ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 22 SUBPART H, PART 24 SUBPART E

OF

Product Name:	**PDA Scanner**
Brand Name:	**unitech**
Model No.:	**PA968II**
Model Differences:	**N/A**
Model No. for WWAN Module	**HC250**
FCC ID:	**HLEPA968IIBTGP**
Report No.:	**EF/2011/70020**
Issue Date:	**July 20, 2011**
FCC Rule Part:	**2 , 22H & 24E**
Prepared for:	**unitech electronics co., ltd. 5F, No. 136, Lane 235, Pao-Chiao Rd., Hsin-Tien Dist., New Taipei City, Taiwan**
Prepared by:	**SGS Taiwan Ltd. Electronics & Communication Laboratory No. 134, Wu Kung Rd., Wuku Industrial Zone, Taipei County, Taiwan.**

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VERIFICATION OF COMPLIANCE

Applicant:	unitech electronics co., ltd. 5F, No. 136, Lane 235, Pao-Chiao Rd., Hsin-Tien Dist., New Taipei City, Taiwan
Product Name:	PDA Scanner
Brand Name:	unitech
Model No.:	PA968II
Model Different:	N/A
Model No. for WWAN Module	HC250
FCC ID:	HLEPA968IIBTGP
File Number:	EF/2011/70020
Date of test:	July 04, 2011 ~ July 19, 2011
Date of EUT Received:	July 04, 2011

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 FCC 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:	Nick Lin ***Nick Lin / Engineer***	***Date:***	July 20, 2011
Prepared By:	Celine Chou ***Celine Chou / Clerk***	***Date:***	July 20, 2011
Approved By:	Jim Chang ***Jim Chang / Supervisor***	***Date:***	July 20, 2011

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Version

Version No.	Date	Description
00	July 20, 2011	Initial creation of document

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1. GENERAL PRODUCT INFORMATION

General:

Product Name:	PDA Scanner	
Brand Name:	unitech	
Model No.:	PA968II	
Model Difference:	N/A	
WWAN Module FCC ID:	QIPHC25	
Data Cable	Model No.: A9118488, Supplier: Sinbon	
Power Supply	7.4Vdc Lithium Ion battery or 12Vdc by AC/DC power adapter	
	Battery:	Model No.: 1400-900006G, Supplier: ACET Co., LTD
	Adapter:	Model No.: 3A-242DB12, Supplier: ENG

GSM and WCDMA:

Cellular Phone Standards Frequency Range and Power:	Operating Frequency		Rated Power
	GSM/GPRS 850, Class 10	824.2MHz– 848.8MHz	32 dBm
	GSM/GPRS 1900, Class 10	1850.2MHz – 1909.8MHz	29.25 dBm
	EDGE 850, Class 10	824.2 MHz – 848.8 MHz	27 dBm
	EDGE 1900, Class 10	1850.2MHz – 1909.8MHz	26 dBm
	WCDMA/HSDPA Band II	1852.4MHz – 1907.6MHz	23 dBm
	WCDMA/HSDPA Band V	826.4MHz – 846.6MHz	23 dBm
WWAN FCC Modular Report:	Supplier: 7 layers AG Report Owner: Siemens AG Model: HC25 Report Number: MDE_Siem_0605_FCCa, MDE_Siem_0605_FCCb		
Type of Emission:	GSM850: 248KGXW, GSM1900: 250KGXW EDGE 850: 250KG7W, EDGE 1900: 242KG7W HSDPA Band II: 4M20F9W, HSDPA Band V: 4M18F9W		
Hardware Version:	V2		
Software Version:	1.1.6.1		
IMEI:	3541 1401 321994515		

This test report applies for GSM/GPRS/EDGE 850/1900 and WCDMA/HSDPA Bands II, Band V.

1.1. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for FCC ID: **HLEPA968IIBTGP** filing to comply with Section Part 22 subpart H, Part 24 subpart E of the FCC CFR 47 Rules.

1.2. Test Methodology

Both conducted and radiated testing were performed according to the procedures document of TIA/EIA 603C and FCC CFR 47.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055 and 2.1057.

The Output power Procedure of KDB941225 (SAR Measurement Procedures for 3G devices, WCDMA / HSDPA) was used for EUT and Base station setting.

1.3. 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 require-ments. SGS Site No. 1(3 &10 meters) and FCC Registration Number: 94644.

All equipment is calibrated externally and traceable to SI (International System of Unit).

1.4. Special Accessories

Not available for this EUT intended for grant.

1.5. 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 and RSS-Gen, 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 and RSS-Gen, The EUT is a placed on as 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 and measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made “while keeping the antenna in the ‘cone of radiation’ from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response.” is still within the 3dB illumination BW of the measurement antenna according to the requirements in Section 8 and 13 of ANSI C63.4:2003.

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2.4. Measurement Equipment Used:

966 Chamber					
EQUIPMENT TYPE	**MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL DUE.**
Spectrum Analyzer	R&S	FSP 40	100034	02/12/2010	02/11/2012
Bilog Antenna	SCHWAZBECK	VULB9160	3136	11/19/2010	11/18/2011
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	01/21/2012
Signal Generator	Agilent	E4438C	MY45093613	06/11/2011	06/10/2012
Pre-Amplifier	Agilent	8447D	1937A02834	11/28/2010	11/27/2011
Pre-Amplifier	Agilent	8449B	3008A01973	01/05/2010	01/04/2012
Attenuator	Mini-Circuit	BW-S20W5	001	07/05/2011	07/04/2012
Attenuator	Mini-Circuit	BW-S10W5	001	07/05/2011	07/04/2012
Attenuator	Mini-Circuit	BW-S6W5	001	07/05/2011	07/04/2012
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	01/05/2011	01/04/2012
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-3M	3m	01/05/2010	01/04/2012
Filter 800-1000	Micro-Tronics	BRM13462	1	01/05/2010	01/04/2012
Filter 1800-2000	Micro-Tronics	BRM13463	1	01/05/2010	01/04/2012
3m Site	SGS	966 chamber	N/A	11/08/2010	11/09/2011

2.5. Configuration of Tested System

Fig. 2-1 Configuration of Tested System

EUT

Remote site

CMU200

Table 2-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model / Type No.	Series No.
1.	Universal Radio Communication Tester	R&S	CMU200	102189

3. SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
§2.1046(a)	RF Power Output	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

Max ERP/EIRP measurement result:

	dBm	dB	W
GSM 850 Band	32.60	ERP	1.820
GSM 1900 Band	29.58	EIRP	0.908
EDGE 850 Band	32.03	ERP	1.596
EDGE 1900 Band	28.14	EIRP	0.652
WCDMA Band II	23.47	EIRP	0.222
WCDMA Band V	24.08	ERP	0.256
HSDPA Band II	25.68	EIRP	0.370
HSDPA Band V	25.99	ERP	0.397

4. DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition.

EUT was staying in continuous transmitting mode. Channel Low, Mid and High for each band with rated data rate were chosen for full testing.

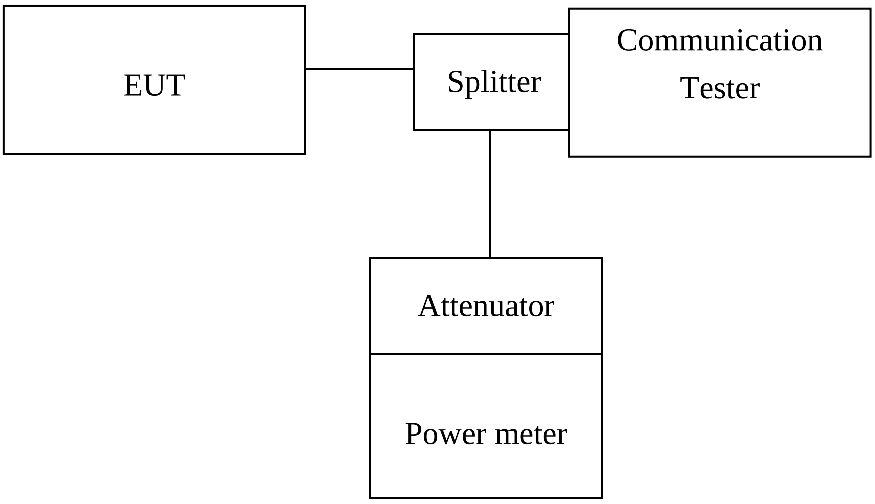
The field strength of spurious radiation emission was measured as EUT stand-up position (H mode) and lie down position (E1, E2 mode) for GSM/EDGE and WCDMA/HSDPA Band II, V with power adaptor. The worst-case of E2 position for GSM 850 band, E2 position for GSM 1900, E2 position for HSDPA Band II and E1 position for HSDPA Band V were reported.

5. RF POWER OUTPUT MEASUREMENT

5.1. Standard Applicable:

FCC 24.232(C) Peak Power Measurement to 2W.

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 reading. The Procedure of KDB941225 KDB941125 (SAR Measurement Procedures for 3G devices, WCDMA/HSDPA) was used for EUT and Base station setting. RMC 12.2kps is used for this testing

5.4. Measurement Equipment Used:

Refer to section 2.4 in this report

5.5. Measurement Result:

EUT Mode	Frequency (MHz)	CH	Peak Power (dBm)	Avg. Power (dBm)
GSM 850 (Class 10)	824.2	128	32.20	32.10
	836.6	190	32.20	32.10
	848.8	251	32.30	32.20

EUT Mode	Frequency (MHz)	CH	Peak Power (dBm)	Avg. Power (dBm)
GSM 1900 (Class 10)	1850.2	512	30.00	29.80
	1880.0	661	30.10	29.90
	1909.8	810	30.00	29.80

EUT Mode	Frequency (MHz)	CH	Peak Power (1DN 1UP) (dBm)	Avg. Power (1DN 1UP) (dBm)	Peak Power (1DN 2UP) (dBm)	Avg. Power (1DN 2UP) (dBm)
GPRS 850 (Class 10)	824.2	128	32.20	32.10	30.30	30.20
	836.6	190	32.20	32.10	30.60	30.40
	848.8	251	32.30	32.20	30.70	30.60

EUT Mode	Frequency (MHz)	CH	Peak Power (1DN 1UP) (dBm)	Avg. Power (1DN 1UP) (dBm)	Peak Power (1DN 2UP) (dBm)	Avg. Power (1DN 2UP) (dBm)
GPRS 1900 (Class 10)	1850.2	512	30.00	29.80	27.40	27.20
	1880.0	661	30.10	29.90	27.60	27.40
	1909.8	810	30.00	29.80	27.60	27.40

EUT Mode	Frequency (MHz)	CH	Peak Power (1DN 1UP) (dBm)	Avg. Power (1DN 1UP) (dBm)	Peak Power (1DN 2UP) (dBm)	Avg. Power (1DN 2UP) (dBm)
EDGE 850 (Class 10)	824.2	128	30.20	27.70	28.10	24.90
	836.6	190	30.30	27.50	28.30	25.10
	848.8	251	30.50	27.60	28.40	25.20

EUT Mode	Frequency (MHz)	CH	Peak Power (1DN 1UP) (dBm)	Avg. Power (1DN 1UP) (dBm)	Peak Power (1DN 2UP) (dBm)	Avg. Power (1DN 2UP) (dBm)
EDGE 1900 (Class 10)	1850.2	512	28.80	27.60	26.80	23.60
	1880.0	661	29.00	27.80	27.00	23.80
	1909.8	810	29.10	27.80	27.00	23.80

EUT Mode	Frequency (MHz)	CH	Peak Power (dBm)	Avg Power (dBm)
WCDMA Band II	1852.4	9262	26.05	22.53
	1880.0	9400	26.84	22.68
	1907.6	9538	26.34	22.21

EUT Mode	Frequency (MHz)	CH	Peak Power (dBm)	Avg Power (dBm)
WCDMA Band V	826.40	4132	26.82	23.67
	836.60	4183	26.94	23.38
	846.60	4233	26.85	23.67

EUT Mode	Frequency (MHz)	CH	Peak Power (dBm)	Avg Power (dBm)
HSDPA Band II	1852.4	9262	26.00	22.50
	1880.0	9400	26.82	22.53
	1907.6	9538	26.28	22.35

EUT Mode	Frequency (MHz)	CH	Peak Power (dBm)	Avg Power (dBm)
HSDPA Band V	826.40	4132	26.80	23.44
	836.60	4183	26.89	23.23
	846.60	4233	26.83	23.51

6. ERP, EIRP MEASUREMENT

6.1. Standard Applicable:

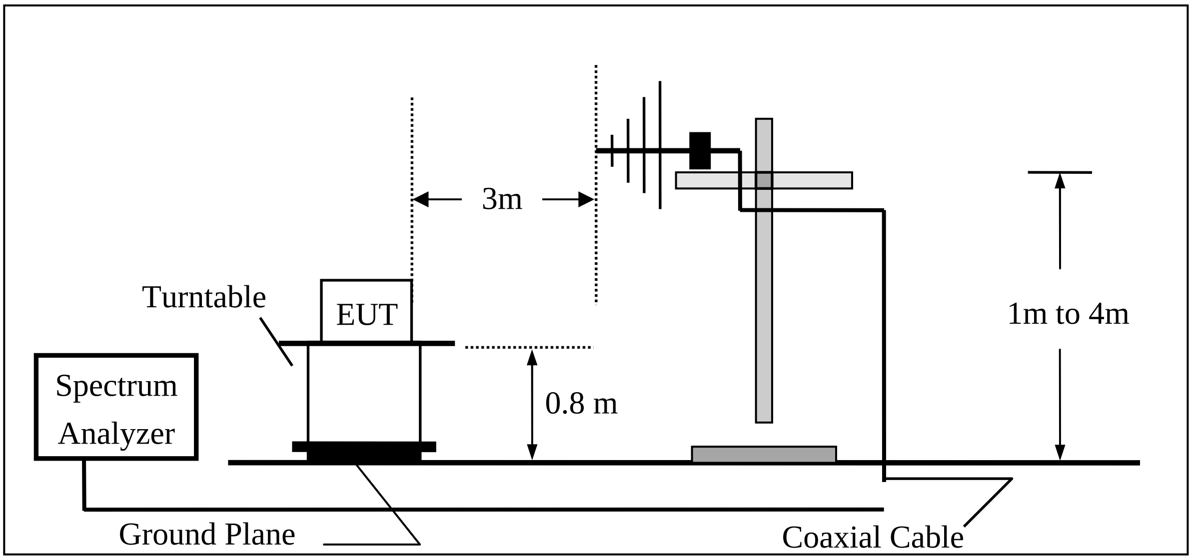
According to FCC §2.1046

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

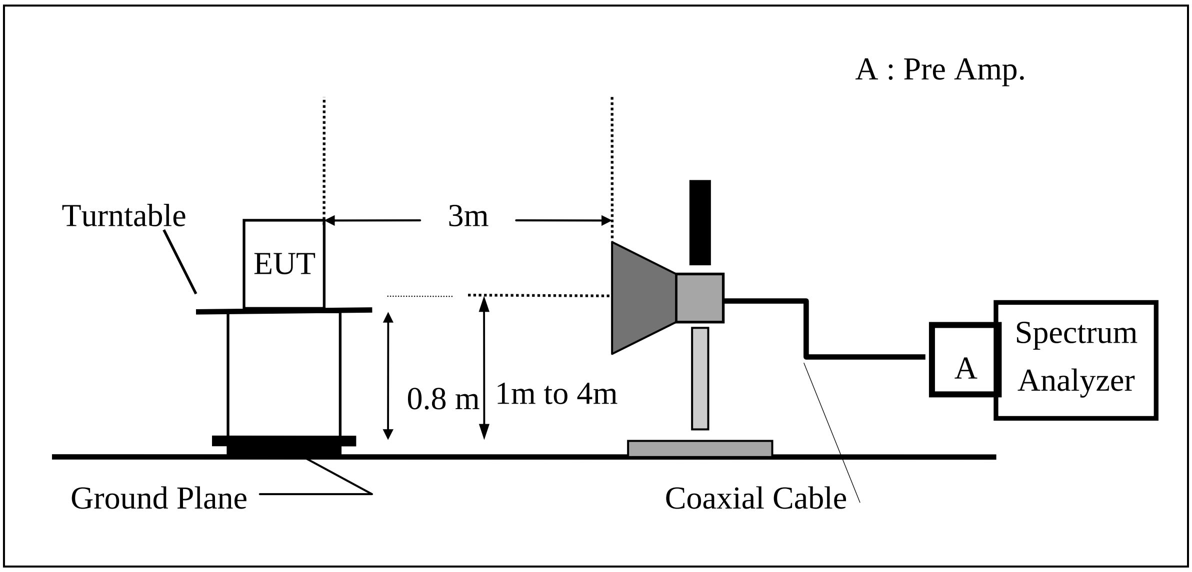
FCC 24.232(c) Mobile station are limited to 2W EIRP.

6.2. Test SET-UP (Block Diagram of Configuration):

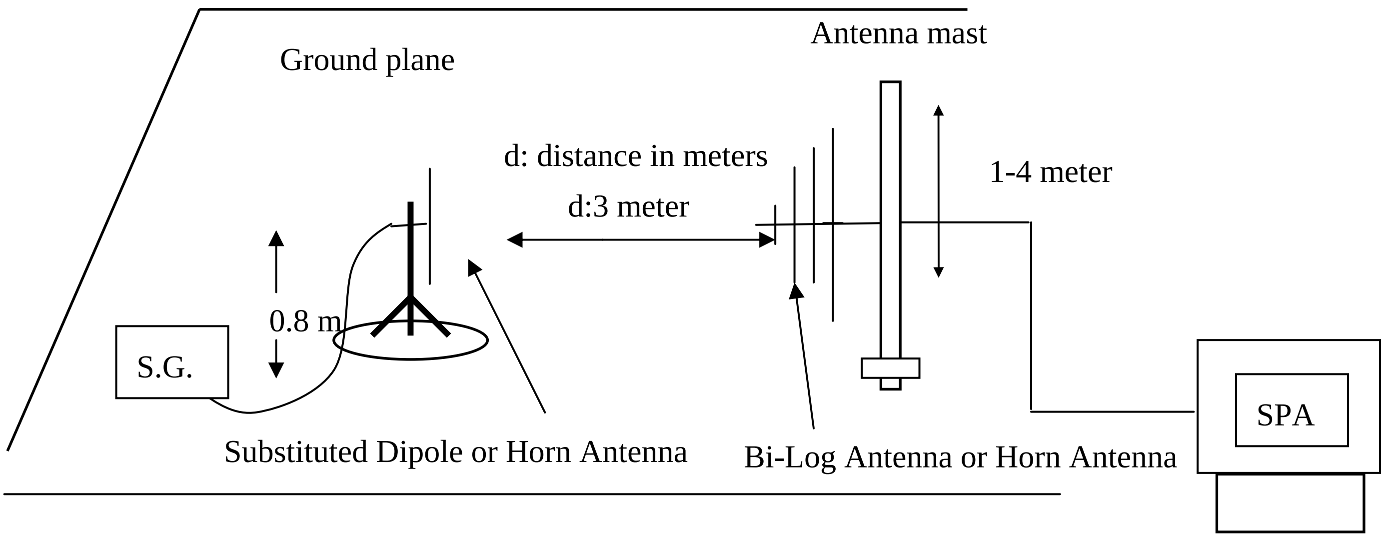
(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(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 –848.80MHz 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 1710-1755MHz and 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:

Refer to section 2.4 in this report

6.5. Measurement Result:

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
GSM 850	824.20	128	H	V	130.18	43.79	-7.87	3.62	32.29	38.45
				H	128.29	42.02	-7.87	3.62	30.52	38.45
			E1	V	128.78	42.39	-7.87	3.62	30.89	38.45
				H	130.34	44.07	-7.87	3.62	32.57	38.45
			E2	V	124.92	38.53	-7.87	3.62	27.03	38.45
				H	130.37	44.10	-7.87	3.62	**32.60**	38.45
	836.60	190	H	V	129.28	43.03	-7.88	3.65	31.50	38.45
				H	126.76	40.53	-7.88	3.65	29.00	38.45
			E1	V	127.42	41.17	-7.88	3.65	29.64	38.45
				H	129.48	43.25	-7.88	3.65	31.72	38.45
			E2	V	123.40	37.15	-7.88	3.65	25.62	38.45
				H	129.72	43.49	-7.88	3.65	31.96	38.45
	848.80	251	H	V	128.74	42.62	-7.88	3.68	31.06	38.45
				H	125.70	39.51	-7.88	3.68	27.95	38.45
			E1	V	126.62	40.50	-7.88	3.68	28.94	38.45
				H	128.78	42.59	-7.88	3.68	31.03	38.45
			E2	V	121.59	35.47	-7.88	3.68	23.91	38.45
				H	129.27	43.08	-7.88	3.68	31.52	38.45

Remark：

(1) The RBW,VBW of SPA for frequency

RBW=300 KHz, VBW=1MHz

Measurement Result:

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)
GSM 1900	1850.20	512	H	V	125.63	21.24	9.90	5.56	25.58	33.00
				H	126.67	22.49	9.90	5.56	26.83	33.00
			E1	V	129.05	24.66	9.90	5.56	29.00	33.00
				H	125.45	21.27	9.90	5.56	25.61	33.00
			E2	V	119.16	14.77	9.90	5.56	19.11	33.00
				H	129.46	25.28	9.90	5.84	29.34	33.00
	1880.00	661	H	V	125.02	20.66	9.99	5.61	25.04	33.00
				H	126.57	22.43	9.99	5.61	26.80	33.00
			E1	V	128.54	24.18	9.99	5.61	28.56	33.00
				H	125.44	21.30	9.99	5.61	25.67	33.00
			E2	V	119.47	15.11	9.99	5.61	19.49	33.00
				H	129.35	25.21	9.99	5.61	**29.58**	33.00
	1909.80	810	H	V	123.81	19.48	10.08	5.66	23.90	33.00
				H	125.07	20.96	10.08	5.66	25.38	33.00
			E1	V	127.50	23.17	10.08	5.66	27.59	33.00
				H	124.53	20.42	10.08	5.66	24.84	33.00
			E2	V	118.89	14.56	10.08	5.66	18.98	33.00
				H	128.24	24.13	10.08	5.66	28.55	33.00

Remark：

(1) The RBW,VBW of SPA for frequency

RBW=300K, VBW=1MHz

Measurement Result:

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
EDGE 850	824.20	128	H	V	129.70	43.31	-7.87	3.62	31.81	38.45
				H	127.15	40.88	-7.87	3.62	29.38	38.45
			E1	V	126.01	39.62	-7.87	3.62	28.12	38.45
				H	129.80	43.53	-7.87	3.62	**32.03**	38.45
			E2	V	127.06	40.67	-7.87	3.62	29.17	38.45
				H	128.44	42.17	-7.87	3.62	30.67	38.45
	836.60	190	H	V	127.74	41.49	-7.88	3.65	29.96	38.45
				H	124.76	38.53	-7.88	3.65	27.00	38.45
			E1	V	123.58	37.33	-7.88	3.65	25.80	38.45
				H	128.39	42.16	-7.88	3.65	30.63	38.45
			E2	V	124.68	38.43	-7.88	3.65	26.90	38.45
				H	128.48	42.25	-7.88	3.65	30.72	38.45
	848.80	251	H	V	128.40	42.28	-7.88	3.68	30.72	38.45
				H	123.96	37.77	-7.88	3.68	26.21	38.45
			E1	V	123.67	37.55	-7.88	3.68	25.99	38.45
				H	127.78	41.59	-7.88	3.68	30.03	38.45
			E2	V	121.50	35.38	-7.88	3.68	23.82	38.45
				H	126.26	40.07	-7.88	3.68	28.51	38.45

Remark：

(1) The RBW,VBW of SPA for frequency

RBW=300 KHz, VBW=1MHz

Measurement Result:

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)
EDGE 1900	1850.20	512	H	V	123.84	19.45	9.90	5.56	23.79	33.00
				H	124.76	20.58	9.90	5.56	24.92	33.00
			E1	V	128.09	23.70	9.90	5.56	28.04	33.00
				H	120.97	16.79	9.90	5.56	21.13	33.00
			E2	V	116.85	12.46	9.90	5.56	16.80	33.00
				H	128.25	24.07	9.90	5.84	28.13	33.00
	1880.00	661	H	V	123.22	18.86	9.99	5.61	23.24	33.00
				H	124.77	20.63	9.99	5.61	25.00	33.00
			E1	V	125.03	20.67	9.99	5.61	25.05	33.00
				H	122.04	17.90	9.99	5.61	22.27	33.00
			E2	V	118.23	13.87	9.99	5.61	18.25	33.00
				H	127.91	23.77	9.99	5.61	**28.14**	33.00
	1909.80	810	H	V	121.90	17.57	10.08	5.66	21.99	33.00
				H	123.27	19.16	10.08	5.66	23.58	33.00
			E1	V	125.05	20.72	10.08	5.66	25.14	33.00
				H	121.73	17.62	10.08	5.66	22.04	33.00
			E2	V	117.02	12.69	10.08	5.66	17.11	33.00
				H	127.10	22.99	10.08	5.66	27.41	33.00

Remark：

(1) The RBW,VBW of SPA for frequency

RBW=300K, VBW=1MHz

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Member of SGS Group

Measurement Result:

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)
WCDMA II	1852.40	9262	H	V	118.10	13.72	9.90	5.56	18.05	33.00
				H	119.19	15.01	9.90	5.56	19.35	33.00
			E1	V	122.76	18.38	9.90	5.56	22.71	33.00
				H	119.36	15.18	9.90	5.56	19.52	33.00
			E2	V	112.22	7.84	9.90	5.56	12.17	33.00
				H	122.92	18.74	9.90	5.84	22.80	33.00
	1880.00	9400	H	V	118.14	13.78	9.99	5.61	18.16	33.00
				H	118.98	14.84	9.99	5.61	19.21	33.00
			E1	V	121.96	17.57	9.90	5.56	21.91	33.00
				H	118.60	14.46	9.99	5.61	18.83	33.00
			E2	V	112.57	8.21	9.99	5.61	12.59	33.00
				H	123.13	18.99	9.99	5.61	23.36	33.00
	1907.60	9538	H	V	118.02	13.69	10.07	5.66	18.10	33.00
				H	118.65	14.54	10.07	5.66	18.95	33.00
			E1	V	121.74	17.41	10.07	5.66	21.82	33.00
				H	118.88	14.77	10.07	5.66	19.18	33.00
			E2	V	112.10	7.77	10.07	5.66	12.18	33.00
				H	123.17	19.06	10.07	5.66	23.47	33.00

Remark：

(1) The RBW,VBW of SPA for frequency

RBW= 5MHz , VBW= 8MHz

Measurement Result:

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
WCDMA Band V	826.40	4132	H	V	123.99	37.63	-10.02	3.63	23.98	38.45
				H	118.16	31.90	-10.02	3.63	18.26	38.45
			E1	V	122.00	35.64	-10.02	3.63	21.99	38.45
				H	123.33	37.07	-10.02	3.63	23.43	38.45
			E2	V	117.22	30.86	-10.02	3.63	17.21	38.45
				H	123.47	37.21	-10.02	3.63	23.57	38.45
	836.60	4183	H	V	124.01	37.75	-10.02	3.65	**24.08**	38.45
				H	118.73	32.50	-10.02	3.65	18.83	38.45
			E1	V	122.33	36.07	-10.02	3.65	22.40	38.45
				H	123.32	37.09	-10.02	3.65	23.42	38.45
			E2	V	117.94	31.68	-10.02	3.65	18.01	38.45
				H	123.34	37.11	-10.02	3.65	23.44	38.45
	846.60	4233	H	V	123.80	37.65	-10.02	3.67	23.96	38.45
				H	119.39	33.19	-10.02	3.67	19.50	38.45
			E1	V	123.27	37.11	-10.02	3.67	23.42	38.45
				H	123.47	37.27	-10.02	3.67	23.58	38.45
			E2	V	118.81	32.66	-10.02	3.67	18.97	38.45
				H	123.53	37.33	-10.02	3.67	23.64	38.45

Remark：

(1) The RBW,VBW of SPA for frequency

RBW= 5MHz , VBW= 8MHz

Measurement Result:

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)
HSDPA Band II	1852.40	9262	H	V	119.37	14.99	9.90	5.56	19.32	33.00
				H	120.61	16.43	9.90	5.56	20.77	33.00
			E1	V	124.59	20.21	9.90	5.56	24.54	33.00
				H	121.00	16.82	9.90	5.56	21.16	33.00
			E2	V	115.80	11.42	9.90	5.56	15.75	33.00
				H	125.80	21.62	9.90	5.84	**25.68**	33.00
	1880.00	9400	H	V	119.56	15.20	9.99	5.61	19.58	33.00
				H	120.18	16.04	9.99	5.61	20.41	33.00
			E1	V	124.08	19.69	9.90	5.56	24.03	33.00
				H	120.74	16.60	9.99	5.61	20.97	33.00
			E2	V	115.32	10.96	9.99	5.61	15.34	33.00
				H	125.31	21.17	9.99	5.61	25.54	33.00
	1907.60	9538	H	V	119.21	14.88	10.07	5.66	19.29	33.00
				H	120.20	16.09	10.07	5.66	20.50	33.00
			E1	V	124.10	19.77	10.07	5.66	24.18	33.00
				H	120.84	16.73	10.07	5.66	21.14	33.00
			E2	V	114.67	10.34	10.07	5.66	14.75	33.00
				H	124.97	20.86	10.07	5.66	25.27	33.00

Remark：

(1) The RBW,VBW of SPA for frequency

RBW= 5MHz , VBW= 8MHz

Measurement Result:

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
HSDPA Band V	826.40	4132	H	V	123.64	37.28	-10.02	3.63	23.63	38.45
				H	117.81	31.55	-10.02	3.63	17.91	38.45
			E1	V	118.69	32.33	-10.02	3.63	18.68	38.45
				H	125.11	38.85	-10.02	3.63	25.21	38.45
			E2	V	114.36	28.00	-10.02	3.63	14.35	38.45
				H	124.86	38.60	-10.02	3.63	24.96	38.45
	836.60	4183	H	V	124.07	37.81	-10.02	3.65	24.14	38.45
				H	117.79	31.56	-10.02	3.65	17.89	38.45
			E1	V	119.12	32.86	-10.02	3.65	19.19	38.45
				H	125.43	39.20	-10.02	3.65	25.53	38.45
			E2	V	115.42	29.16	-10.02	3.65	15.49	38.45
				H	125.10	38.87	-10.02	3.65	25.20	38.45
	846.60	4233	H	V	124.24	38.09	-10.02	3.67	24.40	38.45
				H	118.10	31.90	-10.02	3.67	18.21	38.45
			E1	V	119.69	33.53	-10.02	3.67	19.84	38.45
				H	125.88	39.68	-10.02	3.67	**25.99**	38.45
			E2	V	115.95	29.80	-10.02	3.67	16.11	38.45
				H	125.77	39.57	-10.02	3.67	25.88	38.45

Remark：

(1) The RBW,VBW of SPA for frequency

RBW= 5MHz , VBW= 8MHz

7. FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

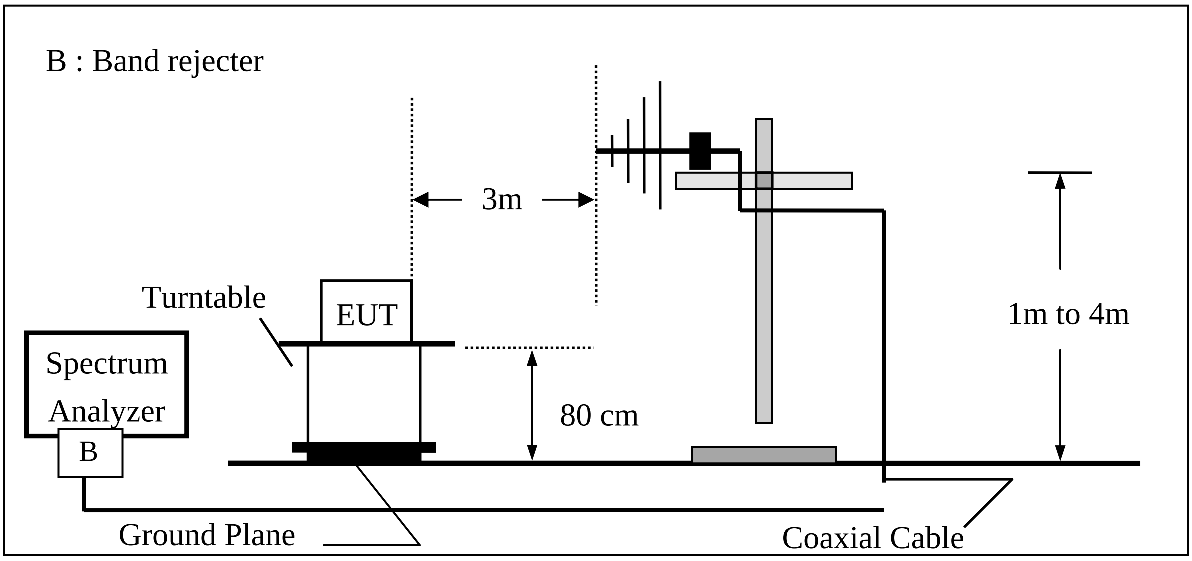
7.1. Standard Applicable:

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):

Radiated Emission Test Set-Up, Frequency Below 1000MHz



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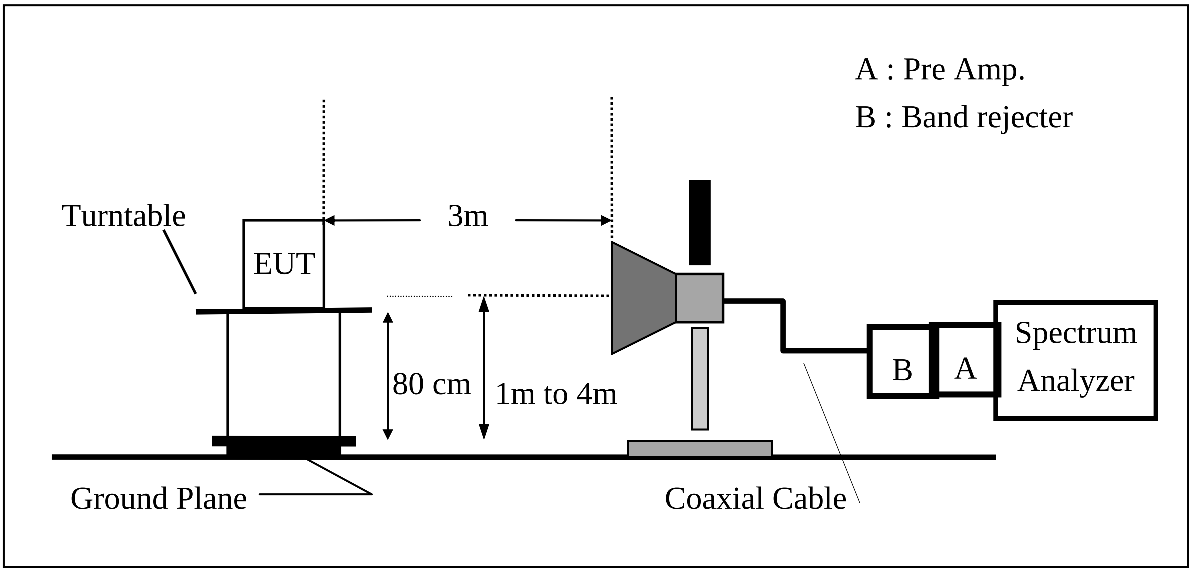
Radiated Emission Test Set-UP Frequency Over 1 GHz



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

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

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

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

7.4. Measurement Equipment Used:

Refer to section 2.4 in this report

7.5. Measurement Result:

Refer to attach tabular data sheets.

Radiated Spurious Emission Measurement Result: GSM 850 Mode

Operation Mode	: TX CH Low Mode	Test Date:	July 19, 2011
Fundamental Frequency	: 824.20 MHz	Test By:	Nick
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)
170.65	40.19	V	-58.95	-7.82	1.64	-68.41	-13.00	-55.41
219.15	41.95	V	-59.11	-7.86	1.82	-68.78	-13.00	-55.78
322.94	36.18	V	-61.79	-7.79	2.26	-71.83	-13.00	-58.83
364.65	36.55	V	-60.46	-7.65	2.40	-70.51	-13.00	-57.51
454.86	35.05	V	-58.90	-7.70	2.67	-69.28	-13.00	-56.28
662.44	34.25	V	-54.80	-7.82	3.19	-65.81	-13.00	-52.81
1648.40	47.46	V	-57.12	9.29	5.23	-53.06	-13.00	-40.06
2472.60	48.76	V	-52.25	10.08	6.53	-48.70	-13.00	-35.70
3296.80	---	V		12.17	7.71		-13.00	
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 - 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 (dB/dBi) – Cable loss (dB)

Operation Mode	: TX CH Low Mode	Test Date:	July 19, 2011
Fundamental Frequency	: 824.20 MHz	Test By:	Nick
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)
156.10	40.21	H	-58.03	-7.80	1.60	-67.44	-13.00	-54.44
202.66	45.85	H	-55.67	-7.84	1.72	-65.24	-13.00	-52.24
219.15	42.20	H	-58.52	-7.86	1.82	-68.20	-13.00	-55.20
313.24	36.29	H	-61.25	-7.85	2.22	-71.31	-13.00	-58.31
451.95	36.57	H	-57.30	-7.70	2.67	-67.67	-13.00	-54.67
665.35	33.74	H	-55.34	-7.83	3.20	-66.36	-13.00	-53.36
1648.40	---	H		9.29	5.23		-13.00	
1747.00	51.06	H	-53.23	9.59	5.39	-49.04	-13.00	-36.04
2472.60	57.08	H	-43.83	10.08	6.53	-40.28	-13.00	-27.28
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 - 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 (dB/dBi) – Cable loss (dB)

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

Test Date: July 19, 2011
Test By: Nick
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)
196.84	41.66	V	-59.84	-7.84	1.70	-69.38	-13.00	-56.38
225.94	43.29	V	-57.51	-7.87	1.86	-67.23	-13.00	-54.23
282.20	37.04	V	-61.79	-7.91	2.11	-71.81	-13.00	-58.81
345.25	36.86	V	-60.83	-7.67	2.34	-70.84	-13.00	-57.84
461.65	35.16	V	-58.82	-7.70	2.69	-69.22	-13.00	-56.22
610.06	34.40	V	-55.04	-7.79	3.06	-65.89	-13.00	-52.89
1673.20	44.66	V	-59.90	9.36	5.27	-55.80	-13.00	-42.80
2509.80	48.95	V	-51.83	10.09	6.58	-48.33	-13.00	-35.33
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 - 13GHz: 4.45dB

Remark:

1 The emission behaviors belongs 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)

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

Test Date: July 19, 2011
Test By: Nick
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)
199.75	44.60	H	-57.03	-7.84	1.71	-66.58	-13.00	-53.58
222.06	49.90	H	-50.68	-7.86	1.83	-60.37	-13.00	-47.37
274.44	36.44	H	-62.02	-7.90	2.08	-72.00	-13.00	-59.00
338.46	33.14	H	-64.17	-7.70	2.32	-74.19	-13.00	-61.19
451.95	37.38	H	-56.49	-7.70	2.67	-66.86	-13.00	-53.86
665.35	34.54	H	-54.54	-7.83	3.20	-65.56	-13.00	-52.56
1673.20	50.75	H	-53.63	9.36	5.27	-49.53	-13.00	-36.53
2509.80	50.15	H	-50.55	10.09	6.58	-47.05	-13.00	-34.05
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 - 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 (dB/dBi) – Cable loss (dB)

Operation Mode : TX CH High Mode
Fundamental Frequency : 848.80 MHz
Temperature : 25℃
Humidity : 65%

Test Date: July 19, 2011
Test By: Nick
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)
196.84	42.86	V	-58.64	-7.84	1.70	-68.18	-13.00	-55.18
219.15	41.85	V	-59.21	-7.86	1.82	-68.88	-13.00	-55.88
251.16	39.56	V	-60.29	-7.89	1.99	-70.18	-13.00	-57.18
301.60	38.98	V	-59.25	-7.91	2.18	-69.34	-13.00	-56.34
553.80	33.97	V	-58.30	-7.76	2.97	-69.03	-13.00	-56.03
652.74	33.37	V	-55.58	-7.81	3.17	-66.56	-13.00	-53.56
1697.60	43.03	V	-61.51	9.44	5.31	-57.38	-13.00	-44.38
2546.40	43.94	V	-56.70	10.20	6.63	-53.14	-13.00	-40.14
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 - 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 (dB/dBi) – Cable loss (dB)

Operation Mode	: TX CH High Mode	Test Date:	July 19, 2011
Fundamental Frequency	: 848.80 MHz	Test By:	Nick
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)
149.31	48.69	H	-49.15	-7.80	1.59	-58.54	-13.00	-45.54
187.14	43.88	H	-56.77	-7.83	1.68	-66.28	-13.00	-53.28
225.94	41.00	H	-59.39	-7.87	1.86	-69.11	-13.00	-56.11
309.36	36.04	H	-61.53	-7.87	2.21	-71.61	-13.00	-58.61
456.80	36.62	H	-57.21	-7.70	2.68	-67.59	-13.00	-54.59
665.35	34.05	H	-55.03	-7.83	3.20	-66.05	-13.00	-53.05
1697.60	47.69	H	-56.66	9.44	5.31	-52.53	-13.00	-39.53
2546.40	46.98	H	-53.62	10.20	6.63	-50.06	-13.00	-37.06
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 - 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 (dB/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: GSM 1900 Mode

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

Test Date: July 19, 2011
Test By: Nick
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)
105.66	53.36	V	-48.04	-7.76	1.39	-57.19	-13.00	-44.19
170.65	40.17	V	-58.97	-7.82	1.64	-68.43	-13.00	-55.43
225.94	40.14	V	-60.66	-7.87	1.86	-70.38	-13.00	-57.38
342.34	37.83	V	-59.89	-7.68	2.33	-69.91	-13.00	-56.91
522.76	34.67	V	-58.72	-7.74	2.87	-69.33	-13.00	-56.33
650.80	33.63	V	-55.30	-7.81	3.16	-66.27	-13.00	-53.27
3700.40	39.28	V	-58.65	12.61	8.31	-54.35	-13.00	-41.35
5550.60	48.64	V	-42.20	13.23	10.33	-39.30	-13.00	-26.30
7400.80	38.01	V	-43.23	11.50	12.08	-43.81	-13.00	-30.81
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 - 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 (dB/dBi) – Cable loss (dB)

Operation Mode	: TX CH Low Mode	Test Date:	July 19, 2011
Fundamental Frequency	: 1850.20MHz	Test By:	Nick
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)
156.10	41.09	H	-57.15	-7.80	1.60	-66.56	-13.00	-53.56
194.90	42.99	H	-58.26	-7.84	1.70	-67.80	-13.00	-54.80
233.70	40.25	H	-59.76	-7.87	1.90	-69.53	-13.00	-56.53
270.56	35.81	H	-62.77	-7.90	2.06	-72.73	-13.00	-59.73
597.45	34.52	H	-56.23	-7.79	3.03	-67.05	-13.00	-54.05
665.35	34.85	H	-54.23	-7.83	3.20	-65.25	-13.00	-52.25
3700.40	43.10	H	-54.94	12.61	8.31	-50.64	-13.00	-37.64
5550.60	48.97	H	-42.08	13.23	10.33	-39.18	-13.00	-26.18
7400.80	36.90	H	-44.33	11.50	12.08	-44.91	-13.00	-31.91
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 - 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 (dB/dBi) – Cable loss (dB)

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Operation Mode	: TX CH Mid Mode	Test Date:	July 19, 2011
Fundamental Frequency	: 1880MHz	Test By:	Nick
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)
105.66	51.94	V	-49.46	-7.76	1.39	-58.61	-13.00	-45.61
196.84	41.75	V	-59.75	-7.84	1.70	-69.29	-13.00	-56.29
219.15	41.14	V	-59.92	-7.86	1.82	-69.59	-13.00	-56.59
345.25	37.20	V	-60.49	-7.67	2.34	-70.50	-13.00	-57.50
458.74	34.72	V	-59.25	-7.70	2.68	-69.63	-13.00	-56.63
604.24	34.40	V	-55.11	-7.79	3.04	-65.95	-13.00	-52.95
3760.00	37.28	V	-60.38	12.60	8.39	-56.16	-13.00	-43.16
5640.00	52.50	V	-38.08	13.36	10.41	-35.13	-13.00	-22.13
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 - 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 (dB/dBi) – Cable loss (dB)

Operation Mode	: TX CH Mid Mode	Test Date:	July 19, 2011
Fundamental Frequency	: 1880MHz	Test By:	Nick
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)
105.66	47.85	H	-54.56	-7.76	1.39	-63.71	-13.00	-50.71
156.10	41.72	H	-56.52	-7.80	1.60	-65.93	-13.00	-52.93
206.54	47.07	H	-54.26	-7.85	1.75	-63.86	-13.00	-50.86
325.85	36.56	H	-60.86	-7.78	2.27	-70.91	-13.00	-57.91
458.74	35.07	H	-58.74	-7.70	2.68	-69.13	-13.00	-56.13
652.74	33.47	H	-56.14	-7.81	3.17	-67.12	-13.00	-54.12
3760.00	35.82	H	-61.95	12.60	8.39	-57.74	-13.00	-44.74
5640.00	49.11	H	-41.64	13.36	10.41	-38.69	-13.00	-25.69
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 - 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 (dB/dBi) – Cable loss (dB)

Operation Mode	: TX CH High Mode	Test Date:	July 19, 2011
Fundamental Frequency	: 1909.8 MHz	Test By:	Nick
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)
105.66	51.22	V	-50.18	-7.76	1.39	-59.33	-13.00	-46.33
196.84	41.90	V	-59.60	-7.84	1.70	-69.14	-13.00	-56.14
225.94	40.83	V	-59.97	-7.87	1.86	-69.69	-13.00	-56.69
322.94	38.89	V	-59.08	-7.79	2.26	-69.12	-13.00	-56.12
342.34	38.14	V	-59.58	-7.68	2.33	-69.60	-13.00	-56.60
645.95	33.51	V	-55.46	-7.81	3.15	-66.42	-13.00	-53.42
3819.60	---	V		12.60	8.47		-13.00	
5729.40	42.00	V	-48.32	13.49	10.50	-45.32	-13.00	-32.32
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 - 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 (dB/dBi) – Cable loss (dB)

Operation Mode	: TX CH High Mode	Test Date:	July 19, 2011
Fundamental Frequency	: 1909.8 MHz	Test By:	Nick
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)
156.10	40.82	H	-57.42	-7.80	1.60	-66.83	-13.00	-53.83
212.36	45.49	H	-55.56	-7.85	1.78	-65.19	-13.00	-52.19
293.84	39.85	H	-58.00	-7.92	2.15	-68.07	-13.00	-55.07
384.05	35.37	H	-61.31	-7.65	2.46	-71.42	-13.00	-58.42
466.50	34.50	H	-59.24	-7.71	2.71	-69.66	-13.00	-56.66
665.35	33.39	H	-55.69	-7.83	3.20	-66.71	-13.00	-53.71
3819.60	---	H		12.60	8.47		-13.00	
5729.40	44.34	H	-46.11	13.49	10.50	-43.12	-13.00	-30.12
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 - 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 (dB/dBi) – Cable loss (dB)

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Radiated Spurious Emission Measurement Result: HSDPA II Mode

Operation Mode	: TX CH Low Mode	Test Date:	July 19, 2011
Fundamental Frequency	: 1852.4MHz	Test By:	Nick
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)
105.66	50.03	V	-51.37	-7.76	1.39	-60.52	-13.00	-47.52
158.04	37.98	V	-60.03	-7.81	1.61	-69.45	-13.00	-56.45
231.76	39.29	V	-61.29	-7.87	1.89	-71.05	-13.00	-58.05
332.64	34.58	V	-63.27	-7.74	2.29	-73.30	-13.00	-60.30
454.86	34.59	V	-59.36	-7.70	2.67	-69.74	-13.00	-56.74
648.86	33.32	V	-55.61	-7.81	3.16	-66.58	-13.00	-53.58
3704.80	---	V		12.61	8.31		-13.00	
5557.20	35.92	V	-54.90	13.24	10.33	-52.00	-13.00	-39.00
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		12.83	17.96		-13.00	
16671.60	---	V		15.87	19.15		-13.00	
18524.00	---	V		18.74	10.86		-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 (dB/dBi) – Cable loss (dB)

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Operation Mode	: TX CH Low Mode	Test Date:	July 19, 2011
Fundamental Frequency	: 1852.4MHz	Test By:	Nick
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
105.66	45.56	H	-56.85	-7.76	1.39	-66.00	-13.00	-53.00
196.84	47.26	H	-54.14	-7.84	1.70	-63.68	-13.00	-50.68
219.15	42.38	H	-58.34	-7.86	1.82	-68.02	-13.00	-55.02
332.64	34.37	H	-62.99	-7.74	2.29	-73.02	-13.00	-60.02
454.86	36.21	H	-57.64	-7.70	2.67	-68.01	-13.00	-55.01
665.35	33.25	H	-55.83	-7.83	3.20	-66.85	-13.00	-53.85
3704.80	---	H		12.61	8.31		-13.00	
5557.20	36.37	H	-54.66	13.24	10.33	-51.76	-13.00	-38.76
7409.60	---	H		11.49	12.09		-13.00	
9262.00	---	H		11.92	13.51		-13.00	
11114.40	---	H		11.68	15.12		-13.00	
12966.80	---	H		13.62	16.61		-13.00	
14819.20	---	H		12.83	17.96		-13.00	
16671.60	---	H		15.87	19.15		-13.00	
18524.00	---	H		18.74	10.86		-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 (dB/dBi) – Cable loss (dB)

Operation Mode	: TX CH Mid Mode	Test Date:	July 19, 2011
Fundamental Frequency	: 1880MHz	Test By:	Nick
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)
105.66	49.65	V	-51.75	-7.76	1.39	-60.90	-13.00	-47.90
183.26	39.74	V	-60.54	-7.83	1.67	-70.03	-13.00	-57.03
225.94	40.82	V	-59.98	-7.87	1.86	-69.70	-13.00	-56.70
340.40	34.11	V	-63.64	-7.69	2.32	-73.66	-13.00	-60.66
454.86	34.88	V	-59.07	-7.70	2.67	-69.45	-13.00	-56.45
665.35	33.25	V	-55.83	-7.83	3.20	-66.85	-13.00	-53.85
3760.00	---	V		12.60	8.39		-13.00	
5640.00	36.52	V	-54.06	13.36	10.41	-51.11	-13.00	-38.11
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 - 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 (dB/dBi) – Cable loss (dB)

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

Test Date: July 19, 2011
Test By: Nick
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)
154.16	39.46	H	-58.63	-7.80	1.60	-68.04	-13.00	-55.04
202.66	48.18	H	-53.34	-7.84	1.72	-62.91	-13.00	-49.91
235.64	38.01	H	-61.91	-7.88	1.91	-71.69	-13.00	-58.69
264.74	40.51	H	-58.25	-7.90	2.04	-68.19	-13.00	-55.19
303.54	34.74	H	-62.89	-7.90	2.18	-72.97	-13.00	-59.97
665.35	34.50	H	-54.58	-7.83	3.20	-65.60	-13.00	-52.60
3760.00	---	H		12.60	8.39		-13.00	
5640.00	---	H		13.36	10.41		-13.00	
5667.00	33.98	H	-56.68	13.40	10.44	-53.72	-13.00	-40.72
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	

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 (dB/dBi) – Cable loss (dB)

Operation Mode : TX CH High Mode
Fundamental Frequency : 1907.6MHz
Temperature : 25°C
Humidity : 65%

Test Date: July 19, 2011
Test By: Nick
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)**
194.90	39.82	V	-61.50	-7.84	1.70	-71.04	-13.00	-58.04
225.94	38.99	V	-61.81	-7.87	1.86	-71.53	-13.00	-58.53
332.64	34.74	V	-63.11	-7.74	2.29	-73.14	-13.00	-60.14
396.66	34.57	V	-61.07	-7.66	2.50	-71.23	-13.00	-58.23
544.10	33.31	V	-59.37	-7.76	2.94	-70.07	-13.00	-57.07
655.65	33.05	V	-55.93	-7.82	3.17	-66.92	-13.00	-53.92
3815.20	---	V		12.60	8.46		-13.00	
5722.80	---	V		13.48	10.49		-13.00	
5758.00	33.55	V	-56.68	13.54	10.53	-53.67	-13.00	-40.67
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		14.91	18.28		-13.00	
17168.40	---	V		14.53	19.50		-13.00	
19076.00	---	V		18.65	20.76		-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 (dB/dBi) – Cable loss (dB)

Operation Mode	: TX CH High Mode	Test Date:	July 19, 2011
Fundamental Frequency	: 1907.6MHz	Test By:	Nick
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)**
107.60	47.33	H	-54.88	-7.77	1.39	-64.04	-13.00	-51.04
156.10	39.45	H	-58.79	-7.80	1.60	-68.20	-13.00	-55.20
219.15	45.34	H	-55.38	-7.86	1.82	-65.06	-13.00	-52.06
416.06	35.70	H	-59.91	-7.67	2.56	-70.15	-13.00	-57.15
458.74	35.70	H	-58.11	-7.70	2.68	-68.50	-13.00	-55.50
665.35	33.62	H	-55.46	-7.83	3.20	-66.48	-13.00	-53.48
3815.20	---	H		12.60	8.46		-13.00	
5722.80	---	H		13.48	10.49		-13.00	
5777.50	34.26	H	-56.03	13.57	10.55	-53.01	-13.00	-40.01
7630.40	---	H		11.41	12.27		-13.00	
9538.00	---	H		11.95	13.73		-13.00	
11445.60	---	H		12.15	15.42		-13.00	
13353.20	---	H		13.00	16.81		-13.00	
15260.80	---	H		14.91	18.28		-13.00	
17168.40	---	H		14.53	19.50		-13.00	
19076.00	---	H		18.65	20.76		-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 (dB/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: HSDPA V Mode

Operation Mode	: TX CH Low Mode	Test Date:	July 19, 2011
Fundamental Frequency	: 826.4MHz	Test By:	Nick
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)
105.66	54.18	V	-47.22	-9.94	1.39	-58.54	-13.00	-45.54
180.35	40.33	V	-59.69	-9.96	1.66	-71.31	-13.00	-58.31
225.94	39.39	V	-61.41	-10.01	1.86	-73.27	-13.00	-60.27
289.96	36.84	V	-61.74	-10.05	2.13	-73.93	-13.00	-60.93
396.66	36.13	V	-59.51	-9.80	2.50	-71.81	-13.00	-58.81
623.64	33.83	V	-55.43	-9.94	3.09	-68.46	-13.00	-55.46
1652.80	35.65	V	-68.93	9.30	5.23	-64.86	-13.00	-51.86
2479.20	---	V		10.07	6.54		-13.00	
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		12.03	11.31		-13.00	
7437.60	---	V		11.48	12.12		-13.00	
8264.00	---	V		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 (dB/dBi) – Cable loss (dB)

Operation Mode	: TX CH Low Mode	Test Date:	July 19, 2011
Fundamental Frequency	: 826.4MHz	Test By:	Nick
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)
167.74	46.45	H	-52.70	-9.95	1.63	-64.28	-13.00	-51.28
231.76	39.90	H	-60.21	-10.01	1.89	-72.11	-13.00	-59.11
306.45	37.75	H	-59.85	-10.02	2.19	-72.07	-13.00	-59.07
403.45	36.23	H	-60.02	-9.80	2.52	-72.35	-13.00	-59.35
558.65	35.02	H	-56.52	-9.91	2.97	-69.40	-13.00	-56.40
665.35	35.30	H	-53.78	-9.97	3.20	-66.94	-13.00	-53.94
1652.80	35.97	H	-68.43	9.30	5.23	-64.36	-13.00	-51.36
2479.20	---	H		10.07	6.54		-13.00	
3305.60	---	H		12.19	7.73		-13.00	
4132.00	---	H		12.62	8.87		-13.00	
4958.40	---	H		12.65	9.75		-13.00	
5784.80	---	H		13.58	10.55		-13.00	
6611.20	---	H		12.03	11.31		-13.00	
7437.60	---	H		11.48	12.12		-13.00	
8264.00	---	H		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 (dB/dBi) – Cable loss (dB)

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Member of SGS Group

Operation Mode	: TX CH Mid Mode	Test Date:	July 19, 2011
Fundamental Frequency	: 836.6MHz	Test By:	Nick
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)
105.66	54.54	V	-46.86	-9.94	1.39	-58.18	-13.00	-45.18
187.14	39.76	V	-60.87	-9.97	1.68	-72.51	-13.00	-59.51
225.94	40.03	V	-60.77	-10.01	1.86	-72.63	-13.00	-59.63
354.95	36.89	V	-60.53	-9.78	2.37	-72.69	-13.00	-59.69
464.56	38.63	V	-55.36	-9.85	2.70	-67.91	-13.00	-54.91
662.44	33.44	V	-55.61	-9.96	3.19	-68.76	-13.00	-55.76
1673.20	37.39	V	-67.17	9.36	5.27	-63.07	-13.00	-50.07
2509.80	---	V		10.09	6.58		-13.00	
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 - 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 (dB/dBi) – Cable loss (dB)

Operation Mode	: TX CH Mid Mode	Test Date:	July 19, 2011
Fundamental Frequency	: 836.6MHz	Test By:	Nick
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)
156.10	41.80	H	-56.44	-9.94	1.60	-67.99	-13.00	-54.99
225.94	38.91	H	-61.48	-10.01	1.86	-73.34	-13.00	-60.34
280.26	36.21	H	-62.07	-10.05	2.10	-74.21	-13.00	-61.21
429.64	36.63	H	-58.29	-9.82	2.60	-70.72	-13.00	-57.72
623.64	34.85	H	-55.39	-9.94	3.09	-68.42	-13.00	-55.42
747.80	34.16	H	-62.41	-10.01	3.46	-75.88	-13.00	-62.88
1673.20	37.18	H	-67.20	9.36	5.27	-63.10	-13.00	-50.10
2509.80	---	H		10.09	6.58		-13.00	
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 - 13GHz: 4.45dB

Remark:

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

Operation Mode	: TX CH High Mode	Test Date:	July 19, 2011
Fundamental Frequency	: 846.6MHz	Test By:	Nick
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)
185.20	40.84	V	-59.61	-9.97	1.67	-71.25	-13.00	-58.25
225.94	42.25	V	-58.55	-10.01	1.86	-70.41	-13.00	-57.41
330.70	37.68	V	-60.19	-9.89	2.29	-72.36	-13.00	-59.36
454.86	35.35	V	-58.60	-9.84	2.67	-71.12	-13.00	-58.12
526.64	34.30	V	-58.96	-9.88	2.89	-71.73	-13.00	-58.73
665.35	33.58	V	-55.50	-9.97	3.20	-68.66	-13.00	-55.66
1693.20	35.91	V	-68.63	9.42	5.30	-64.51	-13.00	-51.51
2539.80	---	V		10.18	6.62		-13.00	
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		11.87	11.47		-13.00	
7619.40	---	V		11.41	12.26		-13.00	
8466.00	---	V		11.68	12.89		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
	1GHz - 13GHz: 4.45dB

Remark:

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Operation Mode	: TX CH High Mode	Test Date:	July 19, 2011
Fundamental Frequency	: 846.6MHz	Test By:	Nick
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)
156.10	40.55	H	-57.69	-9.94	1.60	-69.24	-13.00	-56.24
219.15	48.13	H	-52.59	-10.00	1.82	-64.41	-13.00	-51.41
319.06	37.01	H	-60.47	-9.95	2.24	-72.67	-13.00	-59.67
447.10	37.45	H	-56.59	-9.84	2.65	-69.08	-13.00	-56.08
526.64	34.03	H	-58.50	-9.88	2.89	-71.26	-13.00	-58.26
623.64	33.86	H	-56.38	-9.94	3.09	-69.41	-13.00	-56.41
1693.20	38.69	H	-65.66	9.42	5.30	-61.54	-13.00	-48.54
2539.80	---	H		10.18	6.62		-13.00	
3386.40	---	H		12.36	7.85		-13.00	
4233.00	---	H		12.63	8.99		-13.00	
5079.60	---	H		12.73	9.87		-13.00	
5926.20	---	H		13.79	10.69		-13.00	
6772.80	---	H		11.87	11.47		-13.00	
7619.40	---	H		11.41	12.26		-13.00	
8466.00	---	H		11.68	12.89		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
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Remark:

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