

# ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

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

OF

**Product Name:** GSM 850/1800/1900 mobile phone with BT

**Brand Name:** Alcatel

**Model Name:** K7Sa

**Market Name:** OT-C820a

**FCC ID:** RAD052

**Report No.:** ER/2006/C0002

**Issue Date:** Jan. 08, 2007

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

**Prepared for** T&A Mobile Phones

4/F, No.2966, Jinke Rd, Zhangjiang  
High-Tech Park, Pudong Shanghai  
201203.P.R.China

**Prepared by** SGS Taiwan Ltd.

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

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## VERIFICATION OF COMPLIANCE

**Applicant:** T&A Mobile Phones  
4/F, No.2966, Jinke Rd, Zhangjiang High-Tech Park, Pudong Shanghai  
201203.P.R.China

**Equipment Under Test:** GSM 850/1800/1900 mobile phone with BT

**FCC ID Number:** RAD052

**Brand Name:** Alcatel

**Model No.:** K7Sa

**Market name:** OT-C820a

**Model Difference:** N/A

**File Number:** ER/2006/C0002

**Date of test:** Dec. 01, 2006 ~ Jan. 05, 2007

**Date of EUT Received:** Dec. 01, 2006

### 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.

<b>Test By:</b>	<i>Alex Hsieh</i>	<b>Date</b>	Jan. 08, 2007
_____ <i>Alex Hsieh</i>			
<b>Prepared By:</b>	<i>Eva Kao</i>	<b>Date</b>	Jan. 08, 2007
_____ <i>Eva Kao</i>			
<b>Approved By</b>	<i>Vincent Su</i>	<b>Date</b>	Jan. 08, 2007
_____ <i>Vincent Su</i>			

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## Version

Version No.	Date
00	Dec. 29, 2006
01	Jan. 08, 2007
02	Jan. 22, 2007

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# 1. GENERAL INFORMATION

## 1.1 Product Description

Product	GSM 850/1800/1900 mobile phone with BT
Model Name	K7Sa
Market name:	OT-C820a
Model Difference:	N/A
Brand Name	Alcatel
Power Supply	3.7 Vdc re-chargeable battery, or 12Vdc car adaptor model: 3DS11023AAAA or Two 5Vdc by AC/DC power adapters, model S003FU0500040, S003FA0500040, Supplier: ALCATEL

### GSM:

Frequency Range and Power	GSM 850: 824MHz –849MHz	33 dBm
	GSM 1900: 1850MHz –1910MHz	30 dBm
Type of Emission	300KGXW	
Software Version	N/A	
Hardware Version	N/A	
IMEI	011045000001778	

### Bluetooth:

Frequency Range	2402 – 2480MHz
Channel number	79 channels
Rated Power	2.13 dBm
Modulation type	Frequency Hopping Spread Spectrum (FHSS)
Antenna Designation	Chip Antenna, -4.5 dBi

The EUT is compliance with Bluetooth Standard.

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

This submittal(s) (test report) is intended for FCC ID: **RAD052** 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.

## 2. SYSTEM TEST CONFIGURATION

### 2.1 EUT Configuration

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

### 2.2 EUT Exercise

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

### 2.3 Test Procedure

#### 2.3.1 Conducted Emissions

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

#### 2.3.2 Radiated Emissions

The EUT is placed on a turn table which is 1.0 m above ground plane. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes according to the requirements in Section 8 and 13 of ANSI C63.4-2003.



## 2.4 Configuration of Tested System

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

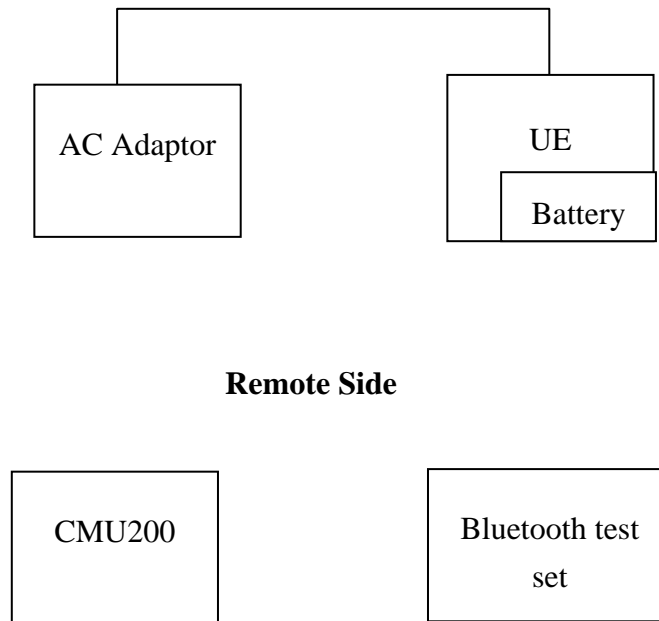


Table 2-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/ Type No.	Series No.	Data Cable	Power Cord
1	Universal Radio Communication Tester	R&S	CMU200	102189	shielded	Un-shielded
2	Bluetooth test set	Anritsu	MT8852A	6K00001436	shielded	Un-shielded

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### 3. SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
§2.1046(a) §22.913(a) §24.232(a)	RF Power Output	Compliant
§2.1046(a) §22.913(a) §24.232(a)	ERP/ EIRP measurement	Compliant
§2.1049(h)	99% Occupied Bandwidth	Compliant
§2.1051 §22.917(a) §24.238(a)	Out of Band Emissions at Antenna Terminals and Band Edge	Compliant
§2.1053 §22.917(a) §24.238(a)	Field Strength of Spurious Radiation	Compliant
§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

### 4. 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 (H mode) and lie down position (E1, E2 mode) for both GSM and GPRS with all power adaptors, earphone and Data cable. The worst-case E2 mode for GSM 850 band and H mode for GSM 1900 band with earphone mode for channel Low, Mid and High at GSM mode was reported.

The field strength of co-located spurious radiation emission was measured as worst case of EUT at E2 position at GSM 850 channel high/1900 channel low with BT at channel Mid mode was reported.

All test ware carried out for worst case adaptor: S003FU0500040

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## 5. RF POWER OUTPUT MEASUREMENT

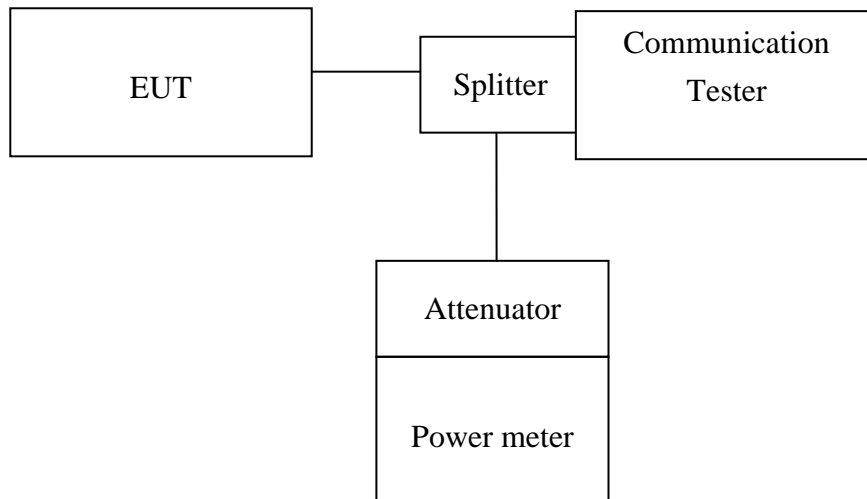
### 5.1 Standard Applicable

According to FCC §2.1046.

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

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

### 5.2 Test Set-up:



*Note: Measurement setup for testing on Antenna connector*

### 5.3 Measurement Procedure

The transmitter output was connected to a calibrated attenuator, the other end of which was connected to a power meter. Transmitter output was read off the power meter in dBm. The power output at the transmitter antenna port was determined by adding the value of the attenuator to the power meter reading.

**5.4 Measurement Equipment Used:**

Conducted Emission Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	03/29/2006	03/28/2007
Spectrum Analyzer	Agilent	E7405A	US41160416	06/28/2006	06/29/2007
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-Circuit	BW-S10W5	N/A	09/23/2006	09/22/2007
Attenuator	Mini-Circuit	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

**5.5 Measurement Result**

EUT Mode	Frequency (MHz)	CH	Power meter Reading (dBm)	Path Loss (dB)	Peak Power (dBm)
GSM 850	824.20	128	5.42	27.00	32.42
	836.60	190	5.50	27.00	32.50
	848.80	251	5.30	27.00	32.30

EUT Mode	Frequency (MHz)	CH	Power Meter Reading (dBm)	Path Loss (dB)	Peak Power (dBm)
PCS 1900	1850.20	512	2.07	27.00	29.07
	1880.00	661	2.40	27.00	29.40
	1909.80	810	2.41	27.00	29.41

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## 6. ERP, EIRP MEASUREMENT

### 6.1 Standard Applicable

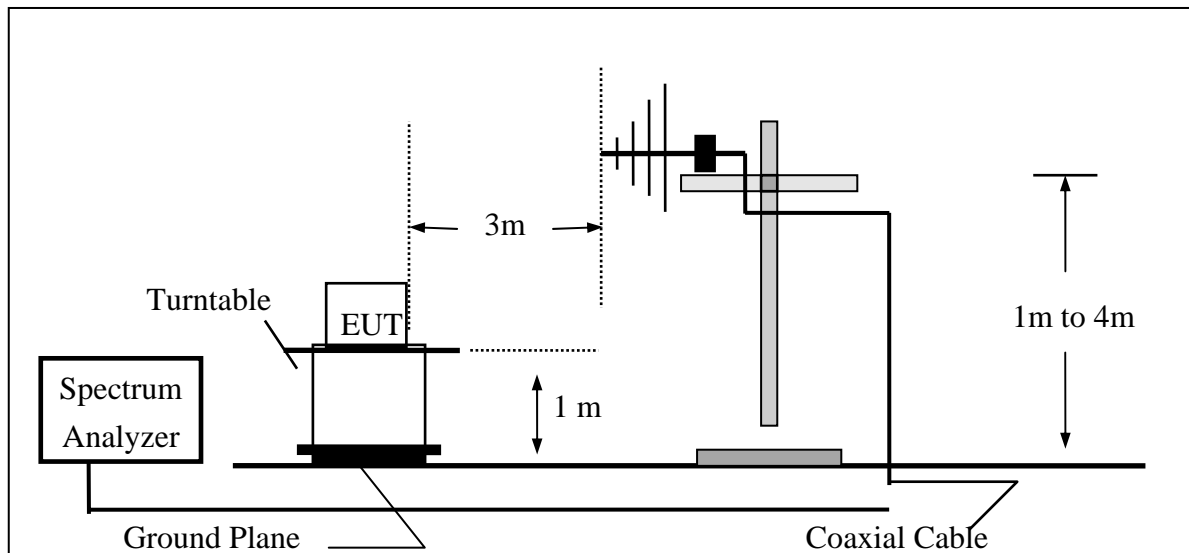
According to FCC §2.1046

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

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

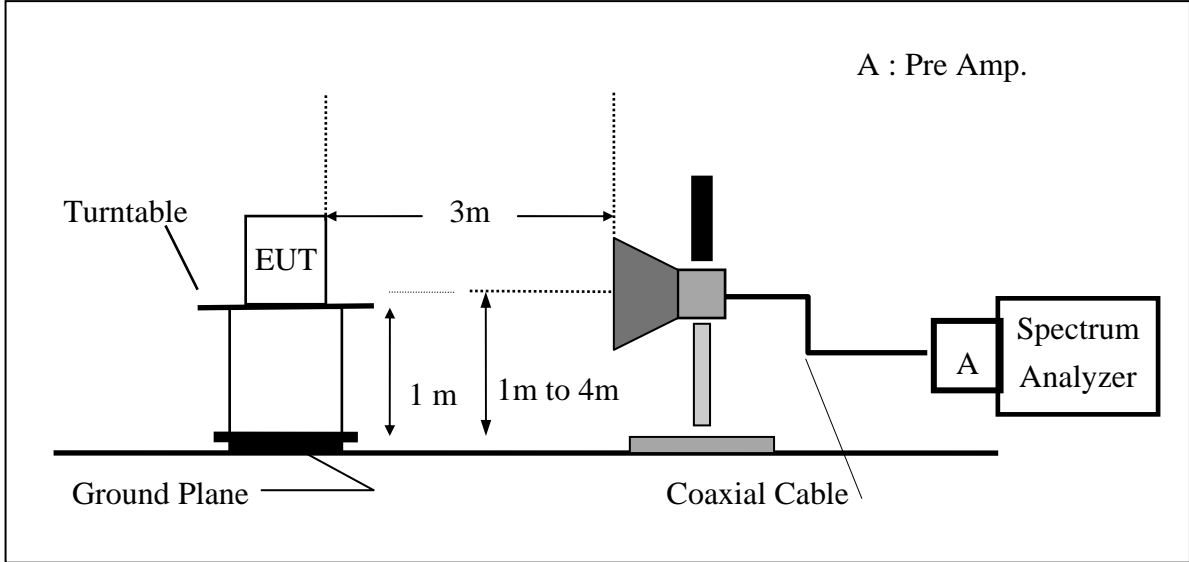
### 6.2 Test SET-UP (Block Diagram of Configuration)

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

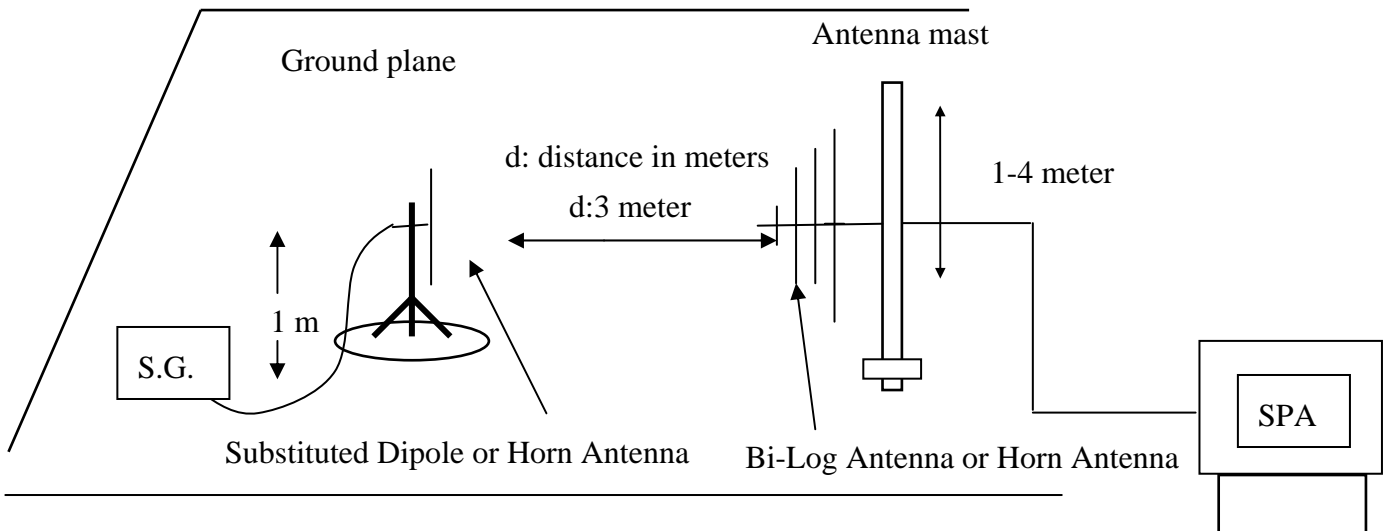


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(B) Radiated Emission Test Set-UP Frequency Over 1 GHz



(C) Substituted Method Test Set-UP



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### 6.3 Measurement Procedure

The EUT was placed on a 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 in 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 a dipole antenna connected, the S.G. output was recorded and ERP was calculated as follows:

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

$$\text{ERP} = \text{S.G. output (dBm)} + \text{Antenna Gain (dBd)} - \text{Cable Loss (dB)}$$

$$\text{EIRP} = \text{S.G. output (dBm)} + \text{Antenna Gain (dBi)} - \text{Cable Loss (dB)}$$

**6.4 Measurement Equipment Used:**

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	03/29/2006	03/28/2007
Spectrum Analyzer	Agilent	7405A	US41160416	06/28/2006	06/29/2007
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	VULB9163	152	06/03/2006	06/02/2007
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	02/26/2006	02/25/2007
Signal Generator	R&S	SMR40	100210	02/09/2006	02/10/2007
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-Circuit	BW-S10W5	N/A	09/23/2006	09/22/2007
Dipole Antenna	Schwarzbeck	VHAP	908/909	06/10/2006	06/11/2007
Dipole Antenna	Schwarzbeck	UHAP	891/892	06/10/2006	06/11/2007
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)	CH	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
GSM 850	824.20	128	H	V	121.96	35.57	-7.87	3.62	24.07	38.45
				H	128.61	42.34	-7.87	3.62	30.84	38.45
			E1	V	128.54	42.15	-7.87	3.62	30.65	38.45
				H	125.30	39.03	-7.87	3.62	27.53	38.45
			E2	V	123.69	37.30	-7.87	3.62	25.80	38.45
				H	128.68	42.41	-7.87	3.62	30.91	38.45
	836.60	190	H	V	122.98	36.73	-7.88	3.65	25.20	38.45
				H	129.24	43.01	-7.88	3.65	31.48	38.45
			E1	V	128.83	42.58	-7.88	3.65	31.05	38.45
				H	126.35	40.12	-7.88	3.65	28.59	38.45
			E2	V	124.30	38.05	-7.88	3.65	26.52	38.45
				H	129.22	42.99	-7.88	3.65	31.46	38.45
	848.80	251	H	V	123.02	36.90	-7.88	3.68	25.34	38.45
				H	129.71	43.52	-7.88	3.68	31.96	38.45
			E1	V	129.35	43.23	-7.88	3.68	31.67	38.45
				H	127.18	40.99	-7.88	3.68	29.43	38.45
			E2	V	125.18	39.06	-7.88	3.68	27.50	38.45
				H	130.34	44.15	-7.88	3.68	32.59	38.45

**Remark :**

- (1) The RBW,VBW of SPA for frequency  
 Below 1GHz was RBW=100 KHz, VBW=300KHz,  
 Above 1GHz was RBW= 1MHz , VBW= 3MHz

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### 6.6 Measurement Result

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
PCS 1900	1850.20	512	H	V	117.90	13.51	9.90	5.56	17.85	33.00
				H	130.14	25.96	9.90	5.56	30.30	33.00
			E1	V	128.25	23.86	9.90	5.56	28.20	33.00
				H	126.86	22.68	9.90	5.56	27.02	33.00
			E2	V	128.11	23.72	9.90	5.56	28.06	33.00
				H	123.00	18.82	9.90	5.84	22.88	33.00
	1880.00	661	H	V	117.92	13.56	9.99	5.61	17.94	33.00
				H	129.79	25.65	9.99	5.61	30.02	33.00
			E1	V	128.09	23.73	9.99	5.61	28.11	33.00
				H	127.27	23.13	9.99	5.61	27.50	33.00
			E2	V	128.18	23.82	9.99	5.61	28.20	33.00
				H	123.31	19.17	9.99	5.61	23.54	33.00
	1909.80	810	H	V	117.10	12.77	10.08	5.66	17.19	33.00
				H	129.95	25.84	10.08	5.66	30.26	33.00
			E1	V	127.43	23.10	10.08	5.66	27.52	33.00
				H	128.03	23.92	10.08	5.66	28.34	33.00
			E2	V	128.15	23.82	10.08	5.66	28.24	33.00
				H	123.52	19.41	10.08	5.66	23.83	33.00

**Remark :**

- (1) The RBW,VBW of SPA for frequency  
 Below 1GHz was RBW=100 KHz, VBW=300KHz,  
 Above 1GHz was RBW= 1MHz , VBW= 3MHz

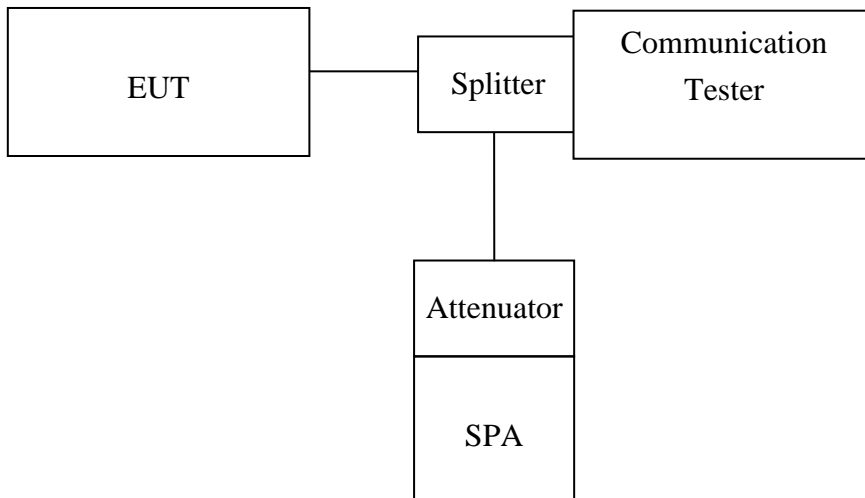
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## 7. 99% OCCUPIED BANDWIDTH MEASUREMENT

### 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.

**7.4 Measurement Equipment Used:**

Conducted Emission Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	03/29/2006	03/28/2007
Spectrum Analyzer	Agilent	7405A	US41160416	06/28/2006	06/29/2007
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-Circuit	BW-S10W5	N/A	10/07/2006	10/06/2007
Attenuator	Mini-Circuit	BW-S6W5	N/A	10/07/2006	10/06/2007
Splitter	Mini-Circuit	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	01/06/2006	01/05/2007

**7.5 Measurement Result:.**

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
GSM 850	824.20	128	0.2512
	836.60	190	0.2473
	848.80	251	0.2511

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
PCS 1900	1850.20	512	0.2493
	1880.00	661	0.2490
	1909.80	810	0.2474

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Figure 7-1: GSM Channel Low

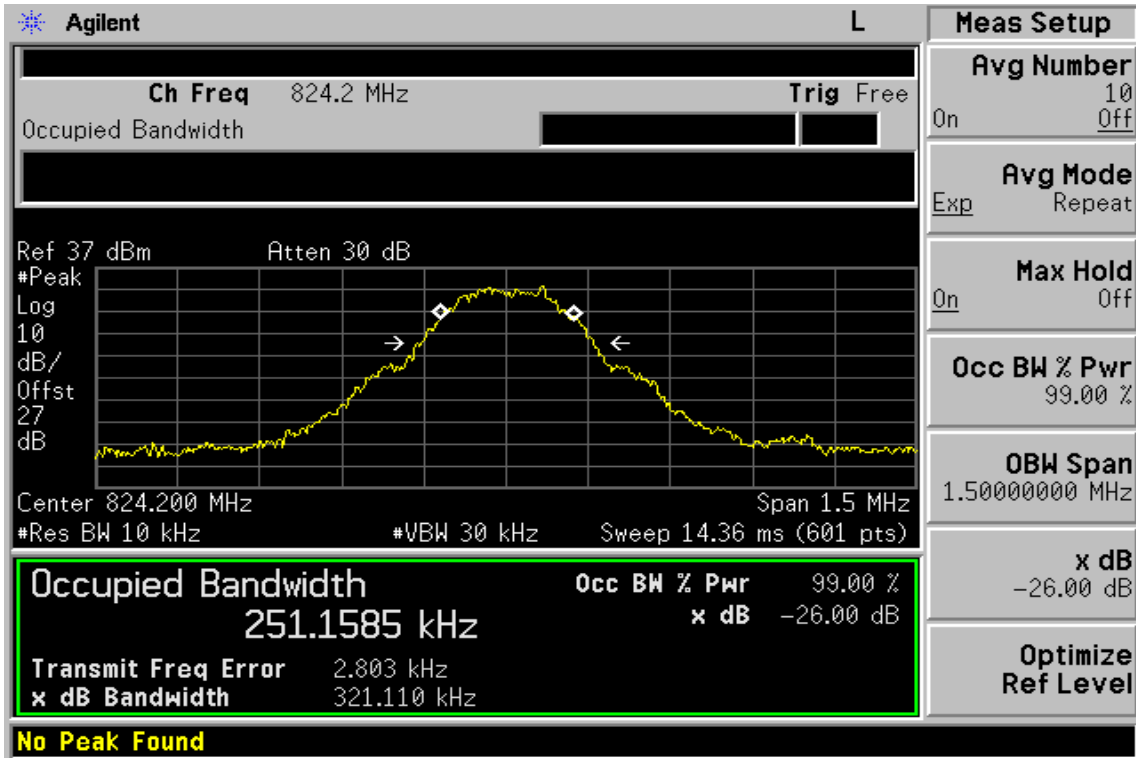
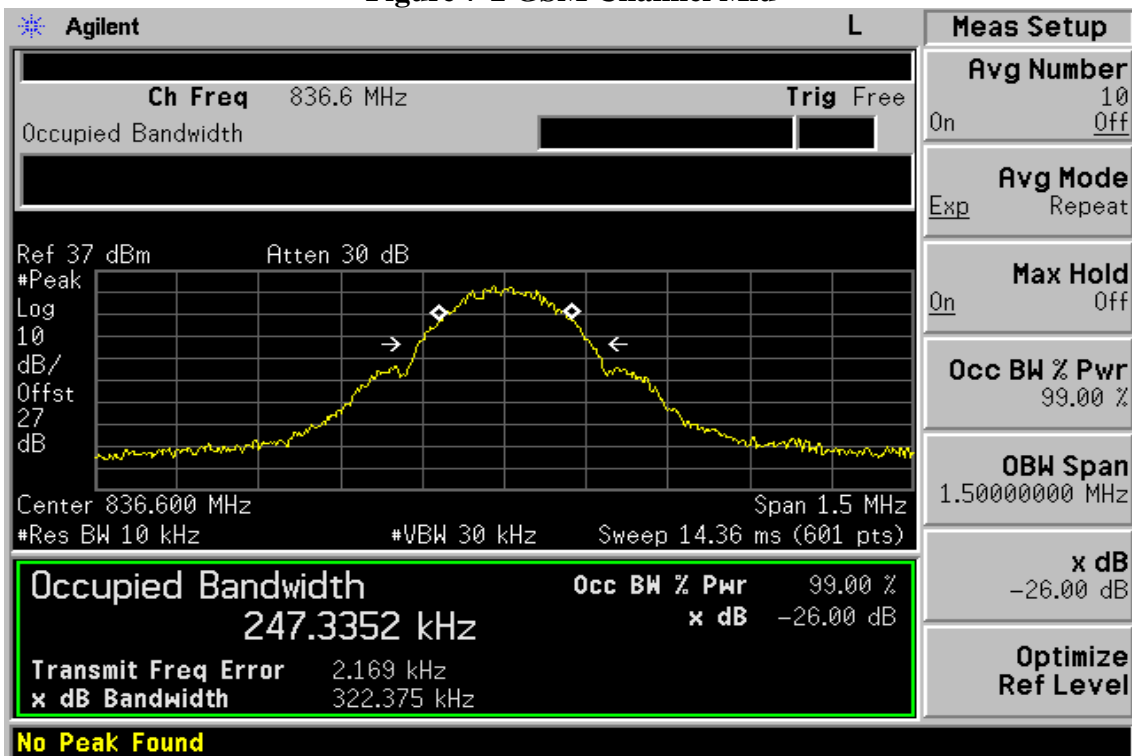
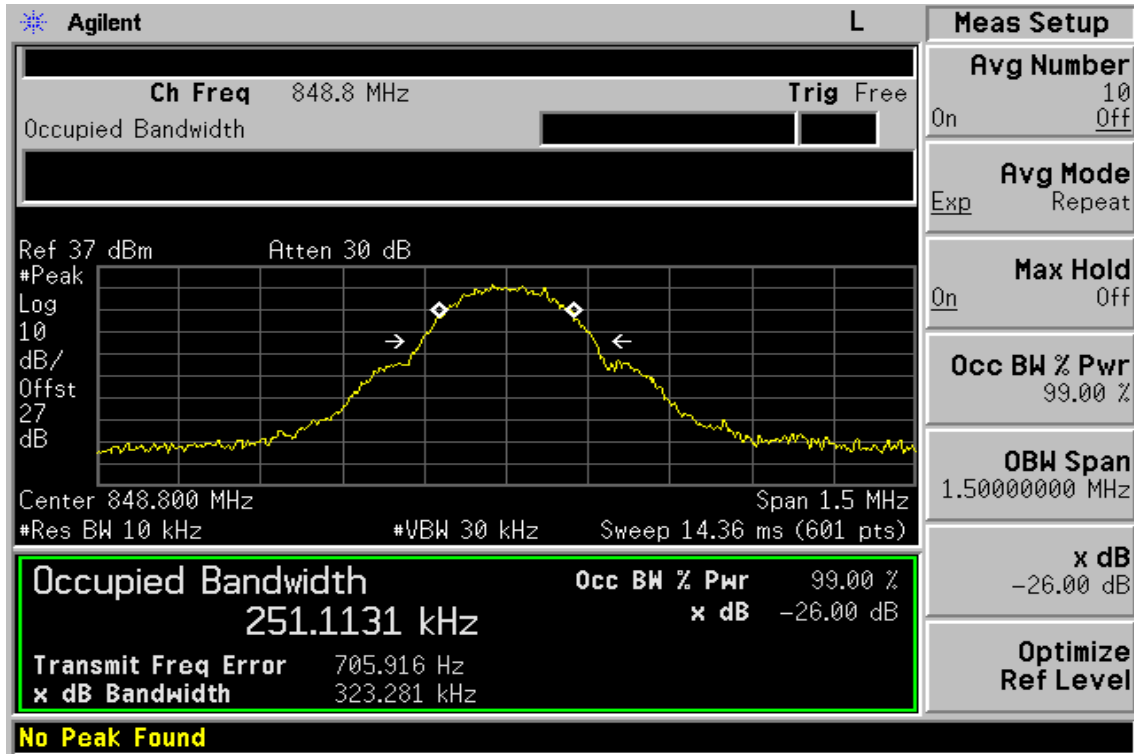


Figure 7-2 GSM Channel Mid



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Figure 7-3: GSM Channel High



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Figure 7-4: PCS Channel Low

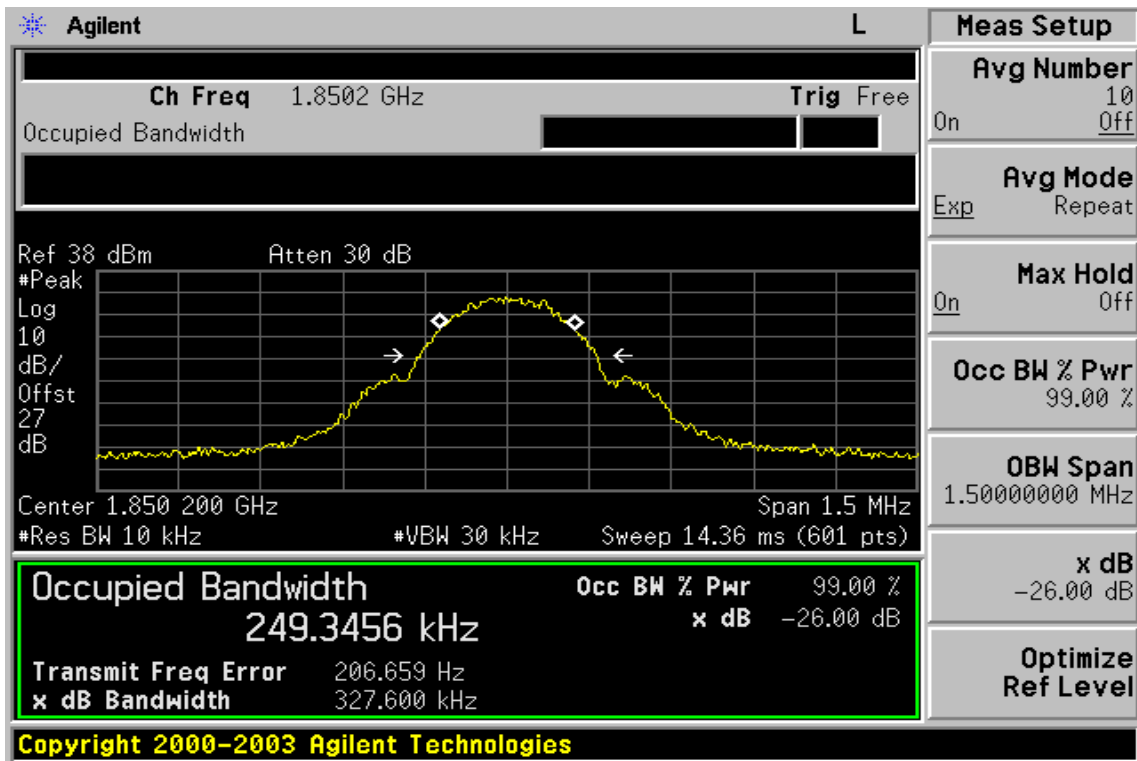
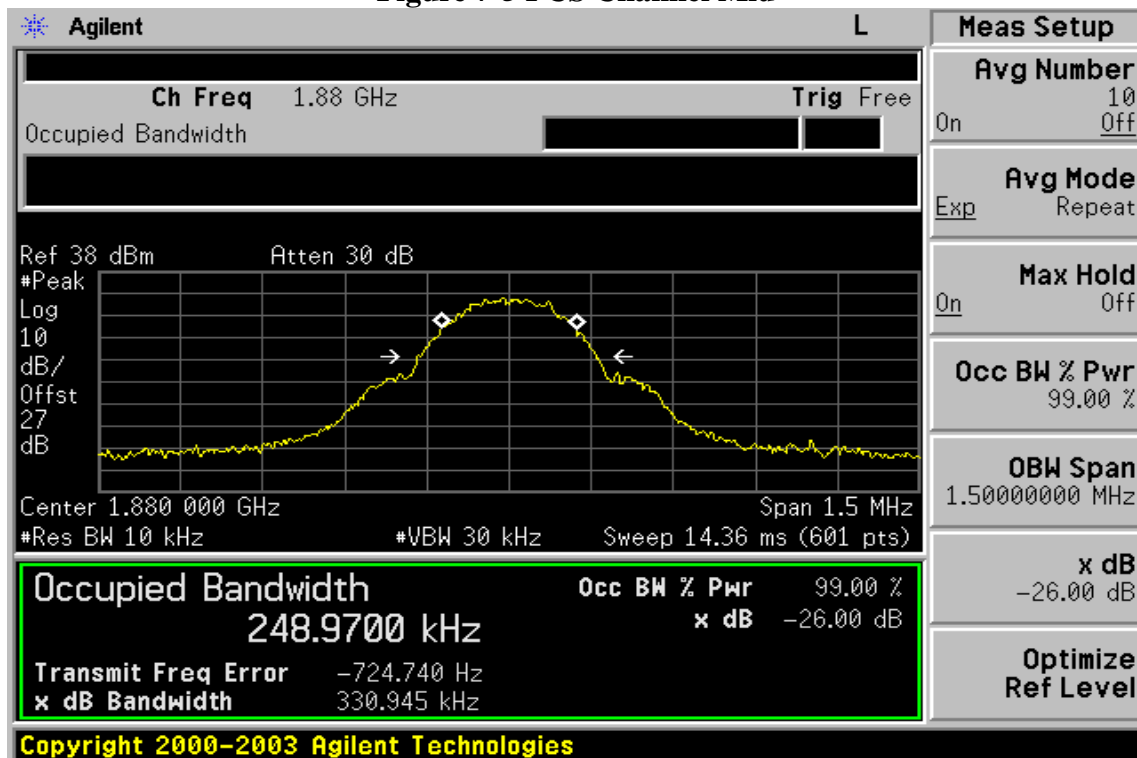
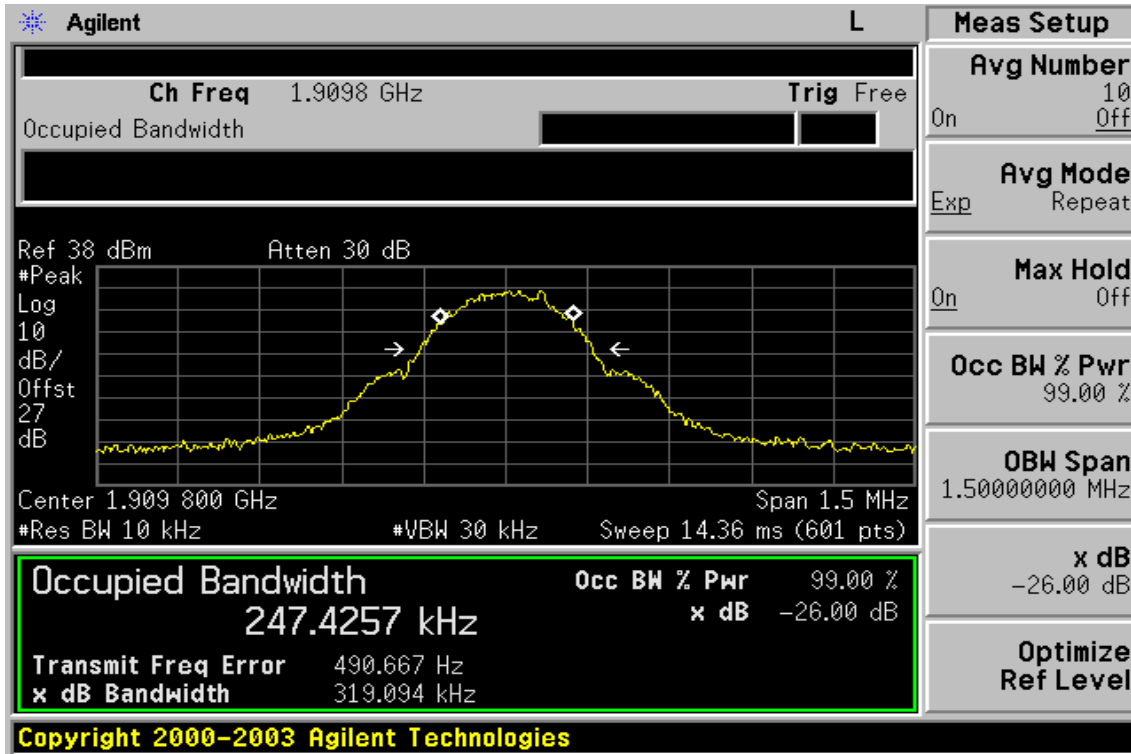


Figure 7-5: PCS Channel Mid



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Figure 7-6: PCS Channel High



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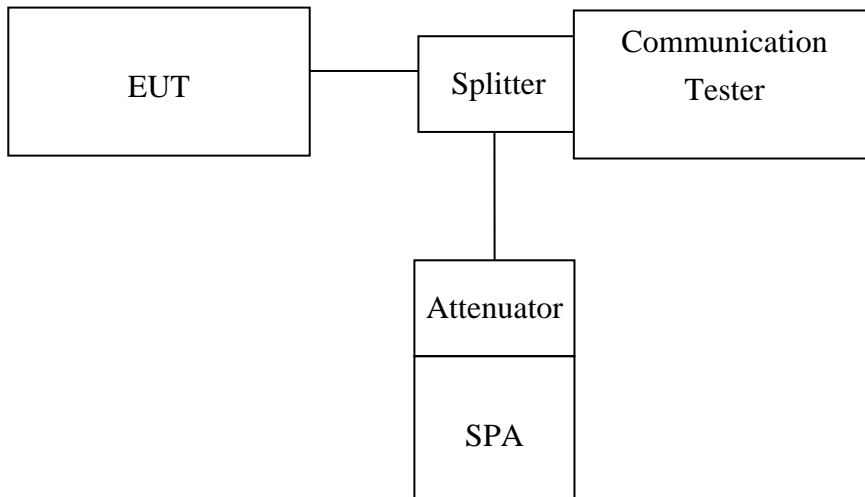
## 8. OUT OF BAND EMISSION AT ANTENNA TERMINALS

### 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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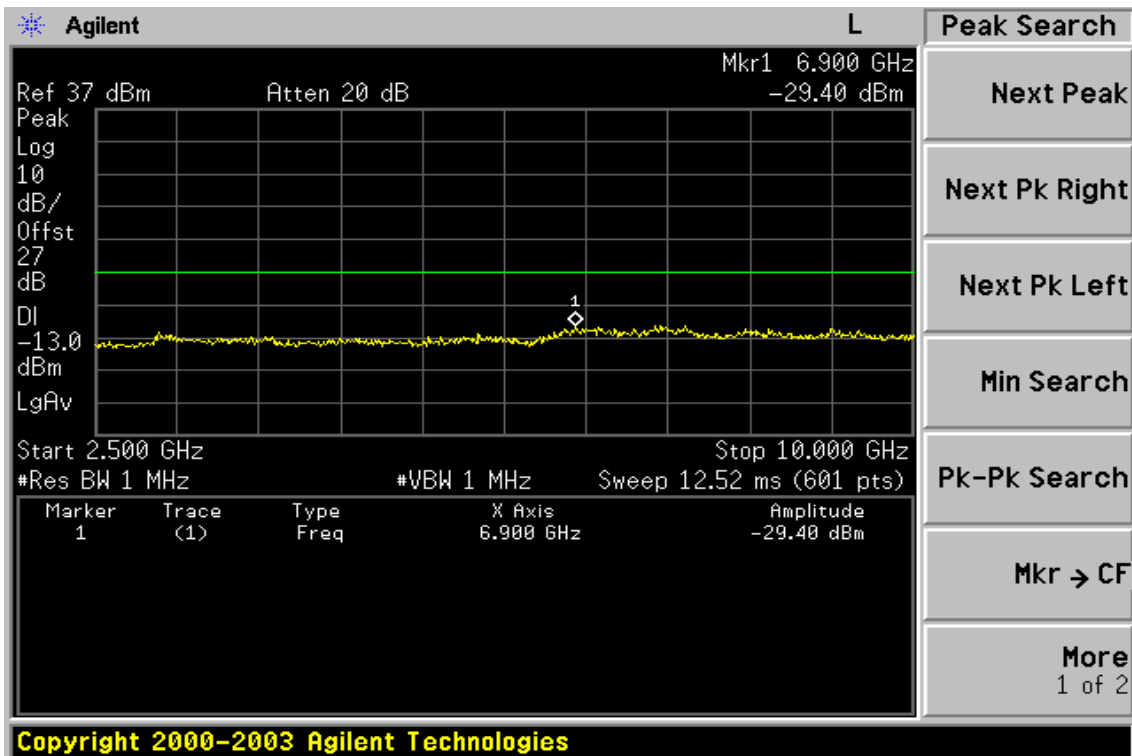
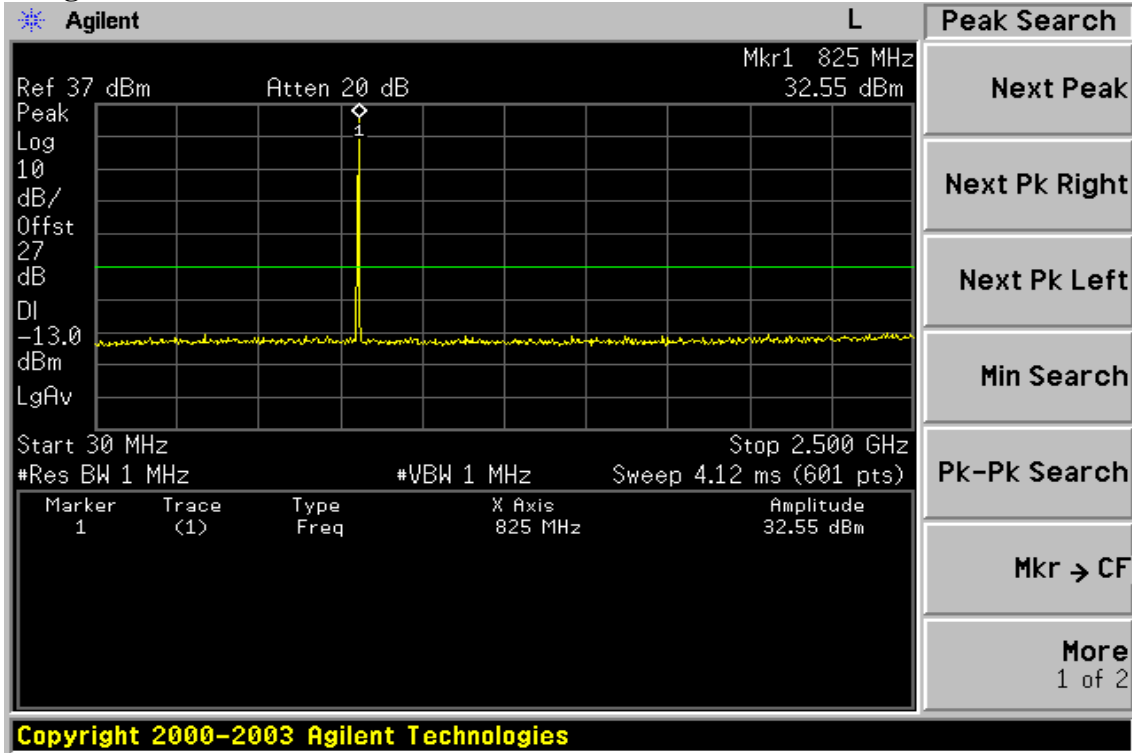
**8.4 Measurement Equipment Used:**

Conducted Emission Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	03/29/2006	03/28/2007
Spectrum Analyzer	Agilent	7405A	US41160416	06/28/2006	06/29/2007
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-Circuit	BW-S10W5	N/A	10/07/2006	10/06/2007
Attenuator	Mini-Circuit	BW-S6W5	N/A	10/07/2006	10/06/2007
Splitter	Mini-Circuit	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	01/06/2006	01/05/2007

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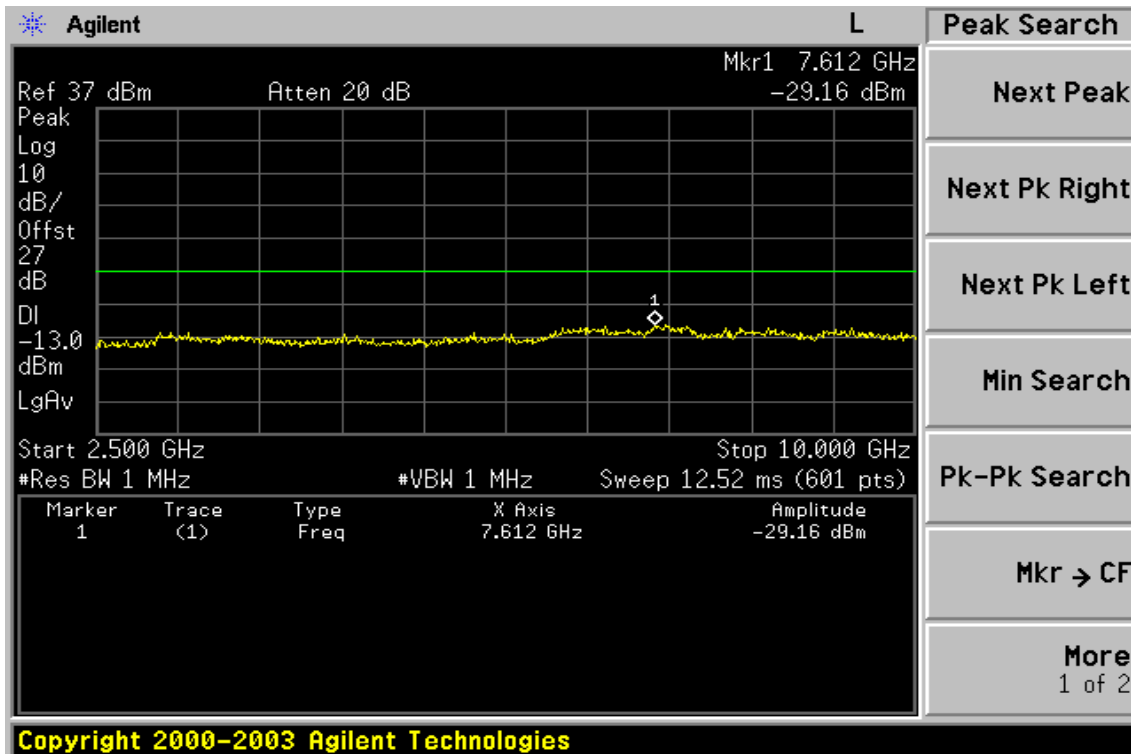
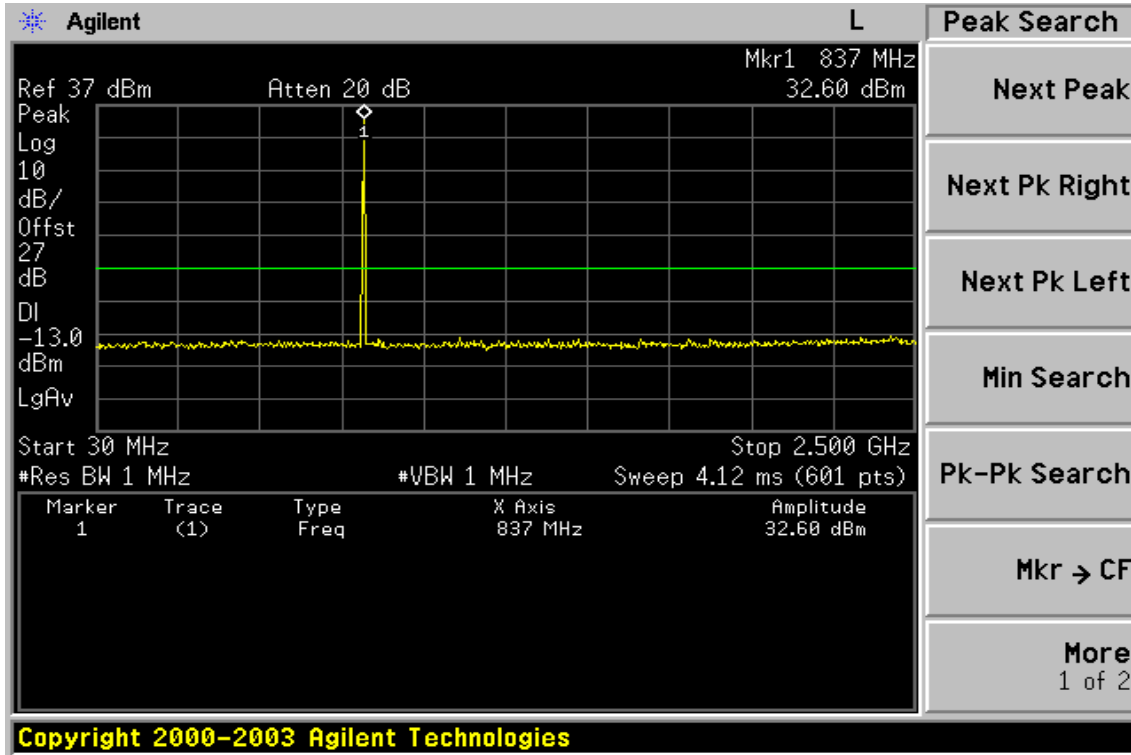
### 8.5 Measurement Result

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



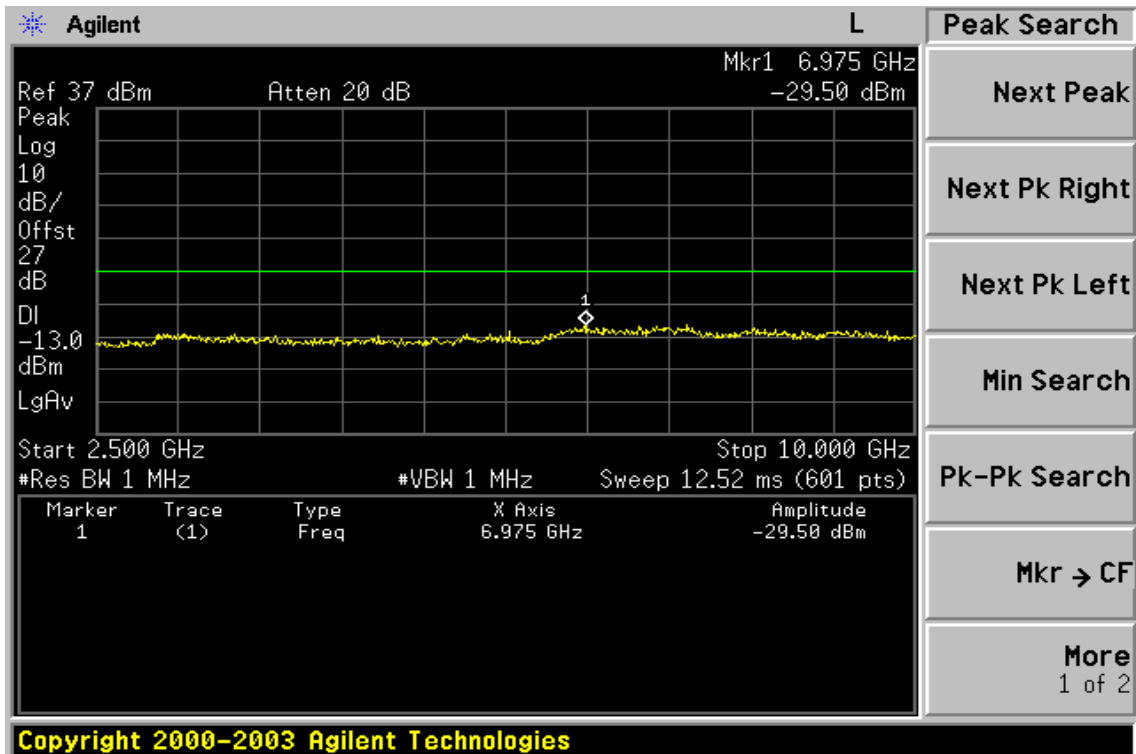
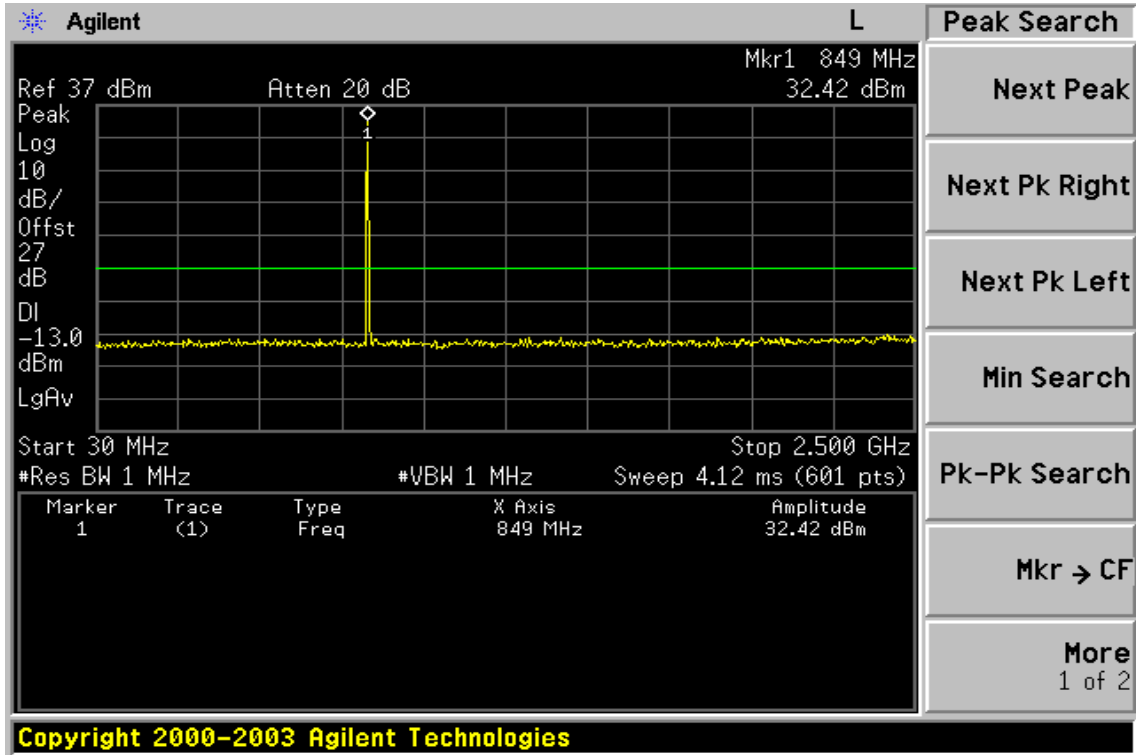
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Figure 8-2: Out of Band emission at antenna terminals –GSM Channel Mid



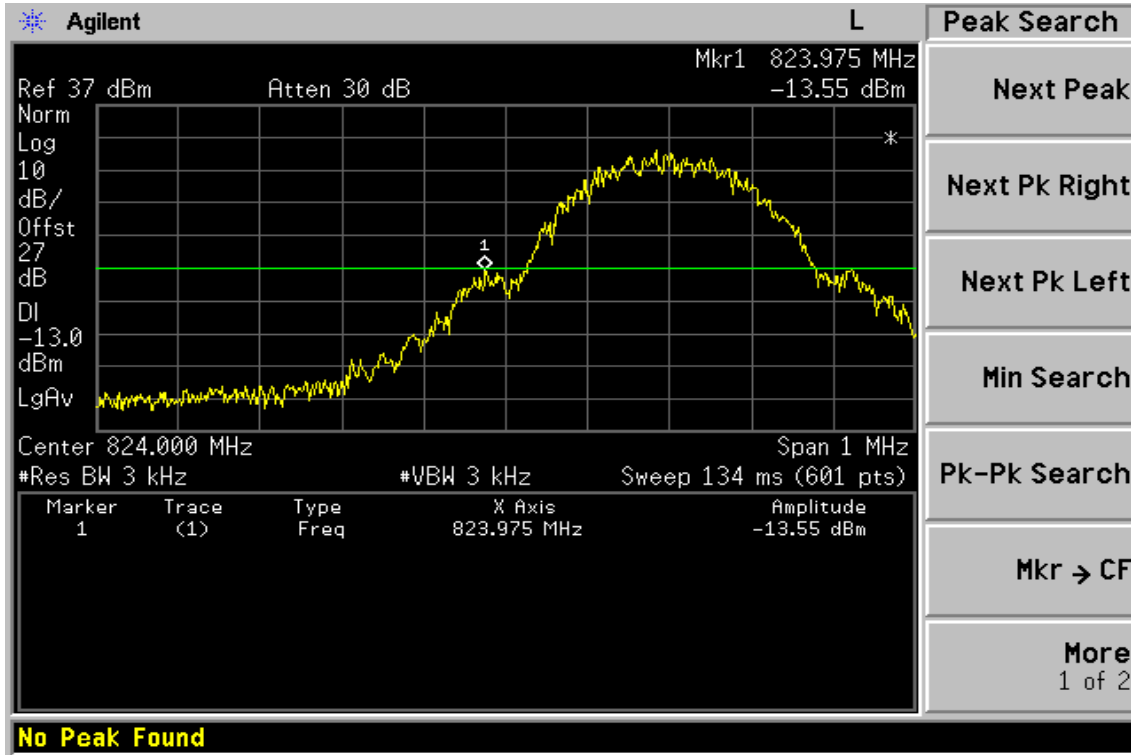
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**Figure 8-3: Out of Band emission at antenna terminals–GSM Channel Highest**

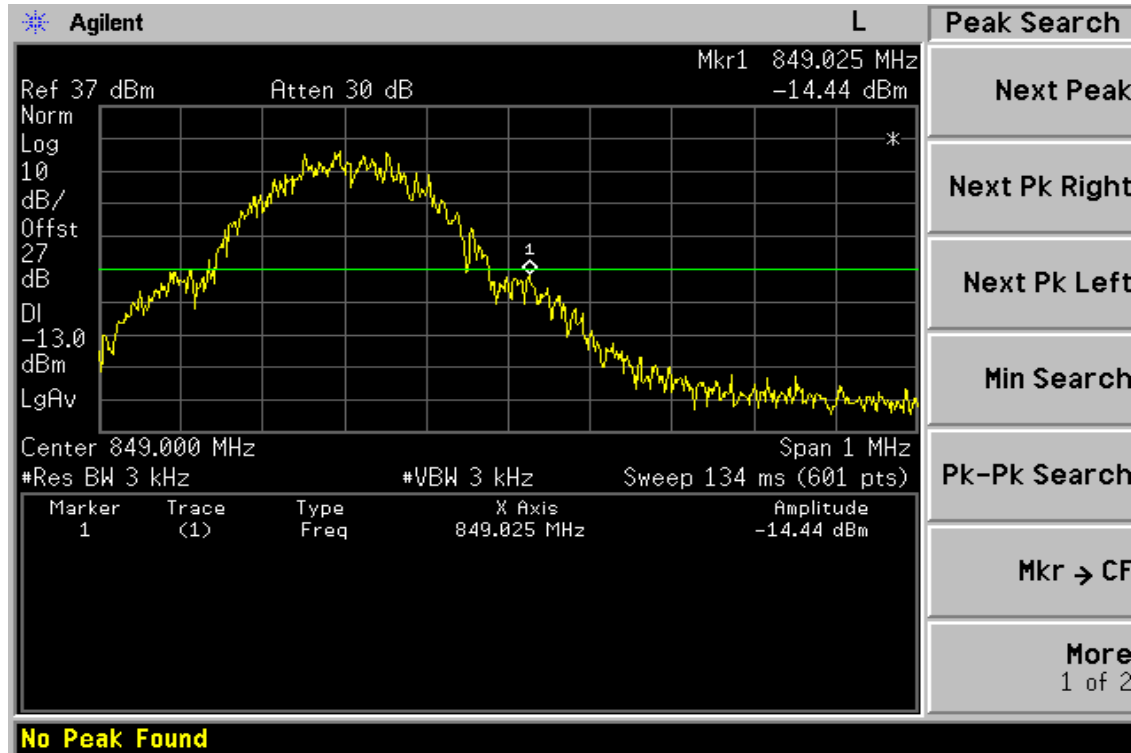


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**Figure 8-4: Bad edge emission at antenna terminals – GSM Channel Lowest**

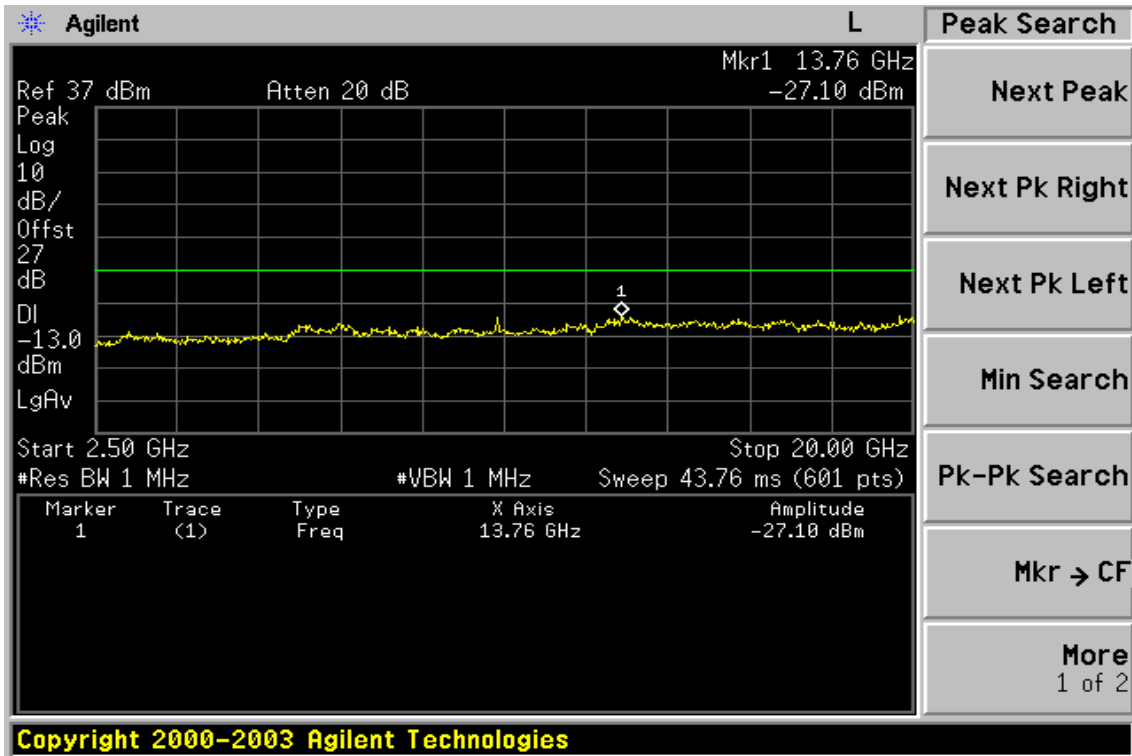
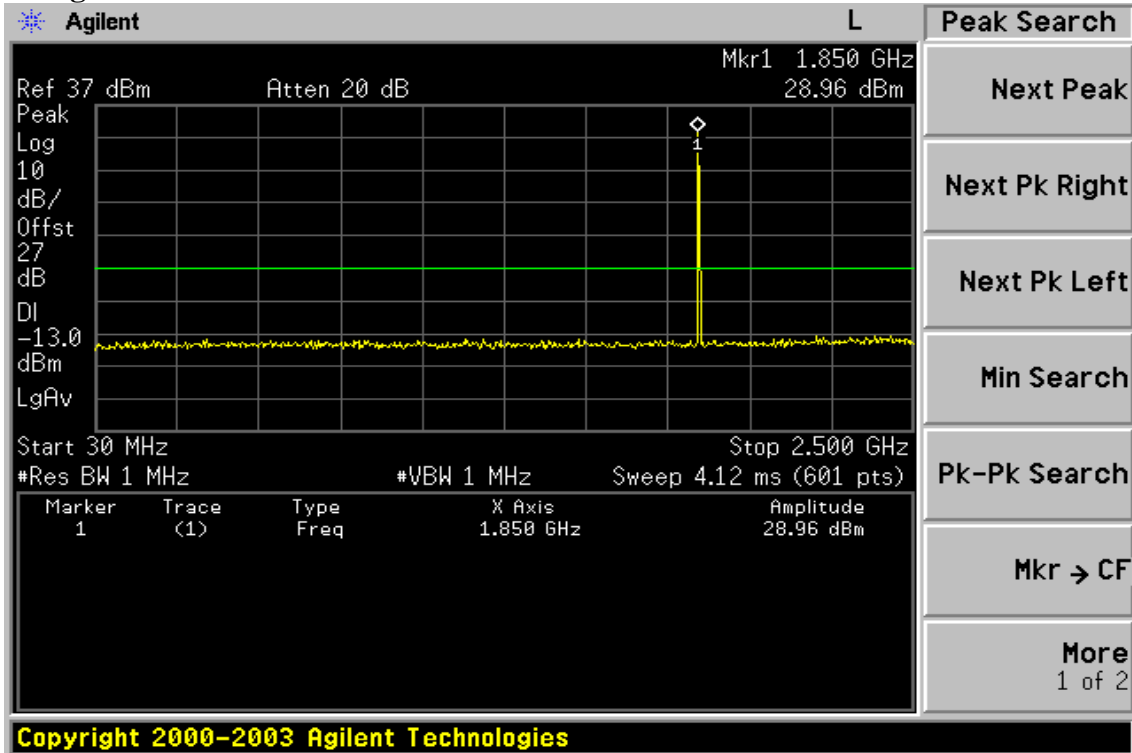


**Figure 8-5: Band edge emission at antenna terminals – GSM Channel Highest**



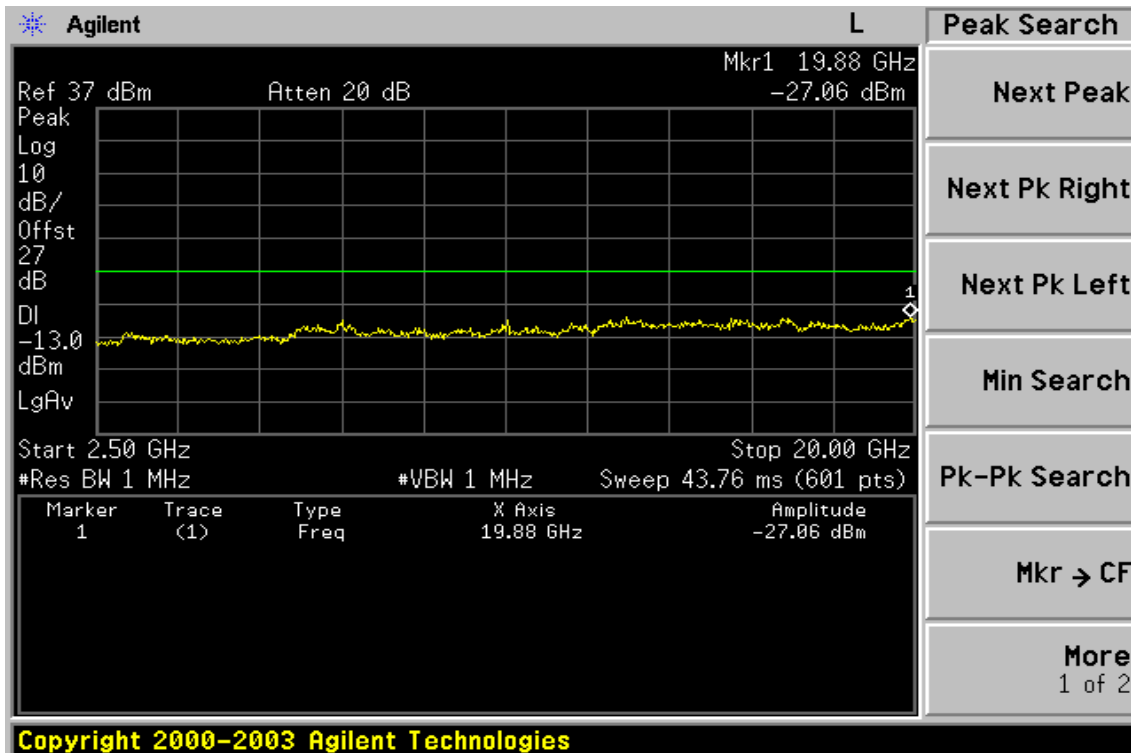
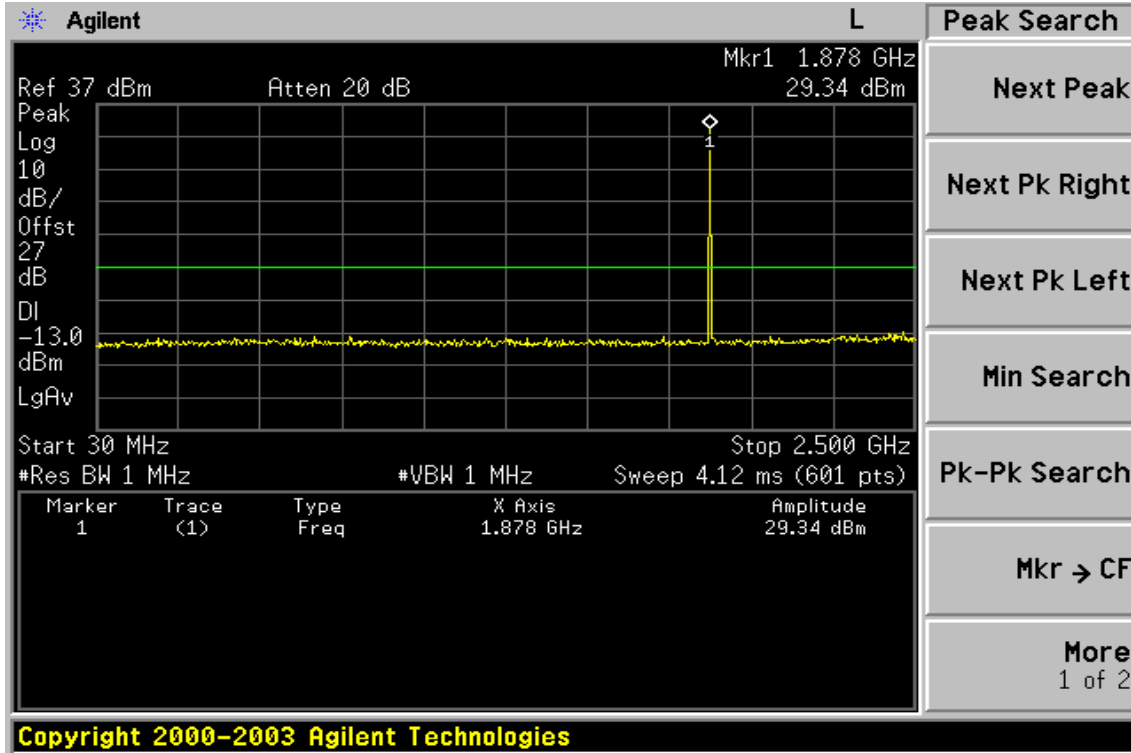
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**Figure 8-6: Out of Band emission at antenna terminals– PCS Channel Lowest**



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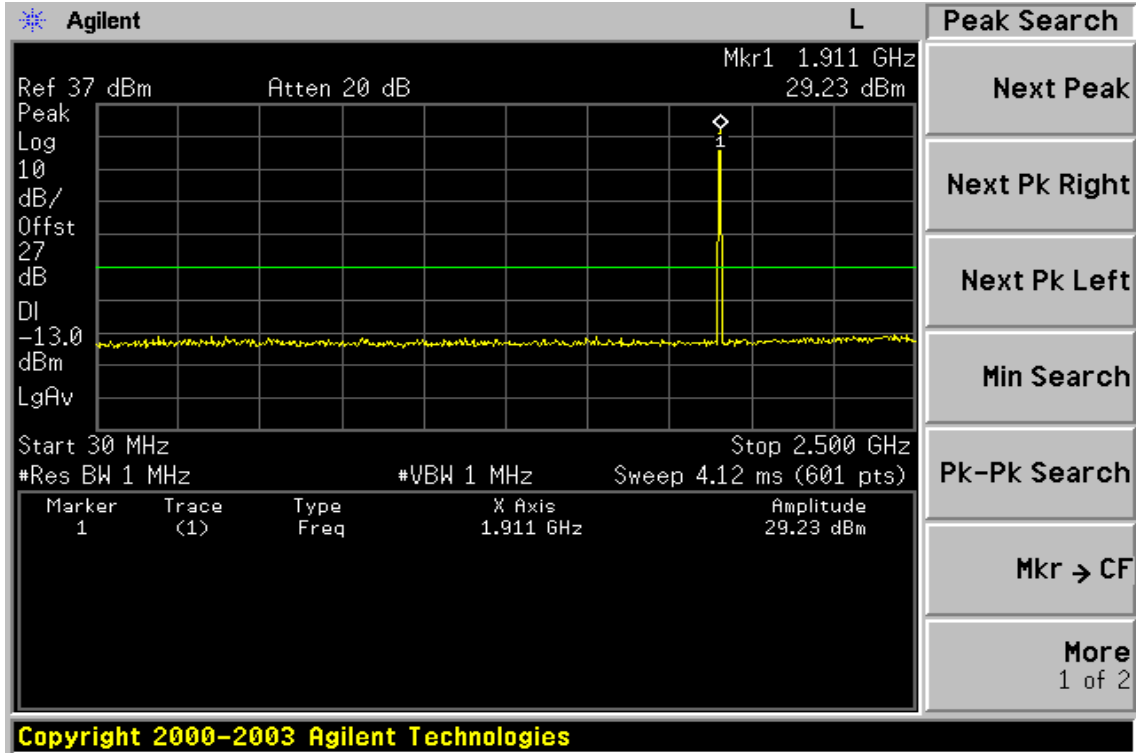
Figure 8-7: Out of Band emission at antenna terminals –PCS Channel Mid



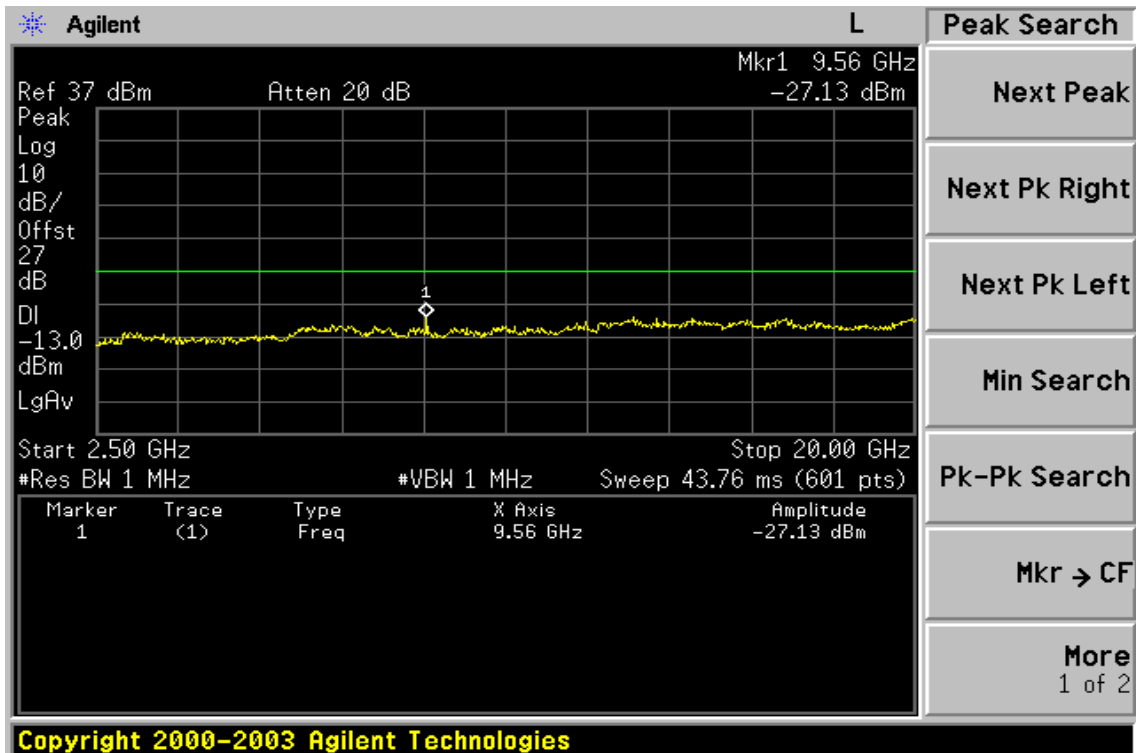
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Figure 8-8: Out of Band emission at antenna terminals–PCS Channel Highest



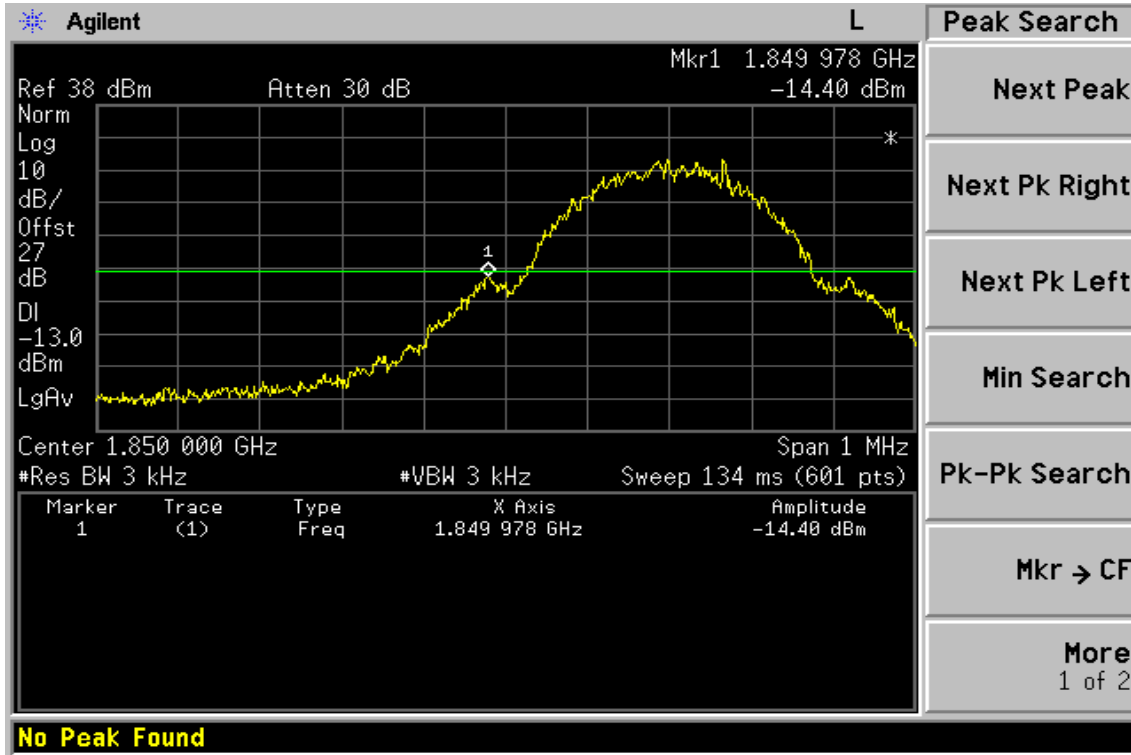
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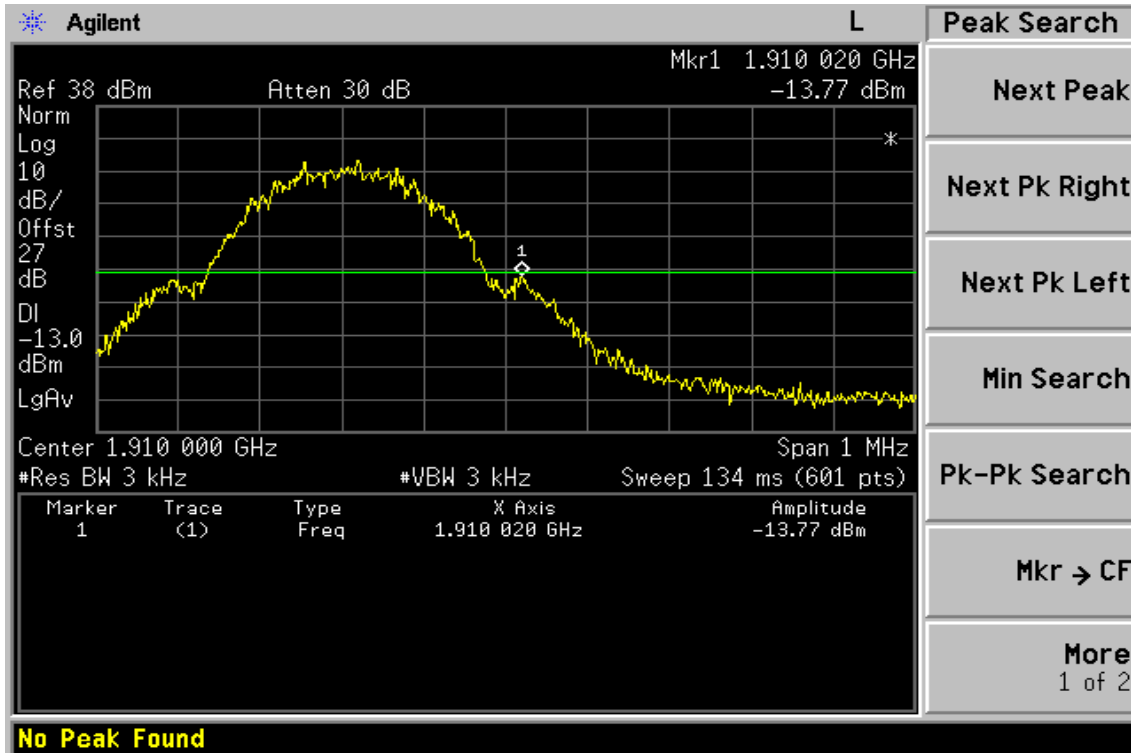
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**Figure 8-9: Bad edge emission at antenna terminals – PCS Channel Lowest**



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



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## 9. FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

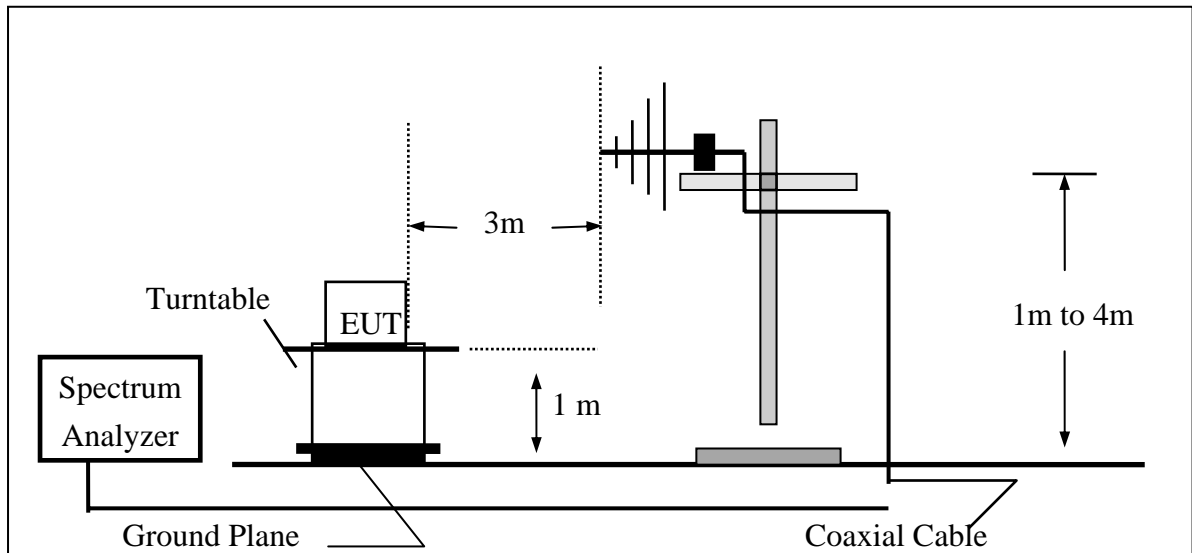
### 9.1 Standard Applicable

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)

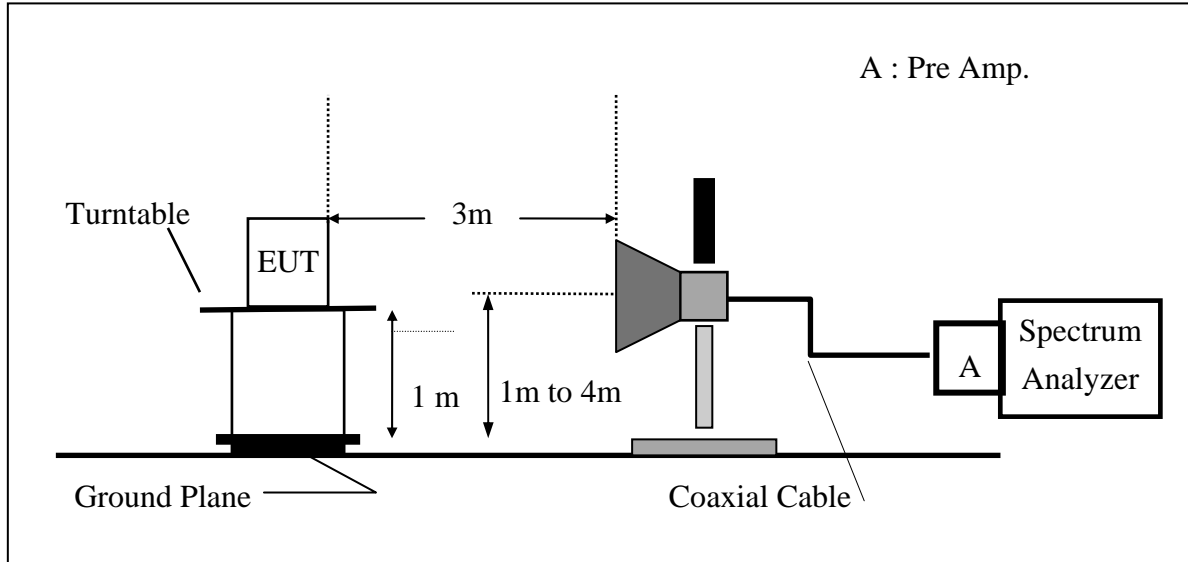
### 9.2 EUT Setup (Block Diagram of Configuration)

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

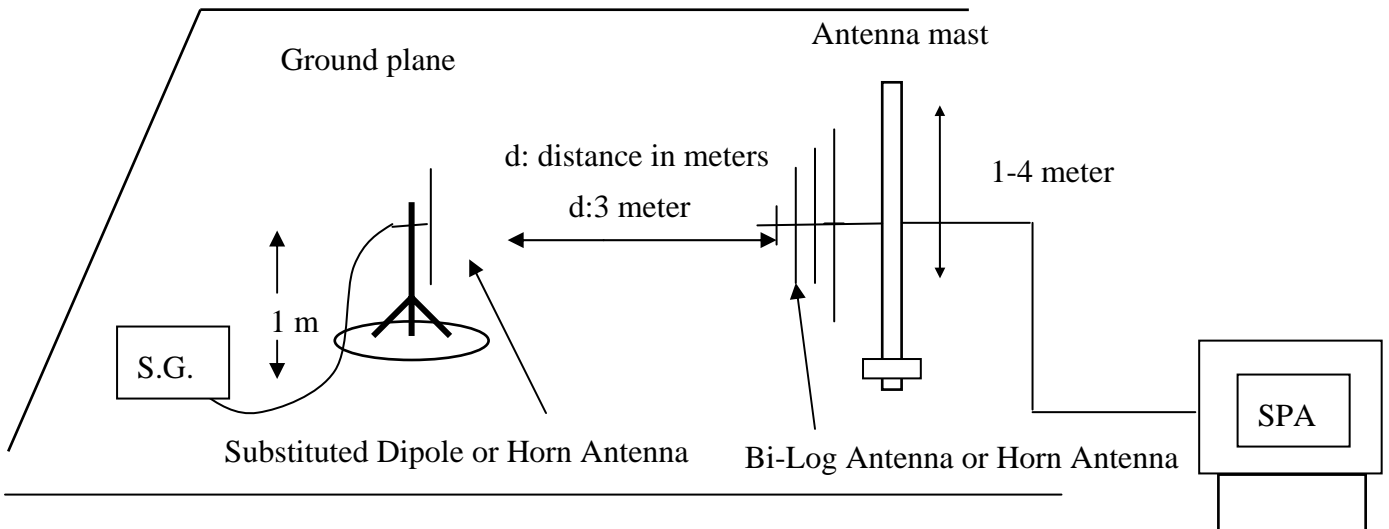


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(B) Radiated Emission Test Set-UP Frequency Over 1 GHz



(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.

$$\text{EIRP} = \text{S.G. output (dBm)} + \text{Antenna Gain(dBi)} - \text{Cable Loss (dB)}$$

**9.4 Measurement Equipment Used:**

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	03/29/2006	03/28/2007
Spectrum Analyzer	Agilent	E7405A	US41160416	08/27/2006	08/26/2007
Bilog Antenna	SCHWAZBECK	VULB9163	152	06/03/2006	06/02/2007
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	02/26/2006	02/25/2007
Signal Generator	R&S	SMR40	100210	02/09/2006	02/10/2007
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-Circuit	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	06/10/2006	06/11/2007
Dipole Antenna	Schwarzbeck	UHAP	891/892	06/10/2006	06/11/2007
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 E2 Mode	Test Date:	Dec. 26, 2006
Fundamental Frequency	: 824.20 MHz	Test By:	Danny
Temperature	: 25°C	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
823.98	79.84	V	-6.55	-7.87	3.62	-18.05	-13.00	-5.05
1648.40	54.41	V	-50.17	9.29	5.23	-46.11	-13.00	-33.11
2472.60	48.43	V	-52.58	10.08	6.53	-49.03	-13.00	-36.03
3296.80	---	V		12.17	7.71		-13.00	
4121.00	49.42	V	-46.70	12.61	8.86	-42.95	-13.00	-29.95
4945.20	---	V		12.65	9.74		-13.00	
5769.40	---	V		13.55	10.54		-13.00	
6593.60	---	V		12.05	11.30		-13.00	
7417.80	---	V		11.49	12.10		-13.00	
8242.00	---	V		11.48	12.71		-13.00	

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

Remark :

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

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

Operation Mode	: TX CH Low E2 Mode	Test Date:	Dec. 26, 2006
Fundamental Frequency	: 824.20 MHz	Test By:	Danny
Temperature	: 25°C	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
824.00	83.30	H	-2.97	-7.87	3.62	-14.47	-13.00	-1.47
1648.40	47.23	H	-57.17	9.29	5.23	-53.11	-13.00	-40.11
2472.60	46.80	H	-54.11	10.08	6.53	-50.56	-13.00	-37.56
3296.80	---	H		12.17	7.71		-13.00	
4121.00	38.58	H	-57.67	12.61	8.86	-53.92	-13.00	-40.92
4945.20	---	H		12.65	9.74		-13.00	
5769.40	---	H		13.55	10.54		-13.00	
6593.60	---	H		12.05	11.30		-13.00	
7417.80	---	H		11.49	12.10		-13.00	
8242.00	---	H		11.48	12.71		-13.00	

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

Remark :

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

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

Operation Mode	: TX CH Mid E2 Mode	Test Date:	Dec. 26, 2006
Fundamental Frequency	: 836.60 MHz	Test By:	Danny
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)
1673.20	54.58	V	-49.98	9.36	5.27	-45.88	-13.00	-32.88
2509.80	51.74	V	-49.04	10.09	6.58	-45.54	-13.00	-32.54
3346.40	42.09	V	-56.77	12.28	7.79	-52.29	-13.00	-39.29
4183.00	52.64	V	-43.25	12.62	8.93	-39.56	-13.00	-26.56
5019.60	37.60	V	-54.55	12.67	9.81	-51.69	-13.00	-38.69
5856.20	---	V		13.68	10.62		-13.00	
6692.80	---	V		11.95	11.39		-13.00	
7529.40	---	V		11.45	12.20		-13.00	
8366.00	---	V		11.59	12.81		-13.00	

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

Remark :

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

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

Operation Mode	: TX CH Mid E2 Mode	Test Date:	Dec. 26, 2006
Fundamental Frequency	: 836.60 MHz	Test By:	Danny
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)
1673.20	52.12	H	-52.26	9.36	5.27	-48.16	-13.00	-35.16
2509.80	50.47	H	-50.23	10.09	6.58	-46.73	-13.00	-33.73
3346.40	39.22	H	-59.84	12.28	7.79	-55.36	-13.00	-42.36
4183.00	39.69	H	-56.34	12.62	8.93	-52.65	-13.00	-39.65
5019.60	---	H		12.67	9.81		-13.00	
5856.20	---	H		13.68	10.62		-13.00	
6692.80	---	H		11.95	11.39		-13.00	
7529.40	---	H		11.45	12.20		-13.00	
8366.00	---	H		11.59	12.81		-13.00	

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

Remark :

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

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

Operation Mode	: TX CH High E2 Mode	Test Date:	Dec. 26, 2006
Fundamental Frequency	: 848.80 MHz	Test By:	Danny
Temperature	: 25°C	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
849.02	81.32	V	-4.80	-7.88	3.68	-16.36	-13.00	-3.36
1697.60	57.32	V	-47.22	9.44	5.31	-43.09	-13.00	-30.09
2546.40	56.35	V	-44.29	10.20	6.63	-40.73	-13.00	-27.73
3395.20	44.34	V	-54.51	12.38	7.87	-50.00	-13.00	-37.00
4244.00	51.37	V	-44.29	12.63	9.00	-40.66	-13.00	-27.66
5092.80	---	V		12.74	9.88		-13.00	
5941.60	---	V		13.81	10.70		-13.00	
6790.40	---	V		11.86	11.48		-13.00	
7639.20	---	V		11.40	12.27		-13.00	
8488.00	---	V		11.70	12.91		-13.00	

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

Remark :

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

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

Operation Mode	: TX CH High E2 Mode	Test Date:	Dec. 26, 2006
Fundamental Frequency	: 848.80 MHz	Test By:	Danny
Temperature	: 25°C	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
849.02	84.14	H	-2.05	-7.88	3.68	-13.61	-13.00	-0.61
1697.60	55.62	H	-48.73	9.44	5.31	-44.60	-13.00	-31.60
2546.40	54.87	H	-45.73	10.20	6.63	-42.17	-13.00	-29.17
3395.20	41.44	H	-57.59	12.38	7.87	-53.07	-13.00	-40.07
4244.00	45.67	H	-50.14	12.63	9.00	-46.52	-13.00	-33.52
5092.80	---	H		12.74	9.88		-13.00	
5941.60	---	H		13.81	10.70		-13.00	
6790.40	---	H		11.86	11.48		-13.00	
7639.20	---	H		11.40	12.27		-13.00	
8488.00	---	H		11.70	12.91		-13.00	

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

Remark :

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

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

Operation Mode	: TX CH Low H Mode	Test Date	Dec. 26, 2006
Fundamental Frequency	: 1850.20MHz	Test By:	Danny
Temperature	: 25°C	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
1850.00	72.66	V	-31.73	9.90	5.56	-27.39	-13.00	-14.39
3700.40	48.36	V	-49.57	12.61	8.31	-45.27	-13.00	-32.27
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	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	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  $ERP/EIRP (dBm) = SG \text{ Setting}(dBm) + Antenna \text{ Gain} (dB/dBi) - Cable \text{ loss} (dB)$

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

Operation Mode	: TX CH Low H Mode	Test Date	Dec. 26, 2006
Fundamental Frequency	: 1850.20MHz	Test By:	Danny
Temperature	: 25°C	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
1850.00	83.72	H	-20.46	9.90	5.56	-16.12	-13.00	-3.12
3700.40	47.93	H	-50.11	12.61	8.31	-45.81	-13.00	-32.81
5550.60	---	H		13.23	10.33		-13.00	
7400.80	---	H		11.50	12.08		-13.00	
9251.00	---	H		11.92	13.50		-13.00	
11101.20	---	H		11.66	15.11		-13.00	
12951.40	---	H		13.63	16.60		-13.00	
14801.60	---	H		12.76	17.95		-13.00	
16651.80	---	H		15.92	19.14		-13.00	
18502.00	---	H		18.75	10.40		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
	1GHz - 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  $ERP/EIRP (dBm) = SG \text{ Setting}(dBm) + Antenna \text{ Gain} (dB/dBi) - Cable \text{ loss} (dB)$

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

Operation Mode	: TX CH Mid H Mode	Test Date	Dec. 26, 2006
Fundamental Frequency	: 1880MHz	Test By	Danny
Temperature	: 25°C	Pol	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBUV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
3760.00	47.70	V	-49.96	12.60	8.39	-45.74	-13.00	-32.74
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	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	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  $ERP/EIRP (dBm) = SG \text{ Setting}(dBm) + Antenna \text{ Gain} (dB/dBi) - Cable \text{ loss} (dB)$

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

Operation Mode	: TX CH Mid H Mode	Test Date	Dec. 26, 2006
Fundamental Frequency	: 1880MHz	Test By	Danny
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)
3760.00	45.11	H	-52.66	12.60	8.39	-48.45	-13.00	-35.45
5640.00	---	H		13.36	10.41		-13.00	
7520.00	---	H		11.45	12.19		-13.00	
9400.00	---	H		11.93	13.61		-13.00	
11280.00	---	H		11.92	15.27		-13.00	
13160.00	---	H		13.33	16.71		-13.00	
15040.00	---	H		13.76	18.15		-13.00	
16920.00	---	H		15.27	19.32		-13.00	
18800.00	---	H		18.68	16.58		-13.00	

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

Remark :

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

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

Operation Mode	: TX CH High H Mode	Test Date	Dec. 26, 2006
Fundamental Frequency	: 1909.8 MHz	Test By	Danny
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)
1910.00	71.25	V	-33.08	10.08	5.66	-28.66	-13.00	-15.66
3981.60	40.03	V	-56.63	12.60	8.69	-52.73	-13.00	-39.73
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	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	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  $ERP/EIRP (dBm) = SG \text{ Setting}(dBm) + Antenna \text{ Gain} (dB/dBi) - Cable \text{ loss} (dB)$

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

Operation Mode	: TX CH High H Mode	Test Date	Dec. 26, 2006
Fundamental Frequency	: 1909.8 MHz	Test By	Danny
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)
1910.00	83.83	H	-20.28	10.08	5.66	-15.86	-13.00	-2.86
3981.60	44.78	H	-51.99	12.60	8.69	-48.09	-13.00	-35.09
5972.40	---	H		13.86	10.73		-13.00	
7963.20	---	H		11.27	12.49		-13.00	
9954.00	---	H		12.08	14.24		-13.00	
11944.80	---	H		13.08	15.87		-13.00	
13935.60	---	H		11.82	17.21		-13.00	
15926.40	---	H		17.08	18.70		-13.00	
17917.20	---	H		9.63	19.97		-13.00	
17188.20	---	H		14.47	19.52		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	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  $ERP/EIRP (dBm) = SG \text{ Setting}(dBm) + Antenna \text{ Gain} (dB/dBi) - Cable \text{ loss} (dB)$

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**Radiated Spurious Emission Measurement Result: Co-Location Mode**

Operation Mode : GSM850 TX Ch High E2 / BT Ch Mid Test Date: Dec. 26, 2006  
 Fundamental Frequency : 848.80 MHz / 2441MHz Test By: Danny  
 Temperature : 25°C Pol: Vertical  
 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)
849.02	84.16	H	-2.03	-7.88	3.68	-13.59	-13.00	-0.59
1442.50	43.29	H	-61.54	8.51	4.41	-57.44	-13.00	-44.44
1697.60	59.24	H	-45.11	9.44	5.31	-40.98	-13.00	-27.98
2546.40	56.60	H	-44.00	10.20	6.63	-40.44	-13.00	-27.44
3395.20	45.77	H	-53.26	12.38	7.87	-48.74	-13.00	-35.74
4244.00	39.48	H	-56.33	12.63	9.00	-52.71	-13.00	-39.71
5092.80	---	H		12.74	9.88		-13.00	
5941.60	---	H		13.81	10.70		-13.00	
6790.40	---	H		11.86	11.48		-13.00	
7639.20	---	H		11.40	12.27		-13.00	
8488.00	---	H		11.70	12.91		-13.00	
4882.00	38.95	H	-54.01	12.65	9.67	-51.03	-13.00	-38.03
7323.00	---	H		11.53	12.00		-13.00	
9764.00	---	H		12.02	14.01		-13.00	
12205.00	---	H		13.46	16.09		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	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: Co-Location Mode**

Operation Mode : GSM850 TX Ch High E2 / BT Ch Mid Test Date: Dec. 26, 2006  
 Fundamental Frequency : 848.80 MHz / 2441MHz Test By: Danny  
 Temperature : 25°C Pol: Horizontal  
 Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
849.02	84.16	H	-2.03	-7.88	3.68	-13.59	-13.00	-0.59
1442.50	43.29	H	-61.54	8.51	4.41	-57.44	-13.00	-44.44
1697.60	59.24	H	-45.11	9.44	5.31	-40.98	-13.00	-27.98
2546.40	56.60	H	-44.00	10.20	6.63	-40.44	-13.00	-27.44
3395.20	45.77	H	-53.26	12.38	7.87	-48.74	-13.00	-35.74
4244.00	39.48	H	-56.33	12.63	9.00	-52.71	-13.00	-39.71
5092.80	---	H		12.74	9.88		-13.00	
5941.60	---	H		13.81	10.70		-13.00	
6790.40	---	H		11.86	11.48		-13.00	
7639.20	---	H		11.40	12.27		-13.00	
8488.00	---	H		11.70	12.91		-13.00	
4882.00	38.95	H	-54.01	12.65	9.67	-51.03	-13.00	-38.03
7323.00	---	H		11.53	12.00		-13.00	
9764.00	---	H		12.02	14.01		-13.00	
12205.00	---	H		13.46	16.09		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	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  $ERP/EIRP (dBm) = SG \text{ Setting}(dBm) + Antenna \text{ Gain} (dB/dBi) - Cable \text{ loss} (dB)$

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**Radiated Spurious Emission Measurement Result: Co-Location Mode**

Operation Mode : GSM1900 TX Ch Low H / BT Ch Mid Test Date: Dec. 26, 2006  
 Fundamental Frequency : 1850.20 MHz / 2441MHz Test By: Danny  
 Temperature : 25°C Pol: Vertical  
 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)
1000.00	48.28	V	-35.19	-7.99	4.03	-47.21	-13.00	-34.21
1442.50	44.43	V	-60.54	8.51	4.41	-56.44	-13.00	-43.44
1850.00	71.88	V	-32.51	9.90	5.56	-28.17	-13.00	-15.17
3700.40	46.32	V	-51.61	12.61	8.31	-47.31	-13.00	-34.31
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	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	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  $ERP/EIRP (dBm) = SG \text{ Setting}(dBm) + Antenna \text{ Gain} (dB/dBi) - Cable \text{ loss} (dB)$

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**Radiated Spurious Emission Measurement Result: Co-Location Mode**

Operation Mode : GSM1900 TX Ch Low H / BT Ch Mid Test Date: Dec. 26, 2006  
 Fundamental Frequency : 1850.20 MHz / 2441MHz Test By: Danny  
 Temperature : 25°C Pol: Horizontal  
 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)
1000.00	49.45	H	-34.46	-7.99	4.03	-46.48	-13.00	-33.48
1442.50	42.89	H	-61.94	8.51	4.41	-57.84	-13.00	-44.84
1850.00	84.96	H	-19.22	9.90	5.56	-14.88	-13.00	-1.88
3700.40	47.09	H	-50.95	12.61	8.31	-46.65	-13.00	-33.65
5550.60	---	H		13.23	10.33		-13.00	
7400.80	---	H		11.50	12.08		-13.00	
9251.00	---	H		11.92	13.50		-13.00	
11101.20	---	H		11.66	15.11		-13.00	
12951.40	---	H		13.63	16.60		-13.00	
14801.60	---	H		12.76	17.95		-13.00	
16651.80	---	H		15.92	19.14		-13.00	
18502.00	---	H		18.75	10.40		-13.00	
Measurement uncertainty	30MHz - 80MHz: 5.04dB							
	80MHz -1000MHz: 3.76dB							
	1GHz - 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  $ERP/EIRP (dBm) = SG \text{ Setting}(dBm) + Antenna \text{ Gain} (dB/dBi) - Cable \text{ loss} (dB)$

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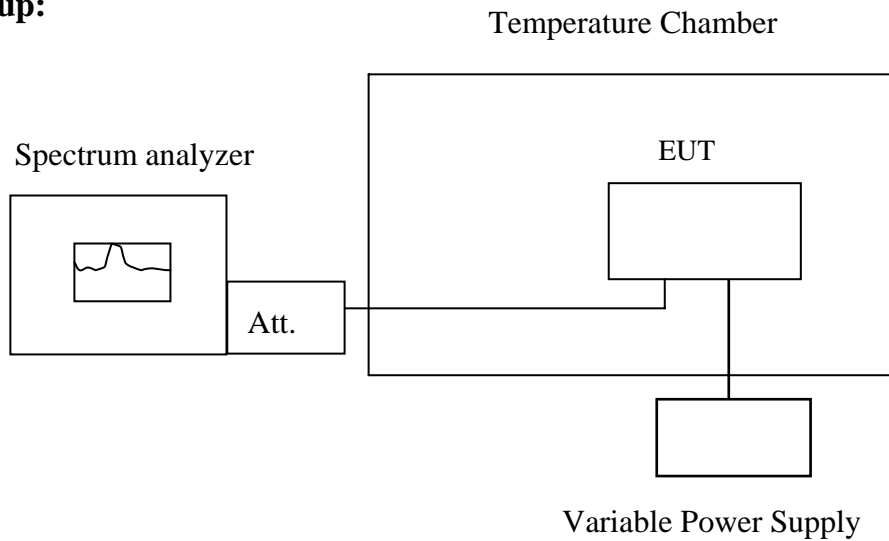
## 10. FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT

### 10.1 Standard Applicable

According to FCC §2.1055(a)(1)(b).

Frequency Tolerance: 2.5 ppm

### 10.2 Test Set-up:



**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 re-recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

**10.4 Measurement Equipment Used:**

Conducted Emission Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	03/29/2006	03/28/2007
Spectrum Analyzer	Agilent	7405A	US41160416	06/28/2006	06/29/2007
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-Circuit	BW-S10W5	N/A	10/07/2006	10/06/2007
Attenuator	Mini-Circuit	BW-S6W5	N/A	10/07/2006	10/06/2007
Splitter	Mini-Circuit	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	01/06/2006	01/05/2007

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**10.5 Measurement Result**

Reference Frequency: GSM Mid Channel 836.6 MHz @ 25°C				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (°C)	(MHz)		
3.7	-30	836.600000	-9.00	2091
3.7	-20	836.600002	-11.00	2091
3.7	-10	836.599991	0.00	2091
3.7	0	836.599984	7.00	2091
3.7	10	836.599998	-7.00	2091
3.7	20	836.599991	0.00	2091
3.7	30	836.599996	-5.00	2091
3.7	40	836.599993	-2.00	2091
3.7	50	836.599997	-6.00	2091

Reference Frequency: PCS Mid Channel 1880 MHz @ 25°C				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (°C)	(MHz)		
3.7	-30	1879.999981	10.00	4700
3.7	-20	1879.999987	4.00	4700
3.7	-10	1879.999993	-2.00	4700
3.7	0	1879.999997	-6.00	4700
3.7	10	1879.999984	7.00	4700
3.7	20	1879.999991	0.00	4700
3.7	30	1879.999982	9.00	4700
3.7	40	1879.999974	17.00	4700
3.7	50	1880.000007	-16.00	4700

**Note: The battery is rated 3.7V dc.**

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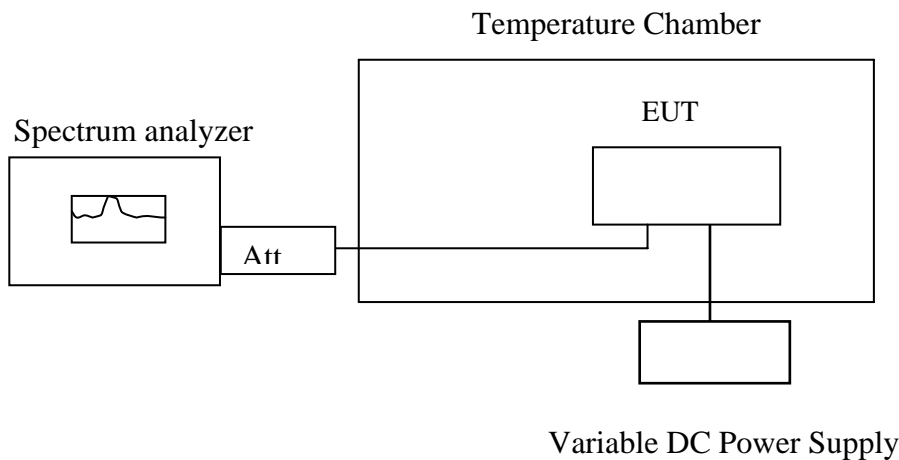
## 11. FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT

### 11.1 Standard Applicable

According to FCC §2.1055(d)(1)(2)

Frequency Tolerance: 2.5 ppm

### 11.2 Test Set-up:



*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.

**11.4 Measurement Equipment Used:**

Conducted Emission Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	03/29/2006	03/28/2007
Spectrum Analyzer	Agilent	7405A	US41160416	06/28/2006	06/29/2007
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-Circuit	BW-S10W5	N/A	10/07/2006	10/06/2007
Attenuator	Mini-Circuit	BW-S6W5	N/A	10/07/2006	10/06/2007
Splitter	Mini-Circuit	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	01/06/2006	01/05/2007

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### 11.5 Measurement Result

Reference Frequency: GSM Mid Channel 836.6 MHz @ 25°C				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (°C)	(MHz)		
3.70	25.00	836.599991	0.00	2091.00
3.60	25.00	836.599995	-4.00	2091.00
3.50	25.00	836.599998	-7.00	2091.00
3.30 (End Point)	25.00	836.599999	-8.00	2091.00

Reference Frequency: PCS Mid Channel 1880 MHz @ 25°C				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (°C)	(MHz)		
3.70	25	1879.999991	0.00	4700
3.60	25	1879.999987	4.00	4700
3.50	25	1879.999979	12.00	4700
3.30 (Endpoint)	25	1879.999984	7.00	4700

**Note: The battery is rated 3.7V dc.**

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## 12. AC POWER LINE CONDUCTED EMISSION TEST

### 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 MHz	Limits dB(uV)	
	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

- 1.The lower limit shall apply at the transition frequencies
- 2.The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

### 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 adaptor 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.

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**12.4 Measurement Equipment Used:**

Conducted Emission Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
EMC Analyzer	HP	8594EM	3624A00203	09/02/2006	09/03/2007
EMI Test Receiver	R&S	ESCS30	828985/004	06/09/2006	06/10/2007
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

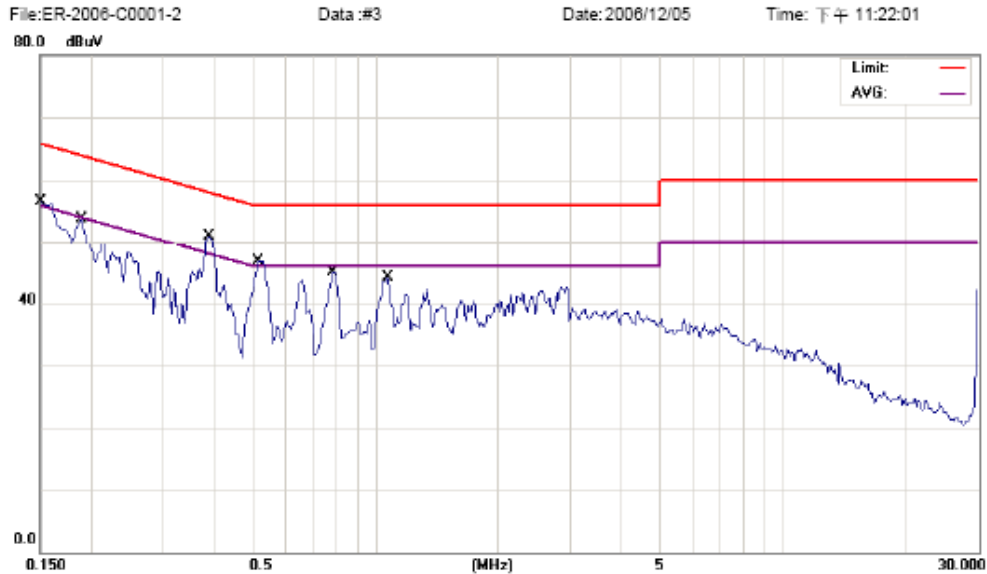
**12.5 Measurement Result**

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 +BT LINK			Test Date:	Dec. 05, 2006
Temperature:	25 °C	Humidity:	62 %	Test By:	Denny
Adaptor:	S003FU0500040				



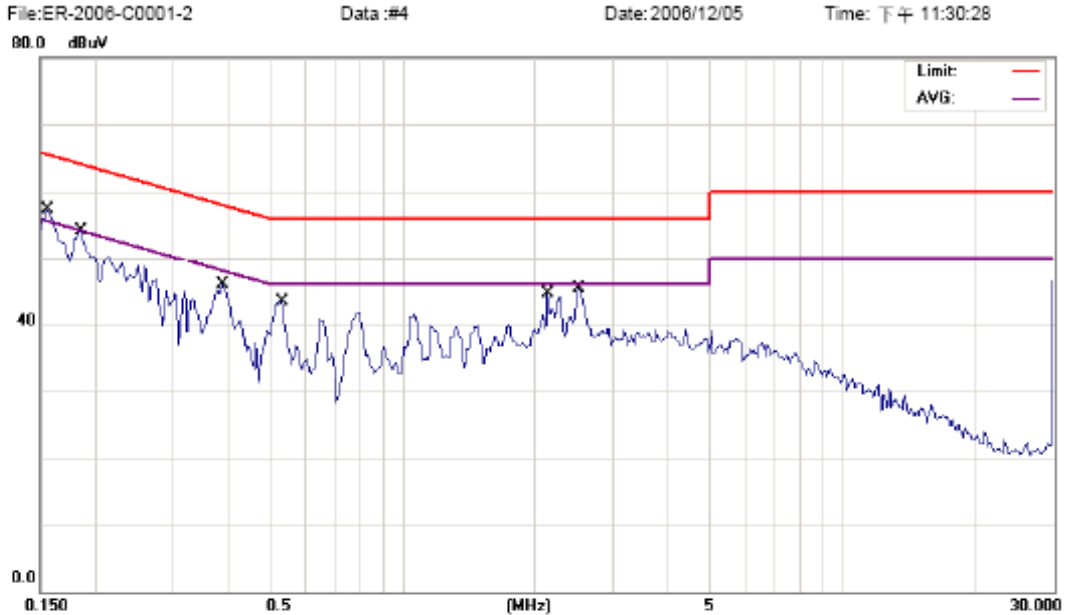
Site: SGS CONDUCTED #1  
 Limit: CISPR22 Class B Conduction(QP)  
 EUT: GSM 850/1800/1900 mobile phone  
 M/N: k7sa  
 Note: gsm850 link +bt

Phase: L1  
 Power: AC 120V/60Hz  
 Distance:

Temperature: 25 °C  
 Humidity: 62 %  
 Air Pressure: hpa

No.	Mk.	Freq. (MHz)	Reading Level (dBuV)	Factor (dB)	Measurement (dBuV)	Limit (dBuV)	Over (dB)	Detector	Comment
1		0.1500	48.50	0.10	48.60	66.00	-17.40	QP	
2		0.1500	29.20	0.10	29.30	56.00	-26.70	AVG	
3		0.1900	41.00	0.12	41.12	64.04	-22.92	QP	
4		0.1900	20.00	0.12	20.12	54.04	-33.92	AVG	
5	*	0.3900	48.40	0.12	48.52	58.06	-9.54	QP	
6		0.3900	37.00	0.12	37.12	48.06	-10.94	AVG	
7		0.5150	43.00	0.12	43.12	56.00	-12.88	QP	
8		0.5150	34.00	0.12	34.12	46.00	-11.88	AVG	
9		0.7850	42.00	0.11	42.11	56.00	-13.89	QP	
10		0.7850	31.50	0.11	31.61	46.00	-14.39	AVG	
11		1.0700	41.00	0.11	41.11	56.00	-14.89	QP	
12		1.0700	29.00	0.11	29.11	46.00	-16.89	AVG	

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Site: SGS CONDUCTED #1	Phase: N	Temperature: 25 °C
Limit: CISPR22 Class B Conduction(QP)	Power: AC 120V/60Hz	Humidity: 62 %
EUT: GSM 850/1800/1900 mobile phone	Distance:	Air Pressure: hpa
M/N: k7sa		
Note: gsm850 link +bt		

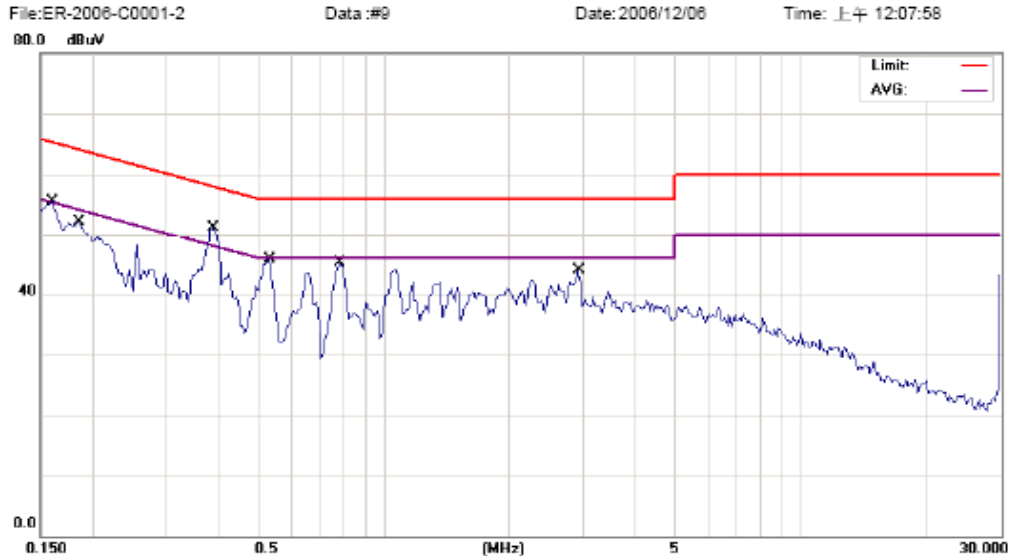
No.	Mk.	Freq. MHz	Reading Level dBuV	Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1550	46.00	0.10	46.10	65.73	-19.63	QP	
2		0.1550	32.50	0.10	32.60	55.73	-23.13	AVG	
3		0.1850	44.40	0.11	44.51	64.26	-19.75	QP	
4		0.1850	24.10	0.11	24.21	54.26	-30.05	AVG	
5		0.3900	43.50	0.12	43.62	58.06	-14.44	QP	
6		0.3900	33.00	0.12	33.12	48.06	-14.94	AVG	
7	*	0.5300	41.80	0.12	41.92	56.00	-14.08	QP	
8		0.5300	30.60	0.12	30.72	46.00	-15.28	AVG	
9		2.1350	36.90	0.15	37.05	56.00	-18.95	QP	
10		2.1350	24.70	0.15	24.85	46.00	-21.15	AVG	
11		2.5250	40.70	0.17	40.87	56.00	-15.13	QP	
12		2.5250	28.40	0.17	28.57	46.00	-17.43	AVG	

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### AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode:	GSM 1900 +BT LINK			Test Date:	Dec. 05, 2006
Temperature:	25 °C	Humidity:	62 %	Test By:	Denny
Adaptor:	S003FU0500040				



Site: SGS CONDUCTED #1	Phase: L1	Temperature: 25 °C
Limit: CISPR22 Class B Conduction(QP)	Power: AC 120V/60Hz	Humidity: 62 %
EUT: GSM 850/1800/1900 mobile phone	Distance:	Air Pressure: hpa
M/N: k7sa		
Note: gsm1900 link +bt		

No.	Mk.	Freq.	Reading Level	Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.1600	43.80	0.10	43.90	65.46	-21.56	QP	
2		0.1600	25.70	0.10	25.80	55.46	-29.66	AVG	
3		0.1850	41.80	0.11	41.91	64.26	-22.35	QP	
4		0.1850	21.00	0.11	21.11	54.26	-33.15	AVG	
5	*	0.3900	47.80	0.12	47.92	58.06	-10.14	QP	
6		0.3900	36.80	0.12	36.92	48.06	-11.14	AVG	
7		0.5300	42.30	0.12	42.42	56.00	-13.58	QP	
8		0.5300	32.30	0.12	32.42	46.00	-13.58	AVG	
9		0.7850	41.10	0.11	41.21	56.00	-14.79	QP	
10		0.7850	32.00	0.11	32.11	46.00	-13.89	AVG	
11		2.9450	38.20	0.20	38.40	56.00	-17.60	QP	
12		2.9450	26.20	0.20	26.40	46.00	-19.60	AVG	

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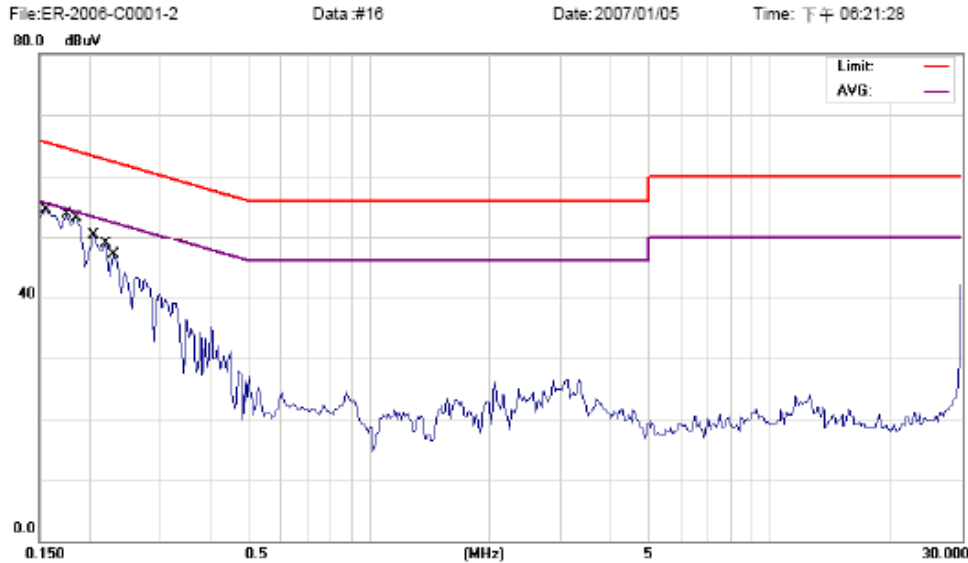
Site: SGS CONDUCTED #1      Phase: **N**      Temperature: 25 °C  
 Limit: CISPR22 Class B Conduction(QP)      Power: AC 120V/60Hz      Humidity: 62 %  
 EUT: GSM 850/1800/1900 mobile phone      Distance:      Air Pressure: hpa  
 M/N: k7sa  
 Note: gsm1900 link +bt

No.	Mk.	Freq. MHz	Reading Level dBuV	Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1500	47.00	0.10	47.10	66.00	-18.90	QP	
2		0.1500	32.90	0.10	33.00	56.00	-23.00	AVG	
3		0.1850	44.30	0.11	44.41	64.26	-19.85	QP	
4		0.1850	22.20	0.11	22.31	54.26	-31.95	AVG	
5		0.2100	43.90	0.12	44.02	63.21	-19.19	QP	
6		0.2100	26.50	0.12	26.62	53.21	-26.59	AVG	
7		0.3900	40.30	0.12	40.42	58.06	-17.64	QP	
8		0.3900	28.60	0.12	28.72	48.06	-19.34	AVG	
9		2.1650	38.00	0.15	38.15	56.00	-17.85	QP	
10		2.1650	24.90	0.15	25.05	46.00	-20.95	AVG	
11	*	2.5400	40.70	0.18	40.88	56.00	-15.12	QP	
12		2.5400	24.40	0.18	24.58	46.00	-21.42	AVG	

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### AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode:	GSM 850 +BT LINK			Test Date:	Jan. 05, 2007
Temperature:	25 °C	Humidity:	62 %	Test By:	Denny
Adaptor:	S003FA0500040				



File:ER-2006-C0001-2      Data:#16      Date:2007/01/05      Time: 下午 06:21:28

Site: SGS CONDUCTED #1      Phase: L1      Temperature: 25 °C  
 Limit: CISPR22 Class B Conduction(QP)      Power: AC 120V/60Hz      Humidity: 62 %  
 EUT: GSM 850/1800/1900 mobile phone      Distance:      Air Pressure: hpa  
 M/N: k7sa  
 Note: gsm850 link +bt link (澳規)

No.	Mk.	Freq.	Reading Level	Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.1550	43.07	0.46	43.53	65.73	-22.20	QP	
2		0.1550	16.94	0.46	17.40	55.73	-38.33	AVG	
3	*	0.1750	42.11	0.48	42.59	64.72	-22.13	QP	
4		0.1750	16.20	0.48	16.68	54.72	-38.04	AVG	
5		0.1850	39.89	0.50	40.39	64.26	-23.87	QP	
6		0.1850	13.93	0.50	14.43	54.26	-39.83	AVG	
7		0.2050	38.42	0.52	38.94	63.41	-24.47	QP	
8		0.2050	12.42	0.52	12.94	53.41	-40.47	AVG	
9		0.2200	35.38	0.53	35.91	62.82	-26.91	QP	
10		0.2200	8.60	0.53	9.13	52.82	-43.69	AVG	
11		0.2300	34.41	0.54	34.95	62.45	-27.50	QP	
12		0.2300	11.57	0.54	12.11	52.45	-40.34	AVG	

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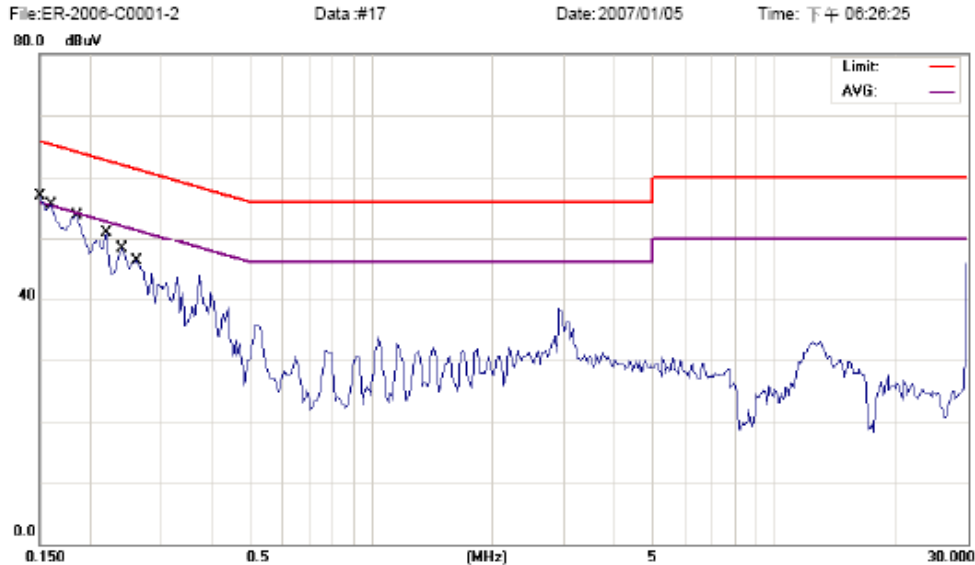
Site: SGS CONDUCTED #1      Phase: **N**      Temperature: 25 °C  
 Limit: CISPR22 Class B Conduction(QP)      Power: AC 120V/60Hz      Humidity: 62 %  
 EUT: GSM 850/1800/1900 mobile phone      Distance:      Air Pressure: hpa  
 M/N: k7sa  
 Note: gsm850 link +bt link (澳規)

No.	Mk.	Freq. MHz	Reading Level dBuV	Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.1550	45.33	0.46	45.79	65.73	-19.94	QP	
2		0.1550	19.25	0.46	19.71	55.73	-36.02	AVG	
3		0.1800	43.67	0.49	44.16	64.49	-20.33	QP	
4		0.1800	18.68	0.49	19.17	54.49	-35.32	AVG	
5		0.2100	38.12	0.53	38.65	63.21	-24.56	QP	
6		0.2100	11.97	0.53	12.50	53.21	-40.71	AVG	
7		0.2350	35.10	0.54	35.64	62.27	-26.63	QP	
8		0.2350	12.43	0.54	12.97	52.27	-39.30	AVG	
9		0.2700	32.09	0.56	32.65	61.12	-28.47	QP	
10		0.2700	10.75	0.56	11.31	51.12	-39.81	AVG	
11		0.3100	27.34	0.57	27.91	59.97	-32.06	QP	
12		0.3100	11.06	0.57	11.63	49.97	-38.34	AVG	

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### AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode:	GSM 1900 +BT LINK			Test Date:	Jan. 05, 2007
Temperature:	25 °C	Humidity:	62 %	Test By:	Denny
Adaptor:	S003FA0500040				

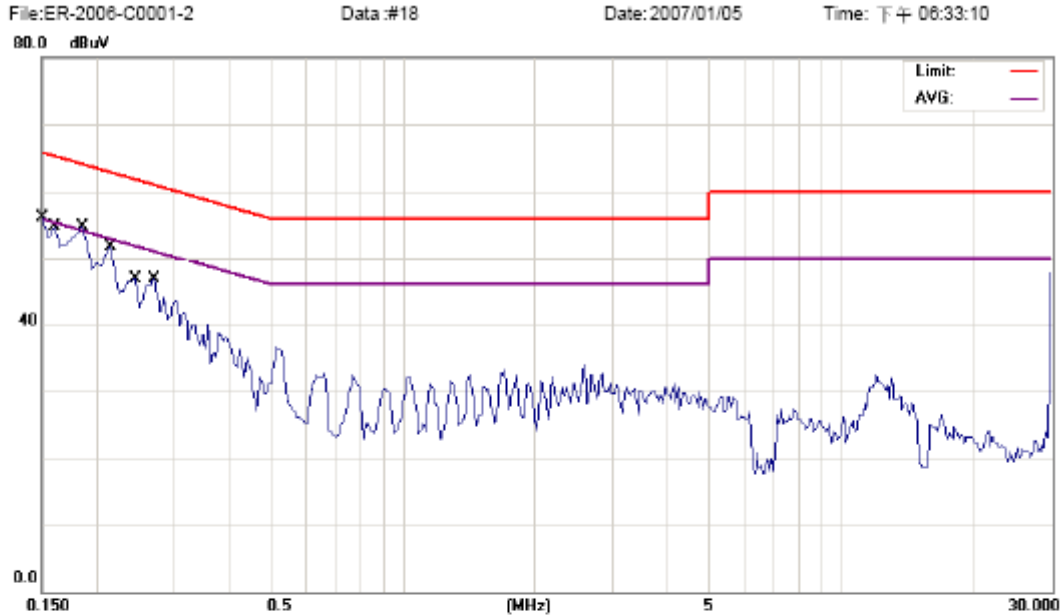


File:ER-2006-C0001-2      Data.#17      Date:2007/01/05      Time: 下午 06:26:25

Site: SGS CONDUCTED #1      Phase: L1      Temperature: 25 °C  
 Limit: CISPR22 Class B Conduction(QP)      Power: AC 120V/60Hz      Humidity: 62 %  
 EUT: GSM 850/1800/1900 mobile phone      Distance:      Air Pressure: hpa  
 M/N: k7sa  
 Note: gsm 1900 link +bt link (澳規)

No.	Mk.	Freq.	Reading Level	Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1	*	0.1500	46.77	0.45	47.22	66.00	-18.78	QP	
2		0.1500	30.04	0.45	30.49	56.00	-25.51	AVG	
3		0.1600	44.25	0.46	44.71	65.46	-20.75	QP	
4		0.1600	27.46	0.46	27.92	55.46	-27.54	AVG	
5		0.1850	42.88	0.50	43.38	64.26	-20.88	QP	
6		0.1850	21.56	0.50	22.06	54.26	-32.20	AVG	
7		0.2200	38.68	0.53	39.21	62.82	-23.61	QP	
8		0.2200	17.90	0.53	18.43	52.82	-34.39	AVG	
9		0.2400	39.21	0.54	39.75	62.10	-22.35	QP	
10		0.2400	25.00	0.54	25.54	52.10	-26.56	AVG	
11		0.2600	41.35	0.55	41.90	61.43	-19.53	QP	
12		0.2600	27.10	0.55	27.65	51.43	-23.78	AVG	

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Site: SGS CONDUCTED #1      Phase: **N**      Temperature: 25 °C  
 Limit: CISPR22 Class B Conduction(QP)      Power: AC 120V/60Hz      Humidity: 62 %  
 EUT: GSM 850/1800/1900 mobile phone      Distance:      Air Pressure: hpa  
 M/N: k7sa  
 Note: gsm 1900 link +bt link (澳規)

No.	Mk.	Freq. MHz	Reading Level dBuV	Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.1500	46.87	0.45	47.32	66.00	-18.68	QP	
2		0.1500	32.09	0.45	32.54	56.00	-23.46	AVG	
3		0.1600	43.91	0.46	44.37	65.46	-21.09	QP	
4		0.1600	29.35	0.46	29.81	55.46	-25.65	AVG	
5		0.1850	42.86	0.50	43.36	64.26	-20.90	QP	
6		0.1850	21.66	0.50	22.16	54.26	-32.10	AVG	
7		0.2150	40.02	0.53	40.55	63.01	-22.46	QP	
8		0.2150	19.38	0.53	19.91	53.01	-33.10	AVG	
9		0.2450	36.71	0.54	37.25	61.92	-24.67	QP	
10		0.2450	18.48	0.54	19.02	51.92	-32.90	AVG	
11		0.2700	34.94	0.56	35.50	61.12	-25.62	QP	
12		0.2700	19.64	0.56	20.20	51.12	-30.92	AVG	

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