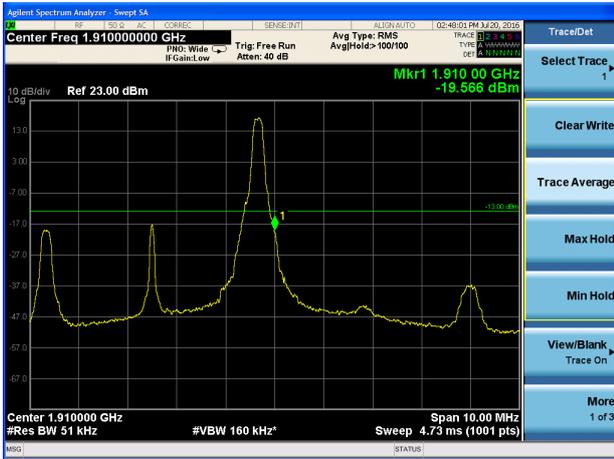




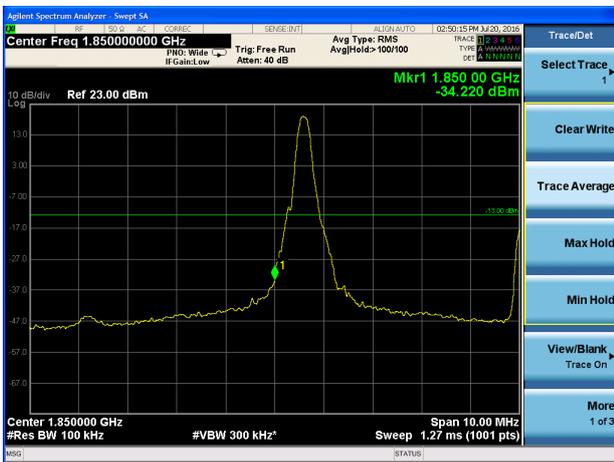
### LTE Band 2 5MHz 16QAM 1RB CH-High



### LTE Band 2 5MHz 16QAM 100%RB CH-High



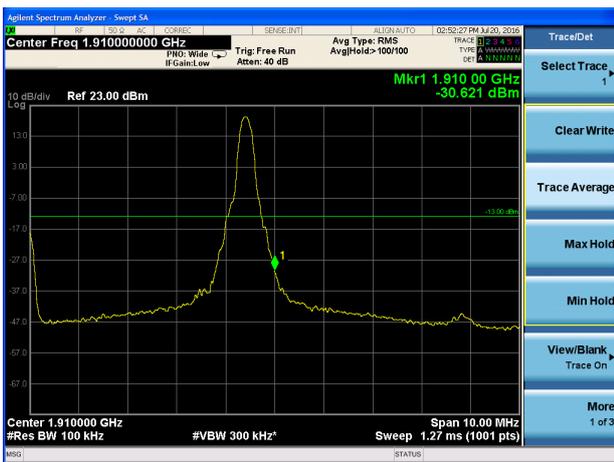
### LTE Band 2 10MHz 16QAM 1RB CH-Low



### LTE Band 2 10MHz 16QAM 100%RB CH-Low



### LTE Band 2 10MHz 16QAM 1RB CH-High

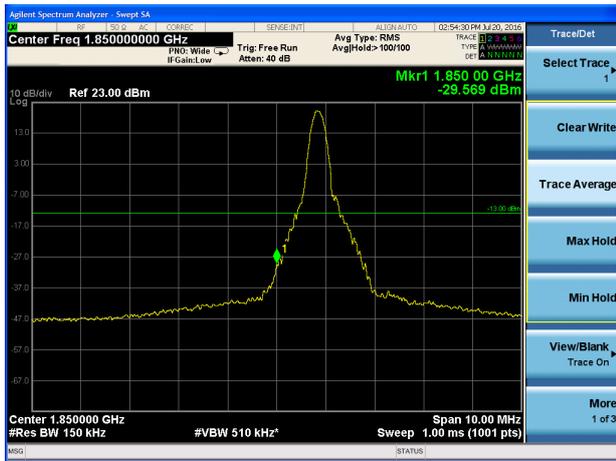


### LTE Band 2 10MHz 16QAM 100%RB CH-High





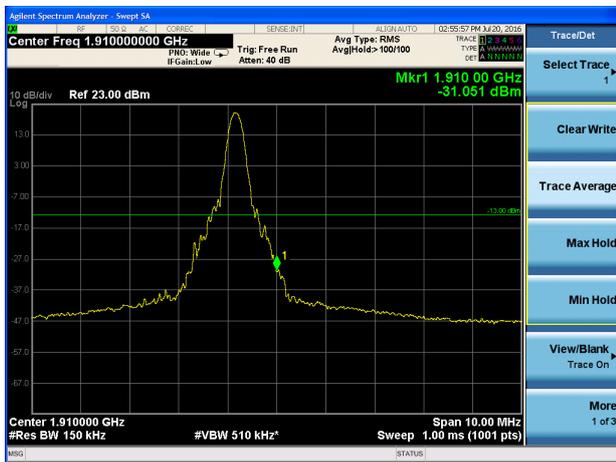
### LTE Band 2 15MHz 16QAM 1RB CH-Low



### LTE Band 2 15MHz 16QAM 100%RB CH-Low



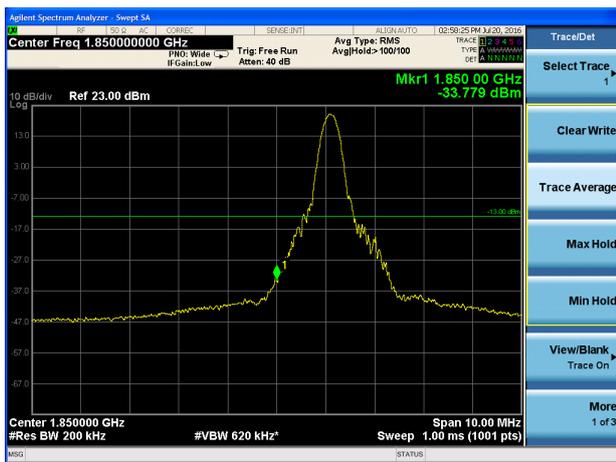
### LTE Band 2 15MHz 16QAM 1RB CH-High



### LTE Band 2 15MHz 16QAM 100%RB CH-High



### LTE Band 2 20MHz 16QAM 1RB CH-Low

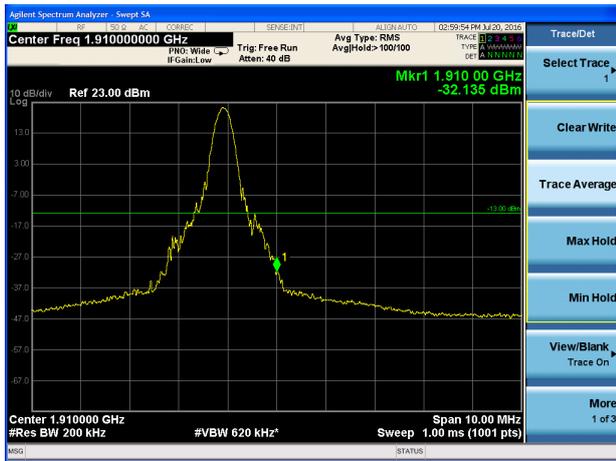


### LTE Band 2 20MHz 16QAM 100%RB CH-Low





### LTE Band 2 20MHz 16QAM 1RB CH-High



### LTE Band 2 20MHz 16QAM 100%RB CH-High



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

#### Ambient condition

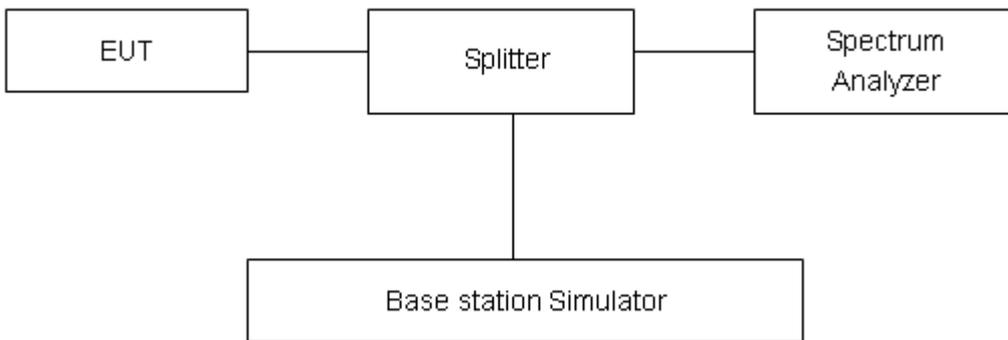
Temperature	Relative humidity
21°C ~25°C	40%~60%

#### 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
<b>GSM 1900 (GSM)</b>	512	1850.2	29.20	29.16	0.04	13	PASS
	661	1880	29.29	29.23	0.06	13	PASS
	810	1909.8	29.54	29.51	0.03	13	PASS
<b>GPRS 1900 (GMSK)</b>	512	1850.2	29.45	29.42	0.03	13	PASS
	661	1880	29.50	29.47	0.03	13	PASS
	810	1909.8	29.47	29.45	0.02	13	PASS
<b>EGPRS 1900 (8-PSK)</b>	512	1850.2	24.23	24.18	0.05	13	PASS
	661	1880	24.24	24.19	0.05	13	PASS
	810	1909.8	24.37	24.33	0.04	13	PASS
<b>WCDMA Band II (RMC)</b>	9662	1852.4	26.14	22.37	3.77	13	PASS
	9800	1880	25.98	22.23	3.75	13	PASS
	9938	1907.6	26.18	22.45	3.73	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	25.15	20.81	4.34	13	PASS
		18900	1880.0	25.53	21.07	4.46	13	PASS
		19193	1909.3	25.55	21.23	4.32	13	PASS
	16QAM	18607	1850.7	25.04	20.09	4.95	13	PASS
		18900	1880.0	24.97	20.14	4.83	13	PASS
		19193	1909.3	25.24	20.35	4.89	13	PASS
3MHz	QPSK	18615	1851.5	25.42	20.84	4.58	13	PASS
		18900	1880	25.62	21.11	4.51	13	PASS
		19185	1908.5	25.74	21.26	4.48	13	PASS
	16QAM	18615	1851.5	25.25	20.12	5.13	13	PASS
		18900	1880	25.28	20.18	5.10	13	PASS
		19185	1908.5	25.46	20.38	5.08	13	PASS
5MHz	QPSK	18625	1852.5	26.18	20.82	5.36	13	PASS
		18900	1880	26.42	21.10	5.32	13	PASS
		19175	1907.5	26.62	21.24	5.38	13	PASS
	16QAM	18625	1852.5	25.35	20.10	5.25	13	PASS
		18900	1880	25.31	20.14	5.17	13	PASS
		19175	1907.5	25.55	20.33	5.22	13	PASS
10MHz	QPSK	18650	1855	26.29	20.90	5.39	13	PASS
		18900	1880	26.53	21.12	5.41	13	PASS
		19150	1905	26.64	21.28	5.36	13	PASS
	16QAM	18650	1855	24.72	20.13	4.59	13	PASS
		18900	1880	24.65	20.19	4.46	13	PASS
		19150	1905	24.98	20.37	4.61	13	PASS
15MHz	QPSK	18675	1857.5	26.23	20.88	5.35	13	PASS
		18900	1880	26.52	21.08	5.44	13	PASS
		19125	1902.5	26.57	21.23	5.34	13	PASS
	16QAM	18675	1857.5	24.62	20.10	4.52	13	PASS
		18900	1880	24.72	20.14	4.58	13	PASS
		19125	1902.5	24.82	20.33	4.49	13	PASS
20MHz	QPSK	18700	1860	26.13	20.85	5.28	13	PASS
		18900	1880	26.29	21.03	5.26	13	PASS
		19100	1900	26.52	21.19	5.33	13	PASS
	16QAM	18700	1860	24.70	20.08	4.62	13	PASS
		18900	1880	24.62	20.10	4.52	13	PASS
		19100	1900	24.89	20.30	4.59	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 +55°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 30°C increments from -30°C to +55°C. Allow at least 1.5 hours at each temperature, un-powered, before making measurements.

#### 2. Frequency Stability (Voltage Variation)

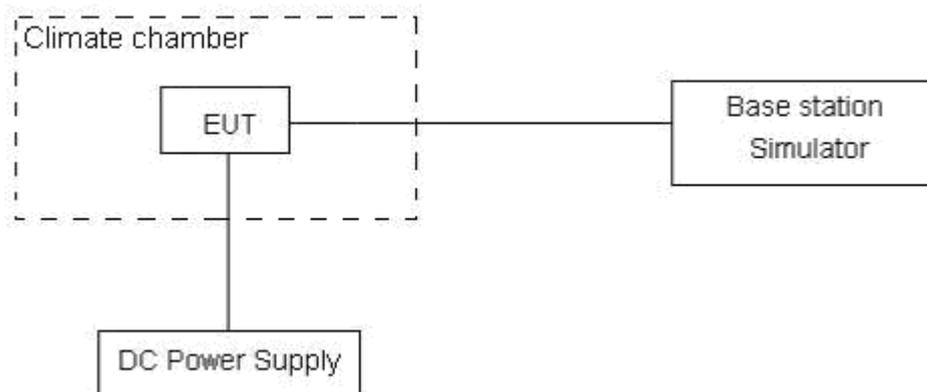
The frequency stability shall be measured with variation of primary supply voltage as follows:

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

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

This transceiver is specified to operate with an input voltage of between 3.4 V and 4.4 V, with a nominal voltage of 3.85V.

### 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	55°C/3.85 V	-0.0051	0.0092	0.0129	PASS
	50°C/3.85 V	-0.0071	0.0129	0.0127	PASS
	40°C/3.85 V	-0.0084	0.0047	0.0091	PASS
	30°C/3.85 V	-0.004	0.0117	0.0112	PASS
	20°C/3.85 V	-0.0065	0.0078	0.014	PASS
	10°C/3.85 V	-0.0036	0.011	0.0176	PASS
	0°C/3.85V	-0.0029	0.0105	0.0147	PASS
	-10°C/3.85 V	-0.0022	0.0083	0.0091	PASS
	-20°C/3.85 V	0.0036	0.0087	0.0096	PASS
	-30°C/3.85 V	0.0053	0.0079	0.0085	PASS
	20°C/4.4V	-0.0023	0.0102	0.0156	PASS
	20°C/3.4 V	-0.0031	0.0136	0.0098	PASS
/	/	RMC			/
WCDMA Band II Channel 9400	55°C/3.85 V	-0.00132			PASS
	50°C/3.85 V	-0.00163			PASS
	40°C/3.85 V	-0.00009			PASS
	30°C/3.85 V	-0.00020			PASS
	20°C/3.85 V	0.00035			PASS
	10°C/3.85 V	0.00021			PASS
	0°C/3.85V	-0.00004			PASS
	-10°C/3.85 V	-0.00026			PASS
	-20°C/3.85 V	0.00231			PASS
	-30°C/3.85 V	0.00121			PASS
	20°C/4.4V	0.00268			PASS
	20°C/3.4 V	-0.00214			PASS



Bandwidth	Test status	LTE Band 2 Channel 18900		Conclusion
		Test Results (ppm)		
		QPSK	16QAM	
1.4MHz	55°C/3.85 V	0.00143	-0.00129	PASS
	50°C/3.85 V	0.00138	-0.00162	PASS
	40°C/3.85 V	0.00136	-0.00152	PASS
	30°C/3.85 V	0.00042	-0.00129	PASS
	20°C/3.85 V	0.00090	-0.00161	PASS
	10°C/3.85 V	0.00122	-0.00165	PASS
	0°C/3.85V	0.00105	-0.00085	PASS
	-10°C/3.85 V	0.00108	-0.00118	PASS
	-20°C/3.85 V	0.00548	-0.00197	PASS
	-30°C/3.85 V	0.00399	-0.00101	PASS
	20°C/4.4V	0.00124	-0.00157	PASS
	20°C/3.4 V	0.00120	-0.00164	PASS
3MHz	55°C/3.85 V	-0.00191	-0.00240	PASS
	50°C/3.85 V	-0.00274	-0.00245	PASS
	40°C/3.85 V	-0.00189	-0.00230	PASS
	30°C/3.85 V	-0.00231	-0.00265	PASS
	20°C/3.85 V	-0.00246	-0.00238	PASS
	10°C/3.85 V	-0.00257	-0.00249	PASS
	0°C/3.85V	-0.00272	-0.00256	PASS
	-10°C/3.85 V	-0.00210	-0.00260	PASS
	-20°C/3.85 V	0.00787	-0.00319	PASS
	-30°C/3.85 V	0.00441	-0.00144	PASS
	20°C/4.4V	-0.00210	0.00135	PASS
	20°C/3.4 V	-0.00213	0.00167	PASS
5MHz	55°C/3.85 V	-0.00219	-0.00211	PASS
	50°C/3.85 V	-0.00205	-0.00156	PASS
	40°C/3.85 V	-0.00223	-0.00221	PASS
	30°C/3.85 V	-0.00248	-0.00215	PASS
	20°C/3.85 V	-0.00254	-0.00154	PASS
	10°C/3.85 V	-0.00174	-0.00173	PASS
	0°C/3.85V	-0.00214	-0.00179	PASS
	-10°C/3.85 V	-0.00182	-0.00218	PASS
	-20°C/3.85 V	0.00500	-0.00521	PASS
	-30°C/3.85 V	0.00234	-0.00436	PASS
	20°C/4.4V	-0.00199	-0.00200	PASS
	20°C/3.4 V	-0.00178	-0.00235	PASS



10MHz	55°C/3.85 V	-0.00218	-0.00220	PASS
	50°C/3.85 V	-0.00164	-0.00177	PASS
	40°C/3.85 V	-0.00171	-0.00198	PASS
	30°C/3.85 V	-0.00230	-0.00225	PASS
	20°C/3.85 V	-0.00164	-0.00191	PASS
	10°C/3.85 V	-0.00200	-0.00231	PASS
	0°C/3.85V	-0.00165	-0.00186	PASS
	-10°C/3.85 V	-0.00214	-0.00156	PASS
	-20°C/3.85 V	0.00255	-0.00495	PASS
	-30°C/3.85 V	0.00468	-0.00367	PASS
	20°C/4.4V	-0.00194	-0.00243	PASS
	20°C/3.4 V	-0.00164	-0.00202	PASS
15MHz	55°C/3.85 V	-0.00203	-0.00216	PASS
	50°C/3.85 V	-0.00219	-0.00182	PASS
	40°C/3.85 V	-0.00177	-0.00203	PASS
	30°C/3.85 V	-0.00207	-0.00166	PASS
	20°C/3.85 V	-0.00228	-0.00169	PASS
	10°C/3.85 V	-0.00218	-0.00176	PASS
	0°C/3.85V	-0.00251	-0.00173	PASS
	-10°C/3.85 V	-0.00185	-0.00193	PASS
	-20°C/3.85 V	0.00484	-0.00447	PASS
	-30°C/3.85 V	0.00447	-0.00261	PASS
	20°C/4.4V	-0.00240	-0.00212	PASS
	20°C/3.4 V	-0.00219	-0.00198	PASS
20MHz	55°C/3.85 V	-0.00193	-0.00214	PASS
	50°C/3.85 V	-0.00211	-0.00234	PASS
	40°C/3.85 V	-0.00169	-0.00177	PASS
	30°C/3.85 V	-0.00198	-0.00165	PASS
	20°C/3.85 V	-0.00189	-0.00175	PASS
	10°C/3.85 V	-0.00152	-0.00189	PASS
	0°C/3.85V	-0.00195	-0.00194	PASS
	-10°C/3.85 V	-0.00189	-0.00214	PASS
	-20°C/3.85 V	0.00580	-0.00505	PASS
	-30°C/3.85 V	0.00702	-0.00622	PASS
	20°C/4.4V	-0.00208	-0.00209	PASS
	20°C/3.4 V	-0.00182	-0.00204	PASS

### 5.7.Spurious Emissions at Antenna Terminals

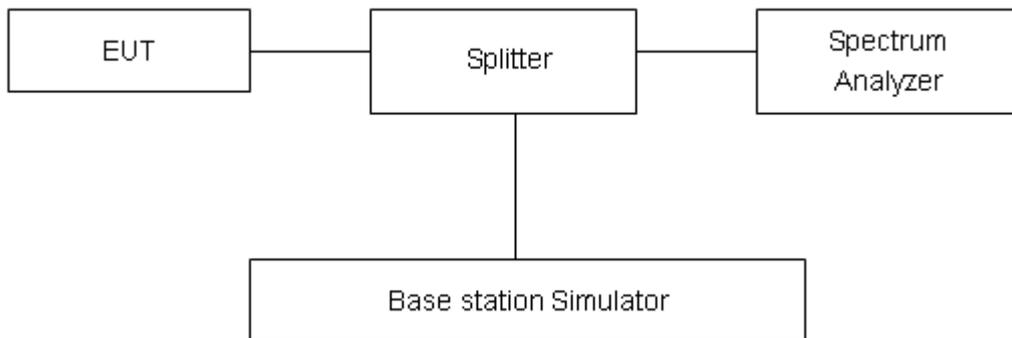
#### Ambient condition

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

#### Measurement Uncertainty

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

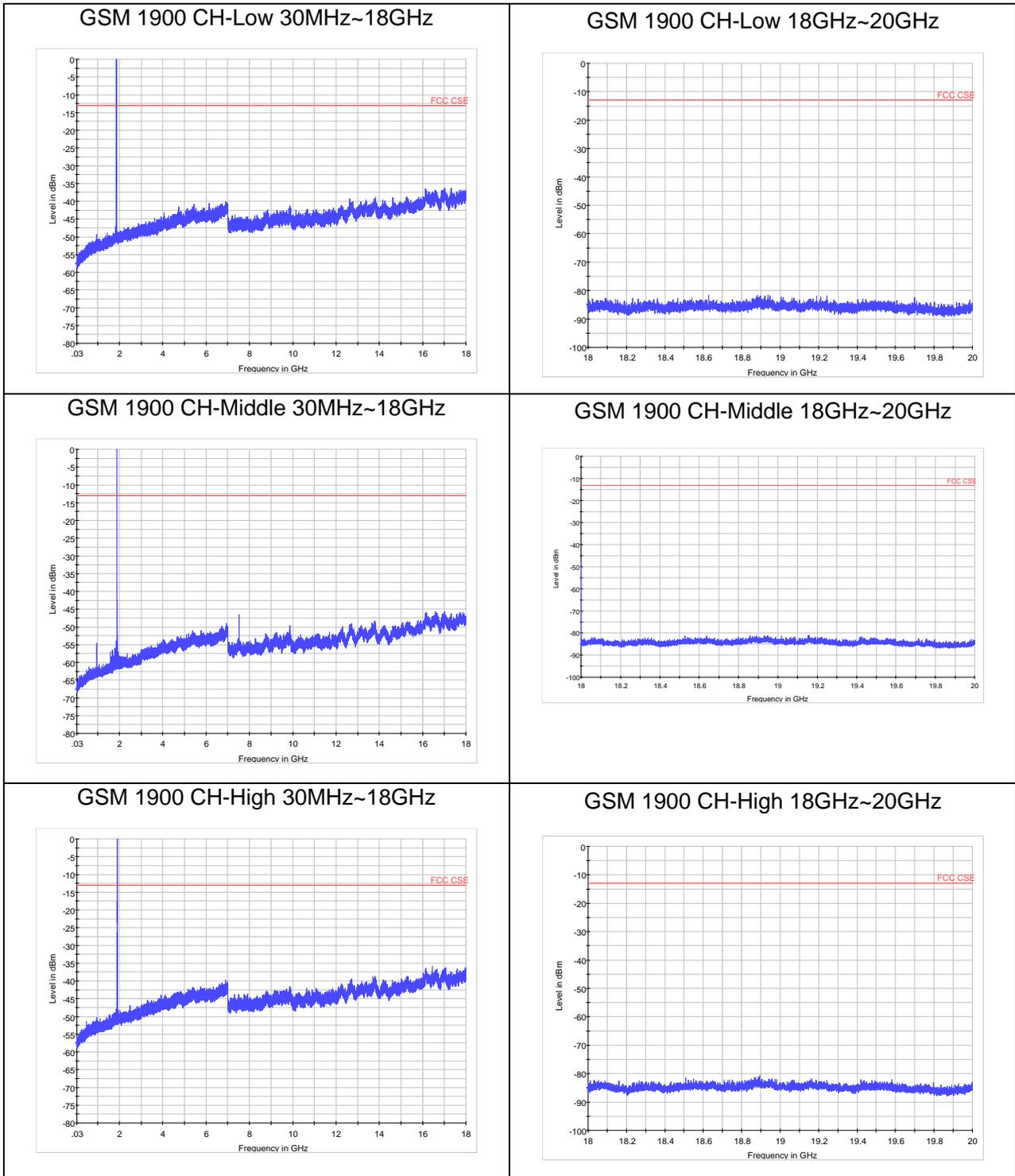
Frequency	Uncertainty
100kHz-2GHz	0.684 dB
2GHz-18GHz	1.407 dB



### Test Result

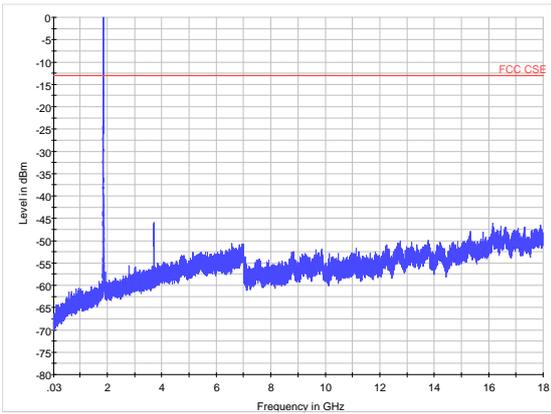
Sweep from 9 kHz to 30MHz, and the emissions more than 20 dB below the permissible value are not reported.

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.

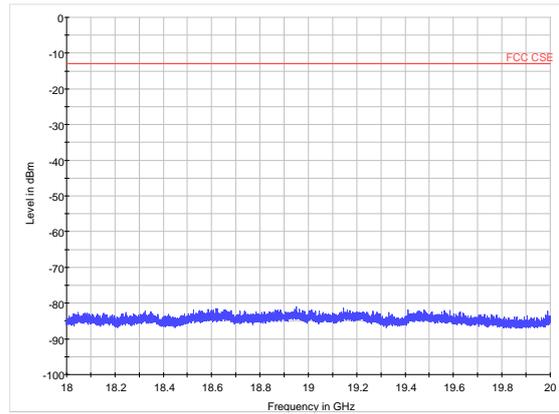




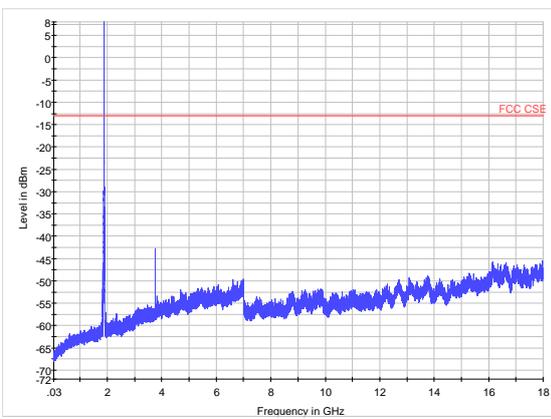
WCDMA Band II CH-Low 30MHz~18GHz



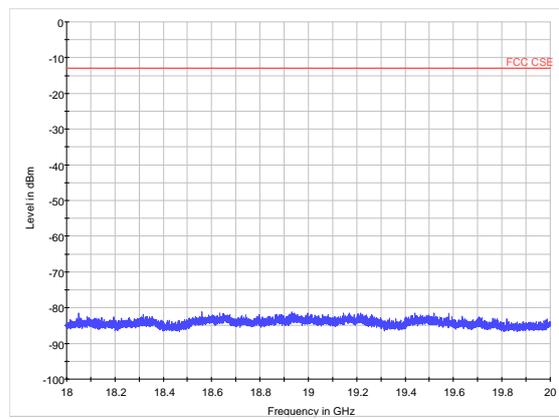
WCDMA Band II CH-Low 18GHz~20GHz



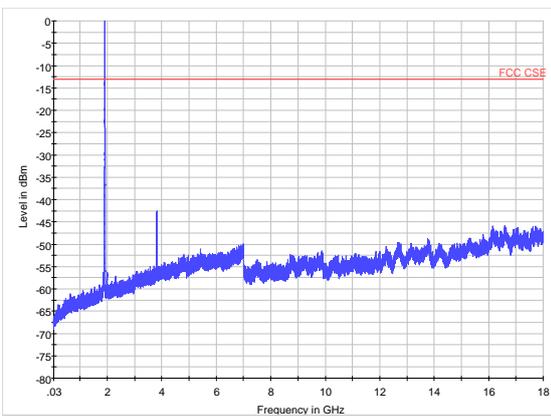
WCDMA Band II CH-Middle 30MHz~18GHz



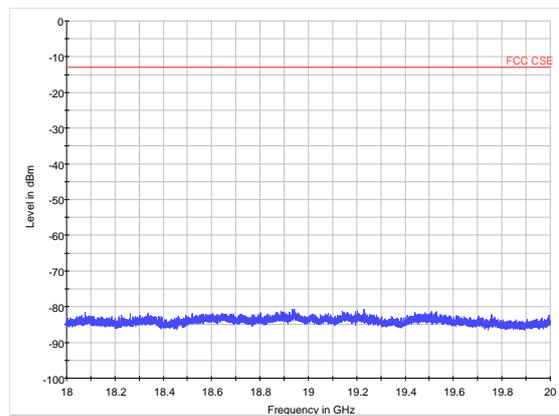
WCDMA Band II CH-Middle 18GHz~20GHz



WCDMA Band II CH-High 30MHz~18GHz

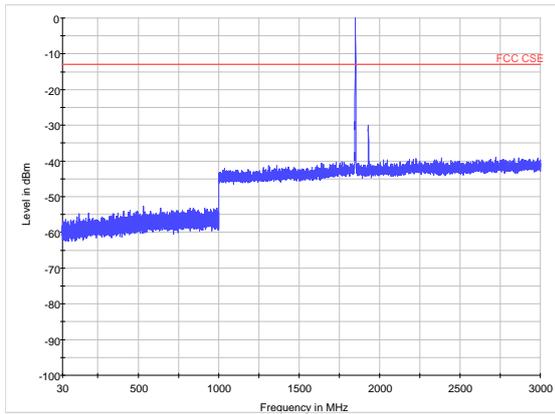


WCDMA Band II CH-High 18GHz~20GHz

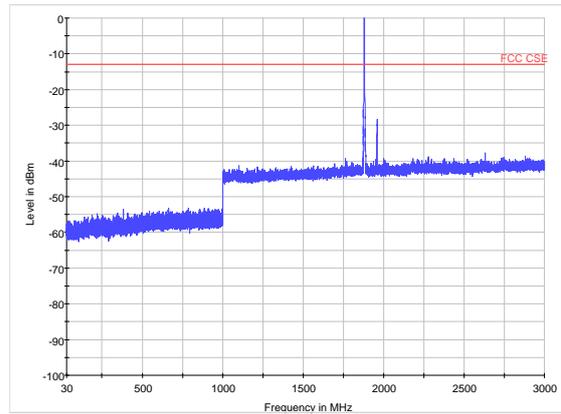




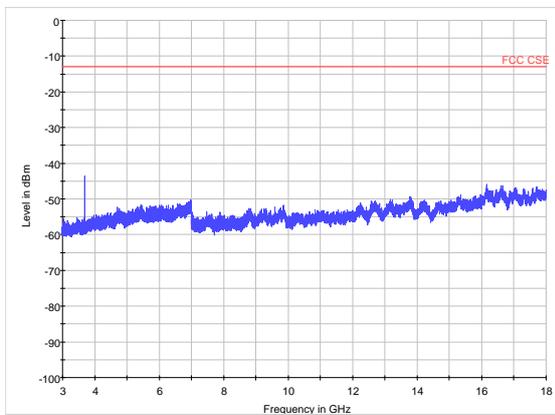
LTE Band 2 1.4MHz CH-Low 30MHz~3GHz



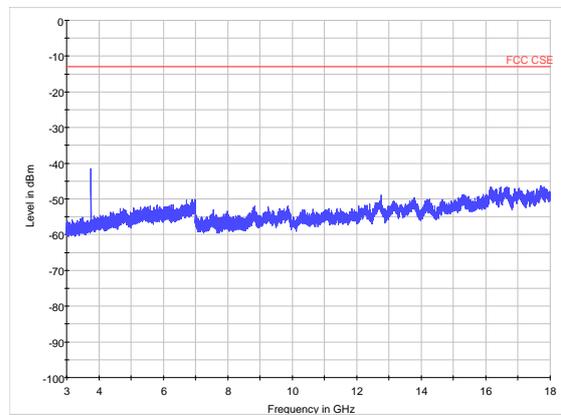
LTE Band 2 1.4MHz CH-Middle 30MHz~3GHz



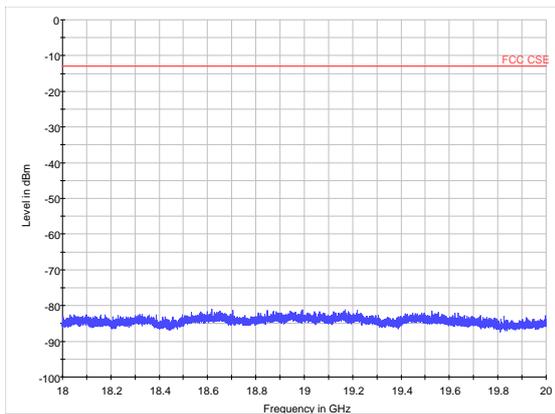
LTE Band 2 1.4MHz CH-Low 3GHz~18GHz



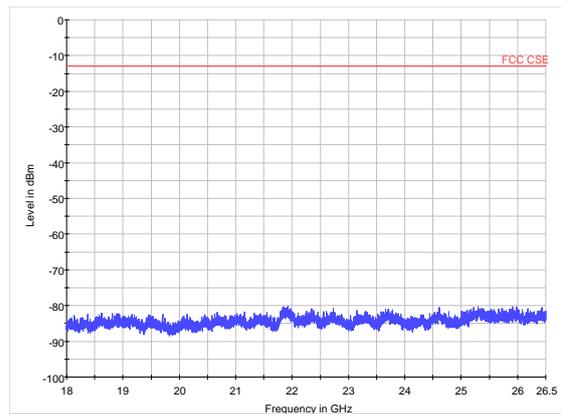
LTE Band 2 1.4MHz CH-Middle 3GHz~18GHz



LTE Band 2 1.4MHz CH-Low 18GHz~20GHz

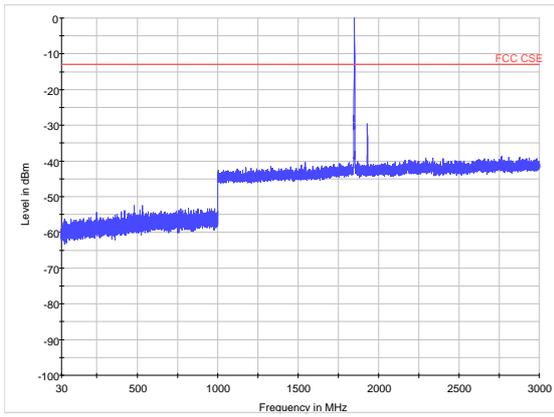


LTE Band 2 1.4MHz CH-Middle 18GHz~20GHz

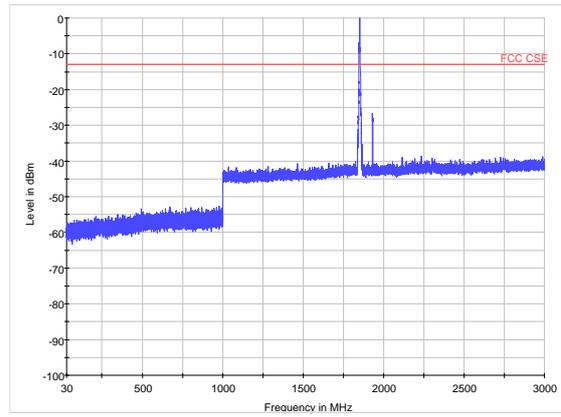




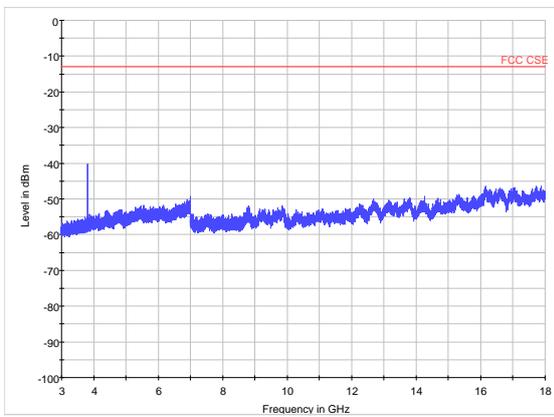
LTE Band 2 1.4MHz CH-High 30MHz~3GHz



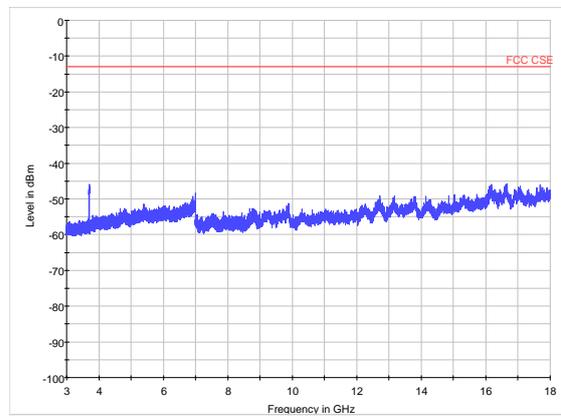
LTE Band 2 3MHz CH-Low 30MHz~3GHz



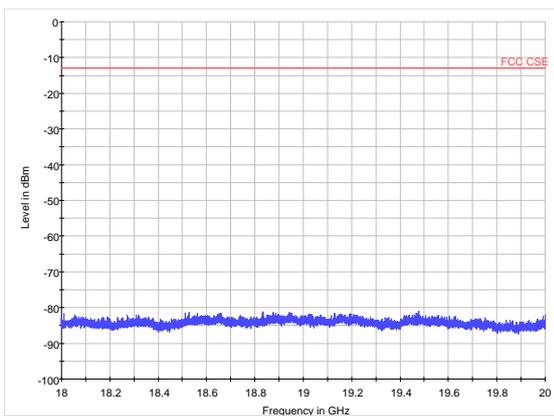
LTE Band 2 1.4MHz CH-High 3GHz~18GHz



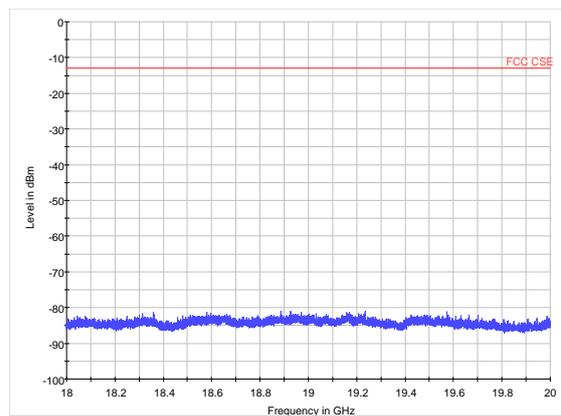
LTE Band 2 3MHz CH-Low 3GHz~18GHz



LTE Band 2 1.4MHz CH-High 18GHz~20GHz

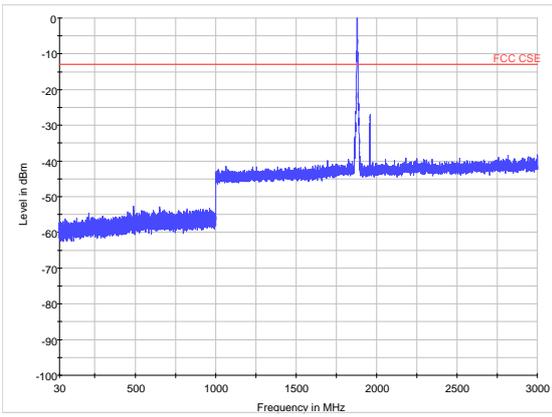


LTE Band 2 3MHz CH-Low 18GHz~20GHz

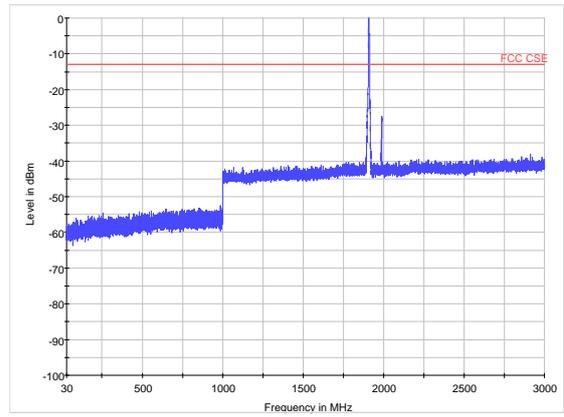




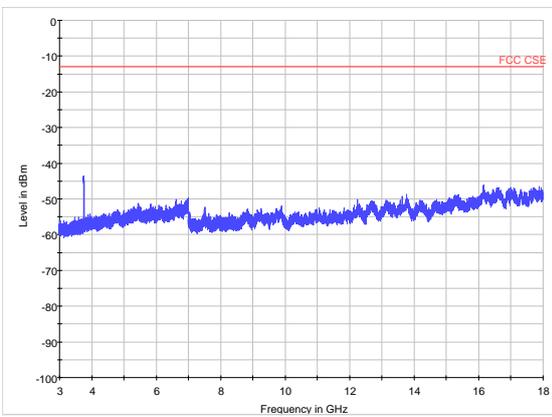
LTE Band 2 3MHz CH-Middle 30MHz~3GHz



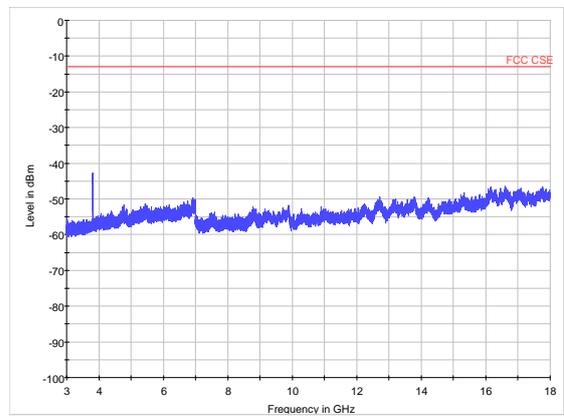
LTE Band 2 3MHz CH-High 30MHz~3GHz



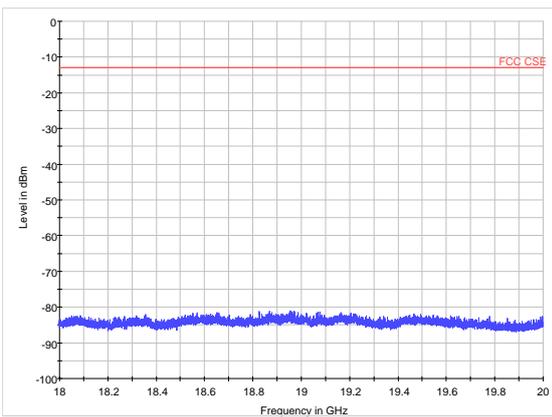
LTE Band 2 3MHz CH-Middle 3GHz~18GHz



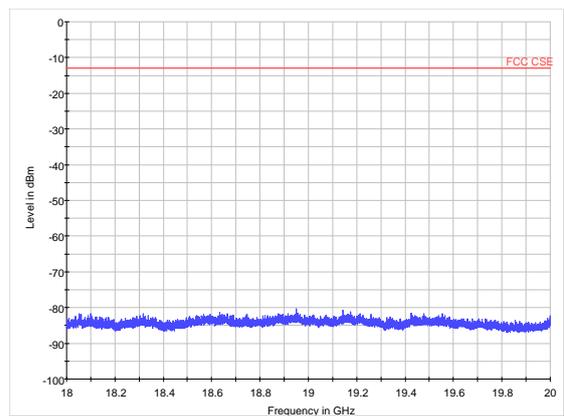
LTE Band 2 3MHz CH-High 3GHz~18GHz



LTE Band 2 3MHz CH-Middle 18GHz~20GHz

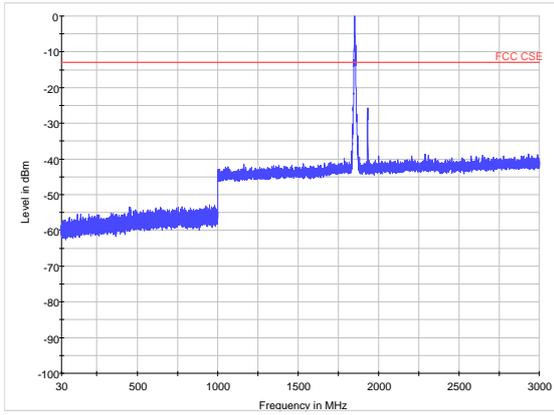


LTE Band 2 3MHz CH-High 18GHz~20GHz

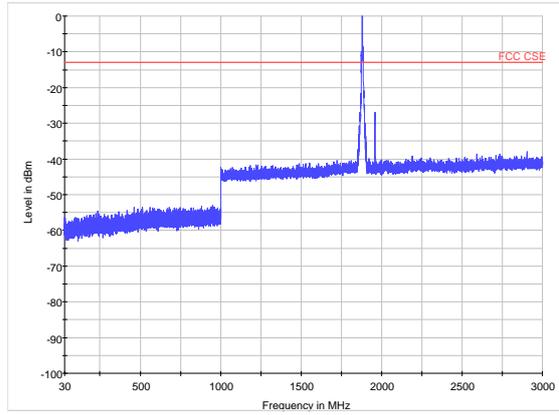




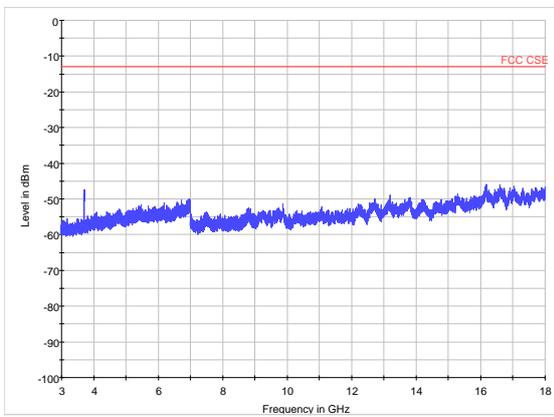
LTE Band 2 5MHz CH-Low 30MHz~3GHz



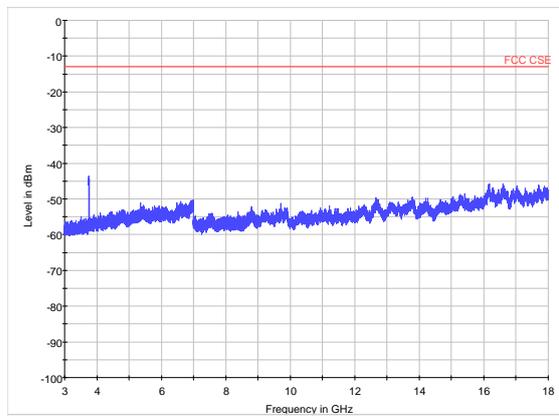
LTE Band 2 5MHz CH-Middle 30MHz~3GHz



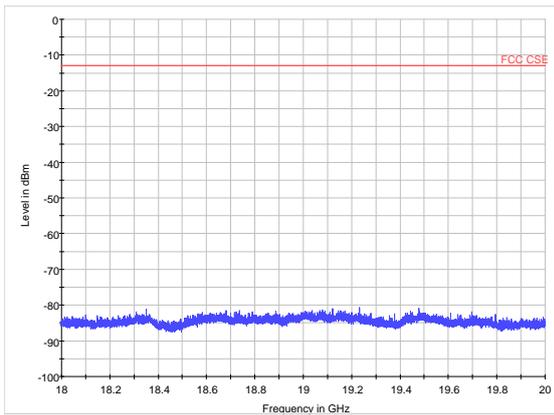
LTE Band 2 5MHz CH-Low 3GHz~18GHz



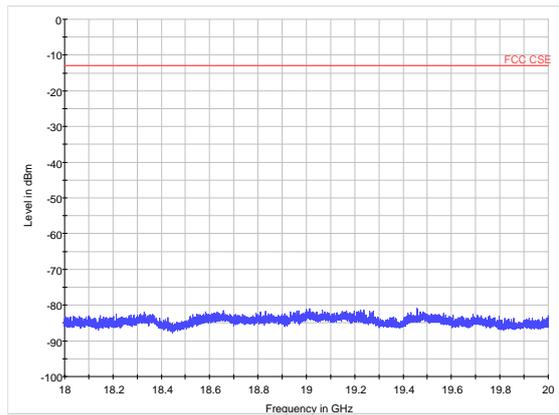
LTE Band 2 5MHz CH-Middle 3GHz~18GHz



LTE Band 2 5MHz CH-Low 18GHz~20GHz

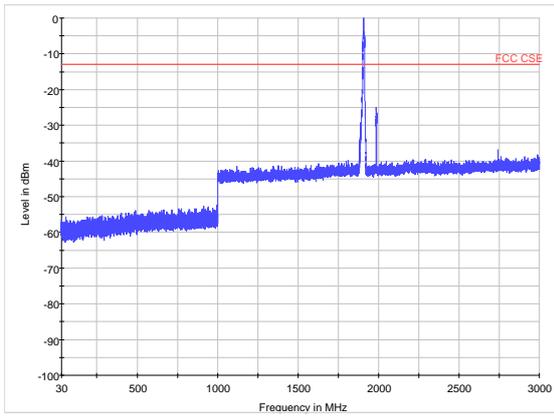


LTE Band 2 5MHz CH-Middle 18GHz~20GHz

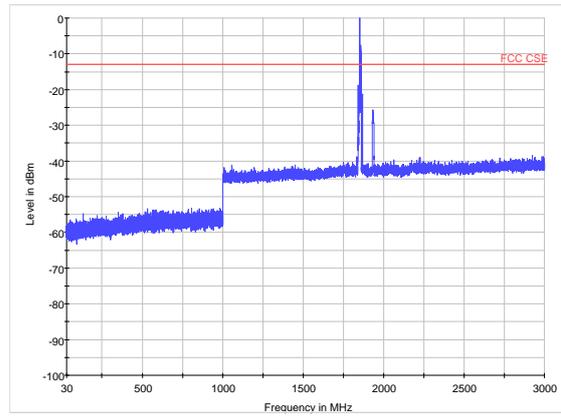




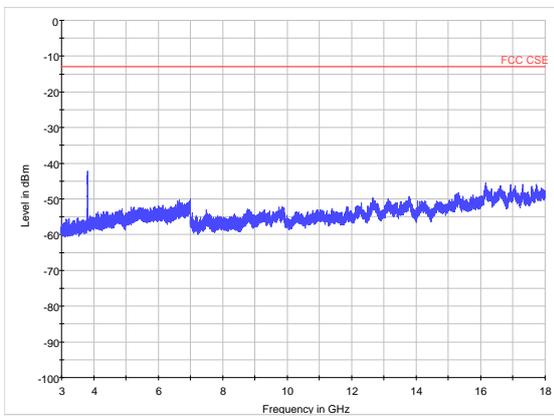
LTE Band 2 5MHz CH-High 30MHz~3GHz



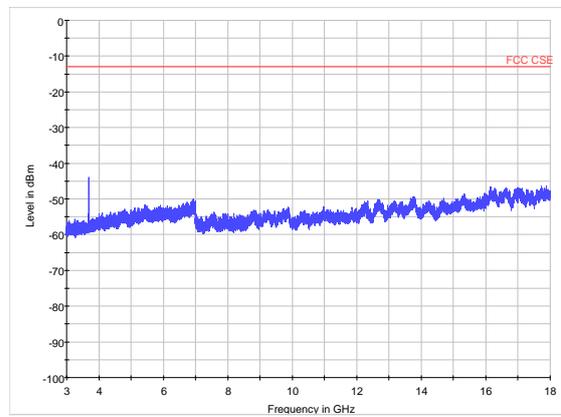
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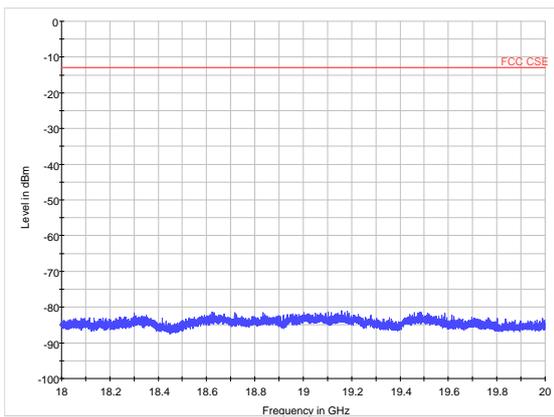
LTE Band 2 5MHz CH-High 3GHz~18GHz



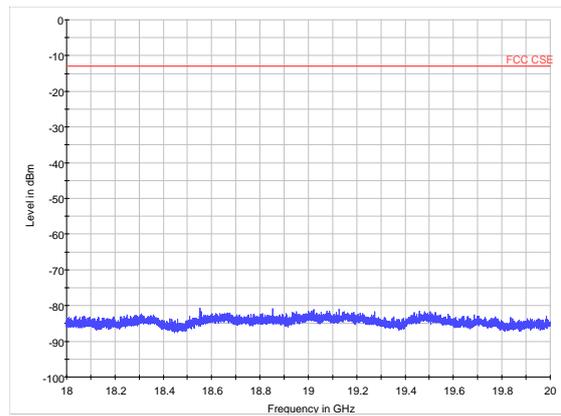
LTE Band 2 10MHz CH-Low 3GHz~18GHz



LTE Band 2 5MHz CH-High 18GHz~20GHz

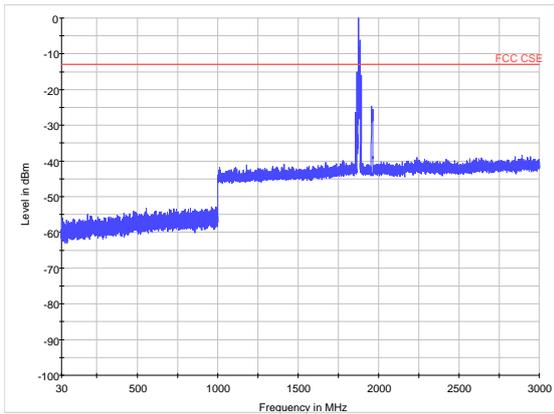


LTE Band 2 10MHz CH-Low 18GHz~20GHz

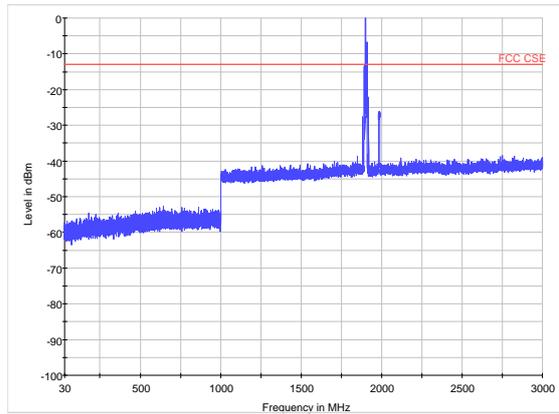




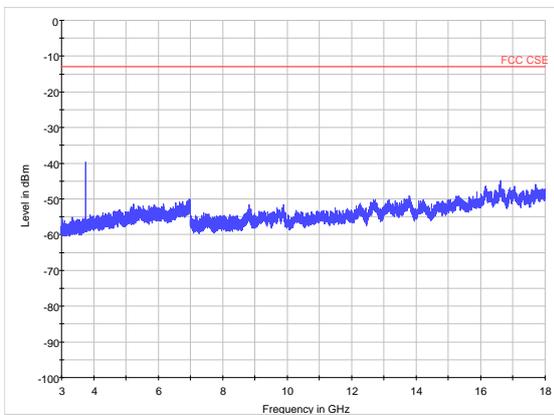
LTE Band 2 10MHz CH-Middle 30MHz~3GHz



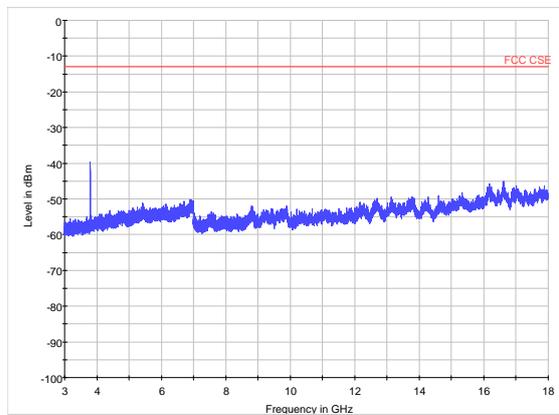
LTE Band 2 10MHz CH-High 30MHz~3GHz



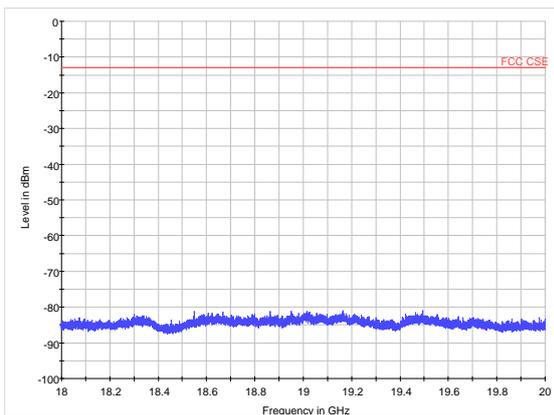
LTE Band 2 10MHz CH-Middle 3GHz~18GHz



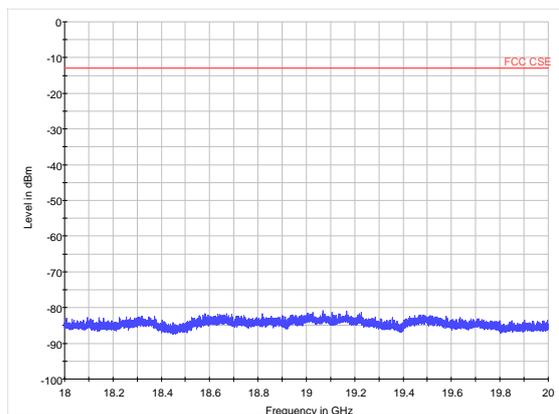
LTE Band 2 10MHz CH-High 3GHz~18GHz



LTE Band 2 10MHz CH-Middle 18GHz~20GHz

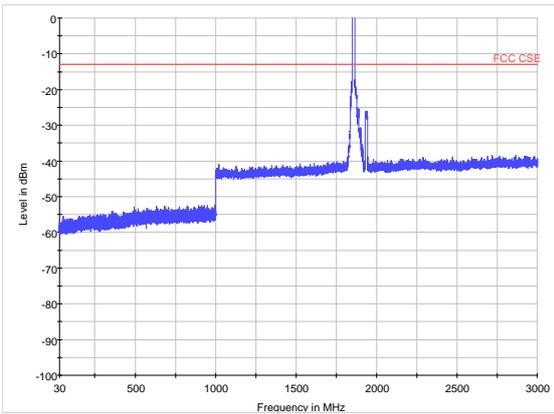


LTE Band 2 10MHz CH-High 18GHz~20GHz

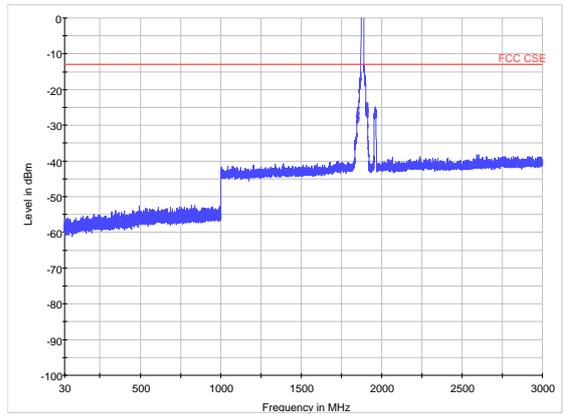




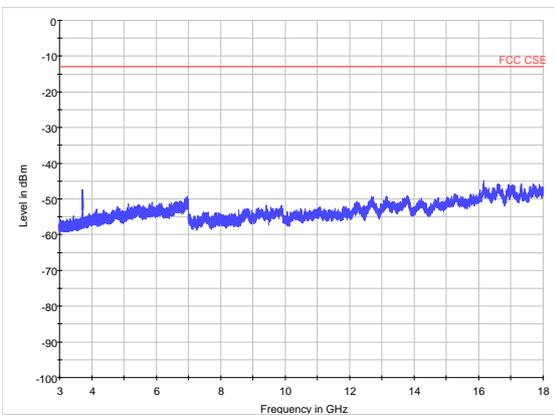
LTE Band 2 15MHz CH-Low 30MHz~3GHz



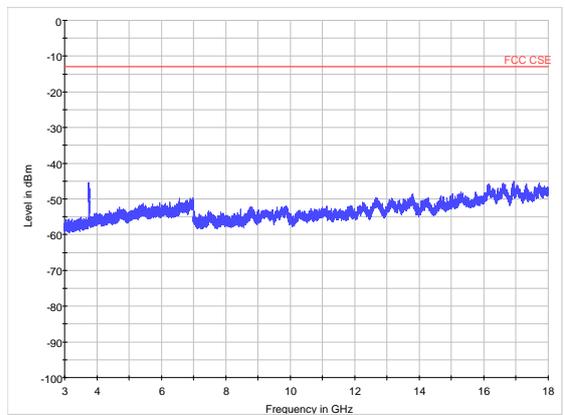
LTE Band 2 15MHz CH-Middle 30MHz~3GHz



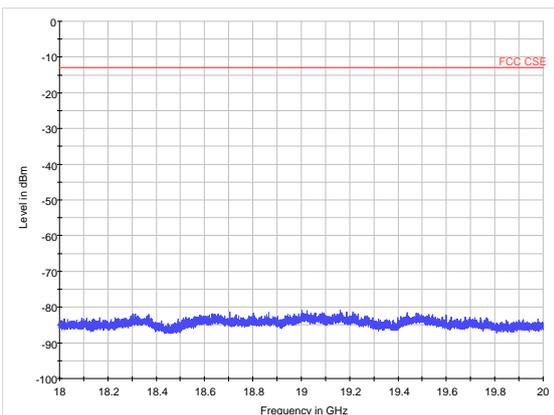
LTE Band 2 15MHz CH-Low 3GHz~18GHz



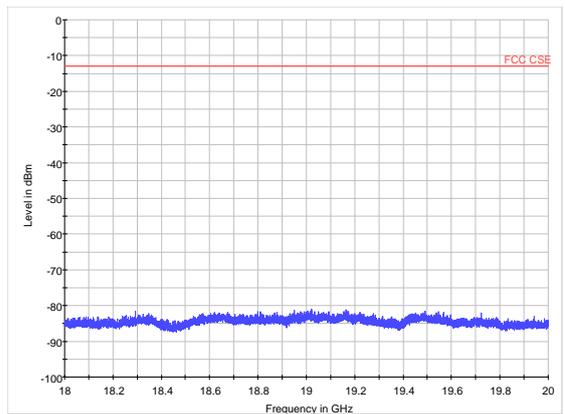
LTE Band 2 15MHz CH-Middle 3GHz~18GHz



LTE Band 2 15MHz CH-Low 18GHz~20GHz

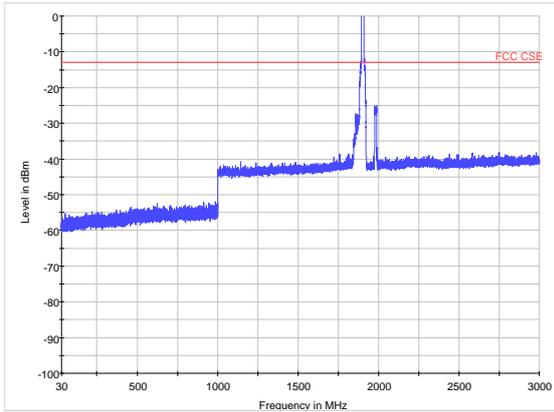


LTE Band 2 15MHz CH-Middle 18GHz~20GHz

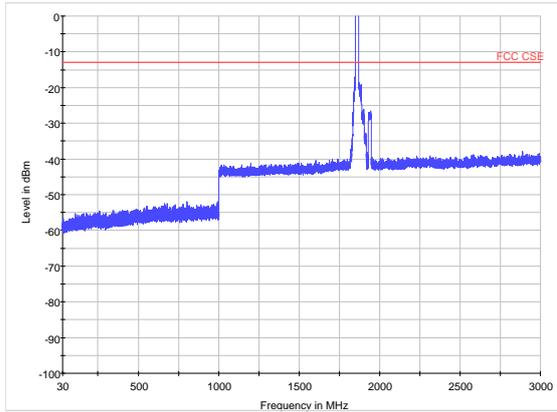




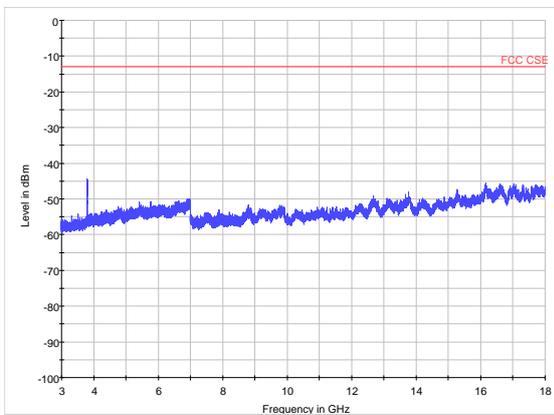
LTE Band 2 15MHz CH-High 30MHz~3GHz



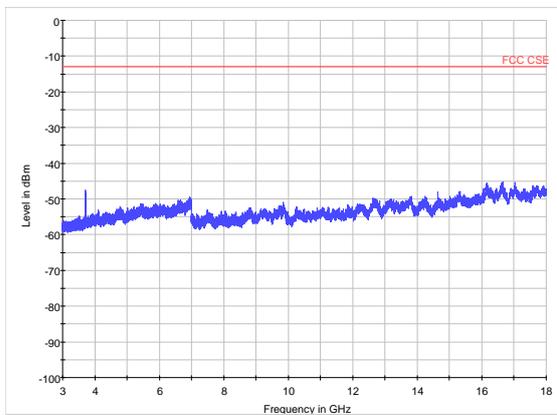
LTE Band 2 20MHz CH-Low 30MHz~3GHz



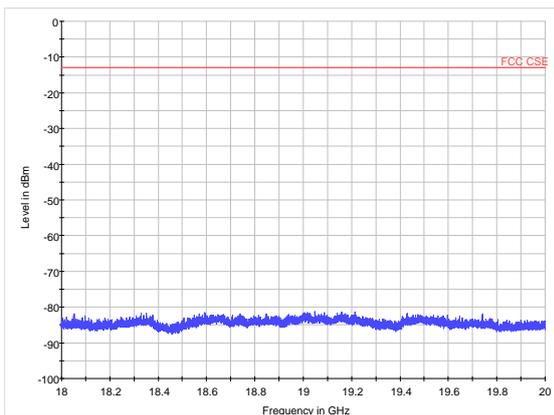
LTE Band 2 15MHz CH-High 3GHz~18GHz



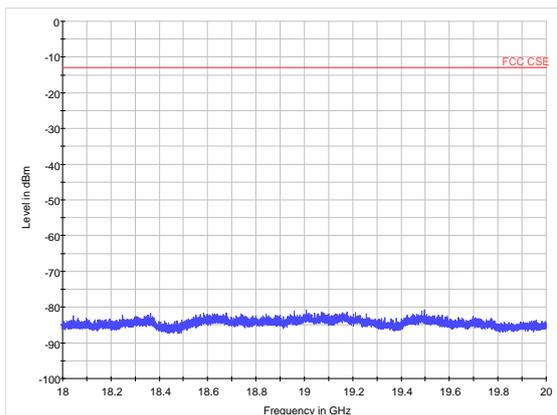
LTE Band 2 20MHz CH-Low 3GHz~18GHz



LTE Band 2 15MHz CH-High 18GHz~20GHz

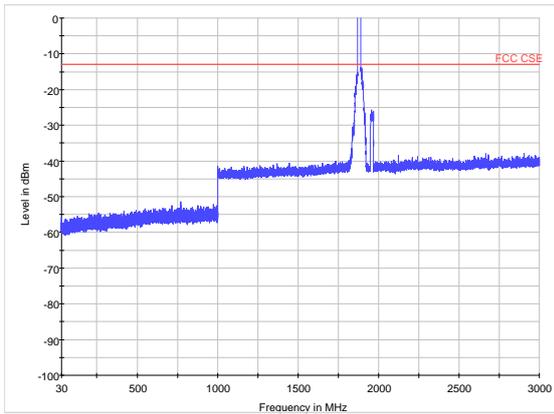


LTE Band 2 20MHz CH-Low 18GHz~20GHz

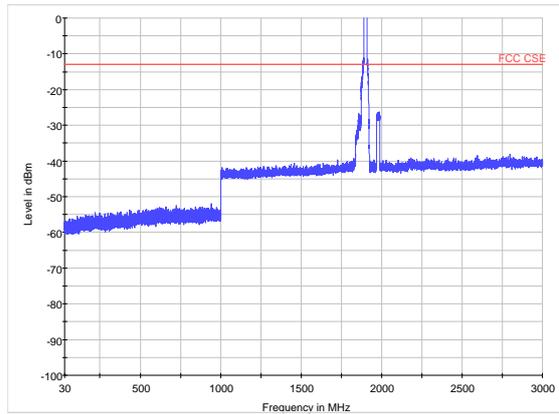




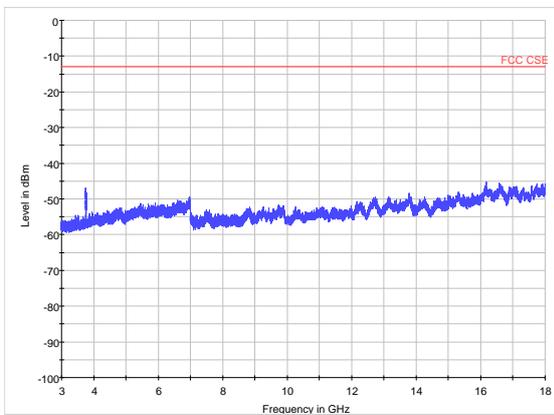
LTE Band 2 20MHz CH-Middle 30MHz~3GHz



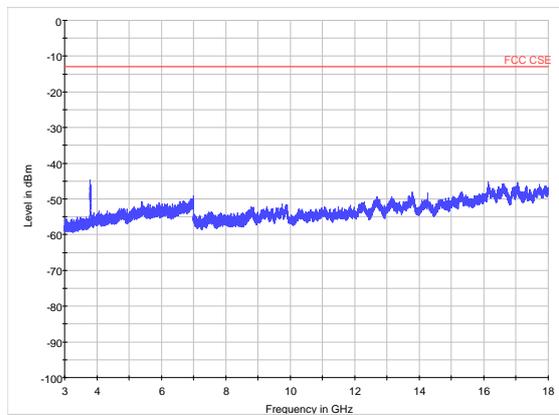
LTE Band 2 20MHz CH-High 30MHz~3GHz



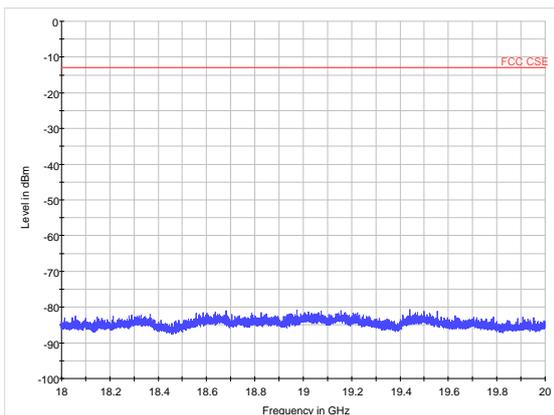
LTE Band 2 20MHz CH-Middle 3GHz~18GHz



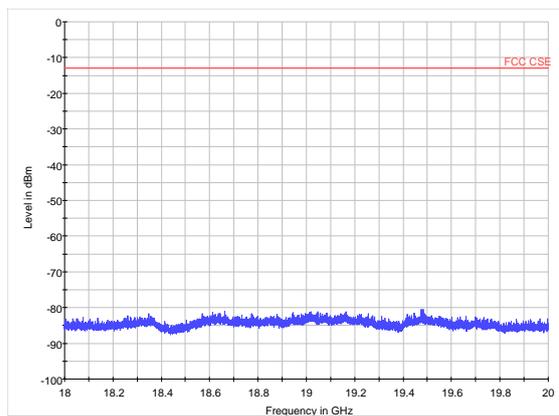
LTE Band 2 20MHz CH-High 3GHz~18GHz



LTE Band 2 20MHz CH-Middle 18GHz~20GHz



LTE Band 2 20MHz CH-High 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.

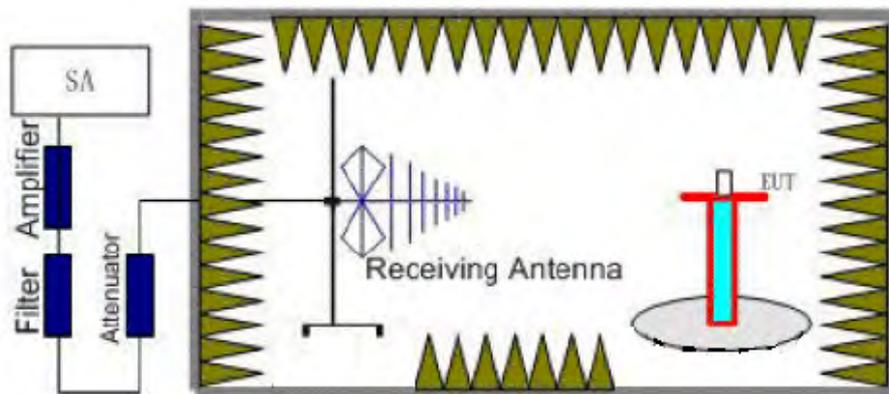
The spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment.

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.

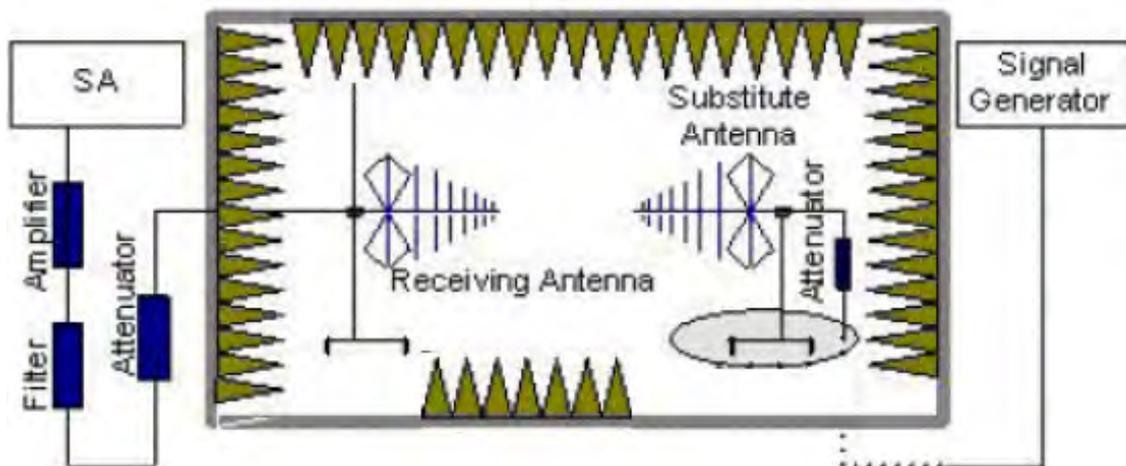


Step 2:

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.



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

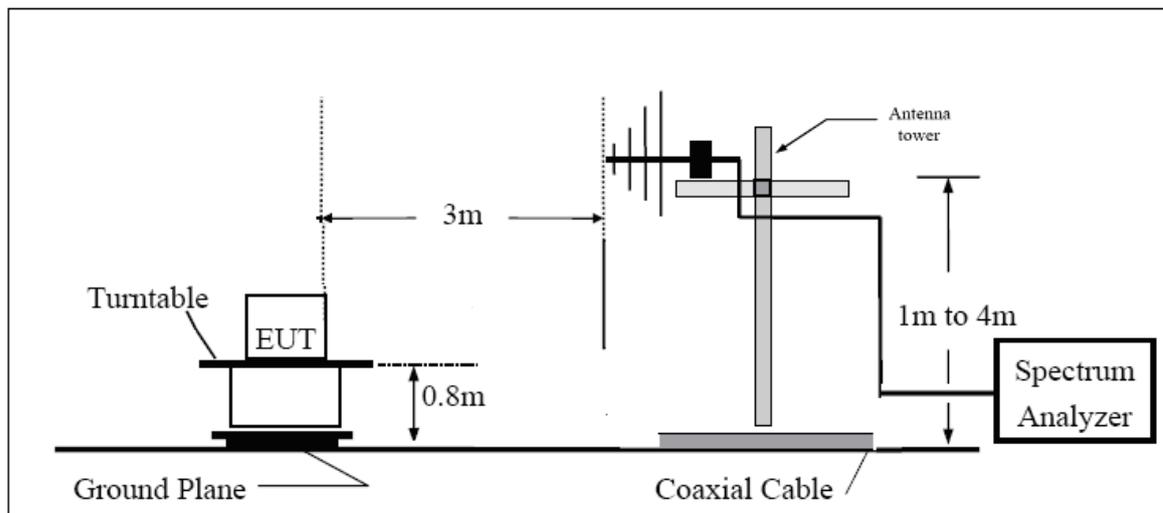
$$EIRP = E.R.P + 2.15$$

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.

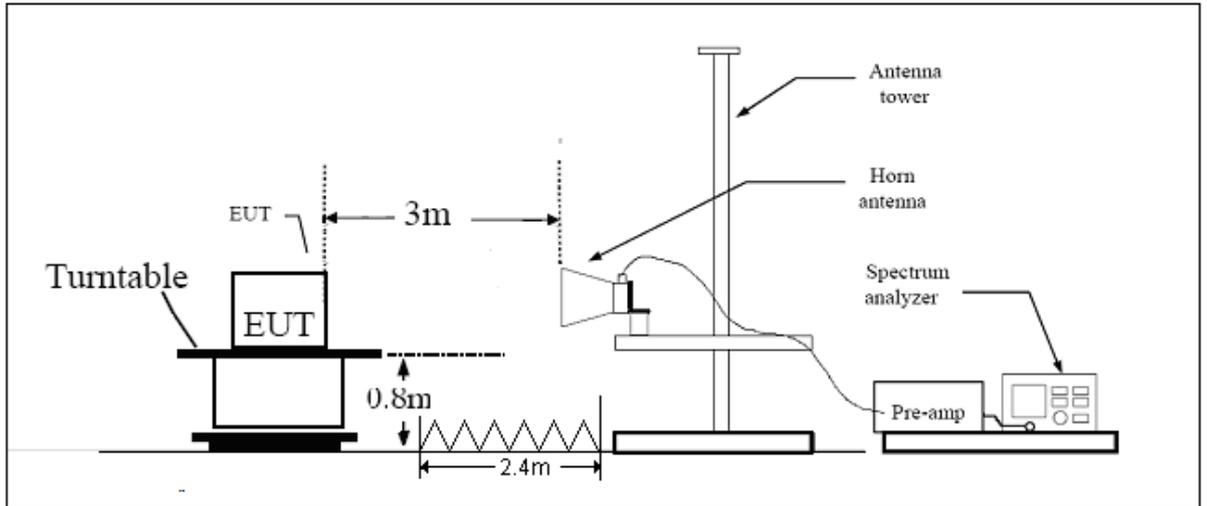
Of those disturbances below (limit – 20 dB), the mark is not required for the EUT.

**Test configuration**

**Below 1GHz:**



**Above 1GHz:**



**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-Low

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3700.4	-56.48	2.00	10.15	vertical	-48.33	-13	35.33	180
3	5550.6	-55.17	2.50	11.35	vertical	-46.32	-13	33.32	135
4	7400.8	-62.45	4.20	10.85	vertical	-55.80	-13	42.80	90
5	9251	-60.40	5.20	11.35	vertical	-54.25	-13	41.25	180
6	11101.2	-60.15	5.50	11.95	vertical	-53.70	-13	40.70	270
7	12951.4	-62.65	5.70	13.55	vertical	-54.80	-13	41.80	0
8	14801.6	-56.94	6.30	13.75	vertical	-49.49	-13	36.49	180
9	16651.8	-47.87	6.80	13.85	vertical	-40.82	-13	27.82	90
10	18502	-45.49	6.90	14.25	vertical	-38.14	-13	25.14	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.

## GSM 1900 CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3760	-58.61	2	10.75	vertical	-49.86	-13	36.86	0
3	5640	-54.34	2.51	11.05	vertical	-45.80	-13	32.80	90
4	7520	-60.71	4.2	11.15	vertical	-53.76	-13	40.76	180
5	9400	-62.77	5.2	11.15	vertical	-56.82	-13	43.82	270
6	11280	-61.04	5.5	11.95	vertical	-54.59	-13	41.59	0
7	13160	-59.04	5.7	13.55	vertical	-51.19	-13	38.19	180
8	15040	-55.39	6.3	13.75	vertical	-47.94	-13	34.94	90
9	16920	-46.63	6.8	13.85	vertical	-39.58	-13	26.58	0
10	18800	-44.45	6.9	14.25	vertical	-37.10	-13	24.10	270

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

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



## GSM 1900 CH-High

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3819.6	-58.58	2	10.15	vertical	-50.43	-13	37.43	180
3	5729.4	-58.10	2.51	11.05	vertical	-49.56	-13	36.56	270
4	7639.2	-62.37	4.2	11.15	vertical	-55.42	-13	42.42	0
5	9549	-62.75	5.2	11.15	vertical	-56.80	-13	43.80	180
6	11458.8	-62.12	5.5	11.95	vertical	-55.67	-13	42.67	90
7	13368.6	-60.52	5.7	13.55	vertical	-52.67	-13	39.67	0
8	15278.4	-54.39	6.3	13.75	vertical	-46.94	-13	33.94	90
9	17188.2	-50.05	6.8	13.85	vertical	-43.00	-13	30.00	0
10	19098	-45.37	6.9	14.25	vertical	-38.02	-13	25.02	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.

## WCDMA Band II CH-Low

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3704.8	-58.45	5.1	11.05	vertical	-52.5	-13.00	39.50	135
3	5557.2	-61.23	5.42	12.65	vertical	-54.0	-13.00	41.00	225
4	7409.6	-59.96	6.7	13.855	vertical	-52.8	-13.00	39.80	315
5	9262.0	-59.84	7.01	14.75	vertical	-52.1	-13.00	39.10	90
6	11114.4	-59.17	7.48	15.95	vertical	-50.7	-13.00	37.70	180
7	12966.8	-58.44	7.51	16.55	vertical	-49.4	-13.00	36.40	135
8	14819.2	-52.91	8.24	15.35	vertical	-45.8	-13.00	32.80	270
9	16671.6	-47.94	8.41	14.95	vertical	-41.4	-13.00	28.40	0
10	18524.0	-46.41	8.54	15.45	vertical	-39.5	-13.00	26.50	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 CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3760.0	-53.65	5.1	11.05	vertical	-47.7	-13.00	34.70	90
3	5640.0	-61.63	5.42	12.65	vertical	-54.4	-13.00	41.40	270
4	7520.0	-59.76	6.7	13.855	vertical	-52.6	-13.00	39.60	315
5	9400.0	-58.04	7.01	14.75	vertical	-50.3	-13.00	37.30	225
6	11280.0	-56.97	7.48	15.95	vertical	-48.5	-13.00	35.50	135
7	13160.0	-56.54	7.51	16.55	vertical	-47.5	-13.00	34.50	225
8	15040.0	-53.21	8.24	15.35	vertical	-46.1	-13.00	33.10	315
9	16920.0	-50.04	8.41	14.95	vertical	-43.5	-13.00	30.50	90
10	18800.0	-46.91	8.54	15.45	vertical	-40.0	-13.00	27.00	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.

## WCDMA Band II CH-High

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3817.5	-53.05	5.1	11.05	vertical	-47.1	-13.00	34.10	135
3	5726.3	-59.63	5.42	12.65	vertical	-52.4	-13.00	39.40	270
4	7635.0	-59.06	6.7	13.855	vertical	-51.9	-13.00	38.90	0
5	9543.8	-57.74	7.01	14.75	vertical	-50.0	-13.00	37.00	45
6	11452.5	-57.67	7.48	15.95	vertical	-49.2	-13.00	36.20	90
7	13361.3	-56.74	7.51	16.55	vertical	-47.7	-13.00	34.70	270
8	15270.0	-52.41	8.24	15.35	vertical	-45.3	-13.00	32.30	315
9	17178.8	-46.84	8.41	14.95	vertical	-40.3	-13.00	27.30	225
10	19087.5	-46.41	8.54	15.45	vertical	-39.5	-13.00	26.50	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 1.4MHz CH-Low

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3701.4	-58.15	5.1	11.05	vertical	-52.2	-13.00	39.20	0
3	5552.1	-56.73	5.42	12.65	vertical	-49.5	-13.00	36.50	90
4	7402.8	-58.26	6.7	13.855	vertical	-51.1	-13.00	38.10	135
5	9253.5	-59.04	7.01	14.75	vertical	-51.3	-13.00	38.30	225
6	11104.2	-58.17	7.48	15.95	vertical	-49.7	-13.00	36.70	90
7	12954.9	-56.94	7.51	16.55	vertical	-47.9	-13.00	34.90	270
8	14805.6	-52.71	8.24	15.35	vertical	-45.6	-13.00	32.60	0
9	16656.3	-47.74	8.41	14.95	vertical	-41.2	-13.00	28.20	45
10	18507.0	-89.21	8.54	15.45	vertical	-82.3	-13.00	69.30	90

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

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

## LTE Band 2 1.4MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3760.0	-52.15	5.10	11.05	vertical	-46.2	-13.00	33.20	0
3	5640.0	-56.63	5.42	12.65	vertical	-49.4	-13.00	36.40	45
4	7520.0	-58.36	6.70	13.855	vertical	-51.2	-13.00	38.20	90
5	9400.0	-59.84	7.01	14.75	vertical	-52.1	-13.00	39.10	45
6	11280.0	-58.87	7.48	15.95	vertical	-50.4	-13.00	37.40	225
7	13160.0	-56.84	7.51	16.55	vertical	-47.8	-13.00	34.80	135
8	15040.0	-50.71	8.24	15.35	vertical	-43.6	-13.00	30.60	90
9	16920.0	-49.14	8.41	14.95	vertical	-42.6	-13.00	29.60	45
10	18800.0	-90.41	8.54	15.45	vertical	-83.5	-13.00	70.50	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 1.4MHz CH-High

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3818.6	-51.95	5.10	11.05	vertical	-46.0	-13.00	33.00	0
3	5727.9	-53.63	5.42	12.65	vertical	-46.4	-13.00	33.40	90
4	7637.2	-58.36	6.70	13.855	vertical	-51.2	-13.00	38.20	45
5	9546.5	-58.54	7.01	14.75	vertical	-50.8	-13.00	37.80	135
6	11455.8	-59.27	7.48	15.95	vertical	-50.8	-13.00	37.80	225
7	13365.1	-56.74	7.51	16.55	vertical	-47.7	-13.00	34.70	315
8	15274.4	-52.01	8.24	15.35	vertical	-44.9	-13.00	31.90	270
9	17183.7	-48.64	8.41	14.95	vertical	-42.1	-13.00	29.10	225
10	19093.0	-90.51	8.54	15.45	vertical	-83.6	-13.00	70.60	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 CH-Low

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3703.0	-57.75	5.10	11.05	vertical	-51.8	-13.00	38.80	45
3	5554.5	-57.83	5.42	12.65	vertical	-50.6	-13.00	37.60	270
4	7406.0	-59.16	6.70	13.855	vertical	-52.0	-13.00	39.00	180
5	9257.5	-56.84	7.01	14.75	vertical	-49.1	-13.00	36.10	225
6	11109.0	-57.27	7.48	15.95	vertical	-48.8	-13.00	35.80	45
7	12960.5	-60.94	7.51	16.55	vertical	-51.9	-13.00	38.90	90
8	14812.0	-53.11	8.24	15.35	vertical	-46.0	-13.00	33.00	225
9	16663.5	-47.84	8.41	14.95	vertical	-41.3	-13.00	28.30	135
10	18515.0	-90.21	8.54	15.45	vertical	-83.3	-13.00	70.30	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 CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3760.0	-51.95	5.10	11.05	vertical	-46.0	-13.00	33.00	45
3	5640.0	-57.43	5.42	12.65	vertical	-50.2	-13.00	37.20	90
4	7520.0	-58.76	6.70	13.855	vertical	-51.6	-13.00	38.60	225
5	9400.0	-59.34	7.01	14.75	vertical	-51.6	-13.00	38.60	315
6	11280.0	-56.27	7.48	15.95	vertical	-47.8	-13.00	34.80	225
7	13160.0	-57.24	7.51	16.55	vertical	-48.2	-13.00	35.20	45
8	15040.0	-52.01	8.24	15.35	vertical	-44.9	-13.00	31.90	270
9	16920.0	-48.54	8.41	14.95	vertical	-42.0	-13.00	29.00	90
10	18800.0	-90.41	8.54	15.45	vertical	-83.5	-13.00	70.50	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 3MHz CH-High

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3817.0	-50.95	5.10	11.05	vertical	-45.0	-13.00	32.00	0
3	5725.5	-53.13	5.42	12.65	vertical	-45.9	-13.00	32.90	90
4	7634.0	-58.46	6.70	13.855	vertical	-51.3	-13.00	38.30	225
5	9542.5	-58.74	7.01	14.75	vertical	-51.0	-13.00	38.00	315
6	11451.0	-58.37	7.48	15.95	vertical	-49.9	-13.00	36.90	270
7	13359.5	-57.04	7.51	16.55	vertical	-48.0	-13.00	35.00	135
8	15268.0	-52.41	8.24	15.35	vertical	-45.3	-13.00	32.30	225
9	17176.5	-47.24	8.41	14.95	vertical	-40.7	-13.00	27.70	45
10	19085.0	-90.41	8.54	15.45	vertical	-83.5	-13.00	70.50	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 CH-Low

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3705.0	-57.95	5.10	11.05	vertical	-52.0	-13.00	39.00	45
3	5557.5	-57.93	5.42	12.65	vertical	-50.7	-13.00	37.70	90
4	7410.0	-58.96	6.70	13.855	vertical	-51.8	-13.00	38.80	225
5	9262.5	-58.84	7.01	14.75	vertical	-51.1	-13.00	38.10	135
6	11115.0	-57.57	7.48	15.95	vertical	-49.1	-13.00	36.10	270
7	12967.5	-57.04	7.51	16.55	vertical	-48.0	-13.00	35.00	180
8	14820.0	-56.41	8.24	15.35	vertical	-49.3	-13.00	36.30	0
9	16672.5	-48.14	8.41	14.95	vertical	-41.6	-13.00	28.60	45
10	18525.0	-91.01	8.54	15.45	vertical	-84.1	-13.00	71.10	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 CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3760.0	-51.85	5.10	11.05	vertical	-45.9	-13.00	32.90	225
3	5640.0	-56.43	5.42	12.65	vertical	-49.2	-13.00	36.20	270
4	7520.0	-58.86	6.70	13.855	vertical	-51.7	-13.00	38.70	315
5	9400.0	-57.14	7.01	14.75	vertical	-49.4	-13.00	36.40	270
6	11280.0	-57.87	7.48	15.95	vertical	-49.4	-13.00	36.40	45
7	13160.0	-56.94	7.51	16.55	vertical	-47.9	-13.00	34.90	0
8	15040.0	-52.01	8.24	15.35	vertical	-44.9	-13.00	31.90	90
9	16920.0	-48.64	8.41	14.95	vertical	-42.1	-13.00	29.10	90
10	18800.0	-88.21	8.54	15.45	vertical	-81.3	-13.00	68.30	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 5MHz CH-High

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3815.0	-50.25	5.10	11.05	vertical	-44.3	-13.00	31.30	45
3	5722.5	-54.33	5.42	12.65	vertical	-47.1	-13.00	34.10	90
4	7630.0	-58.36	6.70	13.855	vertical	-51.2	-13.00	38.20	225
5	9537.5	-58.04	7.01	14.75	vertical	-50.3	-13.00	37.30	135
6	11445.0	-57.87	7.48	15.95	vertical	-49.4	-13.00	36.40	270
7	13352.5	-57.44	7.51	16.55	vertical	-48.4	-13.00	35.40	180
8	15260.0	-53.41	8.24	15.35	vertical	-46.3	-13.00	33.30	0
9	17167.5	-48.14	8.41	14.95	vertical	-41.6	-13.00	28.60	45
10	19075.0	-89.51	8.54	15.45	vertical	-82.6	-13.00	69.60	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 10MHz CH-Low

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3710.0	-57.45	5.10	11.05	vertical	-51.5	-13.00	38.50	90
3	5565.0	-56.53	5.42	12.65	vertical	-49.3	-13.00	36.30	45
4	7420.0	-57.26	6.70	13.855	vertical	-50.1	-13.00	37.10	225
5	9275.0	-58.44	7.01	14.75	vertical	-50.7	-13.00	37.70	180
6	11130.0	-58.17	7.48	15.95	vertical	-49.7	-13.00	36.70	225
7	12985.0	-57.14	7.51	16.55	vertical	-48.1	-13.00	35.10	135
8	14840.0	-53.11	8.24	15.35	vertical	-46.0	-13.00	33.00	225
9	16695.0	-47.44	8.41	14.95	vertical	-40.9	-13.00	27.90	0
10	18550.0	-91.11	8.54	15.45	vertical	-84.2	-13.00	71.20	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 10MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3760.0	-51.25	5.10	11.05	vertical	-45.3	-13.00	32.30	90
3	5640.0	-57.63	5.42	12.65	vertical	-50.4	-13.00	37.40	180
4	7520.0	-58.16	6.70	13.855	vertical	-51.0	-13.00	38.00	270
5	9400.0	-58.74	7.01	14.75	vertical	-51.0	-13.00	38.00	225
6	11280.0	-58.17	7.48	15.95	vertical	-49.7	-13.00	36.70	135
7	13160.0	-56.34	7.51	16.55	vertical	-47.3	-13.00	34.30	90
8	15040.0	-52.01	8.24	15.35	vertical	-44.9	-13.00	31.90	45
9	16920.0	-48.44	8.41	14.95	vertical	-41.9	-13.00	28.90	45
10	18800.0	-92.21	8.54	15.45	vertical	-85.3	-13.00	72.30	90

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

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

## LTE Band 2 10MHz CH-High

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3810.0	-50.25	5.10	11.05	vertical	-44.3	-13.00	31.30	225
3	5715.0	-56.83	5.42	12.65	vertical	-49.6	-13.00	36.60	270
4	7620.0	-58.76	6.70	13.855	vertical	-51.6	-13.00	38.60	90
5	9525.0	-59.84	7.01	14.75	vertical	-52.1	-13.00	39.10	45
6	11430.0	-57.57	7.48	15.95	vertical	-49.1	-13.00	36.10	225
7	13335.0	-55.34	7.51	16.55	vertical	-46.3	-13.00	33.30	135
8	15240.0	-51.21	8.24	15.35	vertical	-44.1	-13.00	31.10	225
9	17145.0	-48.54	8.41	14.95	vertical	-42.0	-13.00	29.00	45
10	19050.0	-92.91	8.54	15.45	vertical	-86.0	-13.00	73.00	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 CH-Low

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3715.0	-54.35	5.10	11.05	vertical	-48.4	-13.00	35.40	90
3	5572.5	-57.23	5.42	12.65	vertical	-50.0	-13.00	37.00	225
4	7430.0	-58.96	6.70	13.855	vertical	-51.8	-13.00	38.80	135
5	9287.5	-59.64	7.01	14.75	vertical	-51.9	-13.00	38.90	270
6	11145.0	-56.07	7.48	15.95	vertical	-47.6	-13.00	34.60	225
7	13002.5	-56.24	7.51	16.55	vertical	-47.2	-13.00	34.20	315
8	14860.0	-53.91	8.24	15.35	vertical	-46.8	-13.00	33.80	90
9	16717.5	-48.04	8.41	14.95	vertical	-41.5	-13.00	28.50	0
10	18575.0	-90.01	8.54	15.45	vertical	-83.1	-13.00	70.10	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 CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3760.0	-49.75	5.10	11.05	vertical	-43.8	-13.00	30.80	0
3	5640.0	-57.23	5.42	12.65	vertical	-50.0	-13.00	37.00	90
4	7520.0	-58.56	6.70	13.855	vertical	-51.4	-13.00	38.40	270
5	9400.0	-57.44	7.01	14.75	vertical	-49.7	-13.00	36.70	225
6	11280.0	-57.97	7.48	15.95	vertical	-49.5	-13.00	36.50	135
7	13160.0	-56.34	7.51	16.55	vertical	-47.3	-13.00	34.30	90
8	15040.0	-52.51	8.24	15.35	vertical	-45.4	-13.00	32.40	45
9	16920.0	-47.04	8.41	14.95	vertical	-40.5	-13.00	27.50	0
10	18800.0	-90.11	8.54	15.45	vertical	-83.2	-13.00	70.20	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 15MHz CH-High

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3805.0	-50.75	5.10	11.05	vertical	-44.8	-13.00	31.80	45
3	5707.5	-58.73	5.42	12.65	vertical	-51.5	-13.00	38.50	45
4	7610.0	-58.66	6.70	13.855	vertical	-51.5	-13.00	38.50	90
5	9512.5	-58.84	7.01	14.75	vertical	-51.1	-13.00	38.10	225
6	11415.0	-57.87	7.48	15.95	vertical	-49.4	-13.00	36.40	45
7	13317.5	-54.54	7.51	16.55	vertical	-45.5	-13.00	32.50	0
8	15220.0	-51.31	8.24	15.35	vertical	-44.2	-13.00	31.20	90
9	17122.5	-48.14	8.41	14.95	vertical	-41.6	-13.00	28.60	45
10	19025.0	-89.21	8.54	15.45	vertical	-82.3	-13.00	69.30	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 20MHz CH-Low

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3720.0	-54.35	5.10	11.05	vertical	-48.4	-13.00	35.40	90
3	5580.0	-57.43	5.42	12.65	vertical	-50.2	-13.00	37.20	225
4	7440.0	-58.96	6.70	13.855	vertical	-51.8	-13.00	38.80	135
5	9300.0	-56.84	7.01	14.75	vertical	-49.1	-13.00	36.10	270
6	11160.0	-58.57	7.48	15.95	vertical	-50.1	-13.00	37.10	315
7	13020.0	-56.04	7.51	16.55	vertical	-47.0	-13.00	34.00	225
8	14880.0	-52.91	8.24	15.35	vertical	-45.8	-13.00	32.80	0
9	16740.0	-48.44	8.41	14.95	vertical	-41.9	-13.00	28.90	45
10	18600.0	-89.41	8.54	15.45	vertical	-82.5	-13.00	69.50	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 CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3760.0	-50.45	5.10	11.05	vertical	-44.5	-13.00	31.50	225
3	5640.0	-58.23	5.42	12.65	vertical	-51.0	-13.00	38.00	270
4	7520.0	-28.46	6.70	13.855	vertical	-21.3	-13.00	8.30	180
5	9400.0	-56.54	7.01	14.75	vertical	-48.8	-13.00	35.80	90
6	11280.0	-58.07	7.48	15.95	vertical	-49.6	-13.00	36.60	0
7	13160.0	-57.04	7.51	16.55	vertical	-48.0	-13.00	35.00	225
8	15040.0	-51.51	8.24	15.35	vertical	-44.4	-13.00	31.40	0
9	16920.0	-48.34	8.41	14.95	vertical	-41.8	-13.00	28.80	45
10	18800.0	-88.41	8.54	15.45	vertical	-81.5	-13.00	68.50	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 CH-High

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3800.0	-54.55	5.10	11.05	vertical	-48.6	-13.00	35.60	225
3	5700.0	-56.93	5.42	12.65	vertical	-49.7	-13.00	36.70	90
4	7600.0	-58.96	6.70	13.855	vertical	-51.8	-13.00	38.80	225
5	9500.0	-58.04	7.01	14.75	vertical	-50.3	-13.00	37.30	270
6	11400.0	-57.97	7.48	15.95	vertical	-49.5	-13.00	36.50	315
7	13300.0	-55.84	7.51	16.55	vertical	-46.8	-13.00	33.80	45
8	15200.0	-51.81	8.24	15.35	vertical	-44.7	-13.00	31.70	45
9	17100.0	-47.84	8.41	14.95	vertical	-41.3	-13.00	28.30	90
10	19000.0	-89.01	8.54	15.45	vertical	-82.1	-13.00	69.10	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.



## 6. Main Test Instruments

Name	Type	Manufacturer	Serial Number	Calibration Date	Expiration Time
Base Station Simulator	CMU200	R&S	118133	2016-05-21	2017-05-20
Power Splitter	SHX-GF2-2-13	Hua Xiang	10120101	NA	NA
Spectrum Analyzer	N9010A	Agilent	MY47191109	2016-05-21	2017-05-20
Universal Radio Communication Tester	E5515C	Agilent	MY48367192	2016-05-21	2017-05-20
Signal Analyzer	FSV30	R&S	100815	2015-12-17	2016-12-16
Signal generator	SMB 100A	R&S	102594	2016-05-22	2017-05-21
Signal generator	SMR27	R&S	100365	2016-05-22	2017-05-21
EMI Test Receiver	ESCI	R&S	100948	2016-06-01	2017-05-31
Trilog Antenna	VUBL 9163	SCHWARZBECK	9163-201	2014-12-06	2017-12-05
Trilog Antenna	VUBL 9163	SCHWARZBECK	9163-391	2014-12-06	2017-12-05
Horn Antenna	HF907	R&S	100126	2014-12-06	2017-12-05
Horn Antenna	HF907	R&S	100125	2014-12-06	2017-12-05
Climatic Chamber	PT-30B	Re Ce	20101891	2016-07-17	2017-07-16
Horn Antenna	3160-09	ETS-Lindgren	00102644	2015-01-30	2018-01-29
Horn Antenna	3160-09	ETS-Lindgren	00102644	2014-12-06	2017-12-05
RF Cable	SMA 15cm	Agilent	0001	2016-06-06	2016-09-05

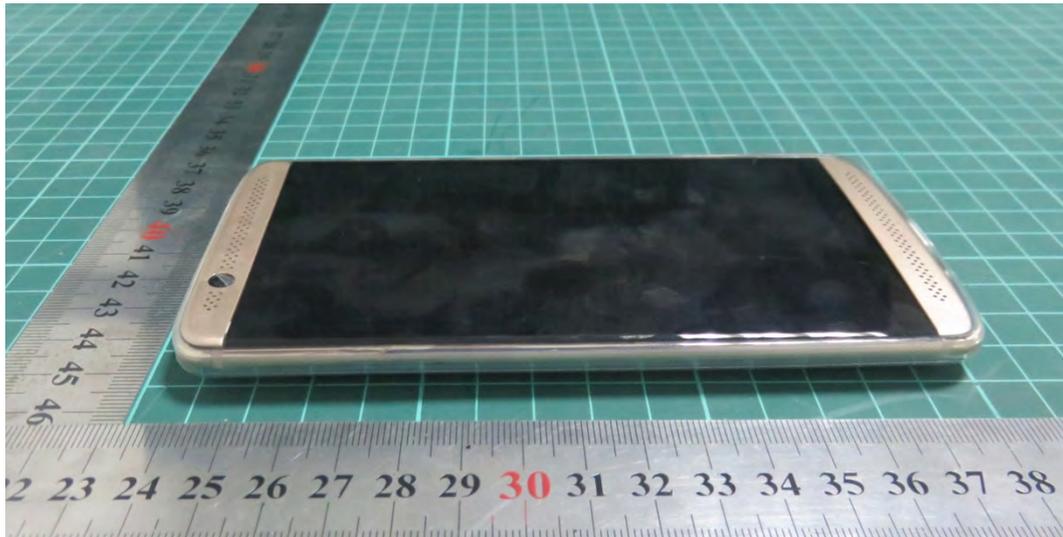
\*\*\*\*\*END OF REPORT \*\*\*\*\*

## ANNEX A: EUT Appearance and Test Setup

### A.1 EUT Appearance



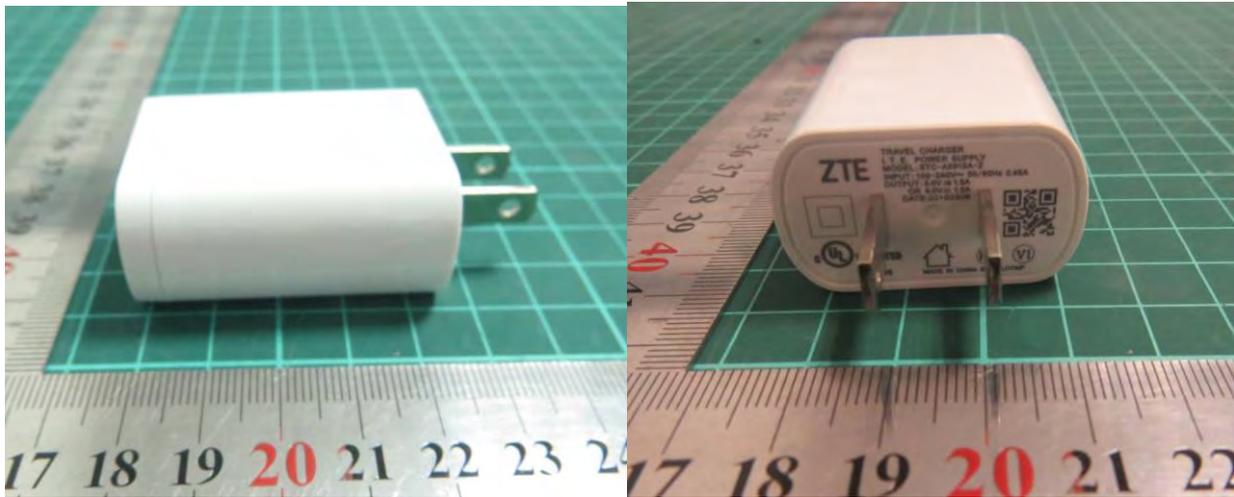
a1: EUT



a2: EUT with Phone cover  
a: EUT



Phone cover



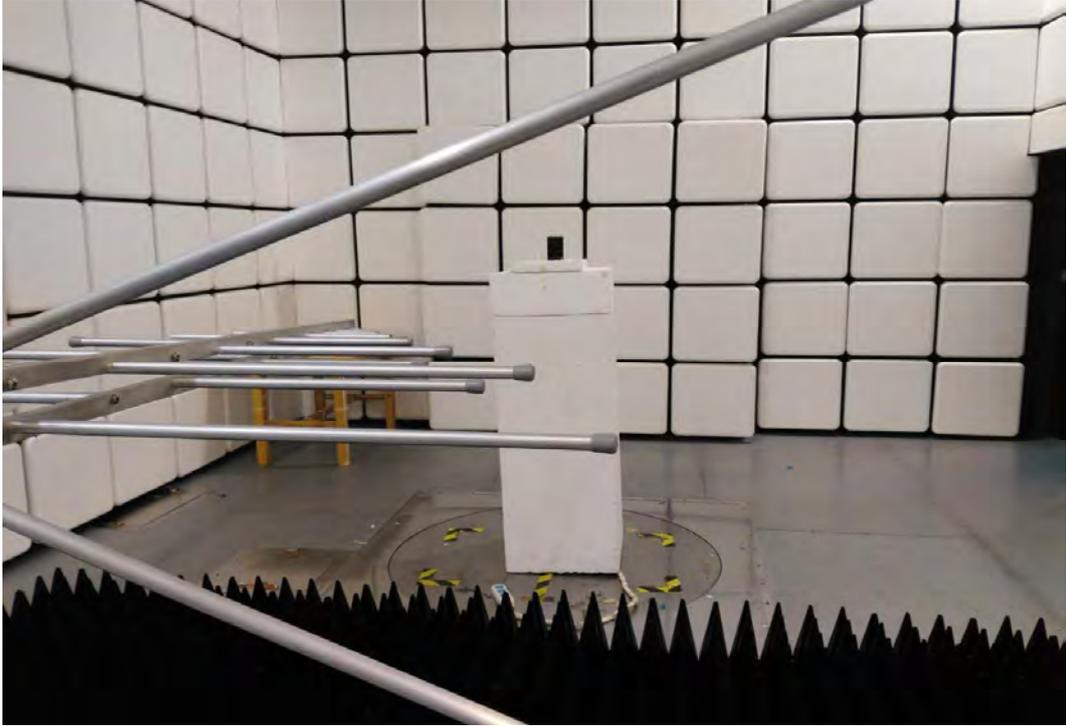
Adapter



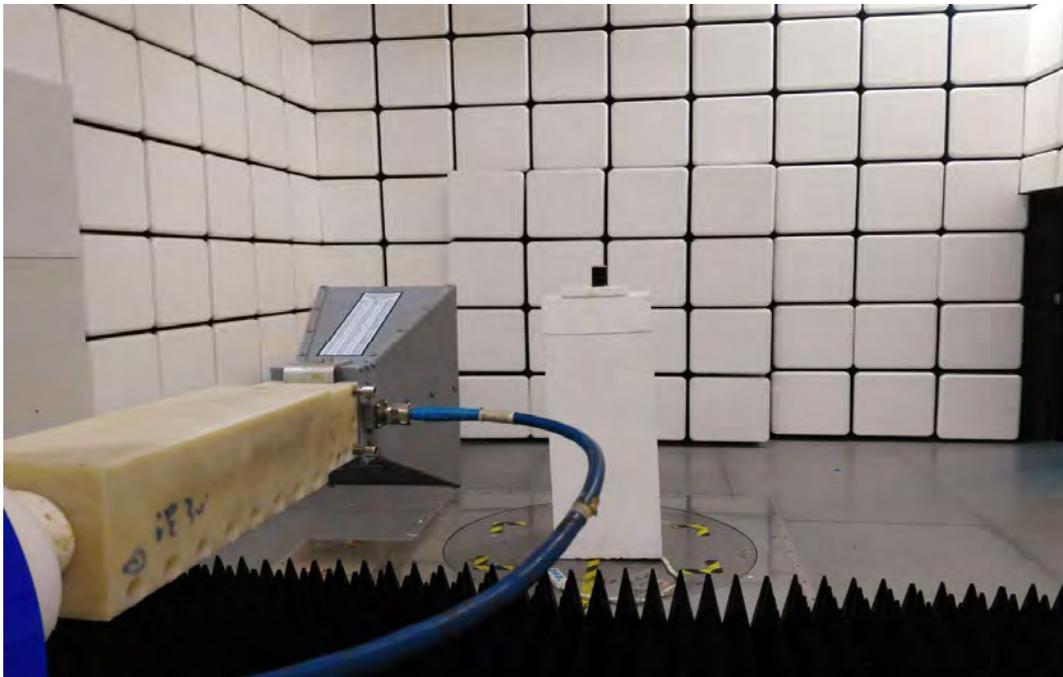
Earphone

**Picture 1 Constituents of EUT**

## A.2 Test Setup



Below 1G



Above 1G

**Picture 2: Radiated Spurious Emissions Test setup**