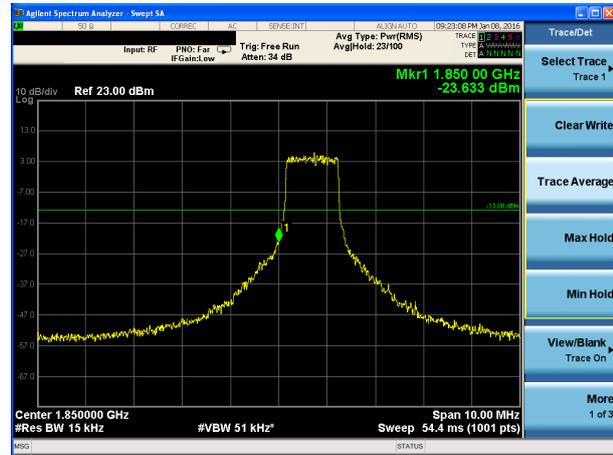
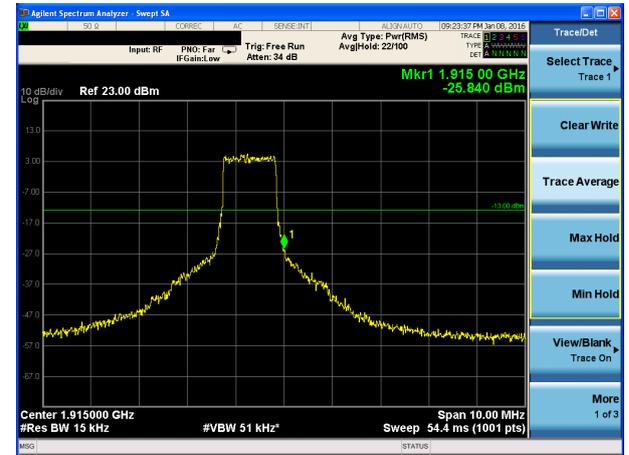




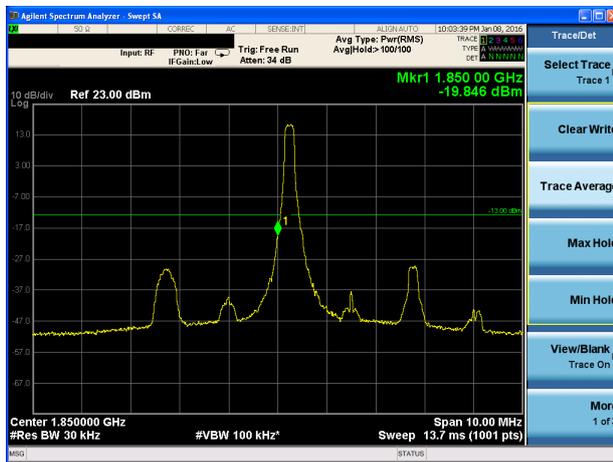
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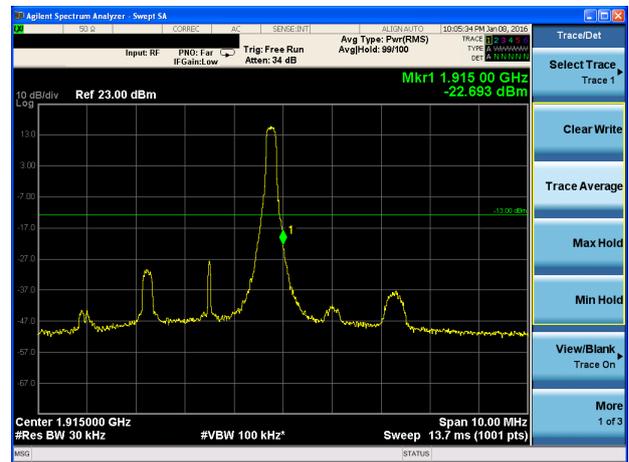
LTE Band 25 1.4MHz 16QAM 100%RB CH26683



LTE Band 25 3MHz QPSK 1RB CH26055



LTE Band 25 3MHz QPSK 1RB CH26675



LTE Band 25 3MHz QPSK 100%RB CH26055

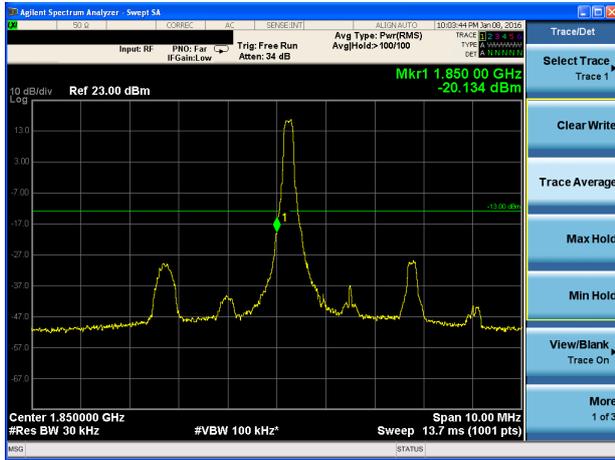


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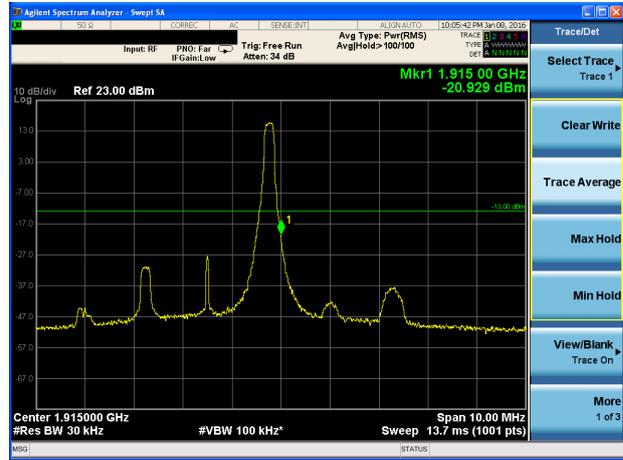




LTE Band 25 3MHz 16QAM 1RB CH26055



LTE Band 25 3MHz 16QAM 1RB CH26675



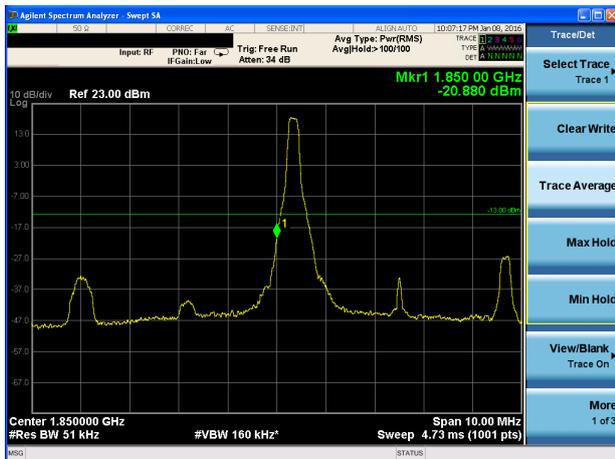
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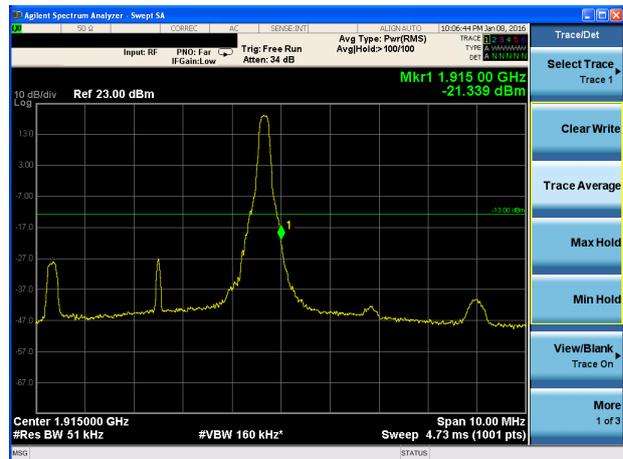
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LTE Band 25 5MHz QPSK 1RB CH26065



LTE Band 25 5MHz QPSK 1RB CH26665





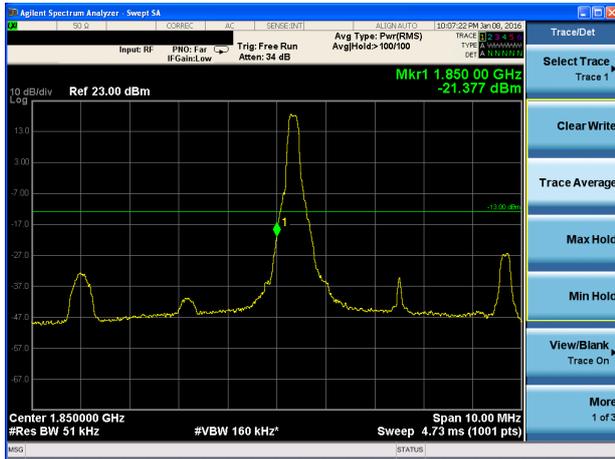
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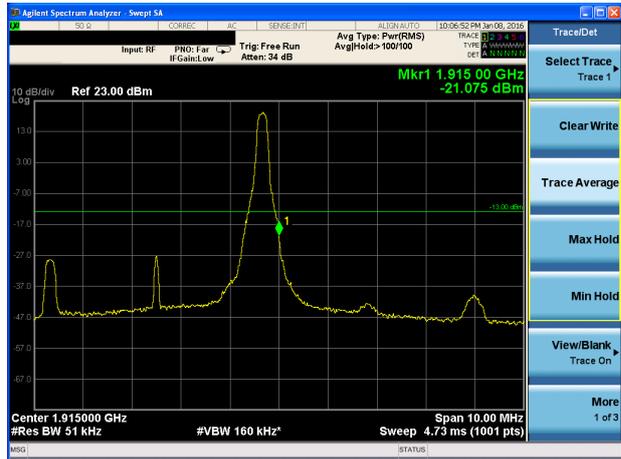
LTE Band 25 5MHz QPSK 100%RB CH26665



LTE Band 25 5MHz 16QAM 1RB CH26065



LTE Band 25 5MHz 16QAM 1RB CH26665



LTE Band 25 5MHz 16QAM 100%RB H26065

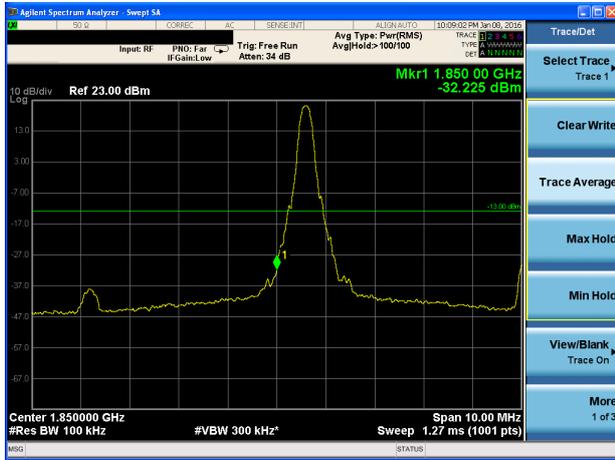


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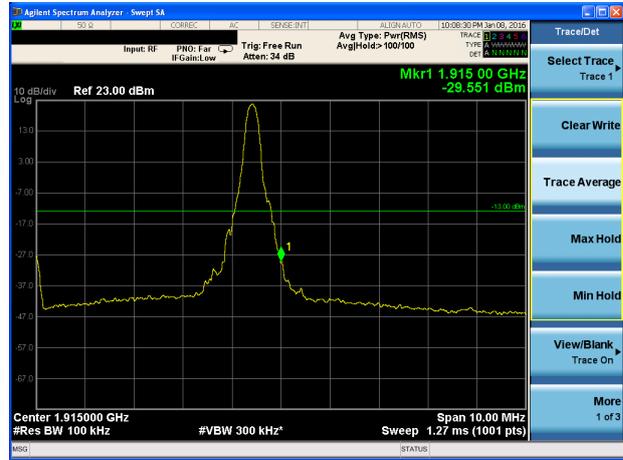




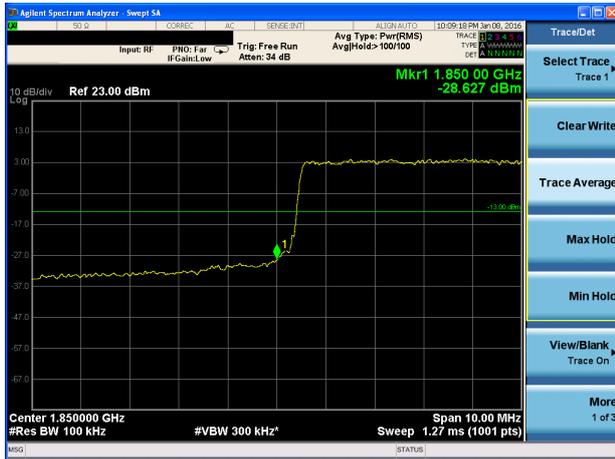
LTE Band 25 10MHz QPSK 1RB CH26090



LTE Band 25 10MHz QPSK 1RB CH26640



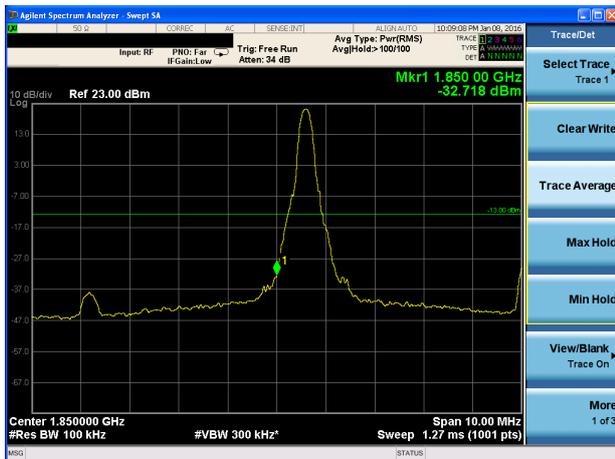
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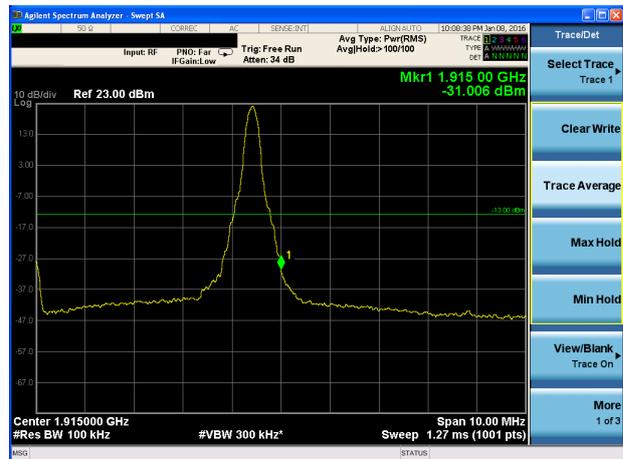
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LTE Band 25 10MHz 16QAM 1RB CH26090



LTE Band 25 10MHz 16QAM 1RB CH26640





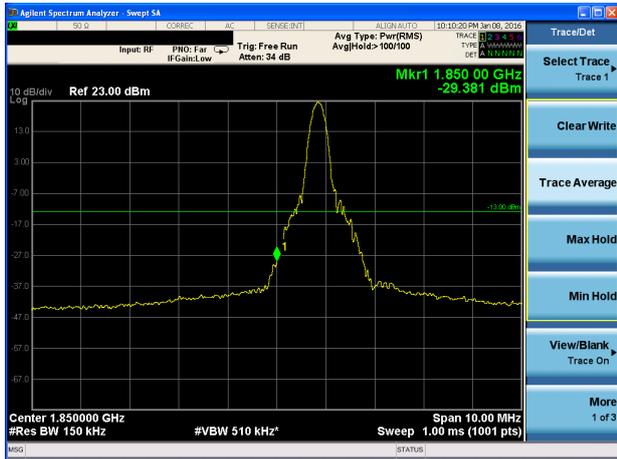
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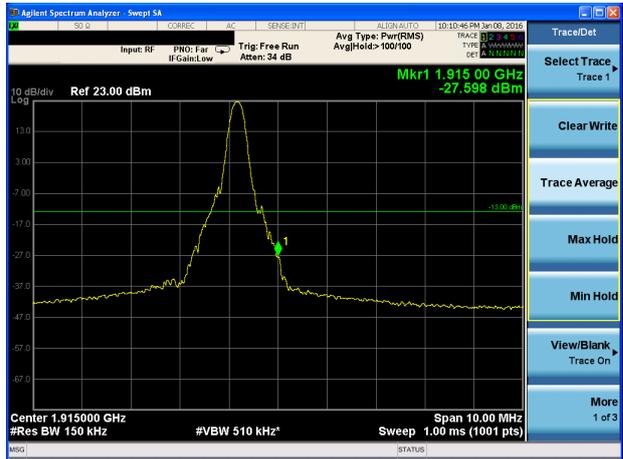
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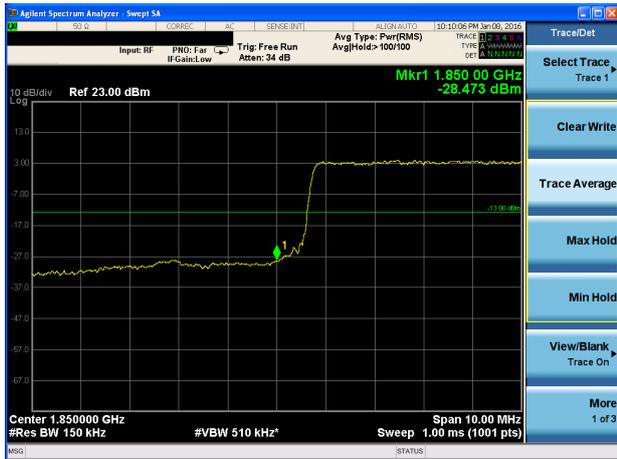
LTE Band 25 15MHz QPSK 1RB CH26115



LTE Band 25 15MHz QPSK 1RB CH26615



LTE Band 25 15MHz QPSK 100%RB CH26115

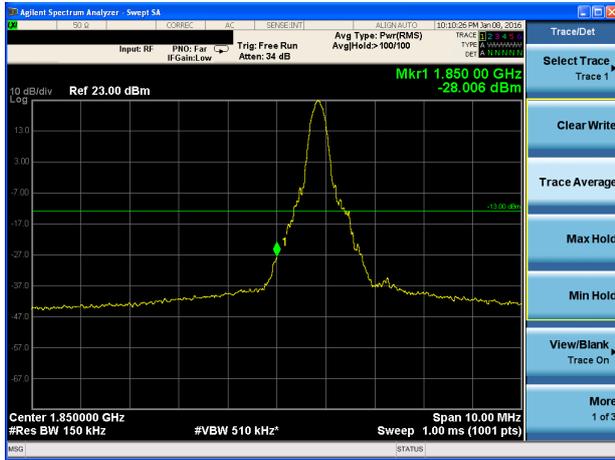


LTE Band 25 15MHz QPSK 100%RB CH26615

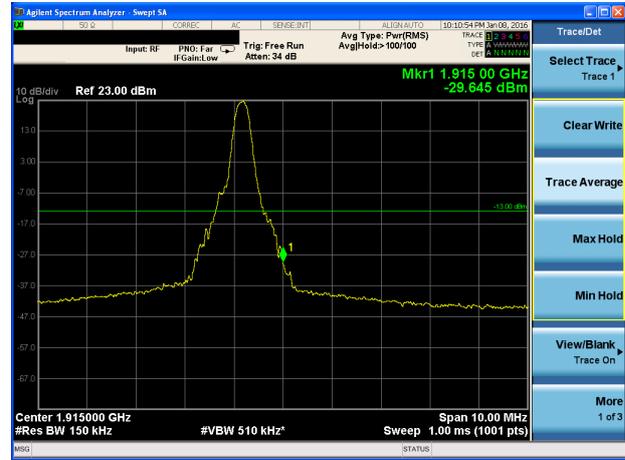




LTE Band 25 15MHz 16QAM 1RB CH26115



LTE Band 25 15MHz 16QAM 1RB CH26615



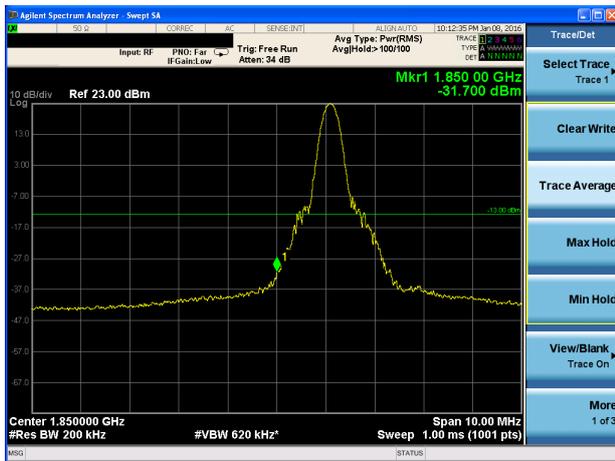
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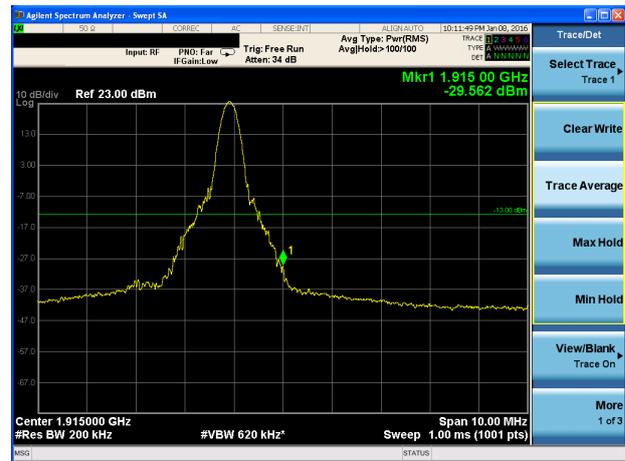
LTE Band 25 15MHz 16QAM 100%RB CH26615



LTE Band 25 20MHz QPSK 1RB CH26140



LTE Band 25 20MHz QPSK 1RB CH26590





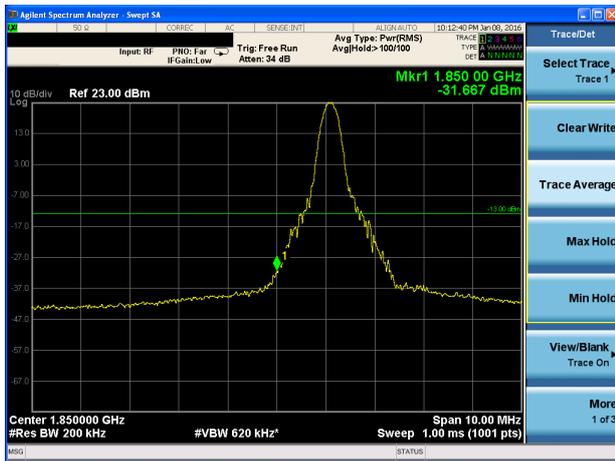
LTE Band 25 20MHz QPSK 100%RB CH26140



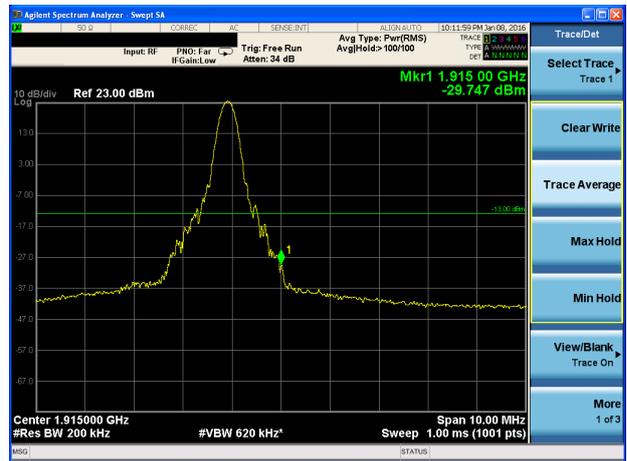
LTE Band 25 20MHz QPSK 100%RB CH26590



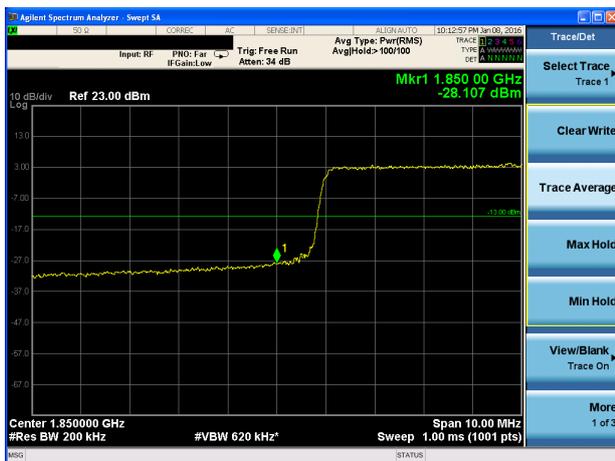
LTE Band 25 20MHz 16QAM 1RB CH26140



LTE Band 25 20MHz 16QAM 1RB CH26590



LTE Band 25 20MHz 16QAM 100%RB CH26140



LTE Band 25 20MHz 16QAM 100%RB CH26590



5.5. Peak-to-Average Power Ratio (PAPR)

Ambient condition

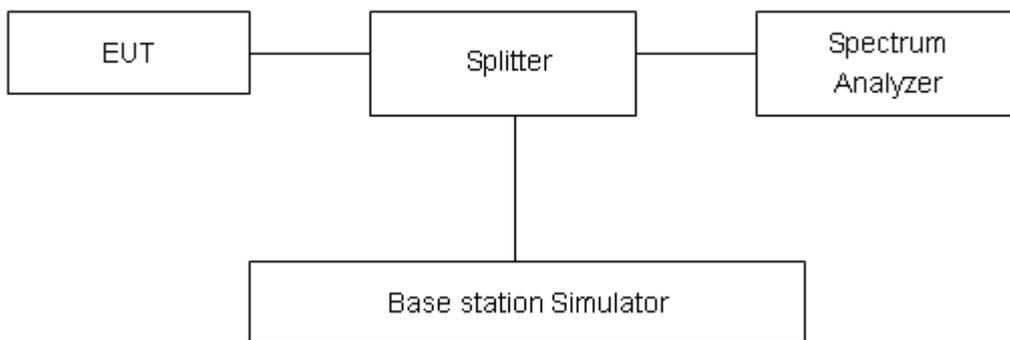
Temperature	Relative humidity
21°C ~25°C	40%~60%

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:

$$PAPR (dB) = PPK (dBm) - PAvg (dBm).$$

Test Setup



Limits

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 in 24.232(d).

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**

Mode	Channel	Frequency (MHz)	Peak(dBm)	Avg(dBm)	PAPR(dB)	Limit(dB)	Conclusion
GSM 1900 (GSM)	512	1850.2	29.69	29.65	0.036	13	PASS
	661	1880	29.50	29.44	0.057	13	PASS
	810	1909.8	29.52	29.49	0.029	13	PASS
GPRS 1900 (GMSK)	512	1850.2	29.41	29.38	0.034	13	PASS
	661	1880	29.43	29.4	0.033	13	PASS
	810	1909.8	29.52	29.5	0.018	13	PASS
EGPRS 1900 (8-PSK)	512	1850.2	25.32	25.27	0.046	13	PASS
	661	1880	25.50	25.45	0.052	13	PASS
	810	1909.8	25.46	25.42	0.038	13	PASS
WCDMA Band II (RMC)	9262	1852.4	26.94	23.03	3.91	13	PASS
	9400	1880	26.87	22.93	3.94	13	PASS
	9538	1907.6	26.93	23	3.93	13	PASS
CDMA BC1 1xRTT	25	1851.25	27.72	23.71	4.01	13	PASS
	600	1880	27.96	23.52	4.44	13	PASS
	1175	1908.75	27.58	23.61	3.97	13	PASS



LTE Band 2		Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit(dB)	Conclusion
Modulation	Bandwidth							
1.4MHz	QPSK	18607	1850.7	23.71	22.83	0.88	13	PASS
		18900	1880.0	23.47	22.86	0.61	13	PASS
		19193	1909.3	23.55	22.82	0.73	13	PASS
	16QAM	18607	1850.7	22.63	21.82	0.81	13	PASS
		18900	1880.0	22.60	21.76	0.84	13	PASS
		19193	1909.3	23.04	21.91	1.12	13	PASS
3MHz	QPSK	18615	1851.5	23.37	22.72	0.65	13	PASS
		18900	1880	23.47	22.76	0.71	13	PASS
		19185	1908.5	23.79	22.72	1.07	13	PASS
	16QAM	18615	1851.5	22.44	21.71	0.72	13	PASS
		18900	1880	22.34	21.66	0.68	13	PASS
		19185	1908.5	22.53	21.81	0.72	13	PASS
5MHz	QPSK	18625	1852.5	23.62	22.75	0.87	13	PASS
		18900	1880	23.60	22.78	0.82	13	PASS
		19175	1907.5	23.27	22.74	0.53	13	PASS
	16QAM	18625	1852.5	22.62	21.74	0.88	13	PASS
		18900	1880	22.72	21.68	1.03	13	PASS
		19175	1907.5	22.70	21.83	0.86	13	PASS
10MHz	QPSK	18650	1855	23.92	22.76	1.16	13	PASS
		18900	1880	23.93	22.80	1.13	13	PASS
		19150	1905	23.94	22.75	1.19	13	PASS
	16QAM	18650	1855	22.94	21.75	1.19	13	PASS
		18900	1880	23.04	21.70	1.34	13	PASS
		19150	1905	23.02	21.85	1.17	13	PASS
15MHz	QPSK	18675	1857.5	24.06	22.79	1.27	13	PASS
		18900	1880	24.15	22.83	1.32	13	PASS
		19125	1902.5	24.00	22.79	1.21	13	PASS
	16QAM	18675	1857.5	23.14	21.78	1.35	13	PASS
		18900	1880	22.94	21.73	1.21	13	PASS
		19125	1902.5	23.17	21.88	1.29	13	PASS
20MHz	QPSK	18700	1860	24.17	22.81	1.36	13	PASS
		18900	1880	24.07	22.85	1.22	13	PASS
		19100	1900	23.96	22.81	1.15	13	PASS
	16QAM	18700	1860	23.04	21.80	1.23	13	PASS
		18900	1880	22.95	21.75	1.20	13	PASS
		19100	1900	23.07	21.90	1.17	13	PASS



LTE Band 25		Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit(dB)	Conclusion
Modulation	Bandwidth							
1.4MHz	QPSK	26047	1850.7	23.46	22.60	0.86	13	PASS
		26365	1882.5	22.66	22.06	0.60	13	PASS
		26683	1914.3	23.31	22.57	0.74	13	PASS
	16QAM	26047	1850.7	22.00	21.58	0.42	13	PASS
		26365	1882.5	22.03	21.55	0.48	13	PASS
		26683	1914.3	22.52	21.49	1.03	13	PASS
3MHz	QPSK	26055	1851.5	23.18	22.49	0.69	13	PASS
		26365	1882.5	22.68	21.95	0.73	13	PASS
		26675	1913.5	24.21	22.47	1.74	13	PASS
	16QAM	26055	1851.5	22.21	21.47	0.74	13	PASS
		26365	1882.5	22.12	21.45	0.67	13	PASS
		26675	1913.5	22.10	21.39	0.71	13	PASS
5MHz	QPSK	26065	1852.5	23.41	22.52	0.89	13	PASS
		26365	1882.5	22.81	21.98	0.83	13	PASS
		26665	1912.5	23.02	22.50	0.52	13	PASS
	16QAM	26065	1852.5	22.39	21.50	0.89	13	PASS
		26365	1882.5	22.68	21.48	1.20	13	PASS
		26665	1912.5	22.25	21.42	0.83	13	PASS
10MHz	QPSK	26090	1855	24.45	22.55	1.90	13	PASS
		26365	1882.5	23.34	22.01	1.33	13	PASS
		26640	1910	24.01	22.52	1.49	13	PASS
	16QAM	26090	1855	23.02	21.53	1.49	13	PASS
		26365	1882.5	22.83	21.51	1.32	13	PASS
		26640	1910	22.58	21.45	1.13	13	PASS
15MHz	QPSK	26115	1857.5	24.18	22.56	1.62	13	PASS
		26365	1882.5	23.25	22.02	1.23	13	PASS
		26615	1907.5	23.95	22.53	1.42	13	PASS
	16QAM	26115	1857.5	22.89	21.54	1.35	13	PASS
		26365	1882.5	22.64	21.52	1.12	13	PASS
		26615	1907.5	22.85	21.46	1.39	13	PASS
20MHz	QPSK	26140	1860	23.94	22.58	1.36	13	PASS
		26365	1882.5	23.28	22.04	1.24	13	PASS
		26590	1905	24.01	22.56	1.45	13	PASS
	16QAM	26140	1860	22.80	21.56	1.24	13	PASS
		26365	1882.5	22.76	21.54	1.22	13	PASS
		26590	1905	22.61	21.48	1.13	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 0°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)

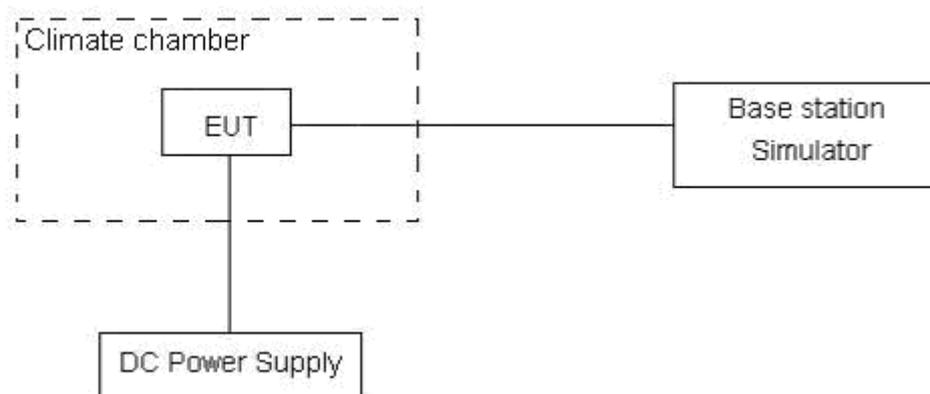
The frequency stability shall be measured with variation of primary supply voltage as follows:

(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 3.6V and 4.35V, with a nominal voltage of 3.8V.

Test setup



Limits

No specific frequency stability requirements in part 24.235

**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

Mode	Test status	Test Results (ppm)			Conclusion
		GSM(GMSK)	GPRS(GMSK)	EGPRS(8PSK)	
GSM 1900 Channel 661	-30°C/3.8 V	-0.0051	0.0092	0.0129	PASS
	-20°C/3.8 V	-0.0054	0.0047	-0.0013	PASS
	-10°C/3.8 V	-0.0022	0.0083	0.0091	PASS
	0°C/3.8 V	-0.0029	0.0105	0.0147	PASS
	10°C/3.8 V	-0.0036	0.0110	0.0176	PASS
	20°C/3.8 V	-0.0065	0.0078	0.0140	PASS
	30°C/3.8 V	-0.0040	0.0117	0.0112	PASS
	40°C/3.8 V	-0.0084	0.0047	0.0091	PASS
	50°C/3.8 V	-0.0071	0.0129	0.0127	PASS
	20°C/3.6 V	-0.0031	0.0136	0.0098	PASS
	20°C/4.35 V	-0.0023	0.0102	0.0156	PASS
Mode	Test status	EV-DO (Rev.0)			Conclusion
CDMA BC1 1xRTT	-30°C/3.8 V	-0.00052			PASS
	-20°C/3.8 V	0.00052			PASS
	-10°C/3.8 V	-0.00080			PASS
	0°C/3.8 V	0.00011			PASS
	10°C/3.8 V	-0.00101			PASS
	20°C/3.8 V	-0.00085			PASS
	30°C/3.8 V	-0.00074			PASS
	40°C/3.8 V	-0.00096			PASS
	50°C/3.8 V	-0.00048			PASS
	20°C/3.6 V	-0.00061			PASS
	20°C/4.35 V	-0.00069			PASS
Mode	Test status	RMC			Conclusion
WCDMA Band II Channel 9400	-30°C/3.8 V	-0.0013			PASS
	-20°C/3.8 V	-0.0008			PASS
	-10°C/3.8 V	-0.00026			PASS
	0°C/3.8 V	0.00000			PASS
	10°C/3.8 V	0.00021			PASS
	20°C/3.8 V	0.00035			PASS
	30°C/3.8 V	-0.00020			PASS
	40°C/3.8 V	-0.00009			PASS



	50°C/3.8 V	-0.00163	PASS
	20°C/3.6 V	-0.00214	PASS
	20°C/4.35 V	0.00268	PASS

Bandwith	Test status	LTE Band 2 Channel 18900		Conclusion
		Test Results (ppm)		
		QPSK	16QAM	
1.4MHz	-30°C/3.8 V	-0.00104	-0.00108	PASS
	-20°C/3.8 V	-0.00124	-0.00075	PASS
	-10°C/3.8 V	-0.00106	-0.00118	PASS
	0°C/3.8 V	-0.00139	-0.00085	PASS
	10°C/3.8 V	-0.00159	-0.00165	PASS
	20°C/3.8 V	-0.00131	-0.00161	PASS
	30°C/3.8 V	-0.00164	-0.00129	PASS
	40°C/3.8 V	-0.0016	-0.00152	PASS
	50°C/3.8 V	-0.0011	-0.00162	PASS
	20°C/3.6 V	-0.00134	-0.00164	PASS
	20°C/4.35 V	-0.00177	-0.00157	PASS
3MHz	-30°C/3.8 V	-0.00262	-0.00245	PASS
	-20°C/3.8 V	-0.00244	-0.00224	PASS
	-10°C/3.8 V	-0.00272	-0.00256	PASS
	0°C/3.8 V	-0.00257	-0.00249	PASS
	10°C/3.8 V	-0.00246	-0.00238	PASS
	20°C/3.8 V	-0.00231	-0.00265	PASS
	30°C/3.8 V	-0.00189	-0.00230	PASS
	40°C/3.8 V	-0.00274	-0.00245	PASS
	50°C/3.8 V	-0.00191	-0.00240	PASS
	20°C/3.6 V	-0.00213	-0.00209	PASS
	20°C/4.35 V	-0.00210	-0.00260	PASS
5MHz	-30°C/3.8 V	-0.00175	-0.00211	PASS
	-20°C/3.8 V	-0.00211	-0.00156	PASS
	-10°C/3.8 V	-0.00182	-0.00218	PASS
	0°C/3.8 V	-0.00214	-0.00179	PASS
	10°C/3.8 V	-0.00174	-0.00173	PASS
	20°C/3.8 V	-0.00254	-0.00154	PASS
	30°C/3.8 V	-0.00248	-0.00215	PASS
	40°C/3.8 V	-0.00223	-0.00221	PASS
	50°C/3.8 V	-0.00205	-0.00156	PASS
	20°C/3.6 V	-0.00178	-0.00235	PASS



	20°C/4.35 V	-0.00199	-0.00200	PASS
10MHz	-30°C/3.8 V	-0.00205	-0.00152	PASS
	-20°C/3.8 V	-0.00144	-0.00176	PASS
	-10°C/3.8 V	-0.00214	-0.00156	PASS
	0°C/3.8 V	-0.00165	-0.00186	PASS
	10°C/3.8 V	-0.00200	-0.00231	PASS
	20°C/3.8 V	-0.00164	-0.00191	PASS
	30°C/3.8 V	-0.00230	-0.00225	PASS
	40°C/3.8 V	-0.00171	-0.00198	PASS
	50°C/3.8 V	-0.00164	-0.00177	PASS
	20°C/3.6 V	-0.00164	-0.00202	PASS
	20°C/4.35 V	-0.00194	-0.00243	PASS
	15MHz	-30°C/3.8 V	-0.00174	-0.00175
-20°C/3.8 V		-0.00225	-0.00145	PASS
-10°C/3.8 V		-0.00185	-0.00193	PASS
0°C/3.8 V		-0.00251	-0.00173	PASS
10°C/3.8 V		-0.00218	-0.00176	PASS
20°C/3.8 V		-0.00228	-0.00169	PASS
30°C/3.8 V		-0.00207	-0.00166	PASS
40°C/3.8 V		-0.00177	-0.00203	PASS
50°C/3.8 V		-0.00219	-0.00182	PASS
20°C/3.6 V		-0.00219	-0.00198	PASS
20°C/4.35 V		-0.00240	-0.00212	PASS
20MHz		-30°C/3.8 V	-0.00177	-0.00202
	-20°C/3.8 V	-0.00185	-0.00185	PASS
	-10°C/3.8 V	-0.00189	-0.00214	PASS
	0°C/3.8 V	-0.00195	-0.00194	PASS
	10°C/3.8 V	-0.00152	-0.00189	PASS
	20°C/3.8 V	-0.00189	-0.00175	PASS
	30°C/3.8 V	-0.00198	-0.00165	PASS
	40°C/3.8 V	-0.00169	-0.00177	PASS
	50°C/3.8 V	-0.00211	-0.00234	PASS
	20°C/3.6 V	-0.00182	-0.00204	PASS
	20°C/4.35 V	-0.00208	-0.00209	PASS



Bandwidth	Test status	LTE Band 25 Channel 26365		Conclusion
		Test Results (ppm)		
		QPSK	16QAM	
1.4MHz	-30°C/3.8 V	0.00044	-0.00020	PASS
	-20°C/3.8 V	-0.00042	0.00056	PASS
	-10°C/3.8 V	0.00046	-0.00023	PASS
	0°C/3.8 V	-0.00044	0.00058	PASS
	10°C/3.8 V	0.00033	0.00012	PASS
	20°C/3.8 V	0.00084	-0.00014	PASS
	30°C/3.8 V	0.00045	-0.00021	PASS
	40°C/3.8 V	-0.00001	0.00011	PASS
	50°C/3.8 V	0.00030	0.00037	PASS
	20°C/3.6 V	0.00035	0.00050	PASS
	20°C/4.35 V	0.00057	0.00046	PASS
3MHz	-30°C/3.8 V	-0.00031	0.00030	PASS
	-20°C/3.8 V	0.00024	0.00035	PASS
	-10°C/3.8 V	-0.00034	0.00032	PASS
	0°C/3.8 V	0.00028	0.00039	PASS
	10°C/3.8 V	-0.00049	-0.00053	PASS
	20°C/3.8 V	0.00018	-0.00013	PASS
	30°C/3.8 V	-0.00005	-0.00057	PASS
	40°C/3.8 V	-0.00071	-0.00033	PASS
	50°C/3.8 V	-0.00045	-0.0004	PASS
	20°C/3.6 V	0.00016	0.00016	PASS
	20°C/4.35 V	0.00036	-0.00074	PASS
5MHz	-30°C/3.8 V	0.00007	0.00008	PASS
	-20°C/3.8 V	0.00050	0.00064	PASS
	-10°C/3.8 V	0.00008	0.00009	PASS
	0°C/3.8 V	0.00053	0.00069	PASS
	10°C/3.8 V	-0.00018	0.00065	PASS
	20°C/3.8 V	0.00033	-0.00019	PASS
	30°C/3.8 V	0.00005	-0.00026	PASS
	40°C/3.8 V	-0.00046	0.00030	PASS
	50°C/3.8 V	-0.00011	-0.00023	PASS
	20°C/3.6 V	0.00046	-0.00058	PASS
	20°C/4.35 V	-0.00015	0.00042	PASS
10MHz	-30°C/3.8 V	0.00011	0.00061	PASS
	-20°C/3.8 V	0.00042	0.00002	PASS
	-10°C/3.8 V	0.00012	0.00065	PASS



	0°C/3.8 V	0.00044	0.00003	PASS
	10°C/3.8 V	-0.00045	0.00042	PASS
	20°C/3.8 V	-0.00042	0.00048	PASS
	30°C/3.8 V	0.00070	-0.00020	PASS
	40°C/3.8 V	-0.00054	0.00007	PASS
	50°C/3.8 V	-0.00004	0.00041	PASS
	20°C/3.6 V	0.00025	0.00027	PASS
	20°C/4.35 V	0.00032	0.00031	PASS
15MHz	-30°C/3.8 V	0.00005	0.00030	PASS
	-20°C/3.8 V	-0.00011	-0.00022	PASS
	-10°C/3.8 V	0.00007	0.00033	PASS
	0°C/3.8 V	-0.00014	-0.00023	PASS
	10°C/3.8 V	0.00002	0.00018	PASS
	20°C/3.8 V	0.00003	0.00003	PASS
	30°C/3.8 V	-0.00030	0.00032	PASS
	40°C/3.8 V	-0.00011	0.00026	PASS
	50°C/3.8 V	-0.00020	0.00036	PASS
	20°C/3.6 V	0.00028	0.00035	PASS
	20°C/4.35 V	-0.00039	0.00024	PASS
20MHz	-30°C/3.8 V	0.00075	-0.00021	PASS
	-20°C/3.8 V	0.00041	0.00042	PASS
	-10°C/3.8 V	0.00089	-0.00022	PASS
	0°C/3.8 V	0.00040	0.00057	PASS
	10°C/3.8 V	-0.00026	0.00018	PASS
	20°C/3.8 V	0.00075	0.00033	PASS
	30°C/3.8 V	0.00018	0.00007	PASS
	40°C/3.8 V	0.00005	0.00016	PASS
	50°C/3.8 V	0.00087	0.00066	PASS
	20°C/3.6 V	0.00020	0.00051	PASS
	20°C/4.35 V	0.00027	0.00035	PASS

5.7. Spurious Emissions at Antenna Terminals

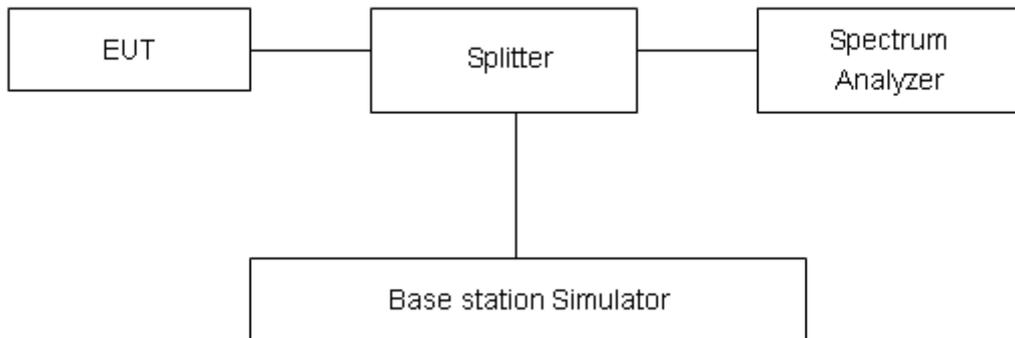
Ambient condition

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. 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.

Test setup



Limits

Rule Part 24.238(a) specifies that “on any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log₁₀ (P) dB.”

Limit	-13 dBm
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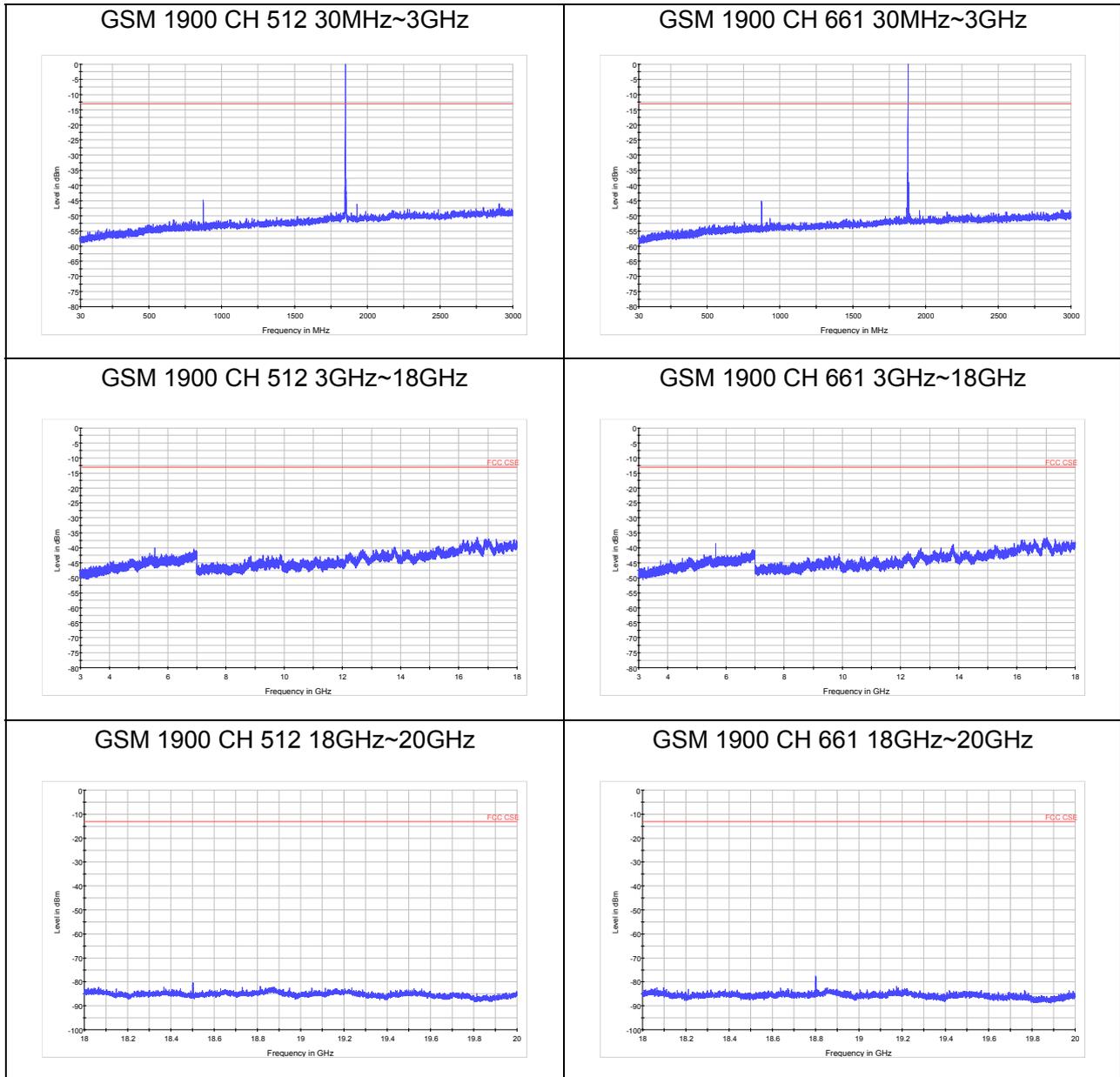
Measurement Uncertainty

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-18GHz	1.407 dB

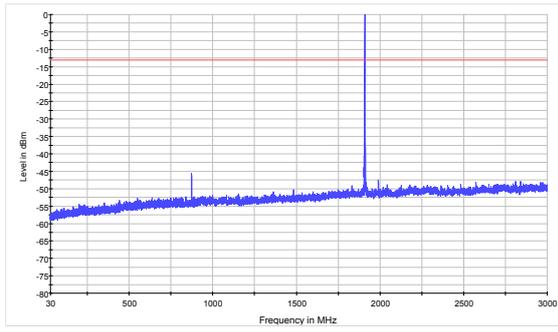
Test Result

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.

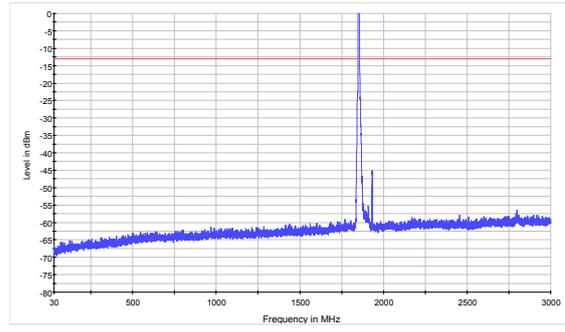




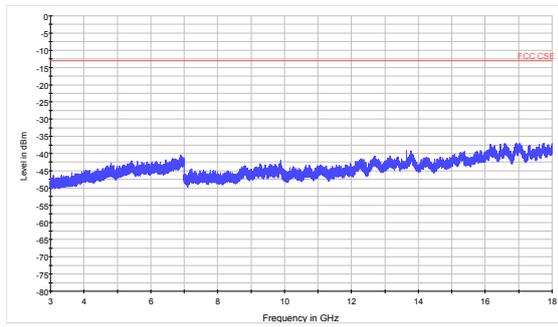
GSM 1900 CH 810 30MHz~3GHz



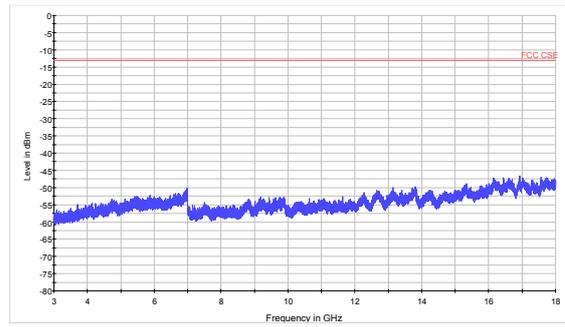
WCDMA Band II CH9262 30MHz~3GHz



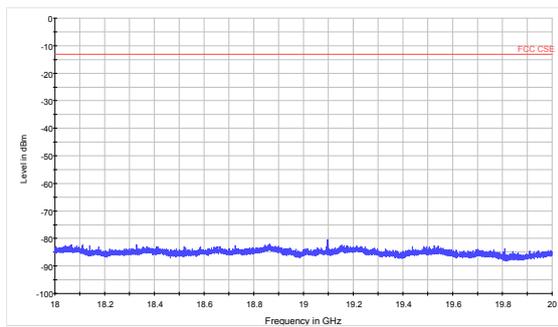
GSM 1900 CH 810 3GHz~18GHz



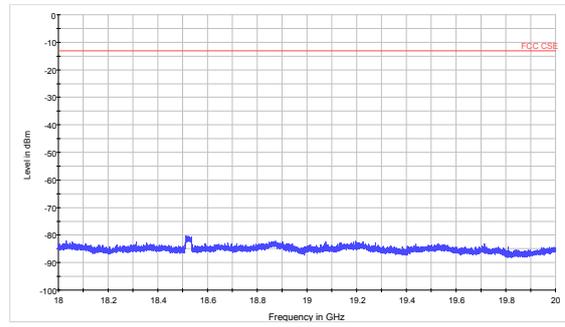
WCDMA Band II CH9262 3GHz~18GHz



GSM 1900 CH 810 18GHz~20GHz

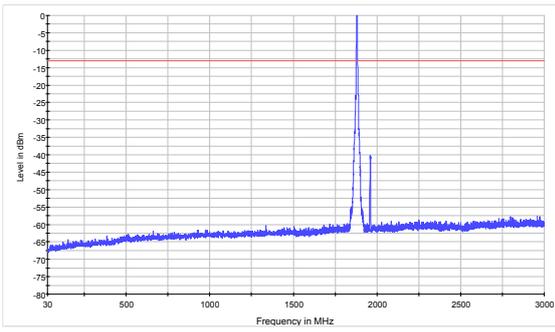


WCDMA Band II CH9262 18GHz~20GHz

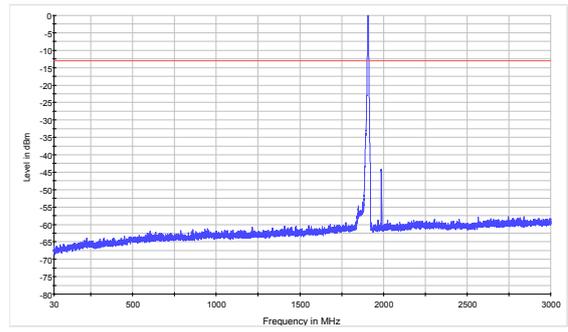




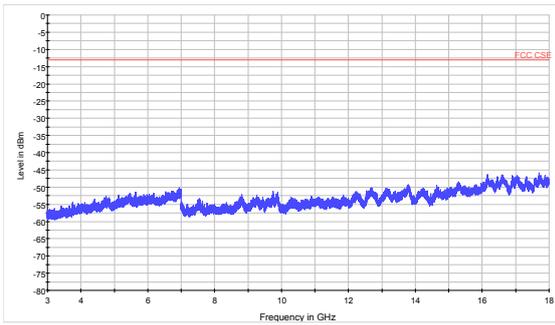
WCDMA Band II CH9400 30MHz~3GHz



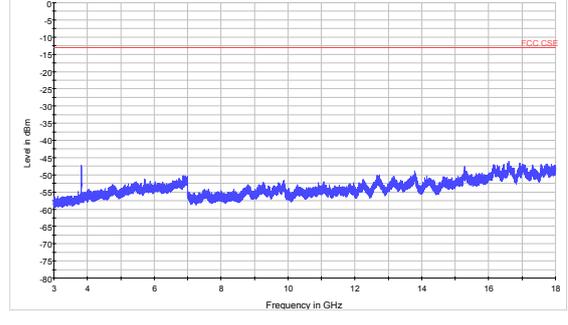
WCDMA Band II CH9538 30MHz~3GHz



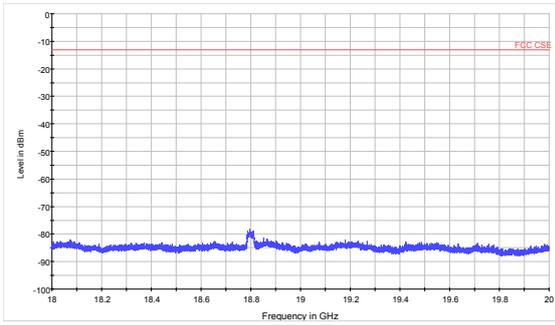
WCDMA Band II CH9400 3GHz~18GHz



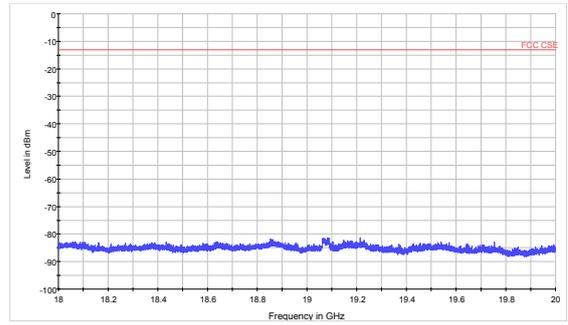
WCDMA Band II CH9538 3GHz~18GHz



WCDMA Band II CH9400 18GHz~20GHz

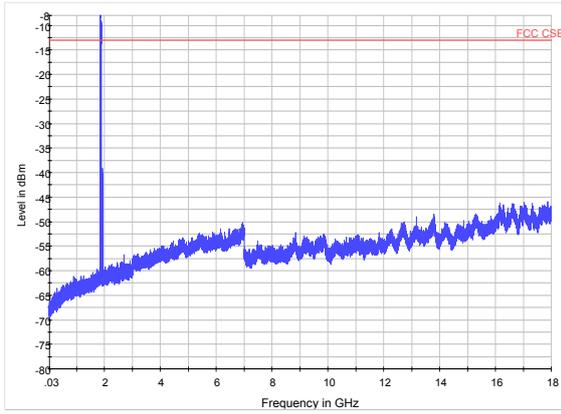


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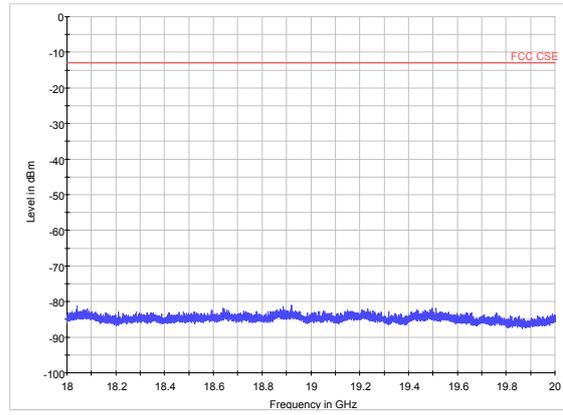




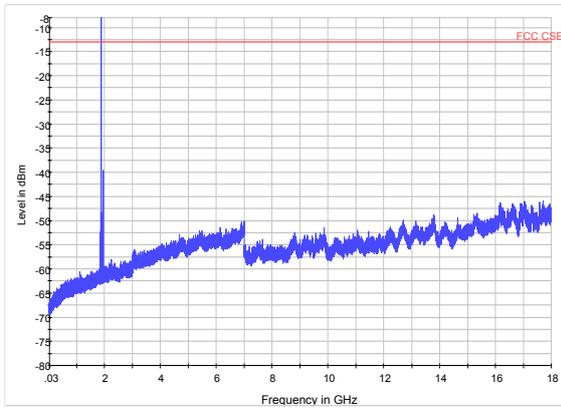
CDMA BC1 1xRTT CH25 30MHz~18GHz



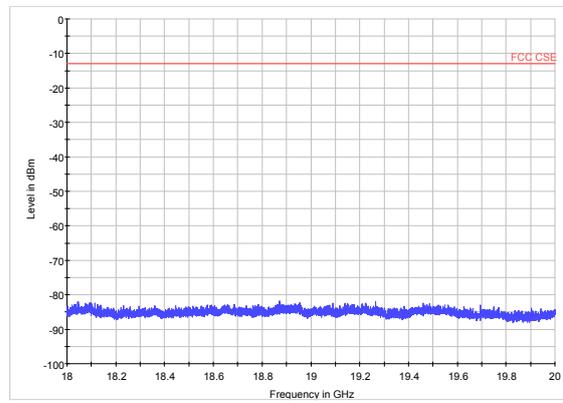
CDMA BC1 1xRTT CH25 18GHz~20GHz



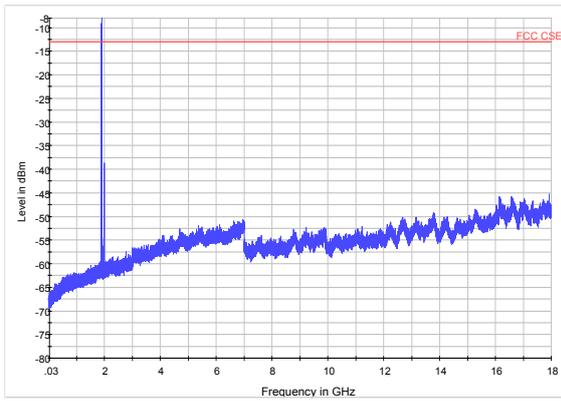
CDMA BC1 1xRTT CH600 30MHz~18GHz



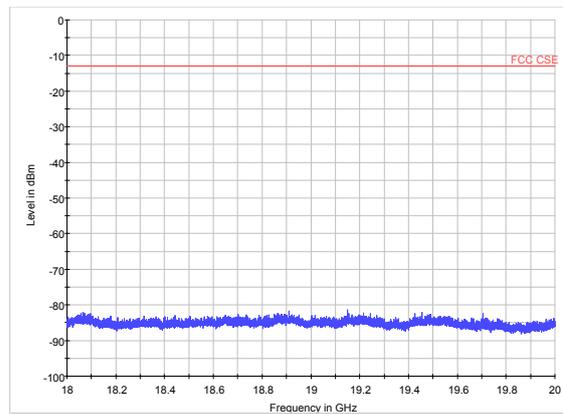
CDMA BC1 1xRTT CH600 18GHz~20GHz



CDMA BC1 1xRTT CH1175 30MHz~18GHz

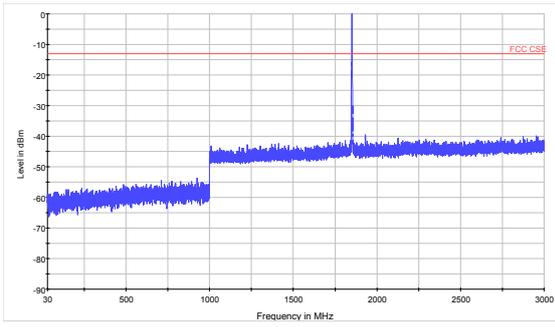


CDMA BC1 1xRTT CH1175 18GHz~20GHz

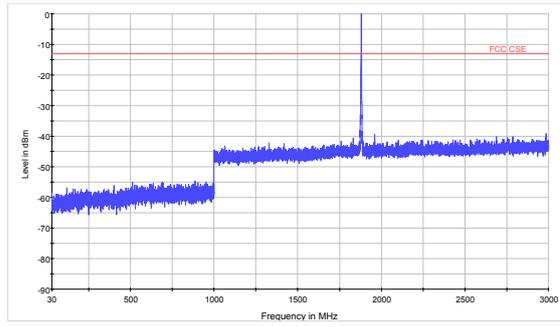




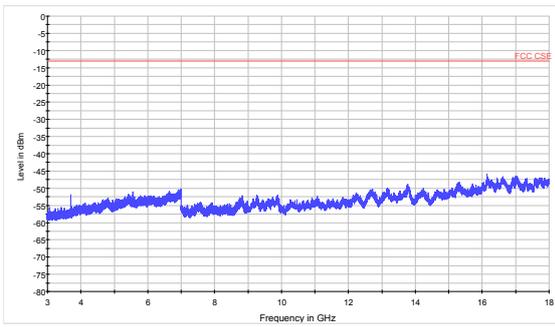
LTE Band 2 1.4MHz CH18607 30MHz~3GHz



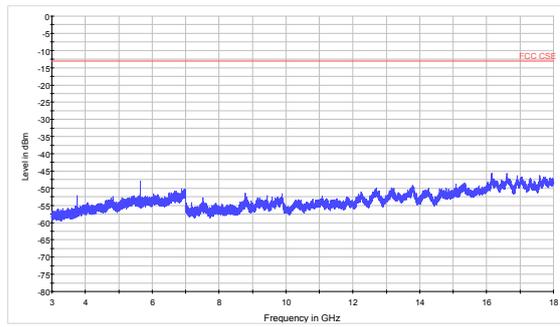
LTE Band 2 1.4MHz CH18900 30MHz~3GHz



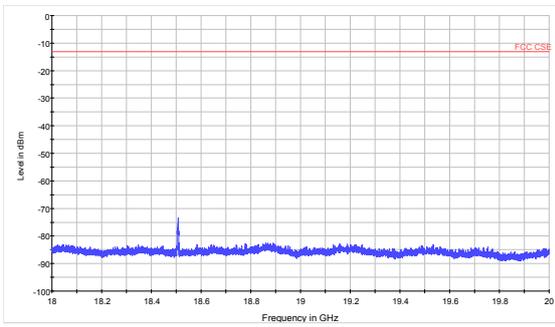
LTE Band 2 1.4MHz CH18607 3GHz~18GHz



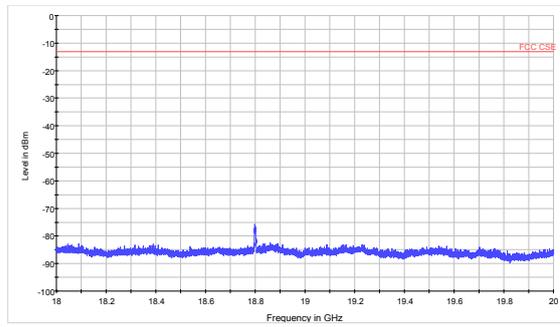
LTE Band 2 1.4MHz CH18900 3GHz~18GHz



LTE Band 2 1.4MHz CH18607 18GHz~20GHz

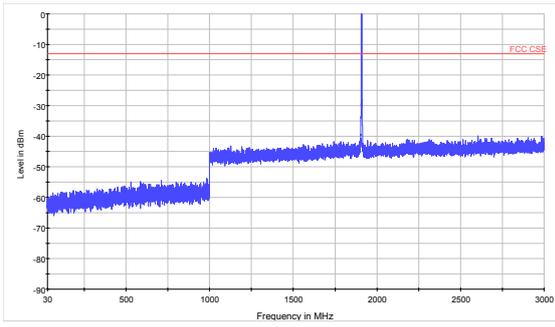


LTE Band 2 1.4MHz CH18900 18GHz~20GHz

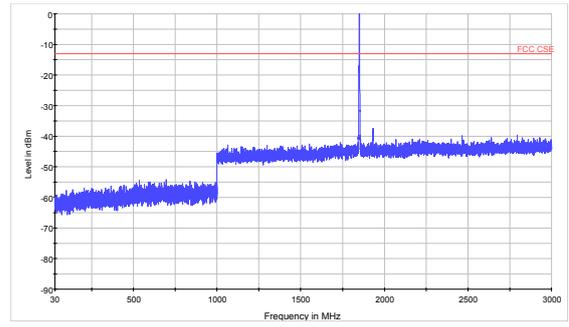




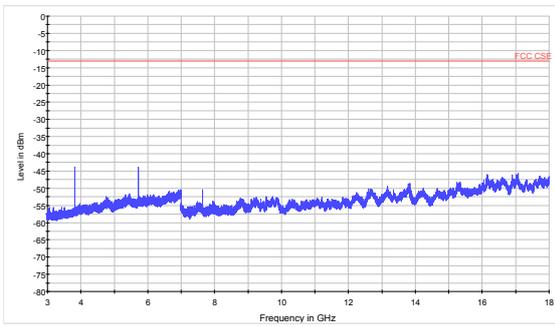
LTE Band 2 1.4MHz CH19193 30MHz~3GHz



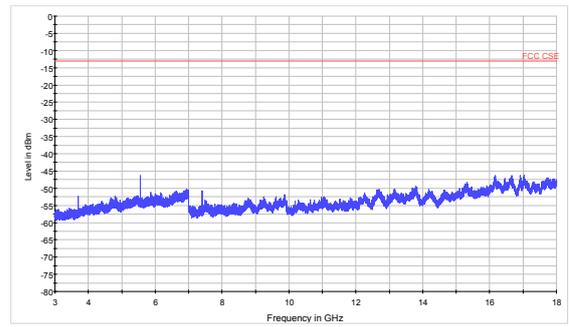
LTE Band 2 3MHz CH18615 30MHz~3GHz



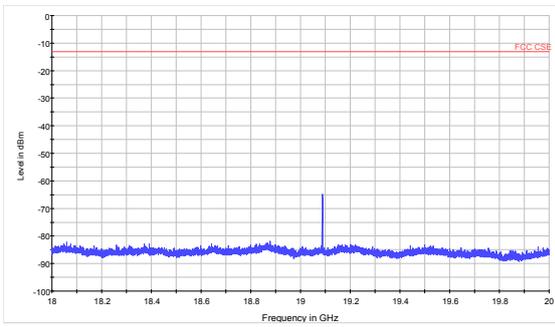
LTE Band 2 1.4MHz CH19193 3GHz~18GHz



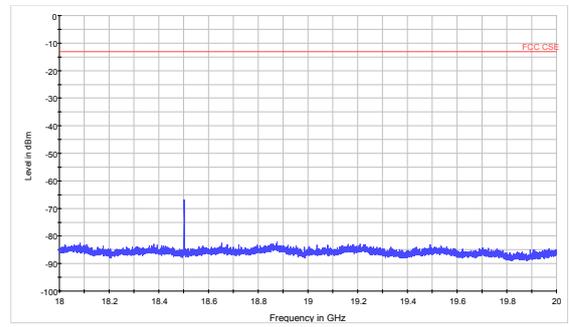
LTE Band 2 3MHz CH18615 3GHz~18GHz



LTE Band 2 1.4MHz CH19193 18GHz~20GHz

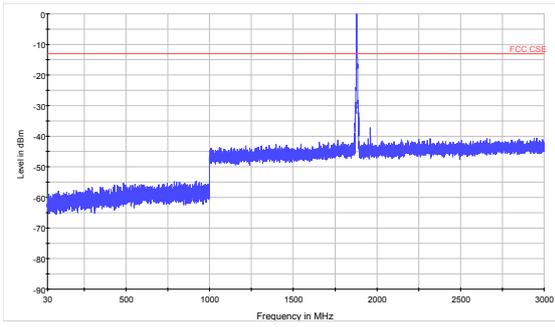


LTE Band 2 3MHz CH18615 18GHz~20GHz

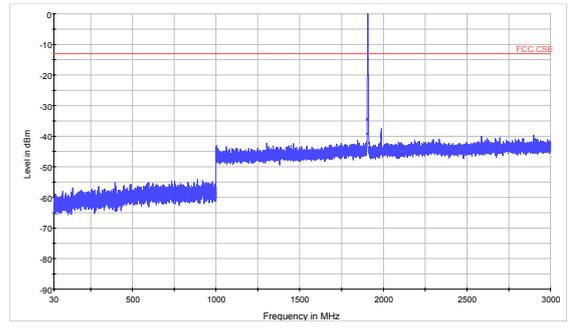




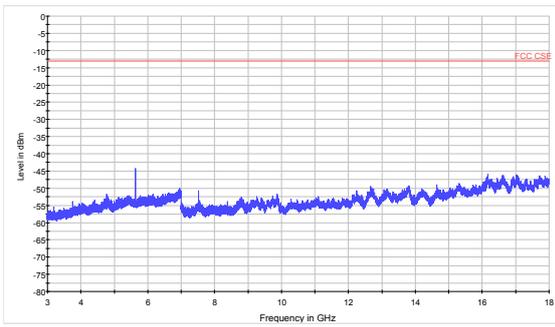
LTE Band 2 3MHz CH18900 30MHz~3GHz



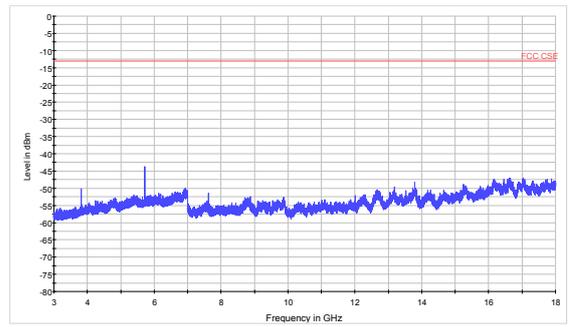
LTE Band 2 3MHz CH19185 30MHz~3GHz



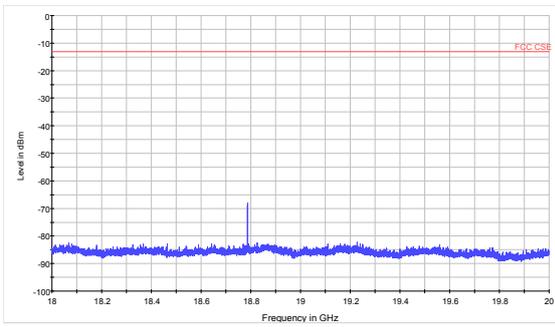
LTE Band 2 3MHz CH18900 3GHz~18GHz



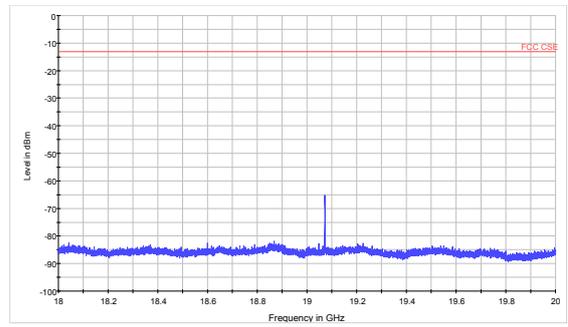
LTE Band 2 3MHz CH19185 3GHz~18GHz



LTE Band 2 3MHz CH18900 18GHz~20GHz

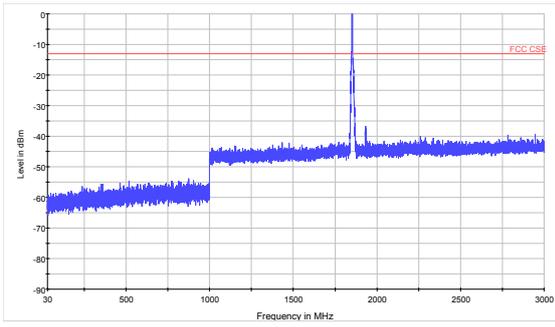


LTE Band 2 3MHz CH19185 18GHz~20GHz

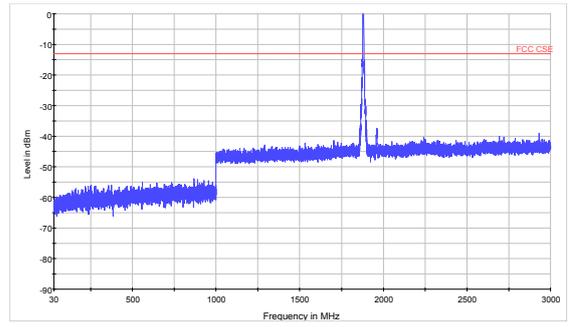




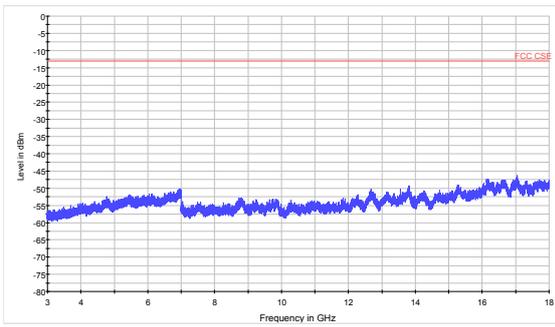
LTE Band 2 5MHz CH18625 30MHz~3GHz



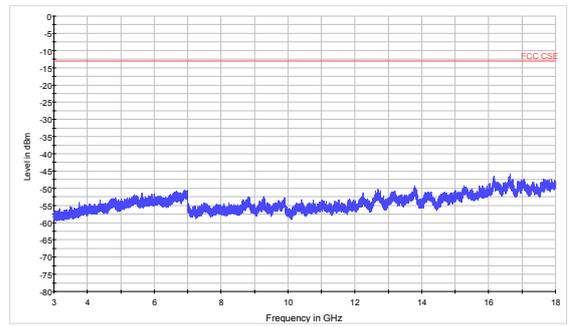
LTE Band 2 5MHz CH18900 30MHz~3GHz



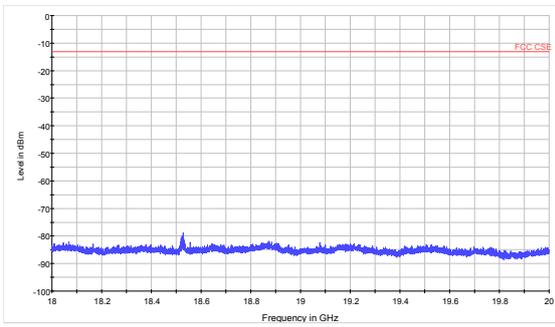
LTE Band 2 5MHz CH18625 3GHz~18GHz



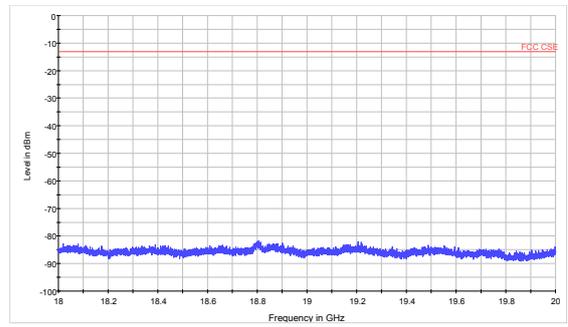
LTE Band 2 5MHz CH18900 3GHz~18GHz



LTE Band 2 5MHz CH18625 18GHz~20GHz

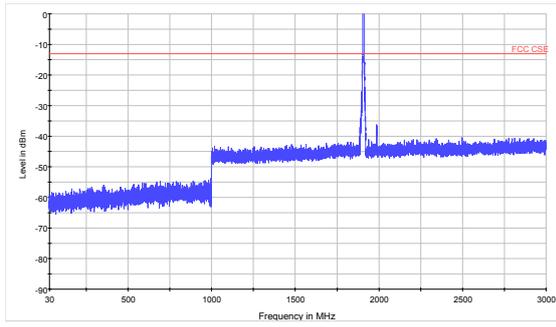


LTE Band 2 5MHz CH18900 18GHz~20GHz

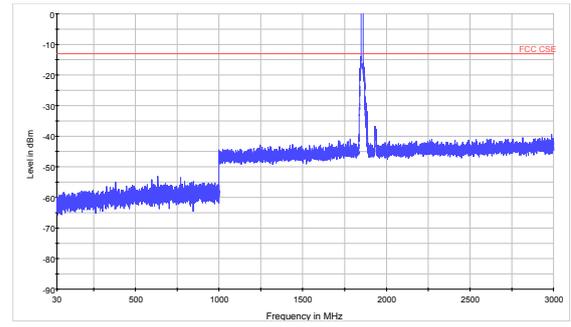




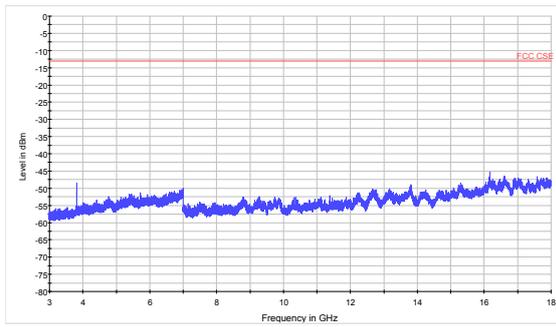
LTE Band 2 5MHz CH19175 30MHz~3GHz



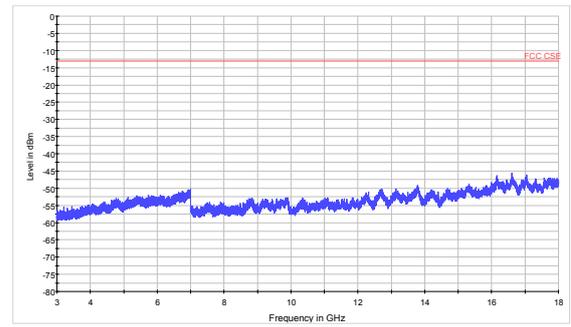
LTE Band 2 10MHz CH18650 30MHz~3GHz



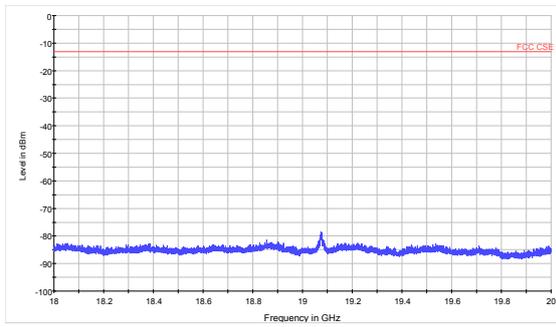
LTE Band 2 5MHz CH19175 3GHz~18GHz



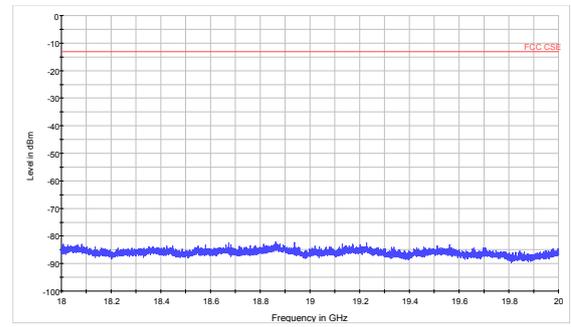
LTE Band 2 10MHz CH18650 3GHz~18GHz



LTE Band 2 5MHz CH19175 18GHz~20GHz

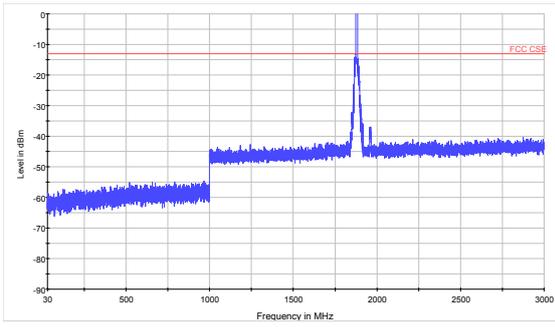


LTE Band 2 10MHz CH18650 18GHz~20GHz

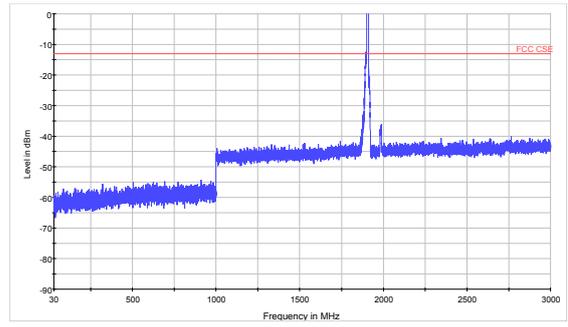




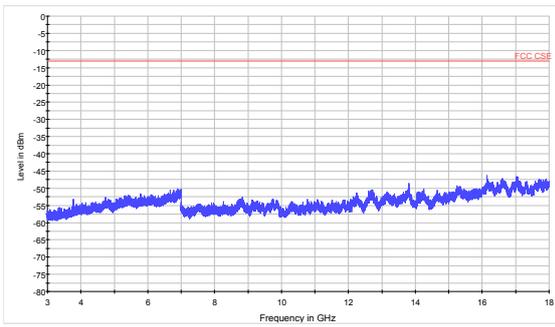
LTE Band 2 10MHz CH18900 30MHz~3GHz



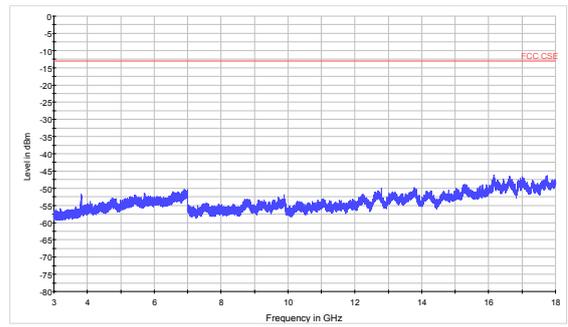
LTE Band 2 10MHz CH19150 30MHz~3GHz



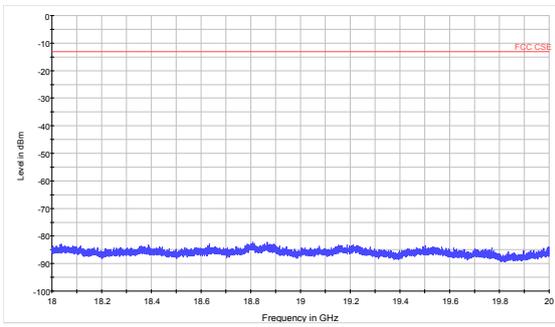
LTE Band 2 10MHz CH18900 3GHz~18GHz



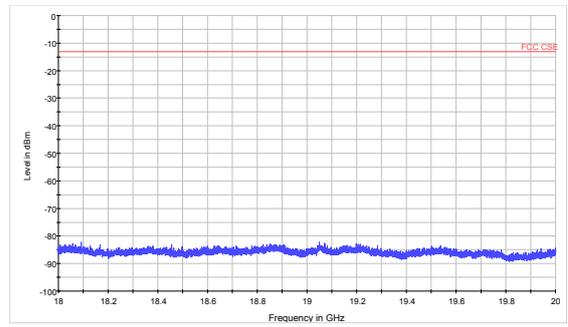
LTE Band 2 10MHz CH19150 3GHz~18GHz



LTE Band 2 10MHz CH18900 18GHz~20GHz

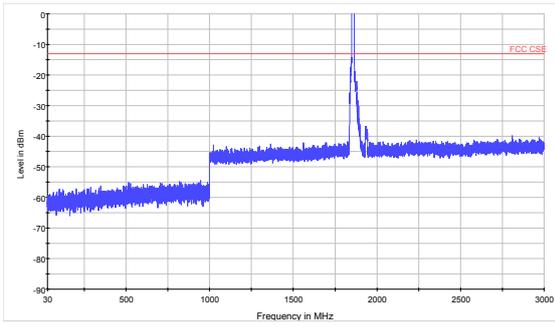


LTE Band 2 10MHz CH19150 18GHz~20GHz

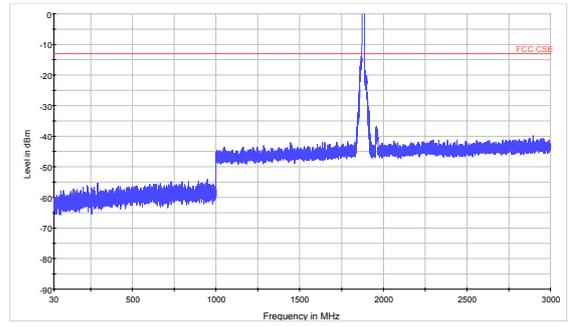




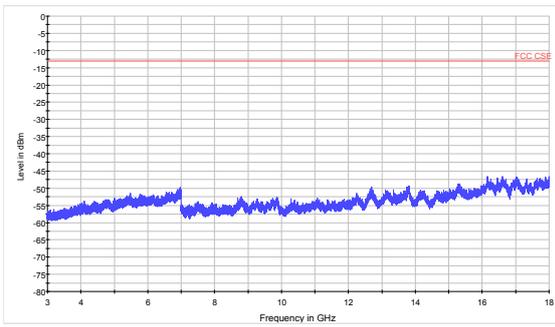
LTE Band 2 15MHz CH18675 30MHz~3GHz



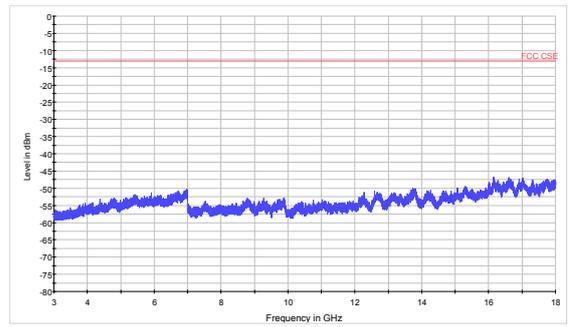
LTE Band 2 15MHz CH18900 30MHz~3GHz



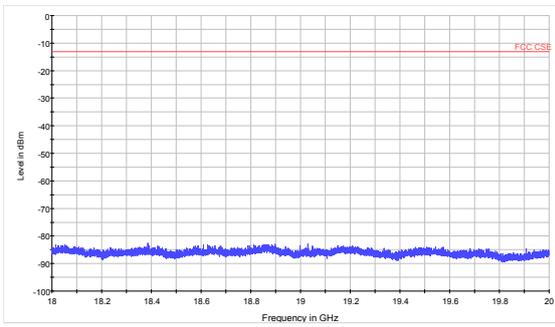
LTE Band 2 15MHz CH18675 3GHz~18GHz



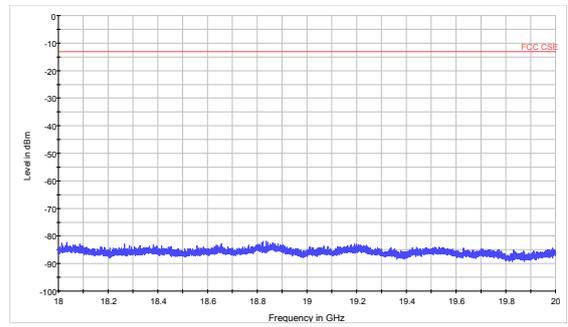
LTE Band 2 15MHz CH18900 3GHz~18GHz



LTE Band 2 15MHz CH18675 18GHz~20GHz

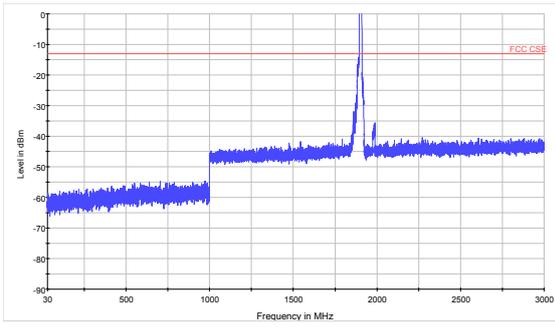


LTE Band 2 15MHz CH18900 18GHz~20GHz

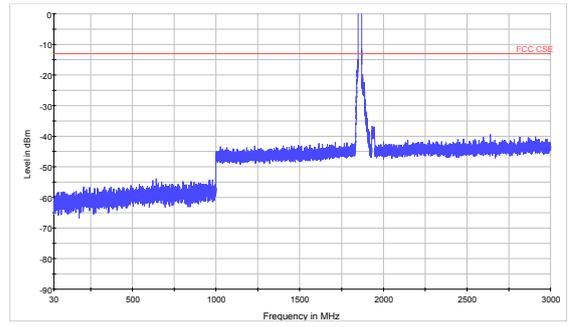




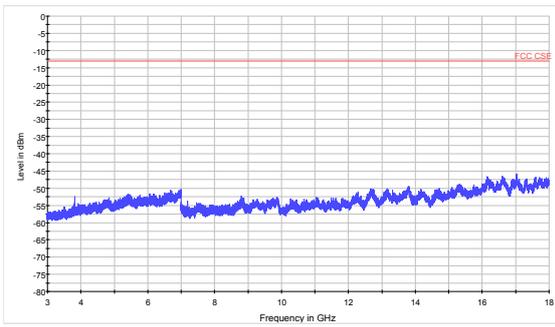
LTE Band 2 15MHz CH19175 30MHz~3GHz



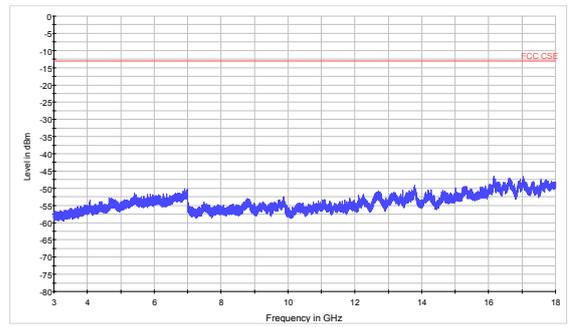
LTE Band 2 20MHz CH18700 30MHz~3GHz



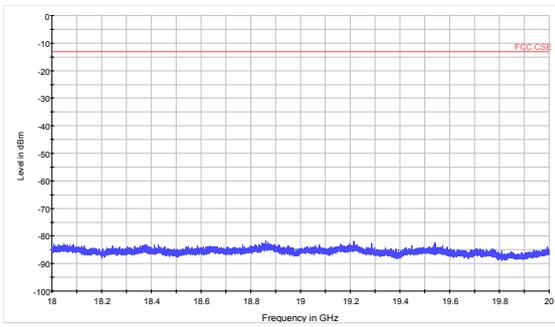
LTE Band 2 15MHz CH19175 3GHz~18GHz



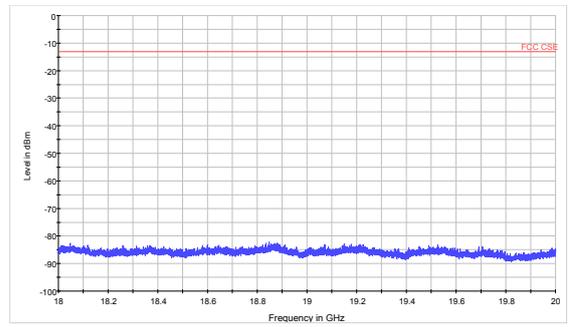
LTE Band 2 20MHz CH18700 3GHz~18GHz



LTE Band 2 15MHz CH19175 18GHz~20GHz

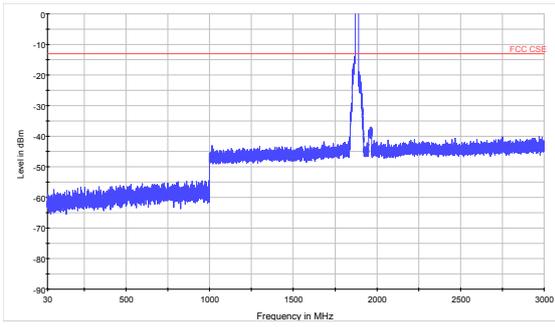


LTE Band 2 20MHz CH18700 18GHz~20GHz

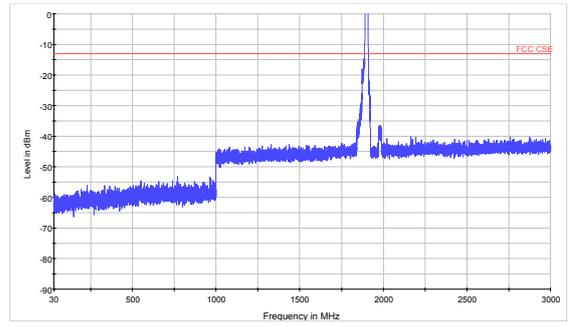




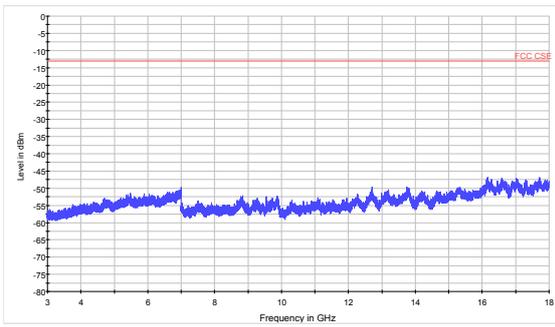
LTE Band 2 20MHz CH18900 30MHz~3GHz



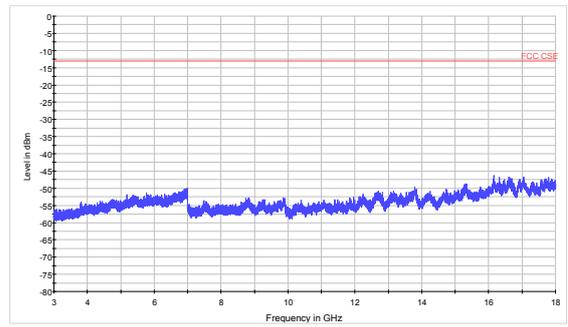
LTE Band 2 20MHz CH19200 30MHz~3GHz



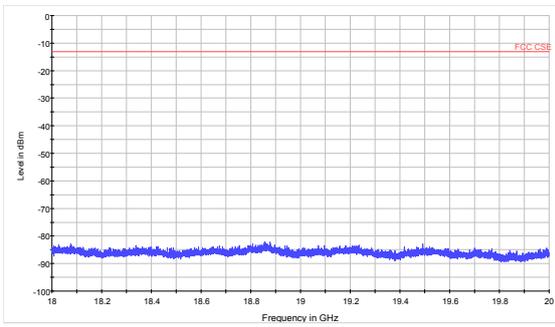
LTE Band 2 20MHz CH18900 3GHz~18GHz



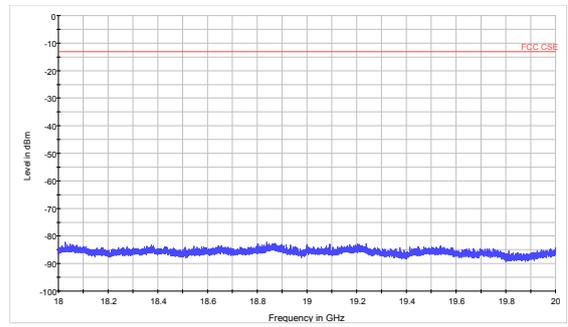
LTE Band 2 20MHz CH19200 3GHz~18GHz



LTE Band 2 20MHz CH18900 18GHz~20GHz

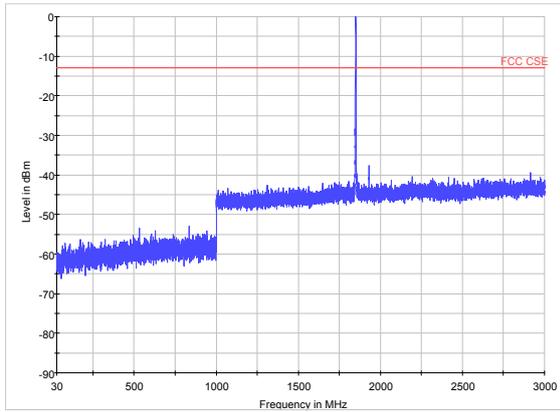


LTE Band 2 20MHz CH19200 18GHz~20GHz

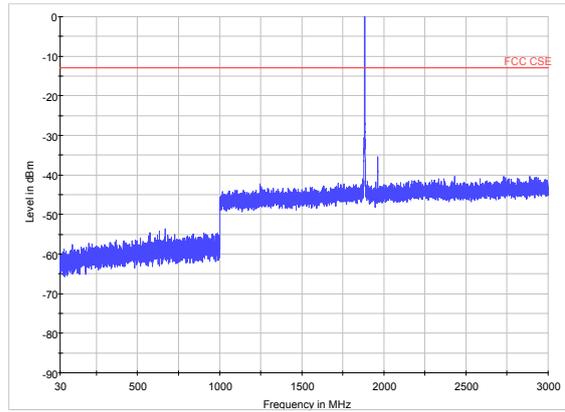




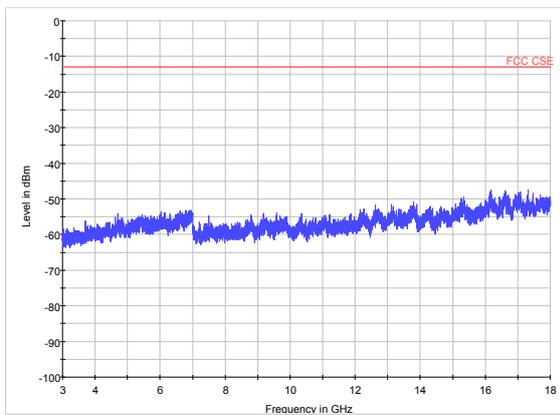
LTE Band 25 1.4MHz CH26047 30MHz~3GHz



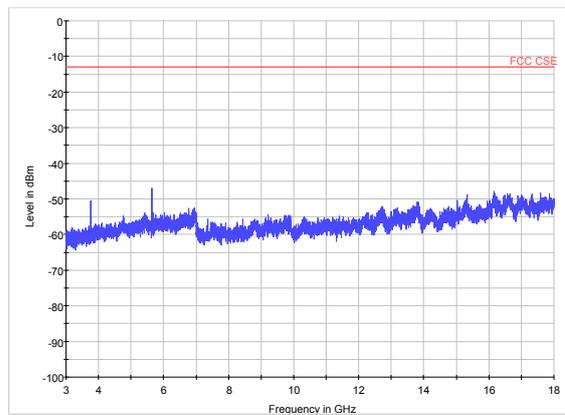
LTE Band 25 1.4MHz CH26365 30MHz~3GHz



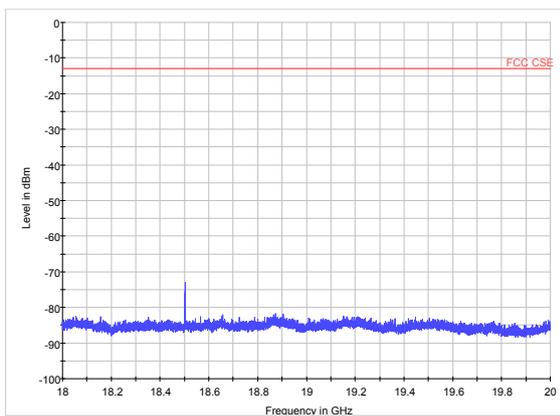
LTE Band 25 1.4MHz CH26047 3GHz~18GHz



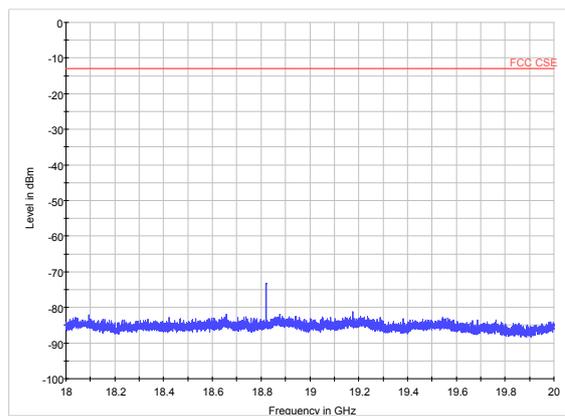
LTE Band 25 1.4MHz CH26365 3GHz~18GHz



LTE Band 25 1.4MHz CH26047 18GHz~20GHz

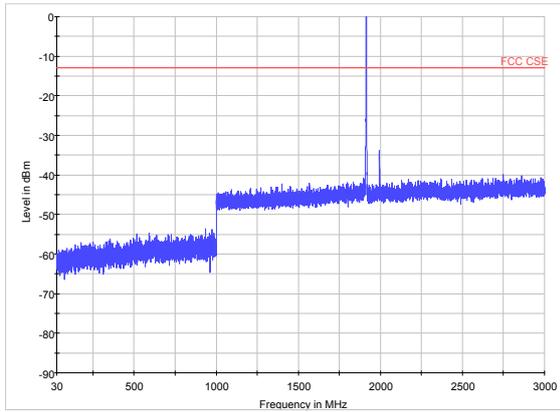


LTE Band 25 1.4MHz CH26365 18GHz~20GHz

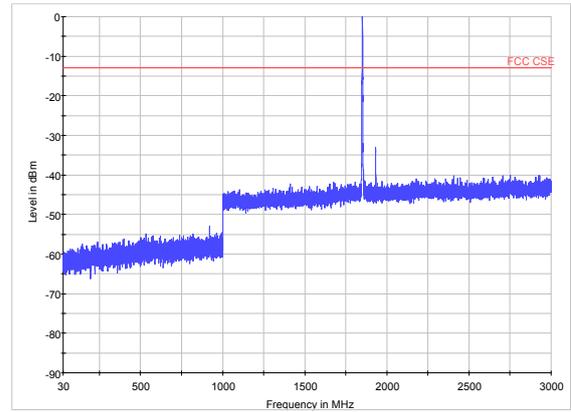




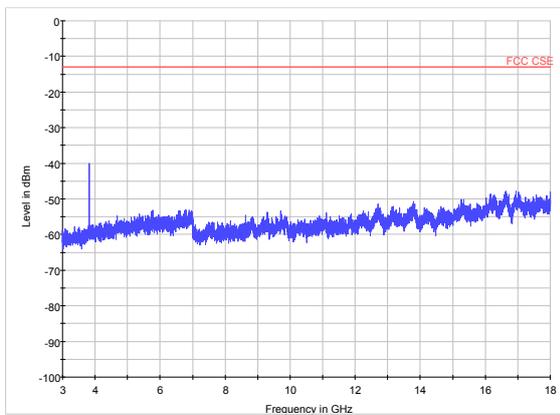
LTE Band 25 1.4MHz CH26683 30MHz~3GHz



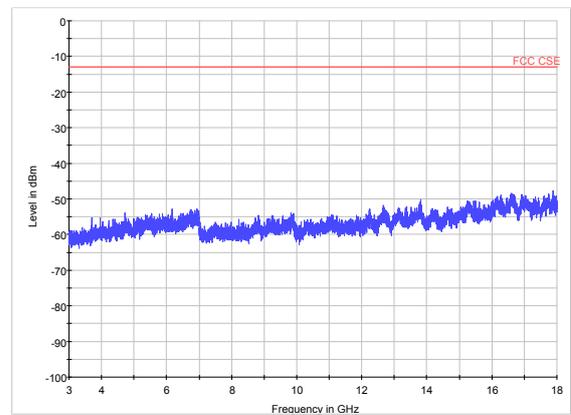
LTE Band 25 3MHz CH26055 30MHz~3GHz



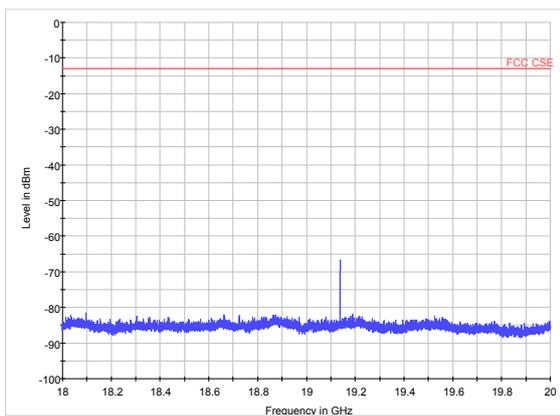
LTE Band 25 1.4MHz CH26683 3GHz~18GHz



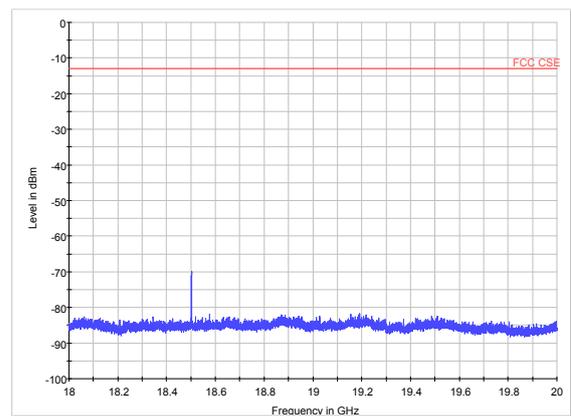
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LTE Band 25 1.4MHz CH26683 18GHz~20GHz

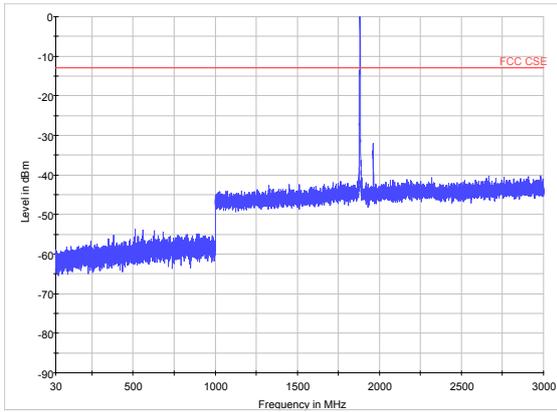


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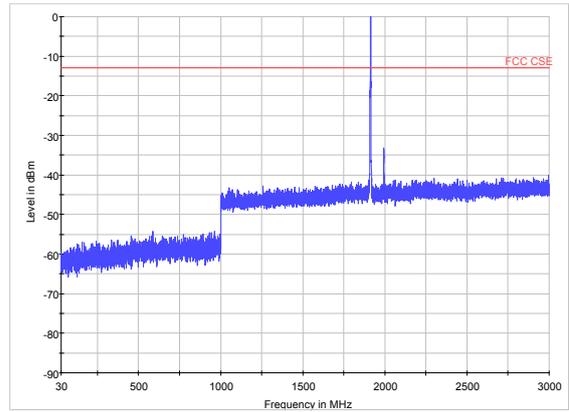




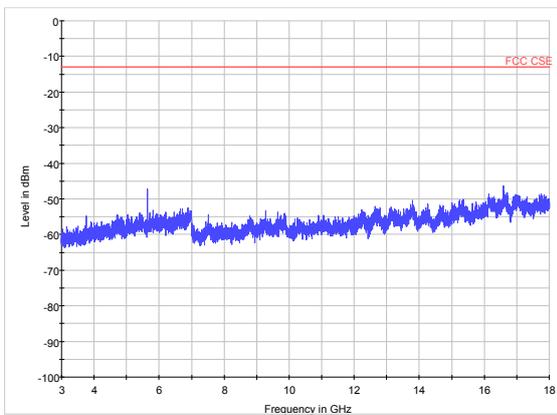
LTE Band 25 3MHz CH26365 30MHz~3GHz



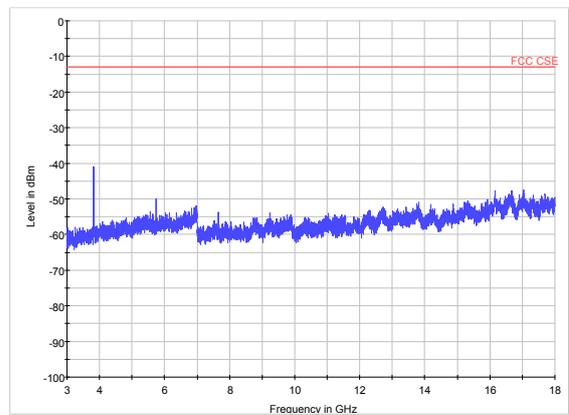
LTE Band 25 3MHz CH26675 30MHz~3GHz



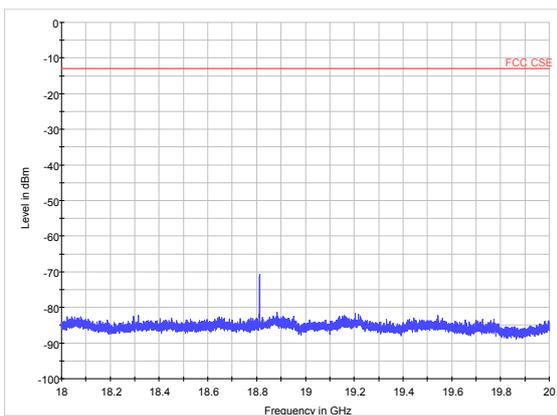
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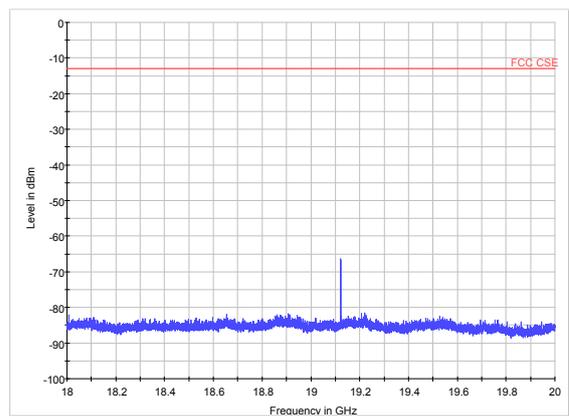
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LTE Band 25 3MHz CH26365 18GHz~20GHz

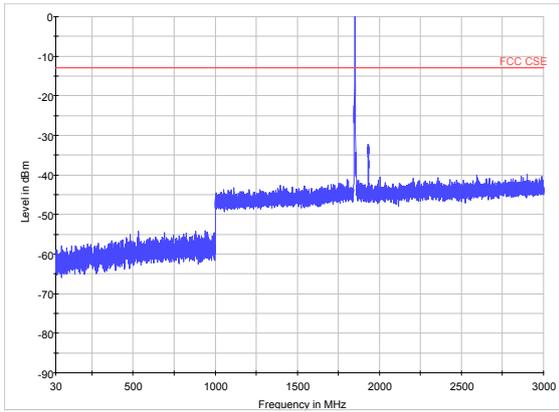


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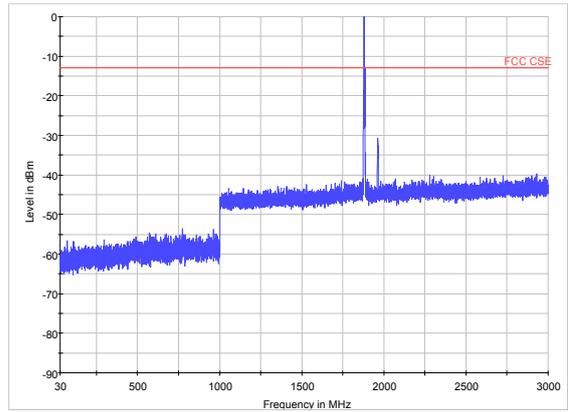




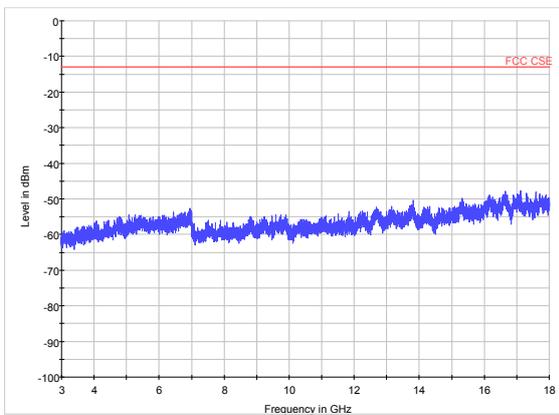
LTE Band 25 5MHz CH26065 30MHz~3GHz



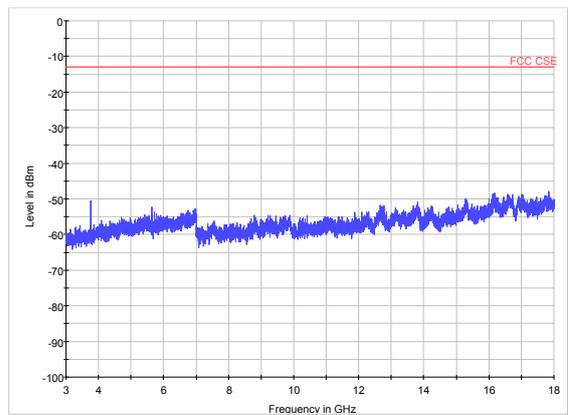
LTE Band 25 5MHz CH26365 30MHz~3GHz



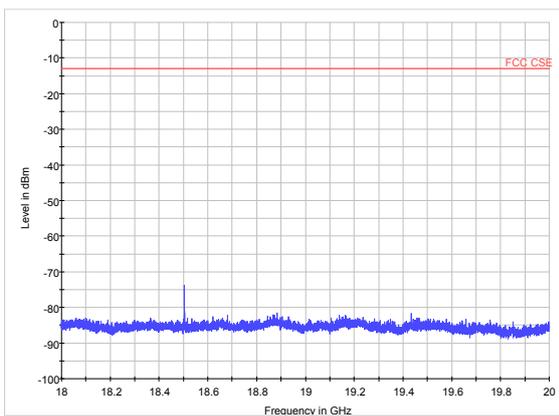
LTE Band 25 5MHz CH26065 3GHz~18GHz



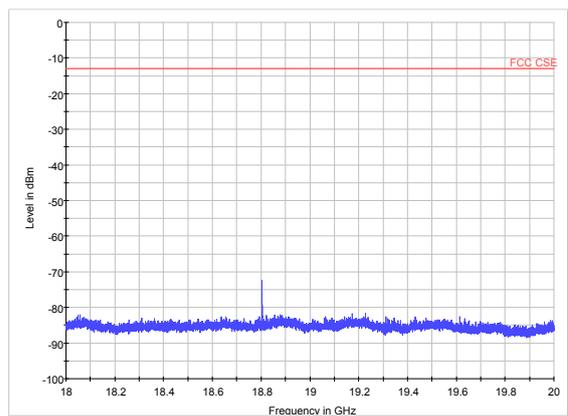
LTE Band 25 5MHz CH26365 3GHz~18GHz



LTE Band 25 5MHz CH26065 18GHz~20GHz

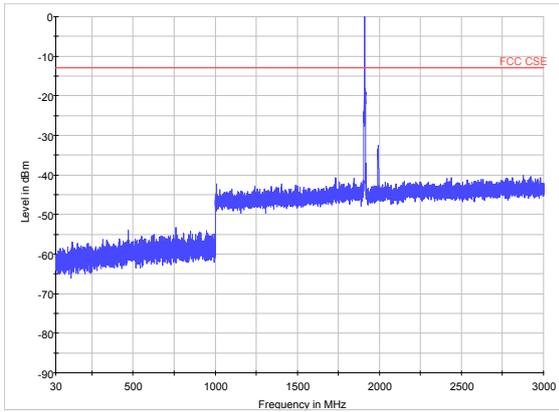


LTE Band 25 5MHz CH26365 18GHz~20GHz

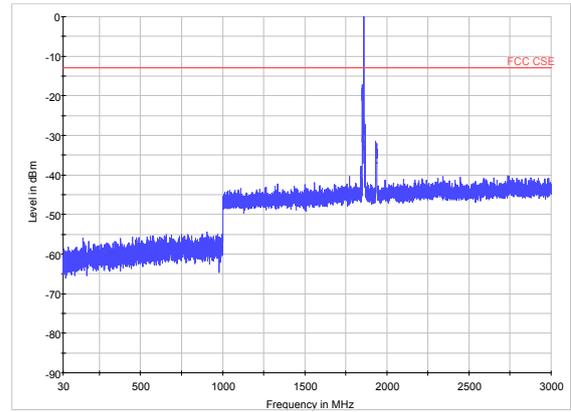




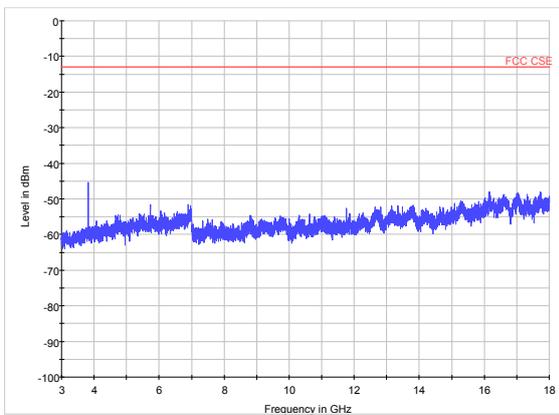
LTE Band 25 5MHz CH26665 30MHz~3GHz



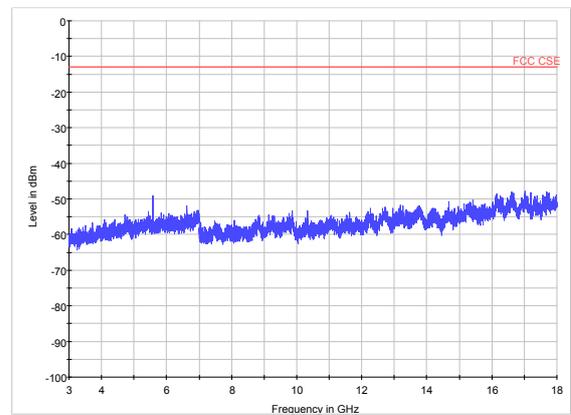
LTE Band 25 10MHz CH26090 30MHz~3GHz



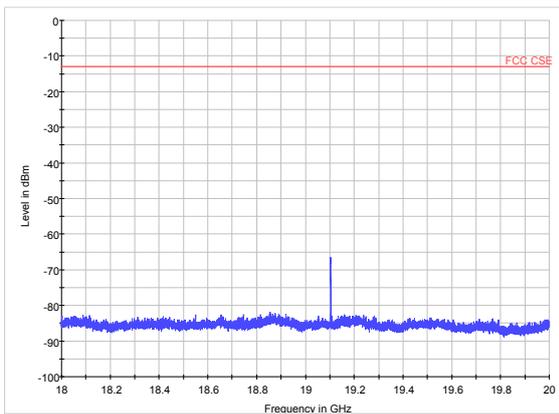
LTE Band 25 5MHz CH26665 3GHz~18GHz



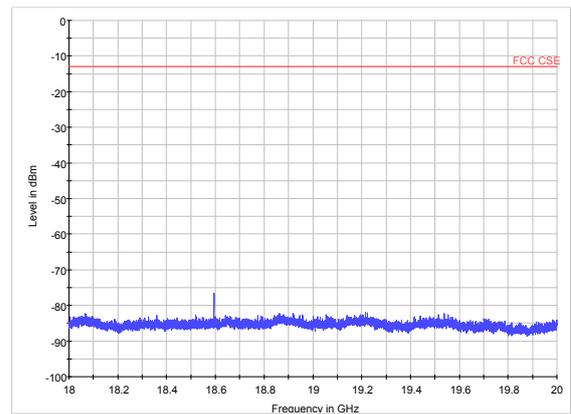
LTE Band 25 10MHz CH26090 3GHz~18GHz



LTE Band 25 5MHz CH26665 18GHz~20GHz

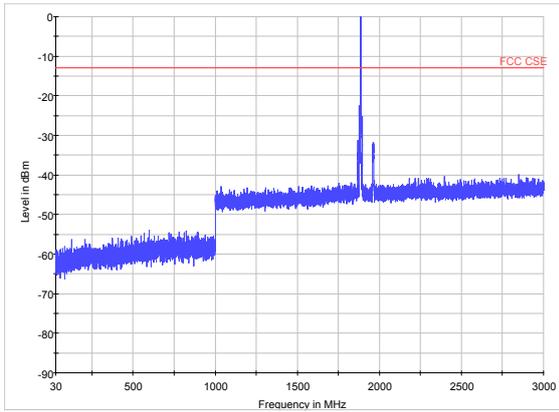


LTE Band 25 10MHz CH26090 18GHz~20GHz

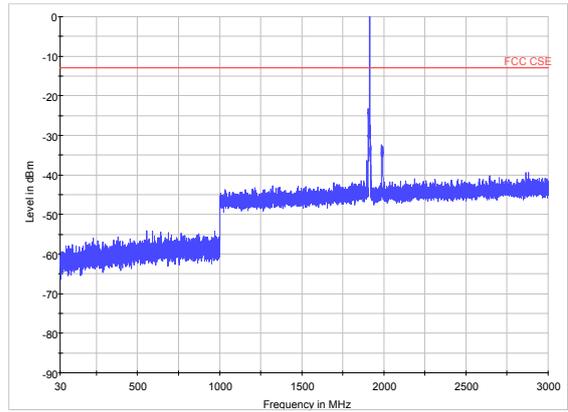




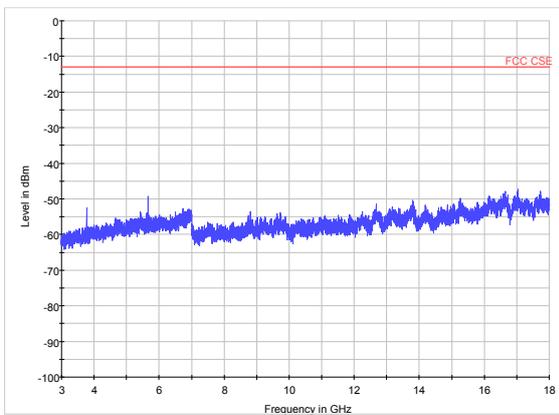
LTE Band 25 10MHz CH26365 30MHz~3GHz



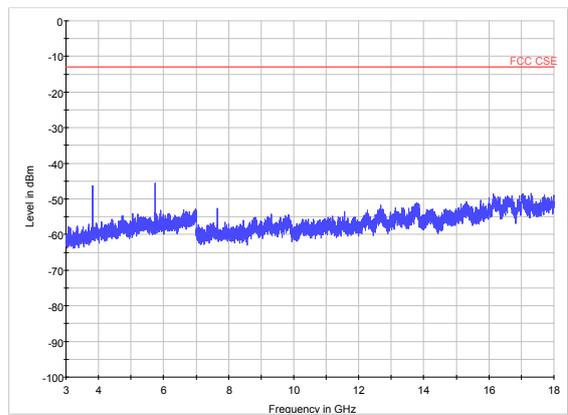
LTE Band 25 10MHz CH26640 30MHz~3GHz



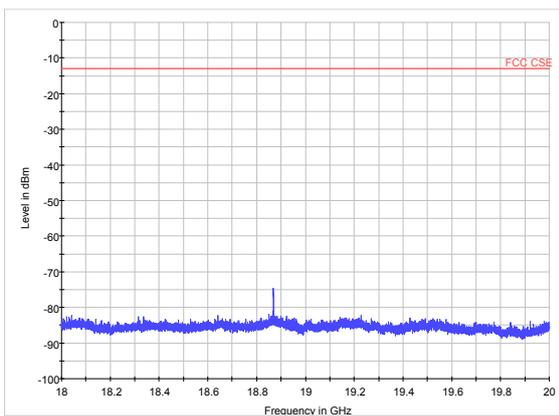
LTE Band 25 10MHz CH26365 3GHz~18GHz



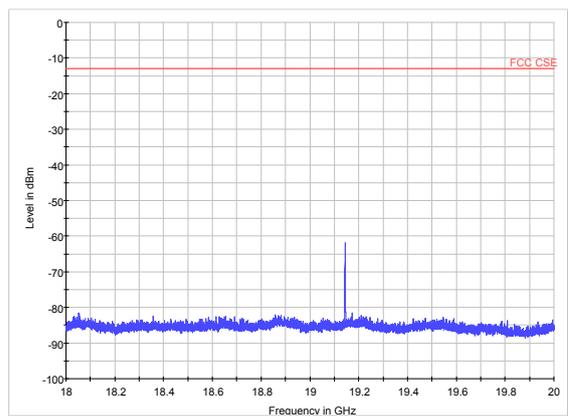
LTE Band 25 10MHz CH26640 3GHz~18GHz



LTE Band 25 10MHz CH26365 18GHz~20GHz

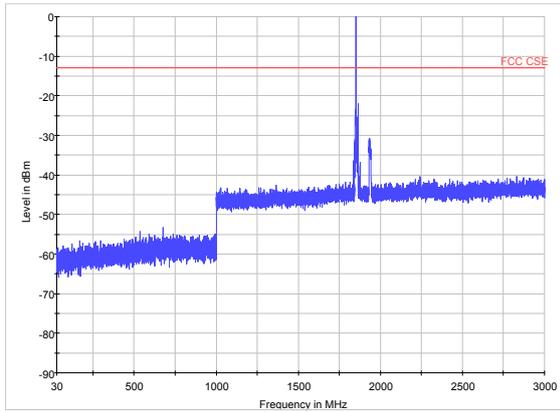


LTE Band 25 10MHz CH26640 18GHz~20GHz

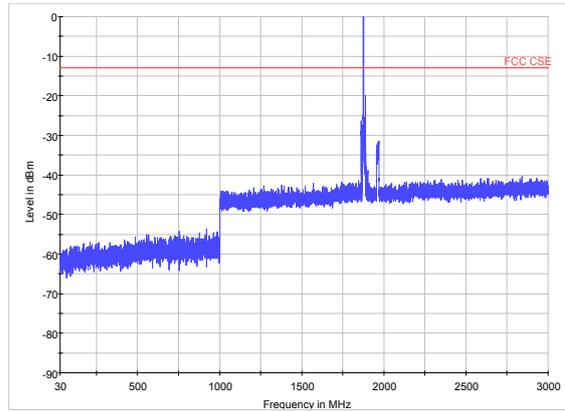




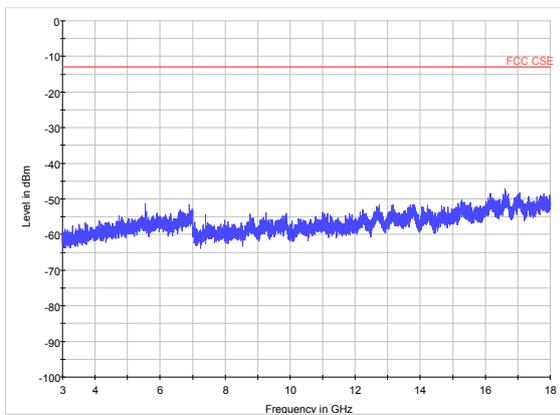
LTE Band 25 15MHz CH26115 30MHz~3GHz



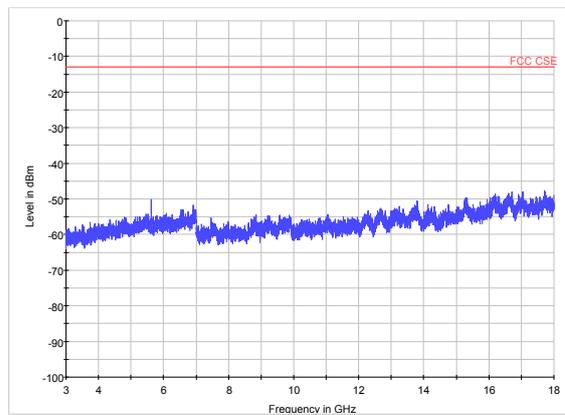
LTE Band 25 15MHz CH26365 30MHz~3GHz



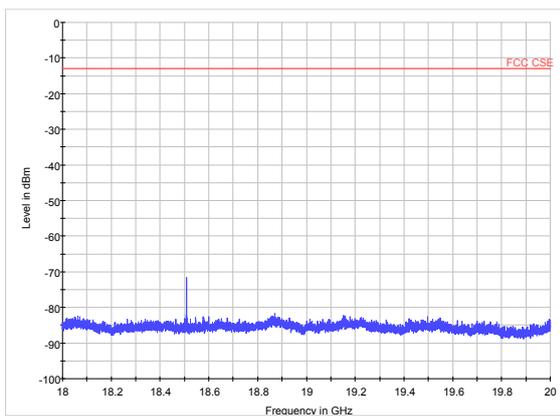
LTE Band 25 15MHz CH26115 3GHz~18GHz



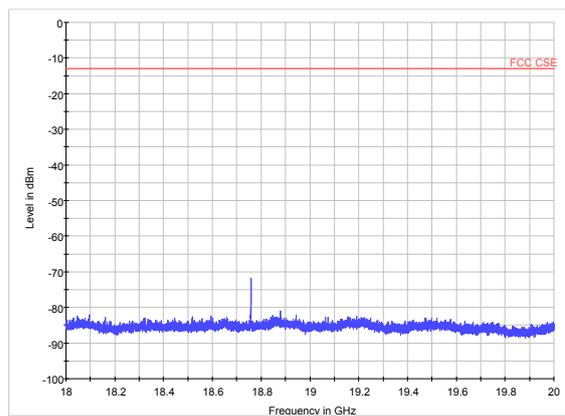
LTE Band 25 15MHz CH26365 3GHz~18GHz



LTE Band 25 15MHz CH26115 18GHz~20GHz

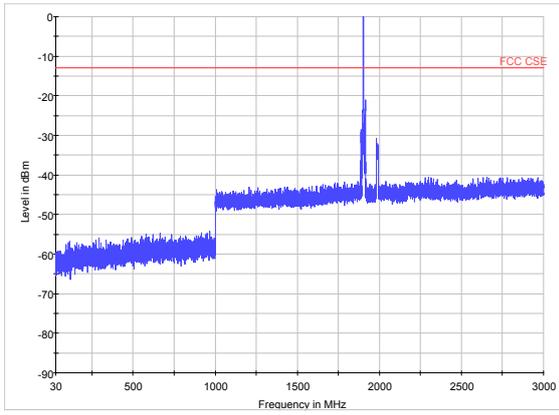


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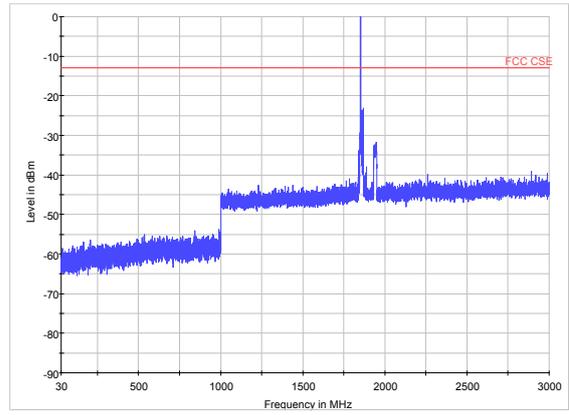




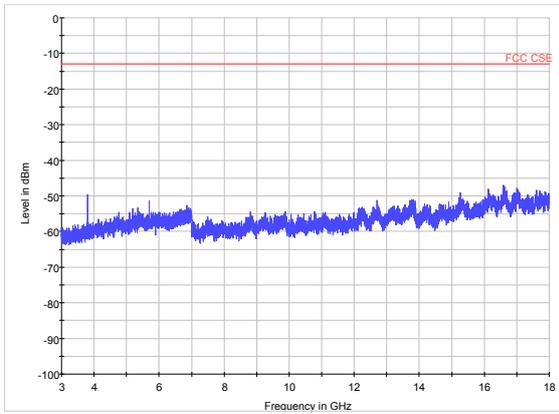
LTE Band 25 15MHz CH26615 30MHz~3GHz



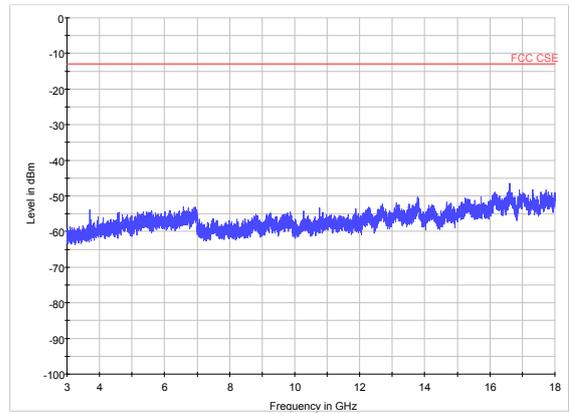
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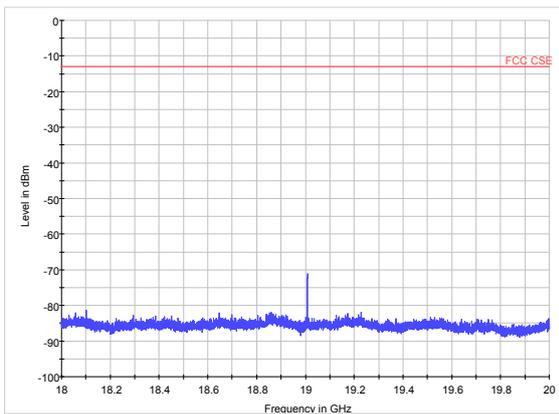
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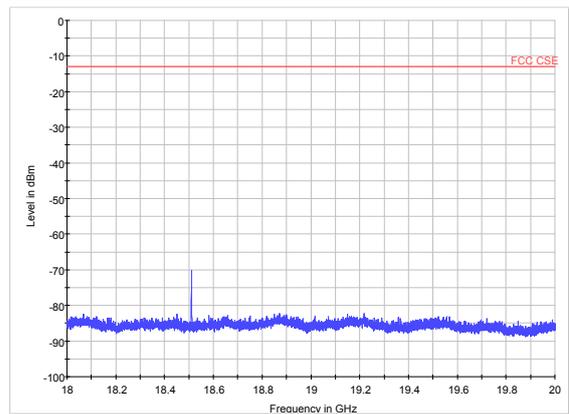
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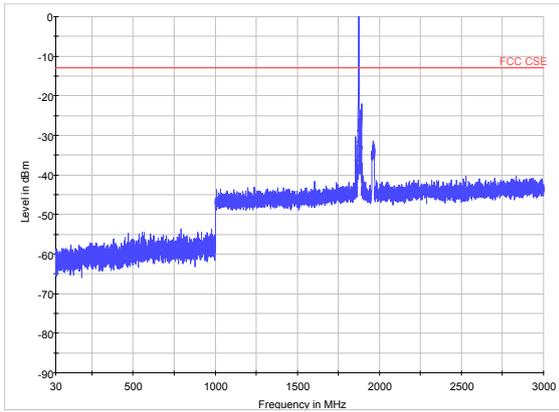


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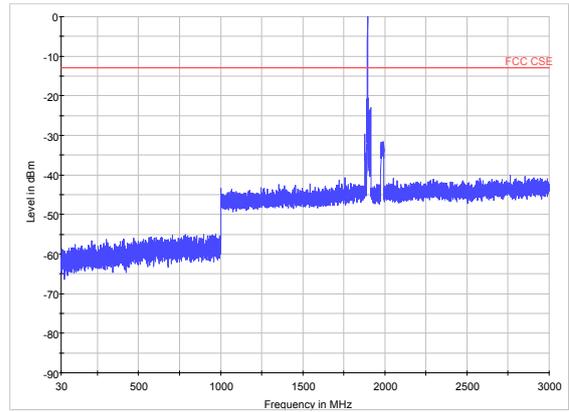




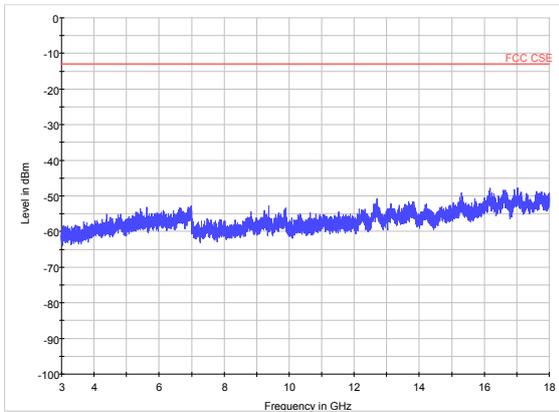
LTE Band 25 20MHz CH26365 30MHz~3GHz



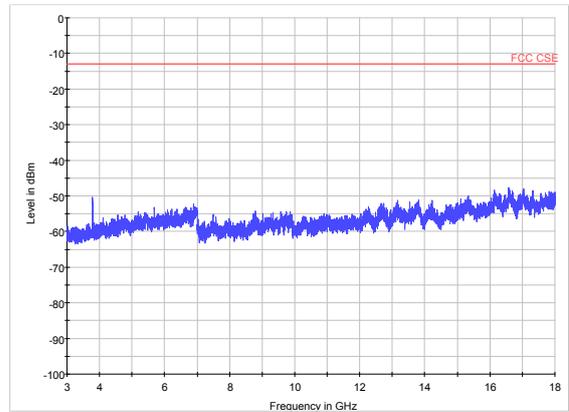
LTE Band 25 20MHz CH26590 30MHz~3GHz



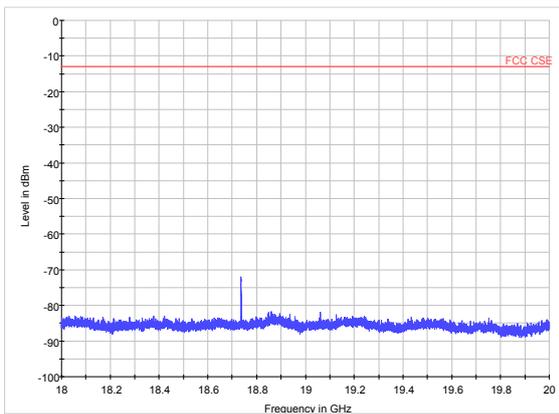
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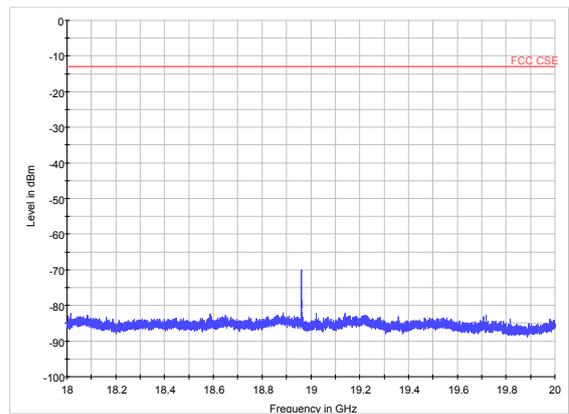
LTE Band 25 20MHz CH26590 3GHz~18GHz



LTE Band 25 20MHz CH26365 18GHz~20GHz



LTE Band 25 20MHz CH26590 18GHz~20GHz



5.8. Radiates Spurious Emission

Ambient condition

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

Method of Measurement

The measurements procedures in TIA -603-D are used.

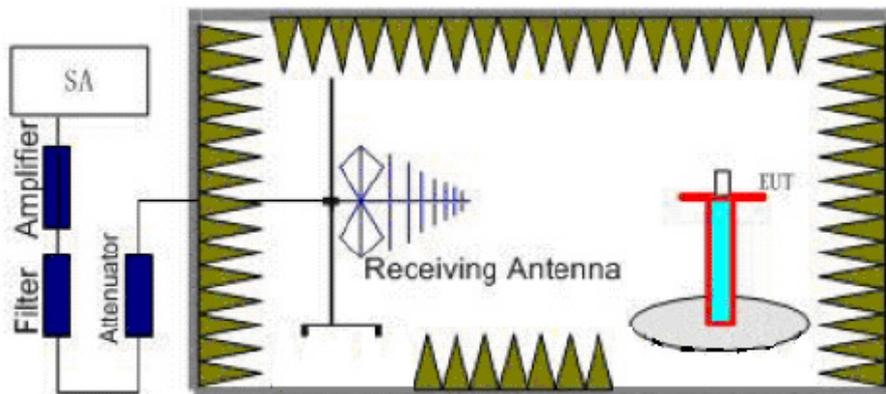
The spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment.

The emissions less than 20 dB below the permissible value are reported.

The procedure of Radiates Spurious Emission is as follows:

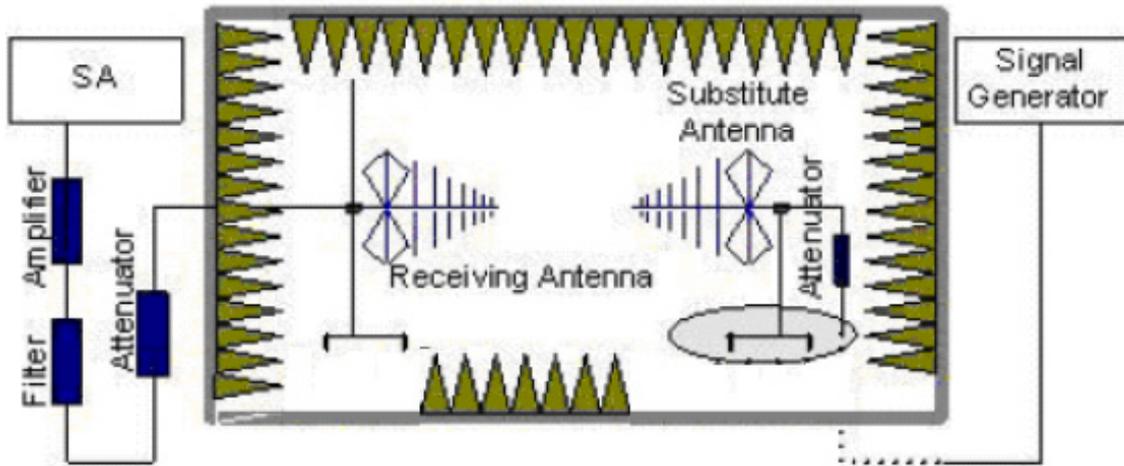
Step 1:

The measurement is carried out in the semi-anechoic chamber. EUT was placed on a 1.5 meters high non-conductive table at a 3 meters test distance from the test receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT. A radio link shall be established between EUT and Tester. The output power of the cell signal of the tester will be decreased until the output power of the EUT reach a maximum value. A peak detector is used while RBW and VBW are both set to 3MHz. During the measurement, the highest emission was recorded from analyzer power level (LVL) from the 360 degrees rotation of the turntable and the test antenna moved up and down over a range from 1 to 4 meters in both horizontally and vertically polarized orientations. The test setup refers to figure below.



Step 2:

A dipole antenna shall be substituted in place of the EUT. The antenna will be driven by a signal generator with a adjustable S.G. applied through a Tx cable. Adjust the level of the signal generator output until the value of the receiver reach the previously recorded analyzer power level (LVL). Then The E.R.P. /E.I.R.P. of the EUT can be calculated through the level of the signal generator, Tx cable loss and the gain of the substitution antenna. The test setup refers to figure below.



$E.R.P \text{ (peak power)} = S.G. - Tx \text{ Cable loss} + \text{Substitution antenna gain} - 2.15.$
 $EIRP = E.R.P + 2.15$

The field strength of spurious emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). Receiver antenna polarization(horizontal and vertical), The worst emission was found in position (Z axis, vertical polarization) and the worst case was recorded.

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

Limits

Rule Part 24.238(a) specifies that “on any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10} (P)$ dB.”

Limit	-13 dBm
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Measurement Uncertainty

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

**Test Result**

GSM 1900 CH 512

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3700	-48.22	5.1	11.05	vertical	-42.27	-13.00	29.27	0
3	5550.8	-47.23	5.42	12.65	vertical	-40.00	-13.00	27.00	90
4	7401	-58.53	6.7	13.85	vertical	-51.38	-13.00	38.38	45
5	9251	-58.00	7.01	14.75	vertical	-50.26	-13.00	37.26	180
6	11101	-58.50	7.48	15.95	vertical	-50.03	-13.00	37.03	90
7	12951	-56.48	7.51	16.55	vertical	-47.44	-13.00	34.44	135
8	14802	-51.31	8.24	15.35	vertical	-44.20	-13.00	31.20	0
9	16652	-48.71	8.41	14.95	vertical	-42.17	-13.00	29.17	45
10	18502	-87.17	8.54	15.45	vertical	-80.26	-13.00	67.26	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.

GSM 1900 CH 661

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3760	-50.23	5.1	11.05	vertical	-44.28	-13.00	31.28	90
3	5640	-45.80	5.42	12.65	vertical	-38.57	-13.00	25.57	225
4	7520	-59.43	6.7	13.85	vertical	-52.28	-13.00	39.28	270
5	9400	-58.90	7.01	14.75	vertical	-51.16	-13.00	38.16	180
6	11280	-58.70	7.48	15.95	vertical	-50.23	-13.00	37.23	135
7	13160	-57.58	7.51	16.55	vertical	-48.54	-13.00	35.54	270
8	15040	-52.81	8.24	15.35	vertical	-45.70	-13.00	32.70	0
9	16920	-50.11	8.41	14.95	vertical	-43.57	-13.00	30.57	180
10	18800	-84.48	8.54	15.45	vertical	-77.57	-13.00	64.57	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.



GSM 1900 CH 810

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3819	-45.57	5.1	11.05	vertical	-39.62	-13.00	26.62	225
3	5730	-52.29	5.42	12.65	vertical	-45.06	-13.00	32.06	270
4	7639	-60.03	6.7	13.85	vertical	-52.88	-13.00	39.88	135
5	9549	-59.36	7.01	14.75	vertical	-51.62	-13.00	38.62	45
6	11459	-60.00	7.48	15.95	vertical	-51.53	-13.00	38.53	180
7	13369	-55.78	7.51	16.55	vertical	-46.74	-13.00	33.74	90
8	15278	-52.31	8.24	15.35	vertical	-45.20	-13.00	32.20	135
9	17188	-50.21	8.41	14.95	vertical	-43.67	-13.00	30.67	0
10	19097.8	-87.42	8.54	15.45	vertical	-80.51	-13.00	67.51	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.

WCDMA Band II CH9662

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3705	-55.34	5.1	11.05	vertical	-49.39	-13.00	36.39	180
3	5557	-56.62	5.42	12.65	vertical	-49.39	-13.00	36.39	90
4	7410	-57.71	6.7	13.85	vertical	-50.56	-13.00	37.56	225
5	9262	-57.19	7.01	14.75	vertical	-49.45	-13.00	36.45	270
6	11114	-58.06	7.48	15.95	vertical	-49.59	-13.00	36.59	180
7	12967	-55.84	7.51	16.55	vertical	-46.8	-13.00	33.80	135
8	14819	-51.22	8.24	15.35	vertical	-44.11	-13.00	31.11	270
9	16672	-48.62	8.41	14.95	vertical	-42.08	-13.00	29.08	0
10	18524	-87.40	8.54	15.45	vertical	-80.49	-13.00	67.49	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.



WCDMA Band II CH9800

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3760	-55.82	5.1	11.05	vertical	-49.87	-13.00	36.87	0
3	5640	-54.21	5.42	12.65	vertical	-46.98	-13.00	33.98	45
4	7520	-61.04	6.7	13.85	vertical	-53.89	-13.00	40.89	180
5	9400	-61.18	7.01	14.75	vertical	-53.44	-13.00	40.44	90
6	11280	-55.33	7.48	15.95	vertical	-46.86	-13.00	33.86	225
7	13160	-55.08	7.51	16.55	vertical	-46.04	-13.00	33.04	270
8	15040	-52.51	8.24	15.35	vertical	-45.4	-13.00	32.40	180
9	16920	-48.33	8.41	14.95	vertical	-41.79	-13.00	28.79	135
10	18502	-85.23	8.54	15.45	vertical	-78.32	-13.00	65.32	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.

WCDMA Band II CH9938

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3815	-53.27	5.1	11.05	vertical	-47.32	-13.00	34.32	0
3	5723	-55.43	5.42	12.65	vertical	-48.2	-13.00	35.20	180
4	7630	-55.78	6.7	13.85	vertical	-48.63	-13.00	35.63	90
5	9538	-58.98	7.01	14.75	vertical	-51.24	-13.00	38.24	225
6	11446	-55.44	7.48	15.95	vertical	-46.97	-13.00	33.97	270
7	13353	-55.63	7.51	16.55	vertical	-46.59	-13.00	33.59	135
8	15261	-49.39	8.24	15.35	vertical	-42.28	-13.00	29.28	45
9	17168	-48.02	8.41	14.95	vertical	-41.48	-13.00	28.48	225
10	19076	-88.22	8.54	15.45	vertical	-81.31	-13.00	68.31	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.



CDMA BC1 EVDO REV.0 CH25

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3702.50	-62.48	5.1	11.05	vertical	-56.53	-13.00	43.53	180
3	5553.75	-61.75	5.42	12.65	vertical	-54.52	-13.00	41.52	90
4	7405.00	-61.33	6.7	13.85	vertical	-54.18	-13.00	41.18	225
5	9256.25	-58.92	7.01	14.75	vertical	-51.18	-13.00	38.18	270
6	11107.50	-60.66	7.48	15.95	vertical	-52.19	-13.00	39.19	180
7	12958.75	-58.74	7.51	16.55	vertical	-49.70	-13.00	36.70	135
8	14810.00	-52.85	8.24	15.35	vertical	-45.74	-13.00	32.74	270
9	16661.25	-50.33	8.41	14.95	vertical	-43.79	-13.00	30.79	0
10	18512.50	-85.60	8.54	15.45	vertical	-78.69	-13.00	65.69	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.

CDMA BC1 EVDO REV.0 CH600

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3760.00	-61.29	5.1	11.05	vertical	-55.34	-13.00	42.34	0
3	5640.00	-63.45	5.42	12.65	vertical	-56.22	-13.00	43.22	45
4	7520.00	-62.09	6.7	13.85	vertical	-54.94	-13.00	41.94	180
5	9400.00	-58.12	7.01	14.75	vertical	-50.38	-13.00	37.38	90
6	11280.00	-61.83	7.48	15.95	vertical	-53.36	-13.00	40.36	225
7	13160.00	-58.07	7.51	16.55	vertical	-49.03	-13.00	36.03	270
8	15040.00	-53.39	8.24	15.35	vertical	-46.28	-13.00	33.28	180
9	16920.00	-49.62	8.41	14.95	vertical	-43.08	-13.00	30.08	135
10	18800.00	-86.08	8.54	15.45	vertical	-79.17	-13.00	66.17	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.



CDMA BC1 EVDO REV.0 CH1175

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3817.50	-62.92	5.1	11.05	vertical	-56.97	-13.00	43.97	0
3	5726.25	-62.73	5.42	12.65	vertical	-55.50	-13.00	42.50	180
4	7635.00	-60.62	6.7	13.85	vertical	-53.47	-13.00	40.47	90
5	9543.75	-58.74	7.01	14.75	vertical	-51.00	-13.00	38.00	225
6	11452.50	-59.84	7.48	15.95	vertical	-51.37	-13.00	38.37	270
7	13361.25	-59.09	7.51	16.55	vertical	-50.05	-13.00	37.05	135
8	15270.00	-53.05	8.24	15.35	vertical	-45.94	-13.00	32.94	45
9	17178.75	-49.92	8.41	14.95	vertical	-43.38	-13.00	30.38	225
10	19087.50	-84.26	8.54	15.45	vertical	-77.35	-13.00	64.35	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 2 1.4MHz CH607

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3701	-58.84	5.1	11.05	vertical	-52.89	-13.00	39.89	270
3	5552	-58.40	5.42	12.65	vertical	-51.17	-13.00	38.17	45
4	7403	-62.57	6.7	13.85	vertical	-55.42	-13.00	42.42	135
5	9254	-60.69	7.01	14.75	vertical	-52.95	-13.00	39.95	270
6	11104	-70.28	7.48	15.95	vertical	-61.81	-13.00	48.81	0
7	12955	-68.84	7.51	16.55	vertical	-59.8	-13.00	46.80	180
8	14806	-64.52	8.24	15.35	vertical	-57.41	-13.00	44.41	90
9	16656	-61.73	8.41	14.95	vertical	-55.19	-13.00	42.19	225
10	18507	-59.10	8.54	15.45	vertical	-52.19	-13.00	39.19	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 2 1.4MHz CH900

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3760	-60.11	5.10	11.05	vertical	-54.16	-13.00	41.16	0
3	5640	-58.60	5.42	12.65	vertical	-51.37	-13.00	38.37	45
4	7520	-62.37	6.70	13.85	vertical	-55.22	-13.00	42.22	0
5	9400	-60.36	7.01	14.75	vertical	-52.62	-13.00	39.62	135
6	11280	-70.42	7.48	15.95	vertical	-61.95	-13.00	48.95	0
7	13160	-68.94	7.51	16.55	vertical	-59.90	-13.00	46.90	45
8	15040	-63.62	8.24	15.35	vertical	-56.51	-13.00	43.51	180
9	16920	-61.21	8.41	14.95	vertical	-54.67	-13.00	41.67	90
10	18800	-62.11	8.54	15.45	vertical	-55.20	-13.00	42.20	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 2 1.4MHz CH1193

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3819	-60.40	5.10	11.05	vertical	-54.45	-13.00	41.45	270
3	5728	-55.30	5.42	12.65	vertical	-48.07	-13.00	35.07	180
4	7637	-60.04	6.70	13.85	vertical	-52.89	-13.00	39.89	135
5	9547	-60.25	7.01	14.75	vertical	-52.51	-13.00	39.51	270
6	11456	-69.25	7.48	15.95	vertical	-60.78	-13.00	47.78	0
7	13365	-67.69	7.51	16.55	vertical	-58.65	-13.00	45.65	180
8	15274	-62.82	8.24	15.35	vertical	-55.71	-13.00	42.71	90
9	17184	-61.02	8.41	14.95	vertical	-54.48	-13.00	41.48	225
10	19093	-59.29	8.54	15.45	vertical	-52.38	-13.00	39.38	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 2 3MHz CH615

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3703	-70.15	5.10	11.05	vertical	-64.2	-13.00	51.20	270
3	5555	-63.52	5.42	12.65	vertical	-56.29	-13.00	43.29	45
4	7406	-70.96	6.70	13.85	vertical	-63.81	-13.00	50.81	0
5	9258	-69.50	7.01	14.75	vertical	-61.76	-13.00	48.76	270
6	11109	-70.83	7.48	15.95	vertical	-62.36	-13.00	49.36	315
7	12961	-67.94	7.51	16.55	vertical	-58.9	-13.00	45.90	225
8	14812	-64.15	8.24	15.35	vertical	-57.04	-13.00	44.04	135
9	16664	-61.36	8.41	14.95	vertical	-54.82	-13.00	41.82	270
10	18515	-60.89	8.54	15.45	vertical	-53.98	-13.00	40.98	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 vertical position.



LTE Band 2 3MHz CH900

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3760	-59.11	5.10	11.05	vertical	-53.16	-13.00	40.16	45
3	5640	-55.22	5.42	12.65	vertical	-47.99	-13.00	34.99	0
4	7520	-63.23	6.70	13.85	vertical	-56.08	-13.00	43.08	135
5	9400	-62.69	7.01	14.75	vertical	-54.95	-13.00	41.95	0
6	11280	-68.06	7.48	15.95	vertical	-59.59	-13.00	46.59	45
7	13160	-68.48	7.51	16.55	vertical	-59.44	-13.00	46.44	180
8	15040	-63.91	8.24	15.35	vertical	-56.8	-13.00	43.80	90
9	16920	-60.32	8.41	14.95	vertical	-53.78	-13.00	40.78	225
10	18800	-59.42	8.54	15.45	vertical	-52.51	-13.00	39.51	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 2 3MHz CH1185

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3817	-60.20	5.10	11.05	vertical	-54.25	-13.00	41.25	90
3	5726	-54.41	5.42	12.65	vertical	-47.18	-13.00	34.18	135
4	7634	-61.74	6.70	13.85	vertical	-54.59	-13.00	41.59	270
5	9543	-64.50	7.01	14.75	vertical	-56.76	-13.00	43.76	0
6	11451	-68.96	7.48	15.95	vertical	-60.49	-13.00	47.49	135
7	13360	-67.54	7.51	16.55	vertical	-58.5	-13.00	45.50	0
8	15268	-63.22	8.24	15.35	vertical	-56.11	-13.00	43.11	45
9	17177	-61.14	8.41	14.95	vertical	-54.6	-13.00	41.60	180
10	19085	-60.11	8.54	15.45	vertical	-53.2	-13.00	40.20	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 2 5MHz CH625

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3705	-59.07	5.10	11.05	vertical	-53.12	-13.00	40.12	225
3	5558	-56.71	5.42	12.65	vertical	-49.48	-13.00	36.48	270
4	7410	-64.17	6.70	13.85	vertical	-57.02	-13.00	44.02	180
5	9263	-63.13	7.01	14.75	vertical	-55.39	-13.00	42.39	135
6	11115	-71.55	7.48	15.95	vertical	-63.08	-13.00	50.08	270
7	12968	-68.54	7.51	16.55	vertical	-59.5	-13.00	46.50	0
8	14820	-64.09	8.24	15.35	vertical	-56.98	-13.00	43.98	180
9	16673	-60.98	8.41	14.95	vertical	-54.44	-13.00	41.44	90
10	18525	-59.74	8.54	15.45	vertical	-52.83	-13.00	39.83	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 2 5MHz CH900

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3760	-61.14	5.10	11.05	vertical	-55.19	-13.00	42.19	90
3	5640	-55.48	5.42	12.65	vertical	-48.25	-13.00	35.25	225
4	7520	-64.17	6.70	13.85	vertical	-57.02	-13.00	44.02	270
5	9400	-60.24	7.01	14.75	vertical	-52.5	-13.00	39.50	135
6	11280	-69.47	7.48	15.95	vertical	-61	-13.00	48.00	45
7	13160	-68.40	7.51	16.55	vertical	-59.36	-13.00	46.36	0
8	15040	-63.07	8.24	15.35	vertical	-55.96	-13.00	42.96	270
9	16920	-61.24	8.41	14.95	vertical	-54.7	-13.00	41.70	315
10	18800	-62.19	8.54	15.45	vertical	-55.28	-13.00	42.28	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 2 5MHz CH1175

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3815	-61.92	5.10	11.05	vertical	-55.97	-13.00	42.97	270
3	5723	-53.53	5.42	12.65	vertical	-46.3	-13.00	33.30	135
4	7630	-62.37	6.70	13.85	vertical	-55.22	-13.00	42.22	45
5	9538	-66.18	7.01	14.75	vertical	-58.44	-13.00	45.44	0
6	11445	-69.54	7.48	15.95	vertical	-61.07	-13.00	48.07	270
7	13353	-67.97	7.51	16.55	vertical	-58.93	-13.00	45.93	315
8	15260	-62.56	8.24	15.35	vertical	-55.45	-13.00	42.45	225
9	17168	-60.90	8.41	14.95	vertical	-54.36	-13.00	41.36	135
10	19075	-64.78	8.54	15.45	vertical	-57.87	-13.00	44.87	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 2 10MHz CH650

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3710	-59.65	5.10	11.05	vertical	-53.70	-13.00	40.70	0
3	5565	-55.62	5.42	12.65	vertical	-48.39	-13.00	35.39	135
4	7420	-63.62	6.70	13.85	vertical	-56.47	-13.00	43.47	0
5	9275	-59.73	7.01	14.75	vertical	-51.99	-13.00	38.99	45
6	11130	-71.03	7.48	15.95	vertical	-62.56	-13.00	49.56	90
7	12985	-67.90	7.51	16.55	vertical	-58.86	-13.00	45.86	225
8	14840	-64.28	8.24	15.35	vertical	-57.17	-13.00	44.17	270
9	16695	-60.86	8.41	14.95	vertical	-54.32	-13.00	41.32	180
10	18550	-62.77	8.54	15.45	vertical	-55.86	-13.00	42.86	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 2 10MHz CH900

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3760	-59.12	5.10	11.05	vertical	-53.17	-13.00	40.17	270
3	5640	-53.80	5.42	12.65	vertical	-46.57	-13.00	33.57	0
4	7520	-64.17	6.70	13.85	vertical	-57.02	-13.00	44.02	180
5	9400	-60.37	7.01	14.75	vertical	-52.63	-13.00	39.63	90
6	11280	-69.82	7.48	15.95	vertical	-61.35	-13.00	48.35	180
7	13160	-68.22	7.51	16.55	vertical	-59.18	-13.00	46.18	90
8	15040	-63.45	8.24	15.35	vertical	-56.34	-13.00	43.34	225
9	16920	-60.44	8.41	14.95	vertical	-53.9	-13.00	40.90	270
10	18800	-61.16	8.54	15.45	vertical	-54.25	-13.00	41.25	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 2 10MHz CH1150

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3810	-58.81	5.10	11.05	vertical	-52.86	-13.00	39.86	45
3	5715	-54.55	5.42	12.65	vertical	-47.32	-13.00	34.32	0
4	7620	-63.44	6.70	13.85	vertical	-56.29	-13.00	43.29	225
5	9525	-66.97	7.01	14.75	vertical	-59.23	-13.00	46.23	135
6	11430	-69.27	7.48	15.95	vertical	-60.8	-13.00	47.80	270
7	13335	-67.77	7.51	16.55	vertical	-58.73	-13.00	45.73	0
8	15240	-62.71	8.24	15.35	vertical	-55.6	-13.00	42.60	135
9	17145	-61.25	8.41	14.95	vertical	-54.71	-13.00	41.71	0
10	19050	-65.14	8.54	15.45	vertical	-58.23	-13.00	45.23	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 2 15MHz CH675

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3715.0	-59.09	5.10	11.05	vertical	-53.14	-13.00	40.14	90
3	5572.5	-56.48	5.42	12.65	vertical	-49.25	-13.00	36.25	225
4	7430.0	-63.98	6.70	13.85	vertical	-56.83	-13.00	43.83	270
5	9287.5	-63.72	7.01	14.75	vertical	-55.98	-13.00	42.98	180
6	11145.0	-69.05	7.48	15.95	vertical	-60.58	-13.00	47.58	135
7	13002.5	-67.78	7.51	16.55	vertical	-58.74	-13.00	45.74	270
8	14860.0	-63.61	8.24	15.35	vertical	-56.5	-13.00	43.50	0
9	16717.5	-61.37	8.41	14.95	vertical	-54.83	-13.00	41.83	90
10	18575.0	-63.20	8.54	15.45	vertical	-56.29	-13.00	43.29	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 vertical position.

LTE Band 2 15MHz CH900

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3760.0	-59.08	5.10	11.05	vertical	-53.13	-13.00	40.13	90
3	5640.0	-54.27	5.42	12.65	vertical	-47.04	-13.00	34.04	225
4	7520.0	-64.38	6.70	13.85	vertical	-57.23	-13.00	44.23	270
5	9400.0	-61.27	7.01	14.75	vertical	-53.53	-13.00	40.53	135
6	11280.0	-69.20	7.48	15.95	vertical	-60.73	-13.00	47.73	45
7	13160.0	-68.06	7.51	16.55	vertical	-59.02	-13.00	46.02	0
8	15040.0	-63.29	8.24	15.35	vertical	-56.18	-13.00	43.18	225
9	16920.0	-60.44	8.41	14.95	vertical	-53.9	-13.00	40.90	135
10	18800.0	-61.53	8.54	15.45	vertical	-54.62	-13.00	41.62	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 2 15MHz CH1125

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3805.0	-57.18	5.10	11.05	vertical	-51.23	-13.00	38.23	0
3	5707.5	-55.13	5.42	12.65	vertical	-47.9	-13.00	34.90	135
4	7610.0	-63.69	6.70	13.85	vertical	-56.54	-13.00	43.54	0
5	9512.5	-62.35	7.01	14.75	vertical	-54.61	-13.00	41.61	45
6	11415.0	-69.85	7.48	15.95	vertical	-61.38	-13.00	48.38	90
7	13317.5	-68.33	7.51	16.55	vertical	-59.29	-13.00	46.29	135
8	15220.0	-62.75	8.24	15.35	vertical	-55.64	-13.00	42.64	0
9	17122.5	-61.26	8.41	14.95	vertical	-54.72	-13.00	41.72	45
10	19025.0	-65.15	8.54	15.45	vertical	-58.24	-13.00	45.24	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 2 20MHz CH700

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3720.0	-58.97	5.10	11.05	vertical	-53.02	-13.00	40.02	225
3	5580.0	-56.64	5.42	12.65	vertical	-49.41	-13.00	36.41	270
4	7440.0	-63.89	6.70	13.85	vertical	-56.74	-13.00	43.74	180
5	9300.0	-64.76	7.01	14.75	vertical	-57.02	-13.00	44.02	135
6	11160.0	-69.75	7.48	15.95	vertical	-61.28	-13.00	48.28	270
7	13020.0	-68.02	7.51	16.55	vertical	-58.98	-13.00	45.98	0
8	14880.0	-63.74	8.24	15.35	vertical	-56.63	-13.00	43.63	90
9	16740.0	-61.76	8.41	14.95	vertical	-55.22	-13.00	42.22	180
10	18600.0	-60.17	8.54	15.45	vertical	-53.26	-13.00	40.26	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 2 20MHz CH900

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3760.0	-58.09	5.10	11.05	vertical	-52.14	-13.00	39.14	225
3	5640.0	-54.56	5.42	12.65	vertical	-47.33	-13.00	34.33	270
4	7520.0	-64.29	6.70	13.85	vertical	-57.14	-13.00	44.14	135
5	9400.0	-62.29	7.01	14.75	vertical	-54.55	-13.00	41.55	45
6	11280.0	-68.99	7.48	15.95	vertical	-60.52	-13.00	47.52	135
7	13160.0	-67.67	7.51	16.55	vertical	-58.63	-13.00	45.63	270
8	15040.0	-62.91	8.24	15.35	vertical	-55.8	-13.00	42.80	0
9	16920.0	-60.60	8.41	14.95	vertical	-54.06	-13.00	41.06	135
10	18800.0	-62.60	8.54	15.45	vertical	-55.69	-13.00	42.69	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 vertical position.

LTE Band 2 20MHz CH1100

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3800.0	-57.80	5.10	11.05	vertical	-51.85	-13.00	38.85	45
3	5700.0	-54.96	5.42	12.65	vertical	-47.73	-13.00	34.73	90
4	7600.0	-63.09	6.70	13.85	vertical	-55.94	-13.00	42.94	135
5	9500.0	-61.48	7.01	14.75	vertical	-53.74	-13.00	40.74	0
6	11400.0	-69.44	7.48	15.95	vertical	-60.97	-13.00	47.97	45
7	13300.0	-67.55	7.51	16.55	vertical	-58.51	-13.00	45.51	90
8	15200.0	-63.28	8.24	15.35	vertical	-56.17	-13.00	43.17	225
9	17100.0	-61.94	8.41	14.95	vertical	-55.4	-13.00	42.40	270
10	19000.0	-60.54	8.54	15.45	vertical	-53.63	-13.00	40.63	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 25 1.4MHz CH26047

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3701	-62.17	5.1	11.05	vertical	-56.22	-13.00	43.22	270
3	5552	-58.03	5.42	12.65	vertical	-50.80	-13.00	37.80	45
4	7403	-60.52	6.7	13.85	vertical	-53.37	-13.00	40.37	135
5	9254	-60.73	7.01	14.75	vertical	-52.99	-13.00	39.99	270
6	11104	-59.59	7.48	15.95	vertical	-51.12	-13.00	38.12	0
7	12955	-59.43	7.51	16.55	vertical	-50.39	-13.00	37.39	180
8	14806	-54.07	8.24	15.35	vertical	-46.96	-13.00	33.96	90
9	16656	-49.93	8.41	14.95	vertical	-43.39	-13.00	30.39	225
10	18507	-82.34	8.54	15.45	vertical	-75.43	-13.00	62.43	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 25 1.4MHz CH26365

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3765.00	-58.98	5.10	11.05	vertical	-53.03	-13.00	40.03	0
3	5647.50	-58.37	5.42	12.65	vertical	-51.14	-13.00	38.14	45
4	7530.00	-60.07	6.70	13.85	vertical	-52.92	-13.00	39.92	0
5	9412.50	-59.76	7.01	14.75	vertical	-52.02	-13.00	39.02	135
6	11295.00	-59.56	7.48	15.95	vertical	-51.09	-13.00	38.09	0
7	13177.50	-57.97	7.51	16.55	vertical	-48.93	-13.00	35.93	45
8	15060.00	-53.63	8.24	15.35	vertical	-46.52	-13.00	33.52	180
9	16942.50	-49.50	8.41	14.95	vertical	-42.96	-13.00	29.96	90
10	18825.00	-86.05	8.54	15.45	vertical	-79.14	-13.00	66.14	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 25 1.4MHz CH26683

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3828.60	-60.86	5.10	11.05	vertical	-54.91	-13.00	41.91	270
3	5742.90	-55.15	5.42	12.65	vertical	-47.92	-13.00	34.92	180
4	7657.20	-55.96	6.70	13.85	vertical	-48.81	-13.00	35.81	135
5	9571.50	-59.54	7.01	14.75	vertical	-51.80	-13.00	38.80	270
6	11485.80	-59.02	7.48	15.95	vertical	-50.55	-13.00	37.55	0
7	13400.10	-59.52	7.51	16.55	vertical	-50.48	-13.00	37.48	180
8	15314.40	-54.21	8.24	15.35	vertical	-47.10	-13.00	34.10	90
9	17228.70	-49.39	8.41	14.95	vertical	-42.85	-13.00	29.85	225
10	19143.00	-83.91	8.54	15.45	vertical	-77.00	-13.00	64.00	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 25 3MHz CH26055

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3703.00	-63.39	5.10	11.05	vertical	-57.44	-13.00	44.44	270
3	5554.50	-62.05	5.42	12.65	vertical	-54.82	-13.00	41.82	45
4	7406.00	-60.18	6.70	13.85	vertical	-53.03	-13.00	40.03	0
5	9257.50	-59.92	7.01	14.75	vertical	-52.18	-13.00	39.18	270
6	11109.00	-60.35	7.48	15.95	vertical	-51.88	-13.00	38.88	315
7	12960.50	-60.07	7.51	16.55	vertical	-51.03	-13.00	38.03	225
8	14812.00	-53.16	8.24	15.35	vertical	-46.05	-13.00	33.05	135
9	16663.50	-50.56	8.41	14.95	vertical	-44.02	-13.00	31.02	270
10	18515.00	-82.03	8.54	15.45	vertical	-75.12	-13.00	62.12	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 vertical position.



LTE Band 25 3MHz CH26365

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3765.00	-60.96	5.10	11.05	vertical	-55.01	-13.00	42.01	45
3	5647.50	-61.80	5.42	12.65	vertical	-54.57	-13.00	41.57	0
4	7530.00	-59.19	6.70	13.85	vertical	-52.04	-13.00	39.04	135
5	9412.50	-60.69	7.01	14.75	vertical	-52.95	-13.00	39.95	0
6	11295.00	-60.22	7.48	15.95	vertical	-51.75	-13.00	38.75	45
7	13177.50	-57.19	7.51	16.55	vertical	-48.15	-13.00	35.15	180
8	15060.00	-53.16	8.24	15.35	vertical	-46.05	-13.00	33.05	90
9	16942.50	-48.68	8.41	14.95	vertical	-42.14	-13.00	29.14	225
10	18825.00	-85.66	8.54	15.45	vertical	-78.75	-13.00	65.75	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 25 3MHz CH26675

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3827.00	-62.54	5.10	11.05	vertical	-56.59	-13.00	43.59	90
3	5740.50	-61.95	5.42	12.65	vertical	-54.72	-13.00	41.72	135
4	7654.00	-59.92	6.70	13.85	vertical	-52.77	-13.00	39.77	270
5	9567.50	-59.91	7.01	14.75	vertical	-52.17	-13.00	39.17	0
6	11481.00	-59.25	7.48	15.95	vertical	-50.78	-13.00	37.78	135
7	13394.50	-59.88	7.51	16.55	vertical	-50.84	-13.00	37.84	0
8	15308.00	-55.36	8.24	15.35	vertical	-48.25	-13.00	35.25	45
9	17221.50	-49.02	8.41	14.95	vertical	-42.48	-13.00	29.48	180
10	19135.00	-84.26	8.54	15.45	vertical	-77.35	-13.00	64.35	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 25 5MHz CH26065

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3705.00	-63.50	5.10	11.05	vertical	-57.55	-13.00	44.55	225
3	5557.50	-61.38	5.42	12.65	vertical	-54.15	-13.00	41.15	270
4	7410.00	-61.00	6.70	13.85	vertical	-53.85	-13.00	40.85	180
5	9262.50	-60.68	7.01	14.75	vertical	-52.94	-13.00	39.94	135
6	11115.00	-60.52	7.48	15.95	vertical	-52.05	-13.00	39.05	270
7	12967.50	-60.59	7.51	16.55	vertical	-51.55	-13.00	38.55	0
8	14820.00	-53.26	8.24	15.35	vertical	-46.15	-13.00	33.15	180
9	16672.50	-51.39	8.41	14.95	vertical	-44.85	-13.00	31.85	90
10	18525.00	-82.43	8.54	15.45	vertical	-75.52	-13.00	62.52	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 25 5MHz CH26365

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3765.00	-60.58	5.10	11.05	vertical	-54.63	-13.00	41.63	90
3	5647.50	-62.38	5.42	12.65	vertical	-55.15	-13.00	42.15	225
4	7530.00	-59.33	6.70	13.85	vertical	-52.18	-13.00	39.18	270
5	9412.50	-59.89	7.01	14.75	vertical	-52.15	-13.00	39.15	135
6	11295.00	-59.72	7.48	15.95	vertical	-51.25	-13.00	38.25	45
7	13177.50	-57.63	7.51	16.55	vertical	-48.59	-13.00	35.59	0
8	15060.00	-53.23	8.24	15.35	vertical	-46.12	-13.00	33.12	270
9	16942.50	-48.39	8.41	14.95	vertical	-41.85	-13.00	28.85	315
10	18825.00	-85.58	8.54	15.45	vertical	-78.67	-13.00	65.67	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 25 5MHz CH26665

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3825.00	-62.13	5.10	11.05	vertical	-56.18	-13.00	43.18	270
3	5737.50	-62.11	5.42	12.65	vertical	-54.88	-13.00	41.88	135
4	7650.00	-59.77	6.70	13.85	vertical	-52.62	-13.00	39.62	45
5	9562.50	-59.22	7.01	14.75	vertical	-51.48	-13.00	38.48	0
6	11475.00	-58.82	7.48	15.95	vertical	-50.35	-13.00	37.35	270
7	13387.50	-59.19	7.51	16.55	vertical	-50.15	-13.00	37.15	315
8	15300.00	-56.06	8.24	15.35	vertical	-48.95	-13.00	35.95	225
9	17212.50	-48.66	8.41	14.95	vertical	-42.12	-13.00	29.12	135
10	19125.00	-84.86	8.54	15.45	vertical	-77.95	-13.00	64.95	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 25 10MHz CH26090

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3710.00	-62.23	5.10	11.05	vertical	-56.28	-13.00	43.28	0
3	5565.00	-59.12	5.42	12.65	vertical	-51.89	-13.00	38.89	135
4	7420.00	-61.03	6.70	13.85	vertical	-53.88	-13.00	40.88	0
5	9275.00	-59.89	7.01	14.75	vertical	-52.15	-13.00	39.15	45
6	11130.00	-59.82	7.48	15.95	vertical	-51.35	-13.00	38.35	90
7	12985.00	-60.05	7.51	16.55	vertical	-51.01	-13.00	38.01	225
8	14840.00	-54.36	8.24	15.35	vertical	-47.25	-13.00	34.25	270
9	16695.00	-50.42	8.41	14.95	vertical	-43.88	-13.00	30.88	180
10	18550.00	-82.67	8.54	15.45	vertical	-75.76	-13.00	62.76	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 25 10MHz CH26365

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3765.00	-59.22	5.10	11.05	vertical	-53.27	-13.00	40.27	270
3	5647.50	-58.46	5.42	12.65	vertical	-51.23	-13.00	38.23	0
4	7530.00	-59.27	6.70	13.85	vertical	-52.12	-13.00	39.12	180
5	9412.50	-60.31	7.01	14.75	vertical	-52.57	-13.00	39.57	90
6	11295.00	-59.84	7.48	15.95	vertical	-51.37	-13.00	38.37	180
7	13177.50	-57.30	7.51	16.55	vertical	-48.26	-13.00	35.26	90
8	15060.00	-53.89	8.24	15.35	vertical	-46.78	-13.00	33.78	225
9	16942.50	-49.59	8.41	14.95	vertical	-43.05	-13.00	30.05	270
10	18825.00	-86.81	8.54	15.45	vertical	-79.90	-13.00	66.90	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 25 10MHz CH26640

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3820.00	-59.46	5.10	11.05	vertical	-53.51	-13.00	40.51	45
3	5730.00	-57.64	5.42	12.65	vertical	-50.41	-13.00	37.41	0
4	7640.00	-59.81	6.70	13.85	vertical	-52.66	-13.00	39.66	225
5	9550.00	-58.89	7.01	14.75	vertical	-51.15	-13.00	38.15	135
6	11460.00	-58.72	7.48	15.95	vertical	-50.25	-13.00	37.25	270
7	13370.00	-59.92	7.51	16.55	vertical	-50.88	-13.00	37.88	0
8	15280.00	-54.60	8.24	15.35	vertical	-47.49	-13.00	34.49	135
9	17190.00	-48.69	8.41	14.95	vertical	-42.15	-13.00	29.15	0
10	19100.00	-83.92	8.54	15.45	vertical	-77.01	-13.00	64.01	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 25 15MHz CH26115

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3715.00	-62.75	5.10	11.05	vertical	-56.80	-13.00	43.80	90
3	5572.50	-59.18	5.42	12.65	vertical	-51.95	-13.00	38.95	225
4	7430.00	-60.29	6.70	13.85	vertical	-53.14	-13.00	40.14	270
5	9287.50	-60.50	7.01	14.75	vertical	-52.76	-13.00	39.76	180
6	11145.00	-59.92	7.48	15.95	vertical	-51.45	-13.00	38.45	135
7	13002.50	-60.99	7.51	16.55	vertical	-51.95	-13.00	38.95	270
8	14860.00	-55.13	8.24	15.35	vertical	-48.02	-13.00	35.02	0
9	16717.50	-50.29	8.41	14.95	vertical	-43.75	-13.00	30.75	90
10	18575.00	-81.96	8.54	15.45	vertical	-75.05	-13.00	62.05	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 25 15MHz CH26365

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3765.00	-57.82	5.10	11.05	vertical	-51.87	-13.00	38.87	90
3	5647.50	-59.76	5.42	12.65	vertical	-52.53	-13.00	39.53	225
4	7530.00	-58.43	6.70	13.85	vertical	-51.28	-13.00	38.28	270
5	9412.50	-60.22	7.01	14.75	vertical	-52.48	-13.00	39.48	135
6	11295.00	-60.72	7.48	15.95	vertical	-52.25	-13.00	39.25	45
7	13177.50	-57.63	7.51	16.55	vertical	-48.59	-13.00	35.59	0
8	15060.00	-53.46	8.24	15.35	vertical	-46.35	-13.00	33.35	225
9	16942.50	-50.39	8.41	14.95	vertical	-43.85	-13.00	30.85	135
10	18825.00	-85.94	8.54	15.45	vertical	-79.03	-13.00	66.03	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 25 15MHz CH26615

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3815.00	-58.82	5.10	11.05	vertical	-52.87	-13.00	39.87	0
3	5722.50	-60.56	5.42	12.65	vertical	-53.33	-13.00	40.33	135
4	7630.00	-60.17	6.70	13.85	vertical	-53.02	-13.00	40.02	0
5	9537.50	-59.75	7.01	14.75	vertical	-52.01	-13.00	39.01	45
6	11445.00	-58.94	7.48	15.95	vertical	-50.47	-13.00	37.47	90
7	13352.50	-59.73	7.51	16.55	vertical	-50.69	-13.00	37.69	135
8	15260.00	-54.96	8.24	15.35	vertical	-47.85	-13.00	34.85	0
9	17167.50	-49.55	8.41	14.95	vertical	-43.01	-13.00	30.01	45
10	19075.00	-83.16	8.54	15.45	vertical	-76.25	-13.00	63.25	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 25 20MHz CH26140

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3720.00	-63.56	5.10	11.05	vertical	-57.61	-13.00	44.61	225
3	5580.00	-58.83	5.42	12.65	vertical	-51.60	-13.00	38.60	270
4	7440.00	-60.63	6.70	13.85	vertical	-53.48	-13.00	40.48	180
5	9300.00	-60.21	7.01	14.75	vertical	-52.47	-13.00	39.47	135
6	11160.00	-60.32	7.48	15.95	vertical	-51.85	-13.00	38.85	270
7	13020.00	-59.82	7.51	16.55	vertical	-50.78	-13.00	37.78	0
8	14880.00	-53.79	8.24	15.35	vertical	-46.68	-13.00	33.68	90
9	16740.00	-50.22	8.41	14.95	vertical	-43.68	-13.00	30.68	180
10	18600.00	-82.16	8.54	15.45	vertical	-75.25	-13.00	62.25	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 25 20MHz CH26365

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3765.00	-58.00	5.10	11.05	vertical	-52.05	-13.00	39.05	225
3	5647.50	-59.65	5.42	12.65	vertical	-52.42	-13.00	39.42	270
4	7530.00	-59.06	6.70	13.85	vertical	-51.91	-13.00	38.91	135
5	9412.50	-60.09	7.01	14.75	vertical	-52.35	-13.00	39.35	45
6	11295.00	-61.32	7.48	15.95	vertical	-52.85	-13.00	39.85	135
7	13177.50	-57.71	7.51	16.55	vertical	-48.67	-13.00	35.67	270
8	15060.00	-53.98	8.24	15.35	vertical	-46.87	-13.00	33.87	0
9	16942.50	-50.23	8.41	14.95	vertical	-43.69	-13.00	30.69	135
10	18825.00	-86.58	8.54	15.45	vertical	-79.67	-13.00	66.67	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 vertical position.

LTE Band 25 20MHz CH26590

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3810.00	-62.38	5.10	11.05	vertical	-56.43	-13.00	-62.38	45
3	5715.00	-61.89	5.42	12.65	vertical	-54.66	-13.00	-61.89	90
4	7620.00	-59.72	6.70	13.85	vertical	-52.57	-13.00	-59.72	135
5	9525.00	-60.36	7.01	14.75	vertical	-52.62	-13.00	-60.36	0
6	11430.00	-58.96	7.48	15.95	vertical	-50.49	-13.00	-58.96	45
7	13335.00	-59.69	7.51	16.55	vertical	-50.65	-13.00	-59.69	90
8	15240.00	-54.36	8.24	15.35	vertical	-47.25	-13.00	-54.36	225
9	17145.00	-50.22	8.41	14.95	vertical	-43.68	-13.00	-50.22	270
10	19050.00	-83.56	8.54	15.45	vertical	-76.65	-13.00	-83.56	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	Type	Manufacturer	Serial Number	Calibration Date	Expiration Time
Base Station Simulator	CMW500	R&S	113645	2015-05-22	2016-05-21
Power Splitter	SHX-GF2-2-13	Hua Xiang	10120101	NA	NA
Spectrum Analyzer	E4445A	Agilent	MY46181146	2015-05-22	2016-05-21
Spectrum Analyzer	N9010A	Agilent	MY47191109	2015-05-22	2016-05-21
Universal Radio Communication Tester	E5515C	Agilent	MY48367192	2015-05-22	2016-05-21
Signal Analyzer	FSV30	R&S	100815	2015-12-17	2016-12-16
Signal generator	SMB 100A	R&S	102594	2015-05-22	2016-05-21
Signal generator	SMR27	R&S	100365	2015-05-22	2016-05-21
EMI Test Receiver	ESCI	R&S	100948	2015-05-22	2016-05-21
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
Climatic Chamber	PT-30B	Re Ce	20101891	2015-07-18	2016-07-17
Horn Antenna	3160-09	ETS-Lindgren	00102643	2014-12-06	2017-12-05
Horn Antenna	3160-09	ETS-Lindgren	00102644	2014-12-06	2017-12-05
RF Cable	SMA 15cm	Agilent	0001	2016-01-09	2016-03-08

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