

# FCC TEST REPORT

## (PART 24)

**REPORT NO.:** RF120903C06-1

**MODEL NO.:** F-05E

**FCC ID:** VQK-F05E

**RECEIVED:** Sep. 03, 2012

**TESTED:** Oct. 16 ~ Oct. 30, 2012

**ISSUED:** Oct. 31, 2012

**APPLICANT:** FUJITSU LIMITED

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**ISSUED BY:** Bureau Veritas Consumer Products Services  
(H.K.) Ltd., Taoyuan Branch

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Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF120903C06-1	Original release	Oct. 31, 2012

## 1 CERTIFICATION

**PRODUCT:** Tablet PC

**MODEL:** F-05E

**BRAND:** Xi

**APPLICANT:** FUJITSU LIMITED

**TESTED:** Oct. 16 ~ Oct. 30, 2012

**TEST SAMPLE:** ENGINEERING SAMPLE

**STANDARDS:** FCC Part 24, Subpart E

The above equipment (model: F-05E) 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 EMC characteristics under the conditions specified in this report.

PREPARED BY : Andrea Hsia , DATE : Oct. 31, 2012  
Andrea Hsia / Specialist

APPROVED BY : Anderson Chiu , DATE : Oct. 31, 2012  
Anderson Chiu / Senior Engineer

## 2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 24 & Part 2			
STANDARD SECTION	TEST TYPE	RESULT	REMARK
2.1046 24.232	Equivalent isotropically radiated power	PASS	Meet the requirement of limit.
2.1055 24.235	Frequency Stability	PASS	Meet the requirement of limit.
2.1049 24.238(b)	Occupied Bandwidth	PASS	Meet the requirement of limit.
24.238(b)	Band Edge Measurements	PASS	Meet the requirement of limit.
2.1051 24.238	Conducted Spurious Emissions	PASS	Meet the requirement of limit.
2.1053 24.238	Radiated Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -19.56dB at 3819.60MHz.

### 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	UNCERTAINTY
Conducted emissions	9kHz~30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	3.19 dB
	200MHz ~1000MHz	3.21 dB
	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

## 2.2 TEST SITE AND INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESI7	838496/016	Jan. 03, 2012	Jan. 02, 2013
Spectrum Analyzer ROHDE & SCHWARZ	FSP 40	100039	Feb. 03, 2012	Feb. 02, 2013
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Apr. 06, 2012	Apr. 05, 2013
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-408	Jan. 05, 2012	Jan. 04, 2013
HORN Antenna SCHWARZBECK	BBHA 9170	148	Jul. 11, 2012	Jul. 10, 2013
Loop Antenna	HFH2-Z2	100070	Jan. 31, 2012	Jan. 30, 2014
Preamplifier Agilent	8449B	3008A01911	Oct. 25, 2012	Oct. 24, 2013
Preamplifier Agilent	8447D	2944A10638	Oct. 25, 2012	Oct. 24, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309220/4	Nov. 03, 2011	Nov. 02, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250724/4	Nov. 03, 2011	Nov. 02, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	295012/4	Nov. 03, 2011	Nov. 02, 2012
Software ADT	ADT_Radiated_ V7.6.15.9.2	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA	NA
Antenna Tower Controller inn-co GmbH	CO2000	019303	NA	NA
Turn Table ADT	TT100.	TT93021704	NA	NA
Turn Table Controller ADT	SC100.	SC93021704	NA	NA
Mini-Circuits Power Splitter	ZN2PD-9G	NA	Mar. 23, 2012	Mar. 22, 2013
JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA
Communications Tester-Wireless	E5515C	MY50266653	Oct. 08, 2012	Oct. 09, 2013

- 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 calibration interval of the loop antenna is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The test was performed in HwaYa Chamber 4.
4. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
5. The FCC Site Registration No. is 460141.
6. The IC Site Registration No. is IC7450F-4.

### 3 GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

<b>EUT</b>	Tablet PC	
<b>MODEL NO.</b>	F-05E	
<b>POWER SUPPLY</b>	3.7Vdc (from Battery) 12Vdc (from Cradle) 5Vdc (from AC adapter or host equipment)	
<b>MODULATION TYPE</b>	<b>GPRS</b>	GMSK
<b>FREQUENCY RANGE</b>	<b>GPRS</b>	1850.2MHz ~ 1909.8MHz
<b>MAX. EIRP POWER</b>	<b>GPRS</b>	881.049mW (29.45dBm)
<b>EMISSION DESIGNATOR</b>	<b>GPRS</b>	246KGXW
<b>MULTI-SLOTS CLASS</b>	8	
<b>WCDMA RELEASE VERSION</b>	6	
<b>ANTENNA TYPE</b>	$\lambda/4$ Monopole Antenna antenna with -0.5dBi gain	
<b>I/O PORTS</b>	Refer to users' manual	
<b>DATA CABLE</b>	NA	
<b>ACCESSORY DEVICES</b>	NA	

#### NOTE:

- The EUT contains the following accessories.

ITEM	BRAND	MODEL	SPECIFICATION
Adapter (Cradle)	NTT docomo	TA08017-B222	Input: 100-240Vac, 1000mA Output: 12Vdc, 3000mA
Battery	Fujitsu Limited	CA54310-0037	Rating: 3.7Vdc, 10080mAh Type: Li-Polymer
Cradle	NTT docomo	CA50601-1741	N/A

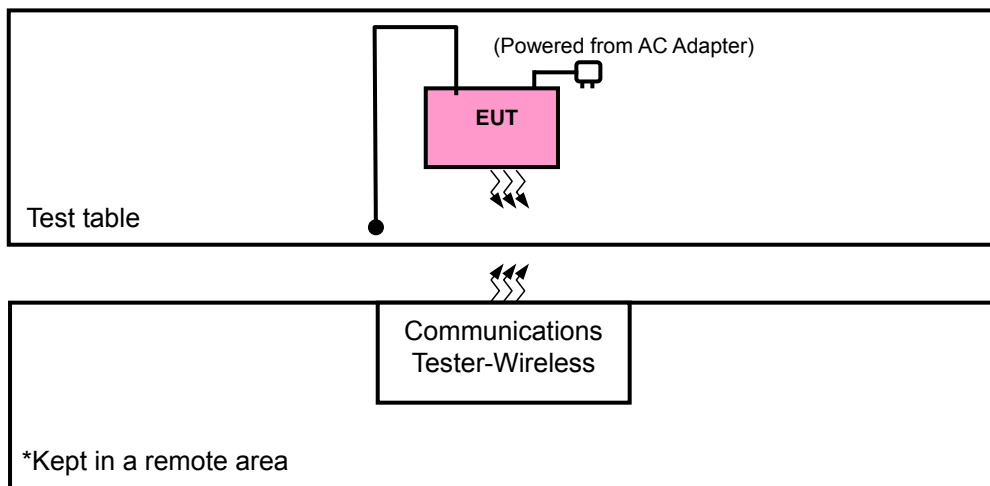
- The following accessories are for support units only.

PRODUCT	BRAND	MODEL	DESCRIPTION
Adapter	NTT docomo	TA08017-B219	I/P: 100-240Vac, 0.22A O/P: 5.0Vdc, 1800mA
USB cable	NA	NA	0.9m non-shielded cable without core

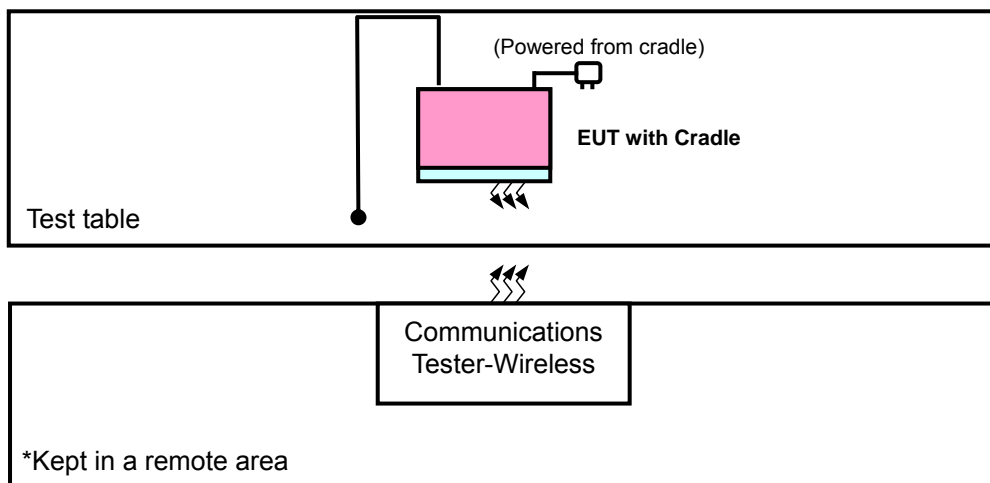
- HW version : V2.1.0.
- SW version : R12.4.
- IMEI Code: 353623050007170, 353623050005273
- The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

### 3.2 CONFIGURATION OF SYSTEM UNDER TEST

#### TEST MODE A



#### TEST MODE B



### 3.3 DESCRIPTION OF SUPPORT UNITS

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

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	EARPHONE	PHILIPS	HL145	NA	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	1.2m shielded cable

**NOTE:** All power cords of the above support units are non shielded (1.8m).



### 3.4 TEST ITEM AND TEST CONFIGURATION

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

EUT CONFIGURE MODE	DESCRIPTION
A	EUT with adapter
B	EUT with Cradle

#### GPRS MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
A	EIRP	512 to 810	512, 661, 810	GPRS
A	FREQUENCY STABILITY	512 to 810	661	GPRS
A	OCCUPIED BANDWIDTH	512 to 810	512, 661, 810	GPRS
A	BAND EDGE	512 to 810	512, 810	GPRS
A	CONDCUDED EMISSION	512 to 810	512, 661, 810	GPRS
A & B	RADIATED EMISSION Below 1GHz	512 to 810	512	GPRS
A	RADIATED EMISSION Above 1GHz	512 to 810	512, 661, 810	GPRS

#### TEST CONDITION:

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
EIRP	24deg. C, 66%RH	120Vac, 60Hz	Alan Wu
FREQUENCY STABILITY	26deg. C, 58%RH	120Vac, 60Hz	Brad Wu
OCCUPIED BANDWIDTH	26deg. C, 58%RH	120Vac, 60Hz	Brad Wu
BAND EDGE	26deg. C, 58%RH	120Vac, 60Hz	Brad Wu
CONDCUDED EMISSION	26deg. C, 58%RH	120Vac, 60Hz	Brad Wu
RADIATED EMISSION Below 1GHz	25deg. C, 68%RH	120Vac, 60Hz	Cedric Wu
RADIATED EMISSION Above 1GHz	25deg. C, 68%RH	120Vac, 60Hz	Alan Wu

### **3.5 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

### **3.6 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 24**

**ANSI/TIA/EIA-603-C 2004**

**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 and portable stations are limited to 2 watts EIRP

#### 4.1.2 TEST PROCEDURES

##### EIRP MEASUREMENT:

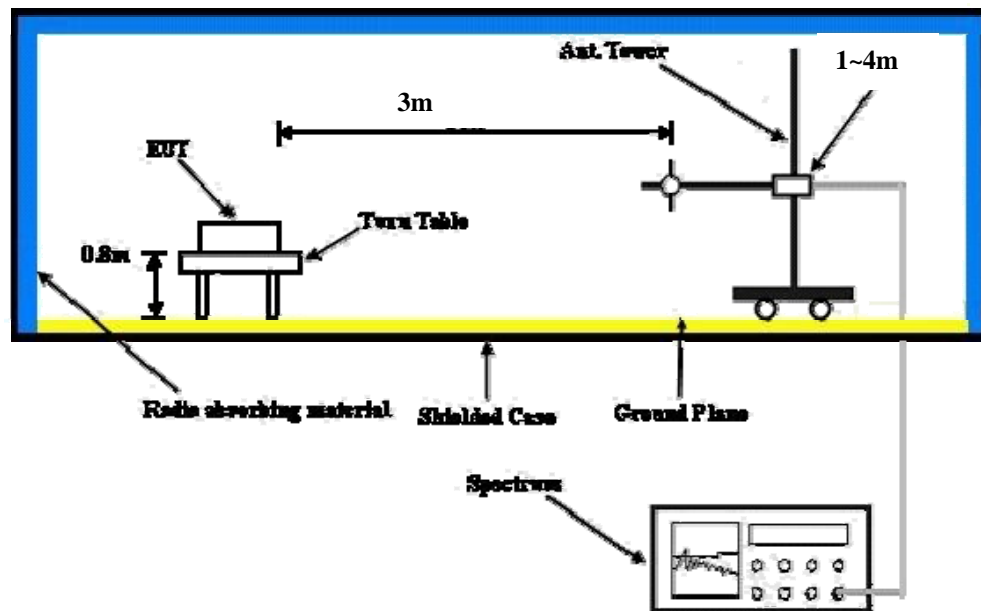
- a. All measurements were done at low, middle and high operational frequency range. RBW and VBW is 1MHz for GPRS & EDGE and 5MHz for CDMA and WCDMA mode.
- b. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- c. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a tx cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step b. Record the power level of S.G
- d.  $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}.$

##### CONDUCTED POWER MEASUREMENT:

The EUT was set up for the maximum power with GPRS, EDGE, CDMA & WCDMA 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.

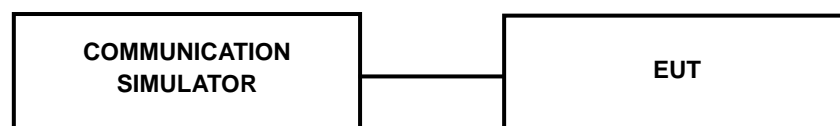
### 4.1.3 TEST SETUP

#### EIRP MEASUREMENT:



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

#### CONDUCTED POWER MEASUREMENT:



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

#### 4.1.4 TEST RESULTS

##### CONDUCTED OUTPUT POWER (dBm)

Band	GPRS1900		
Channel	512	661	810
Frequency (MHz)	1850.2	1880.0	1909.8
GPRS 8 (GMSK, 1 Uplink)	30.14	29.84	29.97

##### EIRP POWER (dBm)

##### FOR GPRS MODE:

MODE		TX channel 512					
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1850.2	-10.17	28.36	1.07	29.43	-33	-3.57
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1850.20	-10.23	26.40	1.07	27.47	33	-5.53

**NOTE:** Power Value (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

MODE		TX channel 661					
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1880.00	-10.99	27.73	1.12	28.85	33	-4.15
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1880.00	-9.79	26.47	1.12	27.59	33	-5.41

**NOTE:** Power Value (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

MODE		TX channel 810					
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1909.80	-10.77	28.34	1.11	29.45	33	-3.55
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1909.80	-9.89	26.00	1.11	27.11	33	-5.89

**NOTE:** Power Value (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

## 4.2 FREQUENCY STABILITY MEASUREMENT

### 4.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

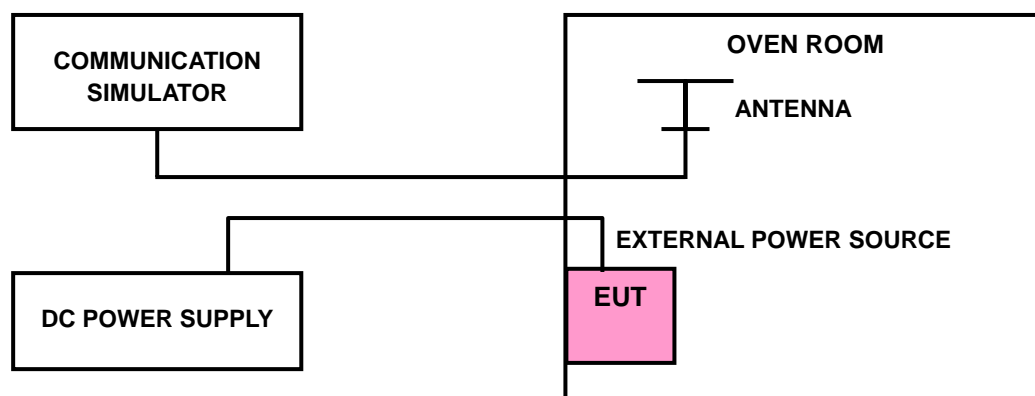
The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

### 4.2.2 TEST PROCEDURE

- Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
- EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
- The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the  $\pm 0.5^{\circ}\text{C}$  during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

**NOTE:** The frequency error was recorded frequency error from the communication simulator.

### 4.2.3 TEST SETUP





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#### 4.2.4 TEST RESULTS

##### FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	FREQUENCY ERROR (ppm)	LIMIT (ppm)
	GPRS	
126.5	-0.015	2.5
93.5	-0.016	2.5

##### FREQUENCY ERROR vs. TEMPERATURE.

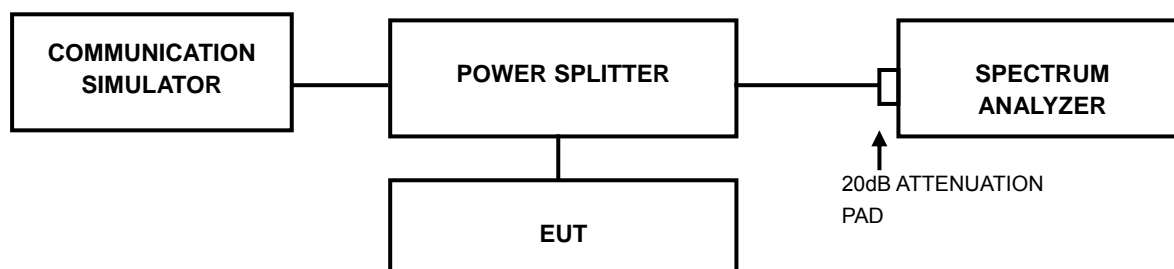
TEMP. (°C)	FREQUENCY ERROR (ppm)	LIMIT (ppm)
	GPRS	
50	-0.016	2.5
40	-0.015	2.5
30	-0.015	2.5
20	-0.015	2.5
10	-0.018	2.5
0	-0.018	2.5
-10	-0.019	2.5
-20	-0.019	2.5
-30	-0.018	2.5

## 4.3 OCCUPIED BANDWIDTH MEASUREMENT

### 4.3.1 TEST PROCEDURES

The EUT makes a call to the communication simulator. All measurements were done at low, middle and high operational frequency range. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

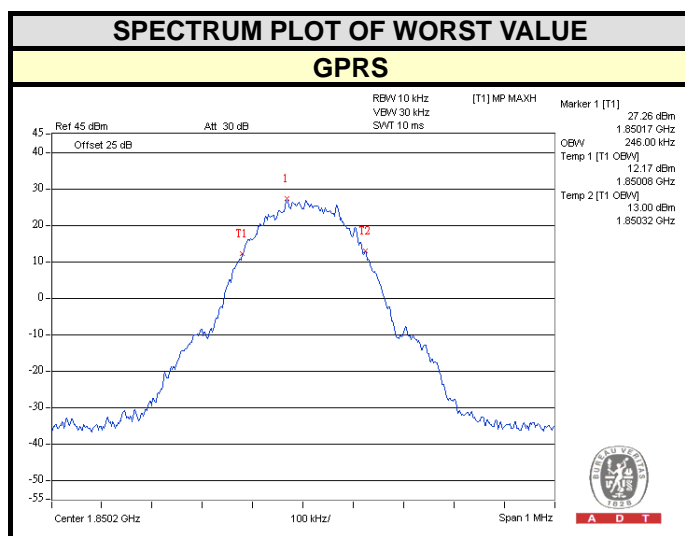
### 4.3.2 TEST SETUP





### 4.3.3 TEST RESULTS

CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)
		GPRS
512	1850.2	246.00
661	1880.0	246.00
810	1909.8	246.00

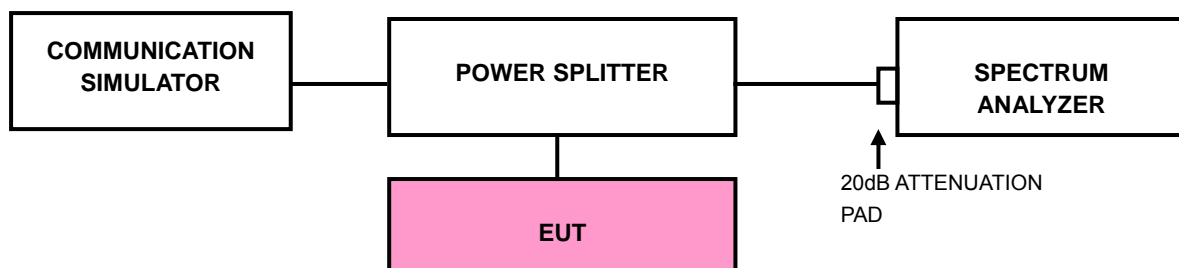


## 4.4 BAND EDGE MEASUREMENT

### 4.4.1 LIMITS OF BAND EDGE MEASUREMENT

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. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

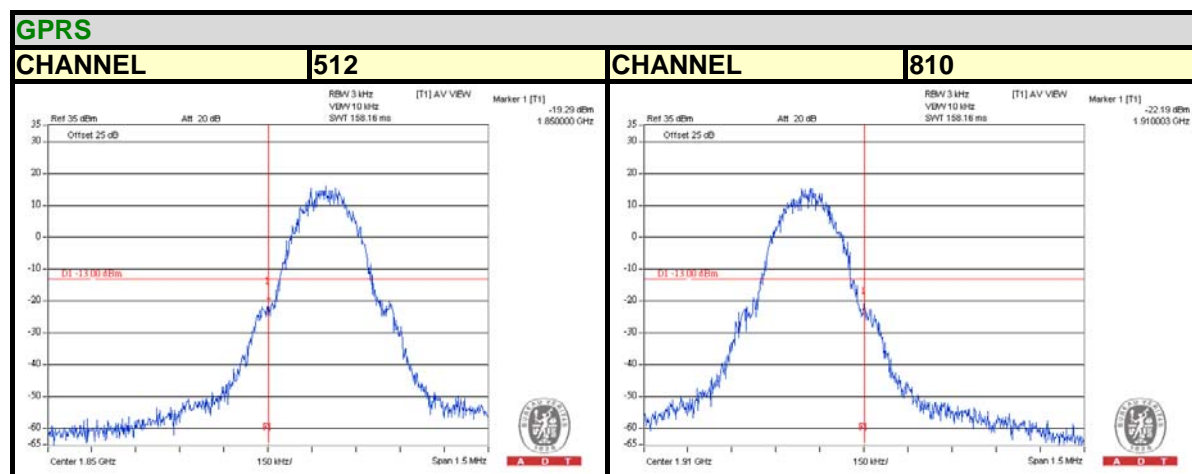
### 4.4.2 TEST SETUP



### 4.4.3 TEST PROCEDURES

- All measurements were done at low and high operational frequency range.
- The center frequency of spectrum is the band edge frequency and span is 1 MHz. RB of the spectrum is 3kHz and VB of the spectrum is 10kHz (GPRS).
- Record the max trace plot into the test report.

## 4.4.4 TEST RESULTS



## 4.5 CONDUCTED SPURIOUS EMISSIONS

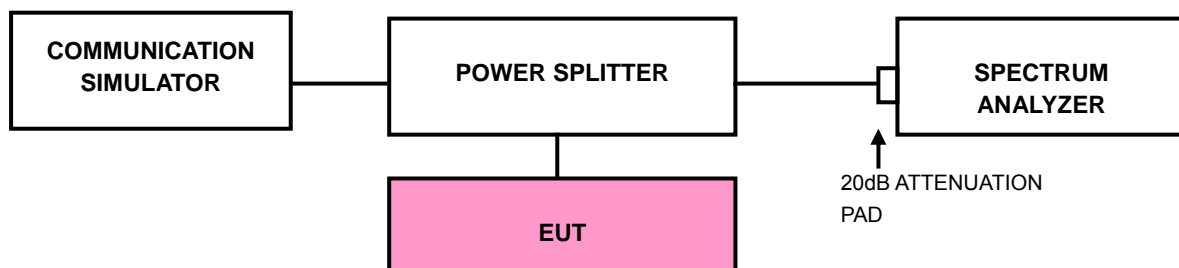
### 4.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

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

### 4.5.2 TEST PROCEDURE

- The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
- Measuring frequency range is from 9kHz to 20GHz. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

### 4.5.3 TEST SETUP



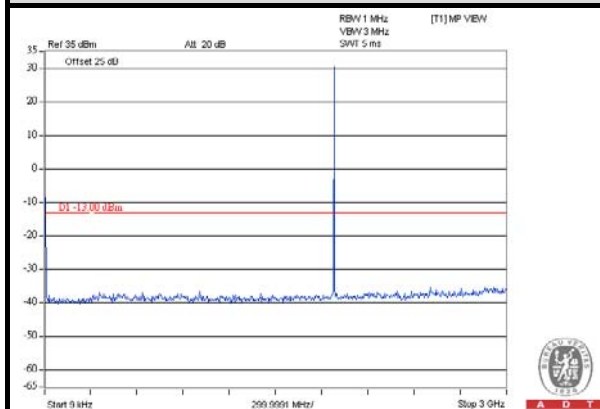
## 4.5.4 TEST RESULTS



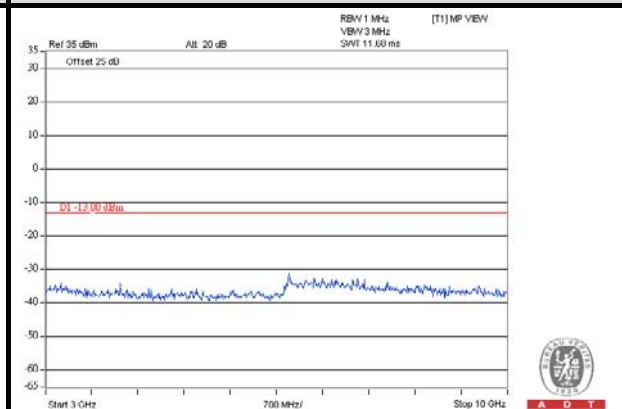
# GPRS

## CHANNEL 661

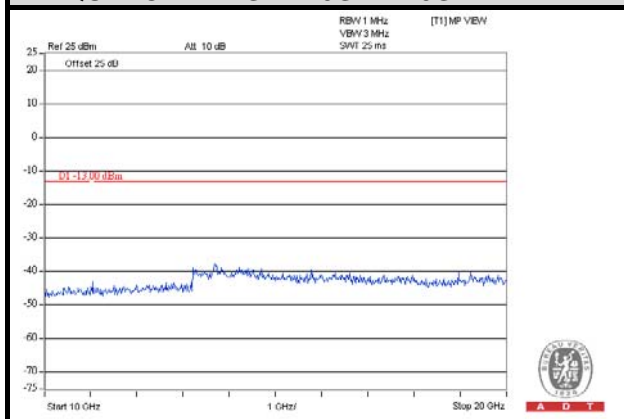
### FREQUENCY RANGE : 9kHz~3GHz



### FREQUENCY RANGE : 3GHz~10GHz



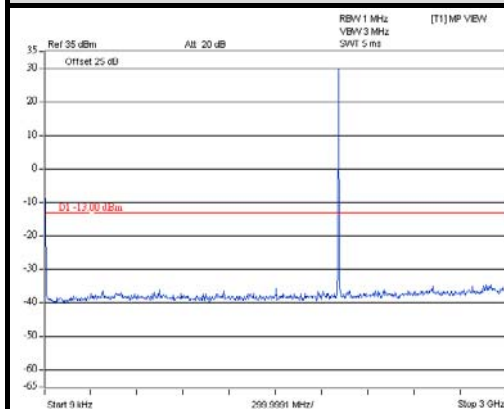
### FREQUENCY RANGE : 10GHz~20GHz



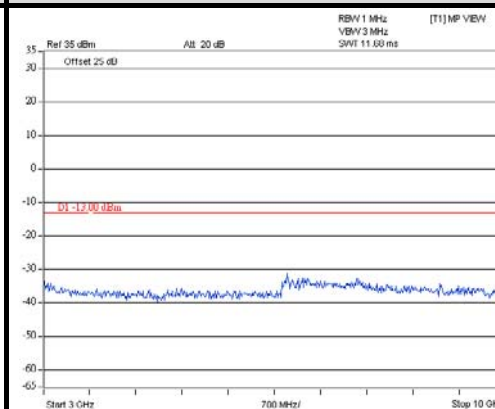
# GPRS

## CHANNEL 810

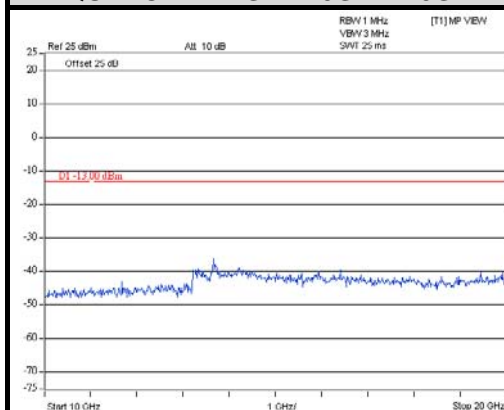
### FREQUENCY RANGE : 9kHz~3GHz



### FREQUENCY RANGE : 3GHz~10GHz



### FREQUENCY RANGE : 10GHz~20GHz



## 4.6 RADIATED EMISSION MEASUREMENT

### 4.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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

### 4.6.2 TEST PROCEDURES

- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step a. Record the power level of S.G
- c.  $\text{EIRP} = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}.$
- d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole,  
 $\text{E.R.P power} = \text{E.I.R.P power} - 2.15\text{dBi}.$

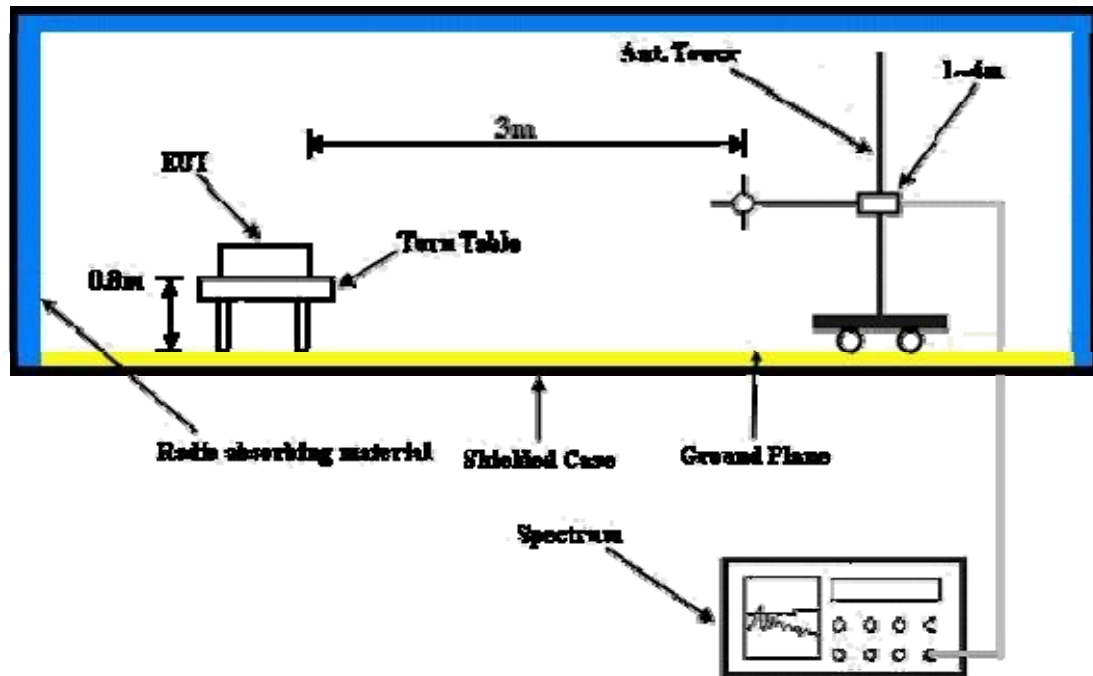
**NOTE:** The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

### 4.6.3 DEVIATION FROM TEST STANDARD

No deviation



#### 4.6.4 TEST SETUP



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



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## 4.6.5 TEST RESULTS

### BELOW 1GHz

#### GPRS

MODE	TX channel 512	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	INPUT POWER	120Vac, 60 Hz
TEST MODE	A	TESTED BY	Cedric Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	101.92	-45.73	-46.52	0.79	-45.73	-13	-32.73
2	129.14	-40.00	-40.00	0.00	-40.00	-13	-27.00
3	175.79	-55.84	-58.22	2.38	-55.84	-13	-42.84
4	224.39	-57.31	-62.75	5.44	-57.31	-13	-44.31
5	377.96	-61.04	-66.28	5.24	-61.04	-13	-48.04
6	564.57	-56.04	-60.63	4.59	-56.04	-13	-43.04
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	66.93	-41.20	-41.70	-5.80	-47.50	-13	-34.50
2	101.92	-37.55	-42.28	0.79	-41.49	-13	-28.49
3	127.19	-38.49	-41.59	0.00	-41.59	-13	-28.59
4	189.40	-49.59	-55.68	4.12	-51.56	-13	-38.56
5	298.26	-47.02	-53.01	5.14	-47.87	-13	-34.87
6	364.35	-55.48	-60.39	5.22	-55.17	-13	-42.17

#### REMARKS:

1. Correction Factor = gain of substitution antenna + cable loss



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MODE	TX channel 512	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	INPUT POWER	120Vac, 60 Hz
TEST MODE	B	TESTED BY	Cedric Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	99.98	-48.35	-49.22	0.87	-48.35	-13	-35.35
2	123.31	-38.89	-38.89	0.00	-38.89	-13	-25.89
3	234.11	-57.36	-62.78	5.42	-57.36	-13	-44.36
4	377.96	-61.04	-66.28	5.24	-61.04	-13	-48.04
5	564.57	-56.04	-60.63	4.59	-56.04	-13	-43.04
6	708.42	-49.78	-54.92	5.14	-49.78	-13	-36.78
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	92.20	-42.54	-47.98	1.07	-46.91	-13	-33.91
2	102.81	-36.06	-40.76	0.76	-40.00	-13	-27.00
3	134.97	-45.84	-47.92	0.00	-47.92	-13	-34.92
4	177.74	-52.02	-54.25	2.62	-51.63	-13	-38.63
5	265.21	-49.43	-56.54	5.32	-51.22	-13	-38.22
6	412.95	-59.76	-63.13	5.23	-57.90	-13	-44.90

**REMARKS:**

1. Correction Factor = gain of substitution antenna + cable loss



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ABOVE 1GHz

GPRS

MODE	TX channel 512	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 66%RH	INPUT POWER	120Vac, 60 Hz
TESTED BY	Alan Wu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3700.40	-32.93	-40.09	7.16	-32.93	-13	-19.93
2	5550.60	-33.71	-40.49	6.78	-33.71	-13	-20.71
3	7400.80	-38.99	-43.30	4.31	-38.99	-13	-25.99
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3700.40	-35.72	-42.88	7.16	-35.72	-13	-22.72
2	5550.60	-36.88	-43.66	6.78	-36.88	-13	-23.88
3	7400.80	-42.40	-46.71	4.31	-42.40	-13	-29.40

**REMARKS:**

1. Correction Factor = gain of substitution antenna + cable loss



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MODE	TX channel 661	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	INPUT POWER	120Vac, 60 Hz
TESTED BY	Alan Wu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3760.00	-33.60	-40.70	7.10	-33.60	-13	-20.60
2	5640.00	-33.81	-40.58	6.77	-33.81	-13	-20.81
3	7520.00	-38.17	-42.40	4.23	-38.17	-13	-25.17
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3760.00	-35.36	-42.46	7.10	-35.36	-13	-22.36
2	5640.00	-37.04	-43.81	6.77	-37.04	-13	-24.04
3	7520.00	-41.71	-45.94	4.23	-41.71	-13	-28.71

**REMARKS:**

1. Correction Factor = gain of substitution antenna + cable loss



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MODE	TX channel 810	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	INPUT POWER	120Vac, 60 Hz
TESTED BY	Alan Wu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3819.60	-32.56	-39.62	7.06	-32.56	-13	-19.56
2	5729.40	-33.06	-39.80	6.74	-33.06	-13	-20.06
3	7639.20	-37.32	-41.52	4.20	-37.02	-13	-24.32
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3819.60	-34.48	-41.54	7.06	-34.48	-13	-21.48
2	5729.40	-35.05	-41.79	6.74	-35.05	-13	-22.05
3	7639.20	-40.90	-45.10	4.20	-40.90	-13	-27.90

**REMARKS:**

1. Correction Factor = gain of substitution antenna + cable loss

## 5 PHOTOGRAPHS OF THE TEST CONFIGURATION

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

## 6 INFORMATION ON 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 accredited and approved according to ISO/IEC 17025.

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





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## **7 APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB**

No any modifications were made to the EUT by the lab during the test.

**---END---**