



**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**

**Lenovo Notebook Computer**

**Trade Name: lenovo**

**Model: TP00019A**

*Issued to*

**Wistron Corporation**  
21F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih,  
Taipei Hsien 221, Taiwan, R.O.C.

*Issued by*



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## 1. TEST RESULT CERTIFICATION

**Applicant:** Wistron Corporation  
21F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221,  
Taiwan, R.O.C.

**Manufacturer:** Wistron Corporation  
21F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221,  
Taiwan, R.O.C.

**Equipment Under Test:** Lenovo Notebook Computer

**Trade Name:** lenovo

**Model Number:** TP00019A

**Date of Test:** January 7 ~13, 2011

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 5: February 2009	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:

Gina Lo  
Section Manager  
Compliance Certification Services Inc.



## 2. EUT DESCRIPTION

<b>Product</b>	Lenovo Notebook Computer			
<b>Trade Name</b>	lenovo			
<b>Model Number</b>	TP00019A			
<b>Model Discrepancy</b>	N/A			
<b>Module Model</b>	F5521GW			
<b>Module Brand Name</b>	Ericsson			
<b>Power Supply</b>	Powered from Host device.			
<b>Frequency Range</b>	GPRS / EDGE: 850: 824.2 ~ 848.8 MHz GPRS / EDGE: 1900: 1850.2 ~ 1909.8 MHz WCDMA / HSDPA / HSUPA Band II: 1852.4 ~ 1907.6 MHz WCDMA / HSDPA / HSUPA Band V: 826.4 ~ 846.6MHz			
<b>Transmit Power (ERP &amp; EIRP Power)</b>	GPRS 850: 30.56 dBm GPRS 1900: 29.42 dBm EDGE 850: 25.44 dBm EDGE 1900: 25.56 dBm WCDMA Band II: 24.77 dBm WCDMA Band V: 23.37 dBm HSDPA Band II: 24.27 dBm HSDPA Band V: 23.10 dBm HSUPA Band II: 24.45 dBm HSUPA Band V: 23.24 dBm			
<b>Cellular Phone Protocol</b>	GPRS: GMSK EDGE: 8PSK WCDMA: Quadrature Phase Shift Keying (QPSK) with Root-raised cosine pulse shaping filters (roll off = 0.22)			
<b>WWAN Tx antenna</b>	1.Brand: WNC PIFA P/N: 25.90A1C.001 (Main) PIFA P/N: 25.90A1D.001 (Aux) 2. Brand: YAGEO PIFA P/N: 25.90A1C.011 (Main) PIFA P/N: 25.90A1D.011 (Aux)			
<b>Antenna Type</b>	<b>Antenna Brand</b>	<b>Antenna Type</b>	<b>Antenna Gain</b>	
	WNC	PIFA	-2.28	
	YAGEO	PIFA	-2.64	

**Remark:** The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.



### **3. TEST METHODOLOGY**

Both conducted and radiated testing were performed according to the procedures document on chapter 13 of ANSI C63.4: 2003, TIA/EIA-603-C: 2004 and FCC CFR 47, Part 2 and Part 22 Subpart H & Part 24 Subpart E.

The tests documented in this report were performed in accordance with IC RSS-132, SPSR503, RSS-133, SPSR510 and ANSI C63.4 and TIA/EIA-603-C.

#### **3.1 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.

#### **3.2 EUT EXERCISE**

The EUT was operated in the engineering mode to fix the TX frequency that was for the purpose of the measurements.

#### **3.3 GENERAL TEST PROCEDURES**

##### **Conducted Emissions**

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4: 2003. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

##### **Radiated Emissions**

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 13.1.4.1 of ANSI C63.4: 2003.



### **3.4 DESCRIPTION OF TEST MODES**

The EUT (model: TP00019A) had been tested under operating condition.

EUT staying in continuous transmitting mode was programmed.

After verification, all tests carried out are with the worst-case test modes as shown below except radiated spurious emission below 1GHz and power line conducted emissions below 30MHz, which worst case was in normal link mode and receiving radiated spurious emission above 1GHz, which worst case was in CH Mid mode only.

**GPRS / EDGE 850:**

Channel Low (CH128), Channel Mid (CH190) and Channel High (CH251) were chosen for full testing.

**GPRS / EDGE 1900:**

Channel Low (CH512), Channel Mid (CH661) and Channel High (CH810) were chosen for full testing.

**WCDMA Band II:**

Channel Low (CH9262), Channel Mid (CH9400) and Channel High (CH9538) were chosen for full testing.

**WCDMA Band V:**

Channel Low (CH4132), Channel Mid (CH4182) and Channel High (CH4233) were chosen for full testing.

**WCDMA / HSDPA Band II:**

Channel Low (CH9262), Channel Mid (CH9400) and Channel High (CH9538) were chosen for full testing.

**WCDMA / HSDPA Band V:**

Channel Low (CH4132), Channel Mid (CH4182) and Channel High (CH4233) were chosen for full testing.

**WCDMA / HSUPA Band II:**

Channel Low (CH9262), Channel Mid (CH9400) and Channel High (CH9538) were chosen for full testing.

**WCDMA / HSUPA Band V:**

Channel Low (CH4132), Channel Mid (CH4182) and Channel High (CH4233) were chosen for full testing.

Based on the above results from the different modulations, GPRS 850 / GPRS1900 / EDGE 850 / EDGE 1900 / WCDMA Band II / WCDMA Band V / HSDPA Band II / HSDPA Band V / WCDMA / HSUPA Band II / WCDMA / HSUPA Band V were determined to be the worst-case scenario for all tests.



## **4. INSTRUMENT CALIBRATION**

### **4.1 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.



## 4.2 MEASUREMENT EQUIPMENT USED

### Equipment Used for Emissions Measurement

**Remark:** Each piece of equipment is scheduled for calibration once a year and Loop Antenna is scheduled for calibration once three years.

3M Semi Anechoic Chamber				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	US42510252	10/25/2011
EMI Test Receiver	R&S	ESCI	100064	02/04/2011
Pre-Amplifier	Mini-Circuits	ZFL-1000LN	SF350700823	01/12/2012
Pre-Amplifier	MITEQ	AFS44-00102650-42-10P-44	1415367	11/19/2011
Bilog Antenna	Sunol Sciences	JB3	A030105	09/10/2011
Horn Antenna	EMCO	3117	00055165	12/06/2011
Loop Antenna	EMCO	6502	8905/2356	06/10/2013
Turn Table	CCS	CC-T-1F	N/A	N.C.R
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R
Controller	CCS	CC-C-1F	N/A	N.C.R
Site NSA	CCS	N/A	N/A	12/30/2011
Test S/W	EZ-EMC (CCS-3A1RE)			

Powerline Conducted Emissions Test Site				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
EMI Test Receiver 9kHz-30MHz	Rohde & Schwarz	ESHS30	828144/003	11/16/2011
Two-Line V-Network 9kHz-30MHz	Schaffner	NNB41	03/10013	06/09/2011
LISN 10kHz-100MHz	EMCO	3825/2	9106-1809	04/07/2011
Test S/W	LABVIEW (V 6.1)			





### 4.3 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
Powerline Conducted Emission	+/- 1.6202
3M Semi Anechoic Chamber / 30M~200M	+/- 4.0606
3M Semi Anechoic Chamber / 200M~1000M	+/- 3.9979
3M Semi Anechoic Chamber / 1G~8G	+/- 2.5790
3M Semi Anechoic Chamber / 8G~18G	+/- 2.5928
3M Semi Anechoic Chamber / 18G~26G	+/- 2.7212
3M Semi Anechoic Chamber / 26G~40G	+/- 2.9520

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



## **5. FACILITIES AND ACCREDITATIONS**

### **5.1 FACILITIES**

All measurement facilities used to collect the measurement data are located at

☐ 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: 2003 and CISPR Publication 22.

### **5.2 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."

### **5.3 LABORATORY ACCREDITATIONS AND LISTING**

The test facilities used to perform radiated and conducted emissions tests are accredited by American Association for Laboratory Accreditation Program for the specific scope accreditation under Lab Code: 0824-01 to perform Electromagnetic Interference tests according to FCC Part 15 and CISPR 22 requirements. In addition, the test facilities are listed with Industry Canada, Certification and Engineering Bureau, IC 2324G-1 for 3M Semi Anechoic Chamber A, 2324G-2 for 3M Semi Anechoic Chamber B.



## 5.4 TABLE OF ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	FCC	3M Semi Anechoic Chamber (FCC MRA: TW1039) to perform FCC Part 15 measurements	 FCC MRA: TW1039
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	 Testing Laboratory 1309
Canada	Industry Canada	3M Semi Anechoic Chamber (IC 2324G-1 / IC 2324G-2) to perform	 IC 2324G-1 IC 2324G-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

### 6.1 SETUP CONFIGURATION OF EUT

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

### 6.2 SUPPORT EQUIPMENT

No.	Device Type	Brand	Model	Series No.	FCC ID	Data Cable	Power Cord
1.	LCD Monitor	DELL	2407WFPb	CN-0FC255-46633-675-22TJS	FCC DoC	VGA Cable: Shielded, 1.8m Display Cable: Shielded, 1.8m	Unshielded, 1.8m
2.	USB 2.0 External HDD	TeraSyS	F12-UF(COMBO)	A0100215-42O014	FCC DoC	Shielded, 1.8m	N/A
3	USB 2.0 External HDD	TeraSyS	F12-UF(COMBO)	A0100215-42O014	FCC DoC	Shielded, 1.8m	N/A
4	Multimedia Headset	Labtec	Axis-301	N/A	FCC DoC	Unshielded, 1.8m	N/A
5	USB Mouse	DELL	M-UV69a	323617-001	FCC DoC	Shielded, 1.8m	N/A
6	SD Card	N/A	N/A	N/A	N/A	N/A	N/A
7	Notebook PC (Remote)	DELL	PP10L	7B3ZP1S	FCC DoC	LAN Cable: Unshielded, 10m	AC I/P: Unshielded, 1.8m DC O/P: Unshielded, 1.8m with a core
8	Universal Radio Communication Tester (Remote)	R&S	CMU200	101245	N/A	N/A	Unshielded, 1.8m
9	Wireless Router (Remote)	PLANEX	BLW-04SAG	40DDA0421	FCC DoC	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 & INDUSTRY CANADA RSS-132 & RSS-133**

### **7.1 ERP & EIRP MEASUREMENT**

#### **LIMIT**

According to FCC §2.1046

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

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

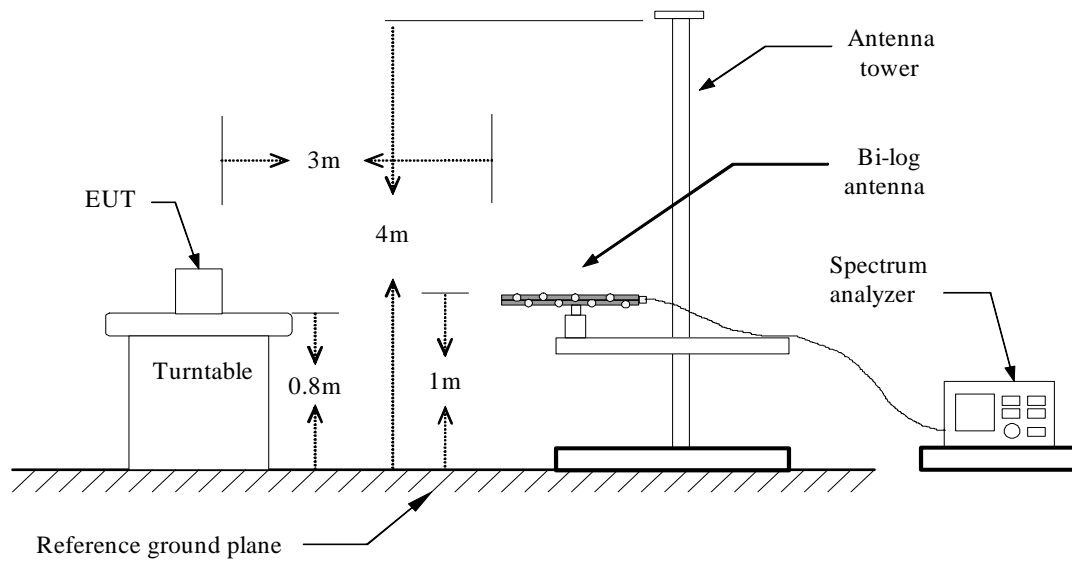
FCC 24.232(b): The equivalent Isotropic Radiated Power (EIRP) must not exceed 2 Watts.

RSS133 § 6.4: Mobile stations and hand-held portables are limited to 2 watts maximum (EIRP).

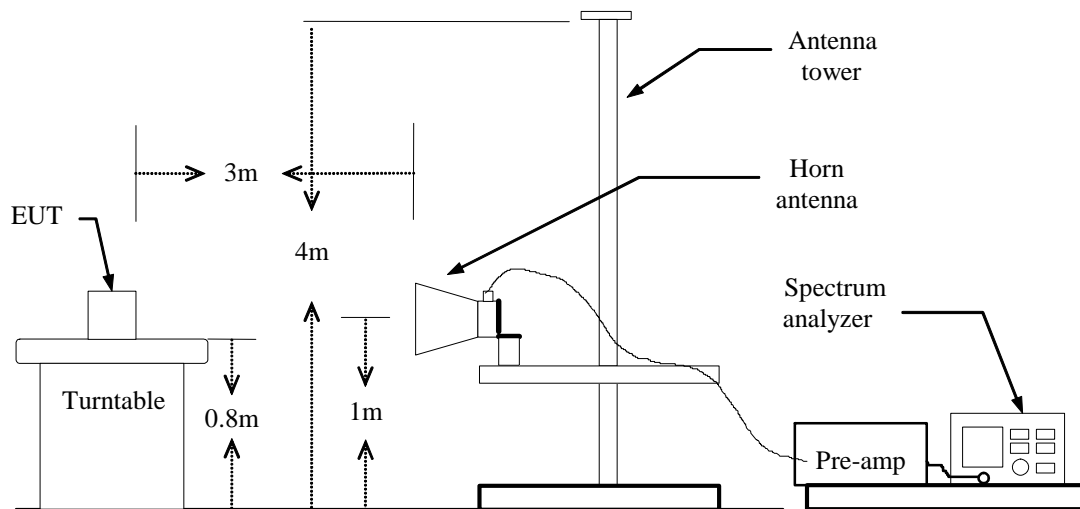


## Test Configuration

### **Below 1 GHz**

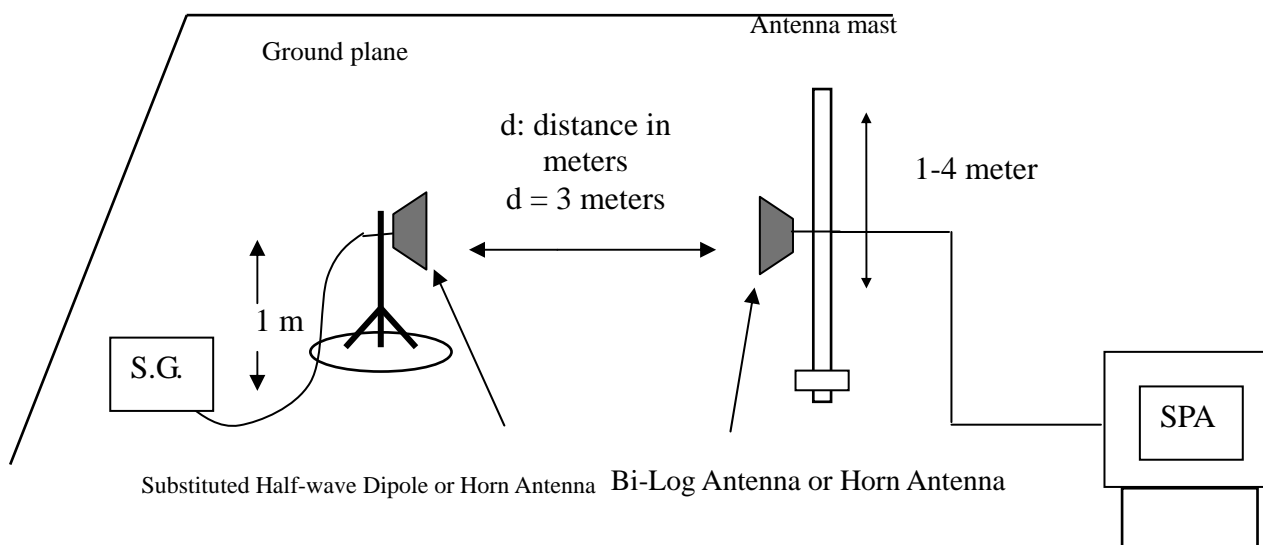


### **Above 1 GHz**





### For Substituted Method Test Set-UP



### TEST PROCEDURE

The EUT was placed on a 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:

$$\text{ERP} = \text{S.G. output (dBm)} + \text{Antenna Gain (dBd)} - \text{Cable (dB)}$$

$$\text{EIRP} = \text{S.G. output (dBm)} + \text{Antenna Gain (dBi)} - \text{Cable (dB)}$$

### 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	824.20	V	-5.99	34.62	28.63	38.50	-9.87
	824.20	H	-4.09	34.65	<b>*30.56</b>	38.50	-7.94
190	836.60	V	-6.42	34.52	28.10	38.50	-10.40
	836.60	H	-4.91	34.63	29.72	38.50	-8.78
251	848.80	V	-6.35	34.64	28.29	38.50	-10.21
	848.80	H	-5.20	34.75	29.55	38.50	-8.95

**GPRS 1900 Test Data**

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
512	1850.20	V	-13.80	41.17	27.37	33.00	-5.63
	1850.20	H	-11.96	40.79	28.83	33.00	-4.17
661	1880.00	V	-15.59	41.23	25.64	33.00	-7.36
	1880.00	H	-12.69	41.15	28.46	33.00	-4.54
810	1909.80	V	-13.14	41.30	28.17	33.00	-4.83
	1909.80	H	-11.96	41.38	<b>*29.42</b>	33.00	-3.58

**EDGE 850 Test Data**

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
128	824.20	V	-11.70	34.62	22.92	38.50	-15.58
	824.20	H	-9.21	34.65	<b>*25.44</b>	38.50	-13.06
190	836.60	V	-12.62	34.53	21.91	38.50	-16.59
	836.60	H	-9.97	34.63	24.66	38.50	-13.84
251	848.80	V	-11.56	34.64	23.08	38.50	-15.42
	848.80	H	-10.32	34.75	24.43	38.50	-14.07

**EDGE 1900 TEST DATA**

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
512	1850.20	V	-17.40	41.17	23.77	33.00	-9.23
	1850.20	H	-15.38	40.79	25.42	33.00	-7.58
661	1880.00	V	-18.52	41.23	22.71	33.00	-10.29
	1880.00	H	-16.05	41.15	25.10	33.00	-7.90
810	1909.80	V	-17.04	41.30	24.26	33.00	-8.74
	1909.80	H	-15.82	41.38	<b>*25.56</b>	33.00	-7.44



**WCDMA BAND II Test Data**

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
9262	1852.40	V	-18.81	41.18	22.36	33.00	-10.64
	1852.40	H	-17.06	40.82	23.76	33.00	-9.24
9400	1880.00	V	-18.82	41.23	22.41	33.00	-10.59
	1880.00	H	-16.53	41.15	24.61	33.00	-8.39
9538	1907.60	V	-18.95	41.29	22.34	33.00	-10.66
	1907.60	H	-16.61	41.38	<b>*24.77</b>	33.00	-8.23

**WCDMA BAND V Test Data**

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
4132	826.40	V	-12.66	34.60	21.94	38.50	-16.56
	826.40	H	-11.27	34.64	<b>*23.37</b>	38.50	-15.13
4182	836.40	V	-13.71	34.53	20.82	38.50	-17.68
	836.40	H	-12.38	34.63	22.25	38.50	-16.25
4233	846.60	V	-13.42	34.59	21.18	38.50	-17.32
	846.60	H	-12.74	34.71	21.98	38.50	-16.52

**HSDPA BAND II Test Data**

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
9262	1852.40	V	-19.56	41.18	21.61	33.00	-11.39
	1852.40	H	-17.43	40.83	23.40	33.00	-9.60
9400	1880.00	V	-19.15	41.23	22.08	33.00	-10.92
	1880.00	H	-16.89	41.15	<b>*24.27</b>	33.00	-8.73
9538	1907.60	V	-18.53	41.29	22.76	33.00	-10.24
	1907.60	H	-17.22	41.38	24.15	33.00	-8.85

**HSDPA BAND V Test Data**

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
4132	826.40	V	-13.34	34.59	21.25	38.50	-17.25
	826.40	H	-11.54	34.64	<b>*23.10</b>	38.50	-15.40
4182	836.40	V	-14.81	34.53	19.72	38.50	-18.78
	836.40	H	-12.61	34.63	22.02	38.50	-16.48
4233	846.60	V	-14.04	34.61	20.57	38.50	-17.93
	846.60	H	-12.33	34.71	22.38	38.50	-16.12

**HSUPA BAND II Test Data**

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
9262	1852.40	V	-19.44	41.17	21.73	33.00	-11.27
	1852.40	H	-17.06	40.81	23.75	33.00	-9.25
9400	1880.00	V	-18.90	41.23	22.33	33.00	-10.67
	1880.00	H	-16.71	41.15	<b>*24.45</b>	33.00	-8.55
9538	1907.60	V	-18.53	41.29	22.35	33.00	-10.24
	1907.60	H	-17.27	41.38	24.11	33.00	-8.89

**HSUPA BAND V Test Data**

Channel	Frequency (MHz)	Antenna Pol.	Reading level (dBuV)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)
4132	826.40	V	-13.44	34.59	21.15	38.50	-17.35
	826.40	H	-11.40	34.64	<b>*23.24</b>	38.50	-15.26
4182	836.40	V	-14.83	34.53	19.70	38.50	-18.80
	836.40	H	-12.21	34.63	22.42	38.50	-16.08
4233	846.60	V	-13.99	34.59	20.60	38.50	-17.90
	846.60	H	-12.08	34.71	22.63	38.50	-15.87



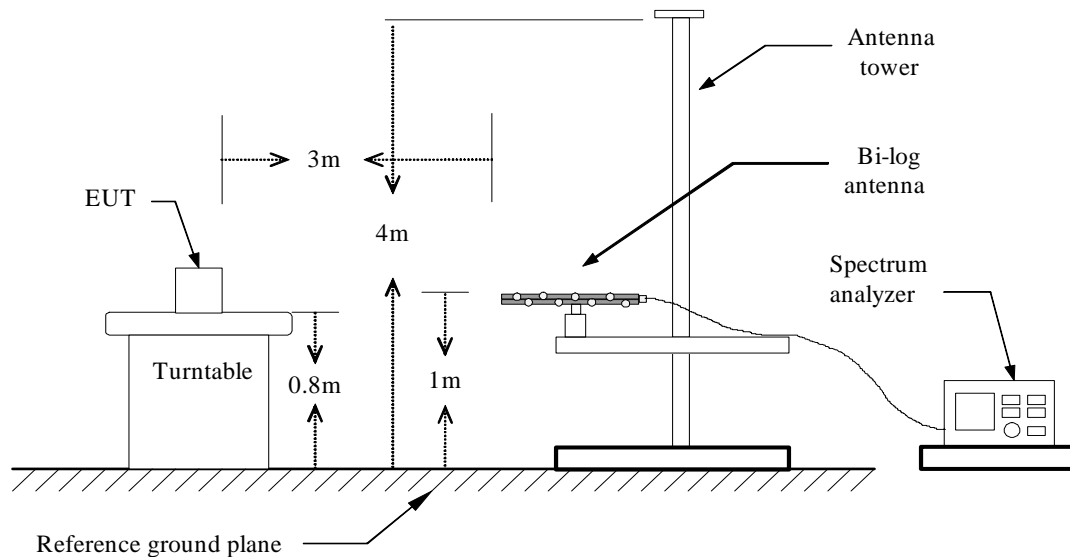
## 7.2 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

### LIMIT

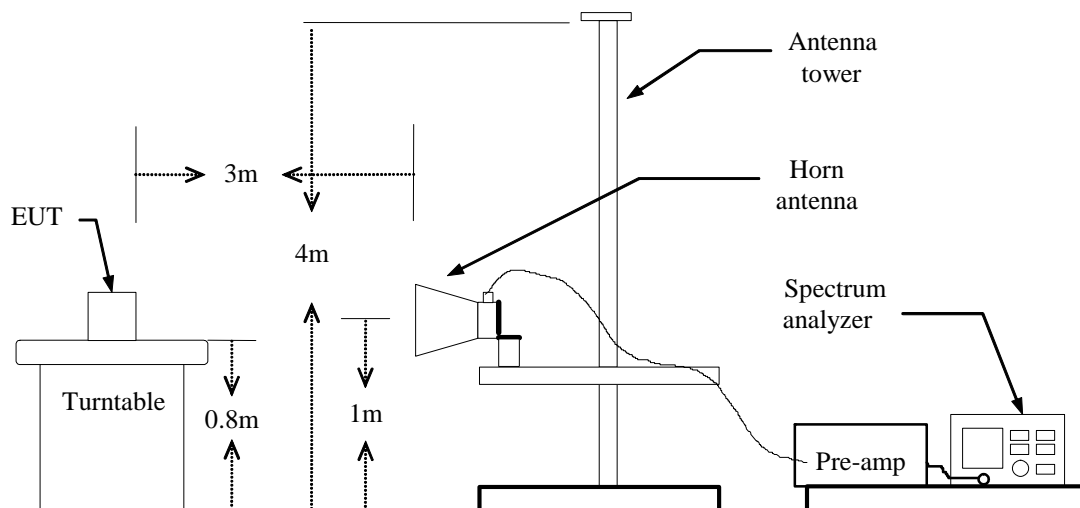
According to FCC §2.1053, RSS-132 (4.6) & RSS-133 (6.5).

### Test Configuration

#### Below 1 GHz

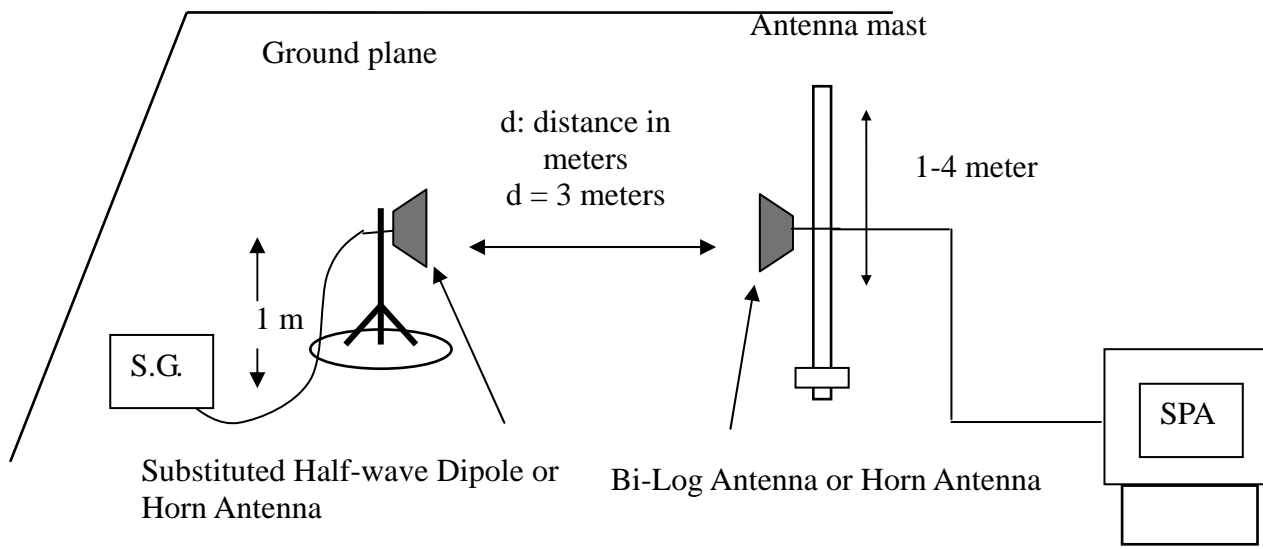


#### Above 1 GHz





## 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.

$$\text{ERP} = \text{S.G. output (dBm)} + \text{Antenna Gain (dBd)} - \text{Cable (dB)}$$

$$\text{EIRP} = \text{S.G. output (dBm)} + \text{Antenna Gain (dBi)} - \text{Cable (dB)}$$

## TEST RESULTS

*Refer to the attached tabular data sheets.*

**Radiated Spurious Emission Measurement Result / Below 1GHz****Operation Mode:** GPRS 850 / TX / CH 128**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
46.49	-51.67	-14.08	-65.75	-13.00	-52.75	V
76.56	-47.10	-18.32	-65.43	-13.00	-52.43	V
117.30	-50.74	-14.36	-65.10	-13.00	-52.10	V
232.73	-44.36	-14.74	-59.10	-13.00	-46.10	V
263.77	-48.18	-13.80	-61.98	-13.00	-48.98	V
312.27	-48.87	-13.61	-62.48	-13.00	-49.48	V
30.00	-42.26	-18.94	-61.20	-13.00	-48.20	H
101.78	-54.98	-17.68	-72.66	-13.00	-59.66	H
232.73	-50.05	-14.27	-64.32	-13.00	-51.32	H
263.77	-52.12	-14.68	-66.80	-13.00	-53.80	H
295.78	-53.10	-13.78	-66.88	-13.00	-53.88	H
327.79	-53.12	-14.06	-67.18	-13.00	-54.18	H

**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:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
30.97	-42.48	-17.74	-60.21	-13.00	-47.21	V
78.50	-46.68	-19.12	-65.80	-13.00	-52.80	V
118.27	-52.12	-14.14	-66.26	-13.00	-53.26	V
232.73	-46.24	-14.74	-60.98	-13.00	-47.98	V
263.77	-49.71	-13.80	-63.51	-13.00	-50.51	V
312.27	-50.73	-13.61	-64.34	-13.00	-51.34	V
30.00	-47.52	-18.94	-66.46	-13.00	-53.46	H
232.73	-49.93	-14.27	-64.20	-13.00	-51.20	H
295.78	-53.27	-13.78	-67.04	-13.00	-54.04	H
312.27	-52.56	-14.24	-66.80	-13.00	-53.80	H
344.28	-55.45	-13.64	-69.09	-13.00	-56.09	H
623.64	-60.92	-6.82	-67.73	-13.00	-54.73	H

**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:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
30.97	-41.71	-17.74	-59.45	-13.00	-46.45	V
77.53	-48.48	-18.72	-67.20	-13.00	-54.20	V
119.24	-52.49	-13.92	-66.41	-13.00	-53.41	V
232.73	-47.36	-14.74	-62.10	-13.00	-49.10	V
263.77	-50.00	-13.80	-63.80	-13.00	-50.80	V
312.27	-50.86	-13.61	-64.47	-13.00	-51.47	V
30.00	-50.65	-18.94	-69.59	-13.00	-56.59	H
79.47	-50.75	-21.16	-71.91	-13.00	-58.91	H
118.27	-57.44	-14.40	-71.84	-13.00	-58.84	H
232.73	-54.80	-14.27	-69.07	-13.00	-56.07	H
312.27	-53.95	-14.24	-68.19	-13.00	-55.19	H
344.28	-56.59	-13.64	-70.24	-13.00	-57.24	H

**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:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
36.79	-56.43	-14.41	-70.84	-13.00	-57.84	V
76.56	-52.81	-18.32	-71.13	-13.00	-58.13	V
119.24	-56.89	-13.92	-70.81	-13.00	-57.81	V
232.73	-52.04	-14.74	-66.78	-13.00	-53.78	V
263.77	-54.95	-13.80	-68.75	-13.00	-55.75	V
469.41	-55.46	-9.40	-64.87	-13.00	-51.87	V
30.00	-44.33	-18.94	-63.27	-13.00	-50.27	H
232.73	-56.77	-14.27	-71.03	-13.00	-58.03	H
263.77	-58.90	-14.68	-73.58	-13.00	-60.58	H
312.27	-59.25	-14.24	-73.48	-13.00	-60.48	H
327.79	-59.76	-14.06	-73.81	-13.00	-60.81	H
469.41	-54.86	-9.30	-64.16	-13.00	-51.16	H

**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:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
30.00	-44.14	-18.30	-62.44	-13.00	-49.44	V
232.73	-53.22	-14.74	-67.96	-13.00	-54.96	V
263.77	-53.77	-13.80	-67.57	-13.00	-54.57	V
312.27	-55.77	-13.61	-69.37	-13.00	-56.37	V
518.88	-54.86	-8.45	-63.31	-13.00	-50.31	V
859.35	-58.70	-4.45	-63.15	-13.00	-50.15	V
30.00	-47.23	-18.94	-66.18	-13.00	-53.18	H
232.73	-56.32	-14.27	-70.59	-13.00	-57.59	H
263.77	-58.73	-14.68	-73.42	-13.00	-60.42	H
312.27	-58.26	-14.24	-72.49	-13.00	-59.49	H
518.88	-53.57	-8.56	-62.14	-13.00	-49.14	H
859.35	-58.30	-4.43	-62.73	-13.00	-49.73	H

**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:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
30.00	-42.92	-18.30	-61.22	-13.00	-48.22	V
232.73	-52.63	-14.74	-67.37	-13.00	-54.37	V
263.77	-54.29	-13.80	-68.09	-13.00	-55.09	V
312.27	-55.15	-13.61	-68.76	-13.00	-55.76	V
568.35	-61.87	-7.94	-69.82	-13.00	-56.82	V
903.97	-54.10	-3.83	-57.93	-13.00	-44.93	V
30.00	-43.85	-18.94	-62.79	-13.00	-49.79	H
232.73	-55.12	-14.27	-69.38	-13.00	-56.38	H
312.27	-57.51	-14.24	-71.75	-13.00	-58.75	H
384.05	-61.62	-11.97	-73.60	-13.00	-60.60	H
568.35	-61.84	-7.82	-69.66	-13.00	-56.66	H
903.97	-54.08	-3.75	-57.83	-13.00	-44.83	H

**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:** EDGE 850 / TX / CH 128**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
30.00	-41.58	-18.30	-59.88	-13.00	-46.88	V
78.50	-48.86	-19.12	-67.98	-13.00	-54.98	V
97.90	-51.95	-18.65	-70.60	-13.00	-57.60	V
118.27	-53.81	-14.14	-67.95	-13.00	-54.95	V
232.73	-48.93	-14.74	-63.67	-13.00	-50.67	V
263.77	-51.54	-13.80	-65.34	-13.00	-52.34	V
30.00	-48.53	-18.94	-67.47	-13.00	-54.47	H
232.73	-63.49	-14.27	-77.76	-13.00	-64.76	H
295.78	-64.21	-13.78	-77.99	-13.00	-64.99	H
312.27	-62.31	-14.24	-76.54	-13.00	-63.54	H
344.28	-63.96	-13.64	-77.60	-13.00	-64.60	H
384.05	-64.78	-11.97	-76.75	-13.00	-63.75	H

**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:** EDGE 850 / TX / CH 190**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
30.00	-41.48	-18.30	-59.78	-13.00	-46.78	V
77.53	-49.65	-18.72	-68.37	-13.00	-55.37	V
117.30	-52.80	-14.36	-67.15	-13.00	-54.15	V
232.73	-46.37	-14.74	-61.11	-13.00	-48.11	V
263.77	-50.43	-13.80	-64.23	-13.00	-51.23	V
312.27	-51.74	-13.61	-65.35	-13.00	-52.35	V
30.00	-43.59	-18.94	-62.53	-13.00	-49.53	H
103.72	-56.93	-17.34	-74.27	-13.00	-61.27	H
119.24	-59.63	-14.19	-73.81	-13.00	-60.81	H
232.73	-53.40	-14.27	-67.67	-13.00	-54.67	H
263.77	-54.16	-14.68	-68.84	-13.00	-55.84	H
312.27	-55.30	-14.24	-69.54	-13.00	-56.54	H

**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:** EDGE 850 / TX / CH 251**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
30.00	-41.75	-18.30	-60.05	-13.00	-47.05	V
78.50	-49.46	-19.12	-68.58	-13.00	-55.58	V
117.30	-52.70	-14.36	-67.05	-13.00	-54.05	V
232.73	-48.82	-14.74	-63.56	-13.00	-50.56	V
263.77	-51.49	-13.80	-65.29	-13.00	-52.29	V
312.27	-52.65	-13.61	-66.26	-13.00	-53.26	V
45.52	-62.66	-12.08	-74.74	-13.00	-61.74	H
232.73	-65.35	-14.27	-79.62	-13.00	-66.62	H
295.78	-63.52	-13.78	-77.30	-13.00	-64.30	H
312.27	-62.83	-14.24	-77.06	-13.00	-64.06	H
344.28	-64.64	-13.64	-78.28	-13.00	-65.28	H
384.05	-64.27	-11.97	-76.24	-13.00	-63.24	H

**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:** EDGE 1900 / TX / CH 512**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** Jerry Lin**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
30.00	-44.00	-18.30	-62.30	-13.00	-49.30	V
119.24	-56.93	-13.92	-70.85	-13.00	-57.85	V
232.73	-53.41	-14.74	-68.15	-13.00	-55.15	V
263.77	-54.98	-13.80	-68.78	-13.00	-55.78	V
312.27	-56.00	-13.61	-69.61	-13.00	-56.61	V
469.41	-55.98	-9.40	-65.38	-13.00	-52.38	V
31.94	-44.87	-17.36	-62.23	-13.00	-49.23	H
232.73	-54.70	-14.27	-68.96	-13.00	-55.96	H
263.77	-57.28	-14.68	-71.96	-13.00	-58.96	H
312.27	-56.10	-14.24	-70.33	-13.00	-57.33	H
469.41	-55.62	-9.30	-64.92	-13.00	-51.92	H
814.73	-65.07	-4.92	-70.00	-13.00	-57.00	H

**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:** EDGE 1900 / TX / CH 661**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
30.00	-44.45	-18.30	-62.75	-13.00	-49.75	V
118.27	-57.43	-14.14	-71.57	-13.00	-58.57	V
232.73	-51.25	-14.74	-65.99	-13.00	-52.99	V
263.77	-54.68	-13.80	-68.48	-13.00	-55.48	V
518.88	-56.46	-8.45	-64.91	-13.00	-51.91	V
859.35	-58.92	-4.45	-63.37	-13.00	-50.37	V
30.00	-42.48	-18.94	-61.42	-13.00	-48.42	H
232.73	-55.02	-14.27	-69.28	-13.00	-56.28	H
263.77	-58.24	-14.68	-72.92	-13.00	-59.92	H
312.27	-57.98	-14.24	-72.21	-13.00	-59.21	H
518.88	-54.89	-8.56	-63.46	-13.00	-50.46	H
859.35	-60.09	-4.43	-64.52	-13.00	-51.52	H

**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:** EDGE 1900 / TX / CH 810**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
30.00	-44.08	-18.30	-62.38	-13.00	-49.38	V
117.30	-57.10	-14.36	-71.45	-13.00	-58.45	V
232.73	-50.24	-14.74	-64.98	-13.00	-51.98	V
263.77	-54.23	-13.80	-68.03	-13.00	-55.03	V
569.32	-60.95	-7.94	-68.90	-13.00	-55.90	V
903.97	-54.25	-3.83	-58.08	-13.00	-45.08	V
30.00	-46.11	-18.94	-65.05	-13.00	-52.05	H
232.73	-56.51	-14.27	-70.77	-13.00	-57.77	H
263.77	-57.67	-14.68	-72.35	-13.00	-59.35	H
295.78	-58.83	-13.78	-72.60	-13.00	-59.60	H
569.32	-61.57	-7.82	-69.39	-13.00	-56.39	H
903.97	-53.93	-3.75	-57.68	-13.00	-44.68	H

**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:** WCDMA Band II / TX / CH 9262**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
76.56	-49.86	-18.32	-68.19	-13.00	-55.19	V
98.87	-51.83	-18.37	-70.20	-13.00	-57.20	V
121.18	-56.79	-13.63	-70.42	-13.00	-57.42	V
232.73	-50.47	-14.74	-65.20	-13.00	-52.20	V
263.77	-51.37	-13.80	-65.16	-13.00	-52.16	V
312.27	-52.44	-13.61	-66.05	-13.00	-53.05	V
75.59	-48.95	-19.81	-68.76	-13.00	-55.76	H
97.90	-52.38	-18.67	-71.05	-13.00	-58.05	H
232.73	-57.04	-14.27	-71.31	-13.00	-58.31	H
263.77	-53.83	-14.68	-68.51	-13.00	-55.51	H
312.27	-55.41	-14.24	-69.65	-13.00	-56.65	H
563.50	-60.45	-7.80	-68.25	-13.00	-55.25	H

**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:** WCDMA Band II / TX / CH 9400**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
42.61	-55.69	-12.79	-68.48	-13.00	-55.48	V
232.73	-50.36	-14.74	-65.09	-13.00	-52.09	V
263.77	-51.97	-13.80	-65.77	-13.00	-52.77	V
312.27	-52.14	-13.61	-65.75	-13.00	-52.75	V
344.28	-54.66	-13.49	-68.15	-13.00	-55.15	V
858.38	-66.52	-4.46	-70.98	-13.00	-57.98	V
77.53	-49.66	-20.49	-70.15	-13.00	-57.15	H
118.27	-56.41	-14.40	-70.82	-13.00	-57.82	H
263.77	-54.27	-14.68	-68.95	-13.00	-55.95	H
312.27	-54.68	-14.24	-68.92	-13.00	-55.92	H
399.57	-59.79	-11.72	-71.51	-13.00	-58.51	H
857.41	-65.96	-4.46	-70.42	-13.00	-57.42	H

**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:** WCDMA Band II / TX / CH 9538**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
76.56	-50.10	-18.32	-68.42	-13.00	-55.42	V
118.27	-55.77	-14.14	-69.91	-13.00	-56.91	V
232.73	-51.03	-14.74	-65.77	-13.00	-52.77	V
263.77	-52.19	-13.80	-65.98	-13.00	-52.98	V
312.27	-53.09	-13.61	-66.69	-13.00	-53.69	V
902.03	-63.79	-3.85	-67.64	-13.00	-54.64	V
76.56	-49.48	-20.15	-69.62	-13.00	-56.62	H
120.21	-54.61	-14.02	-68.63	-13.00	-55.63	H
232.73	-56.70	-14.27	-70.97	-13.00	-57.97	H
263.77	-55.81	-14.68	-70.49	-13.00	-57.49	H
295.78	-56.73	-13.78	-70.51	-13.00	-57.51	H
899.12	-62.75	-3.77	-66.52	-13.00	-53.52	H

**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:** WCDMA Band V / TX / CH 4132**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
30.00	-47.01	-18.30	-65.31	-13.00	-52.31	V
120.21	-56.73	-13.73	-70.46	-13.00	-57.46	V
232.73	-51.22	-14.74	-65.96	-13.00	-52.96	V
263.77	-51.51	-13.80	-65.30	-13.00	-52.30	V
312.27	-52.38	-13.61	-65.99	-13.00	-52.99	V
344.28	-53.82	-13.49	-67.31	-13.00	-54.31	V
76.56	-49.92	-20.15	-70.06	-13.00	-57.06	H
232.73	-55.49	-14.27	-69.75	-13.00	-56.75	H
263.77	-55.30	-14.68	-69.98	-13.00	-56.98	H
295.78	-54.99	-13.78	-68.77	-13.00	-55.77	H
312.27	-54.51	-14.24	-68.74	-13.00	-55.74	H
327.79	-55.69	-14.06	-69.74	-13.00	-56.74	H

**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:** WCDMA Band V / TX / CH 4182**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
30.00	-43.12	-18.30	-61.42	-13.00	-48.42	V
77.53	-50.21	-18.72	-68.94	-13.00	-55.94	V
123.12	-56.00	-13.43	-69.43	-13.00	-56.43	V
232.73	-50.26	-14.74	-64.99	-13.00	-51.99	V
263.77	-51.72	-13.80	-65.52	-13.00	-52.52	V
327.79	-52.88	-13.60	-66.48	-13.00	-53.48	V
77.53	-48.05	-20.49	-68.54	-13.00	-55.54	H
232.73	-54.88	-14.27	-69.15	-13.00	-56.15	H
263.77	-53.55	-14.68	-68.23	-13.00	-55.23	H
295.78	-56.05	-13.78	-69.83	-13.00	-56.83	H
312.27	-54.55	-14.24	-68.78	-13.00	-55.78	H
327.79	-55.62	-14.06	-69.68	-13.00	-56.68	H

**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:** WCDMA Band V / TX / CH 4233**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
30.00	-47.74	-18.30	-66.04	-13.00	-53.04	V
232.73	-50.81	-14.74	-65.55	-13.00	-52.55	V
263.77	-51.47	-13.80	-65.27	-13.00	-52.27	V
295.78	-52.88	-12.98	-65.86	-13.00	-52.86	V
327.79	-53.45	-13.60	-67.05	-13.00	-54.05	V
344.28	-54.01	-13.49	-67.50	-13.00	-54.50	V
76.56	-49.80	-20.15	-69.95	-13.00	-56.95	H
119.24	-56.35	-14.19	-70.54	-13.00	-57.54	H
232.73	-55.26	-14.27	-69.52	-13.00	-56.52	H
263.77	-53.96	-14.68	-68.64	-13.00	-55.64	H
295.78	-55.73	-13.78	-69.50	-13.00	-56.50	H
327.79	-56.05	-14.06	-70.11	-13.00	-57.11	H

**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:** WCDMA / HSDPA Band II /  
TX / CH 9262**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
45.52	-56.44	-13.35	-69.79	-13.00	-56.79	V
118.27	-56.00	-14.14	-70.14	-13.00	-57.14	V
232.73	-48.10	-14.74	-62.84	-13.00	-49.84	V
263.77	-52.02	-13.80	-65.82	-13.00	-52.82	V
295.78	-53.98	-12.98	-66.95	-13.00	-53.95	V
312.27	-54.05	-13.61	-67.65	-13.00	-54.65	V
42.61	-63.68	-11.70	-75.38	-13.00	-62.38	H
118.27	-56.76	-14.40	-71.16	-13.00	-58.16	H
232.73	-54.03	-14.27	-68.30	-13.00	-55.30	H
312.27	-55.84	-14.24	-70.08	-13.00	-57.08	H
344.28	-58.43	-13.64	-72.08	-13.00	-59.08	H
474.26	-63.23	-9.14	-72.38	-13.00	-59.38	H

**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:** WCDMA / HSDPA Band II /  
TX / CH 9400**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
44.55	-56.40	-12.92	-69.32	-13.00	-56.32	V
117.30	-53.78	-14.36	-68.14	-13.00	-55.14	V
232.73	-49.99	-14.74	-64.72	-13.00	-51.72	V
263.77	-52.38	-13.80	-66.18	-13.00	-53.18	V
295.78	-55.23	-12.98	-68.20	-13.00	-55.20	V
312.27	-53.37	-13.61	-66.98	-13.00	-53.98	V
117.30	-57.13	-14.62	-71.75	-13.00	-58.75	H
198.78	-59.42	-13.47	-72.89	-13.00	-59.89	H
232.73	-53.97	-14.27	-68.24	-13.00	-55.24	H
263.77	-54.23	-14.68	-68.91	-13.00	-55.91	H
312.27	-57.91	-14.24	-72.15	-13.00	-59.15	H
520.82	-65.14	-8.54	-73.68	-13.00	-60.68	H

**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:** WCDMA / HSDPA Band II /  
TX / CH 9538**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
117.30	-54.86	-14.36	-69.22	-13.00	-56.22	V
232.73	-50.90	-14.74	-65.63	-13.00	-52.63	V
263.77	-52.57	-13.80	-66.37	-13.00	-53.37	V
295.78	-53.54	-12.98	-66.52	-13.00	-53.52	V
312.27	-51.69	-13.61	-65.30	-13.00	-52.30	V
902.03	-63.26	-3.85	-67.11	-13.00	-54.11	V
129.91	-54.45	-14.09	-68.54	-13.00	-55.54	H
232.73	-56.27	-14.27	-70.54	-13.00	-57.54	H
263.77	-55.95	-14.68	-70.63	-13.00	-57.63	H
312.27	-56.42	-14.24	-70.66	-13.00	-57.66	H
327.79	-56.96	-14.06	-71.02	-13.00	-58.02	H
899.12	-64.01	-3.77	-67.79	-13.00	-54.79	H

**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:** WCDMA / HSDPA Band V / TX / CH 4132**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
76.56	-51.74	-18.32	-70.06	-13.00	-57.06	V
117.30	-52.07	-14.36	-66.42	-13.00	-53.42	V
232.73	-48.62	-14.74	-63.36	-13.00	-50.36	V
263.77	-51.25	-13.80	-65.05	-13.00	-52.05	V
280.26	-55.18	-12.13	-67.31	-13.00	-54.31	V
312.27	-52.51	-13.61	-66.12	-13.00	-53.12	V
74.62	-51.69	-19.47	-71.15	-13.00	-58.15	H
120.21	-57.42	-14.02	-71.44	-13.00	-58.44	H
232.73	-51.92	-14.27	-66.19	-13.00	-53.19	H
263.77	-54.43	-14.68	-69.11	-13.00	-56.11	H
312.27	-54.54	-14.24	-68.78	-13.00	-55.78	H
327.79	-56.21	-14.06	-70.27	-13.00	-57.27	H

**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:** WCDMA / HSDPA Band V / TX / CH 4182**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
76.56	-50.67	-18.32	-68.99	-13.00	-55.99	V
116.33	-52.99	-14.58	-67.56	-13.00	-54.56	V
232.73	-49.89	-14.74	-64.63	-13.00	-51.63	V
263.77	-50.85	-13.80	-64.65	-13.00	-51.65	V
312.27	-52.29	-13.61	-65.90	-13.00	-52.90	V
344.28	-53.75	-13.49	-67.24	-13.00	-54.24	V
74.62	-50.90	-19.47	-70.36	-13.00	-57.36	H
130.88	-53.52	-14.14	-67.67	-13.00	-54.67	H
232.73	-53.59	-14.27	-67.86	-13.00	-54.86	H
263.77	-52.98	-14.68	-67.66	-13.00	-54.66	H
312.27	-54.71	-14.24	-68.94	-13.00	-55.94	H
327.79	-55.60	-14.06	-69.66	-13.00	-56.66	H

**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:** WCDMA / HSDPA Band V / TX / CH 4233**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
75.59	-48.37	-17.92	-66.29	-13.00	-53.29	V
119.24	-51.86	-13.92	-65.78	-13.00	-52.78	V
232.73	-47.09	-14.74	-61.83	-13.00	-48.83	V
263.77	-50.37	-13.80	-64.17	-13.00	-51.17	V
312.27	-51.12	-13.61	-64.73	-13.00	-51.73	V
327.79	-51.72	-13.60	-65.32	-13.00	-52.32	V
77.53	-49.26	-20.49	-69.75	-13.00	-56.75	H
102.75	-52.85	-17.51	-70.35	-13.00	-57.35	H
232.73	-51.95	-14.27	-66.22	-13.00	-53.22	H
263.77	-52.96	-14.68	-67.64	-13.00	-54.64	H
312.27	-53.30	-14.24	-67.53	-13.00	-54.53	H
327.79	-54.51	-14.06	-68.57	-13.00	-55.57	H

**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:** WCDMA / HSUPA Band II /  
TX / CH 9262**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
44.55	-58.00	-12.92	-70.92	-13.00	-57.92	V
117.30	-53.88	-14.36	-68.24	-13.00	-55.24	V
232.73	-47.92	-14.74	-62.66	-13.00	-49.66	V
263.77	-50.42	-13.80	-64.22	-13.00	-51.22	V
312.27	-54.11	-13.61	-67.72	-13.00	-54.72	V
327.79	-54.05	-13.60	-67.65	-13.00	-54.65	V
43.58	-63.49	-11.71	-75.20	-13.00	-62.20	H
119.24	-57.94	-14.19	-72.12	-13.00	-59.12	H
232.73	-54.58	-14.27	-68.84	-13.00	-55.84	H
263.77	-55.12	-14.68	-69.80	-13.00	-56.80	H
327.79	-56.94	-14.06	-71.00	-13.00	-58.00	H
471.35	-63.97	-9.24	-73.21	-13.00	-60.21	H

**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:** WCDMA / HSUPA Band II /  
TX / CH 9400**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
117.30	-53.37	-14.36	-67.73	-13.00	-54.73	V
232.73	-48.72	-14.74	-63.46	-13.00	-50.46	V
263.77	-52.25	-13.80	-66.05	-13.00	-53.05	V
312.27	-53.94	-13.61	-67.55	-13.00	-54.55	V
344.28	-56.30	-13.49	-69.79	-13.00	-56.79	V
520.82	-65.43	-8.42	-73.85	-13.00	-60.85	V
116.33	-57.31	-14.83	-72.15	-13.00	-59.15	H
232.73	-55.25	-14.27	-69.52	-13.00	-56.52	H
263.77	-55.31	-14.68	-69.99	-13.00	-56.99	H
312.27	-56.96	-14.24	-71.20	-13.00	-58.20	H
520.82	-63.69	-8.54	-72.23	-13.00	-59.23	H
860.32	-66.63	-4.41	-71.04	-13.00	-58.04	H

**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:** WCDMA / HSUPA Band II /  
TX / CH 9538**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
44.55	-56.94	-12.92	-69.86	-13.00	-56.86	V
118.27	-53.38	-14.14	-67.52	-13.00	-54.52	V
232.73	-50.73	-14.74	-65.46	-13.00	-52.46	V
263.77	-51.36	-13.80	-65.16	-13.00	-52.16	V
312.27	-52.81	-13.61	-66.42	-13.00	-53.42	V
902.03	-63.68	-3.85	-67.53	-13.00	-54.53	V
232.73	-57.84	-14.27	-72.11	-13.00	-59.11	H
263.77	-54.31	-14.68	-68.99	-13.00	-55.99	H
312.27	-56.08	-14.24	-70.31	-13.00	-57.31	H
327.79	-56.43	-14.06	-70.49	-13.00	-57.49	H
599.39	-62.96	-7.74	-70.70	-13.00	-57.70	H
902.03	-64.19	-3.76	-67.95	-13.00	-54.95	H

**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:** WCDMA / HSUPA Band V / TX / CH 4132**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
45.52	-56.08	-13.35	-69.42	-13.00	-56.42	V
77.53	-50.53	-18.72	-69.25	-13.00	-56.25	V
120.21	-54.04	-13.73	-67.76	-13.00	-54.76	V
232.73	-48.89	-14.74	-63.63	-13.00	-50.63	V
263.77	-52.23	-13.80	-66.03	-13.00	-53.03	V
312.27	-52.60	-13.61	-66.21	-13.00	-53.21	V
76.56	-50.83	-20.15	-70.97	-13.00	-57.97	H
120.21	-56.82	-14.02	-70.84	-13.00	-57.84	H
232.73	-52.61	-14.27	-66.88	-13.00	-53.88	H
263.77	-54.07	-14.68	-68.75	-13.00	-55.75	H
312.27	-54.10	-14.24	-68.33	-13.00	-55.33	H
344.28	-55.34	-13.64	-68.98	-13.00	-55.98	H

**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:** WCDMA / HSUPA Band V / TX / CH 4182**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
76.56	-50.19	-18.32	-68.51	-13.00	-55.51	V
118.27	-52.36	-14.14	-66.50	-13.00	-53.50	V
232.73	-48.54	-14.74	-63.28	-13.00	-50.28	V
263.77	-52.09	-13.80	-65.89	-13.00	-52.89	V
312.27	-52.37	-13.61	-65.98	-13.00	-52.98	V
327.79	-53.03	-13.60	-66.64	-13.00	-53.64	V
75.59	-51.12	-19.81	-70.93	-13.00	-57.93	H
232.73	-52.73	-14.27	-67.00	-13.00	-54.00	H
263.77	-53.60	-14.68	-68.28	-13.00	-55.28	H
312.27	-54.02	-14.24	-68.26	-13.00	-55.26	H
327.79	-54.58	-14.06	-68.63	-13.00	-55.63	H
563.50	-59.85	-7.80	-67.64	-13.00	-54.64	H

**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:** WCDMA / HSUPA Band V / TX / CH 4233**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
117.30	-49.57	-14.36	-63.93	-13.00	-50.93	V
232.73	-45.83	-14.74	-60.57	-13.00	-47.57	V
263.77	-49.63	-13.80	-63.43	-13.00	-50.43	V
312.27	-50.24	-13.61	-63.85	-13.00	-50.85	V
327.79	-51.08	-13.60	-64.68	-13.00	-51.68	V
562.53	-61.02	-7.94	-68.96	-13.00	-55.96	V
77.53	-49.62	-20.49	-70.11	-13.00	-57.11	H
100.81	-52.87	-17.85	-70.72	-13.00	-57.72	H
120.21	-56.37	-14.02	-70.39	-13.00	-57.39	H
232.73	-50.34	-14.27	-64.61	-13.00	-51.61	H
312.27	-52.97	-14.24	-67.20	-13.00	-54.20	H
327.79	-54.65	-14.06	-68.71	-13.00	-55.71	H

**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.

**Above 1GHz****Operation Mode:** GPRS 850 / TX / CH 128**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
2470.00	-46.39	4.41	-41.98	-13.00	-28.98	V
2659.00	-52.60	5.21	-47.40	-13.00	-34.40	V
3296.00	-51.29	8.35	-42.95	-13.00	-29.95	V
4948.00	-57.16	10.31	-46.85	-13.00	-33.85	V
5767.00	-59.42	10.51	-48.91	-13.00	-35.91	V
6593.00	-59.30	13.48	-45.83	-13.00	-32.83	V
1651.00	-53.20	1.42	-51.78	-13.00	-38.78	H
1994.00	-50.91	1.16	-49.75	-13.00	-36.75	H
2470.00	-50.54	4.43	-46.11	-13.00	-33.11	H
3296.00	-52.08	8.22	-43.86	-13.00	-30.86	H
4122.00	-59.37	8.40	-50.97	-13.00	-37.97	H
4948.00	-59.77	10.02	-49.75	-13.00	-36.75	H

**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:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1672.00	-46.85	1.63	-45.22	-13.00	-32.22	V
2512.00	-42.40	4.62	-37.78	-13.00	-24.78	V
3345.00	-55.08	8.64	-46.44	-13.00	-33.44	V
5018.00	-56.83	10.42	-46.41	-13.00	-33.41	V
5858.00	-58.78	10.60	-48.19	-13.00	-35.19	V
6691.00	-60.26	13.85	-46.41	-13.00	-33.41	V
1672.00	-51.27	1.40	-49.87	-13.00	-36.87	H
2512.00	-43.51	4.69	-38.82	-13.00	-25.82	H
3345.00	-57.09	8.49	-48.59	-13.00	-35.59	H
4185.00	-58.15	8.49	-49.66	-13.00	-36.66	H
5018.00	-59.12	10.14	-48.98	-13.00	-35.98	H
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:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1700.00	-46.56	1.64	-44.91	-13.00	-31.91	V
2547.00	-45.36	4.76	-40.60	-13.00	-27.60	V
5095.00	-56.82	10.40	-46.42	-13.00	-33.42	V
5942.00	-61.26	10.67	-50.59	-13.00	-37.59	V
N/A						
1700.00	-51.81	1.38	-50.43	-13.00	-37.43	H
2547.00	-43.00	4.82	-38.17	-13.00	-25.17	H
4241.00	-58.66	8.58	-50.09	-13.00	-37.09	H
5095.00	-61.87	10.13	-51.74	-13.00	-38.74	H
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:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3702.00	-54.79	9.11	-45.69	-13.00	-32.69	V
5550.00	-55.40	10.32	-45.08	-13.00	-32.08	V
7405.00	-59.74	16.62	-43.12	-13.00	-30.12	V
N/A						
3702.00	-50.87	8.89	-41.99	-13.00	-28.99	H
5550.00	-58.48	10.12	-48.36	-13.00	-35.36	H
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:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3002.00	-57.03	6.58	-50.44	-13.00	-37.44	V
3758.00	-56.78	8.98	-47.80	-13.00	-34.80	V
5641.00	-61.59	10.40	-51.19	-13.00	-38.19	V
7517.00	-59.12	17.04	-42.09	-13.00	-29.09	V
N/A						
3758.00	-52.80	8.76	-44.04	-13.00	-31.04	H
5641.00	-62.05	10.23	-51.83	-13.00	-38.83	H
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:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3002.00	-59.82	6.58	-53.23	-13.00	-40.23	V
3821.00	-56.16	8.83	-47.33	-13.00	-34.33	V
5732.00	-56.13	10.48	-45.64	-13.00	-32.64	V
7643.00	-56.74	17.38	-39.35	-13.00	-26.35	V
N/A						
3821.00	-55.36	8.62	-46.74	-13.00	-33.74	H
5732.00	-59.78	10.33	-49.45	-13.00	-36.45	H
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:** EDGE 850 / TX / CH 128**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1651.00	-54.05	1.61	-52.44	-13.00	-39.44	V
2015.00	-48.25	1.91	-46.33	-13.00	-33.33	V
2470.00	-53.90	4.41	-49.49	-13.00	-36.49	V
2659.00	-54.42	5.21	-49.22	-13.00	-36.22	V
3296.00	-56.37	8.35	-48.02	-13.00	-35.02	V
4948.00	-60.98	10.31	-50.68	-13.00	-37.68	V
1651.00	-52.51	1.42	-51.10	-13.00	-38.10	H
1994.00	-52.74	1.16	-51.58	-13.00	-38.58	H
2470.00	-47.87	4.43	-43.43	-13.00	-30.43	H
2659.00	-58.74	5.26	-53.48	-13.00	-40.48	H
3296.00	-55.95	8.22	-47.73	-13.00	-34.73	H
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:** EDGE 850 / TX / CH 190**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1441.00	-53.59	1.43	-52.16	-13.00	-39.16	V
1672.00	-52.97	1.63	-51.34	-13.00	-38.34	V
1847.00	-53.59	1.74	-51.86	-13.00	-38.86	V
2029.00	-53.12	1.99	-51.13	-13.00	-38.13	V
2512.00	-55.97	4.62	-51.35	-13.00	-38.35	V
3002.00	-55.73	6.58	-49.15	-13.00	-36.15	V
1994.00	-52.97	1.16	-51.81	-13.00	-38.81	H
2512.00	-55.43	4.69	-50.74	-13.00	-37.74	H
2659.00	-56.84	5.26	-51.58	-13.00	-38.58	H
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:** EDGE 850 / TX / CH 251

**Test Date:** January 7, 2011

**Temperature:** 25°C

**Tested by:** David Lee

**Humidity:** 45 % RH

**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1700.00	-51.85	1.64	-50.21	-13.00	-37.21	V
1924.00	-51.16	1.78	-49.38	-13.00	-36.38	V
1994.00	-44.79	1.83	-42.97	-13.00	-29.97	V
2547.00	-56.92	4.76	-52.16	-13.00	-39.16	V
2659.00	-55.57	5.21	-50.37	-13.00	-37.37	V
7237.00	-61.48	15.96	-45.52	-13.00	-32.52	V
1700.00	-56.53	1.38	-55.15	-13.00	-42.15	H
1994.00	-53.56	1.16	-52.40	-13.00	-39.40	H
2547.00	-54.06	4.82	-49.24	-13.00	-36.24	H
2659.00	-55.09	5.26	-49.83	-13.00	-36.83	H
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:** EDGE 1900 / TX / CH 512**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3702.00	-59.03	9.11	-49.93	-13.00	-36.93	V
5550.00	-56.73	10.32	-46.40	-13.00	-33.40	V
N/A						
3702.00	-53.60	8.89	-44.72	-13.00	-31.72	H
5550.00	-60.09	10.12	-49.97	-13.00	-36.97	H
7601.00	-62.66	17.13	-45.53	-13.00	-32.53	H
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:** EDGE 1900 / TX / CH 661**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3002.00	-55.53	6.58	-48.95	-13.00	-35.95	V
3758.00	-55.45	8.98	-46.48	-13.00	-33.48	V
N/A						
3758.00	-55.09	8.76	-46.33	-13.00	-33.33	H
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:** EDGE 1900 / TX / CH 810

**Test Date:** January 7, 2011

**Temperature:** 25°C

**Tested by:** David Lee

**Humidity:** 45 % RH

**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3002.00	-54.10	6.58	-47.51	-13.00	-34.51	V
3821.00	-58.81	8.83	-49.97	-13.00	-36.97	V
5732.00	-54.35	10.48	-43.87	-13.00	-30.87	V
7643.00	-60.51	17.38	-43.13	-13.00	-30.13	V
N/A						
3821.00	-53.55	8.62	-44.94	-13.00	-31.94	H
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:** WCDMA Band II / TX / CH 9262**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
2659.00	-50.63	5.21	-45.42	-13.00	-32.42	V
3002.00	-58.79	6.58	-52.21	-13.00	-39.21	V
3709.00	-50.17	9.09	-41.08	-13.00	-28.08	V
3891.00	-60.60	8.67	-51.93	-13.00	-38.93	V
5557.00	-59.16	10.33	-48.83	-13.00	-35.83	V
7412.00	-58.73	16.65	-42.08	-13.00	-29.08	V
2659.00	-56.42	5.26	-51.16	-13.00	-38.16	H
3709.00	-45.25	8.87	-36.37	-13.00	-23.37	H
5557.00	-62.06	10.13	-51.92	-13.00	-38.92	H
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:** WCDMA Band II / TX / CH 9400**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3765.00	-49.91	8.96	-40.95	-13.00	-27.95	V
5641.00	-56.16	10.40	-45.75	-13.00	-32.75	V
7517.00	-59.87	17.04	-42.83	-13.00	-29.83	V
N/A						
2659.00	-54.34	5.26	-49.07	-13.00	-36.07	H
3765.00	-49.14	8.75	-40.40	-13.00	-27.40	H
5641.00	-58.75	10.23	-48.52	-13.00	-35.52	H
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:** WCDMA Band II / TX / CH 9538**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3814.00	-49.08	8.85	-40.24	-13.00	-27.24	V
5725.00	-54.86	10.48	-44.38	-13.00	-31.38	V
7636.00	-59.58	17.37	-42.21	-13.00	-29.21	V
N/A						
3261.00	-58.70	8.03	-50.67	-13.00	-37.67	H
3814.00	-45.65	8.63	-37.02	-13.00	-24.02	H
5718.00	-56.42	10.31	-46.11	-13.00	-33.11	H
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:** WCDMA Band V / TX / CH 4132

**Test Date:** January 7, 2011

**Temperature:** 25°C

**Tested by:** David Lee

**Humidity:** 45 % RH

**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1651.00	-49.92	1.61	-48.30	-13.00	-35.30	V
1994.00	-47.44	1.83	-45.61	-13.00	-32.61	V
3310.00	-60.85	8.43	-52.42	-13.00	-39.42	V
N/A						
1651.00	-47.93	1.42	-46.51	-13.00	-33.51	H
1994.00	-51.07	1.16	-49.90	-13.00	-36.90	H
2484.00	-54.73	4.53	-50.20	-13.00	-37.20	H
2659.00	-53.70	5.26	-48.44	-13.00	-35.44	H
4129.00	-60.19	8.41	-51.78	-13.00	-38.78	H
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:** WCDMA Band V / TX / CH 4182**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1518.00	-55.80	1.53	-54.26	-13.00	-41.26	V
1679.00	-53.02	1.63	-51.39	-13.00	-38.39	V
1994.00	-46.36	1.83	-44.53	-13.00	-31.53	V
2659.00	-52.02	5.21	-46.82	-13.00	-33.82	V
N/A						
1672.00	-51.36	1.40	-49.95	-13.00	-36.95	H
1994.00	-47.58	1.16	-46.41	-13.00	-33.41	H
2120.00	-54.81	2.00	-52.82	-13.00	-39.82	H
4178.00	-59.72	8.48	-51.23	-13.00	-38.23	H
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:** WCDMA Band V / TX / CH 4233**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1693.00	-51.29	1.64	-49.65	-13.00	-36.65	V
1994.00	-54.94	1.83	-53.11	-13.00	-40.11	V
N/A						
1693.00	-48.85	1.39	-47.47	-13.00	-34.47	H
1994.00	-52.47	1.16	-51.31	-13.00	-38.31	H
2659.00	-54.49	5.26	-49.23	-13.00	-36.23	H
4241.00	-56.75	8.58	-48.17	-13.00	-35.17	H
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:** WCDMA / HSDPA Band II / TX / CH 9262**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3702.00	-50.29	9.11	-41.18	-13.00	-28.18	V
5557.00	-60.29	10.33	-49.96	-13.00	-36.96	V
7412.00	-57.48	16.65	-40.84	-13.00	-27.84	V
N/A						
2659.00	-58.75	5.26	-53.49	-13.00	-40.49	H
3709.00	-44.75	8.87	-35.88	-13.00	-22.88	H
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:** WCDMA / HSDPA Band II / TX / CH 9400**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3765.00	-50.10	8.96	-41.14	-13.00	-28.14	V
5641.00	-58.76	10.40	-48.35	-13.00	-35.35	V
7524.00	-59.45	17.06	-42.39	-13.00	-29.39	V
N/A						
3765.00	-45.95	8.75	-37.20	-13.00	-24.20	H
5641.00	-58.12	10.23	-47.90	-13.00	-34.90	H
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:** WCDMA / HSDPA Band II / TX / CH 9538**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
2659.00	-59.88	5.21	-54.68	-13.00	-41.68	V
3814.00	-49.50	8.85	-40.65	-13.00	-27.65	V
5725.00	-54.22	10.48	-43.75	-13.00	-30.75	V
7636.00	-59.89	17.37	-42.52	-13.00	-29.52	V
N/A						
3821.00	-44.75	8.62	-36.13	-13.00	-23.13	H
5725.00	-55.35	10.32	-45.03	-13.00	-32.03	H
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:** WCDMA / HSDPA Band V / TX / CH 4132**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1651.00	-50.38	1.61	-48.77	-13.00	-35.77	V
1812.00	-57.96	1.71	-56.25	-13.00	-43.25	V
3002.00	-57.49	6.58	-50.91	-13.00	-37.91	V
4129.00	-61.10	8.63	-52.47	-13.00	-39.47	V
N/A						
1651.00	-47.59	1.42	-46.17	-13.00	-33.17	H
4136.00	-58.30	8.42	-49.88	-13.00	-36.88	H
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:** WCDMA / HSDPA Band V / TX / CH 4182**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1441.00	-57.00	1.43	-55.58	-13.00	-42.58	V
1630.00	-54.08	1.60	-52.48	-13.00	-39.48	V
1679.00	-51.39	1.63	-49.76	-13.00	-36.76	V
1994.00	-52.54	1.83	-50.71	-13.00	-37.71	V
2120.00	-57.19	2.49	-54.70	-13.00	-41.70	V
2505.00	-55.43	4.59	-50.84	-13.00	-37.84	V
1672.00	-49.48	1.40	-48.08	-13.00	-35.08	H
4185.00	-57.42	8.49	-48.93	-13.00	-35.93	H
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:** WCDMA / HSDPA Band V / TX / CH 4233**Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1644.00	-51.13	1.61	-49.52	-13.00	-36.52	V
1693.00	-49.76	1.64	-48.12	-13.00	-35.12	V
1798.00	-55.33	1.70	-53.62	-13.00	-40.62	V
2127.00	-56.59	2.53	-54.06	-13.00	-41.06	V
2659.00	-52.24	5.21	-47.03	-13.00	-34.03	V
4241.00	-60.23	8.81	-51.42	-13.00	-38.42	V
1693.00	-43.66	1.39	-42.28	-13.00	-29.28	H
2540.00	-54.08	4.80	-49.28	-13.00	-36.28	H
4234.00	-52.59	8.57	-44.03	-13.00	-31.03	H
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:** WCDMA / HSUPA Band II / TX / CH 9262 **Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
2659.00	-56.39	5.21	-51.19	-13.00	-38.19	V
3709.00	-50.24	9.09	-41.15	-13.00	-28.15	V
5557.00	-58.75	10.33	-48.42	-13.00	-35.42	V
7412.00	-57.41	16.65	-40.76	-13.00	-27.76	V
N/A						
3709.00	-45.35	8.87	-36.48	-13.00	-23.48	H
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:** WCDMA / HSUPA Band II / TX / CH 9400 **Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3765.00	-49.59	8.96	-40.63	-13.00	-27.63	V
5641.00	-58.63	10.40	-48.23	-13.00	-35.23	V
7517.00	-58.58	17.04	-41.54	-13.00	-28.54	V
N/A						
3765.00	-47.08	8.75	-38.33	-13.00	-25.33	H
5641.00	-57.31	10.23	-47.09	-13.00	-34.09	H
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:** WCDMA / HSUPA Band II / TX / CH 9538 **Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3814.00	-48.32	8.85	-39.47	-13.00	-26.47	V
5718.00	-54.96	10.47	-44.49	-13.00	-31.49	V
7629.00	-60.42	17.35	-43.08	-13.00	-30.08	V
N/A						
3814.00	-43.99	8.63	-35.36	-13.00	-22.36	H
5725.00	-56.71	10.32	-46.39	-13.00	-33.39	H
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:** WCDMA / HSUPA Band V / TX / CH 4132 **Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1651.00	-49.83	1.61	-48.22	-13.00	-35.22	V
3002.00	-54.77	6.58	-48.19	-13.00	-35.19	V
N/A						
1651.00	-48.00	1.42	-46.58	-13.00	-33.58	H
4129.00	-60.66	8.41	-52.25	-13.00	-39.25	H
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:** WCDMA / HSUPA Band V / TX / CH 4182 **Test Date:** January 7, 2011

**Temperature:** 25°C

**Tested by:** David Lee

**Humidity:** 45 % RH

**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1637.00	-54.44	1.60	-52.84	-13.00	-39.84	V
1679.00	-52.75	1.63	-51.12	-13.00	-38.12	V
1735.00	-54.86	1.67	-53.20	-13.00	-40.20	V
2512.00	-58.04	4.62	-53.42	-13.00	-40.42	V
3002.00	-56.03	6.58	-49.45	-13.00	-36.45	V
4178.00	-60.42	8.71	-51.71	-13.00	-38.71	V
1679.00	-50.85	1.40	-49.46	-13.00	-36.46	H
4178.00	-58.52	8.48	-50.04	-13.00	-37.04	H
4864.00	-61.42	9.82	-51.60	-13.00	-38.60	H
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:** WCDMA / HSUPA Band V / TX / CH 4233 **Test Date:** January 7, 2011**Temperature:** 25°C**Tested by:** David Lee**Humidity:** 45 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1623.00	-52.62	1.60	-51.02	-13.00	-38.02	V
1693.00	-49.36	1.64	-47.72	-13.00	-34.72	V
1784.00	-52.78	1.70	-51.09	-13.00	-38.09	V
3002.00	-53.72	6.58	-47.13	-13.00	-34.13	V
4234.00	-59.84	8.80	-51.04	-13.00	-38.04	V
N/A						
1693.00	-45.31	1.39	-43.92	-13.00	-30.92	H
4234.00	-55.14	8.57	-46.57	-13.00	-33.57	H
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.





### **7.3 RADIATED RECEIVER SPURIOUS EMISSIONS**

#### **LIMIT**

According to RSS-132 (4.6) & RSS-133 (6.7).

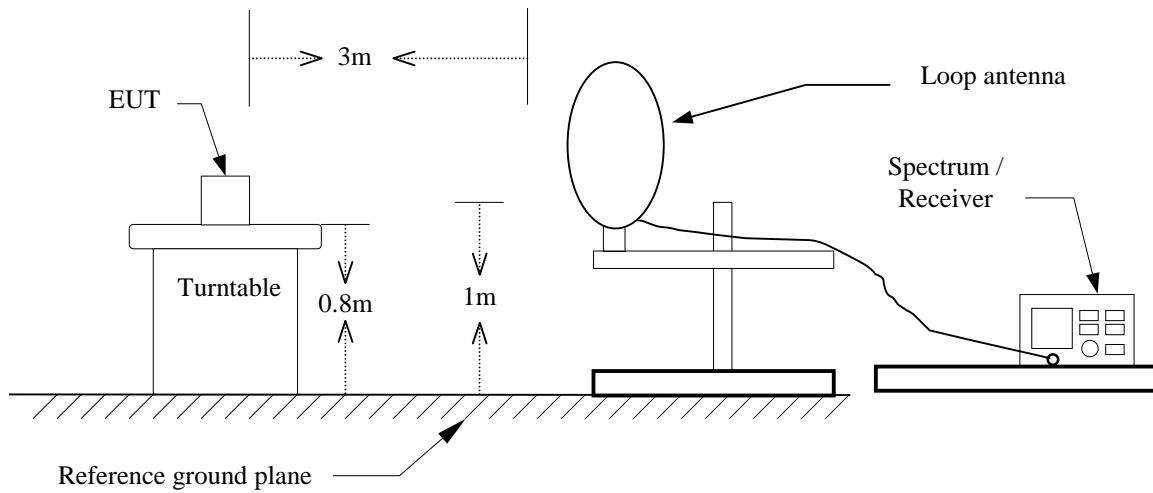
If a radiated measurement is made, all spurious emissions shall comply with the limits of Table below. The resolution bandwidth of the spectrum analyzer shall be 100 kHz for spurious emissions measurements below 1.0 GHz, and 1.0 MHz for measurements above 1.0 GHz.

<b>Spurious Frequency (MHz)</b>	<b>Field Strength (microvolts/m at 3 metres)</b>
30-88	100
88-216	150
216-960	200
Above 960	500

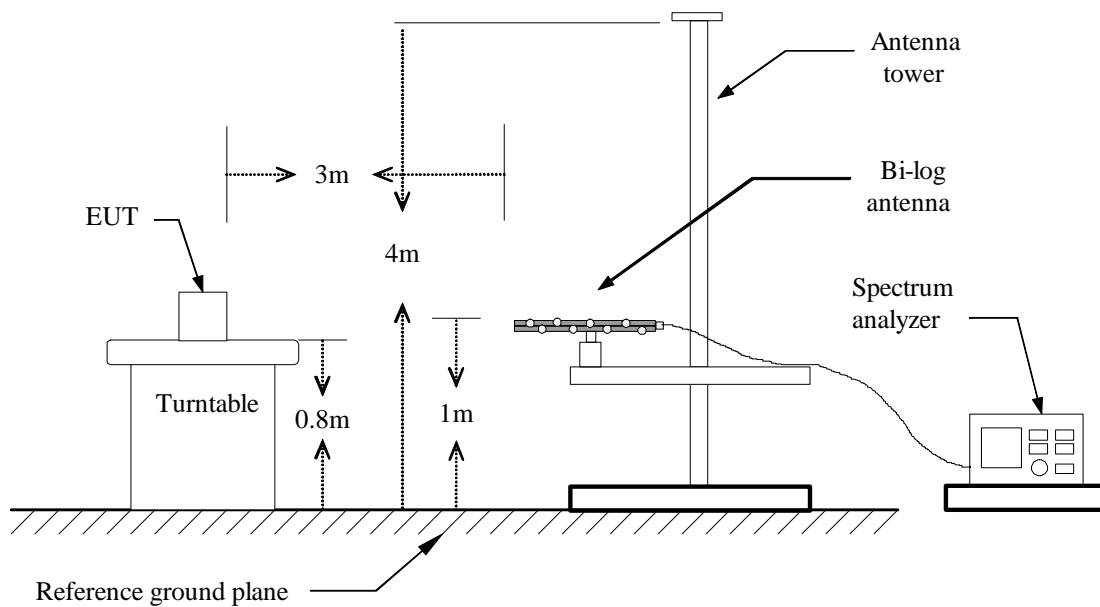


## Test Configuration

9kHz ~ 30MHz

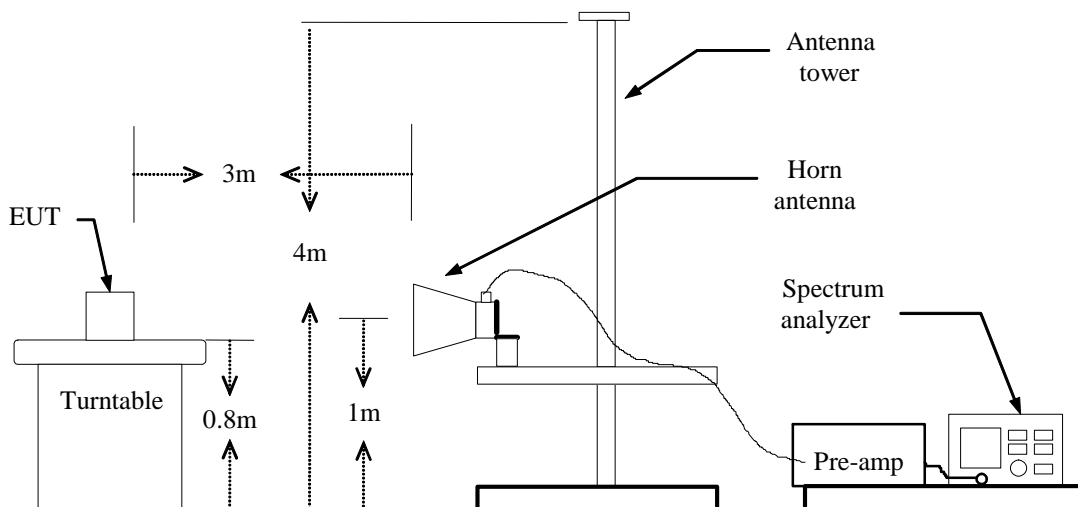


30MHz ~ 1GHz





## Above 1 GHz



## TEST PROCEDURE

The search for spurious emissions shall be from the lowest frequency internally generated or used in the receiver (local oscillator frequency, intermediate frequency or carrier frequency), or 30 MHz, whichever is the higher, to at least 3 times the highest tunable and local oscillator frequencies.

## TEST RESULTS

*No non-compliance noted.*



**Radiated Spurious Emission Measurement Result / Below 1GHz**

**Operation Mode:** RX Mode

**Test Date:** January 12, 2011

**Temperature:** 22°C

**Tested by:** Leo Shi

**Humidity:** 49 % RH

**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBm)	Correction Factor (dB)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
232.08	46.83	-11.24	35.59	46.00	-10.41	V
327.47	40.16	-8.59	31.57	46.00	-14.43	V
400.22	37.07	-7.08	29.99	46.00	-16.01	V
534.40	33.53	-4.68	28.85	46.00	-17.15	V
700.92	32.41	-2.53	29.88	46.00	-16.12	V
933.72	33.34	0.01	33.35	46.00	-12.65	V
232.08	51.03	-11.24	39.79	46.00	-6.21	H
311.30	42.45	-8.97	33.48	46.00	-12.52	H
327.47	41.08	-8.59	32.50	46.00	-13.50	H
663.73	34.57	-2.79	31.78	46.00	-14.22	H
830.25	40.60	-1.03	39.56	46.00	-6.44	H
878.75	37.63	-0.72	36.91	46.00	-9.09	H

**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:** RX Mode**Test Date:** January 12, 2011**Temperature:** 22°C**Tested by:** Leo Shi**Humidity:** 49 % RH**Polarity:** Ver. / Hor.

Frequency MHz	Reading		Corr. Factor (dB/m)	Result		Limit		Margin (dB)	Remark	Antenna Polarization (V/H)
	Peak (dBuV/m)	Average (dBuV/m)		Peak (dBuV/m)	Average (dBuV/m)	Peak (dBuV/m)	Average (dBuV/m)			
1993.33	55.81	---	-5.54	50.27	---	74.00	54.00	-3.73	V	Peak
2350.00	53.70	---	-4.49	49.21	---	74.00	54.00	-4.79	V	Peak
3325.00	50.86	---	-1.31	49.55	---	74.00	54.00	-4.45	V	Peak
4141.67	50.14	---	0.90	51.04	---	74.00	54.00	-2.96	V	Peak
N/A										
2336.67	53.96	---	-4.54	49.42	---	74.00	54.00	-4.58	H	Peak
2636.67	52.69	---	-3.41	49.29	---	74.00	54.00	-4.71	H	Peak
4108.33	50.23	---	0.80	51.03	---	74.00	54.00	-2.97	H	Peak
4483.33	48.49	---	1.91	50.40	---	74.00	54.00	-3.60	H	Peak
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.



## 7.4 POWERLINE CONDUCTED EMISSIONS

### **LIMIT**

According to §15.207(a) & RSS-Gen §7.2.2, except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50  $\mu$ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency Range (MHz)	Limits (dB $\mu$ V)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

### **Test Configuration**

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

### **TEST PROCEDURE**

1. The EUT was placed on a table, which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete.



## TEST RESULTS

The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range. Significant peaks are then marked as shown on the following data page, and these signals are then quasi-peaked.

### Test Data

**Operation Mode:** Normal Link      **Test Date:** January 13, 2011  
**Temperature:** 26°C      **Tested by:** Ali Shu  
**Humidity:** 60% RH

Freq. (MHz)	QP Reading (dBuV)	AV Reading (dBuV)	Corr. factor (dB/m)	QP Result (dBuV/m)	AV Result (dBuV/m)	QP Limit (dBuV)	AV Limit (dBuV)	QP Margin (dB)	AV Margin (dB)	Note
0.1540	47.43	31.13	0.17	47.60	31.30	65.78	55.78	-18.18	-24.48	L1
0.5100	43.94	34.94	0.16	44.10	35.10	56.00	46.00	-11.90	-10.90	L1
0.6700	40.74	24.34	0.16	40.90	24.50	56.00	46.00	-15.10	-21.50	L1
0.8000	35.83	26.43	0.17	36.00	26.60	56.00	46.00	-20.00	-19.40	L1
1.7900	36.31	28.31	0.19	36.50	28.50	56.00	46.00	-19.50	-17.50	L1
4.4000	35.72	28.32	0.28	36.00	28.60	56.00	46.00	-20.00	-17.40	L1
0.1540	45.83	31.03	0.17	46.00	31.20	65.78	55.78	-19.78	-24.58	L2
0.5100	44.14	34.44	0.16	44.30	34.60	56.00	46.00	-11.70	-11.40	L2
0.6600	39.54	25.34	0.16	39.70	25.50	56.00	46.00	-16.30	-20.50	L2
0.7200	38.33	25.23	0.17	38.50	25.40	56.00	46.00	-17.50	-20.60	L2
2.2000	36.49	28.39	0.21	36.70	28.60	56.00	46.00	-19.30	-17.40	L2
5.1200	36.29	28.89	0.31	36.60	29.20	60.00	50.00	-23.40	-20.80	L2

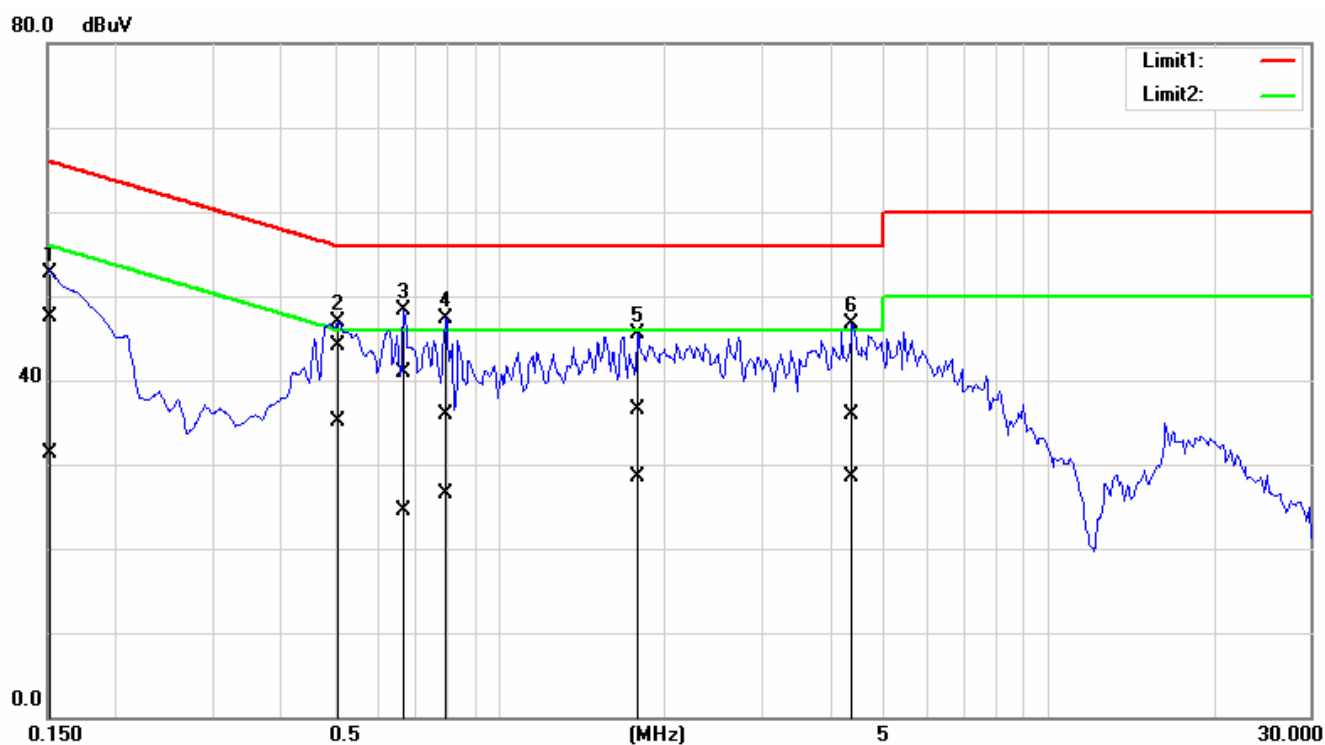
### Remark:

1. Measuring frequencies from 0.15 MHz to 30MHz.
2. The emissions measured in frequency range from 0.15 MHz to 30MHz were made with an instrument using Quasi-peak detector and average detector.
3. The IF bandwidth of SPA between 0.15MHz to 30MHz was 10kHz; the IF bandwidth of Test Receiver between 0.15MHz to 30MHz was 9kHz;
4. L1 = Line One (Live Line) / L2 = Line Two (Neutral Line)



## Test Plots

### Conducted emissions (Line 1)



### Conducted emissions (Line 2)

