ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

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

FULL MODULE APPROVED REQUIREMENT

OF

Product Name:	**3G MODULE**
Brand Name:	**CLEVO**
Model Name:	**U9M-8775**
Market Name:	**N/A**
FCC ID:	**U9M-8775**
Report No.:	**ER/2008/20046**
Issue Date:	**Mar. 18, 2008**
FCC Rule Part:	**2 , 22H & 24E**
Prepared for:	**CLEVO CO.** **No.129, HSING-TE ROAD, SUN CHUNG CITY 241, TAIPEI HSIEN, TAIWAN, R.O.C.**
Prepared by:	**SGS Taiwan Ltd.** **Electronics & Communication Laboratory** **No. 134, Wu Kung Rd., Wuku Industrial Zone, Taipei County, Taiwan.**

VERIFICATION OF COMPLIANCE

Applicant:	CLEVO CO. No.129, HSING-TE ROAD, SUN CHUNG CITY 241, TAIPEI HSIEN, TAIWAN, R.O.C.
Product Name:	3G MODULE
FCC ID Number:	U9M-8775
Brand Name:	CLEVO
Model No.:	U9M-8775
Market name:	N/A
Module FCC ID:	N7NMC8775
Model Difference:	N/A
File Number:	ER/2008/20046
Date of test:	Feb. 29, 2008 ~ Mar. 18, 2008
Date of EUT Received:	Feb. 29, 2008

We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. 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-B-2002 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 and FCC PART 24 subpart E.

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

Test By:		***Date***	Mar. 18, 2008
	Sky Wang / Asst. Supervisor		
Prepared By:		***Date***	Mar. 18, 2008
	Eva Kao / Asst. Supervisor		
Approved By:		***Date***	Mar. 18, 2008
	Vincent Su / Manager		

Report Version

Version No.	Date
00	Mar. 18, 2008

Table of Contents

1. GENERAL INFORMATION

Product Name:	3G MODULE	
Model Name:	U9M-8775	
Market name:	N/A	
Model Difference:	N/A	
Brand Name:	CLEVO	
Power Supply:	3.7 Vdc	
	Battery Model:	N/A
	Adapter Model:	N/A

GSM and WCDMA:

Cellular Phone Standards Frequency Range and Power	GSM/GPRS 850, class 10	824 MHz– 849MHz	33 dBm
	EDGE 850	824 MHz– 849MHz	27 dBm
	GSM/GPRS 1900, class 10	1850MHz – 1910MHz	30 dBm
	EDGE 1900	1850MHz – 1910MHz	26 dBm
	WCDMA/HSDPA Band II	1852MHz – 1908MHz	24 dBm
	WCDMA/HSDPA Band V	826 MHz– 847MHz	24 dBm
Type of Emission	GSM: 317KGXW EDGE: 317KG7W WCDMA: 4M65F9W		
IMEI	352678012980170		

Antenna Specification

Item no.	Model/Type	
Antenna 1	Antenna Type	PIFA Antenna
	Manufacture:	FVC
	Frequency Range:	824~960MHZ /1.71~2.17GHZ
	Antenna Gain:	915MHz: 0.82dBi / 1750MHz: 2.77dBi
Antenna 2	Antenna Type	PIFA Antenna
	Manufacture:	wgt
	Frequency Range:	824~960MHZ /1.71~2.17GHZ
	Antenna Gain:	880MHz: -0.93dBi / 1920MHz: 3.17dBi
Antenna 3	Antenna Type	PIFA Antenna
	Manufacture:	Smart Approach
	Frequency Range:	824~960MHZ /1.71~2.17GHZ
	Antenna Gain:	824MHz: 0.45dBi / 1750MHz: 2.84dBi

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

This submittal(s) (test report) is intended to comply with Section Part 22 subpart H and 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 on chapter 13 of ANSI C63.4 (2003) and FCC CFR 47.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055 and 2.1057.

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-1

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

1.4. Special Accessories

Not available for this EUT intended for grant.

1.5. Equipment Modifications

Not available for this EUT intended for grant.

2. SYSTEM TEST CONFIGURATION

2.1. EUT Configuration

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

2.2. EUT Exercise

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

2.3. Test Procedure

2.3.1 Conducted Emissions

The EUT is placed on a turn table which is 0.8 m above ground plane. According to the requirements in Section 7 and 13 of ANSI C63.4-2003.Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-Peak and Average detector mode.

2.3.2 Radiated Emissions

The EUT is placed on a turn table which is 1.0 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 in Section 8 and 13 of ANSI C63.4-2003.

2.4. Configuration of Tested System

Fig. 2-1 Configuration of Tested System (Fixed Channel)

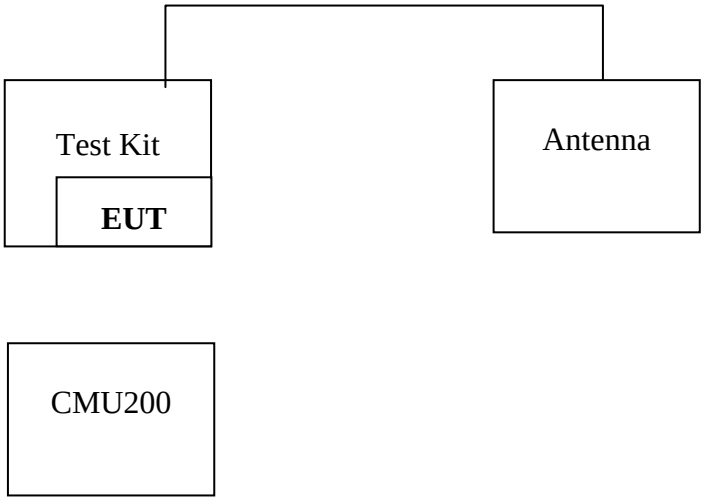


Table 2-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/ Type No.	Series No.	Data Cable	Power Cord
1	Universal Radio Commu-nication Tester	R&S	CMU200	102189	shielded	Un-shielded
2	Test Kit	CLEVO	N/A	N/A	N/A	N/A
3	Antenna	N/A	N/A	N/A	Un-shielded	Un-shielded

3. SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
§2.1046(a) §22.913(a) §24.232(a)	RF Power Output	Compliant
§2.1046(a) §22.913(a) §24.232(a)	ERP/ EIRP measurement	Compliant
§2.1049(h)	99% Occupied Bandwidth	N/A
§2.1051 §22.917(a) §24.238(a)	Out of Band Emissions at Antenna Terminals and Band Edge	N/A
§2.1053 §22.917(a) §24.238(a)	Field Strength of Spurious Radiation	Compliant
§2.1055(a)(1)(b)	Frequency Stability vs. Temperature	N/A
§2.1055(d)(1)(2)	Frequency Stability vs. Voltage	N/A
§15.107;§15.207	AC Power Line Conducted Emission	N/A

4. DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition.

The GSM module was pre-approved and the FCC ID number is **N7NMC8775**. Thus, the output power, ERP/EIRP, Field Strength of Spurious Radiation were tested at GSM, EDGE and WCDMA modes.

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

The field strength of spurious radiation emission was measured with antenna 1 which has highest gain as stand position (H mode) for both GSM850 and WCDMA Band V, antenna 2 which has highest gain as stand position (H mode) for both GSM1900 and WCDMA Band II. The worst-case of H mode for GSM 850, H for GSM 1900, H for WCDMA band II and H for WCDMA band V at channel Low, Mid and High were reported.

5. RF POWER OUTPUT MEASUREMENT

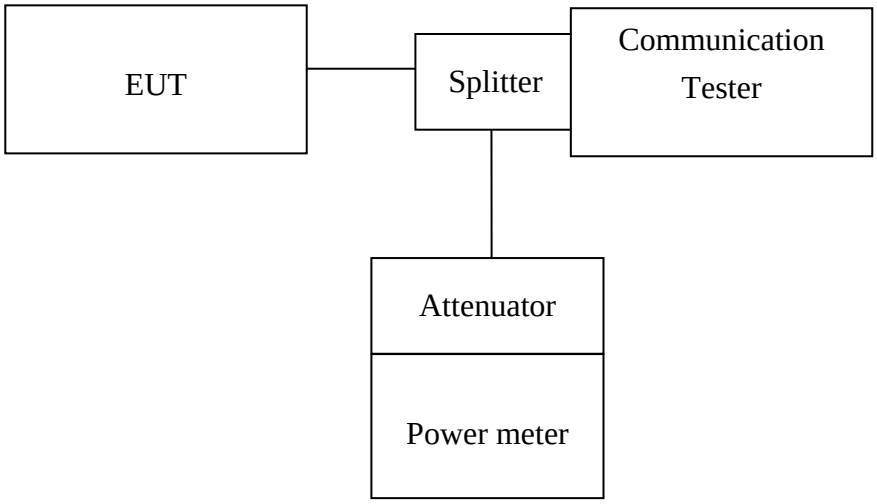
5.1. Standard Applicable

According to FCC §2.1046.

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

FCC 24.232(b) Mobile station are limited 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.

5.4. Measurement Equipment Used:

Conducted Emission Test Site					
EQUIPMENT TYPE	**MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL DUE.**
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/27/2007	04/26/2008
Spectrum Analyzer	Agilent	E7405A	US41160416	06/28/2007	06/27/2008
Spectrum Analyzer	R&S	FSP 40	100034	11/09/2007	11/10/2008
Communication Test	R&S	SMU200	N/A	N/A	N/A
Power Sensor	Anritsu	MA2490A	31431	06/28/2007	06/27/2008
Power Meter	Anritsu	ML2487A	6K00002070	06/28/2007	06/27/2008
Temperature Chamber	TERCHY	MHG-120LF	911009	10/14/2007	10/13/2008
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A
Attenuator	Mini-Circuit	BW-S10W5	N/A	09/23/2007	09/22/2008
Attenuator	Mini-Circuit	BW-S6W5	N/A	09/23/2007	09/22/2008
Splitter	Agilent	11636B	51728	09/23/2007	09/22/2008
DC Power Supply	TOPWARD	3303A	N/A	N/A	N/A

5.5. Measurement Result

EUT Mode	Frequency (MHz)	CH	Power meter Reading (dBm)	Path Loss (dB)	Peak Power (dBm)
GSM 850	824.20	128	14.35	17.8	32.15
	836.60	190	14.53	17.8	32.33
	848.80	251	14.34	17.8	32.14

EUT Mode	Frequency (MHz)	CH	Power Meter Reading (dBm)	Path Loss (dB)	Peak Power (dBm)
PCS 1900	1850.20	512	11.36	17.8	29.16
	1880.00	661	11.34	17.8	29.14
	1909.80	810	11.37	17.8	29.17

EUT Mode	Frequency (MHz)	CH	Power meter Reading (dBm)	Path Loss (dB)	Peak Power (dBm)
EDGE 850	824.20	128	9.08	17.80	26.88
	836.60	190	9.00	17.80	26.80
	848.80	251	8.99	17.80	26.79

EUT Mode	Frequency (MHz)	CH	Power Meter Reading (dBm)	Path Loss (dB)	Peak Power (dBm)
EDGE 1900	1850.20	512	7.74	17.80	25.54
	1880.00	661	7.56	17.80	25.36
	1909.80	810	7.48	17.80	25.28

EUT Mode	Frequency (MHz)	CH	Power Meter Reading (dBm)	Path Loss (dB)	Peak Power (dBm)
WCDMA Band II	1852.40	9262	5.30	17.8	23.10
	1880.00	9400	5.16	17.8	22.96
	1907.60	9538	5.26	17.8	23.06

EUT Mode	Frequency (MHz)	CH	Power meter Reading (dBm)	Path Loss (dB)	Peak Power (dBm)
WCDMA Band V	826.40	4132	4.55	17.80	22.35
	836.00	4180	4.96	17.80	22.76
	846.60	4233	5.10	17.80	22.90

6. ERP, EIRP MEASUREMENT

6.1. Standard Applicable

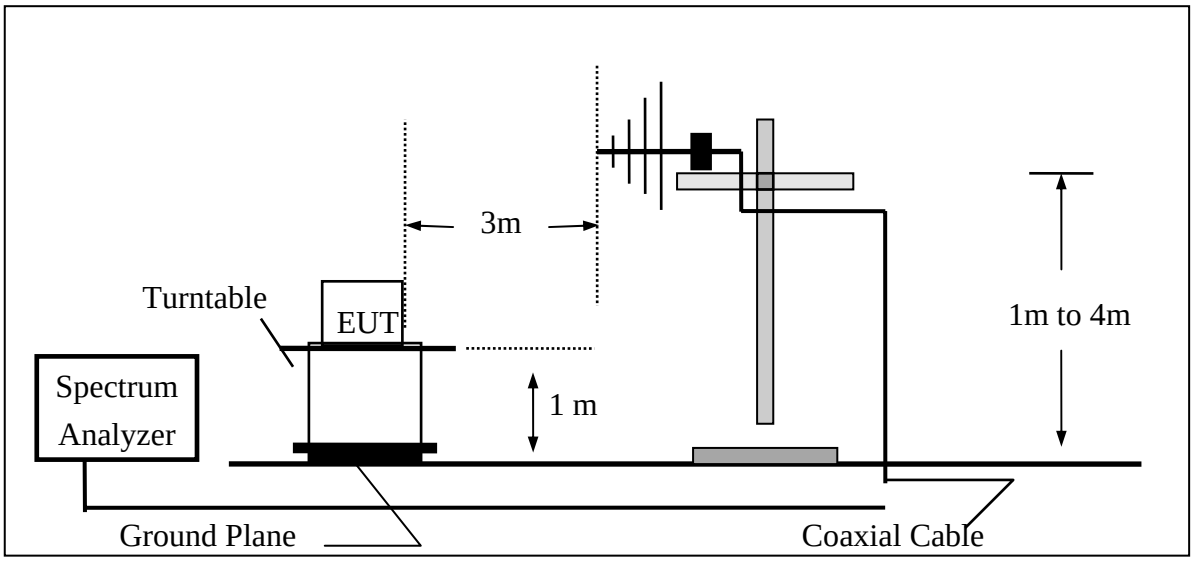
According to FCC §2.1046

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

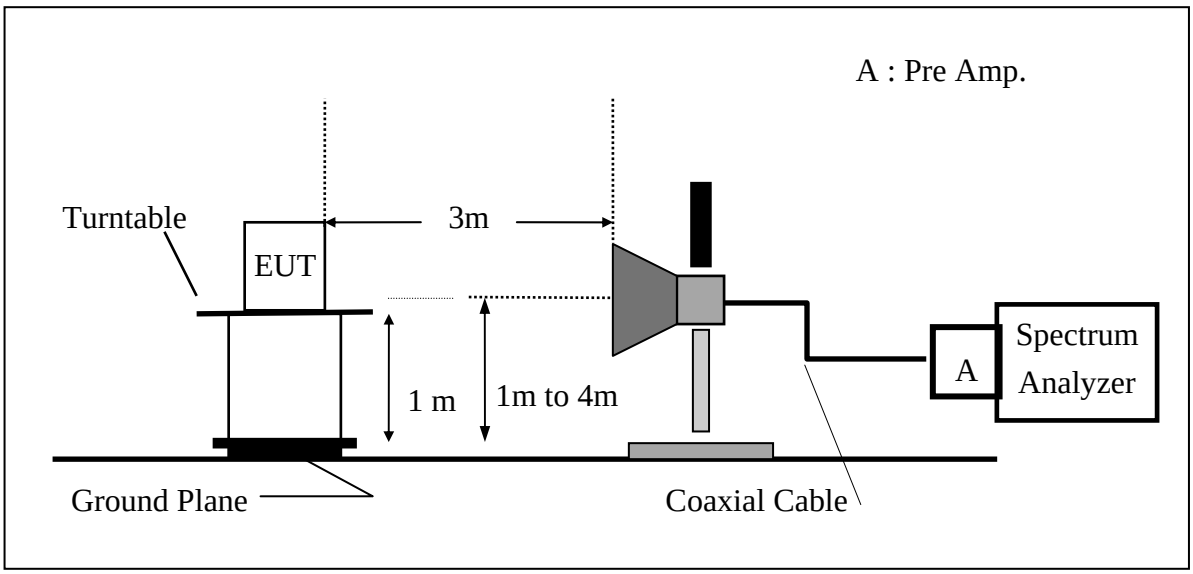
FCC 24.232(b) Mobile station are limited to 2W EIRP.

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

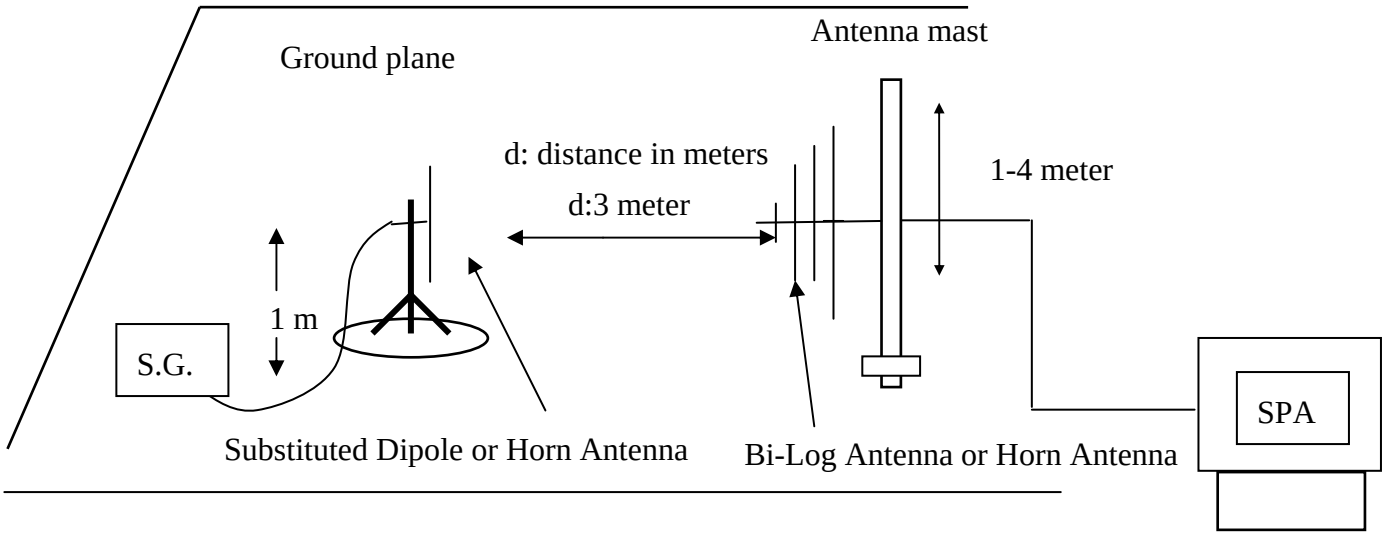
(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(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 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.

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. And Peak detector was used during this test.

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 or 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:

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/27/2007	04/26/2008
Spectrum Analyzer	Agilent	7405A	US41160416	06/28/2007	06/27/2008
Spectrum Analyzer	R&S	FSP 40	100034	11/09/2007	11/10/2008
Communication Test	R&S	SMU200	N/A	N/A	N/A
Bi-log Antenna	SCHWAZBECK	VULB9160	3224	11/14/2007	11/13/2008
Horn antenna	SCHWAZBECK	BBHA 9120D	309/320	08/16/2007	08/15/2008
Pre-Amplifier	HP	8447D	2944A09469	07/19/2007	07/18/2008
Pre-Amplifier	HP	8494B	3008A00578	02/26/2008	02/25/2009
Signal Generator	R&S	SMR40	100210	02/09/2008	02/10/2009
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	10/09/2007	10/08/2008
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-3M	3m	10/09/2007	10/08/2008
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-0.5M	0.5m	10/09/2007	10/08/2008
Site NSA	SGS	966 chamber	N/A	11/17/2007	11/16/2008
Attenuator	Mini-Circuit	BW-S10W5	N/A	09/23/2007	09/22/2008
Dipole Antenna	SCHWAZBECK	VHAP	908/909	06/10/2006	06/09/2008
Dipole Antenna	SCHWAZBECK	UHAP	891/892	06/10/2006	06/09/2008
Horn antenna	SCHWAZBECK	BBHA 9120D	N/A	08/16/2007	08/15/2008

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	122.60	35.28	-7.87	3.64	23.76	38.45
				H	124.80	37.14	-7.87	3.64	25.63	38.45
	836.60	190	H	V	123.84	36.81	-7.88	3.70	25.24	38.45
				H	126.48	39.14	-7.88	3.70	27.57	38.45
	848.80	251	H	V	125.73	38.99	-7.88	3.75	27.36	38.45
				H	128.40	41.38	-7.88	3.75	29.75	38.45

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)
PCS 1900	1850.20	512	H	V	129.78	22.82	9.90	5.41	27.31	33.00
				H	129.70	22.81	9.90	5.41	27.30	33.00
	1880.00	661	H	V	129.74	22.79	9.99	5.46	27.32	33.00
				H	130.34	23.47	9.99	5.46	28.00	33.00
	1909.80	810	H	V	128.43	21.49	10.08	5.51	26.06	33.00
				H	129.18	22.33	10.08	5.51	26.89	33.00

Remark：

(1) The RBW,VBW of SPA for frequency

Below 1GHz was RBW=100 KHz, VBW=300KHz,

Above 1GHz was RBW= 1MHz , VBW= 3MHz

(2) Peak detector was used during test.

6.6. 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	122.34	35.02	-7.87	3.64	23.50	38.45
				H	122.26	34.60	-7.87	3.64	23.09	38.45
	836.60	190	H	V	123.20	36.17	-7.88	3.70	24.60	38.45
				H	123.43	36.09	-7.88	3.70	24.52	38.45
	848.80	251	H	V	123.64	36.90	-7.88	3.75	25.27	38.45
				H	123.93	36.91	-7.88	3.75	25.28	38.45

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	125.45	18.49	9.90	5.41	22.98	33.00
				H	127.07	20.18	9.90	5.41	24.67	33.00
	1880.00	661	H	V	127.25	20.30	9.99	5.46	24.83	33.00
				H	127.81	20.94	9.99	5.46	25.47	33.00
	1909.80	810	H	V	127.04	20.10	10.08	5.51	24.67	33.00
				H	128.53	21.68	10.08	5.51	26.24	33.00

Remark：

(1) The RBW,VBW of SPA for frequency

Below 1GHz was RBW=100 KHz, VBW=300KHz,

Above 1GHz was RBW= 1MHz , VBW= 3MHz

(2) Peak detector was used during test.

6.7. 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 Band II	1852.40	9262	H	V	119.31	12.35	9.90	5.41	16.84	33.00
				H	121.84	14.95	9.90	5.41	19.44	33.00
	1880.00	9400	H	V	119.39	12.44	9.99	5.46	16.97	33.00
				H	122.48	15.61	9.99	5.46	20.14	33.00
	1907.60	9538	H	V	118.90	11.96	10.08	5.51	16.53	33.00
				H	121.88	15.03	10.08	5.51	19.59	33.00

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	113.94	26.62	-7.87	3.64	15.10	38.45
				H	116.33	28.67	-7.87	3.64	17.16	38.45
	836.00	4180	H	V	114.81	27.78	-7.88	3.70	16.21	38.45
				H	119.23	31.89	-7.88	3.70	20.32	38.45
	846.60	4233	H	V	114.58	27.84	-7.88	3.75	16.21	38.45
				H	119.84	32.82	-7.88	3.75	21.19	38.45

Remark：

(1) The RBW,VBW of SPA for frequency

Below 1GHz was RBW=100 KHz, VBW=300KHz,

Above 1GHz was RBW= 1MHz , VBW= 3MHz

(2) Peak detector was used during test.

7. FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

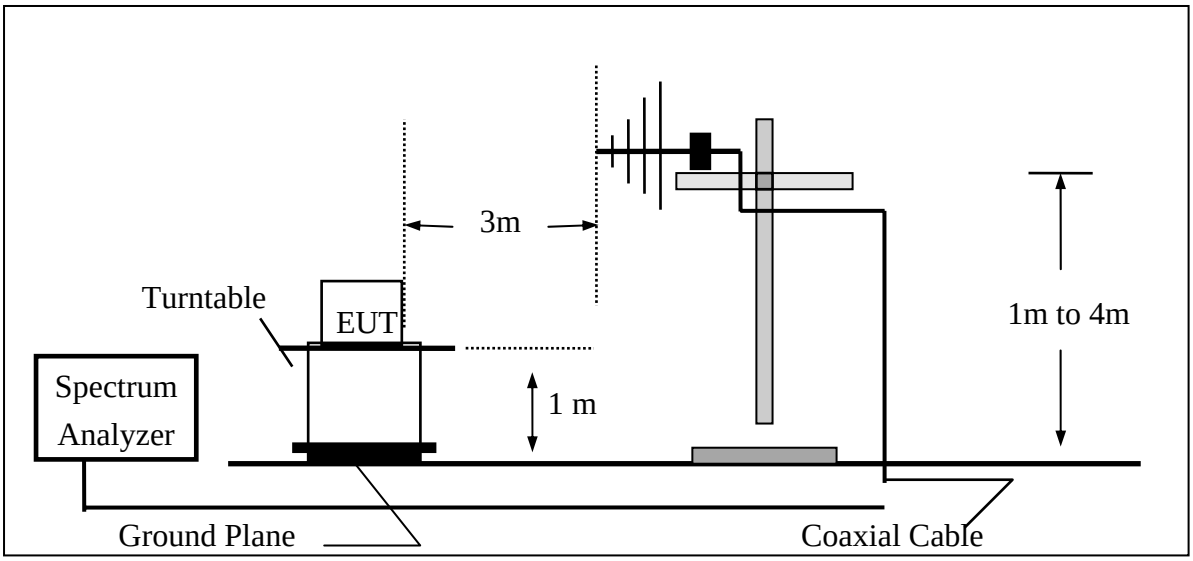
7.1. Standard Applicable

According to FCC §2.1053,

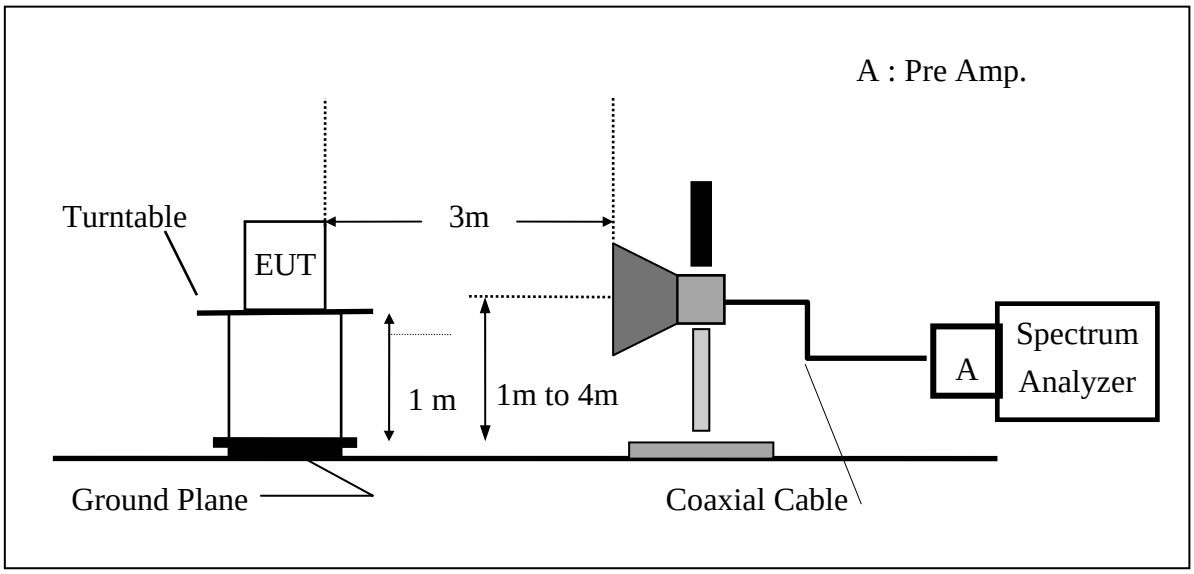
FCC §22.917(a),§24.238(a), the magnitude of each spurious and harmonic emission that can be detected when the equipment is operated under the conditions specified in the instruction manual and/ or alignment procedure, shall not be less than 43 + 10 log (mean output power in watts) dBc below the mean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

7.2. EUT Setup (Block Diagram of Configuration)

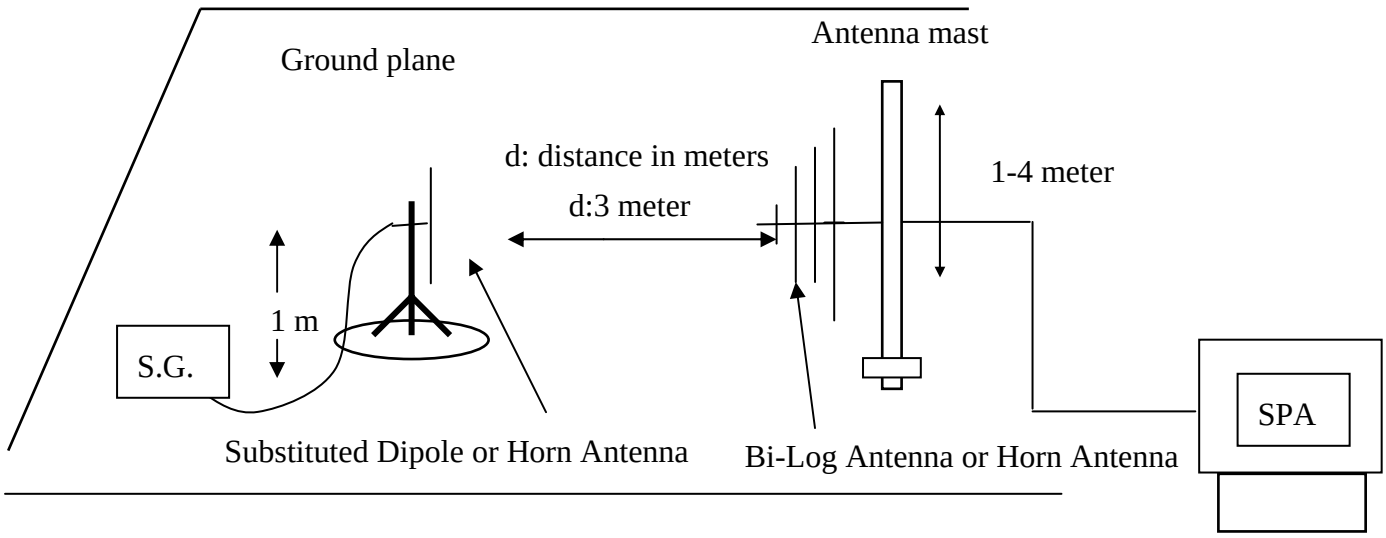
(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



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



(C) Substituted Method Test Set-UP



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.

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. And Peak detector was used during this test.

ERP was 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 was measured using a substitution method. The EUT was replaced by or 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)

7.4. Measurement Equipment Used:

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/27/2007	04/26/2008
Spectrum Analyzer	Agilent	E7405A	US41160416	08/27/2007	08/26/2008
Bi-log Antenna	SCHWAZBECK	VULB9160	3224	11/14/2007	11/13/2008
Horn antenna	SCHWAZBECK	BBHA 9120D	309/320	08/16/2007	08/15/2008
Pre-Amplifier	HP	8447D	2944A09469	07/19/2007	07/18/2008
Pre-Amplifier	HP	8494B	3008A00578	02/26/2008	02/25/2009
Signal Generator	R&S	SMR40	100210	02/09/2008	02/10/2009
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	10/09/2007	10/08/2008
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-3M	3m	10/09/2007	10/08/2008
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-0.5M	0.5m	10/09/2007	10/08/2008
Site NSA	SGS	966 chamber	N/A	11/17/2007	11/16/2008
Attenuator	Mini-Circuit	BW-S10W5	N/A	10/07/2007	10/06/2008
Temperature Chamber	TERCHY	MHG-120LF	911009	10/14/2007	10/13/2008
Dipole Antenna	SCHWAZBECK	VHAP	908/909	06/10/2006	06/09/2008
Dipole Antenna	SCHWAZBECK	UHAP	891/892	06/10/2006	06/09/2008
Horn antenna	SCHWAZBECK	BBHA 9120D	N/A	08/16/2007	08/15/2008

7.5. Measurement Result

Refer to attach tabular data sheets.

Radiated Spurious Emission Measurement Result: GSM 850 Mode

Operation Mode	: TX CH Low H Mode	Test Date:	Mar. 19, 2008
Fundamental Frequency	: 824.20 MHz	Test By:	Sky
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)
179.38	44.48	V	-55.77	-7.82	1.52	-65.11	-13.00	-52.11
347.19	39.90	V	-58.13	-7.66	2.45	-68.24	-13.00	-55.24
415.09	39.49	V	-56.14	-7.67	2.46	-66.27	-13.00	-53.27
824.00	81.24	V	-6.09	-7.87	3.64	-17.61	-13.00	-4.61
1648.40	44.90	V	-62.14	9.29	5.06	-57.91	-13.00	-44.91
2472.60	49.87	V	-54.19	10.08	6.30	-50.42	-13.00	-37.42
3296.80	---	V		12.17	7.26		-13.00	
4121.00	46.42	V	-53.36	12.61	8.33	-49.07	-13.00	-36.07
4945.20	---	V		12.65	9.19		-13.00	
5769.40	---	V		13.55	9.80		-13.00	
6593.60	---	V		12.05	10.61		-13.00	
7417.80	---	V		11.49	11.28		-13.00	
8242.00	---	V		11.48	12.26		-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)

5 Peak detector was used during test.

Radiated Spurious Emission Measurement Result: GSM 850 Mode

Operation Mode	: TX CH Low H Mode	Test Date:	Mar. 19, 2008
Fundamental Frequency	: 824.20 MHz	Test By:	Sky
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	43.04	H	-56.68	-7.81	1.50	-66.00	-13.00	-53.00
308.39	43.16	H	-56.04	-7.87	2.07	-65.98	-13.00	-52.98
397.63	43.48	H	-52.90	-7.66	2.42	-62.97	-13.00	-49.97
824.00	78.48	H	-9.18	-7.87	3.64	-20.70	-13.00	-7.70
1648.40	48.15	H	-58.86	9.29	5.06	-54.63	-13.00	-41.63
2472.60	58.25	H	-45.81	10.08	6.30	-42.03	-13.00	-29.03
3296.80	---	H		12.17	7.26		-13.00	
4121.00	50.85	H	-48.80	12.61	8.33	-44.51	-13.00	-31.51
4945.20	---	H		12.65	9.19		-13.00	
5769.40	---	H		13.55	9.80		-13.00	
6593.60	---	H		12.05	10.61		-13.00	
7417.80	---	H		11.49	11.28		-13.00	
8242.00	---	H		11.48	12.26		-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)

5 Peak detector was used during test.

Radiated Spurious Emission Measurement Result: GSM 850 Mode

Operation Mode	: TX CH Mid H Mode	Test Date:	Mar. 19, 2008
Fundamental Frequency	: 836.60 MHz	Test By:	Sky
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)
179.38	44.09	V	-56.16	-7.82	1.52	-65.50	-13.00	-52.50
347.19	40.12	V	-57.91	-7.66	2.45	-68.02	-13.00	-55.02
412.18	38.35	V	-57.36	-7.67	2.45	-67.48	-13.00	-54.48
1673.20	44.98	V	-62.05	9.36	5.10	-57.79	-13.00	-44.79
2509.80	56.19	V	-47.69	10.09	6.35	-43.95	-13.00	-30.95
3346.40	---	V		12.28	7.29		-13.00	
4183.00	44.72	V	-54.84	12.62	8.40	-50.62	-13.00	-37.62
5019.60	---	V		12.67	9.26		-13.00	
5856.20	---	V		13.68	9.85		-13.00	
7529.40	---	V		11.45	11.35		-13.00	
8366.00	---	V		11.59	12.43		-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)

5 Peak detector was used during test.

Radiated Spurious Emission Measurement Result: GSM 850 Mode

Operation Mode	: TX CH Mid H Mode	Test Date:	Mar. 19, 2008
Fundamental Frequency	: 836.60 MHz	Test By:	Sky
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	42.43	H	-57.29	-7.81	1.50	-66.61	-13.00	-53.61
308.39	47.02	H	-52.18	-7.87	2.07	-62.12	-13.00	-49.12
383.08	46.34	H	-50.28	-7.65	2.43	-60.37	-13.00	-47.37
1673.20	47.28	H	-59.72	9.36	5.10	-55.45	-13.00	-42.45
2509.80	63.57	H	-40.30	10.09	6.35	-36.56	-13.00	-23.56
3346.40	---	H		12.28	7.29		-13.00	
4183.00	43.93	H	-55.49	12.62	8.40	-51.26	-13.00	-38.26
5019.60	---	H		12.67	9.26		-13.00	
5856.20	---	H		13.68	9.85		-13.00	
6692.80	---	H		11.95	10.74		-13.00	
7529.40	---	H		11.45	11.35		-13.00	
8366.00	---	H		11.59	12.43		-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)

5 Peak detector was used during test.

Radiated Spurious Emission Measurement Result: GSM 850 Mode

Operation Mode	: TX CH High H Mode	Test Date:	Mar. 19, 2008
Fundamental Frequency	: 848.80 MHz	Test By:	Sky
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)
174.53	44.12	V	-55.69	-7.82	1.51	-65.03	-13.00	-52.03
347.19	39.98	V	-58.05	-7.66	2.45	-68.16	-13.00	-55.16
415.09	38.18	V	-57.45	-7.67	2.46	-67.58	-13.00	-54.58
850.00	77.83	V	-8.88	-7.88	3.75	-20.51	-13.00	-7.51
1697.60	43.44	V	-63.58	9.44	5.14	-59.29	-13.00	-46.29
2546.40	62.93	V	-40.86	10.20	6.40	-37.06	-13.00	-24.06
3395.20	---	V		12.38	7.33		-13.00	
4244.00	39.02	V	-60.33	12.63	8.46	-56.16	-13.00	-43.16
5092.80	---	V		12.74	9.32		-13.00	
5941.60	---	V		13.81	9.89		-13.00	
6790.40	---	V		11.86	10.87		-13.00	
7639.20	---	V		11.40	11.48		-13.00	
8488.00	---	V		11.70	12.59		-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)

5 Peak detector was used during test.

Radiated Spurious Emission Measurement Result: GSM 850 Mode

Operation Mode	: TX CH High H Mode	Test Date:	Mar. 19, 2008
Fundamental Frequency	: 848.80 MHz	Test By:	Sky
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	40.85	H	-58.87	-7.81	1.50	-68.19	-13.00	-55.19
308.39	43.81	H	-55.39	-7.87	2.07	-65.33	-13.00	-52.33
400.54	44.42	H	-51.91	-7.66	2.41	-61.98	-13.00	-48.98
850.00	79.50	H	-7.49	-7.88	3.75	-19.12	-13.00	-6.12
1697.60	48.31	H	-58.67	9.44	5.14	-54.38	-13.00	-41.38
2546.40	64.12	H	-39.66	10.20	6.40	-35.86	-13.00	-22.86
3395.20	---	H		12.38	7.33		-13.00	
4244.00	40.08	H	-59.11	12.63	8.46	-54.94	-13.00	-41.94
5092.80	---	H		12.74	9.32		-13.00	
5941.60	---	H		13.81	9.89		-13.00	
6790.40	---	H		11.86	10.87		-13.00	
7639.20	---	H		11.40	11.48		-13.00	
8488.00	---	H		11.70	12.59		-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)

5 Peak detector was used during test.

Radiated Spurious Emission Measurement Result: PCS 1900 Mode

Operation Mode	: TX CH Low H Mode	Test Date	Mar. 19, 2008
Fundamental Frequency	: 1850.20MHz	Test By:	Sky
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)
179.38	44.32	V	-55.93	-7.82	1.52	-65.27	-13.00	-52.27
347.19	39.35	V	-58.68	-7.66	2.45	-68.79	-13.00	-55.79
415.09	37.98	V	-57.65	-7.67	2.46	-67.78	-13.00	-54.78
1850.00	82.37	V	-24.59	9.90	5.41	-20.10	-13.00	-7.10
3700.40	35.52	V	-66.06	12.61	7.73	-61.18	-13.00	-48.18
5550.60	37.94	V	-57.27	13.23	9.68	-53.73	-13.00	-40.73
7400.80	---	V		11.50	11.28		-13.00	
9251.00	---	V		11.92	13.10		-13.00	
11101.20	---	V		11.66	14.33		-13.00	
12951.40	---	V		13.63	15.98		-13.00	
14801.60	---	V		12.76	17.27		-13.00	
16651.80	---	V		15.92	19.04		-13.00	
18502.00	---	V		18.75	21.21		-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)

5 Peak detector was used during test.

Radiated Spurious Emission Measurement Result: PCS 1900 Mode

Operation Mode	: TX CH Low H Mode	Test Date	Mar. 19, 2008
Fundamental Frequency	: 1850.20MHz	Test By:	Sky
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	43.97	H	-55.75	-7.81	1.50	-65.07	-13.00	-52.07
308.39	42.94	H	-56.26	-7.87	2.07	-66.20	-13.00	-53.20
400.54	41.08	H	-55.25	-7.66	2.41	-65.32	-13.00	-52.32
1850.00	80.02	H	-26.87	9.90	5.41	-22.38	-13.00	-9.38
3700.40	48.07	H	-53.29	12.61	7.73	-48.41	-13.00	-35.41
5550.60	38.31	H	-56.82	13.23	9.68	-53.27	-13.00	-40.27
7400.80	---	H		11.50	11.28		-13.00	
9251.00	---	H		11.92	13.10		-13.00	
11101.20	---	H		11.66	14.33		-13.00	
12951.40	---	H		13.63	15.98		-13.00	
14801.60	---	H		12.76	17.27		-13.00	
16651.80	---	H		15.92	19.04		-13.00	
18502.00	---	H		18.75	21.21		-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)

5 Peak detector was used during test.

Radiated Spurious Emission Measurement Result: PCS 1900 Mode

Operation Mode	: TX CH Mid H Mode	Test Date	Mar. 19, 2008
Fundamental Frequency	: 1880MHz	Test By	Sky
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)
177.44	44.01	V	-56.06	-7.82	1.52	-65.41	-13.00	-52.41
368.53	37.83	V	-59.41	-7.65	2.45	-69.51	-13.00	-56.51
419.94	37.56	V	-57.93	-7.68	2.47	-68.07	-13.00	-55.07
3760.00	41.23	V	-60.07	12.60	7.82	-55.29	-13.00	-42.29
5640.00	42.96	V	-52.00	13.36	9.73	-48.37	-13.00	-35.37
7520.00	---	V		11.45	11.33		-13.00	
9400.00	---	V		11.93	13.15		-13.00	
11280.00	---	V		11.92	14.56		-13.00	
13160.00	---	V		13.33	16.11		-13.00	
15040.00	---	V		13.76	17.57		-13.00	
16920.00	---	V		15.27	19.66		-13.00	
18800.00	---	V		18.68	21.34		-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)

5 Peak detector was used during test.

Radiated Spurious Emission Measurement Result: PCS 1900 Mode

Operation Mode	: TX CH Mid H Mode	Test Date	Mar. 19, 2008
Fundamental Frequency	: 1880MHz	Test By	Sky
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	42.40	H	-57.32	-7.81	1.50	-66.64	-13.00	-53.64
308.39	43.18	H	-56.02	-7.87	2.07	-65.96	-13.00	-52.96
421.88	42.26	H	-53.67	-7.68	2.48	-63.82	-13.00	-50.82
3760.00	50.02	H	-51.09	12.60	7.82	-46.30	-13.00	-33.30
5640.00	44.45	H	-50.44	13.36	9.73	-46.81	-13.00	-33.81
7520.00	---	H		11.45	11.33		-13.00	
9400.00	---	H		11.93	13.15		-13.00	
11280.00	---	H		11.92	14.56		-13.00	
13160.00	---	H		13.33	16.11		-13.00	
15040.00	---	H		13.76	17.57		-13.00	
16920.00	---	H		15.27	19.66		-13.00	
18800.00	---	H		18.68	21.34		-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)

5 Peak detector was used during test.

Radiated Spurious Emission Measurement Result: PCS 1900 Mode

Operation Mode	: TX CH High H Mode	Test Date	Mar. 19, 2008
Fundamental Frequency	: 1909.8 MHz	Test By	Sky
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)
177.44	45.04	V	-55.03	-7.82	1.52	-64.38	-13.00	-51.38
368.53	39.50	V	-57.74	-7.65	2.45	-67.84	-13.00	-54.84
415.09	39.35	V	-56.28	-7.67	2.46	-66.41	-13.00	-53.41
1910.00	83.09	V	-23.76	10.08	5.51	-19.20	-13.00	-6.20
3819.60	39.99	V	-61.04	12.60	7.92	-56.35	-13.00	-43.35
5729.40	38.69	V	-56.01	13.49	9.78	-52.30	-13.00	-39.30
7639.20	---	V		11.40	11.48		-13.00	
9549.00	---	V		11.95	13.22		-13.00	
11458.80	---	V		12.17	14.79		-13.00	
13368.60	---	V		12.97	16.22		-13.00	
15278.40	---	V		15.00	17.88		-13.00	
17188.20	---	V		14.47	19.75		-13.00	
19098.00	---	V		18.66	21.36		-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)

5 Peak detector was used during test.

Radiated Spurious Emission Measurement Result: PCS 1900 Mode

Operation Mode	: TX CH High H Mode	Test Date	Mar. 19, 2008
Fundamental Frequency	: 1909.8 MHz	Test By	Sky
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	42.77	H	-56.95	-7.81	1.50	-66.27	-13.00	-53.27
293.84	45.75	H	-54.02	-7.92	1.99	-63.92	-13.00	-50.92
395.69	41.72	H	-54.69	-7.66	2.42	-64.77	-13.00	-51.77
1910.00	76.52	H	-30.33	10.08	5.51	-25.77	-13.00	-12.77
3819.60	48.43	H	-52.43	12.60	7.92	-47.74	-13.00	-34.74
5729.40	36.87	H	-57.78	13.49	9.78	-54.07	-13.00	-41.07
7639.20	---	H		11.40	11.48		-13.00	
9549.00	---	H		11.95	13.22		-13.00	
11458.80	---	H		12.17	14.79		-13.00	
13368.60	---	H		12.97	16.22		-13.00	
15278.40	---	H		15.00	17.88		-13.00	
17188.20	---	H		14.47	19.75		-13.00	
19098.00	---	H		18.66	21.36		-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)

5 Peak detector was used during test.

Radiated Spurious Emission Measurement Result: WCDMA BAND II Mode

Operation Mode	: TX CH Low H Mode	Test Date:	Mar. 19, 2008
Fundamental Frequency	: 1852.40MHz	Test By:	Sky
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)
179.38	44.91	V	-55.34	-7.82	1.52	-64.68	-13.00	-51.68
368.53	45.68	V	-51.56	-7.65	2.45	-61.66	-13.00	-48.66
419.94	38.28	V	-57.21	-7.68	2.47	-67.35	-13.00	-54.35
1850.00	73.05	V	-33.91	9.90	5.41	-29.42	-13.00	-16.42
3704.80	34.53	V	-67.03	12.61	7.73	-62.16	-13.00	-49.16
5557.20	---	V		13.24	9.69		-13.00	
7409.60	---	V		11.49	11.28		-13.00	
9262.00	---	V		11.92	13.10		-13.00	
11114.40	---	V		11.68	14.35		-13.00	
12966.80	---	V		13.62	16.00		-13.00	
14819.20	---	V		12.83	17.30		-13.00	
16671.60	---	V		15.87	19.09		-13.00	
18524.00	---	V		18.74	21.22		-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)

5 Peak detector was used during test.

Radiated Spurious Emission Measurement Result: WCDMA BAND II Mode

Operation Mode	: TX CH Low H Mode	Test Date:	Mar. 19, 2008
Fundamental Frequency	: 1852.40MHz	Test By:	Sky
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	50.65	H	-49.07	-7.81	1.50	-58.39	-13.00	-45.39
308.39	41.23	H	-57.97	-7.87	2.07	-67.91	-13.00	-54.91
395.69	43.27	H	-53.14	-7.66	2.42	-63.22	-13.00	-50.22
1850.00	71.09	H	-35.80	9.90	5.41	-31.31	-13.00	-18.31
3704.80	38.99	H	-62.35	12.61	7.73	-57.48	-13.00	-44.48
5557.20	---	H		13.24	9.69		-13.00	
7409.60	---	H		11.49	11.28		-13.00	
9262.00	---	H		11.92	13.10		-13.00	
11114.40	---	H		11.68	14.35		-13.00	
12966.80	---	H		13.62	16.00		-13.00	
14819.20	---	H		12.83	17.30		-13.00	
16671.60	---	H		15.87	19.09		-13.00	
18524.00	---	H		18.74	21.22		-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)

5 Peak detector was used during test.

Radiated Spurious Emission Measurement Result: WCDMA BAND II Mode

Operation Mode	: TX CH Mid H Mode	Test Date:	Mar. 19, 2008
Fundamental Frequency	: 1880MHz	Test By:	Sky
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)
174.53	45.18	V	-54.63	-7.82	1.51	-63.97	-13.00	-50.97
368.53	45.66	V	-51.58	-7.65	2.45	-61.68	-13.00	-48.68
417.03	38.48	V	-57.09	-7.67	2.46	-67.23	-13.00	-54.23
3760.00	43.58	V	-57.72	12.60	7.82	-52.94	-13.00	-39.94
5640.00	---	V		13.36	9.73		-13.00	
7520.00	---	V		11.45	11.33		-13.00	
9400.00	---	V		11.93	13.15		-13.00	
11280.00	---	V		11.92	14.56		-13.00	
13160.00	---	V		13.33	16.11		-13.00	
15040.00	---	V		13.76	17.57		-13.00	
16920.00	---	V		15.27	19.66		-13.00	
18800.00	---	V		18.68	21.34		-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)

5 Peak detector was used during test.

Radiated Spurious Emission Measurement Result: WCDMA BAND II Mode

Operation Mode	: TX CH Mid H Mode	Test Date:	Mar. 19, 2008
Fundamental Frequency	: 1880MHz	Test By:	Sky
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	42.40	H	-57.32	-7.81	1.50	-66.64	-13.00	-53.64
337.49	43.18	H	-54.60	-7.71	2.35	-64.66	-13.00	-51.66
410.24	42.26	H	-53.89	-7.67	2.44	-64.00	-13.00	-51.00
3760.00	53.55	H	-47.56	12.60	7.82	-42.77	-13.00	-29.77
5640.00	---	H		13.36	9.73		-13.00	
7520.00	---	H		11.45	11.33		-13.00	
9400.00	---	H		11.93	13.15		-13.00	
11280.00	---	H		11.92	14.56		-13.00	
13160.00	---	H		13.33	16.11		-13.00	
15040.00	---	H		13.76	17.57		-13.00	
16920.00	---	H		15.27	19.66		-13.00	
18800.00	---	H		18.68	21.34		-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)

5 Peak detector was used during test.

Radiated Spurious Emission Measurement Result: WCDMA BAND II Mode

Operation Mode	: TX CH High H Mode	Test Date:	Mar. 19, 2008
Fundamental Frequency	: 1907.6 MHz	Test By:	Sky
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)
184.23	44.59	V	-56.09	-7.83	1.53	-65.45	-13.00	-52.45
373.38	45.27	V	-51.79	-7.65	2.45	-61.89	-13.00	-48.89
417.03	37.82	V	-57.75	-7.67	2.46	-67.89	-13.00	-54.89
1910.00	83.09	V	-23.76	10.08	5.51	-19.20	-13.00	-6.20
3815.20	54.78	V	-46.27	12.60	7.91	-41.58	-13.00	-28.58
5722.80	---	V		13.48	9.78		-13.00	
7630.40	---	V		11.41	11.47		-13.00	
9538.00	---	V		11.95	13.21		-13.00	
11445.60	---	V		12.15	14.77		-13.00	
13353.20	---	V		13.00	16.21		-13.00	
15260.80	---	V		14.91	17.86		-13.00	
17168.40	---	V		14.53	19.76		-13.00	
19076.00	---	V		18.65	21.37		-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)

5 Peak detector was used during test.

Radiated Spurious Emission Measurement Result: WCDMA BAND II Mode

Operation Mode	: TX CH High H Mode	Test Date:	Mar. 19, 2008
Fundamental Frequency	: 1907.6 MHz	Test By:	Sky
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	50.27	H	-49.45	-7.81	1.50	-58.77	-13.00	-45.77
308.39	39.49	H	-59.71	-7.87	2.07	-69.65	-13.00	-56.65
395.69	43.44	H	-52.97	-7.66	2.42	-63.05	-13.00	-50.05
1910.00	76.52	H	-30.33	10.08	5.51	-25.77	-13.00	-12.77
3815.20	61.34	H	-39.54	12.60	7.91	-34.84	-13.00	-21.84
5722.80	---	H		13.48	9.78		-13.00	
7630.40	---	H		11.41	11.47		-13.00	
9538.00	---	H		11.95	13.21		-13.00	
11445.60	---	H		12.15	14.77		-13.00	
13353.20	---	H		13.00	16.21		-13.00	
15260.80	---	H		14.91	17.86		-13.00	
17168.40	---	H		14.53	19.76		-13.00	
19076.00	---	H		18.65	21.37		-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)

5 Peak detector was used during test.

Radiated Spurious Emission Measurement Result: WCDMA BAND V Mode

Operation Mode	: TX CH Low H Mode	Test Date:	Mar. 19, 2008
Fundamental Frequency	: 826.4MHz	Test By:	Sky
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)
177.44	44.69	V	-55.38	-7.82	1.52	-64.73	-13.00	-51.73
378.23	46.59	V	-50.29	-7.65	2.44	-60.38	-13.00	-47.38
412.18	37.56	V	-58.15	-7.67	2.45	-68.27	-13.00	-55.27
824.00	67.39	V	-19.94	-7.87	3.64	-31.46	-13.00	-18.46
1652.80	41.26	V	-65.78	9.30	5.06	-61.54	-13.00	-48.54
1924.00	39.61	V	-67.32	10.12	5.53	-62.73	-13.00	-49.73
2479.20	39.59	V	-64.43	10.07	6.31	-60.67	-13.00	-47.67
3305.60	---	V		12.19	7.26		-13.00	
4132.00	---	V		12.62	8.34		-13.00	
4958.40	---	V		12.65	9.20		-13.00	
5784.80	---	V		13.58	9.81		-13.00	
6611.20	---	V		12.03	10.63		-13.00	
7437.60	---	V		11.48	11.29		-13.00	
8264.00	---	V		11.50	12.29		-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)

5 Peak detector was used during test.

Radiated Spurious Emission Measurement Result: WCDMA BAND V Mode

Operation Mode	: TX CH Low H Mode	Test Date:	Mar. 19, 2008
Fundamental Frequency	: 826.4MHz	Test By:	Sky
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	52.38	H	-47.34	-7.81	1.50	-56.66	-13.00	-43.66
308.39	41.13	H	-58.07	-7.87	2.07	-68.01	-13.00	-55.01
417.03	40.79	H	-55.23	-7.67	2.46	-65.37	-13.00	-52.37
824.00	64.32	H	-23.34	-7.87	3.64	-34.86	-13.00	-21.86
1652.80	40.44	H	-66.57	9.30	5.06	-62.33	-13.00	-49.33
2479.20	---	H		10.07	6.31		-13.00	
3305.60	---	H		12.19	7.26		-13.00	
4132.00	36.84	H	-62.77	12.62	8.34	-58.49	-13.00	-45.49
4958.40	---	H		12.65	9.20		-13.00	
5784.80	---	H		13.58	9.81		-13.00	
6611.20	---	H		12.03	10.63		-13.00	
7437.60	---	H		11.48	11.29		-13.00	
8264.00	---	H		11.50	12.29		-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)

5 Peak detector was used during test.

Radiated Spurious Emission Measurement Result: WCDMA BAND V Mode

Operation Mode	: TX CH Mid H Mode	Test Date:	Mar. 19, 2008
Fundamental Frequency	: 836.0MHz	Test By:	Sky
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)
177.44	44.01	V	-56.06	-7.82	1.52	-65.41	-13.00	-52.41
373.38	46.12	V	-50.94	-7.65	2.45	-61.04	-13.00	-48.04
415.09	37.59	V	-58.04	-7.67	2.46	-68.17	-13.00	-55.17
1672.00	41.02	V	-66.01	9.36	5.10	-61.75	-13.00	-48.75
2508.00	39.32	V	-64.56	10.08	6.35	-60.82	-13.00	-47.82
3344.00	---	V		12.27	7.29		-13.00	
4180.00	---	V		12.62	8.39		-13.00	
5016.00	---	V		12.67	9.25		-13.00	
5852.00	---	V		13.68	9.84		-13.00	
7524.00	---	V		11.45	11.34		-13.00	
8360.00	---	V		11.58	12.42		-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)

5 Peak detector was used during test.

Radiated Spurious Emission Measurement Result: WCDMA BAND V Mode

Operation Mode	: TX CH Mid H Mode	Test Date:	Mar. 19, 2008
Fundamental Frequency	: 836.0MHz	Test By:	Sky
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	51.11	H	-48.61	-7.81	1.50	-57.93	-13.00	-44.93
308.39	40.15	H	-59.05	-7.87	2.07	-68.99	-13.00	-55.99
402.48	42.93	H	-53.36	-7.66	2.42	-63.45	-13.00	-50.45
1672.00	40.46	H	-66.54	9.36	5.10	-62.27	-13.00	-49.27
2508.00	---	H		10.08	6.35		-13.00	
3344.00	---	H		12.27	7.29		-13.00	
4180.00	---	H		12.62	8.39		-13.00	
5016.00	---	H		12.67	9.25		-13.00	
5852.00	---	H		13.68	9.84		-13.00	
6688.00	---	H		11.96	10.73		-13.00	
7524.00	---	H		11.45	11.34		-13.00	
8360.00	---	H		11.58	12.42		-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)

5 Peak detector was used during test.

Radiated Spurious Emission Measurement Result: WCDMA BAND V Mode

Operation Mode	: TX CH High H Mode	Test Date:	Mar. 19, 2008
Fundamental Frequency	: 846.6 MHz	Test By:	Sky
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)
179.38	45.56	V	-54.69	-7.82	1.52	-64.03	-13.00	-51.03
376.29	46.10	V	-50.85	-7.65	2.44	-60.95	-13.00	-47.95
419.94	37.14	V	-58.35	-7.68	2.47	-68.49	-13.00	-55.49
850.00	63.17	V	-23.54	-7.88	3.75	-35.17	-13.00	-22.17
1693.20	40.94	V	-66.08	9.42	5.13	-61.79	-13.00	-48.79
2539.80	39.37	V	-64.43	10.18	6.39	-60.65	-13.00	-47.65
3386.40	---	V		12.36	7.32		-13.00	
4233.00	---	V		12.63	8.45		-13.00	
5079.60	---	V		12.73	9.31		-13.00	
5926.20	---	V		13.79	9.88		-13.00	
6772.80	---	V		11.87	10.84		-13.00	
7619.40	---	V		11.41	11.46		-13.00	
8466.00	---	V		11.68	12.56		-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)

5 Peak detector was used during test.

Radiated Spurious Emission Measurement Result: WCDMA BAND V Mode

Operation Mode	: TX CH High H Mode	Test Date:	Mar. 19, 2008
Fundamental Frequency	: 846.60 MHz	Test By:	Sky
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	52.14	H	-47.58	-7.81	1.50	-56.90	-13.00	-43.90
308.39	44.06	H	-55.14	-7.87	2.07	-65.08	-13.00	-52.08
400.54	42.71	H	-53.62	-7.66	2.41	-63.69	-13.00	-50.69
850.00	63.95	H	-23.04	-7.88	3.75	-34.67	-13.00	-21.67
1693.20	39.96	H	-67.02	9.42	5.13	-62.73	-13.00	-49.73
2539.80	38.01	H	-65.79	10.18	6.39	-62.00	-13.00	-49.00
3386.40	---	H		12.36	7.32		-13.00	
4233.00	---	H		12.63	8.45		-13.00	
5079.60	---	H		12.73	9.31		-13.00	
5926.20	---	H		13.79	9.88		-13.00	
6772.80	---	H		11.87	10.84		-13.00	
7619.40	---	H		11.41	11.46		-13.00	
8466.00	---	H		11.68	12.56		-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)

5 Peak detector was used during test.