FCC 47 CFR PART 22 SUBPART H AND PART 24 SUBPART E &
Industry Canada RSS-132 & RSS-133
(Class II Permissive Change)

TEST REPORT

For

Mini-PCIe wireless WAN card INSTALLED IN AN HP HSTNN-I57C SERIES LAPTOP

Trade Name: HP

Model: UNDP-1

Issued to

Qualcomm
5775 Morehouse Dr. San Diego CA 92121, U.S.A

Issued by

Compliance Certification Services Inc.
No. 11, Wu-Gong 6th Rd., Wugu Industrial Park,
Taipei Hsien 248, Taiwan (R.O.C.)
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1. TEST RESULT CERTIFICATION

Applicant: Qualcomm
5775 Morehouse Dr. San Diego CA 92121, U.S.A

Equipment Under Test: Mini-PCIe wireless WAN card INSTALLED IN AN HP HSTNN-I57C SERIES LAPTOP

Trade Name: HP

Model Number: UNDP-1

Date of Test: August 4 ~ September 23, 2008

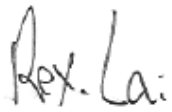
APPLICABLE STANDARDS	
STANDARD	**TEST RESULT**
FCC 47 CFR PART 22 SUBPART H AND PART 24 SUBPART E & IC RSS-132 Issue 2: September 2005 and IC RSS-133 Issue 4: Feb. 2008	No non-compliance noted

We hereby certify that:

The above equipment was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in TIA/EIA-603-C and the energy emitted by the sample EUT tested as described in this report is in compliance with radiated emission limits of FCC Rule FCC PART 22 Subpart H, PART 24 Subpart E, IC RSS-132 Issue 2 and IC RSS-133 Issue 4.

The test results of this report relate only to the tested sample identified in this report.

Approved by:



Rex Lai
Section Manager
Compliance Certification Services Inc.

Reviewed by:

Amanda Wu
Section Manager
Compliance Certification Services Inc.

2. EUT DESCRIPTION

Product	Mini-PCIe wireless WAN card INSTALLED IN AN HP HSTNN-I57C SERIES LAPTOP
Trade Name	HP
Model Number	UNDP-1
Model Discrepancy	All the specification and layout are identical except they come with different panel size. Please refer to the external photos for reference. Type 1: Panel size 8.9” Type 2: Panel size 10.2”
Frequency Range	CDMA Cell (BC0): 824 ~ 849 MHz CDMA PCS (BC1): 1850 ~ 1910 MHz GSM / GPRS / EGPRS: 850: 824 ~ 849 MHz GSM / GPRS / EGPRS: 1900: 1850 ~ 1910 MHz WCDMA Band II: 1852.4 ~ 1907.6 MHz WCDMA Band V: 826.4 ~ 846.6 MHz
Highest Transmit Power (ERP & EIRP Power) Listed in the Original Grant	22H: 824.2 - 848.8MHz: 1.986W 22H: 824.2 - 848.8MHz: 0.607 W 22H: 826.4 - 846.6 MHz: 0.277 W 22H: 824.7 - 848.31 MHz: 0.31 W 24E: 1850.2 - 1909.8 MHz: 0.885 W 24E: 1850.2 - 1909.8 MHz: 0.48 W 24E: 1852.4 - 1907.5 MHz: 0.286 W 24E: 1851.25 - 1908.75 MHz: 0.289 W
Type of Emission	22H: 824.2 - 848.8MHz: 248KGXW--- 22H: 824.2 - 848.8MHz: 248KG7W--- 22H: 826.4 - 846.6 MHz: 4M18F9W--- 22H: 824.7 - 848.31 MHz: 1M28F9W--- 24E: 1850.2 - 1909.8 MHz: 250KGXW--- 24E: 1850.2 - 1909.8 MHz: 245KG7W--- 24E: 1852.4 - 1907.5 MHz: 4M19F9W--- 24E: 1851.25 - 1908.75 MHz: 1M28F9W---
WLAN module FCC ID	QDS-BRCM1010
Class II Permissive change	Adding an HP HSTNN-I57C series tablet laptop.

3. TEST METHODOLOGY

Both conducted and radiated testing were performed according to the procedures document on chapter 13 of ANSI C63.4, TIA/EIA-603-C and FCC CFR 47, 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055 and 2.1057.

The tests documented in this report were performed in accordance with IC RSS-132, RSS-133, ANSI C63.4, and TIA/EIA 603-C.

EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

EUT EXERCISE

The EUT was operated by establishing air-link with base station emulator to fix the TX frequency that was for the purpose of the measurements.

TEST MODE ENGINEERING JUSTIFICATION

ERP/EIRP Power and Radiated Spurious Emissions

Based upon the RF conducted output power measurement as documented in the original filing, testing was only completed for GPRS/Class 10 modes as this mode had the highest peak power by comparing to CDMA/WCDMA/GSM/EDGE/HSDPA/HSUPA mode of operation.

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DESCRIPTION OF TEST MODES

The following setting is used to configure the CMU200 to establish the link.

Service selection => Test Mode A – Auto Slot Config. => off

Main Service => Packet Data

Network Support => GSM+GPRS

Slot Config => 33 dBm for GSM850/EGSM900 and 30 dBm for GSM1800

27 dBm for GSM850 EPRS and 26 dBm for GSM1800 EGPRS

Application Rev, License

GSM Mode

To reset the Agilent E4446A to default all values > Shift & Preset

To adjust Input/Output offset, press SYSTEM CONFIG button above the control knob

- RF IN/OUT Amptd Offset
- RF IN/OUT Amptd Offset Setup
- Enter frequencies to be tested and corresponding offsets (enter negative values for offset, i.e.-35 is greater than -30).

Control

Operating Mode > Active Cell (GSM)

Connection Type > Auto (For Voice Mode)

Call Parms

BCH Parameters > Cell Power > adjust to (~ -50dBm) to maintain strong link OTA

> Cell Band > PCS or GSM850 (US band)

TCH Parameters > Timeslot >1

> Traffic Channel > PCS Channel 512 / 661 / 810

> GSM850 Channel 128 / 190 / 251

> MS TX Level > 1 (for both PCS or GSM850)

> Timeslot > 1

> Speech Setup > Speech Source > Echo (Default)

Press “Originate Call”

GPRS Mode

To reset the Agilent 8960 to default all values > Shift & Preset

To adjust Input/Output offset, press SYSTEM CONFIG button above the control knob

> RF IN/OUT Amptd Offset

> RF IN/OUT Amptd Offset Setup

> Enter frequencies to be tested and corresponding offsets (enter negative values for offset, i.e.-35 is greater than -30).

Control

Operating Mode > Active Cell (GPRS)

Connection Type > ETSI Type A (For Data Mode)

Call Parms

BCH Parameters	>	Cell Power > adjust to (~ -50dBm) to maintain strong link OTA
	>	Cell Band > PCS or GSM850 (US band)
TCH Parameters	>	Traffic Channel > PCS Channel 512 / 661 / 810
	>	GSM850 Channel 128 / 190 / 25

> MS TX Level > 3 (33dBm for Cell band); 3 (30dBm for PCS band)

PDTCH > Multislot Config > 1 Down, 2 Up

> MS TX Level > 5 (33dBm Cell band); 1 (30dBm PCS band)

> Coding Scheme > CS-4

The EUT comes with two types for sale. After the preliminary test, the worst case is 8.9" panel had been found to emit the worst emissions.

Based on previous experiences, from different modulations, GPRS was the worst-case scenario.

The worst-case channel is determined as the channel with the highest output power. The highest measured output power was at mid channel for both Cell and PCS bands.

4. INSTRUMENT CALIBRATION

MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

MEASUREMENT EQUIPMENT USED

Equipment Used for Emissions Measurement

Remark: *Each piece of equipment is scheduled for calibration once a year.*

3M Semi Anechoic Chamber				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Spectrum Analyzer	Agilent	E4446A	US42510252	07/18/2009
Test Receiver	Rohde & Schwarz	ESCI	100064	11/12/2008
Switch Controller	TRC	Switch Controller	SC94050010	05/02/2009
4 Port Switch	TRC	4 Port Switch	SC94050020	05/02/2009
Horn-Antenna	TRC	HA-0502	06	06/05/2009
Horn-Antenna	TRC	HA-0801	04	06/05/2009
Bilog- Antenna	Sunol Sciences	JB3	A030205	03/28/2009
Turn Table	Max-Full	MFT-120S	T120S940302	N.C.R.
Antenna Tower	Max-Full	MFA-430	A440940302	N.C.R.
Controller	Max-Full	MF-CM886	CC-C-1F-13	N.C.R.
Site NSA	N/A	FCC: 965860 IC: IC 6106	09/25/2008	09/24/2009
Reject Filter	Micro-Tronics	HPM13194	003	04/24/2009
S.G.	HP	83630B	3844A01022	04/07/2009
Substituted Dipole	Schwazbeck	VHAP/UHAP	998 +999/ 981+982	06/09/2009
Substituted Horn	EMCO	3115	00022257	12/17/2008
Test S/W	LABVIEW (V 6.1)			

Remark: *The measurement uncertainty is less than +/-2.0065dB (30MHz ~ 1GHz), +/-3.0958dB (Above 1GHz) which is evaluated as per the NAMAS NIS 81 and CISPR/A/291/CDV.*

5. FACILITIES AND ACCREDITATIONS

FACILITIES

☐ No.199, Chunghsen Road, Hsintien City, Taipei Hsien, Taiwan, R.O.C.
Tel: 886-2-2217-0894 / Fax: 886-2-2217-1029

☒ No.11, Wugong 6th Rd., Wugu Industrial Park, Taipei Hsien 248, Taiwan
Tel: 886-2-2299-9720 / Fax: 886-2-2298-4045

☐ No.81-1, Lane 210, Bade 2nd Rd., Luchu Hsiang, Taoyuan Hsien 338, Taiwan
Tel: 886-3-324-0332 / Fax: 886-3-324-5235

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

EQUIPMENT

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, “Radio Interference Measuring Apparatus and Measurement Methods.”

TABLE OF ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	A2LA	EN 55011, EN 55014-1/2, CISPR 11, CISPR 14-1/2, EN 55022, EN 55015, CISPR 22, CISPR 15, AS/NZS 3548, VCCI V3 (2001), CFR 47, FCC Part 15/18, CNS 13783-1, CNS 13439, CNS 13438, CNS 13803, CNS 14115, EN 55024, IEC 801-2, IEC 801-3, IEC 801-4, IEC/EN 61000-3-2, IEC/EN 61000-3-3, IEC/EN 61000-4-2/3/4/5/6/8/11, EN 50081-1/ EN 61000-6-3, EN 50081-2/EN 61000-6-4, EN 50081-2/EN 61000-6-1: 2001	ACCREDITED TESTING CERT #0824.01
USA	FCC	3M Semi Anechoic Chamber (965860 and 898658) to perform FCC Part 15/18 measurements	965860, 898658
Taiwan	TAF	LP0002, RTTE01, FCC Method-47 CFR Part 15 Subpart C, D, E, RSS-210, RSS-310 IDA TS SRD, AS/NZS 4268, AS/NZS 4771, TS 12.1 & 12,2, ETSI EN 300 440-1, ETSI EN 300 440-2, ETSI EN 300 328, ETSI EN 300 220-1, ETSI EN 300 220-2, ETSI EN 301 893, ETSI EN 301 489-1/3/7/17 FCC OET Bulletin 65 + Supplement C, EN 50360, EN 50361, EN 50371, RSS 102, EN 50383, EN 50385, EN 50392, IEC 62209, CNS 14958-1, CNS 14959 FCC Method –47 CFR Part 15 Subpart B IEC / EN 61000-3-2, IEC / EN 61000-3-3, IEC / EN 61000-4-2/3/4/5/6/8/11	TAF Testing Laboratory 1309
Canada	Industry Canada	3M Semi Anechoic Chamber (IC 6106 & IC 6106A-2) to perform RSS 212 Issue 1	Canada IC 6106 IC 6106A-2

** No part of this report may be used to claim or imply product endorsement by A2LA or any agency of the US Government.*

6. SETUP OF EQUIPMENT UNDER TEST

SETUP CONFIGURATION OF EUT

See test photographs attached in Appendix II for the actual connections between EUT and support equipment.

SUPPORT EQUIPMENT

No.	Device Type	Brand	Model	Series No.	FCC ID	Data Cable	Power Cord
1.	USB 2.0 External HDD	TeraSyS	F12-U	A0100214-2Bq0039	FCC DoC	Shielded, 1.8m	N/A
2.	Universal Radio Communication tester (Remote)	R&S	CMU 200	1100.000.8.02	N/A	N/A	Unshielded, 1.8m

Remark:

1. *All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.*
2. *Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.*

7. FCC PART 22 & 24 REQUIREMENTS

ERP & EIRP MEASUREMENT

LIMIT

According to FCC §2.1046

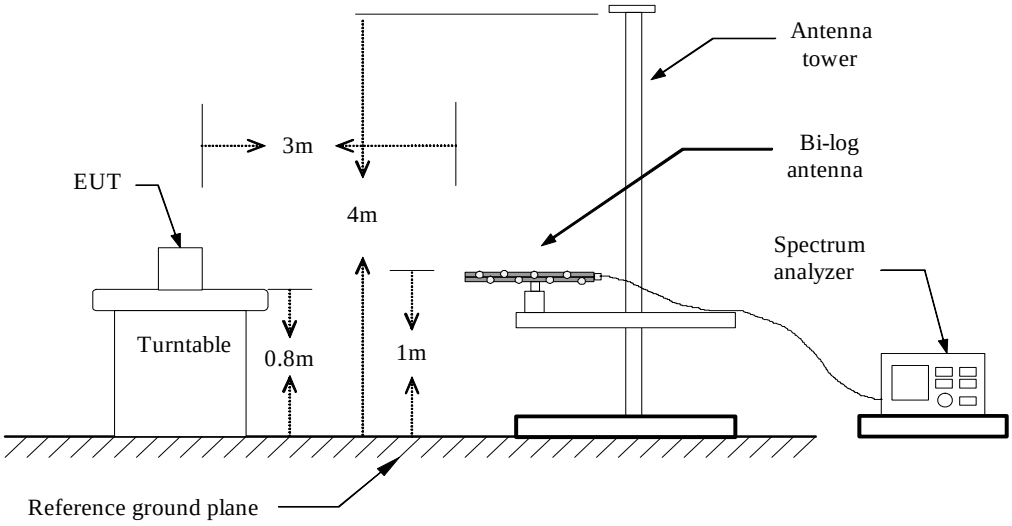
FCC 22.913(a): The Effective Radiated Power (ERP) of mobile transmitters must not exceed 7 Watts.

FCC 24.232(b) & RSS133 § 6.4: The equivalent Isotropic Radiated Power (EIRP) must not exceed 2 Watts.

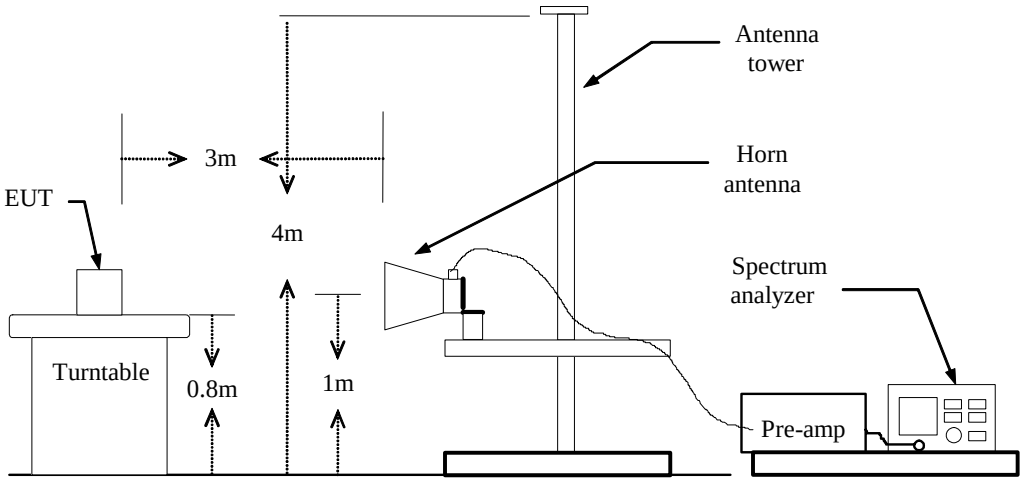
RSS-132 § 4.4 The maximum ERP shall be 6.3 Watts for mobile stations.

Test Configuration

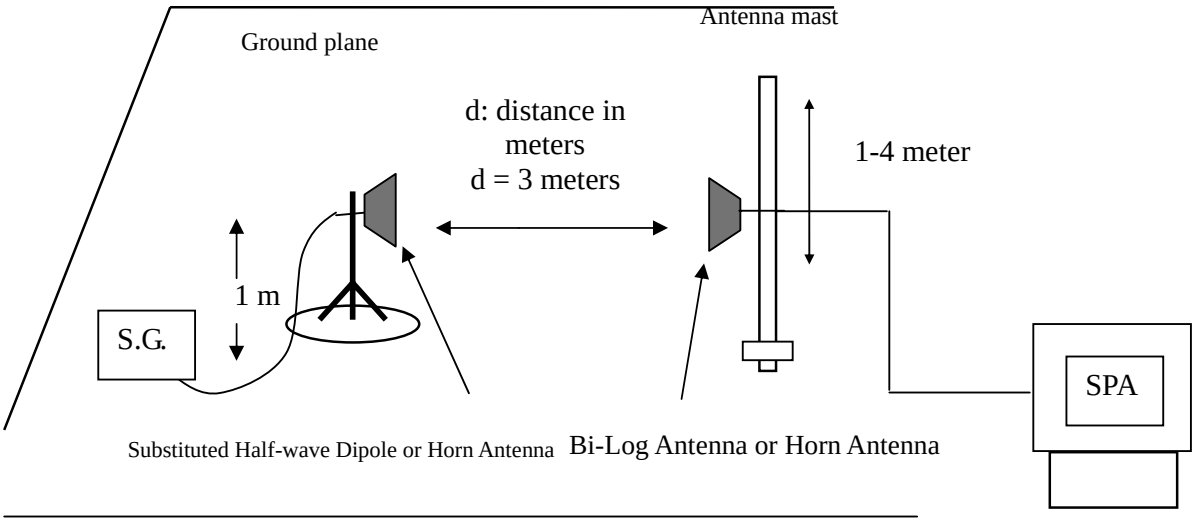
Below 1 GHz



Above 1 GHz



For Substituted Method Test Set-UP



TEST PROCEDURE

The EUT was placed on an non-conductive turntable using a non-conductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer.

During the measurement of the EUT, the resolution bandwidth was set to 3MHz and the average bandwidth was set to 3MHz. The highest emission was recorded with the rotation of the turntable and the lowering of the test antenna. The reading was recorded and the field strength (E in dBuV/m) was calculated.

ERP in frequency band 824-849MHz, and EIRP in frequency band 1851.25 –1910MHz were measured using a substitution method. The EUT was replaced by half-wave dipole (824-849MHz) or horn antenna (1851.25-1910MHz) connected to a signal generator. The spectrum analyzer reading was recorded and ERP/EIRP was calculated as follows:

ERP = S.G. output (dBm) + Antenna Gain (dBd) – Cable (dB)
EIRP = S.G. output (dBm) + Antenna Gain (dBi) – Cable (dB)

TEST RESULTS

No non-compliance noted.

GPRS 850 TEST DATA

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
128	824.06	V	-13.07	36.22	23.15	38.50	-15.35
	824.36	H	-9.36	36.08	26.72	38.50	-11.78
190	836.66	V	-11.77	36.31	24.54	38.50	-13.96
	836.66	H	-7.90	36.20	28.29	38.50	-10.21
251	848.66	V	-9.89	36.37	26.48	38.50	-12.02
	848.66	H	-6.25	36.35	***30.10**	38.50	-8.40

GPRS 1900 TEST DATA

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
512	1850.10	V	-16.77	35.16	18.40	33.00	-14.60
	1850.10	H	-19.28	35.17	15.89	33.00	-17.11
661	1880.00	V	-16.29	35.01	***18.72**	33.00	-14.28
	1880.00	H	-17.95	35.02	17.08	33.00	-15.92
810	1910.10	V	-16.78	34.86	18.09	33.00	-14.91
	1909.70	H	-18.35	34.88	16.53	33.00	-16.47

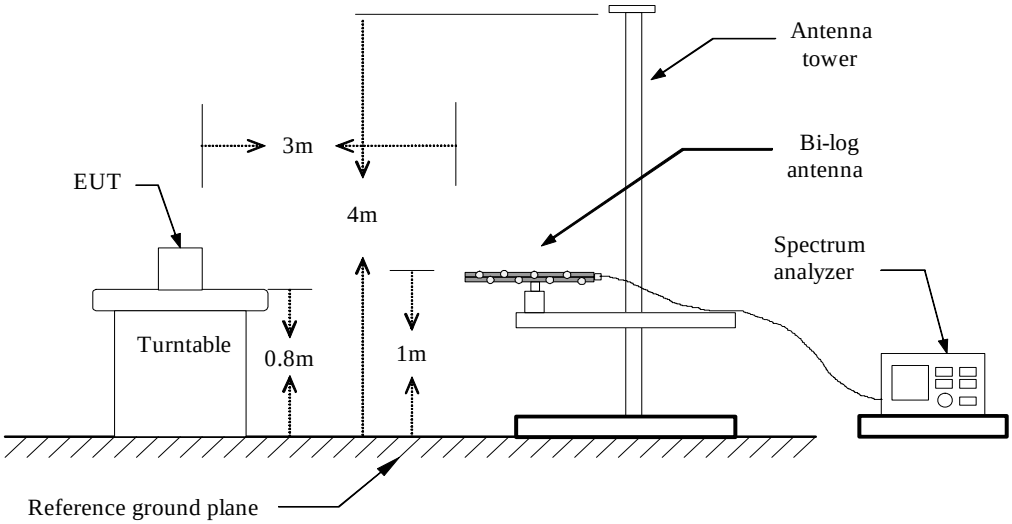
FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

LIMIT

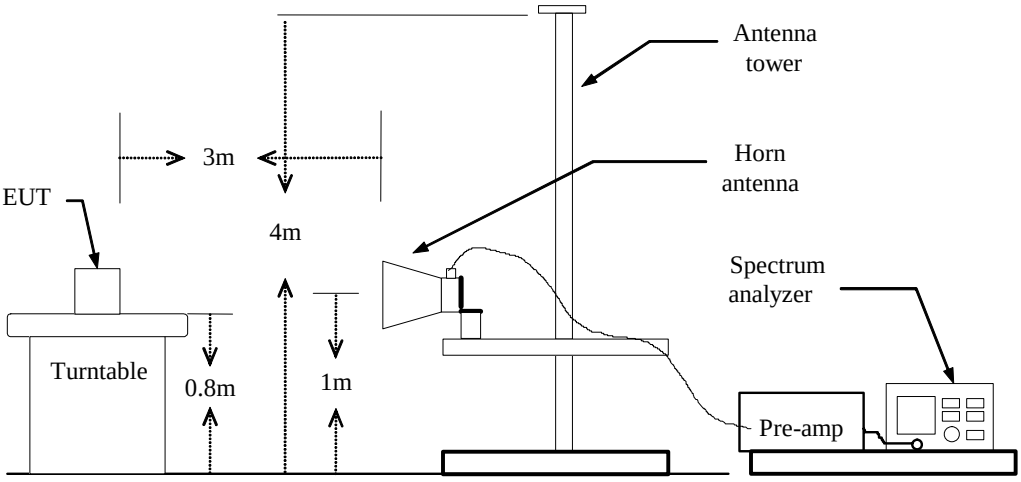
According to FCC §2.1053, RSS-132 (4.6) & RSS-133 (6.5).

Test Configuration

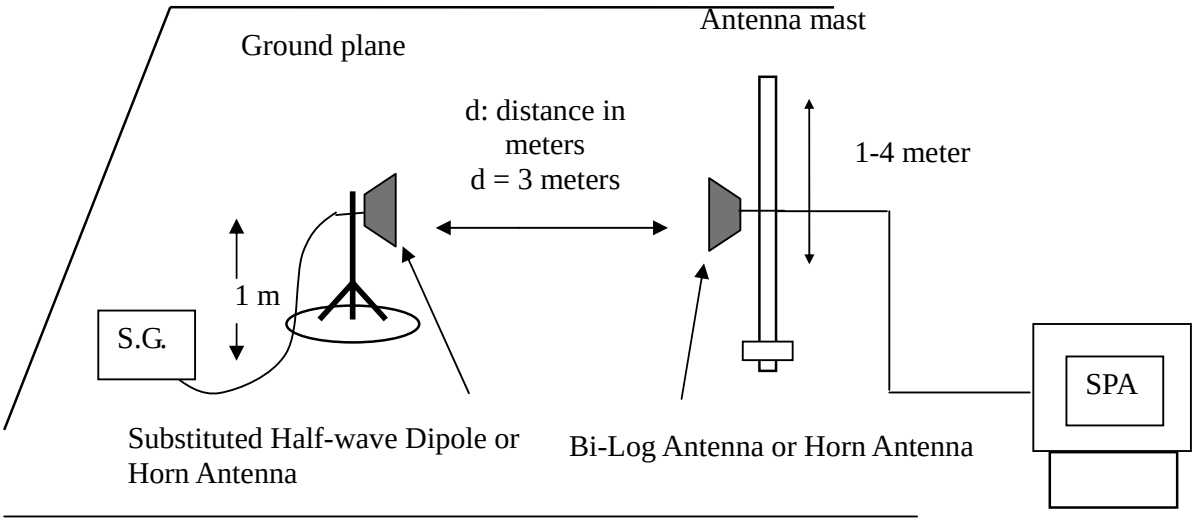
Below 1 GHz



Above 1 GHz



Substituted Method Test Set-up



TEST PROCEDURE

The EUT was placed on a non-conductive, the measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels). Once spurious emission were identified, the power of the emission was determined using the substitution method.

The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency.

ERP = S.G. output (dBm) + Antenna Gain (dBd) – Cable (dB)

EIRP = S.G. output (dBm) + Antenna Gain (dBi) – Cable (dB)

TEST RESULTS

Refer to the attached tabular data sheets.

Operation Mode: GPRS 850 / TX / CH 128 **Test Date:** August 4, 2008

Temperature: 25°C **Tested by:** Jerry Lin

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
322.94	V	-52.98	-12.98	-65.95	-13.00	-52.95
408.30	V	-53.97	-10.39	-64.36	-13.00	-51.36
451.95	V	-56.28	-9.24	-65.52	-13.00	-52.52
536.34	V	-57.16	-7.63	-64.80	-13.00	-51.80
629.46	V	-53.03	-6.33	-59.37	-13.00	-46.37
681.84	V	-61.23	-6.04	-67.28	-13.00	-54.28
99.84	H	-45.35	-18.98	-64.33	-13.00	-51.33
322.94	H	-53.23	-13.36	-66.59	-13.00	-53.59
407.33	H	-53.01	-10.45	-63.47	-13.00	-50.47
452.92	H	-58.69	-9.18	-67.87	-13.00	-54.87
512.09	H	-59.70	-7.96	-67.66	-13.00	-54.66
629.46	H	-55.42	-6.44	-61.85	-13.00	-48.85

Remark:

1. *The emission behaviour belongs to narrowband spurious emission.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: GPRS 850 / TX / CH 190 **Test Date:** August 4, 2008

Temperature: 25°C **Tested by:** Jerry Lin

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
130.88	V	-47.74	-13.13	-60.88	-13.00	-47.88
322.94	V	-53.69	-12.98	-66.66	-13.00	-53.66
387.93	V	-53.95	-11.52	-65.48	-13.00	-52.48
452.92	V	-57.24	-9.22	-66.46	-13.00	-53.46
539.25	V	-62.34	-7.59	-69.93	-13.00	-56.93
629.46	V	-52.76	-6.33	-59.09	-13.00	-46.09
130.88	H	-45.97	-14.72	-60.70	-13.00	-47.70
322.94	H	-53.95	-13.36	-67.30	-13.00	-54.30
387.93	H	-58.47	-11.26	-69.73	-13.00	-56.73
453.89	H	-57.41	-9.16	-66.57	-13.00	-53.57
528.58	H	-61.96	-7.96	-69.93	-13.00	-56.93
629.46	H	-55.55	-6.44	-61.98	-13.00	-48.98

Remark:

1. *The emission behaviour belongs to narrowband spurious emission.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: GPRS 850 / TX / CH 251 **Test Date:** August 4, 2008

Temperature: 25°C **Tested by:** Jerry Lin

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
258.92	V	-59.49	-14.07	-73.56	-13.00	-60.56
322.94	V	-54.03	-12.98	-67.00	-13.00	-54.00
387.93	V	-54.98	-11.52	-66.50	-13.00	-53.50
451.95	V	-57.54	-9.24	-66.78	-13.00	-53.78
536.34	V	-61.34	-7.63	-68.98	-13.00	-55.98
629.46	V	-52.98	-6.33	-59.31	-13.00	-46.31
160.95	H	-59.88	-13.64	-73.52	-13.00	-60.52
197.81	H	-63.11	-12.46	-75.57	-13.00	-62.57
322.94	H	-52.18	-13.36	-65.54	-13.00	-52.54
387.93	H	-58.14	-11.26	-69.40	-13.00	-56.40
452.92	H	-58.73	-9.18	-67.91	-13.00	-54.91
629.46	H	-55.45	-6.44	-61.89	-13.00	-48.89

Remark:

1. *The emission behaviour belongs to narrowband spurious emission.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: GPRS 1900 / TX / CH 512 **Test Date:** August 4, 2008

Temperature: 25°C **Tested by:** Jerry Lin

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
322.94	V	-52.64	-12.98	-65.62	-13.00	-52.62
387.93	V	-54.87	-11.52	-66.39	-13.00	-53.39
451.95	V	-56.62	-9.24	-65.85	-13.00	-52.85
629.46	V	-53.18	-6.33	-59.51	-13.00	-46.51
710.94	V	-65.08	-5.74	-70.81	-13.00	-57.81
764.29	V	-65.91	-5.12	-71.03	-13.00	-58.03
231.76	H	-51.37	-15.34	-66.71	-13.00	-53.71
322.94	H	-53.03	-13.36	-66.39	-13.00	-53.39
393.75	H	-52.79	-11.01	-63.80	-13.00	-50.80
451.95	H	-59.14	-9.19	-68.33	-13.00	-55.33
629.46	H	-55.62	-6.44	-62.06	-13.00	-49.06
833.16	H	-67.29	-4.25	-71.54	-13.00	-58.54

Remark:

1. *The emission behaviour belongs to narrowband spurious emission.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: GPRS 1900 / TX / CH 661 **Test Date:** August 4, 2008

Temperature: 25°C **Tested by:** Jerry Lin

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
322.94	V	-53.62	-12.98	-66.60	-13.00	-53.60
387.93	V	-54.56	-11.52	-66.08	-13.00	-53.08
419.94	V	-57.98	-9.83	-67.81	-13.00	-54.81
451.95	V	-56.04	-9.24	-65.28	-13.00	-52.28
629.46	V	-52.92	-6.33	-59.26	-13.00	-46.26
807.94	V	-66.43	-4.44	-70.87	-13.00	-57.87
322.94	H	-52.20	-13.36	-65.56	-13.00	-52.56
387.93	H	-57.84	-11.26	-69.10	-13.00	-56.10
451.95	H	-58.07	-9.19	-67.27	-13.00	-54.27
550.89	H	-63.74	-7.68	-71.43	-13.00	-58.43
582.90	H	-64.59	-7.06	-71.66	-13.00	-58.66
629.46	H	-56.59	-6.44	-63.03	-13.00	-50.03

Remark:

1. *The emission behaviour belongs to narrowband spurious emission.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: GPRS 1900 / TX / CH 810 **Test Date:** August 4, 2008

Temperature: 25°C **Tested by:** Jerry Lin

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization (V/H)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
322.94	V	-53.53	-12.98	-66.51	-13.00	-53.51
387.93	V	-54.42	-11.52	-65.95	-13.00	-52.95
451.95	V	-56.12	-9.24	-65.36	-13.00	-52.36
540.22	V	-62.04	-7.58	-69.62	-13.00	-56.62
629.46	V	-53.32	-6.33	-59.65	-13.00	-46.65
717.73	V	-64.53	-5.70	-70.23	-13.00	-57.23
275.41	H	-61.25	-13.16	-74.42	-13.00	-61.42
322.94	H	-54.80	-13.36	-68.16	-13.00	-55.16
387.93	H	-59.46	-11.26	-70.72	-13.00	-57.72
451.95	H	-58.37	-9.19	-67.57	-13.00	-54.57
548.95	H	-62.96	-7.73	-70.69	-13.00	-57.69
629.46	H	-56.03	-6.44	-62.47	-13.00	-49.47

Remark:

1. *The emission behaviour belongs to narrowband spurious emission.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Above 1GHz

Operation Mode: GPRS 850 / TX / CH 128 **Test Date:** August 5, 2008

Temperature: 25°C **Tested by:** Jerry Lin

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1651.00	V	-53.74	1.63	-52.11	-13.00	-39.11
1966.00	V	-44.31	1.77	-42.54	-13.00	-29.54
2470.00	V	-45.61	4.75	-40.86	-13.00	-27.86
N/A						
1651.00	H	-53.58	1.63	-51.95	-13.00	-38.95
2470.00	H	-47.91	4.74	-43.16	-13.00	-30.16
N/A						

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: GPRS 850 / TX / CH 190 **Test Date:** August 5, 2008

Temperature: 25°C **Tested by:** Jerry Lin

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1672.00	V	-50.26	1.64	-48.63	-13.00	-35.63
1861.00	V	-51.65	1.72	-49.93	-13.00	-36.93
2512.00	V	-43.43	4.96	-38.47	-13.00	-25.47
4185.00	V	-59.27	8.77	-50.50	-13.00	-37.50
N/A						
1672.00	H	-55.80	1.66	-54.15	-13.00	-41.15
2512.00	H	-44.83	4.94	-39.90	-13.00	-26.90
N/A						

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: GPRS 850 / TX / CH 251 **Test Date:** August 5, 2008

Temperature: 25°C **Tested by:** Jerry Lin

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
1700.00	V	-50.02	1.65	-48.37	-13.00	-35.37
1861.00	V	-52.09	1.72	-50.38	-13.00	-37.38
2127.00	V	-56.16	2.58	-53.58	-13.00	-40.58
2547.00	V	-43.64	5.02	-38.62	-13.00	-25.62
N/A						
1700.00	H	-51.09	1.68	-49.40	-13.00	-36.40
2547.00	H	-49.00	4.98	-44.01	-13.00	-31.01
N/A						

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: GPRS 1900 / TX / CH 512 **Test Date:** August 4, 2008

Temperature: 25°C **Tested by:** Jerry Lin

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
3702.00	V	-56.64	7.57	-49.07	-13.00	-36.07
5550.00	V	-56.20	8.19	-48.00	-13.00	-35.00
N/A						
3702.00	H	-59.21	6.71	-52.49	-13.00	-39.49
4878.00	H	-60.08	9.45	-50.63	-13.00	-37.63
N/A						

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: GPRS 1900 / TX / CH 661 **Test Date:** August 4, 2008

Temperature: 25°C **Tested by:** Jerry Lin

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
2498.00	V	-59.52	4.93	-54.60	-13.00	-41.60
3758.00	V	-56.87	7.81	-49.06	-13.00	-36.06
5641.00	V	-54.97	8.23	-46.73	-13.00	-33.73
N/A						
3758.00	H	-57.63	6.83	-50.80	-13.00	-37.80
5641.00	H	-55.21	9.93	-45.28	-13.00	-32.28
N/A						

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

Operation Mode: GPRS 1900 / TX / CH 810 **Test Date:** August 4, 2008

Temperature: 25°C **Tested by:** Jerry Lin

Humidity: 50 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	Antenna Polarization	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
2498.00	V	-57.38	4.93	-52.45	-13.00	-39.45
3821.00	V	-52.89	8.09	-44.80	-13.00	-31.80
5732.00	V	-52.44	8.27	-44.17	-13.00	-31.17
N/A						
3821.00	H	-56.10	6.95	-49.14	-13.00	-36.14
5732.00	H	-49.42	9.65	-39.77	-13.00	-26.77
N/A						

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*