Partial FCC Test Report

(PART 27)

Report No.: RFBHTZ-WTW-P22080640-3

FCC ID: PPQ202008EG91NAXD

Test Model: EG91NAXD

Received Date: Aug. 18, 2022

Test Date: Dec. 14 ~ Dec. 15, 2022

Issued Date: Jan. 13, 2023

Applicant: LITE-ON Technology Corp.

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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
RFBHTZ-WTW-P22080640-3	Original Release	Jan. 13, 2023

1 Certificate of Conformity

Product: EG91NAXD

Brand: LITEON

Test Model: EG91NAXD

Sample Status: Engineering Sample

Applicant: LITE-ON Technology Corp.

Test Date: Dec. 14 ~ Dec. 15, 2022

Standards: FCC Part 27, Subpart C, L

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 : Lena Wang , **Date:** Jan. 13, 2023

Lena Wang / Specialist

Approved by : Jeremy Lin , **Date:** Jan. 13, 2023

Jeremy Lin / Project Engineer

2 Summary of Test Results

Applied Standard: FCC Part 27 & Part 2 (WCDMA & LTE 4)			
FCC Clause	**Test Item**	**Result**	**Remarks**
2.1046 27.50(d)	Equivalent Isotropically radiated power	Pass	Meet the requirement of limit.
2.1047	Modulation characteristics	N/A	Refer to Note
2.1055 27.54	Frequency Stability	N/A	Refer to Note
2.1049	Emission Bandwidth	N/A	Refer to Note
2.1051 27.53(h)	Out of Band Emission Measurements	N/A	Refer to Note
27.50(d)(5)	Peak To Average Ratio	N/A	Refer to Note
2.1051 27.53(h)	Conducted Spurious Emissions	N/A	Refer to Note
2.1053 27.53(h)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -24.43 dB at 3505.20 MHz.

Note:

1. This report is a partial report, only test item of Effective Isotropic Radiated Power & Radiated Emissions were performed for this report. Other testing data please refer to TA Technology (Shanghai) Co., Ltd. report no.: R2006A0379-R5.
2. 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	9 kHz ~ 30 MHz	2.44 dB
	30 MHz ~ 200 MHz	2.95 dB
	200 MHz ~ 1000 MHz	2.95 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	2.26 dB
	18 GHz ~ 40 GHz	1.94 dB

2.2 Test Site and Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower &Turn Max-Full	MFA-440H	AT93021705	NA	NA
Turn Table Max-Full	MFT-201SS	NA	NA	NA
Turn Table Controller Max-Full	MG-7802	NA	NA	NA
Test Receiver KEYSIGHT	N9038A	MY55420137	Apr. 27, 2022	Apr. 26, 2023
Signal Analyzer Agilent	N9010A	MY52220207	Jan. 06, 2022	Jan. 05, 2023
Pre-amplifier EMCI	EMC001340	980201	Sep. 23, 2022	Sep. 22, 2023
RF Coaxial Cable EMCI	5D-NM-BM	140903+140902	Jan. 15, 2022	Jan. 14, 2023
Pre-Ammlifier EMCI	EMC 330H	980112	Oct. 01, 2022	Sep. 30, 2023
Bi_Log Antenna Schwarzbeck	VULB9168	9168-472	Oct. 21, 2022	Oct. 20, 2023
RF Coaxial Cable WORKEN	8D-FB	Cable-Ch10-01	Oct. 01, 2022	Sep. 30, 2023
Horn Antenna Schwarzbeck	BBHA 9120D	9120D-969	Nov. 13, 2022	Nov. 12, 2023
Pre-Amplifier EMCI	EMC 012645	980115	Oct. 01, 2022	Sep. 30, 2023
RF Coaxial Cable EMCI	EMC104-SM-SM- 8000+3000	171005	Oct. 01, 2022	Sep. 30, 2023
RF Coaxial Cable HUBER SUHNER	SUCOFLEX 104	EMC104-SM-SM- 1000(140807)	Oct. 01, 2022	Sep. 30, 2023
RF FLITER MICRO-TRONICS	BRM50716	060	Jan. 10, 2022	Jan. 09, 2023
RF FLITER MICRO-TRONICS	BRM17690	004	Jan. 10, 2022	Jan. 09, 2023
Boresight antenna tower fixture BV	BAF-02	7	NA	NA
Pre-Ammlifier EMCI	EMC 184045	980116	Oct. 01, 2022	Sep. 30, 2023
Horn Antenna Schwarzbeck	BBHA 9170	148	Nov. 13, 2022	Nov. 12, 2023
RF Coaxial Cable EMCI	EMC102-KM-KM-600	150928	Jul. 09, 2022	Jul. 08, 2023
RF Coaxial Cable EMCI	EMC102-KM-KM- 3000	150929	Jul. 09, 2022	Jul. 08, 2023
Radio Communication Analyzer Anritsu	MT8820C	6201300640	Aug. 26, 2021	Aug. 25, 2023

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 HY - 966 chamber 5.

3 General Information

3.1 General Description of EUT

Product	EG91NAXD		
Brand	LITEON		
Test Model	EG91NAXD		
Status of EUT	Engineering Sample		
Power Supply Rating	208- 240Vac		
Modulation Type	WCDMA	QPSK	
	LTE	QPSK, 16QAM	
Frequency Range	WCDMA	1712.4 ~ 1752.6 MHz	
	LTE Band 4 (Channel Bandwidth: 1.4 MHz)	1710.7 ~ 1754.3 MHz	
	LTE Band 4 (Channel Bandwidth: 3 MHz)	1711.5 ~ 1753.5 MHz	
	LTE Band 4 (Channel Bandwidth: 5 MHz)	1712.5 ~ 1752.5 MHz	
	LTE Band 4 (Channel Bandwidth: 10 MHz)	1715.0 ~ 1750.0 MHz	
	LTE Band 4 (Channel Bandwidth: 15 MHz)	1717.5 ~ 1747.5 MHz	
	LTE Band 4 (Channel Bandwidth: 20 MHz)	1720.0 ~ 1745.0 MHz	
Max. EIRP Power	WCDMA	154.170 mW (21.88dBm)	
		QPSK	16QAM
	LTE Band 4 (Channel Bandwidth: 1.4 MHz)	255.859 mW (24.08dBm)	230.144 mW (23.62dBm)
	LTE Band 4 (Channel Bandwidth: 3 MHz)	234.423 mW (23.70dBm)	206.063 mW (23.14dBm)
	LTE Band 4 (Channel Bandwidth: 5 MHz)	274.157 mW (24.38dBm)	246.037 mW (23.91dBm)
	LTE Band 4 (Channel Bandwidth: 10 MHz)	222.844 mW (23.48dBm)	197.242 mW (22.95dBm)
	LTE Band 4 (Channel Bandwidth: 15 MHz)	234.963 mW (23.71dBm)	206.063 mW (23.14dBm)
	LTE Band 4 (Channel Bandwidth: 20 MHz)	267.917 mW (24.28dBm)	271.644 mW (24.34dBm)
Antenna Type	Monopole Coupling		
Antenna Gain	WCDMA	3 dBi	
	LTE Band 4	3 dBi	
Accessory Device	Refer to Note as below		
Data Cable Supplied	Refer to Note as below		

Note:

1. This report is prepared for FCC class II permissive change. This report is issued as a supplementary report to TA Technology (Shanghai) Co., Ltd. report no.: R2006A0379-R5. The difference compared with original report are adding end-product and antenna (Brand: Auden / Model: D32788-30). Therefore, only test item of Effective Isotropic Radiated Power & Radiated Emissions were performed for this report. Other testing data please refer to original report.

2. The EUT is authorized for use in specific End-product. Please refer to below for more details. The model of ‘EX-1193-M’ was chosen for final test.

Brand	Model	LTE	RFID	WIFI	Difference
LITEON	EX-1193-M	FCC ID: PPQ202008EG91NAXD	FCC ID: PPQRYORR2L	FCC ID: PPQLILYW131	The rated current (80A/48A) and the model of the charger
	EX-1193-M-48				

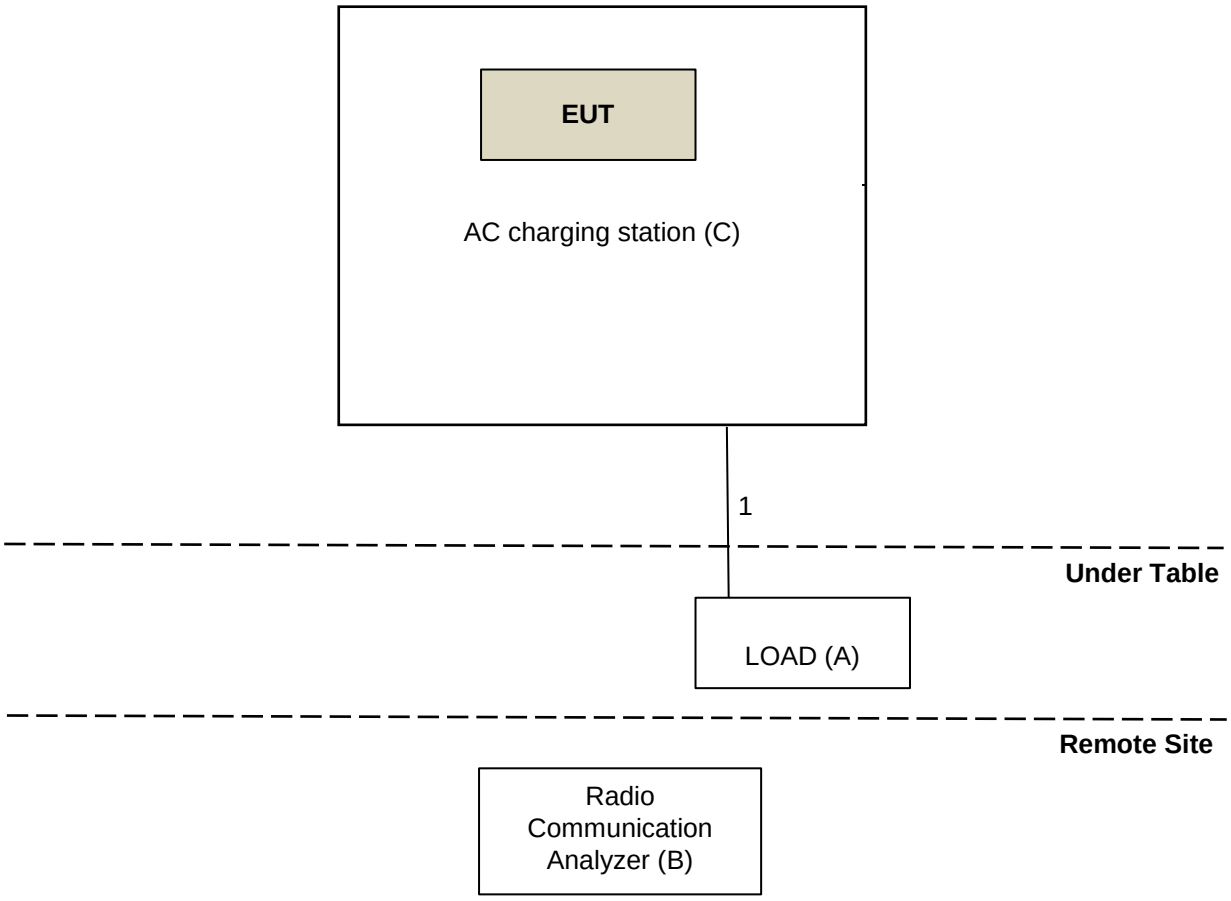
3. The End-product contains following accessory devices.

Product	Brand	Model	Description
holster	Liteon	N/A	-

4. Detail antenna specification please refer to antenna datasheet and/or antenna measurement report.
5. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

3.2 Configuration of System under Test

<Radiated Emission Test & E.I.R.P. 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.

No.	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	LOAD	NA	NA	NA	NA	Provided by Lab
B	Radio Communication Analyzer	Anritsu	MT8820C	6201300640	N/A	Provided by Lab
C	AC charging station	LITEON	EX-1193-M,	NA	NA	Provided by Client

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	**Remarks**
1.	RJ-45 Cable	2	1.8	N	0	Provided by Lab

Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Items B acted as communication partners to transfer data.

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 as the table below. Following channel(s) was (were) selected for the final test as listed below:

Band	EIRP	Radiated Emission
WCDMA	Z-Axis	Z-Axis
LTE Band 4	Z-Axis	Z-Axis

WCDMA

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Mode
-	EIRP	1312 to 1513	1312, 1413, 1513	WCDMA
-	Radiated Emission	1312 to 1513	1312, 1413, 1513	WCDMA

LTE Band 4

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	EIRP	19957 to 20393	19957, 20175, 20393	1.4 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		19965 to 20385	19965, 20175, 20385	3 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		19975 to 20375	19975, 20175, 20375	5 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		20000 to 20350	20000, 20175, 20350	10 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		20025 to 20325	20025, 20175, 20325	15 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		20050 to 20300	20050, 20175, 20300	20 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
-	Radiated Emission	19957 to 20393	19957, 20175, 20393	1.4 MHz	QPSK	1 RB / 0 RB Offset
		19975 to 20375	19975, 20175, 20375	5 MHz	QPSK	1 RB / 0 RB Offset
		20050 to 20300	20050, 20175, 20300	20 MHz	QPSK	1 RB / 0 RB Offset

Note:

1. This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation. Therefore, only EIRP, had been tested under QPSK, 16QAM mode, the other items were performed under QPSK mode only.
2. For radiated emission above 1 GHz, according to 3GPP 36.521 Section 6.6.3.1.4, choose the lowest, 5 MHz & highest channel bandwidth for final test.
3. For radiated emissions below 1 GHz, select the worst radiated emission channel for final testing.

Test Condition:

Test Item	Environmental Conditions	Input Power	Tested By
EIRP	22 deg. C, 67 % RH	120 Vac, 60 Hz	Vincent Chen
Radiated Emission	22 deg. C, 68 % RH	120 Vac, 60 Hz	Thomas 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 27
ANSI 63.26-2015

Note: 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
ANSI/TIA/EIA-603-E 2016

Note: 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

For WCDMA Band 4, LTE Band 4:
Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

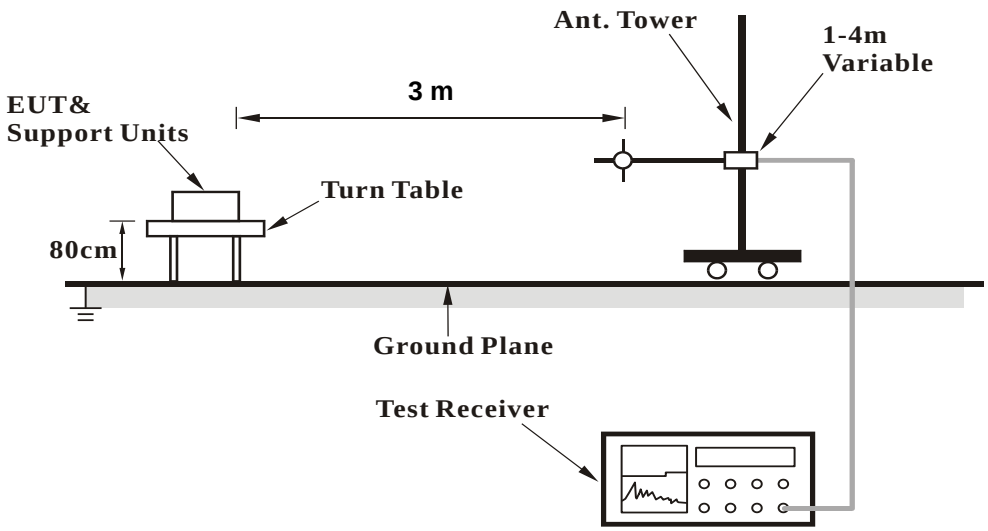
4.1.2 Test Procedures

EIRP / ERP Measurement:

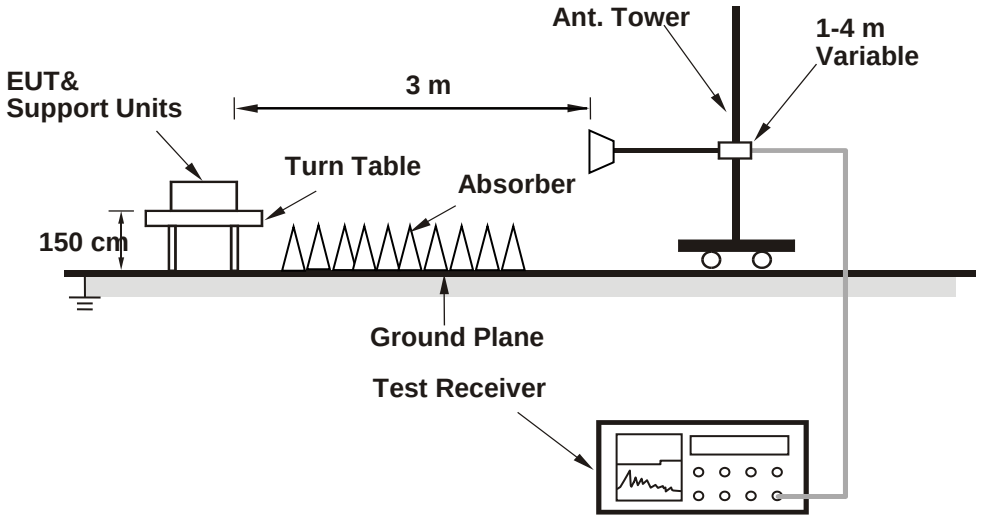
a. In the semi-anechoic chamber, EUT placed on the 0.8m(below or equal 1GHz) and/or 1.5m(above 1GHz) height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 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 and 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:
<Radiated Emission below or equal 1 GHz>



<Radiated Emission above 1 GHz>



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

4.1.4 Test Results

EIRP Power (dBm)

WCDMA Band 4

Mode	TX channel 1312, 1413, 1513							
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	1712.40	21.50	30.00	-8.50	1.65 H	333	86.93	-65.43
2	1732.60	21.84	30.00	-8.16	1.65 H	325	87.12	-65.28
3	1752.60	**21.88**	30.00	-8.12	1.74 H	341	87.01	-65.13
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	1712.40	18.10	30.00	-11.90	1.74 V	153	83.53	-65.43
2	1732.60	18.48	30.00	-11.52	1.76 V	173	83.76	-65.28
3	1752.60	18.56	30.00	-11.44	1.80 V	169	83.69	-65.13

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + 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 4, Channel Bandwidth 1.4MHz

Mode	TX channel 19957, 20175, 20393							
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	1710.70	21.84	30.00	-8.16	1.50 H	25	87.28	-65.44
2	1732.50	22.08	30.00	-7.92	1.44 H	31	87.36	-65.28
3	1754.30	22.37	30.00	-7.63	1.47 H	30	87.49	-65.12
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	1710.70	23.52	30.00	-6.48	2.40 V	328	88.96	-65.44
2	1732.50	23.80	30.00	-6.20	2.42 V	330	89.08	-65.28
3	1754.30	**24.08**	30.00	-5.92	2.41 V	331	89.20	-65.12

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + 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 4, Channel Bandwidth 3MHz

Mode	TX channel 19965, 20175, 20385							
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	1711.50	21.68	30.00	-8.32	1.53 H	19	87.12	-65.44
2	1732.50	22.12	30.00	-7.88	1.33 H	4	87.40	-65.28
3	1753.50	22.10	30.00	-7.90	1.28 H	15	87.23	-65.13
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	1711.50	23.19	30.00	-6.81	2.15 V	314	88.63	-65.44
2	1732.50	**23.70**	30.00	-6.30	2.34 V	329	88.98	-65.28
3	1753.50	23.62	30.00	-6.38	2.23 V	335	88.75	-65.13

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + 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 4, Channel Bandwidth 5MHz

Mode	TX channel 19975, 20175, 20375							
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	1712.50	21.78	30.00	-8.22	1.48 H	359	87.21	-65.43
2	1732.50	22.07	30.00	-7.93	1.50 H	355	87.35	-65.28
3	1752.50	22.30	30.00	-7.70	1.51 H	358	87.43	-65.13
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	1712.50	23.83	30.00	-6.17	2.40 V	325	89.26	-65.43
2	1732.50	24.11	30.00	-5.89	2.39 V	328	89.39	-65.28
3	1752.50	**24.38**	30.00	-5.62	2.42 V	330	89.51	-65.13

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + 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 4, Channel Bandwidth 10MHz

Mode	TX channel 20000, 20175, 20350							
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	1715.00	22.52	30.00	-7.48	1.29 H	16	87.93	-65.41
2	1732.50	22.00	30.00	-8.00	1.35 H	15	87.28	-65.28
3	1750.00	22.87	30.00	-7.13	1.42 H	1	88.02	-65.15
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	1715.00	23.00	30.00	-7.00	2.37 V	333	88.41	-65.41
2	1732.50	**23.48**	30.00	-6.52	2.41 V	328	88.76	-65.28
3	1750.00	23.36	30.00	-6.64	2.38 V	312	88.51	-65.15

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + 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 4, Channel Bandwidth 15MHz

Mode	TX channel 20025, 20175, 20325							
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	1717.50	21.43	30.00	-8.57	1.39 H	289	86.82	-65.39
2	1732.50	21.86	30.00	-8.14	1.54 H	333	87.14	-65.28
3	1747.50	21.79	30.00	-8.21	1.29 H	306	86.96	-65.17
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	1717.50	23.25	30.00	-6.75	2.36 V	314	88.64	-65.39
2	1732.50	**23.71**	30.00	-6.29	2.33 V	325	88.99	-65.28
3	1747.50	23.55	30.00	-6.45	2.53 V	315	88.72	-65.17

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + 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 4, Channel Bandwidth 20MHz

Mode	TX channel 20050, 20175, 20300							
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	1720.00	22.37	30.00	-7.63	1.77 H	356	87.74	-65.37
2	1732.50	22.53	30.00	-7.47	1.75 H	355	87.81	-65.28
3	1745.00	22.78	30.00	-7.22	1.76 H	354	87.96	-65.18
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	1720.00	23.91	30.00	-6.09	2.32 V	324	89.28	-65.37
2	1732.50	24.06	30.00	-5.94	2.30 V	322	89.34	-65.28
3	1745.00	**24.28**	30.00	-5.72	2.31 V	320	89.46	-65.18

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + 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 4, Channel Bandwidth 1.4MHz

Mode	TX channel 19957, 20175, 20393							
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	1710.70	21.31	30.00	-8.69	1.48 H	32	86.75	-65.44
2	1732.50	21.54	30.00	-8.46	1.39 H	45	86.82	-65.28
3	1754.30	21.84	30.00	-8.16	1.52 H	47	86.96	-65.12
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	1710.70	22.98	30.00	-7.02	2.25 V	315	88.42	-65.44
2	1732.50	23.27	30.00	-6.73	2.35 V	298	88.55	-65.28
3	1754.30	**23.62**	30.00	-6.38	2.52 V	333	88.74	-65.12

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + 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 4, Channel Bandwidth 3MHz

Mode	TX channel 19965, 20175, 20385							
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	1711.50	21.21	30.00	-8.79	1.44 H	23	86.65	-65.44
2	1732.50	21.68	30.00	-8.32	1.23 H	10	86.96	-65.28
3	1753.50	21.61	30.00	-8.39	1.15 H	8	86.74	-65.13
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	1711.50	22.68	30.00	-7.32	1.97 V	297	88.12	-65.44
2	1732.50	**23.14**	30.00	-6.86	2.32 V	315	88.42	-65.28
3	1753.50	23.12	30.00	-6.88	1.98 V	342	88.25	-65.13

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + 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 4, Channel Bandwidth 5MHz

Mode	TX channel 19975, 20175, 20375							
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	1712.50	21.32	30.00	-8.68	1.35 H	345	86.75	-65.43
2	1732.50	22.54	30.00	-7.46	1.53 H	332	87.82	-65.28
3	1752.50	21.82	30.00	-8.18	1.43 H	298	86.95	-65.13
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	1712.50	23.32	30.00	-6.68	2.32 V	315	88.75	-65.43
2	1732.50	23.59	30.00	-6.41	2.43 V	315	88.87	-65.28
3	1752.50	**23.91**	30.00	-6.09	2.37 V	322	89.04	-65.13

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + 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 4, Channel Bandwidth 10MHz

Mode	TX channel 20000, 20175, 20350							
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	1715.00	22.01	30.00	-7.99	1.12 H	23	87.42	-65.41
2	1732.50	21.47	30.00	-8.53	1.28 H	7	86.75	-65.28
3	1750.00	22.39	30.00	-7.61	1.39 H	22	87.54	-65.15
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	1715.00	22.55	30.00	-7.45	2.25 V	321	87.96	-65.41
2	1732.50	**22.95**	30.00	-7.05	2.45 V	334	88.23	-65.28
3	1750.00	22.91	30.00	-7.09	2.21 V	285	88.06	-65.15

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + 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 4, Channel Bandwidth 15MHz

Mode	TX channel 20025, 20175, 20325							
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	1717.50	20.93	30.00	-9.07	1.25 H	276	86.32	-65.39
2	1732.50	21.14	30.00	-8.86	1.52 H	326	86.42	-65.28
3	1747.50	21.24	30.00	-8.76	1.35 H	285	86.41	-65.17
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	1717.50	22.73	30.00	-7.27	2.23 V	297	88.12	-65.39
2	1732.50	**23.14**	30.00	-6.86	2.21 V	310	88.42	-65.28
3	1747.50	23.09	30.00	-6.91	2.42 V	297	88.26	-65.17

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + 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 4, Channel Bandwidth 20MHz

Mode	TX channel 20050, 20175, 20300							
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	1720.00	21.86	30.00	-8.14	1.69 H	325	87.23	-65.37
2	1732.50	22.07	30.00	-7.93	1.63 H	324	87.35	-65.28
3	1745.00	22.24	30.00	-7.76	1.85 H	334	87.42	-65.18
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	1720.00	23.35	30.00	-6.65	1.98 V	285	88.72	-65.37
2	1732.50	**24.34**	30.00	-5.66	1.89 V	298	89.62	-65.28
3	1745.00	23.77	30.00	-6.23	1.87 V	265	88.95	-65.18

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + 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

For WCDMA band 4, LTE Band 4:
According to FCC 27.53(h), for operations in the 1695-1710MHz, 1710-1755MHz, 1755-1780 MHz 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 (P) dB.

4.2.2 Test Procedure

a. 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 and 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.

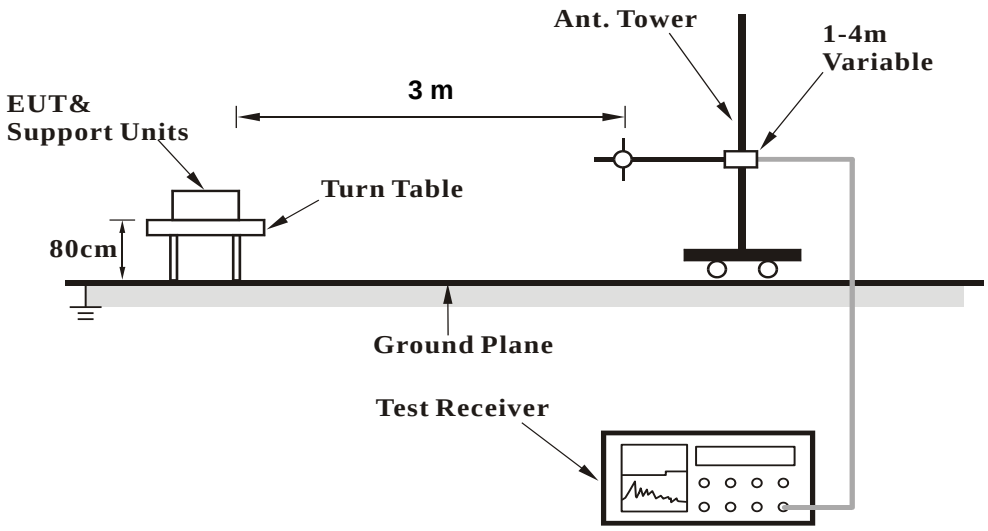
Note: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

4.2.3 Deviation from Test Standard

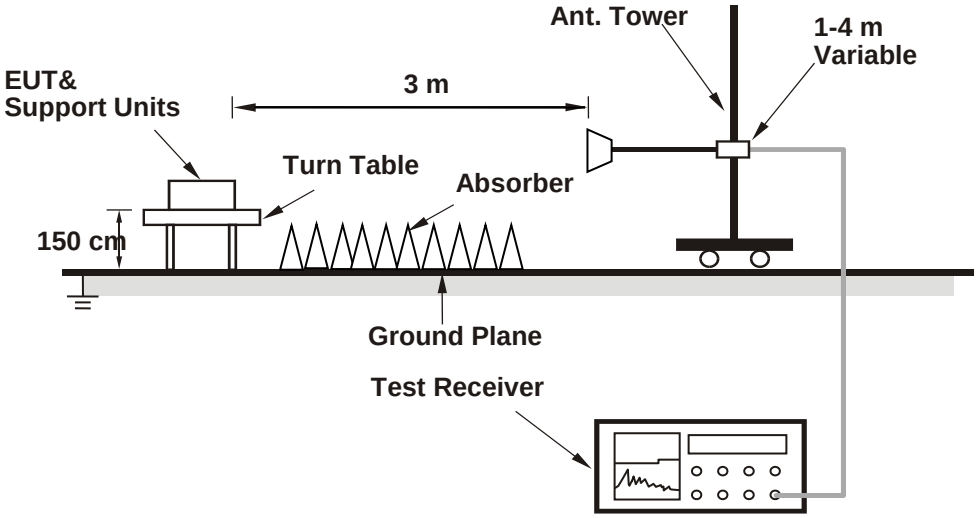
No deviation.

4.2.4 Test Setup

<Radiated Emission below or equal 1 GHz>



<Radiated Emission above 1 GHz>



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

4.2.5 Test Results

Below 1 GHz

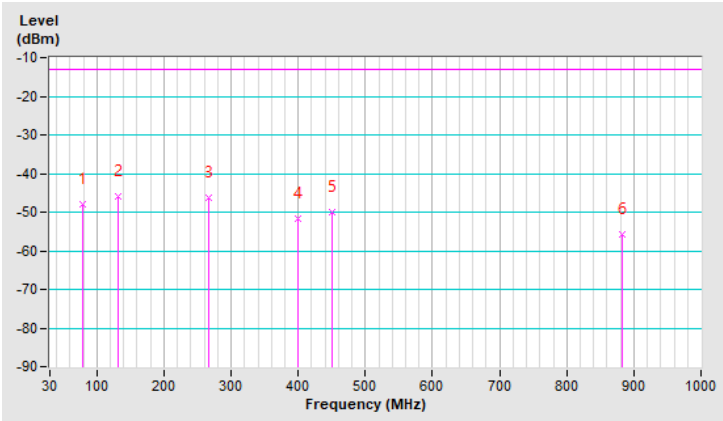
WCDMA:

RF Mode	TX WCDMA Band IV	**Channel**	CH 1513：1752.6 MHz
Frequency Range	30MHz ~ 1GHz		

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	78.50	-48.09	-13.00	-35.09	3.35 H	191	63.59	-111.68
2	130.88	-45.97	-13.00	-32.97	2.97 H	136	62.69	-108.66
3	266.68	-46.19	-13.00	-33.19	2.17 H	120	61.96	-108.15
4	399.57	-51.64	-13.00	-38.64	3.02 H	302	53.15	-104.79
5	450.01	-49.97	-13.00	-36.97	1.34 H	224	53.34	-103.31
6	882.63	-55.88	-13.00	-42.88	2.80 H	45	40.61	-96.49

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + 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.

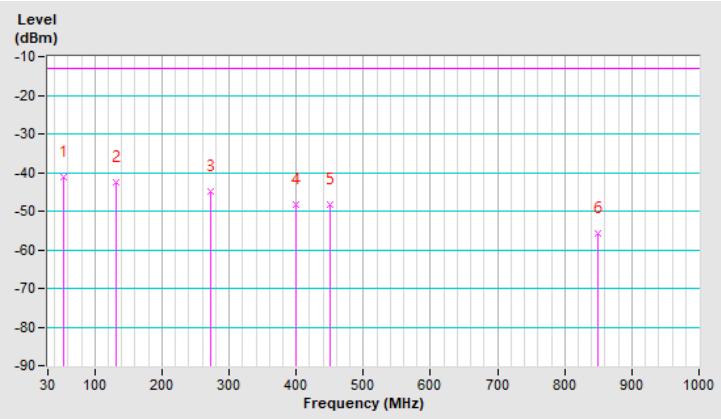


RF Mode	TX WCDMA Band IV	Channel	CH 1513：1752.6 MHz
Frequency Range	30MHz ~ 1GHz		

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	53.28	-41.21	-13.00	-28.21	3.20 V	199	66.44	-107.65
2	131.85	-42.62	-13.00	-29.62	1.04 V	230	66.01	-108.63
3	272.50	-45.07	-13.00	-32.07	2.74 V	178	62.78	-107.85
4	399.57	-48.37	-13.00	-35.37	2.55 V	157	56.42	-104.79
5	450.01	-48.23	-13.00	-35.23	3.40 V	154	55.08	-103.31
6	849.65	-55.65	-13.00	-42.65	2.56 V	25	41.17	-96.82

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + 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.



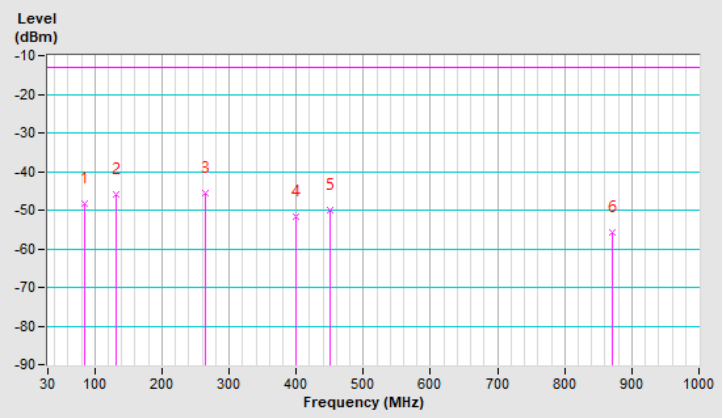
LTE Band 4

RF Mode	TX LTE Band IV-20MHz	Channel	CH 20300：1745 MHz
Frequency Range	30MHz ~ 1GHz		

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	85.29	-48.29	-13.00	-35.29	2.98 H	252	64.78	-113.07
2	131.85	-46.07	-13.00	-33.07	2.10 H	121	62.56	-108.63
3	264.74	-45.58	-13.00	-32.58	3.86 H	132	62.67	-108.25
4	399.57	-51.76	-13.00	-38.76	2.11 H	218	53.03	-104.79
5	450.01	-50.08	-13.00	-37.08	2.48 H	130	53.23	-103.31
6	870.02	-55.73	-13.00	-42.73	2.22 H	46	40.97	-96.70

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + 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.

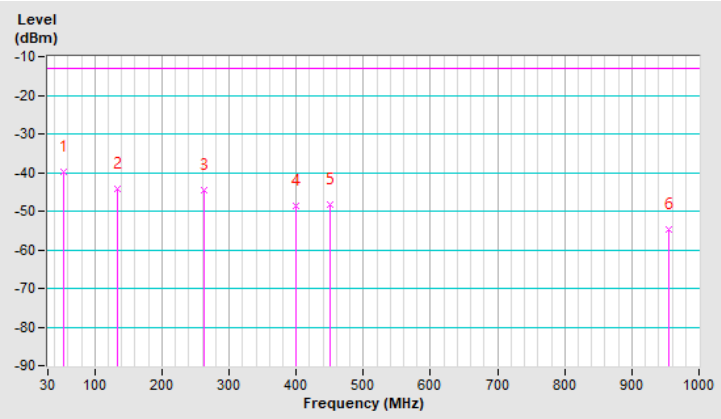


RF Mode	TX LTE Band IV-20MHz	Channel	CH 20300：1745 MHz
Frequency Range	30MHz ~ 1GHz		

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	53.28	-39.90	-13.00	-26.90	2.15 V	264	67.75	-107.65
2	132.82	-44.14	-13.00	-31.14	1.43 V	15	64.28	-108.42
3	262.80	-44.66	-13.00	-31.66	1.51 V	194	63.68	-108.34
4	400.54	-48.49	-13.00	-35.49	3.95 V	157	56.29	-104.78
5	450.01	-48.17	-13.00	-35.17	1.96 V	157	55.14	-103.31
6	954.41	-54.91	-13.00	-41.91	1.14 V	172	40.70	-95.61

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + 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

RF Mode	TX WCDMA Band IV	Channel	CH 1312：1712.4 MHz
Frequency Range	1GMHz ~ 18GHz		

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	3424.80	-38.43	-13.00	-25.43	1.28 H	39	71.43	-109.86
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	3424.80	-43.43	-13.00	-30.43	1.48 V	239	66.43	-109.86

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + 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.

RF Mode	TX WCDMA Band IV	Channel	CH 1413：1732.6 MHz
Frequency Range	1GMHz ~ 18GHz		

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	3465.20	-37.68	-13.00	-24.68	1.30 H	42	71.77	-109.45
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	3465.20	-42.79	-13.00	-29.79	1.15 V	12	66.66	-109.45

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + 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.

RF Mode	TX WCDMA Band IV	Channel	CH 1513：1752.6 MHz
Frequency Range	1GMHz ~ 18GHz		

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	**3505.20**	**-37.43**	**-13.00**	**-24.43**	**1.42 H**	**44**	**71.55**	**-108.98**
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	3505.20	-42.46	-13.00	-29.46	1.55 V	242	66.52	-108.98

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + 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 4

RF Mode	LTE Band 4 Channel Bandwidth: 1.4MHz	Channel	CH 19957：1710.7 MHz
Frequency Range	1 GHz ~ 18 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)

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	3421.40	-42.27	-13.00	-29.27	2.91 H	326	67.62	-109.89
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	3421.40	-41.55	-13.00	-28.55	1.61 V	330	68.34	-109.89

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + 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.

RF Mode	LTE Band 4 Channel Bandwidth: 1.4MHz	Channel	CH 20175：1732.5 MHz
Frequency Range	1 GHz ~ 18 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)

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	3465.00	-41.98	-13.00	-28.98	2.71 H	65	67.48	-109.46
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	3465.00	-40.94	-13.00	-27.94	1.60 V	165	68.52	-109.46

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + 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.

RF Mode	LTE Band 4 Channel Bandwidth: 1.4MHz	Channel	CH 20393：1754.3 MHz
Frequency Range	1 GHz ~ 18 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)

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	3508.60	-41.56	-13.00	-28.56	1.91 H	178	67.42	-108.98
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	3508.60	-40.57	-13.00	-27.57	3.67 V	310	68.41	-108.98

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + 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.

RF Mode	LTE Band 4 Channel Bandwidth: 5MHz	Channel	CH 19975：1712.5 MHz
Frequency Range	1 GHz ~ 18 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)

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	3425.00	-42.30	-13.00	-29.30	2.33 H	135	67.56	-109.86
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	3425.00	-41.47	-13.00	-28.47	1.50 V	204	68.39	-109.86

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + 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.

RF Mode	LTE Band 4 Channel Bandwidth: 5MHz	Channel	CH 20175：1732.5 MHz
Frequency Range	1 GHz ~ 18 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)

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	3465.00	-42.10	-13.00	-29.10	2.68 H	283	67.36	-109.46
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	3465.00	-40.74	-13.00	-27.74	3.62 V	154	68.72	-109.46

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + 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.

RF Mode	LTE Band 4 Channel Bandwidth: 5MHz	Channel	CH 20375：1752.5 MHz
Frequency Range	1 GHz ~ 18 GHz	Detector Function & Bandwidth	1 MHz/3 MHz (RMS)

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	3505.00	-41.49	-13.00	-28.49	1.55 H	119	67.50	-108.99
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	3505.00	-40.53	-13.00	-27.53	2.24 V	21	68.46	-108.99

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + 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.

RF Mode	LTE Band 4 Channel Bandwidth: 20MHz	**Channel**	CH 20050：1720 MHz
Frequency Range	1 GHz ~ 18 GHz	**Detector Function & Bandwidth**	1 MHz/3 MHz (RMS)

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	3440.00	-42.26	-13.00	-29.26	2.91 H	139	67.48	-109.74
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	3440.00	-41.25	-13.00	-28.25	1.85 V	100	68.49	-109.74

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + 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.

RF Mode	LTE Band 4 Channel Bandwidth: 20MHz	**Channel**	CH 20175：1732.5 MHz
Frequency Range	1 GHz ~ 18 GHz	**Detector Function & Bandwidth**	1 MHz/3 MHz (RMS)

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	3465.00	-41.84	-13.00	-28.84	1.37 H	134	67.62	-109.46
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	3465.00	-40.59	-13.00	-27.59	1.30 V	333	68.87	-109.46

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + 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.

RF Mode	LTE Band 4 Channel Bandwidth: 20MHz	**Channel**	CH 20300：1745 MHz
Frequency Range	1 GHz ~ 18 GHz	**Detector Function & Bandwidth**	1 MHz/3 MHz (RMS)

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	3490.00	-41.44	-13.00	-28.44	2.01 H	112	67.69	-109.13
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	3490.00	-40.22	-13.00	-27.22	3.40 V	285	68.91	-109.13

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + 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 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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