

Partial FCC Test Report

(Part 24)

Report No.: RFBHDI-WTW-P22040138-1

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.

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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

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33383, Taiwan

FCC Registration /

Designation Number: 788550 / TW0003



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Release Control Record

Issue No.	Description	Date Issued
RFBHDI-WTW-P22040138-1	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 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 : _____, **Date:** Sep. 07, 2022
Pettie Chen / Senior Specialist



Approved by : _____, **Date:** Sep. 07, 2022
Jeremy Lin / Project Engineer

2 Summary of Test Results

Applied Standard: FCC Part 24 & Part 2			
FCC Clause	Test Item	Result	Remarks
2.1046 24.232	Equivalent Isotropic Radiated Power	Pass	Meet the requirement of limit.
2.1047	Modulation Characteristics	N/A	Refer to Note
2.1046 24.232(d)	Peak to Average Ratio	N/A	Refer to Note
2.1055 24.235	Frequency Stability	N/A	Refer to Note
2.1049	Occupied Bandwidth	N/A	Refer to Note
24.238	Band Edge Measurements	N/A	Refer to Note
2.1051 24.238	Conducted Spurious Emissions	N/A	Refer to Note
2.1053 24.238	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -23.23 dB at 91.11 MHz.

Note:

1. This report is a partial report. Therefore, only test item of Equivalent 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/MY55 190004/MY551900 07/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

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	GSM/GPRS	GMSK	
	EDGE	GMSK, 8PSK	
	WCDMA	QPSK	
	LTE	QPSK, 16QAM	
Frequency Range	GSM/GPRS/EDGE	1850.2 ~ 1909.8 MHz	
	WCDMA	1852.4 ~ 1907.6 MHz	
	LTE Band 2 (Channel Bandwidth: 1.4 MHz)	1850.7 ~ 1909.3 MHz	
	LTE Band 2 (Channel Bandwidth: 3 MHz)	1851.5 ~ 1908.5 MHz	
	LTE Band 2 (Channel Bandwidth: 5 MHz)	1852.5 ~ 1907.5 MHz	
	LTE Band 2 (Channel Bandwidth: 10 MHz)	1855.0 ~ 1905.0 MHz	
	LTE Band 2 (Channel Bandwidth: 15 MHz)	1857.5 ~ 1902.5 MHz	
	LTE Band 2 (Channel Bandwidth: 20 MHz)	1860.0 ~ 1900.0 MHz	
	LTE Band 25 (Channel Bandwidth: 1.4 MHz)	1850.7 ~ 1914.3 MHz	
	LTE Band 25 (Channel Bandwidth: 3 MHz)	1851.5 ~ 1913.5 MHz	
	LTE Band 25 (Channel Bandwidth: 5 MHz)	1852.5 ~ 1912.5 MHz	
	LTE Band 25 (Channel Bandwidth: 10 MHz)	1855.0 ~ 1910.0 MHz	
	LTE Band 25 (Channel Bandwidth: 15 MHz)	1857.5 ~ 1907.5 MHz	
	LTE Band 25 (Channel Bandwidth: 20 MHz)	1860.0 ~ 1905.0 MHz	
Max. EIRP Power	GSM 1900	1250.259mW (30.97dBm)	
	EDGE 1900	1247.384mW (30.96dBm)	
	WCDMA Band 2	319.154mW (25.04dBm)	
		QPSK	16QAM
	LTE Band 2 (Channel Bandwidth: 1.4 MHz)	261.216mW (24.17dBm)	258.226mW (24.12dBm)
	LTE Band 2 (Channel Bandwidth: 3 MHz)	255.270mW (24.07dBm)	200.447mW (23.02dBm)
	LTE Band 2 (Channel Bandwidth: 5 MHz)	257.632mW (24.11dBm)	201.372mW (23.04dBm)
	LTE Band 2 (Channel Bandwidth: 10 MHz)	253.513mW (24.04dBm)	199.986mW (23.01dBm)
	LTE Band 2 (Channel Bandwidth: 15 MHz)	259.418mW (24.14dBm)	206.063mW (23.14dBm)
	LTE Band 2 (Channel Bandwidth: 20 MHz)	263.027mW (24.20dBm)	204.174mW (23.10dBm)

Max. EIRP Power		QPSK	16QAM
	LTE Band 25 (Channel Bandwidth: 1.4 MHz)	302.691mW (24.81dBm)	239.883mW (23.80dBm)
	LTE Band 25 (Channel Bandwidth: 3 MHz)	290.402mW (24.63dBm)	225.944mW (23.54dBm)
	LTE Band 25 (Channel Bandwidth: 5 MHz)	287.078mW (24.58dBm)	221.309mW (23.45dBm)
	LTE Band 25 (Channel Bandwidth: 10 MHz)	328.852mW (25.17dBm)	256.448mW (24.09dBm)
	LTE Band 25 (Channel Bandwidth: 15 MHz)	308.319mW (24.89dBm)	238.781mW (23.78dBm)
	LTE Band 25 (Channel Bandwidth: 20 MHz)	297.167mW (24.73dBm)	229.615mW (23.61dBm)
Antenna Type	GSM/GPRS 1900	Dipole Antenna with 1.7 dBi gain	
	WCDMA Band 2	Dipole Antenna with 1.7 dBi gain	
	LTE Band 2	Dipole Antenna with 1.7 dBi gain	
	LTE Band 25	Dipole Antenna with 1.7 dBi gain	
Accessory Device	N/A		
Data Cable Supplied	N/A		

Note:

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

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

- The End-product contains following accessory devices.

Product	Brand	Model	Description
Adapter	EDAC Power Electronics Co., Ltd.	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

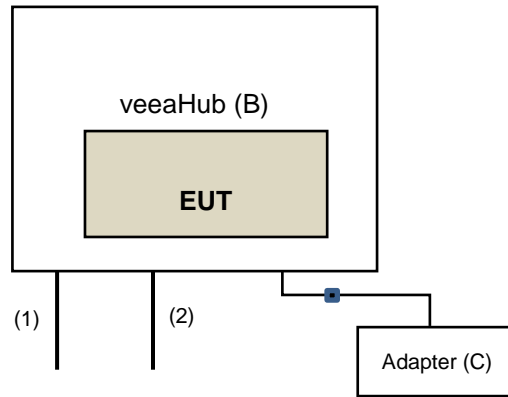
- The End-product use following devices (Support unit).

Product	Brand	Model	Description
PoE	N/A	APOE02-WM	O/P: 48 Vdc

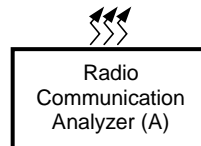
- The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.
- The above EUT information is declared by manufacturer and for more detailed features description,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

3.2 Configuration of System under Test

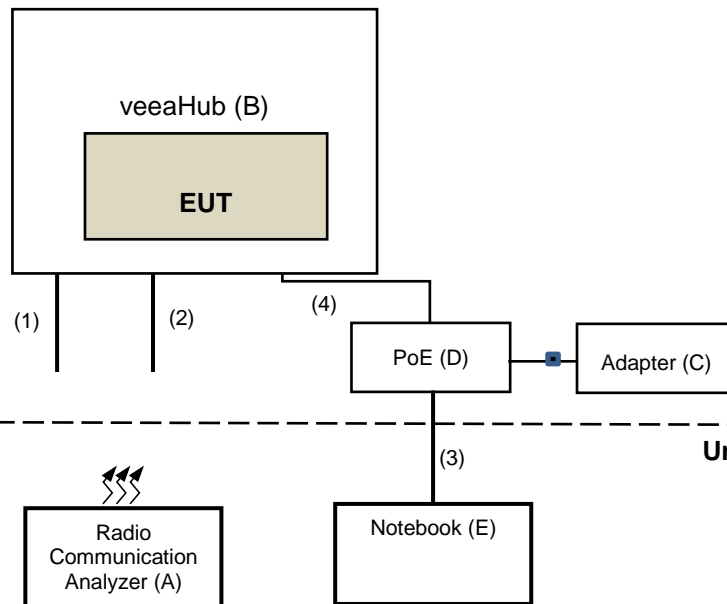
Test Mode A



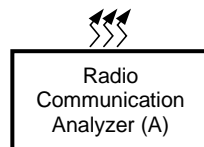
Under Table



Test Mode B




Under Table



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 GSM, WCDMA
B	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
GSM 1900	Z-plane
WCDMA Band 2	Z-plane
LTE Band 2	Z-plane

GSM 1900

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Mode
A	EIRP	512 to 810	512 (1850.2MHz), 661 (1880.0MHz), 810 (1909.8MHz)	GSM, EDGE
A, B	Radiated Emission Below 1GHz	512 to 810	512 (1850.2MHz)	GSM
A	Radiated Emission Above 1GHz	512 to 810	512 (1850.2MHz)	GSM

WCDMA Band 2

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

LTE Band 2

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
A	EIRP	18607 to 19193	18607 (1850.70MHz), 18900 (1880.00MHz), 19193 (1909.30MHz)	1.4MHz	QPSK, 16QAM	1 Half Full
		18615 to 19185	18615 (1851.50MHz), 18900 (1880.00MHz), 19185 (1908.50MHz)	3MHz	QPSK, 16QAM	1 Half Full
		18625 to 19175	18625 (1852.50MHz), 18900 (1880.00MHz), 19175 (1907.50MHz)	5MHz	QPSK, 16QAM	1 Half Full
		18650 to 19150	18650 (1855.00MHz), 18900 (1880.00MHz), 19150 (1905.00MHz)	10MHz	QPSK, 16QAM	1 Half Full
		18675 to 19125	18675 (1857.50MHz), 18900 (1880.00MHz), 19125 (1902.50MHz)	15MHz	QPSK, 16QAM	1 Half Full
		18700 to 19100	18700 (1860.00MHz), 18900 (1880.00MHz), 19100 (1900.00MHz)	20MHz	QPSK, 16QAM	1 Half Full
A, B	Radiated Emission Below 1GHz	18700 to 19100	18900 (1880.00MHz)	20MHz	QPSK	1
A	Radiated Emission Above 1GHz	18700 to 19100	18900 (1880.00MHz)	20MHz	QPSK	1

LTE Band 25

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
A	EIRP	26047 to 26683	26047 (1850.7MHz), 26365 (1882.5MHz), 26683 (1914.3MHz)	1.4MHz	QPSK, 16QAM	1 Half Full
		26055 to 26675	26055 (1851.5MHz), 26365 (1882.5MHz), 26675 (1913.5MHz)	3MHz	QPSK, 16QAM	1 Half Full
		26065 to 26665	26065 (1852.5MHz), 26365 (1882.5MHz), 26665 (1912.5MHz)	5MHz	QPSK, 16QAM	1 Half Full
		26090 to 26640	26090 (1855.0MHz), 26365 (1882.5MHz), 26640 (1910.0MHz)	10MHz	QPSK, 16QAM	1 Half Full
		26115 to 26615	26115 (1857.5MHz), 26365 (1882.5MHz), 26615 (1907.5MHz)	15MHz	QPSK, 16QAM	1 Half Full
		26140 to 26590	26140 (1860.0MHz), 26365 (1882.5MHz), 26590 (1905.0MHz)	20MHz	QPSK, 16QAM	1 Half Full

Test Condition:

Test Item	Environmental Conditions	Input Power	Tested By
EIRP	25 deg. C, 65 % RH	3.8 Vdc	Charles Hsiao
Radiated Emission	22 deg. C, 70 % RH 21 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 24

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

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

4.1.2 Test Procedures

Conducted Power Measurement:

The EUT was set up for the maximum power with GPRS, EDGE, WCDMA and LTE link data modulation and link up with simulator. 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:

$$\text{EIRP} = P_{\text{Meas}} + G_T$$

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

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 dB (ERP) or dBi (EIRP)

4.1.3 Test Setup

Conducted Power Measurement:



4.1.4 Test Results

Conducted Output Power (dBm)

Band	GSM1900		
Channel	512	661	810
Frequency (MHz)	1850.2	1880.0	1909.8
GPRS	29.27	29.12	29.05
EDGE	29.26	29.11	29.02

Band	WCDMA II		
Channel	9262	9400	9538
Frequency (MHz)	1852.4	1880.0	1907.6
RMC 12.2K	23.34	23.27	23.28
HSDPA	22.00	22.24	22.29
HSUPA	22.05	22.31	22.30

LTE Band 2						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		18607	18900	19193
		Frequency (MHz)		1850.7	1880	1909.3
1.4M	QPSK	1	0	22.24	22.32	22.33
		1	2	22.47	22.42	22.43
		1	5	22.16	22.25	22.25
		3	0	22.31	22.26	22.16
		3	1	22.17	22.30	22.40
		3	3	22.46	22.34	22.35
		6	0	21.12	21.26	21.31
	16QAM	1	0	21.20	21.19	21.27
		1	2	21.27	21.34	21.29
		1	5	21.13	21.08	21.20
		3	0	21.29	21.26	21.10
		3	1	21.17	21.10	21.31
		3	3	21.41	21.29	21.27
		6	0	20.12	20.07	20.28
BW	MCS Index	Channel		18615	18900	19185
		Frequency (MHz)		1851.5	1880	1908.5
3M	QPSK	1	0	22.13	22.16	22.02
		1	7	22.37	22.32	22.27
		1	14	22.29	22.21	22.26
		8	0	21.25	21.19	21.04
		8	3	21.31	21.28	21.21
		8	7	21.37	21.35	21.38
		15	0	21.30	21.19	21.15
	16QAM	1	0	21.13	21.12	20.91
		1	7	21.26	21.32	21.15
		1	14	21.29	21.18	21.19
		8	0	20.15	20.03	19.95
		8	3	20.23	20.17	20.03
		8	7	20.19	20.16	20.18
		15	0	20.15	20.11	20.09

LTE Band 2						
BW	MCS Index	Channel		18625	18900	19175
		Frequency (MHz)		1852.5	1880	1907.5
5M	QPSK	1	0	22.30	22.33	22.41
		1	12	22.31	22.29	22.22
		1	24	22.26	22.31	22.24
		12	0	21.17	21.23	21.18
		12	6	21.16	21.15	21.02
		12	13	21.34	21.33	21.46
		25	0	21.27	21.24	21.25
	16QAM	1	0	21.26	21.26	21.34
		1	12	21.31	21.13	21.13
		1	24	21.17	21.27	21.24
		12	0	20.07	20.06	19.98
		12	6	20.07	20.08	19.91
		12	13	20.31	20.15	20.34
		25	0	20.20	20.13	20.15
BW	MCS Index	Channel		18650	18900	19150
		Frequency (MHz)		1855	1880	1905
10M	QPSK	1	0	22.32	22.34	22.28
		1	24	22.12	22.26	22.30
		1	49	22.34	22.31	22.30
		25	0	21.16	21.24	21.19
		25	12	21.31	21.32	21.34
		25	25	21.33	21.22	21.22
		50	0	21.28	21.16	21.26
	16QAM	1	0	21.14	21.30	21.21
		1	24	21.05	21.11	21.14
		1	49	21.20	21.31	21.16
		25	0	20.04	20.10	20.14
		25	12	20.26	20.21	20.33
		25	25	20.31	20.22	20.12
		50	0	20.16	20.07	20.15

LTE Band 2						
BW	MCS Index	Channel		18675	18900	19125
		Frequency (MHz)		1857.5	1880	1902.5
15M	QPSK	1	0	22.26	22.31	22.37
		1	37	22.44	22.39	22.24
		1	74	22.39	22.34	22.43
		36	0	21.35	21.24	21.21
		36	19	21.29	21.30	21.29
		36	39	21.14	21.14	21.14
		75	0	21.15	21.21	21.27
	16QAM	1	0	21.24	21.23	21.30
		1	37	21.44	21.25	21.23
		1	74	21.30	21.30	21.26
		36	0	20.22	20.23	20.07
		36	19	20.12	20.17	20.13
		36	39	20.03	19.94	20.08
		75	0	20.02	20.21	20.25
BW	MCS Index	Channel		18700	18900	19100
		Frequency (MHz)		1860	1880	1900
20M	QPSK	1	0	22.50	22.40	22.36
		1	50	22.34	22.36	22.33
		1	99	22.35	22.34	22.40
		50	0	21.13	21.22	21.16
		50	25	21.35	21.39	21.38
		50	50	21.35	21.36	21.40
		100	0	21.13	21.26	21.27
	16QAM	1	0	21.30	21.40	21.20
		1	50	21.22	21.30	21.31
		1	99	21.29	21.14	21.21
		50	0	19.95	20.12	20.08
		50	25	20.30	20.33	20.33
		50	50	20.34	20.36	20.35
		100	0	20.11	20.25	20.27

LTE Band 25						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26047	26365	26683
		Frequency (MHz)		1850.7	1882.5	1914.3
1.4M	QPSK	1	0	22.74	22.74	22.78
		1	2	23.11	23.05	22.96
		1	5	22.78	22.76	22.70
		3	0	22.88	22.78	22.77
		3	1	22.69	22.83	22.81
		3	3	22.64	22.70	22.55
		6	0	21.74	21.77	21.83
	16QAM	1	0	21.61	21.58	21.73
		1	2	22.10	21.98	21.78
		1	5	21.72	21.75	21.59
		3	0	21.80	21.74	21.73
		3	1	21.69	21.65	21.74
		3	3	21.57	21.64	21.48
		6	0	20.69	20.68	20.73
BW	MCS Index	Channel		26055	26365	26675
		Frequency (MHz)		1851.5	1882.5	1913.5
3M	QPSK	1	0	22.77	22.74	22.60
		1	7	22.93	22.78	22.79
		1	14	22.93	22.79	22.65
		8	0	21.77	21.89	21.84
		8	3	21.92	21.79	21.84
		8	7	21.66	21.76	21.70
		15	0	21.73	21.78	21.83
	16QAM	1	0	21.68	21.62	21.50
		1	7	21.84	21.70	21.69
		1	14	21.75	21.62	21.49
		8	0	20.63	20.72	20.69
		8	3	20.85	20.73	20.84
		8	7	20.60	20.76	20.64
		15	0	20.64	20.70	20.64

LTE Band 25						
BW	MCS Index	Channel		26065	26365	26665
		Frequency (MHz)		1852.5	1882.5	1912.5
5M	QPSK	1	0	22.76	22.69	22.79
		1	12	22.88	22.83	22.77
		1	24	22.68	22.66	22.58
		12	0	21.75	21.82	21.83
		12	6	21.73	21.80	21.82
		12	13	21.86	21.79	21.76
		25	0	21.76	21.87	21.74
	16QAM	1	0	21.71	21.49	21.75
		1	12	21.72	21.67	21.74
		1	24	21.56	21.47	21.53
		12	0	20.55	20.82	20.82
		12	6	20.71	20.62	20.80
		12	13	20.84	20.70	20.76
		25	0	20.73	20.74	20.66
BW	MCS Index	Channel		26090	26365	26640
		Frequency (MHz)		1855	1882.5	1910
10M	QPSK	1	0	22.80	22.85	22.93
		1	24	23.47	23.35	23.43
		1	49	23.15	23.02	22.95
		25	0	21.84	21.82	21.88
		25	12	22.04	21.98	22.03
		25	25	21.69	21.75	21.85
		50	0	21.86	21.86	21.78
	16QAM	1	0	21.65	21.79	21.87
		1	24	22.38	22.19	22.39
		1	49	22.14	21.89	21.91
		25	0	20.72	20.69	20.86
		25	12	20.84	20.88	20.95
		25	25	20.65	20.64	20.75
		50	0	20.83	20.82	20.72

LTE Band 25						
BW	MCS Index	Channel		26115	26365	26615
		Frequency (MHz)		1857.5	1882.5	1907.5
15M	QPSK	1	0	22.90	22.91	22.94
		1	37	22.99	23.11	23.19
		1	74	22.81	22.79	22.81
		36	0	21.85	21.84	21.81
		36	19	21.91	21.91	21.91
		36	39	21.80	21.83	21.82
		75	0	21.78	21.82	21.83
	16QAM	1	0	21.78	21.84	21.75
		1	37	21.84	22.02	22.08
		1	74	21.80	21.63	21.62
		36	0	20.69	20.68	20.79
		36	19	20.79	20.89	20.77
		36	39	20.73	20.78	20.79
		75	0	20.67	20.68	20.77
BW	MCS Index	Channel		26140	26365	26590
		Frequency (MHz)		1860	1882.5	1905
20M	QPSK	1	0	22.91	22.89	22.85
		1	50	22.77	22.86	22.95
		1	99	23.03	22.95	22.91
		50	0	21.92	21.85	21.87
		50	25	21.77	21.83	21.79
		50	50	21.80	21.82	21.97
		100	0	21.85	21.76	21.73
	16QAM	1	0	21.90	21.73	21.72
		1	50	21.66	21.77	21.90
		1	99	21.90	21.91	21.91
		50	0	20.87	20.72	20.68
		50	25	20.71	20.72	20.66
		50	50	20.64	20.62	20.78
		100	0	20.79	20.75	20.69

EIRP Power (dBm)

Band	GSM1900		
Channel	512	661	810
Frequency (MHz)	1850.2	1880.0	1909.8
GPRS	30.97	30.82	30.75
EDGE	30.96	30.81	30.72

*EIRP = Conducted + antenna gain (1.7dBi)

Band	WCDMA II		
Channel	9262	9400	9538
Frequency (MHz)	1852.4	1880.0	1907.6
RMC 12.2K	25.04	24.97	24.98
HSDPA	23.70	23.94	23.99
HSUPA	23.75	24.01	24.00

*EIRP = Conducted + antenna gain (1.7dBi)

LTE Band 2						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		18607	18900	19193
		Frequency (MHz)		1850.7	1880	1909.3
1.4M	QPSK	1	0	23.94	24.02	24.03
		1	2	24.17	24.12	24.13
		1	5	23.86	23.95	23.95
		3	0	24.01	23.96	23.86
		3	1	23.87	24.00	24.10
		3	3	24.16	24.04	24.05
		6	0	22.82	22.96	23.01
	16QAM	1	0	22.90	22.89	22.97
		1	2	22.97	24.12	22.99
		1	5	22.83	23.95	22.90
		3	0	22.99	23.96	22.80
		3	1	22.87	24.00	23.01
		3	3	23.11	24.04	22.97
		6	0	21.82	22.96	21.98
BW	MCS Index	Channel		18615	18900	19185
		Frequency (MHz)		1851.5	1880	1908.5
3M	QPSK	1	0	23.83	23.86	23.72
		1	7	24.07	24.02	23.97
		1	14	23.99	23.91	23.96
		8	0	22.95	22.89	22.74
		8	3	23.01	22.98	22.91
		8	7	23.07	23.05	23.08
		15	0	23.00	22.89	22.85
	16QAM	1	0	22.83	22.82	22.61
		1	7	22.96	23.02	22.85
		1	14	22.99	22.88	22.89
		8	0	21.85	21.73	21.65
		8	3	21.93	21.87	21.73
		8	7	21.89	21.86	21.88
		15	0	21.85	21.81	21.79

*EIRP = Conducted + antenna gain (1.7dBi)

LTE Band 2						
BW	MCS Index	Channel		18625	18900	19175
		Frequency (MHz)		1852.5	1880	1907.5
5M	QPSK	1	0	24.00	24.03	24.11
		1	12	24.01	23.99	23.92
		1	24	23.96	24.01	23.94
		12	0	22.87	22.93	22.88
		12	6	22.86	22.85	22.72
		12	13	23.04	23.03	23.16
		25	0	22.97	22.94	22.95
	16QAM	1	0	22.96	22.96	23.04
		1	12	23.01	22.83	22.83
		1	24	22.87	22.97	22.94
		12	0	21.77	21.76	21.68
		12	6	21.77	21.78	21.61
		12	13	22.01	21.85	22.04
		25	0	21.90	21.83	21.85
BW	MCS Index	Channel		18650	18900	19150
		Frequency (MHz)		1855	1880	1905
10M	QPSK	1	0	24.02	24.04	23.98
		1	24	23.82	23.96	24.00
		1	49	24.04	24.01	24.00
		25	0	22.86	22.94	22.89
		25	12	23.01	23.02	23.04
		25	25	23.03	22.92	22.92
		50	0	22.98	22.86	22.96
	16QAM	1	0	22.84	23.00	22.91
		1	24	22.75	22.81	22.84
		1	49	22.90	23.01	22.86
		25	0	21.74	21.80	21.84
		25	12	21.96	21.91	22.03
		25	25	22.01	21.92	21.82
		50	0	21.86	21.77	21.85

*EIRP = Conducted + antenna gain (1.7dBi)

LTE Band 2						
BW	MCS Index	Channel		18675	18900	19125
		Frequency (MHz)		1857.5	1880	1902.5
15M	QPSK	1	0	23.96	24.01	24.07
		1	37	24.14	24.09	23.94
		1	74	24.09	24.04	24.13
		36	0	23.05	22.94	22.91
		36	19	22.99	23.00	22.99
		36	39	22.84	22.84	22.84
		75	0	22.85	22.91	22.97
	16QAM	1	0	22.94	22.93	23.00
		1	37	23.14	22.95	22.93
		1	74	23.00	23.00	22.96
		36	0	21.92	21.93	21.77
		36	19	21.82	21.87	21.83
		36	39	21.73	21.64	21.78
		75	0	21.72	21.91	21.95
BW	MCS Index	Channel		18700	18900	19100
		Frequency (MHz)		1860	1880	1900
20M	QPSK	1	0	24.20	24.10	24.06
		1	50	24.04	24.06	24.03
		1	99	24.05	24.04	24.10
		50	0	22.83	22.92	22.86
		50	25	23.05	23.09	23.08
		50	50	23.05	23.06	23.10
		100	0	22.83	22.96	22.97
	16QAM	1	0	23.00	23.10	22.90
		1	50	22.92	23.00	23.01
		1	99	22.99	22.84	22.91
		50	0	21.65	21.82	21.78
		50	25	22.00	22.03	22.03
		50	50	22.04	22.06	22.05
		100	0	21.81	21.95	21.97

*EIRP = Conducted + antenna gain (1.7dBi)

LTE Band 25						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26047	26365	26683
		Frequency (MHz)		1850.7	1882.5	1914.3
1.4M	QPSK	1	0	24.44	24.44	24.48
		1	2	24.81	24.75	24.66
		1	5	24.48	24.46	24.40
		3	0	24.58	24.48	24.47
		3	1	24.39	24.53	24.51
		3	3	24.34	24.40	24.25
		6	0	23.44	23.47	23.53
	16QAM	1	0	23.31	23.28	23.43
		1	2	23.80	23.68	23.48
		1	5	23.42	23.45	23.29
		3	0	23.50	23.44	23.43
		3	1	23.39	23.35	23.44
		3	3	23.27	23.34	23.18
		6	0	22.39	22.38	22.43
BW	MCS Index	Channel		26055	26365	26675
		Frequency (MHz)		1851.5	1882.5	1913.5
3M	QPSK	1	0	24.47	24.44	24.30
		1	7	24.63	24.48	24.49
		1	14	24.63	24.49	24.35
		8	0	23.47	23.59	23.54
		8	3	23.62	23.49	23.54
		8	7	23.36	23.46	23.40
		15	0	23.43	23.48	23.53
	16QAM	1	0	23.38	23.32	23.20
		1	7	23.54	23.40	23.39
		1	14	23.45	23.32	23.19
		8	0	22.33	22.42	22.39
		8	3	22.55	22.43	22.54
		8	7	22.30	22.46	22.34
		15	0	22.34	22.40	22.34

*EIRP = Conducted + antenna gain (1.7dBi)

LTE Band 25						
BW	MCS Index	Channel		26065	26365	26665
		Frequency (MHz)		1852.5	1882.5	1912.5
5M	QPSK	1	0	24.46	24.39	24.49
		1	12	24.58	24.53	24.47
		1	24	24.38	24.36	24.28
		12	0	23.45	23.52	23.53
		12	6	23.43	23.50	23.52
		12	13	23.56	23.49	23.46
		25	0	23.46	23.57	23.44
	16QAM	1	0	23.41	23.19	23.45
		1	12	23.42	23.37	23.44
		1	24	23.26	23.17	23.23
		12	0	22.25	22.52	22.52
		12	6	22.41	22.32	22.50
		12	13	22.54	22.40	22.46
		25	0	22.43	22.44	22.36
BW	MCS Index	Channel		26090	26365	26640
		Frequency (MHz)		1855	1882.5	1910
10M	QPSK	1	0	24.50	24.55	24.63
		1	24	25.17	25.05	25.13
		1	49	24.85	24.72	24.65
		25	0	23.54	23.52	23.58
		25	12	23.74	23.68	23.73
		25	25	23.39	23.45	23.55
		50	0	23.56	23.56	23.48
	16QAM	1	0	23.35	23.49	23.57
		1	24	24.08	23.89	24.09
		1	49	23.84	23.59	23.61
		25	0	22.42	22.39	22.56
		25	12	22.54	22.58	22.65
		25	25	22.35	22.34	22.45
		50	0	22.53	22.52	22.42

*EIRP = Conducted + antenna gain (1.7dBi)

LTE Band 25						
BW	MCS Index	Channel		26115	26365	26615
		Frequency (MHz)		1857.5	1882.5	1907.5
15M	QPSK	1	0	24.60	24.61	24.64
		1	37	24.69	24.81	24.89
		1	74	24.51	24.49	24.51
		36	0	23.55	23.54	23.51
		36	19	23.61	23.61	23.61
		36	39	23.50	23.53	23.52
		75	0	23.48	23.52	23.53
	16QAM	1	0	23.48	23.54	23.45
		1	37	23.54	23.72	23.78
		1	74	23.50	23.33	23.32
		36	0	22.39	22.38	22.49
		36	19	22.49	22.59	22.47
		36	39	22.43	22.48	22.49
		75	0	22.37	22.38	22.47
BW	MCS Index	Channel		26140	26365	26590
		Frequency (MHz)		1860	1882.5	1905
20M	QPSK	1	0	24.61	24.59	24.55
		1	50	24.47	24.56	24.65
		1	99	24.73	24.65	24.61
		50	0	23.62	23.55	23.57
		50	25	23.47	23.53	23.49
		50	50	23.50	23.52	23.67
		100	0	23.55	23.46	23.43
	16QAM	1	0	23.60	23.43	23.42
		1	50	23.36	23.47	23.60
		1	99	23.60	23.61	23.61
		50	0	22.57	22.42	22.38
		50	25	22.41	22.42	22.36
		50	50	22.34	22.32	22.48
		100	0	22.49	22.45	22.39

*EIRP = Conducted + antenna gain (1.7dBi)

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 is equal to -13 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 (dB μ V/m) + 20log (D) - 104.8; where D is the measurement distance (in the far field region) in m.
ERP (dBm) = E (dB μ V/m) + 20log (D) - 104.8 - 2.15; where D is the measurement distance (in the far field region) in m.

NOTE:

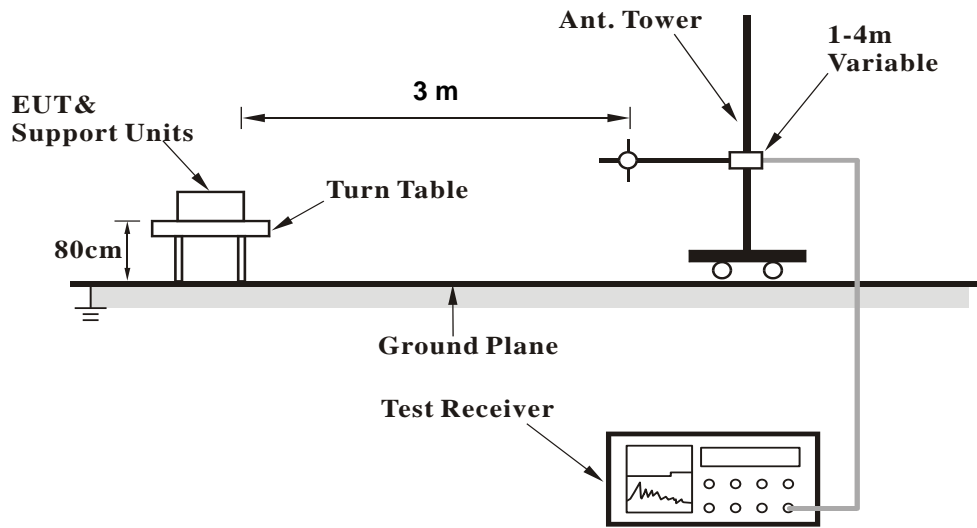
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz/3 MHz.
2. 9 kHz ~ 30 MHz Data:
The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

4.2.3 Deviation from Test Standard

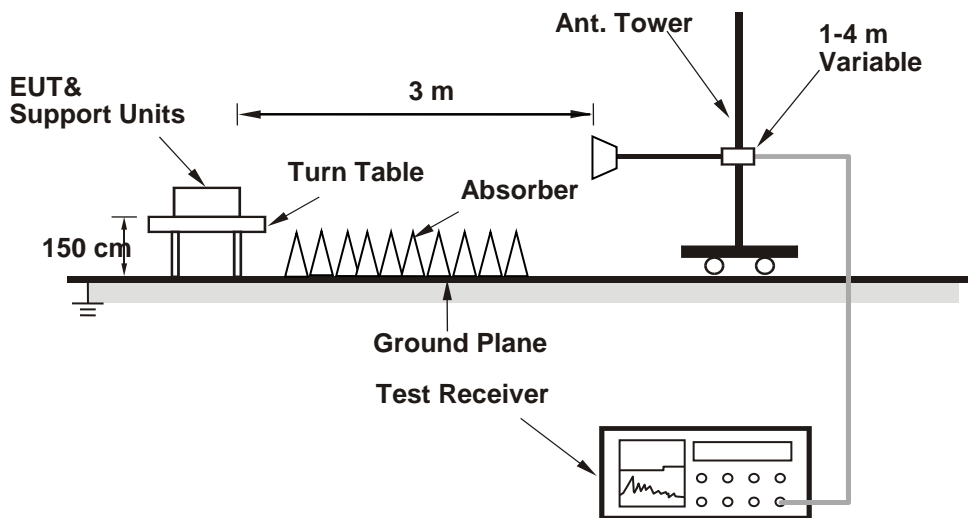
No deviation.

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

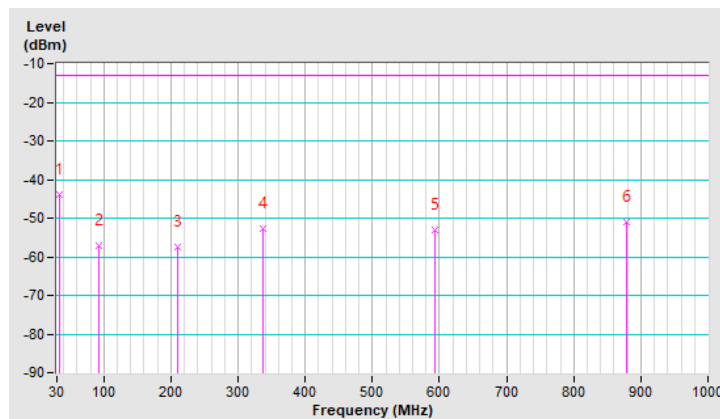
Below 1GHz

RF Mode	TX PCS 1900	Channel	CH 512: 1850.2 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	34.85	-43.93	-13.00	-30.93	1.00 H	5	61.41	-105.34
2	93.05	-56.97	-13.00	-43.97	1.50 H	17	52.85	-109.82
3	210.42	-57.36	-13.00	-44.36	1.25 H	156	49.26	-106.62
4	337.49	-52.80	-13.00	-39.80	1.25 H	49	48.51	-101.31
5	592.60	-53.22	-13.00	-40.22	1.50 H	317	42.55	-95.77
6	877.78	-51.03	-13.00	-38.03	1.50 H	280	39.69	-90.72

Remarks:

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

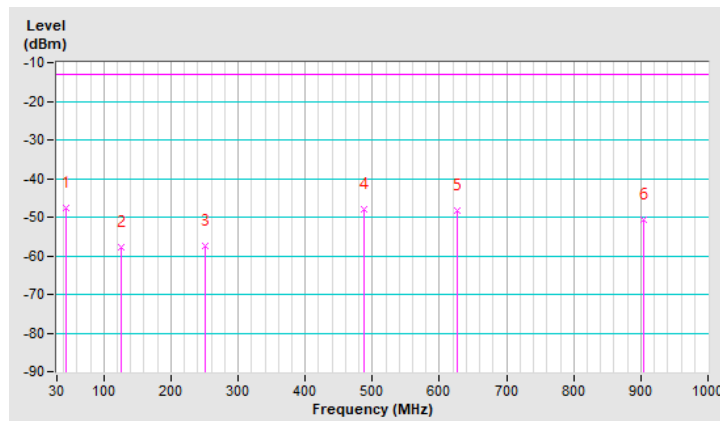


RF Mode	TX PCS 1900	Channel	CH 512: 1850.2 MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	A

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	44.55	-47.74	-13.00	-34.74	1.25 V	176	56.73	-104.47
2	126.03	-57.64	-13.00	-44.64	1.25 V	359	48.22	-105.86
3	250.19	-57.37	-13.00	-44.37	1.00 V	205	46.84	-104.21
4	486.87	-48.02	-13.00	-35.02	1.50 V	359	50.07	-98.09
5	625.58	-48.40	-13.00	-35.40	1.50 V	1	46.80	-95.20
6	903.97	-50.77	-13.00	-37.77	1.00 V	160	39.06	-89.83

Remarks:

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

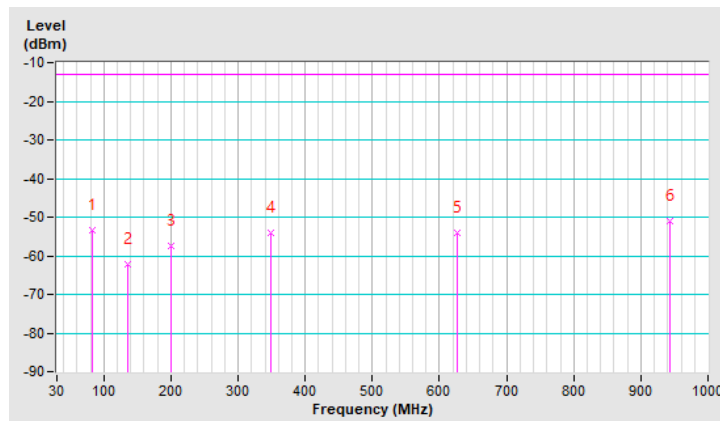


RF Mode	TX PCS 1900	Channel	CH 512: 1850.2 MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	B

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	82.38	-53.34	-13.00	-40.34	1.00 H	330	55.92	-109.26
2	135.73	-62.35	-13.00	-49.35	1.50 H	163	42.54	-104.89
3	199.75	-57.59	-13.00	-44.59	1.50 H	184	49.25	-106.84
4	348.16	-53.99	-13.00	-40.99	1.00 H	325	47.38	-101.37
5	625.58	-54.15	-13.00	-41.15	1.00 H	48	41.05	-95.20
6	942.77	-50.95	-13.00	-37.95	1.25 H	280	38.13	-89.08

Remarks:

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

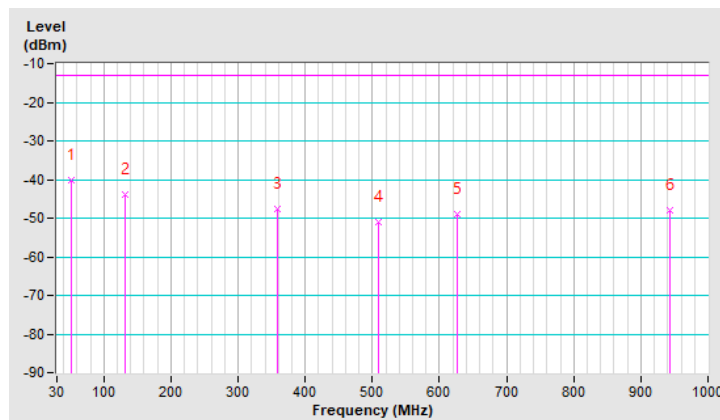


RF Mode	TX PCS 1900	Channel	CH 512: 1850.2 MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	B

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	52.31	-40.13	-13.00	-27.13	1.00 V	297	64.12	-104.25
2	131.85	-44.03	-13.00	-31.03	1.25 V	297	61.38	-105.41
3	357.86	-47.79	-13.00	-34.79	1.50 V	187	53.35	-101.14
4	509.18	-51.11	-13.00	-38.11	1.50 V	300	46.45	-97.56
5	625.58	-49.13	-13.00	-36.13	1.00 V	6	46.07	-95.20
6	942.77	-48.04	-13.00	-35.04	1.00 V	336	41.04	-89.08

Remarks:

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

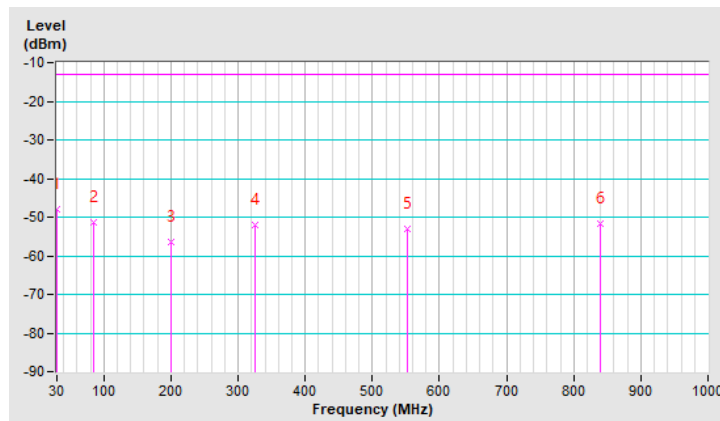


RF Mode	TX WCDMA Band 2	Channel	CH 9262: 1852.4 MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	A

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	-47.97	-13.00	-34.97	1.50 H	18	57.46	-105.43
2	85.29	-51.25	-13.00	-38.25	1.25 H	139	58.46	-109.71
3	199.75	-56.37	-13.00	-43.37	1.00 H	240	50.47	-106.84
4	324.88	-52.01	-13.00	-39.01	1.50 H	25	49.48	-101.49
5	552.83	-53.08	-13.00	-40.08	1.25 H	153	43.76	-96.84
6	839.95	-51.75	-13.00	-38.75	1.00 H	41	39.78	-91.53

Remarks:

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

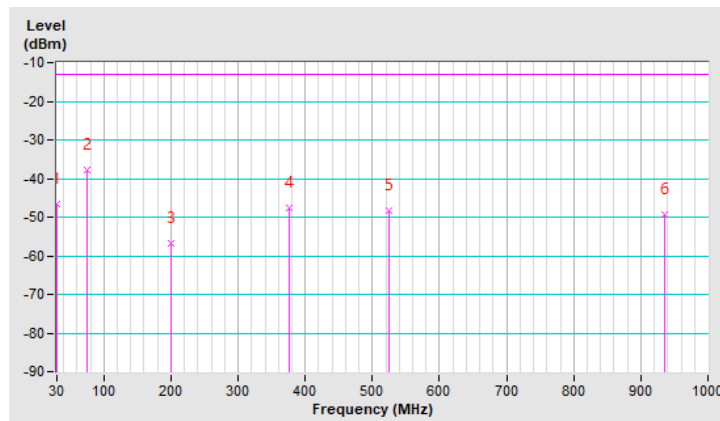


RF Mode	TX WCDMA Band 2	Channel	CH 9262: 1852.4 MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	A

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	30.00	-46.74	-13.00	-33.74	1.50 V	231	58.69	-105.43
2	75.59	-37.75	-13.00	-24.75	1.00 V	117	69.96	-107.71
3	199.75	-56.77	-13.00	-43.77	1.25 V	314	50.07	-106.84
4	375.32	-47.75	-13.00	-34.75	1.00 V	168	52.96	-100.71
5	525.67	-48.29	-13.00	-35.29	1.25 V	311	48.93	-97.22
6	935.98	-49.26	-13.00	-36.26	1.50 V	7	39.83	-89.09

Remarks:

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

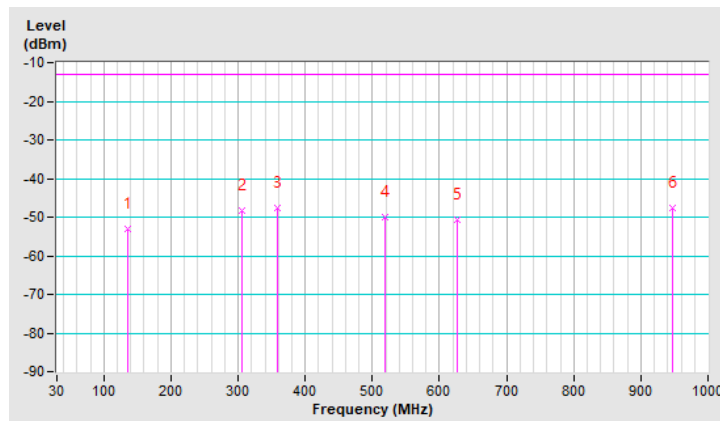


RF Mode	TX WCDMA Band 2	Channel	CH 9262: 1852.4 MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	B

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	134.76	-53.10	-13.00	-40.10	1.50 H	232	51.92	-105.02
2	305.48	-48.17	-13.00	-35.17	1.00 H	232	53.78	-101.95
3	357.86	-47.57	-13.00	-34.57	1.50 H	118	53.57	-101.14
4	519.85	-49.99	-13.00	-36.99	1.50 H	315	47.35	-97.34
5	625.58	-50.66	-13.00	-37.66	1.00 H	6	44.54	-95.20
6	947.62	-47.57	-13.00	-34.57	1.00 H	197	41.58	-89.15

Remarks:

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

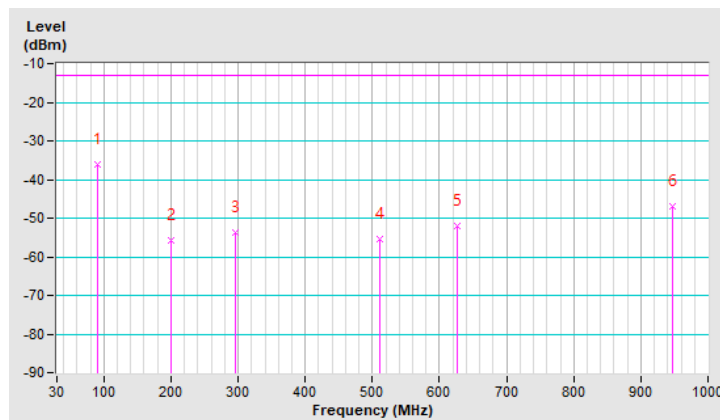


RF Mode	TX WCDMA Band 2	Channel	CH 9262: 1852.4 MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	B

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	91.11	-36.23	-13.00	-23.23	1.00 V	96	73.72	-109.95
2	199.75	-55.61	-13.00	-42.61	1.25 V	171	51.23	-106.84
3	295.78	-53.57	-13.00	-40.57	1.00 V	18	48.77	-102.34
4	510.15	-55.50	-13.00	-42.50	1.50 V	59	42.04	-97.54
5	625.58	-52.17	-13.00	-39.17	1.50 V	59	43.03	-95.20
6	947.62	-46.86	-13.00	-33.86	1.00 V	15	42.29	-89.15

Remarks:

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

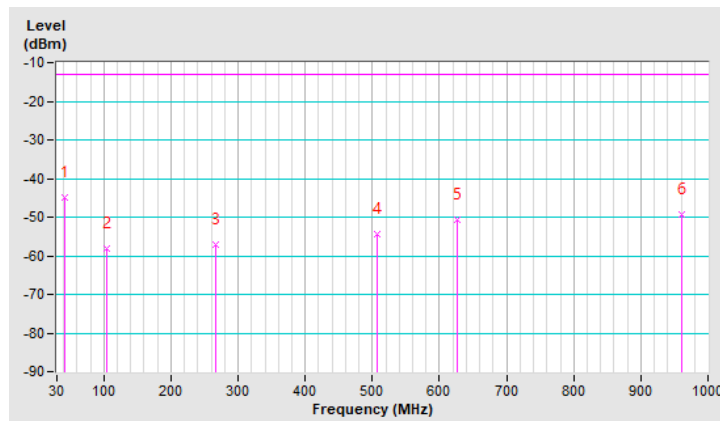


RF Mode	TX LTE Band 2-20MHz	Channel	CH 18900: 1880.00 MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	A

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	42.61	-45.03	-13.00	-32.03	1.25 H	18	59.54	-104.57
2	103.72	-58.02	-13.00	-45.02	1.00 H	153	50.27	-108.29
3	266.68	-56.95	-13.00	-43.95	1.50 H	198	46.47	-103.42
4	506.27	-54.50	-13.00	-41.50	1.25 H	18	43.14	-97.64
5	625.58	-50.62	-13.00	-37.62	1.00 H	116	44.58	-95.20
6	960.23	-49.31	-13.00	-36.31	1.50 H	70	39.56	-88.87

Remarks:

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

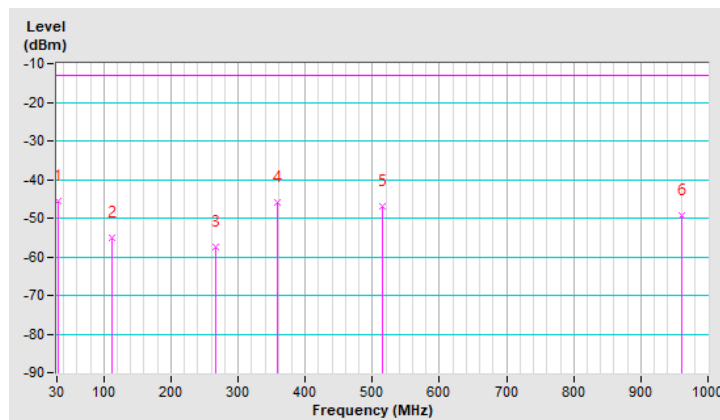


RF Mode	TX LTE Band 2-20MHz	Channel	CH 18900: 1880.00 MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	A

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	32.91	-45.74	-13.00	-32.74	1.25 V	196	59.68	-105.42
2	112.45	-55.13	-13.00	-42.13	1.00 V	8	52.06	-107.19
3	265.71	-57.30	-13.00	-44.30	1.50 V	266	46.19	-103.49
4	357.86	-45.91	-13.00	-32.91	1.25 V	53	55.23	-101.14
5	515.00	-46.98	-13.00	-33.98	1.00 V	338	50.48	-97.46
6	961.20	-49.37	-13.00	-36.37	1.25 V	242	39.50	-88.87

Remarks:

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

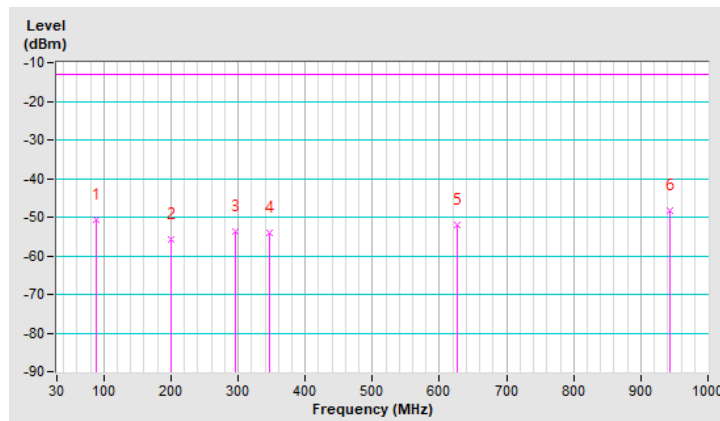


RF Mode	TX LTE Band 2-20MHz	Channel	CH 18900: 1880.00 MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	B

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	88.20	-50.62	-13.00	-37.62	1.25 H	15	59.29	-109.91
2	199.75	-55.68	-13.00	-42.68	1.25 H	171	51.16	-106.84
3	295.78	-53.81	-13.00	-40.81	1.00 H	15	48.53	-102.34
4	347.19	-54.03	-13.00	-41.03	1.50 H	3	47.35	-101.38
5	625.58	-52.00	-13.00	-39.00	1.00 H	65	43.20	-95.20
6	942.77	-48.27	-13.00	-35.27	1.00 H	339	40.81	-89.08

Remarks:

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

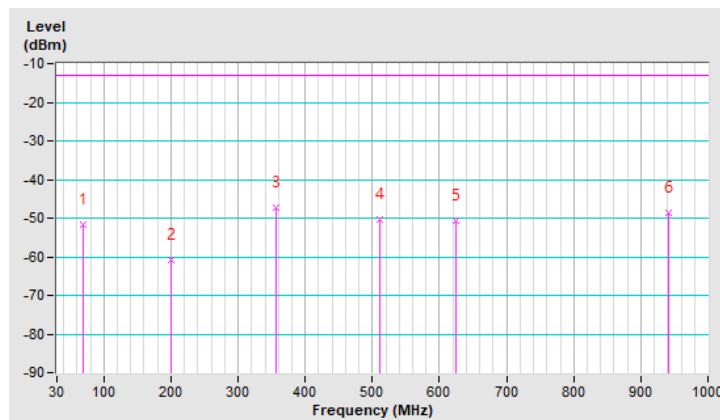


RF Mode	TX LTE Band 2-20MHz	Channel	CH 18900: 1880.00 MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	B

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	68.80	-51.56	-13.00	-38.56	1.00 V	173	54.67	-106.23
2	199.75	-60.82	-13.00	-47.82	1.00 V	184	46.02	-106.84
3	355.92	-47.44	-13.00	-34.44	1.50 V	34	53.73	-101.17
4	511.12	-50.29	-13.00	-37.29	1.50 V	322	47.23	-97.52
5	624.61	-50.59	-13.00	-37.59	1.00 V	15	44.62	-95.21
6	941.80	-48.48	-13.00	-35.48	1.00 V	349	40.58	-89.06

Remarks:

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



Above 1GHz

RF Mode	TX PCS 1900	Channel	CH 512: 1850.2 MHz
Frequency Range	1GHz ~ 20GHz	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	3700.40	-49.09	-13.00	-36.09	1.36 H	317	44.36	-93.45

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	3700.40	-47.78	-13.00	-34.78	3.29 V	67	45.67	-93.45

Remarks:

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

RF Mode	TX WCDMA Band 2	Channel	CH 9262: 1852.4 MHz
Frequency Range	1GHz ~ 20GHz	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	3704.80	-50.26	-13.00	-37.26	2.07 H	43	43.18	-93.44

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	-49.20	-13.00	-36.20	3.39 V	56	44.24	-93.44

Remarks:

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

RF Mode	TX LTE Band 2-20MHz	Channel	CH 18900: 1880.00 MHz
Frequency Range	1GHz ~ 20GHz	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	3760.00	-49.89	-13.00	-36.89	1.94 H	36	43.34	-93.23

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	-49.06	-13.00	-36.06	3.45 V	49	44.17	-93.23

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
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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Email: service.adt@tw.bureauveritas.com

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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