ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 22 SUBPART H, PART 24 SUBPART E AND INDUSTRY CANADA RSS-132 and RSS-133 CLASS II PC REPORT

For

Product Description:	**3G MODULE**
Trade Name:	**Acer, Gateway, Packard Bell**
Model Name of Host:	**NAV50, NAV60**
Model Difference:	**Model Name Difference:NAV50 for Acer, NAV60 for Gateway ,Packard Bell**
Model No. for WWAN Modular:	**FCC: UNDP - 1** **IC: UNDP - 1**
FCC ID:	**HLZUNDP-1A**
IC:	**1754F-UNDP1A**
Report No.:	**EH/2009/B0036**
Issue Date:	**Dec. 17, 2009**
FCC Rule Part:	**2, 22H & 24E**
IC Rule Part:	**RSS 132 Issue 2 and RSS 133 Issue 5**
Prepared for:	**Acer Incorperated** **8F,88, Sec. 1, Hsin Tai Wu Rd. Hsichih Taipei Hsien 221**
Prepared by:	**SGS Taiwan Ltd.** **Electronics & Communication Laboratory** **No. 134, Wu Kung Rd., Wuku Industrial Zone, Taipei County, Taiwan.**

Note: *This report shall not be reproduced except in full, without the written approval of SGS Taiwan Ltd. This document may be altered or revised by SGS Taiwan Ltd. personnel only, and shall be noted in the revision section of the document.*

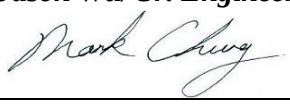
CERTIFICATION OF COMPLIANCE

Applicant:	Acer Incorperated 8F,88, Sec. 1, Hsin Tai Wu Rd. Hsichih Taipei Hsien 221
Product Description:	Notebook Computer
Trade Name:	Acer, Gateway, Packard Bell
FCC ID:	HLZUNDP-1A
IC:	1754F-UNDP1A
Model No.:	NAV50, NAV60
Model Difference:	Model Name Difference:NAV50 for Acer, NAV60 for Gateway ,Packard Bell
Marketing Name:	AO532 ,LT21, dot s2
Model No. for WWAN Modular:	FCC:UNDP-1 IC: UNDP-1
File Number:	EH/2009/B0036
Date of test:	Nov. 23, 2009 ~ Dec. 09, 2009
Date of EUT Received:	Nov. 23, 2009

We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. Electronics & Communication Laboratory 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-2004, Issue 2 of RSS-Gen and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rule PART 22 subpart H, PART 24 subpart E and IC standards RSS-132 Issue 2, Issue 5 of RSS-133 .

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

Test By:		***Date:***	Dec. 17, 2009
	Jason Wu/ Sr. Engineer		
Prepared By:		***Date:***	Dec. 17, 2009
	Mark Chung / Project Engineer		
Approved By:		***Date:***	Dec. 17, 2009
	Vincent Su / Manager		

Version

Version No.	Date	Description
00	Dec. 17, 2009	Initial creation of document

Table of Contents

1. GENERAL INFORMATION

1.1 Product Description

Notebook General:

Product Name:	Notebook Computer	
Brand Name:	Acer, Gateway, Packard Bell	
Model Name:	NAV50, NAV60	
Model Difference:	Model Name Difference:NAV50 for Acer, NAV60 for Gateway ,Packard Bell	
Marketing Name:	AO532 ,LT21, dot s2	
Model No. for WWAN Modular:	FCC: UNDP-1 IC: UNDP-1	
Power Supply	11.1 Vdc Li-Ion battery or 19Vdc from AC/DC adapter	
	Battery:	Model No.:UM09H71, Supplier: Simplo
	Adapter :	Model:ADP-40TH A, supplier: DELTA ELECTRONICS, INC.

GSM / WCDMA / CDMA:

Cellular Phone Standards Frequency Range:	GSM / GPRS 850, Class 10	824.2 MHz– 848.8 MHz	33 dBm
	EDGE 850, Class 10	824.2 MHz– 848.8 MHz	27 dBm
	GSM / GPRS 900, Class 10	880.2MHz – 914.8MH	33 dBm
	EDGE 900, Class 10	880.2MHz – 914.8MH	27 dBm
	GSM / GPRS 1800, Class 10	1710.2MHz-1784.8MHz	30 dBm
	EDGE 1800, Class 10	1710.2MHz-1784.8MHz	26 dBm
	GSM / GPRS 1900, Class 10	1850.2MHz – 1909.8MHz	30 dBm
	EDGE 1900, Class 10	1850.2MHz – 1909.8MHz	26 dBm
	WCDMA/HSUPA/HSDPA Band I	1922.4MHz – 1977.6MHz	24 dBm
	WCDMA/HSUPA/HSDPA Band II	1852.4MHz – 1907.6MHz	24 dBm
	WCDMA/HSUPA/HSDPA Band V	826.4MHz - 846.6MHz	24 dBm
IMEI	355449021664453		

Hardware Version	P7
Software Version	D4357
WWAN module FCC ID:	HLZUNDP-1A
WWAN module IC ID:	1754F-UNDP1A
Class II Permissive change:	Adding Acer, Gateway, Packard Bell with its corresponding NAV50,NAV60, AO532 ,LT21, dot s2t series laptop.
Type of Emission:	22H(GMSK): 824.2 - 848.8 MHz: 248KGXW 24E(GMSK): 1850.2 – 1909.8 MHz: 250KGXW 22H(8PSK): 824.2 - 848.8 MHz: 248KG7W 24E(8PSK): 1850.2 – 1909.8 MHz: 245KG7W 22H(WCDMA): 826.4 - 846.6 MHz: 4M18F9W 24E(WCDMA): 1852.4 – 1907.5 MHz: 4M19F9W 22H(CDMA2000): 824.7 – 848.31MHz: 1M28F9W 24E(CDMA2000): 1851.25 – 1908.75: 1M28F9W
Transmit power (Conducted Power) Listed in Test Report/Original Grant	22H(GMSK): 824.2 - 848.8 MHz: 1.97W /32.98dBm 24E(GMSK): 1850.2 – 1909.8 MHz: 0.89W /29.47dBm 22H(8PSK): 824.2 - 848.8 MHz: 0.61W /27.83dBm 24E(8PSK): 1850.2 – 1909.8 MHz: 0.48W /16.81dBm 22H(WCDMA): 826.4 - 846.6 MHz: 0.28W /24.42dBm 24E(WCDMA): 1852.4 – 1907.5 MHz: 0.27W /24.56dBm 22H(CDMA2000): 824.7 – 848.31MHz: 0.31W / 24.91dBm 24E(CDMA2000): 1851.25 – 1908.75: 0.289W / 24.61dBm

This test report applies for GPRS/EDGE 850, GPRS/EDGE 1900, WCDMA/HSUPA/HSDPA Band II/V bands &.

1.2 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for **FCC ID: HLZUNDP-1A** filing to comply with Section Part 22 subpart H, Part 24 subpart E of the FCC CFR 47 Rules. And
IC: 1754F-UNDP1A filing to comply with RSS-132 and Issue 5 of RSS-133

1.3 Test Methodology

Both conducted and radiated testing were performed according to the procedures document on TIA/EIA-603-C-2004 and FCC CFR 47 2.1046, 2.1053, RSS-132, Issue 5 of RSS-133 and Issue 2 of RSS-Gen.

1.4 Test Facility

The measurement facilities used to collect the 3m Radiated Emission and AC power line conducted data are located on the address of SGS Taiwan Ltd. Electronics & Communication Laboratory No. 134, Wu Kung Rd., Wuku Industrial Zone, Taipei Country, Taiwan which are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4: 2003. FCC Registration Number are: 990257 and 236194, Canada Registration Number: 4620A-1

The 10 m Open Area Test Sites located on the address of SGS Taiwan Ltd. Electronics & Communication Laboratory No. 29, Pau-Tou-Tsuo Valley Chia-Pau Tsuen, Linkou Hsiang, Taipei county, which is constructed and calibrated to meet the CISPR 22/EN 55022 requirements. SGS Site No. 1(3 &10 meters) and FCC Registration Number: 94644.

1.5 Special Accessories

Not available for this EUT intended for grant.

1.6 Equipment Modifications

Not available for this EUT intended for grant.

2. SYSTEM TEST CONFIGURATION

2.1 EUT Configuration

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

2.2 EUT Exercise

The EUT (Transmitter) was operated in the engineering mode to fix the Tx frequency which was for the purpose of the measurements.

2.3 Test Procedure

2.3.1 Conducted Measurement at Antenna Port:

According to measurement procured TIA/EIA 603C, the EUT is placed on a turn table which is 0.8 m above ground plane. A low loss of RF cable was used to connect the antenna port of EUT to measurement equipment.

2.3.2 Radiated Emissions (ERP/EIRP):

According to measurement procured TIA/EIA 603C, issue 2 of RSS-Gen and TIA/EIA IS-98 for Mobile stations. The EUT is placed on a turn table which is 0.8 m above ground plane. The turn table 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 max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes according to the requirements.

A standard antenna was used to replace the EUT and connect to the SG. Adjust the SG output level to reach the max emission level which were measured above.

2.4 Configuration of Tested System

Fig. 1-1 Configuration for Radiated Emission

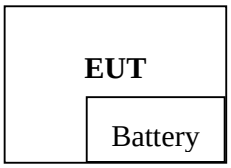


Fig. 1-2Configuration (Remote Side, on the corner)

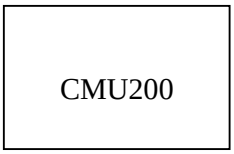


Table 2-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/ Type No.	Series No.	Data Cable	Power Cord
1.	Universal Radio Communication Tester	R&S	CMU200	102189	Shielded	Un-shielded

3. SUMMARY OF TEST RESULTS

FCC Rules	IC Rules	Description Of Test	Result
§2.1046(a) §22.913(a)(2) §24.232(c)	§4.8 (RSS-Gen) §4.4 (RSS-132) §6.4 (RSS-133)	ERP/ EIRP measurement	Compliant
§2.1053 §22.917(a) §24.238(a)	§4.9 (RSS-Gen) §4.5 (RSS-132) §6.5 (RSS-133)	Field Strength of Spurious Radiation (TX)	Compliant

4. DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition.

Set EUT power control “all up bits” for all test mode through base station.

The Channel Low, Mid and High for each type of bands with rated data rate were chosen for above testing.

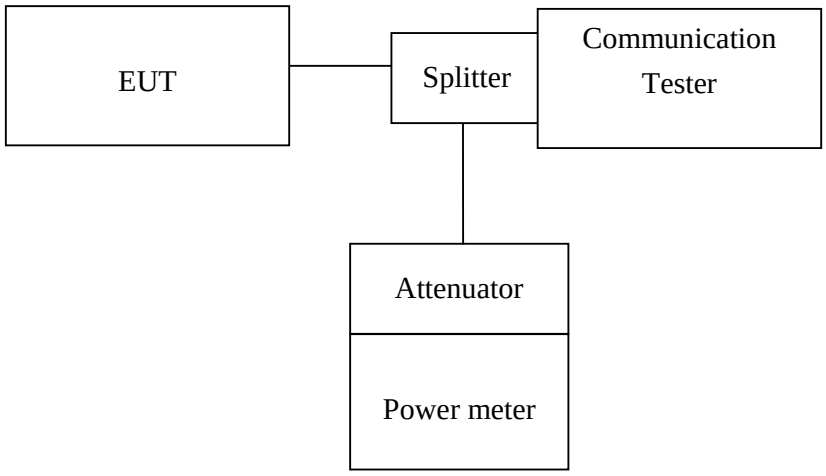
The field strength of ERP/EIRP power and spurious radiation emission were measured as EUT stand up position for both GPRS 850 and 1900 bands were reported which has worst data.

5. RF PEAK POWER OUTPUT/ MAXMUM POWER REDUCTION MEASUREMENT

5.1 Standard Applicable:

FCC 24.232(d) Peak Power Measurement, FCC 24.232(c) Maximum Power Reduction.

5.2 Test Set-up:



Note: *Measurement setup for testing on Antenna connector*

5.3 Measurement Procedure:

The transmitter output was connected to a calibrated attenuator, the other end of which was connected to a power meter. Transmitter output was read off the power meter in dBm. The power output at the transmitter antenna port was determined by adding the value of the attenu- ator to the power meter reading. was used for EUT and Base station setting.

5.4 Measurement Equipment Used:

Refer to section 2.4 in this report

5.5 Measurement Result:

EUT Mode	Frequency (MHz)	CH	Path Loss (dB)	AVer.age Power (1TS) (dBm)	AVer.age Power (2TS) (dBm)
GPRS 850 (Class 10)	824.20	128	0.3	32.29	32.14
	836.60	190	0.3	32.19	32.04
	848.80	251	0.3	32.12	31.96

EUT Mode	Frequency (MHz)	CH	Path Loss (dB)	AVer.age Power (1TS) (dBm)	AVer.age Power (2TS) (dBm)
GPRS 1900 (Class 10)	824.20	512	0.3	28.98	28.93
	836.60	661	0.3	28.89	28.85
	848.80	810	0.3	28.84	28.82

Note: For the Avg. power of others modulation, GSM 850/1900, EDGE 850/1900, and WCDMA B2/B5, please refer to SAR Report. No: ES/2009/B0006

6. ERP/EIRP MEASUREMENT

6.1 Standard Applicable

According to FCC §2.1046

FCC 22.913(a)(2) Mobile station are limited to 7W ERP.

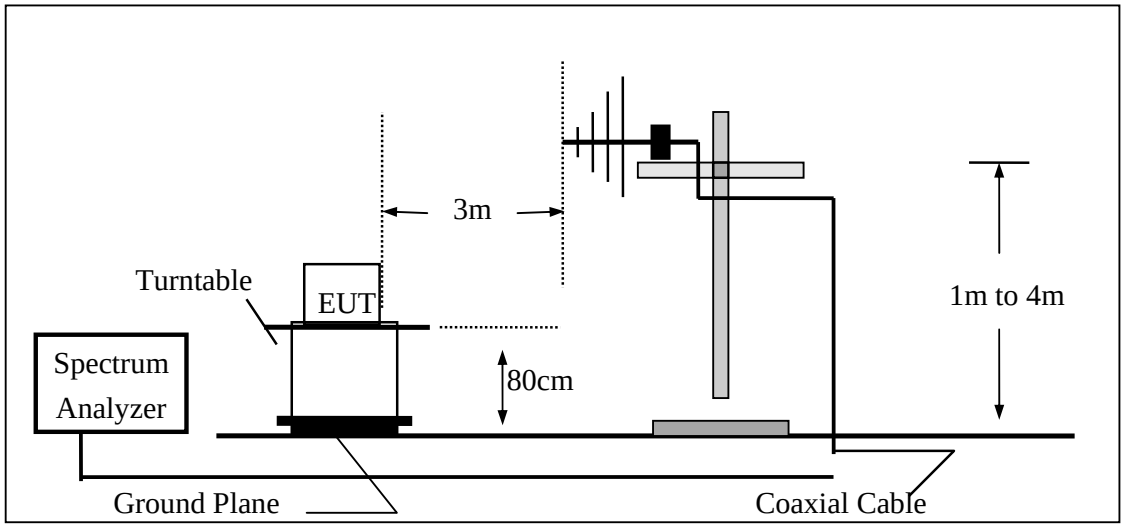
FCC 24.232(c) Mobile station are limited to 2W EIRP.

According to issue 5 of RSS-133 §6.4. The peak e.i.r.p. for transmitters operating in the band 1850-1910 MHz shall not exceed the limits given in SRSP-510.

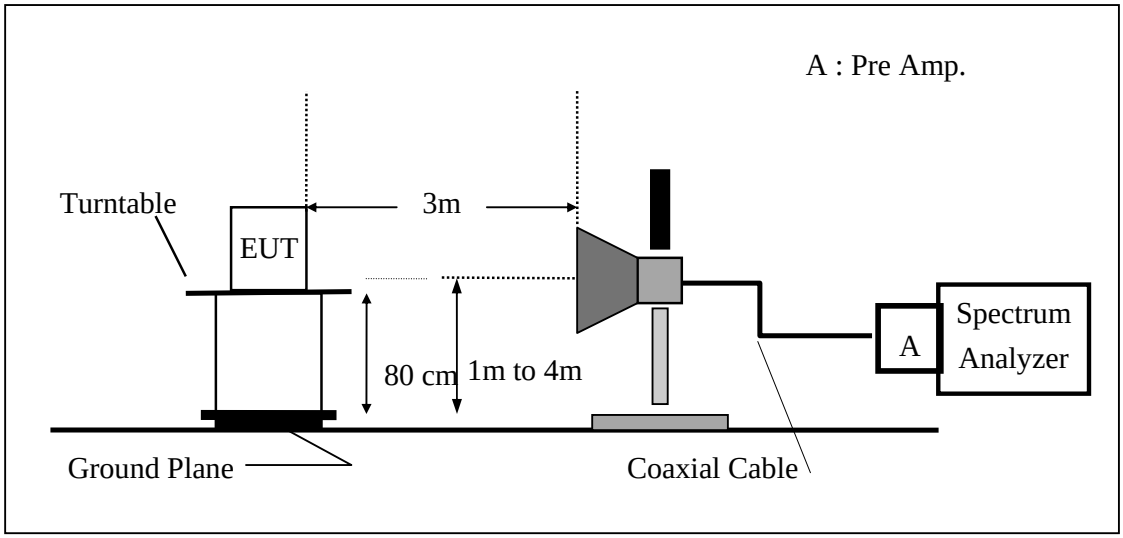
According to issue 2 of RSS 132, section 4.4. The transmitter output power shall not exceed the limits given in SRSP-503.

6.2 Test SET-UP (Block Diagram of Configuration)

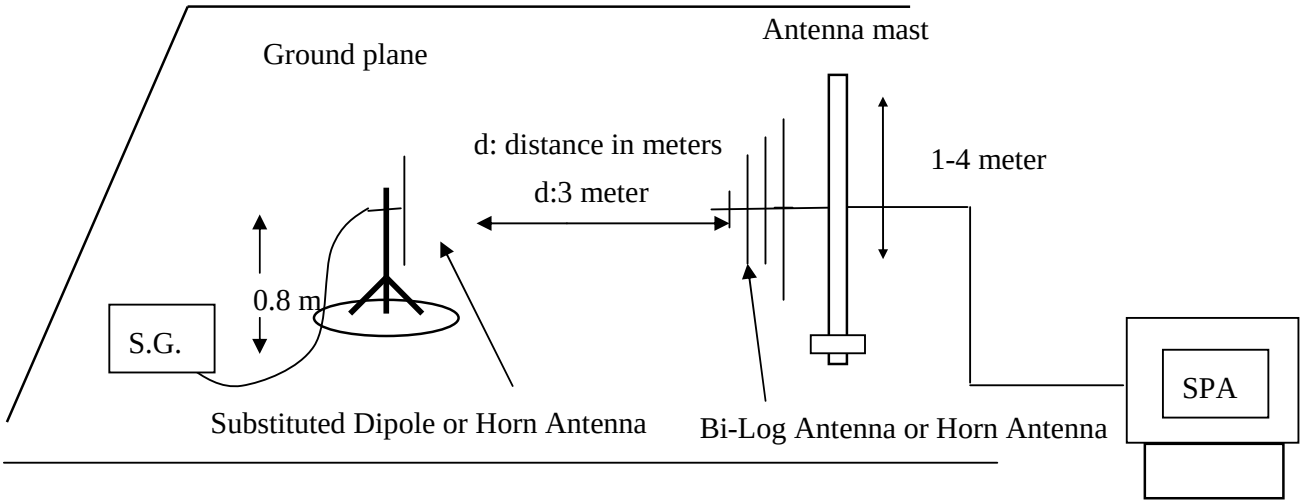
(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(B) Radiated Emission Test Set-UP Frequency Over 1 GHz



(C) Substituted Method Test Set-UP



6.3 Measurement Procedure

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

During the measurement, the EUT was communication with the station. The highest emission was recorded with the rotation of the turntable and the lowering of the test antenna from 4m to 1m. The reading was recorded and the field strength (E in dBuV/m) was calculated.

ERP in frequency band 824.2 –848.80.8MHz were measured using a substitution method. The EUT was replaced by dipole antenna connected, the S.G. output was recorded and ERP was calculated as follows:

EIRP in frequency band 1850.2 –1909.8MHz were measured using a substitution method. The EUT was replaced by a horn antenna connected, the S.G. output was recorded and EIRP was calculated as follows:

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

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

6.4 Measurement Equipment Used:

ERP, EIRP MEASUREMENT EQUIPMENT List 966 Chamber					
EQUIPMENT TYPE	**MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL DUE.**
Spectrum Analyzer	R&S	FSP 40	100034	02/12/2009	02/11/2010
Bilog Antenna	SCHWAZBECK	VULB9160	9160-3136	11/15/2009	11/14/2010
Dipole Antenna	SCHWAZBECK	VHAP	908/909	07/10/2008	07/09/2010
Dipole Antenna	SCHWAZBECK	UHAP	891/892	07/10/2008	07/09/2010
Hor.n antenna	SCHWAZBECK	BBHA 9120D	309	01/22/2008	01/21/2010
Horn antenna	SCHWAZBECK	BBHA 9120D	9120D-673	05/09/2008	05/08/2010
Signal Generator	R&S	SMR40	100210	01/22/2008	01/21/2010
Signal Generator	Agilent	E4438C	MY45093613	06/11/2009	06/10/2010
Pre-Amplifier	Agilent	8447D	1937A02834	11/30/2009	11/29/2010
Pre-Amplifier	Agilent	8449B	3008A01973	01/05/2009	01/04/2010
Attenuator	Mini-Circuit	BW-S20W5	001	07/05/2009	07/04/2010
Attenuator	Mini-Circuit	BW-S10W5	001	07/05/2009	07/04/2010
Attenuator	Mini-Circuit	BW-S6W5	001	07/05/2009	07/04/2010
Radio Communication Analyzer	R&S	CMU200	102189	05/13/208	05/12/2010
Turn Table	HD	DT420	N/A	N.C.R	N.C.R
Antenna Tower	HD	MA240-N	240/657	N.C.R	N.C.R
Controller	HD	HD100	N/A	N.C.R	N.C.R
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-10M	10m	01/05/2009	01/04/2010
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-3M	3m	01/05/2009	01/04/2010
Filter 800-1000	Micro-Tronics	BRM13462	1	01/05/2009	01/04/2010
Filter 1800-2000	Micro-Tronics	BRM13463	1	01/05/2009	01/04/2010
3m Site	SGS	966 chamber	N/A	11/08/2009	11/09/2010

6.5 Measurement Result

Refer to following pages for detail.

Measurement Result:

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
GPRS 850	824.20	128	H	V	125.28	38.89	-7.87	3.62	27.39	38.45
				H	124.32	38.05	-7.87	3.62	26.55	38.45
	836.60	190	H	V	125.84	39.59	-7.88	3.65	28.06	38.45
				H	124.72	38.49	-7.88	3.65	26.96	38.45
	848.80	251	H	V	124.94	38.82	-7.88	3.68	27.26	38.45
				H	124.69	38.50	-7.88	3.68	26.94	38.45

Remark：

(1) The RBW,VBW of SPA for frequency

RBW=300 KHz, VBW=1MHz

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
GPRS 1900	1850.20	512	H	V	123.73	19.34	9.90	5.56	23.68	33.00
				H	122.91	18.73	9.90	5.56	23.07	33.00
	1880.00	661	H	V	120.51	16.15	9.99	5.61	20.53	33.00
				H	118.07	13.93	9.99	5.61	18.30	33.00
	1909.80	810	H	V	120.11	15.78	10.08	5.66	20.20	33.00
				H	122.45	18.34	10.08	5.66	22.76	33.00

Remark：

(1) The RBW,VBW of SPA for frequency

RBW=300 KHz, VBW=1MHz

7. FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

7.1 Standard Applicable

According to FCC §2.1053,

FCC §22.917(a),§24.238(a) the magnitude of each spurious and harmonic emission that can be detected when the equipment is operated under the conditions specified in the instruction manual and/ or alignment procedure, shall not be less than 43 + 10 log (mean output power in watts) dBc below the mean power output outside a license's frequency block (-13dBm)

According to RSS-132 §4.5 and RSS-133 §6.5

Out-of-Block Emissions

a. Mobile stations must comply with subsection i. below.

In the first 1.0MHz band immediately outside and adjacent to the licensee's frequency block. the power of emissions per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (in watts) by at least 43 + 10 log (P), dB.

b. After the first 1.0 MHz (for equipment that complies with a.i. of this subsection) or 1.5 MHz (for equipment that complies with a.ii.of this subsection), the power of emissions shall be attenuated below the transmitter output power by at least 43 + 10 log (P), dB, per any MHz of bandwidth.

(Note: If the test result using 1% of the emission bandwidth is used, then power integration over 1.0 MHz is required; alternatively, the spectrum analyser resolution and video bandwidths can be increased to 1.0 MHz for this measurement).

Out-of-Sub-band Emissions

Outside the sub-bands 1850-1910 MHz and 1930-1990 MHz, the attenuation shall be equal to or greater than the out-of-block emission limits in Section 6.5.1.

7.2 EUT Setup (Block Diagram of Configuration)

Refer to section 5.2 for details

7.3 Measurement 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 frequencies (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method.

ERP in frequency band 824.2 –848.80MHz were measured using a substitution method. The EUT was replaced by dipole antenna connected, the S.G. output was recorded and ERP was calculated as follows:

EIRP in frequency band 1850.2 –1909.8MHz were measured using a substitution method. The EUT was replaced by a horn antenna connected, the S.G. output was recorded and EIRP was calculated as follows:

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

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

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

7.4 Measurement Equipment Used:

Refer to section 5.4 for details

7.5 Measurement Result

Refer to attach tabular data sheets.

Radiated Spurious Emission Measurement Result: GPRS 850 Mode

Operation Mode	: TX CH Low Mode	Test Date:	Dec. 09, 2009
Fundamental Frequency	: 824.20 MHz	Test By:	Jason
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
36.79	50.94	V	-51.79	-4.16	0.91	-56.86	-13.00	-43.86
90.14	49.79	V	-53.39	-7.75	1.27	-62.41	-13.00	-49.41
250.19	60.37	V	-39.51	-7.89	1.99	-49.39	-13.00	-36.39
298.69	43.86	V	-54.43	-7.92	2.17	-64.52	-13.00	-51.52
349.13	43.50	V	-54.14	-7.64	2.36	-64.14	-13.00	-51.14
417.03	40.24	V	-54.73	-7.67	2.56	-64.96	-13.00	-51.96
823.98	79.88	V	-6.51	-7.87	3.62	-18.01	-13.00	-5.01
1648.40	41.04	V	-63.54	9.29	5.23	-59.48	-13.00	-46.48
2472.60	50.60	V	-50.41	10.08	6.53	-46.86	-13.00	-33.86
3296.80	35.03	V	-63.84	12.17	7.71	-59.39	-13.00	-46.39
4121.00	---	V		12.61	8.86		-13.00	
4945.20	---	V		12.65	9.74		-13.00	
5769.40	---	V		13.55	10.54		-13.00	
6593.60	---	V		12.05	11.30		-13.00	
7417.80	---	V		11.49	12.10		-13.00	
8242.00	---	V		11.48	12.71		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
	1GHz - 40GHz: 4.45dB

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: GPRS 850 Mode

Operation Mode	: TX CH Low Mode	Test Date:	Dec. 09, 2009
Fundamental Frequency	: 824.20 MHz	Test By:	Jason
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
36.79	45.44	H	-58.36	-4.16	0.91	-63.42	-13.00	-50.42
143.49	41.07	H	-57.38	-7.79	1.56	-66.74	-13.00	-53.74
250.19	54.77	H	-44.44	-7.89	1.99	-54.32	-13.00	-41.32
327.79	42.56	H	-54.84	-7.76	2.28	-64.88	-13.00	-51.88
410.24	39.48	H	-56.43	-7.67	2.54	-66.64	-13.00	-53.64
523.73	35.79	H	-56.84	-7.74	2.88	-67.45	-13.00	-54.45
823.98	77.57	H	-8.70	-7.87	3.62	-20.20	-13.00	-7.20
1648.40	42.72	H	-61.68	9.29	5.23	-57.62	-13.00	-44.62
2472.60	53.62	H	-47.29	10.08	6.53	-43.74	-13.00	-30.74
3296.80	---	H		12.17	7.71		-13.00	
4121.00	---	H		12.61	8.86		-13.00	
4945.20	---	H		12.65	9.74		-13.00	
5769.40	---	H		13.55	10.54		-13.00	
6593.60	---	H		12.05	11.30		-13.00	
7417.80	---	H		11.49	12.10		-13.00	
8242.00	---	H		11.48	12.71		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
	1GHz - 40GHz: 4.45dB

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark”---“ means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: GPRS 850 Mode

Operation Mode : TX CH Mid Mode
Fundamental Frequency : 836.60 MHz
Temperature : 25℃
Humidity : 65%

Test Date: Dec. 09, 2009
Test By: Jason
Pol: Ver

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
36.79	50.66	V	-52.07	-4.16	0.91	-57.14	-13.00	-44.14
96.93	48.82	V	-53.49	-7.76	1.33	-62.58	-13.00	-49.58
250.19	60.59	V	-39.29	-7.89	1.99	-49.17	-13.00	-36.17
349.13	44.54	V	-53.10	-7.64	2.36	-63.10	-13.00	-50.10
407.33	40.78	V	-54.49	-7.67	2.53	-64.69	-13.00	-51.69
594.54	34.87	V	-55.02	-7.79	3.02	-65.83	-13.00	-52.83
1673.20	38.96	V	-65.60	9.36	5.27	-61.50	-13.00	-48.50
2509.80	55.58	V	-45.20	10.09	6.58	-41.70	-13.00	-28.70
3346.40	---	V		12.28	7.79		-13.00	
4183.00	---	V		12.62	8.93		-13.00	
5019.60	---	V		12.67	9.81		-13.00	
5856.20	---	V		13.68	10.62		-13.00	
6692.80	---	V		11.95	11.39		-13.00	
7529.40	---	V		11.45	12.20		-13.00	
8366.00	---	V		11.59	12.81		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
	1GHz - 40GHz: 4.45dB

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: GPRS 850 Mode

Operation Mode : TX CH Mid Mode
Fundamental Frequency : 836.60 MHz
Temperature : 25℃
Humidity : 65%

Test Date: Dec. 09, 2009
Test By: Jason
Pol: Hor

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
36.79	44.76	H	-59.04	-4.16	0.91	-64.10	-13.00	-51.10
96.93	43.37	H	-59.86	-7.76	1.33	-68.95	-13.00	-55.95
250.19	55.93	H	-43.28	-7.89	1.99	-53.16	-13.00	-40.16
327.79	42.50	H	-54.90	-7.76	2.28	-64.94	-13.00	-51.94
407.33	40.06	H	-56.00	-7.67	2.53	-66.20	-13.00	-53.20
460.68	38.34	H	-55.46	-7.70	2.69	-65.85	-13.00	-52.85
1673.20	45.86	H	-58.52	9.36	5.27	-54.42	-13.00	-41.42
2509.80	49.70	H	-51.00	10.09	6.58	-47.50	-13.00	-34.50
3346.40	---	H		12.28	7.79		-13.00	
4183.00	---	H		12.62	8.93		-13.00	
5019.60	---	H		12.67	9.81		-13.00	
5856.20	---	H		13.68	10.62		-13.00	
6692.80	---	H		11.95	11.39		-13.00	
7529.40	---	H		11.45	12.20		-13.00	
8366.00	---	H		11.59	12.81		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
	1GHz - 40GHz: 4.45dB

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: GPRS 850 Mode

Operation Mode	: TX CH High Mode	Test Date:	Dec. 09, 2009
Fundamental Frequency	: 848.80 MHz	Test By:	Jason
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
36.79	50.22	V	-52.51	-4.16	0.91	-57.58	-13.00	-44.58
90.14	50.29	V	-52.89	-7.75	1.27	-61.91	-13.00	-48.91
250.19	62.25	V	-37.63	-7.89	1.99	-47.51	-13.00	-34.51
349.13	44.64	V	-53.00	-7.64	2.36	-63.00	-13.00	-50.00
407.33	41.46	V	-53.81	-7.67	2.53	-64.01	-13.00	-51.01
460.68	39.30	V	-54.67	-7.70	2.69	-65.07	-13.00	-52.07
849.02	81.24	V	-4.88	-7.88	3.68	-16.44	-13.00	-3.44
1697.60	51.52	V	-53.02	9.44	5.31	-48.89	-13.00	-35.89
2546.40	60.11	V	-40.53	10.20	6.63	-36.97	-13.00	-23.97
3395.20	---	V		12.38	7.87		-13.00	
4244.00	---	V		12.63	9.00		-13.00	
5092.80	---	V		12.74	9.88		-13.00	
5941.60	---	V		13.81	10.70		-13.00	
6790.40	---	V		11.86	11.48		-13.00	
7639.20	---	V		11.40	12.27		-13.00	
8488.00	---	V		11.70	12.91		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
	1GHz - 40GHz: 4.45dB

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: GPRS 850 Mode

Operation Mode	: TX CH High Mode	Test Date:	Dec. 09, 2009
Fundamental Frequency	: 848.80 MHz	Test By:	Jason
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
36.79	44.89	H	-58.91	-4.16	0.91	-63.97	-13.00	-50.97
158.04	40.00	H	-58.39	-7.81	1.61	-67.81	-13.00	-54.81
250.19	56.47	H	-42.74	-7.89	1.99	-52.62	-13.00	-39.62
327.79	43.11	H	-54.29	-7.76	2.28	-64.33	-13.00	-51.33
407.33	39.87	H	-56.19	-7.67	2.53	-66.39	-13.00	-53.39
458.74	39.86	H	-53.95	-7.70	2.68	-64.34	-13.00	-51.34
849.00	79.93	H	-6.26	-7.88	3.68	-17.82	-13.00	-4.82
1697.60	50.82	H	-53.53	9.44	5.31	-49.40	-13.00	-36.40
2540.50	60.71	H	-39.90	10.18	6.63	-36.35	-13.00	-23.35
2540.50	60.71	H	-39.90	10.18	6.63	-36.35	-13.00	-23.35
3395.20	---	H		12.38	7.87		-13.00	
4244.00	---	H		12.63	9.00		-13.00	
5092.80	---	H		12.74	9.88		-13.00	
5941.60	---	H		13.81	10.70		-13.00	
6790.40	---	H		11.86	11.48		-13.00	
7639.20	---	H		11.40	12.27		-13.00	
8488.00	---	H		11.70	12.91		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
	1GHz - 40GHz: 4.45dB

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: GPRS 1900 Mode

Operation Mode : TX CH Low Mode
Fundamental Frequency : 1850.20MHz
Temperature : 25℃
Humidity : 65%

Test Date: Dec. 09, 2009
Test By: Jason
Pol: Ver

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
36.79	49.74	V	-52.99	-4.16	0.91	-58.06	-13.00	-45.06
250.19	59.68	V	-40.20	-7.89	1.99	-50.08	-13.00	-37.08
349.13	45.30	V	-52.34	-7.64	2.36	-62.34	-13.00	-49.34
407.33	40.85	V	-54.42	-7.67	2.53	-64.62	-13.00	-51.62
458.74	39.89	V	-54.08	-7.70	2.68	-64.46	-13.00	-51.46
817.74	39.14	V	-47.32	-7.87	3.61	-58.80	-13.00	-45.80
1850.00	74.17	V	-30.22	9.90	5.56	-25.88	-13.00	-12.88
3700.40	---	V		12.61	8.31		-13.00	
5550.60	37.99	V		13.23	10.33		-13.00	
7400.80	---	V		11.50	12.08		-13.00	
9251.00	---	V		11.92	13.50		-13.00	
11101.20	---	V		11.66	15.11		-13.00	
12951.40	---	V		13.63	16.60		-13.00	
14801.60	---	V		12.76	17.95		-13.00	
16651.80	---	V		15.92	19.14		-13.00	
18502.00	---	V		18.75	10.40		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
	1GHz - 40GHz: 4.45dB

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: GPRS 1900 Mode

Operation Mode : TX CH Low Mode
Fundamental Frequency : 1850.20MHz
Temperature : 25℃
Humidity : 65%

Test Date: Dec. 09, 2009
Test By: Jason
Pol: Hor

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
36.79	48.11	H	-55.69	-4.16	0.91	-60.75	-13.00	-47.75
250.19	47.34	H	-51.87	-7.89	1.99	-61.75	-13.00	-48.75
327.79	45.77	H	-51.63	-7.76	2.28	-61.67	-13.00	-48.67
407.33	46.81	H	-49.25	-7.67	2.53	-59.45	-13.00	-46.45
458.74	50.03	H	-43.78	-7.70	2.68	-54.17	-13.00	-41.17
817.64	38.27	H	-48.02	-7.87	3.61	-59.50	-13.00	-46.50
1850.00	80.36	H	-24.03	9.90	5.56	-19.69	-13.00	-6.69
3700.40	43.97	H	-54.07	12.61	8.31	-49.77	-13.00	-36.77
5550.60	48.58	H	-42.47	13.23	10.33	-39.57	-13.00	-26.57
7400.80	---	H		11.50	12.08		-13.00	
9251.00	---	H		11.92	13.50		-13.00	
11101.20	---	H		11.66	15.11		-13.00	
12951.40	---	H		13.63	16.60		-13.00	
14801.60	---	H		12.76	17.95		-13.00	
16651.80	---	H		15.92	19.14		-13.00	
18502.00	---	H		18.75	10.40		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
	1GHz - 40GHz: 4.45dB

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: GPRS 1900 Mode

Operation Mode : TX CH Mid Mode
Fundamental Frequency : 1880MHz
Temperature : 25℃
Humidity : 65%

Test Date: Dec. 09, 2009
Test By: Jason
Pol: Ver

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
36.79	49.69	V	-53.04	-4.16	0.91	-58.11	-13.00	-45.11
96.93	47.24	V	-55.07	-7.76	1.33	-64.16	-13.00	-51.16
250.19	59.21	V	-40.67	-7.89	1.99	-50.55	-13.00	-37.55
349.13	44.83	V	-52.81	-7.64	2.36	-62.81	-13.00	-49.81
458.74	39.54	V	-54.43	-7.70	2.68	-64.81	-13.00	-51.81
834.13	38.29	V	-47.99	-7.88	3.65	-59.51	-13.00	-46.51
3760.00	44.17	V	-53.49	12.60	8.39	-49.27	-13.00	-36.27
5640.00	41.87	V	-48.71	13.36	10.41	-45.76	-13.00	-32.76
7520.00	---	V		11.45	12.19		-13.00	
9400.00	---	V		11.93	13.61		-13.00	
11280.00	---	V		11.92	15.27		-13.00	
13160.00	---	V		13.33	16.71		-13.00	
15040.00	---	V		13.76	18.15		-13.00	
16920.00	---	V		15.27	19.32		-13.00	
18800.00	---	V		18.68	16.58		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
	1GHz - 40GHz: 4.45dB

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: GPRS 1900 Mode

Operation Mode : TX CH Mid Mode
Fundamental Frequency : 1880MHz
Temperature : 25℃
Humidity : 65%

Test Date: Dec. 09, 2009
Test By: Jason
Pol: Hor

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
36.79	44.39	H	-59.41	-4.16	0.91	-64.47	-13.00	-51.47
250.19	55.30	H	-43.91	-7.89	1.99	-53.79	-13.00	-40.79
327.79	42.64	H	-54.76	-7.76	2.28	-64.80	-13.00	-51.80
460.68	39.49	H	-54.31	-7.70	2.69	-64.70	-13.00	-51.70
523.73	36.54	H	-56.09	-7.74	2.88	-66.70	-13.00	-53.70
832.19	38.13	H	-48.11	-7.88	3.64	-59.63	-13.00	-46.63
3760.00	44.54	H	-53.23	12.60	8.39	-49.02	-13.00	-36.02
5640.00	47.20	H	-43.55	13.36	10.41	-40.60	-13.00	-27.60
7520.00	---	H		11.45	12.19		-13.00	
9400.00	---	H		11.93	13.61		-13.00	
11280.00	---	H		11.92	15.27		-13.00	
13160.00	---	H		13.33	16.71		-13.00	
15040.00	---	H		13.76	18.15		-13.00	
16920.00	---	H		15.27	19.32		-13.00	
18800.00	---	H		18.68	16.58		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
	1GHz - 40GHz: 4.45dB

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark”---“ means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: GPRS 1900 Mode

Operation Mode	: TX CH High Mode	Test Date:	Dec. 09, 2009
Fundamental Frequency	: 1909.8 MHz	Test By:	Jason
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
33.88	50.06	V	-53.51	-5.52	0.93	-59.96	-13.00	-46.96
90.14	46.75	V	-56.43	-7.75	1.27	-65.45	-13.00	-52.45
250.19	59.97	V	-39.91	-7.89	1.99	-49.79	-13.00	-36.79
349.13	45.77	V	-51.87	-7.64	2.36	-61.87	-13.00	-48.87
460.68	39.36	V	-54.61	-7.70	2.69	-65.01	-13.00	-52.01
834.13	38.89	V	-47.39	-7.88	3.65	-58.91	-13.00	-45.91
1910.00	76.71	V	-27.62	10.08	5.66	-23.20	-13.00	-10.20
3819.60	48.27	V	-49.12	12.60	8.47	-44.99	-13.00	-31.99
5729.40	47.78	V	-42.54	13.49	10.50	-39.54	-13.00	-26.54
7639.20	---	V		11.40	12.27		-13.00	
9549.00	---	V		11.95	13.74		-13.00	
11458.80	---	V		12.17	15.43		-13.00	
13368.60	---	V		12.97	16.82		-13.00	
15278.40	---	V		15.00	18.29		-13.00	
17188.20	---	V		14.47	19.52		-13.00	
19098.00	---	V		18.66	20.78		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
	1GHz - 40GHz: 4.45dB

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark”---“ means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: GPRS 1900 Mode

Operation Mode : TX CH High Mode
Fundamental Frequency : 1909.8 MHz
Temperature : 25℃
Humidity : 65%

Test Date: Dec. 09, 2009
Test By: Jason
Pol: Hor

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
36.79	43.59	H	-60.21	-4.16	0.91	-65.27	-13.00	-52.27
250.19	55.48	H	-43.73	-7.89	1.99	-53.61	-13.00	-40.61
327.79	42.52	H	-54.88	-7.76	2.28	-64.92	-13.00	-51.92
407.33	39.11	H	-56.95	-7.67	2.53	-67.15	-13.00	-54.15
460.68	39.58	H	-54.22	-7.70	2.69	-64.61	-13.00	-51.61
817.64	37.55	H	-48.74	-7.87	3.61	-60.22	-13.00	-47.22
1910.00	80.12	H	-23.99	10.08	5.66	-19.57	-13.00	-6.57
3819.60	47.15	H	-50.36	12.60	8.47	-46.22	-13.00	-33.22
5729.40	40.94	H	-49.51	13.49	10.50	-46.52	-13.00	-33.52
7639.20	---	H		11.40	12.27		-13.00	
9549.00	---	H		11.95	13.74		-13.00	
11458.80	---	H		12.17	15.43		-13.00	
13368.60	---	H		12.97	16.82		-13.00	
15278.40	---	H		15.00	18.29		-13.00	
17188.20	---	H		14.47	19.52		-13.00	
19098.00	---	H		18.66	20.78		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
	1GHz - 40GHz: 4.45dB

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark”---“ means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result (below 1GHz) (worst case for each band)

Operation Mode	GPRS 850 RX CH Low Mode	Test Date	Nov. 04, 2009
Fundamental Frequency	824.20 MHz	Test By	Jason
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
36.79	V	Peak	51.12	-14.36	36.76	40.00	-3.24
96.93	V	Peak	48.91	-17.16	31.75	43.50	-11.75
250.19	V	Peak	56.66	-13.74	42.92	46.00	-3.08
349.13	V	Peak	44.20	-11.82	32.38	46.00	-13.62
407.33	V	Peak	40.77	-9.82	30.95	46.00	-15.05
832.19	V	Peak	36.89	-2.37	34.52	46.00	-11.48
36.79	H	Peak	45.65	-14.36	31.29	40.00	-8.71
159.98	H	Peak	42.78	-13.40	29.38	43.50	-14.12
250.19	H	Peak	57.35	-13.74	43.61	46.00	-2.39
327.79	H	Peak	42.65	-12.36	30.29	46.00	-15.71
417.03	H	Peak	40.30	-9.46	30.84	46.00	-15.16
832.19	H	Peak	38.81	-2.37	36.44	46.00	-9.56

Remark：

(1) Measuring frequencies from 30 MHz to the 1GHz。

(2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.

(3) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

Operation Mode	GPRS 1900 RX CH Mid Mode	Test Date	Dec. 09, 2009
Fundamental Frequency	1909.8 MHz	Test By	Jason
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
36.79	V	Peak	49.84	-14.36	35.48	40.00	-4.52
90.14	V	Peak	47.43	-17.62	29.81	43.50	-13.69
250.19	V	Peak	57.16	-13.74	43.42	46.00	-2.58
349.13	V	Peak	45.27	-11.82	33.45	46.00	-12.55
458.74	V	Peak	40.04	-8.61	31.43	46.00	-14.57
834.13	V	Peak	37.56	-2.28	35.28	46.00	-10.72
33.88	H	Peak	45.00	-14.65	30.35	40.00	-9.65
250.19	H	Peak	56.91	-13.74	43.17	46.00	-2.83
327.79	H	Peak	42.69	-12.36	30.33	46.00	-15.67
373.38	H	Peak	40.84	-10.95	29.89	46.00	-16.11
458.74	H	Peak	39.25	-8.61	30.64	46.00	-15.36
832.19	H	Peak	37.77	-2.37	35.40	46.00	-10.60

Remark：

(1) Measuring frequencies from 30 MHz to the 1GHz。

(2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.

(3) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

Radiated Spurious Emission Measurement Result (above 1GHz) (worst case for each band)

Operation Mode	GPRS 850 RX CH Low	Test Date	Dec. 09, 2009
Fundamental Frequency	824.2 MHz	Test By	Jason
Temperature	25℃	Pol	Ver.
Humidity	65 %		

Freq. (MHz)	Peak Reading (dBuV)	AV Reading (dBuV)	Ant./CL CF(dB)	Actual FS Peak (dBuV/m)	Actual FS AV (dBuV/m)	Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)
1648.4	40.27	--	-5.11	35.16	--	74.00	54.00	-18.84
1994.0	41.81	--	-3.47	38.34	--	74.00	54.00	-15.66
2472.6	37.54	--	-0.92	36.62	--	74.00	54.00	-17.38
3296.8	----					74.00	54.00	
4121.0	----					74.00	54.00	
4945.2	----					74.00	54.00	

Remark：

(1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency。

(2) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column。

(4) Spectrum Peak Setting : 1GHz- 40GHz, RBW= 3MHz, VBW= 1MHz, Sweep time= 200 ms.

(5) Spectrum AV Setting : 1GHz- 40GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Operation Mode	GPRS 850 RX CH Low	Test Date	Dec. 09, 2009
Fundamental Frequency	824.2 MHz	Test By	Jason
Temperature	25 ℃	Pol	Hor
Humidity	65 %		

Freq. (MHz)	Peak Reading (dBuV)	AV Reading (dBuV)	Ant./CL CF(dB)	Actual FS Peak (dBuV/m)	Actual FS AV (dBuV/m)	Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	
1648.4	36.77	--	-5.11	31.66	--	74.00	54.00	-22.34	Peak
2472.6	----					74.00	54.00		Peak
3296.8	----					74.00	54.00		Peak
4121.0	----					74.00	54.00		
4945.2	----					74.00	54.00		

Remark :

(1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency。

(2) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column。

(4) Spectrum Peak Setting : 1GHz- 40GHz, RBW= 3MHz, VBW= 1MHz, Sweep time= 200 ms.

(5) Spectrum AV Setting : 1GHz- 40GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Operation Mode	GPRS 1900 RX CH High	Test Date	Dec. 09, 2009
Fundamental Frequency	1909.8 MHz	Test By	Jason
Temperature	25℃	Pol	Ver.
Humidity	65 %		

Freq. (MHz)	Peak Reading (dBuV)	AV Reading (dBuV)	Ant./CL CF(dB)	Actual FS Peak (dBuV/m)	Actual FS AV (dBuV/m)	Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	
1994.0	38.21	--	-3.47	34.74	--	74.00	54.00	-19.26	Peak
2498.0	38.56	--	-0.84	37.72	--	74.00	54.00	-16.28	Peak
3674.0	36.59	--	2.62	39.21	--	74.00	54.00	-14.79	Peak
3819.6	----					74.00	54.00		
5729.4	----					74.00	54.00		
7639.2	----					74.00	54.00		
9549.0	----					74.00	54.00		
11458.8	----					74.00	54.00		

Remark :

(1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency。

(2) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column。

(4) Spectrum Peak Setting : 1GHz- 40GHz, RBW= 3MHz, VBW= 1MHz, Sweep time= 200 ms.

(5) Spectrum AV Setting : 1GHz- 40GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Operation Mode	GPRS 1900 RX CH High	Test Date	Dec. 09, 2009
Fundamental Frequency	1909.8 MHz	Test By	Jason
Temperature	25 ℃	Pol	Hor
Humidity	65 %		

Freq. (MHz)	Peak Reading (dBuV)	AV Reading (dBuV)	Ant./CL CF(dB)	Actual FS Peak (dBuV/m)	Actual FS AV (dBuV/m)	Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	
1938.0	38.67	--	-3.73	34.94	--	74.00	54.00	-19.06	Peak
3819.6	----				---	74.00	54.00		
5729.4	----					74.00	54.00		
7639.2	----					74.00	54.00		
9549.0	----					74.00	54.00		
11458.8	----					74.00	54.00		

Remark：

(1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency。

(2) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column。

(4) Spectrum Peak Setting : 1GHz- 40GHz, RBW= 3MHz, VBW= 1MHz, Sweep time= 200 ms.

(5) Spectrum AV Setting : 1GHz- 40GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.