



RF TEST REPORT

Applicant Shanghai Simcom Ltd.
FCC ID UDV-201710
Product LTE-FDD/HSPA MODULE
Brand SIMCOM
Model SIM7600A-H
Report No. RXA1711-0374RF03
Issue Date November 24, 2017

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 2 (2017)/ FCC CFR47 Part 27C (2017)**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

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Summary of Measurement Results

Number	Test Case	Clause in FCC rules	Verdict
1	RF power output	2.1046	PASS
2	Radiates Spurious Emission	2.1053 /27.53(h) /27.53(g)	PASS
Date of Testing: November 14, 2017~ November 18, 2017			
Note: PASS: The EUT complies with the essential requirements in the standard. FAIL: The EUT does not comply with the essential requirements in the standard.			

1 Test Laboratory

1.1 Notes of the Test Report

This report shall not be reproduced in full or partial, without the written approval of **TA technology (shanghai) co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein .Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above. This report must not be used by the client to claim product certification, approval, or endorsement by any government agencies.

1.2 Test facility

CNAS (accreditation number: L2264)

TA Technology (Shanghai) Co., Ltd. has obtained the accreditation of China National Accreditation Service for Conformity Assessment (CNAS).

FCC (Designation number: CN1179, Test Firm Registration Number: 446626)

TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

IC (recognition number is 8510A)

TA Technology (Shanghai) Co., Ltd. has been listed by industry Canada to perform electromagnetic emission measurement.

VCCI (recognition number is C-4595, T-2154, R-4113, G-10766)

TA Technology (Shanghai) Co., Ltd. has been listed by industry Japan to perform electromagnetic emission measurement.

A2LA (Certificate Number: 3857.01)

TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

1.3 Testing Location

Company: TA Technology (Shanghai) Co., Ltd.
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2 General Description of Equipment under Test

Client Information

Applicant	Shanghai Simcom Ltd.
Applicant address	SIM Technology Building.,No.633, Jinzhong Rd,Changning District, Shanghai, P.R.China
Manufacturer	Shanghai Simcom Ltd.
Manufacturer address	SIM Technology Building.,No.633, Jinzhong Rd,Changning District, Shanghai, P.R.China

General information

EUT Description			
Model	SIM7600A-H		
IMEI	861475030055604		
Hardware Version	V1.02		
Software Version	B02V01		
Power Supply	External Power Supply		
Antenna Type	External Antenna		
Test Mode(s)	LTE Band 4; LTE Band 12;		
Test Modulation	QPSK, 16QAM		
LTE Release	R10		
Rated Power Supply Voltage:	3.8V		
Extreme Voltage	Minimum: 3.4V Maximum: 4.2V		
Operating Frequency Range(s)	Mode	Tx (MHz)	Rx (MHz)
	LTE Band 4	1710 ~ 1755	2110 ~ 2155
	LTE Band 12	699 ~ 716	729 ~ 746
Note: 1. The information of the EUT is declared by the manufacturer.			

3 Applied Standards

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

Test standards

FCC CFR47 Part 2 (2017)

FCC CFR47 Part 27C (2017)

ANSI/TIA-603-D (2010)

KDB 971168 D01 Power Meas License Digital Systems v03

4 Test Configuration

Radiated measurements are performed by rotating the EUT in three different orthogonal test planes. EUT stand-up position (Z axis), lie-down position (X, Y axis). Receiver antenna polarization (horizontal and vertical), the worst emission was found in position (X axis, horizontal polarization) and the worst case was recorded.

The following testing in different Bandwidth is set to detail in the following table:

SIM7600A-H (FCC ID: UDV-201710) is a variant model of SIM7500A (FCC ID: UDV-201606).

Test items tested see the table below.

Test modes are chosen to be reported as the worst case configuration below for LTE Band 4/12:

Test items	Modes	Bandwidth (MHz)						Modulation		RB			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1	50%	100%	L	M	H
RF power output	LTE 4	O	O	O	O	O	O	O	O	O	O	O	O	O	O
	LTE 12	-	-	O	O	-	-	O	O	O	O	O	O	O	O
Radiates Spurious Emission	LTE 4	O	O	O	O	O	O	O	-	O	-	-	O	O	O
	LTE 12	-	-	O	O	-	-	O	-	O	-	-	O	O	O
Note	1. The mark "O" means that this configuration is chosen for testing. 2. The mark "-" means that this configuration is not testing.														

5 Test Case Results

5.1 RF Power Output

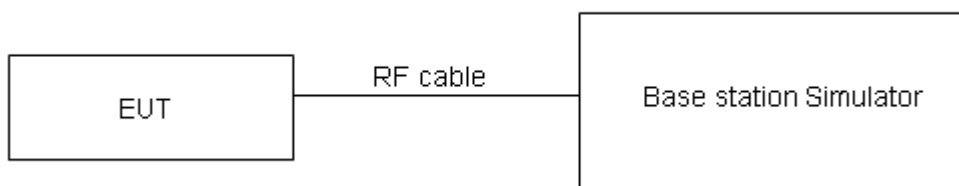
Ambient condition

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

Methods of Measurement

During the process of the testing, The EUT is controlled by the Base Station Simulator to ensure max power transmission and proper modulation.

Test Setup



The loss between RF output port of the EUT and the input port of the tester has been taken into consideration.

Limits

No specific RF power output requirements in part 2.1046.

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

LTE Band 4				AV Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				19957/1710.7	20175/1732.5	20393/1754.3
1.4MHz	QPSK	1	0	22.18	22.17	22.18
		1	2	22.06	22.59	22.20
		1	5	22.15	22.27	22.23
		3	0	22.24	22.45	22.35
		3	2	22.19	22.43	22.51
		3	3	22.17	22.44	22.40
		6	0	21.17	21.40	21.36
	16QAM	1	0	21.31	21.66	21.40
		1	2	21.13	21.86	21.77
		1	5	21.10	21.77	21.53
		3	0	21.29	21.53	21.33
		3	2	21.32	21.58	21.41
		3	3	21.47	21.54	21.34
		6	0	20.34	20.55	20.43
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				19965/1711.5	20175/1732.5	20385/1753.5
3MHz	QPSK	1	0	22.06	22.16	22.10
		1	7	22.16	22.44	22.21
		1	14	22.10	22.20	22.22
		8	0	21.22	21.37	21.30
		8	4	21.21	21.43	21.24
		8	7	21.29	21.40	21.28
		15	0	21.20	21.48	21.29
	16QAM	1	0	21.03	21.14	21.42
		1	7	21.05	21.30	21.54
		1	14	21.01	21.31	21.38
		8	0	20.12	20.59	20.48
		8	4	20.35	20.64	20.46
		8	7	20.10	20.63	20.45
		15	0	20.28	20.46	20.38
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				19975/1712.5	20175/1732.5	20375/1752.5
5MHz	QPSK	1	0	22.15	22.07	22.16
		1	13	22.21	22.24	22.36
		1	24	22.01	22.11	22.20
		12	0	21.19	21.13	21.25
		12	6	21.23	21.19	21.33
		12	13	21.19	21.26	21.37



	16QAM	25	0	21.18	21.24	21.29
		1	0	21.50	21.30	20.70
		1	13	21.40	21.22	20.82
		1	24	21.44	21.01	20.77
		12	0	20.04	20.26	20.16
		12	6	20.14	20.33	20.25
		12	13	20.13	20.36	20.29
		25	0	20.30	20.36	20.38
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				20000/1715	20175/1732.5	20350/1750
10MHz	QPSK	1	0	22.24	22.47	22.06
		1	25	22.60	22.58	22.18
		1	49	22.52	22.35	22.30
		25	0	21.34	21.27	21.20
		25	13	21.57	21.35	21.39
		25	25	21.49	21.30	21.42
		50	0	21.40	21.22	21.30
	16QAM	1	0	21.78	21.29	21.41
		1	25	21.75	21.23	21.77
		1	49	21.94	21.31	21.69
		25	0	20.25	20.35	20.35
		25	13	20.29	20.31	20.60
		25	25	20.35	20.37	20.47
		50	0	20.46	20.24	20.24
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				20025/1717.5	20175/1732.5	20325/1747.5
15MHz	QPSK	1	0	22.16	22.17	22.18
		1	38	22.30	22.09	22.03
		1	74	22.12	22.04	22.12
		36	0	21.28	21.23	21.27
		36	18	21.42	21.19	21.32
		36	39	21.38	21.22	21.34
		75	0	21.31	21.22	21.20
	16QAM	1	0	21.61	21.28	21.32
		1	38	21.72	21.32	21.27
		1	74	21.68	21.27	21.12
		36	0	20.29	20.33	20.14
		36	18	20.34	20.42	20.16
		36	39	20.35	20.22	20.19
		75	0	20.36	20.25	20.24
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				20050/1720	20175/1732.5	20300/1745
20MHz	QPSK	1	0	22.16	22.01	22.47



		1	50	22.46	22.31	22.46
		1	99	22.28	22.01	22.42
		50	0	21.43	21.41	21.42
		50	25	21.62	21.63	21.59
		50	50	21.41	21.42	21.21
		100	0	21.31	21.24	21.18
	16QAM	1	0	21.98	21.69	21.33
		1	50	21.84	21.85	21.27
		1	99	21.83	21.75	21.31
		50	0	20.26	20.37	20.40
		50	25	20.34	20.40	20.32
		50	50	20.42	20.33	20.28
		100	0	20.34	20.24	20.32

Note:

1) The following testing in worst case based on the maximum RF Output Power.

LTE Band 12				AV Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				23017/699.7	23095/707.5	23173/715.3
1.4MHz	QPSK	1	0	22.80	22.83	22.81
		1	2	22.84	22.89	22.82
		1	5	22.88	22.87	22.82
		3	0	22.66	22.71	22.69
		3	2	22.70	22.86	22.71
		3	3	22.74	22.85	22.68
		6	0	21.76	21.80	21.64
	16QAM	1	0	21.86	22.05	21.86
		1	2	21.83	22.16	21.91
		1	5	21.86	22.10	21.83
		3	0	21.34	21.57	21.79
		3	2	21.31	21.69	21.83
		3	3	21.45	21.86	21.82
		6	0	20.88	20.91	20.59
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				23025/700.5	23095/707.5	23165/714.5
3MHz	QPSK	1	0	22.65	22.82	22.70
		1	7	22.50	22.88	22.61
		1	14	22.60	22.74	22.56
		8	0	21.79	21.72	21.78
		8	4	21.81	21.80	21.70



		8	7	21.87	21.78	21.61
		15	0	21.75	21.96	21.67
	16QAM	1	0	21.63	22.30	22.08
		1	7	21.78	22.42	22.10
		1	14	21.39	22.34	22.07
		8	0	20.58	20.85	20.72
		8	4	20.62	20.88	20.69
		8	7	20.65	20.97	20.65
		15	0	20.86	20.94	20.72
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				23035/701.5	23095/707.5	23155/713.5
5MHz	QPSK	1	0	22.72	22.75	22.50
		1	13	22.71	22.97	22.62
		1	24	22.45	22.60	22.46
		12	0	21.82	21.66	21.73
		12	6	21.78	21.60	21.70
		12	13	21.77	21.68	21.65
		25	0	21.73	21.80	21.75
	16QAM	1	0	21.89	21.87	21.35
		1	13	21.98	21.70	21.69
		1	24	21.94	21.37	21.19
		12	0	20.56	20.55	20.65
		12	6	20.69	20.53	20.55
		12	13	20.65	20.54	20.40
		25	0	20.63	20.65	20.83
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
				23060/704	23095/707.5	23130/711
10MHz	QPSK	1	0	22.57	22.71	22.70
		1	25	22.79	22.96	22.85
		1	49	22.72	22.78	22.57
		25	0	21.75	21.74	21.81
		25	13	21.89	21.80	21.95
		25	25	21.86	21.76	21.92
		50	0	21.80	21.86	21.93
	16QAM	1	0	22.31	21.87	21.10
		1	25	22.25	21.86	21.48
		1	49	22.42	21.89	21.37
		25	0	20.73	20.79	20.97
		25	13	20.69	20.76	20.96
		25	25	20.97	20.78	20.95
		50	0	20.80	20.65	20.74

5.2 Radiates Spurious Emission

Ambient condition

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

Method of Measurement

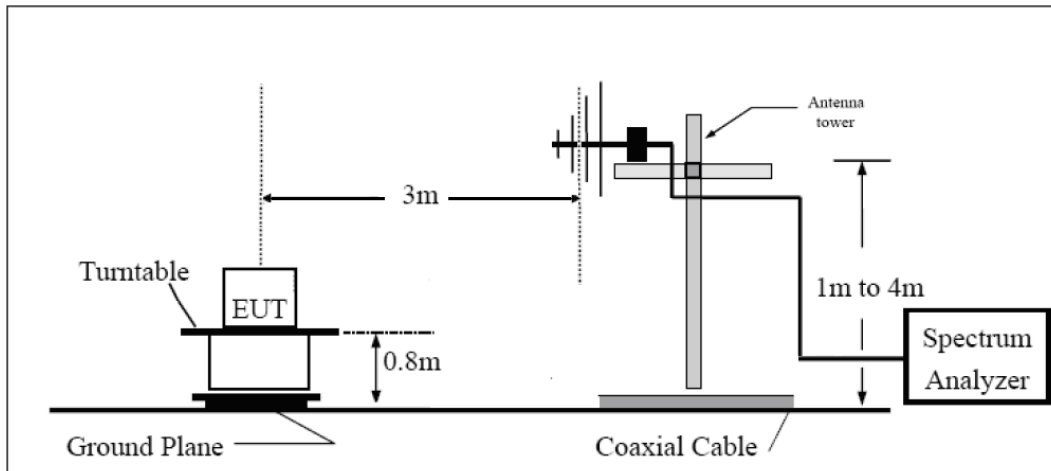
1. The testing follows FCC KDB 971168 v02r02 Section 5.8 and ANSI/TIA-603-D-2010.
2. The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. 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:

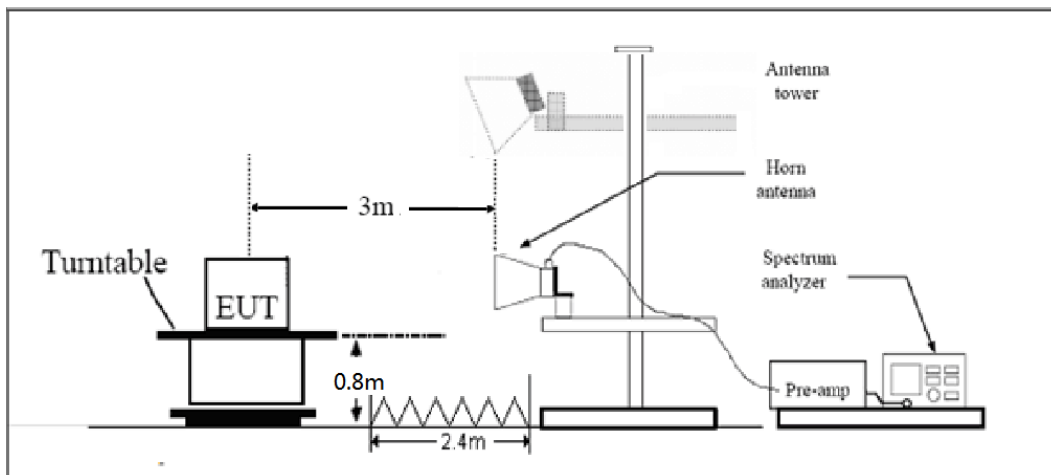
$$\text{Power(EIRP)} = \text{PMea} - \text{Pcl} + \text{Ga}$$
8. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power. ERP can be calculated from EIRP by subtracting the gain of the dipole, $\text{ERP} = \text{EIRP} - 2.15\text{dBi}$.

Test setup

30MHz~~~ 1GHz



Above 1GHz



Note: Area side:2.4mX3.6m

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

Limits

LTE -4 Rule Part 27.53(h) specifies that “for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10} (P)$ dB..”

LTE -12 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.

LTE B4/12 Limit	-13 dBm
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Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = \pm 1.96$, $U = \pm 3.55$ 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	-55.45	2.6	10.15	Horizontal	-47.90	-13.00	34.90	270
3	5131.1	-54.55	2.4	11.35	Horizontal	-45.60	-13.00	32.60	180
4	6842.8	-48.45	4.5	10.85	Horizontal	-42.10	-13.00	29.10	135
5	8553.5	-46.35	5.1	11.35	Horizontal	-40.10	-13.00	27.10	270
6	10264.2	-46.05	5.3	11.95	Horizontal	-39.40	-13.00	26.40	180
7	11974.9	-45.35	5.5	13.55	Horizontal	-37.30	-13.00	24.30	225
8	13685.6	-44.25	6.3	13.75	Horizontal	-36.80	-13.00	23.80	45
9	15396.3	-43.65	6.7	13.85	Horizontal	-36.50	-13.00	23.50	270
10	17107.0	-43.15	6.8	14.25	Horizontal	-35.70	-13.00	22.70	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	3465.0	-56.05	2.6	10.75	Horizontal	-47.90	-13.00	34.90	135
3	5197.5	-54.05	2.4	11.05	Horizontal	-45.40	-13.00	32.40	270
4	6930.0	-48.85	4.5	11.15	Horizontal	-42.20	-13.00	29.20	180
5	8662.5	-46.95	5.1	11.35	Horizontal	-40.70	-13.00	27.70	225
6	10395.0	-44.85	5.3	11.95	Horizontal	-38.20	-13.00	25.20	270
7	12127.5	-45.45	5.5	13.55	Horizontal	-37.40	-13.00	24.40	180
8	13860.0	-43.15	6.3	13.75	Horizontal	-35.70	-13.00	22.70	135
9	15592.5	-44.75	6.7	13.85	Horizontal	-37.60	-13.00	24.60	270
10	17325.0	-42.35	6.8	14.25	Horizontal	-34.90	-13.00	21.90	180
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 4 QPSK 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	-54.85	2.6	10.15	Horizontal	-47.30	-13.00	34.30	225
3	5261.6	-53.85	2.4	11.05	Horizontal	-45.20	-13.00	32.20	45
4	7017.2	-49.35	4.5	11.15	Horizontal	-42.70	-13.00	29.70	270
5	8771.5	-46.85	5.1	11.35	Horizontal	-40.60	-13.00	27.60	180
6	10525.8	-44.85	5.3	11.95	Horizontal	-38.20	-13.00	25.20	135
7	12280.1	-45.65	5.5	13.55	Horizontal	-37.60	-13.00	24.60	270
8	14034.4	-43.95	6.3	13.75	Horizontal	-36.50	-13.00	23.50	180
9	15788.7	-43.25	6.7	13.85	Horizontal	-36.10	-13.00	23.10	225
10	17543.0	-43.15	6.8	14.25	Horizontal	-35.70	-13.00	22.70	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 4 QPSK 3MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3423.0	-54.75	2.6	10.15	Horizontal	-47.20	-13.00	34.20	90
3	5134.5	-54.15	2.4	11.35	Horizontal	-45.20	-13.00	32.20	270
4	6846.0	-48.35	4.5	10.85	Horizontal	-42.00	-13.00	29.00	180
5	8557.5	-46.35	5.1	11.35	Horizontal	-40.10	-13.00	27.10	135
6	10269.0	-45.05	5.3	11.95	Horizontal	-38.40	-13.00	25.40	270
7	11980.5	-45.55	5.5	13.55	Horizontal	-37.50	-13.00	24.50	180
8	13692.0	-44.25	6.3	13.75	Horizontal	-36.80	-13.00	23.80	225
9	15403.5	-43.55	6.7	13.85	Horizontal	-36.40	-13.00	23.40	45
10	17115.0	-43.05	6.8	14.25	Horizontal	-35.60	-13.00	22.60	90
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is 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	-58.55	2.6	10.75	Horizontal	-50.40	-13.00	37.40	180
3	5197.5	-54.25	2.4	11.05	Horizontal	-45.60	-13.00	32.60	270
4	6930.0	-50.05	4.5	11.15	Horizontal	-43.40	-13.00	30.40	45
5	8662.5	-46.65	5.1	11.35	Horizontal	-40.40	-13.00	27.40	90
6	10395.0	-43.45	5.3	11.95	Horizontal	-36.80	-13.00	23.80	135
7	12127.5	-44.45	5.5	13.55	Horizontal	-36.40	-13.00	23.40	225
8	13860.0	-44.85	6.3	13.75	Horizontal	-37.40	-13.00	24.40	180
9	15592.5	-42.95	6.7	13.85	Horizontal	-35.80	-13.00	22.80	270
10	17325.0	-42.85	6.8	14.25	Horizontal	-35.40	-13.00	22.40	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.									

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	-54.45	2.6	10.15	Horizontal	-46.90	-13.00	33.90	270
3	5256.8	-54.25	2.4	11.05	Horizontal	-45.60	-13.00	32.60	180
4	7014.0	-49.45	4.5	11.15	Horizontal	-42.80	-13.00	29.80	225
5	8767.5	-46.85	5.1	11.35	Horizontal	-40.60	-13.00	27.60	45
6	10521.0	-46.05	5.3	11.95	Horizontal	-39.40	-13.00	26.40	90
7	12274.5	-46.65	5.5	13.55	Horizontal	-38.60	-13.00	25.60	180
8	14028.0	-44.65	6.3	13.75	Horizontal	-37.20	-13.00	24.20	270
9	15781.5	-43.65	6.7	13.85	Horizontal	-36.50	-13.00	23.50	135
10	17535.0	-42.65	6.8	14.25	Horizontal	-35.20	-13.00	22.20	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	-55.95	2.6	10.15	Horizontal	-48.40	-13.00	35.40	225
3	5131.1	-54.85	2.4	11.35	Horizontal	-45.90	-13.00	32.90	45
4	6850.0	-49.85	4.5	10.85	Horizontal	-43.50	-13.00	30.50	90
5	8562.5	-46.85	5.1	11.35	Horizontal	-40.60	-13.00	27.60	180
6	10275.0	-46.05	5.3	11.95	Horizontal	-39.40	-13.00	26.40	270
7	11987.5	-46.65	5.5	13.55	Horizontal	-38.60	-13.00	25.60	180
8	13700.0	-44.65	6.3	13.75	Horizontal	-37.20	-13.00	24.20	225
9	15412.5	-43.95	6.7	13.85	Horizontal	-36.80	-13.00	23.80	45
10	17125.0	-42.85	6.8	14.25	Horizontal	-35.40	-13.00	22.40	90
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

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

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.0	-57.95	2.6	10.75	Horizontal	-49.80	-13.00	36.80	180
3	5197.5	-54.85	2.4	11.05	Horizontal	-46.20	-13.00	33.20	135
4	6930.0	-50.75	4.5	11.15	Horizontal	-44.10	-13.00	31.10	270
5	8662.5	-47.05	5.1	11.35	Horizontal	-40.80	-13.00	27.80	180
6	10395.0	-44.05	5.3	11.95	Horizontal	-37.40	-13.00	24.40	225
7	12127.5	-44.45	5.5	13.55	Horizontal	-36.40	-13.00	23.40	45
8	13860.0	-43.75	6.3	13.75	Horizontal	-36.30	-13.00	23.30	90
9	15592.5	-42.95	6.7	13.85	Horizontal	-35.80	-13.00	22.80	270
10	17325.0	-42.85	6.8	14.25	Horizontal	-35.40	-13.00	22.40	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	-54.85	2.6	10.15	Horizontal	-47.30	-13.00	34.30	225
3	5250.8	-54.85	2.4	11.05	Horizontal	-46.20	-13.00	33.20	45
4	7010.0	-50.15	4.5	11.15	Horizontal	-43.50	-13.00	30.50	135
5	8762.5	-46.85	5.1	11.35	Horizontal	-40.60	-13.00	27.60	180
6	10515.0	-46.05	5.3	11.95	Horizontal	-39.40	-13.00	26.40	225
7	12267.5	-46.75	5.5	13.55	Horizontal	-38.70	-13.00	25.70	45
8	14020.0	-44.95	6.3	13.75	Horizontal	-37.50	-13.00	24.50	90
9	15772.5	-43.35	6.7	13.85	Horizontal	-36.20	-13.00	23.20	270
10	17525.0	-43.25	6.8	14.25	Horizontal	-35.80	-13.00	22.80	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	-54.35	2.6	10.15	Horizontal	-46.80	-13.00	33.80	225
3	5131.9	-55.25	2.4	11.35	Horizontal	-46.30	-13.00	33.30	45
4	6860.0	-49.15	4.5	10.85	Horizontal	-42.80	-13.00	29.80	90
5	8575.0	-46.55	5.1	11.35	Horizontal	-40.30	-13.00	27.30	180
6	10290.0	-46.05	5.3	11.95	Horizontal	-39.40	-13.00	26.40	270
7	12005.0	-46.75	5.5	13.55	Horizontal	-38.70	-13.00	25.70	135
8	13720.0	-45.25	6.3	13.75	Horizontal	-37.80	-13.00	24.80	180
9	15435.0	-44.35	6.7	13.85	Horizontal	-37.20	-13.00	24.20	225
10	17150.0	-43.85	6.8	14.25	Horizontal	-36.40	-13.00	23.40	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.									



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	3465.0	-57.65	2.6	10.75	Horizontal	-49.50	-13.00	36.50	90
3	5197.5	-54.35	2.4	11.05	Horizontal	-45.70	-13.00	32.70	180
4	6930.0	-50.85	4.5	11.15	Horizontal	-44.20	-13.00	31.20	270
5	8662.5	-46.65	5.1	11.35	Horizontal	-40.40	-13.00	27.40	180
6	10395.0	-44.95	5.3	11.95	Horizontal	-38.30	-13.00	25.30	225
7	12127.5	-45.25	5.5	13.55	Horizontal	-37.20	-13.00	24.20	45
8	13860.0	-44.25	6.3	13.75	Horizontal	-36.80	-13.00	23.80	90
9	15592.5	-43.55	6.7	13.85	Horizontal	-36.40	-13.00	23.40	180
10	17325.0	-42.75	6.8	14.25	Horizontal	-35.30	-13.00	22.30	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	-54.75	2.6	10.15	Horizontal	-47.20	-13.00	34.20	270
3	5236.9	-53.95	2.4	11.05	Horizontal	-45.30	-13.00	32.30	180
4	7000.0	-50.15	4.5	11.15	Horizontal	-43.50	-13.00	30.50	225
5	8750.0	-46.05	5.1	11.35	Horizontal	-39.80	-13.00	26.80	45
6	10500.0	-45.25	5.3	11.95	Horizontal	-38.60	-13.00	25.60	90
7	12250.0	-45.45	5.5	13.55	Horizontal	-37.40	-13.00	24.40	180
8	14000.0	-44.25	6.3	13.75	Horizontal	-36.80	-13.00	23.80	270
9	15750.0	-43.35	6.7	13.85	Horizontal	-36.20	-13.00	23.20	45
10	17500.0	-42.55	6.8	14.25	Horizontal	-35.10	-13.00	22.10	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 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	3435.0	-54.65	2.6	10.15	Horizontal	-47.10	-13.00	34.10	45
3	5152.5	-54.85	2.4	11.35	Horizontal	-45.90	-13.00	32.90	90
4	6870.0	-50.05	4.5	10.85	Horizontal	-43.70	-13.00	30.70	90
5	8587.5	-47.45	5.1	11.35	Horizontal	-41.20	-13.00	28.20	45
6	10305.0	-46.05	5.3	11.95	Horizontal	-39.40	-13.00	26.40	135
7	12022.5	-46.65	5.5	13.55	Horizontal	-38.60	-13.00	25.60	225
8	13740.0	-44.65	6.3	13.75	Horizontal	-37.20	-13.00	24.20	45
9	15457.5	-42.85	6.7	13.85	Horizontal	-35.70	-13.00	22.70	90
10	17175.0	-42.95	6.8	14.25	Horizontal	-35.50	-13.00	22.50	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 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	3465.0	-58.35	2.6	10.75	Horizontal	-50.20	-13.00	37.20	135
3	5197.5	-54.55	2.4	11.05	Horizontal	-45.90	-13.00	32.90	45
4	6930.0	-50.85	4.5	11.15	Horizontal	-44.20	-13.00	31.20	90
5	8662.5	-47.55	5.1	11.35	Horizontal	-41.30	-13.00	28.30	180
6	10395.0	-45.65	5.3	11.95	Horizontal	-39.00	-13.00	26.00	270
7	12127.5	-46.85	5.5	13.55	Horizontal	-38.80	-13.00	25.80	225
8	13860.0	-44.95	6.3	13.75	Horizontal	-37.50	-13.00	24.50	135
9	15592.5	-45.35	6.7	13.85	Horizontal	-38.20	-13.00	25.20	225
10	17325.0	-42.85	6.8	14.25	Horizontal	-35.40	-13.00	22.40	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.									



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	3495.0	-54.15	2.6	10.15	Horizontal	-46.60	-13.00	33.60	90
3	5242.5	-56.05	2.4	11.05	Horizontal	-47.40	-13.00	34.40	135
4	6990.0	-50.45	4.5	11.15	Horizontal	-43.80	-13.00	30.80	225
5	8737.5	-46.55	5.1	11.35	Horizontal	-40.30	-13.00	27.30	45
6	10485.0	-46.15	5.3	11.95	Horizontal	-39.50	-13.00	26.50	90
7	12232.5	-46.65	5.5	13.55	Horizontal	-38.60	-13.00	25.60	135
8	13980.0	-44.55	6.3	13.75	Horizontal	-37.10	-13.00	24.10	135
9	15727.5	-43.95	6.7	13.85	Horizontal	-36.80	-13.00	23.80	90
10	17475.0	-43.15	6.8	14.25	Horizontal	-35.70	-13.00	22.70	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	-54.85	2.6	10.15	Horizontal	-47.30	-13.00	34.30	135
3	5133.0	-53.45	2.4	11.35	Horizontal	-44.50	-13.00	31.50	90
4	6880.0	-49.25	4.5	10.85	Horizontal	-42.90	-13.00	29.90	45
5	8600.0	-46.35	5.1	11.35	Horizontal	-40.10	-13.00	27.10	90
6	10320.0	-46.05	5.3	11.95	Horizontal	-39.40	-13.00	26.40	90
7	12040.0	-46.25	5.5	13.55	Horizontal	-38.20	-13.00	25.20	135
8	13760.0	-45.05	6.3	13.75	Horizontal	-37.60	-13.00	24.60	225
9	15480.0	-43.55	6.7	13.85	Horizontal	-36.40	-13.00	23.40	135
10	17200.0	-42.65	6.8	14.25	Horizontal	-35.20	-13.00	22.20	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 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	-58.55	2.6	10.75	Horizontal	-50.40	-13.00	37.40	90
3	5197.5	-53.35	2.4	11.05	Horizontal	-44.70	-13.00	31.70	45
4	6930.0	-50.35	4.5	11.15	Horizontal	-43.70	-13.00	30.70	45
5	8662.5	-47.15	5.1	11.35	Horizontal	-40.90	-13.00	27.90	180
6	10395.0	-46.05	5.3	11.95	Horizontal	-39.40	-13.00	26.40	270
7	12127.5	-46.25	5.5	13.55	Horizontal	-38.20	-13.00	25.20	225
8	13860.0	-45.05	6.3	13.75	Horizontal	-37.60	-13.00	24.60	135
9	15592.5	-43.95	6.7	13.85	Horizontal	-36.80	-13.00	23.80	180
10	17325.0	-43.05	6.8	14.25	Horizontal	-35.60	-13.00	22.60	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	-58.85	2.6	10.15	Horizontal	-51.30	-13.00	38.30	45
3	5208.4	-54.95	2.4	11.05	Horizontal	-46.30	-13.00	33.30	225
4	6980.0	-50.45	4.5	11.15	Horizontal	-43.80	-13.00	30.80	135
5	8725.0	-46.45	5.1	11.35	Horizontal	-40.20	-13.00	27.20	90
6	10470.0	-46.05	5.3	11.95	Horizontal	-39.40	-13.00	26.40	45
7	12215.0	-46.65	5.5	13.55	Horizontal	-38.60	-13.00	25.60	90
8	13960.0	-44.55	6.3	13.75	Horizontal	-37.10	-13.00	24.10	45
9	15705.0	-43.35	6.7	13.85	Horizontal	-36.20	-13.00	23.20	135
10	17450.0	-42.75	6.8	14.25	Horizontal	-35.30	-13.00	22.30	90
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 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	-54.15	2.00	10.15	Horizontal	-46.00	-13.00	33.00	315
3	2099.1	-51.05	2.50	11.35	Horizontal	-42.20	-13.00	29.20	270
4	2798.8	-50.45	4.20	10.85	Horizontal	-43.80	-13.00	30.80	135
5	3498.5	-42.15	5.20	11.35	Horizontal	-36.00	-13.00	23.00	90
6	4198.2	-55.85	5.50	11.95	Horizontal	-49.40	-13.00	36.40	225
7	4897.9	-54.05	5.70	13.55	Horizontal	-46.20	-13.00	33.20	180
8	5597.6	-53.15	6.30	13.75	Horizontal	-45.70	-13.00	32.70	225
9	6297.3	-51.15	6.80	13.85	Horizontal	-44.10	-13.00	31.10	180
10	6997.0	-49.65	6.90	14.25	Horizontal	-42.30	-13.00	29.30	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 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	-54.70	2.00	10.75	Horizontal	-45.95	-13.00	32.95	225
3	2122.5	-46.84	2.51	11.05	Horizontal	-38.30	-13.00	25.30	180
4	2830.0	-50.85	4.20	11.15	Horizontal	-43.90	-13.00	30.90	45
5	3537.5	-45.85	5.20	11.15	Horizontal	-39.90	-13.00	26.90	270
6	4245.0	-55.35	5.50	11.95	Horizontal	-48.90	-13.00	35.90	90
7	4952.5	-54.25	5.70	13.55	Horizontal	-46.40	-13.00	33.40	180
8	5660.0	-53.35	6.30	13.75	Horizontal	-45.90	-13.00	32.90	315
9	6367.5	-51.85	6.80	13.85	Horizontal	-44.80	-13.00	31.80	270
10	7075.0	-50.15	6.90	14.25	Horizontal	-42.80	-13.00	29.80	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 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	-53.45	2.00	10.15	Horizontal	-45.30	-13.00	32.30	315
3	2145.9	-43.54	2.51	11.05	Horizontal	-35.00	-13.00	22.00	270
4	2861.2	-46.75	4.20	11.15	Horizontal	-39.80	-13.00	26.80	135
5	3576.5	-35.55	5.20	11.15	Horizontal	-29.60	-13.00	16.60	225
6	4291.8	-56.45	5.50	11.95	Horizontal	-50.00	-13.00	37.00	180
7	5007.1	-53.95	5.70	13.55	Horizontal	-46.10	-13.00	33.10	45
8	5722.4	-54.75	6.30	13.75	Horizontal	-47.30	-13.00	34.30	315
9	6437.7	-52.55	6.80	13.85	Horizontal	-45.50	-13.00	32.50	270
10	7153.0	-51.35	6.90	14.25	Horizontal	-44.00	-13.00	31.00	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 12 QPSK 3MHz 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	1401.0	-53.25	2.00	10.15	Horizontal	-45.10	-13.00	32.10	90
3	2101.5	-49.14	2.51	11.35	Horizontal	-40.30	-13.00	27.30	225
4	2802.0	-47.55	4.20	10.85	Horizontal	-40.90	-13.00	27.90	315
5	3502.5	-41.35	5.20	11.35	Horizontal	-35.20	-13.00	22.20	270
6	4203.0	-55.35	5.50	11.95	Horizontal	-48.90	-13.00	35.90	135
7	4903.5	-54.55	5.70	13.55	Horizontal	-46.70	-13.00	33.70	90
8	5604.0	-52.95	6.30	13.75	Horizontal	-45.50	-13.00	32.50	225
9	6304.5	-52.25	6.80	13.85	Horizontal	-45.20	-13.00	32.20	180
10	7005.0	-50.25	6.90	14.25	Horizontal	-42.90	-13.00	29.90	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 12 QPSK 3MHz 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	-54.75	2.00	10.75	Horizontal	-46.00	-13.00	33.00	270
3	2122.5	-47.14	2.51	11.05	Horizontal	-38.60	-13.00	25.60	135
4	2830.0	-50.75	4.20	11.15	Horizontal	-43.80	-13.00	30.80	225
5	3537.5	-42.05	5.20	11.15	Horizontal	-36.10	-13.00	23.10	180
6	4245.0	-55.85	5.50	11.95	Horizontal	-49.40	-13.00	36.40	45
7	4952.5	-54.95	5.70	13.55	Horizontal	-47.10	-13.00	34.10	315
8	5660.0	-53.45	6.30	13.75	Horizontal	-46.00	-13.00	33.00	45
9	6367.5	-52.35	6.80	13.85	Horizontal	-45.30	-13.00	32.30	315
10	7075.0	-50.45	6.90	14.25	Horizontal	-43.10	-13.00	30.10	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 12 QPSK 3MHz 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	1429.0	-54.95	2.00	10.15	Horizontal	-46.80	-13.00	33.80	180
3	2143.5	-41.44	2.51	11.05	Horizontal	-32.90	-13.00	19.90	45
4	2858.0	-45.55	4.20	11.15	Horizontal	-38.60	-13.00	25.60	315
5	3572.5	-38.45	5.20	11.15	Horizontal	-32.50	-13.00	19.50	180
6	4287.0	-55.75	5.50	11.95	Horizontal	-49.30	-13.00	36.30	225
7	5001.5	-54.65	5.70	13.55	Horizontal	-46.80	-13.00	33.80	90
8	5716.0	-53.15	6.30	13.75	Horizontal	-45.70	-13.00	32.70	270
9	6430.5	-52.35	6.80	13.85	Horizontal	-45.30	-13.00	32.30	135
10	7145.0	-51.55	6.90	14.25	Horizontal	-44.20	-13.00	31.20	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 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	-52.95	2.00	10.15	Horizontal	-44.80	-13.00	31.80	180
3	2104.5	-48.15	2.50	11.35	Horizontal	-39.30	-13.00	26.30	270
4	2806.0	-46.25	4.20	10.85	Horizontal	-39.60	-13.00	26.60	45
5	3507.5	-40.95	5.20	11.35	Horizontal	-34.80	-13.00	21.80	45
6	4209.0	-55.55	5.50	11.95	Horizontal	-49.10	-13.00	36.10	315
7	4910.5	-54.05	5.70	13.55	Horizontal	-46.20	-13.00	33.20	90
8	5612.0	-53.25	6.30	13.75	Horizontal	-45.80	-13.00	32.80	180
9	6313.5	-52.15	6.80	13.85	Horizontal	-45.10	-13.00	32.10	270
10	7015.0	-51.65	6.90	14.25	Horizontal	-44.30	-13.00	31.30	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 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	-53.55	2.00	10.75	Horizontal	-44.80	-13.00	31.80	225
3	2122.5	-45.44	2.51	11.05	Horizontal	-36.90	-13.00	23.90	315
4	2830.0	-48.15	4.20	11.15	Horizontal	-41.20	-13.00	28.20	90
5	3537.5	-41.15	5.20	11.15	Horizontal	-35.20	-13.00	22.20	225
6	4245.0	-55.35	5.50	11.95	Horizontal	-48.90	-13.00	35.90	45
7	4952.5	-54.35	5.70	13.55	Horizontal	-46.50	-13.00	33.50	180
8	5660.0	-52.75	6.30	13.75	Horizontal	-45.30	-13.00	32.30	90
9	6367.5	-52.05	6.80	13.85	Horizontal	-45.00	-13.00	32.00	315
10	7075.0	-52.05	6.90	14.25	Horizontal	-44.70	-13.00	31.70	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	-54.35	2.00	10.15	Horizontal	-46.20	-13.00	33.20	45
3	2140.5	-45.34	2.51	11.05	Horizontal	-36.80	-13.00	23.80	315
4	2854.0	-46.65	4.20	11.15	Horizontal	-39.70	-13.00	26.70	180
5	3567.5	-40.45	5.20	11.15	Horizontal	-34.50	-13.00	21.50	45
6	4281.0	-55.55	5.50	11.95	Horizontal	-49.10	-13.00	36.10	180
7	4994.5	-54.05	5.70	13.55	Horizontal	-46.20	-13.00	33.20	90
8	5708.0	-53.05	6.30	13.75	Horizontal	-45.60	-13.00	32.60	225
9	6421.5	-51.85	6.80	13.85	Horizontal	-44.80	-13.00	31.80	270
10	7135.0	-51.65	6.90	14.25	Horizontal	-44.30	-13.00	31.30	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 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	-52.65	2.00	10.15	Horizontal	-44.50	-13.00	31.50	270
3	2112.0	-47.04	2.51	11.35	Horizontal	-38.20	-13.00	25.20	180
4	2816.0	-45.55	4.20	10.85	Horizontal	-38.90	-13.00	25.90	45
5	3520.0	-42.35	5.20	11.35	Horizontal	-36.20	-13.00	23.20	225
6	4224.0	-56.15	5.50	11.95	Horizontal	-49.70	-13.00	36.70	180
7	4928.0	-54.85	5.70	13.55	Horizontal	-47.00	-13.00	34.00	90
8	5632.0	-53.65	6.30	13.75	Horizontal	-46.20	-13.00	33.20	270
9	6336.0	-52.55	6.80	13.85	Horizontal	-45.50	-13.00	32.50	45
10	7040.0	-49.65	6.90	14.25	Horizontal	-42.30	-13.00	29.30	225

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

2. The worst emission was found in the antenna is 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	-54.05	2.00	10.75	Horizontal	-45.30	-13.00	32.30	225
3	2122.5	-42.14	2.51	11.05	Horizontal	-33.60	-13.00	20.60	180
4	2830.0	-45.15	4.20	11.15	Horizontal	-38.20	-13.00	25.20	315
5	3537.5	-38.95	5.20	11.15	Horizontal	-33.00	-13.00	20.00	315
6	4245.0	-55.65	5.50	11.95	Horizontal	-49.20	-13.00	36.20	180
7	4952.5	-53.15	5.70	13.55	Horizontal	-45.30	-13.00	32.30	135
8	5660.0	-52.65	6.30	13.75	Horizontal	-45.20	-13.00	32.20	315
9	6367.5	-51.85	6.80	13.85	Horizontal	-44.80	-13.00	31.80	90
10	7075.0	-51.75	6.90	14.25	Horizontal	-44.40	-13.00	31.40	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 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	-53.65	2.00	10.15	Horizontal	-45.50	-13.00	32.50	45
3	2133.0	-47.34	2.51	11.05	Horizontal	-38.80	-13.00	25.80	225
4	2844.0	-49.25	4.20	11.15	Horizontal	-42.30	-13.00	29.30	90
5	3555.0	-43.25	5.20	11.15	Horizontal	-37.30	-13.00	24.30	45
6	4266.0	-55.25	5.50	11.95	Horizontal	-48.80	-13.00	35.80	225
7	4977.0	-53.35	5.70	13.55	Horizontal	-45.50	-13.00	32.50	180
8	5688.0	-52.35	6.30	13.75	Horizontal	-44.90	-13.00	31.90	270
9	6399.0	-51.75	6.80	13.85	Horizontal	-44.70	-13.00	31.70	315
10	7110.0	-51.45	6.90	14.25	Horizontal	-44.10	-13.00	31.10	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.

6 Main Test Instruments

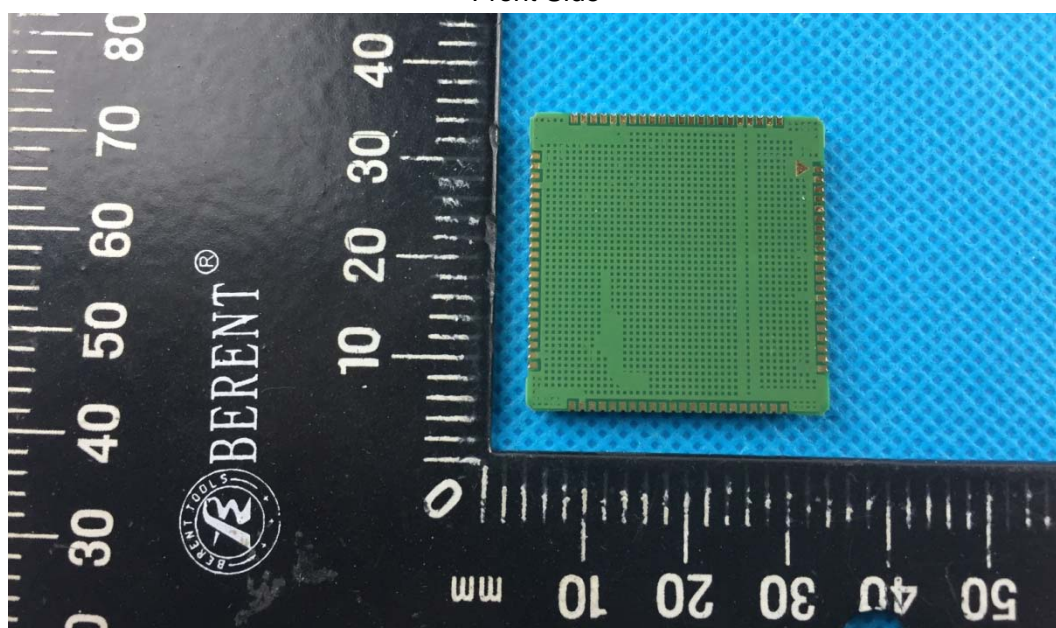
Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Base Station Simulator	R&S	CMW500	113645	2017-05-14	2018-05-13
Signal Analyzer	R&S	FSV30	100815	2016-12-16	2017-12-15
Trilog Antenna	SCHWARZBECK	VUBL 9163	9163-201	2014-12-06	2017-12-05
Horn Antenna	R&S	HF907	100126	2014-12-06	2017-12-05

ANNEX A: EUT Appearance and Test Setup

A.1 EUT Appearance



Front Side

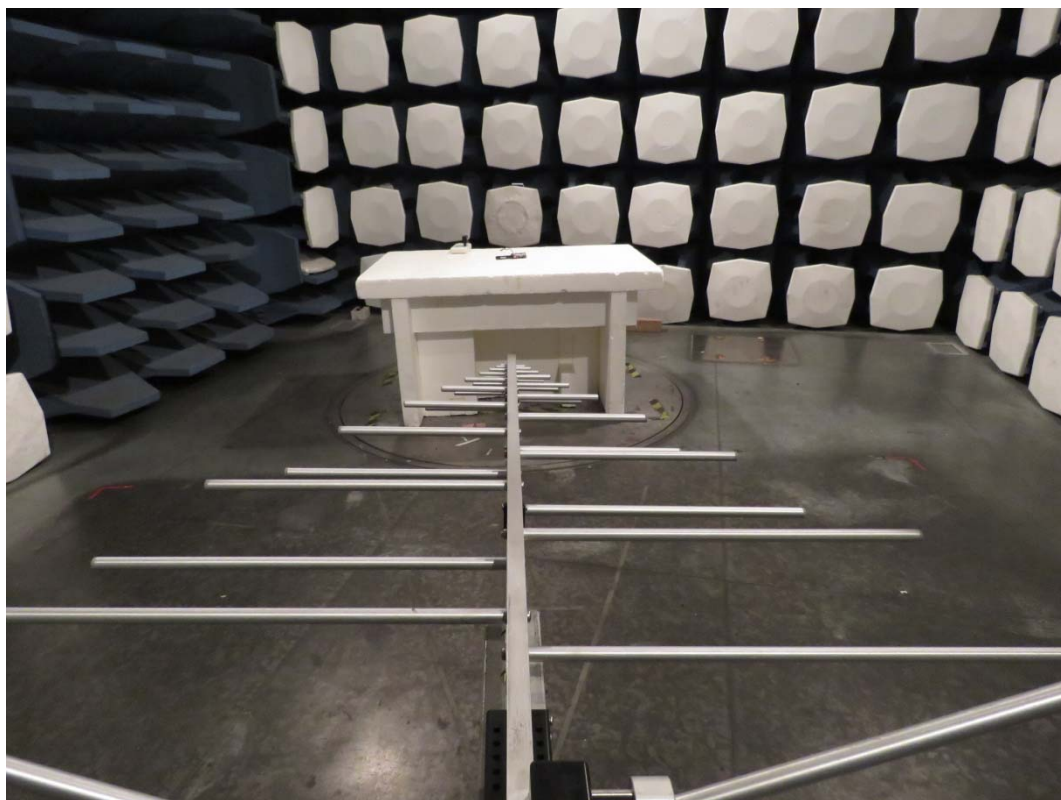


Back Side

a: EUT

Picture 1 EUT and Accessory

A.2 Test Setup



Picture 2: Radiated Spurious Emissions Test setup