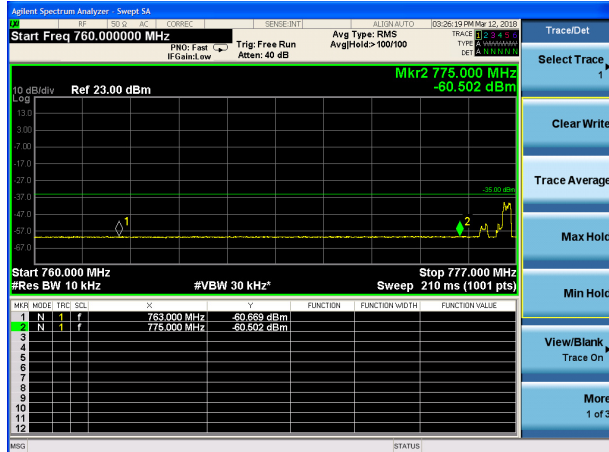
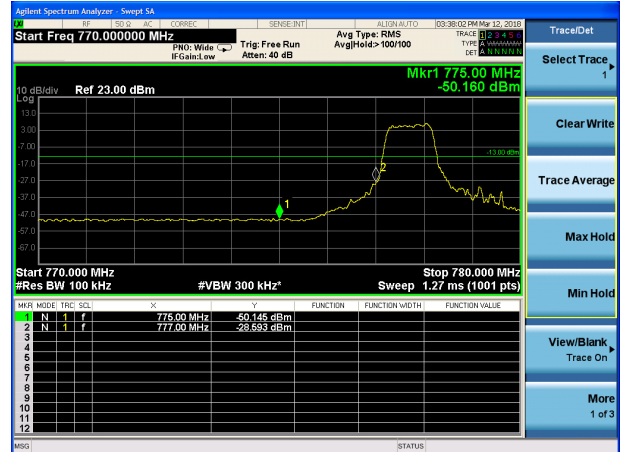


LTE Band 13 16QAM 5MHz CH-Low, 100%RB  
(763MHz ~775MHz)



LTE Band 13 16QAM 5MHz CH-Low, 100%RB  
(775MHz ~777MHz)



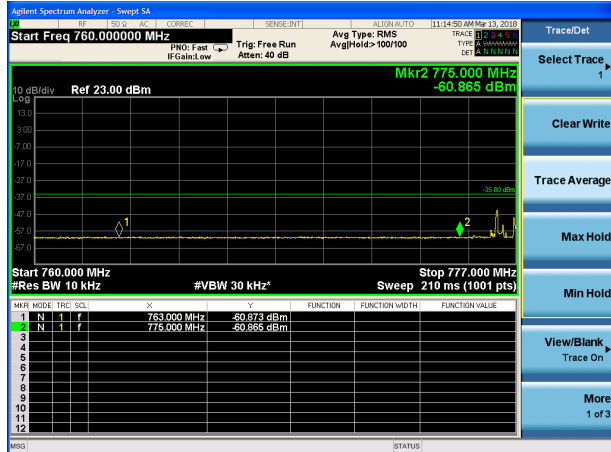
LTE Band 13 16QAM 5MHz CH-High, 100%RB  
(787MHz ~793MHz)



LTE Band 13 16QAM 5MHz CH-High, 100%RB  
(793MHz ~805MHz)



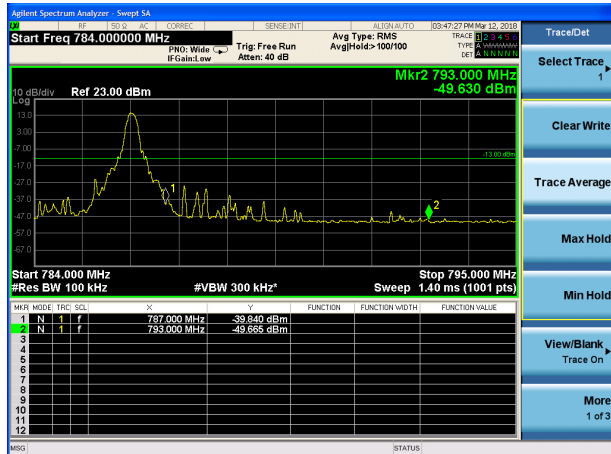
LTE Band 13 16QAM 10MHz CH-Low, 1 RB  
(763MHz ~775MHz)



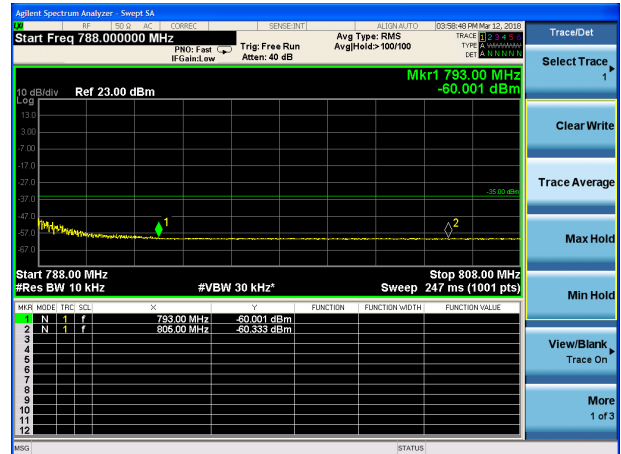
LTE Band 13 16QAM 10MHz CH-Low, 1 RB  
(775MHz ~777MHz)



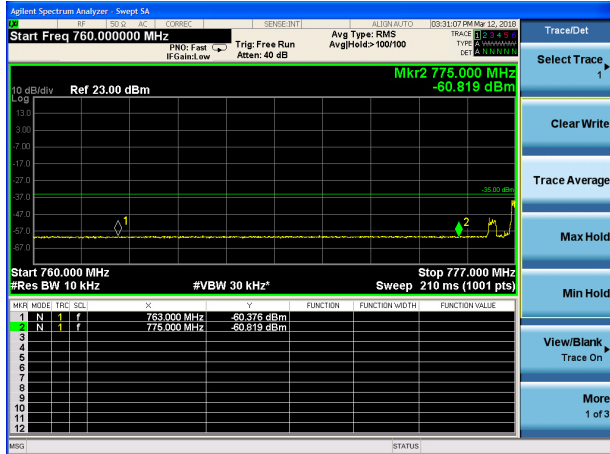
LTE Band 13 16QAM 10MHz CH-High, 1 RB  
(787MHz ~793MHz)



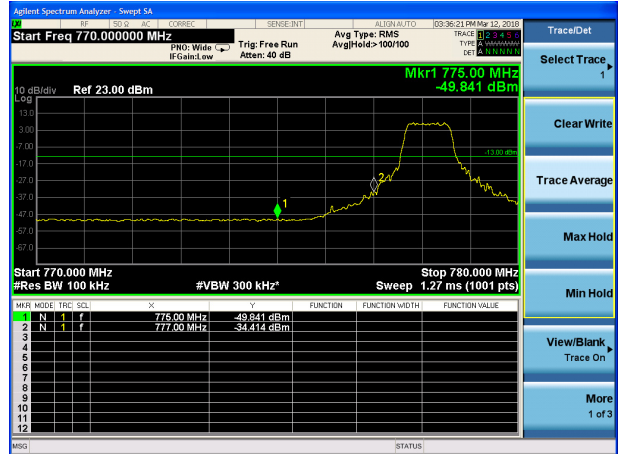
LTE Band 13 16QAM 10MHz CH-High, 1 RB  
(793MHz ~805MHz)



LTE Band 13 16QAM 10MHz CH-Low, 100%RB  
(763MHz ~775MHz)



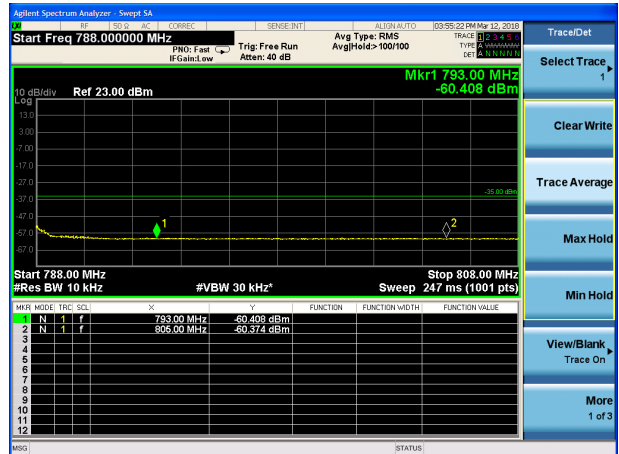
LTE Band 13 16QAM 10MHz CH-Low, 100%RB  
(775MHz ~777MHz)



LTE Band 13 16QAM 10MHz CH-High, 100%RB  
(787MHz ~793MHz)



LTE Band 13 16QAM 10MHz CH-High, 100%RB  
(793MHz ~805MHz)



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

#### Ambient condition

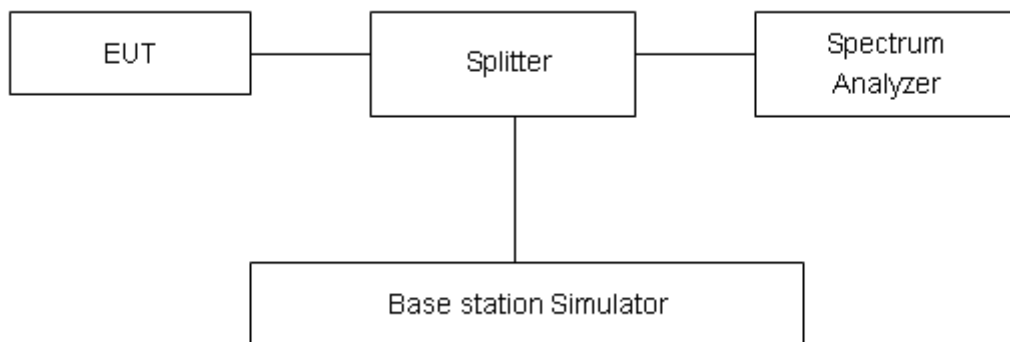
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

#### Methods of Measurement

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

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

#### Test Setup



#### Limits

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

#### Measurement Uncertainty

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

**Test Results**

Mode	Bandwidth	Modulation	Channel/ Frequency(MHz)	Peak-to-Average Power Ratio (PAPR)		
				Peak(dBm)	Avg(dBm)	PAPR(dB)
Band4	1.4MHz	QPSK	20175/1732.5	31.02	20.14	10.88
		16QAM	20175/1732.5	31.01	19.61	11.40
	3MHz	QPSK	20175/1732.5	28.84	20.19	8.65
		16QAM	20175/1732.5	29.42	18.89	10.53
	5MHz	QPSK	20175/1732.5	29.70	20.16	9.54
		16QAM	20175/1732.5	29.98	19.96	10.02
	10MHz	QPSK	20175/1732.5	29.13	19.81	9.32
		16QAM	20175/1732.5	30.16	20.61	9.55
	15MHz	QPSK	20175/1732.5	29.22	20.03	9.19
		16QAM	20175/1732.5	31.58	20.51	11.07
20MHz	QPSK	20175/1732.5	30.72	20.12	10.60	
	16QAM	20175/1732.5	31.40	20.74	10.66	
Mode	Bandwidth	Modulation	Channel/ Frequency(MHz)	Peak-to-Average Power Ratio (PAPR)		
				Peak(dBm)	Avg(dBm)	PAPR(dB)
Band13	5MHz	QPSK	23230/782	30.10	21.22	8.88
		16QAM	23230/782	31.50	21.77	9.73
	10MHz	QPSK	23230/782	30.01	21.45	8.56
		16QAM	23230/782	31.09	21.95	9.14

## 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 +60°C in 10°C step size.

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

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

(3) Repeat the above measurements at 10°C increments from -30°C to +60°C. Allow at least 1.5 hours at each temperature, un-powered, before making measurements.

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

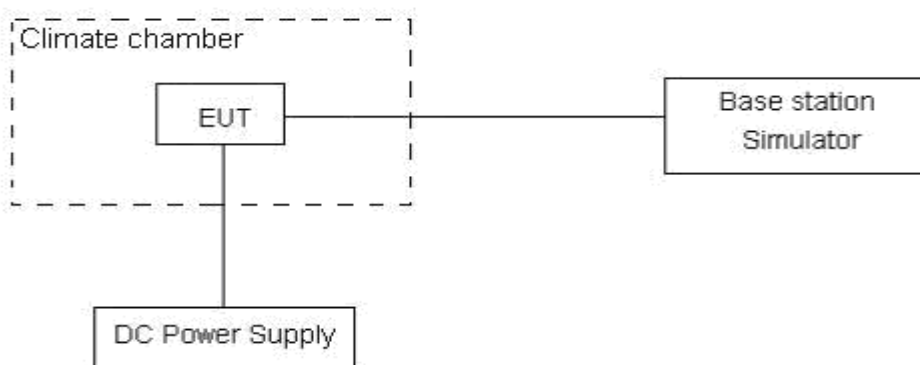
The frequency stability shall be measured with variation of primary supply voltage as follows:

(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 3.45 V and 4.2 V, with a nominal voltage of 3.8V.

### Test setup



### Limits

No specific frequency stability requirements in part 27.54

### Measurement Uncertainty

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

**Test Result**

QPSK,(20MHz BANDWIDTH)						
Condition		1710	1755	Delta (Hz)	Frequency Stability (ppm)	
		F low@-13dBm (MHz)	F high@-13dBm (MHz)			
Temperature	Voltage	1711.2333	1753.7647			
Normal (25°C)	Normal	1711.2333	1753.7647	4.59	0.00265	
Extreme (60°C)		1711.2333	1753.7647	4.00	0.00231	
Extreme (50°C)		1711.2333	1753.7647	-1.88	-0.00109	
Extreme (40°C)		1711.2333	1753.7647	-3.57	-0.00206	
Extreme (30°C)		1711.2333	1753.7647	4.56	0.00263	
Extreme (20°C)		1711.2333	1753.7647	-6.76	-0.00390	
Extreme (10°C)		1711.2333	1753.7647	0.02	0.00001	
Extreme (0°C)		1711.2333	1753.7647	7.47	0.00431	
Extreme (-10°C)		1711.2333	1753.7647	-2.70	-0.00156	
Extreme (-20°C)		1711.2333	1753.7647	-2.53	-0.00146	
Extreme (-30°C)		1711.2333	1753.7647	-8.95	-0.00517	
25°C		LV	1711.2333	1753.7647	-5.98	-0.00345
		HV	1711.2333	1753.7647	-5.89	-0.00340
16QAM,(20MHz BANDWIDTH)						
Condition		1710	1755	Delta (Hz)	Frequency Stability (ppm)	
		F low@-13dBm (MHz)	F high@-13dBm (MHz)			
Temperature	Voltage	1711.2354	1753.7635			
Normal (25°C)	Normal	1711.2354	1753.7635	-6.03	-0.00348	
Extreme (60°C)		1711.2354	1753.7635	0.66	0.00038	
Extreme (50°C)		1711.2354	1753.7635	0.38	0.00022	
Extreme (40°C)		1711.2354	1753.7635	-4.23	-0.00244	
Extreme (30°C)		1711.2354	1753.7635	-9.39	-0.00542	
Extreme (20°C)		1711.2354	1753.7635	-2.92	-0.00169	
Extreme (10°C)		1711.2354	1753.7635	-1.95	-0.00113	
Extreme (0°C)		1711.2354	1753.7635	-2.48	-0.00143	
Extreme (-10°C)		1711.2354	1753.7635	-8.91	-0.00514	
Extreme (-20°C)		1711.2354	1753.7635	-4.08	-0.00235	
Extreme (-30°C)		1711.2354	1753.7635	-1.04	-0.00060	
25°C		LV	1711.2354	1753.7635	4.70	0.00271
		HV	1711.2354	1753.7635	-9.46	-0.00546

QPSK,(10MHz BANDWIDTH)						
Condition		777	787	Delta (Hz)	Frequency Stability (ppm)	
		F low@-13dBm (MHz)	F high@-13dBm (MHz)			
Temperature	Voltage	777.5349	786.5086			
Normal (25°C)	Normal	777.5350	786.5086	-2.19	-0.00280	
Extreme (60°C)		777.5350	786.5086	1.55	0.00198	
Extreme (50°C)		777.5350	786.5086	1.76	0.00225	
Extreme (40°C)		777.5350	786.5086	-1.16	-0.00148	
Extreme (30°C)		777.5350	786.5086	-1.69	-0.00216	
Extreme (20°C)		777.5350	786.5086	1.98	0.00253	
Extreme (10°C)		777.5350	786.5086	-3.13	-0.00400	
Extreme (0°C)		777.5350	786.5086	-0.07	-0.00009	
Extreme (-10°C)		777.5350	786.5086	3.29	0.00421	
Extreme (-20°C)		777.5350	786.5086	-1.30	-0.00166	
Extreme (-30°C)		777.5350	786.5086	-3.60	-0.00460	
25°C		LV	777.5350	786.5086	3.06	0.00391
		HV	777.5350	786.5086	1.43	0.00183
16QAM,(10MHz BANDWIDTH)						
Condition		777	787	Delta (Hz)	Frequency Stability (ppm)	
		F low@-13dBm (MHz)	F high@-13dBm (MHz)			
Temperature	Voltage	777.5354	786.5077			
Normal (25°C)	Normal	777.5354	786.5077	-4.28	-0.00547	
Extreme (60°C)		777.5354	786.5077	1.25	0.00160	
Extreme (50°C)		777.5354	786.5077	-3.03	-0.00387	
Extreme (40°C)		777.5354	786.5077	-0.14	-0.00018	
Extreme (30°C)		777.5354	786.5077	-2.22	-0.00284	
Extreme (20°C)		777.5354	786.5077	-4.55	-0.00582	
Extreme (10°C)		777.5354	786.5077	-1.63	-0.00208	
Extreme (0°C)		777.5354	786.5077	-1.19	-0.00152	
Extreme (-10°C)		777.5354	786.5077	-1.43	-0.00183	
Extreme (-20°C)		777.5354	786.5077	-4.33	-0.00554	
Extreme (-30°C)		777.5354	786.5077	-2.99	-0.00382	
25°C		LV	777.5354	786.5077	-4.11	-0.00526
		HV	777.5354	786.5077	-2.43	-0.00311



## 5.7 Spurious Emissions at Antenna Terminals

### Ambient condition

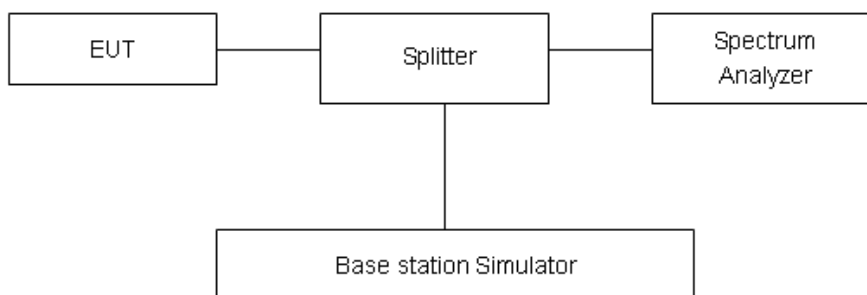
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

### Method of Measurement

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

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

### Test setup



### Limits

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

Rule Part 27.53(f) For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to  $-70$  dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and  $-80$  dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

Part 27.53 (c) For operations in the 746-758 MHz band and the 776-788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

- (1) On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least  $43 + 10 \log (P)$  dB;



- (2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least  $43 + 10 \log (P)$  dB;
- (3) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than  $76 + 10 \log (P)$  dB in a 6.25 kHz band segment, for base and fixed stations;
- (4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than  $65 + 10 \log (P)$  dB in a 6.25 kHz band segment, for mobile and portable stations;
- (5) Compliance with the provisions of paragraphs (c)(1) and (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed;

Part 27.53(h) Limit		-13 dBm
Part 27.53(f) (c) Limit	Limit out of the band 1559-1610 MHz	-13 dBm
	Limit in the band 1559-1610 MHz	-40 dBm

**Measurement Uncertainty**

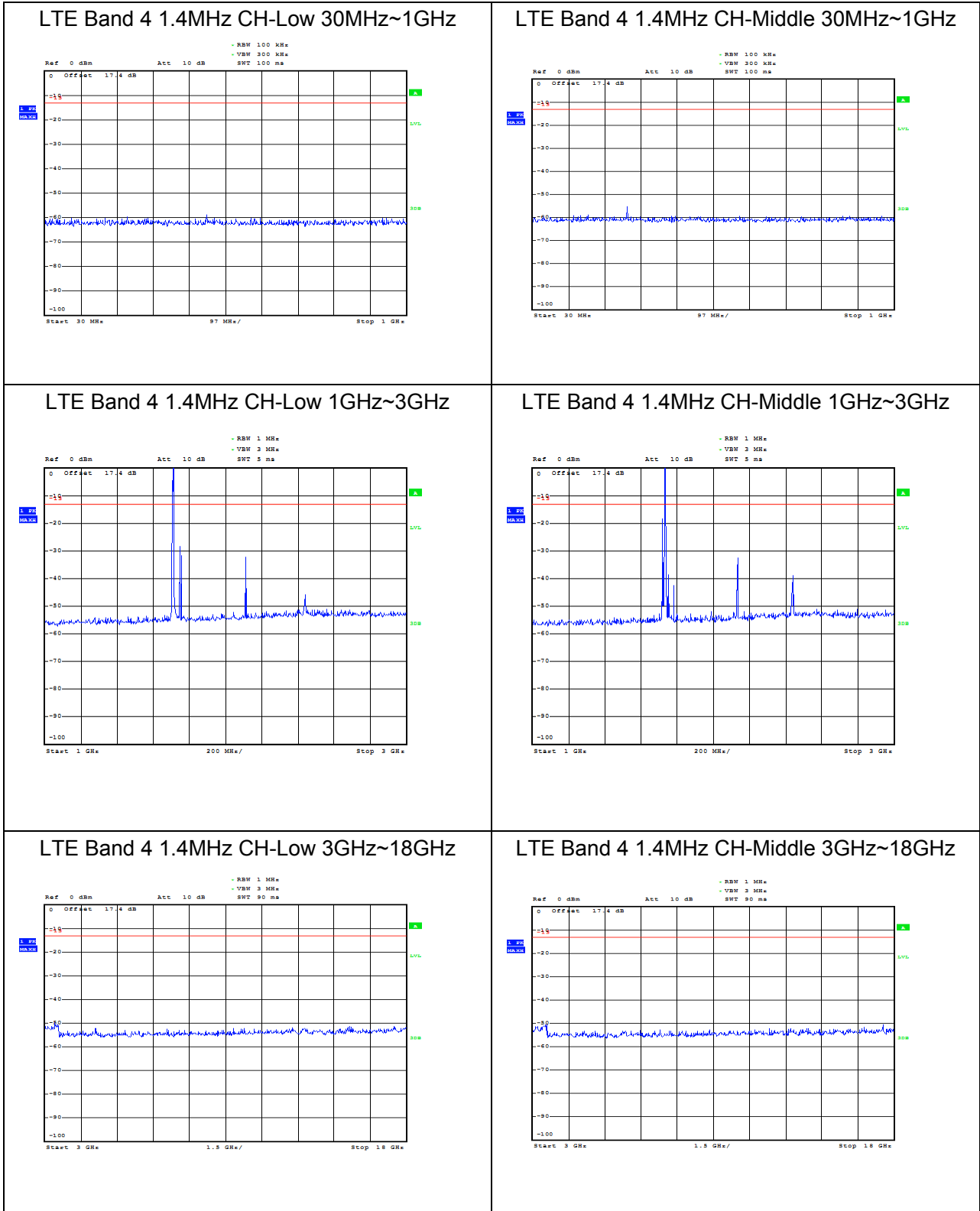
The assessed measurement uncertainty to ensure 99.75% confidence level for the normal distribution is with the coverage factor  $k = 1.96$ .

Frequency	Uncertainty
100kHz-1GHz	0.684 dB
1GHz-18GHz	1.407 dB

**Test Result**

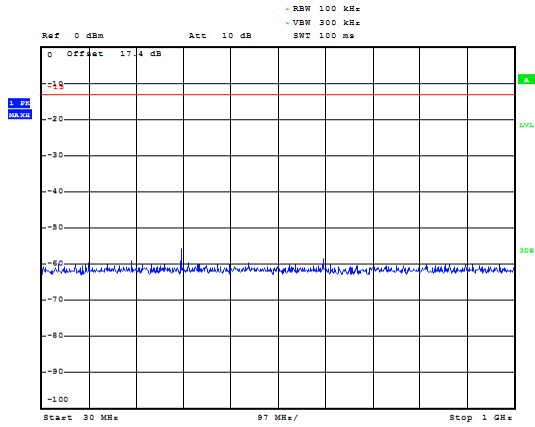
Sweep from 9 kHz to 30MHz, and the emissions more than 20 dB below the permissible value are not reported.

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.

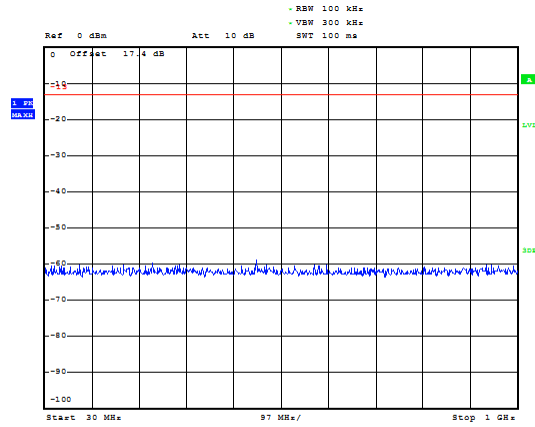




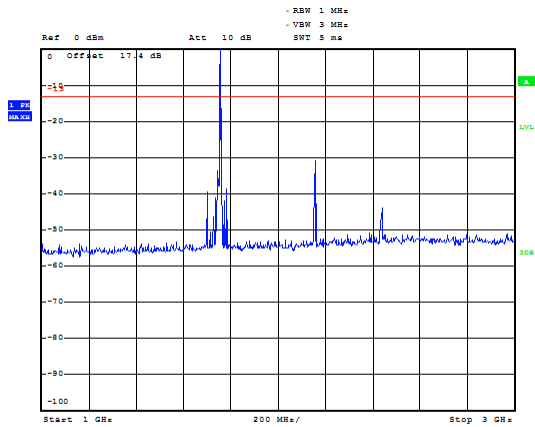
### LTE Band 4 1.4MHz CH-High 30MHz~1GHz



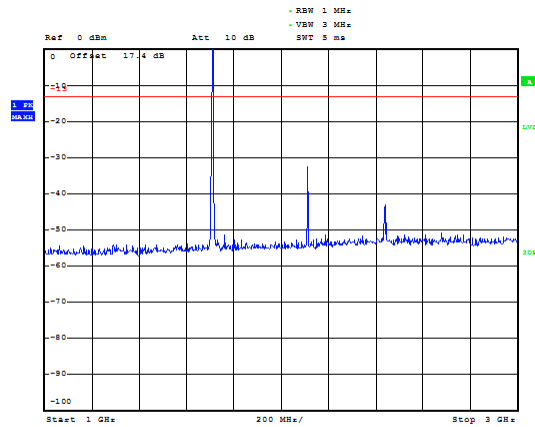
### LTE Band 4 3MHz CH-Low 30MHz~1GHz



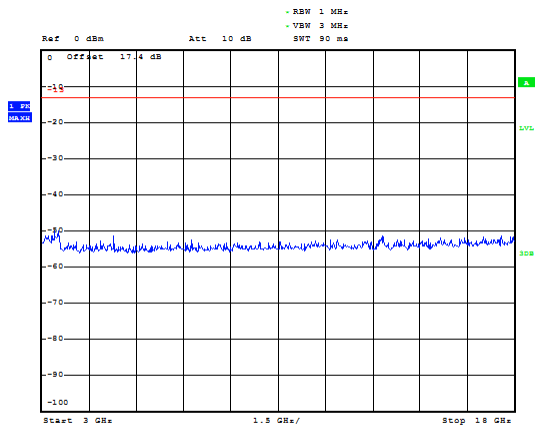
### LTE Band 4 1.4MHz CH-High 1GHz~3GHz



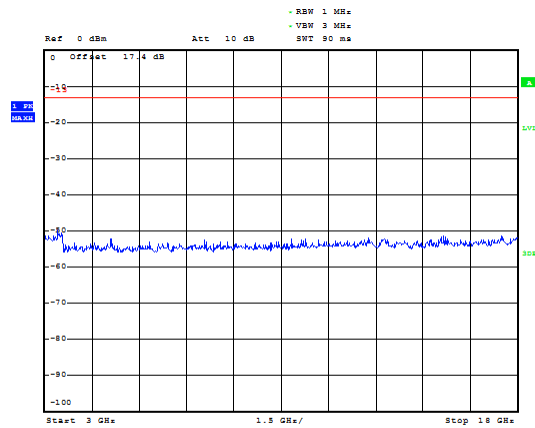
### LTE Band 4 3MHz CH-Low 1GHz~3GHz



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

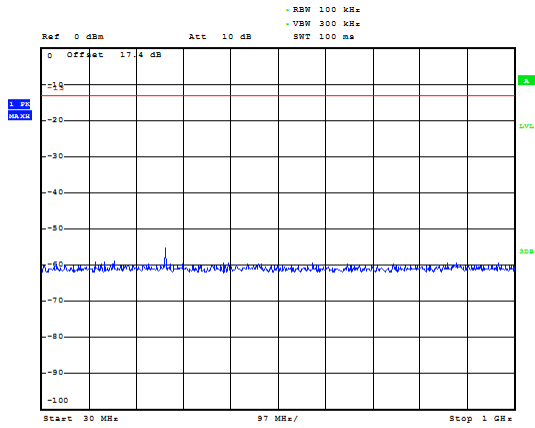


### LTE Band 4 3MHz CH-Low 3GHz~18GHz

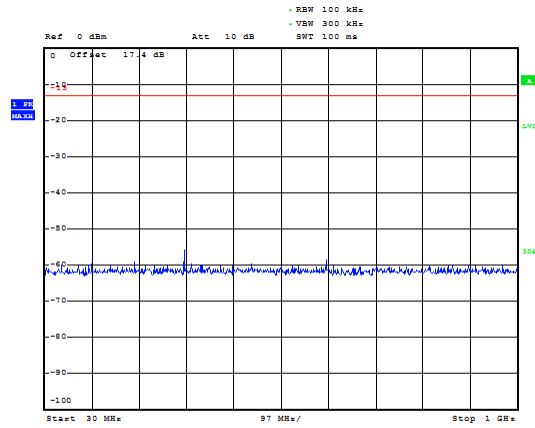




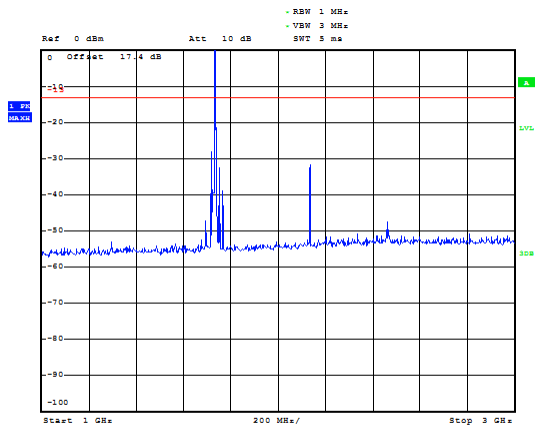
LTE Band 4 3MHz CH-Middle 30MHz~1GHz



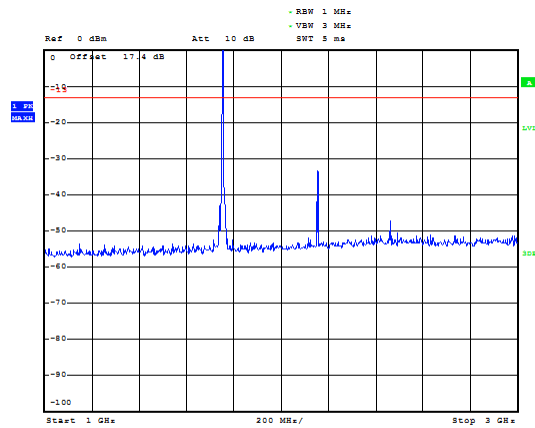
LTE Band 4 3MHz CH-High 30MHz~1GHz



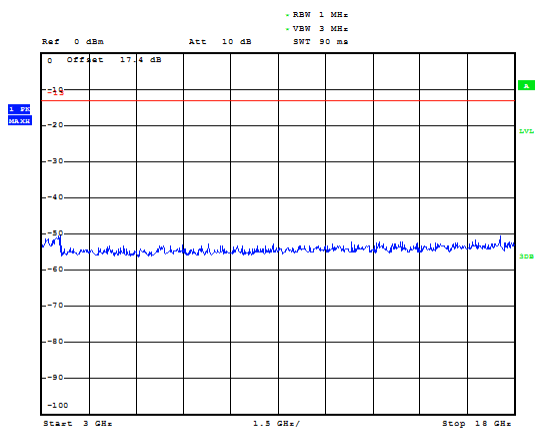
LTE Band 4 3MHz CH-Middle 1GHz~3GHz



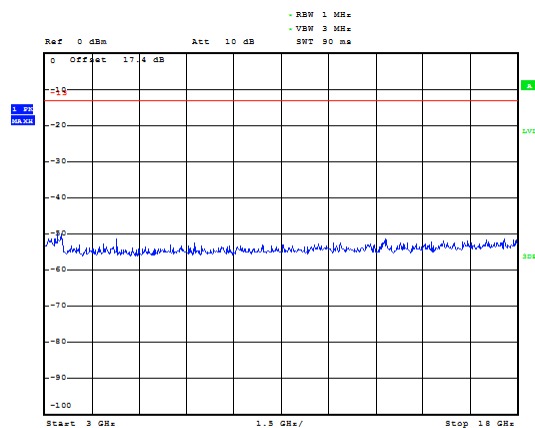
LTE Band 4 3MHz CH-High 1GHz~3GHz



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

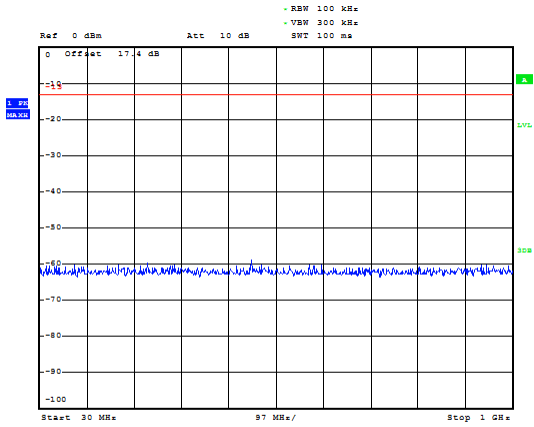


LTE Band 4 3MHz CH-High 3GHz~18GHz

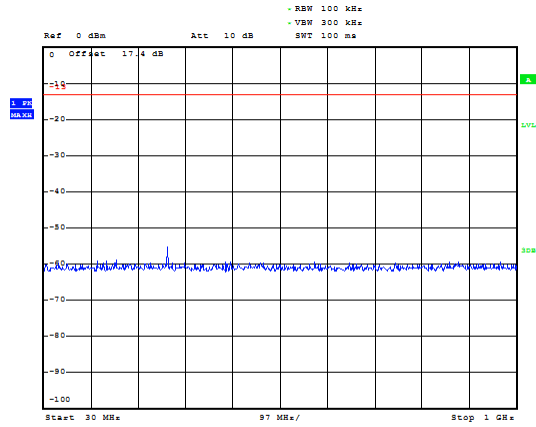




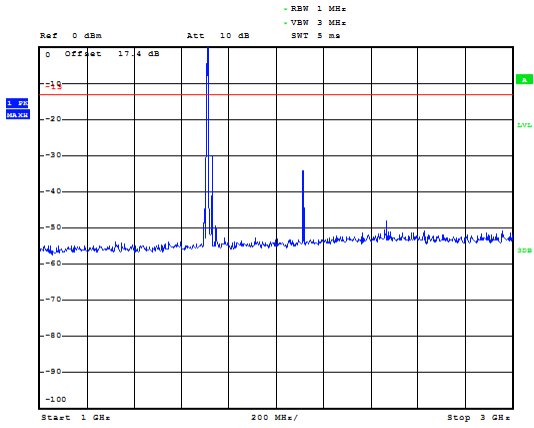
LTE Band 4 5MHz CH-Low 30MHz~1GHz



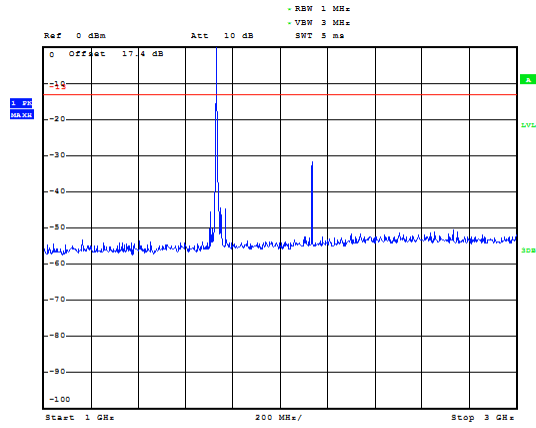
LTE Band 4 5MHz CH-Middle 30MHz~1GHz



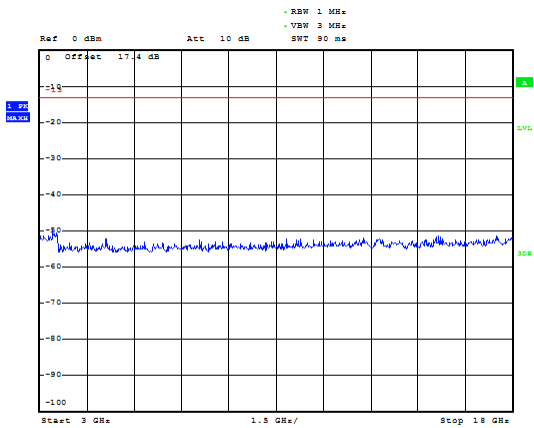
LTE Band 4 5MHz CH-Low 1GHz~3GHz



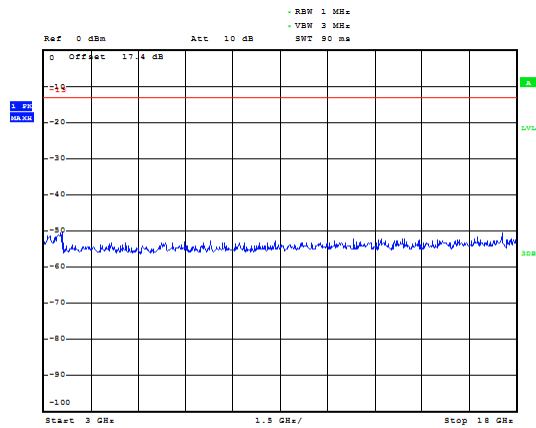
LTE Band 4 5MHz CH-Middle 1GHz~3GHz



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

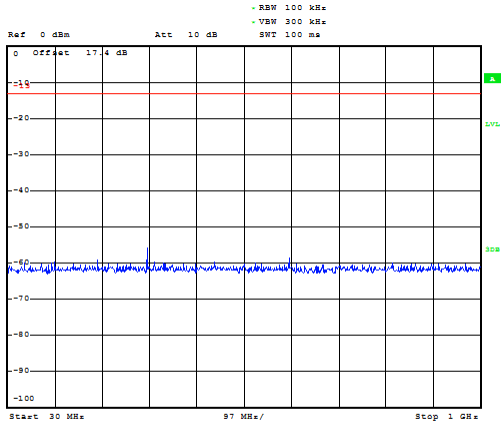


LTE Band 4 5MHz CH-Middle 3GHz~18GHz

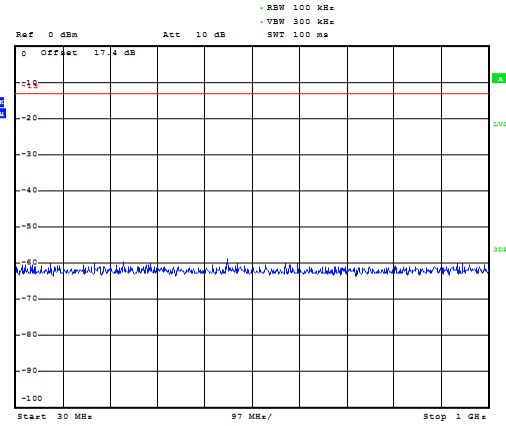




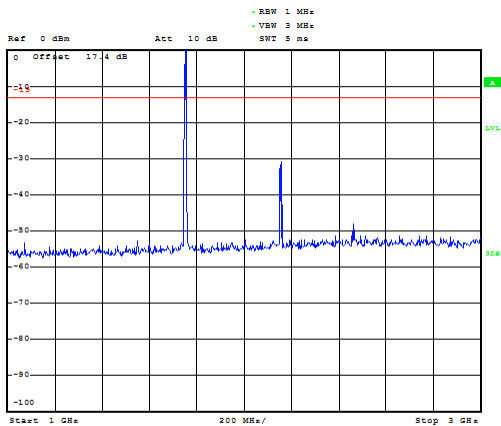
### LTE Band 4 5MHz CH-High 30MHz~1GHz



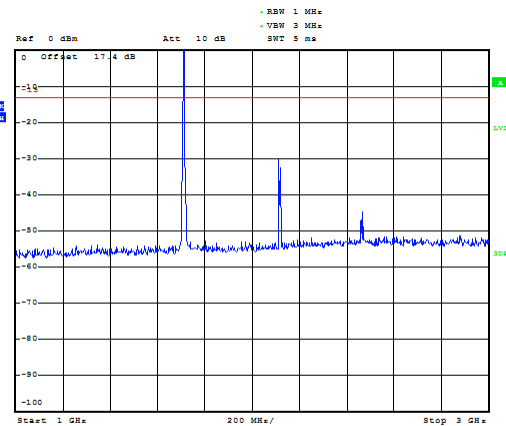
### LTE Band 4 10MHz CH-Low 30MHz~1GHz



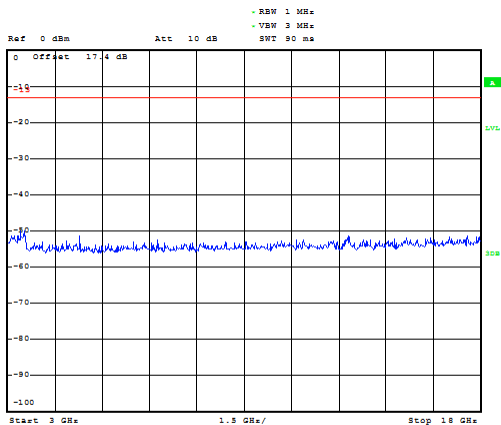
### LTE Band 4 5MHz CH-High 1GHz~3GHz



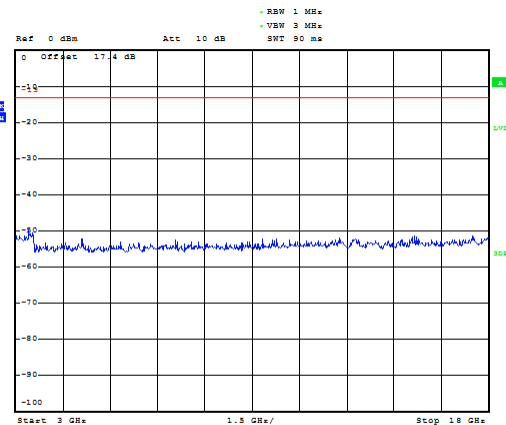
### LTE Band 4 10MHz CH-Low 1GHz~3GHz



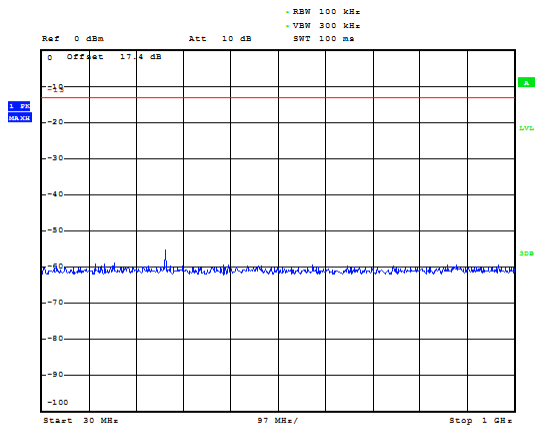
### LTE Band 4 5MHz CH-High 3GHz~18GHz



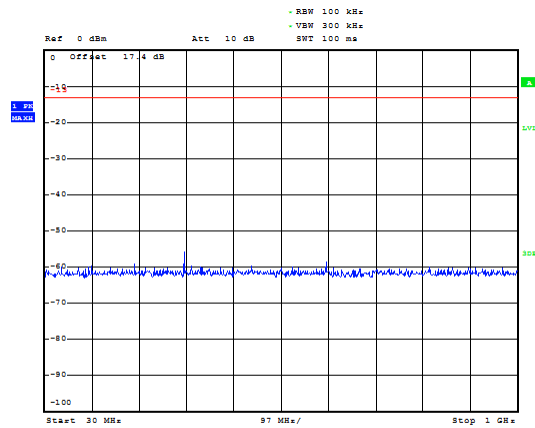
### LTE Band 4 10MHz CH-Low 3GHz~18GHz



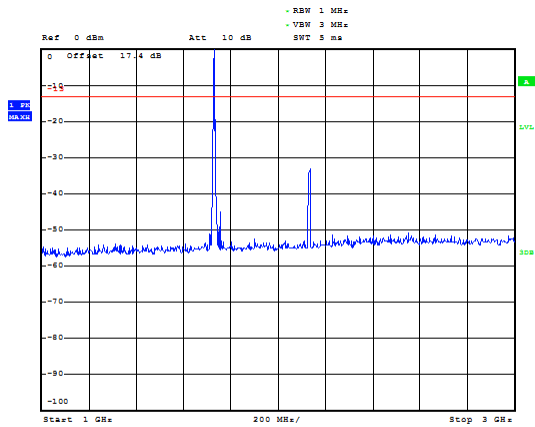
LTE Band 4 10MHz CH-Middle 30MHz~1GHz



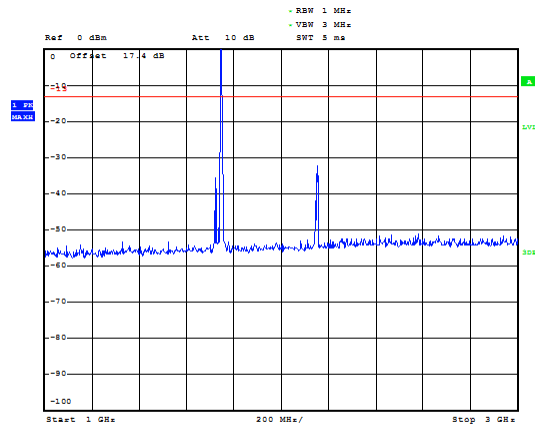
LTE Band 4 10MHz CH-High 30MHz~1GHz



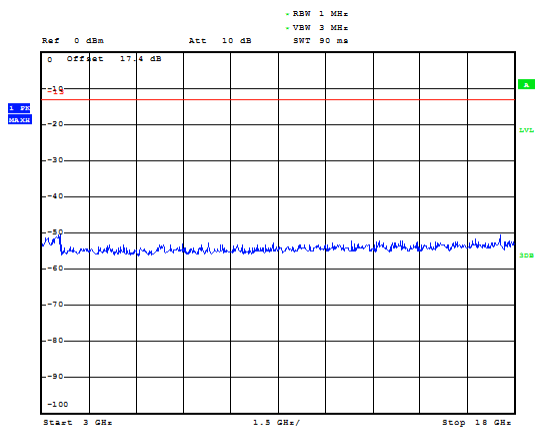
LTE Band 4 10MHz CH-Middle 1GHz~3GHz



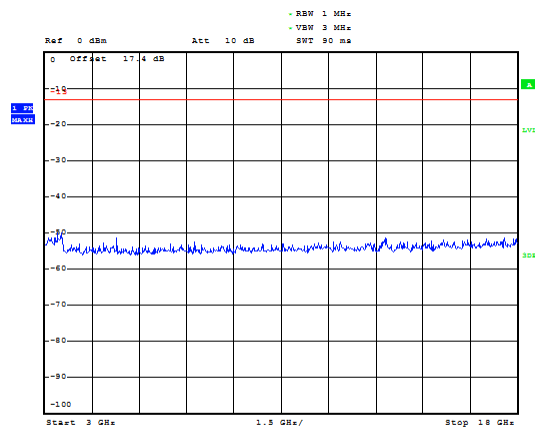
LTE Band 4 10MHz CH-High 1GHz~3GHz



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



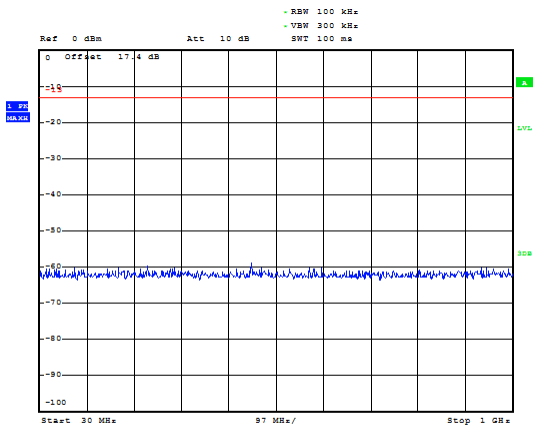
LTE Band 4 10MHz CH-High 3GHz~18GHz



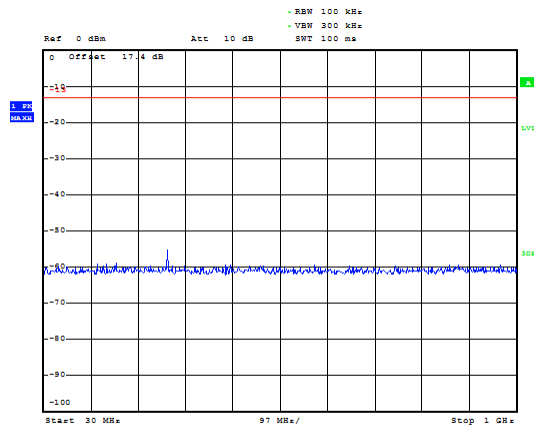




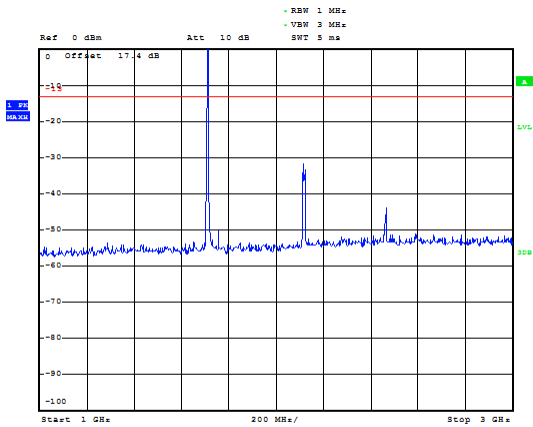
### LTE Band 4 15MHz CH-Low 30MHz~1GHz



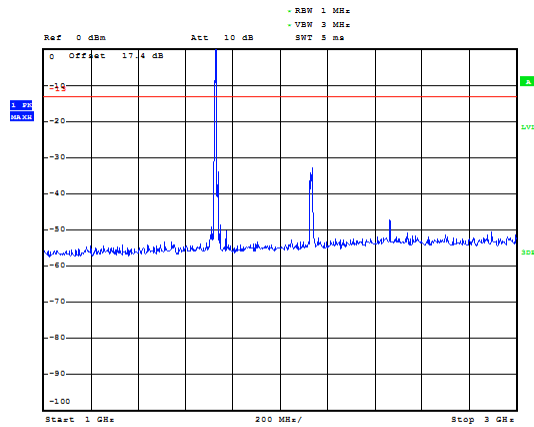
### LTE Band 4 15MHz CH-Middle 30MHz~1GHz



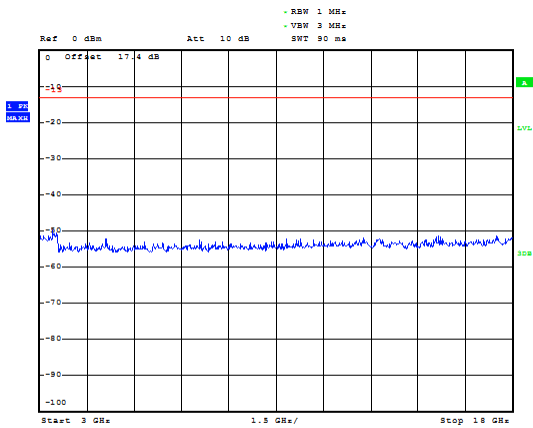
### LTE Band 4 15MHz CH-Low 1GHz~3GHz



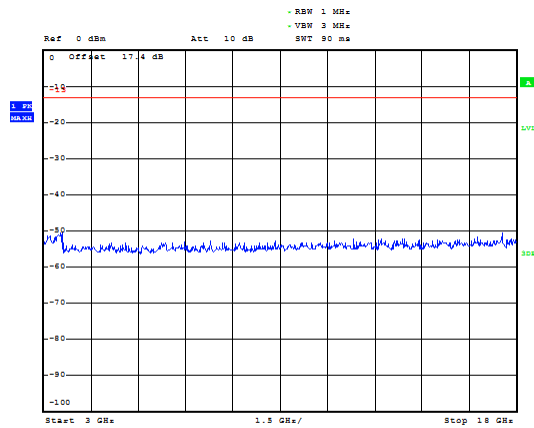
### LTE Band 4 15MHz CH-Middle 1GHz~3GHz



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

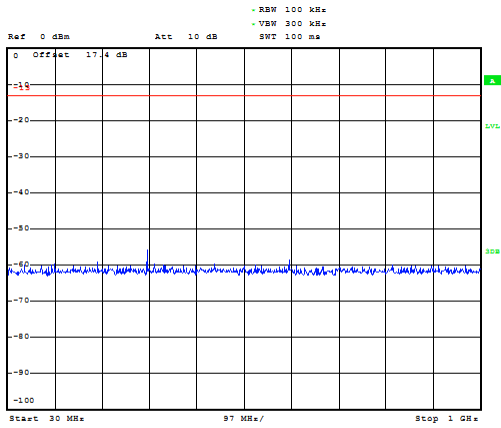


### LTE Band 4 15MHz CH-Middle 3GHz~18GHz

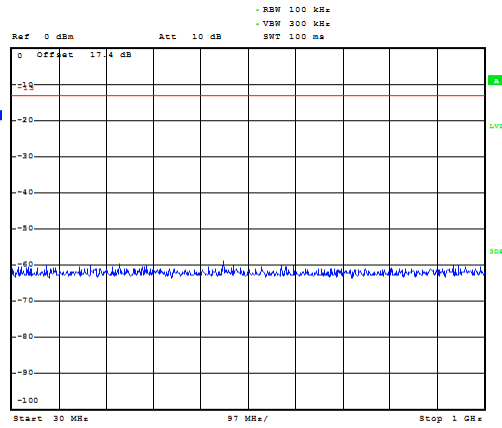




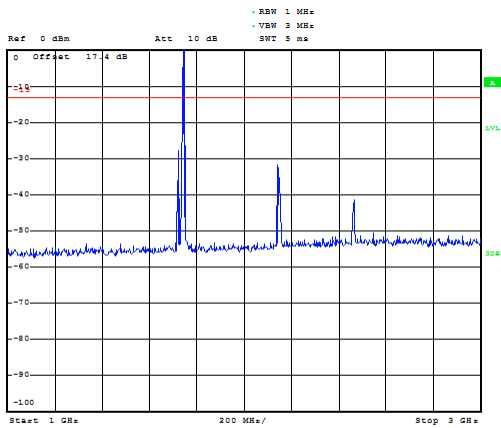
### LTE Band 4 15MHz CH-High 30MHz~1GHz



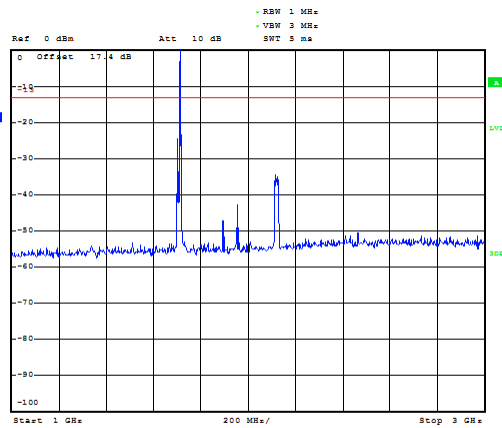
### LTE Band 4 20MHz CH-Low 30MHz~1GHz



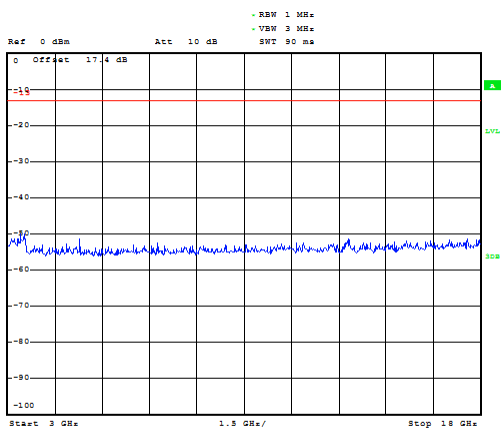
### LTE Band 4 15MHz CH-High 1GHz~3GHz



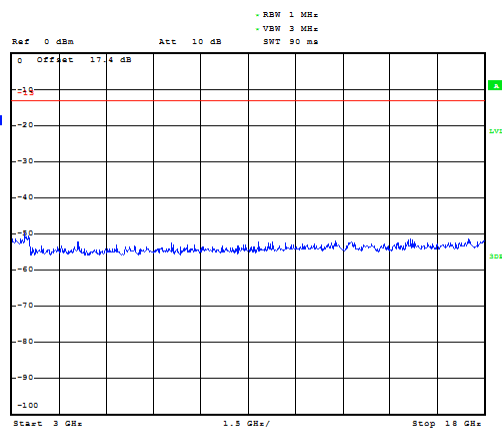
### LTE Band 4 20MHz CH-Low 1GHz~3GHz



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

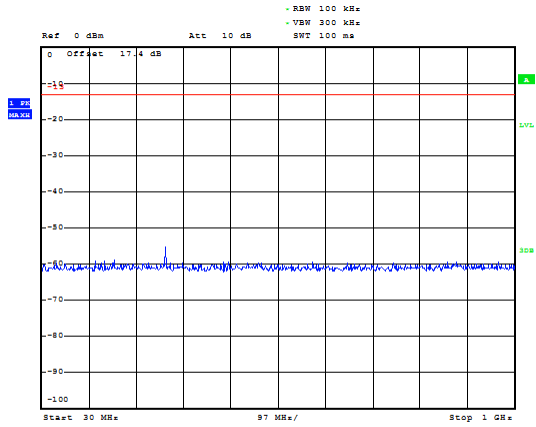


### LTE Band 4 20MHz CH-Low 3GHz~18GHz

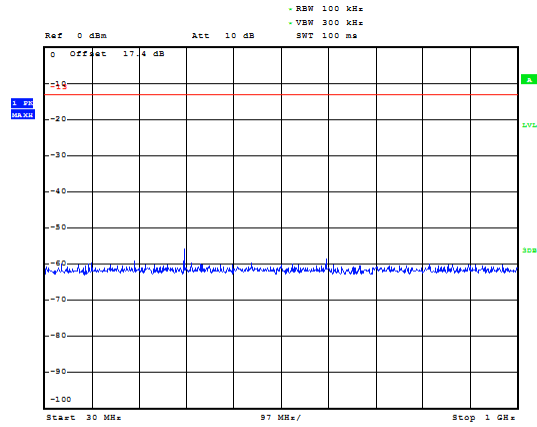




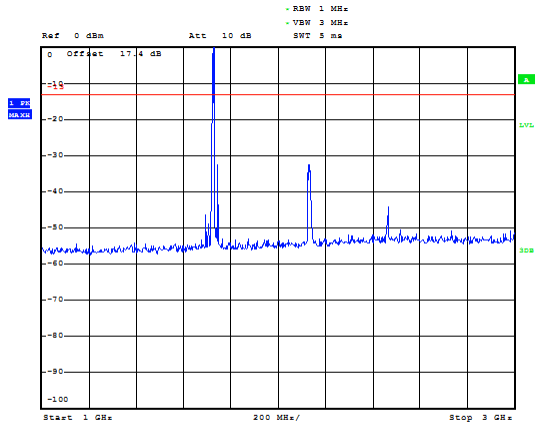
### LTE Band 4 15MHz CH-Middle 30MHz~1GHz



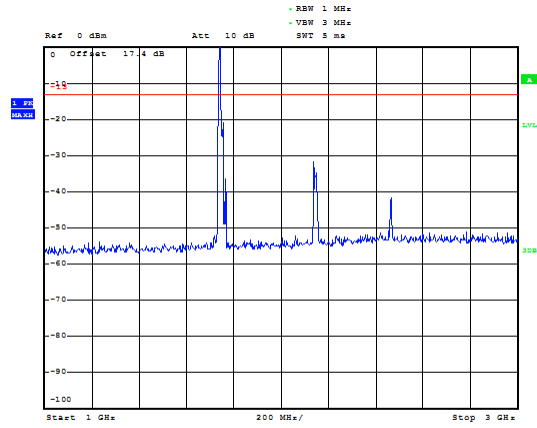
### LTE Band 4 20MHz CH-High 30MHz~1GHz



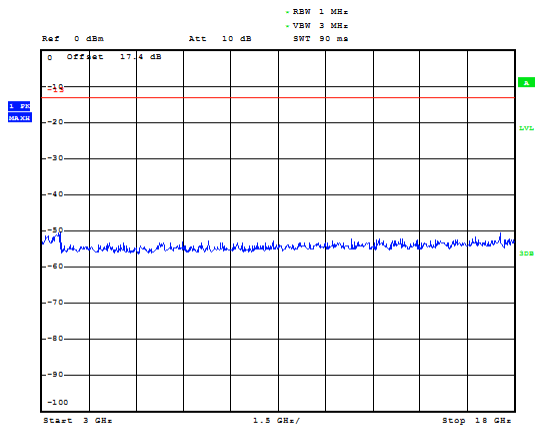
### LTE Band 4 15MHz CH-Middle 1GHz~3GHz



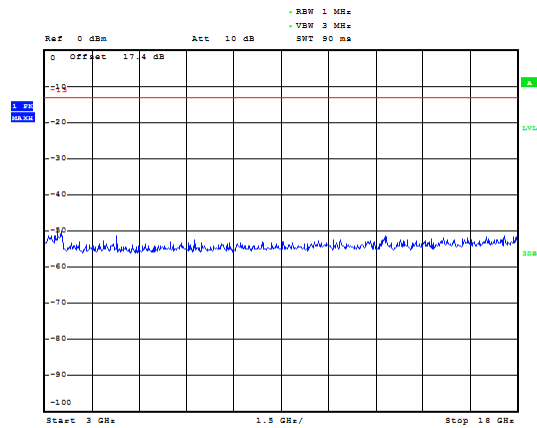
### LTE Band 4 20MHz CH-High 1GHz~3GHz



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

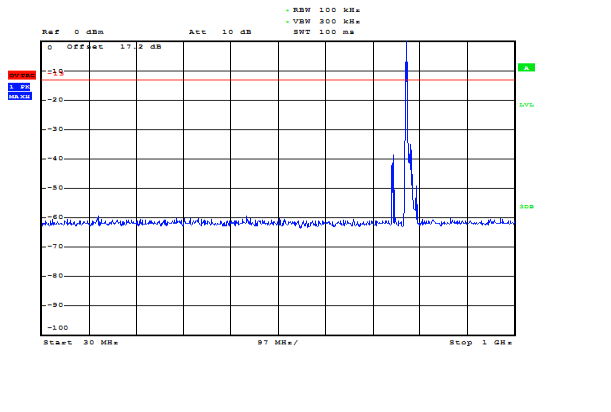


### LTE Band 4 20MHz CH-High 3GHz~18GHz

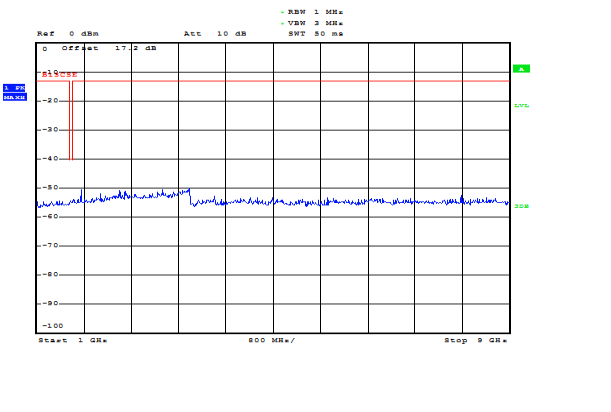




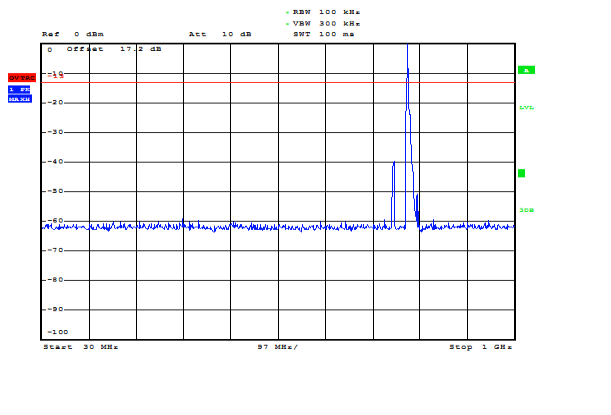
### LTE Band 13 5MHz CH-Low 30MHz~1GHz



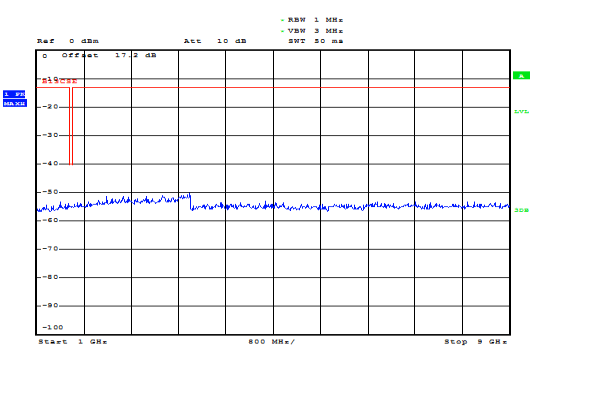
### LTE Band 13 5MHz CH-Low 1GHz~9GHz



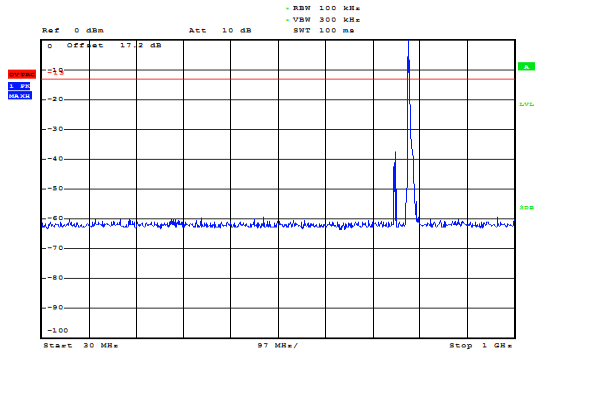
### LTE Band 13 5MHz CH- Middle 30MHz~1GHz



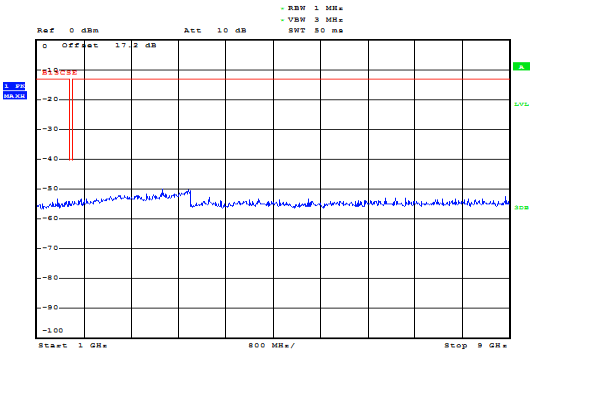
### LTE Band 13 5MHz CH- Middle 1GHz~9GHz



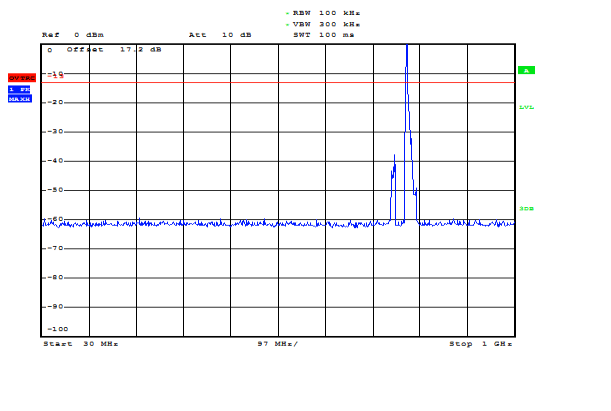
### LTE Band 13 5MHz CH-High 30MHz~1GHz



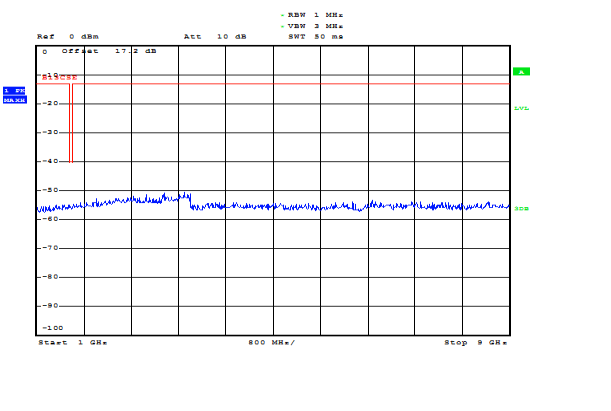
### LTE Band 13 5MHz CH-High 1GHz~9GHz



### LTE Band 13 5MHz CH- Middle 30MHz~1GHz



### LTE Band 13 10MHz CH- Middle 1GHz~9GHz



## 5.8 Radiates Spurious Emission

### Ambient condition

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

### Method of Measurement

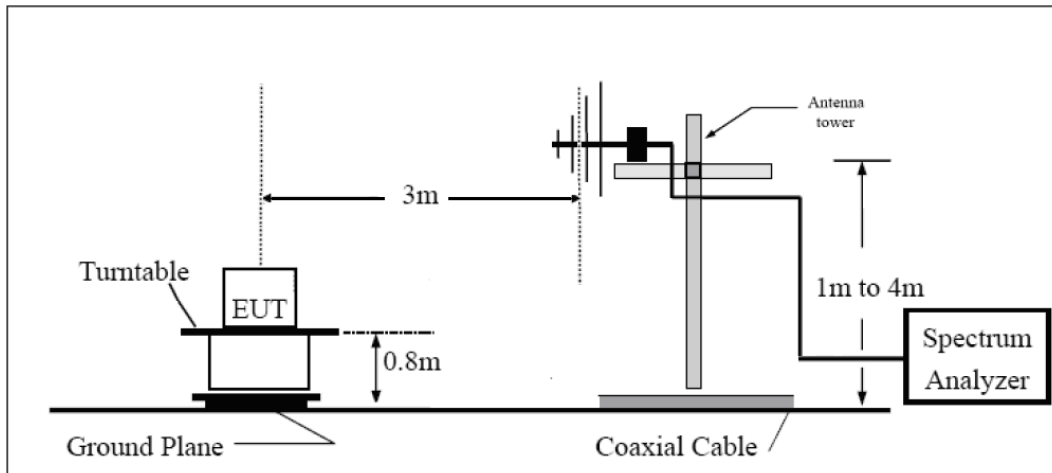
- The testing follows FCC KDB 971168 D01 v03 Section 5.8 and ANSI/TIA-603-E (2016).
- The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).
- A log-periodic antenna or double-ridged waveguide horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
- The EUT is then put into continuously transmitting mode at its maximum power level during the test. Set Test Receiver or Spectrum RBW=1MHz, VBW=3MHz, And the maximum value of the receiver should be recorded as (Pr).
- The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (PMea) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (PMea) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
- A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss (Pcl) ,the Substitution Antenna Gain (Ga) and the Amplifier Gain (PAg) should be recorded after test.
- The measurement results are obtained as described below:  

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

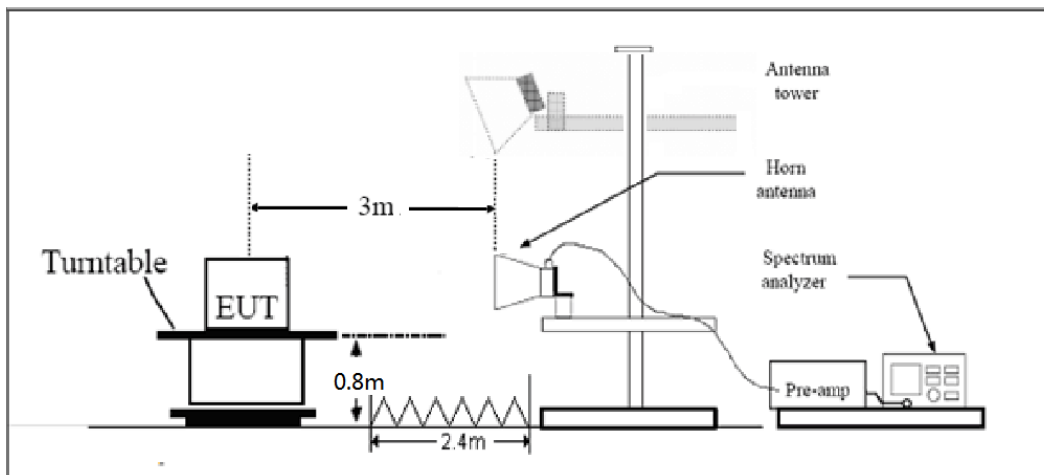
$$\text{Power(EIRP)} = \text{PMea} - \text{Pcl} + \text{Ga}$$
- This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP-2.15dBi.

**Test setup**

**30MHz~~~ 1GHz**



**Above 1GHz**



Note: Area side:2.4mX3.6m

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

**Limits**

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

Rule Part 27.53(f) For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to  $-70$  dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and  $-80$  dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.



Part 27.53(h) Limit		-13 dBm
Part 27.53(f) Limit	Limit out of the band 1559-1610 MHz	-13 dBm
	Limit in the band 1559-1610 MHz	-40 dBm

**Measurement Uncertainty**

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

**Test Result**

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

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3421.4	-47.80	2.6	10.15	Horizontal	-42.4	-13.00	29.4	270
3	5131.1	-57.20	2.4	11.35	Horizontal	-50.4	-13.00	37.4	180
4	6842.8	-52.50	4.5	10.85	Horizontal	-48.3	-13.00	35.3	135
5	8553.5	-52.30	5.1	11.35	Horizontal	-48.2	-13.00	35.2	270
6	10264.2	-53.80	5.3	11.95	Horizontal	-49.3	-13.00	36.3	180
7	11974.9	-53.90	5.5	13.55	Horizontal	-48.0	-13.00	35.0	225
8	13685.6	-52.40	6.3	13.75	Horizontal	-47.1	-13.00	34.1	45
9	15396.3	-49.30	6.7	13.85	Horizontal	-44.3	-13.00	31.3	270
10	17107.0	-47.80	6.8	14.25	Horizontal	-42.5	-13.00	29.5	180

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.  
2. The worst emission was found in the antenna is Horizontal position.

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

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3464.3	-43.70	2.6	10.75	Horizontal	-37.7	-13.00	24.7	135
3	5197.5	-57.60	2.4	11.05	Horizontal	-51.1	-13.00	38.1	270
4	6930.0	-51.00	4.5	11.15	Horizontal	-46.5	-13.00	33.5	180
5	8662.5	-53.00	5.1	11.35	Horizontal	-48.9	-13.00	35.9	225
6	10395.0	-54.30	5.3	11.95	Horizontal	-49.8	-13.00	36.8	270
7	12127.5	-54.40	5.5	13.55	Horizontal	-48.5	-13.00	35.5	180
8	13860.0	-52.60	6.3	13.75	Horizontal	-47.3	-13.00	34.3	135
9	15592.5	-49.50	6.7	13.85	Horizontal	-44.5	-13.00	31.5	270
10	17325.0	-48.60	6.8	14.25	Horizontal	-43.3	-13.00	30.3	180

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.  
2. The worst emission was found in the antenna is Horizontal position.



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

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3507.8	-49.70	2.6	10.15	Horizontal	-44.3	-13.00	31.3	225
3	5261.6	-56.60	2.4	11.05	Horizontal	-50.1	-13.00	37.1	45
4	7017.2	-53.50	4.5	11.15	Horizontal	-49.0	-13.00	36.0	270
5	8771.5	-53.00	5.1	11.35	Horizontal	-48.9	-13.00	35.9	180
6	10525.8	-53.70	5.3	11.95	Horizontal	-49.2	-13.00	36.2	135
7	12280.1	-53.80	5.5	13.55	Horizontal	-47.9	-13.00	34.9	270
8	14034.4	-52.10	6.3	13.75	Horizontal	-46.8	-13.00	33.8	180
9	15788.7	-48.90	6.7	13.85	Horizontal	-43.9	-13.00	30.9	225
10	17543.0	-48.20	6.8	14.25	Horizontal	-42.9	-13.00	29.9	45

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.  
2. The worst emission was found in the antenna is Horizontal position.

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

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3423.0	-47.70	2.6	10.15	Horizontal	-42.3	-13.00	29.3	90
3	5134.5	-57.40	2.4	11.35	Horizontal	-50.6	-13.00	37.6	270
4	6846.0	-53.40	4.5	10.85	Horizontal	-49.2	-13.00	36.2	180
5	8557.5	-52.70	5.1	11.35	Horizontal	-48.6	-13.00	35.6	135
6	10269.0	-53.50	5.3	11.95	Horizontal	-49.0	-13.00	36.0	270
7	11980.5	-53.80	5.5	13.55	Horizontal	-47.9	-13.00	34.9	180
8	13692.0	-52.50	6.3	13.75	Horizontal	-47.2	-13.00	34.2	225
9	15403.5	-49.10	6.7	13.85	Horizontal	-44.1	-13.00	31.1	45
10	17115.0	-48.10	6.8	14.25	Horizontal	-42.8	-13.00	29.8	90

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.  
2. The worst emission was found in the antenna is Horizontal position.

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

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.0	-43.30	2.6	10.75	Horizontal	-37.3	-13.00	24.3	180
3	5197.5	-52.60	2.4	11.05	Horizontal	-46.1	-13.00	33.1	270
4	6930.0	-49.30	4.5	11.15	Horizontal	-44.8	-13.00	31.8	45
5	8662.5	-52.80	5.1	11.35	Horizontal	-48.7	-13.00	35.7	90
6	10395.0	-54.10	5.3	11.95	Horizontal	-49.6	-13.00	36.6	135
7	12127.5	-53.80	5.5	13.55	Horizontal	-47.9	-13.00	34.9	225
8	13860.0	-52.10	6.3	13.75	Horizontal	-46.8	-13.00	33.8	180
9	15592.5	-49.40	6.7	13.85	Horizontal	-44.4	-13.00	31.4	270
10	17325.0	-47.70	6.8	14.25	Horizontal	-42.4	-13.00	29.4	45

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.  
2. The worst emission was found in the antenna is Horizontal position.

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

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3504.8	-49.30	2.6	10.15	Horizontal	-43.9	-13.00	30.9	270
3	5256.8	-54.20	2.4	11.05	Horizontal	-47.7	-13.00	34.7	180
4	7014.0	-53.60	4.5	11.15	Horizontal	-49.1	-13.00	36.1	225
5	8767.5	-52.20	5.1	11.35	Horizontal	-48.1	-13.00	35.1	45
6	10521.0	-54.10	5.3	11.95	Horizontal	-49.6	-13.00	36.6	90
7	12274.5	-53.60	5.5	13.55	Horizontal	-47.7	-13.00	34.7	180
8	14028.0	-52.30	6.3	13.75	Horizontal	-47.0	-13.00	34.0	270
9	15781.5	-48.60	6.7	13.85	Horizontal	-43.6	-13.00	30.6	135
10	17535.0	-48.40	6.8	14.25	Horizontal	-43.1	-13.00	30.1	180

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.  
2. The worst emission was found in the antenna is Horizontal position.

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

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3425.0	-43.70	2.6	10.15	Horizontal	-38.3	-13.00	25.3	225
3	5131.1	-60.70	2.4	11.35	Horizontal	-53.9	-13.00	40.9	45
4	6850.0	-53.10	4.5	10.85	Horizontal	-48.9	-13.00	35.9	90
5	8562.5	-52.30	5.1	11.35	Horizontal	-48.2	-13.00	35.2	180
6	10275.0	-53.30	5.3	11.95	Horizontal	-48.8	-13.00	35.8	270
7	11987.5	-54.30	5.5	13.55	Horizontal	-48.4	-13.00	35.4	180
8	13700.0	-52.30	6.3	13.75	Horizontal	-47.0	-13.00	34.0	225
9	15412.5	-49.10	6.7	13.85	Horizontal	-44.1	-13.00	31.1	45
10	17125.0	-48.00	6.8	14.25	Horizontal	-42.7	-13.00	29.7	90

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.  
2. The worst emission was found in the antenna is Horizontal position.

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

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3460.5	-40.60	2.6	10.75	Horizontal	-34.6	-13.00	21.6	180
3	5191.5	-55.10	2.4	11.05	Horizontal	-48.6	-13.00	35.6	135
4	6930.0	-54.40	4.5	11.15	Horizontal	-49.9	-13.00	36.9	270
5	8662.5	-52.10	5.1	11.35	Horizontal	-48.0	-13.00	35.0	180
6	10395.0	-53.60	5.3	11.95	Horizontal	-49.1	-13.00	36.1	225
7	12127.5	-53.70	5.5	13.55	Horizontal	-47.8	-13.00	34.8	45
8	13860.0	-51.90	6.3	13.75	Horizontal	-46.6	-13.00	33.6	90
9	15592.5	-49.40	6.7	13.85	Horizontal	-44.4	-13.00	31.4	270
10	17325.0	-48.30	6.8	14.25	Horizontal	-43.0	-13.00	30.0	180

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.  
2. The worst emission was found in the antenna is Horizontal position.

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

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3500.6	-50.30	2.6	10.15	Horizontal	-44.9	-13.00	31.9	225
3	5250.8	-54.90	2.4	11.05	Horizontal	-48.4	-13.00	35.4	45
4	7010.0	-53.50	4.5	11.15	Horizontal	-49.0	-13.00	36.0	135
5	8762.5	-52.80	5.1	11.35	Horizontal	-48.7	-13.00	35.7	180
6	10515.0	-53.60	5.3	11.95	Horizontal	-49.1	-13.00	36.1	225
7	12267.5	-53.40	5.5	13.55	Horizontal	-47.5	-13.00	34.5	45
8	14020.0	-52.20	6.3	13.75	Horizontal	-46.9	-13.00	33.9	90
9	15772.5	-49.00	6.7	13.85	Horizontal	-44.0	-13.00	31.0	270
10	17525.0	-48.00	6.8	14.25	Horizontal	-42.7	-13.00	29.7	180

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.  
 2. The worst emission was found in the antenna is Horizontal position.

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

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3420.8	-45.30	2.6	10.15	Horizontal	-39.9	-13.00	26.9	225
3	5131.9	-60.70	2.4	11.35	Horizontal	-53.9	-13.00	40.9	45
4	6860.0	-53.10	4.5	10.85	Horizontal	-48.9	-13.00	35.9	90
5	8575.0	-52.10	5.1	11.35	Horizontal	-48.0	-13.00	35.0	180
6	10290.0	-53.60	5.3	11.95	Horizontal	-49.1	-13.00	36.1	270
7	12005.0	-53.40	5.5	13.55	Horizontal	-47.5	-13.00	34.5	135
8	13720.0	-52.00	6.3	13.75	Horizontal	-46.7	-13.00	33.7	180
9	15435.0	-49.20	6.7	13.85	Horizontal	-44.2	-13.00	31.2	225
10	17150.0	-47.80	6.8	14.25	Horizontal	-42.5	-13.00	29.5	45

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.  
 2. The worst emission was found in the antenna is Horizontal position.

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

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3456.0	-44.70	2.6	10.75	Horizontal	-38.7	-13.00	25.7	90
3	5184.4	-54.40	2.4	11.05	Horizontal	-47.9	-13.00	34.9	180
4	6930.0	-52.00	4.5	11.15	Horizontal	-47.5	-13.00	34.5	270
5	8662.5	-52.90	5.1	11.35	Horizontal	-48.8	-13.00	35.8	180
6	10395.0	-53.50	5.3	11.95	Horizontal	-49.0	-13.00	36.0	225
7	12127.5	-54.30	5.5	13.55	Horizontal	-48.4	-13.00	35.4	45
8	13860.0	-52.10	6.3	13.75	Horizontal	-46.8	-13.00	33.8	90
9	15592.5	-48.80	6.7	13.85	Horizontal	-43.8	-13.00	30.8	180
10	17325.0	-47.90	6.8	14.25	Horizontal	-42.6	-13.00	29.6	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 Horizontal position.

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

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3490.9	-45.90	2.6	10.15	Horizontal	-40.5	-13.00	27.5	270
3	5236.9	-55.20	2.4	11.05	Horizontal	-48.7	-13.00	35.7	180
4	7000.0	-54.10	4.5	11.15	Horizontal	-49.6	-13.00	36.6	225
5	8750.0	-52.10	5.1	11.35	Horizontal	-48.0	-13.00	35.0	45
6	10500.0	-53.90	5.3	11.95	Horizontal	-49.4	-13.00	36.4	90
7	12250.0	-54.10	5.5	13.55	Horizontal	-48.2	-13.00	35.2	180
8	14000.0	-51.80	6.3	13.75	Horizontal	-46.5	-13.00	33.5	270
9	15750.0	-48.70	6.7	13.85	Horizontal	-43.7	-13.00	30.7	45
10	17500.0	-48.40	6.8	14.25	Horizontal	-43.1	-13.00	30.1	135

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.  
2. The worst emission was found in the antenna is Horizontal position.

**LTE Band 4 QPSK 15MHz CH Low, RB 1**

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3448.1	-48.40	2.6	10.15	Horizontal	-43.0	-13.00	30.0	45
3	5132.6	-60.20	2.4	11.35	Horizontal	-53.4	-13.00	40.4	90
4	6870.0	-54.00	4.5	10.85	Horizontal	-49.8	-13.00	36.8	90
5	8587.5	-52.30	5.1	11.35	Horizontal	-48.2	-13.00	35.2	45
6	10305.0	-53.50	5.3	11.95	Horizontal	-49.0	-13.00	36.0	135
7	12022.5	-53.90	5.5	13.55	Horizontal	-48.0	-13.00	35.0	225
8	13740.0	-51.60	6.3	13.75	Horizontal	-46.3	-13.00	33.3	45
9	15457.5	-49.30	6.7	13.85	Horizontal	-44.3	-13.00	31.3	90
10	17175.0	-47.60	6.8	14.25	Horizontal	-42.3	-13.00	29.3	135

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.  
 2. The worst emission was found in the antenna is Horizontal position.

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

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3478.1	-44.10	2.6	10.75	Horizontal	-38.1	-13.00	25.1	135
3	5217.8	-48.90	2.4	11.05	Horizontal	-42.4	-13.00	29.4	45
4	6930.0	-51.20	4.5	11.15	Horizontal	-46.7	-13.00	33.7	90
5	8662.5	-52.40	5.1	11.35	Horizontal	-48.3	-13.00	35.3	180
6	10395.0	-53.90	5.3	11.95	Horizontal	-49.4	-13.00	36.4	270
7	12127.5	-53.50	5.5	13.55	Horizontal	-47.6	-13.00	34.6	225
8	13860.0	-52.30	6.3	13.75	Horizontal	-47.0	-13.00	34.0	135
9	15592.5	-49.20	6.7	13.85	Horizontal	-44.2	-13.00	31.2	225
10	17325.0	-48.10	6.8	14.25	Horizontal	-42.8	-13.00	29.8	45

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.  
 2. The worst emission was found in the antenna is Horizontal position.



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

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3508.1	-51.70	2.6	10.15	Horizontal	-46.3	-13.00	33.3	90
3	5262.8	-58.80	2.4	11.05	Horizontal	-52.3	-13.00	39.3	135
4	6990.0	-53.10	4.5	11.15	Horizontal	-48.6	-13.00	35.6	225
5	8737.5	-52.20	5.1	11.35	Horizontal	-48.1	-13.00	35.1	45
6	10485.0	-53.80	5.3	11.95	Horizontal	-49.3	-13.00	36.3	90
7	12232.5	-54.30	5.5	13.55	Horizontal	-48.4	-13.00	35.4	135
8	13980.0	-52.50	6.3	13.75	Horizontal	-47.2	-13.00	34.2	135
9	15727.5	-48.90	6.7	13.85	Horizontal	-43.9	-13.00	30.9	90
10	17475.0	-48.30	6.8	14.25	Horizontal	-43.0	-13.00	30.0	225

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.  
2. The worst emission was found in the antenna is Horizontal position.

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

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3421.9	-42.60	2.6	10.15	Horizontal	-37.2	-13.00	24.2	135
3	5133.0	-59.20	2.4	11.35	Horizontal	-52.4	-13.00	39.4	90
4	6880.0	-53.30	4.5	10.85	Horizontal	-49.1	-13.00	36.1	45
5	8600.0	-52.60	5.1	11.35	Horizontal	-48.5	-13.00	35.5	90
6	10320.0	-53.60	5.3	11.95	Horizontal	-49.1	-13.00	36.1	90
7	12040.0	-53.70	5.5	13.55	Horizontal	-47.8	-13.00	34.8	135
8	13760.0	-51.90	6.3	13.75	Horizontal	-46.6	-13.00	33.6	225
9	15480.0	-49.30	6.7	13.85	Horizontal	-44.3	-13.00	31.3	135
10	17200.0	-48.50	6.8	14.25	Horizontal	-43.2	-13.00	30.2	90

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.  
2. The worst emission was found in the antenna is Horizontal position.

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

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3447.0	-40.90	2.6	10.75	Horizontal	-34.9	-13.00	21.9	90
3	5170.5	-53.70	2.4	11.05	Horizontal	-47.2	-13.00	34.2	45
4	6930.0	-53.70	4.5	11.15	Horizontal	-49.2	-13.00	36.2	45
5	8662.5	-53.00	5.1	11.35	Horizontal	-48.9	-13.00	35.9	180
6	10395.0	-53.70	5.3	11.95	Horizontal	-49.2	-13.00	36.2	270
7	12127.5	-54.40	5.5	13.55	Horizontal	-48.5	-13.00	35.5	225
8	13860.0	-51.70	6.3	13.75	Horizontal	-46.4	-13.00	33.4	135
9	15592.5	-48.80	6.7	13.85	Horizontal	-43.8	-13.00	30.8	180
10	17325.0	-47.70	6.8	14.25	Horizontal	-42.4	-13.00	29.4	225

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.  
2. The worst emission was found in the antenna is Horizontal position.

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

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3472.1	-45.40	2.6	10.15	Horizontal	-40.0	-13.00	27.0	45
3	5208.4	-56.80	2.4	11.05	Horizontal	-50.3	-13.00	37.3	225
4	6980.0	-54.20	4.5	11.15	Horizontal	-49.7	-13.00	36.7	135
5	8725.0	-52.70	5.1	11.35	Horizontal	-48.6	-13.00	35.6	90
6	10470.0	-54.20	5.3	11.95	Horizontal	-49.7	-13.00	36.7	45
7	12215.0	-53.80	5.5	13.55	Horizontal	-47.9	-13.00	34.9	90
8	13960.0	-51.60	6.3	13.75	Horizontal	-46.3	-13.00	33.3	45
9	15705.0	-49.50	6.7	13.85	Horizontal	-44.5	-13.00	31.5	135
10	17450.0	-48.50	6.8	14.25	Horizontal	-43.2	-13.00	30.2	90

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.  
2. The worst emission was found in the antenna is Horizontal position.



**LTE Band 13 QPSK 5MHz CH-Low, RB 1**

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1559.0	-61.25	2.00	10.15	Horizontal	-53.1	-40.00	13.1	270
3	2338.5	-59.95	2.50	11.35	Horizontal	-51.1	-13.00	38.1	135
4	3118.0	-63.45	4.20	10.85	Horizontal	-56.8	-13.00	43.8	135
5	3897.5	-60.95	5.20	11.35	Horizontal	-54.8	-13.00	41.8	270
6	4677.0	-60.95	5.50	11.95	Horizontal	-54.5	-13.00	41.5	315
7	5456.5	-60.15	5.70	13.55	Horizontal	-52.3	-13.00	39.3	315
8	6236.0	-58.85	6.30	13.75	Horizontal	-51.4	-13.00	38.4	270
9	7015.5	-58.25	6.80	13.85	Horizontal	-51.2	-13.00	38.2	45
10	7795.0	-58.85	6.90	14.25	Horizontal	-51.5	-13.00	38.5	45

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.  
 2. The worst emission was found in the antenna is Horizontal position.

**LTE Band 13 QPSK 5MHz CH-Middle, RB 1**

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1564.0	-56.85	2.00	10.75	Horizontal	-48.1	-40.00	8.1	315
3	2346.0	-59.44	2.51	11.05	Horizontal	-50.9	-13.00	37.9	135
4	3128.0	-63.65	4.20	11.15	Horizontal	-56.7	-13.00	43.7	315
5	3910.0	-60.05	5.20	11.15	Horizontal	-54.1	-13.00	41.1	90
6	4692.0	-59.95	5.50	11.95	Horizontal	-53.5	-13.00	40.5	225
7	5474.0	-60.05	5.70	13.55	Horizontal	-52.2	-13.00	39.2	180
8	6256.0	-57.85	6.30	13.75	Horizontal	-50.4	-13.00	37.4	45
9	7038.0	-58.25	6.80	13.85	Horizontal	-51.2	-13.00	38.2	135
10	7820.0	-57.85	6.90	14.25	Horizontal	-50.5	-13.00	37.5	315

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.  
 2. The worst emission was found in the antenna is Horizontal position.

**LTE Band 13 QPSK 5MHz CH-High, RB 1**

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1569.0	-57.45	2.00	10.15	Horizontal	-49.3	-40.00	9.3	315
3	2353.5	-59.04	2.51	11.05	Horizontal	-50.5	-13.00	37.5	315
4	3138.0	-63.65	4.20	11.15	Horizontal	-56.7	-13.00	43.7	270
5	3922.5	-60.45	5.20	11.15	Horizontal	-54.5	-13.00	41.5	135
6	4707.0	-60.85	5.50	11.95	Horizontal	-54.4	-13.00	41.4	270
7	5491.5	-59.55	5.70	13.55	Horizontal	-51.7	-13.00	38.7	315
8	6276.0	-58.85	6.30	13.75	Horizontal	-51.4	-13.00	38.4	225
9	7060.5	-58.05	6.80	13.85	Horizontal	-51.0	-13.00	38.0	315
10	7845.0	-57.95	6.90	14.25	Horizontal	-50.6	-13.00	37.6	180

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.  
 2. The worst emission was found in the antenna is Horizontal position.

**LTE Band 13 QPSK 10MHz CH-Low, RB 1**

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1564.0	-57.45	2.00	10.15	Horizontal	-49.3	-40.00	9.3	270
3	2346.0	-59.74	2.51	11.35	Horizontal	-50.9	-13.00	37.9	45
4	3128.0	-62.65	4.20	10.85	Horizontal	-56.0	-13.00	43.0	45
5	3910.0	-59.95	5.20	11.35	Horizontal	-53.8	-13.00	40.8	225
6	4692.0	-60.05	5.50	11.95	Horizontal	-53.6	-13.00	40.6	180
7	5474.0	-60.05	5.70	13.55	Horizontal	-52.2	-13.00	39.2	45
8	6256.0	-58.75	6.30	13.75	Horizontal	-51.3	-13.00	38.3	90
9	7038.0	-57.75	6.80	13.85	Horizontal	-50.7	-13.00	37.7	315
10	7820.0	-57.85	6.90	14.25	Horizontal	-50.5	-13.00	37.5	270

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.  
 2. The worst emission was found in the antenna is Horizontal position.

**LTE Band 13 QPSK 10MHz CH-Middle, RB 1**

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1564.0	-60.35	2.00	10.75	Horizontal	-51.6	-40.00	11.6	90
3	2346.0	-59.04	2.51	11.05	Horizontal	-50.5	-13.00	37.5	225
4	3128.0	-63.05	4.20	11.15	Horizontal	-56.1	-13.00	43.1	270
5	3910.0	-60.15	5.20	11.15	Horizontal	-54.2	-13.00	41.2	45
6	4692.0	-60.25	5.50	11.95	Horizontal	-53.8	-13.00	40.8	225
7	5474.0	-59.65	5.70	13.55	Horizontal	-51.8	-13.00	38.8	315
8	6256.0	-58.65	6.30	13.75	Horizontal	-51.2	-13.00	38.2	90
9	7038.0	-57.75	6.80	13.85	Horizontal	-50.7	-13.00	37.7	225
10	7820.0	-58.65	6.90	14.25	Horizontal	-51.3	-13.00	38.3	180

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.  
2. The worst emission was found in the antenna is Horizontal position.

**LTE Band 13 QPSK 10MHz CH-High, RB 1**

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1564.0	-56.05	2.00	10.15	Horizontal	-47.9	-40.00	7.9	45
3	2346.0	-59.54	2.51	11.05	Horizontal	-51.0	-13.00	38.0	315
4	3128.0	-62.75	4.20	11.15	Horizontal	-55.8	-13.00	42.8	45
5	3910.0	-60.55	5.20	11.15	Horizontal	-54.6	-13.00	41.6	90
6	4692.0	-60.15	5.50	11.95	Horizontal	-53.7	-13.00	40.7	315
7	5474.0	-60.15	5.70	13.55	Horizontal	-52.3	-13.00	39.3	270
8	6256.0	-58.25	6.30	13.75	Horizontal	-50.8	-13.00	37.8	135
9	7038.0	-58.05	6.80	13.85	Horizontal	-51.0	-13.00	38.0	270
10	7820.0	-58.45	6.90	14.25	Horizontal	-51.1	-13.00	38.1	315

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.  
2. The worst emission was found in the antenna is Horizontal position.

## 6 Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Base Station Simulator	R&S	CMW500	113645	2017-05-14	2018-05-13
Power Splitter	Hua Xiang	SHX-GF2-2-13	10120101	2017-05-14	2018-05-13
Spectrum Analyzer	Agilent	N9010A	MY47191109	2017-05-14	2018-05-13
Signal Analyzer	R&S	FSV30	100815	2017-12-17	2018-12-16
Signal generator	R&S	SMB 100A	102594	2017-05-14	2018-05-13
EMI Test Receiver	R&S	ESCI	100948	2017-05-20	2018-05-19
Trilog Antenna	SCHWARZBECK	VUBL 9163	9163-201	2017-11-18	2020-11-17
Horn Antenna	R&S	HF907	100126	2014-12-06	2019-12-05
Horn Antenna	ETS-Lindgren	3160-09	00102643	2015-01-30	2020-01-29
Climatic Chamber	Re Ce	PT-30B	20101891	2015-07-18	2018-07-17
RF Cable	Agilent	SMA 15cm	0001	NA	NA
Preamplifier	R&S	SCU18	102327	2017-06-18	2018-06-17
Software	R&S	EMC32	V 8.52.0	NA	NA

## ANNEX A: EUT Appearance and Test Setup

### A.1 EUT Appearance

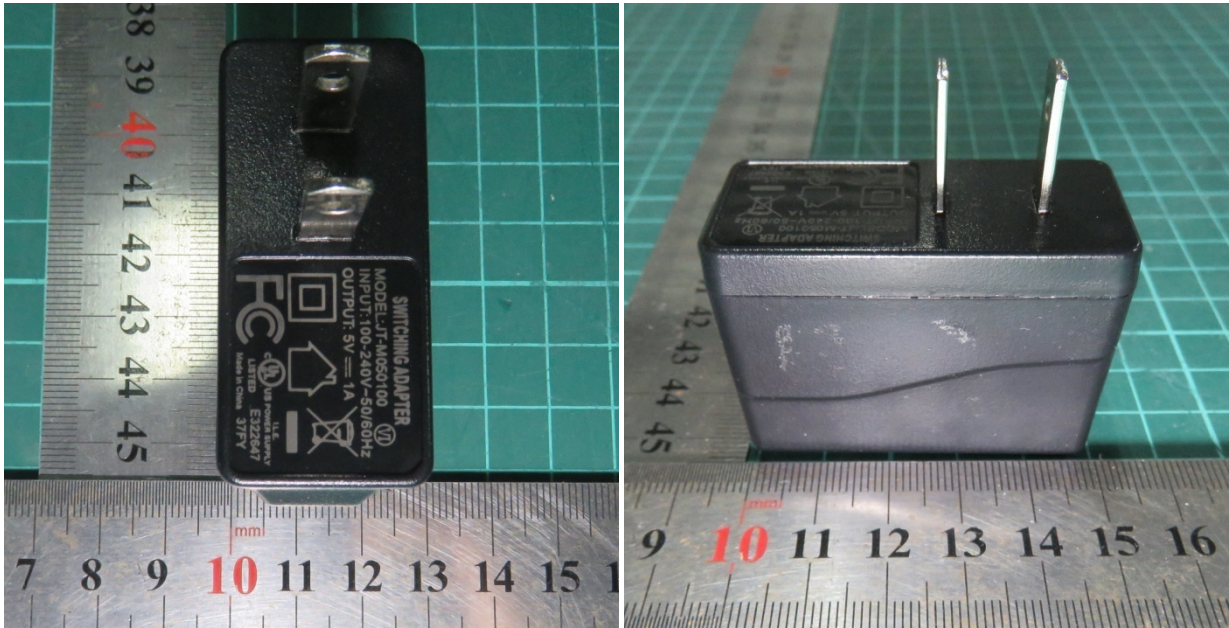


Front Side



Back Side

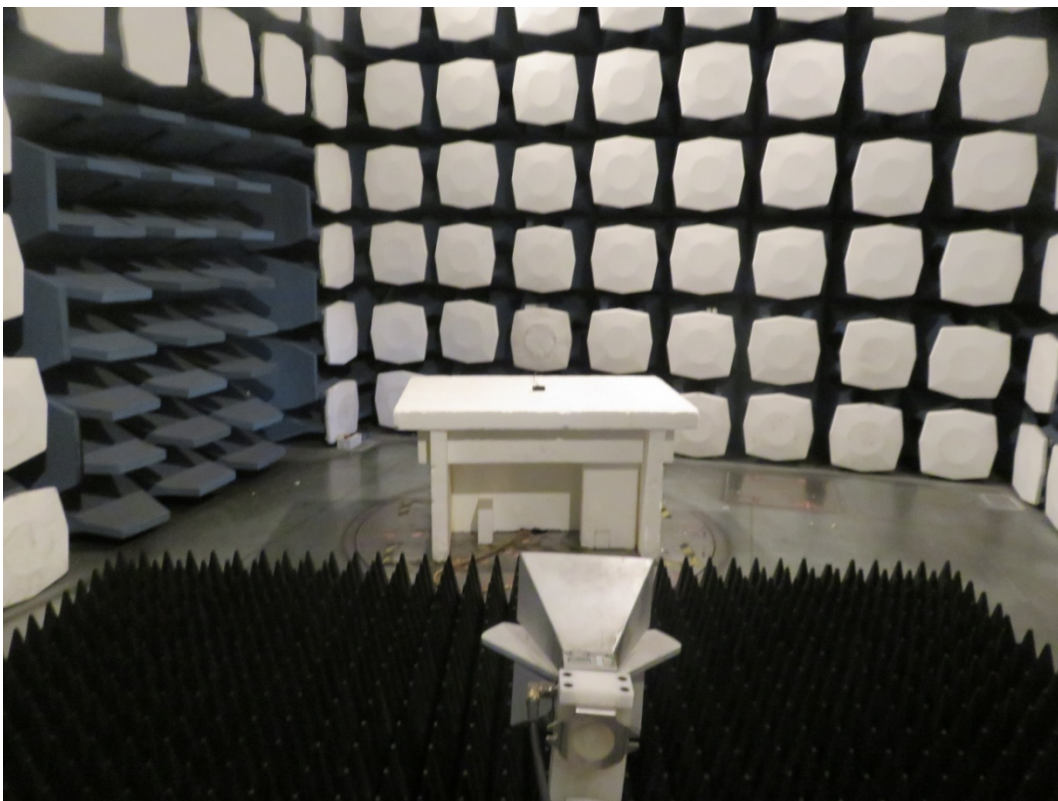
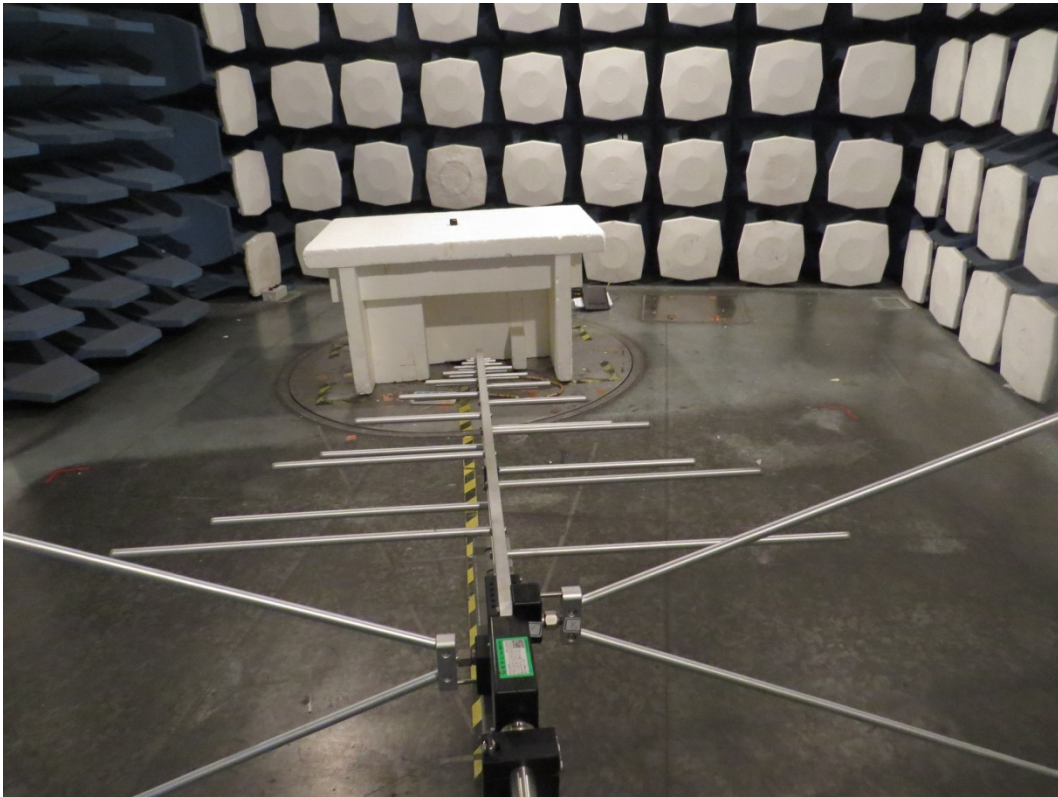
a: EUT



b: Adapter

Picture 1 EUT and Accessory

## A.2 Test Setup



Picture 2: Radiated Spurious Emissions Test setup