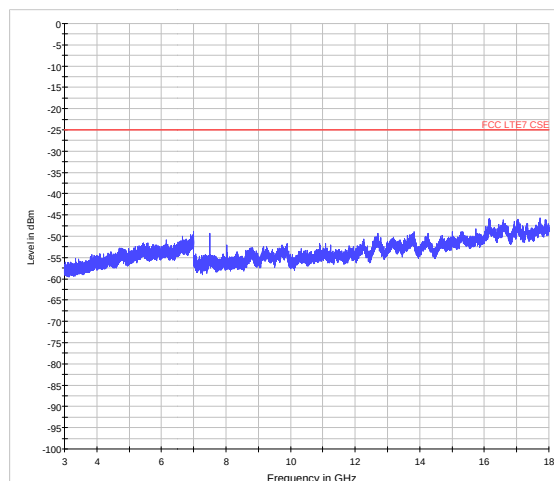
LTE Band 7 20MHz CH-Low 30MHz~3GHz



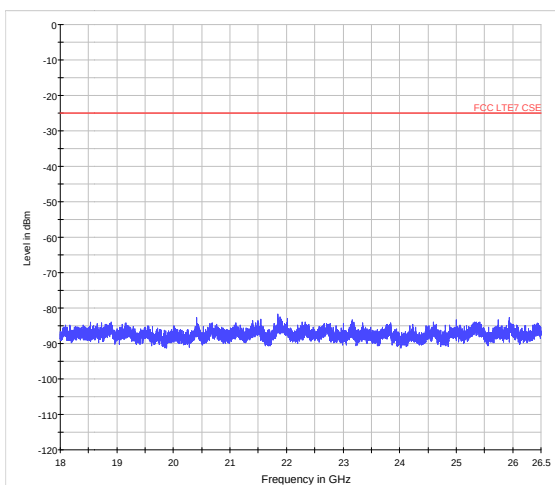
LTE Band 7 15MHz CH-High 3GHz~18GHz



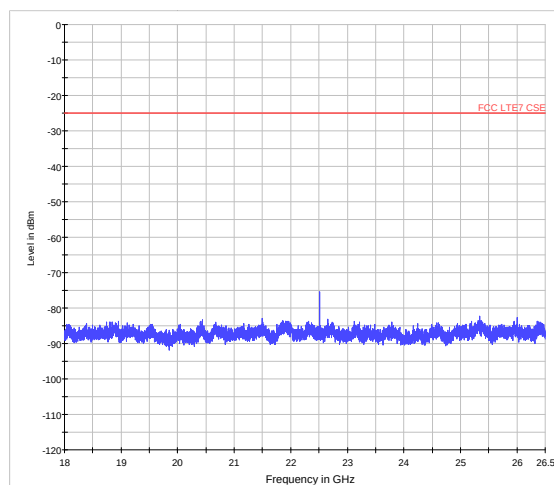
LTE Band 7 20MHz CH-Low 3GHz~18GHz



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

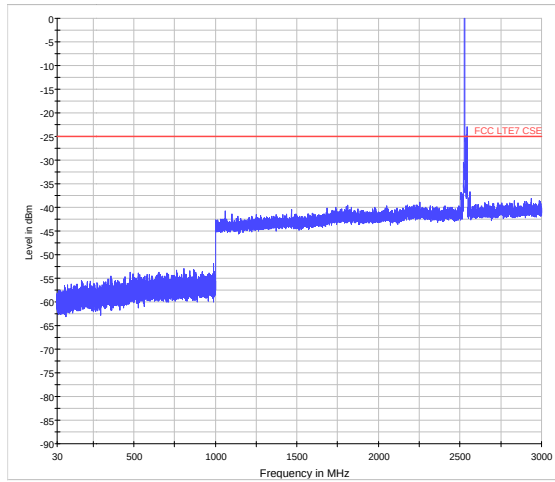


LTE Band 7 20MHz CH-Low 18GHz~26.5GHz

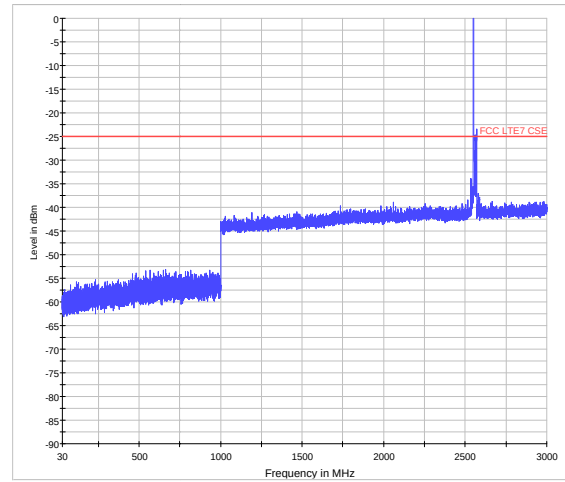




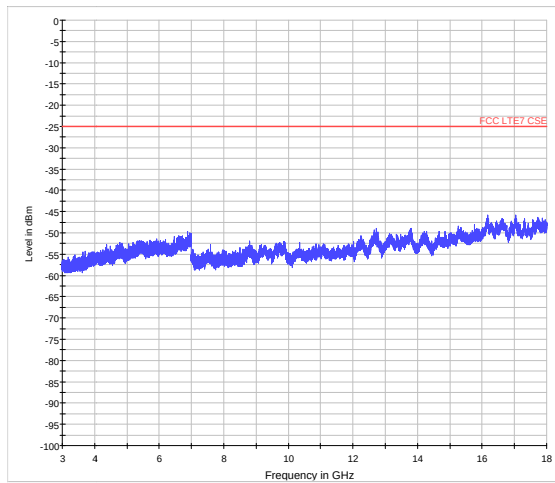
LTE Band 7 20MHz CH-Middle 30MHz~3GHz



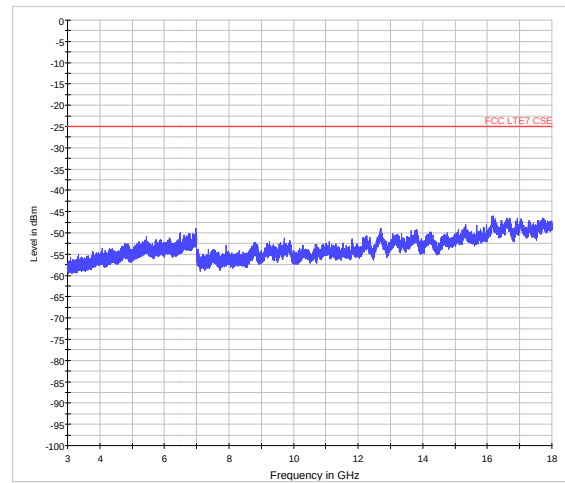
LTE Band 7 20MHz CH-High 30MHz~3GHz



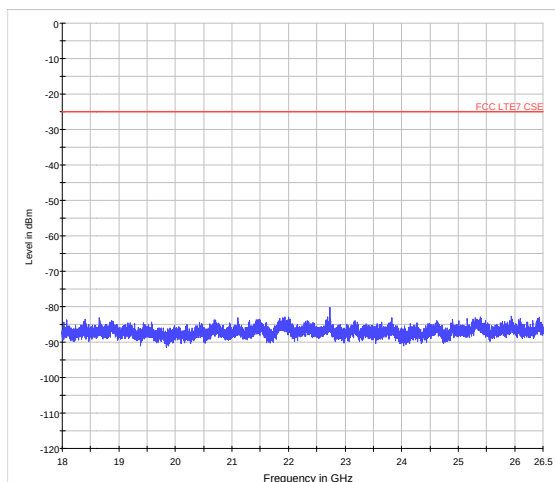
LTE Band 7 20MHz CH-Middle 3GHz~18GHz



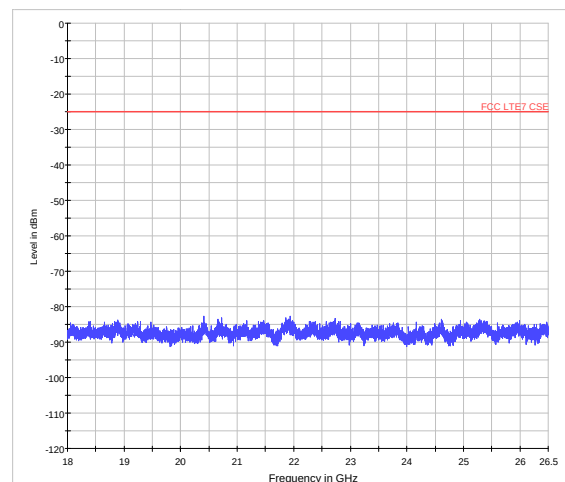
LTE Band 7 20MHz CH-High 3GHz~18GHz



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



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



4.8 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 for above 1GHz and RBW=100kHz, VBW=300kHz for 30MHz to 1GHz,, 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:

Power(EIRP)=PMea- PAg - Pcl + Ga

The measurement results are amend as described below:

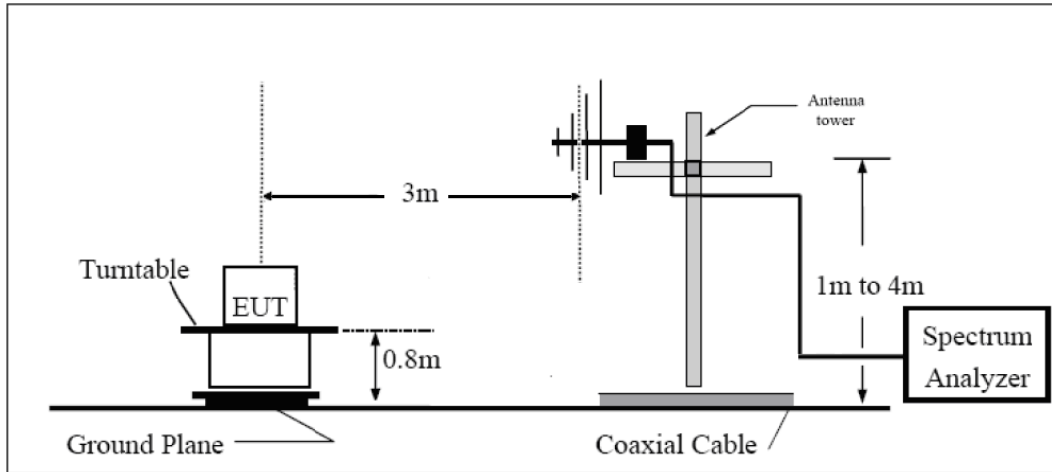
Power(EIRP)=PMea- Pcl + Ga

7. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi)

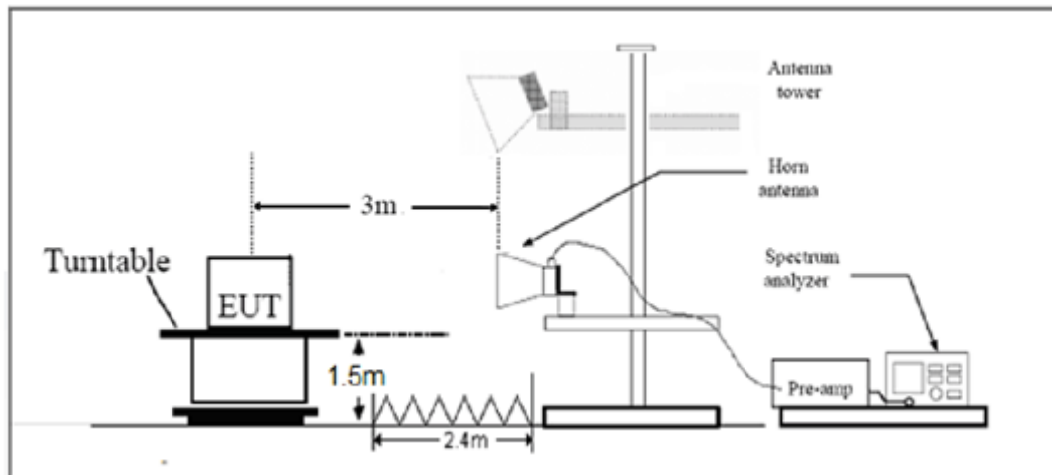
and known input power. ERP can be calculated from EIRP by subtracting the gain of the dipole, $ERP = EIRP - 2.15\text{dBi}$.

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

LTE -4 Rule Part 27.53(h) specifies that “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.”

LTE -7 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 -4Limit	-13 dBm
LTE -7Limit	-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
WCDMA Band IV CH-Low

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3424.8	-56.95	2.6	10.15	Horizontal	-49.40	-13.00	36.40	0
3	5137.2	-56.55	2.4	11.35	Horizontal	-47.60	-13.00	34.60	135
4	6849.6	-52.85	4.5	10.85	Horizontal	-46.50	-13.00	33.50	180
5	8562.0	-50.05	5.1	11.35	Horizontal	-43.80	-13.00	30.80	315
6	10274.4	-47.45	5.3	11.95	Horizontal	-40.80	-13.00	27.80	270
7	11986.8	-45.65	5.5	13.55	Horizontal	-37.60	-13.00	24.60	45
8	13699.2	-42.25	6.3	13.75	Horizontal	-34.80	-13.00	21.80	225
9	15411.6	-40.65	6.7	13.85	Horizontal	-33.50	-13.00	20.50	270
10	17124.0	-40.75	6.8	14.25	Horizontal	-33.30	-13.00	20.30	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 Horizontal position.

WCDMA Band IV CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.2	-57.45	2.6	10.75	Horizontal	-49.30	-13.00	36.30	45
3	5197.8	-57.65	2.4	11.05	Horizontal	-49.00	-13.00	36.00	90
4	6930.4	-51.85	4.5	11.15	Horizontal	-45.20	-13.00	32.20	45
5	8663.0	-49.72	5.1	11.35	Horizontal	-43.47	-13.00	30.47	0
6	10395.6	-47.54	5.3	11.95	Horizontal	-40.89	-13.00	27.89	135
7	12128.2	-45.10	5.5	13.55	Horizontal	-37.05	-13.00	24.05	180
8	13860.8	-42.78	6.3	13.75	Horizontal	-35.33	-13.00	22.33	315
9	15593.4	-40.10	6.7	13.85	Horizontal	-32.95	-13.00	19.95	270
10	17326.0	-40.95	6.8	14.25	Horizontal	-33.50	-13.00	20.50	315

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 Horizontal position.

WCDMA Band IV CH-High

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3505.2	-57.25	2.6	10.15	Horizontal	-49.70	-13.00	36.70	270
3	5257.8	-58.34	2.4	11.05	Horizontal	-49.69	-13.00	36.69	45
4	7010.4	-52.95	4.5	11.15	Horizontal	-46.30	-13.00	33.30	225
5	8763.0	-50.27	5.1	11.35	Horizontal	-44.02	-13.00	31.02	270
6	10515.6	-47.20	5.3	11.95	Horizontal	-40.55	-13.00	27.55	90
7	12268.2	-45.85	5.5	13.55	Horizontal	-37.80	-13.00	24.80	45
8	14020.8	-42.72	6.3	13.75	Horizontal	-35.27	-13.00	22.27	90
9	15773.4	-41.75	6.7	13.85	Horizontal	-34.60	-13.00	21.60	45
10	17526.0	-41.12	6.8	14.25	Horizontal	-33.67	-13.00	20.67	0

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 Horizontal position.

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	-59.26	2.6	10.15	Horizontal	-51.71	-13.00	38.71	180
3	5132.1	-51.54	2.4	11.35	Horizontal	-42.59	-13.00	29.59	315
4	6842.8	-48.68	4.5	10.85	Horizontal	-42.33	-13.00	29.33	270
5	8553.5	-46.57	5.1	11.35	Horizontal	-40.32	-13.00	27.32	45
6	10264.2	-46.04	5.3	11.95	Horizontal	-39.39	-13.00	26.39	225
7	11974.9	-45.74	5.5	13.55	Horizontal	-37.69	-13.00	24.69	270
8	13685.6	-43.10	6.3	13.75	Horizontal	-35.65	-13.00	22.65	90
9	15396.3	-45.03	6.7	13.85	Horizontal	-37.88	-13.00	24.88	45
10	17107.0	-43.14	6.8	14.25	Horizontal	-35.69	-13.00	22.69	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 Horizontal 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	-56.88	2.6	10.75	Horizontal	-48.73	-13.00	35.73	0
3	5197.5	-52.10	2.4	11.05	Horizontal	-43.45	-13.00	30.45	135
4	6930.0	-50.28	4.5	11.15	Horizontal	-43.63	-13.00	30.63	180
5	8662.5	-47.65	5.1	11.35	Horizontal	-41.40	-13.00	28.40	315
6	10395.0	-45.68	5.3	11.95	Horizontal	-39.03	-13.00	26.03	270
7	12127.5	-46.16	5.5	13.55	Horizontal	-38.11	-13.00	25.11	45
8	13860.0	-42.91	6.3	13.75	Horizontal	-35.46	-13.00	22.46	225
9	15592.5	-44.92	6.7	13.85	Horizontal	-37.77	-13.00	24.77	270
10	17325.0	-42.10	6.8	14.25	Horizontal	-34.65	-13.00	21.65	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 Horizontal 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	3465.0	-58.67	2.6	10.15	Horizontal	-51.12	-13.00	38.12	90
3	5197.5	-49.09	2.4	11.05	Horizontal	-40.44	-13.00	27.44	45
4	6930.0	-49.49	4.5	11.15	Horizontal	-42.84	-13.00	29.84	0
5	8662.5	-46.87	5.1	11.35	Horizontal	-40.62	-13.00	27.62	135
6	10395.0	-45.66	5.3	11.95	Horizontal	-39.01	-13.00	26.01	180
7	12127.5	-46.66	5.5	13.55	Horizontal	-38.61	-13.00	25.61	315
8	13860.0	-42.37	6.3	13.75	Horizontal	-34.92	-13.00	21.92	270
9	15592.5	-45.31	6.7	13.85	Horizontal	-38.16	-13.00	25.16	45
10	17325.0	-42.39	6.8	14.25	Horizontal	-34.94	-13.00	21.94	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 Horizontal 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	-54.24	2.6	10.15	Horizontal	-46.69	-13.00	33.69	90
3	5134.5	-50.46	2.4	11.35	Horizontal	-41.51	-13.00	28.51	45
4	6846.0	-50.76	4.5	10.85	Horizontal	-44.41	-13.00	31.41	90
5	8557.5	-47.55	5.1	11.35	Horizontal	-41.30	-13.00	28.30	45
6	10269.0	-45.35	5.3	11.95	Horizontal	-38.70	-13.00	25.70	0
7	11980.5	-45.35	5.5	13.55	Horizontal	-37.30	-13.00	24.30	135
8	13692.0	-43.82	6.3	13.75	Horizontal	-36.37	-13.00	23.37	180
9	15403.5	-43.44	6.7	13.85	Horizontal	-36.29	-13.00	23.29	315
10	17115.0	-42.50	6.8	14.25	Horizontal	-35.05	-13.00	22.05	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 Horizontal 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	-52.64	2.6	10.75	Horizontal	-44.49	-13.00	31.49	225
3	5197.5	32.34	2.4	11.05	Horizontal	40.99	-13.00	-53.99	270
4	6930.0	-49.23	4.5	11.15	Horizontal	-42.58	-13.00	29.58	90
5	8662.5	-47.14	5.1	11.35	Horizontal	-40.89	-13.00	27.89	45
6	10395.0	-44.54	5.3	11.95	Horizontal	-37.89	-13.00	24.89	90
7	12127.5	-46.77	5.5	13.55	Horizontal	-38.72	-13.00	25.72	45
8	13860.0	-42.35	6.3	13.75	Horizontal	-34.90	-13.00	21.90	0
9	15592.5	-45.35	6.7	13.85	Horizontal	-38.20	-13.00	25.20	135
10	17325.0	-42.35	6.8	14.25	Horizontal	-34.90	-13.00	21.90	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 Horizontal 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	-51.21	2.6	10.15	Horizontal	-43.66	-13.00	30.66	270
3	5260.5	-49.34	2.4	11.05	Horizontal	-40.69	-13.00	27.69	45
4	7014.0	-47.52	4.5	11.15	Horizontal	-40.87	-13.00	27.87	225
5	8767.5	-46.71	5.1	11.35	Horizontal	-40.46	-13.00	27.46	270
6	10521.0	-44.54	5.3	11.95	Horizontal	-37.89	-13.00	24.89	90
7	12274.5	-45.93	5.5	13.55	Horizontal	-37.88	-13.00	24.88	45
8	14028.0	-42.21	6.3	13.75	Horizontal	-34.76	-13.00	21.76	90
9	15781.5	-44.42	6.7	13.85	Horizontal	-37.27	-13.00	24.27	45
10	17535.0	-43.65	6.8	14.25	Horizontal	-36.20	-13.00	23.20	0

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 Horizontal 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	-52.73	2.6	10.15	Horizontal	-45.18	-13.00	32.18	180
3	5137.5	-50.33	2.4	11.35	Horizontal	-41.38	-13.00	28.38	315
4	6850.0	-49.99	4.5	10.85	Horizontal	-43.64	-13.00	30.64	270
5	8562.5	-47.66	5.1	11.35	Horizontal	-41.41	-13.00	28.41	45
6	10275.0	-44.25	5.3	11.95	Horizontal	-37.60	-13.00	24.60	225
7	11987.5	-45.90	5.5	13.55	Horizontal	-37.85	-13.00	24.85	270
8	13700.0	-44.13	6.3	13.75	Horizontal	-36.68	-13.00	23.68	90
9	15412.5	-44.84	6.7	13.85	Horizontal	-37.69	-13.00	24.69	45
10	17125.0	-43.54	6.8	14.25	Horizontal	-36.09	-13.00	23.09	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 Horizontal 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	-52.42	2.6	10.75	Horizontal	-44.27	-13.00	31.27	0
3	5197.5	-49.21	2.4	11.05	Horizontal	-40.56	-13.00	27.56	135
4	6930.0	-50.10	4.5	11.15	Horizontal	-43.45	-13.00	30.45	180
5	8662.5	-46.94	5.1	11.35	Horizontal	-40.69	-13.00	27.69	315
6	10395.0	-45.09	5.3	11.95	Horizontal	-38.44	-13.00	25.44	270
7	12127.5	-45.95	5.5	13.55	Horizontal	-37.90	-13.00	24.90	45
8	13860.0	-43.37	6.3	13.75	Horizontal	-35.92	-13.00	22.92	225
9	15592.5	-44.69	6.7	13.85	Horizontal	-37.54	-13.00	24.54	270
10	17325.0	-42.72	6.8	14.25	Horizontal	-35.27	-13.00	22.27	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 Horizontal 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	-50.22	2.6	10.15	Horizontal	-42.67	-13.00	29.67	90
3	5257.5	-48.83	2.4	11.05	Horizontal	-40.18	-13.00	27.18	45
4	7010.0	-49.33	4.5	11.15	Horizontal	-42.68	-13.00	29.68	0
5	8762.5	-47.02	5.1	11.35	Horizontal	-40.77	-13.00	27.77	135
6	10515.0	-44.16	5.3	11.95	Horizontal	-37.51	-13.00	24.51	180
7	12267.5	-46.40	5.5	13.55	Horizontal	-38.35	-13.00	25.35	315
8	14020.0	-42.49	6.3	13.75	Horizontal	-35.04	-13.00	22.04	270
9	15772.5	-44.84	6.7	13.85	Horizontal	-37.69	-13.00	24.69	45
10	17525.0	-43.21	6.8	14.25	Horizontal	-35.76	-13.00	22.76	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 Horizontal position.

LTE Band 4 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	3430.0	-53.10	2.6	10.15	Horizontal	-45.55	-13.00	32.55	90
3	5145.0	-49.18	2.4	11.35	Horizontal	-40.23	-13.00	27.23	45
4	6860.0	-49.88	4.5	10.85	Horizontal	-43.53	-13.00	30.53	90
5	8575.0	-46.60	5.1	11.35	Horizontal	-40.35	-13.00	27.35	45
6	10290.0	-46.22	5.3	11.95	Horizontal	-39.57	-13.00	26.57	0
7	12005.0	-46.22	5.5	13.55	Horizontal	-38.17	-13.00	25.17	135
8	13720.0	-43.61	6.3	13.75	Horizontal	-36.16	-13.00	23.16	180
9	15435.0	-45.19	6.7	13.85	Horizontal	-38.04	-13.00	25.04	315
10	17150.0	-43.82	6.8	14.25	Horizontal	-36.37	-13.00	23.37	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 Horizontal position.

LTE Band 4 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	3465.0	-49.83	2.6	10.75	Horizontal	-41.68	-13.00	28.68	225
3	5197.5	-49.26	2.4	11.05	Horizontal	-40.61	-13.00	27.61	270
4	6930.0	-49.36	4.5	11.15	Horizontal	-42.71	-13.00	29.71	90
5	8662.5	-46.61	5.1	11.35	Horizontal	-40.36	-13.00	27.36	45
6	10395.0	-45.85	5.3	11.95	Horizontal	-39.20	-13.00	26.20	90
7	12127.5	-45.84	5.5	13.55	Horizontal	-37.79	-13.00	24.79	45
8	13860.0	-43.16	6.3	13.75	Horizontal	-35.71	-13.00	22.71	0
9	15592.5	-45.74	6.7	13.85	Horizontal	-38.59	-13.00	25.59	135
10	17325.0	-43.02	6.8	14.25	Horizontal	-35.57	-13.00	22.57	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 Horizontal position.

LTE Band 4 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	3500.0	-51.75	2.6	10.15	Horizontal	-44.20	-13.00	31.20	270
3	5250.0	-51.11	2.4	11.05	Horizontal	-42.46	-13.00	29.46	45
4	7000.0	-49.85	4.5	11.15	Horizontal	-43.20	-13.00	30.20	225
5	8750.0	-45.72	5.1	11.35	Horizontal	-39.47	-13.00	26.47	270
6	10500.0	-44.18	5.3	11.95	Horizontal	-37.53	-13.00	24.53	90
7	12250.0	-46.18	5.5	13.55	Horizontal	-38.13	-13.00	25.13	45
8	14000.0	-43.00	6.3	13.75	Horizontal	-35.55	-13.00	22.55	90
9	15750.0	-43.82	6.7	13.85	Horizontal	-36.67	-13.00	23.67	45
10	17500.0	-42.06	6.8	14.25	Horizontal	-34.61	-13.00	21.61	0

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 Horizontal position.

LTE Band 4 QPSK 15MHz 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	3435.0	-51.63	2.6	10.15	Horizontal	-44.08	-13.00	31.08	180
3	5152.5	-49.36	2.4	11.35	Horizontal	-40.41	-13.00	27.41	315
4	6870.0	-50.11	4.5	10.85	Horizontal	-43.76	-13.00	30.76	270
5	8587.5	-47.27	5.1	11.35	Horizontal	-41.02	-13.00	28.02	45
6	10305.0	-44.85	5.3	11.95	Horizontal	-38.20	-13.00	25.20	225
7	12022.5	-46.42	5.5	13.55	Horizontal	-38.37	-13.00	25.37	270
8	13740.0	-43.59	6.3	13.75	Horizontal	-36.14	-13.00	23.14	90
9	15457.5	-44.25	6.7	13.85	Horizontal	-37.10	-13.00	24.10	45
10	17175.0	-42.53	6.8	14.25	Horizontal	-35.08	-13.00	22.08	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 Horizontal position.

LTE Band 4 QPSK 15MHz 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	3465.0	-50.72	2.6	10.75	Horizontal	-42.57	-13.00	29.57	0
3	5197.5	-49.80	2.4	11.05	Horizontal	-41.15	-13.00	28.15	135
4	6930.0	-50.20	4.5	11.15	Horizontal	-43.55	-13.00	30.55	180
5	8662.5	-46.81	5.1	11.35	Horizontal	-40.56	-13.00	27.56	315
6	10395.0	-45.33	5.3	11.95	Horizontal	-38.68	-13.00	25.68	270
7	12127.5	-45.59	5.5	13.55	Horizontal	-37.54	-13.00	24.54	45
8	13860.0	-43.21	6.3	13.75	Horizontal	-35.76	-13.00	22.76	225
9	15592.5	-44.77	6.7	13.85	Horizontal	-37.62	-13.00	24.62	270
10	17325.0	-42.75	6.8	14.25	Horizontal	-35.30	-13.00	22.30	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 Horizontal position.

LTE Band 4 QPSK 15MHz 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	3495.0	-50.57	2.6	10.15	Horizontal	-43.02	-13.00	30.02	90
3	5242.5	-51.34	2.4	11.05	Horizontal	-42.69	-13.00	29.69	45
4	6990.0	-47.19	4.5	11.15	Horizontal	-40.54	-13.00	27.54	0
5	8737.5	-46.95	5.1	11.35	Horizontal	-40.70	-13.00	27.70	135
6	10485.0	-45.25	5.3	11.95	Horizontal	-38.60	-13.00	25.60	180
7	12232.5	-45.06	5.5	13.55	Horizontal	-37.01	-13.00	24.01	315
8	13980.0	-42.87	6.3	13.75	Horizontal	-35.42	-13.00	22.42	270
9	15727.5	-43.87	6.7	13.85	Horizontal	-36.72	-13.00	23.72	45
10	17475.0	-42.18	6.8	14.25	Horizontal	-34.73	-13.00	21.73	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 Horizontal position.

LTE Band 4 QPSK 20MHz 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	3440.0	-51.71	2.6	10.15	Horizontal	-44.16	-13.00	31.16	90
3	5160.0	-49.40	2.4	11.35	Horizontal	-40.45	-13.00	27.45	45
4	6880.0	-50.03	4.5	10.85	Horizontal	-43.68	-13.00	30.68	90
5	8600.0	-48.47	5.1	11.35	Horizontal	-42.22	-13.00	29.22	45
6	10320.0	-45.65	5.3	11.95	Horizontal	-39.00	-13.00	26.00	0
7	12040.0	-45.37	5.5	13.55	Horizontal	-37.32	-13.00	24.32	135
8	13760.0	-43.64	6.3	13.75	Horizontal	-36.19	-13.00	23.19	180
9	15480.0	-44.80	6.7	13.85	Horizontal	-37.65	-13.00	24.65	315
10	17200.0	-43.01	6.8	14.25	Horizontal	-35.56	-13.00	22.56	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 Horizontal position.

LTE Band 4 QPSK 20MHz 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	3465.0	-50.46	2.6	10.75	Horizontal	-42.31	-13.00	29.31	225
3	5197.5	-49.96	2.4	11.05	Horizontal	-41.31	-13.00	28.31	270
4	6930.0	-49.72	4.5	11.15	Horizontal	-43.07	-13.00	30.07	90
5	8662.5	-47.76	5.1	11.35	Horizontal	-41.51	-13.00	28.51	45
6	10395.0	-45.70	5.3	11.95	Horizontal	-39.05	-13.00	26.05	90
7	12127.5	-45.11	5.5	13.55	Horizontal	-37.06	-13.00	24.06	45
8	13860.0	-42.78	6.3	13.75	Horizontal	-35.33	-13.00	22.33	0
9	15592.5	-44.70	6.7	13.85	Horizontal	-37.55	-13.00	24.55	135
10	17325.0	-42.74	6.8	14.25	Horizontal	-35.29	-13.00	22.29	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 Horizontal position.

LTE Band 4 QPSK 20MHz 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	3490.0	-50.18	2.6	10.15	Horizontal	-42.63	-13.00	29.63	270
3	5235.0	-50.09	2.4	11.05	Horizontal	-41.44	-13.00	28.44	45
4	6980.0	-49.11	4.5	11.15	Horizontal	-42.46	-13.00	29.46	225
5	8725.0	-46.55	5.1	11.35	Horizontal	-40.30	-13.00	27.30	270
6	10470.0	-44.87	5.3	11.95	Horizontal	-38.22	-13.00	25.22	90
7	12215.0	-46.15	5.5	13.55	Horizontal	-38.10	-13.00	25.10	45
8	13960.0	-43.38	6.3	13.75	Horizontal	-35.93	-13.00	22.93	90
9	15705.0	-45.30	6.7	13.85	Horizontal	-38.15	-13.00	25.15	45
10	17450.0	-42.30	6.8	14.25	Horizontal	-34.85	-13.00	21.85	0

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 Horizontal 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	5005.0	-47.58	2.00	9.15	Horizontal	-40.43	-25.00	15.43	135
3	7507.5	-46.77	2.50	11.35	Horizontal	-37.92	-25.00	12.92	270
4	10010.0	-47.05	4.20	12.05	Horizontal	-39.20	-25.00	14.20	45
5	12512.5	-46.04	5.20	12.85	Horizontal	-38.39	-25.00	13.39	225
6	15015.0	-43.02	5.50	14.23	Horizontal	-34.29	-25.00	9.29	270
7	17517.5	-42.11	5.70	14.15	Horizontal	-33.66	-25.00	8.66	90
8	20020.0	-40.59	6.30	13.76	Horizontal	-33.13	-25.00	8.13	45
9	22522.5	-39.94	6.80	14.05	Horizontal	-32.69	-25.00	7.69	90
10	25025.0	-40.07	6.90	14.84	Horizontal	-32.13	-25.00	7.13	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 Horizontal 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	5070.0	-47.47	2.00	9.15	Horizontal	-40.32	-25.00	15.32	45
3	7605.0	-48.86	2.50	11.35	Horizontal	-40.01	-25.00	15.01	225
4	10140.0	-46.43	4.20	12.05	Horizontal	-38.58	-25.00	13.58	270
5	12675.0	-45.75	5.20	12.85	Horizontal	-38.10	-25.00	13.10	90
6	15210.0	-45.05	5.50	14.23	Horizontal	-36.32	-25.00	11.32	45
7	17745.0	-42.95	5.70	14.15	Horizontal	-34.50	-25.00	9.50	90
8	20280.0	-41.09	6.30	13.76	Horizontal	-33.63	-25.00	8.63	270
9	22815.0	-40.38	6.80	14.05	Horizontal	-33.13	-25.00	8.13	45
10	25350.0	-40.82	6.90	14.84	Horizontal	-32.88	-25.00	7.88	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 Horizontal 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	5135.0	-48.36	2.00	9.15	Horizontal	-41.21	-25.00	16.21	270
3	7702.5	-48.34	2.50	11.35	Horizontal	-39.49	-25.00	14.49	90
4	10270.0	-46.63	4.20	12.05	Horizontal	-38.78	-25.00	13.78	45
5	12837.5	-45.02	5.20	12.85	Horizontal	-37.37	-25.00	12.37	90
6	15405.0	-45.72	5.50	14.23	Horizontal	-36.99	-25.00	11.99	270
7	17972.5	-43.34	5.70	14.15	Horizontal	-34.89	-25.00	9.89	45
8	20540.0	-41.39	6.30	13.76	Horizontal	-33.93	-25.00	8.93	225
9	23107.5	-40.01	6.80	14.05	Horizontal	-32.76	-25.00	7.76	270
10	25675.0	-40.07	6.90	14.84	Horizontal	-32.13	-25.00	7.13	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 Horizontal 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	5010.0	-47.68	2.00	9.15	Horizontal	-40.53	-25.00	15.53	45
3	7515.0	-46.00	2.50	11.35	Horizontal	-37.15	-25.00	12.15	90
4	10020.0	-47.34	4.20	12.05	Horizontal	-39.49	-25.00	14.49	270
5	12525.0	-46.19	5.20	12.85	Horizontal	-38.54	-25.00	13.54	45
6	15030.0	-45.36	5.50	14.23	Horizontal	-36.63	-25.00	11.63	225
7	17535.0	-43.96	5.70	14.15	Horizontal	-35.51	-25.00	10.51	270
8	20040.0	-42.11	6.30	13.76	Horizontal	-34.65	-25.00	9.65	90
9	22545.0	-40.52	6.80	14.05	Horizontal	-33.27	-25.00	8.27	45
10	25050.0	-40.07	6.90	14.84	Horizontal	-32.13	-25.00	7.13	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 Horizontal 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	-48.06	2.00	9.15	Horizontal	-40.91	-25.00	15.91	45
3	7605.0	-47.85	2.50	11.35	Horizontal	-39.00	-25.00	14.00	270
4	10140.0	-45.68	4.20	12.05	Horizontal	-37.83	-25.00	12.83	45
5	12675.0	-45.89	5.20	12.85	Horizontal	-38.24	-25.00	13.24	225
6	15210.0	-45.43	5.50	14.23	Horizontal	-36.70	-25.00	11.70	270
7	17745.0	-42.75	5.70	14.15	Horizontal	-34.30	-25.00	9.30	90
8	20280.0	-41.34	6.30	13.76	Horizontal	-33.88	-25.00	8.88	45
9	22815.0	-40.38	6.80	14.05	Horizontal	-33.13	-25.00	8.13	90
10	25350.0	-40.57	6.90	14.84	Horizontal	-32.63	-25.00	7.63	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 Horizontal 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	5130.0	-48.03	2.00	10.15	Horizontal	-39.88	-25.00	14.88	45
3	7695.0	-48.00	2.50	11.35	Horizontal	-39.15	-25.00	14.15	225
4	10260.0	-47.00	4.20	12.05	Horizontal	-39.15	-25.00	14.15	270
5	12825.0	-46.40	5.20	14.85	Horizontal	-36.75	-25.00	11.75	90
6	15390.0	-44.54	5.50	13.23	Horizontal	-36.81	-25.00	11.81	45
7	17955.0	-41.31	5.70	12.15	Horizontal	-34.86	-25.00	9.86	90
8	20520.0	-41.59	6.30	13.76	Horizontal	-34.13	-25.00	9.13	270
9	23085.0	-40.88	6.80	14.05	Horizontal	-33.63	-25.00	8.63	45
10	25650.0	-41.17	6.90	14.84	Horizontal	-33.23	-25.00	8.23	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 Horizontal 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	5015.0	-48.90	2.00	10.15	Horizontal	-40.75	-25.00	15.75	270
3	7522.5	-45.77	2.50	11.35	Horizontal	-36.92	-25.00	11.92	90
4	10030.0	-45.82	4.20	12.05	Horizontal	-37.97	-25.00	12.97	45
5	12537.5	-48.89	5.20	14.85	Horizontal	-39.24	-25.00	14.24	90
6	15045.0	-43.95	5.50	13.23	Horizontal	-36.22	-25.00	11.22	270
7	17552.5	-41.15	5.70	12.15	Horizontal	-34.70	-25.00	9.70	45
8	20060.0	-41.11	6.30	13.76	Horizontal	-33.65	-25.00	8.65	225
9	22567.5	-40.74	6.80	14.05	Horizontal	-33.49	-25.00	8.49	270
10	25075.0	-40.52	6.90	14.84	Horizontal	-32.58	-25.00	7.58	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 Horizontal 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	5070.0	-50.15	2.00	10.15	Horizontal	-42.00	-25.00	17.00	45
3	7605.0	-49.12	2.50	11.35	Horizontal	-40.27	-25.00	15.27	90
4	10140.0	-45.29	4.20	12.05	Horizontal	-37.44	-25.00	12.44	270
5	12675.0	-45.96	5.20	14.85	Horizontal	-36.31	-25.00	11.31	45
6	15210.0	-43.69	5.50	13.23	Horizontal	-35.96	-25.00	10.96	225
7	17745.0	-40.83	5.70	12.15	Horizontal	-34.38	-25.00	9.38	270
8	20280.0	-40.69	6.30	13.76	Horizontal	-33.23	-25.00	8.23	90
9	22815.0	-39.91	6.80	14.05	Horizontal	-32.66	-25.00	7.66	45
10	25350.0	-40.07	6.90	14.84	Horizontal	-32.13	-25.00	7.13	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 Horizontal 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	5125.0	-46.39	2.00	10.15	Horizontal	-38.24	-25.00	13.24	45
3	7687.5	-45.69	2.50	11.35	Horizontal	-36.84	-25.00	11.84	270
4	10250.0	-46.97	4.20	12.05	Horizontal	-39.12	-25.00	14.12	45
5	12812.5	-46.55	5.20	14.85	Horizontal	-36.90	-25.00	11.90	225
6	15375.0	-44.74	5.50	13.23	Horizontal	-37.01	-25.00	12.01	270
7	17937.5	-42.37	5.70	12.15	Horizontal	-35.92	-25.00	10.92	90
8	20500.0	-42.59	6.30	13.76	Horizontal	-35.13	-25.00	10.13	45
9	23062.5	-41.74	6.80	14.05	Horizontal	-34.49	-25.00	9.49	90
10	25625.0	-41.82	6.90	14.84	Horizontal	-33.88	-25.00	8.88	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 Horizontal 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	5020.0	-49.26	2.00	10.15	Horizontal	-41.11	-25.00	16.11	45
3	7530.0	-45.94	2.50	11.35	Horizontal	-37.09	-25.00	12.09	225
4	10040.0	-45.80	4.20	12.05	Horizontal	-37.95	-25.00	12.95	270
5	12550.0	-48.05	5.20	14.85	Horizontal	-38.40	-25.00	13.40	90
6	15060.0	-44.75	5.50	13.23	Horizontal	-37.02	-25.00	12.02	45
7	17570.0	-41.19	5.70	12.15	Horizontal	-34.74	-25.00	9.74	90
8	20080.0	-41.59	6.30	13.76	Horizontal	-34.13	-25.00	9.13	270
9	22590.0	-41.23	6.80	14.05	Horizontal	-33.98	-25.00	8.98	45
10	25100.0	-41.18	6.90	14.84	Horizontal	-33.24	-25.00	8.24	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 Horizontal 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	5070.0	-47.29	2.00	10.15	Horizontal	-39.14	-25.00	14.14	270
3	7605.0	-47.44	2.50	11.35	Horizontal	-38.59	-25.00	13.59	90
4	10140.0	-45.25	4.20	12.05	Horizontal	-37.40	-25.00	12.40	45
5	12675.0	-48.52	5.20	14.85	Horizontal	-38.87	-25.00	13.87	90
6	15210.0	-44.22	5.50	13.23	Horizontal	-36.49	-25.00	11.49	90
7	17745.0	-40.24	5.70	12.15	Horizontal	-33.79	-25.00	8.79	270
8	20280.0	-40.59	6.30	13.76	Horizontal	-33.13	-25.00	8.13	45
9	22815.0	-39.90	6.80	14.05	Horizontal	-32.65	-25.00	7.65	225
10	25350.0	-39.82	6.90	14.84	Horizontal	-31.88	-25.00	6.88	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 Horizontal 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	5120.0	-47.15	2.00	10.15	Horizontal	-39.00	-25.00	14.00	90
3	7680.0	-45.06	2.50	11.35	Horizontal	-36.21	-25.00	11.21	45
4	10240.0	-46.08	4.20	12.05	Horizontal	-38.23	-25.00	13.23	90
5	12800.0	-46.50	5.20	14.85	Horizontal	-36.85	-25.00	11.85	270
6	15360.0	-44.19	5.50	13.23	Horizontal	-36.46	-25.00	11.46	45
7	17920.0	-42.79	5.70	12.15	Horizontal	-36.34	-25.00	11.34	225
8	20480.0	-42.92	6.30	13.76	Horizontal	-35.46	-25.00	10.46	270
9	23040.0	-42.00	6.80	14.05	Horizontal	-34.75	-25.00	9.75	90
10	25600.0	-42.07	6.90	14.84	Horizontal	-34.13	-25.00	9.13	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 Horizontal position.

5 Main Test Instruments

Name	Type	Manufacturer	Serial Number	Calibration Date	Expiration Time
Base Station Simulator	CMW500	R&S	113645	2016-05-21	2017-05-20
Power Splitter	SHX-GF2-2-13	Hua Xiang	10120101	NA	NA
Universal Radio Communication Tester	E5515C	Agilent	MY48367192	2016-05-21	2017-05-20
Spectrum Analyzer	N9010A	Agilent	MY47191109	2016-05-21	2017-05-20
Signal Analyzer	FSV30	R&S	100815	2016-12-16	2017-12-15
Signal generator	SMB 100A	R&S	102594	2016-05-22	2017-05-21
Signal generator	SMR27	R&S	100365	2016-05-22	2017-05-21
EMI Test Receiver	ESCI	R&S	100948	2016-06-01	2017-05-31
Trilog Antenna	VUBL 9163	SCHWARZBECK	9163-201	2014-12-06	2017-12-05
Trilog Antenna	VUBL 9163	SCHWARZBECK	9163-391	2014-12-06	2017-12-05
Horn Antenna	HF907	R&S	100126	2014-12-06	2017-12-05
Horn Antenna	HF907	R&S	100125	2014-12-06	2017-12-05
Horn Antenna	3160-09	ETS-Lindgren	00102643	2015-01-30	2018-01-29
Horn Antenna	3160-09	ETS-Lindgren	00102644	2014-12-06	2017-12-05
Climatic Chamber	PT-30B	Re Ce	20101891	2016-07-17	2017-07-16
RF Cable	SMA 15cm	Agilent	0001	2017-02-06	2017-08-05

ANNEX A: EUT Appearance and Test Setup

A.1 EUT Appearance



Front Side



Back Side

a: EUT



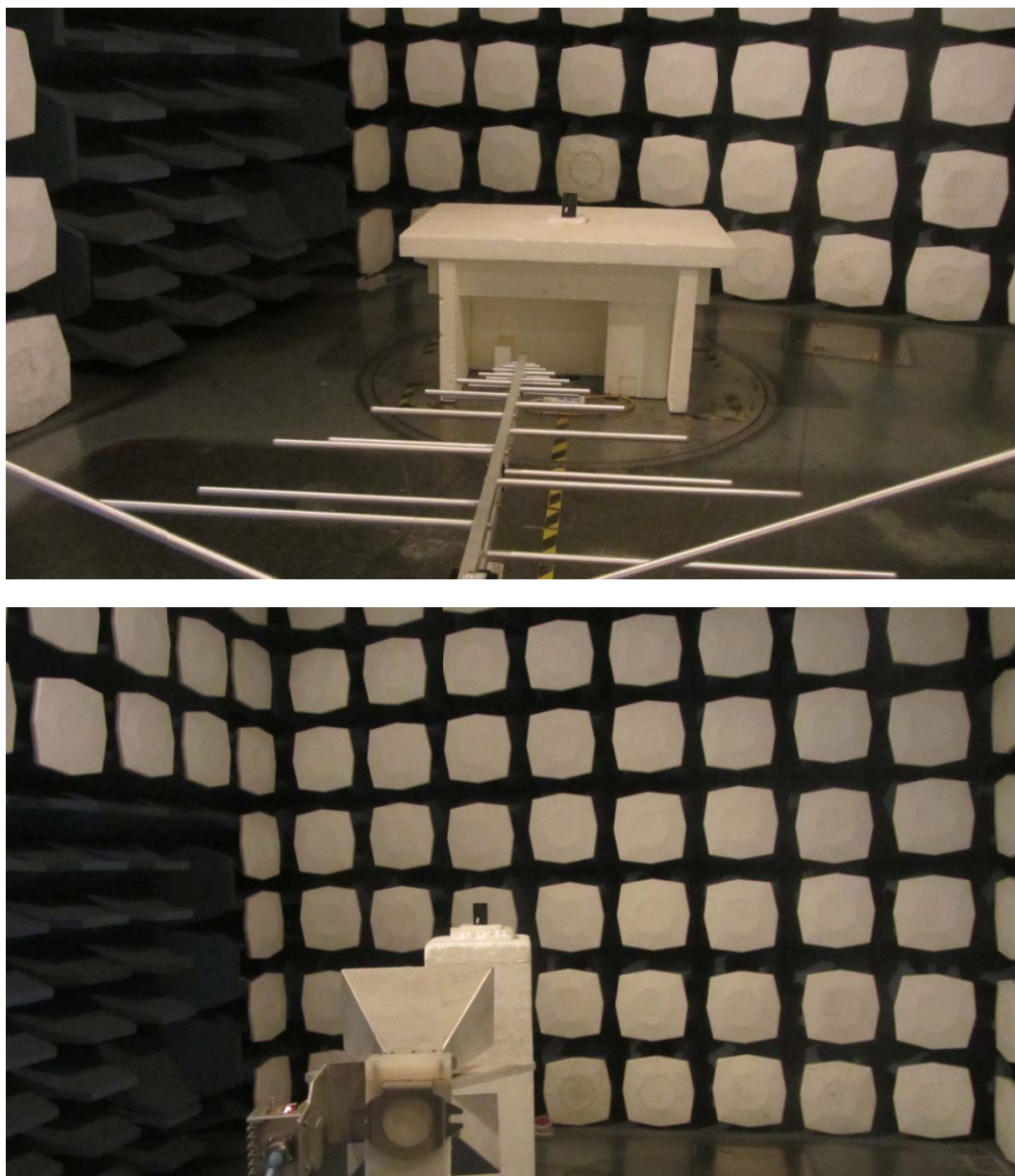
c: Adapter



d: USB Cable

Picture 1 EUT and Accessory

A.2 Test Setup



Picture 2: Radiated Spurious Emissions Test setup