



5.8 Radiates Spurious Emission

Ambient condition

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

Method of Measurement

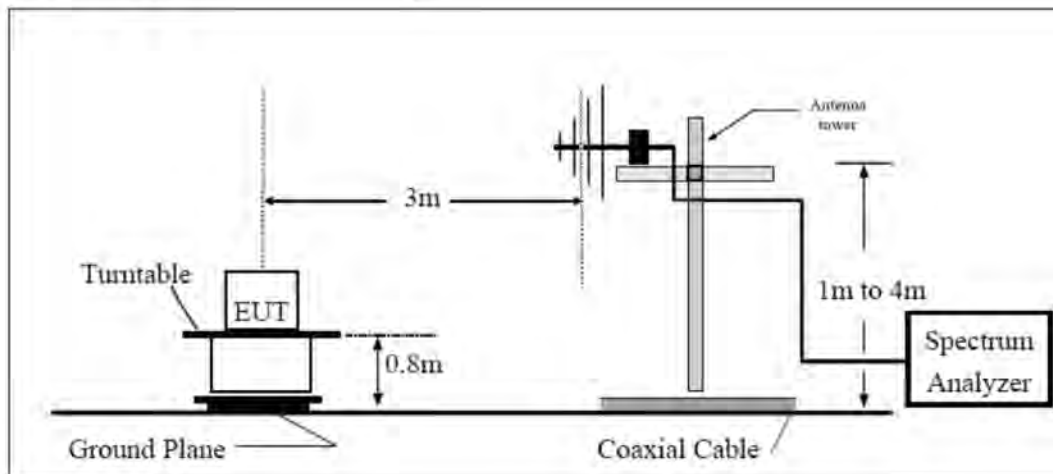
1. The testing follows FCC KDB 971168 D01 v03r01 Section 5.8 and ANSI/TIA-603-E (2016).
 2. The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. 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).
 3. A log-periodic antenna or double-ridged waveguide horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
 4. The EUT is then put into continuously transmitting mode at its maximum power level during the test. Set Test Receiver or Spectrum RBW=1MHz, VBW=3MHz, And the maximum value of the receiver should be recorded as (Pr).
 5. The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (PMea) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (PMea) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
 6. A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss (Pcl) ,the Substitution Antenna Gain (Ga) and the Amplifier Gain (PAg) should be recorded after test.
 7. The measurement results are obtained as described below:
$$\text{Power(EIRP)} = \text{PMea} - \text{PAg} - \text{Pcl} + \text{Ga}$$

The measurement results are amend as described below:

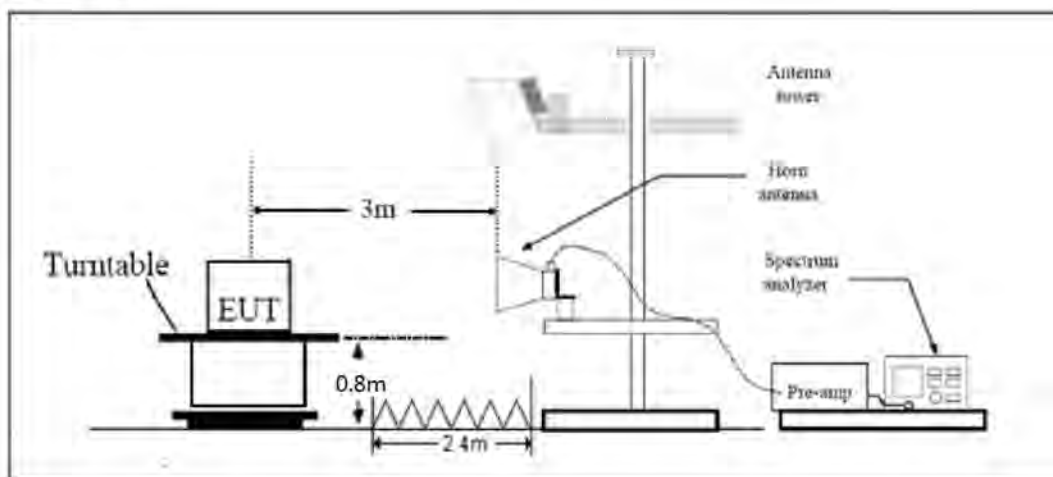
$$\text{Power(EIRP)} = \text{PMea} - \text{Pcl} + \text{Ga}$$
 8. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power. ERP can be calculated from EIRP by subtracting the gain of the dipole, $\text{ERP} = \text{EIRP} - 2.15\text{dBi}$.
- The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

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



immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

Rule Part 27.53(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(a)/(h)/(g) 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**

Sweep the whole frequency band through the range from 30MHz to the 10th harmonic of the carrier, the emissions below the noise floor will not be recorded in the report.

WCDMA Band IV CH-Low

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3424.8	-59.00	2.6	10.15	Horizontal	-51.45	-13.00	38.45	180
3	5137.2	-50.22	2.4	11.35	Horizontal	-41.27	-13.00	28.27	225
4	6849.6	-38.07	4.5	10.85	Horizontal	-31.72	-13.00	18.72	180
5	8562.0	-39.82	5.1	11.35	Horizontal	-33.57	-13.00	20.57	135
6	10274.4	-48.85	5.3	11.95	Horizontal	-42.20	-13.00	29.20	45
7	11986.8	-51.12	5.5	13.55	Horizontal	-43.07	-13.00	30.07	135
8	13699.2	-49.27	6.3	13.75	Horizontal	-41.82	-13.00	28.82	225
9	15411.6	-48.76	6.7	13.85	Horizontal	-41.61	-13.00	28.61	180
10	17124.0	-46.27	6.8	14.25	Horizontal	-38.82	-13.00	25.82	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.

WCDMA Band IV CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.2	-61.01	2.6	10.75	Horizontal	-52.86	-13.00	39.86	45
3	5197.8	-57.72	2.4	11.05	Horizontal	-49.07	-13.00	36.07	225
4	6930.4	-43.01	4.5	11.15	Horizontal	-36.36	-13.00	23.36	315
5	8663.0	-45.14	5.1	11.35	Horizontal	-38.89	-13.00	25.89	270
6	10395.6	-48.94	5.3	11.95	Horizontal	-42.29	-13.00	29.29	45
7	12128.2	-49.92	5.5	13.55	Horizontal	-41.87	-13.00	28.87	90
8	13860.8	-46.76	6.3	13.75	Horizontal	-39.31	-13.00	26.31	315
9	15593.4	-49.92	6.7	13.85	Horizontal	-42.77	-13.00	29.77	270
10	17326.0	-47.01	6.8	14.25	Horizontal	-39.56	-13.00	26.56	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.

WCDMA Band IV CH-High

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3505.2	-58.11	2.6	10.15	Horizontal	-50.56	-13.00	37.56	45
3	5254.1	-56.42	2.4	11.05	Horizontal	-47.77	-13.00	34.77	90
4	7010.4	-39.42	4.5	11.15	Horizontal	-32.77	-13.00	19.77	180
5	8763.0	-40.39	5.1	11.35	Horizontal	-34.14	-13.00	21.14	315
6	10515.6	-50.24	5.3	11.95	Horizontal	-43.59	-13.00	30.59	1353
7	12268.2	-50.07	5.5	13.55	Horizontal	-42.02	-13.00	29.02	270
8	14020.8	-47.83	6.3	13.75	Horizontal	-40.38	-13.00	27.38	180
9	15773.4	-49.47	6.7	13.85	Horizontal	-42.32	-13.00	29.32	135
10	17526.0	-47.96	6.8	14.25	Horizontal	-40.51	-13.00	27.51	90

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

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

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

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3421.4	-55.26	2.6	10.15	Horizontal	-47.71	-13.00	34.71	90
3	5131.1	-47.12	2.4	11.35	Horizontal	-38.17	25.17	25.17	315
4	6842.8	-35.49	4.5	10.85	Horizontal	-29.14	-13.00	16.14	135
5	8553.5	-37.87	5.1	11.35	Horizontal	-31.62	-13.00	18.62	45
6	10264.2	-50.11	5.3	11.95	Horizontal	-43.46	-13.00	30.46	225
7	11974.9	-51.42	5.5	13.55	Horizontal	-43.37	-13.00	30.37	90
8	13685.6	-47.79	6.3	13.75	Horizontal	-40.34	-13.00	27.34	225
9	15396.3	-49.68	6.7	13.85	Horizontal	-42.53	-13.00	29.53	180
10	17107.0	-46.11	6.8	14.25	Horizontal	-38.66	-13.00	25.66	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 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	-62.84	2.6	10.75	Horizontal	-54.69	-13.00	41.69	45
3	5197.5	-52.14	2.4	11.05	Horizontal	-43.49	-13.00	30.49	225
4	6930.0	-39.29	4.5	11.15	Horizontal	-32.64	-13.00	19.64	90
5	8662.5	-39.61	5.1	11.35	Horizontal	-33.36	-13.00	20.36	315
6	10395.0	-50.21	5.3	11.95	Horizontal	-43.56	-13.00	30.56	45
7	12127.5	-50.63	5.5	13.55	Horizontal	-42.58	-13.00	29.58	135
8	13860.0	-47.31	6.3	13.75	Horizontal	-39.86	-13.00	26.86	45
9	15592.5	-49.58	6.7	13.85	Horizontal	-42.43	-13.00	29.43	225
10	17325.0	-47.02	6.8	14.25	Horizontal	-39.57	-13.00	26.57	90

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

2. The worst emission was found in the antenna is 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	-58.54	2.6	10.15	Horizontal	-50.99	-13.00	37.99	45
3	5261.6	-55.14	2.4	11.05	Horizontal	-46.49	-13.00	33.49	225
4	7017.2	-42.06	4.5	11.15	Horizontal	-35.41	-13.00	22.41	90
5	8771.5	-41.30	5.1	11.35	Horizontal	-35.05	-13.00	22.05	225
6	10525.8	-49.24	5.3	11.95	Horizontal	-42.59	-13.00	29.59	180
7	12280.1	-50.41	5.5	13.55	Horizontal	-42.36	-13.00	29.36	135
8	14034.4	-47.84	6.3	13.75	Horizontal	-40.39	-13.00	27.39	45
9	15788.7	-49.14	6.7	13.85	Horizontal	-41.99	-13.00	28.99	225
10	17543.0	-45.57	6.8	14.25	Horizontal	-38.12	-13.00	25.12	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-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	-58.89	2.6	10.15	Horizontal	-51.34	-13.00	38.34	315
3	5131.1	-51.50	2.4	11.35	Horizontal	-42.55	-13.00	29.55	45
4	6850.0	-41.71	4.5	10.85	Horizontal	-35.36	-13.00	22.36	135
5	8562.5	-43.63	5.1	11.35	Horizontal	-37.38	-13.00	24.38	270
6	10275.0	-50.54	5.3	11.95	Horizontal	-43.89	-13.00	30.89	225
7	11987.5	-50.92	5.5	13.55	Horizontal	-42.87	-13.00	29.87	315
8	13700.0	-49.26	6.3	13.75	Horizontal	-41.81	-13.00	28.81	225
9	15412.5	-49.33	6.7	13.85	Horizontal	-42.18	-13.00	29.18	45
10	17125.0	-46.33	6.8	14.25	Horizontal	-38.88	-13.00	25.88	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-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	-63.56	2.6	10.75	Horizontal	-55.41	-13.00	42.41	135
3	5191.5	-57.39	2.4	11.05	Horizontal	-48.74	-13.00	35.74	135
4	6930.0	-45.92	4.5	11.15	Horizontal	-39.27	-13.00	26.27	225
5	8662.5	-46.25	5.1	11.35	Horizontal	-40.00	-13.00	27.00	90
6	10395.0	-49.81	5.3	11.95	Horizontal	-43.16	-13.00	30.16	270
7	12127.5	-50.79	5.5	13.55	Horizontal	-42.74	-13.00	29.74	45
8	13860.0	-47.15	6.3	13.75	Horizontal	-39.70	-13.00	26.70	315
9	15592.5	-50.72	6.7	13.85	Horizontal	-43.57	-13.00	30.57	90
10	17325.0	-46.55	6.8	14.25	Horizontal	-39.10	-13.00	26.10	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 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	-60.41	2.6	10.15	Horizontal	-52.86	-13.00	39.86	135
3	5251.1	-56.53	2.4	11.05	Horizontal	-47.88	-13.00	34.88	225
4	7010.0	-43.50	4.5	11.15	Horizontal	-36.85	-13.00	23.85	270
5	8762.5	-41.78	5.1	11.35	Horizontal	-35.53	-13.00	22.53	225
6	10515.0	-48.93	5.3	11.95	Horizontal	-42.28	-13.00	29.28	180
7	12267.5	-49.92	5.5	13.55	Horizontal	-41.87	-13.00	28.87	90
8	14020.0	-47.15	6.3	13.75	Horizontal	-39.70	-13.00	26.70	90
9	15772.5	-48.73	6.7	13.85	Horizontal	-41.58	-13.00	28.58	315
10	17525.0	-46.90	6.8	14.25	Horizontal	-39.45	-13.00	26.45	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 4 QPSK 20MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3440.0	-54.37	2.6	10.15	Horizontal	-46.82	-13.00	33.82	135
3	5133.4	-47.08	2.4	11.35	Horizontal	-38.13	-13.00	25.13	135
4	6880.0	-34.48	4.5	10.85	Horizontal	-28.13	-13.00	15.13	225
5	8600.0	-36.69	5.1	11.35	Horizontal	-30.44	-13.00	17.44	90
6	10320.0	-49.92	5.3	11.95	Horizontal	-43.27	-13.00	30.27	270
7	12040.0	-49.81	5.5	13.55	Horizontal	-41.76	-13.00	28.76	45
8	13760.0	-46.64	6.3	13.75	Horizontal	-39.19	-13.00	26.19	315
9	15480.0	-49.68	6.7	13.85	Horizontal	-42.53	-13.00	29.53	90
10	17200.0	-46.41	6.8	14.25	Horizontal	-38.96	-13.00	25.96	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 20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.0	-61.21	2.6	10.75	Horizontal	-53.06	-13.00	40.06	135
3	5170.9	-48.21	2.4	11.05	Horizontal	-39.56	-13.00	26.56	225
4	6930.0	-35.65	4.5	11.15	Horizontal	-29.00	-13.00	16.00	45
5	8662.5	-36.95	5.1	11.35	Horizontal	-30.70	-13.00	17.70	225
6	10395.0	-49.85	5.3	11.95	Horizontal	-43.20	-13.00	30.20	90
7	12127.5	-50.18	5.5	13.55	Horizontal	-42.13	-13.00	29.13	45
8	13860.0	-48.31	6.3	13.75	Horizontal	-40.86	-13.00	27.86	225
9	15592.5	-50.18	6.7	13.85	Horizontal	-43.03	-13.00	30.03	90
10	17325.0	-47.01	6.8	14.25	Horizontal	-39.56	-13.00	26.56	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	3490.0	-60.97	2.6	10.15	Horizontal	-53.42	-13.00	40.42	180
3	5208.4	-51.46	2.4	11.05	Horizontal	-42.81	-13.00	29.81	135
4	6980.0	-40.76	4.5	11.15	Horizontal	-34.11	-13.00	21.11	45
5	8725.0	-39.65	5.1	11.35	Horizontal	-33.40	-13.00	20.40	225
6	10470.0	-49.51	5.3	11.95	Horizontal	-42.86	-13.00	29.86	90
7	12215.0	-50.29	5.5	13.55	Horizontal	-42.24	-13.00	29.24	315
8	13960.0	-47.83	6.3	13.75	Horizontal	-40.38	-13.00	27.38	45
9	15705.0	-49.44	6.7	13.85	Horizontal	-42.29	-13.00	29.29	135
10	17450.0	-45.93	6.8	14.25	Horizontal	-38.48	-13.00	25.48	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 12 QPSK 1.4MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1399.4	-65.25	2.00	10.15	Horizontal	-59.25	-13.00	46.25	270
3	2099.1	-62.23	2.50	11.35	Horizontal	-55.53	-13.00	42.53	225
4	2798.8	-53.52	4.20	10.85	Horizontal	-49.02	-13.00	36.02	180
5	3498.5	-53.42	5.20	11.35	Horizontal	-49.42	36.42	36.42	90
6	4198.2	-58.44	5.50	11.95	Horizontal	-54.14	41.14	41.14	270
7	4897.9	-58.31	5.70	13.55	Horizontal	-52.61	39.61	39.61	45
8	5597.6	-56.61	6.30	13.75	Horizontal	-51.31	38.31	38.31	0
9	6297.3	-54.28	6.80	13.85	Horizontal	-49.38	36.38	36.38	90
10	6997.0	-52.99	6.90	14.25	Horizontal	-47.79	34.79	34.79	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 12 QPSK 1.4MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1415.0	-66.10	2.00	10.75	Horizontal	-59.50	-13.00	46.50	90
3	2122.5	-61.81	2.51	11.05	Horizontal	-55.42	-13.00	42.42	90
4	2830.0	-58.15	4.20	11.15	Horizontal	-53.35	-13.00	40.35	135
5	3537.5	-59.87	5.20	11.15	Horizontal	-56.07	-13.00	43.07	270
6	4245.0	-58.59	5.50	11.95	Horizontal	-54.29	-13.00	41.29	45
7	4952.5	-58.00	5.70	13.55	Horizontal	-52.30	-13.00	39.30	0
8	5660.0	-56.63	6.30	13.75	Horizontal	-51.33	-13.00	38.33	90
9	6367.5	-55.64	6.80	13.85	Horizontal	-50.74	-13.00	37.74	270
10	7075.0	-52.45	6.90	14.25	Horizontal	-47.25	-13.00	34.25	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 12 QPSK 1.4MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1430.6	-65.52	2.00	10.15	Horizontal	-59.52	-13.00	46.52	315
3	2145.9	-60.32	2.51	11.05	Horizontal	-53.93	-13.00	40.93	225
4	2861.2	-53.70	4.20	11.15	Horizontal	-48.90	-13.00	35.90	0
5	3576.5	-56.52	5.20	11.15	Horizontal	-52.72	-13.00	39.72	270
6	4291.8	-58.08	5.50	11.95	Horizontal	-53.78	-13.00	40.78	45
7	5007.1	-56.90	5.70	13.55	Horizontal	-51.20	-13.00	38.20	0
8	5722.4	-56.17	6.30	13.75	Horizontal	-50.87	-13.00	37.87	90
9	6437.7	-55.62	6.80	13.85	Horizontal	-50.72	-13.00	37.72	270
10	7153.0	-50.74	6.90	14.25	Horizontal	-45.54	-13.00	32.54	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 12 QPSK 5MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1403.0	-64.99	2.00	10.15	Horizontal	-58.99	-13.00	45.99	90
3	2104.5	-62.82	2.50	11.35	Horizontal	-56.12	-13.00	43.12	270
4	2806.0	-53.51	4.20	10.85	Horizontal	-49.01	-13.00	36.01	45
5	3507.5	-58.27	5.20	11.35	Horizontal	-54.27	-13.00	41.27	45
6	4209.0	-58.07	5.50	11.95	Horizontal	-53.77	-13.00	40.77	0
7	4910.5	-57.84	5.70	13.55	Horizontal	-52.14	-13.00	39.14	90
8	5612.0	-56.72	6.30	13.75	Horizontal	-51.42	-13.00	38.42	270
9	6313.5	-55.09	6.80	13.85	Horizontal	-50.19	-13.00	37.19	45
10	7015.0	-54.05	6.90	14.25	Horizontal	-48.85	-13.00	35.85	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 12 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1415.0	-65.75	2.00	10.75	Horizontal	-59.15	-13.00	46.15	0
3	2122.5	-62.53	2.51	11.05	Horizontal	-56.14	-13.00	43.14	90
4	2830.0	-56.50	4.20	11.15	Horizontal	-51.70	-13.00	38.70	270
5	3537.5	-60.27	5.20	11.15	Horizontal	-56.47	-13.00	43.47	270
6	4245.0	-58.58	5.50	11.95	Horizontal	-54.28	-13.00	41.28	45
7	4952.5	-57.75	5.70	13.55	Horizontal	-52.05	-13.00	39.05	0
8	5660.0	-57.12	6.30	13.75	Horizontal	-51.82	-13.00	38.82	90
9	6367.5	-55.19	6.80	13.85	Horizontal	-50.29	-13.00	37.29	90
10	7075.0	-52.24	6.90	14.25	Horizontal	-47.04	-13.00	34.04	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 12 QPSK 5MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1427.0	-65.17	2.00	10.15	Horizontal	-59.17	-13.00	46.17	45
3	2140.5	-61.25	2.51	11.05	Horizontal	-54.86	-13.00	41.86	90
4	2854.0	-52.62	4.20	11.15	Horizontal	-47.82	-13.00	34.82	135
5	3567.5	-58.59	5.20	11.15	Horizontal	-54.79	-13.00	41.79	45
6	4281.0	-58.20	5.50	11.95	Horizontal	-53.90	-13.00	40.90	0
7	4994.5	-58.08	5.70	13.55	Horizontal	-52.38	-13.00	39.38	90
8	5708.0	-56.32	6.30	13.75	Horizontal	-51.02	-13.00	38.02	270
9	6421.5	-55.81	6.80	13.85	Horizontal	-50.91	-13.00	37.91	270
10	7135.0	-50.51	6.90	14.25	Horizontal	-45.31	-13.00	32.31	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 12 QPSK 10MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1408.0	-64.90	2.00	10.15	Horizontal	-58.90	-13.00	45.90	135
3	2112.0	-62.81	2.51	11.35	Horizontal	-56.12	-13.00	43.12	315
4	2816.0	-53.29	4.20	10.85	Horizontal	-48.79	-13.00	35.79	225
5	3520.0	-51.56	5.20	11.35	Horizontal	-47.56	-13.00	34.56	0
6	4224.0	-58.85	5.50	11.95	Horizontal	-54.55	-13.00	41.55	90
7	4928.0	-59.00	5.70	13.55	Horizontal	-53.30	-13.00	40.30	270
8	5632.0	-58.27	6.30	13.75	Horizontal	-52.97	-13.00	39.97	45
9	6336.0	-56.00	6.80	13.85	Horizontal	-51.10	-13.00	38.10	90
10	7040.0	-53.10	6.90	14.25	Horizontal	-47.90	-13.00	34.90	270
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

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

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1415.0	-65.49	2.00	10.75	Horizontal	-58.89	-13.00	45.89	0
3	2122.5	-62.16	2.51	11.05	Horizontal	-55.77	-13.00	42.77	90
4	2830.0	-56.69	4.20	11.15	Horizontal	-51.89	-13.00	38.89	270
5	3537.5	-52.43	5.20	11.15	Horizontal	-48.63	-13.00	35.63	45
6	4245.0	-59.00	5.50	11.95	Horizontal	-54.70	-13.00	41.70	0
7	4952.5	-57.10	5.70	13.55	Horizontal	-51.40	-13.00	38.40	90
8	5660.0	-58.40	6.30	13.75	Horizontal	-53.10	-13.00	40.10	90
9	6367.5	-55.10	6.80	13.85	Horizontal	-50.20	-13.00	37.20	270
10	7075.0	-52.17	6.90	14.25	Horizontal	-46.97	-13.00	33.97	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 12 QPSK 10MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1422.0	-65.85	2.00	10.15	Horizontal	-59.85	-13.00	46.85	45
3	2133.0	-62.23	2.51	11.05	Horizontal	-55.84	-13.00	42.84	0
4	2844.0	-58.54	4.20	11.15	Horizontal	-53.74	-13.00	40.74	90
5	3555.0	-60.03	5.20	11.15	Horizontal	-56.23	-13.00	43.23	0
6	4266.0	-58.91	5.50	11.95	Horizontal	-54.61	-13.00	41.61	0
7	4977.0	-58.90	5.70	13.55	Horizontal	-53.20	-13.00	40.20	90
8	5688.0	-57.40	6.30	13.75	Horizontal	-52.10	-13.00	39.10	270
9	6399.0	-55.30	6.80	13.85	Horizontal	-50.40	-13.00	37.40	270
10	7110.0	-51.90	6.90	14.25	Horizontal	-46.70	-13.00	33.70	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-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	1555.8	-65.20	2.00	10.15	Horizontal	-59.20	-40.00	19.20	270
3	2338.5	-56.50	2.50	11.35	Horizontal	-49.80	-13.00	36.80	270
4	3118.0	-57.58	4.20	10.85	Horizontal	-53.08	-13.00	40.08	90
5	3897.5	-53.54	5.20	11.35	Horizontal	-49.54	-13.00	36.54	225
6	4677.0	-57.79	5.50	11.95	Horizontal	-53.49	-13.00	40.49	0
7	5456.5	-51.89	5.70	13.55	Horizontal	-46.19	-13.00	33.19	90
8	6236.0	-56.20	6.30	13.75	Horizontal	-50.90	-13.00	37.90	270
9	7015.5	-52.37	6.80	13.85	Horizontal	-47.47	-13.00	34.47	45
10	7795.0	-52.62	6.90	14.25	Horizontal	-47.42	-13.00	34.42	0

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

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



LTE Band 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	-65.77	2.00	10.75	Horizontal	-59.17	-40.00	19.17	45
3	2346.0	-58.59	2.51	11.05	Horizontal	-52.20	-13.00	39.20	0
4	3128.0	-59.60	4.20	11.15	Horizontal	-54.80	-13.00	41.80	90
5	3910.0	-54.75	5.20	11.15	Horizontal	-50.95	-13.00	37.95	270
6	4692.0	-56.70	5.50	11.95	Horizontal	-52.40	-13.00	39.40	45
7	5474.0	-51.10	5.70	13.55	Horizontal	-45.40	-13.00	32.40	315
8	6256.0	-55.40	6.30	13.75	Horizontal	-50.10	-13.00	37.10	45
9	7038.0	-51.10	6.80	13.85	Horizontal	-46.20	-13.00	33.20	315
10	7820.0	-52.86	6.90	14.25	Horizontal	-47.66	-13.00	34.66	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-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	-65.70	2.00	10.15	Horizontal	-59.70	-40.00	19.70	90
3	2353.5	-58.19	2.51	11.05	Horizontal	-51.80	-13.00	38.80	270
4	3138.0	-61.00	4.20	11.15	Horizontal	-56.20	-13.00	43.20	135
5	3922.5	-54.90	5.20	11.15	Horizontal	-51.10	-13.00	38.10	135
6	4707.0	-57.40	5.50	11.95	Horizontal	-53.10	-13.00	40.10	315
7	5491.5	-54.50	5.70	13.55	Horizontal	-48.80	-13.00	35.80	225
8	6276.0	-57.30	6.30	13.75	Horizontal	-52.00	-13.00	39.00	0
9	7060.5	-51.90	6.80	13.85	Horizontal	-47.00	-13.00	34.00	90
10	7845.0	41.60	6.90	14.25	Horizontal	-46.80	-13.00	33.80	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 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	1556.5	-65.30	2.00	10.15	Horizontal	-59.30	-40.00	19.30	45
3	2346.0	-56.09	2.51	11.35	Horizontal	-49.40	-13.00	36.40	90
4	3128.0	-58.80	4.20	10.85	Horizontal	-54.30	-13.00	41.30	225
5	3910.0	-54.44	5.20	11.35	Horizontal	-50.44	-13.00	37.44	0
6	4692.0	-57.40	5.50	11.95	Horizontal	-53.10	-13.00	40.10	90
7	5474.0	-52.00	5.70	13.55	Horizontal	-46.30	-13.00	33.30	270
8	6256.0	-56.70	6.30	13.75	Horizontal	-51.40	-13.00	38.40	45
9	7038.0	-52.20	6.80	13.85	Horizontal	-47.30	-13.00	34.30	315
10	7820.0	-52.70	6.90	14.25	Horizontal	-47.50	-13.00	34.50	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 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	1555.3	-66.03	2.00	10.75	Horizontal	-59.43	-40.00	19.43	270
3	2346.0	-56.12	2.51	11.05	Horizontal	-49.73	-13.00	36.73	45
4	3128.0	-58.46	4.20	11.15	Horizontal	-53.66	-13.00	40.66	315
5	3910.0	-54.23	5.20	11.15	Horizontal	-50.43	-13.00	37.43	90
6	4692.0	-56.91	5.50	11.95	Horizontal	-52.61	-13.00	39.61	135
7	5474.0	-51.20	5.70	13.55	Horizontal	-45.50	-13.00	32.50	135
8	6256.0	-56.10	6.30	13.75	Horizontal	-50.80	-13.00	37.80	315
9	7038.0	-52.30	6.80	13.85	Horizontal	-47.40	-13.00	34.40	225
10	7820.0	-52.27	6.90	14.25	Horizontal	-47.07	-13.00	34.07	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-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	-62.67	2.00	10.15	Horizontal	-56.67	-40.00	16.67	0
3	2346.0	-55.90	2.51	11.05	Horizontal	-49.51	-13.00	36.51	90
4	3128.0	-59.10	4.20	11.15	Horizontal	-54.30	-13.00	41.30	45
5	3910.0	-53.80	5.20	11.15	Horizontal	-50.00	-13.00	37.00	315
6	4692.0	-57.00	5.50	11.95	Horizontal	-52.70	-13.00	39.70	45
7	5474.0	-51.10	5.70	13.55	Horizontal	-45.40	-13.00	32.40	315
8	6256.0	-56.60	6.30	13.75	Horizontal	-51.30	-13.00	38.30	90
9	7038.0	-52.50	6.80	13.85	Horizontal	-47.60	-13.00	34.60	135
10	7820.0	-52.70	6.90	14.25	Horizontal	-47.50	-13.00	34.50	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 Horizontal position.

LTE Band 66 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	-52.95	2.6	10.15	Horizontal	-45.40	-13.00	32.40	315
3	5131.1	-48.25	2.4	11.35	Horizontal	-39.30	-13.00	26.30	90
4	6842.8	-35.70	4.5	10.85	Horizontal	-29.35	-13.00	16.35	135
5	8553.5	-36.85	5.1	11.35	Horizontal	-30.60	-13.00	17.60	135
6	10264.2	-49.65	5.3	11.95	Horizontal	-43.00	-13.00	30.00	315
7	11974.9	-50.05	5.5	13.55	Horizontal	-42.00	-13.00	29.00	225
8	13685.6	-48.85	6.3	13.75	Horizontal	-41.40	-13.00	28.40	0
9	15396.3	-50.15	6.7	13.85	Horizontal	-43.00	-13.00	30.00	90
10	17107	-44.45	6.8	14.25	Horizontal	-37.00	-13.00	24.00	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 66 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	-55.95	2.6	10.75	Horizontal	-47.80	-13.00	34.80	225
3	5197.5	-51.25	2.4	11.05	Horizontal	-42.60	-13.00	29.60	0
4	6930	-43.05	4.5	11.15	Horizontal	-36.40	-13.00	23.40	90
5	8662.5	-39.25	5.1	11.35	Horizontal	-33.00	-13.00	20.00	270
6	10395	-49.85	5.3	11.95	Horizontal	-43.20	-13.00	30.20	0
7	12127.5	-50.35	5.5	13.55	Horizontal	-42.30	-13.00	29.30	90
8	13860	-47.25	6.3	13.75	Horizontal	-39.80	-13.00	26.80	270
9	15592.5	-50.05	6.7	13.85	Horizontal	-42.90	-13.00	29.90	45
10	17325	-47.25	6.8	14.25	Horizontal	-39.80	-13.00	26.80	0

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

LTE Band 66 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	-52.65	2.6	10.15	Horizontal	-45.10	-13.00	32.10	90
3	5261.6	-52.93	2.4	11.05	Horizontal	-44.28	-13.00	31.28	270
4	7017.2	-33.37	4.5	11.15	Horizontal	-26.72	-13.00	13.72	45
5	8771.5	-34.05	5.1	11.35	Horizontal	-27.80	-13.00	14.80	315
6	10525.8	-50.55	5.3	11.95	Horizontal	-43.90	-13.00	30.90	45
7	12280.1	-50.05	5.5	13.55	Horizontal	-42.00	-13.00	29.00	315
8	14034.4	-47.95	6.3	13.75	Horizontal	-40.50	-13.00	27.50	90
9	15788.7	-50.75	6.7	13.85	Horizontal	-43.60	-13.00	30.60	135
10	17543	-48.05	6.8	14.25	Horizontal	-40.60	-13.00	27.60	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 66 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	-53.15	2.6	10.15	Horizontal	-45.60	-13.00	32.60	0
3	5131.1	-47.95	2.4	11.35	Horizontal	-39.00	-13.00	26.00	90
4	6850	-35.85	4.5	10.85	Horizontal	-29.50	-13.00	16.50	90
5	8562.5	-37.15	5.1	11.35	Horizontal	-30.90	-13.00	17.90	225
6	10275	-50.25	5.3	11.95	Horizontal	-43.60	-13.00	30.60	0
7	11987.5	-50.65	5.5	13.55	Horizontal	-42.60	-13.00	29.60	90
8	13700	-50.05	6.3	13.75	Horizontal	-42.60	-13.00	29.60	270
9	15412.5	-49.25	6.7	13.85	Horizontal	-42.10	-13.00	29.10	45
10	17125	-47.45	6.8	14.25	Horizontal	-40.00	-13.00	27.00	0

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

LTE Band 66 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	-56.95	2.6	10.75	Horizontal	-48.80	-13.00	35.80	270
3	5191.5	-51.05	2.4	11.05	Horizontal	-42.40	-13.00	29.40	45
4	6930	-41.55	4.5	11.15	Horizontal	-34.90	-13.00	21.90	315
5	8662.5	-38.65	5.1	11.35	Horizontal	-32.40	-13.00	19.40	45
6	10395	-49.25	5.3	11.95	Horizontal	-42.60	-13.00	29.60	315
7	12127.5	-50.55	5.5	13.55	Horizontal	-42.50	-13.00	29.50	90
8	13860	-47.85	6.3	13.75	Horizontal	-40.40	-13.00	27.40	135
9	15592.5	-50.75	6.7	13.85	Horizontal	-43.60	-13.00	30.60	135
10	17325	-46.35	6.8	14.25	Horizontal	-38.90	-13.00	25.90	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 66 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	-53.22	2.6	10.15	Horizontal	-45.67	-13.00	32.67	90
3	5250.8	-53.14	2.4	11.05	Horizontal	-44.49	-13.00	31.49	135
4	7010	-33.35	4.5	11.15	Horizontal	-26.70	-13.00	13.70	270
5	8762.5	-33.85	5.1	11.35	Horizontal	-27.60	-13.00	14.60	45
6	10515	-49.45	5.3	11.95	Horizontal	-42.80	-13.00	29.80	0
7	12267.5	-50.55	5.5	13.55	Horizontal	-42.50	-13.00	29.50	90
8	14020	-47.75	6.3	13.75	Horizontal	-40.30	-13.00	27.30	90
9	15772.5	-51.05	6.7	13.85	Horizontal	-43.90	-13.00	30.90	225
10	17525	-48.85	6.8	14.25	Horizontal	-41.40	-13.00	28.40	0
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 66 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	-53.75	2.6	10.15	Horizontal	-46.20	-13.00	33.20	315
3	5131.9	-49.35	2.4	11.35	Horizontal	-40.40	-13.00	27.40	90
4	6860	-36.05	4.5	10.85	Horizontal	-29.70	-13.00	16.70	135
5	8575	-37.65	5.1	11.35	Horizontal	-31.40	-13.00	18.40	135
6	10290	-50.15	5.3	11.95	Horizontal	-43.50	-13.00	30.50	45
7	12005	-50.65	5.5	13.55	Horizontal	-42.60	-13.00	29.60	315
8	13720	-48.45	6.3	13.75	Horizontal	-41.00	-13.00	28.00	90
9	15435	-49.55	6.7	13.85	Horizontal	-42.40	-13.00	29.40	135
10	17150	-46.65	6.8	14.25	Horizontal	-39.20	-13.00	26.20	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 66 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	-57.75	2.6	10.75	Horizontal	-49.60	-13.00	36.60	0
3	5184.4	-51.25	2.4	11.05	Horizontal	-42.60	-13.00	29.60	90
4	6930	-40.95	4.5	11.15	Horizontal	-34.30	-13.00	21.30	90
5	8662.5	-36.85	5.1	11.35	Horizontal	-30.60	-13.00	17.60	225
6	10395	-50.95	5.3	11.95	Horizontal	-44.30	-13.00	31.30	0
7	12127.5	-50.35	5.5	13.55	Horizontal	-42.30	-13.00	29.30	45
8	13860	-47.65	6.3	13.75	Horizontal	-40.20	-13.00	27.20	315
9	15592.5	-51.05	6.7	13.85	Horizontal	-43.90	-13.00	30.90	90
10	17325	-46.95	6.8	14.25	Horizontal	-39.50	-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 Horizontal position.

LTE Band 66 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	-53.45	2.6	10.15	Horizontal	-45.90	-13.00	32.90	135
3	5236.9	-52.35	2.4	11.05	Horizontal	-43.70	-13.00	30.70	270
4	7000	-34.25	4.5	11.15	Horizontal	-27.60	-13.00	14.60	45
5	8750	-33.65	5.1	11.35	Horizontal	-27.40	-13.00	14.40	0
6	10500	-49.75	5.3	11.95	Horizontal	-43.10	-13.00	30.10	90
7	12250	-50.55	5.5	13.55	Horizontal	-42.50	-13.00	29.50	90
8	14000	-48.55	6.3	13.75	Horizontal	-41.10	-13.00	28.10	225
9	15750	-49.75	6.7	13.85	Horizontal	-42.60	-13.00	29.60	0
10	17500	-47.75	6.8	14.25	Horizontal	-40.30	-13.00	27.30	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 66 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	-44.15	2.6	10.15	Horizontal	-36.60	-13.00	23.60	0
3	5133	-60.25	2.4	11.35	Horizontal	-51.30	-13.00	38.30	45
4	6880	-53.95	4.5	10.85	Horizontal	-47.60	-13.00	34.60	315
5	8600	-52.05	5.1	11.35	Horizontal	-45.80	-13.00	32.80	90
6	10320	-50.95	5.3	11.95	Horizontal	-44.30	-13.00	31.30	135
7	12040	-50.15	5.5	13.55	Horizontal	-42.10	-13.00	29.10	90
8	13760	-47.75	6.3	13.75	Horizontal	-40.30	-13.00	27.30	135
9	15480	-51.95	6.7	13.85	Horizontal	-44.80	-13.00	31.80	270
10	17200	-46.95	6.8	14.25	Horizontal	-39.50	-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 Horizontal position.

LTE Band 66 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	-52.85	2.6	10.75	Horizontal	-44.70	-13.00	31.70	45
3	5170.5	-60.35	2.4	11.05	Horizontal	-51.70	-13.00	38.70	315
4	6930	-54.45	4.5	11.15	Horizontal	-47.80	-13.00	34.80	90
5	8662.5	-53.15	5.1	11.35	Horizontal	-46.90	-13.00	33.90	135
6	10395	-50.85	5.3	11.95	Horizontal	-44.20	-13.00	31.20	135
7	12127.5	-50.15	5.5	13.55	Horizontal	-42.10	-13.00	29.10	45
8	13860	-47.55	6.3	13.75	Horizontal	-40.10	-13.00	27.10	315
9	15592.5	-51.35	6.7	13.85	Horizontal	-44.20	-13.00	31.20	90
10	17325	-46.65	6.8	14.25	Horizontal	-39.20	-13.00	26.20	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 66 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	-51.25	2.6	10.15	Horizontal	-43.70	-13.00	30.70	135
3	5208.4	-60.25	2.4	11.05	Horizontal	-51.60	-13.00	38.60	270
4	6980	-54.15	4.5	11.15	Horizontal	-47.50	-13.00	34.50	45
5	8725	-52.75	5.1	11.35	Horizontal	-46.50	-13.00	33.50	315
6	10470	-51.45	5.3	11.95	Horizontal	-44.80	-13.00	31.80	45
7	12215	-49.95	5.5	13.55	Horizontal	-41.90	-13.00	28.90	315
8	13960	-48.05	6.3	13.75	Horizontal	-40.60	-13.00	27.60	90
9	15705	-51.85	6.7	13.85	Horizontal	-44.70	-13.00	31.70	0
10	17450	-47.05	6.8	14.25	Horizontal	-39.60	-13.00	26.60	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 Horizontal position.									

LTE Band 71 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	1331.0	-53.66	2.00	10.15	Horizontal	-47.66	-13	34.66	225
3	1996.5	-64.36	2.50	11.35	Horizontal	-57.66	-13	44.66	0
4	2662.0	-59.72	4.20	10.85	Horizontal	-55.22	-13	42.22	90
5	3327.5	-61.95	5.20	11.35	Horizontal	-57.95	-13.00	44.95	90
6	3993	-59.30	5.50	11.95	Horizontal	-55.00	-13.00	42.00	135
7	4658.5	-59.65	5.70	13.55	Horizontal	-53.95	-13.00	40.95	90
8	5324	-59.80	6.30	13.75	Horizontal	-54.50	-13.00	41.50	135
9	5989.5	-56.70	6.80	13.85	Horizontal	-51.80	-13.00	38.80	270
10	6655	-54.70	6.90	14.25	Horizontal	-49.50	-13.00	36.50	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 Horizontal position.									

LTE Band 71 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	1361	-57.77	2.00	10.75	Horizontal	-51.17	-13	38.17	315
3	2041.5	-63.78	2.51	11.05	Horizontal	-57.39	-13	44.39	90
4	2722	-59.84	4.20	11.15	Horizontal	-55.04	-13	42.04	135
5	3402.5	-61.20	5.20	11.15	Horizontal	-57.40	-13.00	44.40	135
6	4083	-59.20	5.50	11.95	Horizontal	-54.90	-13.00	41.90	90
7	4763.5	-59.50	5.70	13.55	Horizontal	-53.80	-13.00	40.80	180
8	5444	-57.96	6.30	13.75	Horizontal	-52.66	-13.00	39.66	225
9	6124.5	-55.80	6.80	13.85	Horizontal	-50.90	-13.00	37.90	315
10	6805	-56.30	6.90	14.25	Horizontal	-51.10	-13.00	38.10	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 Horizontal position.									

LTE Band 71 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	1391	-63.36	2.00	10.15	Horizontal	-57.36	-13.00	44.36	270
3	2086.5	-63.89	2.51	11.05	Horizontal	-57.50	-13.00	44.50	0
4	2782	-60.10	4.20	11.15	Horizontal	-55.30	-13.00	42.30	90
5	3477.5	-60.64	5.20	11.15	Horizontal	-56.84	-13.00	43.84	135
6	4173	-58.00	5.50	11.95	Horizontal	-53.70	-13.00	40.70	90
7	4868.5	-58.07	5.70	13.55	Horizontal	-52.37	-13.00	39.37	135
8	5564	-58.07	6.30	13.75	Horizontal	-52.77	-13.00	39.77	270
9	6259.5	-56.00	6.80	13.85	Horizontal	-51.10	-13.00	38.10	45
10	6955	-53.62	6.90	14.25	Horizontal	-48.42	-13.00	35.42	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 71 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	1336	-53.56	2.00	10.15	Horizontal	-47.56	-13.00	34.56	90
3	2004	-64.08	2.51	11.35	Horizontal	-57.39	-13.00	44.39	225
4	2672	-58.88	4.20	10.85	Horizontal	-54.38	-13.00	41.38	0
5	3340	-62.40	5.20	11.35	Horizontal	-58.40	-13.00	45.40	45
6	4008	-58.60	5.50	11.95	Horizontal	-54.30	-13.00	41.30	135
7	4676	-59.50	5.70	13.55	Horizontal	-53.80	-13.00	40.80	270
8	5344	-58.90	6.30	13.75	Horizontal	-53.60	-13.00	40.60	45
9	6012	-55.70	6.80	13.85	Horizontal	-50.80	-13.00	37.80	0
10	6680	-54.40	6.90	14.25	Horizontal	-49.20	-13.00	36.20	90
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 71 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	1361	-56.90	2.00	10.75	Horizontal	-50.30	-13.00	37.30	45
3	2041.5	-63.79	2.51	11.05	Horizontal	-57.40	-13.00	44.40	315
4	2722	-56.78	4.20	11.15	Horizontal	-51.98	-13.00	38.98	90
5	3402.5	-60.90	5.20	11.15	Horizontal	-57.10	-13.00	44.10	90
6	4083	-59.60	5.50	11.95	Horizontal	-55.30	-13.00	42.30	225
7	4763.5	-59.00	5.70	13.55	Horizontal	-53.30	-13.00	40.30	0
8	5444	-57.80	6.30	13.75	Horizontal	-52.50	-13.00	39.50	315
9	6124.5	-56.00	6.80	13.85	Horizontal	-51.10	-13.00	38.10	90
10	6805	-56.20	6.90	14.25	Horizontal	-51.00	-13.00	38.00	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 71 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	1386	-63.90	2.00	10.15	Horizontal	-57.90	-13.00	44.90	135
3	2079	-63.59	2.51	11.05	Horizontal	-57.20	-13.00	44.20	135
4	2772	-59.67	4.20	11.15	Horizontal	-54.87	-13.00	41.87	270
5	3465	-61.10	5.20	11.15	Horizontal	-57.30	-13.00	44.30	90
6	4158	-59.50	5.50	11.95	Horizontal	-55.20	-13.00	42.20	135
7	4851	-59.30	5.70	13.55	Horizontal	-53.60	-13.00	40.60	135
8	5544	-58.40	6.30	13.75	Horizontal	-53.10	-13.00	40.10	180
9	6237	-55.40	6.80	13.85	Horizontal	-50.50	-13.00	37.50	270
10	6930	-54.10	6.90	14.25	Horizontal	-48.90	-13.00	35.90	135

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

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

LTE Band 71 QPSK 20MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1346	-53.50	2.00	10.15	Horizontal	-47.50	-13.00	34.50	45
3	2019	-64.19	2.51	11.35	Horizontal	-57.50	-13.00	44.50	0
4	2692	-58.60	4.20	10.85	Horizontal	-54.10	-13.00	41.10	90
5	3365	-61.70	5.20	11.35	Horizontal	-57.70	-13.00	44.70	45
6	4038	-59.50	5.50	11.95	Horizontal	-55.20	-13.00	42.20	270
7	4711	-59.66	5.70	13.55	Horizontal	-53.96	-13.00	40.96	180
8	5384	-59.07	6.30	13.75	Horizontal	-53.77	-13.00	40.77	270
9	6057	-56.40	6.80	13.85	Horizontal	-51.50	-13.00	38.50	135
10	6730	-54.89	6.90	14.25	Horizontal	-49.69	-13.00	36.69	90

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

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



LTE Band 71 QPSK 20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1366	-59.50	2.00	10.75	Horizontal	-52.90	-13.00	39.90	45
3	2049	-62.79	2.51	11.05	Horizontal	-56.40	-13.00	43.40	225
4	2732	-60.10	4.20	11.15	Horizontal	-55.30	-13.00	42.30	0
5	3415	-61.80	5.20	11.15	Horizontal	-58.00	-13.00	45.00	135
6	4098	-59.30	5.50	11.95	Horizontal	-55.00	-13.00	42.00	180
7	4781	-59.20	5.70	13.55	Horizontal	-53.50	-13.00	40.50	270
8	5464	-57.40	6.30	13.75	Horizontal	-52.10	-13.00	39.10	135
9	6147	-56.10	6.80	13.85	Horizontal	-51.20	-13.00	38.20	45
10	6830	-54.60	6.90	14.25	Horizontal	-49.40	-13.00	36.40	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 71 QPSK 20MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1376	-56.30	2.00	10.15	Horizontal	-50.30	-13.00	37.30	90
3	2064	-62.29	2.51	11.05	Horizontal	-55.90	-13.00	42.90	90
4	2752	-58.70	4.20	11.15	Horizontal	-53.90	-13.00	40.90	315
5	3440	-61.20	5.20	11.15	Horizontal	-57.40	-13.00	44.40	180
6	4128	-59.50	5.50	11.95	Horizontal	-55.20	-13.00	42.20	270
7	4816	-59.00	5.70	13.55	Horizontal	-53.30	-13.00	40.30	135
8	5504	-56.60	6.30	13.75	Horizontal	-51.30	-13.00	38.30	180
9	6192	-55.60	6.80	13.85	Horizontal	-50.70	-13.00	37.70	135
10	6880	-54.60	6.90	14.25	Horizontal	-49.40	-13.00	36.40	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.



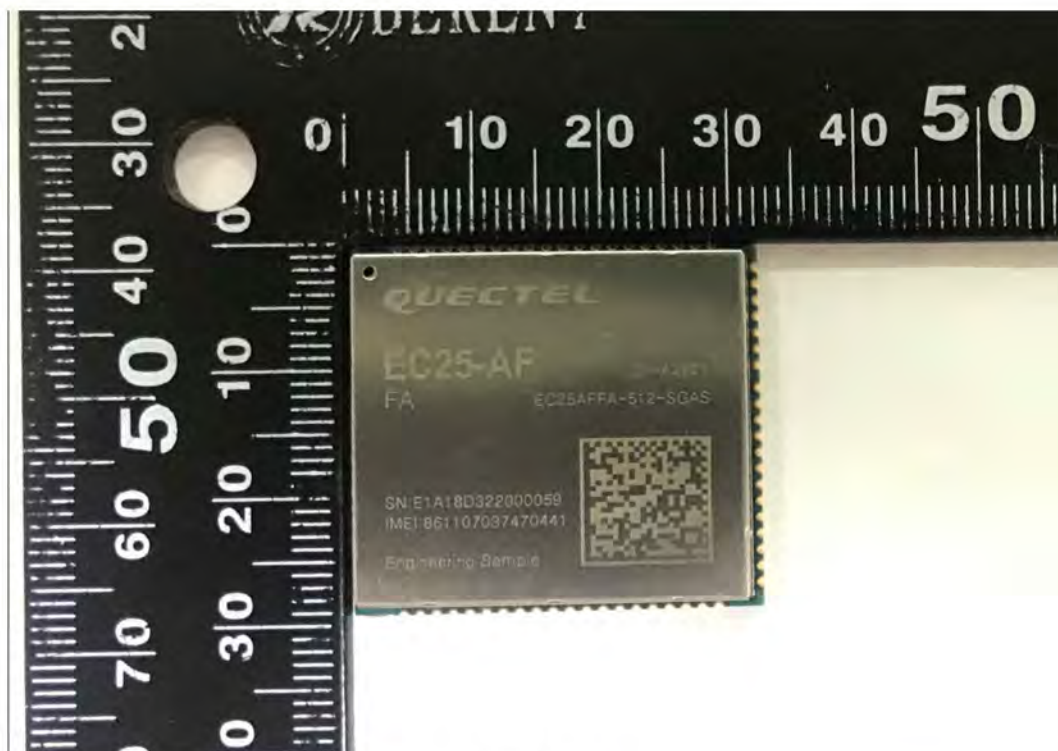
6 Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Base Station Simulator	R&S	CMW500	113645	2018-05-20	2019-05-19
Power Splitter	Hua Xiang	SHX-GF2-2-13	10120101	2018-05-20	2019-05-19
Spectrum Analyzer	Key sight	N9010A	MY50210259	2018-05-20	2019-05-19
Signal Analyzer	R&S	FSV30	100815	2017-12-17	2018-12-16
Signal generator	R&S	SMB 100A	102594	2018-05-20	2019-05-19
EMI Test Receiver	R&S	ESCI	100948	2018-05-20	2019-05-19
Loop Antenna	SCHWARZBECK	FMZB1519	1519-047	2014-12-06	2019-12-05
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	ESPEC	SU-242	93000506	2017-12-17	2020-12-16
RF Cable	Agilent	SMA 15cm	0001	NA	NA
Preamplifier	R&S	SCU18	102327	2018-05-20	2019-05-19
MOB COMMS DC SUPPLY	Keysight	66319D	MY43004105	2018-05-20	2019-05-19
Software	R&S	EMC32	V9.26.0	NA	NA

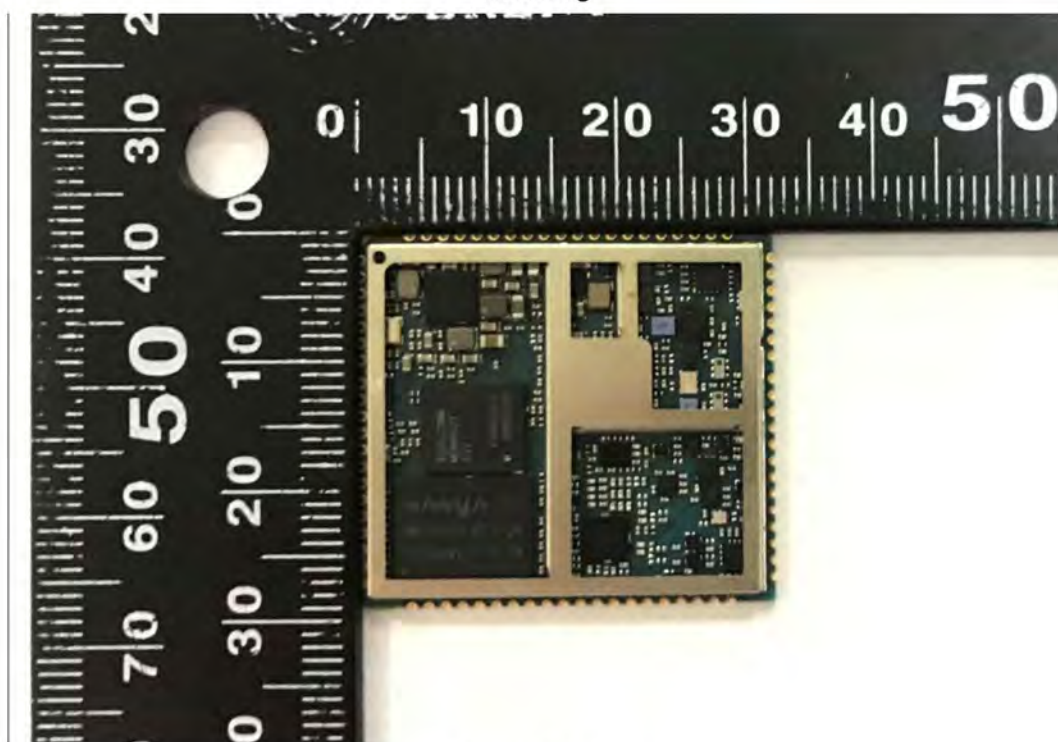
*****END OF REPORT *****

ANNEX A: EUT Appearance and Test Setup

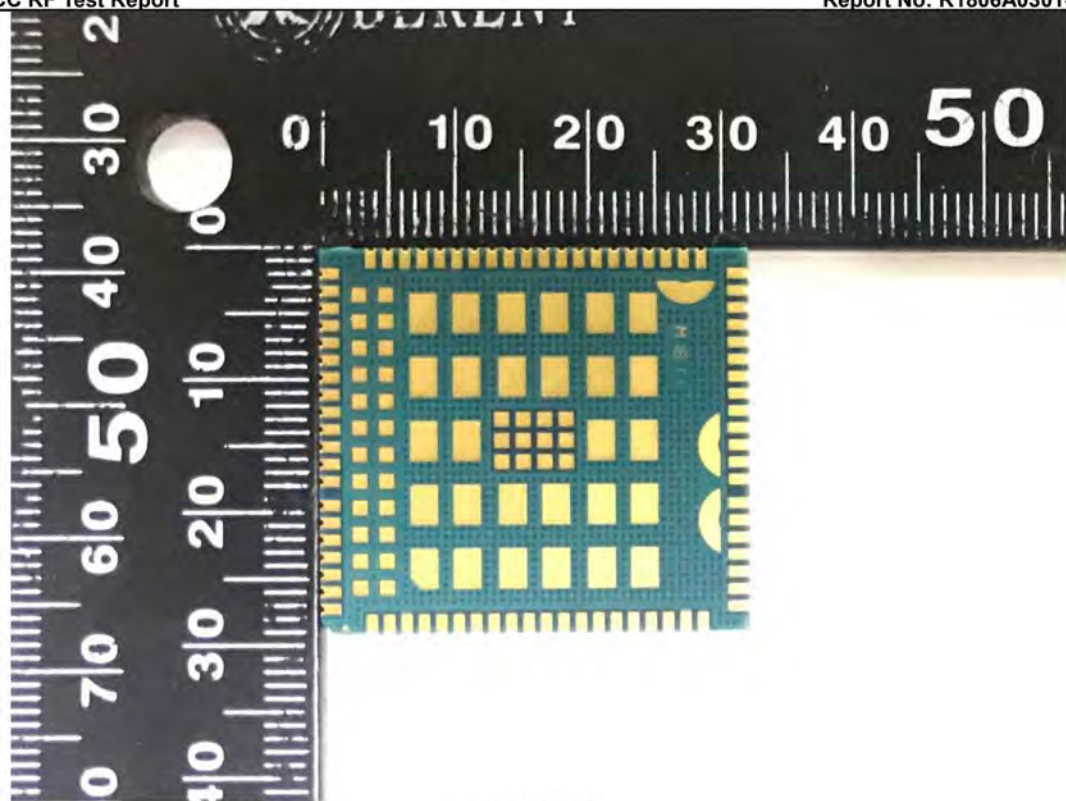
A.1 EUT Appearance



sheilding



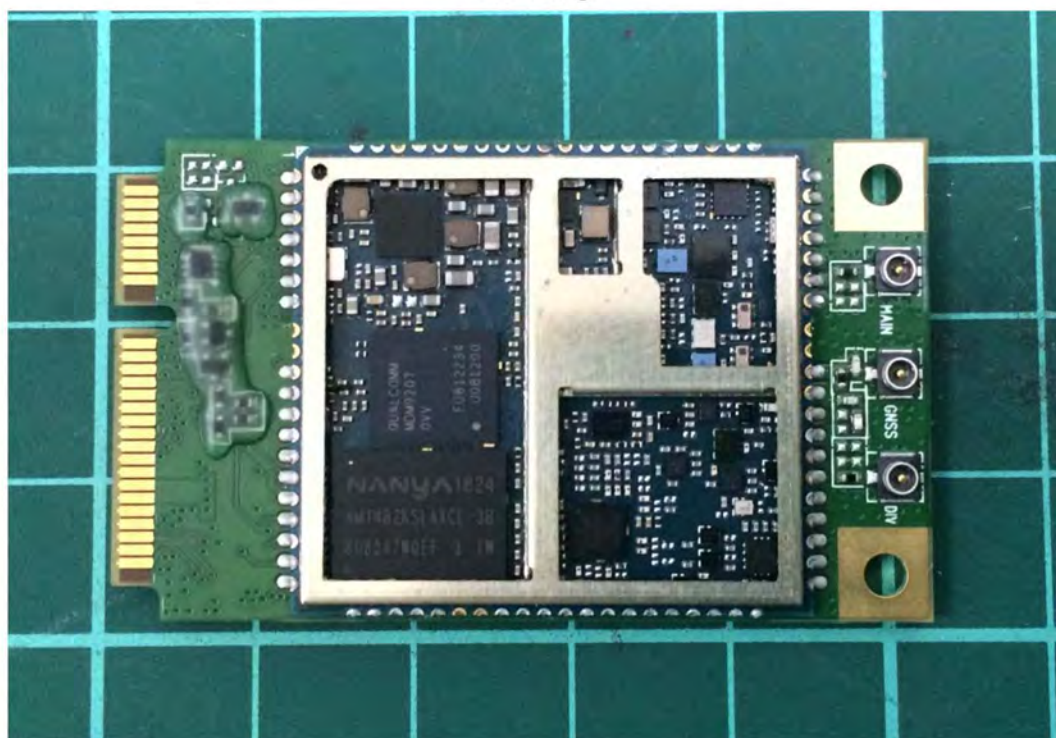
No sheilding
Front Side



Back Side
EC25-AF



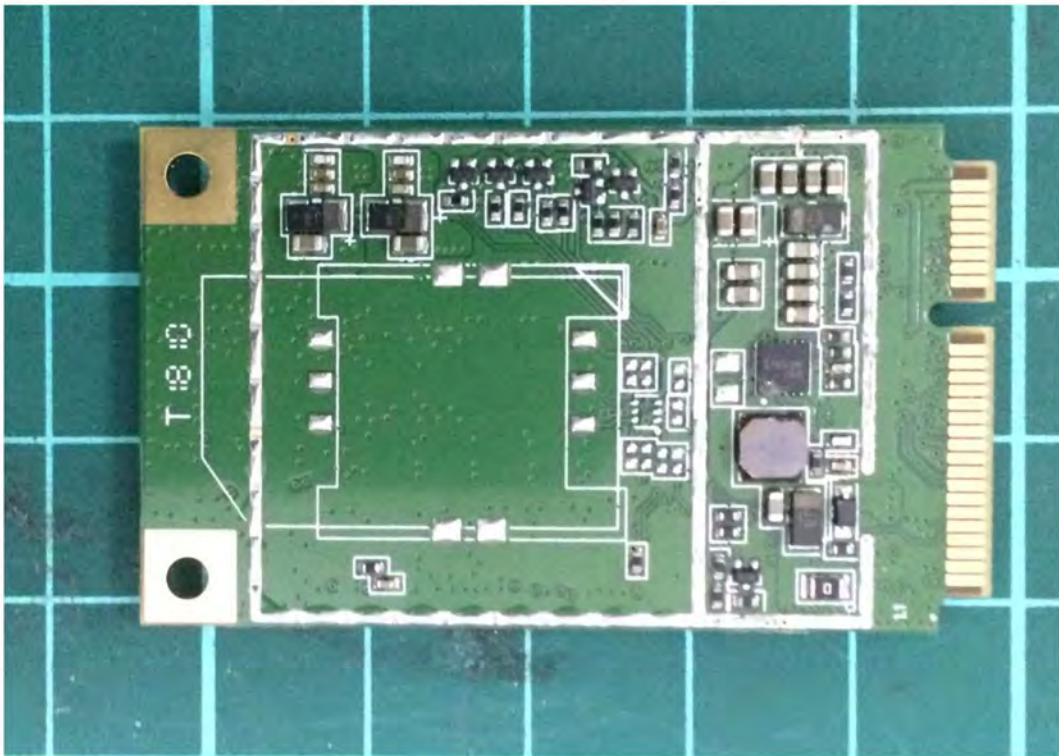
sheilding



No sheilding
Front Side



shielding



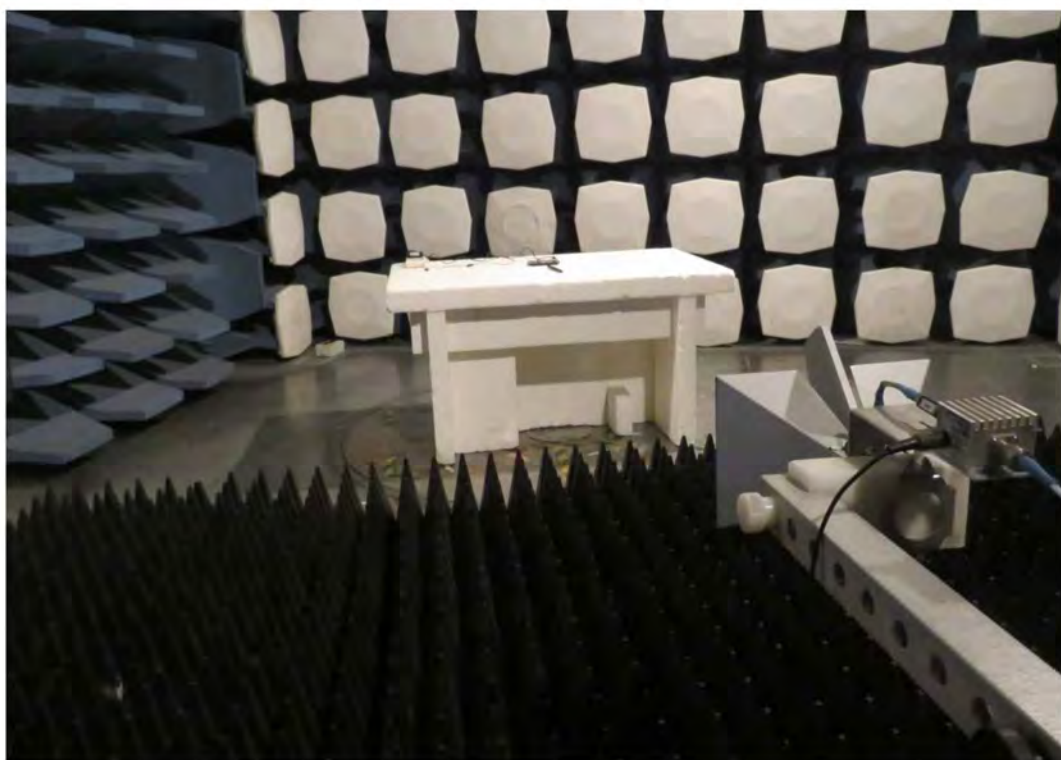
No shielding

Back Side

EC25-AF MINIPCI-E

Picture 1 EUT and Accessory

A.2 Test Setup



Picture 2: Radiated Spurious Emissions Test setup