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# FCC TEST REPORT

## (PART 24)

**REPORT NO.:** RF120823C19A-1

**MODEL NO.:** GTR-129X (X=A~Z or blank)

(refer to item 3.1 for more details)

**FCC ID:** RID-GTR129S

**RECEIVED:** Aug. 23, 2012

**TESTED:** Oct. 18 ~ Oct. 25, 2012

**ISSUED:** Nov. 30, 2012

**APPLICANT:** GlobalSat WorldCom Corporation

**ADDRESS:** 16F., No.186, Jian 1st Rd., Zhonghe Dist., New Taipei City 235, Taiwan (R.O.C.)

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

**LAB ADDRESS:** No. 47, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C.

**TEST LOCATION:** No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF120823C19A-1	Original release	Nov. 30, 2012



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## 1 CERTIFICATION

**PRODUCT:** Motorcycle/ Vehicle Tracker

**MODEL:** GTR-129X (X=A~Z or blank) (refer to item 3.1 for more details)

**BRAND:** GlobalSat

**APPLICANT:** GlobalSat WorldCom Corporation

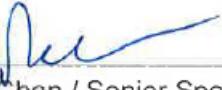
**TESTED:** Oct. 18 ~ Oct. 25, 2012

**TEST SAMPLE:** ENGINEERING SAMPLE

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

The above equipment (model: GTR-129) 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

  
Pettie Chen / Senior Specialist

DATE : Nov. 30, 2012

APPROVED BY

  
Ken Liu / Manager

DATE : Nov. 30, 2012

## 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 -18.97dB 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	150kHz~30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	2.93 dB
	200MHz ~1000MHz	2.95 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	ESCI	100744	Apr. 19, 2012	Apr. 18, 2013
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Jan. 30, 2012	Jan. 29, 2013
BILOG Antenna SCHWARZBECK	VULB9168	9168-156	Apr. 03, 2012	Apr. 02, 2013
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-563	Sep. 12, 2012	Sep. 11, 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	295013/4 283403/4	Aug. 28, 2012	Aug. 27, 2013
RF signal cable Worken	8D-FB	Cable-HYCH9-01	Aug. 11, 2012	Aug. 10, 2013
Software	ADT_Radiated_V7.6.15.9.2	NA	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA	NA
Turn Table EMCO	2087-2.03	NA	NA	NA
Antenna Tower & Turn Table Controller EMCO	2090	NA	NA	NA
Mini-Circuits Power Splitter	ZN2PD-9G	NA	Jul. 18, 2012	Jul. 17, 2013
JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA

- 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 9.
  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 IC 7450F-4.

### 3 GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

<b>EUT</b>	Motorcycle/ Vehicle Tracker
<b>MODEL NO.</b>	GTR-129X (X=A~Z or blank) (Refer to Note for more details)
<b>POWER SUPPLY</b>	3.7Vdc (battery) 9 ~36Vdc, 1A
<b>IMEI CODE</b>	012896000746864 861785005254820
<b>MODULATION TYPE</b>	GMSK
<b>FREQUENCY RANGE</b>	1850.2MHz ~ 1909.8MHz
<b>MAX. EIRP POWER</b>	1710.0mW (32.33dBm)
<b>MULTI-SLOTS CLASS</b>	12
<b>ANTENNA TYPE</b>	Built-in PIFA antenna with 2.1 dBi gain
<b>I/O PORTS</b>	Refer to users' manual
<b>DATA CABLE</b>	Hardwire cable (0.9m)
<b>ACCESSORY DEVICES</b>	Battery

**NOTE:**

1. All models are listed as below.

Brand	Model	Difference
GlobalSat	GTR-129X (X=A~Z or blank)	With internal battery Operating temperature: -10~60°C
	GTR-128X (X=A~Z or blank)	Without internal battery Operating temperature: -30~70°C

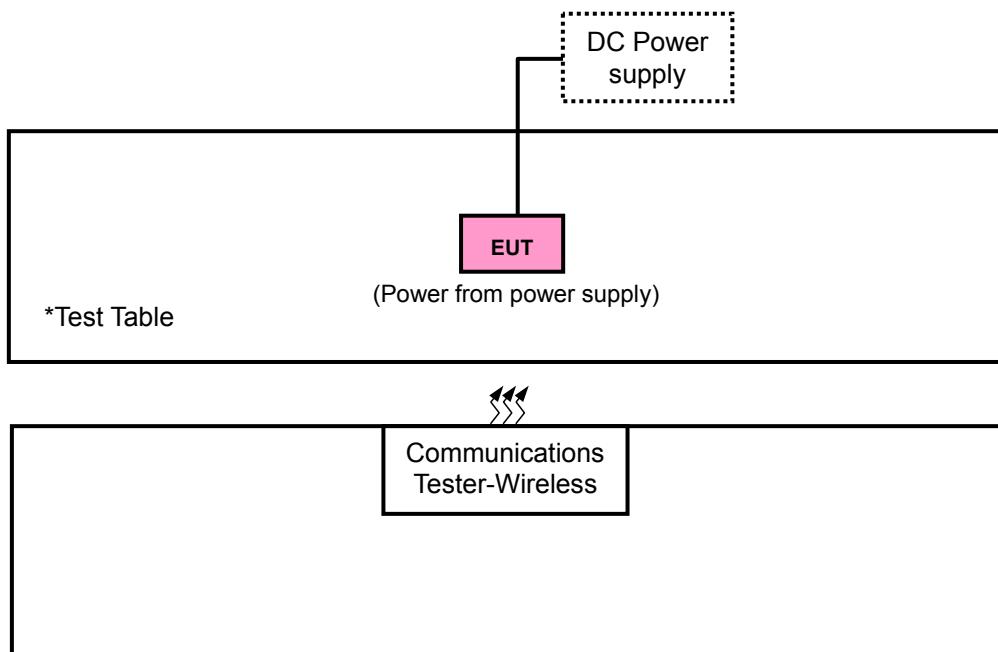
\*GTR-129 was chosen for the final test.

2. The EUT uses following battery.

<b>Brand</b>	Li-Polymer
<b>Model</b>	H402437
<b>Rating</b>	3.7Vdc, 320mAh

3. The module (model no.: Star IV and brand name: SIRF) is collocated in this EUT.
4. The above EUT information was 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



### 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	DC Power supply	TOPWARD	TF-6603A	725942	NA
2	Communications Tester-Wireless	Agilent	E5515C	MY50266653	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	NA

**NOTE:**

1. All power cords of the above support units are non shielded (1.8m).
2. Item 2 act as a communication partner to transfer data.
3. Item 1 was placed under the testing table.

### 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 Y-plane for EUT. Following channel(s) was (were) selected for the final test as listed below:

#### GPRS MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
EIRP	512 to 810	512, 661, 810	GPRS
FREQUENCY STABILITY	512 to 810	512	GPRS
OCCUPIED BANDWIDTH	512 to 810	512, 661, 810	GPRS
BAND EDGE	512 to 810	512, 810	GPRS
CONDUCED EMISSION	512 to 810	512, 661, 810	GPRS
RADIATED EMISSION BELOW 1 GHz	512 to 810	512	GPRS
RADIATED EMISSION ABOVE 1 GHz	512 to 810	512, 661, 810	GPRS

#### TEST CONDITION:

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
EIRP	25deg. C, 68%RH	12Vdc	Sun Lin
FREQUENCY STABILITY	25deg. C, 68%RH	12Vdc	Sun Lin
OCCUPIED BANDWIDTH	25deg. C, 68%RH	12Vdc	Sun Lin
BAND EDGE	25deg. C, 68%RH	12Vdc	Sun Lin
CONDUCED EMISSION	25deg. C, 68%RH	12Vdc	Sun Lin
RADIATED EMISSION	25deg. C, 68%RH	12Vdc	Sun Lin



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### **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

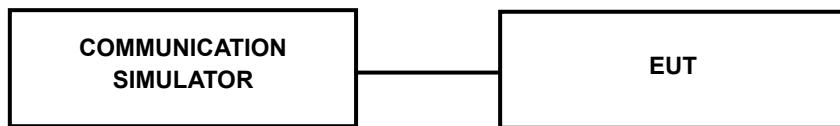
#### 4.1.2 TEST PROCEDURES

##### **CONDUCTED POWER MEASUREMENT:**

The EUT was set up for the maximum power with GPRS 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

##### **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 (1 Uplink)	30.23	29.99	29.74
GPRS 10 (2 Uplink)	30.09	29.89	29.66

##### EIRP POWER (dBm)

##### GPRS

Channel	Frequency (MHz)	Conduction Power (dBm)	Ant Gain (dBi)	EIRP(dBm)	Output Power (mW)
512	1850.2	30.23	2.1	32.33	1710.0
661	1880.0	29.99	2.1	32.09	1618.1
810	1909.8	29.74	2.1	31.84	1527.6

## 4.2 FREQUENCY STABILITY MEASUREMENT

### 4.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

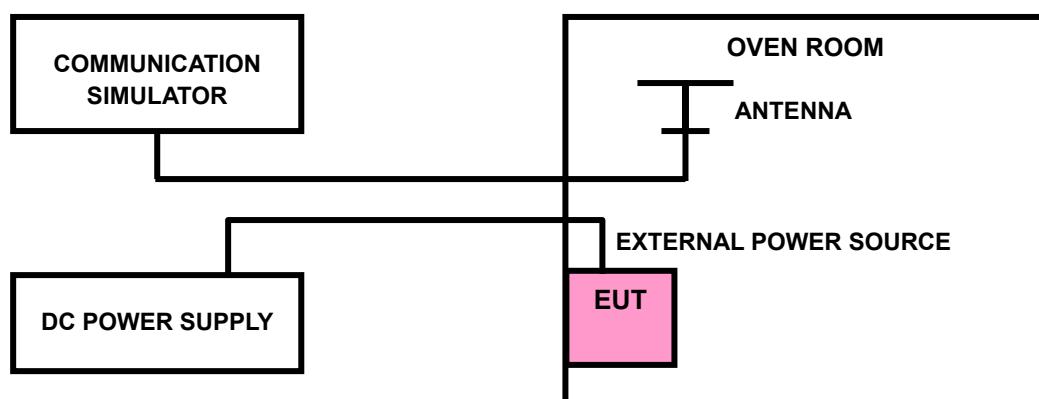
The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

### 4.2.2 TEST PROCEDURE

- a. 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.
- b. 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.
- c. 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	
13.8	-0.009	2.5
10.2	-0.010	2.5

**NOTE:** The applicant defined the normal working voltage of the battery is from 10.2Vdc to 13.8Vdc.

##### FREQUENCY ERROR vs. TEMPERATURE.

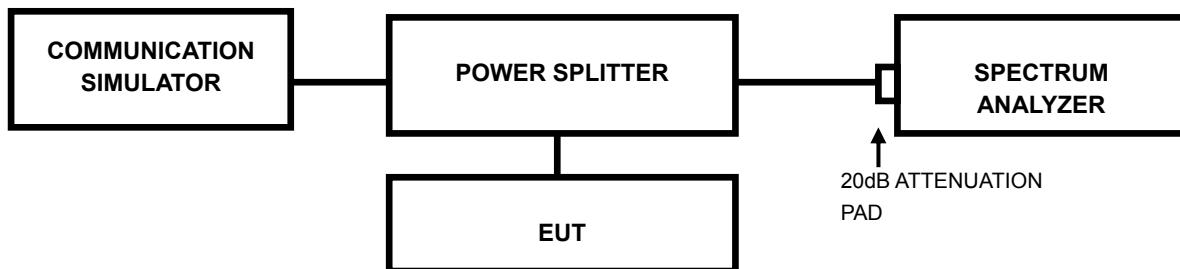
TEMP. (°C)	FREQUENCY ERROR (ppm)	LIMIT (ppm)
	GPRS	
60	-0.017	2.5
50	-0.018	2.5
40	-0.020	2.5
30	-0.015	2.5
20	-0.013	2.5
10	-0.009	2.5
0	-0.013	2.5
-10	-0.015	2.5
-20	-0.019	2.5
-30	-0.024	2.5

## 4.3 OCCUPIED BANDWIDTH MEASUREMENT

### 4.3.1 TEST PROCEDURES

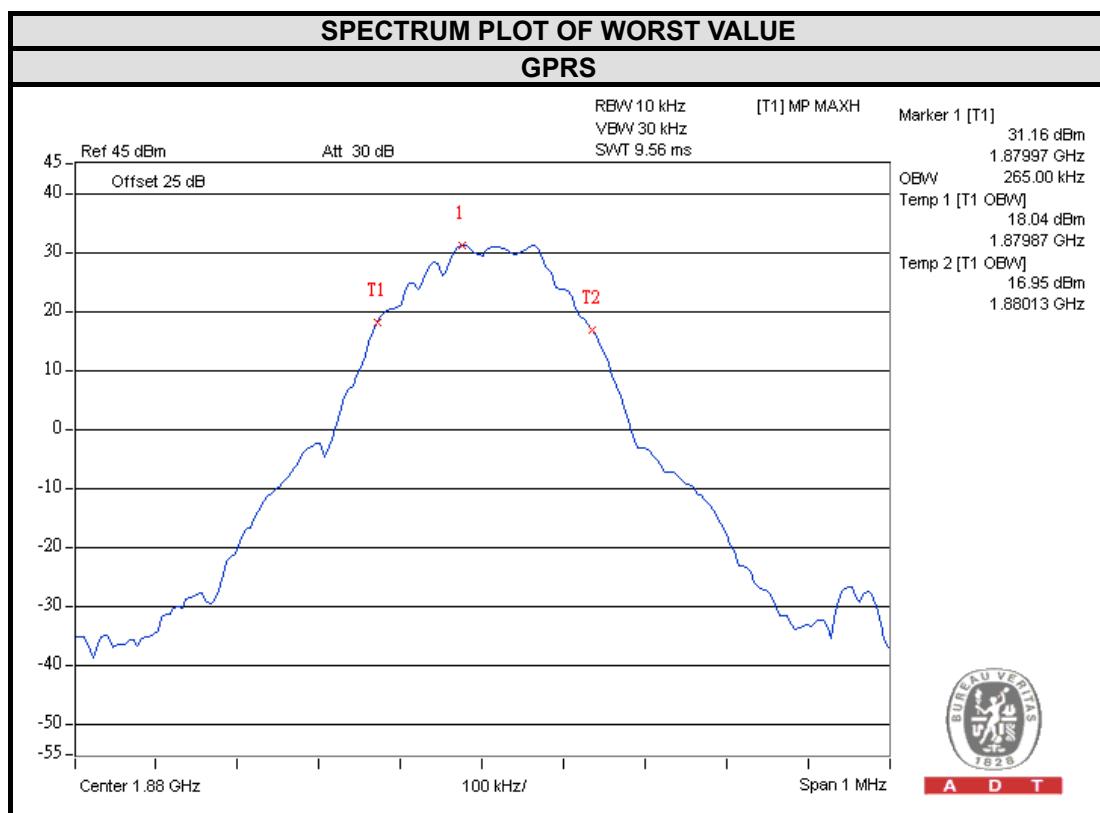
The EUT makes a call to the communication simulator. All measurements were done at low, middle and high operational frequency range. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function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

### 4.3.2 TEST SETUP



### 4.3.3 TEST RESULTS

CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (kHz)
		GPRS
512	1850.2	255
661	1880.0	265
810	1909.8	260

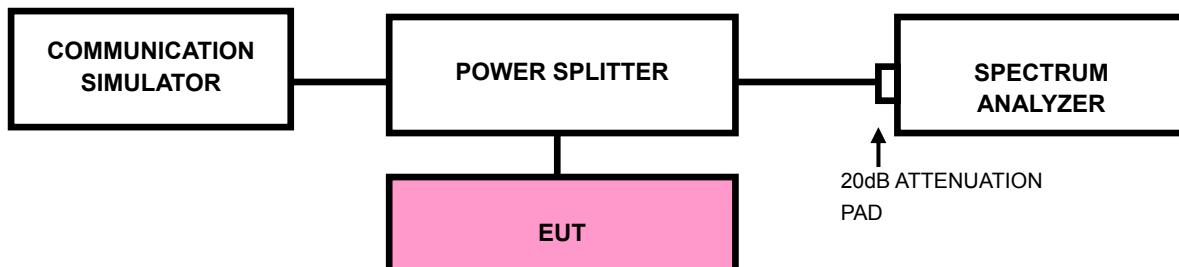


## 4.4 BAND EDGE MEASUREMENT

### 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.

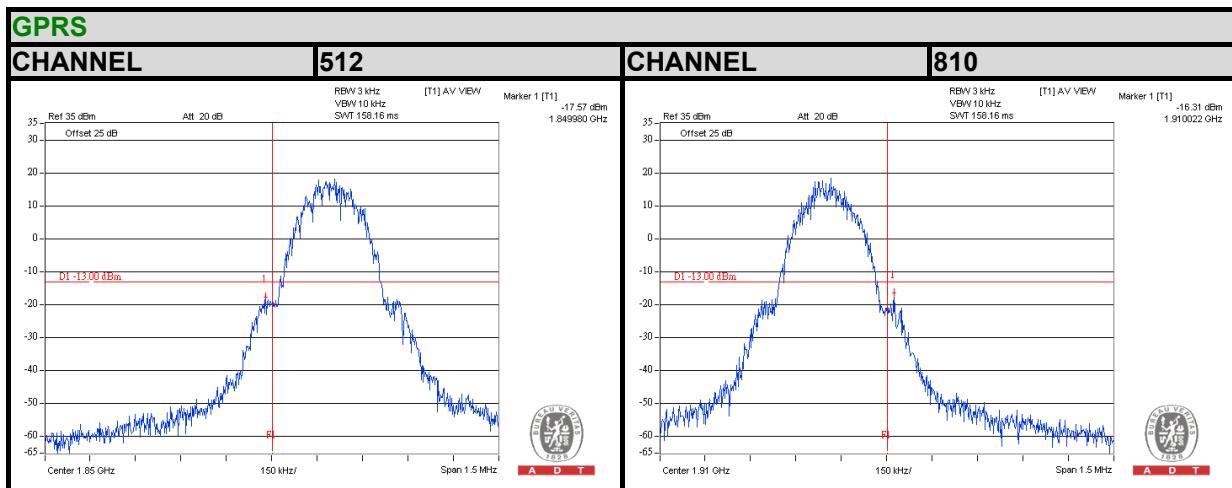
### 4.4.2 TEST SETUP



### 4.4.3 TEST PROCEDURES

- a. All measurements were done at low and high operational frequency range.
- b. The center frequency of spectrum is the band edge frequency and span is 1.5 MHz. RB of the spectrum is 3kHz and VB of the spectrum is 10kHz (GPRS).
- c. Record the max trace plot into the test report.

#### 4.4.4 TEST RESULTS



## 4.5 CONDUCTED SPURIOUS EMISSIONS

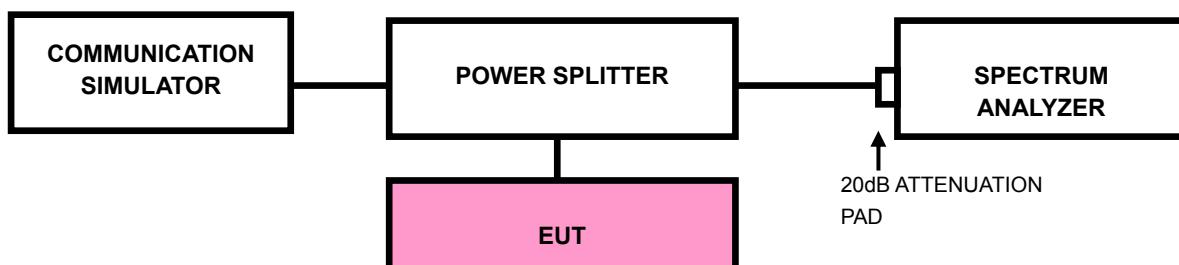
### 4.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

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

- a. The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
- b. Measuring frequency range is from 9 kHz to 19.1GHz. 20dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

### 4.5.3 TEST SETUP

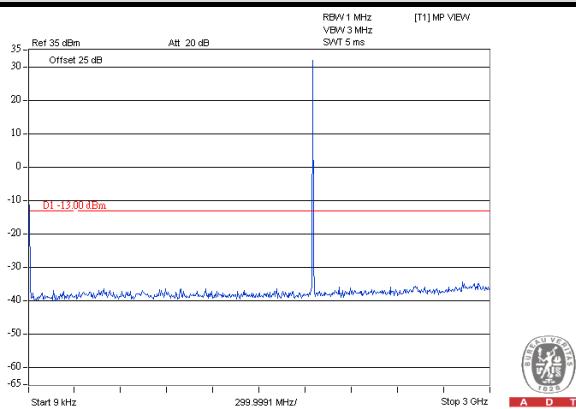


#### 4.5.4 TEST RESULTS

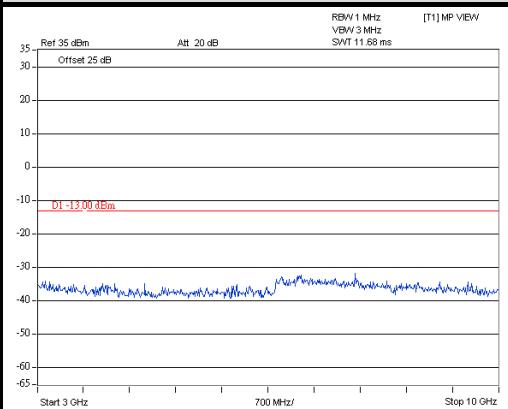
##### GPS

##### CHANNEL 512

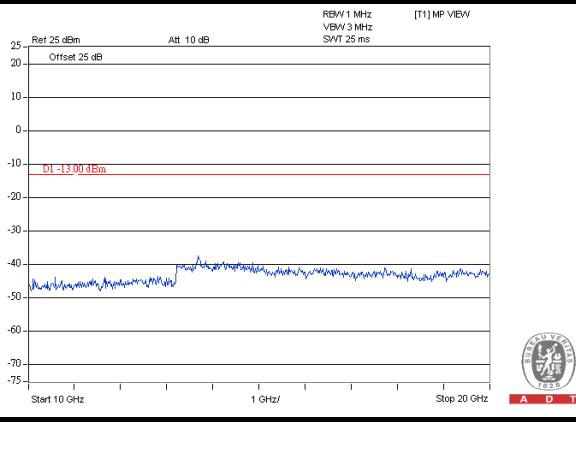
##### FREQUENCY RANGE : 9kHz~3GHz



##### FREQUENCY RANGE : 3GHz~10GHz



##### FREQUENCY RANGE : 10GHz~20GHz



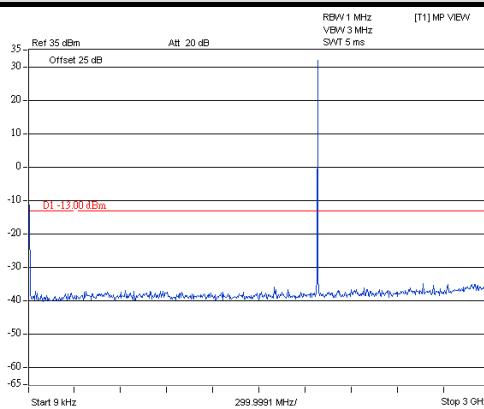


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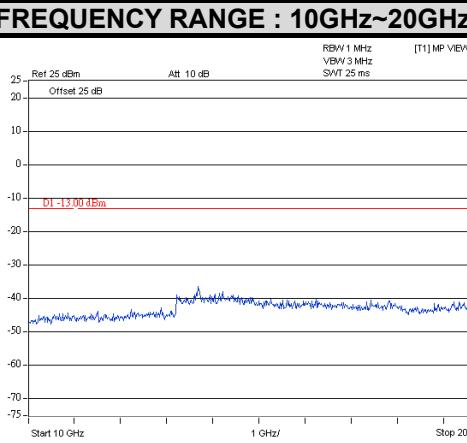
## GPRS

### CHANNEL 661

#### FREQUENCY RANGE : 9kHz~3GHz



#### FREQUENCY RANGE : 3GHz~10GHz



#### FREQUENCY RANGE : 10GHz~20GHz



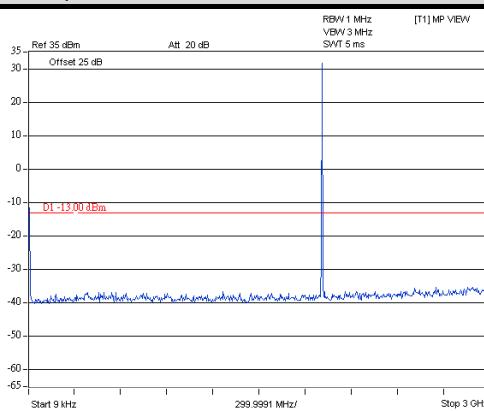


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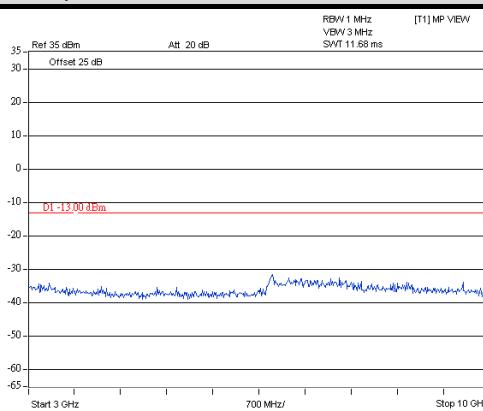
## GPRS

### CHANNEL 810

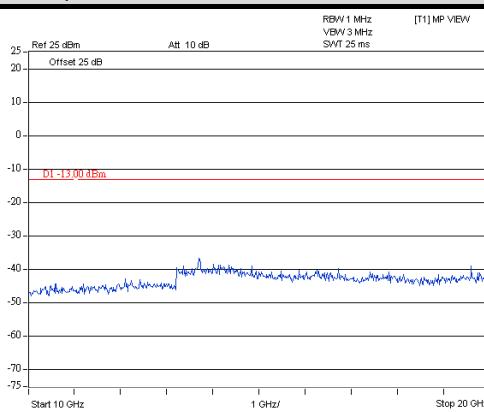
#### FREQUENCY RANGE : 9kHz~3GHz



#### 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  $-13$  dBm.

### 4.6.2 TEST PROCEDURES

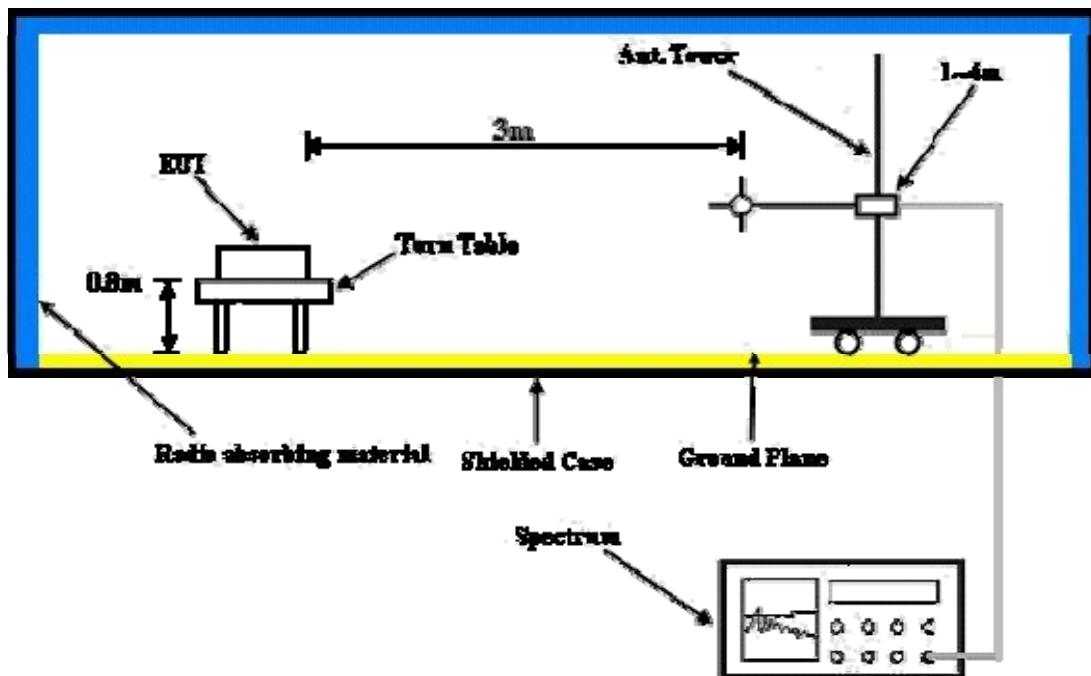
- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 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. EIRP = Output power level of S.G – TX cable loss + 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, E.R.P power = E.I.P.R power - 2.15dBi.

**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
INPUT POWER	12Vdc	ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH
TESTED BY	Sun Lin		

**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	30.00	-52.46	-34.49	-12.61	-47.10	-13.0	-34.10
2	59.10	-60.72	-55.59	-7.79	-63.38	-13.0	-50.38
3	111.48	-52.74	-59.19	0.00	-59.19	-13.0	-46.19
4	148.34	-61.32	-66.05	0.00	-66.05	-13.0	-53.05
5	181.32	-62.99	-71.01	3.08	-67.93	-13.0	-54.93
6	224.00	-61.56	-73.05	5.44	-67.61	-13.0	-54.61

**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	33.88	-51.34	-44.85	-12.13	-56.98	-13.0	-43.98
2	92.08	-56.46	-52.14	1.08	-51.06	-13.0	-38.06
3	111.48	-44.04	-39.71	0.00	-39.71	-13.0	-26.71
4	192.96	-60.67	-58.71	4.58	-54.13	-13.0	-41.13
5	233.70	-62.04	-60.47	5.42	-55.05	-13.0	-42.05
6	321.00	-62.13	-62.35	5.15	-57.20	-13.0	-44.20

**REMARKS:**

1. Power Value (dBm) = S.G Power Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



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**Above 1GHz**

**GPRS**

<b>MODE</b>	Channel 512	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>INPUT POWER</b>	12Vdc	<b>ENVIRONMENTAL CONDITIONS</b>	25deg. C, 68%RH
<b>TESTED BY</b>	Sun Lin		

**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	-47.50	-45.78	7.16	-38.62	-13.0	-25.62
2	5550.60	-59.85	-51.90	6.78	-45.12	-13.0	-32.12
3	7400.80	-58.25	-44.87	4.31	-40.56	-13.0	-27.56

**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	-51.50	-50.31	7.16	-43.15	-13.0	-30.15
2	5550.60	-52.93	-47.97	6.78	-41.19	-13.0	-28.19
3	7400.80	-56.29	-43.45	4.31	-39.14	-13.0	-26.14

**REMARKS:**

1. Power Value (dBm) = S.G Power Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



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MODE	Channel 661	FREQUENCY RANGE	Above 1000MHz
INPUT POWER	12Vdc	ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH
TESTED BY	Sun Lin		

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	-48.20	-46.22	7.10	-39.12	-13.0	-26.12
2	5640.00	-58.20	-50.04	6.77	-43.27	-13.0	-30.27
3	7520.00	-57.80	-44.31	4.23	-40.08	-13.0	-27.08

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	-46.13	-44.87	7.10	-37.77	-13.0	-24.77
2	5640.00	-51.40	-46.18	6.77	-39.41	-13.0	-26.41
3	7520.00	-54.90	-41.66	4.23	-37.43	-13.0	-24.43

**REMARKS:**

1. Power Value (dBm) = S.G Power Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



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MODE	Channel 810	FREQUENCY RANGE	Above 1000MHz
INPUT POWER	12Vdc	ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH
TESTED BY	Sun Lin		

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	-41.25	-39.03	7.06	-31.97	-13.0	-18.97
2	5729.40	-58.60	-50.20	6.74	-43.46	-13.0	-30.46
3	7639.20	-57.80	-44.13	4.20	-39.93	-13.0	-26.93

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	-44.10	-42.79	7.06	-35.73	-13.0	-22.73
2	5729.40	-55.98	-50.47	6.74	-43.73	-13.0	-30.73
3	7639.20	-51.70	-38.24	4.20	-34.04	-13.0	-21.04

**REMARKS:**

1. Power Value (dBm) = S.G Power Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



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## 5 PHOTOGRAPHS OF THE TEST CONFIGURATION

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



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## 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.

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

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**Web Site:** [www.bureauveritas-adt.com](http://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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## 7 APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

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

---END---