Partial FCC Test Report

(Part 22)

Report No.:	RFBHDI-WTW-P22040138
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

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
RFBHDI-WTW-P22040138	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 22, Subpart H

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 22 & Part 2			
FCC Clause	**Test Item**	**Result**	**Remarks**
2.1046 22.913 (a)	Effective Radiated Power	Pass	Meet the requirement of limit.
2.1047	Modulation Characteristics	N/A	Refer to Note
2.1046 22.913 (d)	Peak to Average Ratio	N/A	Refer to Note
2.1055 22.355	Frequency Stability	N/A	Refer to Note
2.1049	Occupied Bandwidth	N/A	Refer to Note
22.917	Band Edge Measurements	N/A	Refer to Note
2.1051 22.917	Conducted Spurious Emissions	N/A	Refer to Note
2.1053 22.917	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -28.10 dB at 34.85 MHz.

Note:

1. This report is a partial report. Therefore, only test item of Effective Radiated Power and Radiated Spurious Emissions tests were performed for this report. Other testing data please refer SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch report no.: HR/2019/1001601 for module (Brand: Quectel, Model: EC25-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

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 850	GMSK	
	WCDMA Band 5	QPSK	
	LTE Band 26	QPSK, 16QAM	
Frequency Range	GSM 850	824.2MHz ~ 848.8MHz	
	WCDMA Band 5	826.4MHz ~ 846.6MHz	
	LTE Band 5 (Channel Bandwidth 1.4MHz)	824.7MHz ~ 848.3MHz	
	LTE Band 5 (Channel Bandwidth 3MHz)	825.5MHz ~ 847.5MHz	
	LTE Band 5 (Channel Bandwidth 5MHz)	826.5MHz ~ 846.5MHz	
	LTE Band 5 (Channel Bandwidth 10MHz)	829.0MHz ~ 844.0MHz	
	LTE Band 26 (Channel Bandwidth 1.4MHz)	824.7MHz ~ 848.3MHz	
	LTE Band 26 (Channel Bandwidth 3MHz)	825.5MHz ~ 847.5MHz	
	LTE Band 26 (Channel Bandwidth 5MHz)	826.5MHz ~ 846.5MHz	
	LTE Band 26 (Channel Bandwidth 10MHz)	829.0MHz ~ 844.0MHz	
	LTE Band 26 (Channel Bandwidth 15MHz)	831.5MHz ~ 841.5MHz	
Max. ERP Power	GSM 850	1135.011mW (30.55dBm)	
	EDGE 850	1124.605mW (30.51dBm)	
	WCDMA Band 5	141.254mW (21.50dBm)	
		QPSK	16QAM
	LTE Band 5 (Channel Bandwidth 1.4MHz)	136.458mW (21.35dBm)	108.143mW (20.34dBm)
	LTE Band 5 (Channel Bandwidth 3MHz)	144.544mW (21.60dBm)	112.980mW (20.53dBm)
	LTE Band 5 (Channel Bandwidth 5MHz)	143.549mW (21.57dBm)	112.980mW (20.53dBm)
	LTE Band 5 (Channel Bandwidth 10MHz)	150.314mW (21.77dBm)	116.950mW (20.68dBm)
	LTE Band 26 (Channel Bandwidth 1.4MHz)	136.773mW (21.36dBm)	108.143mW (20.34dBm)
	LTE Band 26 (Channel Bandwidth 3MHz)	137.721mW (21.39dBm)	107.152mW (20.30dBm)
	LTE Band 26 (Channel Bandwidth 5MHz)	137.721mW (21.39dBm)	107.399mW (20.31dBm)
	LTE Band 26 (Channel Bandwidth 10MHz)	138.357mW (21.41dBm)	109.396mW (20.39dBm)
	LTE Band 26 (Channel Bandwidth 15MHz)	140.281mW (21.47dBm)	107.399mW (20.31dBm)
Antenna Type	GSM 850	Dipole Antenna with 0.3 dBi gain	
	WCDMA Band 5	Dipole Antenna with 0.3 dBi gain	
	LTE Band 26	Dipole Antenna with 0.3 dBi gain	
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).

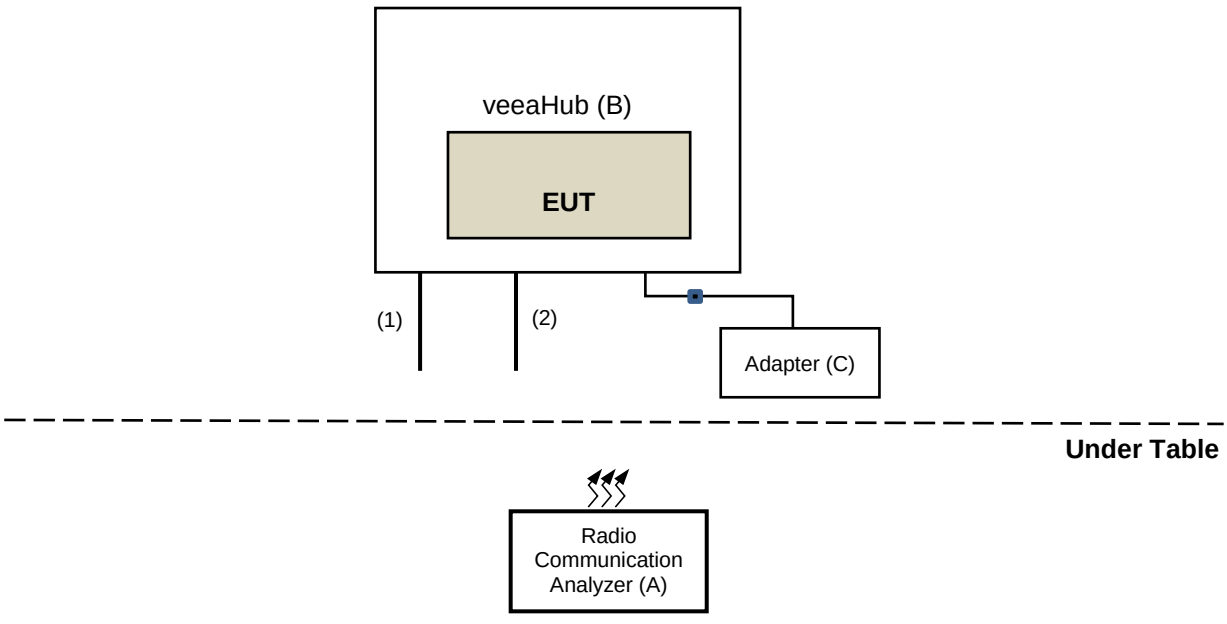
Product	Brand	Model	Description
PoE	OPEN-MESH	APOE02-WM	O/P: 48 Vdc

4. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

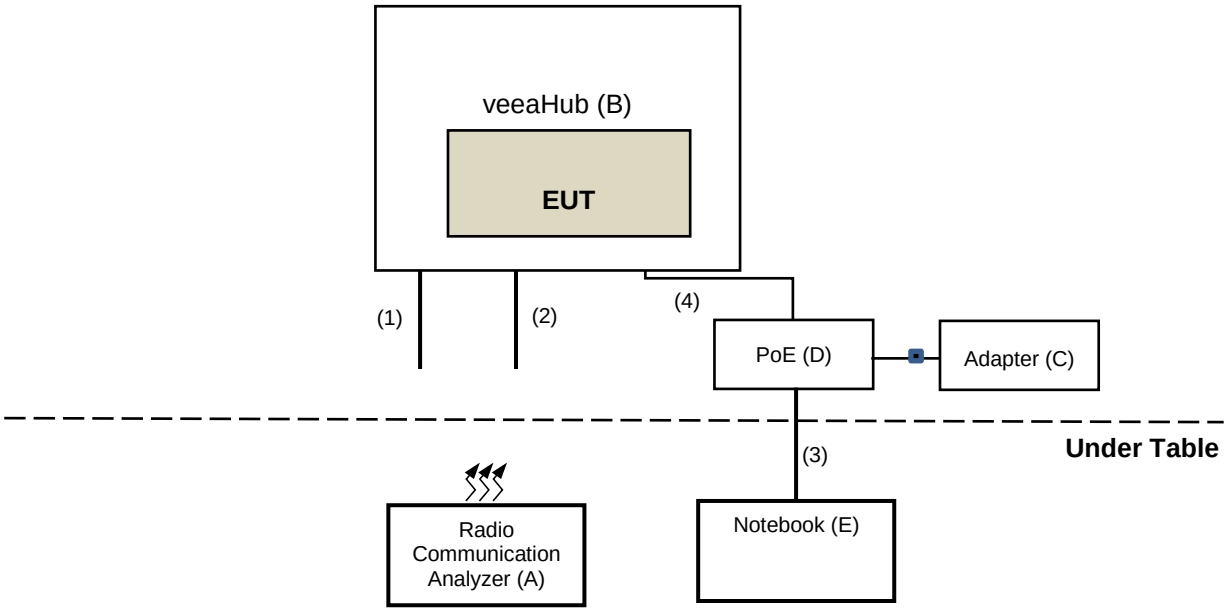
3.2 Configuration of System under Test

<Radiated Emission Test> & <E.R.P. 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 GSM, 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
GSM 850	Z-plane
WCDMA Band 5	Z-plane
LTE Band 26	Z-plane

GSM 850

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Mode
A	ERP	128 to 251	128 (824.2MHz), 189 (836.4MHz), 251 (848.8MHz)	GSM, EDGE
A, B	Radiated Emission Below 1GHz	128 to 251	189 (836.4MHz)	GSM
A	Radiated Emission Above 1GHz	128 to 251	189 (836.4MHz)	GSM

WCDMA Band 5

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Mode
A	ERP	4132 to 4233	4132 (826.4MHz), 4182 (836.4MHz), 4233 (846.6MHz)	WCDMA, HSDPA, HSUPA
A, B	Radiated Emission Below 1GHz	4132 to 4233	4132 (826.4MHz)	WCDMA
A	Radiated Emission Above 1GHz	4132 to 4233	4132 (826.4MHz)	WCDMA

LTE Band 5

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	RB #
A	ERP	20407 to 20643	20407(824.7MHz), 20525(836.5MHz), 20643(848.3MHz)	1.4MHz	QPSK / 16QAM	1 Half Full
		20415 to 20635	20415(825.5MHz), 20525(836.5MHz), 20635(847.5MHz)	3MHz	QPSK / 16QAM	1 Half Full
		20425 to 20625	20425(826.5MHz), 20525(836.5MHz), 20625(846.5MHz)	5MHz	QPSK / 16QAM	1 Half Full
		20450 to 20600	20450(829.0MHz), 20525(836.5MHz), 20600(844.0MHz)	10MHz	QPSK / 16QAM	1 Half Full

LTE Band 26

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	RB #
A	ERP	26797 to 27033	26797 (824.7MHz), 26915 (836.5MHz), 27033 (848.3MHz)	1.4MHz	QPSK / 16QAM	1 Half Full
		26805 to 27025	26805 (825.5MHz), 26915 (836.5MHz), 27025 (847.5MHz)	3MHz	QPSK / 16QAM	1 Half Full
		26815 to 27015	26815 (826.5MHz), 26915 (836.5MHz), 27015 (846.5MHz)	5MHz	QPSK / 16QAM	1 Half Full
		26840 to 26990	26840 (829.0MHz), 26915 (836.5MHz), 26990 (844.0MHz)	10MHz	QPSK / 16QAM	1 Half Full
		26865 to 26965	26865 (831.5MHz), 26915 (836.5MHz), 26965 (841.5MHz)	15MHz	QPSK / 16QAM	1 Half Full
A, B	Radiated Emission Below 1GHz	26865 to 26965	26865 (831.5MHz)	15MHz	QPSK	1
A	Radiated Emission Above 1GHz	26865 to 26965	26865 (831.5MHz)	15MHz	QPSK	1

Test Condition:

Test Item	Environmental Conditions	Input Power	Tested By
ERP	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

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

FCC 47 CFR Part 2
FCC 47 CFR Part 22
KDB 971168 D01 Power Meas License Digital Systems v03r01
ANSI/TIA/EIA-603-E 2016
ANSI 63.26-2015

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

4 Test Types and Results

4.1 Output Power Measurement

4.1.1 Limits of Output Power Measurement

Mobile / Portable station are limited to 7 watts e.r.p.

4.1.2 Test Procedures

Conducted Power Measurement:

The EUT was set up for the maximum power with GPRS, EDGE, WCDMA, 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:

$EIRP = P_{Meas} + G_T$

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

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	GSM 850		
Channel	128	189	251
Frequency	824.2	836.4	848.8
GPRS	32.21	32.40	32.21
EDGE	32.18	32.36	32.16

Band	WCDMA V		
TX Channel	4132	4182	4233
Frequency	826.4	836.4	846.6
RMC 12.2K	23.35	23.33	23.21
HSDPA	22.29	22.31	22.41
HSUPA	22.21	22.29	22.35

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20450	20525	20600
		Frequency (MHz)		829	836.5	844
10M	QPSK	1	0	23.27	23.26	23.13
		1	24	23.36	23.51	**23.62**
		1	49	23.18	23.09	23.16
		25	0	22.05	22.11	21.98
		25	12	22.12	22.15	22.07
		25	25	22.24	22.13	22.28
		50	0	22.01	22.03	21.99
10M	16QAM	1	0	22.20	22.13	22.05
		1	24	22.29	22.51	**22.53**
		1	49	22.09	21.92	22.05
		25	0	20.96	21.06	20.81
		25	12	20.94	21.10	21.00
		25	25	21.19	20.95	21.27
		50	0	20.82	21.00	20.83

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20425	20525	20625
		Frequency (MHz)		826.5	836.5	846.5
5M	QPSK	1	0	23.19	23.08	22.99
		1	12	23.27	23.42	23.28
		1	24	23.00	23.08	22.96
		12	0	22.04	21.98	21.93
		12	6	22.10	22.14	22.27
		12	13	22.09	22.15	22.30
		25	0	22.05	22.09	21.99
5M	16QAM	1	0	22.11	22.01	21.92
		1	12	22.18	22.38	22.27
		1	24	21.99	21.94	21.94
		12	0	20.91	20.96	20.82
		12	6	21.00	20.94	21.24
		12	13	21.08	21.15	21.10
		25	0	20.99	21.07	20.87

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20415	20525	20635
		Frequency (MHz)		825.5	836.5	847.5
3M	QPSK	1	0	22.88	22.97	22.95
		1	7	23.27	23.31	23.37
		1	14	23.45	23.30	23.22
		8	0	21.95	22.01	22.11
		8	3	22.00	22.12	22.02
		8	7	22.24	22.13	22.14
		15	0	21.96	22.07	21.96
3M	16QAM	1	0	21.72	21.85	21.78
		1	7	22.23	22.20	22.30
		1	14	22.38	22.15	22.20
		8	0	20.80	20.92	20.94
		8	3	20.86	21.01	20.83
		8	7	21.11	21.07	21.09
		15	0	20.83	21.04	20.79

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20407	20525	20643
		Frequency (MHz)		824.7	836.5	848.3
1.4M	QPSK	1	0	23.01	23.04	23.11
		1	2	23.04	23.12	23.20
		1	5	23.06	23.03	23.00
		3	0	22.86	22.98	23.11
		3	1	23.08	23.05	22.92
		3	3	22.94	23.09	22.95
		6	0	21.81	21.87	21.81
1.4M	16QAM	1	0	21.92	21.86	22.06
		1	2	21.97	22.01	**22.19**
		1	5	21.90	21.89	21.97
		3	0	21.81	21.78	21.98
		3	1	21.88	21.99	21.82
		3	3	21.85	22.07	21.95
		6	0	20.72	20.87	20.74

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26865	26915	26965
		Frequency (MHz)		831.5	836.5	841.5
15M	QPSK	1	0	23.32	23.23	23.25
		1	37	23.30	23.20	23.23
		1	74	23.08	23.05	22.92
		36	0	22.23	22.19	22.32
		36	19	22.22	22.10	22.21
		36	39	22.06	22.06	21.95
		75	0	22.16	22.09	22.20
15M	16QAM	1	0	22.16	22.10	22.15
		1	37	22.10	22.10	22.04
		1	74	21.94	22.02	21.79
		36	0	21.15	21.14	21.32
		36	19	21.22	20.95	21.06
		36	39	20.95	21.00	20.78
		75	0	20.97	21.08	21.15

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26840	26915	26990
		Frequency (MHz)		829	836.5	844
10M	QPSK	1	0	23.14	23.19	23.12
		1	24	23.27	23.22	23.22
		1	49	23.19	23.26	22.00
		25	0	22.03	22.01	21.96
		25	12	22.09	22.11	22.00
		25	25	22.05	22.10	22.06
		50	0	22.14	22.16	22.02
10M	16QAM	1	0	22.13	22.15	22.13
		1	24	20.84	20.96	20.89
		1	49	21.01	20.92	20.78
		25	0	20.96	21.03	20.90
		25	12	21.02	21.07	20.93
		25	25	20.95	20.85	20.92
		50	0	21.06	20.98	21.13

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26815	26915	27015
		Frequency (MHz)		826.5	836.5	846.5
5M	QPSK	1	0	23.02	22.99	22.87
		1	12	23.18	23.25	23.24
		1	24	23.13	22.99	22.93
		12	0	22.11	21.91	21.96
		12	6	21.87	22.16	21.93
		12	13	21.92	21.86	21.88
		25	0	21.92	21.92	22.09
5M	16QAM	1	0	21.97	21.99	21.74
		1	12	22.07	22.09	22.16
		1	24	21.95	21.89	21.76
		12	0	21.10	20.84	20.94
		12	6	20.83	21.06	20.81
		12	13	20.79	20.86	20.74
		25	0	20.80	20.90	20.90

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26805	26915	27025
		Frequency (MHz)		825.5	836.5	847.5
3M	QPSK	1	0	23.23	23.03	22.93
		1	7	23.12	23.11	23.24
		1	14	23.04	23.00	23.01
		8	0	21.96	21.91	21.97
		8	3	21.90	22.05	22.15
		8	7	21.82	21.90	22.01
		15	0	21.87	21.94	21.80
3M	16QAM	1	0	22.15	21.93	21.83
		1	7	21.97	22.01	22.06
		1	14	21.99	21.81	21.94
		8	0	20.80	20.79	20.82
		8	3	20.76	21.01	21.10
		8	7	20.69	20.86	20.89
		15	0	20.85	20.89	20.69

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26797	26915	27033
		Frequency (MHz)		824.7	836.5	848.3
1.4M	QPSK	1	0	22.98	22.93	23.21
		1	2	23.05	22.93	23.04
		1	5	22.98	23.00	23.08
		3	0	22.87	22.86	22.92
		3	1	22.81	22.84	22.91
		3	3	23.03	22.98	23.02
		6	0	22.07	22.01	21.89
1.4M	16QAM	1	0	21.93	21.73	22.10
		1	2	22.00	21.91	21.96
		1	5	21.83	21.89	22.06
		3	0	21.83	21.75	21.76
		3	1	21.61	21.83	21.88
		3	3	21.91	21.86	21.92
		6	0	21.03	20.92	20.69

ERP Power (dBm)

Band	GSM 850		
Channel	128	189	251
Frequency	824.2	836.4	848.8
GPRS	30.36	**30.55**	30.36
EDGE	30.33	**30.51**	30.31

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

Band	WCDMA V		
TX Channel	4132	4182	4233
Frequency	826.4	836.4	846.6
RMC 12.2K	**21.50**	21.48	21.36
HSDPA	20.44	20.46	20.56
HSUPA	20.36	20.44	20.50

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

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20450	20525	20600
		Frequency (MHz)		829	836.5	844
10M	QPSK	1	0	21.42	21.41	21.28
		1	24	21.51	21.66	**21.77**
		1	49	21.33	21.24	21.31
		25	0	20.20	20.26	20.13
		25	12	20.27	20.30	20.22
		25	25	20.39	20.28	20.43
		50	0	20.16	20.18	20.14
10M	16QAM	1	0	20.35	20.28	20.20
		1	24	20.44	20.66	**20.68**
		1	49	20.24	20.07	20.20
		25	0	19.11	19.21	18.96
		25	12	19.09	19.25	19.15
		25	25	19.34	19.10	19.42
		50	0	18.97	19.15	18.98

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

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20425	20525	20625
		Frequency (MHz)		826.5	836.5	846.5
5M	QPSK	1	0	21.34	21.23	21.14
		1	12	21.42	**21.57**	21.43
		1	24	21.15	21.23	21.11
		12	0	20.19	20.13	20.08
		12	6	20.25	20.29	20.42
		12	13	20.24	20.30	20.45
		25	0	20.20	20.24	20.14
5M	16QAM	1	0	20.26	20.16	20.07
		1	12	20.33	**20.53**	20.42
		1	24	20.14	20.09	20.09
		12	0	19.06	19.11	18.97
		12	6	19.15	19.09	19.39
		12	13	19.23	19.30	19.25
		25	0	19.14	19.22	19.02

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

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20415	20525	20635
		Frequency (MHz)		825.5	836.5	847.5
3M	QPSK	1	0	21.03	21.12	21.10
		1	7	21.42	21.46	21.52
		1	14	**21.60**	21.45	21.37
		8	0	20.10	20.16	20.26
		8	3	20.15	20.27	20.17
		8	7	20.39	20.28	20.29
		15	0	20.11	20.22	20.11
3M	16QAM	1	0	19.87	20.00	19.93
		1	7	20.38	20.35	20.45
		1	14	**20.53**	20.30	20.35
		8	0	18.95	19.07	19.09
		8	3	19.01	19.16	18.98
		8	7	19.26	19.22	19.24
		15	0	18.98	19.19	18.94

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

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20407	20525	20643
		Frequency (MHz)		824.7	836.5	848.3
1.4M	QPSK	1	0	21.16	21.19	21.26
		1	2	21.19	21.27	**21.35**
		1	5	21.21	21.18	21.15
		3	0	21.01	21.13	21.26
		3	1	21.23	21.20	21.07
		3	3	21.09	21.24	21.10
		6	0	19.96	20.02	19.96
1.4M	16QAM	1	0	20.07	20.01	20.21
		1	2	20.12	20.16	**20.34**
		1	5	20.05	20.04	20.12
		3	0	19.96	19.93	20.13
		3	1	20.03	20.14	19.97
		3	3	20.00	20.22	20.10
		6	0	18.87	19.02	18.89

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

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26865	26915	26965
		Frequency (MHz)		831.5	836.5	841.5
15M	QPSK	1	0	**21.47**	21.38	21.40
		1	37	21.45	21.35	21.38
		1	74	21.23	21.20	21.07
		36	0	20.38	20.34	20.47
		36	19	20.37	20.25	20.36
		36	39	20.21	20.21	20.10
		75	0	20.31	20.24	20.35
15M	16QAM	1	0	**20.31**	20.25	20.30
		1	37	20.25	20.25	20.19
		1	74	20.09	20.17	19.94
		36	0	19.30	19.29	19.47
		36	19	19.37	19.10	19.21
		36	39	19.10	19.15	18.93
		75	0	19.12	19.23	19.30

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

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26840	26915	26990
		Frequency (MHz)		829	836.5	844
10M	QPSK	1	0	21.37	21.34	21.27
		1	24	21.40	21.37	21.37
		1	49	20.12	**21.41**	20.15
		25	0	20.28	20.16	20.11
		25	12	20.17	20.26	20.15
		25	25	20.44	20.25	20.21
		50	0	20.23	20.31	20.17
10M	16QAM	1	0	**20.39**	20.30	20.28
		1	24	19.07	19.11	19.04
		1	49	19.13	19.07	18.93
		25	0	19.01	19.18	19.05
		25	12	19.42	19.22	19.08
		25	25	19.21	19.00	19.07
		50	0	19.22	19.13	19.28

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

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26815	26915	27015
		Frequency (MHz)		826.5	836.5	846.5
5M	QPSK	1	0	21.05	21.17	21.02
		1	12	21.14	21.33	**21.39**
		1	24	21.24	21.28	21.08
		12	0	20.03	20.26	20.11
		12	6	20.04	20.02	20.08
		12	13	20.06	20.07	20.03
		25	0	20.03	20.07	20.24
5M	16QAM	1	0	19.92	20.12	19.89
		1	12	20.12	20.22	**20.31**
		1	24	20.08	20.10	19.91
		12	0	18.85	19.25	19.09
		12	6	18.90	18.98	18.96
		12	13	19.03	18.94	18.89
		25	0	18.93	18.95	19.05

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

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26805	26915	27025
		Frequency (MHz)		825.5	836.5	847.5
3M	QPSK	1	0	21.11	21.38	21.08
		1	7	21.27	21.27	**21.39**
		1	14	21.20	21.19	21.16
		8	0	20.11	20.11	20.12
		8	3	20.06	20.05	20.30
		8	7	20.03	19.97	20.16
		15	0	20.04	20.02	19.95
3M	16QAM	1	0	19.92	**20.30**	19.98
		1	7	20.16	20.12	20.21
		1	14	20.10	20.14	20.09
		8	0	18.92	18.95	18.97
		8	3	19.04	18.91	19.25
		8	7	18.98	18.84	19.04
		15	0	18.84	19.00	18.84

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

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26797	26915	27033
		Frequency (MHz)		824.7	836.5	848.3
1.4M	QPSK	1	0	21.22	21.13	**21.36**
		1	2	21.19	21.20	21.19
		1	5	**21.36**	21.13	21.23
		3	0	21.10	21.02	21.07
		3	1	20.91	20.96	21.06
		3	3	21.19	21.18	21.17
		6	0	20.23	20.22	20.04
1.4M	16QAM	1	0	20.07	20.08	20.25
		1	2	20.14	20.15	20.11
		1	5	**20.34**	19.98	20.21
		3	0	20.04	19.98	19.91
		3	1	19.82	19.76	20.03
		3	3	20.13	20.06	20.07
		6	0	19.12	19.18	18.84

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

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 (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:

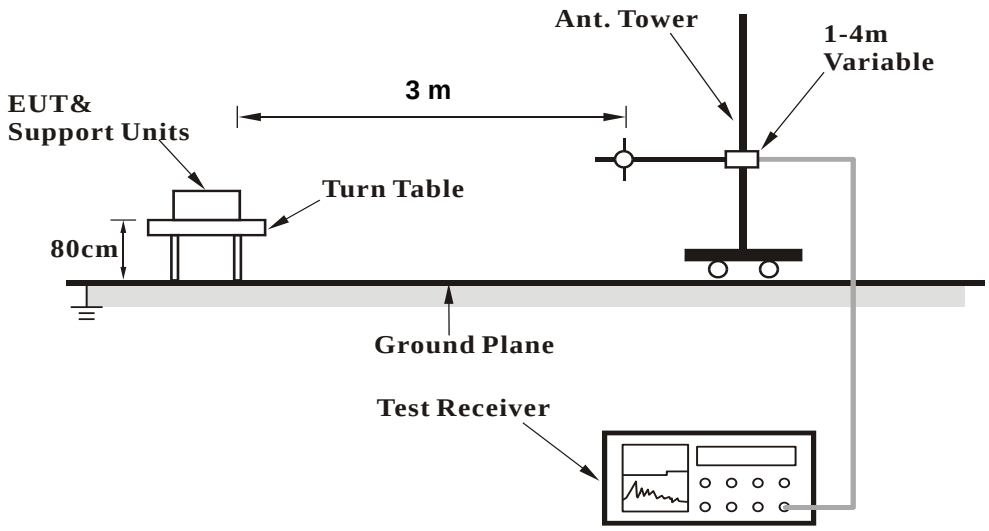
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz/3 MHz.
2. 9 kHz ~ 30 MHz Data:
   The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

4.2.3 Deviation from Test Standard

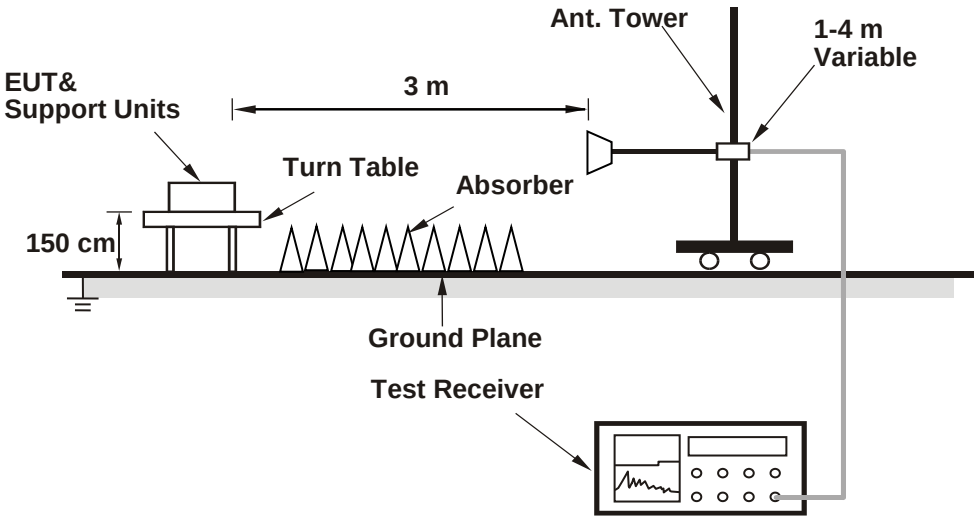
No deviation.

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

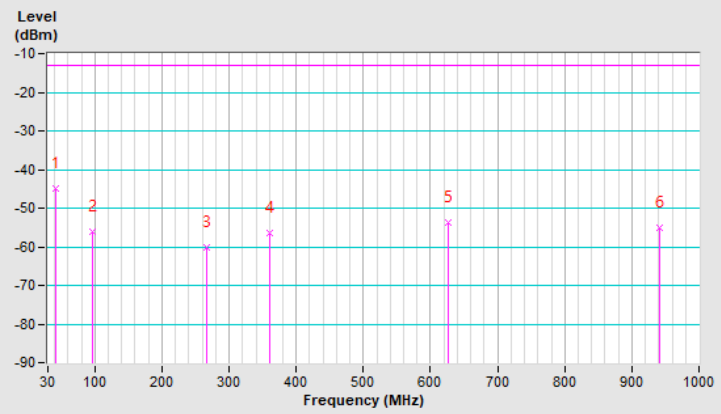
Below 1GHz

RF Mode	TX GSM 850	Channel	CH 189：836.4 MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	A

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	42.61	-45.02	-13.00	-32.02	1.25 H	306	61.70	-106.72
2	95.96	-56.24	-13.00	-43.24	1.50 H	17	55.81	-112.05
3	265.71	-60.31	-13.00	-47.31	1.25 H	18	45.33	-105.64
4	359.80	-56.29	-13.00	-43.29	1.00 H	160	46.97	-103.26
5	625.58	-53.75	-13.00	-40.75	1.50 H	117	43.60	-97.35
6	940.83	-55.11	-13.00	-42.11	1.00 H	213	36.09	-91.20

Remarks:

1. ERP(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 – 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

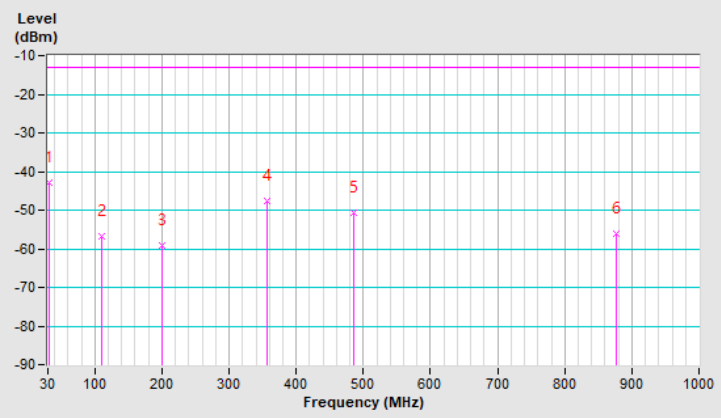


RF Mode	TX GSM 850	Channel	CH 189：836.4 MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	A

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	32.91	-42.87	-13.00	-29.87	1.50 V	231	64.70	-107.57
2	110.51	-56.62	-13.00	-43.62	1.00 V	314	52.99	-109.61
3	199.75	-59.20	-13.00	-46.20	1.25 V	1	49.79	-108.99
4	355.92	-47.74	-13.00	-34.74	1.50 V	54	55.58	-103.32
5	485.90	-50.56	-13.00	-37.56	1.00 V	15	49.71	-100.27
6	876.81	-56.25	-13.00	-43.25	1.25 V	242	36.62	-92.87

Remarks:

1. ERP(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 – 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

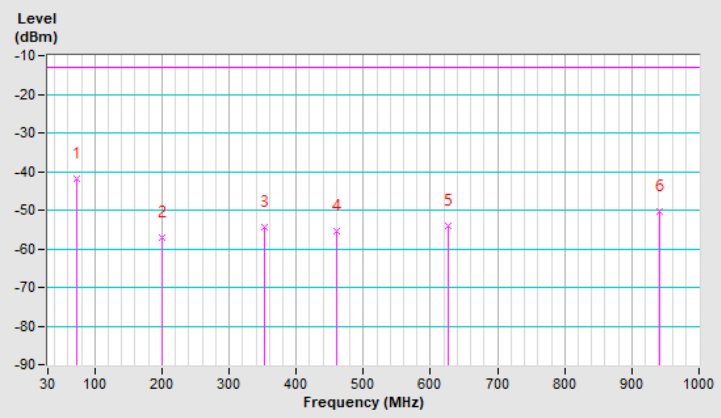


RF Mode	TX GSM 850	Channel	CH 189：836.4 MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	B

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	72.68	-41.94	-13.00	-28.94	1.25 H	43	67.26	-109.20
2	199.75	-57.22	-13.00	-44.22	1.00 H	206	51.77	-108.99
3	353.01	-54.51	-13.00	-41.51	1.25 H	328	48.90	-103.41
4	460.68	-55.45	-13.00	-42.45	1.50 H	43	45.23	-100.68
5	625.58	-54.21	-13.00	-41.21	1.00 H	51	43.14	-97.35
6	941.80	-50.18	-13.00	-37.18	1.00 H	283	41.03	-91.21

Remarks:

1. ERP(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 – 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

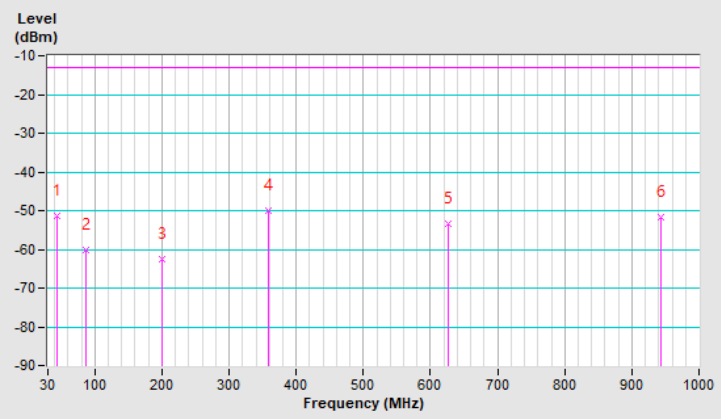


RF Mode	TX GSM 850	Channel	CH 189：836.4 MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	B

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	44.55	-51.37	-13.00	-38.37	1.00 V	309	55.25	-106.62
2	87.23	-60.05	-13.00	-47.05	1.50 V	351	52.01	-112.06
3	199.75	-62.43	-13.00	-49.43	1.00 V	221	46.56	-108.99
4	358.83	-50.02	-13.00	-37.02	1.25 V	45	53.26	-103.28
5	625.58	-53.30	-13.00	-40.30	1.25 V	8	44.05	-97.35
6	942.77	-51.70	-13.00	-38.70	1.00 V	14	39.53	-91.23

Remarks:

1. ERP(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 – 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

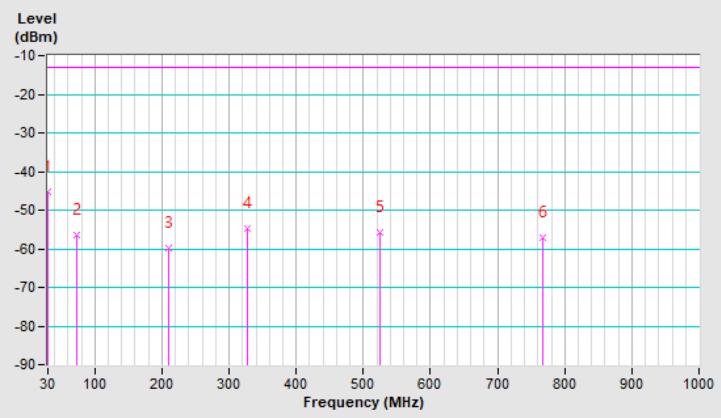


RF Mode	TX WCDMA Band V	Channel	CH 4132：826.4 MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	A

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.00	-45.17	-13.00	-32.17	1.50 H	12	62.41	-107.58
2	72.68	-56.52	-13.00	-43.52	1.25 H	346	52.68	-109.20
3	210.42	-59.90	-13.00	-46.90	1.00 H	160	48.87	-108.77
4	326.82	-54.61	-13.00	-41.61	1.25 H	43	48.96	-103.57
5	524.70	-55.87	-13.00	-42.87	1.00 H	59	43.52	-99.39
6	768.17	-57.18	-13.00	-44.18	1.50 H	101	37.37	-94.55

Remarks:

1. ERP(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 – 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

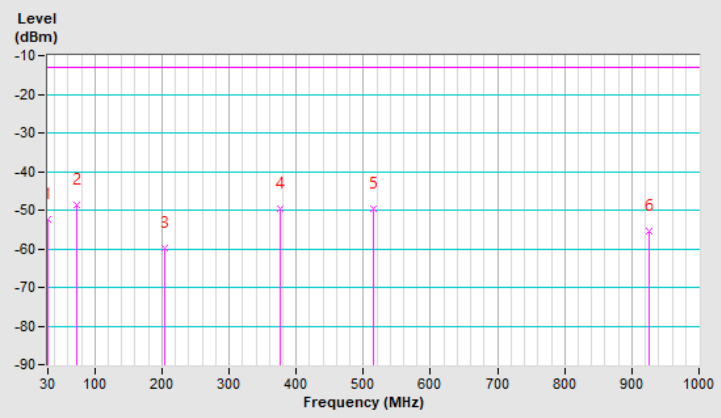


RF Mode	TX WCDMA Band V	Channel	CH 4132：826.4 MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	A

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.00	-52.38	-13.00	-39.38	1.25 V	15	55.20	-107.58
2	72.68	-48.70	-13.00	-35.70	1.00 V	126	60.50	-109.20
3	203.63	-59.74	-13.00	-46.74	1.50 V	15	49.21	-108.95
4	375.32	-49.66	-13.00	-36.66	1.00 V	62	53.20	-102.86
5	515.97	-49.78	-13.00	-36.78	1.00 V	349	49.81	-99.59
6	925.31	-55.44	-13.00	-42.44	1.25 V	295	35.89	-91.33

Remarks:

1. ERP(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 – 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

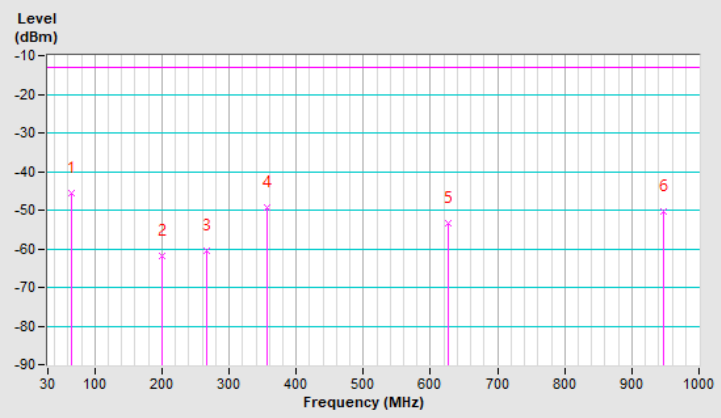


RF Mode	TX WCDMA Band V	Channel	CH 4132：826.4 MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	B

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	65.89	-45.43	-13.00	-32.43	1.25 H	103	62.55	-107.98
2	199.75	-61.91	-13.00	-48.91	1.50 H	190	47.08	-108.99
3	266.68	-60.35	-13.00	-47.35	1.50 H	27	45.22	-105.57
4	356.89	-49.25	-13.00	-36.25	1.00 H	69	54.05	-103.30
5	625.58	-53.41	-13.00	-40.41	1.00 H	4	43.94	-97.35
6	946.65	-50.41	-13.00	-37.41	1.00 H	285	40.88	-91.29

Remarks:

1. ERP(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 – 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

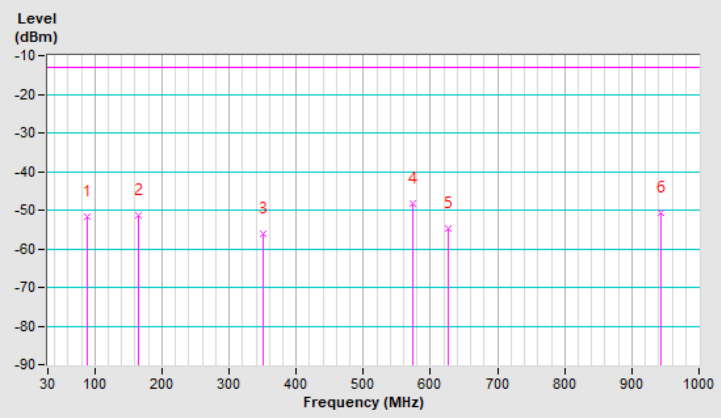


RF Mode	TX WCDMA Band V	Channel	CH 4132：826.4 MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	B

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	88.20	-51.80	-13.00	-38.80	1.00 V	48	60.26	-112.06
2	165.80	-51.31	-13.00	-38.31	1.25 V	186	54.95	-106.26
3	350.10	-56.07	-13.00	-43.07	1.00 V	32	47.43	-103.50
4	574.17	-48.15	-13.00	-35.15	1.50 V	173	50.26	-98.41
5	625.58	-54.59	-13.00	-41.59	1.00 V	59	42.76	-97.35
6	942.77	-50.71	-13.00	-37.71	1.00 V	149	40.52	-91.23

Remarks:

1. ERP(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 – 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

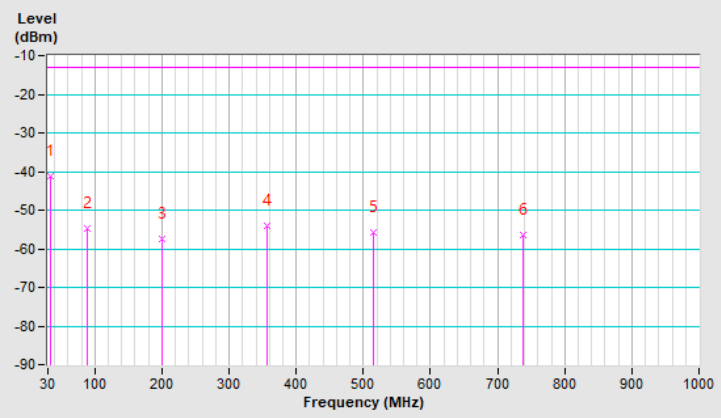


RF Mode	TX LTE Band 26 15MHz	Channel	CH 26865：831.5 MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	A

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	**34.85**	**-41.10**	**-13.00**	**-28.10**	**1.50 H**	**136**	**66.39**	**-107.49**
2	88.20	-54.75	-13.00	-41.75	1.25 H	6	57.31	-112.06
3	199.75	-57.38	-13.00	-44.38	1.00 H	202	51.61	-108.99
4	355.92	-54.13	-13.00	-41.13	1.25 H	157	49.19	-103.32
5	515.00	-55.90	-13.00	-42.90	1.00 H	335	43.71	-99.61
6	737.13	-56.54	-13.00	-43.54	1.00 H	70	39.14	-95.68

Remarks:

1. ERP(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 – 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

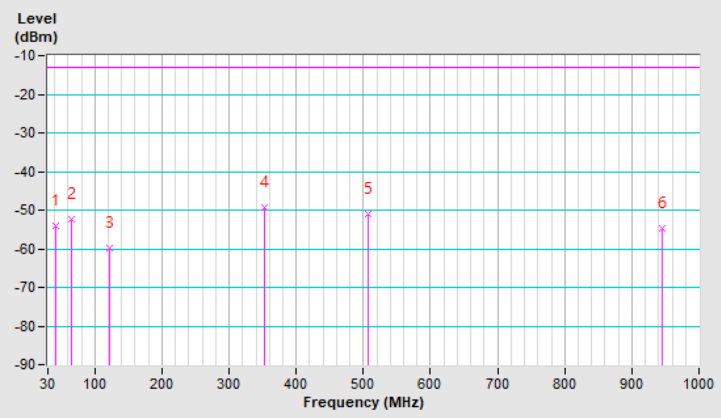


RF Mode	TX LTE Band 26 15MHz	Channel	CH 26865：831.5 MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	A

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	41.64	-54.06	-13.00	-41.06	1.00 V	287	52.81	-106.87
2	65.89	-52.22	-13.00	-39.22	1.50 V	150	55.76	-107.98
3	122.15	-59.80	-13.00	-46.80	1.25 V	7	48.71	-108.51
4	352.04	-49.39	-13.00	-36.39	1.25 V	57	54.04	-103.43
5	506.27	-51.07	-13.00	-38.07	1.50 V	17	48.72	-99.79
6	944.71	-54.83	-13.00	-41.83	1.25 V	86	36.45	-91.28

Remarks:

1. ERP(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 – 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

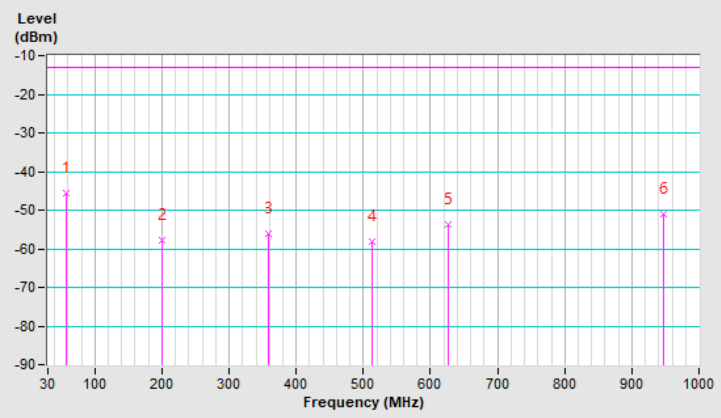


RF Mode	TX LTE Band 26 15MHz	Channel	CH 26865：831.5 MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	B

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	58.13	-45.50	-13.00	-32.50	1.00 H	43	61.46	-106.96
2	199.75	-57.66	-13.00	-44.66	1.50 H	198	51.33	-108.99
3	357.86	-56.15	-13.00	-43.15	1.25 H	155	47.14	-103.29
4	512.09	-58.04	-13.00	-45.04	1.00 H	46	41.62	-99.66
5	625.58	-53.61	-13.00	-40.61	1.25 H	52	43.74	-97.35
6	946.65	-51.18	-13.00	-38.18	1.00 H	313	40.11	-91.29

Remarks:

1. ERP(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 – 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

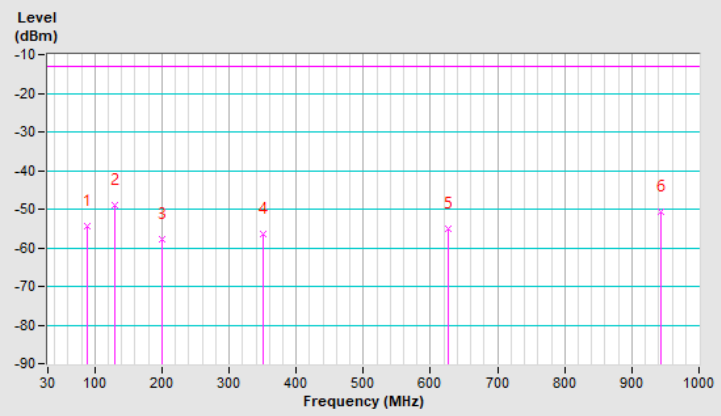


RF Mode	TX LTE Band 26 15MHz	Channel	CH 26865：831.5 MHz
Frequency Range	30MHz ~ 1GHz	Test Mode	B

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	88.20	-54.32	-13.00	-41.32	1.00 V	92	57.74	-112.06
2	128.94	-49.01	-13.00	-36.01	1.25 V	5	58.78	-107.79
3	199.75	-57.85	-13.00	-44.85	1.00 V	165	51.14	-108.99
4	350.10	-56.35	-13.00	-43.35	1.50 V	18	47.15	-103.50
5	625.58	-54.97	-13.00	-41.97	1.25 V	50	42.38	-97.35
6	942.77	-50.80	-13.00	-37.80	1.00 V	239	40.43	-91.23

Remarks:

1. ERP(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 – 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.



Above 1GHz

RF Mode	TX GSM 850	Channel	CH 189：836.4 MHz
Frequency Range	1GHz ~ 18GHz	Test Mode	A

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1672.80	-55.03	-13.00	-42.03	1.74 H	158	47.46	-102.49
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1672.80	-52.98	-13.00	-39.98	1.62 V	18	49.51	-102.49

Remarks:

1. ERP(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 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

RF Mode	TX WCDMA Band V	Channel	CH 4132：826.4 MHz
Frequency Range	1GHz ~ 18GHz	Test Mode	A

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1652.80	-55.58	-13.00	-42.58	1.61 H	143	46.92	-102.50
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1652.80	-53.56	-13.00	-40.56	1.73 V	36	48.94	-102.50

Remarks:

1. ERP(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 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

RF Mode	TX LTE Band 26 15MHz	Channel	CH 26865：831.5 MHz
Frequency Range	1GHz ~ 18GHz	Test Mode	A

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1688.00	-55.16	-13.00	-42.16	1.65 H	146	47.32	-102.48
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1688.00	-53.12	-13.00	-40.12	1.61 V	24	49.36	-102.48

Remarks:

1. ERP(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 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP 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:

Lin Kou EMC/RF Lab
Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab
Tel: 886-3-6668565
Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab
Tel: 886-3-3183232
Fax: 886-3-3270892

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.

--- END ---