Partial FCC Test Report

(Part 27: WCDMA Band 4/LTE Band 4, 12, 13)

Report No.:	RFBHDI-WTW-P22040138-3
FCC ID:	2ATM8EG25G
Test Model:	EG25-G MINIPCIE
Received Date:	Apr. 15, 2022
Test Date:	Apr. 15 ~ Apr. 18, 2022
Issued Date:	Sep. 07, 2022
Applicant:	Hawkeye Tech Co., Ltd.
Address:	13F. No. 736, Zhongzheng Rd., Zhonghe Dist., New Taipei City 235, Taiwan
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

Testing Laboratory
2021

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Release Control Record

Issue No.	Description	Date Issued
RFBHDI-WTW-P22040138-3	Original Release	Sep. 07, 2022

1 Certificate of Conformity

Product:	LTE Module
Brand:	Hawkeye Tech Co., Ltd.
Test Model:	EG25-G MINIPCIE
Sample Status:	Engineering Sample
Applicant:	Hawkeye Tech Co., Ltd.
Test Date:	Apr. 15 ~ Apr. 18, 2022
Standards:	FCC Part 27, Subpart C, H, F, 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 : Pettie Chen , **Date:** Sep. 07, 2022

Pettie Chen / Senior Specialist

Approved by : Jeremy Lin , **Date:** Sep. 07, 2022

Jeremy Lin / Project Engineer

2 Summary of Test Results

Applied Standard: FCC Part 27 & Part 2					
FCC Clause			Test Item	Result	Remarks
WCDMA B4 / LTE B4	LTE B12	LTE B13			
2.1046 27.50(d)	2.1046 27.50(c)	2.1046 27.50(b)	Equivalent Isotropically radiated power / Effective radiated power	Pass	Meet the requirement of limit.
2.1047	2.1047	2.1047	Modulation characteristics	N/A	Refer to note
2.1055 27.54	2.1055 27.54	2.1055 27.54	Frequency Stability	Pass	Meet the requirement of limit.
2.1049	2.1049	2.1049	Emission Bandwidth	N/A	Refer to note
2.1051 27.53(h)	2.1051 27.53(g)	2.1051 27.53(c)	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)	2.1051 27.53(g)	2.1051 27.53(c)(f)	Conducted Spurious Emissions	N/A	Refer to note
2.1053 27.53(h)	2.1053 27.53(g)	2.1053 27.53(c)(f)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -26.32 dB at 39.70 MHz.

Note:

1. This report is a partial report. Therefore, only test item of Effective Radiated Power / Effective Isotropic Radiated Power and Radiated Spurious Emissions tests were performed for this report. Other testing data please refer to SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch report no.: HR/2019/1001601 for module (Brand: Quectel, Model: EG25-G MINIPCIE).
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	3.04 dB
	30 MHz ~ 200 MHz	3.59 dB
	200 MHz ~ 1000 MHz	3.60 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	2.29 dB
	18 GHz ~ 40 GHz	2.29 dB

2.2 Test Site and Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Dec. 30, 2021	Dec. 29, 2022
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Jun. 10, 2021	Jun. 09, 2022
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Oct. 28, 2021	Oct. 27, 2022
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-1169	Nov. 14, 2021	Nov. 13, 2022
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Oct. 26, 2021	Oct. 25, 2022
Preamplifier Agilent (Below 1GHz)	8447D	2944A10638	Jun. 05, 2021	Jun. 04, 2022
Preamplifier Agilent (Above 1GHz)	8449B	3008A02367	Feb. 16, 2022	Feb. 15, 2023
RF signal cable HUBER+SUHNER&EMCI	SUCOFLEX 104 & EMC104-SM-SM8000	CABLE-CH9-02 (248780+171006)	Jan. 15, 2022	Jan. 14, 2023
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-(250795/4)	Jan. 15, 2022	Jan. 14, 2023
RF signal cable Woken	8D-FB	Cable-CH9-01	Jun. 05, 2021	Jun. 04, 2022
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	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
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY55190004/MY55190007/MY55210005	Jul. 12, 2021	Jul. 11, 2022
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 01, 2021	May 31, 2022
JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA
True RMS Clamp Meter Fluke	376	43860087WS	Feb. 20, 2022	Feb. 19, 2023
Radio Communication Analyzer Anritsu	MT8820C	6201010284	Dec. 24, 2021	Dec. 23, 2022

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 Module		
Brand	Hawkeye Tech Co., Ltd.		
Test Model	EG25-G MINIPCIE		
Status of EUT	Engineering Sample		
Power Supply Rating	3.8Vdc (Host equipment)		
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	
	LTE Band 12 (Channel Bandwidth: 1.4 MHz)	699.7 ~ 715.3 MHz	
	LTE Band 12 (Channel Bandwidth: 3 MHz)	700.5 ~ 714.5 MHz	
	LTE Band 12 (Channel Bandwidth: 5 MHz)	701.5 ~ 713.5 MHz	
	LTE Band 12 (Channel Bandwidth: 10 MHz)	704.0 ~ 711.0 MHz	
	LTE Band 13 (Channel Bandwidth: 5 MHz)	779.5 ~ 784.5 MHz	
	LTE Band 13 (Channel Bandwidth: 10 MHz)	782.0 MHz	
Max. ERP Power		QPSK	16QAM
	LTE Band 12 (Channel Bandwidth: 1.4 MHz)	144.212mW (21.59dBm)	112.980mW (20.53dBm)
	LTE Band 12 (Channel Bandwidth: 3 MHz)	145.211mW (21.62dBm)	115.080mW (20.61dBm)
	LTE Band 12 (Channel Bandwidth: 5 MHz)	145.881mW (21.64dBm)	114.551mW (20.59dBm)
	LTE Band 12 (Channel Bandwidth: 10 MHz)	149.968mW (21.76dBm)	117.490mW (20.70dBm)
	LTE Band 13 (Channel Bandwidth: 5 MHz)	135.831mW (21.33dBm)	107.895mW (20.33dBm)
	LTE Band 13 (Channel Bandwidth: 10 MHz)	143.880mW (21.58dBm)	111.944mW (20.49dBm)
Max. EIRP Power	WCDMA	331.131mW (25.20dBm)	
		QPSK	16QAM
	LTE Band 4 (Channel Bandwidth: 1.4 MHz)	319.154mW (25.04dBm)	253.513mW (24.04dBm)
	LTE Band 4 (Channel Bandwidth: 3 MHz)	311.889mW (24.94dBm)	246.604mW (23.92dBm)
	LTE Band 4 (Channel Bandwidth: 5 MHz)	320.627mW (25.06dBm)	251.189mW (24.00dBm)
	LTE Band 4 (Channel Bandwidth: 10 MHz)	351.560mW (25.46dBm)	267.917mW (24.28dBm)
	LTE Band 4 (Channel Bandwidth: 15 MHz)	328.095mW (25.16dBm)	258.821mW (24.13dBm)
	LTE Band 4 (Channel Bandwidth: 20 MHz)	319.890mW (25.05dBm)	243.220mW (23.86dBm)
Antenna Type	Dipole Antenna		

Antenna Gain	WCDMA	1.7 dBi
	LTE Band 4	1.7 dBi
	LTE Band 12	0.3 dBi
	LTE Band 13	0.3 dBi
Accessory Device	N/A	
Data Cable Supplied	N/A	

Note:

1. The EUT was installed in a specific End-product.

Product	Brand	Model	FCC ID
veeaHub	veeaHub	VHH10XXX (X=A-Z, 0-9, blank or "-")	2ARXKVHH10

2. The End-product contains following accessory devices.

Product	Brand	Model	Description
Adapter	EDACPOWER ELEC.	EA1062SGR-480	I/P: 100-240 Vac, 50/60 Hz, 2.5A O/P: 48 Vdc, 1.35 A 1.2m DC cable with 1 core

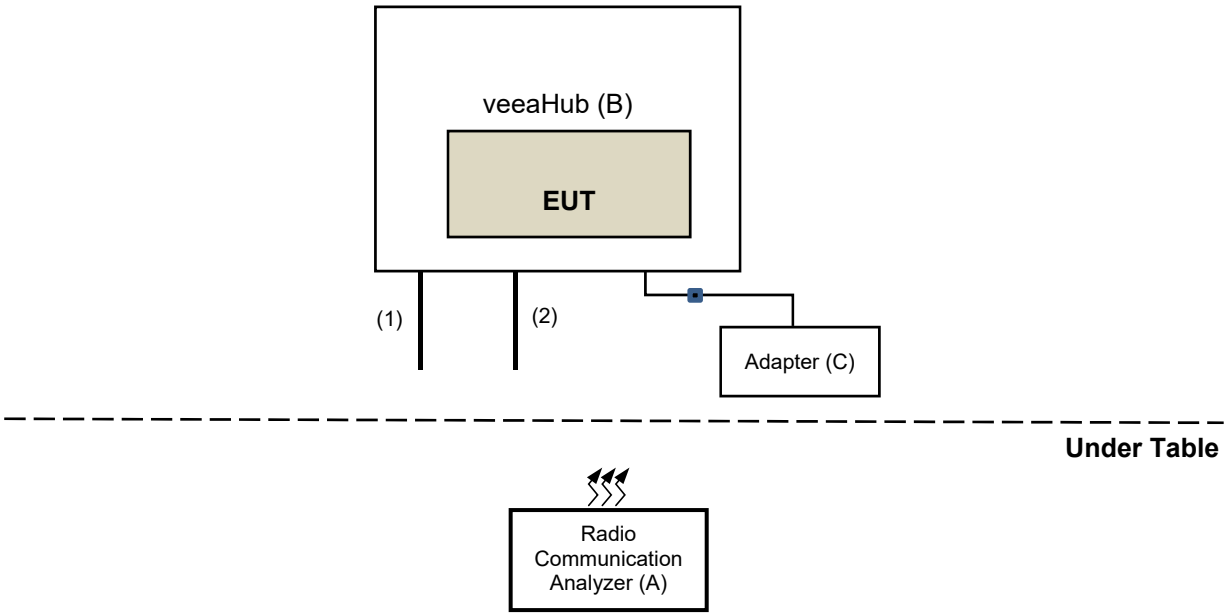
3. The End-product use following devices (Support unit).

Product	Brand	Model	Description
PoE	OPEN-MESH	APOE02-WM	O/P: 48 Vdc

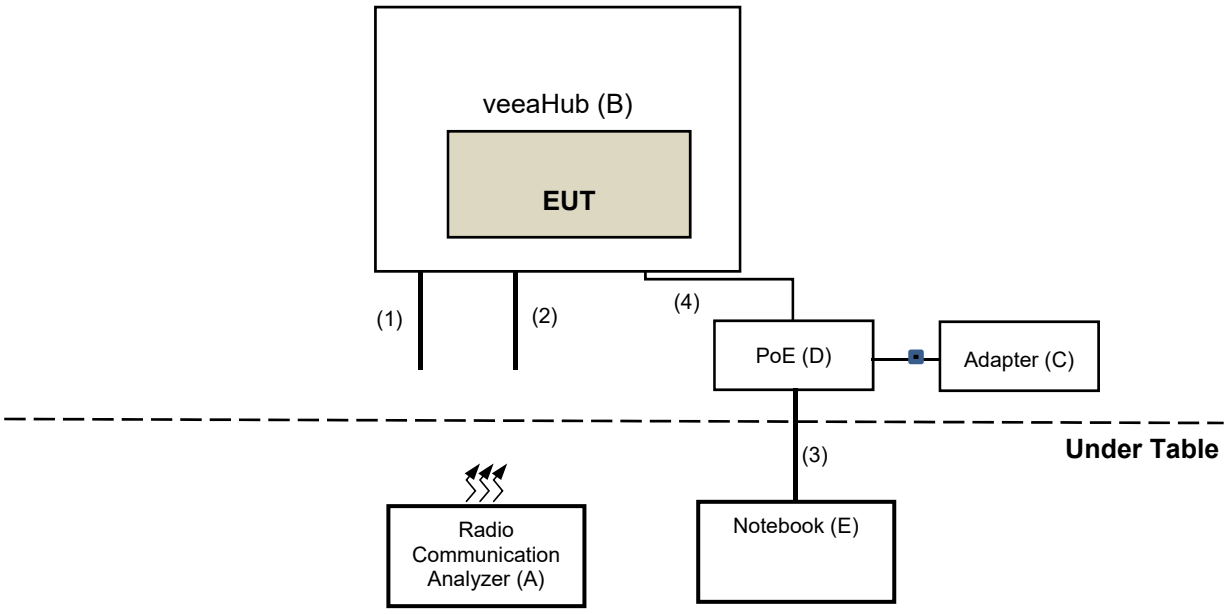
4. The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.
5. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

3.2 Configuration of System under Test

Test Mode A



Test Mode B



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	MT8820C	6201240432	NA	For LTE
		R&S	CMU200	101095	NA	For WCDMA
B	veeaHub	veeaHub	VHH10	NA	NA	-
C	Adapter	EDACPOWER ELEC.	EA1062SGR-480	NA	NA	Supplied by applicant
D	PoE	OPEN-MESH	APOE02-WM	NA	NA	Supplied by applicant
E	Notebook	DELL	Inspiron 14R	NA	NA	

Note:

1. All power cords of the above support units are non-shielded (1.8m).

2. Items A acted as communication partners to transfer data.

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RS232 Cable	1	0.5	N	0	Supplied by applicant
2.	LAN Cable	2	0.5	N	0	Supplied by applicant
3.	LAN Cable	1	10	N	0	Provided by Lab
4.	LAN Cable	1	0.5	N	0	Supplied by applicant

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

EUT Configure Mode	Description
A	Power from adapter
B	Power from PoE

Band	Radiated Emission
WCDMA Band 4	Z-plane
LTE Band 4	Z-plane

WCDMA

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Mode
A	EIRP	1312 to 1513	1312 (1712.4MHz), 1413 (1732.6MHz), 1513 (1752.6MHz)	WCDMA, HSDPA, HSUPA
A, B	Radiated Emission Below 1GHz	1312 to 1513	1312 (1712.4MHz)	WCDMA
A	Radiated Emission Above 1GHz	1312 to 1513	1312 (1712.4MHz)	WCDMA

LTE Band 4

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
A	EIRP	19957 to 20393	19957 (1710.7MHz), 20175 (1732.5MHz), 20393 (1754.3MHz)	1.4 MHz	QPSK, 16QAM	1 Half Full
		19965 to 20385	19965 (1711.5MHz), 20175 (1732.5MHz), 20385 (1753.5MHz)	3 MHz	QPSK, 16QAM	1 Half Full
		19975 to 20375	19975 (1712.5MHz), 20175 (1732.5MHz), 20375 (1752.5MHz)	5 MHz	QPSK, 16QAM	1 Half Full
		20000 to 20350	20000 (1715.0MHz), 20175 (1732.5MHz), 20350 (1750.0MHz)	10 MHz	QPSK, 16QAM	1 Half Full
		20025 to 20325	20025 (1717.5MHz), 20175 (1732.5MHz), 20325 (1747.5MHz)	15 MHz	QPSK, 16QAM	1 Half Full
		20050 to 20300	20050 (1720.0MHz), 20175 (1732.5MHz), 20300 (1745.0MHz)	20 MHz	QPSK, 16QAM	1 Half Full
A, B	Radiated Emission Below 1GHz	20000 to 20350	20350 (1750.0MHz)	10 MHz	QPSK	1
A	Radiated Emission Above 1GHz	20000 to 20350	20350 (1750.0MHz)	10 MHz	QPSK	1

LTE Band 12

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
A	ERP	23017 to 23173	23017 (699.7MHz), 23095 (707.5MHz), 23173 (715.3MHz)	1.4 MHz	QPSK, 16QAM	1 Half Full
		23025 to 23165	23025 (700.5MHz), 23095 (707.5MHz), 23165 (714.5MHz)	3 MHz	QPSK, 16QAM	1 Half Full
		23035 to 23155	23035 (701.5MHz), 23095 (707.5MHz), 23155 (713.5MHz)	5 MHz	QPSK, 16QAM	1 Half Full
		23060 to 23130	23060 (704.0MHz), 23095 (707.5MHz), 23130 (711.0 MHz)	10 MHz	QPSK, 16QAM	1 Half Full

LTE Band 13

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
A	ERP	23205 to 23255	23205 (779.5MHz), 23230 (782.0MHz), 23255 (784.5MHz)	5 MHz	QPSK, 16QAM	1 Half Full
		23230	23230 (782.0MHz)	10 MHz	QPSK, 16QAM	1 Half Full

Test Condition:

Test Item	Environmental Conditions	Input Power	Tested By
ERP / EIRP	25 deg. C, 65 % RH	3.8 Vdc	Charles Hsiao
Radiated Emission	22 deg. C, 70 % RH	120 Vac, 60 Hz	Greg Lin Rex Wang

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:

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

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. (For Band 4)

Portable stations (hand-held devices) operating in the 746-757 MHz, 776-788 MHz and 805-806 MHz band are limited to 3 watts ERP (For band 13)

Portable stations (hand-held device) operating in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP. (For band 12)

4.1.2 Test Procedures

Conducted Power Measurement:

a. The EUT was set up for the maximum power with WCDMA and LTE link data modulation and link up with simulator.
b. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

Maximum EIRP / ERP

The relevant equation for determining the maximum ERP or EIRP from the measured RF output power is given in Equation as follows:

$EIRP = P_{Meas} + G_T$

$ERP = P_{Meas} + G_T - 2.15$

where

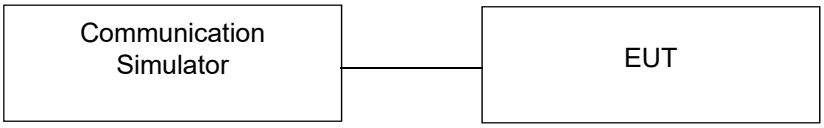
ERP or EIRP effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as P_{Meas}, e.g., dBm or dBW)

P_{Meas} measured transmitter output power or PSD, in dBm or dBW

G_T gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP)

4.1.3 Test Setup

Conducted Power Measurement:



4.1.4 Test Results

Conducted Output Power (dBm)

Band	WCDMA IV		
Channel	1312	1413	1513
Frequency (MHz)	1712.4	1732.6	1752.6
RMC 12.2K	23.41	23.50	23.44
HSDPA Subtest-1	22.39	22.45	22.51
HSUPA Subtest-1	22.44	22.50	22.43

LTE Band 4						
BW	MCS Index	Channel		19957	20175	20393
		Frequency (MHz)		1710.7	1732.5	1754.3
1.4M	QPSK	1	0	23.28	23.20	23.25
		1	2	23.07	23.21	23.34
		1	5	23.06	23.07	23.05
		3	0	23.12	23.14	23.13
		3	1	23.14	23.21	23.22
		3	3	23.08	23.18	23.27
		6	0	21.97	22.00	22.00
	16QAM	1	0	22.18	22.05	22.08
		1	2	22.07	22.07	22.34
		1	5	21.92	21.90	21.99
		3	0	21.96	21.99	22.00
		3	1	22.10	22.14	22.14
		3	3	22.08	22.09	22.26
		6	0	20.90	20.97	20.91

LTE Band 4						
BW	MCS Index	Channel		19965	20175	20385
		Frequency (MHz)		1711.5	1732.5	1753.5
3M	QPSK	1	0	23.15	23.02	22.94
		1	7	23.24	23.22	23.13
		1	14	23.16	23.21	23.07
		8	0	22.21	22.12	22.19
		8	3	22.10	22.13	22.19
		8	7	21.98	22.05	21.93
		15	0	21.95	22.02	21.90
	16QAM	1	0	22.07	21.87	21.93
		1	7	22.22	22.11	22.00
		1	14	21.96	22.12	21.87
		8	0	21.04	21.01	21.12
		8	3	20.93	21.06	21.13
		8	7	20.83	20.85	20.87
		15	0	20.91	20.92	20.73
BW	MCS Index	Channel		19975	20175	20375
		Frequency (MHz)		1712.5	1732.5	1752.5
5M	QPSK	1	0	23.17	23.02	23.12
		1	12	23.36	23.31	23.18
		1	24	23.20	23.16	23.22
		12	0	22.12	22.01	21.92
		12	6	22.05	22.16	22.18
		12	13	22.25	22.14	22.24
		25	0	22.02	22.13	22.18
	16QAM	1	0	22.14	21.84	22.08
		1	12	22.30	22.27	22.14
		1	24	22.09	22.04	22.18
		12	0	21.02	20.89	20.92
		12	6	20.94	21.00	21.04
		12	13	21.07	21.13	21.13
		25	0	21.02	21.13	21.05

LTE Band 4						
BW	MCS Index	Channel		20000	20175	20350
		Frequency (MHz)		1715	1732.5	1750
10M	QPSK	1	0	23.50	23.44	23.39
		1	24	23.51	23.62	23.76
		1	49	23.06	23.03	23.07
		25	0	22.12	22.21	22.34
		25	12	22.12	22.19	22.12
		25	25	22.24	22.19	22.07
		50	0	22.07	22.13	22.04
	16QAM	1	0	22.41	22.37	22.38
		1	24	22.38	22.54	22.58
		1	49	21.86	22.00	21.99
		25	0	21.11	21.06	21.23
		25	12	21.09	21.11	21.07
		25	25	21.11	21.10	20.96
		50	0	21.00	20.99	20.98
BW	MCS Index	Channel		20025	20175	20325
		Frequency (MHz)		1717.5	1732.5	1747.5
15M	QPSK	1	0	23.30	23.31	23.24
		1	37	23.45	23.46	23.44
		1	74	23.19	23.11	23.14
		36	0	22.12	22.11	22.17
		36	19	22.13	22.20	22.27
		36	39	22.20	22.07	21.94
		75	0	22.25	22.10	22.00
	16QAM	1	0	22.26	22.17	22.16
		1	37	22.43	22.43	22.28
		1	74	22.11	21.91	22.03
		36	0	21.09	21.09	21.16
		36	19	21.10	21.10	21.10
		36	39	21.17	20.97	20.74
		75	0	21.17	21.08	20.91

LTE Band 4						
BW	MCS Index	Channel		20050	20175	20300
		Frequency (MHz)		1720	1732.5	1745
20M	QPSK	1	0	22.87	22.90	22.97
		1	50	23.10	23.21	23.35
		1	99	23.12	22.98	23.11
		50	0	22.15	22.20	22.20
		50	25	22.11	22.16	22.04
		50	50	22.14	22.14	22.15
		100	0	22.06	22.08	21.96
	16QAM	1	0	21.70	21.75	21.97
		1	50	22.10	22.14	22.16
		1	99	21.93	21.95	21.97
		50	0	21.03	21.15	21.08
		50	25	21.04	21.13	20.90
		50	50	20.99	21.08	21.03
		100	0	20.86	20.93	20.85

LTE Band 12						
BW	MCS Index	Channel		23017	23095	23173
		Frequency (MHz)		699.7	707.5	715.3
1.4M	QPSK	1	0	23.22	23.10	23.06
		1	2	23.41	23.38	23.44
		1	5	23.41	23.26	23.39
		3	0	23.20	23.09	23.13
		3	1	23.20	23.30	23.34
		3	3	23.10	23.22	23.17
		6	0	22.12	22.16	22.07
	16QAM	1	0	22.02	21.99	21.95
		1	2	22.25	22.38	22.27
		1	5	22.36	22.20	22.31
		3	0	22.12	21.92	22.00
		3	1	22.00	22.21	22.15
		3	3	22.06	22.08	22.16
		6	0	20.92	21.04	20.95
BW	MCS Index	Channel		23025	23095	23165
		Frequency (MHz)		700.5	707.5	714.5
3M	QPSK	1	0	23.08	22.94	22.93
		1	7	23.47	23.40	23.40
		1	14	23.02	23.13	23.21
		8	0	22.21	22.28	22.13
		8	3	22.32	22.34	22.43
		8	7	22.21	22.36	22.39
		15	0	22.21	22.22	22.09
	16QAM	1	0	21.97	21.78	21.91
		1	7	22.46	22.32	22.25
		1	14	21.96	21.94	22.13
		8	0	21.20	21.28	21.10
		8	3	21.16	21.14	21.39
		8	7	21.19	21.22	21.28
		15	0	21.05	21.08	21.05

LTE Band 12						
BW	MCS Index	Channel		23035	23095	23155
		Frequency (MHz)		701.5	707.5	713.5
5M	QPSK	1	0	22.97	22.96	23.07
		1	12	23.49	23.45	23.44
		1	24	23.16	23.18	23.15
		12	0	22.32	22.21	22.26
		12	6	22.29	22.28	22.27
		12	13	22.27	22.32	22.43
		25	0	22.43	22.28	22.36
	16QAM	1	0	21.96	21.91	22.07
		1	12	22.32	22.44	22.28
		1	24	22.14	22.11	22.15
		12	0	21.24	21.10	21.12
		12	6	21.23	21.26	21.11
		12	13	21.23	21.16	21.25
		25	0	21.28	21.09	21.28
BW	MCS Index	Channel		23060	23095	23130
		Frequency (MHz)		704	707.5	711
10M	QPSK	1	0	22.92	22.94	22.83
		1	24	23.61	23.59	23.46
		1	49	23.37	23.27	23.21
		25	0	22.07	22.09	22.21
		25	12	22.48	22.34	22.40
		25	25	22.26	22.33	22.20
		50	0	22.22	22.31	22.23
	16QAM	1	0	21.84	21.81	21.68
		1	24	22.55	22.40	22.29
		1	49	22.27	22.20	22.12
		25	0	20.88	20.99	21.04
		25	12	21.48	21.24	21.40
		25	25	21.24	21.20	21.07
		50	0	21.07	21.24	21.12

LTE Band 13						
BW	MCS Index	Channel		23205	23230	23255
		Frequency (MHz)		779.5	782	784.5
5M	QPSK	1	0	22.89	23.03	23.18
		1	12	23.04	23.06	23.14
		1	24	22.89	22.93	22.99
		12	0	21.89	22.00	22.14
		12	6	21.99	22.01	22.09
		12	13	22.11	22.13	22.09
		25	0	22.07	22.13	22.24
	16QAM	1	0	21.83	21.91	22.18
		1	12	21.90	21.96	22.01
		1	24	21.83	21.89	21.96
		12	0	20.89	20.83	20.94
		12	6	20.86	20.91	21.07
		12	13	20.96	20.94	21.01
		25	0	21.03	21.00	21.08
BW	MCS Index	Channel		23230		
		Frequency (MHz)		782		
10M	QPSK	1	0	23.02		
		1	24	23.43		
		1	49	23.09		
		25	0	22.02		
		25	12	22.09		
		25	25	21.95		
		50	0	22.04		
	16QAM	1	0	21.85		
		1	24	22.34		
		1	49	22.02		
		25	0	20.97		
		25	12	20.89		
		25	25	20.88		
		50	0	20.95		

EIRP Power(dBm)

Band	WCDMA IV		
Channel	1312	1413	1513
Frequency (MHz)	1712.4	1732.6	1752.6
RMC 12.2K	25.11	**25.20**	25.14
HSDPA Subtest-1	24.09	24.15	24.21
HSUPA Subtest-1	24.14	24.20	24.13

*EIRP = Conducted + antenna gain (1.7dBi)

LTE Band 4						
BW	MCS Index	Channel		19957	20175	20393
		Frequency (MHz)		1710.7	1732.5	1754.3
1.4M	QPSK	1	0	24.98	24.90	24.95
		1	2	24.77	24.91	**25.04**
		1	5	24.76	24.77	24.75
		3	0	24.82	24.84	24.83
		3	1	24.84	24.91	24.92
		3	3	24.78	24.88	24.97
		6	0	23.67	23.70	23.70
	16QAM	1	0	23.88	23.75	23.78
		1	2	23.77	23.77	**24.04**
		1	5	23.62	23.60	23.69
		3	0	23.66	23.69	23.70
		3	1	23.80	23.84	23.84
		3	3	23.78	23.79	23.96
		6	0	22.60	22.67	22.61
BW	MCS Index	Channel		19965	20175	20385
		Frequency (MHz)		1711.5	1732.5	1753.5
3M	QPSK	1	0	24.85	24.72	24.64
		1	7	**24.94**	24.92	24.83
		1	14	24.86	24.91	24.77
		8	0	23.91	23.82	23.89
		8	3	23.80	23.83	23.89
		8	7	23.68	23.75	23.63
		15	0	23.65	23.72	23.60
	16QAM	1	0	23.77	23.57	23.63
		1	7	**23.92**	23.81	23.70
		1	14	23.66	23.82	23.57
		8	0	22.74	22.71	22.82
		8	3	22.63	22.76	22.83
		8	7	22.53	22.55	22.57
		15	0	22.61	22.62	22.43

*EIRP = Conducted + antenna gain (1.7dBi)

LTE Band 4						
BW	**MCS Index**	**Channel**		**19975**	**20175**	**20375**
		Frequency (MHz)		**1712.5**	**1732.5**	**1752.5**
5M	QPSK	1	0	24.87	24.72	24.82
		1	12	**25.06**	25.01	24.88
		1	24	24.90	24.86	24.92
		12	0	23.82	23.71	23.62
		12	6	23.75	23.86	23.88
		12	13	23.95	23.84	23.94
		25	0	23.72	23.83	23.88
	16QAM	1	0	23.84	23.54	23.78
		1	12	**24.00**	23.97	23.84
		1	24	23.79	23.74	23.88
		12	0	22.72	22.59	22.62
		12	6	22.64	22.70	22.74
		12	13	22.77	22.83	22.83
		25	0	22.72	22.83	22.75
BW	**MCS Index**	**Channel**		**20000**	**20175**	**20350**
		Frequency (MHz)		**1715**	**1732.5**	**1750**
10M	QPSK	1	0	25.20	25.14	25.09
		1	24	25.21	25.32	**25.46**
		1	49	24.76	24.73	24.77
		25	0	23.82	23.91	24.04
		25	12	23.82	23.89	23.82
		25	25	23.94	23.89	23.77
		50	0	23.77	23.83	23.74
	16QAM	1	0	24.11	24.07	24.08
		1	24	24.08	24.24	**24.28**
		1	49	23.56	23.70	23.69
		25	0	22.81	22.76	22.93
		25	12	22.79	22.81	22.77
		25	25	22.81	22.80	22.66
		50	0	22.70	22.69	22.68

*EIRP = Conducted + antenna gain (1.7dBi)

LTE Band 4						
BW	**MCS Index**	**Channel**		**20025**	**20175**	**20325**
		Frequency (MHz)		**1717.5**	**1732.5**	**1747.5**
15M	QPSK	1	0	25.00	25.01	24.94
		1	37	25.15	**25.16**	25.14
		1	74	24.89	24.81	24.84
		36	0	23.82	23.81	23.87
		36	19	23.83	23.90	23.97
		36	39	23.90	23.77	23.64
		75	0	23.95	23.80	23.70
	16QAM	1	0	23.96	23.87	23.86
		1	37	**24.13**	**24.13**	23.98
		1	74	23.81	23.61	23.73
		36	0	22.79	22.79	22.86
		36	19	22.80	22.80	22.80
		36	39	22.87	22.67	22.44
		75	0	22.87	22.78	22.61
BW	**MCS Index**	**Channel**		**20050**	**20175**	**20300**
		Frequency (MHz)		**1720**	**1732.5**	**1745**
20M	QPSK	1	0	24.57	24.60	24.67
		1	50	24.80	24.91	**25.05**
		1	99	24.82	24.68	24.81
		50	0	23.85	23.90	23.90
		50	25	23.81	23.86	23.74
		50	50	23.84	23.84	23.85
		100	0	23.76	23.78	23.66
	16QAM	1	0	23.40	23.45	23.67
		1	50	23.80	23.84	**23.86**
		1	99	23.63	23.65	23.67
		50	0	22.73	22.85	22.78
		50	25	22.74	22.83	22.60
		50	50	22.69	22.78	22.73
		100	0	22.56	22.63	22.55

*EIRP = Conducted + antenna gain (1.7dBi)

ERP Power (dBm)

LTE Band 12						
BW	**MCS Index**	**Channel**		**23017**	**23095**	**23173**
		Frequency (MHz)		**699.7**	**707.5**	**715.3**
1.4M	QPSK	1	0	21.37	21.25	21.21
		1	2	21.56	21.53	**21.59**
		1	5	21.56	21.41	21.54
		3	0	21.35	21.24	21.28
		3	1	21.35	21.45	21.49
		3	3	21.25	21.37	21.32
		6	0	20.27	20.31	20.22
	16QAM	1	0	20.17	20.14	20.10
		1	2	20.40	**20.53**	20.42
		1	5	20.51	20.35	20.46
		3	0	20.27	20.07	20.15
		3	1	20.15	20.36	20.30
		3	3	20.21	20.23	20.31
		6	0	19.07	19.19	19.10
BW	**MCS Index**	**Channel**		**23025**	**23095**	**23165**
		Frequency (MHz)		**700.5**	**707.5**	**714.5**
3M	QPSK	1	0	21.23	21.09	21.08
		1	7	**21.62**	21.55	21.55
		1	14	21.17	21.28	21.36
		8	0	20.36	20.43	20.28
		8	3	20.47	20.49	20.58
		8	7	20.36	20.51	20.54
		15	0	20.36	20.37	20.24
	16QAM	1	0	20.12	19.93	20.06
		1	7	**20.61**	20.47	20.40
		1	14	20.11	20.09	20.28
		8	0	19.35	19.43	19.25
		8	3	19.31	19.29	19.54
		8	7	19.34	19.37	19.43
		15	0	19.20	19.23	19.20

*ERP = Conducted + antenna gain (0.3dBi)-2.15

LTE Band 12						
BW	**MCS Index**	**Channel**		**23035**	**23095**	**23155**
		Frequency (MHz)		**701.5**	**707.5**	**713.5**
5M	QPSK	1	0	21.12	21.11	21.22
		1	12	**21.64**	21.60	21.59
		1	24	21.31	21.33	21.30
		12	0	20.47	20.36	20.41
		12	6	20.44	20.43	20.42
		12	13	20.42	20.47	20.58
		25	0	20.58	20.43	20.51
	16QAM	1	0	20.11	20.06	20.22
		1	12	20.47	**20.59**	20.43
		1	24	20.29	20.26	20.30
		12	0	19.39	19.25	19.27
		12	6	19.38	19.41	19.26
		12	13	19.38	19.31	19.40
		25	0	19.43	19.24	19.43
BW	**MCS Index**	**Channel**		**23060**	**23095**	**23130**
		Frequency (MHz)		**704**	**707.5**	**711**
10M	QPSK	1	0	21.07	21.09	20.98
		1	24	**21.76**	21.74	21.61
		1	49	21.52	21.42	21.36
		25	0	20.22	20.24	20.36
		25	12	20.63	20.49	20.55
		25	25	20.41	20.48	20.35
		50	0	20.37	20.46	20.38
	16QAM	1	0	19.99	19.96	19.83
		1	24	**20.70**	20.55	20.44
		1	49	20.42	20.35	20.27
		25	0	19.03	19.14	19.19
		25	12	19.63	19.39	19.55
		25	25	19.39	19.35	19.22
		50	0	19.22	19.39	19.27

*ERP = Conducted + antenna gain (0.3dBi)-2.15

LTE Band 13						
BW	**MCS Index**	**Channel**		**23205**	**23230**	**23255**
		Frequency (MHz)		**779.5**	**782**	**784.5**
5M	QPSK	1	0	21.04	21.18	**21.33**
		1	12	21.19	21.21	21.29
		1	24	21.04	21.08	21.14
		12	0	20.04	20.15	20.29
		12	6	20.14	20.16	20.24
		12	13	20.26	20.28	20.24
		25	0	20.22	20.28	20.39
	16QAM	1	0	19.98	20.06	**20.33**
		1	12	20.05	20.11	20.16
		1	24	19.98	20.04	20.11
		12	0	19.04	18.98	19.09
		12	6	19.01	19.06	19.22
		12	13	19.11	19.09	19.16
		25	0	19.18	19.15	19.23
BW	**MCS Index**	**Channel**		**23230**		
		Frequency (MHz)		**782**		
10M	QPSK	1	0	21.17		
		1	24	**21.58**		
		1	49	21.24		
		25	0	20.17		
		25	12	20.24		
		25	25	20.10		
		50	0	20.19		
	16QAM	1	0	20.00		
		1	24	**20.49**		
		1	49	20.17		
		25	0	19.12		
		25	12	19.04		
		25	25	19.03		
		50	0	19.10		

*ERP = Conducted + antenna gain (0.3dBi)-2.15

4.2 Radiated Emission Measurement

4.2.1 Limits of Radiated Emission Measurement

a. The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 +10 log (P) dB. The limit of emission is equal to -13 dBm.
b. For operations in the 775-788 MHz, emissions in the band 1559-1610MHz shall be limited to -70 dBW/MHz (EIRP). The limit of emissions is equal to -40 dBm.

4.2.2 Test Procedure

a. In the semi-anechoic chamber, EUT placed on the 0.8 m (below or equal 1 GHz) and/or 1.5 m (above 1 GHz) 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 1 m to 4 m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.
b. 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.
c. 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:

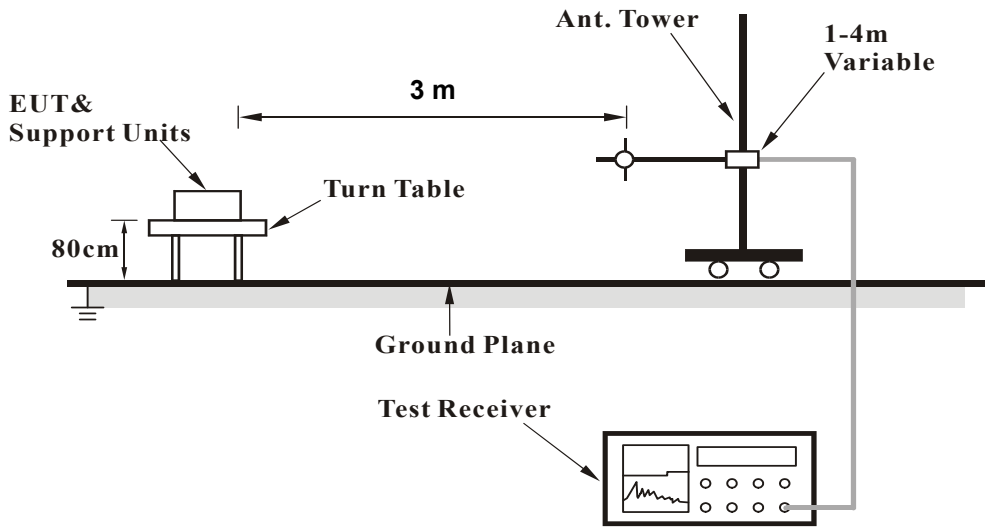
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz/3 MHz.
2. 9 kHz ~ 30 MHz Data:
   The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

4.2.3 Deviation from Test Standard

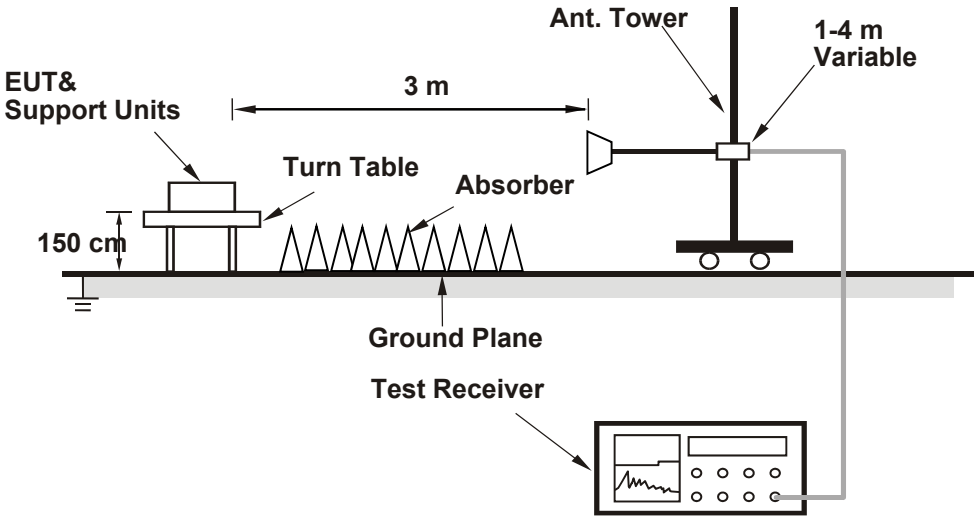
No deviation.

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

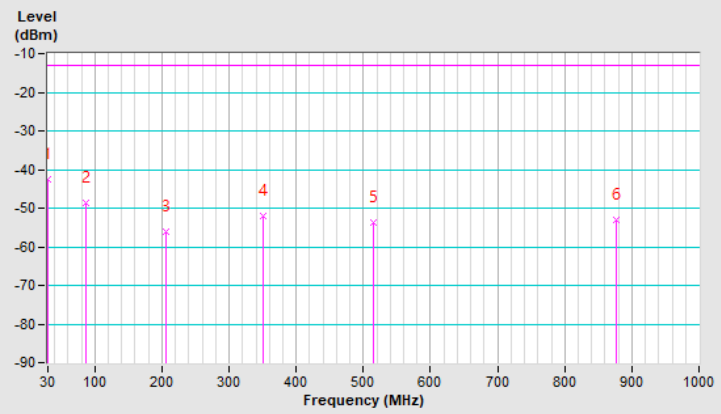
Below 1GHz

RF Mode	TX WCDMA Band IV	Channel	CH 1312: 1712.4 MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	A

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	30.00	-42.63	-13.00	-29.63	1.25 H	3	62.80	-105.43
2	87.23	-48.57	-13.00	-35.57	1.00 H	155	61.34	-109.91
3	206.54	-56.03	-13.00	-43.03	1.50 H	158	50.71	-106.74
4	350.10	-52.09	-13.00	-39.09	1.25 H	21	49.26	-101.35
5	515.00	-53.67	-13.00	-40.67	1.00 H	312	43.79	-97.46
6	875.84	-53.03	-13.00	-40.03	1.50 H	187	37.70	-90.73

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.

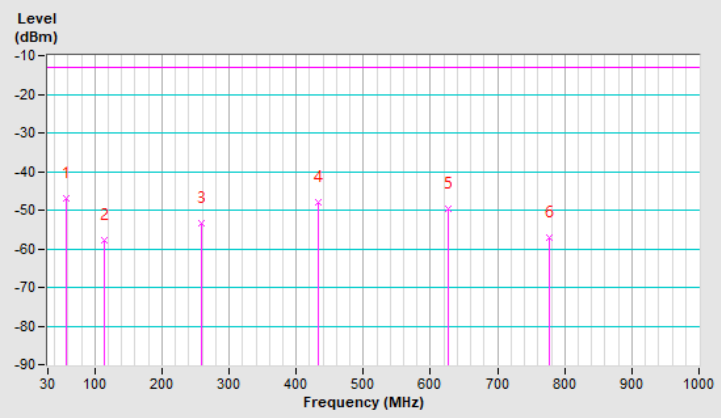


RF Mode	TX WCDMA Band IV	Channel	CH 1312: 1712.4 MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	A

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	58.13	-47.05	-13.00	-34.05	1.50 V	28	57.76	-104.81
2	113.42	-57.96	-13.00	-44.96	1.25 V	4	49.17	-107.13
3	257.95	-53.52	-13.00	-40.52	1.00 V	28	50.46	-103.98
4	433.52	-48.02	-13.00	-35.02	1.25 V	28	51.06	-99.08
5	625.58	-49.70	-13.00	-36.70	1.00 V	357	45.50	-95.20
6	776.90	-56.95	-13.00	-43.95	1.50 V	19	35.26	-92.21

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.

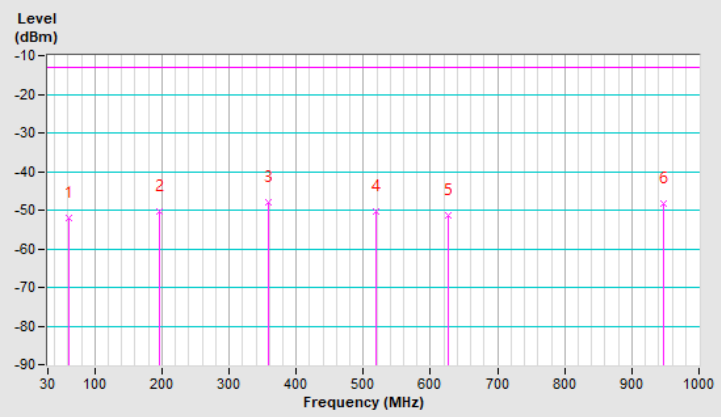


RF Mode	TX WCDMA Band IV	Channel	CH 1312: 1712.4 MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	B

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	61.04	-52.10	-13.00	-39.10	1.00 H	110	53.06	-105.16
2	196.84	-50.22	-13.00	-37.22	1.00 H	129	56.63	-106.85
3	358.83	-47.90	-13.00	-34.90	1.50 H	129	53.23	-101.13
4	519.85	-50.17	-13.00	-37.17	1.25 H	327	47.17	-97.34
5	625.58	-51.43	-13.00	-38.43	1.00 H	7	43.77	-95.20
6	946.65	-48.47	-13.00	-35.47	1.50 H	67	40.67	-89.14

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.

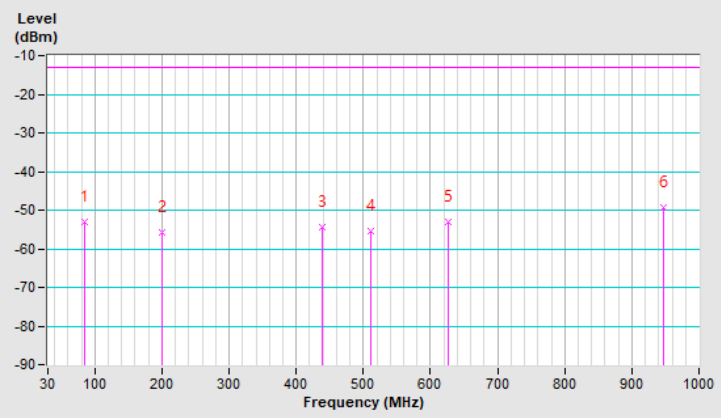


RF Mode	TX WCDMA Band IV	Channel	CH 1312: 1712.4 MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	B

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	84.32	-52.91	-13.00	-39.91	1.25 V	103	56.68	-109.59
2	199.75	-55.85	-13.00	-42.85	1.00 V	168	50.99	-106.84
3	439.34	-54.44	-13.00	-41.44	1.25 V	8	44.50	-98.94
4	511.12	-55.42	-13.00	-42.42	1.50 V	301	42.10	-97.52
5	625.58	-52.89	-13.00	-39.89	1.00 V	50	42.31	-95.20
6	947.62	-49.33	-13.00	-36.33	1.00 V	189	39.82	-89.15

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
4. The other EIRP levels were very low against the limit.

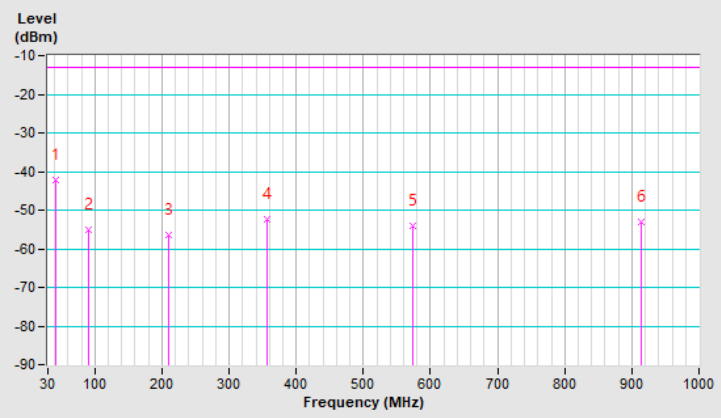


RF Mode	TX LTE Band IV -10MHz	Channel	CH 20350: 1750.0MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	A

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	41.64	-42.13	-13.00	-29.13	1.25 H	7	62.59	-104.72
2	91.11	-55.11	-13.00	-42.11	1.50 H	269	54.84	-109.95
3	210.42	-56.36	-13.00	-43.36	1.00 H	168	50.26	-106.62
4	355.92	-52.42	-13.00	-39.42	1.25 H	166	48.75	-101.17
5	573.20	-53.99	-13.00	-40.99	1.00 H	43	42.33	-96.32
6	914.64	-53.00	-13.00	-40.00	1.50 H	327	36.52	-89.52

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.

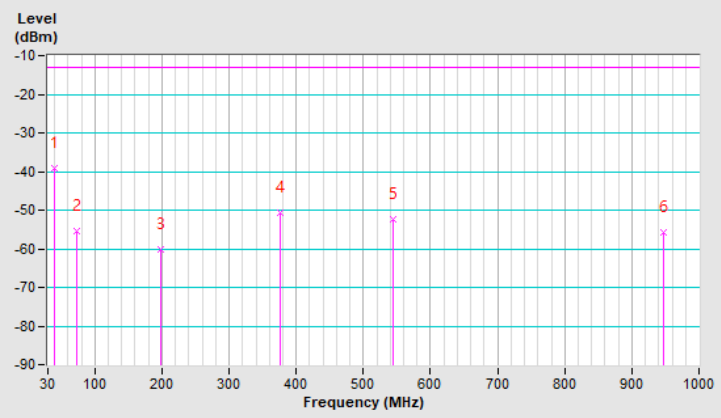


RF Mode	TX LTE Band IV -10MHz	Channel	CH 20350: 1750.0MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	A

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	**39.70**	**-39.32**	**-13.00**	**-26.32**	**1.00 V**	**256**	**65.63**	**-104.95**
2	73.65	-55.49	-13.00	-42.49	1.50 V	184	51.78	-107.27
3	197.81	-60.28	-13.00	-47.28	1.25 V	28	46.59	-106.87
4	375.32	-50.62	-13.00	-37.62	1.25 V	75	50.09	-100.71
5	544.10	-52.22	-13.00	-39.22	1.50 V	7	44.76	-96.98
6	947.62	-55.70	-13.00	-42.70	1.00 V	189	33.45	-89.15

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
4. The other EIRP levels were very low against the limit.

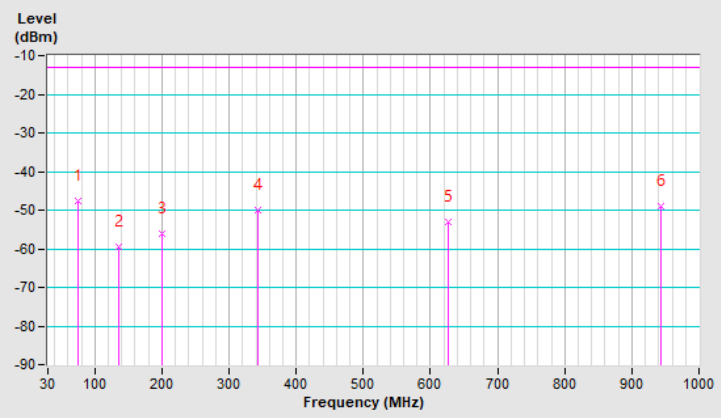


RF Mode	TX LTE Band IV -10MHz	Channel	CH 20350: 1750.0MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	B

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	74.62	-47.75	-13.00	-34.75	1.00 H	359	59.65	-107.40
2	135.73	-59.45	-13.00	-46.45	1.50 H	141	45.44	-104.89
3	199.75	-56.14	-13.00	-43.14	2.00 H	168	50.70	-106.84
4	343.31	-50.00	-13.00	-37.00	1.00 H	351	51.39	-101.39
5	625.58	-53.15	-13.00	-40.15	1.25 H	58	42.05	-95.20
6	942.77	-48.94	-13.00	-35.94	1.00 H	112	40.14	-89.08

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.

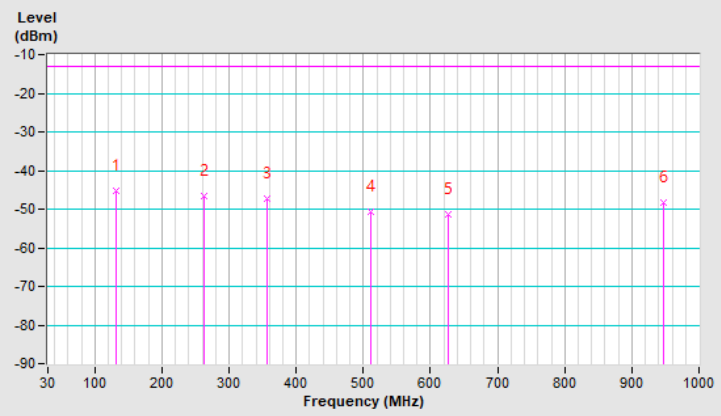


RF Mode	TX LTE Band IV -10MHz	Channel	CH 20350: 1750.0MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	B

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	130.88	-45.18	-13.00	-32.18	1.00 V	45	60.19	-105.37
2	262.80	-46.54	-13.00	-33.54	1.25 V	154	57.16	-103.70
3	356.89	-47.19	-13.00	-34.19	1.00 V	93	53.96	-101.15
4	511.12	-50.74	-13.00	-37.74	1.50 V	338	46.78	-97.52
5	625.58	-51.19	-13.00	-38.19	1.00 V	19	44.01	-95.20
6	946.65	-48.21	-13.00	-35.21	1.25 V	109	40.93	-89.14

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

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

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	-50.64	-13.00	-37.64	2.08 H	33	44.21	-94.85
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	-49.46	-13.00	-36.46	3.31 V	69	45.39	-94.85

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 -10MHz	Channel	CH 20350: 1750.0MHz
Frequency Range	1GHz ~ 18GHz	Test Mode	A

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	-50.25	-13.00	-37.25	2.17 H	23	44.36	-94.61
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	-49.34	-13.00	-36.34	3.27 V	64	45.27	-94.61

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.

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.

If you have any comments, please feel free to contact us at the following:

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Web Site: www.bureauveritas-adt.com

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

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