

Report No.: EH/2010/90019 Issue Date: Oct. 04, 2010

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ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 22 SUBPART H, PART 24 SUBPART E CLASS II PC REPORT

For

Mini-PCIe wireless WAN (F3307) card INSTALLED IN

Product Description:

AN HP HSTNN-F05C SERIES LAPTOP

Trade Name: N/A

Model Name of Host: HSTNN-F05C

Model Difference of Host: N/A

Model No. for WWAN

Module

F3307 (KRD 131 16/61 R1)

FCC ID: VV7-MBMF33071-H

Report No.: EH/2010/90019

Issue Date: Oct. 04, 2010

FCC Rule Part: 2, 22H & 24E

Prepared for: Ericsson AB

Lindholmspiren 11 Gothenburg, Sweden SE-41756

Prepared by: SGS Taiwan Ltd.

Electronics & Communication Laboratory

No. 134, Wu Kung Rd., Wuku Industrial Zone, Taipei

County, Taiwan.

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CERTIFICATION OF COMPLIANCE

Applicant: Ericsson AB

Lindholmspiren 11 Gothenburg, Sweden SE-41756

Product Description: Mini-PCIe wireless WAN (F3307) card INSTALLED IN

AN HP HSTNN-F05C SERIES LAPTOP

Trade Name: N/A

FCC ID: VV7-MBMF33071-H

Model No of the host HSTNN-F05C

Model Difference

of Host:

Modular:

N/A

Model No. for WWAN

F3307 (KRD 131 16/61 R1)

File Number: EH/2010/90019

Date of test: Sep. 17, 2010 ~ Sep. 29, 2010

Date of EUT Received: Sep. 17, 2010

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 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.

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

Test By:	Bono	li Jin	Date:	Oct. 04, 2010	
	Bondi L	iu/ Engineer		CFD	
Prepared By:	Alex	Hsieh	Date:	Oct. 04, 2010	
	Alex Hsiel	h /Sr. Engineer			
Approved By:	Almo	Hsieh	Date:	Oct. 04, 2010	

Arno Hsieh /Asst. Supervisor

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Version

Version No.	Date	Description
00	Oct. 04, 2010	Initial creation of document

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GENERAL INFORMATION

Description 1.1

General Information of Notebook

WWAN Module Name:	Mini-PCIe wireless WAN (F3307) card INSTALLED IN AN HP HSTNN-F05C SERIES LAPTOP					
WWAN Module Model No.:	F3307					
Host Name:	Nano 1.0					
Brand Name:	N/A					
Model Name:	HSTNN-F05C					
Model Difference of Host:	N/A					
Model No. for WWAN Module:	F3307 (KRD 131 16/61 R1)					
39	10.8 Vdc Li-Ion battery or 19.5Vdc from AC/DC adapter					
Power Supply:	Battery: Model No.: HSTNN-1B1X					
	Adapter : Model: HSTNN-CA18					

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GSM / WCDMA:

ODIII) II ODIIIIV							
	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				
Cellular Phone Standards	GSM / GPRS 1900, Class 10	1850.2MHz – 1909.8MHz	30 dBm				
Frequency Range:	EDGE 1900, Class 10	1850.2MHz – 1909.8MHz	26 dBm				
Troquency range.	WCDMA/HSUPA/HSDPA Band II	1852.4MHz – 1907.6MHz	24 dBm				
	WCDMA/HSUPA/HSDPA Band V	826.4MHz - 846.6MHz	24 dBm				
IMEI:	351912040002702						
Hardware Version for WWAN Modular:	R1						
Software Version for WWAN Modular:	R1G05						
WWAN module FCC ID:	VV7-MBMF33071-H	VV7-MBMF33071-H					
Class II	Mini-PCIe wireless WAN (F330	07) card INSTALLED IN					
Permissive change:	AN HP HSTNN-F05C SERIES	LAPTOP					
Type of Emission:	24E(GMSK): 1850.2 – 1909.8 N 22H(8PSK): 824.2 - 848.8 MHz 24E(8PSK): 1850.2 – 1909.8 MI 22H(WCDMA): 826.4 - 846.6 N	22H(GMSK): 824.2 - 848.8 MHz: 300KGXW 24E(GMSK): 1850.2 - 1909.8 MHz: 300KGXW 22H(8PSK): 824.2 - 848.8 MHz: 300KG7W 24E(8PSK): 1850.2 - 1909.8 MHz: 300KG7W 22H(WCDMA): 826.4 - 846.6 MHz: 4M20F9W 24E(WCDMA): 1852.4 - 1907.5 MHz: 4M20F9W					
Transmit power (Conducted Power) Listed in Test Report/Original Grant:	22H(GMSK): 824.2 - 848.8 MHz: 2.24W/33.50dBm 24E(GMSK): 1850.2 – 1909.8 MHz: 1.03W/30.10dBm 22H(8PSK): 824.2 - 848.8 MHz: 2.24W/33.50dBm 24E(8PSK): 1850.2 – 1909.8 MHz: 1.02W/30.00dBm 22H(WCDMA): 826.4 - 846.6 MHz: 0.65W/28.10dBm 24E(WCDMA): 1852.4 – 1907.5 MHz: 0.68W/28.32dBm						

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

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1.2 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for **FCC ID:** <u>VV7-MBMF33071-H</u> filing to comply with Section Part 22 subpart H, Part 24 subpart E of the FCC CFR 47 Rules.

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

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-4

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.

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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 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.

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2.4 Configuration of Tested System

Fig. 1-1 Configuration for Radiated Emission

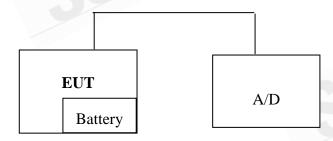


Fig. 1-2Configuration (Remote Side, on the corner)

CMU200

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

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SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
24.232(C) 22.913(a)(2)	RF Power output / Maxmum power reduction measurement	Compliant
\$2.1046(a) \$22.913(a)(2) \$24.232(c)	ERP/ EIRP measurement	Compliant
\$2.1053 \$22.917(a) \$24.238(a)	Field Strength of Spurious Radiation	Compliant

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.

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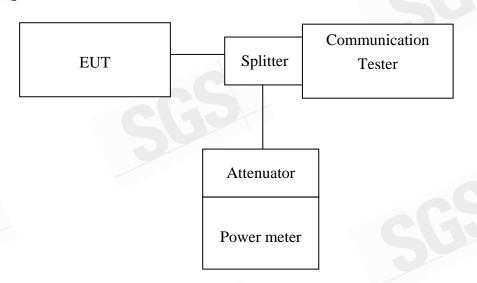
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5. RF POWER OUTPUT/ MAXMUM POWER REDUCTION MEASUREMENT

5.1 Standard Applicable:

FCC 24.232(C) Peak Power Measurement, 22.913(a)(2)

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 attenuator to the power meter reaing. It was used for EUT and Base station setting.

5.4 Measurement Equipment Used:

Refer to section 2.4 in this report

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5.5 Measurement Result:

GPRS850	1Dn	1UP	1Dn2UP		
	PK(dBm)	AV(dBm)	PK(dBm)	AV(dBm)	
CH 128	32.20	32.00	32.10	32.00	
CH 190	32.30	32.20	32.20	32.10	
CH 251	32.30	32.20	32.30	32.10	
EDGE850	1Dn	1UP	1Dn2UP		
	PK(dBm)	AV(dBm)	PK(dBm)	AV(dBm)	
CH 128	30.20	27.20	30.20	27.10	
CH 190	30.50	27.40	30.40	27.30	
CH 251	30.50	27.50	30.50	27.40	

GPRS1900	1Dn	1UP	1Dn2UP				
	PK(dBm)	PK(dBm) AV(dBm) PK(dBm)		AV(dBm)			
CH 512	28.80	28.70	28.80	28.60			
CH 661	28.60	28.60 28.40		28.30			
CH 810	28.30	28.20	28.30	28.10			
EDGE1900	1Dn	1UP	1Dn2UP				
	PK(dBm)	AV(dBm)	PK(dBm)	AV(dBm)			
CH 512	28.90	25.80	28.90	25.70			
CH 661	28.60	25.60	28.60	25.50			
CH 810	28.40	25.30	28.40	25.20			

UMTS B2	WCDMA		HSUPA		HSDPA		
	PK(dBm)	AV(dBm)	PK(dBm)	PK(dBm) AV(dBm)		AV(dBm)	
CH 9262	25.66	22.71	25.13	20.26	25.79	22.58	
CH 9400	25.49 22.66		24.86	20.06	25.69	22.61	
CH 9538	25.29 22.57		24.52 19.82		25.40	22.39	
UMTS B5	WCI	OMA	HSUPA		HSDPA		
	PK(dBm)	AV(dBm)	PK(dBm)	AV(dBm)	PK(dBm)	AV(dBm)	
CH 4132	26.18	23.35	25.42	20.80	26.31	23.28	
CH 4183	26.15	23.42	25.56	20.94	26.36	23.40	
CH 4233	26.22			20.92	26.48	23.38	

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6. ERP/EIRP MEASUREMENT

6.1 Standard Applicable

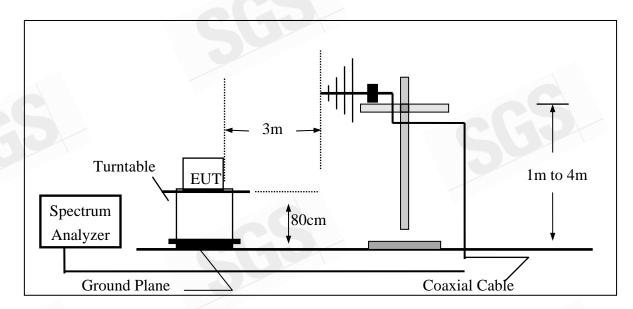
According to FCC §2.1046

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

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

6.2 Test SET-UP (Block Diagram of Configuration)

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



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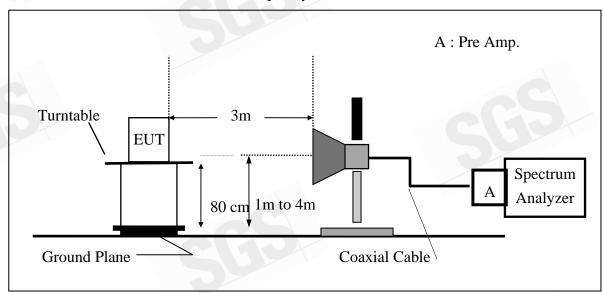
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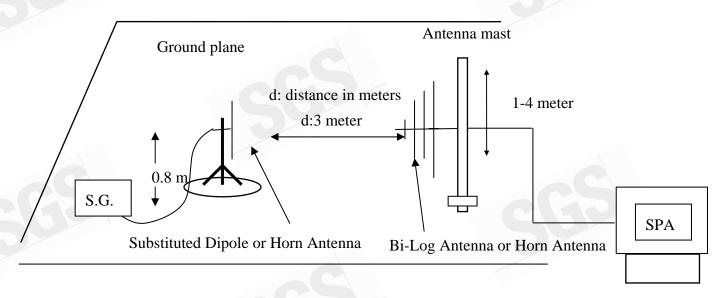
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(B) Radiated Emission Test Set-UP Frequency Over 1 GHz



(C) Substituted Method Test Set-UP



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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)

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6.4 Measurement Equipment Used:

ERP, EIRP MEASUREMENT EQUIPMENT List 966 Chamber								
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.			
TYPE		NUMBER	NUMBER	CAL.				
Spectrum Analyzer	R&S	FSP 40	100034	02/12/2010	02/11/2011			
Bilog Antenna	SCHWAZBECK	VULB9160	9160-3136	11/15/2009	11/14/2010			
Dipole Antenna	SCHWAZBECK	VHAP	908/909	07/10/2010	07/09/2012			
Dipole Antenna	SCHWAZBECK	UHAP	891/892	07/10/2010	07/09/2012			
Hor.n antenna	SCHWAZBECK	BBHA 9120D	309	01/22/2010	01/21/2012			
Horn antenna	SCHWAZBECK	BBHA 9120D	9120D-673	05/09/2010	05/08/2012			
Signal Generator	R&S	SMR40	100210	01/22/2010	01/21/2011			
Signal Generator	Agilent	E4438C	MY45093613	06/11/2010	06/10/2011			
Pre-Amplifier	Agilent	8447D	1937A02834	11/30/2009	11/29/2010			
Pre-Amplifier	Agilent	8449B	3008A01973	01/05/2010	01/04/2011			
Attenuator	Mini-Circuit	BW-S20W5	001	07/05/2010	07/04/2011			
Attenuator	Mini-Circuit	BW-S10W5	001	07/05/2010	07/04/2011			
Attenuator	Mini-Circuit	BW-S6W5	001	07/05/2010	07/04/2011			
Radio Communication Analyzer	R&S	CMU200	102189	05/13/2010	05/12/2012			
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	01/05/2010	01/04/2011			
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-3M	3m	01/05/2010	01/04/2011			
Filter 800-1000	Micro-Tronics	BRM13462	1	01/05/2010	01/04/2011			
Filter 1800-2000	Micro-Tronics	BRM13463	1	01/05/2010	01/04/2011			
3m Site	SGS	966 chamber	N/A	11/08/2009	11/09/2010			

6.5 **Measurement Result**

Refer to following pages for detail.

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Measurement Result:

EUT Mode	Frequency (MHz)	СН	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)								
	824.20	128	120	**	V	127.20	40.81	-7.87	3.62	29.31	38.45							
	624.20		Н	Н	126.89	40.62	-7.87	3.62	29.12	38.45								
GPRS 850	836.60	836.60 190	190 F		V	126.40	40.15	-7.88	3.65	28.62	38.45							
GPRS 850				190	190	190	190	190	190	190	190	190	190 H	90 H	Н	126.61	40.38	-7.88
	848.80	48.80 251		V	125.74	39.62	-7.88	3.68	28.06	38.45								
			l H	Н	126.69	40.50	-7.88	3.68	28.94	38.45								

Remark:

(1) The RBW,VBW of SPA for frequency RBW=300 KHz, VBW=1MHz

EUT Mode	Frequency (MHz)	СН	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
	1850.20	512	**	V	125.31	20.92	9.90	5.56	25.26	33.00
	1630.20	312	Н	Н	125.58	21.40	9.90	5.84	25.46	33.00
GPRS 1900	1880.00	661	1	V	125.42	21.06	9.99	5.61	25.44	33.00
GFK3 1900	1880.00	001	Н	Н	125.14	21.00	9.99	5.61	25.37	33.00
	1000.80	810		V	126.29	21.96	10.08	5.66	26.38	33.00
	1909.80 810	Н	Н	126.59	22.48	10.08	5.66	26.90	33.00	

Remark:

(1) The RBW,VBW of SPA for frequency RBW=300 KHz, VBW=1MHz

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EUT Mode	Frequency (MHz)	СН	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
	824.20	128		V	124.25	37.86	-7.87	3.62	26.36	38.45
	624.20	120	Н	Н	124.20	37.93	-7.87	3.62	26.43	38.45
EDGE 850	836.60	190		V	124.12	37.87	-7.88	3.65	26.34	38.45
EDGE 830	830.00	190	Н	Н	124.20	37.97	-7.88	3.65	26.44	38.45
	949 90	251		V	123.70	37.58	-7.88	3.68	26.02	38.45
8	848.80	251	Н	Н	124.78	38.59	-7.88	3.68	27.03	38.45

Remark:

(1) The RBW, VBW of SPA for frequency RBW=300 KHz, VBW=1MHz

EUT Mode	Frequency (MHz)	СН	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
	1850.20	512	**	V	124.15	19.76	9.90	5.56	24.10	33.00
	1650.20	512	2 H	Н	123.69	19.51	9.90	5.84	23.57	33.00
EDGE 1900	1880.00	661		V	122.94	18.58	9.99	5.61	22.96	33.00
EDGE 1900	1000.00	001	Н	Н	122.99	18.85	9.99	5.61	23.22	33.00
	1909.80	80 810		V	123.93	19.60	10.08	5.66	24.02	33.00
	1709.00	010	Н	Н	124.03	19.92	10.08	5.66	24.34	33.00

Remark:

The RBW, VBW of SPA for frequency (1)RBW=300 KHz, VBW=1MHz

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EUT Mode	Frequency (MHz)	СН	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
	1852.40	9262		V	115.06	10.68	9.90	5.56	15.01	33.00
	1632.40	9202	Н	Н	117.87	13.69	9.90	5.84	17.75	33.00
WCDMA	1880.00	0400	**	V	115.74	11.38	9.99	5.61	15.76	33.00
Band II	1880.00 94	9400	Н	Н	118.76	14.62	9.99	5.61	18.99	33.00
	1907 60	0520	**	V	119.51	15.18	10.07	5.66	19.59	33.00
1907.60	9538	Н	Н	113.90	9.79	10.07	5.66	14.20	33.00	

Remark:

(1) The RBW, VBW of SPA for frequency RBW= 5MHz, VBW= 8MHz

EUT Mode	Frequency (MHz)	СН	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
	826.40	4132		V	118.40	32.04	-7.88	3.63	20.53	38.45
	020.40	4132	Н	Н	118.72	32.46	-7.88	3.63	20.96	38.45
WCDMA	836.60	4183	Н	V	117.71	31.46	-7.88	3.65	19.93	38.45
Band V	830.00	4103		Н	117.44	31.21	-7.88	3.65	19.68	38.45
	846.60	1233	Н	V	118.66	32.51	-7.88	3.67	20.96	38.45
	040.00	46.60 4233		Н	118.81	32.61	-7.88	3.67	21.06	38.45

Remark:

(1) The RBW,VBW of SPA for frequency RBW= 5MHz, VBW= 8MHz

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EUT Mode	Frequency (MHz)	СН	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
	1852.40	9262		V	116.48	12.10	9.90	5.56	16.43	33.00
	1632.40	9202	Н	Н	119.25	15.07	9.90	5.84	19.13	33.00
HSDPA	1880.00	9400	**	V	116.65	12.29	9.99	5.61	16.67	33.00
Band II	1880.00		Н	Н	120.12	15.98	9.99	5.61	20.35	33.00
	1907 60			V	115.15	10.82	10.07	5.66	15.23	33.00
1907.60	9538	Н	Н	120.56	16.45	10.07	5.66	20.86	33.00	

Remark:

(1) The RBW, VBW of SPA for frequency RBW= 5MHz, VBW= 8MHz

EUT Mode	Frequency (MHz)	СН	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
	826.40	4132	**	V	119.25	32.89	-7.88	3.63	21.38	38.45
	020.40	4132	Н	Н	119.57	33.31	-7.88	3.63	21.81	38.45
HSDPA	836.60	4183	Н	V	118.96	32.71	-7.88	3.65	21.18	38.45
Band V	830.00	4103		Н	118.65	32.42	-7.88	3.65	20.89	38.45
	846.60	846.60 4233	4222	V	119.66	33.51	-7.88	3.67	21.96	38.45
	846.60 4233	Н	Н	119.83	33.63	-7.88	3.67	22.08	38.45	

Remark:

(1) The RBW, VBW of SPA for frequency RBW = 5MHz, VBW = 8MHz

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EUT Mode	Frequency (MHz)	СН	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
	1852.40	9262		V	117.42	13.04	9.90	5.56	17.37	33.00
	1632.40	9202	Н	Н	119.31	15.13	9.90	5.84	19.19	33.00
HSUPA	1000.00	9400	Н	V	116.16	11.80	9.99	5.61	16.18	33.00
Band II	1880.00			Н	119.63	15.49	9.99	5.61	19.86	33.00
	1907.60		Н	V	114.82	10.49	10.07	5.66	14.90	33.00
1907.6	1907.00	9538		Н	120.24	16.13	10.07	5.66	20.54	33.00

Remark:

(1) The RBW, VBW of SPA for frequency RBW= 5MHz, VBW= 8MHz

EUT Mode	Frequency (MHz)	СН	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
	826.40	4132	11	V	119.25	32.89	-7.88	3.63	21.38	38.45
	020.40	4132	Н	Н	119.57	33.31	-7.88	3.63	21.81	38.45
HSUPA	836.60	4183	**	V	118.96	32.71	-7.88	3.65	21.18	38.45
Band V	830.00	4103	183 H	Н	118.65	32.42	-7.88	3.65	20.89	38.45
	846.60	4233	Н	V	119.66	33.51	-7.88	3.67	21.96	38.45
	040.00	4233		Н	119.83	33.63	-7.88	3.67	22.08	38.45

Remark:

(1) The RBW, VBW of SPA for frequency RBW = 5MHz, VBW = 8MHz

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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)

7.2 EUT Setup (Block Diagram of Configuration)

Refer to section 5.2 for details

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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 <math>(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.

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Radiated Spurious Emission Measurement Result: GPRS 850 Mode

Operation Mode : TX CH Low Mode Test Date: Sep, 29, 2010

Fundamental Frequency : 824.20 MHz Test By: Bondi Temperature : 25°C Pol: Ver

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
92.08	45.87	V	-57.06	-7.75	1.29	-66.10	-13.00	-53.10
162.89	37.04	V	-61.41	-7.81	1.62	-70.84	-13.00	-57.84
216.24	38.62	V	-62.55	-7.86	1.80	-72.20	-13.00	-59.20
322.94	37.71	V	-60.26	-7.79	2.26	-70.30	-13.00	-57.30
378.23	40.10	V	-56.33	-7.65	2.44	-66.42	-13.00	-53.42
480.08	37.63	V	-56.43	-7.71	2.74	-66.88	-13.00	-53.88
824.00	80.24	V	-6.15	-7.87	3.62	-17.65	-13.00	-4.65
1648.40	49.15	V	-55.43	9.29	5.23	-51.37	-13.00	-38.37
2472.60	52.32	V	-48.69	10.08	6.53	-45.14	-13.00	-32.14
3296.80		V		12.17	7.71		-13.00	
4121.00	44.70	V	-51.42	12.61	8.86	-47.67	-13.00	-34.67
4945.20		V		12.65	9.74		-13.00	
5769.40		V		13.55	10.54		-13.00	
6593.60		V	7 6	12.05	11.30		-13.00	
7417.80		V		11.49	12.10		-13.00	
8242.00		V		11.48	12.71		-13.00	

	30MHz - 80MHz: 5.04dB
Measurement uncertainty	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 (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: GPRS 850 Mode

Operation Mode : TX CH Low Mode Sep, 29, 2010

Fundamental Frequency Test By: Bondi : 824.20 MHz Temperature : 25°C Pol: Hor

Humidity : 65%

	SPA.		S.G Out-	Antenna	Cable	ERP/		Safe
Freq. (MHz)	Reading (dBuV)	Ant.Pol. H/V	put (dBm)	Gain (dBd/dBi)	Loss (dB)	EIRP (dBm)	Limit (dBm)	Margin (dBm)
101.78	40.69	Н	-62.12	-7.76	1.37	-71.25	-13.00	-58.25
162.89	36.42	Н	-62.35	-7.81	1.62	-71.78	-13.00	-58.78
216.24	35.90	Н	-64.96	-7.86	1.80	-74.62	-13.00	-61.62
324.88	37.45	Н	-59.98	-7.78	2.26	-70.03	-13.00	-57.03
378.23	35.48	Н	-61.29	-7.65	2.44	-71.38	-13.00	-58.38
480.08	36.60	Н	-57.03	-7.71	2.74	-67.48	-13.00	-54.48
824.00	79.47	Н	-6.80	-7.87	3.62	-18.30	-13.00	-5.30
1648.40	53.99	Н	-50.41	9.29	5.23	-46.35	-13.00	-33.35
2472.60	57.33	Н	-43.58	10.08	6.53	-40.03	-13.00	-27.03
3296.80		Н		12.17	7.71		-13.00	
4121.00	46.28	Н	-49.97	12.61	8.86	-46.22	-13.00	-33.22
4945.20		Н		12.65	9.74		-13.00	
5769.40		Н		13.55	10.54		-13.00	
6593.60		Н		12.05	11.30		-13.00	
7417.80		Н		11.49	12.10		-13.00	
8242.00		Н		11.48	12.71		-13.00	

	30MHz - 80MHz: 5.04dB
Measurement uncertainty	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 (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: GPRS 850 Mode

Operation Mode : TX CH Mid Mode Test Date: Sep, 29, 2010

Fundamental Frequency : 836.60 MHz Test By: Bondi Temperature : 25° C Pol: Ver

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
92.08	45.43	V	-57.50	-7.75	1.29	-66.54	-13.00	-53.54
162.89	34.72	V	-63.73	-7.81	1.62	-73.16	-13.00	-60.16
216.24	36.68	V	-64.49	-7.86	1.80	-74.14	-13.00	-61.14
322.94	38.27	V	-59.70	-7.79	2.26	-69.74	-13.00	-56.74
378.23	40.06	V	-56.37	-7.65	2.44	-66.46	-13.00	-53.46
480.08	36.47	V	-57.59	-7.71	2.74	-68.04	-13.00	-55.04
1673.20	47.32	V	-57.24	9.36	5.27	-53.14	-13.00	-40.14
2509.80	56.43	V	-44.35	10.09	6.58	-40.85	-13.00	-27.85
3346.40	39.86	V	-59.00	12.28	7.79	-54.52	-13.00	-41.52
4183.00	42.18	V	-53.71	12.62	8.93	-50.02	-13.00	-37.02
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	

	30MHz - 80MHz: 5.04dB					
Measurement uncertainty	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 (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: GPRS 850 Mode

Operation Mode : TX CH Mid Mode Test Date: Sep, 29, 2010

Fundamental Frequency: 836.60 MHz Test By: Bondi Temperature Pol: Hor : 25°℃

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
92.08	40.96	Н	-62.63	-7.75	1.29	-71.67	-13.00	-58.67
216.24	35.19	Н	-65.67	-7.86	1.80	-75.33	-13.00	-62.33
322.94	37.17	Н	-60.28	-7.79	2.26	-70.33	-13.00	-57.33
378.23	36.12	Н	-60.65	-7.65	2.44	-70.74	-13.00	-57.74
480.08	36.07	Н	-57.56	-7.71	2.74	-68.01	-13.00	-55.01
647.89	34.16	Н	-55.60	-7.81	3.15	-66.57	-13.00	-53.57
1673.20	54.61	Н	-49.77	9.36	5.27	-45.67	-13.00	-32.67
2509.80	63.67	Н	-37.03	10.09	6.58	-33.53	-13.00	-20.53
3346.40		Н		12.28	7.79		-13.00	
4183.00	43.10	Н	-52.93	12.62	8.93	-49.24	-13.00	-36.24
5019.60		Н		12.67	9.81		-13.00	
5856.20		Н		13.68	10.62		-13.00	
6692.80		Н		11.95	11.39		-13.00	
7529.40		Н		11.45	12.20		-13.00	
8366.00		Н		11.59	12.81		-13.00	

	30MHz - 80MHz: 5.04dB					
Measurement uncertainty	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 (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: GPRS 850 Mode

Operation Mode : TX CH High Mode Test Date: Sep, 29, 2010

Fundamental Frequency: 848.80 MHz Test By: Bondi Pol: Ver Temperature : 25°C

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
92.08	44.76	V	-58.17	-7.75	1.29	-67.21	-13.00	-54.21
162.89	34.70	V	-63.75	-7.81	1.62	-73.18	-13.00	-60.18
216.24	35.83	V	-65.34	-7.86	1.80	-74.99	-13.00	-61.99
324.88	37.05	V	-60.89	-7.78	2.26	-70.94	-13.00	-57.94
378.23	39.59	V	-56.84	-7.65	2.44	-66.93	-13.00	-53.93
480.08	35.56	V	-58.50	-7.71	2.74	-68.95	-13.00	-55.95
850.00	78.86	V	-7.25	-7.88	3.68	-18.81	-13.00	-5.81
1697.60	52.69	V	-51.85	9.44	5.31	-47.72	-13.00	-34.72
2546.40	53.14	V	-47.50	10.20	6.63	-43.94	-13.00	-30.94
3395.20	47.47	V	-51.38	12.38	7.87	-46.87	-13.00	-33.87
4244.00	40.76	V	-54.90	12.63	9.00	-51.27	-13.00	-38.27
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	

	30MHz - 80MHz: 5.04dB
Measurement uncertainty	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 (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: GPRS 850 Mode

Operation Mode : TX CH High Mode Test Date: Sep, 29, 2010

Fundamental Frequency: 848.80 MHz Test By: Bondi Pol: Temperature Hor : 25°C

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
101.78	39.68	Н	-63.13	-7.76	1.37	-72.26	-13.00	-59.26
162.89	34.67	Н	-64.10	-7.81	1.62	-73.53	-13.00	-60.53
324.88	36.85	Н	-60.58	-7.78	2.26	-70.63	-13.00	-57.63
378.23	35.69	Н	-61.08	-7.65	2.44	-71.17	-13.00	-58.17
480.08	34.91	Н	-58.72	-7.71	2.74	-69.17	-13.00	-56.17
647.89	34.09	Н	-55.67	-7.81	3.15	-66.64	-13.00	-53.64
850.00	80.03	Н	-6.16	-7.88	3.68	-17.72	-13.00	-4.72
1697.60	52.11	Н	-52.24	9.44	5.31	-48.11	-13.00	-35.11
2546.40	63.61	Н	-36.99	10.20	6.63	-33.43	-13.00	-20.43
3395.20	41.44	Н	-57.59	12.38	7.87	-53.07	-13.00	-40.07
4244.00	37.53	Н	-58.28	12.63	9.00	-54.66	-13.00	-41.66
5092.80		Н		12.74	9.88		-13.00	
5941.60		Н		13.81	10.70		-13.00	
6790.40		Н		11.86	11.48		-13.00	
7639.20		Н		11.40	12.27		-13.00	
8488.00		Н		11.70	12.91		-13.00	

	30MHz - 80MHz: 5.04dB
Measurement uncertainty	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 (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: GPRS 1900 Mode

Operation Mode : TX CH Low Mode Sep, 29, 2010

Fundamental Frequency: 1850.20MHz Test By: Bondi Pol: Ver Temperature : 25°℃

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
92.08	47.79	V	-55.14	-7.75	1.29	-64.18	-13.00	-51.18
162.89	37.54	V	-60.91	-7.81	1.62	-70.34	-13.00	-57.34
216.24	41.35	V	-59.82	-7.86	1.80	-69.47	-13.00	-56.47
324.88	39.36	V	-58.58	-7.78	2.26	-68.63	-13.00	-55.63
378.23	41.53	V	-54.90	-7.65	2.44	-64.99	-13.00	-51.99
647.89	35.35	V	-53.60	-7.81	3.15	-64.56	-13.00	-51.56
1850.00	76.64	V	-27.75	9.90	5.56	-23.41	-13.00	-10.41
3700.40	47.65	V	-50.28	12.61	8.31	-45.98	-13.00	-32.98
5550.60		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	

	30MHz - 80MHz: 5.04dB
Measurement uncertainty	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 (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: GPRS 1900 Mode

Operation Mode : TX CH Low Mode Sep, 29, 2010

Fundamental Frequency: 1850.20MHz Test By: Bondi Pol: Temperature Hor : 25°℃

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
162.89	39.61	Н	-59.16	-7.81	1.62	-68.59	-13.00	-55.59
216.24	39.09	Н	-61.77	-7.86	1.80	-71.43	-13.00	-58.43
324.88	39.24	Н	-58.19	-7.78	2.26	-68.24	-13.00	-55.24
378.23	37.41	Н	-59.36	-7.65	2.44	-69.45	-13.00	-56.45
647.89	34.96	Н	-54.80	-7.81	3.15	-65.77	-13.00	-52.77
754.59	35.45	Н	-60.55	-7.87	3.48	-71.90	-13.00	-58.90
1850.00	76.54	Н	-27.64	9.90	5.56	-23.30	-13.00	-10.30
3700.40	42.82	Н	-55.22	12.61	8.31	-50.92	-13.00	-37.92
5550.60		Н		13.23	10.33		-13.00	
7400.80		Н		11.50	12.08		-13.00	
9251.00		Н		11.92	13.50		-13.00	
11101.20		Н		11.66	15.11		-13.00	
12951.40		Н		13.63	16.60		-13.00	
14801.60		Н		12.76	17.95		-13.00	
16651.80		Н		15.92	19.14		-13.00	
18502.00		Н		18.75	10.40		-13.00	

	30MHz - 80MHz: 5.04dB
Measurement uncertainty	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 (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: GPRS 1900 Mode

Operation Mode : TX CH Mid Mode Sep, 29, 2010

Fundamental Frequency: 1880MHz Test By: Bondi Temperature Pol: Ver : 25°C

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
92.08	47.74	V	-55.19	-7.75	1.29	-64.23	-13.00	-51.23
162.89	38.69	V	-59.76	-7.81	1.62	-69.19	-13.00	-56.19
216.24	40.57	V	-60.60	-7.86	1.80	-70.25	-13.00	-57.25
324.88	39.26	V	-58.68	-7.78	2.26	-68.73	-13.00	-55.73
378.23	40.40	V	-56.03	-7.65	2.44	-66.12	-13.00	-53.12
647.89	34.03	V	-54.92	-7.81	3.15	-65.88	-13.00	-52.88
3760.00	37.04	V	-60.62	12.60	8.39	-56.40	-13.00	-43.40
5640.00		V		13.36	10.41		-13.00	
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	9	18.68	16.58		-13.00	

	30MHz - 80MHz: 5.04dB				
Measurement uncertainty	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 (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: GPRS 1900 Mode

Operation Mode : TX CH Mid Mode Sep, 29, 2010

Fundamental Frequency: 1880MHz Test By: Bondi Temperature Pol: Hor : 25°C

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
162.89	39.11	Н	-59.66	-7.81	1.62	-69.09	-13.00	-56.09
216.24	37.32	Н	-63.54	-7.86	1.80	-73.20	-13.00	-60.20
322.94	39.31	Н	-58.14	-7.79	2.26	-68.19	-13.00	-55.19
378.23	36.43	Н	-60.34	-7.65	2.44	-70.43	-13.00	-57.43
550.89	34.72	Н	-56.98	-7.76	2.96	-67.70	-13.00	-54.70
649.83	35.05	Н	-54.67	-7.81	3.16	-65.64	-13.00	-52.64
3760.00	37.00	Н	-60.77	12.60	8.39	-56.56	-13.00	-43.56
5640.00		Н		13.36	10.41		-13.00	
7520.00		Н		11.45	12.19		-13.00	
9400.00		Н		11.93	13.61		-13.00	
11280.00		Н		11.92	15.27		-13.00	
13160.00		Н		13.33	16.71		-13.00	
15040.00		Н		13.76	18.15		-13.00	
16920.00		Н		15.27	19.32		-13.00	
18800.00		Н		18.68	16.58		-13.00	

	30MHz - 80MHz: 5.04dB				
Measurement uncertainty	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 (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: GPRS 1900 Mode

Operation Mode : TX CH High Mode Sep, 29, 2010

Fundamental Frequency: 1909.8 MHz Test By: Bondi Temperature Pol: Ver : 25°C

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
92.08	48.85	V	-54.08	-7.75	1.29	-63.12	-13.00	-50.12
162.89	38.63	V	-59.82	-7.81	1.62	-69.25	-13.00	-56.25
216.24	40.50	V	-60.67	-7.86	1.80	-70.32	-13.00	-57.32
322.94	39.80	V	-58.17	-7.79	2.26	-68.21	-13.00	-55.21
378.23	40.89	V	-55.54	-7.65	2.44	-65.63	-13.00	-52.63
647.89	36.07	V	-52.88	-7.81	3.15	-63.84	-13.00	-50.84
1910.00	77.95	V	-26.38	10.08	5.66	-21.96	-13.00	-8.96
3819.60	39.12	V	-58.27	12.60	8.47	-54.14	-13.00	-41.14
5729.40		V		13.49	10.50		-13.00	
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	

	30MHz - 80MHz: 5.04dB				
Measurement uncertainty	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 (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: GPRS 1900 Mode

Operation Mode : TX CH High Mode Sep, 29, 2010

Fundamental Frequency: 1909.8 MHz Test By: Bondi Temperature Pol: Hor : 25°C

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
101.78	45.41	Н	-57.40	-7.76	1.37	-66.53	-13.00	-53.53
162.89	37.79	Н	-60.98	-7.81	1.62	-70.41	-13.00	-57.41
216.24	37.40	Н	-63.46	-7.86	1.80	-73.12	-13.00	-60.12
324.88	39.04	Н	-58.39	-7.78	2.26	-68.44	-13.00	-55.44
378.23	37.25	Н	-59.52	-7.65	2.44	-69.61	-13.00	-56.61
647.23	35.57	Н	-54.20	-7.81	3.15	-65.17	-13.00	-52.17
1910.00	76.61	Н	-27.50	10.08	5.66	-23.08	-13.00	-10.08
3819.60	36.15	Н	-61.36	12.60	8.47	-57.22	-13.00	-44.22
5729.40		Н		13.49	10.50		-13.00	
7639.20		Н		11.40	12.27		-13.00	
9549.00		Н		11.95	13.74		-13.00	
11458.80		Н		12.17	15.43		-13.00	
13368.60		Н		12.97	16.82		-13.00	
15278.40		Н		15.00	18.29		-13.00	
17188.20		Н		14.47	19.52		-13.00	
19098.00		Н		18.66	20.78		-13.00	

	30MHz - 80MHz: 5.04dB
Measurement uncertainty	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 (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: HSDPA II Mode

Operation Mode : TX CH Low Mode Test Date: Sep, 29, 2010

Fundamental Frequency: 1852.4MHz Test By: Bondi Pol: Temperature Ver : 25°℃

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
36.79	44.96	V	-57.77	-4.16	0.91	-62.84	-13.00	-49.84
92.08	52.91	V	-50.02	-7.75	1.29	-59.06	-13.00	-46.06
216.24	39.38	V	-61.79	-7.86	1.80	-71.44	-13.00	-58.44
324.88	39.95	V	-57.99	-7.78	2.26	-68.04	-13.00	-55.04
378.23	37.86	V	-58.57	-7.65	2.44	-68.66	-13.00	-55.66
647.89	36.33	V	-52.62	-7.81	3.15	-63.58	-13.00	-50.58
1850.00	68.54	V	-35.85	9.90	5.56	-31.51	-13.00	-18.51
3704.80		V		12.61	8.31		-13.00	
5557.20		V		13.24	10.33		-13.00	
7409.60		V		11.49	12.09		-13.00	
9262.00		V		11.92	13.51		-13.00	
11114.40		V		11.68	15.12		-13.00	
12966.80		V		13.62	16.61		-13.00	
14819.20		V	700	12.83	17.96		-13.00	
16671.60		V		15.87	19.15		-13.00	
18524.00		V		18.74	10.86		-13.00	

	30MHz - 80MHz: 5.04dB					
Measurement uncertainty	80MHz -1000MHz: 3.76dB					
	1GHz - 13GHz: 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 (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: HSDPA II Mode

Operation Mode : TX CH Low Mode Test Date: Sep, 29, 2010

Fundamental Frequency: 1852.4MHz Test By: Bondi Pol: Temperature Hor : 25°℃

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
216.24	34.99	Н	-65.87	-7.86	1.80	-75.53	-13.00	-62.53
259.89	37.48	Н	-61.43	-7.90	2.03	-71.35	-13.00	-58.35
322.94	38.68	Н	-58.77	-7.79	2.26	-68.82	-13.00	-55.82
378.23	38.53	Н	-58.24	-7.65	2.44	-68.33	-13.00	-55.33
647.89	36.37	Н	-53.39	-7.81	3.15	-64.36	-13.00	-51.36
754.59	34.72	Н	-61.28	-7.87	3.48	-72.63	-13.00	-59.63
1850.00	69.69	Н	-34.49	9.90	5.56	-30.15	-13.00	-17.15
3704.80		Н		12.61	8.31		-13.00	
5557.20		Н		13.24	10.33		-13.00	
7409.60		Н		11.49	12.09		-13.00	
9262.00		Н		11.92	13.51		-13.00	
11114.40		Н		11.68	15.12		-13.00	
12966.80		Н		13.62	16.61		-13.00	
14819.20		Н	7 64	12.83	17.96		-13.00	
16671.60		Н		15.87	19.15		-13.00	
18524.00		Н		18.74	10.86		-13.00	

	30MHz - 80MHz: 5.04dB					
Measurement uncertainty	80MHz -1000MHz: 3.76dB					
	1GHz - 13GHz: 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 (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: HSDPA II Mode

Operation Mode : TX CH Mid Mode Test Date: Sep, 29, 2010

Fundamental Frequency: 1880MHz Test By: Bondi Pol: Ver Temperature : 25°℃

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
189.08	38.08	V	-62.72	-7.83	1.68	-72.23	-13.00	-59.23
259.89	38.00	V	-61.57	-7.90	2.03	-71.49	-13.00	-58.49
324.88	40.26	V	-57.68	-7.78	2.26	-67.73	-13.00	-54.73
378.23	38.29	V	-58.14	-7.65	2.44	-68.23	-13.00	-55.23
647.89	36.65	V	-52.30	-7.81	3.15	-63.26	-13.00	-50.26
756.53	34.39	V	-52.66	-7.87	3.48	-64.01	-13.00	-51.01
3760.00		V		12.60	8.39		-13.00	
5640.00		V		13.36	10.41		-13.00	
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	7 6	15.27	19.32		-13.00	
18800.00		V		18.68	16.58		-13.00	

	30MHz - 80MHz: 5.04dB					
Measurement uncertainty	80MHz -1000MHz: 3.76dB					
	1GHz - 13GHz: 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 (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: HSDPA II Mode

Operation Mode : TX CH Mid Mode Test Date: Sep, 29, 2010

Fundamental Frequency: 1880MHz Test By: Bondi Pol: Temperature Hor : 25°℃

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
92.08	49.21	Н	-54.38	-7.75	1.29	-63.42	-13.00	-50.42
216.24	43.28	Н	-57.58	-7.86	1.80	-67.24	-13.00	-54.24
322.94	39.43	Н	-58.02	-7.79	2.26	-68.07	-13.00	-55.07
378.23	37.79	Н	-58.98	-7.65	2.44	-69.07	-13.00	-56.07
647.89	35.60	Н	-54.16	-7.81	3.15	-65.13	-13.00	-52.13
756.53	36.69	Н	-58.90	-7.87	3.48	-70.25	-13.00	-57.25
3760.00		Н		12.60	8.39		-13.00	
5640.00		Н		13.36	10.41		-13.00	
7520.00		Н		11.45	12.19		-13.00	
9400.00		Н		11.93	13.61		-13.00	
11280.00		Н		11.92	15.27		-13.00	
13160.00		Н		13.33	16.71		-13.00	
15040.00		Н		13.76	18.15		-13.00	
16920.00		Н		15.27	19.32		-13.00	
18800.00		Н		18.68	16.58		-13.00	

	30MHz - 80MHz: 5.04dB
Measurement uncertainty	80MHz -1000MHz: 3.76dB
	1GHz - 13GHz: 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 (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: HSDPA II Mode

: TX CH High Mode Operation Mode Test Date: Sep, 29, 2010

Fundamental Frequency: 1907.6 MHz Test By: Bondi Pol: Ver Temperature : 25°℃

Humidity : 65%

	SPA.		S.G Out-	Antenna	Cable	ERP/		Safe
Freq. (MHz)	Reading (dBuV)	Ant.Pol. H/V	put (dBm)	Gain (dBd/dBi)	Loss (dB)	EIRP (dBm)	Limit (dBm)	Margin (dBm)
162.89	37.64	V	-60.81	-7.81	1.62	-70.24	-13.00	-57.24
189.08	40.80	V	-60.00	-7.83	1.68	-69.51	-13.00	-56.51
216.24	40.32	V	-60.85	-7.86	1.80	-70.50	-13.00	-57.50
322.94	39.95	V	-58.02	-7.79	2.26	-68.06	-13.00	-55.06
378.23	36.28	V	-60.15	-7.65	2.44	-70.24	-13.00	-57.24
649.83	35.36	V	-53.56	-7.81	3.16	-64.53	-13.00	-51.53
1910.00	66.10	V	-38.23	10.08	5.66	-33.81	-13.00	-20.81
3815.20	45.11	V	-52.30	12.60	8.46	-48.16	-13.00	-35.16
5722.80		V		13.48	10.49		-13.00	
7630.40		V		11.41	12.27		-13.00	
9538.00		V		11.95	13.73		-13.00	
11445.60		V		12.15	15.42		-13.00	
13353.20		V		13.00	16.81		-13.00	
15260.80		V	7 64	14.91	18.28		-13.00	
17168.40		V		14.53	19.50		-13.00	
19076.00		V		18.65	20.76		-13.00	

	30MHz - 80MHz: 5.04dB					
Measurement uncertainty	80MHz -1000MHz: 3.76dB					
	1GHz - 13GHz: 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 (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: HSDPA II Mode

: TX CH High Mode Operation Mode Test Date: Sep, 29, 2010

Fundamental Frequency: 1907.6 MHz Test By: Bondi Pol: Temperature Hor : 25°℃

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
216.24	41.19	Н	-59.67	-7.86	1.80	-69.33	-13.00	-56.33
259.89	37.86	Н	-61.05	-7.90	2.03	-70.97	-13.00	-57.97
324.88	38.29	Н	-59.14	-7.78	2.26	-69.19	-13.00	-56.19
378.23	37.55	Н	-59.22	-7.65	2.44	-69.31	-13.00	-56.31
647.89	36.85	Н	-52.91	-7.81	3.15	-63.88	-13.00	-50.88
756.53	35.49	Н	-60.10	-7.87	3.48	-71.45	-13.00	-58.45
1910.00	70.28	Н	-33.83	10.08	5.66	-29.41	-13.00	-16.41
3815.20	42.82	Н	-54.71	12.60	8.46	-50.57	-13.00	-37.57
5722.80		Н		13.48	10.49		-13.00	
7630.40		Н		11.41	12.27		-13.00	
9538.00		Н		11.95	13.73		-13.00	
11445.60		Н		12.15	15.42		-13.00	
13353.20		Н		13.00	16.81		-13.00	
15260.80		Н	7 64	14.91	18.28		-13.00	
17168.40		Н		14.53	19.50		-13.00	
19076.00		Н		18.65	20.76		-13.00	

	30MHz - 80MHz: 5.04dB
Measurement uncertainty	80MHz -1000MHz: 3.76dB
	1GHz - 13GHz: 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 (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: HSUPA V Mode

Operation Mode : TX CH Low Mode Test Date: Sep, 29, 2010

Fundamental Frequency: 826.4 MHz Test By: Bondi Pol: Temperature Ver : 25°℃

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
92.08	50.14	V	-52.79	-7.75	1.29	-61.83	-13.00	-48.83
162.89	36.03	V	-62.42	-7.81	1.62	-71.85	-13.00	-58.85
259.89	37.20	V	-62.37	-7.90	2.03	-72.29	-13.00	-59.29
324.88	39.01	V	-58.93	-7.78	2.26	-68.98	-13.00	-55.98
378.23	36.76	V	-59.67	-7.65	2.44	-69.76	-13.00	-56.76
649.83	34.41	V	-54.51	-7.81	3.16	-65.48	-13.00	-52.48
824.00	71.60	V	-14.79	-7.87	3.62	-26.29	-13.00	-13.29
1652.80		V		9.30	5.23		-13.00	
2479.20	44.32	V	-56.64	10.07	6.54	-53.11	-13.00	-40.11
3305.60		V		12.19	7.73		-13.00	
4132.00		V		12.62	8.87		-13.00	
4958.40		V		12.65	9.75		-13.00	
5784.80		V		13.58	10.55		-13.00	
6611.20		V	700	12.03	11.31		-13.00	
7437.60		V		11.48	12.12		-13.00	
8264.00		V		11.50	12.73		-13.00	

	30MHz - 80MHz: 5.04dB					
Measurement uncertainty	80MHz -1000MHz: 3.76dB					
	1GHz - 13GHz: 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 (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: HSUPA V Mode

Operation Mode : TX CH Low Mode Test Date: Sep, 29, 2010

Fundamental Frequency: 826.4MHz Test By: Bondi Pol: Temperature Hor : 25°℃

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
92.08	45.69	Н	-57.90	-7.75	1.29	-66.94	-13.00	-53.94
216.24	38.44	Н	-62.42	-7.86	1.80	-72.08	-13.00	-59.08
259.89	36.57	Н	-62.34	-7.90	2.03	-72.26	-13.00	-59.26
324.88	36.63	Н	-60.80	-7.78	2.26	-70.85	-13.00	-57.85
378.23	36.94	Н	-59.83	-7.65	2.44	-69.92	-13.00	-56.92
647.89	35.37	Н	-54.39	-7.81	3.15	-65.36	-13.00	-52.36
824.00	72.73	Н	-13.54	-7.87	3.62	-25.04	-13.00	-12.04
1652.80		Н		9.30	5.23		-13.00	
2479.20		Н		10.07	6.54		-13.00	
3305.60	42.90	Н	-56.19	12.19	7.73	-51.73	-13.00	-38.73
4132.00		Н		12.62	8.87		-13.00	
4958.40		Н		12.65	9.75		-13.00	
5784.80		Н		13.58	10.55		-13.00	
6611.20		Н	700	12.03	11.31		-13.00	
7437.60		Н		11.48	12.12		-13.00	
8264.00		Н		11.50	12.73		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
	1GHz - 13GHz: 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 (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: HSUPA V Mode

: TX CH Mid Mode Operation Mode Test Date: Sep, 29, 2010

Fundamental Frequency: 836.6MHz Test By: Bondi Pol: Ver Temperature : 25°℃

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
92.08	50.08	V	-52.85	-7.75	1.29	-61.89	-13.00	-48.89
162.89	35.98	V	-62.47	-7.81	1.62	-71.90	-13.00	-58.90
216.24	38.19	V	-62.98	-7.86	1.80	-72.63	-13.00	-59.63
259.89	37.34	V	-62.23	-7.90	2.03	-72.15	-13.00	-59.15
322.94	38.68	V	-59.29	-7.79	2.26	-69.33	-13.00	-56.33
378.23	36.54	V	-59.89	-7.65	2.44	-69.98	-13.00	-56.98
1673.20		V		9.36	5.27		-13.00	
2509.80	44.93	V	-55.85	10.09	6.58	-52.35	-13.00	-39.35
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	7 6	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 - 13GHz: 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 (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: HSUPA V Mode

: TX CH Mid Mode Operation Mode Test Date: Sep, 29, 2010

Fundamental Frequency: 836.6MHz Test By: Bondi Pol: Temperature Hor : 25°℃

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
216.24	39.35	Н	-61.51	-7.86	1.80	-71.17	-13.00	-58.17
259.89	37.10	Н	-61.81	-7.90	2.03	-71.73	-13.00	-58.73
324.88	37.24	Н	-60.19	-7.78	2.26	-70.24	-13.00	-57.24
378.23	36.65	Н	-60.12	-7.65	2.44	-70.21	-13.00	-57.21
547.98	35.28	Н	-56.51	-7.76	2.95	-67.22	-13.00	-54.22
647.89	35.22	Н	-54.54	-7.81	3.15	-65.51	-13.00	-52.51
1673.20		Н		9.36	5.27		-13.00	
2509.80	43.52	Н	-57.18	10.09	6.58	-53.68	-13.00	-40.68
3346.40		Н		12.28	7.79		-13.00	
4183.00		Н		12.62	8.93		-13.00	
5019.60		Н		12.67	9.81		-13.00	
5856.20		Н		13.68	10.62		-13.00	
6692.80		Н		11.95	11.39		-13.00	
7529.40		Н		11.45	12.20		-13.00	
8366.00		Н		11.59	12.81		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
	1GHz - 13GHz: 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 (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: HSUPA V Mode

Operation Mode : TX CH High Mode Test Date: Sep, 29, 2010

Fundamental Frequency: 846.6MHz Test By: Bondi Temperature Pol: Ver : 25°℃

Humidity : 65%

	SPA.		S.G Out-	Antonno	Cable	ERP/		Safe
Freq. (MHz)	Reading (dBuV)	Ant.Pol. H/V	put (dBm)	Antenna Gain (dBd/dBi)	Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Margin (dBm)
92.08	49.51	V	-53.42	-7.75	1.29	-62.46	-13.00	-49.46
162.89	35.47	V	-62.98	-7.81	1.62	-72.41	-13.00	-59.41
259.89	35.97	V	-63.60	-7.90	2.03	-73.52	-13.00	-60.52
324.88	39.23	V	-58.71	-7.78	2.26	-68.76	-13.00	-55.76
378.23	36.35	V	-60.08	-7.65	2.44	-70.17	-13.00	-57.17
594.54	34.24	V	-55.65	-7.79	3.02	-66.46	-13.00	-53.46
850.00	72.59	V	-13.52	-7.88	3.68	-25.08	-13.00	-12.08
1693.20		V		9.42	5.30		-13.00	
2539.80	44.74	V	-55.93	10.18	6.62	-52.38	-13.00	-39.38
3386.40		V		12.36	7.85		-13.00	
4233.00		V		12.63	8.99		-13.00	
5079.60		V		12.73	9.87		-13.00	
5926.20		V		13.79	10.69		-13.00	
6772.80		V	7 64	11.87	11.47		-13.00	
7619.40		V		11.41	12.26		-13.00	
8466.00		V		11.68	12.89		-13.00	

	30MHz - 80MHz: 5.04dB
Measurement uncertainty	80MHz -1000MHz: 3.76dB
	1GHz - 13GHz: 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 (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: HSUPA V Mode

Operation Mode : TX CH High Mode Test Date: Sep, 29, 2010

Fundamental Frequency: 846.6MHz Test By: Bondi Temperature Pol: Hor : 25°℃

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
38.73	39.18	Н	-64.01	-3.25	0.90	-68.16	-13.00	-55.16
92.08	45.49	Н	-58.10	-7.75	1.29	-67.14	-13.00	-54.14
216.24	37.46	Н	-63.40	-7.86	1.80	-73.06	-13.00	-60.06
322.94	38.15	Н	-59.30	-7.79	2.26	-69.35	-13.00	-56.35
378.23	36.68	Н	-60.09	-7.65	2.44	-70.18	-13.00	-57.18
647.89	34.82	Н	-54.94	-7.81	3.15	-65.91	-13.00	-52.91
850.00	72.09	Н	-14.10	-7.88	3.68	-25.66	-13.00	-12.66
1693.20	36.69	Н	-67.66	9.42	5.30	-63.54	-13.00	-50.54
2539.80	43.93	Н	-56.69	10.18	6.62	-53.13	-13.00	-40.13
3386.40		Н		12.36	7.85		-13.00	
4233.00		Н		12.63	8.99		-13.00	
5079.60		Н		12.73	9.87		-13.00	
5926.20		Н		13.79	10.69		-13.00	
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