FCC Test Report
(Part 24)

Report No.: RFBBQZ-WTW-P20120412-1

Contain module FCC ID: PY320300503

Test Model: LM1200

Received Date: Sep. 25, 2020

Test Date: Dec. 05 ~ Dec. 10, 2020

Issued Date: Dec. 15, 2020

Applicant: NETGEAR INC.

Address: 350 East Plumeria Drive, San Jose, CA 95134, USA

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Lin Kou Laboratories

Lab Address: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

Test Location: No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan

FCC Registration / Designation Number: 788550 / TW0003

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Release Control Record

Issue No.	Description	Date Issued
RFBBQZ-WTW-P20120412-1	Original release	Dec. 15, 2020

1 Certificate of Conformity

Product: LTE modem

Brand: Netgear

Test Model: LM1200

Sample Status: Engineering Sample

Applicant: NETGEAR INC.

Test Date: Dec. 05 ~ Dec. 10, 2020

Standards: FCC Part 24, Subpart E

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

Prepared by : Pettie Chen , **Date:** Dec. 15, 2020

Pettie Chen / Senior Specialist

Approved by : Bruce Chen , **Date:** Dec. 15, 2020

Bruce Chen / Senior Project Engineer

2 Summary of Test Results

Applied Standard: FCC Part 24 & Part 2			
FCC Clause	Test Item	Result	Remarks
2.1046 24.232	Effective radiated power	Pass	Meet the requirement of limit.
2.1053 24.238	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -29.4dB at 49.68MHz.

Note:

Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.04 dB
	30MHz ~ 200MHz	3.59 dB
	200MHz ~1000MHz	3.60 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Test Site and Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver KEYSIGHT	N9038A	MY55420137	Apr. 16, 2020	Apr. 15, 2021
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Jun. 12, 2020	Jun. 11, 2021
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Nov. 06, 2020	Nov. 05, 2021
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-1169	Nov. 22, 2020	Nov. 21, 2021
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 22, 2020	Nov. 21, 2021
Preamplifier Agilent (Below 1GHz)	8447D	2944A10638	Jun. 08, 2020	Jun. 07, 2021
Preamplifier Agilent (Above 1GHz)	8449B	3008A02367	Feb. 18, 2020	Feb. 17, 2021
RF signal cable HUBER+SUHNER&EMCI	SUCOFLEX 104 & EMC104-SM-SM8000	CABLE-CH9-02 (248780+171006)	Jan. 18, 2020	Jan. 17, 2021
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-(250795/4)	Jan. 18, 2020	Jan. 17, 2021
RF signal cable Woken	8D-FB	Cable-CH9-01	Jun. 08, 2020	Jun. 07, 2021
Software BV ADT	ADT_Radiated_V7.6.15.9.5	NA	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA	NA
Turn Table EMCO	2087-2.03	NA	NA	NA
Antenna Tower &Turn BV ADT	AT100	AT93021705	NA	NA
Turn Table BV ADT	TT100	TT93021705	NA	NA
Turn Table Controller BV ADT	SC100	SC93021705	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 01, 2020	May 31, 2021
JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA
True RMS Clamp Meter Fluke	325	31130711WS	Jun. 06, 2020	Jun. 05, 2021
DC power supply	U8002A	MY56330015	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 9.

3 General Information

3.1 General Description of EUT

Product	LTE modem		
Brand	Netgear		
Test Model	LM1200		
Sample Status	Engineering Sample		
Power Supply Rating	5 Vdc (Adapter)		
Modulation Type	WCDMA: BPSK, QPSK HSDPA: BPSK HSUPA: QPSK LTE: QPSK, 16QAM		
Operating Frequency	WCDMA Band 2	1852.4~1907.6MHz	
	LTE Band 2 (Channel Bandwidth 1.4MHz)	1850.7~1909.3MHz	
	LTE Band 2 (Channel Bandwidth 3MHz)	1851.5~1908.5MHz	
	LTE Band 2 (Channel Bandwidth 5MHz)	1852.5~1907.5MHz	
	LTE Band 2 (Channel Bandwidth 10MHz)	1855.0~1905.0MHz	
	LTE Band 2 (Channel Bandwidth 15MHz)	1857.5~1902.5MHz	
	LTE Band 2 (Channel Bandwidth 20MHz)	1860.0~1900.0MHz	
Max. EIRP Power	WCDMA Band 2	234.423mW (23.7dBm)	
		QPSK	16QAM
	LTE Band 2 (Channel Bandwidth 1.4MHz)	177.828mW (22.5dBm)	141.254mW (21.5dBm)
	LTE Band 2 (Channel Bandwidth 3MHz)	173.780mW (22.4dBm)	138.038mW (21.4dBm)
	LTE Band 2 (Channel Bandwidth 5MHz)	177.828mW (22.5dBm)	141.254mW (21.5dBm)
	LTE Band 2 (Channel Bandwidth 10MHz)	190.546mW (22.8dBm)	144.544mW (21.6dBm)
	LTE Band 2 (Channel Bandwidth 15MHz)	208.930mW (23.2dBm)	165.959mW (22.2dBm)
	LTE Band 2 (Channel Bandwidth 20MHz)	213.796mW (23.3dBm)	165.959mW (22.2dBm)
Antenna Type	Refer to Note		
Antenna Connector	Refer to Note		
Accessory Device	Refer to Note		
Cable Supplied	Refer to Note		

Note:

1. This report is prepared for FCC class II permissive change. The difference compared with the original report (BV CPS report no.: RFBBQZ-WTW-P20090593-1) is adding a WWAN antenna. Only Effective radiated power and Radiated Spurious Emissions were verified and recorded in this report. Other testing data please refer to the original TA Technology (Shanghai) Co., Ltd. report no.: R1806A0301-R2V1 (LTE Module, Brand: Quectel, Model: EC25-AF, FCC ID: XMR201808EC25AF).
2. The following antenna was provided to the EUT.

Antenna Type	Monopole	
Antenna Connector	TS-9 plugs	
Antenna Gain (dBi)	WCDMA Band 2	0.48
	LTE Band 2	0.48

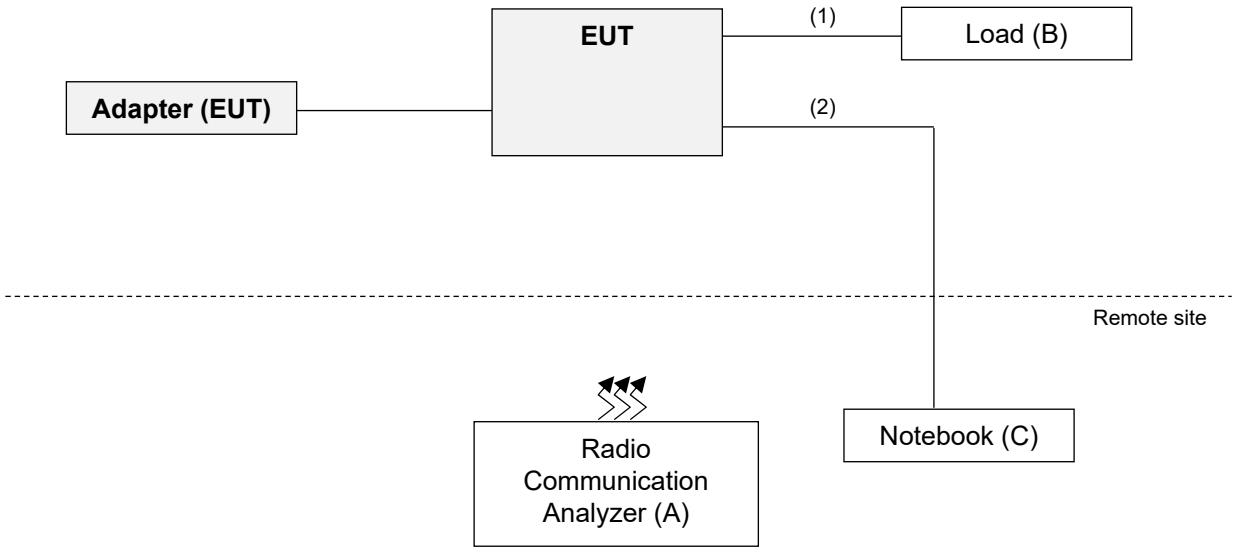
*The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

3. The EUT contains following accessory devices.

Adapter	
Brand	Netgear
Model	AD2037320
Input Power	100-240Vac~50/60Hz, 0.3A
Output Power	5.0Vdc, 2.0A

Cable	Brand	Model	Information
USB cable	HOTRON PRECISION	D0017100R20HR	1.0m shielded cable without core
RJ45 Cable 1	EKSON	HS01-C442	1.5m non-shielded cable without core
RJ45 Cable 2	EKSON	HS01-C445	1.5m non-shielded cable without core

3.2 Configuration of System under Test



3.2.1 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Radio Communication Analyzer	Anritsu	MT8821C	6261806803	NA	-
B.	Load	NA	NA	NA	NA	-
C.	Notebook	DELL	E5410	1HC2XM1	FCC Doc Approved	-

Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item A, C acted as a communication partner to transfer data.

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	LAN cable	1	1.5	Y	0	RJ45
2.	LAN cable	1	10	Y	0	RJ45

3.3 Test Mode Applicability and Tested Channel Detail

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports. The worst case was found when positioned on Z-plane. Following channel(s) was (were) selected for the final test as listed below:

WCDMA Band 2

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Mode
-	EIRP	9262 to 9538	9262 (1852.4MHz), 9400 (1880.0MHz), 9538 (1907.6MHz)	WCDMA
-	Radiated Emission Below 1GHz	9262 to 9538	9400 (1880.0MHz)	WCDMA
-	Radiated Emission Above 1GHz	9262 to 9538	9262 (1852.4MHz), 9400 (1880.0MHz), 9538 (1907.6MHz)	WCDMA

LTE Band 2

EUT Configure Mode	Test item	Available channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	EIRP	18607 to 19193	18607 (1850.70MHz), 18900 (1880.00MHz), 19193 (1909.30MHz)	1.4MHz	QPSK / 16QAM	1 RB / 0 RB Offset 1 RB / 2 RB Offset 1 RB / 5 RB Offset 3 RB / 0 RB Offset 3 RB / 1 RB Offset 3 RB / 3 RB Offset 6 RB / 0 RB Offset
		18615 to 19185	18615 (1851.50MHz), 18900 (1880.00MHz), 19185 (1908.50MHz)	3MHz	QPSK / 16QAM	1 RB / 0 RB Offset 1 RB / 7 RB Offset 1 RB / 14 RB Offset 8 RB / 0 RB Offset 8 RB / 3 RB Offset 8 RB / 7 RB Offset 15 RB / 0 RB Offset
		18625 to 19175	18625 (1852.50MHz), 18900 (1880.00MHz), 19175 (1907.50MHz)	5MHz	QPSK / 16QAM	1 RB / 0 RB Offset 1 RB / 12 RB Offset 1 RB / 24 RB Offset 12 RB / 0 RB Offset 12 RB / 6 RB Offset 12 RB / 13 RB Offset 25 RB / 0 RB Offset
		18650 to 19150	18650 (1855.00MHz), 18900 (1880.00MHz), 19150 (1905.00MHz)	10MHz	QPSK / 16QAM	1 RB / 0 RB Offset 1 RB / 24 RB Offset 1 RB / 49 RB Offset 25 RB / 0 RB Offset 25 RB / 12 RB Offset 25 RB / 25 RB Offset 50 RB / 0 RB Offset
		18675 to 19125	18675 (1857.50MHz), 18900 (1880.00MHz), 19125 (1902.50MHz)	15MHz	QPSK / 16QAM	1 RB / 0 RB Offset 1 RB / 37 RB Offset 1 RB / 74 RB Offset 36 RB / 0 RB Offset 36 RB / 19 RB Offset 36 RB / 39 RB Offset 75 RB / 0 RB Offset
		18700 to 19100	18700 (1860.00MHz), 18900 (1880.00MHz), 19100 (1900.00MHz)	20MHz	QPSK / 16QAM	1 RB / 0 RB Offset 1 RB / 50 RB Offset 1 RB / 99 RB Offset 50 RB / 0 RB Offset 50 RB / 25 RB Offset 50 RB / 50 RB Offset 100 RB / 0 RB Offset
-	Radiated Emission Below 1GHz	18625 to 19175	18900 (1880.00MHz)	5MHz	QPSK	1 RB / 0 RB Offset
-	Radiated Emission Above 1GHz	18607 to 19193	18607 (1850.70MHz), 18900 (1880.00MHz), 19193 (1909.30MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
		18625 to 19175	18625 (1852.50MHz), 18900 (1880.00MHz), 19175 (1907.50MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		18700 to 19100	18700 (1860.00MHz), 18900 (1880.00MHz), 19100 (1900.00MHz)	20MHz	QPSK	1 RB / 0 RB Offset

Test Condition:

Test Item	Environmental Conditions	Input Power (system)	Tested By
EIRP	23deg. C, 70%RH	120Vac, 60Hz	Willy Cheng
Radiated Emission	23deg. C, 70%RH	120Vac, 60Hz	Willy Cheng

3.4 EUT Operating Conditions

The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency

3.5 General Description of Applied Standards and References

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards and References:

Test Standard:

FCC 47 CFR Part 2
FCC 47 CFR Part 24
ANSI/TIA/EIA-603-E 2016
ANSI 63.26-2015

All test items have been performed and recorded as per the above standards.

References Test Guidance:

KDB 971168 D01 Power Meas License Digital Systems v03r01

All test items have been performed as a reference to the above KDB test guidance.

4 Test Types and Results

4.1 Output Power Measurement

4.1.1 Limits of Output Power Measurement

Mobile / Portable station are limited to 2 watts e.r.p.

4.1.2 Test Procedures

EIRP / ERP Measurement:

a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m(below or equal 1GHz) and/or 1.5m(above 1GHz) height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.

b. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

c. Perform a field strength measurement and record the worse read value, is the field strength value via a spectrum reading obtained corrected for antenna factor, cable loss and pre-amplifier factor and then mathematically convert the measured field strength level to EIRP/ERP level.

d. Following C63.26 section 5.2.7

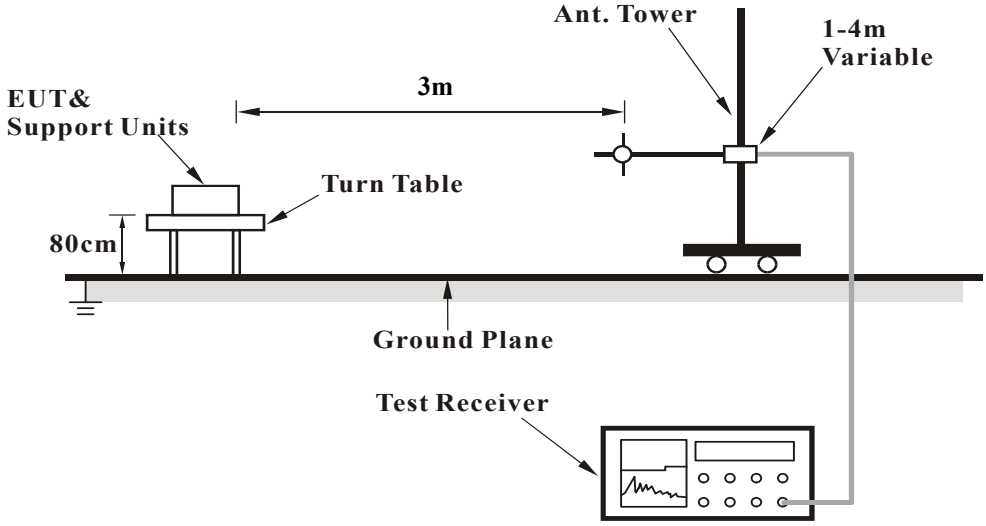
EIRP (dBm) = E (dBμV/m) + 20log(D) - 104.8; where D is the measurement distance (in the far field region) in m.

ERP (dBm) = E (dBμV/m) + 20log(D) - 104.8 - 2.15; where D is the measurement distance (in the far field region) in m.

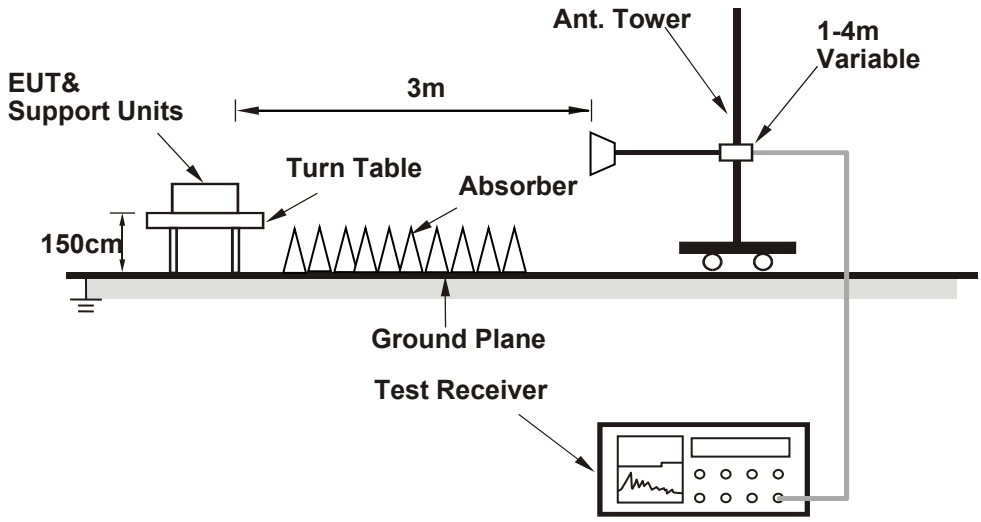
4.1.3 Test Setup

EIRP / ERP Measurement:

For radiated emission 30MHz to 1GHz



For radiated emission above 1GHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.1.4 Test Results

EIRP Power (dBm)

WCDMA Band 2

Mode	TX channel 9262, 9400, 9538							
Antenna Polarity & Test Distance: Horizontal at 3 M								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1852.40	11.4	33.0	-21.6	1.21 H	83	74.6	-63.2
2	1880.00	11.8	33.0	-21.2	1.19 H	80	75.0	-63.2
3	1907.60	11.7	33.0	-21.3	1.20 H	80	74.8	-63.1
Antenna Polarity & Test Distance: Vertical at 3 M								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1852.40	23.4	33.0	-9.6	1.00 V	105	86.6	-63.2
2	1880.00	23.7	33.0	-9.3	1.00 V	100	86.9	-63.2
3	1907.60	23.6	33.0	-9.4	1.00 V	100	86.7	-63.1

Remarks:

1. EIRP(dBm) = Raw Value(dBuV/m) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value

Modulation Type: QPSK

LTE Band 2, Channel Bandwidth: 1.4MHz

Mode	TX channel 18607, 18900, 19193							
Antenna Polarity & Test Distance: Horizontal at 3 M								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1850.70	11.2	33.0	-21.8	1.00 H	101	74.4	-63.2
2	1880.00	11.9	33.0	-21.1	1.23 H	96	75.1	-63.2
3	1909.30	11.8	33.0	-21.2	1.22 H	92	74.9	-63.1
Antenna Polarity & Test Distance: Vertical at 3 M								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1850.70	22.0	33.0	-11.0	1.00 V	65	85.2	-63.2
2	1880.00	22.3	33.0	-10.7	1.00 V	66	85.5	-63.2
3	1909.30	22.5	33.0	-10.5	1.02 V	57	85.6	-63.1

LTE Band 2, Channel Bandwidth: 3MHz

Mode	TX channel 18615, 18900, 19185							
Antenna Polarity & Test Distance: Horizontal at 3 M								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1851.50	11.5	33.0	-21.5	1.28 H	97	74.7	-63.2
2	1880.00	11.9	33.0	-21.1	1.33 H	88	75.1	-63.2
3	1908.50	11.6	33.0	-21.4	1.21 H	100	74.7	-63.1
Antenna Polarity & Test Distance: Vertical at 3 M								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1851.50	22.2	33.0	-10.8	1.00 V	70	85.4	-63.2
2	1880.00	22.4	33.0	-10.6	1.00 V	64	85.6	-63.2
3	1908.50	22.0	33.0	-11.0	1.01 V	59	85.1	-63.1

Remarks:

1. EIRP(dBm) = Raw Value(dBuV/m) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value

LTE Band 2, Channel Bandwidth: 5MHz

Mode	TX channel 18625, 18900, 19175							
Antenna Polarity & Test Distance: Horizontal at 3 M								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1852.50	11.6	33.0	-21.4	1.29 H	96	74.8	-63.2
2	1880.00	11.6	33.0	-21.4	1.33 H	88	74.8	-63.2
3	1907.50	12.0	33.0	-21.0	1.20 H	99	75.1	-63.1
Antenna Polarity & Test Distance: Vertical at 3 M								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1852.50	22.3	33.0	-10.7	1.00 V	66	85.5	-63.2
2	1880.00	22.5	33.0	-10.5	1.03 V	62	85.7	-63.2
3	1907.50	22.3	33.0	-10.7	1.00 V	60	85.4	-63.1

LTE Band 2, Channel Bandwidth: 10MHz

Mode	TX channel 18650, 18900, 19150							
Antenna Polarity & Test Distance: Horizontal at 3 M								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1855.00	12.0	33.0	-21.0	1.22 H	86	75.2	-63.2
2	1880.00	12.5	33.0	-20.5	1.19 H	93	75.7	-63.2
3	1905.00	12.4	33.0	-20.6	1.15 H	92	75.5	-63.1
Antenna Polarity & Test Distance: Vertical at 3 M								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1855.00	22.6	33.0	-10.4	1.00 V	63	85.8	-63.2
2	1880.00	22.8	33.0	-10.2	1.05 V	59	86.0	-63.2
3	1905.00	22.6	33.0	-10.4	1.04 V	62	85.7	-63.1

Remarks:

1. EIRP(dBm) = Raw Value(dBuV/m) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value

LTE Band 2, Channel Bandwidth: 15MHz

Mode	TX channel 18675, 18900, 19125							
Antenna Polarity & Test Distance: Horizontal at 3 M								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1857.50	12.3	33.0	-20.7	1.21 H	88	75.5	-63.2
2	1880.00	12.9	33.0	-20.1	1.11 H	90	76.1	-63.2
3	1902.50	12.5	33.0	-20.5	1.15 H	96	75.6	-63.1
Antenna Polarity & Test Distance: Vertical at 3 M								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1857.50	22.8	33.0	-10.2	1.00 V	66	86.0	-63.2
2	1880.00	23.2	33.0	-9.8	1.01 V	69	86.4	-63.2
3	1902.50	23.1	33.0	-9.9	1.05 V	69	86.2	-63.1

LTE Band 2, Channel Bandwidth: 20MHz

Mode	TX channel 18700, 18900, 19100							
Antenna Polarity & Test Distance: Horizontal at 3 M								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1860.00	12.2	33.0	-20.8	1.20 H	77	75.3	-63.1
2	1880.00	12.6	33.0	-20.4	1.18 H	80	75.8	-63.2
3	1900.00	12.8	33.0	-20.2	1.19 H	80	75.9	-63.1
Antenna Polarity & Test Distance: Vertical at 3 M								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1860.00	23.0	33.0	-10.0	1.00 V	60	86.1	-63.1
2	1880.00	23.3	33.0	-9.7	1.00 V	68	86.5	-63.2
3	1900.00	23.2	33.0	-9.8	1.10 V	70	86.3	-63.1

Remarks:

1. EIRP(dBm) = Raw Value(dBuV/m) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value

Modulation Type: 16QAM

LTE Band 2, Channel Bandwidth: 1.4MHz

Mode	TX channel 18607, 18900, 19193							
Antenna Polarity & Test Distance: Horizontal at 3 M								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1850.70	10.2	33.0	-22.8	1.00 H	101	73.4	-63.2
2	1880.00	10.9	33.0	-22.1	1.23 H	96	74.1	-63.2
3	1909.30	10.8	33.0	-22.2	1.22 H	92	73.9	-63.1
Antenna Polarity & Test Distance: Vertical at 3 M								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1850.70	21.0	33.0	-12.0	1.00 V	65	84.2	-63.2
2	1880.00	21.3	33.0	-11.7	1.00 V	66	84.5	-63.2
3	1909.30	21.5	33.0	-11.5	1.02 V	57	84.6	-63.1

LTE Band 2, Channel Bandwidth: 3MHz

Mode	TX channel 18615, 18900, 19185							
Antenna Polarity & Test Distance: Horizontal at 3 M								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1851.50	10.5	33.0	-22.5	1.28 H	97	73.7	-63.2
2	1880.00	10.9	33.0	-22.1	1.33 H	88	74.1	-63.2
3	1908.50	10.6	33.0	-22.4	1.21 H	100	73.7	-63.1
Antenna Polarity & Test Distance: Vertical at 3 M								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1851.50	21.2	33.0	-11.8	1.00 V	70	84.4	-63.2
2	1880.00	21.4	33.0	-11.6	1.00 V	64	84.6	-63.2
3	1908.50	21.0	33.0	-12.0	1.01 V	59	84.1	-63.1

Remarks:

1. EIRP(dBm) = Raw Value(dBuV/m) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value

LTE Band 2, Channel Bandwidth: 5MHz

Mode	TX channel 18625, 18900, 19175							
Antenna Polarity & Test Distance: Horizontal at 3 M								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1852.50	10.6	33.0	-22.4	1.29 H	96	73.8	-63.2
2	1880.00	10.6	33.0	-22.4	1.33 H	88	73.8	-63.2
3	1907.50	11.0	33.0	-22.0	1.20 H	99	74.1	-63.1
Antenna Polarity & Test Distance: Vertical at 3 M								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1852.50	21.3	33.0	-11.7	1.00 V	66	84.5	-63.2
2	1880.00	21.5	33.0	-11.5	1.03 V	62	84.7	-63.2
3	1907.50	21.3	33.0	-11.7	1.00 V	60	84.4	-63.1

LTE Band 2, Channel Bandwidth: 10MHz

Mode	TX channel 18650, 18900, 19150							
Antenna Polarity & Test Distance: Horizontal at 3 M								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1855.00	11.0	33.0	-22.0	1.22 H	86	74.2	-63.2
2	1880.00	11.6	33.0	-21.4	1.19 H	93	74.8	-63.2
3	1905.00	11.4	33.0	-21.6	1.15 H	92	74.5	-63.1
Antenna Polarity & Test Distance: Vertical at 3 M								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1855.00	21.5	33.0	-11.5	1.00 V	63	84.7	-63.2
2	1880.00	21.6	33.0	-11.4	1.05 V	59	84.8	-63.2
3	1905.00	21.6	33.0	-11.4	1.04 V	62	84.7	-63.1

Remarks:

1. EIRP(dBm) = Raw Value(dBuV/m) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value

LTE Band 2, Channel Bandwidth: 15MHz

Mode	TX channel 18675, 18900, 19125							
Antenna Polarity & Test Distance: Horizontal at 3 M								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1857.50	11.3	33.0	-21.7	1.21 H	88	74.5	-63.2
2	1880.00	11.8	33.0	-21.2	1.11 H	90	75.0	-63.2
3	1902.50	11.5	33.0	-21.5	1.15 H	96	74.6	-63.1
Antenna Polarity & Test Distance: Vertical at 3 M								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1857.50	21.8	33.0	-11.2	1.00 V	66	85.0	-63.2
2	1880.00	22.2	33.0	-10.8	1.01 V	69	85.4	-63.2
3	1902.50	22.1	33.0	-10.9	1.05 V	69	85.2	-63.1

LTE Band 2, Channel Bandwidth: 20MHz

Mode	TX channel 18700, 18900, 19100							
Antenna Polarity & Test Distance: Horizontal at 3 M								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1860.00	11.2	33.0	-21.8	1.20 H	77	74.3	-63.1
2	1880.00	11.6	33.0	-21.4	1.18 H	80	74.8	-63.2
3	1900.00	11.7	33.0	-21.3	1.19 H	80	74.8	-63.1
Antenna Polarity & Test Distance: Vertical at 3 M								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1860.00	22.0	33.0	-11.0	1.00 V	60	85.1	-63.1
2	1880.00	22.2	33.0	-10.8	1.00 V	68	85.4	-63.2
3	1900.00	22.1	33.0	-10.9	1.10 V	70	85.2	-63.1

Remarks:

1. EIRP(dBm) = Raw Value(dBuV/m) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value

4.2 Radiated Emission Measurement

4.2.1 Limits of Radiated Emission Measurement

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. The emission limit equal to –13dBm.

4.2.2 Test Procedure

a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m(below or equal 1GHz) and/or 1.5m(above 1GHz) height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.

b. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

c. Perform a field strength measurement and record the worse read value, is the field strength value via a spectrum reading obtained corrected for antenna factor, cable loss and pre-amplifier factor and then mathematically convert the measured field strength level to EIRP/ERP level.

d. Following C63.26 section 5.5

EIRP (dBm) = E (dBμV/m) + 20log(D) - 104.8; where D is the measurement distance (in the far field region) in m.

ERP (dBm) = E (dBμV/m) + 20log(D) - 104.8-2.15; where D is the measurement distance (in the far field region) in m.

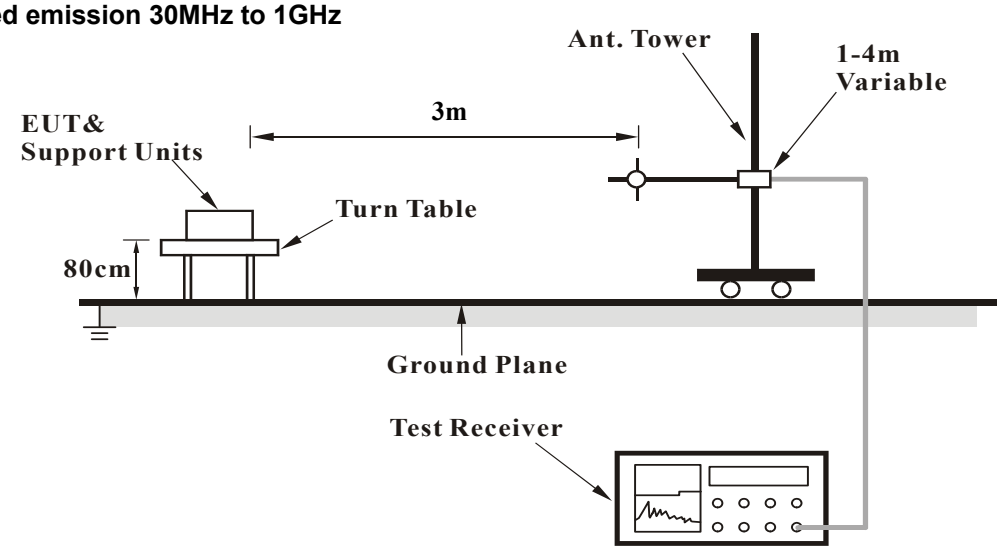
NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

4.2.3 Deviation from Test Standard

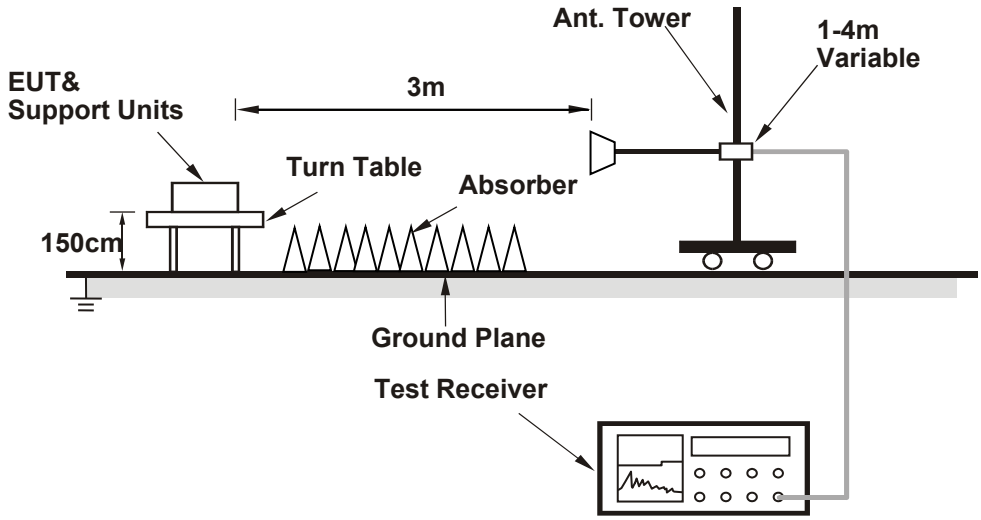
No deviation.

4.2.4 Test Setup

For radiated emission 30MHz to 1GHz



For radiated emission above 1GHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.2.5 Test Results

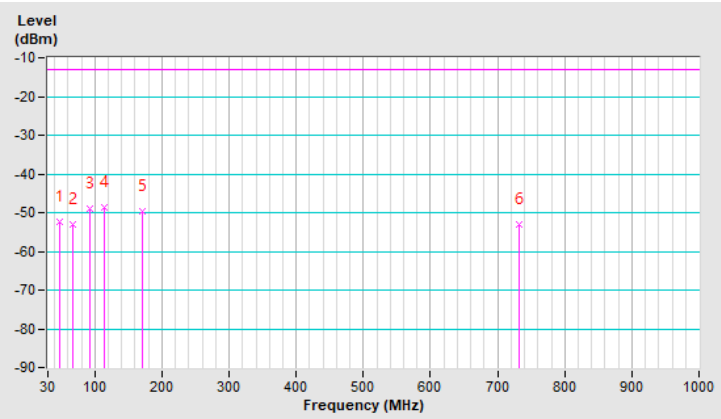
Below 1GHz
WCDMA Band 2

Mode	TX channel 9400 (1880.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Willy Cheng		

Antenna Polarity & Test Distance: Horizontal at 3 M								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	48.28	-52.5	-13.0	-39.5	1.51 H	123	51.9	-104.4
2	66.55	-52.9	-13.0	-39.9	2.00 H	156	52.7	-105.6
3	93.26	-49.1	-13.0	-36.1	1.01 H	16	60.4	-109.5
4	114.35	-48.6	-13.0	-35.6	1.51 H	173	58.3	-106.9
5	170.58	-49.6	-13.0	-36.6	1.51 H	236	54.5	-104.1
6	731.49	-52.9	-13.0	-39.9	1.01 H	302	39.7	-92.6

Remarks:

1. EIRP(dBm) = Raw Value(dBuV/m) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

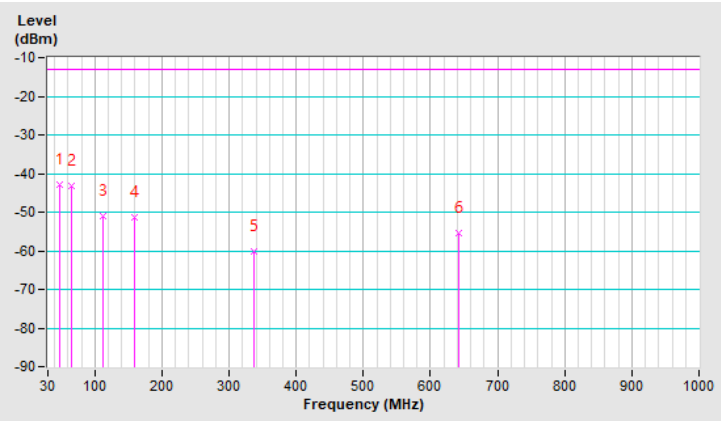


Mode	TX channel 9400 (1880.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Willy Cheng		

Antenna Polarity & Test Distance: Vertical at 3 M								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	48.28	-42.9	-13.0	-29.9	1.49 V	330	61.5	-104.4
2	65.14	-43.2	-13.0	-30.2	2.00 V	37	62.3	-105.5
3	112.94	-50.9	-13.0	-37.9	1.00 V	307	56.1	-107.0
4	159.33	-51.2	-13.0	-38.2	1.49 V	293	52.4	-103.6
5	337.87	-60.1	-13.0	-47.1	1.49 V	155	41.0	-101.1
6	642.93	-55.3	-13.0	-42.3	1.49 V	58	38.9	-94.2

Remarks:

1. EIRP(dBm) = Raw Value(dBuV/m) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.



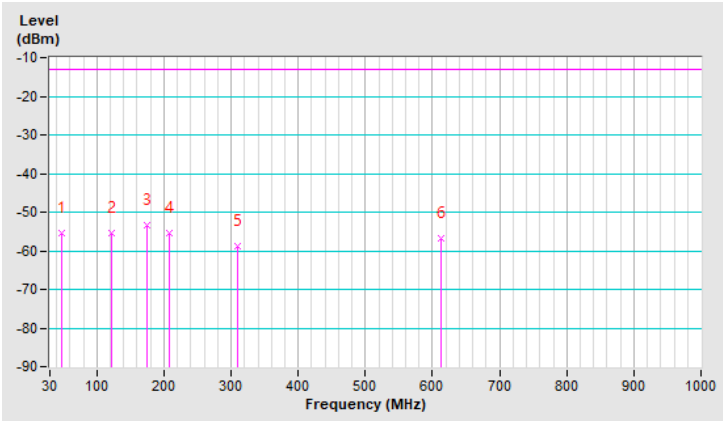
LTE Band 2, Channel Bandwidth: 5MHz

Mode	TX channel 18900 (1880.00MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Willy Cheng		

Antenna Polarity & Test Distance: Horizontal at 3 M								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	48.28	-55.4	-13.0	-42.4	1.50 H	139	49.0	-104.4
2	122.78	-55.5	-13.0	-42.5	1.00 H	163	50.4	-105.9
3	174.80	-53.3	-13.0	-40.3	2.00 H	236	51.2	-104.5
4	208.54	-55.3	-13.0	-42.3	1.50 H	221	51.0	-106.3
5	309.75	-58.7	-13.0	-45.7	1.00 H	93	43.0	-101.7
6	612.00	-56.9	-13.0	-43.9	2.00 H	163	37.7	-94.6

Remarks:

1. EIRP(dBm) = Raw Value(dBuV/m) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

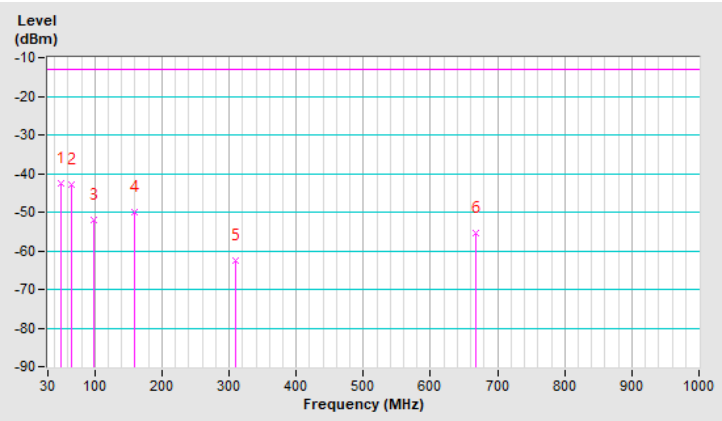


Mode	TX channel 18900 (1880.00MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Willy Cheng		

Antenna Polarity & Test Distance: Vertical at 3 M								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	**49.68**	**-42.4**	**-13.0**	**-29.4**	**1.50 V**	**19**	**62.0**	**-104.4**
2	65.14	-42.9	-13.0	-29.9	2.00 V	22	62.6	-105.5
3	98.88	-52.1	-13.0	-39.1	1.00 V	141	56.7	-108.8
4	159.33	-50.1	-13.0	-37.1	1.00 V	301	53.5	-103.6
5	309.75	-62.5	-13.0	-49.5	1.50 V	5	39.2	-101.7
6	666.83	-55.3	-13.0	-42.3	2.00 V	44	38.5	-93.8

Remarks:

1. EIRP(dBm) = Raw Value(dBuV/m) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.



Above 1GHz
WCDMA Band 2

Mode	TX channel 9262 (1852.4MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	22deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Willy Cheng		

Antenna Polarity & Test Distance: Horizontal at 3 M								
No.	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3704.80	-48.6	-13.0	-35.6	2.01 H	188	44.6	-93.2
Antenna Polarity & Test Distance: Vertical at 3 M								
No.	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3704.80	-48.3	-13.0	-35.3	1.23 V	189	44.9	-93.2

Mode	TX channel 9400 (1880.0MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	22deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Willy Cheng		

Antenna Polarity & Test Distance: Horizontal at 3 M								
No.	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-48.3	-13.0	-35.3	2.00 H	187	44.7	-93.0
Antenna Polarity & Test Distance: Vertical at 3 M								
No.	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-48.0	-13.0	-35.0	1.16 V	183	45.0	-93.0

Mode	TX channel 9538 (1907.6MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	22deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Willy Cheng		

Antenna Polarity & Test Distance: Horizontal at 3 M								
No.	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3815.20	-48.5	-13.0	-35.5	1.89 H	190	44.2	-92.7
Antenna Polarity & Test Distance: Vertical at 3 M								
No.	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3815.20	-48.2	-13.0	-35.2	1.24 V	180	44.5	-92.7

Remarks:

1. EIRP(dBm) = Raw Value(dBuV/m) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

LTE Band 2, Channel Bandwidth 1.4MHz

Mode	TX channel 18607 (1850.70MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	22deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Willy Cheng		

Antenna Polarity & Test Distance: Horizontal at 3 M								
No.	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3701.40	-48.9	-13.0	-35.9	1.79 H	192	44.3	-93.2
Antenna Polarity & Test Distance: Vertical at 3 M								
No.	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3701.40	-49.9	-13.0	-36.9	1.32 V	192	43.3	-93.2

Mode	TX channel 18900 (1880.00MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	22deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Willy Cheng		

Antenna Polarity & Test Distance: Horizontal at 3 M								
No.	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-49.0	-13.0	-36.0	1.82 H	190	44.0	-93.0
Antenna Polarity & Test Distance: Vertical at 3 M								
No.	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-49.6	-13.0	-36.6	1.27 V	185	43.4	-93.0

Mode	TX channel 19193 (1909.30MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	22deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Willy Cheng		

Antenna Polarity & Test Distance: Horizontal at 3 M								
No.	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3818.60	-48.9	-13.0	-35.9	1.80 H	192	43.8	-92.7
Antenna Polarity & Test Distance: Vertical at 3 M								
No.	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3818.60	-49.9	-13.0	-36.9	1.26 V	184	42.8	-92.7

Remarks:

1. EIRP(dBm) = Raw Value(dBuV/m) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

LTE Band 2, Channel Bandwidth 5MHz

Mode	TX channel 18625 (1852.50MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	22deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Willy Cheng		

Antenna Polarity & Test Distance: Horizontal at 3 M								
No.	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3705.00	-49.2	-13.0	-36.2	1.93 H	199	44.0	-93.2
Antenna Polarity & Test Distance: Vertical at 3 M								
No.	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3705.00	-49.6	-13.0	-36.6	1.23 V	182	43.6	-93.2

Mode	TX channel 18900 (1880.00MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	22deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Willy Cheng		

Antenna Polarity & Test Distance: Horizontal at 3 M								
No.	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-48.7	-13.0	-35.7	1.99 H	199	44.3	-93.0
Antenna Polarity & Test Distance: Vertical at 3 M								
No.	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-49.8	-13.0	-36.8	1.30 V	180	43.2	-93.0

Mode	TX channel 19175 (1907.50MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	22deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Willy Cheng		

Antenna Polarity & Test Distance: Horizontal at 3 M								
No.	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3815.00	-48.8	-13.0	-35.8	1.90 H	200	43.9	-92.7
Antenna Polarity & Test Distance: Vertical at 3 M								
No.	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3815.00	-49.8	-13.0	-36.8	1.25 V	180	42.9	-92.7

Remarks:

1. EIRP(dBm) = Raw Value(dBuV/m) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

LTE Band 2, Channel Bandwidth 20MHz

Mode	TX channel 18700 (1860.00MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	22deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Willy Cheng		

Antenna Polarity & Test Distance: Horizontal at 3 M								
No.	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3720.00	-48.9	-13.0	-35.9	1.90 H	200	44.3	-93.2
Antenna Polarity & Test Distance: Vertical at 3 M								
No.	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3720.00	-49.5	-13.0	-36.5	1.33 V	188	43.7	-93.2

Mode	TX channel 18900 (1880.00MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	22deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Willy Cheng		

Antenna Polarity & Test Distance: Horizontal at 3 M								
No.	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-48.8	-13.0	-35.8	1.89 H	195	44.2	-93.0
Antenna Polarity & Test Distance: Vertical at 3 M								
No.	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-49.0	-13.0	-36.0	1.29 V	189	44.0	-93.0

Mode	TX channel 19100 (1900.00MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	22deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Willy Cheng		

Antenna Polarity & Test Distance: Horizontal at 3 M								
No.	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3800.00	-49.0	-13.0	-36.0	1.90 H	200	43.7	-92.7
Antenna Polarity & Test Distance: Vertical at 3 M								
No.	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3800.00	-49.4	-13.0	-36.4	1.30 V	180	43.3	-92.7

Remarks:

1. EIRP(dBm) = Raw Value(dBuV/m) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

Appendix – Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

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The address and road map of all our labs can be found in our web site also.

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