ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

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

OF

Product Name:	**FORE100**
Brand Name:	**N/A**
Model Name:	**FORE100**
FCC ID:	**NM8FORE**
Report No.:	**ER/2006/70003**
Issue Date:	**Jul. 26, 2006**
FCC Rule Part:	**2 & 24E& 22H**
Prepared for	**High Tech Computer Corp.** **No.23, Xinghua Rd., Taoyuan City, Taoyuan County 330, Taiwan**
Prepared by	**SGS Taiwan Ltd.** **No. 134, Wu Kung Rd., Wuku Industrial Zone, Taipei County, Taiwan.**

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VERIFICATION OF COMPLIANCE

Applicant:	High Tech Computer Corp.
	No.23, Xinghua Rd., Taoyuan City, Taoyuan County 330, Taiwan
Equipment Under Test:	FORE100
FCC ID:	NM8FORE
Brand Name:	N/A
Model No.:	FORE100
Model Difference:	N/A
File Number:	ER/2006/70003
Date of test:	Jul. 07, 2006 ~ Aug. 29, 2006
Date of EUT Received:	Jul. 07, 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.

Test By:	Alex Hsieh	***Date***	Aug. 29, 2006
	Alex Hsieh		
Prepared By:	Elisa Chen	***Date***	Aug. 29, 2006
	Elisa Chen		
Approved By	Vincent Su	***Date***	Aug. 29, 2006
	Vincent Su		

Version

Version No.	Date
00	Jul. 26, 2006
01	Aug. 29, 2006

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1. GENERAL INFORMATION

1.1 Product Description

Product Name	FORE100
Model Name	FORE100
Model Difference:	N/A
Trade Name	N/A
Power Supply	3.7 Vdc re-chargeable battery or 5Vdc by AC/DC power adapter
AC Adaptor	ADP-5FH B, Supplier: DELTA
Battery	Model No.: ST26B, ST26A, ST26C
Simple Hands-Free (SHF)	Mode No.: EMC-220-004-01, Supplier: MERRY
Data lead (USB)	Mode No.: N/A, Supplier: MEC
Cigar Lighter Adaptor (CLA)	No.

GSM:

Frequency Range and Power	TX: 824.2 MHz – 848.8 MHz	GSM/GPRS: 33 dBm EGPRS: 27 dBm
	TX: 1850.2MHz –1909.8MHz	GSM/GPRS: 30 dBm EGPRS: 26 dBm
Type of Emission	GSM:300KGXW EGPRS:300KG7W	
Software Version	N/A	
Hardware Version	N/A	
IMEI	359854000016409	
Antenna Designation	PIFA Antenna, 850MHz, 0dBi(peak); 1900MHz, 0dBi(peak)	

Bluetooth:

Frequency Range	2402 – 2480MHz
Channel number	79 channels
Rated Power	3.41 dBm
Modulation type	Frequency Hopping Spread Spectrum (FHSS)(GFSK)
Antenna Designation	Trace Antenna, 0 dBi, Non-User Replaceable (Fixed)

The EUT is compliance with Bluetooth Standard.

1.2 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for FCC ID: **NM8FORE** 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 CNLA (0513).

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

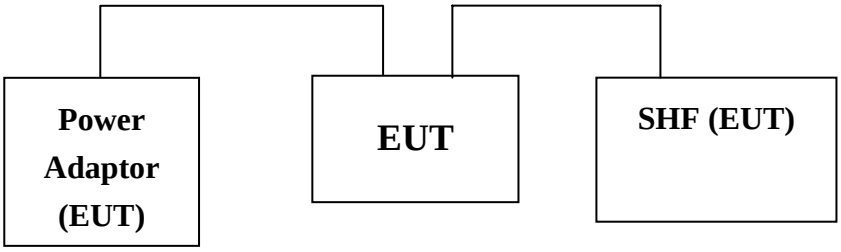


Fig. 2-2 Configuration (Remote Side, on the corner)

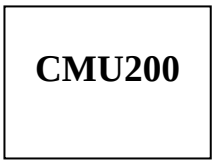


Table 2-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/ Type No.	Series No.	Data Cable	Power Cord
1.	Test Software	Foreseer	Foreseer_BTtestmode_20060324	N/A	N/A	N/A

Table 2-2 Support 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	N/A	Un-shielded

3. SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
§2.1046(a) §22.913(a) §24.232(a)	RF Power Output	Compliant
§2.1046(a) §22.913(a) §24.232(a)	ERP/ EIRP measurement	Compliant
§2.1049(h)	99% Occupied Bandwidth	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 radiated power was measured as EUT stand-up position (H mode) and lie down position (E1, E2 mode) for both GSM/GPRS and EGPRS with all power adaptors, earphone and Data cable. The worst-case E1 mode for GSM 850 band and H mode for GSM 1900 band with ear-phone mode for channel Low, Mid and High at GSM and EGPRS modes were reported.

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 E1 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 E1 position at GSM 850 channel high and H position at GSM1900 channel high with BT at channel High mode was reported.

5. RF POWER OUTPUT MEASUREMENT

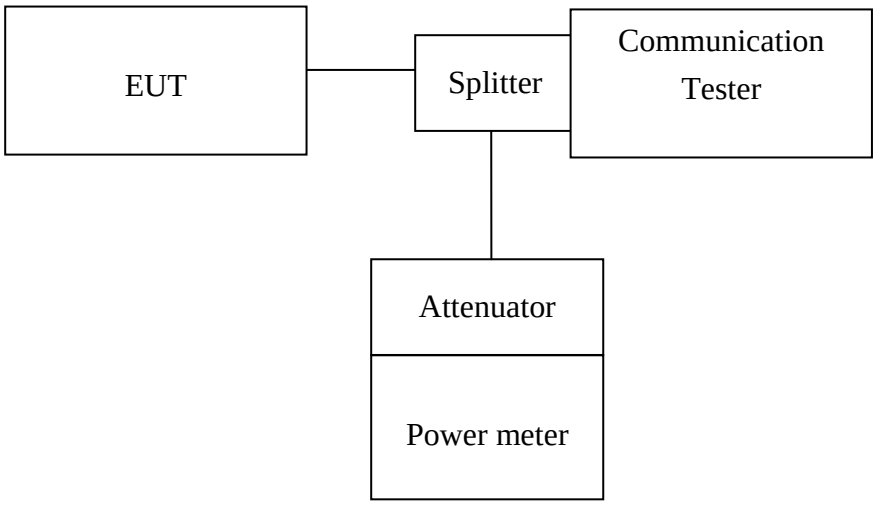
5.1 Standard Applicable

According to FCC §2.1046.

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

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

5.2 Test Set-up:



Note: *Measurement setup for testing on Antenna connector*

5.3 Measurement Procedure

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

5.4 Measurement Equipment Used:

Conducted Emission Test Site					
EQUIPMENT TYPE	**MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL DUE.**
Spectrum Analyzer	Agilent	E4446A	MY43360126	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	11/11/2005	11/12/2006
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A
Attenuator	Mini-Circult	BW-S10W5	N/A	10/07/2005	10/06/2006
Attenuator	Mini-Circult	BW-S6W5	N/A	10/07/2005	10/06/2006
Splitter	Mini-Circult	ZFSC-2-10G	N/A	10/07/2005	10/06/2006
Signal Generator	R&S	SMR40	100210	11/09/2005	11/10/2006
DC Power Supply	Agilent	6038A	2929A-07548	01/06/2006	01/05/2007

5.5 Measurement Result

GSM/GPRS model

EUT Mode	Frequency (MHz)	CH	Power Meter Reading (dBm)	Offset (dB)	Average Power (dBm)
GSM 850	824.20	128	15.07	17.50	32.57
	836.60	190	14.98	17.50	32.48
	848.80	251	15	17.50	32.50

EUT Mode	Frequency (MHz)	CH	Power Meter Reading (dBm)	Offset (dB)	Average Power (dBm)
PCS 1900	1850.20	512	11.71	17.50	29.21
	1880.00	661	11.57	17.50	29.07
	1909.80	810	11.99	17.50	29.49

EGPRS mode

EUT Mode	Frequency (MHz)	CH	Power Meter Reading (dBm)	Offset (dB)	Average Power (dBm)
GSM 850	824.20	128	9.37	17.50	26.87
	836.60	190	9.72	17.50	27.22
	848.80	251	10	17.50	27.50

EUT Mode	Frequency (MHz)	CH	Power Meter Reading (dBm)	Offset (dB)	Average Power (dBm)
PCS 1900	1850.20	512	8.70	17.50	26.20
	1880.00	661	8.26	17.50	25.76
	1909.80	810	8.05	17.50	25.55

6. ERP, EIRP MEASUREMENT

6.1 Standard Applicable

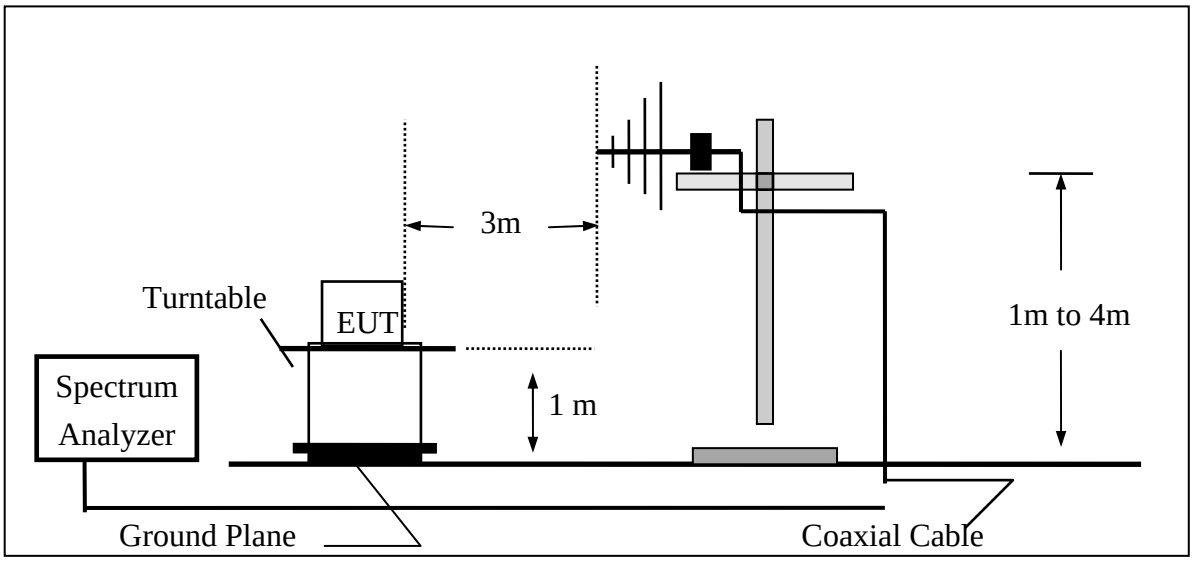
According to FCC §2.1046

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

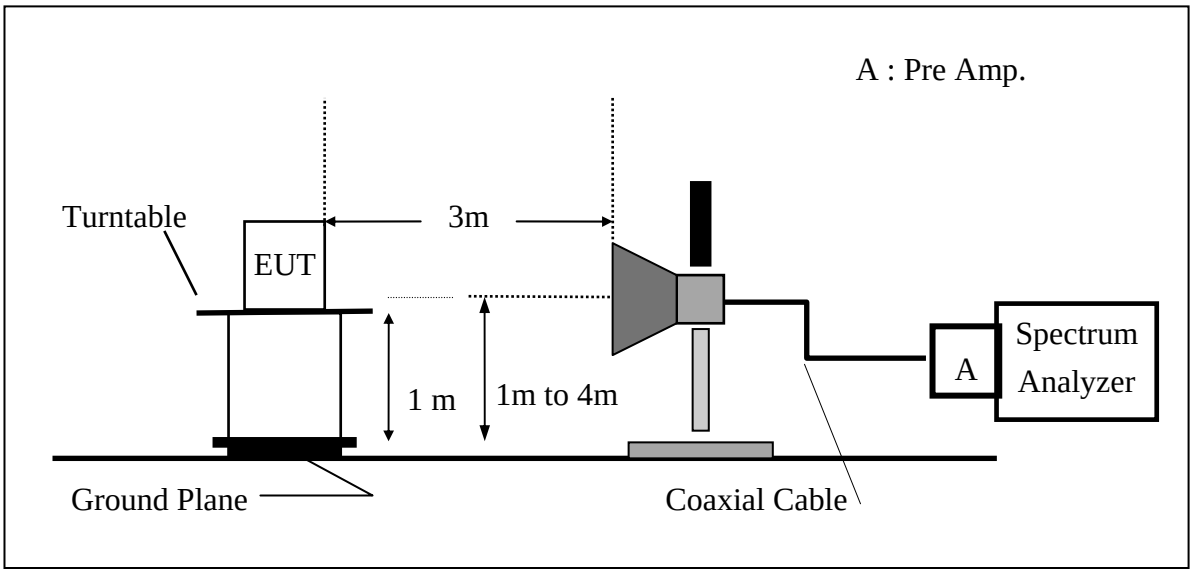
FCC 24.232(b) Mobile station are limited to 2W EIRP.

6.2 Test SET-UP (Block Diagram of Configuration)

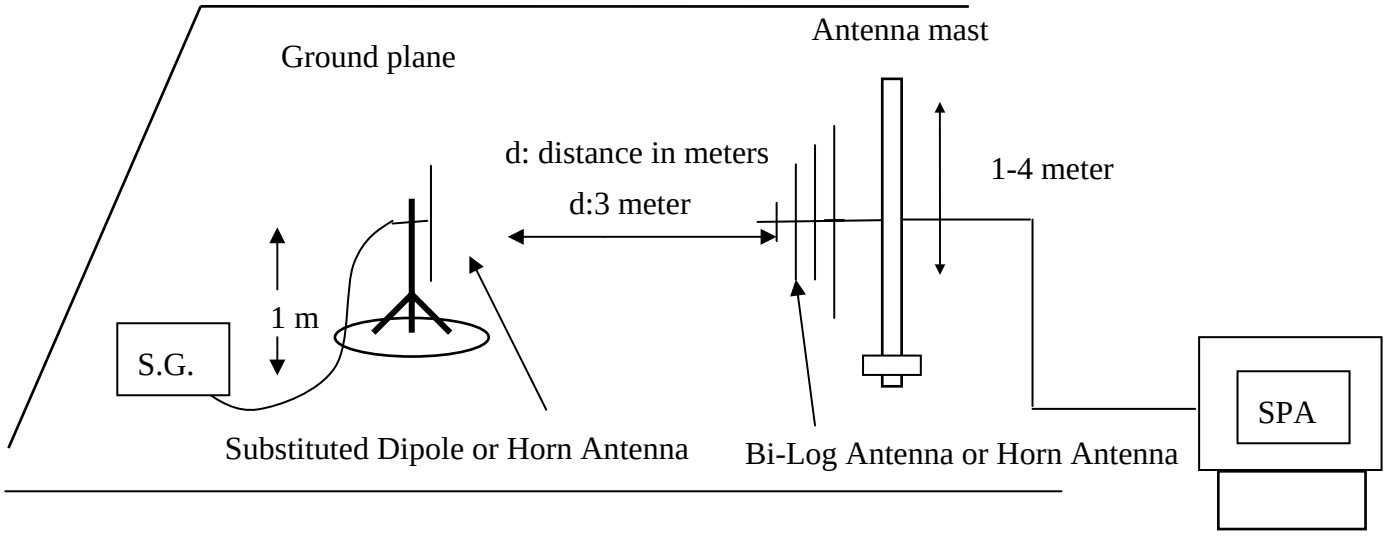
(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



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



(C) Substituted Method Test Set-UP



6.3 Measurement Procedure

The EUT was placed on 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)

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	E7405A	US41160416	08/27/2005	08/26/2006
Bilog Antenna	SCHWAZBECK	VULB9163	152	06/03/2006	06/02/2007
Horn antenna	Schwarzbeck	BBHA 9120D	309/320	08/16/2005	08/15/2006
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	10/09/2005	10/08/2006
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-3M	3m	10/09/2005	10/08/2006
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-0.5M	0.5m	10/09/2005	10/08/2006
Site NSA	SGS	966 chamber	N/A	11/17/2005	11/16/2006
Site NSA	SGS	10m Open-Site	N/A	10/02/2005	10/01/2006
Attenuator	Mini-Circult	BW-S10W5	N/A	10/07/2005	10/06/2006
Temperature Chamber	TERCHY	MHG-120LF	911009	10/14/2005	10/13/2006
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	08/16/2005	08/15/2006

6.5 Measurement Result

GSM/GPRS mode

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	124.62	37.30	-7.87	3.64	25.78	38.45
				H	128.71	41.05	-7.87	3.64	29.54	38.45
			E1	V	128.86	41.54	-7.87	3.64	30.02	38.45
				H	127.89	40.23	-7.87	3.64	28.72	38.45
			E2	V	122.73	35.41	-7.87	3.64	23.89	38.45
				H	127.75	40.09	-7.87	3.64	28.58	38.45
	836.60	190	H	V	126.47	39.44	-7.88	3.70	27.87	38.45
				H	129.16	41.82	-7.88	3.70	30.25	38.45
			E1	V	128.90	41.87	-7.88	3.70	30.30	38.45
				H	127.59	40.26	-7.88	3.70	28.68	38.45
			E2	V	123.43	36.40	-7.88	3.70	24.83	38.45
				H	129.71	42.37	-7.88	3.70	30.80	38.45
	848.80	251	H	V	126.11	39.37	-7.88	3.75	27.74	38.45
				H	130.27	43.25	-7.88	3.75	31.62	38.45
			E1	V	128.32	41.58	-7.88	3.75	29.95	38.45
				H	126.18	39.16	-7.88	3.75	27.53	38.45
			E2	V	121.81	35.07	-7.88	3.75	23.44	38.45
				H	129.44	42.42	-7.88	3.75	30.79	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

GSM/GPRS mode

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	125.85	18.89	9.90	5.41	23.38	33.00
				H	129.20	22.31	9.90	5.41	26.80	33.00
			E1	V	127.38	20.42	9.90	5.41	24.91	33.00
				H	124.15	17.26	9.90	5.41	21.75	33.00
			E2	V	125.63	18.67	9.90	5.41	23.16	33.00
				H	127.57	20.68	9.90	5.84	24.74	33.00
	1880.00	661	H	V	125.31	18.36	9.99	5.46	22.89	33.00
				H	128.53	21.66	9.99	5.46	26.19	33.00
			E1	V	126.42	19.47	9.99	5.46	24.00	33.00
				H	124.68	17.81	9.99	5.46	22.34	33.00
			E2	V	126.87	19.92	9.99	5.46	24.45	33.00
				H	127.06	20.19	9.99	5.46	24.72	33.00
	1909.80	810	H	V	126.29	19.35	10.08	5.51	23.92	33.00
				H	129.13	22.28	10.08	5.51	26.84	33.00
			E1	V	125.78	18.84	10.08	5.51	23.41	33.00
				H	125.88	19.03	10.08	5.51	23.59	33.00
			E2	V	128.46	21.52	10.08	5.51	26.09	33.00
				H	126.52	19.67	10.08	5.51	24.23	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

EGPRS mode

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	116.96	29.64	-7.87	3.64	18.12	38.45
				H	122.50	34.85	-7.87	3.64	23.33	38.45
			E1	V	123.32	35.99	-7.87	3.64	24.48	38.45
				H	117.02	29.36	-7.87	3.64	17.84	38.45
			E2	V	119.80	32.47	-7.87	3.64	20.96	38.45
				H	124.37	36.72	-7.87	3.64	25.20	38.45
	836.60	190	H	V	120.48	33.45	-7.88	3.70	21.88	38.45
				H	123.86	36.52	-7.88	3.70	24.95	38.45
			E1	V	124.63	37.60	-7.88	3.70	26.03	38.45
				H	117.60	30.27	-7.88	3.70	18.69	38.45
			E2	V	121.92	34.89	-7.88	3.70	23.32	38.45
				H	124.98	37.64	-7.88	3.70	26.07	38.45
	848.80	251	H	V	119.16	32.42	-7.88	3.75	20.79	38.45
				H	124.04	37.02	-7.88	3.75	25.39	38.45
			E1	V	123.44	36.70	-7.88	3.75	25.07	38.45
				H	114.84	27.82	-7.88	3.75	16.19	38.45
			E2	V	116.69	29.95	-7.88	3.75	18.32	38.45
				H	123.34	36.32	-7.88	3.75	24.69	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

EGPRS mode

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	119.39	12.43	9.90	5.41	16.92	33.00
				H	123.96	17.07	9.90	5.41	21.56	33.00
			E1	V	121.75	14.79	9.90	5.41	19.28	33.00
				H	119.08	12.19	9.90	5.41	16.68	33.00
			E2	V	120.69	13.73	9.90	5.41	18.22	33.00
				H	123.68	16.79	9.90	5.84	20.85	33.00
	1880.00	661	H	V	119.05	12.10	9.99	5.46	16.63	33.00
				H	122.95	16.08	9.99	5.46	20.61	33.00
			E1	V	120.12	13.17	9.99	5.46	17.70	33.00
				H	119.08	12.21	9.99	5.46	16.74	33.00
			E2	V	119.84	12.89	9.99	5.46	17.42	33.00
				H	121.12	14.25	9.99	5.46	18.78	33.00
	1909.80	810	H	V	119.36	12.42	10.08	5.51	16.99	33.00
				H	122.71	15.86	10.08	5.51	20.42	33.00
			E1	V	119.37	12.43	10.08	5.51	17.00	33.00
				H	118.99	12.14	10.08	5.51	16.70	33.00
			E2	V	120.05	13.11	10.08	5.51	17.68	33.00
				H	120.76	13.91	10.08	5.51	18.47	33.00

Remark：

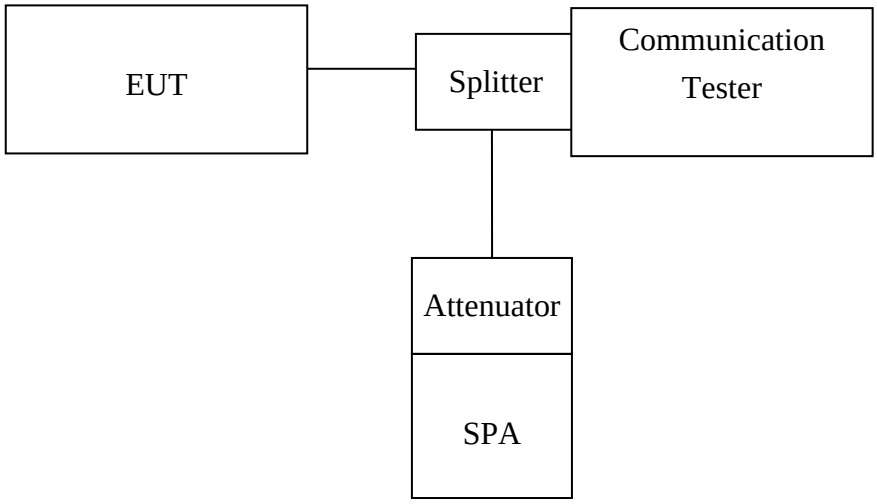
(1) The RBW,VBW of SPA for frequency
Below 1GHz was RBW=100 KHz, VBW=300KHz,
Above 1GHz was RBW= 1MHz , VBW= 3MHz

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	11/11/2005	11/12/2006
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A
Attenuator	Mini-Circult	BW-S10W5	N/A	10/07/2005	10/06/2006
Attenuator	Mini-Circult	BW-S6W5	N/A	10/07/2005	10/06/2006
Splitter	Mini-Circult	ZFSC-2-10G	N/A	10/07/2005	10/06/2006
Signal Generator	R&S	SMR40	100210	11/09/2005	11/10/2006
DC Power Supply	Agilent	6038A	2929A-07548	01/06/2006	01/05/2007

7.5 Measurement Result:.

GSM:GPRS mode

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
GSM 850	824.20	128	0.2450
	836.60	190	0.2470
	848.80	251	0.2532

EUT Mode	Frequency (MHz)	CH	99 % Bandwidth (MHz)
PCS 1900	1850.20	512	0.2443
	1880.00	661	0.2441
	1909.80	810	0.2464

EGPRS mode

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
GSM 850	824.20	128	0.24377
	836.60	190	0.24177
	848.80	251	0.24041

EUT Mode	Frequency (MHz)	CH	99 % Bandwidth (MHz)
PCS 1900	1850.20	512	0.24225
	1880.00	661	0.24094
	1909.80	810	0.24187

Figure 7-1: GSM 850 Channel Low

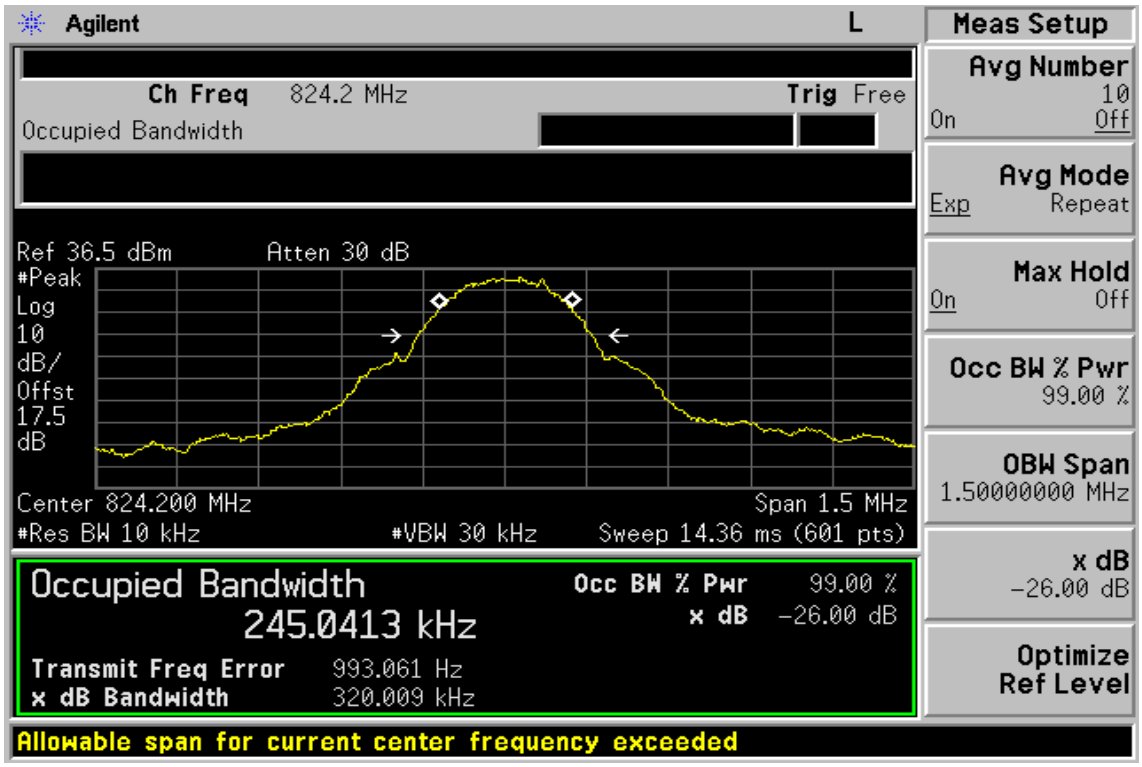


Figure 7-2 GSM 850 Channel Mid

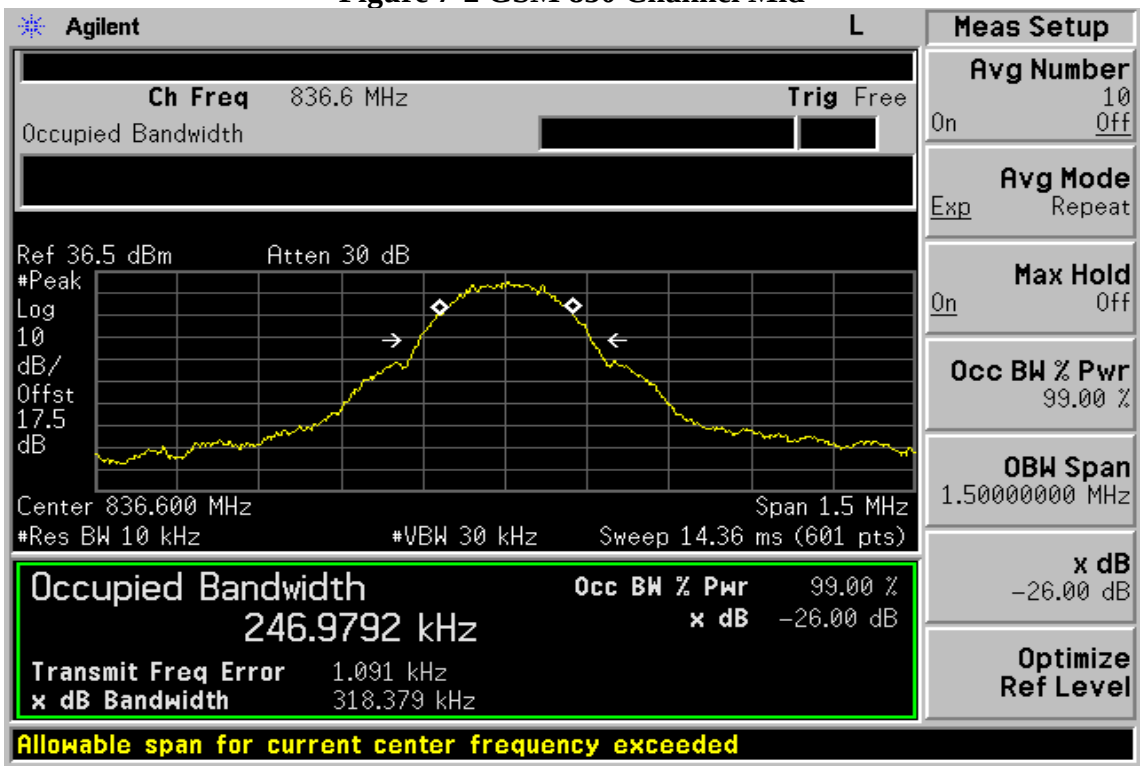


Figure 7-3: GSM 850 Channel High

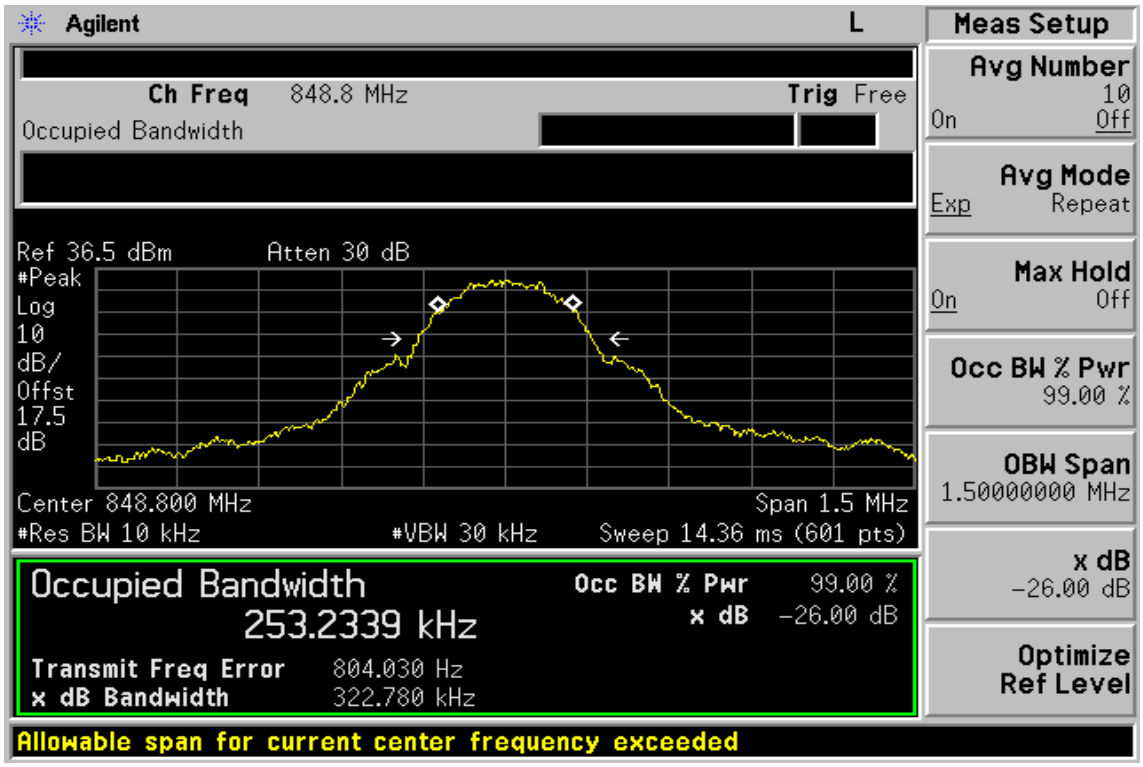


Figure 7-4: PCS 1900 Channel Low

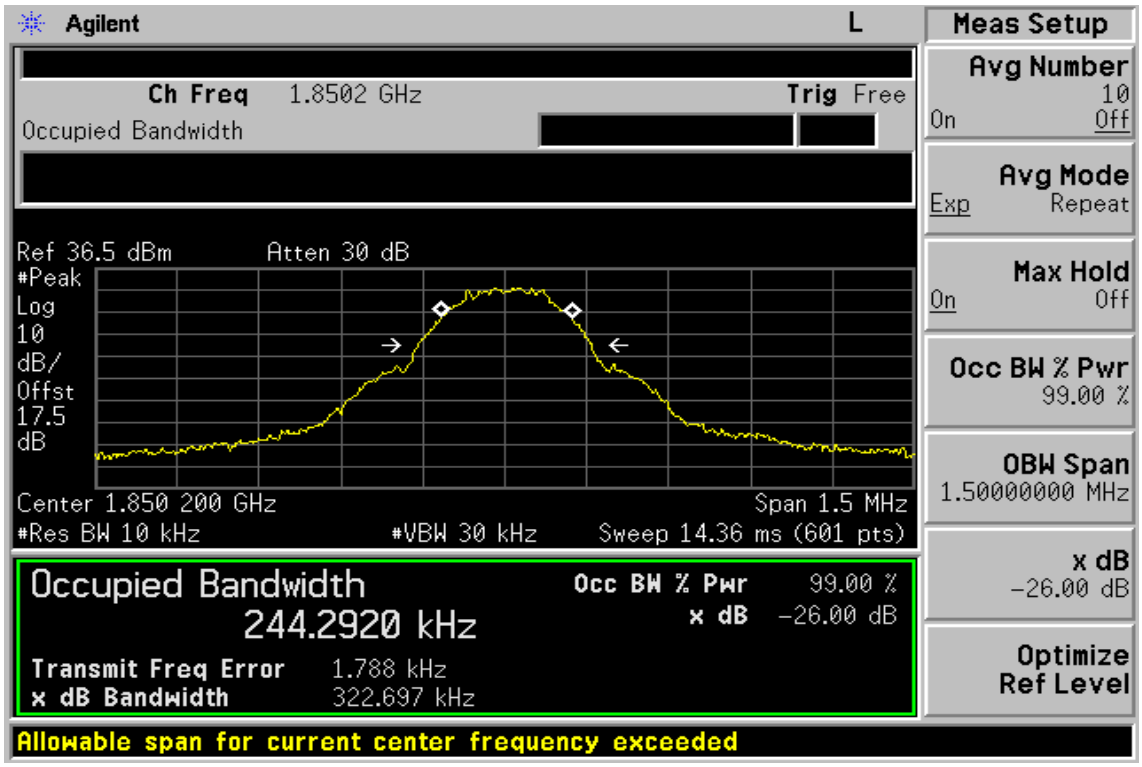


Figure 7-5 PCS 1900 Channel Mid

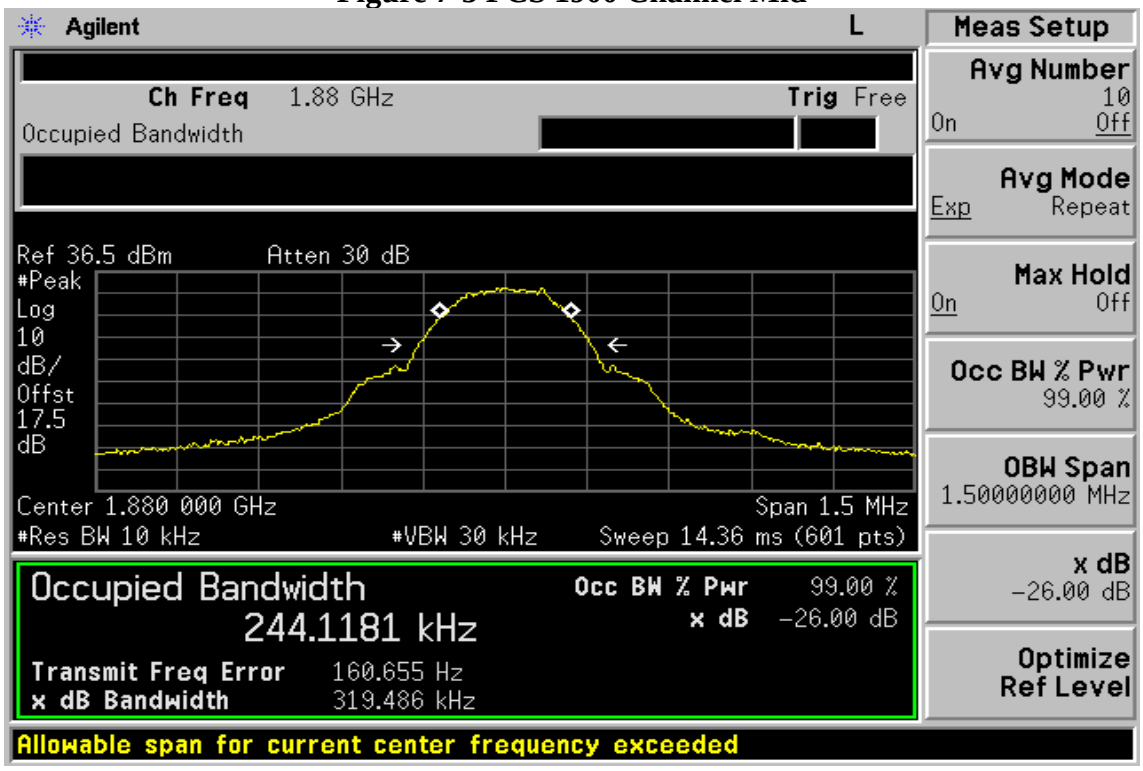


Figure 7-6: PCS 1900 Channel High

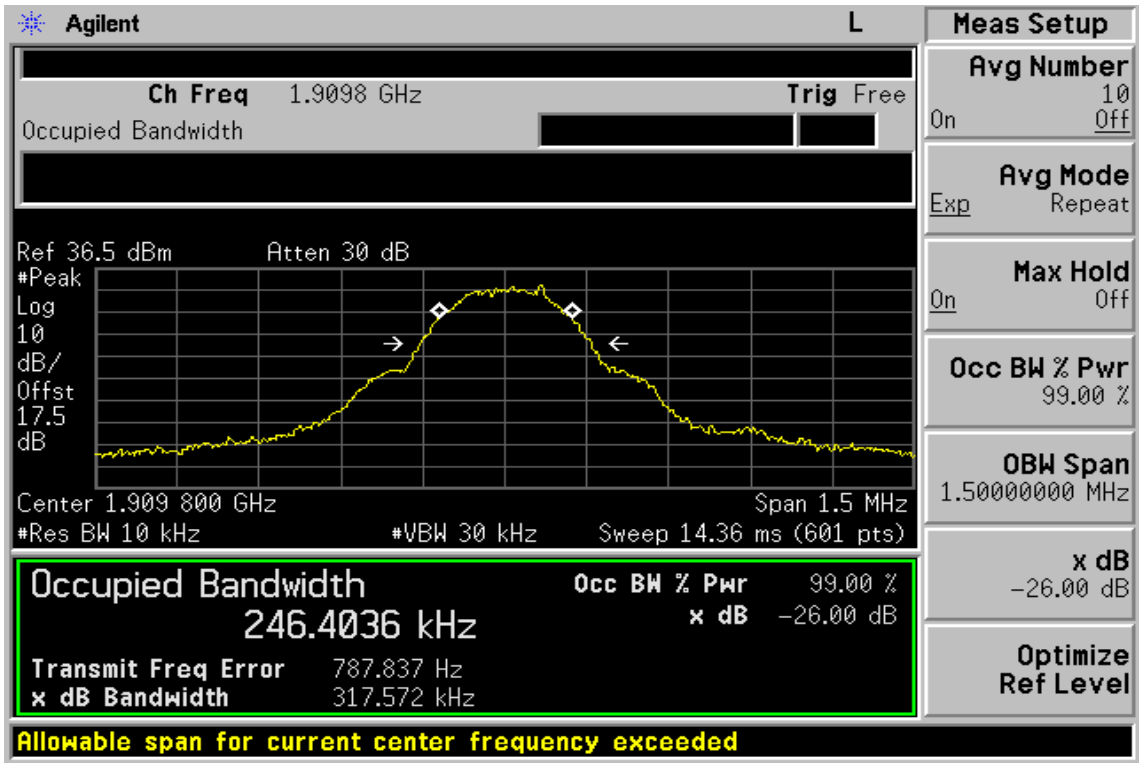


Figure 7-7: EGPRS 850 Channel Low

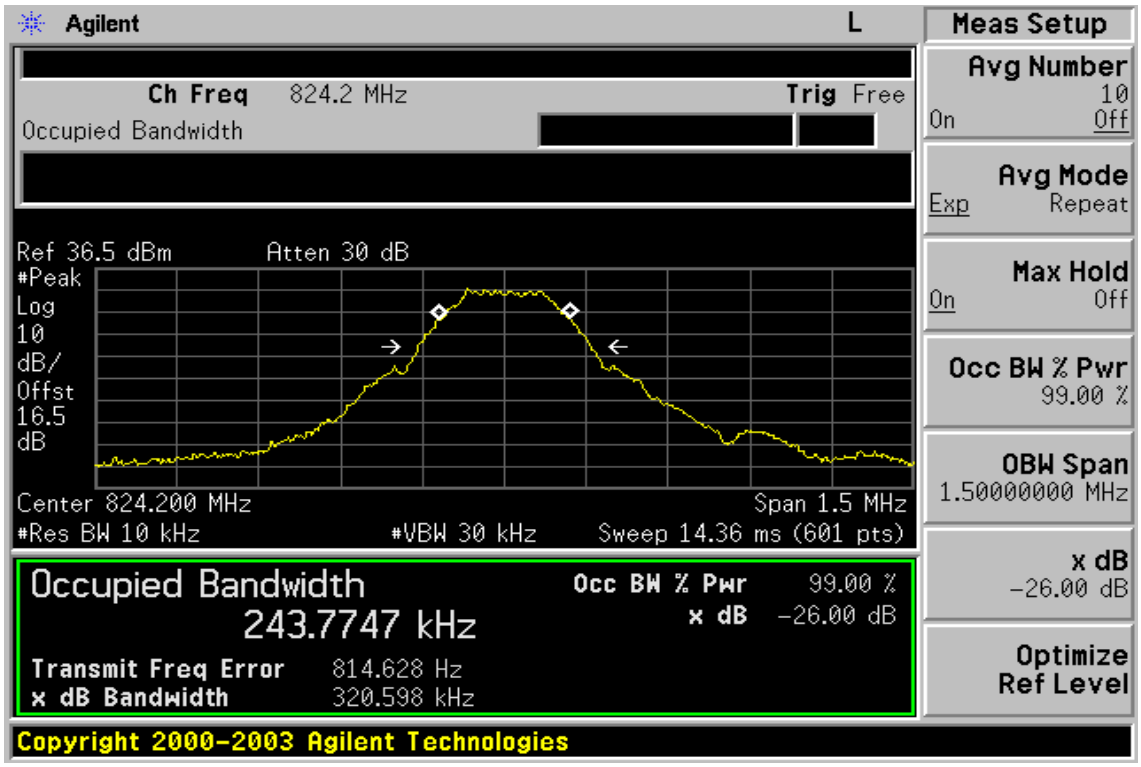


Figure 7-8 EGPRS 850 Channel Mid

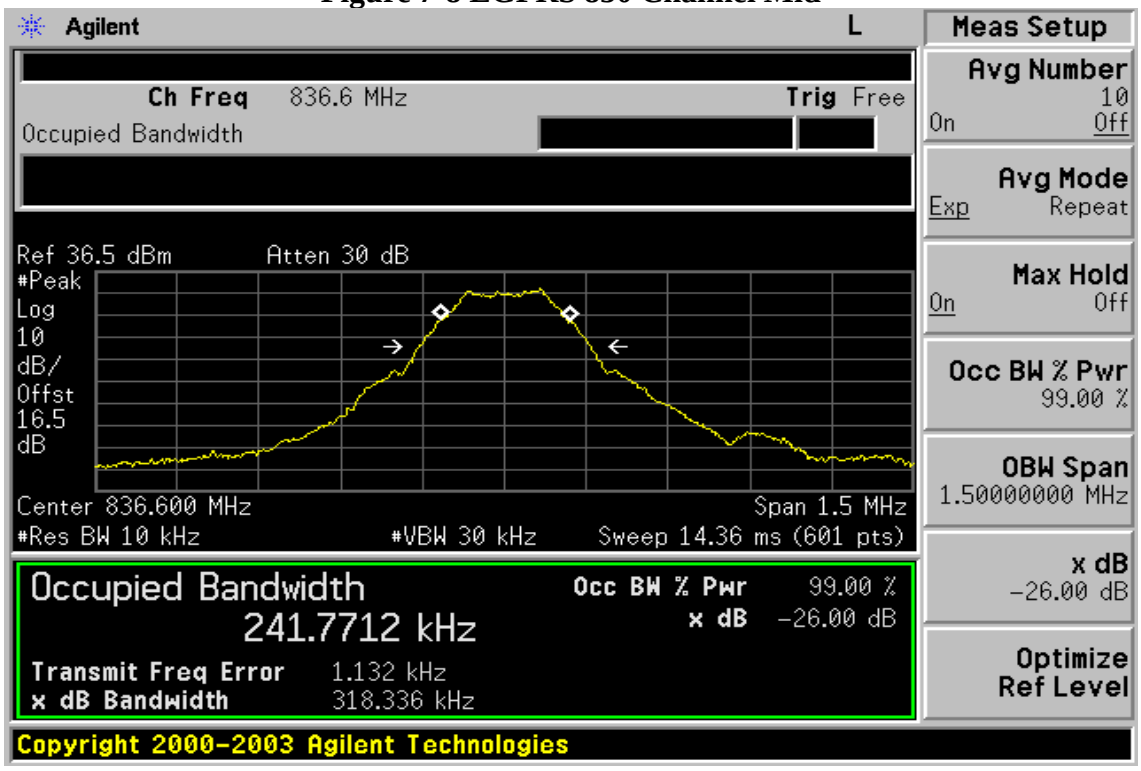


Figure 7-9: EGPRS 850 Channel High

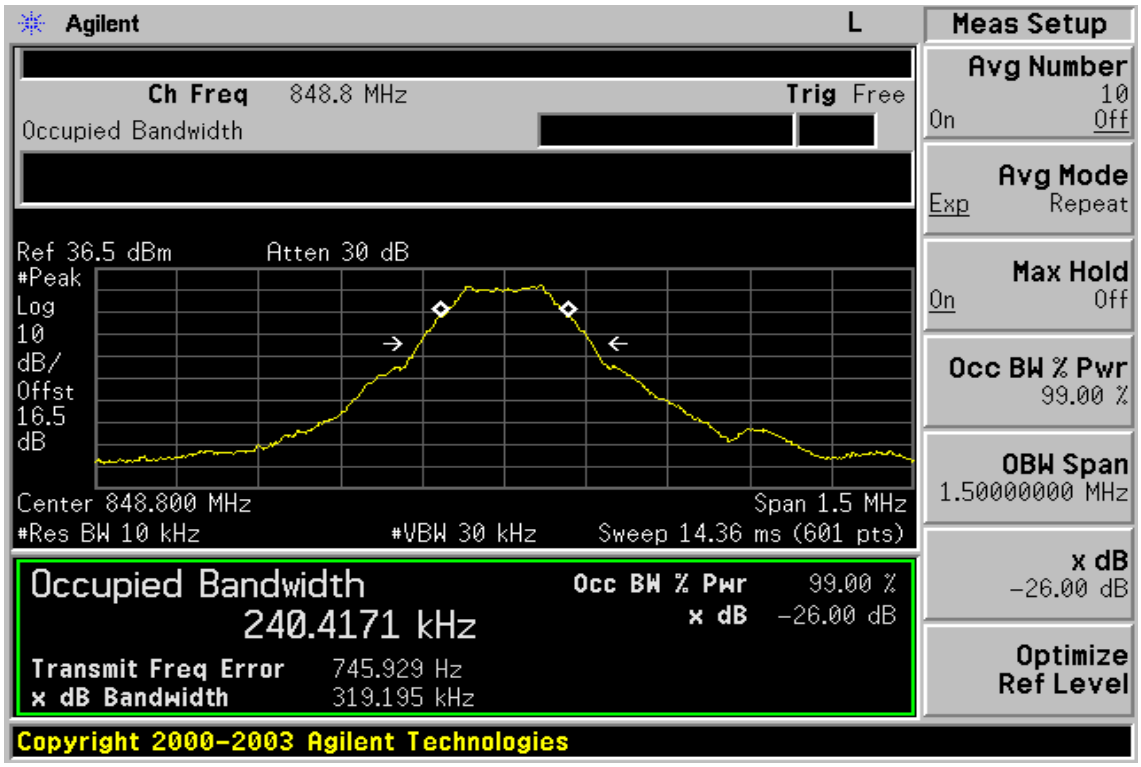


Figure 7-10: EGPRS 1900 Channel Low

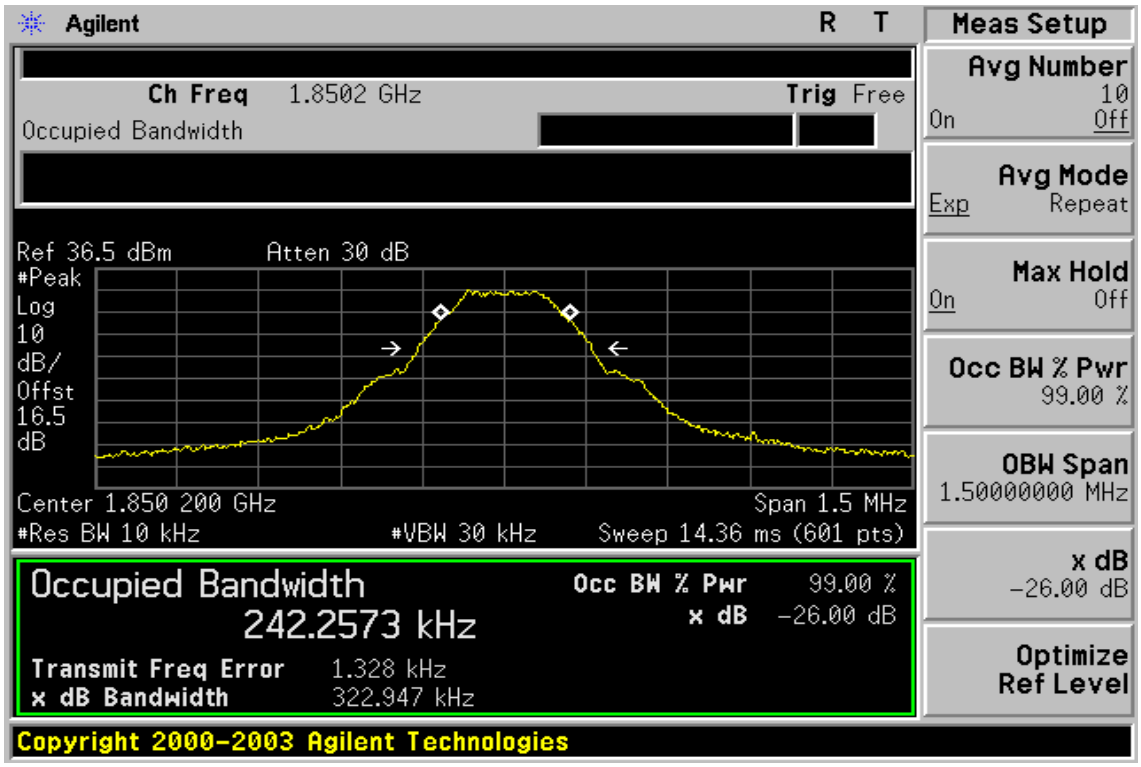


Figure 7-11 EGPRS 1900 Channel Mid

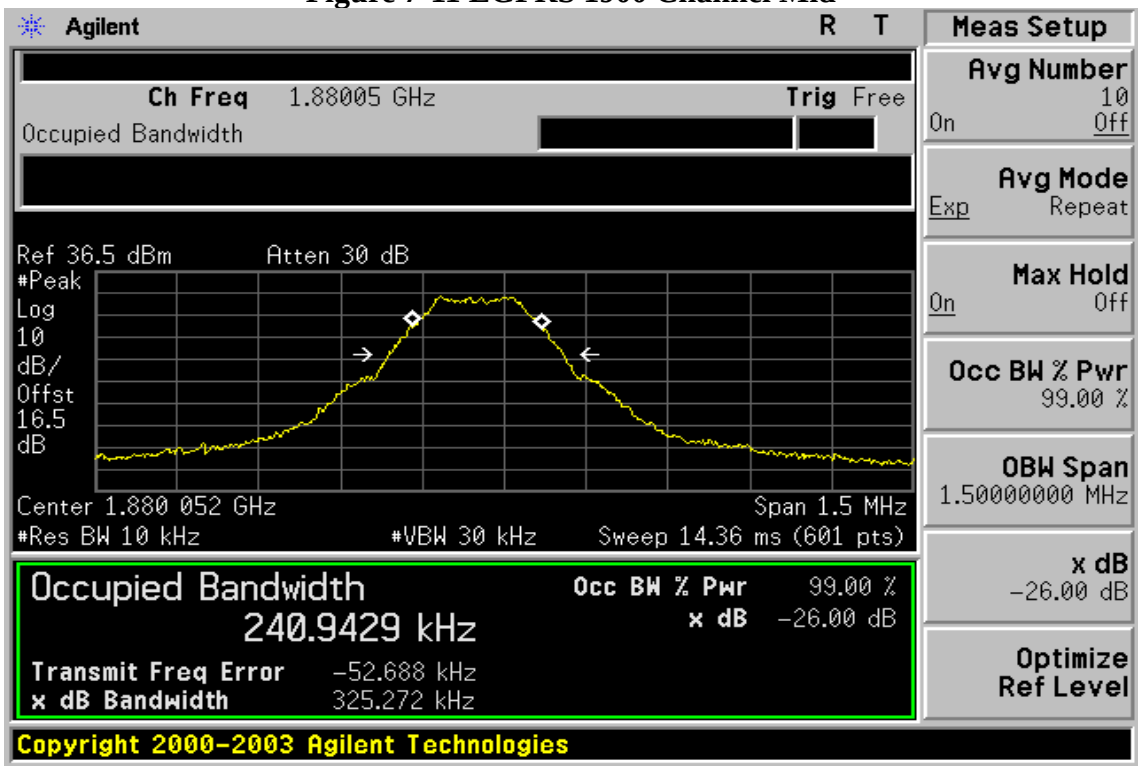
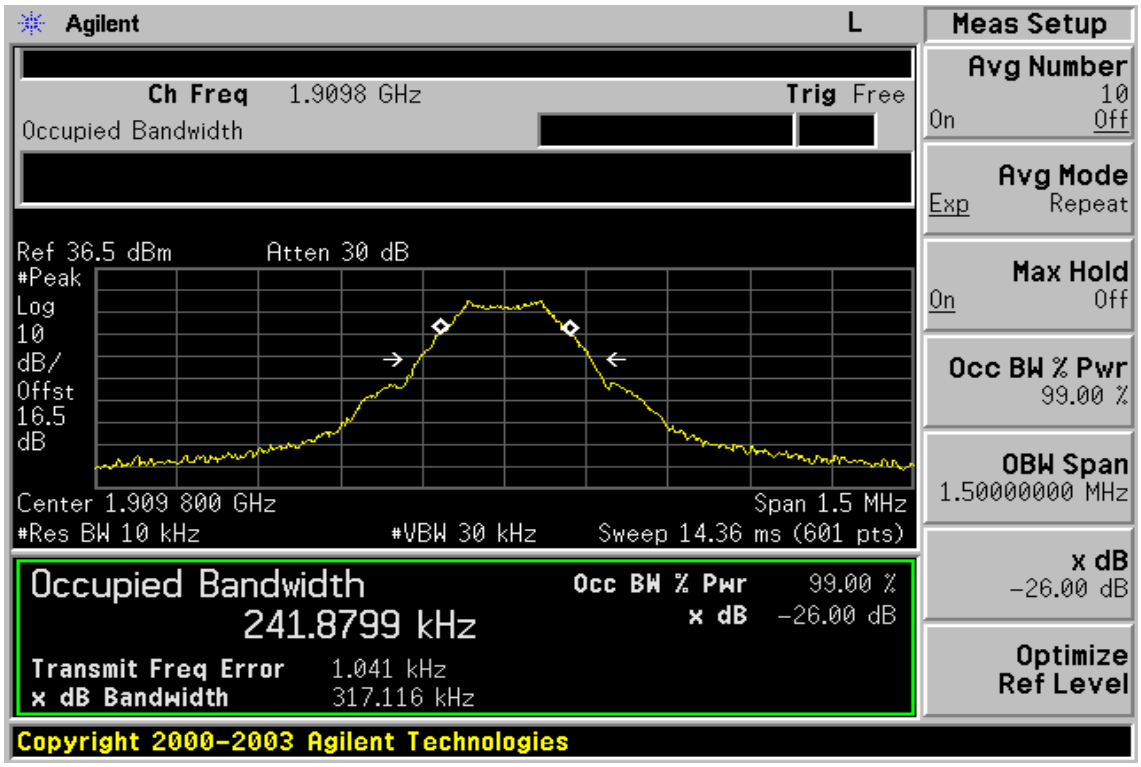


Figure 7-12: EGPRS 1900 Channel High



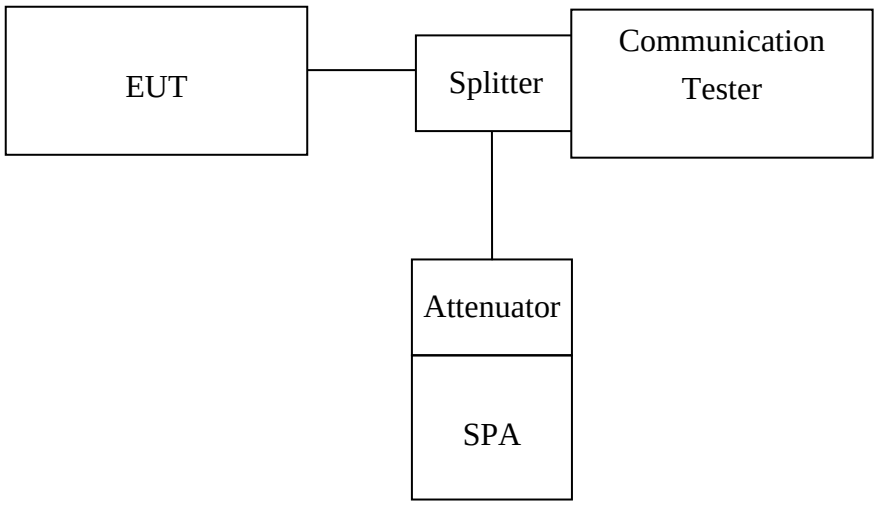
8. OUT OF BAND EMISSION AT ANTENNA TERMINALS

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= 10 th harmonic. Limit = -13dBm

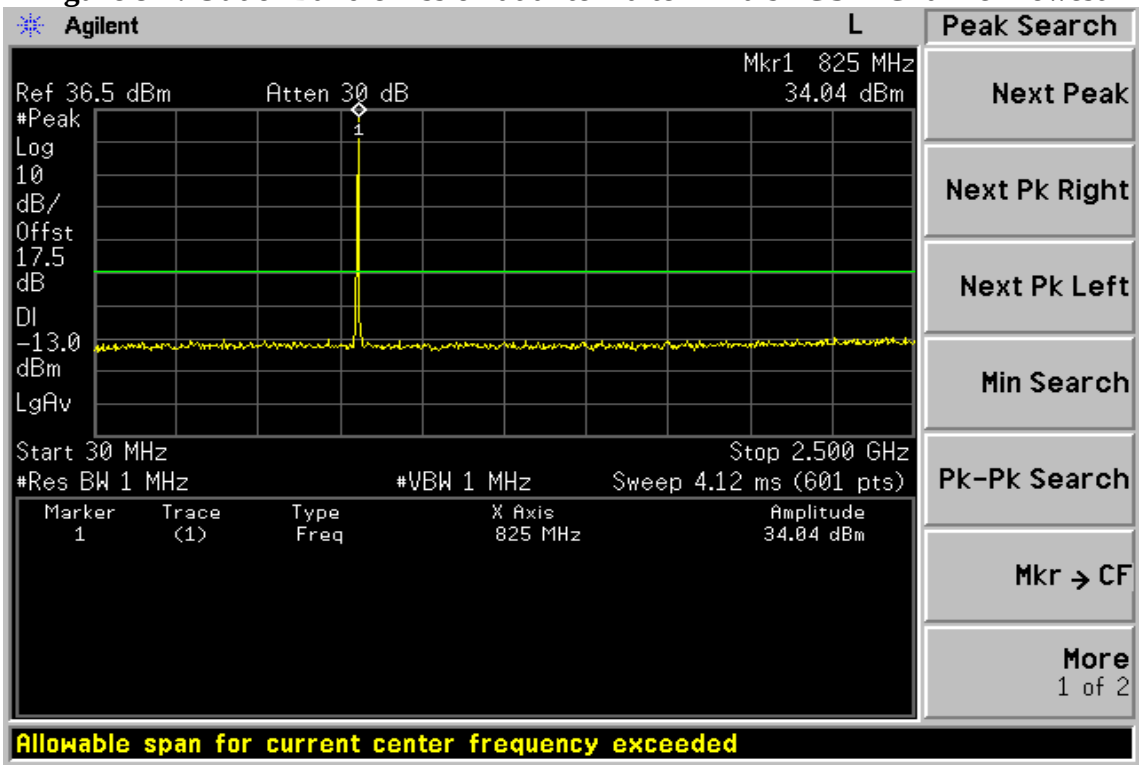
Band Edge Requirements: In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the out of band Emissions. Limit, -13dBm.

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	11/11/2005	11/12/2006
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A
Attenuator	Mini-Circult	BW-S10W5	N/A	10/07/2005	10/06/2006
Attenuator	Mini-Circult	BW-S6W5	N/A	10/07/2005	10/06/2006
Splitter	Mini-Circult	ZFSC-2-10G	N/A	10/07/2005	10/06/2006
Signal Generator	R&S	SMR40	100210	11/09/2005	11/10/2006
DC Power Supply	Agilent	6038A	2929A-07548	01/06/2006	01/05/2007

8.5 Measurement Result

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



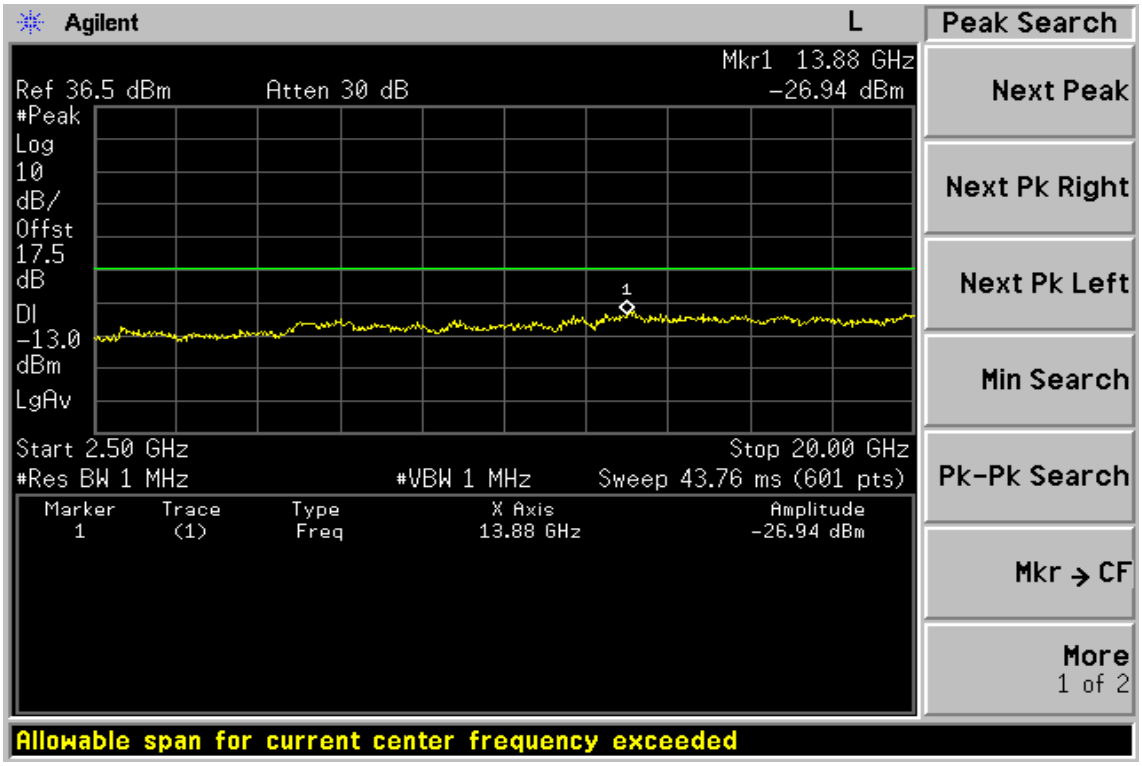
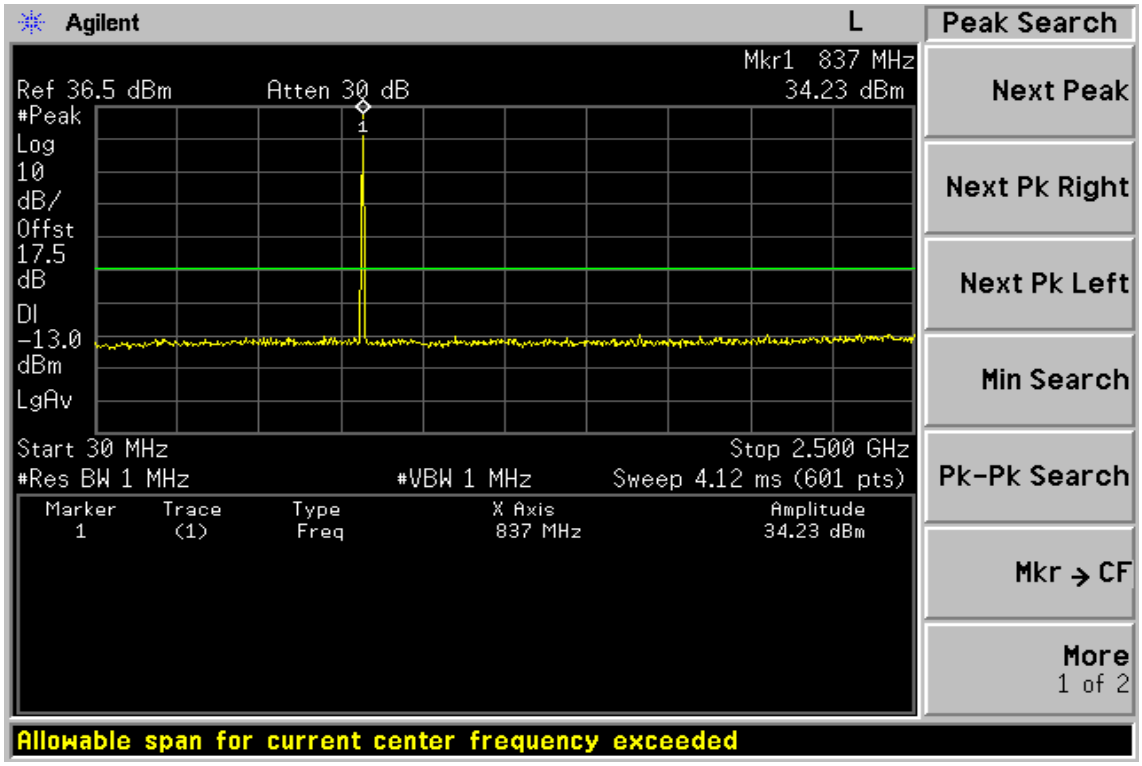


Figure 8-2: Out of Band emission at antenna terminals –GSM Channel Mid



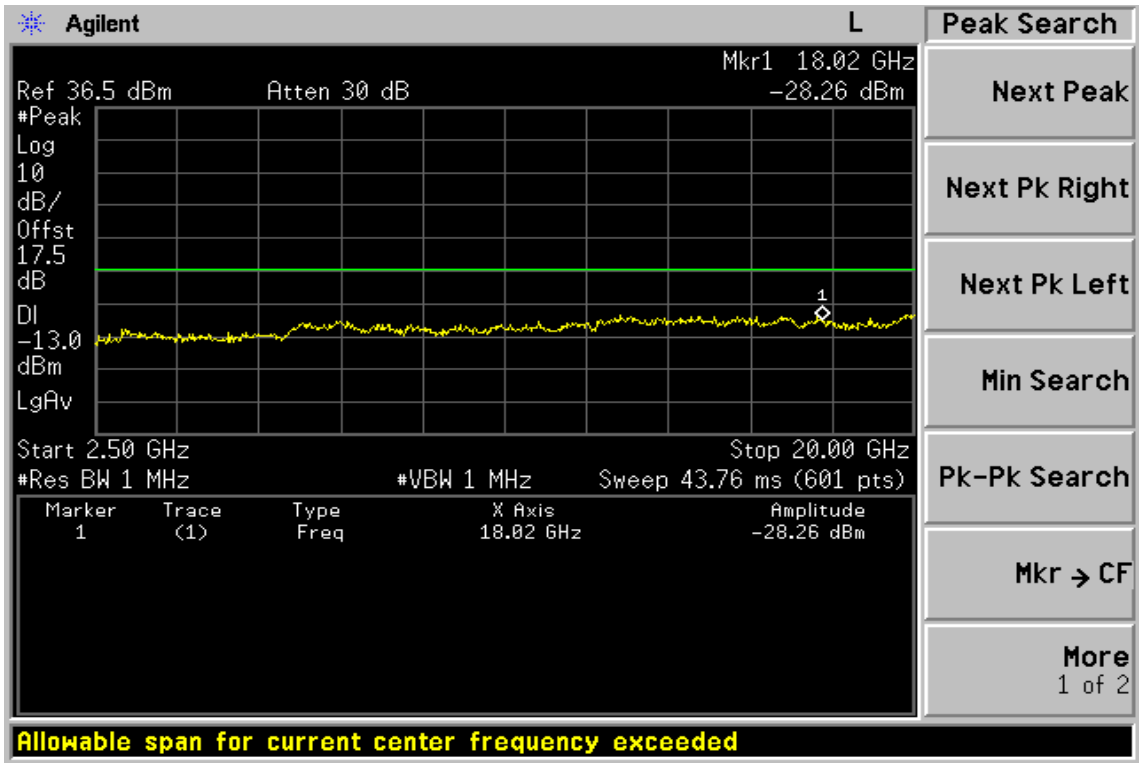
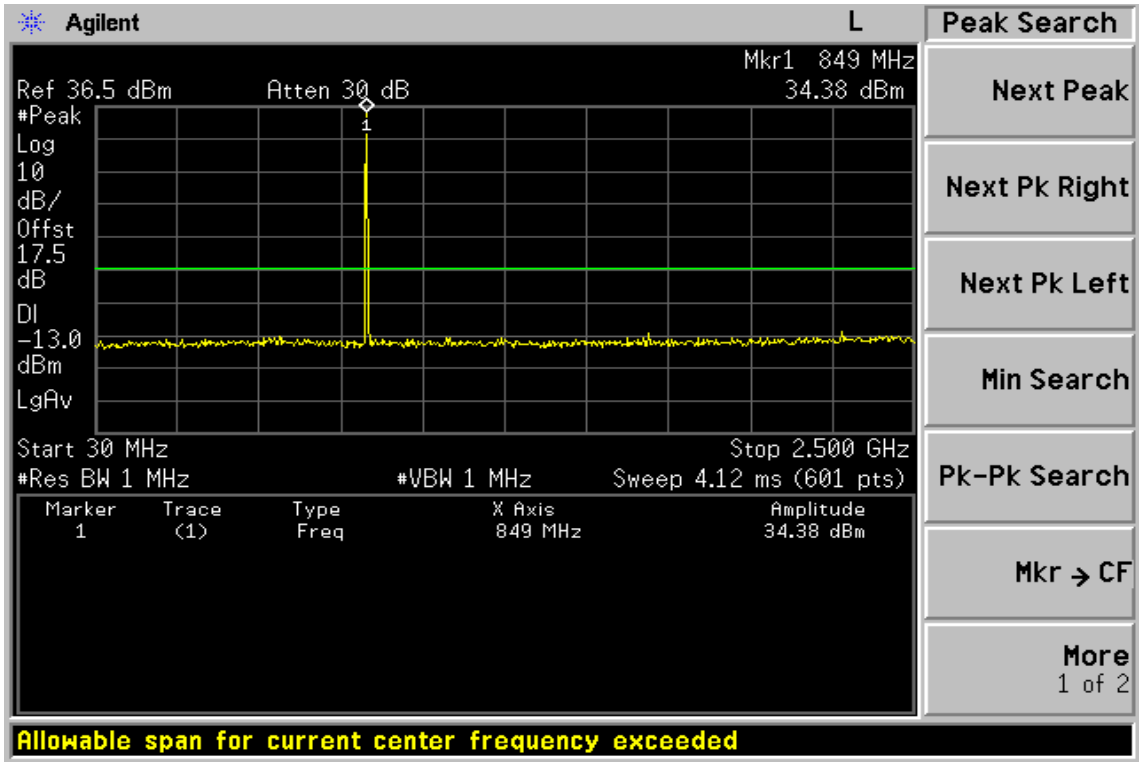


Figure 8-3: Out of Band emission at antenna terminals–GSM Channel Highest



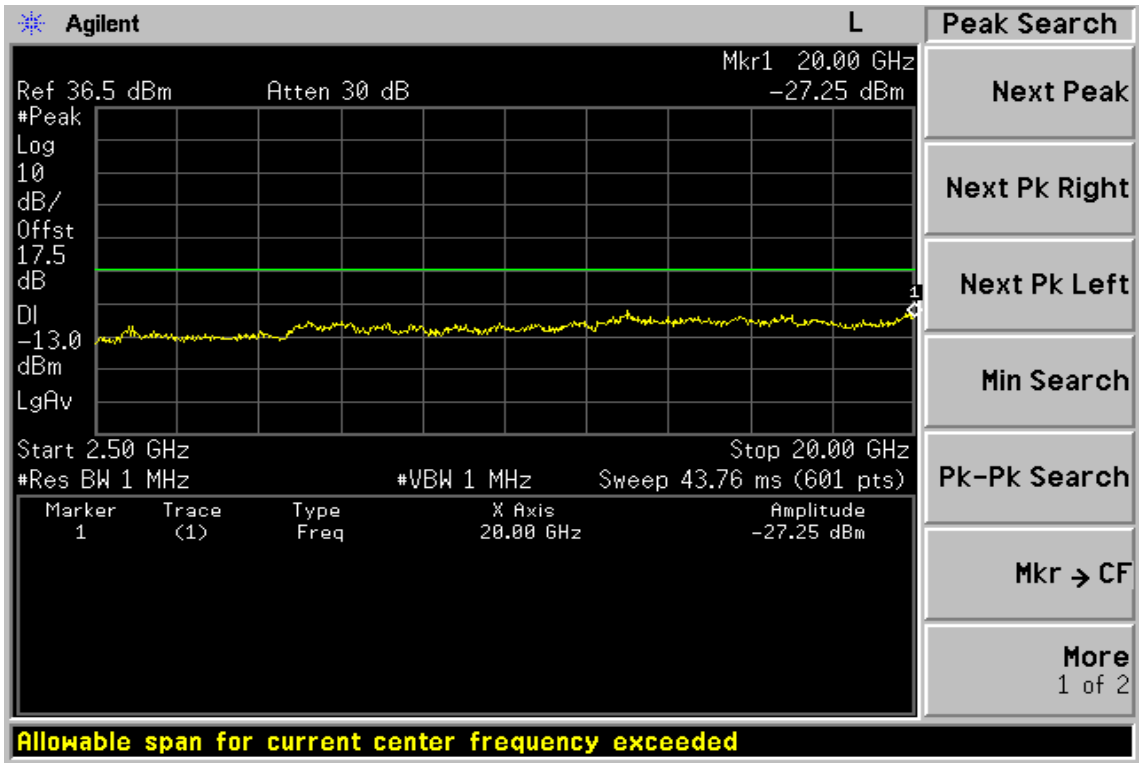


Figure 8-4: Bad edge emission at antenna terminals – GSM Channel Lowest

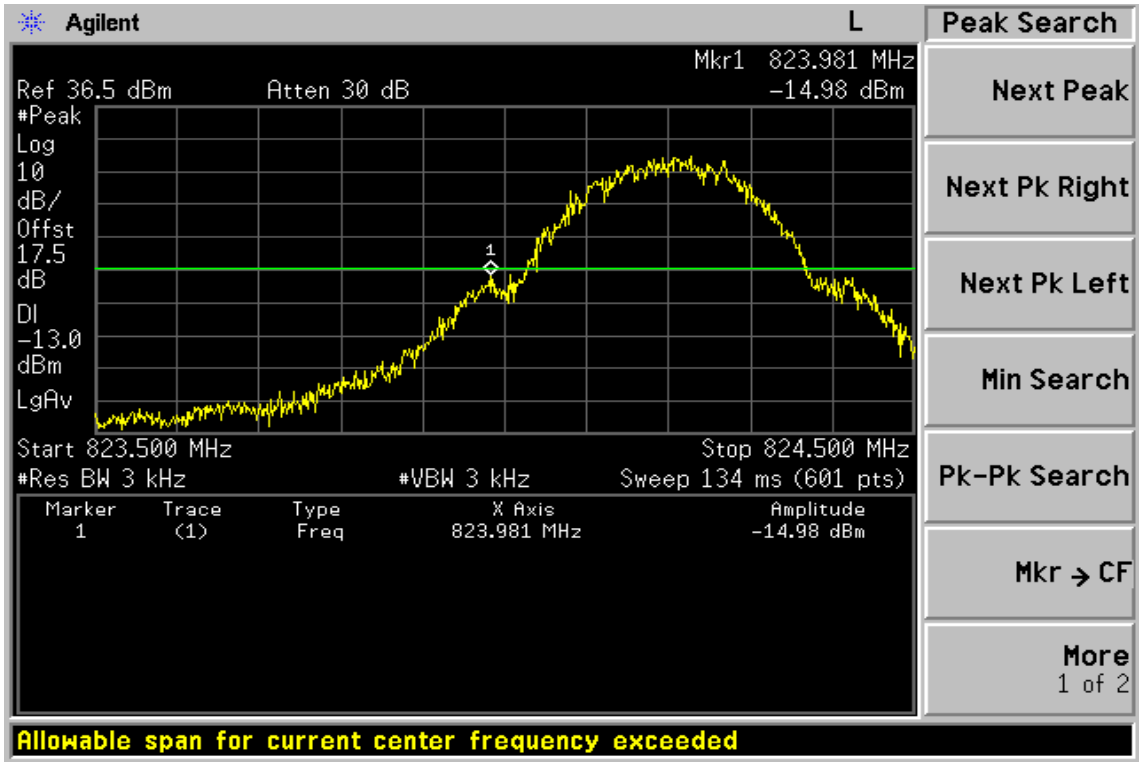


Figure 8-5: Band edge emission at antenna terminals – GSM Channel Highest

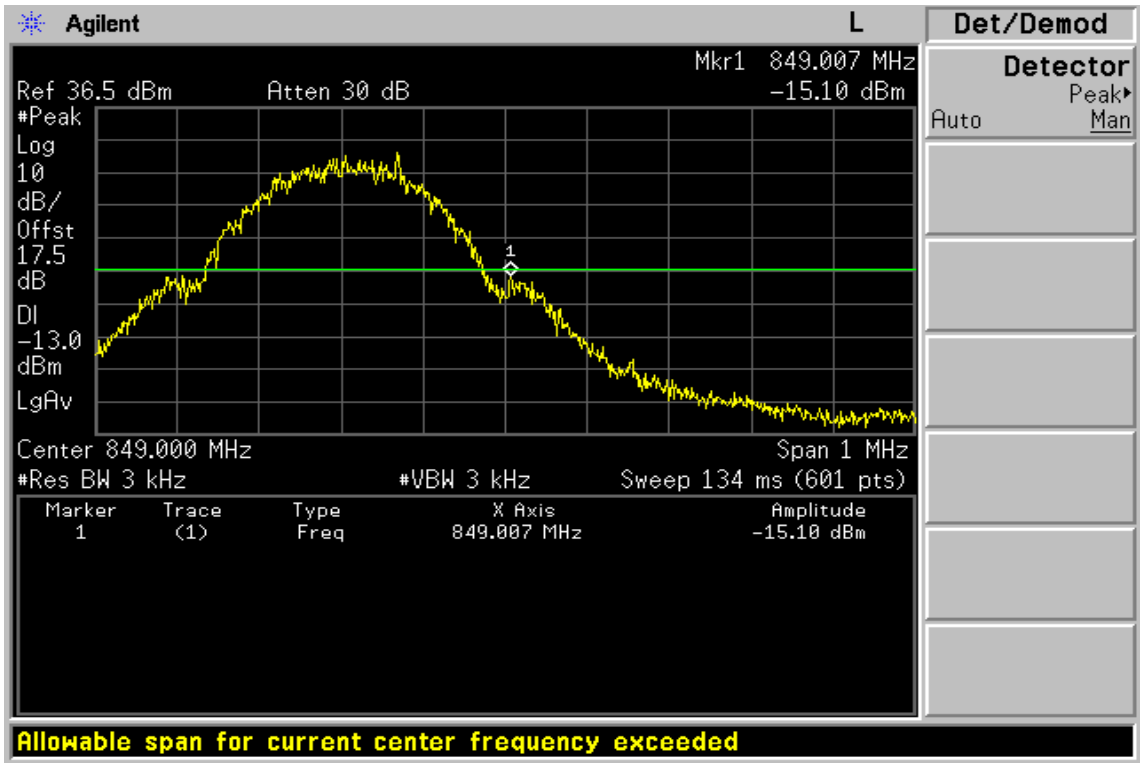
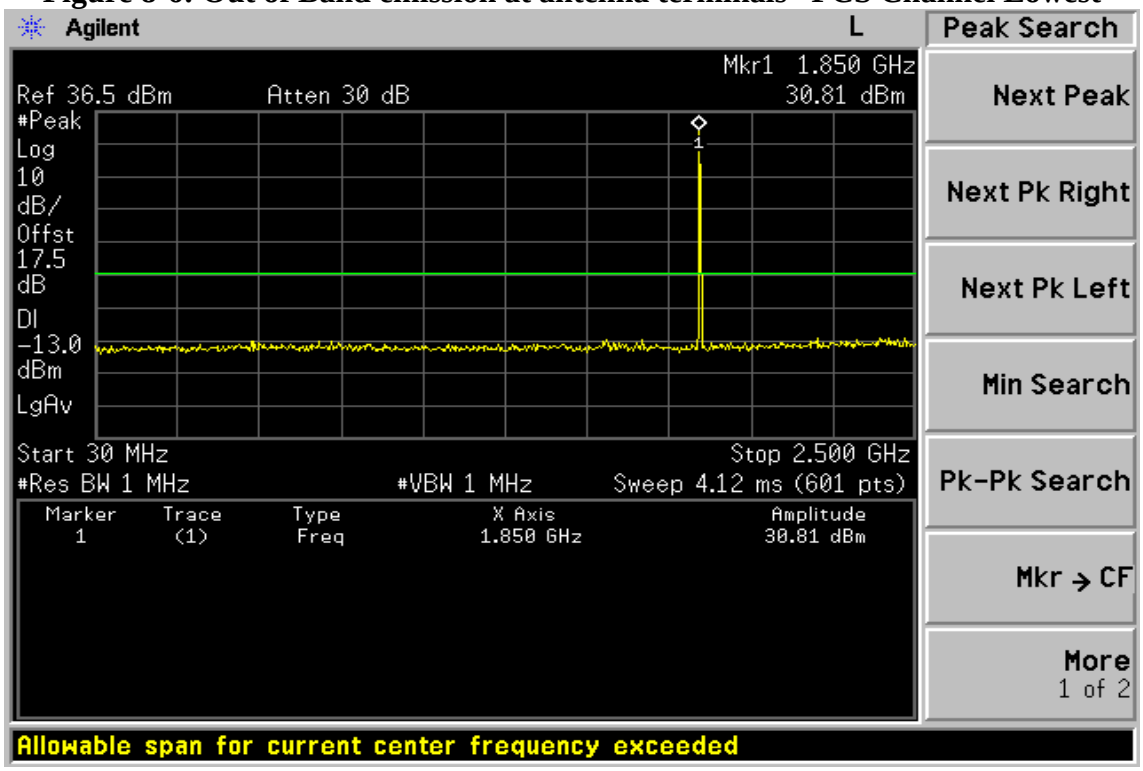


Figure 8-6: Out of Band emission at antenna terminals– PCS Channel Lowest



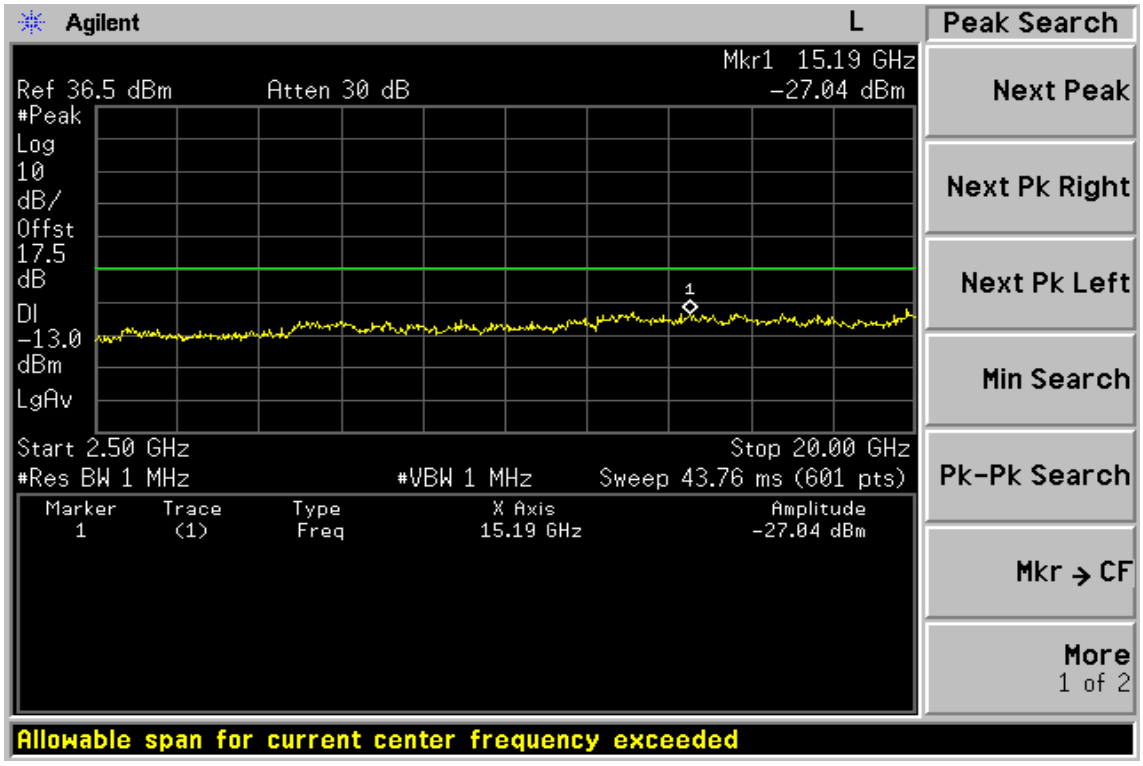
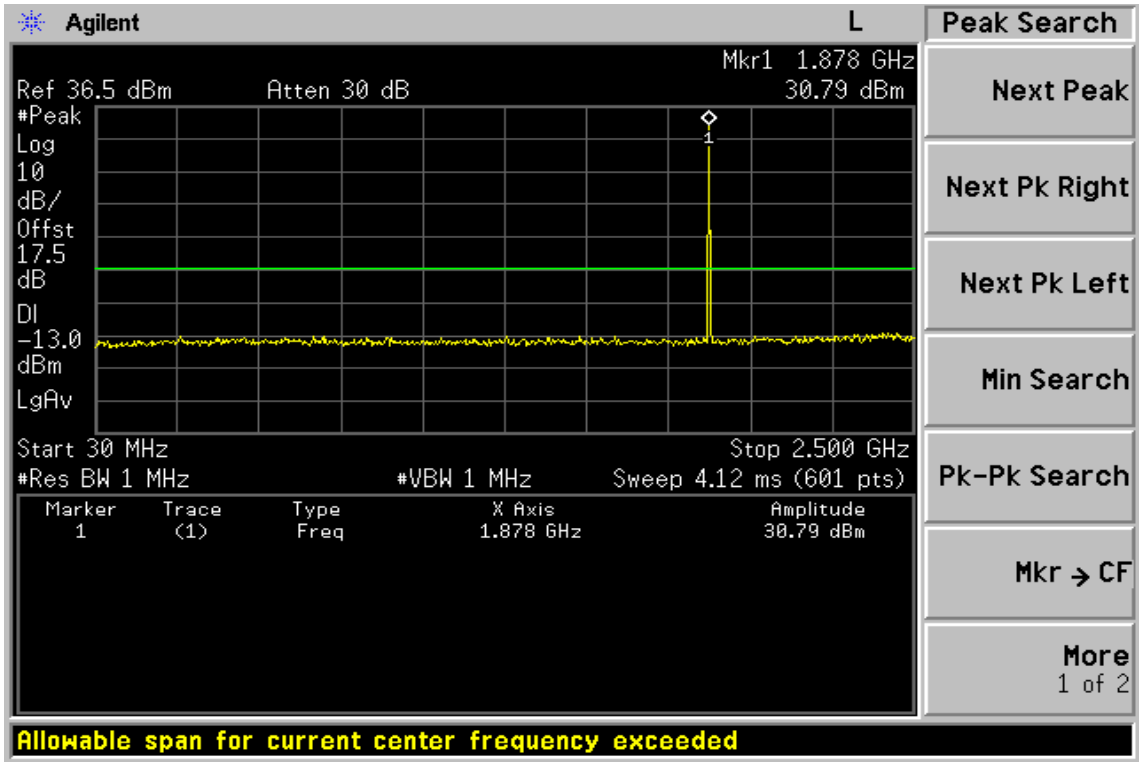


Figure 8-7: Out of Band emission at antenna terminals –PCS Channel Mid



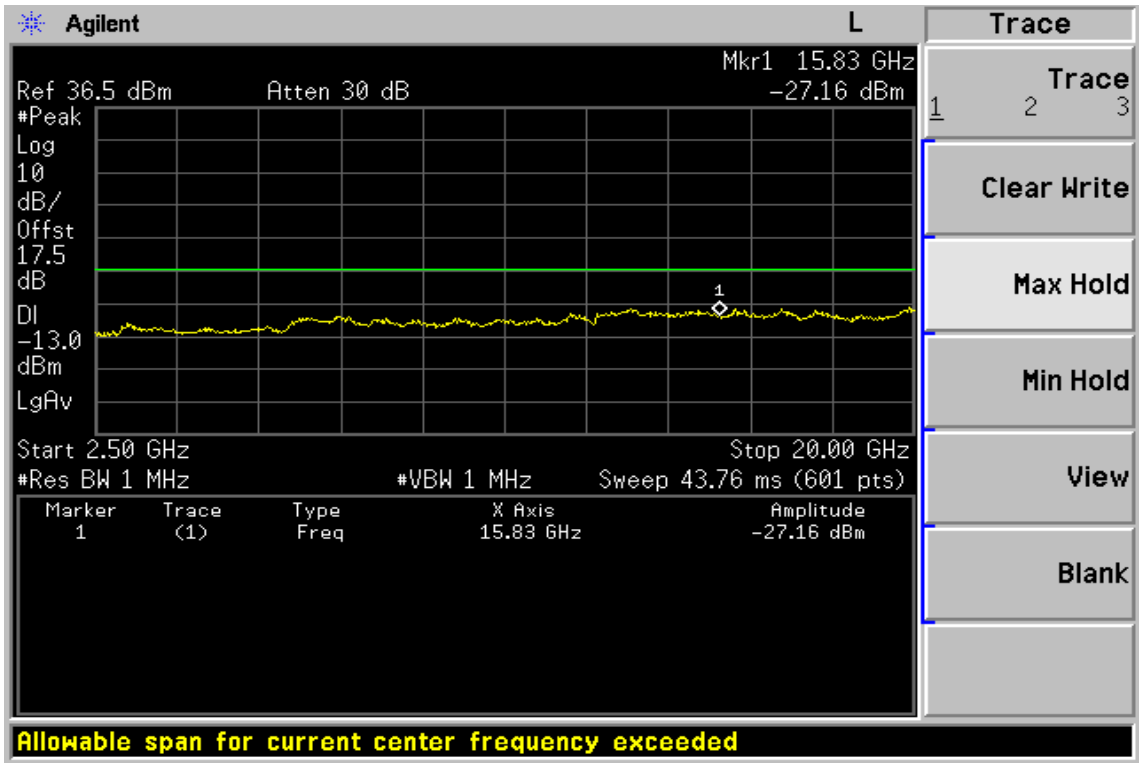
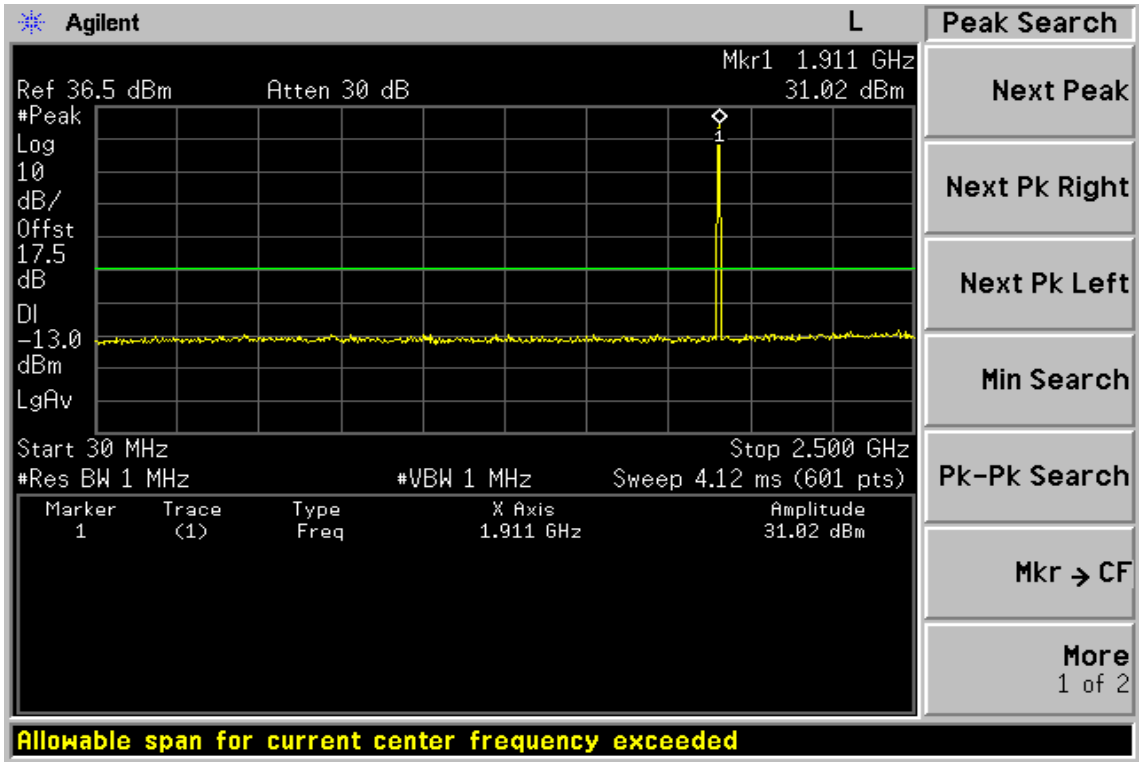


Figure 8-8: Out of Band emission at antenna terminals–PCS Channel Highest



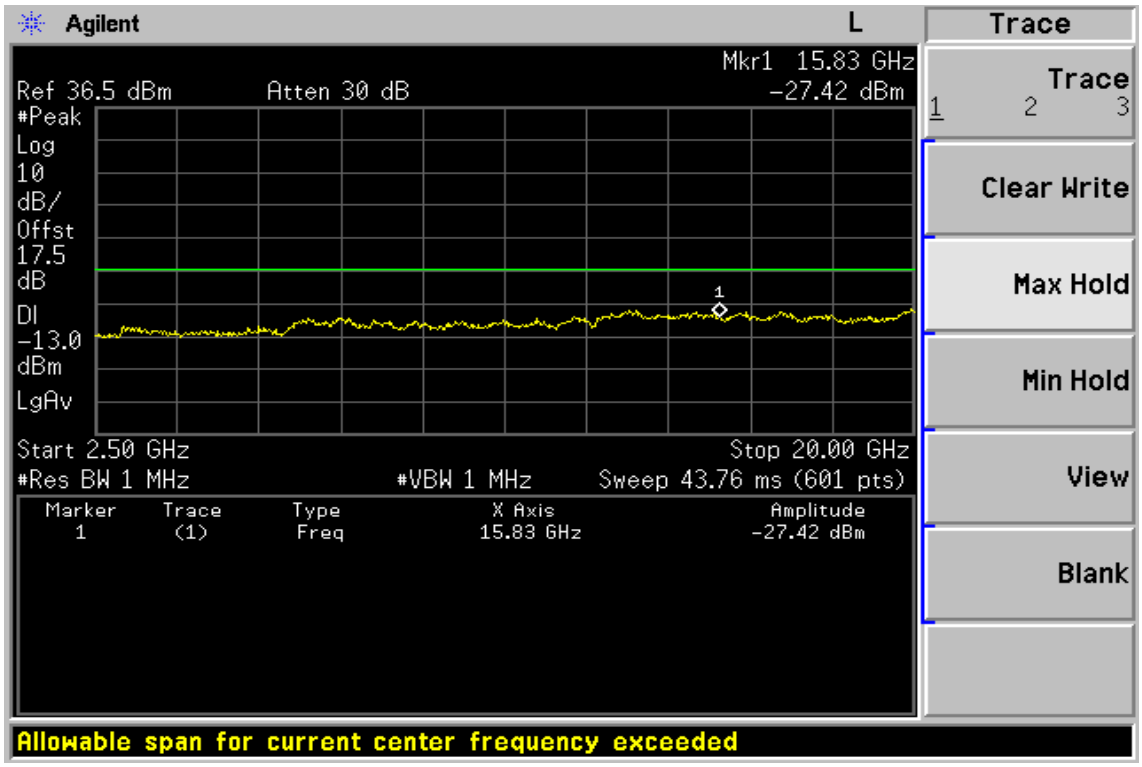


Figure 8-9: Bad edge emission at antenna terminals – PCS Channel Lowest

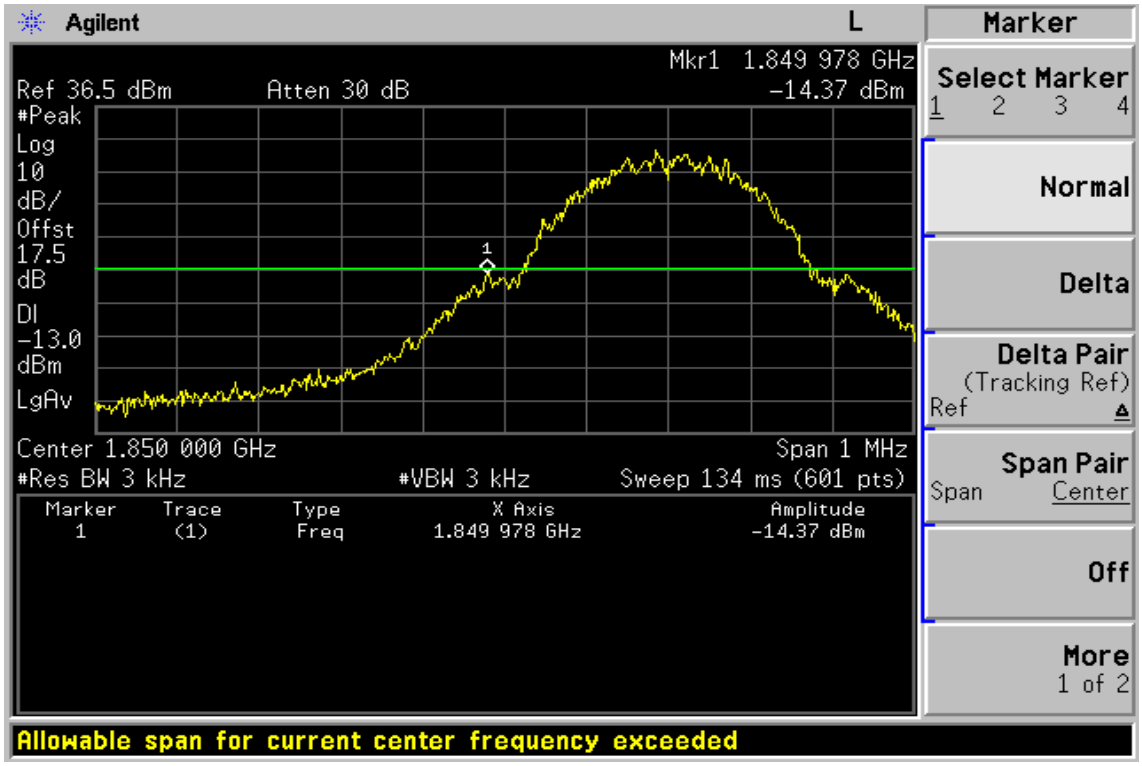
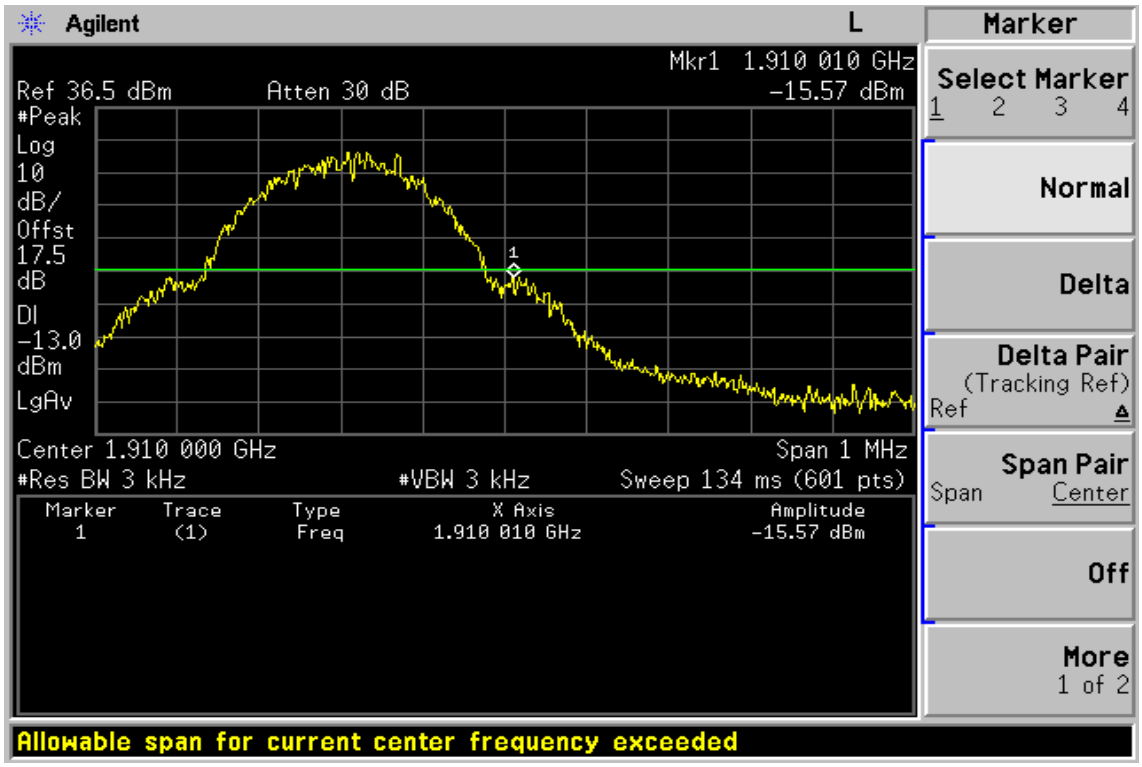


Figure 8-10: Band edge emission at antenna terminals – PCS Channel Highest



9. FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

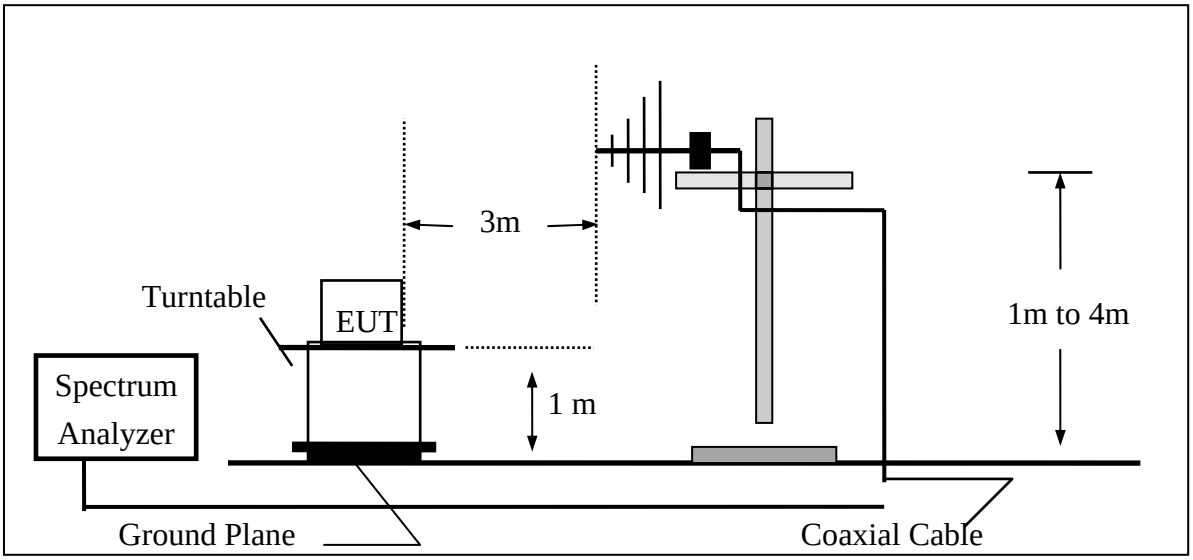
9.1 Standard Applicable

According to FCC §2.1053,

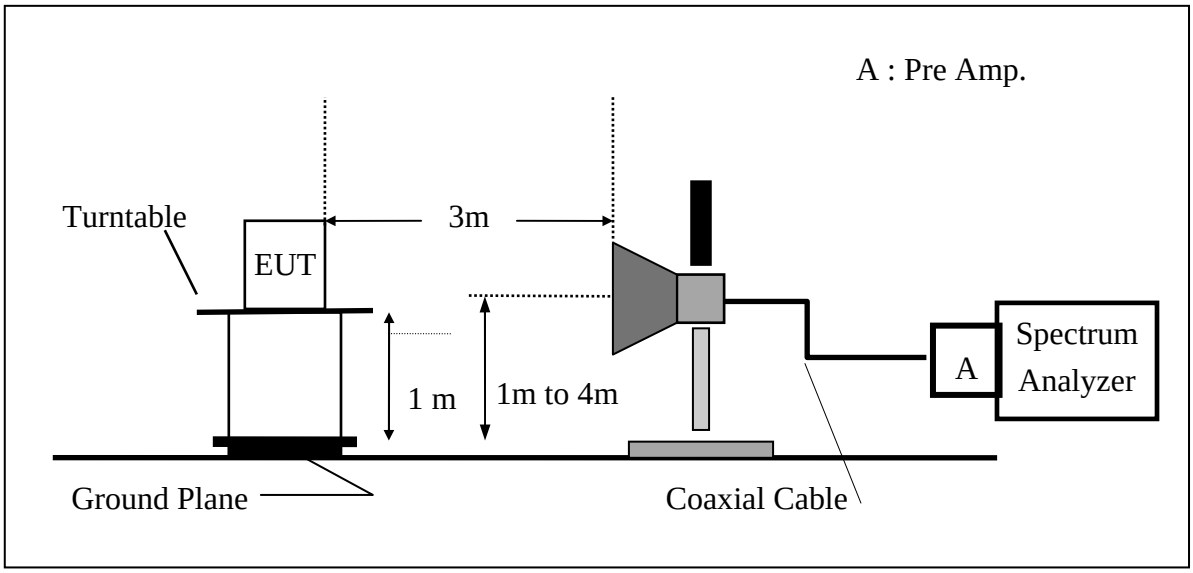
FCC §22.917(a),§24.238(a), the magnitude of each spurious and harmonic emission that can be detected when the equipment is operated under the conditions specified in the instruction manual and/ or alignment procedure, shall not be less than 43 + 10 log (mean output power in watts) dBc below the mean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

9.2 EUT Setup (Block Diagram of Configuration)

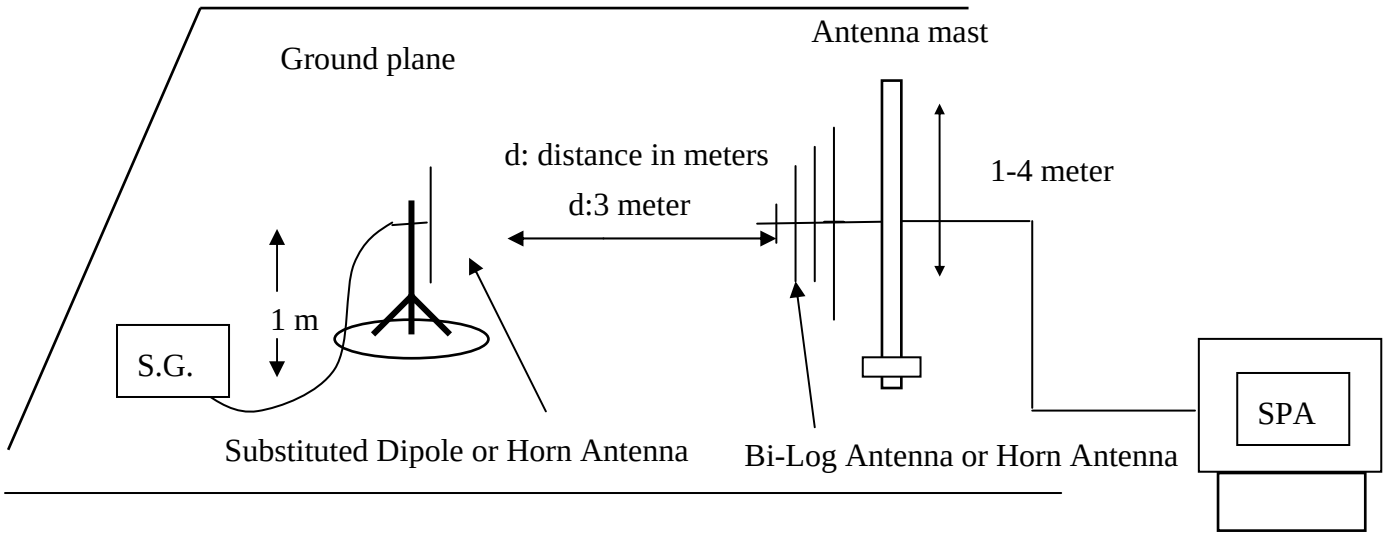
(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



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



(C) Substituted Method Test Set-UP



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.

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

EIRP = S.G. output (dBm) + Antenna Gain(dBi) – 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	08/27/2005	08/26/2006
Bilog Antenna	SCHWAZBECK	VULB9163	152	06/03/2006	06/02/2007
Horn antenna	Schwarzbeck	BBHA 9120D	309/320	08/16/2005	08/15/2006
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	10/09/2005	10/08/2006
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-3M	3m	10/09/2005	10/08/2006
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-0.5M	0.5m	10/09/2005	10/08/2006
Site NSA	SGS	966 chamber	N/A	11/17/2005	11/16/2006
Site NSA	SGS	10m Open-Site	N/A	10/02/2005	10/01/2006
Attenuator	Mini-Circult	BW-S10W5	N/A	10/07/2005	10/06/2006
Temperature Chamber	TERCHY	MHG-120LF	911009	10/14/2005	10/13/2006
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	08/16/2005	08/15/2006

9.5 Measurement Result

Refer to attach tabular data sheets.

Radiated Spurious Emission Measurement Result: GSM 850 Mode

Operation Mode	: TX CH Low E1 Mode	Test Date:	Jul. 13, 2006
Fundamental Frequency	: 824.20 MHz	Test By:	Alex
Temperature	: 25℃	Pol:	Ver / Hor
Humidity	: 65%		

Freq.	SPA. Reading	Ant.Pol.	S.G Out-put	Antenna Gain	Cable Loss	ERP/ EIRP	Limit	Safe Mar-gin
(MHz)	(dBuV)	H/V	(dBm)	(dB/dBi)	(dB)	(dBm)	(dBm)	(dBm)
823.98	82.75	V	-4.58	-7.87	3.64	-16.10	-13.00	-3.10
1650.00	43.40	V	-63.64	9.29	5.06	-59.41	-13.00	-46.41
2469.00	46.29	V	-57.80	10.08	6.29	-54.01	-13.00	-41.01
3297.08	---	V	---	---	---	---	-13.00	---
4121.35	---	V	---	---	---	---	-13.00	---
4945.62	---	V	---	---	---	---	-13.00	---
5769.89	---	V	---	---	---	---	-13.00	---
6594.16	---	V	---	---	---	---	-13.00	---
7418.43	---	V	---	---	---	---	-13.00	---
8242.70	---	V	---	---	---	---	-13.00	---
152.22	48.05	H	-50.67	-7.80	1.47	-59.95	-13.00	-46.95
823.99	81.44	H	-6.22	-7.87	3.64	-17.74	-13.00	-4.74
1650.00	46.67	H	-60.34	9.29	5.06	-56.11	-13.00	-43.11
2469.00	52.85	H	-51.23	10.08	6.29	-47.44	-13.00	-34.44
3297.08	---	H	---	---	---	---	-13.00	---
4121.35	---	H	---	---	---	---	-13.00	---
4945.62	---	H	---	---	---	---	-13.00	---
5764.00	37.98	H	-56.58	13.55	9.80	-52.83	-13.00	-39.83
6594.16	---	H	---	---	---	---	-13.00	---
7418.43	---	H	---	---	---	---	-13.00	---
8242.70	---	H	---	---	---	---	-13.00	---

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 (dBd/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: GSM 850 Mode

Operation Mode	: TX CH Mid E1 Mode	Test Date:	Jul. 13, 2006
Fundamental Frequency	: 836.60 MHz	Test By:	Alex
Temperature	: 25℃	Pol:	Ver / Hor
Humidity	: 65%		

Freq.	SPA. Reading	Ant.Pol.	S.G Out-put	Antenna Gain	Cable Loss	ERP/ EIRP	Limit	Safe Margin
(MHz)	(dBuV)	H/V	(dBm)	(dB/dBi)	(dB)	(dBm)	(dBm)	(dBm)
151.25	46.79	V	-50.93	-7.80	1.47	-60.20	-13.00	-47.20
1669.50	51.60	V	-55.43	9.35	5.09	-51.17	-13.00	-38.17
2501.50	49.07	V	-54.83	10.06	6.34	-51.10	-13.00	-38.10
3346.40	---	V	---	---	---	---	-13.00	---
4182.60	---	V	---	---	---	---	-13.00	---
5019.12	---	V	---	---	---	---	-13.00	---
5855.64	---	V	---	---	---	---	-13.00	---
6692.16	---	V	---	---	---	---	-13.00	---
7528.68	---	V	---	---	---	---	-13.00	---
8365.20	---	V	---	---	---	---	-13.00	---
151.25	47.42	H	-51.24	-7.80	1.47	-60.51	-13.00	-47.51
1669.50	47.55	H	-59.45	9.35	5.09	-55.19	-13.00	-42.19
2501.50	55.41	H	-48.49	10.06	6.34	-44.76	-13.00	-31.76
3346.40	---	H	---	---	---	---	-13.00	---
4185.00	37.29	H	-62.12	12.62	8.40	-57.90	-13.00	-44.90
5849.00	40.76	H	-53.58	13.67	9.84	-49.75	-13.00	-36.75
6692.16	---	H	---	---	---	---	-13.00	---
7528.68	---	H	---	---	---	---	-13.00	---
8365.20	---	H	---	---	---	---	-13.00	---

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 (dBd/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: GSM 850 Mode

Operation Mode	: TX CH High E1 Mode	Test Date:	Jul. 13, 2006
Fundamental Frequency	: 848.80 MHz	Test By:	Alex
Temperature	: 25℃	Pol:	Ver / Hor
Humidity	: 65%		

Freq.	SPA. Reading	Ant.Pol.	S.G Out-put	Antenna Gain	Cable Loss	ERP/ EIRP	Limit	Safe Margin
(MHz)	(dBuV)	H/V	(dBm)	(dB/dBi)	(dB)	(dBm)	(dBm)	(dBm)
152.22	46.32	V	-51.49	-7.80	1.47	-60.76	-13.00	-47.76
849.00	84.77	V	-1.96	-7.88	3.75	-13.59	-13.00	-0.59
1689.00	53.97	V	-53.05	9.41	5.13	-48.77	-13.00	-35.77
2547.00	47.63	V	-56.16	10.20	6.40	-52.36	-13.00	-39.36
3395.48	---	V	---	---	---	---	-13.00	---
4237.00	41.04	V	-58.34	12.63	8.45	-54.16	-13.00	-41.16
5093.22	---	V	---	---	---	---	-13.00	---
5942.09	---	V	---	---	---	---	-13.00	---
6790.96	---	V	---	---	---	---	-13.00	---
7639.83	---	V	---	---	---	---	-13.00	---
8488.70	---	V	---	---	---	---	-13.00	---
125.06	48.77	H	-52.11	-7.78	1.34	-61.24	-13.00	-48.24
849.02	79.92	H	-7.10	-7.88	3.75	-18.72	-13.00	-5.72
1689.00	45.39	H	-61.60	9.41	5.13	-57.31	-13.00	-44.31
2547.00	55.35	H	-48.43	10.20	6.40	-44.63	-13.00	-31.63
3395.48	---	H	---	---	---	---	-13.00	---
4237.00	43.63	H	-55.59	12.63	8.45	-51.41	-13.00	-38.41
5940.00	37.23	H	-56.87	13.81	9.89	-52.95	-13.00	-39.95
6790.96	---	H	---	---	---	---	-13.00	---
7639.83	---	H	---	---	---	---	-13.00	---
8488.70	---	H	---	---	---	---	-13.00	---

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 (dBd/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: PCS 1900 Mode

Operation Mode	: TX CH Low H Mode	Test Date	Jul. 13, 2006
Fundamental Frequency	: 1850.20MHz	Test By:	Alex
Temperature	: 25℃	Pol:	Ver / Hor
Humidity	: 65%		

Freq.	SPA. Reading	Ant.Pol.	S.G Output	Antenna Gain	Cable Loss	ERP/ EIRP	Limit	Safe Margin
(MHz)	(dBuV)	H/V	(dBm)	(dB/dBi)	(dB)	(dBm)	(dBm)	(dBm)
123.12	46.53	V	-54.35	-7.78	1.33	-63.47	-13.00	-50.47
151.25	45.60	V	-52.12	-7.80	1.47	-61.39	-13.00	-48.39
1850.00	80.98	V	-25.98	9.90	5.41	-21.49	-13.00	-8.49
3697.50	39.26	V	-62.33	12.61	7.72	-57.45	-13.00	-44.45
5550.00	37.11	V	-58.10	13.23	9.68	-54.56	-13.00	-41.56
9251.00	---	V	---	---	---	---	-13.00	---
11101.20	---	V	---	---	---	---	-13.00	---
12951.40	---	V	---	---	---	---	-13.00	---
14801.60	---	V	---	---	---	---	-13.00	---
16651.80	---	V	---	---	---	---	-13.00	---
18502.00	---	V	---	---	---	---	-13.00	---
42.61	43.87	H	-60.05	-2.11	0.82	-62.98	-13.00	-49.98
149.31	46.92	H	-51.72	-7.80	1.46	-60.99	-13.00	-47.99
1850.00	82.02	H	-24.87	9.90	5.41	-20.38	-13.00	-7.38
3697.50	37.74	H	-63.63	12.61	7.72	-58.75	-13.00	-45.75
5550.00	44.99	H	-50.14	13.23	9.68	-46.60	-13.00	-33.60
9251.00	---	H	---	---	---	---	-13.00	---
11101.20	---	H	---	---	---	---	-13.00	---
12951.40	---	H	---	---	---	---	-13.00	---
14801.60	---	H	---	---	---	---	-13.00	---
16651.80	---	H	---	---	---	---	-13.00	---
18502.00	---	H	---	---	---	---	-13.00	---

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 (dBd/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: PCS 1900 Mode

Operation Mode	: TX CH Mid H Mode	Test Date	Jul. 13, 2006
Fundamental Frequency	: 1880MHz	Test By	Alex
Temperature	: 25℃	Pol	Ver / Hor
Humidity	: 65%		

Freq.	SPA. Reading	Ant.Pol.	S.G Output	Antenna Gain	Cable Loss	ERP/ EIRP	Limit	Safe Margin
(MHz)	(dBuV)	H/V	(dBm)	(dB/dBi)	(dB)	(dBm)	(dBm)	(dBm)
42.61	44.06	V	-59.10	-2.11	0.82	-62.03	-13.00	-49.03
151.25	47.47	V	-50.25	-7.80	1.47	-59.52	-13.00	-46.52
5634.50	43.80	V	-51.17	13.35	9.73	-47.55	-13.00	-34.55
7520.00	---	V	---	---	---	---	-13.00	---
9400.00	---	V	---	---	---	---	-13.00	---
11280.00	---	V	---	---	---	---	-13.00	---
13160.00	---	V	---	---	---	---	-13.00	---
15040.00	---	V	---	---	---	---	-13.00	---
16920.00	---	V	---	---	---	---	-13.00	---
18800.00	---	V	---	---	---	---	-13.00	---
42.61	44.18	H	-59.74	-2.11	0.82	-62.67	-13.00	-49.67
152.22	47.33	H	-51.39	-7.80	1.47	-60.67	-13.00	-47.67
5634.50	40.68	H	-54.22	13.35	9.73	-50.60	-13.00	-37.60
7520.00	---	H	---	---	---	---	-13.00	---
9400.00	---	H	---	---	---	---	-13.00	---
11280.00	---	H	---	---	---	---	-13.00	---
13160.00	---	H	---	---	---	---	-13.00	---
15040.00	---	H	---	---	---	---	-13.00	---
16920.00	---	H	---	---	---	---	-13.00	---
18800.00	---	H	---	---	---	---	-13.00	---

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 (dBd/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: PCS 1900 Mode

Operation Mode	: TX CH High H Mode	Test Date	Jul. 13, 2006
Fundamental Frequency	: 1909.8 MHz	Test By	Alex
Temperature	: 25℃	Pol	Ver / Hor
Humidity	: 65%		

Freq.	SPA. Reading	Ant.Pol.	S.G Output	Antenna Gain	Cable Loss	ERP/ EIRP	Limit	Safe Margin
(MHz)	(dBuV)	H/V	(dBm)	(dB/dBi)	(dB)	(dBm)	(dBm)	(dBm)
151.25	46.90	V	-50.82	-7.80	1.47	-60.09	-13.00	-47.09
1910.02	80.79	V	-26.15	10.08	5.51	-21.58	-13.00	-8.58
3814.50	40.58	V	-60.47	12.60	7.91	-55.78	-13.00	-42.78
5732.00	43.99	V	-50.71	13.50	9.78	-46.99	-13.00	-33.99
7639.20	---	V	---	---	---	---	-13.00	---
9549.00	---	V	---	---	---	---	-13.00	---
11458.80	---	V	---	---	---	---	-13.00	---
13368.60	---	V	---	---	---	---	-13.00	---
15278.40	---	V	---	---	---	---	-13.00	---
17188.20	---	V	---	---	---	---	-13.00	---
19098.00	---	V	---	---	---	---	-13.00	---
37.76	45.19	H	-58.30	-3.70	0.76	-62.77	-13.00	-49.77
149.31	46.98	H	-51.66	-7.80	1.46	-60.93	-13.00	-47.93
1910.02	81.72	H	-25.13	10.08	5.51	-20.57	-13.00	-7.57
5732.00	43.44	H	-51.21	13.50	9.78	-47.49	-13.00	-34.49
7639.20	---	H	---	---	---	---	-13.00	---
9549.00	---	H	---	---	---	---	-13.00	---
11458.80	---	H	---	---	---	---	-13.00	---
13368.60	---	H	---	---	---	---	-13.00	---
15278.40	---	H	---	---	---	---	-13.00	---
17188.20	---	H	---	---	---	---	-13.00	---
19098.00	---	H	---	---	---	---	-13.00	---

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 (dBd/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: Co-Location Mode

Operation Mode : GSM850 TX Ch High E1 / BT Ch High
Fundamental Frequency : 848.80 MHz / 2480MHz
Temperature : 25℃
Humidity : 65%

Test Date: Jul. 13, 2006
Test By: Alex
Pol: Ver

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
56.19	45.82	V	-57.28	-3.70	0.76	-61.74	-13.00	-48.74
147.37	46.99	V	-58.53	-7.78	1.33	-67.65	-13.00	-54.65
849.02	85.34	V	-1.68	-7.88	3.75	-13.30	-13.00	-0.30
1689.00	53.85	V	-53.17	9.41	5.13	-48.89	-13.00	-35.89
2547.00	55.11	V	-48.68	10.20	6.40	-44.88	-13.00	-31.88
4237.00	41.61	V	-57.77	12.63	8.45	-53.59	-13.00	-40.59
4244.35	---	V	---	---	---	---	-13.00	---
5093.22	---	V	---	---	---	---	-13.00	---
5942.09	---	V	---	---	---	---	-13.00	---
6790.96	---	V	---	---	---	---	-13.00	---
7639.83	---	V	---	---	---	---	-13.00	---
8488.70	---	V	---	---	---	---	-13.00	---
4960.00	---	V	---	---	---	---	-13.00	---
7440.00	---	V	---	---	---	---	-13.00	---
9920.00	---	V	---	---	---	---	-13.00	---
12400.00	---	V	---	---	---	---	-13.00	---

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 (dBd/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: Co-Location Mode

Operation Mode : GSM850 TX Ch High E1 / BT Ch High
Fundamental Frequency : 848.80 MHz / 2480MHz
Temperature : 25℃
Humidity : 65%

Test Date: Jul. 13, 2006
Test By: Alex
Pol: Her.

Freq.	SPA. Reading	Ant.Pol.	S.G Out-put	Antenna Gain	Cable Loss	ERP/ EIRP	Limit	Safe Margin
(MHz)	(dBuV)	H/V	(dBm)	(dB/dBi)	(dB)	(dBm)	(dBm)	(dBm)
42.61	40.82	H	-63.10	-2.11	0.82	-66.03	-13.00	-53.03
81.41	42.40	H	-61.91	-7.75	1.10	-70.76	-13.00	-57.76
120.21	47.75	H	-53.58	-7.78	1.32	-62.68	-13.00	-49.68
151.25	50.31	H	-48.35	-7.80	1.47	-57.62	-13.00	-44.62
849.02	78.08	H	-8.94	-7.88	3.75	-20.56	-13.00	-7.56
1689.00	49.92	H	-57.07	9.41	5.13	-52.78	-13.00	-39.78
2547.00	62.74	H	-41.04	10.20	6.40	-37.24	-13.00	-24.24
3395.48	---	H	---	---	---	---	-13.00	---
4244.35	---	H	---	---	---	---	-13.00	---
5093.22	---	H	---	---	---	---	-13.00	---
5940.00	37.79	H	-56.31	13.81	9.89	-52.39	-13.00	-39.39
6790.96	---	H	---	---	---	---	-13.00	---
7639.83	---	H	---	---	---	---	-13.00	---
8488.70	---	H	---	---	---	---	-13.00	---
4960.00	---	H	---	---	---	---	-13.00	---
7440.00	---	H	---	---	---	---	-13.00	---
9920.00	---	H	---	---	---	---	-13.00	---
12400.00	---	H	---	---	---	---	-13.00	---

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 (dBd/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: Co-Location Mode

Operation Mode	: GSM1900 TX Ch Low H / BT Ch High	Test Date:	Jul. 13, 2006
Fundamental Frequency	: 1850.20MHz / 2480MHz	Test By:	Alex
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq.	SPA. Reading	Ant.Pol.	S.G Out-put	Antenna Gain	Cable Loss	ERP/ EIRP	Limit	Safe Margin
(MHz)	(dBuV)	H/V	(dBm)	(dB/dBi)	(dB)	(dBm)	(dBm)	(dBm)
35.82	45.07	V	-57.94	-4.61	0.74	-63.30	-13.00	-50.30
120.21	44.59	V	-56.65	-7.78	1.32	-65.74	-13.00	-52.74
151.25	46.47	V	-51.25	-7.80	1.47	-60.52	-13.00	-47.52
272.50	43.95	V	-56.25	-7.90	1.99	-66.14	-13.00	-53.14
1850.00	80.24	V	-26.72	9.90	5.41	-22.23	-13.00	-9.23
5550.00	54.00	V	-41.21	13.23	9.68	-37.67	-13.00	-24.67
7400.80	---	V	---	---	---	---	-13.00	---
9251.00	---	V	---	---	---	---	-13.00	---
11101.20	---	V	---	---	---	---	-13.00	---
12951.40	---	V	---	---	---	---	-13.00	---
14801.60	---	V	---	---	---	---	-13.00	---
16651.80	---	V	---	---	---	---	-13.00	---
18502.00	---	V	---	---	---	---	-13.00	---
4960.00	---	V	---	---	---	---	-13.00	---
7440.00	---	V	---	---	---	---	-13.00	---
9920.00	---	V	---	---	---	---	-13.00	---
12400.00	---	V	---	---	---	---	-13.00	---

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 (dBd/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: Co-Location Mode

Operation Mode	: GSM1900 TX Ch Low H / BT Ch High	Test Date:	Jul. 13, 2006
Fundamental Frequency	: 1850.20MHz / 2480MHz	Test By:	Alex
Temperature	: 25℃	Pol:	Her.
Humidity	: 65%		

Freq.	SPA. Reading	Ant.Pol.	S.G Out-put	Antenna Gain	Cable Loss	ERP/ EIRP	Limit	Safe Margin
(MHz)	(dBuV)	H/V	(dBm)	(dB/dBi)	(dB)	(dBm)	(dBm)	(dBm)
37.76	45.06	H	-58.43	-3.70	0.76	-62.90	-13.00	-49.90
127.00	47.47	H	-53.24	-7.78	1.35	-62.37	-13.00	-49.37
152.22	46.18	H	-52.54	-7.80	1.47	-61.82	-13.00	-48.82
304.51	34.37	H	-65.02	-7.89	2.03	-74.94	-13.00	-61.94
1850.00	81.22	H	-25.67	9.90	5.41	-21.18	-13.00	-8.18
4244.35	---	H	---	---	---	---	-13.00	---
5093.22	---	H	---	---	---	---	-13.00	---
5550.00	54.85	H	-40.28	13.23	9.68	-36.74	-13.00	-23.74
5942.09	---	H	---	---	---	---	-13.00	---
6790.96	---	H	---	---	---	---	-13.00	---
7639.83	---	H	---	---	---	---	-13.00	---
8488.70	---	H	---	---	---	---	-13.00	---
4882.00	---	H	---	---	---	---	-13.00	---
7323.00	---	H	---	---	---	---	-13.00	---
9764.00	---	H	---	---	---	---	-13.00	---
12205.00	---	H	---	---	---	---	-13.00	---

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 (dBd/dBi) – Cable loss (dB)

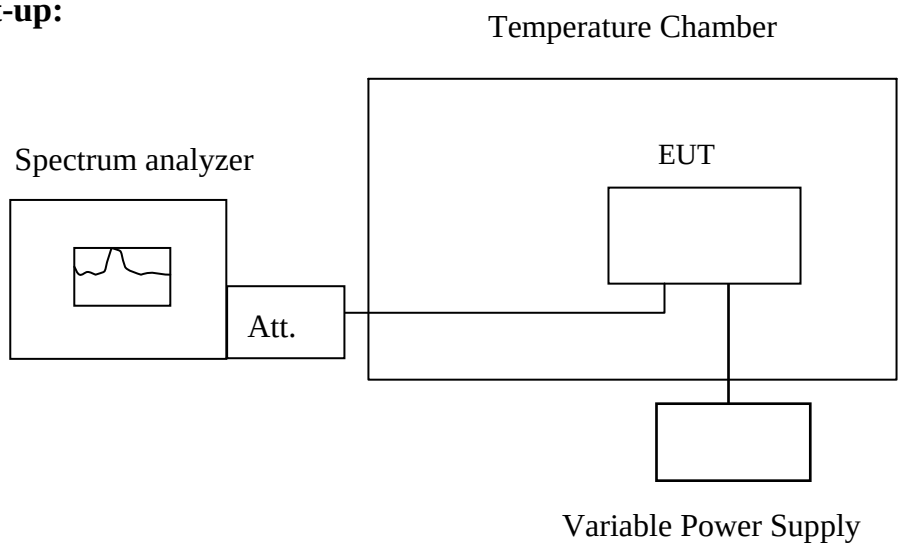
10. FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT

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-corded 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	11/11/2005	11/12/2006
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A
Attenuator	Mini-Circult	BW-S10W5	N/A	10/07/2005	10/06/2006
Attenuator	Mini-Circult	BW-S6W5	N/A	10/07/2005	10/06/2006
Splitter	Mini-Circult	ZFSC-2-10G	N/A	10/07/2005	10/06/2006
Signal Generator	R&S	SMR40	100210	11/09/2005	11/10/2006
DC Power Supply	Agilent	6038A	2929A-07548	01/06/2006	01/05/2007

10.5 Measurement Result

Reference Frequency: GSM Mid Channel 836.6 MHz @ 25℃				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
3.7	-30	836.600017	0.00	2091
3.7	-20	836.600019	-2.00	2091
3.7	-10	836.60002	-4.00	2091
3.7	0	836.60002	0.00	2091
3.7	10	836.60001	3.00	2091
3.7	20	836.60002	0.00	2091
3.7	30	836.60004	-19.00	2091
3.7	40	836.60005	-37.00	2091
3.7	50	836.60006	-42.00	2091

Reference Frequency: PCS Mid Channel 1880 MHz @ 25℃				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
3.7	25	1879.999994	4.00	4700
3.7	-30	1879.999943	55.00	4700
3.7	-20	1879.999975	23.00	4700
3.7	-10	1879.999962	36.00	4700
3.7	0	1879.999958	40.00	4700
3.7	10	1879.999993	5.00	4700
3.7	20	1879.999998	0.00	4700
3.7	30	1880.000019	-20.65	4700
3.7	40	1880.000025	-27.03	4700
3.7	50	1880.000034	-36.20	4700

Note: The battery is rated 3.7V dc.

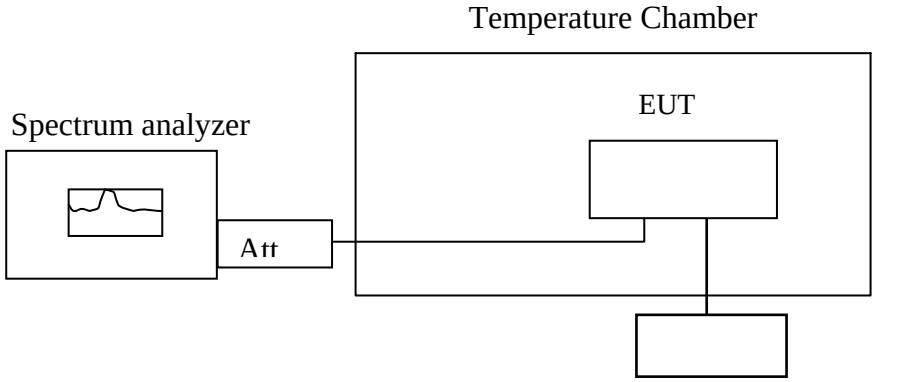
11. FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT

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℃. 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	11/11/2005	11/12/2006
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A
Attenuator	Mini-Circult	BW-S10W5	N/A	10/07/2005	10/06/2006
Attenuator	Mini-Circult	BW-S6W5	N/A	10/07/2005	10/06/2006
Splitter	Mini-Circult	ZFSC-2-10G	N/A	10/07/2005	10/06/2006
Signal Generator	R&S	SMR40	100210	11/09/2005	11/10/2006
DC Power Supply	Agilent	6038A	2929A-07548	01/06/2006	01/05/2007

11.5 Measurement Result

Reference Frequency: GSM Mid Channel 836.6 MHz @ 25℃				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
3.70	25.00	836.600017	0.00	2091.00
3.65	25.00	836.600018	-1.00	2091.00
3.50	25.00	836.600021	-4.00	2091.00
3.40 (End Point)	25.00	836.600016	1.00	2091.00

Reference Frequency: PCS Mid Channel 1880 MHz @ 25℃				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
3.7	25	1879.999994	0.00	4700
3.5	25	1879.999995	-1.00	4700
3.3	25	1879.999997	-3.00	4700
3.0 (Endpoint)	25	1880.000005	-11.00	4700

Note: The battery is rated 3.7V dc.

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 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.

12.4 Measurement Equipment Used:

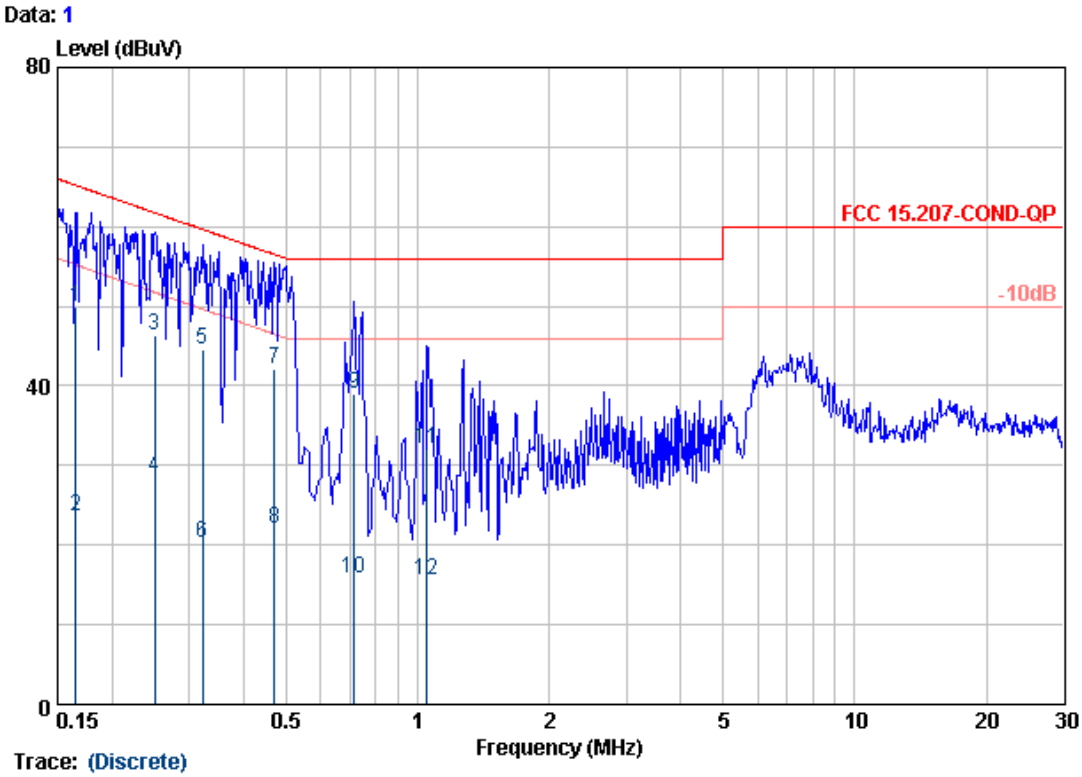
Conducted Emission Test Site					
EQUIPMENT TYPE	**MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL DUE.**
EMC Analyzer	HP	8594EM	3624A00203	09/02/2005	09/03/2006
EMI Test Receiver	R&S	ESCS30	828985/004	06/09/2006	06/10/2007
Transient Limiter	HP	11947A	3107A02062	09/02/2005	09/03/2006
LISN	Rolf-Heine	NNB-2/16Z	99012	12/31/2005	12/30/2006
LISN	Rolf-Heine	NNB-2/16Z	99013	12/24/2005	12/23/2006
Coaxial Cables	N/A	No. 3, 4	N/A	12/24/2005	12/23/2006

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.

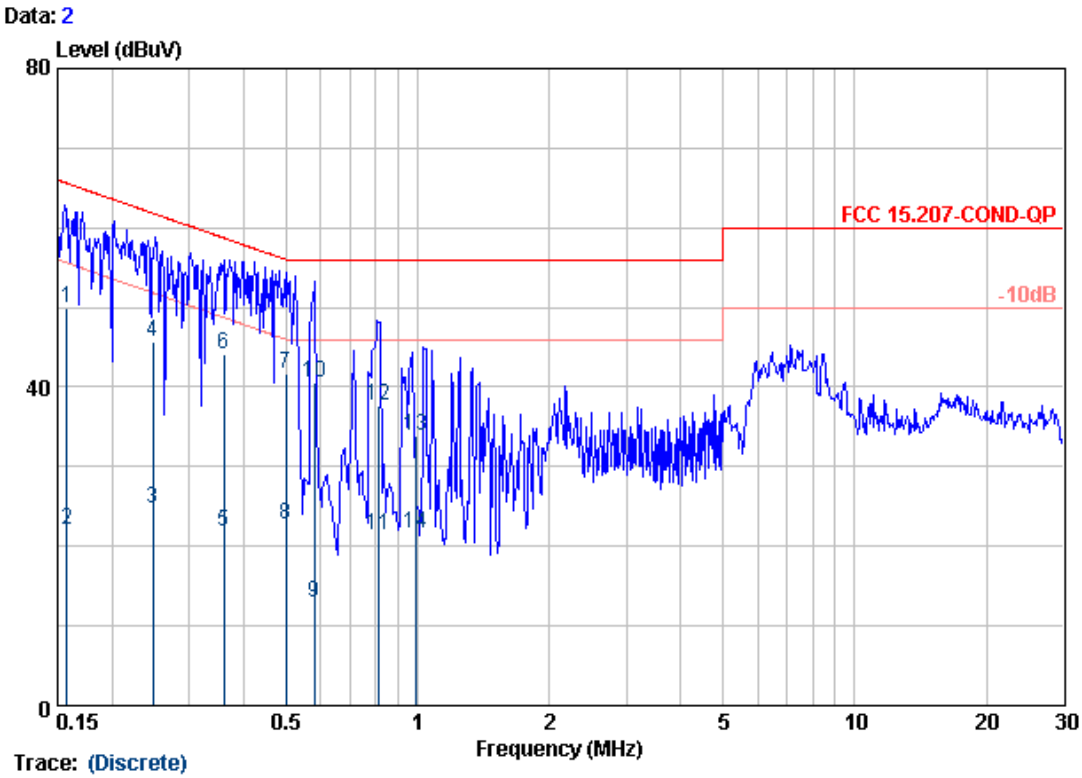
AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode:	GSM 850 + BT LINK			Test Date:	Jul. 20, 2006
Temperature:	25 ℃	Humidity:	65 %	Test By:	Alex



Site : RF Site
Condition : FCC 15.207-COND-QP NNB-2/16Z(99012) LINE
Project No. : ER/2006/70002~03
Applicant : 宏達
EUT Description : FORE100
EUT Model : FORE100
Test Mode : GSM850 link + BT ON (AC ADAPTER)
Temp./Humid. : 25/65
Operator : Alex

	Freq	Pol/Phase	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz		dBuV	dB	dBuV	dBuV	dB	
1	0.17	LINE	49.80	0.20	50.00	65.21	-15.21	QP
2	0.17	LINE	23.35	0.20	23.55	65.21	-41.66	AVERAGE
3	0.25	LINE	46.26	0.20	46.46	61.73	-15.27	QP
4	0.25	LINE	28.22	0.20	28.42	61.73	-33.31	AVERAGE
5	0.32	LINE	44.44	0.20	44.64	59.66	-15.02	QP
6	0.32	LINE	20.06	0.20	20.26	59.66	-39.40	AVERAGE
7	0.47	LINE	41.90	0.20	42.10	56.49	-14.39	QP
8	0.47	LINE	21.87	0.20	22.07	56.49	-34.42	AVERAGE
9	0.72	LINE	38.71	0.21	38.92	56.00	-17.08	QP
10	0.72	LINE	15.51	0.21	15.72	56.00	-40.28	AVERAGE
11	1.05	LINE	31.90	0.21	32.11	56.00	-23.89	QP
12	1.05	LINE	15.34	0.21	15.55	56.00	-40.45	AVERAGE

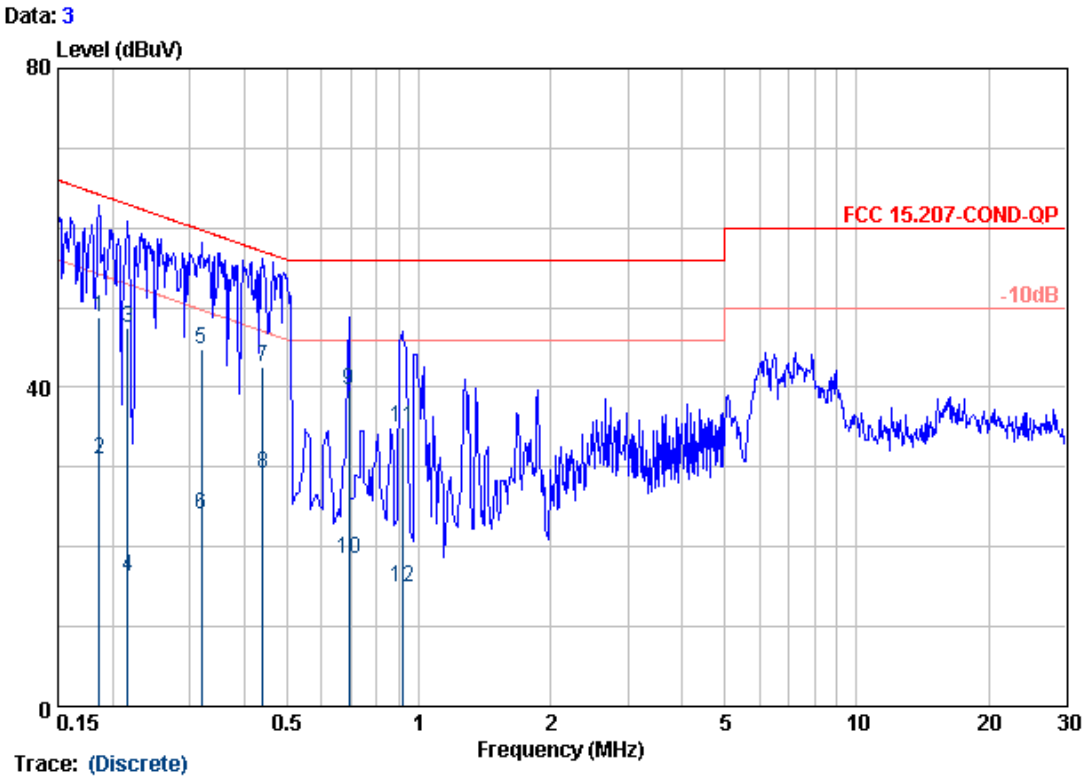


Site	: RF Site
Condition	: FCC 15.207-COND-QP NNB-2/16Z(99012) NEUTRAL
Project No.	: ER/2006/70002~03
Applicant	: 宏達
EUT Description	: FORE100
EUT Model	: FORE100
Test Mode	: GSM850 link + BT ON (AC ADAPTER)
Temp./Humid.	: 25/65
Operator	: Alex

	Freq	Pol/Phase	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz		dBuV	dB	dBuV	dBuV	dB	
1	0.16	NEUTRAL	49.80	0.20	50.00	65.60	-15.60	QP
2	0.16	NEUTRAL	21.80	0.20	22.00	65.60	-43.60	AVERAGE
3	0.25	NEUTRAL	24.47	0.20	24.67	61.83	-37.16	AVERAGE
4	0.25	NEUTRAL	45.50	0.20	45.70	61.83	-16.13	QP
5	0.36	NEUTRAL	21.64	0.20	21.84	58.71	-36.87	AVERAGE
6	0.36	NEUTRAL	43.94	0.20	44.14	58.71	-14.57	QP
7	0.50	NEUTRAL	41.36	0.20	41.56	56.02	-14.46	QP
8	0.50	NEUTRAL	22.56	0.20	22.76	56.02	-33.26	AVERAGE
9	0.58	NEUTRAL	12.81	0.20	13.01	56.00	-42.99	AVERAGE
10	0.58	NEUTRAL	40.43	0.20	40.63	56.00	-15.37	QP
11	0.81	NEUTRAL	21.26	0.21	21.47	56.00	-34.53	AVERAGE
12	0.81	NEUTRAL	37.46	0.21	37.67	56.00	-18.33	QP
13	0.99	NEUTRAL	33.72	0.21	33.93	56.00	-22.07	QP
14	0.99	NEUTRAL	21.49	0.21	21.70	56.00	-34.30	AVERAGE

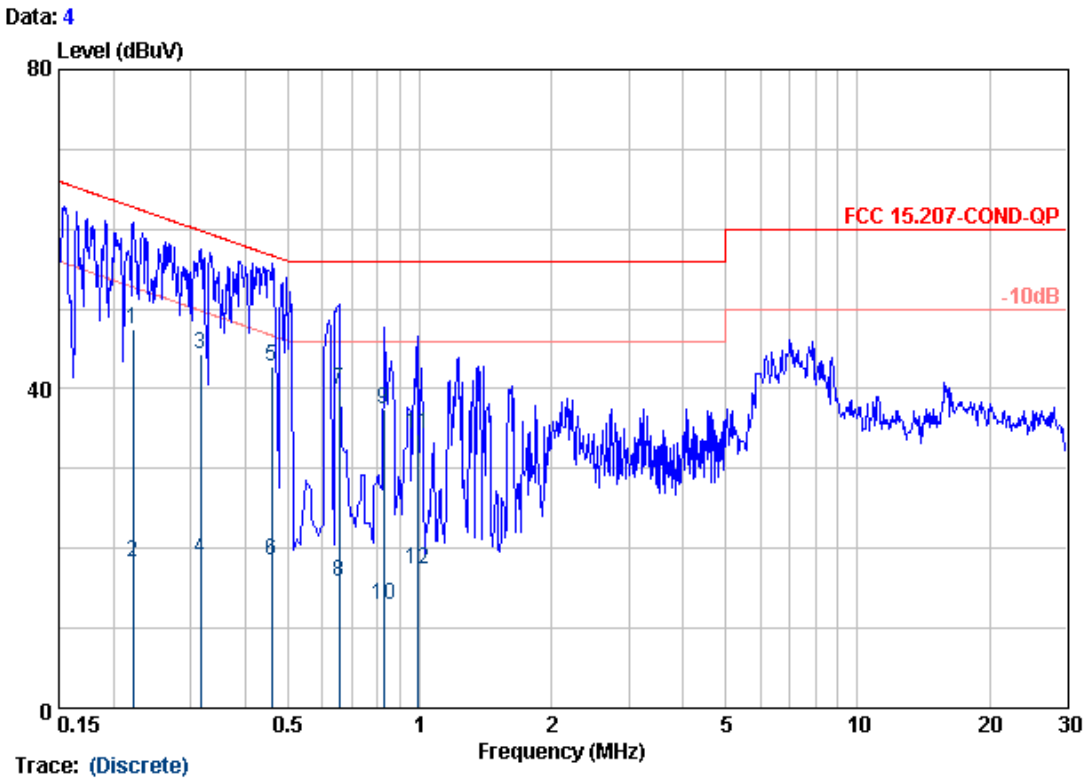
AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode:	GSM 1900 +BT LINK			Test Date:	Jul. 20, 2006
Temperature:	25 ℃	Humidity:	65 %	Test By:	Alex



Site : RF Site
Condition : FCC 15.207-COND-QP NNB-2/16Z(99012) LINE
Project No. : ER/2006/70002-03
Applicant : 宏達
EUT Description : FORE100
EUT Model : FORE100
Test Mode : GSM1900 link + BT ON (AC ADAPTER)
Temp./Humid. : 25/65
Operator : Alex

	Freq	Pol/Phase	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz		dBuV	dB	dBuV	dBuV	dB	
1	0.19	LINE	48.67	0.20	48.87	64.20	-15.33	QP
2	0.19	LINE	30.84	0.20	31.04	64.20	-33.16	AVERAGE
3	0.22	LINE	47.37	0.20	47.57	62.96	-15.39	QP
4	0.22	LINE	16.09	0.20	16.29	62.96	-46.67	AVERAGE
5	0.32	LINE	44.69	0.20	44.89	59.75	-14.86	QP
6	0.32	LINE	23.76	0.20	23.96	59.75	-35.79	AVERAGE
7	0.44	LINE	42.40	0.20	42.60	57.07	-14.47	QP
8	0.44	LINE	28.98	0.20	29.18	57.07	-27.89	AVERAGE
9	0.69	LINE	39.37	0.21	39.58	56.00	-16.42	QP
10	0.69	LINE	18.31	0.21	18.52	56.00	-37.48	AVERAGE
11	0.92	LINE	34.70	0.21	34.91	56.00	-21.09	QP
12	0.92	LINE	14.68	0.21	14.89	56.00	-41.11	AVERAGE



Site	: RF Site
Condition	: FCC 15.207-COND-QP NNB-2/16Z(99012) NEUTRAL
Project No.	: ER/2006/70002~03
Applicant	: 宏達
EUT Description	: FORE100
EUT Model	: FORE100
Test Mode	: GSM1900 link + BT ON (AC ADAPTER)
Temp./Humid.	: 25/65
Operator	: Alex

	Freq	Pol/Phase	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz		dBuV	dB	dBuV	dBuV	dB	
1	0.22	NEUTRAL	47.36	0.20	47.56	62.74	-15.18	QP
2	0.22	NEUTRAL	18.02	0.20	18.22	62.74	-44.52	AVERAGE
3	0.32	NEUTRAL	44.05	0.20	44.25	59.80	-15.55	QP
4	0.32	NEUTRAL	18.51	0.20	18.71	59.80	-41.09	AVERAGE
5	0.46	NEUTRAL	42.53	0.20	42.73	56.71	-13.98	QP
6	0.46	NEUTRAL	18.22	0.20	18.42	56.71	-38.29	AVERAGE
7	0.65	NEUTRAL	39.70	0.21	39.91	56.00	-16.09	QP
8	0.65	NEUTRAL	15.70	0.21	15.91	56.00	-40.09	AVERAGE
9	0.83	NEUTRAL	37.13	0.21	37.34	56.00	-18.66	QP
10	0.83	NEUTRAL	12.64	0.21	12.85	56.00	-43.15	AVERAGE
11	0.99	NEUTRAL	34.18	0.21	34.39	56.00	-21.61	QP
12	0.99	NEUTRAL	17.11	0.21	17.32	56.00	-38.68	AVERAGE