

Report No.: EH/2007/50012 **Issue Date: Jun. 29, 2007** 

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# ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

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

*OF* 

**Product Name:** 3.5G PDA phone

**Brand / Marketing** 

Name:

i-mate<sup>TM</sup>

**Model Name:** Ultimate 6150

FCC ID: PJO9001

**Report No.:** EH/2007/50012

**Issue Date:** Jun. 29, 2007

**FCC Rule Part:** 2,22H & 24E

**Prepared for** ARIMA COMMUNICATIONS CORP.

No.16, Lane 658, Ying Tao Road, Yingko,

Taipei Hsien, Taiwan, R.O.C.

Prepared by SGS Taiwan Ltd.

No. 134, Wu Kung Rd., Wuku Industrial

Zone, Taipei County, Taiwan.

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# VERIFICATION OF COMPLIANCE

ARIMA COMMUNICATIONS CORP. **Applicant:** 

No.16, Lane 658, Ying Tao Road, Yingko,

Taipei Hsien, Taiwan, R.O.C.

**Product Name:** 3.5G PDA phone

**FCC ID Number:** PJO9001 Brand / Marketing Name: i-mate<sup>TM</sup>

Ultimate 6150 **Model No.:** 

**Model Difference:** N/A

File Number: EH/2007/50012

Date of test: May 28, 2007 ~Jun. 04, 2007

**Date of EUT Received:** May 28, 2007

### 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-603-1-1998 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:	Sky Wang	Date	Jun. 29, 2007
	Sky Wang / Sr. Engineer		
Prepared By:	Enakono	Date	Jun. 29, 2007
_	Eva Kao / Sr. Engineer		
Approved By	Timent Su	Date	Jun. 29, 2007
_	Vincent Su / Manager		

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#### **GENERAL INFORMATION**

1.1 Product Description

Product Name:	3.5G PDA phone		
Brand / Marketing Name:	i-mate <sup>TM</sup>		
Model Name:	Ultimate 6150		
Model Difference:	N/A		
Simple Hands-Free (SHF):	Mode No.: N/A, Supplier: N/A		
Data Cable (USB):	3): 1 cable, model: N/A		
TV out cable	ble 1 cable, model: N/A		
	3.7 Vdc re-charge	eable battery or 5Vdc by AC/DC power adapter	
Power Supply	Battery Model:	i-mate™ Ultimate, Supplier: Welldone	
	Adapter Model:	PSAA05A-050, Supplier: PHIHONG	

#### GSM and WCDMA:

	GSM/GPRS 850	824 MHz– 849MHz	33 dBm	
Cellular Phone Standards Frequency Range and	GSM/GPRS 1900	1850MHz – 1910MHz	30 dBm	
Power	WCDMA Band II	MA Band II 1850MHz – 1910MHz		
	WCDMA Band V	824 MHz– 849MHz	24 dBm	
Type of Emission	GSM: 300KGXW WCDMA: 4M20F9W			
IMEI	355686010006408			
Software Version	9001_RIL_FTA_V03			
Hardware Version	EP2			



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#### WLAN:

Frequency Range	2412 – 2462 MHz
Channel number	11 channels
Rated Power	802.11 b: 13.83 dBm 802.11 g: 11.60 dBm
Modulation Technology	DSSS, OFDM
Modulation type	CCK, DQPSK, DBPSK for DSSS 64QAM. 16QAM, QPSK, BPSK for OFDM
Transition Rate:	802.11 b: 1/2/5.5/11/54 Mbps; 802.11 g: 6/9/12/18/24/36/48/54 Mbps
Antenna Designation	PIFA Antenna, -3.79 dBi.
Type of Emission	16M6M7D

The EUT is compliance with IEEE 802.11 b/g Standard.

#### Bluetooth:

Diactootii.	
Frequency Range	2402 – 2480MHz
Channel number	79 channels
Rated Power	2.52 dBm (Peak)
Modulation type	Frequency Hopping Spread Spectrum (FHSS)(FGSK)
Antenna Designation	PIFA Antenna, -3.94 dBi
Type of Emission	933KF1D

The EUT is compliance with Bluetooth Standard.

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



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#### 1.2 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for FCC ID: PJO9001 filing to comply with Section Part 22 subpart H and Part 24 subpart E of the FCC CFR 47 Rules.

### 1.3 Test Methodology

Both conducted and radiated testing were performed according to the procedures document on 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.

## 1.4 Test Facility

The open area test site and conducted measurement facility used to collect the radiated data is located on the address of SGS Taiwan Ltd. No. 134, Wu Kung Rd., Wuku Industrial Zone, Taipei Country, Taiwan. The Open Area Test Sites and the Line Conducted labs are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4: 2003 and CISPR 22/EN 55022 requirements. Site No. 1(3 &10 meters) Registration Number: 94644, Both OATS and Anechoic chamber (3 meters) was accredited by TAF (0513). Canada Registration Number: 4620A-1

#### 1.5 Special Accessories

Not available for this EUT intended for grant.

#### 1.6 Equipment Modifications

Not available for this EUT intended for grant.



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#### 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.

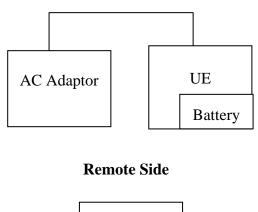


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# 2.4 Configuration of Tested System

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



**CMU200** 

**Table 2-1 Equipment Used in Tested System** 

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



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#### SUMMARY OF TEST RESULTS

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

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

The EUT has been tested under operating condition.

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

The field strength of spurious radiation emission was measured as EUT stand-up position (E1 mode) and lie down position (E1, E2 mode) for both GSM/GPRS and WCDMA Band II and V with all power adaptors, earphone and Data cable. The worst-case H mode for GSM 850 band, E2 mode for GSM 1900 band H mode for WCDMA band V and E2 mode for WCDMA Band II with adaptor for channel Low, Mid and High at GSM mode was reported.



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#### RF POWER OUTPUT MEASUREMENT

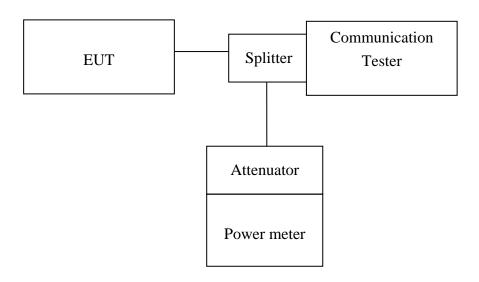
# 5.1 Standard Applicable

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.



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# 5.4 Measurement Equipment Used:

Conducted Emission Test Site						
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.	
TYPE		NUMBER	NUMBER	CAL.		
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/27/2007	04/26/2008	
Spectrum Analyzer	Agilent	E7405A	US41160416	07/04/2007	07/03/2008	
Spectrum Analyzer	R&S	FSP 40	100034	11/09/2006	11/10/2007	
Communication Test	R&S	SMU200	N/A	N/A	N/A	
Power Sensor	Anritsu	MA2490A	31431	06/28/2006	06/29/2007	
Power Meter	Anritsu	ML2487A	6K00002070	06/28/2006	06/29/2007	
Temperature Chamber	TERCHY	MHG-120LF	911009	10/14/2006	10/13/2007	
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A	
Attenuator	Mini-Circult	BW-S10W5	N/A	09/23/2006	09/22/2007	
Attenuator	Mini-Circult	BW-S6W5	N/A	09/23/2006	09/22/2007	
Splitter	Agilent	11636B	51728	09/23/2006	09/22/2007	
DC Power Supply	TOPWARD	3303A	N/A	N/A	N/A	



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#### 5.5 Measurement Result

EUT Mode	Frequency (MHz)	СН	Power meter Reading (dBm)	Path Loss (dB)	Peak Power (dBm)
	824.20	128	13.84	17.80	31.64
GSM 850	836.60	190	13.97	17.80	31.77
	848.80	251	14.09	17.80	31.89

EUT Mode	Frequency (MHz)	СН	Power Meter Reading (dBm)	Path Loss (dB)	Peak Power (dBm)
	1850.20	512	11.32	17.80	29.12
PCS 1900	1880.00	661	10.98	17.80	28.78
	1909.80	810	11.13	17.80	28.93

EUT Mode	Frequency (MHz)	СН	Power meter Reading (dBm)	Path Loss (dB)	Peak Power (dBm)
	826.40	4132	5.45	17.80	23.25
WCDMA V	836.00	4180	5.48	17.80	23.28
	846.60	4233	5.91	17.80	23.71

EUT Mode	Frequency (MHz)	СН	Power Meter Reading (dBm)	Path Loss (dB)	Peak Power (dBm)
	1852.40	9262	5.93	17.80	23.73
WCDMA II	1880.00	9400	5.88	17.80	23.68
	1907.60	9538	6.07	17.80	23.87



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# 6. ERP, EIRP MEASUREMENT

# 6.1 Standard Applicable

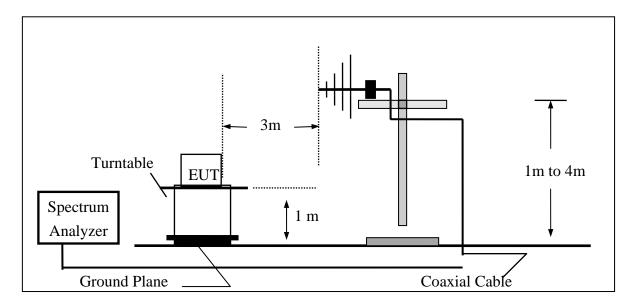
According to FCC §2.1046

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

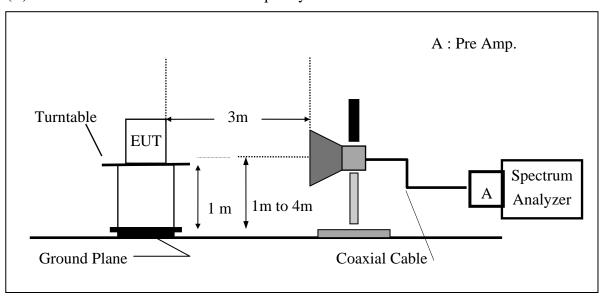




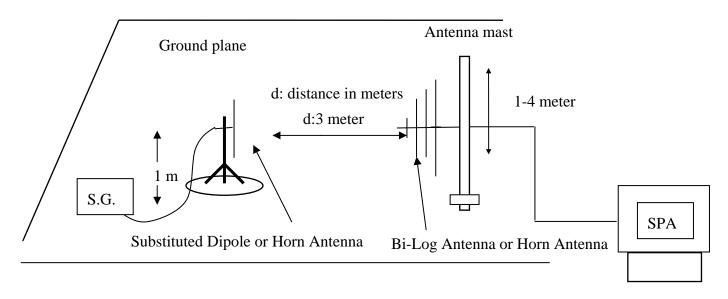
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### (B) Radiated Emission Test Set-UP Frequency Over 1 GHz



#### (C) Substituted Method Test Set-UP





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#### **6.3** Measurement Procedure

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

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

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

EIRP in frequency band 1850.2 –1909.8MHz were measured using a substitution method. The EUT was replaced by 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)



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# **6.4** Measurement Equipment Used:

<b>EQUIPMENT</b>	MFR	MODEL	SERIAL	LAST	CAL DUE.
TYPE		NUMBER	NUMBER	CAL.	
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/27/2007	04/26/2008
Spectrum Analyzer	Agilent	E7405A	US41160416	07/04/2007	07/03/2008
Spectrum Analyzer	R&S	FSP 40	100034	11/09/2006	11/10/2007
Communication Test	R&S	SMU200	N/A	N/A	N/A
Bilog Antenna	SCHWAZBECK	VULB9160	3224	11/14/2006	11/13/2007
Horn antenna	Schwarzbeck	BBHA 9120D	309/320	08/16/2006	08/15/2007
Pre-Amplifier	HP	8447D	2944A09469	07/19/2006	07/18/2007
Pre-Amplifier	HP	8494B	3008A00578	02/26/2007	02/25/2008
Signal Generator	R&S	SMR40	100210	02/09/2007	02/10/2008
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	10/09/2006	10/08/2007
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-3M	3m	10/09/2006	10/08/2007
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-0.5M	0.5m	10/09/2006	10/08/2007
Site NSA	SGS	966 chamber	N/A	11/17/2006	11/16/2007
Attenuator	Mini-Circult	BW-S10W5	N/A	09/23/2006	09/22/2007
Dipole Antenna	Schwarzbeck	VHAP	908/909	06/09/2007	06/10/2008
Dipole Antenna	Schwarzbeck	UHAP	891/892	06/09/2007	06/10/2008
Horn antenna	Schwarzbeck	BBHA 9120D	N/A	08/16/2006	08/15/2007



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#### 6.5 Measurement Result

EUT Mode	Frequency (MHz)	СН	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
			Н	V	119.71	33.32	-7.87	3.62	21.82	38.45
			11	Н	127.77	41.50	-7.87	3.62	30.00	38.45
	824.20	128	E1	V	125.37	38.98	-7.87	3.62	27.48	38.45
	624.20	120	151	Н	120.15	33.88	-7.87	3.62	22.38	38.45
			E2	V	117.18	30.79	-7.87	3.62	19.29	38.45
			E2	Н	126.51	40.24	-7.87	3.62	28.74	38.45
		336.60 190	Н	V	120.78	34.53	-7.88	3.65	23.00	38.45
				Н	128.98	42.75	-7.88	3.65	31.22	38.45
GSM 850	926 60		E1	V	126.68	40.43	-7.88	3.65	28.90	38.45
GSM 830	830.00			Н	121.16	34.93	-7.88	3.65	23.40	38.45
			F2	V	127.56	41.31	-7.88	3.65	29.78	38.45
			E2	Н	115.73	29.50	-7.88	3.65	17.97	38.45
			Н	V	121.86	35.74	-7.88	3.68	24.18	38.45
			п	Н	130.12	43.93	-7.88	3.68	32.37	38.45
	848.80	251	T/1	V	128.72	42.60	-7.88	3.68	31.04	38.45
		251	E1	Н	121.97	35.78	-7.88	3.68	24.22	38.45
			F2	V	115.56	29.44	-7.88	3.68	17.88	38.45
			E2	Н	128.83	42.64	-7.88	3.68	31.08	38.45

#### Remark:

(1) The RBW, VBW of SPA for frequency

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



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#### 6.6 Measurement Result

EUT Mode	Frequency (MHz)	СН	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
			Н	V	120.32	15.93	9.90	5.56	20.27	33.00
				Н	123.68	19.50	9.90	5.56	23.84	33.00
	1850.20	512	E1	V	121.48	17.09	9.90	5.56	21.43	33.00
	1630.20	312	151	Н	126.57	22.39	9.90	5.56	26.73	33.00
			E2	V	128.00	23.61	9.90	5.56	27.95	33.00
			E2	Н	124.46	20.28	9.90	5.84	24.34	33.00
		80.00 661	Н	V	120.46	16.10	9.99	5.61	20.48	33.00
				Н	123.66	19.52	9.99	5.61	23.89	33.00
PCS 1900	1880.00		E1	V	121.41	17.05	9.99	5.61	21.43	33.00
PCS 1900	1000.00			Н	126.30	22.16	9.99	5.61	26.53	33.00
			E2	V	127.72	23.36	9.99	5.61	27.74	33.00
				Н	123.92	19.78	9.99	5.61	24.15	33.00
			Н	V	122.75	18.42	10.08	5.66	22.84	33.00
			11	Н	124.90	20.79	10.08	5.66	25.21	33.00
	1909.80	810	E1	V	121.36	17.03	10.08	5.66	21.45	33.00
		J9.80   810	EI	Н	126.89	22.78	10.08	5.66	27.20	33.00
			F2	V	123.82	19.49	10.08	5.66	23.91	33.00
			E2	Н	128.33	24.22	10.08	5.66	28.64	33.00

#### Remark:

(1) The RBW, VBW of SPA for frequency

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



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#### 6.7 Measurement Result

EUT Mode	Frequency (MHz)	СН	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
			Н	V	110.58	6.19	9.90	5.56	10.53	33.00
				Н	115.85	11.67	9.90	5.56	16.01	33.00
	1852.40	9262	E1	V	113.97	9.58	9.90	5.56	13.92	33.00
	1032.40	9202	EI	Н	117.64	13.46	9.90	5.56	17.80	33.00
			EO	V	119.61	15.22	9.90	5.56	19.56	33.00
			E2	Н	115.41	11.23	9.90	5.84	15.29	33.00
		30.00 9400	H 400 E1	V	111.51	7.15	9.99	5.61	11.53	33.00
				Н	114.95	10.81	9.99	5.61	15.18	33.00
WCDMA	1000.00			V	114.29	9.93	9.99	5.61	14.31	33.00
II	1000.00			Н	118.13	13.99	9.99	5.61	18.36	33.00
			E2	V	120.03	15.67	9.99	5.61	20.05	33.00
				Н	115.42	11.28	9.99	5.61	15.65	33.00
			Н	V	111.46	7.13	10.08	5.66	11.55	33.00
			п	Н	115.15	11.04	10.08	5.66	15.46	33.00
	1907.60 9:	9538	E1	V	114.05	9.72	10.08	5.66	14.14	33.00
		9538	E1	Н	108.88	4.77	10.08	5.66	9.19	33.00
			E2	V	119.91	15.58	10.08	5.66	20.00	33.00
			E2	Н	115.47	11.36	10.08	5.66	15.78	33.00

#### Remark:

(1) The RBW, VBW of SPA for frequency

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



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#### 6.8 Measurement Result

EUT Mode	Frequency (MHz)	СН	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
			Н	V	107.09	20.70	-7.87	3.62	9.20	38.45
			п	Н	115.53	29.26	-7.87	3.62	17.76	38.45
	826.40	4132	E1	V	115.25	28.86	-7.87	3.62	17.36	38.45
	620.40	4132	151	Н	108.54	22.27	-7.87	3.62	10.77	38.45
			E2	V	108.00	21.61	-7.87	3.62	10.11	38.45
			EZ	Н	118.52	32.25	-7.87	3.62	20.75	38.45
		4180	Н	V	116.37	30.12	-7.88	3.65	18.59	38.45
				Н	115.36	29.13	-7.88	3.65	17.60	38.45
WCDMA V	836.60		E1	V	116.05	29.80	-7.88	3.65	18.27	38.45
WCDMA V	830.00			Н	108.47	22.24	-7.88	3.65	10.71	38.45
			F2	V	108.16	21.91	-7.88	3.65	10.38	38.45
			E2	Н	119.37	33.14	-7.88	3.65	21.61	38.45
			Н	V	108.18	22.06	-7.88	3.68	10.50	38.45
			п	Н	115.41	29.22	-7.88	3.68	17.66	38.45
	846.60 42.	4233	E 1	V	116.52	30.40	-7.88	3.68	18.84	38.45
			E1	Н	109.47	23.28	-7.88	3.68	11.72	38.45
			E2	V	107.61	21.49	-7.88	3.68	9.93	38.45
			E2	Н	119.05	32.86	-7.88	3.68	21.30	38.45

#### Remark:

(1) The RBW, VBW of SPA for frequency

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



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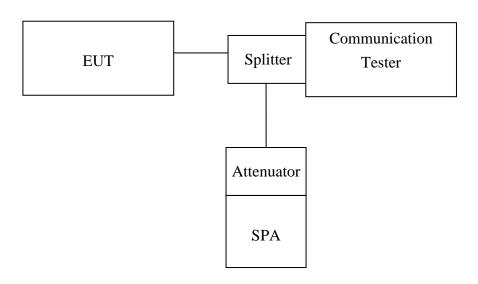
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#### 99% OCCUPIED BANDWIDTH MEASUREMENT 7.

# 7.1 Standard Applicable

According to §FCC 2.1049.

#### 7.2 Test Set-up:



Note: Measurement setup for testing on Antenna connector

#### 7.3 Measurement Procedure

The EUT's output RF connector was connected with a short cable to the spectrum analyzer, RBW (10/30KHz) was set to about 1% of emission BW, VBW= 3 times RBW(30/100KHz), -26dBc display line was placed on the screen (or 99% bandwidth), the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace.



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# 7.4 Measurement Equipment Used:

	Conducto	ed Emission T	est Site		
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.
TYPE		NUMBER	NUMBER	CAL.	
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/27/2007	04/26/2008
Spectrum Analyzer	Agilent	E7405A	US41160416	07/04/2007	07/03/2008
Power Sensor	Anritsu	MA2490A	31431	06/28/2006	06/29/2007
Power Meter	Anritsu	ML2487A	6K00002070	06/28/2006	06/29/2007
Temperature Chamber	TERCHY	MHG-120LF	911009	11/11/2006	11/12/2007
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A
Attenuator	Mini-Circult	BW-S10W5	N/A	10/07/2006	10/06/2007
Attenuator	Mini-Circult	BW-S6W5	N/A	10/07/2006	10/06/2007
Splitter	Mini-Circult	ZFSC-2-10G	N/A	10/07/2006	10/06/2007
Signal Generator	R&S	SMR40	100210	11/09/2006	11/10/2007
DC Power Supply	Agilent	6038A	2929A-07548	01/06/2007	01/05/2008



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#### 7.5 Measurement Result:.

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
	824.20	128	0.2480
GSM 850	836.60	190	0.2490
	848.80	251	0.2480

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
	1850.20	512	0.2440
PCS 1900	1880.00	661	0.2430
	1909.80	810	0.2470

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)	
WCDMA II	1852.40	9262	4.1517	
	1880.00	9400	4.1491	
	1909.80	9538	4.1512	

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)	
WCDMA V	826.40	4132	4.1479	
	836.00	4180	4.1522	
	846.60	4233	4.1583	



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Figure 7-1: GSM Channel Low

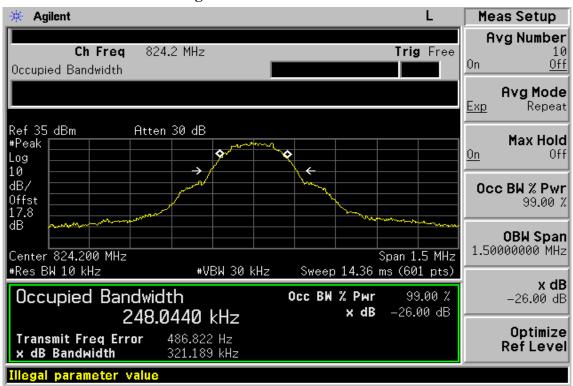
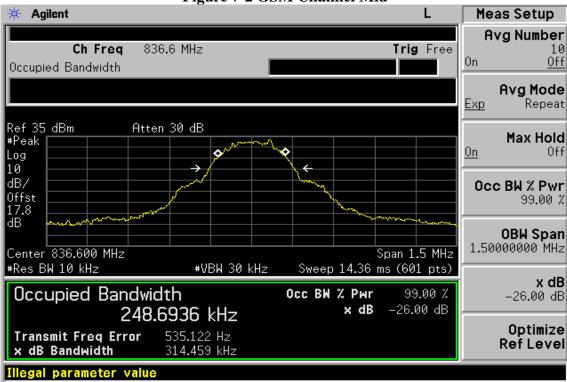


Figure 7-2 GSM Channel Mid



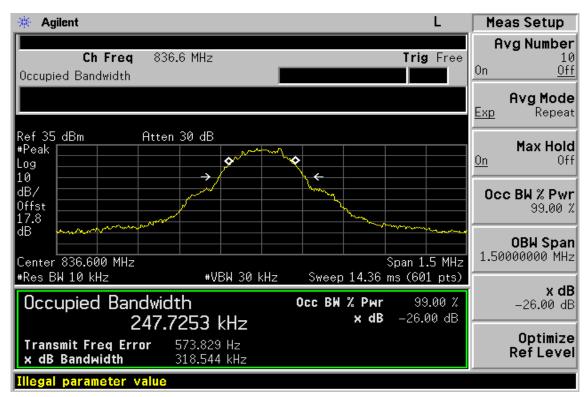
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Figure 7-3: GSM Channel High



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Figure 7-4: PCS Channel Low

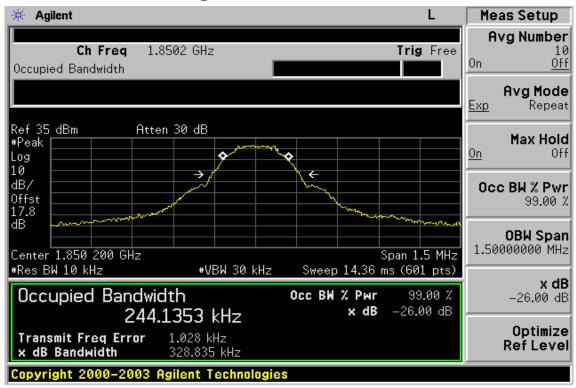
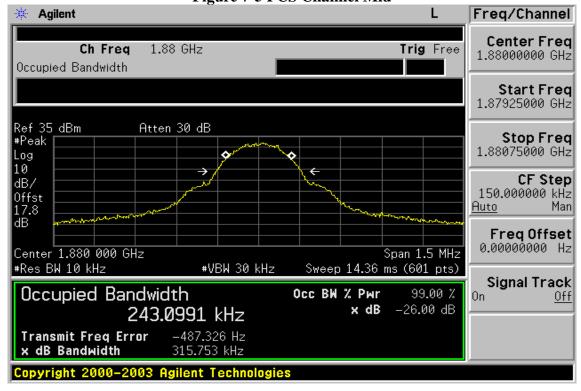


Figure 7-5 PCS Channel Mid



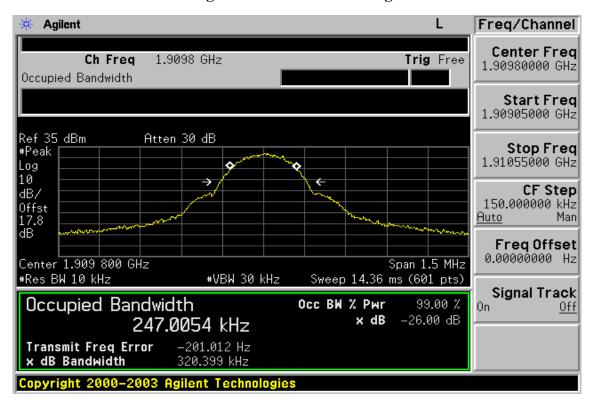
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Figure 7-6: PCS Channel High





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Figure 7-7: WCDMA II Channel Low

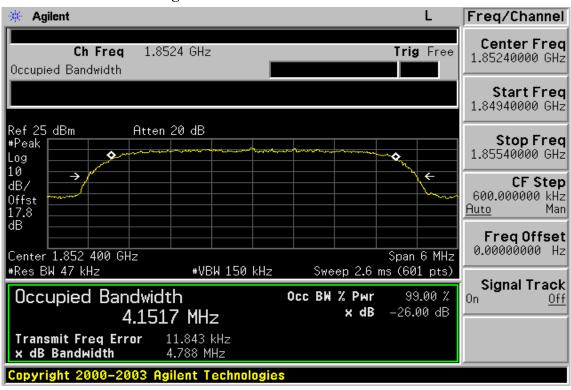
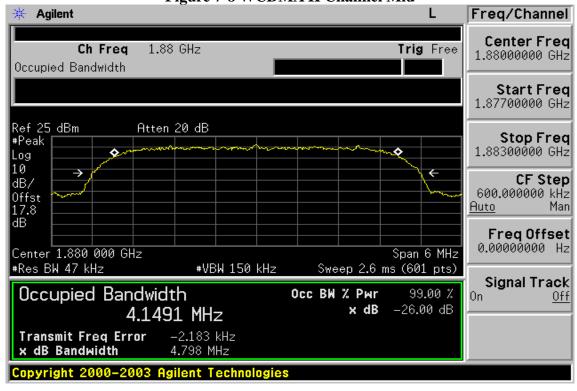


Figure 7-8 WCDMA II Channel Mid



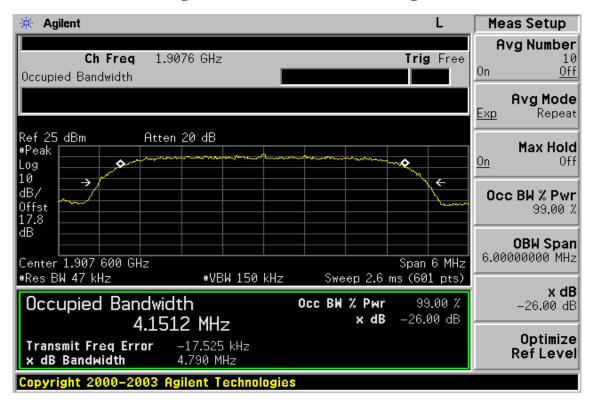
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Figure 7-9: WCDMA II Channel High





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Figure 7-10: WCDMA V Channel Low

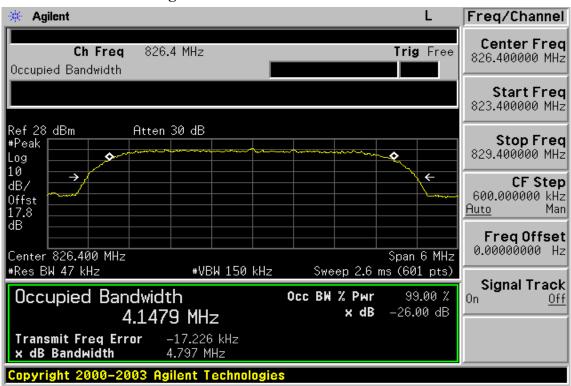
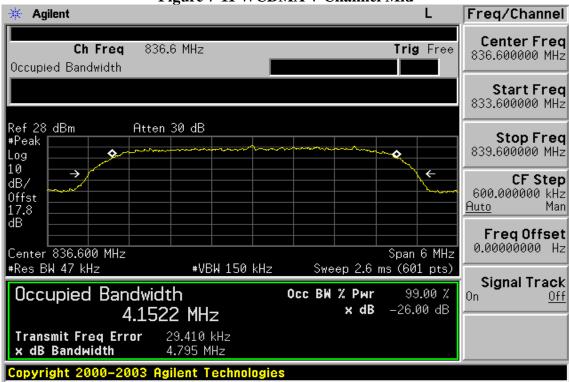


Figure 7-11 WCDMA V Channel Mid



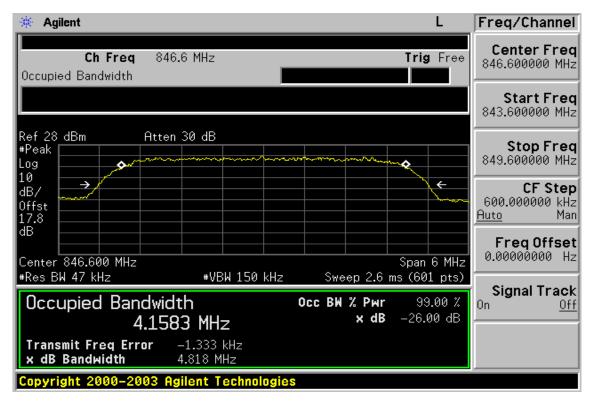
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Figure 7-12: WCDMA V Channel High





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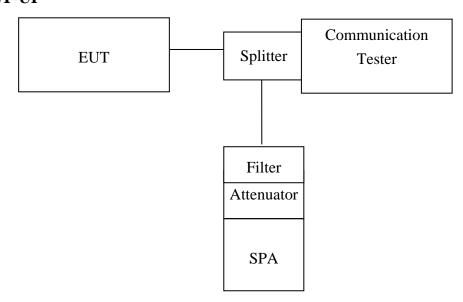
#### **OUT OF BAND EMISSION AT ANTENNA TERMINALS**

### 8.1 Standard Applicable

According to FCC §2.1051.

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)

#### 8.2 Test SET-UP



**Note:** Measurement setup for testing on Antenna connector

#### **8.3** Measurement Procedure

The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 1MHz, sufficient scans were taken to show the out of band Emissions if any up to 10th harmonic.

For the out of band: Set the RBW, VBW = 1MHz, Start=30MHz, Stop= 10th harmonic. Limit = -13dBm

Band Edge Requirements: In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the out of band Emissions. Limit, -13dBm.

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# 8.4 Measurement Equipment Used:

Conducted Emission Test Site									
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.				
TYPE		NUMBER	NUMBER	CAL.					
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/27/2007	04/26/2008				
Spectrum Analyzer	Agilent	E7405A	US41160416	07/04/2007	07/03/2008				
Power Sensor	Anritsu	MA2490A	31431	06/28/2006	06/29/2007				
Power Meter	Anritsu	ML2487A	6K00002070	06/28/2006	06/29/2007				
Temperature Chamber	TERCHY	MHG-120LF	911009	11/11/2006	11/12/2007				
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A				
Attenuator	Mini-Circult	BW-S10W5	N/A	10/07/2006	10/06/2007				
Attenuator	Mini-Circult	BW-S6W5	N/A	10/07/2006	10/06/2007				
Splitter	Mini-Circult	ZFSC-2-10G	N/A	10/07/2006	10/06/2007				
Signal Generator	R&S	SMR40	100210	11/09/2006	11/10/2007				
DC Power Supply	Agilent	6038A	2929A-07548	06/27/2007	06/26/2008				
Band reject filter	Wicro-tronics	BRM13462	001	06/28/2006	06/29/2007				

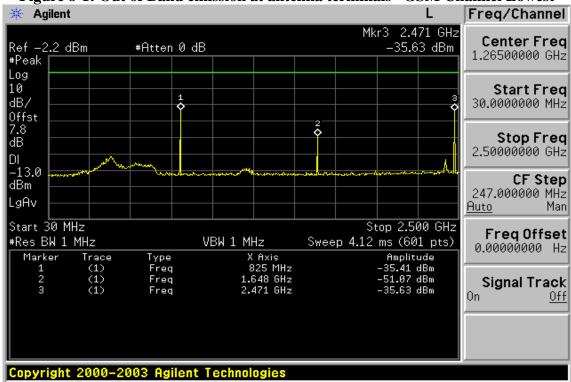


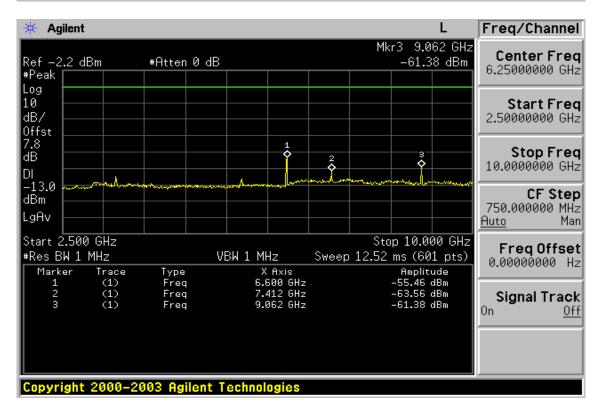
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#### 8.5 Measurement Result

Figure 8-1: Out of Band emission at antenna terminals—GSM Channel Lowest

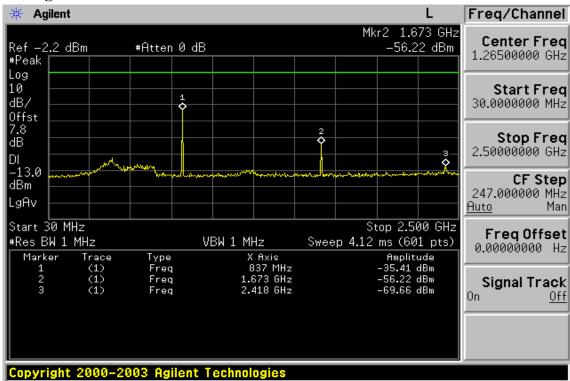


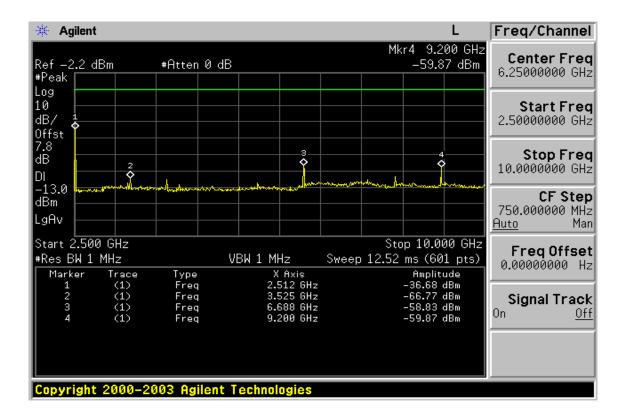


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Figure 8-2: Out of Band emission at antenna terminals –GSM Channel Mid

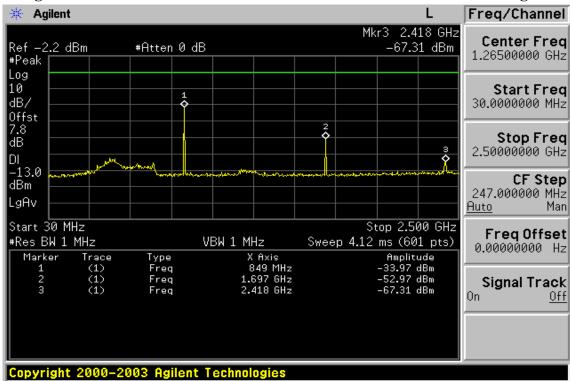


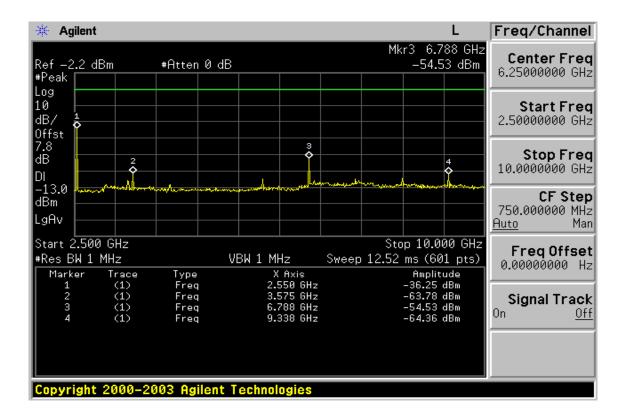


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Figure 8-3: Out of Band emission at antenna terminals—GSM Channel Highest







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Figure 8-4: Bad edge emission at antenna terminals – GSM Channel Lowest



Figure 8-5: Band edge emission at antenna terminals – GSM Channel Highest

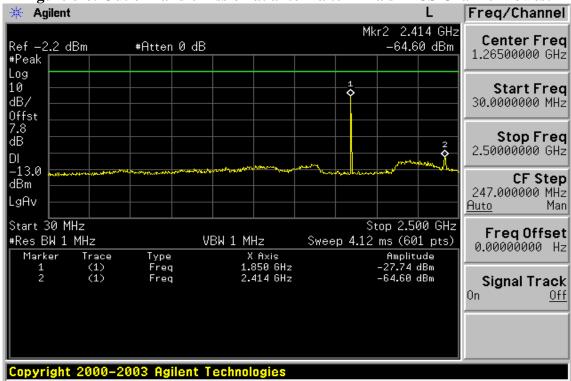


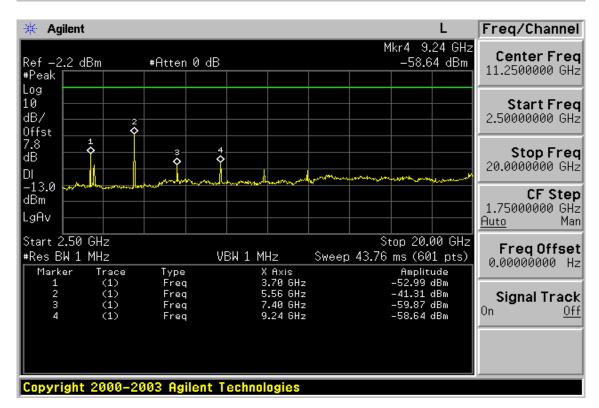


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Figure 8-6: Out of Band emission at antenna terminals- PCS Channel Lowest



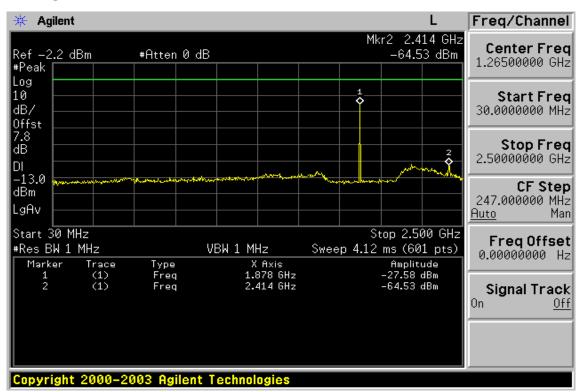


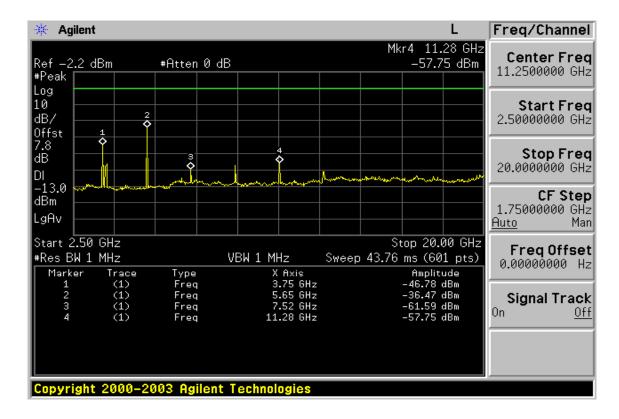


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Figure 8-7: Out of Band emission at antenna terminals –PCS Channel Mid



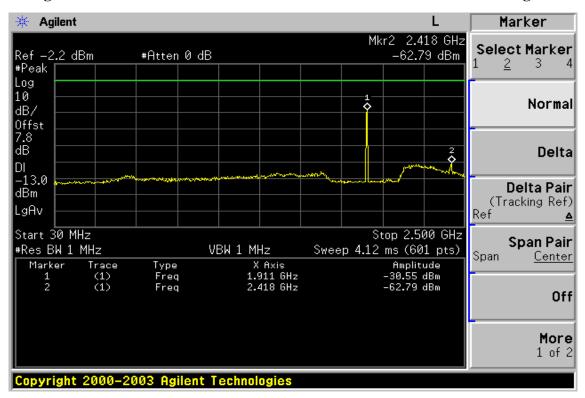


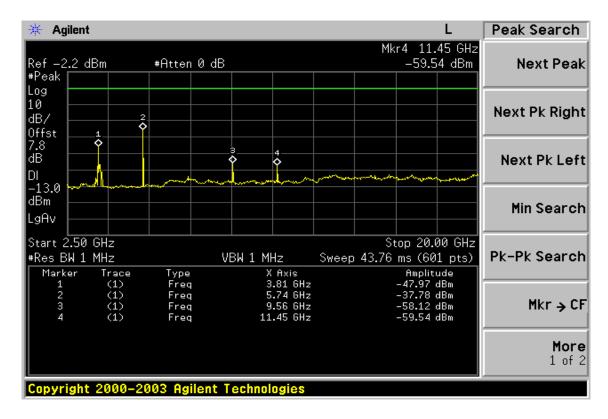


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Figure 8-8: Out of Band emission at antenna terminals-PCS Channel Highest







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Figure 8-9: Bad edge emission at antenna terminals – PCS Channel Lowest



Figure 8-10: Band edge emission at antenna terminals – PCS Channel Highest



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台灣檢驗科技股份有限公司

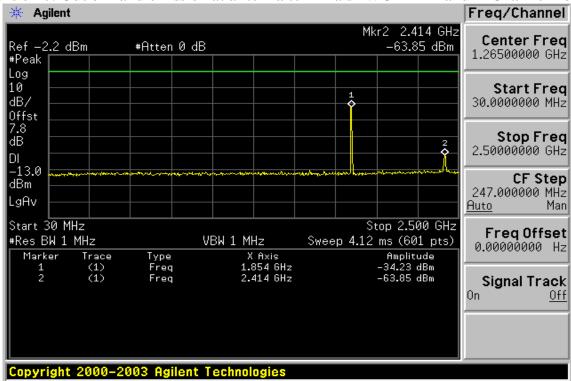
<mark>SGS Taiwan Ltd. |</mark> No. 134, Wu Kung Rd., Wuku Industrial Zone, Taipei Country, Taiwan. / 台間紀形式業區工路134號 t (886-2) 2299-3939 f (886-2) 2298-2698 www.sgs.com.tw

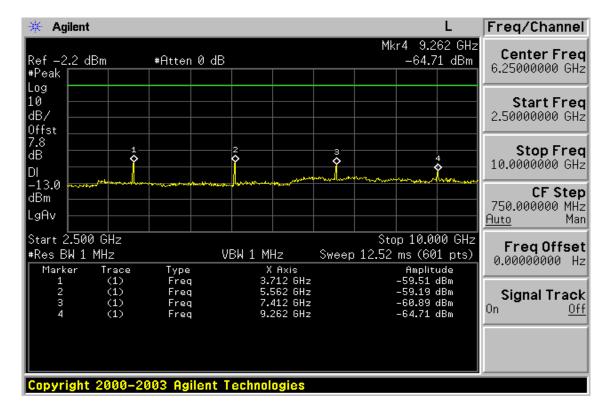


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Figure 8-10: Out of Band emission at antenna terminals—WCDMA Band II Channel Lowest



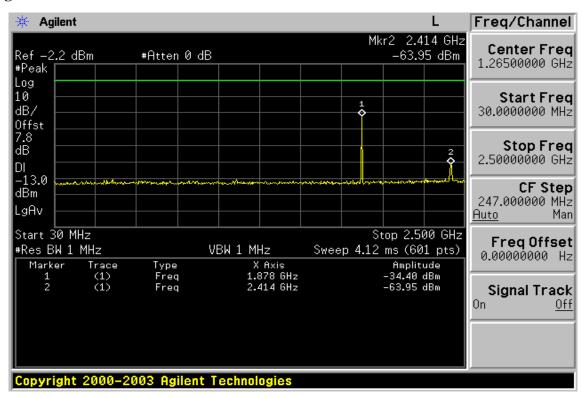


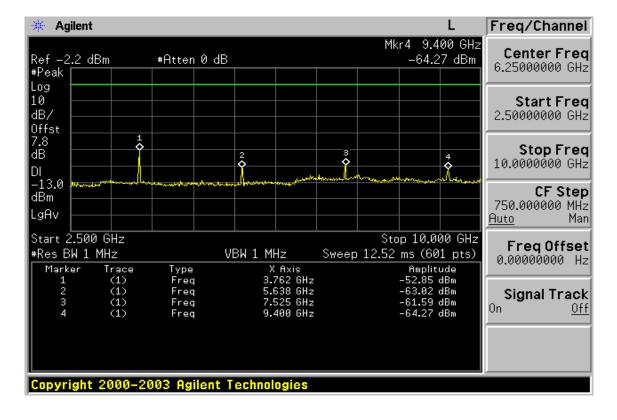


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Figure 8-11: Out of Band emission at antenna terminals -WCDMA Band II Channel Mid



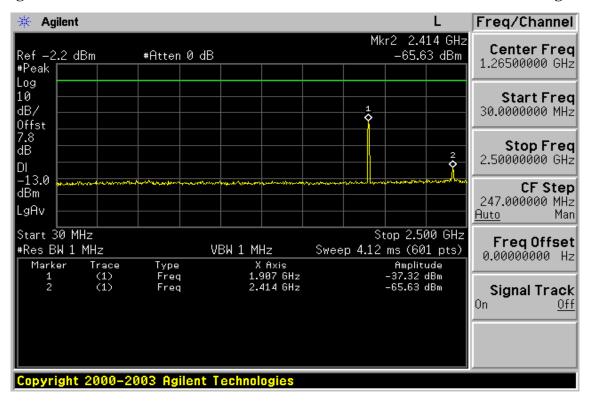


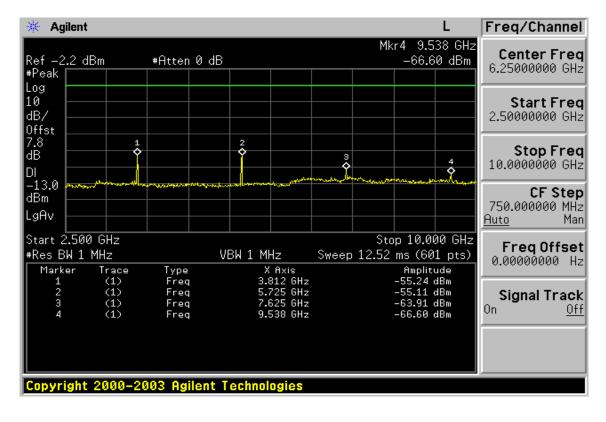


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Figure 8-12: Out of Band emission at antenna terminals—WCDMA II Channel Highest







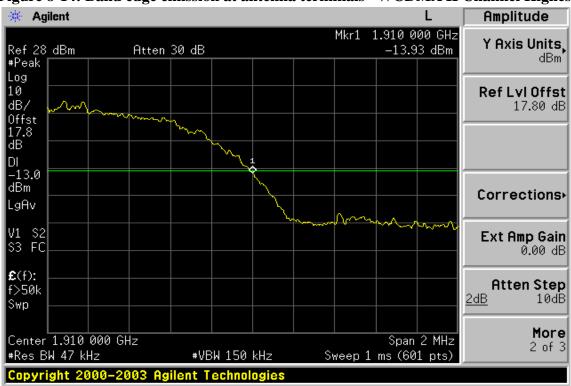
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Figure 8-13: Bad edge emission at antenna terminals – WCDMA II Channel Lowest



Figure 8-14: Band edge emission at antenna terminals –WCDMA II Channel Highest

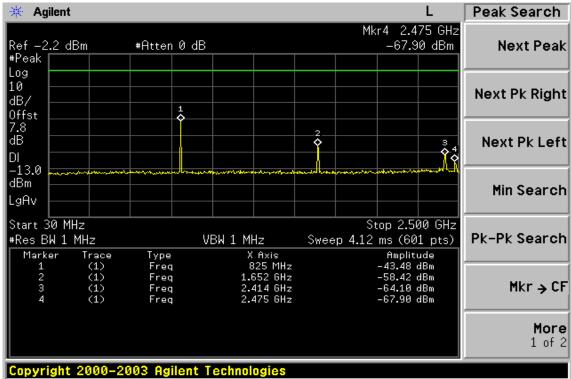


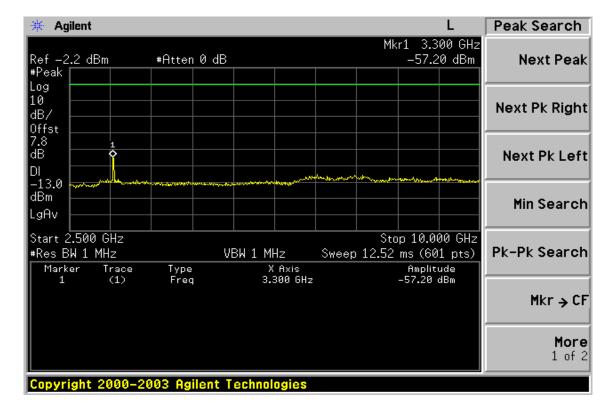


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Figure 8-14: Out of Band emission at antenna terminals-WCDMA Band V Channel Lowest



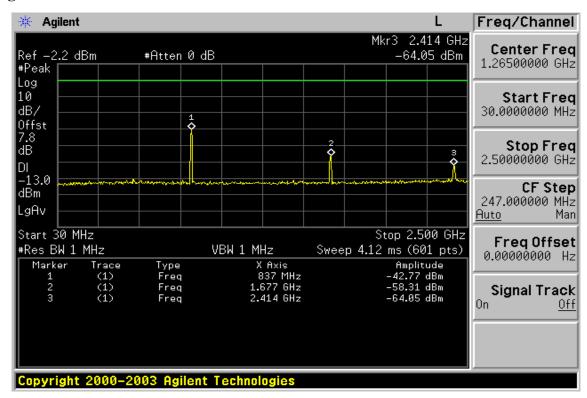


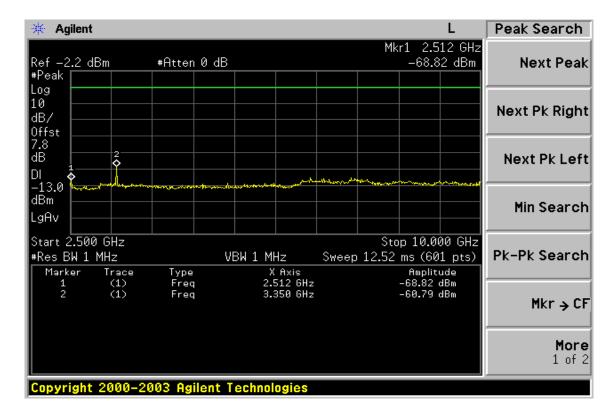


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Figure 8-15: Out of Band emission at antenna terminals -WCDMA Band V Channel Mid



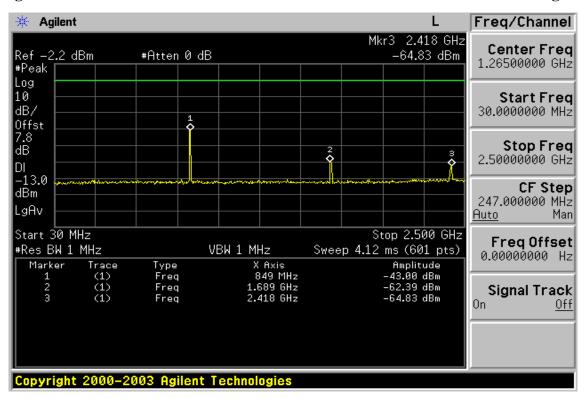


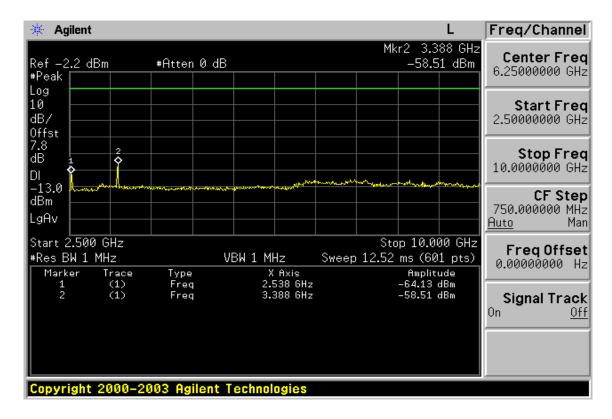


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Figure 8-16: Out of Band emission at antenna terminals—WCDMA V Channel Highest







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Figure 8-17: Bad edge emission at antenna terminals – WCDMA V Channel Lowest

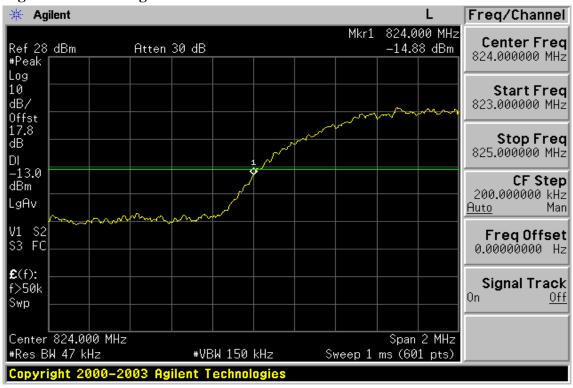


Figure 8-18: Band edge emission at antenna terminals – WCDMA V Channel Highest





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#### 9. FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

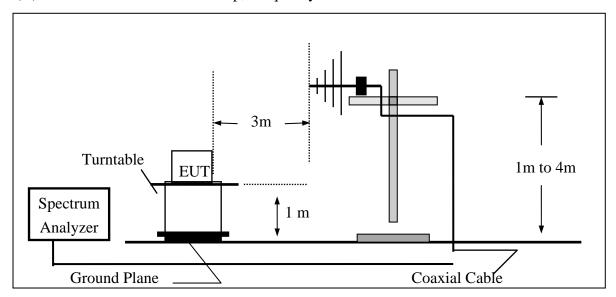
## 9.1 Standard Applicable

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)

## 9.2 EUT Setup (Block Diagram of Configuration)

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

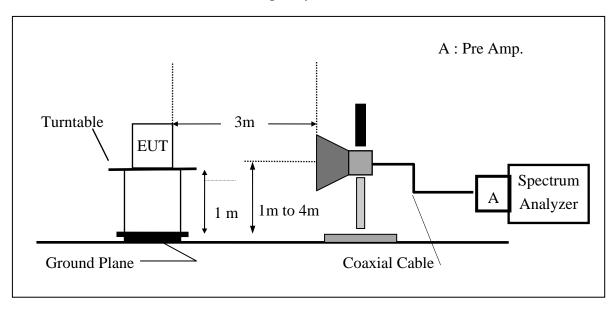




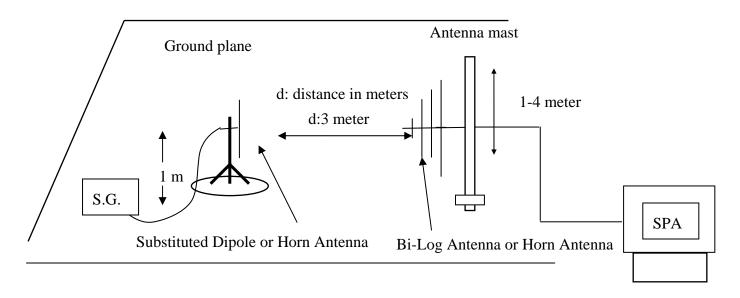
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## (B) Radiated Emission Test Set-UP Frequency Over 1 GHz



#### (C) Substituted Method Test Set-UP





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#### 9.3 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 were identified, the power of the emission was determined using the substitution method.

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

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



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# 9.4 Measurement Equipment Used:

EQUIPMENT	MED	MODEL	SERIAL	LAST	CAL DUE
TYPE	MFR	NUMBER	NUMBER	CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/27/2007	04/26/2008
Spectrum Analyzer	Agilent	E7405A	US41160416	07/04/2007	07/03/2008
Bilog Antenna	SCHWAZBECK	VULB9160	3224	11/14/2006	11/13/2007
Horn antenna	Schwarzbeck	BBHA 9120D	309/320	08/16/2006	08/15/2007
Pre-Amplifier	НР	8447D	2944A09469	07/19/2006	07/18/2007
Pre-Amplifier	НР	8494B	3008A00578	02/26/2007	02/25/2008
Signal Generator	R&S	SMR40	100210	02/09/2007	02/10/2008
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	10/09/2006	10/08/2007
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-3M	3m	10/09/2006	10/08/2007
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-0.5M	0.5m	10/09/2006	10/08/2007
Site NSA	SGS	966 chamber	N/A	11/17/2006	11/16/2007
Site NSA	SGS	10m Open-Site	N/A	10/02/2006	10/01/2007
Attenuator	Mini-Circult	BW-S10W5	N/A	10/07/2006	10/06/2007
Temperature Chamber	TERCHY	MHG-120LF	911009	10/14/2006	10/13/2007
Dipole Antenna	Schwarzbeck	VHAP	908/909	06/09/2007	06/10/2008
Dipole Antenna	Schwarzbeck	UHAP	891/892	06/09/2007	06/10/2008
Horn antenna	Schwarzbeck	BBHA 9120D	N/A	08/16/2006	08/15/2007

## 9.5 Measurement Result

Refer to attach tabular data sheets.



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#### Radiated Spurious Emission Measurement Result: GSM 850 Mode

Operation Mode : TX CH Low H Mode Test Date: Jun. 01, 2007

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

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)
31.94	52.10	V	-52.04	-6.43	0.94	-59.41	-13.00	-46.41
58.13	48.74	V	-61.76	-0.49	1.08	-63.32	-13.00	-50.32
96.93	43.71	V	-58.60	-7.76	1.33	-67.69	-13.00	-54.69
133.79	39.50	V	-59.29	-7.79	1.52	-68.59	-13.00	-55.59
187.14	36.23	V	-64.40	-7.83	1.68	-73.90	-13.00	-60.90
824.00	73.47	V	-12.92	-7.87	3.62	-24.42	-13.00	-11.42
1648.40	50.05	V	-54.53	9.29	5.23	-50.47	-13.00	-37.47
2472.60	55.31	V	-45.70	10.08	6.53	-42.15	-13.00	-29.15
3296.80	38.16	V	-60.71	12.17	7.71	-56.26	-13.00	-43.26
4121.00	36.63	V	-59.49	12.61	8.86	-55.74	-13.00	-42.74
4945.20		V		12.65	9.74		-13.00	
5769.40	38.73	V	-51.47	13.55	10.54	-48.45	-13.00	-35.45
6593.60		V		12.05	11.30		-13.00	
7417.80	40.77	V	-40.38	11.49	12.10	-40.98	-13.00	-27.98
8242.00		V		11.48	12.71		-13.00	

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

- 1 The emission behaviour 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:
- $4 \text{ ERP/EIRP } (dBm) = SG \text{ Setting}(dBm) + Antenna Gain } (dB/dBi) Cable loss } (dB)$



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## Radiated Spurious Emission Measurement Result: GSM 850 Mode

Operation Mode : TX CH Low H Mode Test Date: Jun. 01, 2007

Fundamental Frequency : 824.20 MHz Test By: Sky Temperature : 25°C 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)
58.13	46.01	Н	-64.42	-0.49	1.08	-65.99	-13.00	-52.99
67.83	43.44	Н	-68.62	-0.95	1.14	-70.71	-13.00	-57.71
90.14	42.63	Н	-61.10	-7.75	1.27	-70.12	-13.00	-57.12
130.88	41.18	Н	-58.59	-7.78	1.50	-67.88	-13.00	-54.88
824.00	83.29	Н	-2.98	-7.87	3.62	-14.48	-13.00	-1.48
1648.40	52.65	Н	-51.75	9.29	5.23	-47.69	-13.00	-34.69
2472.60	61.07	Н	-39.84	10.08	6.53	-36.29	-13.00	-23.29
3296.80		Н		12.17	7.71		-13.00	
4121.00		Н		12.61	8.86		-13.00	
4945.20		Н		12.65	9.74		-13.00	
5769.40	37.60	Н	-52.71	13.55	10.54	-49.70	-13.00	-36.70
6593.60	36.25	Н	-49.27	12.05	11.30	-48.52	-13.00	-35.52
7417.80		Н		11.49	12.10		-13.00	
8242.00		Н		11.48	12.71		-13.00	

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

- 1 The emission behaviour 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)



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#### Radiated Spurious Emission Measurement Result: GSM 850 Mode

: TX CH Mid H Mode Jun. 01, 2007 Operation Mode Test Date:

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 Output (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
31.94	51.74	V	-52.40	-6.43	0.94	-59.77	-13.00	-46.77
56.19	48.13	V	-61.53	-0.51	1.09	-63.14	-13.00	-50.14
96.93	43.92	V	-58.39	-7.76	1.33	-67.48	-13.00	-54.48
133.79	39.14	V	-59.65	-7.79	1.52	-68.95	-13.00	-55.95
189.08	37.20	V	-63.60	-7.83	1.68	-73.11	-13.00	-60.11
1673.20	47.06	V	-57.50	9.36	5.27	-53.40	-13.00	-40.40
2509.80	54.27	V	-46.51	10.09	6.58	-43.01	-13.00	-30.01
4183.00		V		12.62	8.93		-13.00	
5019.60		V		12.67	9.81		-13.00	
5856.20	38.73	V	-51.21	13.68	10.62	-48.15	-13.00	-35.15
6692.80	35.33	V	-49.69	11.95	11.39	-49.13	-13.00	-36.13
7529.40	41.22	V	-39.43	11.45	12.20	-40.18	-13.00	-27.18
8366.00		V		11.59	12.81		-13.00	

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

- 1 The emission behaviour 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)



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## Radiated Spurious Emission Measurement Result: GSM 850 Mode

Jun. 01, 2007 : TX CH Mid H Mode Operation Mode Test Date:

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 Output (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
56.19	44.97	Н	-64.67	-0.51	1.09	-66.27	-13.00	-53.27
70.74	44.29	Н	-68.02	-1.18	1.16	-70.36	-13.00	-57.36
90.14	42.85	Н	-60.88	-7.75	1.27	-69.90	-13.00	-56.90
130.88	41.11	Н	-58.66	-7.78	1.50	-67.95	-13.00	-54.95
189.08	39.10	Н	-61.70	-7.83	1.68	-71.22	-13.00	-58.22
1673.20	51.15	Н	-53.23	9.36	5.27	-49.13	-13.00	-36.13
2509.80	61.04	Н	-39.66	10.09	6.58	-36.16	-13.00	-23.16
3346.40		Н		12.28	7.79		-13.00	
4183.00		Н		12.62	8.93		-13.00	
5019.60		Н		12.67	9.81		-13.00	
5856.20	37.51	Н	-52.51	13.68	10.62	-49.45	-13.00	-36.45
6692.80		Н		11.95	11.39		-13.00	
7529.40	38.12	Н	-42.51	11.45	12.20	-43.26	-13.00	-30.26
8366.00		Н		11.59	12.81		-13.00	

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

- 1 The emission behaviour 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)



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## Radiated Spurious Emission Measurement Result: GSM 850 Mode

: TX CH High H Mode Jun. 01, 2007 Operation Mode Test Date:

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 Output (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
31.94	51.90	V	-52.24	-6.43	0.94	-59.61	-13.00	-46.61
58.13	49.01	V	-61.49	-0.49	1.08	-63.05	-13.00	-50.05
101.78	43.83	V	-57.93	-7.76	1.37	-67.05	-13.00	-54.05
133.79	38.32	V	-60.47	-7.79	1.52	-69.77	-13.00	-56.77
849.02	74.84	V	-11.28	-7.88	3.68	-22.84	-13.00	-9.84
1697.60	54.35	V	-50.19	9.44	5.31	-46.06	-13.00	-33.06
2546.40	55.65	V	-44.99	10.20	6.63	-41.43	-13.00	-28.43
3395.20		V		12.38	7.87		-13.00	
4244.00	38.09	V	-57.57	12.63	9.00	-53.94	-13.00	-40.94
5092.80		V		12.74	9.88		-13.00	
5941.60	40.95	V	-48.74	13.81	10.70	-45.63	-13.00	-32.63
6790.40		V		11.86	11.48		-13.00	
7639.20	43.77	V	-36.71	11.40	12.27	-37.58	-13.00	-24.58
8488.00		V		11.70	12.91		-13.00	

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

- 1 The emission behaviour 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)



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## Radiated Spurious Emission Measurement Result: GSM 850 Mode

: TX CH High H Mode Jun. 01, 2007 Operation Mode Test Date:

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 Output (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
58.13	46.87	Н	-63.56	-0.49	1.08	-65.13	-13.00	-52.13
70.74	44.43	Н	-67.88	-1.18	1.16	-70.22	-13.00	-57.22
101.78	43.41	Н	-59.40	-7.76	1.37	-68.53	-13.00	-55.53
130.88	39.83	Н	-59.94	-7.78	1.50	-69.23	-13.00	-56.23
187.14	39.23	Н	-61.42	-7.83	1.68	-70.93	-13.00	-57.93
849.00	82.66	Н	-3.53	-7.88	3.68	-15.09	-13.00	-2.09
1697.60	53.12	Н	-51.23	9.44	5.31	-47.10	-13.00	-34.10
2546.40	54.98	Н	-45.62	10.20	6.63	-42.06	-13.00	-29.06
3395.20		Н		12.38	7.87		-13.00	
4244.00	38.27	Н	-57.54	12.63	9.00	-53.92	-13.00	-40.92
5092.80		Н		12.74	9.88		-13.00	
5941.60	42.36	Н	-47.38	13.81	10.70	-44.27	-13.00	-31.27
6790.40		Н		11.86	11.48		-13.00	
7639.20	39.77	Н	-40.66	11.40	12.27	-41.53	-13.00	-28.53
8488.00		Н		11.70	12.91		-13.00	

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

- 1 The emission behaviour 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:
- $4 \text{ ERP/EIRP } (dBm) = SG \text{ Setting}(dBm) + Antenna Gain } (dB/dBi) Cable loss } (dB)$



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## Radiated Spurious Emission Measurement Result: PCS 1900 Mode

: TX CH Low E2 Mode Jun. 01, 2007 Operation Mode Test Date:

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

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)
31.94	51.81	V	-52.33	-6.43	0.94	-59.70	-13.00	-46.70
58.13	51.41	V	-59.09	-0.49	1.08	-60.65	-13.00	-47.65
101.78	47.69	V	-54.07	-7.76	1.37	-63.19	-13.00	-50.19
184.23	40.87	V	-59.49	-7.83	1.67	-68.99	-13.00	-55.99
441.28	32.64	V	-61.56	-7.69	2.63	-71.89	-13.00	-58.89
1849.98	82.43	V	-21.96	9.90	5.56	-17.62	-13.00	-4.62
3700.40	52.60	V	-45.33	12.61	8.31	-41.03	-13.00	-28.03
5550.60	48.41	V	-42.43	13.23	10.33	-39.53	-13.00	-26.53
7400.80		V		11.50	12.08		-13.00	
9251.00		V		11.92	13.50		-13.00	
11101.20		V		11.66	15.11		-13.00	
12951.40		V		13.63	16.60		-13.00	
14801.60		V		12.76	17.95		-13.00	
16651.80		V		15.92	19.14		-13.00	
18502.00		V		18.75	10.40		-13.00	

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

- 1 The emission behaviour 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)



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## Radiated Spurious Emission Measurement Result: PCS 1900 Mode

: TX CH Low E2 Mode Jun. 01, 2007 Operation Mode Test Date:

Fundamental Frequency: 1850.20MHz Test By: Sky 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)
58.13	44.45	Н	-65.98	-0.49	1.08	-67.55	-13.00	-54.55
70.74	45.13	Н	-67.18	-1.18	1.16	-69.52	-13.00	-56.52
101.78	47.29	Н	-55.52	-7.76	1.37	-64.65	-13.00	-51.65
1849.99	76.77	Н	-27.41	9.90	5.56	-23.07	-13.00	-10.07
3700.40	53.90	Н	-44.14	12.61	8.31	-39.84	-13.00	-26.84
5550.60	52.32	Н	-38.73	13.23	10.33	-35.83	-13.00	-22.83
7400.80		Н		11.50	12.08		-13.00	
9251.00		Н		11.92	13.50		-13.00	
11101.20		Н		11.66	15.11		-13.00	
12951.40		Н		13.63	16.60		-13.00	
14801.60		Н		12.76	17.95		-13.00	
16651.80		Н		15.92	19.14		-13.00	
18502.00		Н		18.75	10.40		-13.00	

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

- 1 The emission behaviour 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)



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## Radiated Spurious Emission Measurement Result: PCS 1900 Mode

Operation Mode : TX CH Mid E2 Mode Test Date: Jun. 01, 2007

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

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)
31.94	53.01	V	-51.13	-6.43	0.94	-58.50	-13.00	-45.50
56.19	48.31	V	-61.35	-0.51	1.09	-62.96	-13.00	-49.96
101.78	47.53	V	-54.23	-7.76	1.37	-63.35	-13.00	-50.35
3760.00	47.75	V	-49.91	12.60	8.39	-45.69	-13.00	-32.69
5640.00	49.35	V	-41.23	13.36	10.41	-38.28	-13.00	-25.28
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	

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

- 1 The emission behaviour 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)



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#### Radiated Spurious Emission Measurement Result: PCS 1900 Mode

Operation Mode : TX CH Mid E2 Mode Test Date: Jun. 01, 2007

Fundamental Frequency: 1880MHz Test By: Sky 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)
56.19	44.03	Н	-65.61	-0.51	1.09	-67.21	-13.00	-54.21
70.74	44.84	Н	-67.47	-1.18	1.16	-69.81	-13.00	-56.81
101.78	47.94	Н	-54.87	-7.76	1.37	-64.00	-13.00	-51.00
135.73	40.29	Н	-58.97	-7.79	1.52	-68.29	-13.00	-55.29
3760.00	51.65	Н	-46.12	12.60	8.39	-41.91	-13.00	-28.91
5640.00	51.07	Н	-39.68	13.36	10.41	-36.73	-13.00	-23.73
7520.00		Н		11.45	12.19		-13.00	
9400.00		Н		11.93	13.61		-13.00	
11280.00		Н		11.92	15.27		-13.00	
13160.00		Н		13.33	16.71		-13.00	
15040.00		Н		13.76	18.15		-13.00	
16920.00		Н		15.27	19.32		-13.00	
18800.00		Н		18.68	16.58		-13.00	

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

- 1 The emission behaviour 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)



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#### Radiated Spurious Emission Measurement Result: PCS 1900 Mode

Operation Mode : TX CH High E2 Mode Test Date: Jun. 01, 2007

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 Output (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
31.94	51.95	V	-52.19	-6.43	0.94	-59.56	-13.00	-46.56
58.13	48.53	V	-61.97	-0.49	1.08	-63.53	-13.00	-50.53
101.78	46.78	V	-54.98	-7.76	1.37	-64.10	-13.00	-51.10
187.14	38.03	V	-62.60	-7.83	1.68	-72.10	-13.00	-59.10
1910.02	82.10	V	-22.23	10.08	5.66	-17.81	-13.00	-4.81
3981.60	41.25	V	-55.41	12.60	8.69	-51.51	-13.00	-38.51
5972.40	51.34	V	-38.26	13.86	10.73	-35.14	-13.00	-22.14
7963.20		V		11.27	12.49		-13.00	
9954.00		V		12.08	14.24		-13.00	
11944.80		V		13.08	15.87		-13.00	
13935.60		V		11.82	17.21		-13.00	
15926.40		V		17.08	18.70		-13.00	
17917.20		V		9.63	19.97		-13.00	
19908.00		V		18.88	21.24		-13.00	

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

- 1 The emission behaviour 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)



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### Radiated Spurious Emission Measurement Result: PCS 1900 Mode

Operation Mode : TX CH High E2 Mode Test Date: Jun. 01, 2007

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 Output (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
58.13	46.89	Н	-63.54	-0.49	1.08	-65.11	-13.00	-52.11
101.78	48.66	Н	-54.15	-7.76	1.37	-63.28	-13.00	-50.28
124.09	46.38	Н	-54.10	-7.78	1.47	-63.35	-13.00	-50.35
184.23	42.02	Н	-58.41	-7.83	1.67	-67.91	-13.00	-54.91
250.19	34.21	Н	-65.00	-7.89	1.99	-74.88	-13.00	-61.88
1910.02	76.29	Н	-27.82	10.08	5.66	-23.40	-13.00	-10.40
3981.60	42.66	Н	-54.11	12.60	8.69	-50.21	-13.00	-37.21
5972.40	48.57	Н	-41.06	13.86	10.73	-37.94	-13.00	-24.94
7963.20		Н		11.27	12.49		-13.00	
7963.20		Н		11.27	12.49		-13.00	
9954.00		Н		12.08	14.24		-13.00	
11944.80		Н		13.08	15.87		-13.00	
13935.60		Н		11.82	17.21		-13.00	
15926.40		Н		17.08	18.70		-13.00	
17917.20		Н		9.63	19.97		-13.00	
17188.20		Н		14.47	19.52		-13.00	

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

- 1 The emission behaviour 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)



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## Radiated Spurious Emission Measurement Result: WCDMA II Mode

: TX CH Low E2 Mode Jun. 01, 2007 Operation Mode Test Date:

Fundamental Frequency: 1852.40MHz Test By: Sky Temperature : 25°℃ Pol: Ver

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)
31.94	50.89	V	-53.25	-6.43	0.94	-60.62	-13.00	-47.62
58.13	52.41	V	-58.09	-0.49	1.08	-59.65	-13.00	-46.65
101.78	47.04	V	-54.72	-7.76	1.37	-63.84	-13.00	-50.84
1850.00	82.14	V	-22.25	9.90	5.56	-17.91	-13.00	-4.91
3700.40	34.55	V	-63.38	12.61	8.31	-59.08	-13.00	-46.08
5550.60		V		13.23	10.33		-13.00	
7400.80		V		11.50	12.08		-13.00	
9251.00		V		11.92	13.50		-13.00	
11101.20		V		11.66	15.11		-13.00	
12951.40		V		13.63	16.60		-13.00	
14801.60		V		12.76	17.95		-13.00	
16651.80		V		15.92	19.14		-13.00	
18502.00		V		18.75	10.40		-13.00	

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

- 1 The emission behaviour 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)



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## Radiated Spurious Emission Measurement Result: WCDMA II Mode

: TX CH Low E2 Mode Jun. 01, 2007 Operation Mode Test Date:

Fundamental Frequency: 1852.40MHz Test By: Sky 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)
31.94	47.42	Н	-57.88	-6.43	0.94	-65.25	-13.00	-52.25
58.13	47.97	Н	-62.46	-0.49	1.08	-64.03	-13.00	-51.03
101.78	46.94	Н	-55.87	-7.76	1.37	-65.00	-13.00	-52.00
133.79	39.56	Н	-59.91	-7.79	1.52	-69.21	-13.00	-56.21
1850.00	76.37	Н	-27.81	9.90	5.56	-23.47	-13.00	-10.47
3700.40	34.27	Н	-63.77	12.61	8.31	-59.47	-13.00	-46.47
5550.60		Н		13.23	10.33		-13.00	
7400.80		Н		11.50	12.08		-13.00	
9251.00		Н		11.92	13.50		-13.00	
11101.20		Н		11.66	15.11		-13.00	
12951.40		Н		13.63	16.60		-13.00	
14801.60		Н		12.76	17.95		-13.00	
16651.80		Н		15.92	19.14		-13.00	
18502.00		Н		18.75	10.40		-13.00	

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

- 1 The emission behaviour 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)



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### Radiated Spurious Emission Measurement Result: WCDMA II Mode

Operation Mode : TX CH Mid E2 Mode Test Date: Jun. 01, 2007

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

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)
31.94	50.87	V	-53.27	-6.43	0.94	-60.64	-13.00	-47.64
58.13	53.67	V	-56.83	-0.49	1.08	-58.39	-13.00	-45.39
101.78	46.19	V	-55.57	-7.76	1.37	-64.69	-13.00	-51.69
523.73	36.94	V	-56.42	-7.74	2.88	-67.03	-13.00	-54.03
3760.00	33.51	V	-64.15	12.60	8.39	-59.93	-13.00	-46.93
5640.00		V		13.36	10.41		-13.00	
7520.00		V		11.45	12.19		-13.00	
9400.00		V		11.93	13.61		-13.00	
11280.00		V		11.92	15.27		-13.00	
13160.00		V		13.33	16.71		-13.00	
15040.00		V		13.76	18.15		-13.00	
16920.00		V		15.27	19.32		-13.00	
18800.00		V		18.68	16.58		-13.00	

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

- 1 The emission behaviour 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:
- $4 \text{ ERP/EIRP } (dBm) = SG \text{ Setting}(dBm) + Antenna Gain } (dB/dBi) Cable loss } (dB)$



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## Radiated Spurious Emission Measurement Result: WCDMA II Mode

Operation Mode : TX CH Mid E2 Mode Test Date: Jun. 01, 2007

Fundamental Frequency: 1880MHz Test By: Sky 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)
30.00	48.16	Н	-57.74	-7.34	0.95	-66.03	-13.00	-53.03
56.19	47.45	Н	-62.19	-0.51	1.09	-63.79	-13.00	-50.79
101.78	46.88	Н	-55.93	-7.76	1.37	-65.06	-13.00	-52.06
128.94	40.46	Н	-59.51	-7.78	1.49	-68.79	-13.00	-55.79
1378.00	42.40	Н	-62.73	8.14	3.76	-58.35	-13.00	-45.35
3760.00	33.60	Н	-64.17	12.60	8.39	-59.96	-13.00	-46.96
5640.00		Н		13.36	10.41		-13.00	
7520.00		Н		11.45	12.19		-13.00	
9400.00		Н		11.93	13.61		-13.00	
11280.00		Н		11.92	15.27		-13.00	
13160.00		Н		13.33	16.71		-13.00	
15040.00		Н		13.76	18.15		-13.00	
16920.00		Н		15.27	19.32		-13.00	
18800.00		Н		18.68	16.58		-13.00	

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

- 1 The emission behaviour 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)



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### Radiated Spurious Emission Measurement Result: WCDMA II Mode

Operation Mode : TX CH High E2 Mode Test Date: Jun. 01, 2007

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 Output (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
31.94	51.15	V	-52.99	-6.43	0.94	-60.36	-13.00	-47.36
58.13	52.48	V	-58.02	-0.49	1.08	-59.58	-13.00	-46.58
101.78	47.46	V	-54.30	-7.76	1.37	-63.42	-13.00	-50.42
119.24	38.41	V	-61.73	-7.78	1.45	-70.95	-13.00	-57.95
1910.00	82.23	V	-22.10	10.08	5.66	-17.68	-13.00	-4.68
3815.50	33.69	V	-63.72	12.60	8.47	-59.58	-13.00	-46.58
3981.60		V		12.60	8.69		-13.00	
5972.40		V		13.86	10.73		-13.00	
7963.20		V		11.27	12.49		-13.00	
9954.00		V		12.08	14.24		-13.00	
11944.80		V		13.08	15.87		-13.00	
13935.60		V		11.82	17.21		-13.00	
15926.40		V		17.08	18.70		-13.00	
17917.20		V		9.63	19.97		-13.00	
19908.00		V		18.88	21.24		-13.00	

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

#### Remark:

- 1 The emission behaviour 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)

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Radiated Spurious Emission Measurement Result: WCDMA II Mode

: TX CH High E2 Mode Jun. 01, 2007 Operation Mode Test Date:

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 Output (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
58.13	47.94	Н	-62.49	-0.49	1.08	-64.06	-13.00	-51.06
101.78	46.52	Н	-56.29	-7.76	1.37	-65.42	-13.00	-52.42
133.79	39.60	Н	-59.87	-7.79	1.52	-69.17	-13.00	-56.17
1910.00	77.44	Н	-26.67	10.08	5.66	-22.25	-13.00	-9.25
3815.20	33.73	Н	-63.80	12.60	8.46	-59.66	-13.00	-46.66
3981.60		Н		12.60	8.69		-13.00	
5972.40		Н		13.86	10.73		-13.00	
7963.20		Н		11.27	12.49		-13.00	
9954.00		Н		12.08	14.24		-13.00	
11944.80		Н		13.08	15.87		-13.00	
13935.60		Н		11.82	17.21		-13.00	
15926.40		Н		17.08	18.70		-13.00	
17917.20		Н		9.63	19.97		-13.00	
19908.00		Н		18.88	21.24		-13.00	

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

### Remark:

- 1 The emission behaviour 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)

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# Radiated Spurious Emission Measurement Result: WCDMA V Mode

: TX CH Low H Mode Jun. 01, 2007 Operation Mode Test Date:

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

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)
31.94	50.24	V	-53.90	-6.43	0.94	-61.27	-13.00	-48.27
56.19	49.16	V	-60.50	-0.51	1.09	-62.11	-13.00	-49.11
101.78	47.74	V	-54.02	-7.76	1.37	-63.14	-13.00	-50.14
189.08	36.53	V	-64.27	-7.83	1.68	-73.78	-13.00	-60.78
824.00	77.80	V	-8.59	-7.87	3.62	-20.09	-13.00	-7.09
1648.40		V		9.29	5.23		-13.00	
2472.60	37.05	V	-63.96	10.08	6.53	-60.41	-13.00	-47.41
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	

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

#### Remark:

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- 1 The emission behaviour 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)

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Radiated Spurious Emission Measurement Result: WCDMA V Mode

: TX CH Low H Mode Jun. 01, 2007 Operation Mode Test Date:

Fundamental Frequency: 826.4MHz Test By: Sky 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)
56.19	43.11	Н	-66.53	-0.51	1.09	-68.13	-13.00	-55.13
70.74	45.23	Н	-67.08	-1.18	1.16	-69.42	-13.00	-56.42
101.78	47.95	Н	-54.86	-7.76	1.37	-63.99	-13.00	-50.99
135.73	40.80	Н	-58.46	-7.79	1.52	-67.78	-13.00	-54.78
824.00	81.87	Н	-4.40	-7.87	3.62	-15.90	-13.00	-2.90
1367.50	41.92	Н	-63.26	8.08	3.66	-58.84	-13.00	-45.84
1648.40		Н		9.29	5.23		-13.00	
2472.60	37.43	Н	-63.48	10.08	6.53	-59.93	-13.00	-46.93
3296.80		Н		12.17	7.71		-13.00	
4121.00		Н		12.61	8.86		-13.00	
4945.20		Н		12.65	9.74		-13.00	
5769.40		Н		13.55	10.54		-13.00	
6593.60		Н		12.05	11.30		-13.00	
7417.80		Н		11.49	12.10		-13.00	
8242.00		Н		11.48	12.71		-13.00	

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

- 1 The emission behaviour 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:
- $4 \text{ ERP/EIRP } (dBm) = SG \text{ Setting}(dBm) + Antenna Gain } (dB/dBi) Cable loss } (dB)$



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## Radiated Spurious Emission Measurement Result: WCDMA V Mode

Operation Mode : TX CH Mid H Mode Test Date: Jun. 01, 2007

Fundamental Frequency: 836.0MHz Test By: Sky Temperature : 25°℃ Pol: Ver

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)
30.00	51.00	V	-53.70	-7.34	0.95	-61.99	-13.00	-48.99
56.19	49.04	V	-60.62	-0.51	1.09	-62.23	-13.00	-49.23
101.78	47.74	V	-54.02	-7.76	1.37	-63.14	-13.00	-50.14
153.19	34.26	V	-63.32	-7.80	1.60	-72.72	-13.00	-59.72
1673.20		V		9.36	5.27		-13.00	
2509.80	38.64	V	-62.14	10.09	6.58	-58.64	-13.00	-45.64
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	

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

- 1 The emission behaviour 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:
- $4 \text{ ERP/EIRP } (dBm) = SG \text{ Setting}(dBm) + Antenna Gain } (dB/dBi) Cable loss } (dB)$



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## Radiated Spurious Emission Measurement Result: WCDMA V Mode

Operation Mode : TX CH Mid H Mode Test Date: Jun. 01, 2007

Fundamental Frequency: 836.0MHz Test By: Sky 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)
56.19	43.48	Н	-66.16	-0.51	1.09	-67.76	-13.00	-54.76
70.74	45.22	Н	-67.09	-1.18	1.16	-69.43	-13.00	-56.43
101.78	48.04	Н	-54.77	-7.76	1.37	-63.90	-13.00	-50.90
135.73	41.21	Н	-58.05	-7.79	1.52	-67.37	-13.00	-54.37
1367.50	41.55	Н	-63.63	8.08	3.66	-59.21	-13.00	-46.21
1673.20		Н		9.36	5.27		-13.00	
2509.80	38.64	Н	-62.06	10.09	6.58	-58.56	-13.00	-45.56
3346.40		Н		12.28	7.79		-13.00	
4183.00		Н		12.62	8.93		-13.00	
5019.60		Н		12.67	9.81		-13.00	
5856.20		Н		13.68	10.62		-13.00	
6692.80		Н		11.95	11.39		-13.00	
7529.40		Н		11.45	12.20		-13.00	
8366.00		Н		11.59	12.81		-13.00	

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

- 1 The emission behaviour 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)



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## Radiated Spurious Emission Measurement Result: WCDMA V Mode

Operation Mode : TX CH High H Mode Test Date: Jun. 01, 2007

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 Output (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
31.94	50.04	V	-54.10	-6.43	0.94	-61.47	-13.00	-48.47
56.19	48.80	V	-60.86	-0.51	1.09	-62.47	-13.00	-49.47
101.78	46.18	V	-55.58	-7.76	1.37	-64.70	-13.00	-51.70
191.99	36.94	V	-64.12	-7.83	1.69	-73.65	-13.00	-60.65
849.00	77.10	V	-9.02	-7.88	3.68	-20.58	-13.00	-7.58
1697.60		V		9.44	5.31		-13.00	
2546.40	36.35	V	-64.29	10.20	6.63	-60.73	-13.00	-47.73
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	

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

- 1 The emission behaviour 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)



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#### Radiated Spurious Emission Measurement Result: WCDMA V Mode

Operation Mode : TX CH High H Mode Test Date: Jun. 01, 2007

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 Output (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
58.13	43.20	Н	-67.23	-0.49	1.08	-68.80	-13.00	-55.80
70.74	44.72	Н	-67.59	-1.18	1.16	-69.93	-13.00	-56.93
101.78	47.63	Н	-55.18	-7.76	1.37	-64.31	-13.00	-51.31
135.73	41.10	Н	-58.16	-7.79	1.52	-67.48	-13.00	-54.48
849.00	82.81	Н	-3.38	-7.88	3.68	-14.94	-13.00	-1.94
1367.50	43.16	Н	-62.02	8.08	3.66	-57.60	-13.00	-44.60
1697.60		Н		9.44	5.31		-13.00	
2546.40	38.16	Н	-62.44	10.20	6.63	-58.88	-13.00	-45.88
3395.20		Н		12.38	7.87		-13.00	
4244.00		Н		12.63	9.00		-13.00	
5092.80		Н		12.74	9.88		-13.00	
5941.60		Н		13.81	10.70		-13.00	
6790.40		Н		11.86	11.48		-13.00	
7639.20		Н		11.40	12.27		-13.00	
8488.00		Н		11.70	12.91		-13.00	

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

- 1 The emission behaviour 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)



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#### FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT **10.**

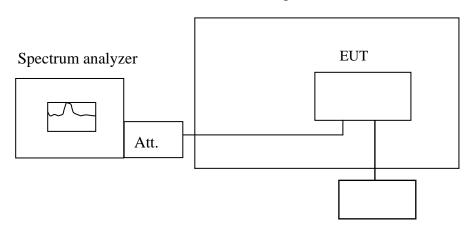
# 10.1 Standard Applicable

According to FCC §2.1055(a)(1)(b).

Frequency Tolerance: 2.5 ppm

# 10.2 Test Set-up:

# Temperature Chamber



Variable Power Supply

**Note:** Measurement setup for testing on Antenna connector

#### 10.3 Measurement Procedure

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.



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# 10.4 Measurement Equipment Used:

Conducted Emission Test Site							
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.		
TYPE		NUMBER	NUMBER	CAL.			
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/27/2007	04/26/2008		
Spectrum Analyzer	Agilent	E7405A	US41160416	07/04/2007	07/03/2008		
Power Sensor	Anritsu	MA2490A	31431	06/28/2006	06/29/2007		
Power Meter	Anritsu	ML2487A	6K00002070	06/28/2006	06/29/2007		
Temperature Chamber	TERCHY	MHG-120LF	911009	11/11/2006	11/12/2007		
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A		
Attenuator	Mini-Circult	BW-S10W5	N/A	10/07/2006	10/06/2007		
Attenuator	Mini-Circult	BW-S6W5	N/A	10/07/2006	10/06/2007		
Splitter	Mini-Circult	ZFSC-2-10G	N/A	10/07/2006	10/06/2007		
Signal Generator	R&S	SMR40	100210	11/09/2006	11/10/2007		
DC Power Supply	Agilent	6038A	2929A-07548	01/06/2007	01/05/2008		



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## 10.5 Measurement Result

Reference Frequency: GSM Mid Channel 836.6 MHz @ 25°C					
	Limit	: +/- 2.5  ppm = 209	91 Hz		
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)	
Vdc	Temperature ( $^{\circ}$ C)	(MHz)	Della (HZ)	Lillit (HZ)	
3.3	-30	836.600014	-12.00	2091	
3.3	-20	836.600017	-15.00	2091	
3.3	-10	836.600023	-21.00	2091	
3.3	0	836.600024	-22.00	2091	
3.3	10	836.600016	-14.00	2091	
3.3	20	836.600002	0.00	2091	
3.3	30	836.600001	1.00	2091	
3.3	40	836.600002	0.00	2091	
3.3	50	836.600010	-8.00	2091	

Reference Frequency: PCS Mid Channel 1880 MHz @ 25°C					
	Limit	: +/- 2.5 ppm = 470	00 Hz		
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)	
Vdc	Temperature (°C)	(MHz)	Della (HZ)	Lillit (HZ)	
3.3	-30	1879.999885	75.00	4700	
3.3	-20	1879.999862	98.00	4700	
3.3	-10	1879.999834	126.00	4700	
3.3	0	1879.999820	140.00	4700	
3.3	10	1879.999785	175.00	4700	
3.3	20	1879.999960	0.00	4700	
3.3	30	1879.999925	35.00	4700	
3.3	40	1880.000025	-65.00	4700	
3.3	50	1880.000045	-85.00	4700	



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Reference Frequency: WCDMA II Mid Channel 1880 MHz @ 25°C					
	Limit	: +/- 2.5 ppm = 470	00 Hz		
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)	
Vdc	Temperature (°C)	(MHz)	Della (112)	Lillit (112)	
3.3	-30	1880.000095	1.00	4700	
3.3	-20	1880.000099	-3.00	4700	
3.3	-10	1880.000108	-12.00	4700	
3.3	0	1880.000101	-5.00	4700	
3.3	10	1880.000087	9.00	4700	
3.3	20	1880.000096	0.00	4700	
3.3	30	1880.000072	24.00	4700	
3.3	40	1880.000108	-12.00	4700	
3.3	50	1880.000089	7.00	4700	

Reference Frequency: WCDMA V Mid Channel 836.6 MHz @ 25°C					
	Limit	+/-2.5  ppm = 209	91 Hz		
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)	
Vdc	Temperature (°C)	(MHz)	Delta (112)	Lillit (112)	
3.3	-30	836.000031	-9.00	2091	
3.3	-20	836.000035	-13.00	2091	
3.3	-10	836.000039	-17.00	2091	
3.3	0	836.000046	-24.00	2091	
3.3	10	836.000041	-19.00	2091	
3.3	20	836.000022	0.00	2091	
3.3	30	836.000052	-30.00	2091	
3.3	40	836.000046	-24.00	2091	
3.3	50	836.000036	-14.00	2091	



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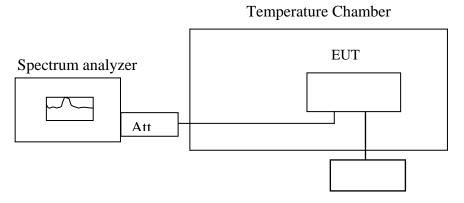
# 11. FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT

# 11.1 Standard Applicable

According to FCC §2.1055(d)(1)(2)

Frequency Tolerance: 2.5 ppm

# 11.2 Test Set-up:



Variable DC Power Supply

Note: Measurement setup for testing on Antenna connector

#### 11.3 Measurement Procedure

Set chamber temperature to 25°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specified extreme voltage variation (+/- 15%) and endpoint, record the maximum frequency change.



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# 11.4 Measurement Equipment Used:

Conducted Emission Test Site							
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.		
TYPE		NUMBER	NUMBER	CAL.			
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/27/2007	04/26/2008		
Spectrum Analyzer	Agilent	E7405A	US41160416	07/04/2007	07/03/2008		
Power Sensor	Anritsu	MA2490A	31431	06/28/2006	06/29/2007		
Power Meter	Anritsu	ML2487A	6K00002070	06/28/2006	06/29/2007		
Temperature Chamber	TERCHY	MHG-120LF	911009	11/11/2006	11/12/2007		
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A		
Attenuator	Mini-Circult	BW-S10W5	N/A	10/07/2006	10/06/2007		
Attenuator	Mini-Circult	BW-S6W5	N/A	10/07/2006	10/06/2007		
Splitter	Mini-Circult	ZFSC-2-10G	N/A	10/07/2006	10/06/2007		
Signal Generator	R&S	SMR40	100210	11/09/2006	11/10/2007		
DC Power Supply	Agilent	6038A	2929A-07548	01/06/2007	01/05/2008		



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## 11.5 Measurement Result

Reference Frequency: GSM Mid Channel 836.6 MHz @ 25°C					
100					
	Limit	: +/- 2.5  ppm = 209	91 Hz	1	
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)	
Vdc	Temperature (°C)	(MHz)	Delta (112)	Lillili (112)	
4.25	25.00	836.600000	2.00	2091.00	
3.70	25.00	836.600002	0.00	2091.00	
3.40	25.00	836.600001	1.00	2091.00	
3.40 (Endpoint)	25.00	836.600001	1.00	2091.00	

Reference Frequency: PCS Mid Channel 1880 MHz @ 25°C					
	Limit	: +/- 2.5  ppm = 470	00 Hz		
Power Supply	pply Environment Frequency D. H. (H.)				
Vdc	Temperature (°C)	(MHz)	Delta (Hz) Limit (Hz)		
4.25	25	1879.999920	40.00	4700	
3.70	25	1879.999960	0.00	4700	
3.40	25	1879.999945	15.00	4700	
3.40 (Endpoint)	25	1879.999945	15.00	4700	

Note: The battery is rated 3.7V dc.



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Refe	Reference Frequency: WCDMA II Mid Channel 1880 MHz @ 25°C									
Refe	Limit: +/- 2.5 ppm = 4700 Hz									
Power Supply Environment Frequency										
Vdc	Temperature (°C)	(MHz)	Delta (Hz)	Limit (Hz)						
4.25	25	1880.000076	20.00	4700						
3.70	25	1880.000096	0.00	4700						
3.40	25	1880.000099	-3.00	4700						
3.40 (Endpoint)	25	1880.000099	-3.00	4700						

Refer	Reference Frequency: WCDMA V Mid Channel 836.6 MHz @ 25°C								
Limit: +/- 2.5 ppm = 2091 Hz									
Power Supply	er Supply Environment Frequency Delta (Hz) Limit (Hz)								
Vdc	Temperature ( $^{\circ}$ C)	(MHz)	Delta (Hz)	Lilliit (HZ)					
4.25	25.00	836.000013	9.00	2091.00					
3.70	25.00	836.000022	0.00	2091.00					
3.40	25.00	836.000020	2.00	2091.00					
3.40 (Endpoint)	25.00	836.000018	4.00	2091.00					

Note: The battery is rated 3.7V dc.



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#### AC POWER LINE CONDUCTED EMISSION TEST 12.

# 12.1 Standard Applicable

According to §15.207. The emission value for frequency within 150KHz to 30MHz shall not exceed criteria of below chart.

Frequency range	Limits dB(uV)						
MHz	Quasi-peak	Average					
0.15 to 0.50	66 to 56	56 to 46					
0.50 to 5	56	46					
5 to 30	60	50					

#### Note

# 12.2 EUT Setup

- 1. The conducted emission tests were performed in the test site, using the setup in accordance with the ANSI C63.4-2001.
- 2. The EUT was plug-in DC power adaptort and was placed on the center of the back edge on the test table. The peripherals like earphone was placed on the side of the EUT. The rear of the EUT and peripherals were placed flushed with the rear of the tabletop.
- 3. The Power adaptor was connected with 110Vac/60Hz power source.

#### 12.3 Measurement Procedure

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

<sup>1.</sup> The lower limit shall apply at the transition frequencies

<sup>2.</sup> The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.



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# 12.4 Measurement Equipment Used:

	Conducted Emission Test Site									
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.					
TYPE		NUMBER	NUMBER	CAL.						
EMC Analyzer	HP	8594EM	3624A00203	09/02/2006	09/03/2007					
EMI Test Receiver	R&S	ESCS30	828985/004	06/09/2007	06/10/2008					
Transient Limiter	HP	11947A	3107A02062	09/02/2006	09/03/2007					
LISN	Rolf-Heine	NNB-2/16Z	99012	12/31/2006	12/30/2007					
LISN	Rolf-Heine	NNB-2/16Z	99013	12/24/2006	12/23/2007					
Coaxial Cables	N/A	No. 3, 4	N/A	12/24/2006	12/23/2007					

#### 12.5 Measurement Result

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

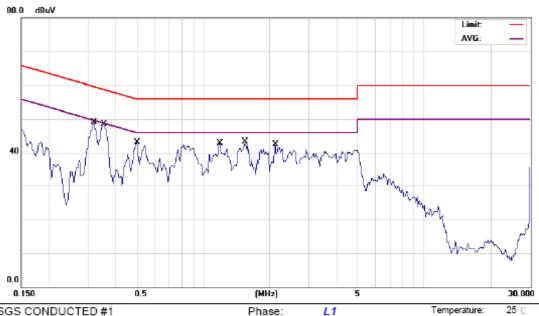


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# AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode:	GSM 850 LINK			Test Date:	Jun. 04, 2007
Temperature:	25 ℃	Humidity:	62 %	Test By:	Sky



Power:

Distance:

AC 120V/60Hz

Humidity:

Air Pressure:

Site SGS CONDUCTED #1

Limit: CISPR22 Class B Conduction(QP)

EUT: i-mate

M/N: mlt-6150 Note: GSM 850 LINK

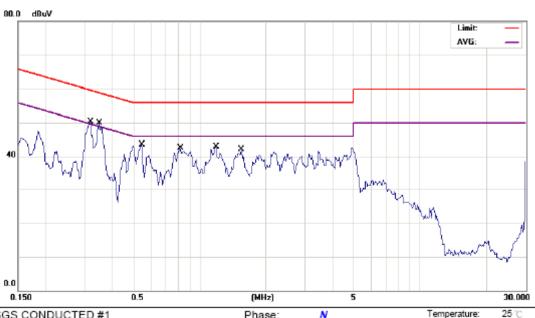
No.	Mk.	Freq.	Reading Level	Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3200	44.61	0.02	44.63	59.71	-15.08	QP	
2		0.3200	34.21	0.02	34.23	49.71	-15.48	AVG	
3	*	0.3550	45.84	0.02	45.86	58.84	-12.98	QP	
4		0.3550	35.72	0.02	35.74	48.84	-13.10	AVG	
5		0.5000	40.74	0.02	40.76	56.00	-15.24	QP	
6		0.5000	27.65	0.02	27.67	46.00	-18.33	AVG	
7		1.1900	38.76	0.02	38.78	56.00	-17.22	QP	
8		1.1900	28.35	0.02	28.37	46.00	-17.63	AVG	
9		1.5500	37.65	0.03	37.68	56.00	-18.32	QP	
10		1.5500	27.99	0.03	28.02	46.00	-17.98	AVG	
11		2.1200	35.58	0.04	35.62	56.00	-20.38	QP	
12		2.1200	26.63	0.04	26.67	46.00	-19.33	AVG	

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Site SGS CONDUCTED #1

Limit: CISPR22 Class B Conduction(QP)

EUT: i-mate M/N: mlt-6150 Note: GSM 850 LINK Phase: AC 120V/60Hz Humidity: Power:

Distance: Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measure- ment	Limit	Over			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	*	0.3200	45.99	0.02	46.01	59.71	-13.70	QP		
2		0.3200	34.68	0.02	34.70	49.71	-15.01	AVG		
3		0.3500	45.03	0.02	45.05	58.96	-13.91	QP		
4		0.3500	31.78	0.02	31.80	48.96	-17.16	AVG		
5		0.5450	40.26	0.02	40.28	56.00	-15.72	QP		
6		0.5450	25.73	0.02	25.75	46.00	-20.25	AVG		
7		0.8150	38.79	0.01	38.80	56.00	-17.20	QP		
8		0.8150	23.25	0.01	23.26	46.00	-22.74	AVG		
9		1.1900	38.48	0.02	38.50	56.00	-17.50	QP		
10		1.1900	27.12	0.02	27.14	46.00	-18.86	AVG		
11		1.5500	37.27	0.03	37.30	56.00	-18.70	QP		
12		1.5500	25.79	0.03	25.82	46.00	-20.18	AVG		

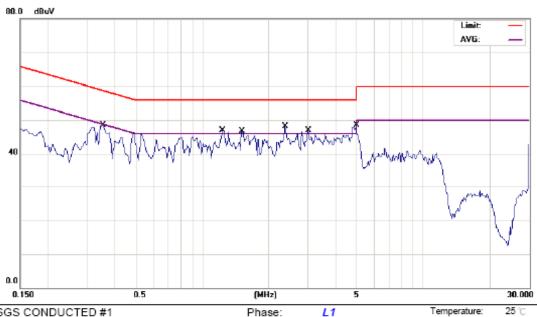


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## AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode:	GSM 1900 Link			Test Date:	Jun. 04, 2007
Temperature:	25 ℃	Humidity:	62 %	Test By:	Sky



Power:

Distance:

AC 120V/60Hz

Site SGS CONDUCTED #1

Limit: CISPR22 Class B Conduction(QP)

Temperature: Humidity:

Air Pressure:

62 %

hpa

EUT: i-mate M/N: mlt-6150

台灣檢驗科技股份有限公司

Note: GSM 1900 LINK

No.	Mk.	Freq.	Reading Level	Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3550	41.76	0.02	41.78	58.84	-17.06	QP	
2		0.3550	34.71	0.02	34.73	48.84	-14.11	AVG	
3	*	1.2350	41.91	0.02	41.93	56.00	-14.07	QP	
4		1.2350	30.19	0.02	30.21	46.00	-15.79	AVG	
5		1.5050	40.40	0.03	40.43	56.00	-15.57	QP	
6		1.5050	30.73	0.03	30.76	46.00	-15.24	AVG	
7		2.3750	41.78	0.05	41.83	56.00	-14.17	QP	
8		2.3750	31.70	0.05	31.75	46.00	-14.25	AVG	
9		3.0200	31.70	0.06	31.76	56.00	-24.24	QP	
10		3.0200	23.81	0.06	23.87	46.00	-22.13	AVG	
11		4.9850	34.03	0.11	34.14	56.00	-21.86	QP	
12		4.9850	26.84	0.11	26.95	46.00	-19.05	AVG	

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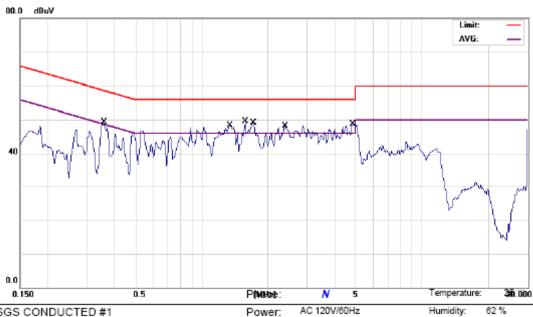


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Air Pressure:

hpa

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Distance:

Site SGS CONDUCTED #1

Limit: CISPR22 Class B Conduction(QP)

EUT: i-mate M/N: mlt-6150

Note: GSM 1900 LINK

No. Mk.	Freq. MHz	Reading Longwild	Factor dB	Measure- #9ehit	Limit dBuV	Over dB	Detector	Comment
1	0.3600	43.56	0.02	43.58	58.73	-15.15	QP	
2	0.3600	32.11	0.02	32.13	48.73	-16.60	AVG	
3	1.3400	28.81	0.02	28.83	56.00	-27.17	QP	
4	1.3400	18.10	0.02	18.12	46.00	-27.88	AVG	
5	1.5800	40.92	0.03	40.95	56.00	-15.05	QP	
6 *	1.5800	33.72	0.03	33.75	46.00	-12.25	AVG	
7	1.7150	39.18	0.03	39.21	56.00	-16.79	QP	
8	1.7150	30.13	0.03	30.16	46.00	-15.84	AVG	
9	2.3900	40.43	0.05	40.48	56.00	-15.52	QP	
10	2.3900	30.47	0.05	30.52	46.00	-15.48	AVG	
11	4.8500	41.38	0.10	41.48	56.00	-14.52	QP	
12	4.8500	33.01	0.10	33.11	46.00	-12.89	AVG	

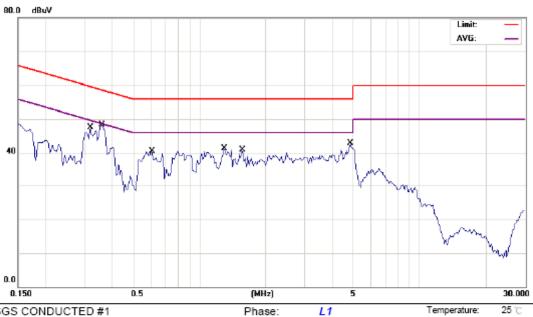


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## AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode:	WCDMAII Link		Test Date:	Jun. 04, 2007	
Temperature:	25 ℃	Humidity:	62 %	Test By:	Sky



Power:

Distance:

AC 120V/60Hz

Humidity:

Air Pressure:

62 %

hpa

Site SGS CONDUCTED #1

Limit: CISPR22 Class B Conduction(QP)

EUT: i-mate

M/N: mlt-6150

Note: WCDMA B2 LINK

No. Mk.	Freq.	Reading Level	Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.3200	41.49	0.02	41.51	59.71	-18.20	QP	
2	0.3200	31.26	0.02	31.28	49.71	-18.43	AVG	
3 *	0.3600	45.39	0.02	45.41	58.73	-13.32	QP	
4	0.3600	34.23	0.02	34.25	48.73	-14.48	AVG	
5	0.6050	36.32	0.02	36.34	56.00	-19.66	QP	
6	0.6050	25.17	0.02	25.19	46.00	-20.81	AVG	
7	1.2950	35.85	0.02	35.87	56.00	-20.13	QP	
8	1.2950	28.71	0.02	28.73	46.00	-17.27	AVG	
9	1.5650	35.56	0.03	35.59	56.00	-20.41	QP	
10	1.5650	26.77	0.03	26.80	46.00	-19.20	AVG	
11	4.8500	36.45	0.10	36.55	56.00	-19.45	QP	
12	4.8500	27.09	0.10	27.19	46.00	-18.81	AVG	

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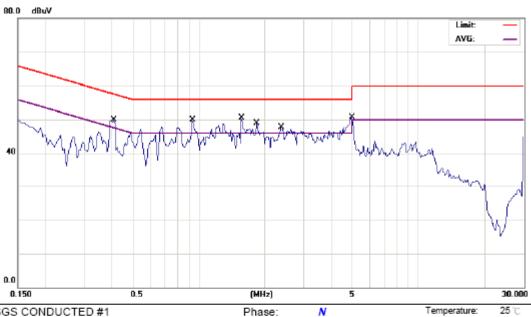
Humidity:

Air Pressure:

62 %

hpa

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Power:

Distance:

AC 120V/60Hz

Site SGS CONDUCTED #1

Limit: CISPR22 Class B Conduction(QP)

EUT: i-mate

M/N: mlt-6150

Note: WCDMA B2 LINK

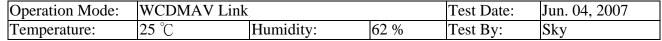
No. Mk.	Freq.	Reading Level	Factor	Measure- ment	Limit	Over			
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	0.4100	33.60	0.02	33.62	57.65	-24.03	QP		
2	0.4100	17.99	0.02	18.01	47.65	-29.64	AVG		
3	0.9350	33.80	0.01	33.81	56.00	-22.19	QP		
4	0.9350	17.67	0.01	17.68	46.00	-28.32	AVG		
5	1.5650	35.64	0.03	35.67	56.00	-20.33	QP		
6	1.5650	24.21	0.03	24.24	46.00	-21.76	AVG		
7	1.8350	33.81	0.04	33.85	56.00	-22.15	QP		
8	1.8350	25.43	0.04	25.47	46.00	-20.53	AVG		
9	2.3750	33.86	0.05	33.91	56.00	-22.09	QP		
10	2.3750	23.79	0.05	23.84	46.00	-22.16	AVG		
11 *	5.0000	35.73	0.11	35.84	56.00	-20.16	QP		
12	5.0000	25.16	0.11	25.27	46.00	-20.73	AVG		

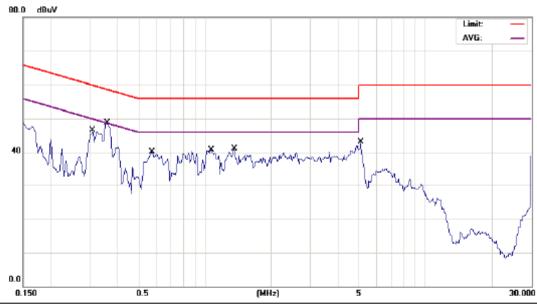


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### AC POWER LINE CONDUCTED EMISSION TEST DATA





Site SGS CONDUCTED #1

Limit: CISPR22 Class B Conduction(QP)

EUT: i-mate M/N: mlt-6150

Note: WCDMA B5 LINK

Temperature: 25 % Phase: Humidity: Power: AC 120V/60Hz

Distance: Air Pressure: hpa

No. Mk.	Freq.	Reading Level	Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.3100	41.16	0.02	41.18	59.97	-18.79	QP	
2	0.3100	30.62	0.02	30.64	49.97	-19.33	AVG	
3 *	0.3600	45.99	0.02	46.01	58.73	-12.72	QP	
4	0.3600	35.49	0.02	35.51	48.73	-13.22	AVG	
5	0.5750	37.88	0.02	37.90	56.00	-18.10	QP	
6	0.5750	25.67	0.02	25.69	46.00	-20.31	AVG	
7	1.0700	36.78	0.01	36.79	56.00	-19.21	QP	
8	1.0700	26.46	0.01	26.47	46.00	-19.53	AVG	
9	1.3550	36.57	0.02	36.59	56.00	-19.41	QP	
10	1.3550	27.68	0.02	27.70	46.00	-18.30	AVG	
11	5.1000	36.76	0.11	36.87	60.00	-23.13	QP	
12	5.1000	28.80	0.11	28.91	50.00	-21.09	AVG	

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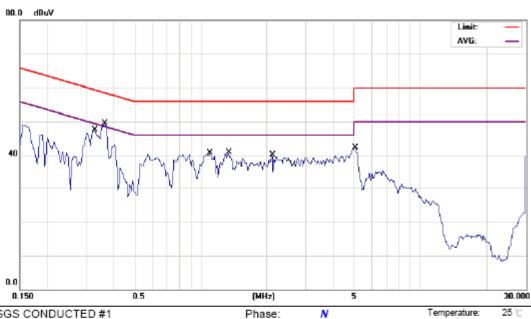


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Humidity:

Air Pressure:

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Power:

Distance:

AC 120V/60Hz

Site SGS CONDUCTED #1

Limit: CISPR22 Class B Conduction(QP)

EUT: i-mate M/N: mlt-6150

Note: WCDMA B5 LINK

No.	Mk.	Freq.	Reading Level	Factor	Measure- ment	Limit	Over			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1		0.3300	41.61	0.02	41.63	59.45	-17.82	QP		
2		0.3300	30.92	0.02	30.94	49.45	-18.51	AVG		
3		0.3650	46.38	0.02	46.40	58.61	-12.21	QP		
4		0.3650	25.56	0.02	25.58	48.61	-23.03	AVG		
5	*	1.1000	46.46	0.01	46.47	56.00	-9.53	QP		
6		1.1000	25.24	0.01	25.25	46.00	-20.75	AVG		
7		1.3400	36.10	0.02	36.12	56.00	-19.88	QP		
8		1.3400	28.02	0.02	28.04	46.00	-17.96	AVG		
9		2.1200	34.43	0.04	34.47	56.00	-21.53	QP		
10		2.1200	27.72	0.04	27.76	46.00	-18.24	AVG		
11		5.0400	36.22	0.11	36.33	60.00	-23.67	QP		
12		5.0400	28.47	0.11	28.58	50.00	-21.42	AVG		

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