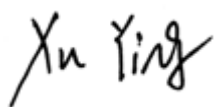


RF TEST REPORT

Applicant	ID TECH
FCC ID	WQJ-VP6825L
Product	VP6825
Brand	ID TECH
Model	VP6825-8100; VP6825-8100D
Report No.	R2210A0932-R2V1
Issue Date	May 29, 2023

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 2 (2022)/ FCC CFR 47 Part 24E (2022)**. 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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Version	Revision description	Issue Date
Rev.0	Initial issue of report.	May 22, 2023
Rev.1	Update information.	May 29, 2023
Note: This revised report (Report No.: R2210A0932-R2V1) supersedes and replaces the previously issued report (Report No.: R2210A0932-R2). Please discard or destroy the previously issued report and dispose of it accordingly.		

Summary of measurement results

No.	Test Case	Clause in FCC rules	Verdict
1	RF Power Output and Effective Isotropic Radiated Power	2.1046 24.232(c)	PASS
2	Radiated Spurious Emission	2.1053 / 24.238(a)	PASS
Date of Testing: November 2, 2022 ~ December 29, 2022 and February 6, 2023 ~ February 7, 2023 Date of Sample Received: October 13, 2022			
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. All indications of Pass/Fail in this report are opinions expressed by TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.			

There is only test Radiated Spurious Emission for VP6825-8100 in this report, and because of the change of antenna gain, Effective Isotropic Radiated Power also re evaluated. Other test items refer to the module report (FCC ID: XMR202008EG91NAXD; Report No.: R2006A0379-R2 and R2006A0379-R6).

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.

1.2. Test facility

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 measurements.

A2LA (Certificate Number: 3857.01)

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

1.3. Testing Location

Company: TA Technology (Shanghai) Co., Ltd.
Address: Building 3, No.145, Jintang Rd, Pudong Shanghai, P.R.China
City: Shanghai
Post code: 201201
Country: P. R. China
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Website: <http://www.ta-shanghai.com>
E-mail: xukai@ta-shanghai.com

2. General Description of Equipment under Test

2.1. Applicant and Manufacturer Information

Applicant	ID TECH
Applicant address	10721 Walker Street, Cypress, California 90630, United States
Manufacturer	ID TECH TAIWAN
Manufacturer address	No. 16, Lane 22, GaoQing Rd., YanMei Dist., TaoYuan City 326, Taiwan

2.2. General information

EUT Description			
Model	VP6825-8100; VP6825-8100D		
SN	226K000755		
Hardware Version	Rev.A		
Software Version	v1.00		
Power Supply	External power supply		
Antenna Type	PIFA Antenna		
Antenna Gain	Frequency (MHz)	Gain (dBi)	
	1850	0.3	
	1870	-0.1	
	1890	-0.2	
	1910	-0.5	
Test Mode(s)	WCDMA Band II; LTE Band 2/25		
Test Modulation	(WCDMA) BPSK, QPSK,16QAM (LTE) QPSK, 16QAM		
HSDPA UE Category	10		
HSUPA UE Category	6		
DC-HSDPA UE Category	20		
HSPA+ UE Category	7		
LTE Category	1		
Maximum E.I.R.P	WCDMA Band II:	23.68 dBm	
	LTE Band 2:	24.52 dBm	
	LTE Band 25:	24.19 dBm	
Rated Power Supply Voltage	DC 5V		
Operating Voltage	Minimum: 4.75V Maximum: 5.25V		
Operating Temperature	Lowest: -20℃ Highest: +70℃		
Operating Frequency Range(s)	Band	Tx (MHz)	Rx (MHz)
	WCDMA Band II	1850 ~ 1910	1930 ~ 1990
	LTE Band 2	1850 ~ 1910	1930 ~ 1990

	LTE Band 25	1850 ~ 1915	1930 ~ 1995
Note: 1. The EUT is sent from the applicant to TA and the information of the EUT is declared by the applicant. 2. VP6825-8100 and VP6825-8100D are the same except for different models, and this report only tests VP6825-8100.			

3. Applied Standards

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

Test standards:

FCC CFR 47 Part 24E (2022)

FCC CFR47 Part 2 (2022)

Reference standard:

ANSI C63.26-2015

KDB 971168 D01 Power Meas License Digital Systems v03r01

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 (Z axis, horizontal polarization for WCDMA Band, X axis, horizontal polarization for LTE Band) and the worst case was recorded.

All mode and data rates and positions and RB size and modulations were investigated.

Subsequently, only the worst case emissions are reported.

The following testing in WCDMA/LTE is set based on the maximum RF Output Power.

Test modes are chosen to be reported as the worst case configuration below:

Test items	Modes/Modulation
	WCDMA Band II
RF Power Output and Effective Isotropic Radiated Power	RMC HSDPA/HSUPA/DC-HSDPA
Radiated Spurious Emission	RMC

Test modes are chosen to be reported as the worst case configuration below for LTE Band 2/25:

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 and Effective Isotropic Radiated Power	LTE 2	O	O	O	O	O	O	O	O	O	O	O	O	O	O
	LTE 25	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Radiated Spurious Emission	LTE 2	O	-	O	-	-	O	O	O	O	-	-	-	O	-
	LTE 25	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

5.1.RF Power Output and Effective Isotropic Radiated Power

Ambient condition

Temperature	Relative humidity
20°C ~25°C	45%~50%

Methods of Measurement

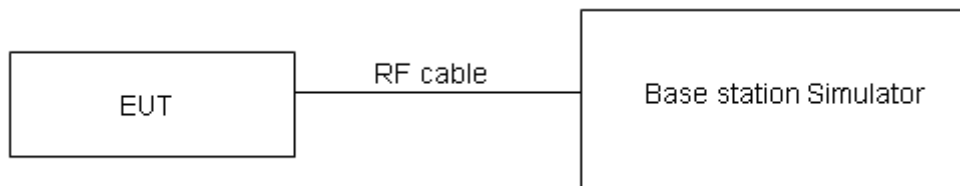
During the process of the testing, The EUT was connected to the Base Station Simulator with a known loss. The EUT is controlled by the Base Station Simulator test set to ensure max power transmission with proper modulation.

ERP can then be calculated as follows:

EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)

EIRP (dBm) = ERP (dBm) + 2.15 (dB.)

Test Setup



Limits

No specific RF power output requirements in part 2.1046.

Rule Part 24.232(c) Mobile and portable stations are limited to 2 watts EIRP.

Rule Part 24.232(e) Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage.

Limit	$\leq 2\text{ W}$ (33 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 $k = 2$, $U = 0.4\text{ dB}$ for RF power output, $k = 2$, $U = 1.19\text{ dB}$ for EIRP.

Test Results

Refer to the section 6.1 of this report for test data.

5.2. Radiated Spurious Emission

Ambient condition

Temperature	Relative humidity
20°C ~ 25°C	45% ~ 50%

Method of Measurement

1. The testing follows FCC KDB 971168 v03r01 Section 5.8 and ANSI C63.26-2015.
2. Below 1GHz: 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). Above 1GHz: (Note: the FCC's permission to use 1.5m as an alternative per TCBC Conf call of Dec. 2, 2014.) The EUT is placed on a turntable 1.5 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 loop antenna, A log-periodic antenna or 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:

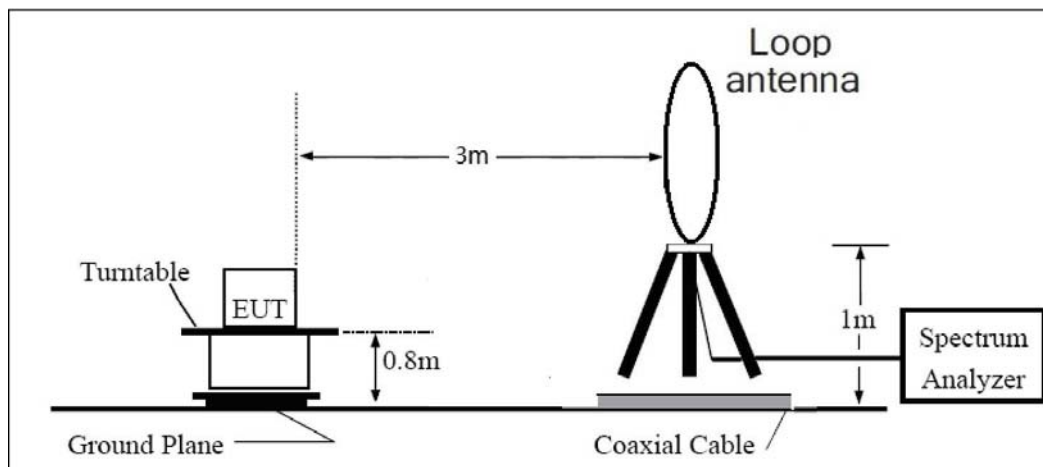
$$\text{Power(EIRP)} = \text{PMea} - \text{PAg} - \text{Pcl} + \text{Ga}$$
 The measurement results are amend as described below:

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

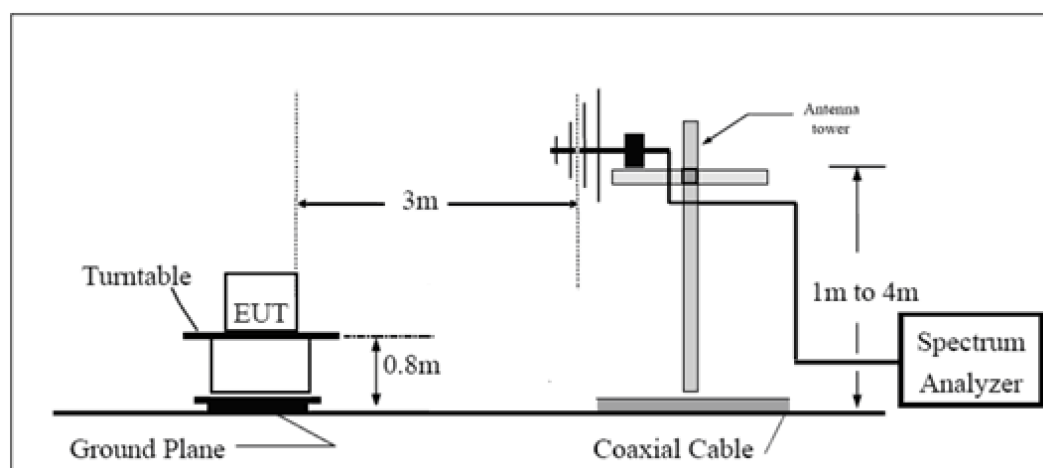
The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

Test setup

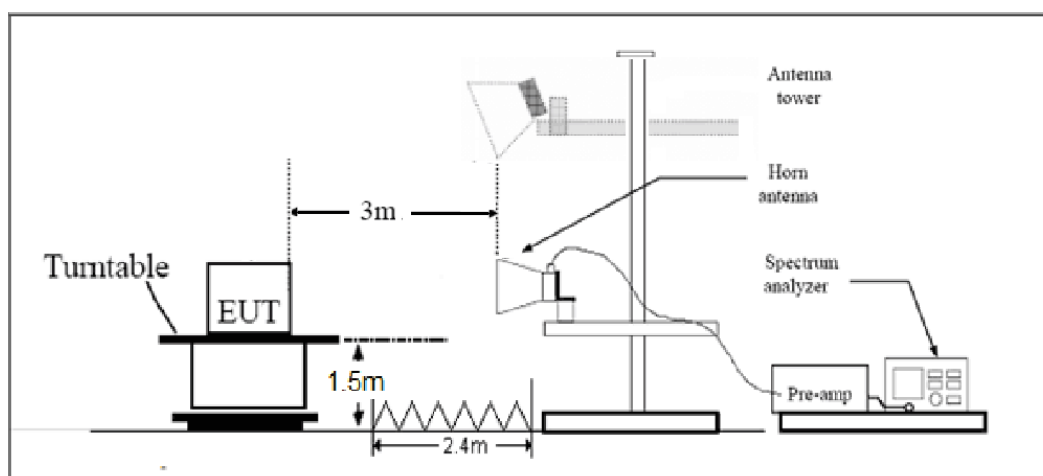
9KHz~ 30MHz



30MHz~ 1GHz



Above 1GHz



Note: Area side: 2.4mX3.6m

Limits

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

Limit	-13 dBm
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Measurement Uncertainty

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

Test Results

Refer to the section 6.2 of this report for test data.

6. Test Results

6.1. RF Power Output and Effective Isotropic Radiated Power

WCDMA Band II		Maximum Output Power (dBm)			EIRP (dBm)		
		Channel 9262	Channel 9400	Channel 9538	Channel 9262	Channel 9400	Channel 9538
		1852.4 (MHz)	1880 (MHz)	1907.6 (MHz)	1852.4 (MHz)	1880 (MHz)	1907.6 (MHz)
RMC	12.2k	23.38	23.33	23.18	23.68	23.23	22.68
	64k	23.32	23.21	23.02	23.62	23.11	22.52
	144k	23.23	23.16	23.01	23.53	23.06	22.51
	384k	23.22	23.17	23.02	23.52	23.07	22.52
HSDPA	Sub - Test 1	22.36	22.37	22.35	22.66	22.27	21.85
	Sub - Test 2	22.39	22.37	22.30	22.69	22.27	21.80
	Sub - Test 3	21.86	21.87	21.80	22.16	21.77	21.30
	Sub - Test 4	21.90	21.81	21.80	22.20	21.71	21.30
HSUPA	Sub - Test 1	22.40	22.39	22.30	22.70	22.29	21.80
	Sub - Test 2	21.90	21.88	21.82	22.20	21.78	21.32
	Sub - Test 3	22.43	22.38	22.34	22.73	22.28	21.84
	Sub - Test 4	22.48	22.34	22.32	22.78	22.24	21.82
	Sub - Test 5	22.32	22.21	22.18	22.62	22.11	21.68
DC-HSDPA	Sub - Test 1	23.31	23.22	23.07	23.61	23.12	22.57
	Sub - Test 2	23.30	23.21	23.06	23.60	23.11	22.56
	Sub - Test 3	22.79	22.70	22.55	23.09	22.60	22.05
	Sub - Test 4	22.78	22.79	22.53	23.08	22.69	22.03

LTE Band 2				Maximum Output Power (dBm)			EIRP (dBm)		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Channel/Frequency (MHz)		
				18607/1850.7	18900/1880	19193/1909.3	18607/1850.7	18900/1880	19193/1909.3
1.4MHz	QPSK	1	0	23.90	23.76	23.58	24.20	23.66	23.08
		1	2	24.19	23.97	23.68	24.49	23.87	23.18
		1	5	24.22	23.89	23.78	24.52	23.79	23.28
		3	0	23.86	23.87	23.81	24.16	23.77	23.31
		3	2	23.96	23.65	23.86	24.26	23.55	23.36
		3	3	24.12	23.89	23.67	24.42	23.79	23.17
		6	0	22.98	22.88	22.84	23.28	22.78	22.34
	16QAM	1	0	22.89	22.67	23.09	23.19	22.57	22.59

		1	2	23.05	22.96	23.17	23.35	22.86	22.67
		1	5	22.95	22.85	22.95	23.25	22.75	22.45
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Channel/Frequency (MHz)		
				18615/ 1851.5	18900/ 1880	19185/ 1908.5	18615/ 1851.5	18900/ 1880	19185/ 1908.5
3MHz	QPSK	1	0	23.98	23.77	23.64	24.28	23.67	23.14
		1	7	24.13	23.84	24.43	24.43	23.74	23.93
		1	14	23.82	23.58	23.52	24.12	23.48	23.02
		8	0	22.96	22.95	22.74	23.26	22.85	22.24
		8	4	22.90	22.82	22.94	23.20	22.72	22.44
		8	7	22.87	22.88	22.89	23.17	22.78	22.39
		15	0	22.82	22.89	22.98	23.12	22.79	22.48
	16QAM	1	0	23.17	22.99	23.43	23.47	22.89	22.93
		1	7	23.76	22.88	24.14	24.06	22.78	23.64
		1	14	23.09	22.90	23.32	23.39	22.80	22.82
Bandwidth	Modulation	RB size	RB offset	Channel/ Frequency (MHz)			Channel/ Frequency (MHz)		
				18625/ 1852.5	18900/ 1880	19175/ 1907.5	18625/ 1852.5	18900/ 1880	19175/ 1907.5
5MHz	QPSK	1	0	23.95	23.75	23.60	24.25	23.65	23.10
		1	13	24.11	23.80	24.40	24.41	23.70	23.90
		1	24	23.79	23.53	23.48	24.09	23.43	22.98
		12	0	22.93	22.90	22.70	23.23	22.80	22.20
		12	6	22.88	22.78	22.89	23.18	22.68	22.39
		12	13	22.85	22.86	22.85	23.15	22.76	22.35
		25	0	22.80	22.88	22.96	23.10	22.78	22.46
	16QAM	1	0	23.14	22.95	23.40	23.44	22.85	22.90
		1	13	23.73	22.86	24.11	24.03	22.76	23.61
		1	24	23.06	22.88	23.28	23.36	22.78	22.78
Bandwidth	Modulation	RB size	RB offset	Channel/ Frequency (MHz)			Channel/ Frequency (MHz)		
				18650/ 1855	18900/ 1880	19150/ 1905	18650/ 1855	18900/ 1880	19150/ 1905
10MHz	QPSK	1	0	23.97	23.76	23.63	24.27	23.66	23.13
		1	25	24.14	23.85	24.44	24.44	23.75	23.94
		1	49	23.81	23.57	23.51	24.11	23.47	23.01
		25	0	22.96	22.95	22.74	23.26	22.85	22.24
		25	13	22.91	22.83	22.93	23.21	22.73	22.43
		25	25	22.87	22.90	22.90	23.17	22.80	22.40
		50	0	22.88	22.90	23.00	23.18	22.80	22.50
	16QAM	1	0	23.16	22.98	23.42	23.46	22.88	22.92
		1	25	23.76	22.90	24.14	24.06	22.80	23.64
		1	49	23.09	22.90	23.31	23.39	22.80	22.81

Bandwidth	Modulation	RB size	RB offset	Channel/ Frequency (MHz)			Channel/ Frequency (MHz)		
				18675/ 1857.5	18900/ 1880	19125/ 1902.5	18675/ 1857.5	18900/ 1880	19125/ 1902.5
15MHz	QPSK	1	0	23.96	23.72	23.61	24.26	23.62	23.11
		1	38	24.12	23.84	24.41	24.42	23.74	23.91
		1	74	23.78	23.52	23.47	24.08	23.42	22.97
		36	0	22.94	22.91	22.71	23.24	22.81	22.21
		36	18	22.88	22.78	22.89	23.18	22.68	22.39
		36	39	22.84	22.87	22.86	23.14	22.77	22.36
		75	0	22.86	22.86	22.95	23.16	22.76	22.45
	16QAM	1	0	23.11	22.96	23.40	23.41	22.86	22.90
		1	38	23.74	22.87	24.12	24.04	22.77	23.62
		1	74	23.06	22.86	23.28	23.36	22.76	22.78
Bandwidth	Modulation	RB size	RB offset	Channel/ Frequency (MHz)			Channel/ Frequency (MHz)		
				18700/ 1860	18900/ 1880	19100/ 1900	18700/ 1860	18900/ 1880	19100/ 1900
20MHz	QPSK	1	0	23.93	23.68	23.58	24.23	23.58	23.08
		1	50	24.11	23.80	24.39	24.41	23.70	23.89
		1	99	23.76	23.51	23.44	24.06	23.41	22.94
		50	0	22.91	22.86	22.67	23.21	22.76	22.17
		50	25	22.86	22.74	22.86	23.16	22.64	22.36
		50	50	22.81	22.82	22.82	23.11	22.72	22.32
		100	0	22.83	22.81	22.91	23.13	22.71	22.41
	16QAM	1	0	23.09	22.92	23.35	23.39	22.82	22.85
		1	50	23.70	22.85	24.08	24.00	22.75	23.58
		1	99	23.04	22.83	23.26	23.34	22.73	22.76

Band	Bandwidth	Modulation	Channel	RB Configuration	Maximum Output Power (dBm)	EIRP (dBm)
LTE Band 25	1.4M	QPSK	26047	1RB#0	23.44	23.74
LTE Band 25	1.4M	QPSK	26047	1RB#2	23.45	23.75
LTE Band 25	1.4M	QPSK	26047	1RB#5	23.40	23.70
LTE Band 25	1.4M	QPSK	26047	3RB#0	22.46	22.76
LTE Band 25	1.4M	QPSK	26047	3RB#2	22.44	22.74
LTE Band 25	1.4M	QPSK	26047	3RB#3	22.49	22.79
LTE Band 25	1.4M	QPSK	26047	6RB#0	22.42	22.72
LTE Band 25	1.4M	QPSK	26365	1RB#0	23.59	23.39
LTE Band 25	1.4M	QPSK	26365	1RB#2	23.50	23.30
LTE Band 25	1.4M	QPSK	26365	1RB#5	23.54	23.34
LTE Band 25	1.4M	QPSK	26365	3RB#0	22.58	22.38
LTE Band 25	1.4M	QPSK	26365	3RB#2	22.60	22.40

LTE Band 25	1.4M	QPSK	26365	3RB#3	22.59	22.39
LTE Band 25	1.4M	QPSK	26365	6RB#0	22.64	22.44
LTE Band 25	1.4M	QPSK	26683	1RB#0	23.30	22.80
LTE Band 25	1.4M	QPSK	26683	1RB#2	23.49	22.99
LTE Band 25	1.4M	QPSK	26683	1RB#5	23.55	23.05
LTE Band 25	1.4M	QPSK	26683	3RB#0	22.38	21.88
LTE Band 25	1.4M	QPSK	26683	3RB#2	22.43	21.93
LTE Band 25	1.4M	QPSK	26683	3RB#3	22.49	21.99
LTE Band 25	1.4M	QPSK	26683	6RB#0	22.37	21.87
LTE Band 25	1.4M	16QAM	26047	1RB#0	22.26	22.56
LTE Band 25	1.4M	16QAM	26047	1RB#2	22.41	22.71
LTE Band 25	1.4M	16QAM	26047	1RB#5	22.31	22.61
LTE Band 25	1.4M	16QAM	26047	3RB#0	21.23	21.53
LTE Band 25	1.4M	16QAM	26047	3RB#2	21.29	21.59
LTE Band 25	1.4M	16QAM	26047	3RB#3	21.36	21.66
LTE Band 25	1.4M	16QAM	26047	6RB#0	21.39	21.69
LTE Band 25	1.4M	16QAM	26365	1RB#0	21.98	21.78
LTE Band 25	1.4M	16QAM	26365	1RB#2	21.96	21.76
LTE Band 25	1.4M	16QAM	26365	1RB#5	21.90	21.70
LTE Band 25	1.4M	16QAM	26365	3RB#0	21.17	20.97
LTE Band 25	1.4M	16QAM	26365	3RB#2	21.30	21.10
LTE Band 25	1.4M	16QAM	26365	3RB#3	21.46	21.26
LTE Band 25	1.4M	16QAM	26365	6RB#0	21.56	21.36
LTE Band 25	1.4M	16QAM	26683	1RB#0	22.21	21.71
LTE Band 25	1.4M	16QAM	26683	1RB#2	22.54	22.04
LTE Band 25	1.4M	16QAM	26683	1RB#5	22.89	22.39
LTE Band 25	1.4M	16QAM	26683	3RB#0	21.16	20.66
LTE Band 25	1.4M	16QAM	26683	3RB#2	21.18	20.68
LTE Band 25	1.4M	16QAM	26683	3RB#3	21.15	20.65
LTE Band 25	1.4M	16QAM	26683	6RB#0	21.25	20.75
LTE Band 25	3M	QPSK	26055	1RB#0	23.46	23.76
LTE Band 25	3M	QPSK	26055	1RB#7	23.48	23.78
LTE Band 25	3M	QPSK	26055	1RB#14	23.43	23.73
LTE Band 25	3M	QPSK	26055	8RB#0	22.54	22.84
LTE Band 25	3M	QPSK	26055	8RB#4	22.54	22.84
LTE Band 25	3M	QPSK	26055	8RB#7	22.57	22.87
LTE Band 25	3M	QPSK	26055	15RB#0	22.45	22.75
LTE Band 25	3M	QPSK	26365	1RB#0	23.63	23.43
LTE Band 25	3M	QPSK	26365	1RB#7	23.55	23.35
LTE Band 25	3M	QPSK	26365	1RB#14	23.59	23.39
LTE Band 25	3M	QPSK	26365	8RB#0	22.68	22.48
LTE Band 25	3M	QPSK	26365	8RB#4	22.68	22.48
LTE Band 25	3M	QPSK	26365	8RB#7	22.68	22.48

LTE Band 25	3M	QPSK	26365	15RB#0	22.68	22.48
LTE Band 25	3M	QPSK	26675	1RB#0	23.33	22.83
LTE Band 25	3M	QPSK	26675	1RB#7	23.53	23.03
LTE Band 25	3M	QPSK	26675	1RB#14	23.59	23.09
LTE Band 25	3M	QPSK	26675	8RB#0	22.49	21.99
LTE Band 25	3M	QPSK	26675	8RB#4	22.53	22.03
LTE Band 25	3M	QPSK	26675	8RB#7	22.57	22.07
LTE Band 25	3M	QPSK	26675	15RB#0	22.40	21.90
LTE Band 25	3M	16QAM	26055	1RB#0	22.29	22.59
LTE Band 25	3M	16QAM	26055	1RB#7	22.44	22.74
LTE Band 25	3M	16QAM	26055	1RB#14	22.33	22.63
LTE Band 25	3M	16QAM	26055	8RB#0	21.32	21.62
LTE Band 25	3M	16QAM	26055	8RB#4	21.38	21.68
LTE Band 25	3M	16QAM	26055	8RB#7	21.44	21.74
LTE Band 25	3M	16QAM	26055	15RB#0	21.42	21.72
LTE Band 25	3M	16QAM	26365	1RB#0	22.00	21.80
LTE Band 25	3M	16QAM	26365	1RB#7	22.01	21.81
LTE Band 25	3M	16QAM	26365	1RB#14	21.94	21.74
LTE Band 25	3M	16QAM	26365	8RB#0	21.28	21.08
LTE Band 25	3M	16QAM	26365	8RB#4	21.41	21.21
LTE Band 25	3M	16QAM	26365	8RB#7	21.56	21.36
LTE Band 25	3M	16QAM	26365	15RB#0	21.60	21.40
LTE Band 25	3M	16QAM	26675	1RB#0	22.24	21.74
LTE Band 25	3M	16QAM	26675	1RB#7	22.58	22.08
LTE Band 25	3M	16QAM	26675	1RB#14	22.92	22.42
LTE Band 25	3M	16QAM	26675	8RB#0	21.26	20.76
LTE Band 25	3M	16QAM	26675	8RB#4	21.28	20.78
LTE Band 25	3M	16QAM	26675	8RB#7	21.26	20.76
LTE Band 25	3M	16QAM	26675	15RB#0	21.28	20.78
LTE Band 25	5M	QPSK	26065	1RB#0	23.41	23.71
LTE Band 25	5M	QPSK	26065	1RB#13	23.46	23.76
LTE Band 25	5M	QPSK	26065	1RB#24	23.37	23.67
LTE Band 25	5M	QPSK	26065	12RB#0	22.49	22.79
LTE Band 25	5M	QPSK	26065	12RB#6	22.50	22.80
LTE Band 25	5M	QPSK	26065	12RB#13	22.51	22.81
LTE Band 25	5M	QPSK	26065	25RB#0	22.46	22.76
LTE Band 25	5M	QPSK	26365	1RB#0	23.54	23.34
LTE Band 25	5M	QPSK	26365	1RB#13	23.51	23.31
LTE Band 25	5M	QPSK	26365	1RB#24	23.52	23.32
LTE Band 25	5M	QPSK	26365	12RB#0	22.59	22.39
LTE Band 25	5M	QPSK	26365	12RB#6	22.60	22.40
LTE Band 25	5M	QPSK	26365	12RB#13	22.62	22.42
LTE Band 25	5M	QPSK	26365	25RB#0	22.60	22.40

LTE Band 25	5M	QPSK	26665	1RB#0	23.27	22.77
LTE Band 25	5M	QPSK	26665	1RB#13	23.49	22.99
LTE Band 25	5M	QPSK	26665	1RB#24	23.51	23.01
LTE Band 25	5M	QPSK	26665	12RB#0	22.42	21.92
LTE Band 25	5M	QPSK	26665	12RB#6	22.45	21.95
LTE Band 25	5M	QPSK	26665	12RB#13	22.50	22.00
LTE Band 25	5M	QPSK	26665	25RB#0	22.33	21.83
LTE Band 25	5M	16QAM	26065	1RB#0	22.21	22.51
LTE Band 25	5M	16QAM	26065	1RB#13	22.38	22.68
LTE Band 25	5M	16QAM	26065	1RB#24	22.28	22.58
LTE Band 25	5M	16QAM	26065	12RB#0	21.27	21.57
LTE Band 25	5M	16QAM	26065	12RB#6	21.31	21.61
LTE Band 25	5M	16QAM	26065	12RB#13	21.39	21.69
LTE Band 25	5M	16QAM	26065	25RB#0	21.38	21.68
LTE Band 25	5M	16QAM	26365	1RB#0	21.93	21.73
LTE Band 25	5M	16QAM	26365	1RB#13	21.98	21.78
LTE Band 25	5M	16QAM	26365	1RB#24	21.87	21.67
LTE Band 25	5M	16QAM	26365	12RB#0	21.23	21.03
LTE Band 25	5M	16QAM	26365	12RB#6	21.33	21.13
LTE Band 25	5M	16QAM	26365	12RB#13	21.47	21.27
LTE Band 25	5M	16QAM	26365	25RB#0	21.52	21.32
LTE Band 25	5M	16QAM	26665	1RB#0	22.16	21.66
LTE Band 25	5M	16QAM	26665	1RB#13	22.52	22.02
LTE Band 25	5M	16QAM	26665	1RB#24	22.86	22.36
LTE Band 25	5M	16QAM	26665	12RB#0	21.21	20.71
LTE Band 25	5M	16QAM	26665	12RB#6	21.20	20.70
LTE Band 25	5M	16QAM	26665	12RB#13	21.19	20.69
LTE Band 25	5M	16QAM	26665	25RB#0	21.20	20.70
LTE Band 25	10M	QPSK	26090	1RB#0	23.61	23.91
LTE Band 25	10M	QPSK	26090	1RB#25	23.62	23.92
LTE Band 25	10M	QPSK	26090	1RB#49	23.75	24.05
LTE Band 25	10M	QPSK	26090	25RB#0	22.54	22.84
LTE Band 25	10M	QPSK	26090	25RB#13	22.50	22.80
LTE Band 25	10M	QPSK	26090	25RB#25	22.55	22.85
LTE Band 25	10M	QPSK	26090	50RB#0	22.61	22.91
LTE Band 25	10M	QPSK	26365	1RB#0	23.55	23.35
LTE Band 25	10M	QPSK	26365	1RB#25	23.72	23.52
LTE Band 25	10M	QPSK	26365	1RB#49	23.47	23.27
LTE Band 25	10M	QPSK	26365	25RB#0	22.64	22.44
LTE Band 25	10M	QPSK	26365	25RB#13	22.66	22.46
LTE Band 25	10M	QPSK	26365	25RB#25	22.67	22.47
LTE Band 25	10M	QPSK	26365	50RB#0	22.67	22.47
LTE Band 25	10M	QPSK	26640	1RB#0	23.65	23.15

LTE Band 25	10M	QPSK	26640	1RB#25	23.69	23.19
LTE Band 25	10M	QPSK	26640	1RB#49	23.70	23.20
LTE Band 25	10M	QPSK	26640	25RB#0	22.66	22.16
LTE Band 25	10M	QPSK	26640	25RB#13	22.51	22.01
LTE Band 25	10M	QPSK	26640	25RB#25	22.38	21.88
LTE Band 25	10M	QPSK	26640	50RB#0	22.52	22.02
LTE Band 25	10M	16QAM	26090	1RB#0	22.83	23.13
LTE Band 25	10M	16QAM	26090	1RB#25	23.35	23.65
LTE Band 25	10M	16QAM	26090	1RB#49	22.91	23.21
LTE Band 25	10M	16QAM	26090	25RB#0	21.47	21.77
LTE Band 25	10M	16QAM	26090	25RB#13	21.52	21.82
LTE Band 25	10M	16QAM	26090	25RB#25	21.59	21.89
LTE Band 25	10M	16QAM	26365	1RB#0	22.93	22.73
LTE Band 25	10M	16QAM	26365	1RB#25	23.02	22.82
LTE Band 25	10M	16QAM	26365	1RB#49	22.38	22.18
LTE Band 25	10M	16QAM	26365	25RB#0	21.57	21.37
LTE Band 25	10M	16QAM	26365	25RB#13	21.58	21.38
LTE Band 25	10M	16QAM	26365	25RB#25	21.60	21.40
LTE Band 25	10M	16QAM	26640	1RB#0	22.88	22.38
LTE Band 25	10M	16QAM	26640	1RB#25	23.22	22.72
LTE Band 25	10M	16QAM	26640	1RB#49	22.40	21.90
LTE Band 25	10M	16QAM	26640	25RB#0	21.55	21.05
LTE Band 25	10M	16QAM	26640	25RB#13	21.43	20.93
LTE Band 25	10M	16QAM	26640	25RB#25	21.37	20.87
LTE Band 25	15M	QPSK	26115	1RB#0	23.50	23.80
LTE Band 25	15M	QPSK	26115	1RB#38	23.57	23.87
LTE Band 25	15M	QPSK	26115	1RB#74	23.45	23.75
LTE Band 25	15M	QPSK	26115	36RB#0	22.60	22.90
LTE Band 25	15M	QPSK	26115	36RB#18	22.60	22.90
LTE Band 25	15M	QPSK	26115	36RB#39	22.58	22.88
LTE Band 25	15M	QPSK	26115	75RB#0	22.61	22.91
LTE Band 25	15M	QPSK	26365	1RB#0	23.55	23.35
LTE Band 25	15M	QPSK	26365	1RB#38	23.50	23.30
LTE Band 25	15M	QPSK	26365	1RB#74	23.41	23.21
LTE Band 25	15M	QPSK	26365	36RB#0	22.63	22.43
LTE Band 25	15M	QPSK	26365	36RB#18	22.60	22.40
LTE Band 25	15M	QPSK	26365	36RB#39	22.58	22.38
LTE Band 25	15M	QPSK	26365	75RB#0	22.61	22.41
LTE Band 25	15M	QPSK	26615	1RB#0	23.46	22.96
LTE Band 25	15M	QPSK	26615	1RB#38	23.78	23.28
LTE Band 25	15M	QPSK	26615	1RB#74	23.45	22.95
LTE Band 25	15M	QPSK	26615	36RB#0	22.58	22.08
LTE Band 25	15M	QPSK	26615	36RB#18	22.41	21.91

LTE Band 25	15M	QPSK	26615	36RB#39	22.34	21.84
LTE Band 25	15M	QPSK	26615	75RB#0	22.53	22.03
LTE Band 25	15M	16QAM	26115	1RB#0	23.09	23.39
LTE Band 25	15M	16QAM	26115	1RB#38	23.13	23.43
LTE Band 25	15M	16QAM	26115	1RB#74	22.98	23.28
LTE Band 25	15M	16QAM	26365	1RB#0	23.19	22.99
LTE Band 25	15M	16QAM	26365	1RB#38	23.13	22.93
LTE Band 25	15M	16QAM	26365	1RB#74	23.06	22.86
LTE Band 25	15M	16QAM	26615	1RB#0	23.11	22.61
LTE Band 25	15M	16QAM	26615	1RB#38	23.07	22.57
LTE Band 25	15M	16QAM	26615	1RB#74	22.89	22.39
LTE Band 25	20M	QPSK	26140	1RB#0	23.28	23.58
LTE Band 25	20M	QPSK	26140	1RB#50	23.89	24.19
LTE Band 25	20M	QPSK	26140	1RB#99	23.32	23.62
LTE Band 25	20M	QPSK	26140	50RB#0	22.68	22.98
LTE Band 25	20M	QPSK	26140	50RB#25	22.60	22.90
LTE Band 25	20M	QPSK	26140	50RB#50	22.55	22.85
LTE Band 25	20M	QPSK	26140	100RB#0	22.51	22.81
LTE Band 25	20M	QPSK	26365	1RB#0	23.18	22.98
LTE Band 25	20M	QPSK	26365	1RB#50	24.00	23.80
LTE Band 25	20M	QPSK	26365	1RB#99	23.31	23.11
LTE Band 25	20M	QPSK	26365	50RB#0	22.74	22.54
LTE Band 25	20M	QPSK	26365	50RB#25	22.70	22.50
LTE Band 25	20M	QPSK	26365	50RB#50	22.67	22.47
LTE Band 25	20M	QPSK	26365	100RB#0	22.63	22.43
LTE Band 25	20M	QPSK	26590	1RB#0	23.82	23.32
LTE Band 25	20M	QPSK	26590	1RB#50	23.88	23.38
LTE Band 25	20M	QPSK	26590	1RB#99	23.50	23.00
LTE Band 25	20M	QPSK	26590	50RB#0	22.49	21.99
LTE Band 25	20M	QPSK	26590	50RB#25	22.41	21.91
LTE Band 25	20M	QPSK	26590	50RB#50	22.34	21.84
LTE Band 25	20M	QPSK	26590	100RB#0	22.43	21.93
LTE Band 25	20M	16QAM	26140	1RB#0	22.50	22.80
LTE Band 25	20M	16QAM	26140	1RB#50	23.21	23.51
LTE Band 25	20M	16QAM	26140	1RB#99	22.57	22.87
LTE Band 25	20M	16QAM	26365	1RB#0	22.74	22.54
LTE Band 25	20M	16QAM	26365	1RB#50	23.26	23.06
LTE Band 25	20M	16QAM	26365	1RB#99	22.82	22.62
LTE Band 25	20M	16QAM	26590	1RB#0	21.82	21.32
LTE Band 25	20M	16QAM	26590	1RB#50	22.49	21.99
LTE Band 25	20M	16QAM	26590	1RB#99	21.91	21.41

6.2. Radiated Spurious Emission

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the emissions below the noise floor will not be recorded in the report.

WCDMA Band II CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3760.0	-60.42	2.60	12.50	Horizontal	-50.52	-13.00	37.52	69
3	5640.0	-48.19	3.30	12.50	Horizontal	-38.99	-13.00	25.99	106
4	7520.0	-57.77	4.20	12.20	Horizontal	-49.77	-13.00	36.77	49
5	9400.0	-54.15	4.30	11.10	Horizontal	-47.35	-13.00	34.35	18
6	11280.0	-50.27	5.90	11.90	Horizontal	-44.27	-13.00	31.27	193
7	13160.0	-51.28	5.70	14.00	Horizontal	-42.98	-13.00	29.98	224
8	15040.0	-52.03	5.80	13.10	Horizontal	-44.73	-13.00	31.73	64
9	16920.0	-49.81	6.10	14.60	Horizontal	-41.31	-13.00	28.31	16
10	18800.0	-	-	-	-	-	-	-	-

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 2 1.4MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3759.0	-60.52	2.60	12.50	Horizontal	-50.62	-13.00	37.62	225
3	5638.9	-37.44	3.30	12.50	Horizontal	-28.24	-13.00	15.24	45
4	7520.0	-54.85	4.20	12.20	Horizontal	-46.85	-13.00	33.85	0
5	9400.0	-54.41	4.30	11.10	Horizontal	-47.61	-13.00	34.61	90
6	11280.0	-49.79	5.90	11.90	Horizontal	-43.79	-13.00	30.79	0
7	13160.0	-53.12	5.70	14.00	Horizontal	-44.82	-13.00	31.82	225
8	15040.0	-47.92	5.80	13.10	Horizontal	-40.62	-13.00	27.62	45
9	16920.0	-50.85	6.10	14.60	Horizontal	-42.35	-13.00	29.35	45
10	18800.0	-	-	-	-	-	-	-	-

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 2 5MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3755.6	-62.04	2.60	12.50	Horizontal	-52.14	-13.00	39.14	225
3	5633.6	-41.71	3.30	12.50	Horizontal	-32.51	-13.00	19.51	45
4	7520.0	-53.40	4.20	12.20	Horizontal	-45.40	-13.00	32.40	0
5	9400.0	-55.47	4.30	11.10	Horizontal	-48.67	-13.00	35.67	90
6	11280.0	-51.86	5.90	11.90	Horizontal	-45.86	-13.00	32.86	0
7	13160.0	-53.92	5.70	14.00	Horizontal	-45.62	-13.00	32.62	225
8	15040.0	-49.27	5.80	13.10	Horizontal	-41.97	-13.00	28.97	45
9	16920.0	-51.29	6.10	14.60	Horizontal	-42.79	-13.00	29.79	45
10	18800.0	-	-	-	-	-	-	-	-

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 2 20MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3742.1	-59.59	2.60	12.50	Horizontal	-49.69	-13.00	36.69	225
3	5613.4	-40.80	3.30	12.50	Horizontal	-31.60	-13.00	18.60	45
4	7484.6	-54.39	4.20	12.20	Horizontal	-46.39	-13.00	33.39	0
5	9400.0	-51.30	4.30	11.10	Horizontal	-44.50	-13.00	31.50	90
6	11280.0	-51.14	5.90	11.90	Horizontal	-45.14	-13.00	32.14	0
7	13160.0	-53.43	5.70	14.00	Horizontal	-45.13	-13.00	32.13	225
8	15040.0	-48.67	5.80	13.10	Horizontal	-41.37	-13.00	28.37	45
9	16920.0	-50.75	6.10	14.60	Horizontal	-42.25	-13.00	29.25	45
10	18800.0	-	-	-	-	-	-	-	-

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 25 1.4MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3765.00	-62.12	2.60	12.50	Horizontal	-52.22	-13.00	39.22	0
3	5647.50	-41.88	3.30	12.50	Horizontal	-32.68	-13.00	19.68	135
4	7530.00	-55.34	4.20	12.20	Horizontal	-47.34	-13.00	34.34	0
5	9412.50	-55.35	4.30	11.10	Horizontal	-48.55	-13.00	35.55	135
6	11295.00	-50.81	5.90	11.90	Horizontal	-44.81	-13.00	31.81	90
7	13177.50	-52.47	5.70	14.00	Horizontal	-44.17	-13.00	31.17	0
8	15060.00	-47.19	5.80	13.10	Horizontal	-39.89	-13.00	26.89	45
9	16942.50	-49.64	6.10	14.60	Horizontal	-41.14	-13.00	28.14	225
10	18825.00	-	-	-	-	-	-	-	-

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 25 5MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3765.00	-60.30	2.60	12.50	Horizontal	-50.40	-13.00	37.40	180
3	5647.50	-41.06	3.30	12.50	Horizontal	-31.86	-13.00	18.86	90
4	7530.00	-55.51	4.20	12.20	Horizontal	-47.51	-13.00	34.51	135
5	9412.50	-54.07	4.30	11.10	Horizontal	-47.27	-13.00	34.27	225
6	11295.00	-51.43	5.90	11.90	Horizontal	-45.43	-13.00	32.43	90
7	13177.50	-53.08	5.70	14.00	Horizontal	-44.78	-13.00	31.78	315
8	15060.00	-49.04	5.80	13.10	Horizontal	-41.74	-13.00	28.74	45
9	16942.50	-49.45	6.10	14.60	Horizontal	-40.95	-13.00	27.95	135
10	18825.00	-	-	-	-	-	-	-	-

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 25 20MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3748.13	-61.00	2.60	12.50	Horizontal	-51.10	-13.00	38.10	135
3	5622.00	-38.98	3.30	12.50	Horizontal	-29.78	-13.00	16.78	225
4	7496.00	-55.66	4.20	12.20	Horizontal	-47.66	-13.00	34.66	180
5	9370.00	-54.37	4.30	11.10	Horizontal	-47.57	-13.00	34.57	45
6	11244.00	-50.97	5.90	11.90	Horizontal	-44.97	-13.00	31.97	180
7	13118.00	-52.67	5.70	14.00	Horizontal	-44.37	-13.00	31.37	315
8	14992.00	-47.96	5.80	13.10	Horizontal	-40.66	-13.00	27.66	225
9	16866.00	-49.21	6.10	14.60	Horizontal	-40.71	-13.00	27.71	45
10	18740.00	-	-	-	-	-	-	-	-

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.

7. Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Climate Chamber	WEISS	VT 4002	58226119450010	2022-05-14	2023-05-13
Wireless Communication Tester	R&S	CMW500	150415	2022-05-14	2023-05-13
Spectrum Analyzer	R&S	FSV30	104028	2022-05-14	2023-05-13
Loop Antenna	R&S	FSV40	100816	2021-12-12	2022-12-11
				2022-12-10	2023-12-09
TRILOG Broadband Antenna	Schwarzbeck	VULB 9163	01439	2021-06-30	2024-06-29
Horn Antenna	Schwarzbeck	BBHA 9120D	01799	2022-09-01	2025-08-31
Horn Antenna	ETS-Lindgren	3160-09	00102643	2021-10-10	2024-10-09
Software	R&S	EMC32	10.35.10	/	/

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

ANNEX A: The EUT Appearance

The EUT Appearance is submitted separately.

ANNEX B: Test Setup Photos

The Test Setup Photos is submitted separately.