ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

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

OF

Product Name:	**HSDPA USB Data Modem**
Brand Name:	**BandLuxe™**
Model Name:	**C152**
FCC ID:	**UZI-C152**
Report No.:	**EH/2008/90003**
Issue Date:	**Dec. 12, 2008**
FCC Rule Part:	**2 , 22H & 24E**
Prepared for:	**BandRich Inc.** **8F.,No. 188, Baociao Rd., Sindian City, Taipei County 23146, Taiwan (R.O.C)**
Prepared by:	**SGS Taiwan Ltd.** **Electronics & Communication Laboratory** **No. 134, Wu Kung Rd., Wuku Industrial Zone, Taipei County, Taiwan.**

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VERIFICATION OF COMPLIANCE

Applicant:	BandRich Inc. 8F.,No. 188, Baociao Rd., Sindian City, Taipei County 23146, Taiwan (R.O.C)
Product Name:	HSDPA USB Data Modem
Brand Name:	BandLuxe™
FCC ID:	UZI-C152
Model No.:	C152
Model Difference:	N/A
File Number:	EH/2008/90003
Date of test:	Sep. 10, 2008 ~ Sep. 23, 2008
Date of EUT Received:	Sep. 10, 2008

We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. Electronics & Communication Laboratory The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in TIA/EIA-603-C-2004 and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rule FCC PART 22 subpart H and FCC PART 24 subpart E.

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

Test By:	Jazz Huang	***Date:***	Dec. 12, 2008
	Jazz Huang/Asst. Supervisor		
Prepared By:	Alex Hsieh	***Date:***	Dec. 12, 2008
	Alex Hsieh / Sr. Engineer		
Approved By:	Vincent Su	***Date:***	Dec. 12, 2008
	Vincent Su/Manager		

Version

Version No.	Date	Description
00	Sep 25, 2008	Initial creation of document
01	Dec. 12, 2008	Update 24.323(c), (d) RF Peak Power Output, Maximum Power Reduction in section 5.5

Table of Contents

1. GENERAL INFORMATION

Product Name:	HSDPA USB Data Modem
Brand Name:	BandLuxe™
Model Name:	C152
Model Difference:	N/A
Data Cable (USB):	N/A
Power Supply	5 Vdc form USB port

GSM:

Cellular Phone Standards Frequency Range and Power			Conducted Maximum Power
	GPRS 850	824 MHz– 849MHz	28.20 dBm
	GPRS 1900	1850MHz – 1910MHz	25.10 dBm
	EGPRS 850	824 MHz– 849MHz	27.65 dBm
	EGPRS 1900	1850MHz – 1910MHz	25.50 dBm
	UMTS B2	1850MHz – 1910MHz	22.35 dBm
	UMTS B5	880MHz – 915MHz	22.28 dBm
	UMTS B2(HSDPA)	1850MHz – 1910MHz	21.65 dBm
	UMTS B5(HSDPA)	880MHz – 915MHz	22.84 dBm
final amplifier voltage and current infor-mation		DC voltage (V)	DC current (mA)
	GPRS 850	5.0Vdc	553
	GPRS 1900	5.0Vdc	323
	EGPRS 850	5.0Vdc	526
	EGPRS 1900	5.0Vdc	322
	UMTS B2	5.0Vdc	530
	UMTS B5	5.0Vdc	384
	UMTS B2(HSDPA)	5.0Vdc	510
	UMTS B5(HSDPA)	5.0Vdc	375

Type of Emission	GPRS 850: 245KGXW GPRS 1900 :244KGXW EDGE 850: 245KG7W EDGE 1900:245KG7W WCDMA Band II: 4M17F9W WCDMA Band V:4M17F9W
Hardware Version	C152_HW_01
Software Version	120006_001_003C
IMEI	35588302

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

1.1 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for FCC ID: **UZI-C152** filing to comply with Section Part 22 subpart H and Part 24 subpart E of the FCC CFR 47 Rules.

1.2 Test Methodology

Both conducted and radiated testing were performed according to the procedures document on chapter 13 of ANSI C63.4 (2003) and FCC CFR 47.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055 and 2.1057.

1.3 Test Facility

The measurement facilities used to collect the 3m Radiated Emission and AC power line conducted data are located on the address of SGS Taiwan Ltd. Electronics & Communication Laboratory No. 134, Wu Kung Rd., Wuku Industrial Zone, Taipei Country, Taiwan which are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4: 2003. FCC Registration Number are: 990257 and 236194, Canada Registration Number: 4620A-1

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

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

1.4 Special Accessories

Not available for this EUT intended for grant.

1.5 Equipment Modifications

Not available for this EUT intended for grant.

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 AC Power Line 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 63.4-2003. 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 Conducted Measurement at Antenna Port:

According to measurement procured TIA/EIA 603C, the EUT is placed on a turn table which is 0.8 m above ground plane. A low loss of RF cable was used to con- nect the antenna port of EUT to measurement equipment.

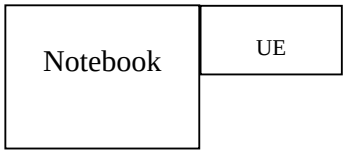
2.3.3 Radiated Emissions (ERP/EIRP):

According to measurement procured TIA/EIA 603C. 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.

A standard antenna was used to replace the EUT and connect to the SG. Adjust the SG output level to reach the max emission level which were measured above.

2.4 Configuration of Tested System

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



Remote Side

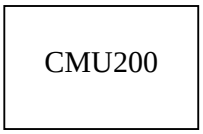


Table 2-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/ Type No.	Series No.	Data Cable	Power Cord
1.	Universal Radio Communication Tester	R&S	CMU200	102189	N/A	Un-shielded
2	Notebook	IBM	R61	L3A9050	Shielded	Un-shielded

3. SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
§24.232(c)(d)	RF Peak Power Output, Maximum Power Reduction	Compliant
§2.1046(a) §22.913(a) §24.232(c)	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.

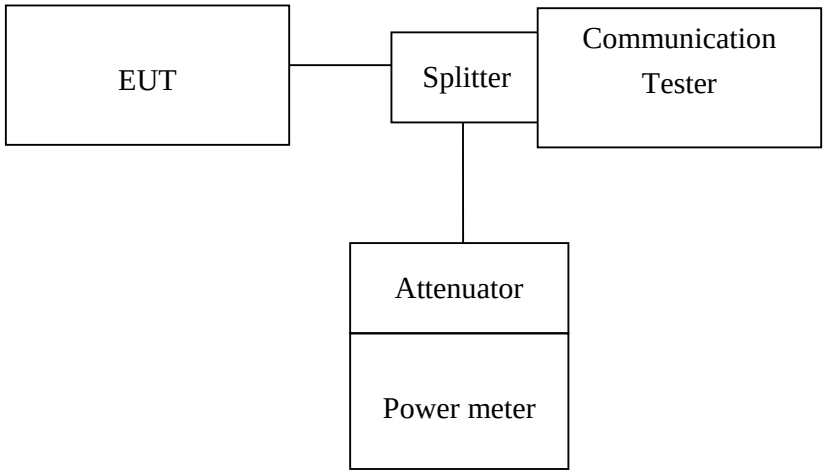
The field strength of spurious radiation emission was measured as EUT stand-up position (H mode) and lie down position (E1, E2 mode) for GPRS / EDGE / WCDMA band 5 / WCDMA band 2 with power adaptor. The worst-case of E2 position for GPRS 850 band, E2 position for GPRS 1900 band, E1 position WCDMA band V, E2 position WCDMA band II were reported.

5. RF POWER OUTPUT MEASUREMENT

5.1 Standard Applicable

FCC 24.232(d) Peak Power Measurement, FCC 24.232(c)Maximum Power Reduction.FCC

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. was used for EUT and Base station setting.

5.4 Measurement Equipment Used:

Conducted Emission Test Site					
EQUIPMENT TYPE	**MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL DUE.**
Spectrum Analyzer	Agilent	E4446A	04/19/2008	04/18/2010	04/19/2008
Spectrum Analyzer	Agilent	E7405A	US41160416	07/04/2008	07/03/2009
Spectrum Analyzer	R&S	FSP 40	100034	02/22/2008	02/21/2009
Communication Test	R&S	SMU200	102189	05/13/2008	05/12/2009
Power Sensor	Anritsu	MA2490A	31431	07/07/2008	07/06/2009
Power Meter	Anritsu	ML2487A	6K00002070	07/07/2008	07/06/2009
Temperature Chamber	TERCHY	MHG-120LF	911009	10/14/2007	10/13/2008
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A
Attenuator	Mini-Circuit	BW-S10W5	N/A	09/23/2008	09/22/2009
Attenuator	Mini-Circuit	BW-S6W5	N/A	09/23/2008	09/22/2009
Splitter	Agilent	11636B	51728	09/23/2008	09/22/2009
DC Power Supply	Agilent	6038A	2929A-07548	06/27/2008	06/26/2009

5.5 Measurement Result

EUT Mode	Frequency (MHz)	CH	Average Reading (dBm)	Peak Reading (dBm)	Path Loss (dB)	Average Power (dBm)	Peak Power (dBm)
GPRS 850	824.20	128	28.05	28.20	0.00	28.05	28.20
	836.60	190	28.00	28.15	0.00	28.00	28.15
	848.80	251	27.97	28.10	0.00	27.97	28.10

** Offset 0.8dB*

EUT Mode	Frequency (MHz)	CH	Average Reading (dBm)	Peak Reading (dBm)	Path Loss (dB)	Average Power (dBm)	Peak Power (dBm)
GPRS 1900	1850.20	512	24.96	25.10	0.00	24.96	25.10
	1880.00	661	24.66	24.80	0.00	24.66	24.80
	1909.80	810	24.32	24.45	0.00	24.32	24.45

**Offset 1.0dB*

EUT Mode	Frequency (MHz)	CH	Average Reading (dBm)	Peak Reading (dBm)	Path Loss (dB)	Average Power (dBm)	Peak Power (dBm)
EDGE 850	824.20	128	27.54	27.65	0.00	27.54	27.65
	836.60	190	27.47	27.60	0.00	27.47	27.60
	848.80	251	27.38	27.50	0.00	27.38	27.50

** Offset 0.8dB*

EUT Mode	Frequency (MHz)	CH	Average Reading (dBm)	Peak Reading (dBm)	Path Loss (dB)	Average Power (dBm)	Peak Power (dBm)
EDGE 1900	1850.20	512	25.35	25.50	0.00	25.35	25.50
	1880.00	661	24.86	25.00	0.00	24.86	25.00
	1909.80	810	24.56	24.65	0.00	24.56	24.65

** Offset 1.0dB*

EUT Mode	Frequency (MHz)	CH	Average Reading (dBm)	Peak Reading (dBm)	Path Loss (dB)	Average Power (dBm)	Peak Power (dBm)
WCDMA V	826.40	4132	22.25	22.35	0.00	22.25	22.35
	836.00	4180	22.05	22.15	0.00	22.05	22.15
	846.60	4233	22.20	22.31	0.00	22.20	22.31

Offset 0.8dB

EUT Mode	Frequency (MHz)	CH	Average Reading (dBm)	Peak Reading (dBm)	Path Loss (dB)	Average Power (dBm)	Peak Power (dBm)
WCDMA II	1852.40	9262	22.13	22.28	0.00	22.13	22.28
	1880.00	9400	21.88	22.01	0.00	21.88	22.01
	1907.60	9538	21.97	22.11	0.00	21.97	22.11

Offset 1.0dB

EUT Mode	Frequency (MHz)	CH	Average Reading (dBm)	Peak Reading (dBm)	Path Loss (dB)	Average Power (dBm)	Peak Power (dBm)
HSDPA V	826.40	4132	21.45	21.60	0.00	21.45	21.60
	836.00	4180	21.56	21.65	0.00	21.56	21.65
	846.60	4233	21.18	21.30	0.00	21.18	21.30

Offset 0.8dB

EUT Mode	Frequency (MHz)	CH	Average Reading (dBm)	Peak Reading (dBm)	Path Loss (dB)	Average Power (dBm)	Peak Power (dBm)
HSDPA II	1852.40	9262	22.70	22.84	0.00	22.70	22.84
	1880.00	9400	22.62	22.71	0.00	22.62	22.71
	1907.60	9538	22.20	22.32	0.00	22.20	22.32

Offset 1.0dB

Maximum Power Reduction: GPRS1900 band

PCL	0	1	2	3	4	5	6	7	8
Output power (dBm)	24.80	25.40	25.40	24.40	22.40	20.40	18.50	16.50	14.60
PCL	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**
Output power (dBm)	12.60	10.70	8.80	6.80	4.80	2.70	0.70		

Note: The EUT output power was controlled by simulator. Set Communication Tester CMU200 PCL as above, and get the mobile phone output power reading.

Maximum Power Reduction: WCDMA/HSDPA band 2

The EUT output power was controlled by simulator. Set Communication Tester CMU200 function key “UE Power Control” and enter max rated power 24dBm. The EUT is going to be set to max output power to 24dBm. then record the read(see page 15 for measurement data) . The min. power was measures by a function key “minimum power” then record the read. It is -52.5dBm. The power variation can be 0.1dB step by setting.

6. ERP, EIRP MEASUREMENT

6.1 Standard Applicable

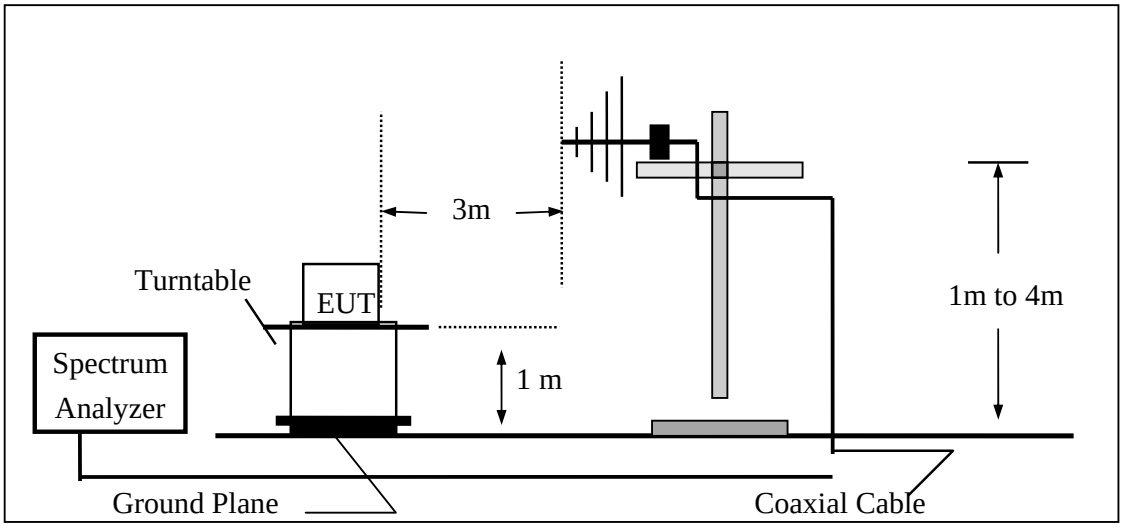
According to FCC §2.1046

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

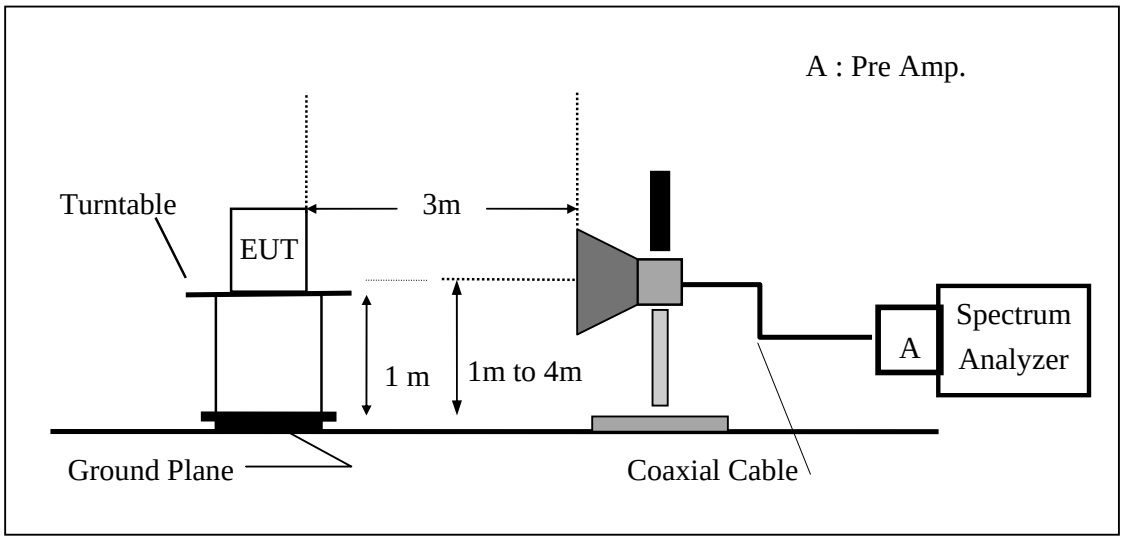
FCC 24.232(b) Mobile station are limited to 2W EIRP.

6.2 Test SET-UP (Block Diagram of Configuration)

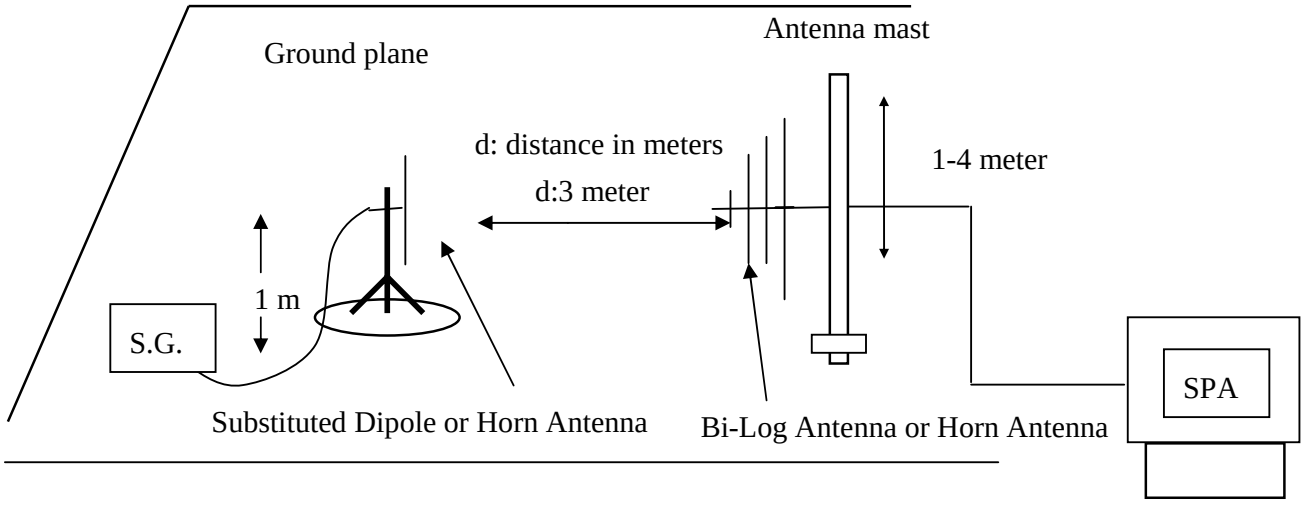
(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(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	04/19/2008	04/18/2010
Spectrum Analyzer	Agilent	7405A	US41160416	07/04/2007	07/03/2009
Spectrum Analyzer	R&S	FSP 40	100034	02/22/2008	02/21/2009
Communication Test	R&S	CMU200	102189	05/13/2008	05/12/2009
Bi-log Antenna	SCHWAZBECK	VULB9163	152	06/03/2008	06/02/2009
Horn antenna	SCHWAZBECK	BBHA 9120D	309/320	08/16/2008	08/15/2009
Pre-Amplifier	HP	8447D	2944A09469	07/19/2008	07/18/2009
Pre-Amplifier	HP	8494B	3008A00578	02/26/2008	02/25/2009
Signal Generator	R&S	SMR40	100210	02/09/2008	02/10/2009
Turn Table	HD	DT420	N/A	N.C.R	N.C.R
Antenna Tower	HD	MA240-N	240/657	N.C.R	N.C.R
Controller	HD	HD100	N/A	N.C.R	N.C.R
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-10M	10m	10/09/2007	10/08/2008
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-3M	3m	10/09/2007	10/08/2008
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-0.5M	0.5m	10/09/2007	10/08/2008
Site NSA	SGS	966 chamber	N/A	11/17/2007	11/16/2008
Attenuator	Mini-Circuit	BW-S10W5	N/A	09/23/2008	09/22/2009
Dipole Antenna	SCHWAZBECK	VHAP	908/909	06/10/2008	06/11/2009
Dipole Antenna	SCHWAZBECK	UHAP	891/892	06/10/2008	06/11/2009
Horn antenna	SCHWAZBECK	BBHA 9120D	N/A	08/16/2008	08/15/2009

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)
GPRS 850	824.20	128	H	V	114.64	10.91	-7.87	2.48	0.56	38.45
				H	122.61	19.14	-7.87	2.48	8.79	38.45
			E1	V	122.05	18.32	-7.87	2.48	7.97	38.45
				H	118.57	15.10	-7.87	2.48	4.75	38.45
			E2	V	112.59	8.86	-7.87	2.48	-1.49	38.45
				H	123.93	20.46	-7.87	2.48	10.11	38.45
	836.60	190	H	V	116.75	13.02	-7.88	2.51	2.63	38.45
				H	125.24	21.64	-7.88	2.51	11.25	38.45
			E1	V	120.84	17.11	-7.88	2.51	6.72	38.45
				H	123.34	19.74	-7.88	2.51	9.35	38.45
			E2	V	114.09	10.36	-7.88	2.51	-0.03	38.45
				H	126.35	22.75	-7.88	2.51	12.36	38.45
	848.80	251	H	V	117.16	13.42	-7.88	2.54	3.00	38.45
				H	125.46	21.73	-7.88	2.54	11.32	38.45
			E1	V	123.87	20.13	-7.88	2.54	9.71	38.45
				H	121.73	18.00	-7.88	2.54	7.59	38.45
			E2	V	112.72	8.98	-7.88	2.54	-1.44	38.45
				H	126.17	22.44	-7.88	2.54	12.03	38.45

Remark：

(1) The RBW,VBW of SPA for frequency

Below 1GHz was RBW=300 KHz, VBW=1000KHz,

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

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)
GPRS 1900	1850.20	512	H	V	115.53	-0.26	9.90	3.77	5.87	33.00
				H	126.66	11.11	9.90	3.77	17.24	33.00
			E1	V	128.94	13.15	9.90	3.77	19.28	33.00
				H	120.02	4.47	9.90	3.77	10.60	33.00
			E2	V	118.52	2.73	9.90	3.77	8.86	33.00
				H	125.71	10.16	9.90	5.84	14.22	33.00
	1880.00	661	H	V	117.86	2.05	9.99	3.80	8.24	33.00
				H	125.48	9.92	9.99	3.80	16.11	33.00
			E1	V	128.33	12.52	9.99	3.80	18.71	33.00
				H	119.03	3.47	9.99	3.80	9.66	33.00
			E2	V	118.74	2.93	9.99	3.80	9.12	33.00
				H	124.56	9.00	9.99	3.80	15.19	33.00
	1909.80	810	H	V	116.51	0.68	10.08	3.83	6.93	33.00
				H	122.46	6.89	10.08	3.83	13.14	33.00
			E1	V	126.96	11.13	10.08	3.83	17.38	33.00
				H	116.71	1.14	10.08	3.83	7.39	33.00
			E2	V	118.40	2.57	10.08	3.83	8.82	33.00
				H	124.18	8.61	10.08	3.83	14.86	33.00

Remark：

(1) The RBW,VBW of SPA for frequency

Below 1GHz was RBW=300 KHz, VBW=1000KHz,

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

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
EDGE 850	824.20	128	H	V	108.35	4.62	-7.87	2.48	-5.73	38.45
				H	120.10	16.63	-7.87	2.48	6.28	38.45
			E1	V	118.22	14.49	-7.87	2.48	4.14	38.45
				H	116.75	13.28	-7.87	2.48	2.93	38.45
			E2	V	108.91	5.18	-7.87	2.48	-5.17	38.45
				H	119.35	15.88	-7.87	2.48	5.53	38.45
	836.60	190	H	V	108.69	4.96	-7.88	2.51	-5.43	38.45
				H	122.27	18.67	-7.88	2.51	8.28	38.45
			E1	V	119.26	15.53	-7.88	2.51	5.14	38.45
				H	117.97	14.37	-7.88	2.51	3.98	38.45
			E2	V	110.56	6.83	-7.88	2.51	-3.56	38.45
				H	121.18	17.58	-7.88	2.51	7.19	38.45
	848.80	251	H	V	108.98	5.24	-7.88	2.54	-5.18	38.45
				H	121.31	17.58	-7.88	2.54	7.17	38.45
			E1	V	118.80	15.06	-7.88	2.54	4.64	38.45
				H	118.15	14.42	-7.88	2.54	4.01	38.45
			E2	V	110.81	7.07	-7.88	2.54	-3.35	38.45
				H	120.68	16.95	-7.88	2.54	6.54	38.45

Remark：

(1) The RBW,VBW of SPA for frequency

Below 1GHz was RBW=300 KHz, VBW=1000KHz,

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

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
EDGE 1900	1850.20	512	H	V	113.72	-2.07	9.90	3.77	4.06	33.00
				H	125.79	10.24	9.90	3.77	16.37	33.00
			E1	V	127.13	11.34	9.90	3.77	17.47	33.00
				H	119.66	4.11	9.90	3.77	10.24	33.00
			E2	V	117.54	1.75	9.90	3.77	7.88	33.00
				H	125.12	9.57	9.90	5.84	13.63	33.00
	1880.00	661	H	V	115.27	-0.54	9.99	3.80	5.65	33.00
				H	125.15	9.59	9.99	3.80	15.78	33.00
			E1	V	126.13	10.32	9.99	3.80	16.51	33.00
				H	118.27	2.71	9.99	3.80	8.90	33.00
			E2	V	117.50	1.69	9.99	3.80	7.88	33.00
				H	123.22	7.66	9.99	3.80	13.85	33.00
	1909.80	810	H	V	115.24	-0.59	10.08	3.83	5.66	33.00
				H	120.40	4.83	10.08	3.83	11.08	33.00
			E1	V	125.04	9.21	10.08	3.83	15.46	33.00
				H	114.74	-0.83	10.08	3.83	5.42	33.00
			E2	V	118.04	2.21	10.08	3.83	8.46	33.00
				H	122.46	6.89	10.08	3.83	13.14	33.00

Remark：

(1) The RBW,VBW of SPA for frequency

Below 1GHz was RBW=300 KHz, VBW=1000KHz,

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

Measurement Result

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
WCDMA Band V	826.40	4132	H	V	109.66	5.93	-7.88	2.48	-4.43	38.45
				H	112.90	9.41	-7.88	2.48	-0.95	38.45
			E1	V	115.45	11.72	-7.88	2.48	1.36	38.45
				H	110.01	6.52	-7.88	2.48	-3.84	38.45
			E2	V	109.97	6.24	-7.88	2.48	-4.12	38.45
				H	113.92	10.43	-7.88	2.48	0.07	38.45
	836.00	4180	H	V	111.32	7.59	-7.88	2.51	-2.80	38.45
				H	116.42	12.83	-7.88	2.51	2.44	38.45
			E1	V	118.42	14.69	-7.88	2.51	4.30	38.45
				H	112.34	8.75	-7.88	2.51	-1.64	38.45
			E2	V	110.30	6.57	-7.88	2.51	-3.82	38.45
				H	117.23	13.64	-7.88	2.51	3.25	38.45
	846.60	4233	H	V	108.95	5.21	-7.88	2.53	-5.20	38.45
				H	116.25	12.55	-7.88	2.53	2.13	38.45
			E1	V	116.42	12.68	-7.88	2.53	2.27	38.45
				H	112.44	8.74	-7.88	2.53	-1.68	38.45
			E2	V	109.30	5.56	-7.88	2.53	-4.85	38.45
				H	116.61	12.91	-7.88	2.53	2.49	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

Measurement Result

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
WCDMA Band II	1852.40	9262	H	V	113.19	-2.60	9.90	3.77	3.54	33.00
				H	122.57	7.02	9.90	3.77	13.16	33.00
			E1	V	122.13	6.34	9.90	3.77	12.48	33.00
				H	118.13	2.58	9.90	3.77	8.72	33.00
			E2	V	113.78	-2.01	9.90	3.77	4.13	33.00
				H	123.49	7.94	9.90	5.84	12.00	33.00
	1880.00	9400	H	V	116.38	0.57	9.99	3.80	6.76	33.00
				H	123.85	8.29	9.99	3.80	14.48	33.00
			E1	V	124.34	8.55	9.90	3.77	14.69	33.00
				H	118.10	2.54	9.99	3.80	8.73	33.00
			E2	V	116.90	1.09	9.99	3.80	7.28	33.00
				H	125.01	9.45	9.99	3.80	15.64	33.00
	1907.60	9538	H	V	114.77	-1.06	10.07	3.83	5.19	33.00
				H	121.47	5.90	10.07	3.83	12.15	33.00
			E1	V	122.41	6.58	10.07	3.83	12.83	33.00
				H	117.02	1.45	10.07	3.83	7.70	33.00
			E2	V	114.86	-0.97	10.07	3.83	5.28	33.00
				H	123.05	7.48	10.07	3.83	13.73	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

Measurement Result

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
WCDMA Band V HSDPA	826.40	4132	H	V	108.54	4.81	-7.88	2.48	-5.55	38.45
				H	117.69	14.20	-7.88	2.48	3.84	38.45
			E1	V	113.35	9.62	-7.88	2.48	-0.74	38.45
				H	108.77	5.28	-7.88	2.48	-5.08	38.45
			E2	V	109.28	5.55	-7.88	2.48	-4.81	38.45
				H	112.65	9.16	-7.88	2.48	-1.20	38.45
	836.00	4180	H	V	111.71	7.98	-7.88	2.51	-2.41	38.45
				H	115.88	12.29	-7.88	2.51	1.90	38.45
			E1	V	118.06	14.33	-7.88	2.51	3.94	38.45
				H	112.26	8.67	-7.88	2.51	-1.72	38.45
			E2	V	112.71	8.98	-7.88	2.51	-1.41	38.45
				H	117.14	13.55	-7.88	2.51	3.16	38.45
	846.60	4233	H	V	110.97	7.23	-7.88	2.53	-3.18	38.45
				H	118.97	15.27	-7.88	2.53	4.85	38.45
			E1	V	111.11	7.37	-7.88	2.53	-3.04	38.45
				H	120.37	16.67	-7.88	2.53	6.25	38.45
			E2	V	116.65	12.91	-7.88	2.53	2.50	38.45
				H	114.72	11.02	-7.88	2.53	0.60	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

Measurement Result

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
WCDMA Band II HSDPA	1852.40	9262	H	V	110.59	-5.20	9.90	3.77	0.94	33.00
				H	123.94	8.39	9.90	3.77	14.53	33.00
			E1	V	124.85	9.06	9.90	3.77	15.20	33.00
				H	113.38	-2.17	9.90	3.77	3.97	33.00
			E2	V	116.64	0.85	9.90	3.77	6.99	33.00
				H	122.13	6.58	9.90	5.84	10.64	33.00
	1880.00	9400	H	V	114.46	-1.35	9.99	3.80	4.84	33.00
				H	126.14	10.58	9.99	3.80	16.77	33.00
			E1	V	127.42	11.63	9.90	3.77	17.77	33.00
				H	119.73	4.17	9.99	3.80	10.36	33.00
			E2	V	118.90	3.09	9.99	3.80	9.28	33.00
				H	124.98	9.42	9.99	3.80	15.61	33.00
	1907.60	9538	H	V	114.18	-1.65	10.07	3.83	4.60	33.00
				H	124.98	9.41	10.07	3.83	15.66	33.00
			E1	V	125.05	9.22	10.07	3.83	15.47	33.00
				H	115.86	0.29	10.07	3.83	6.54	33.00
			E2	V	116.80	0.97	10.07	3.83	7.22	33.00
				H	122.35	6.78	10.07	3.83	13.03	33.00

Remark：

(1) The RBW,VBW of SPA for frequency

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

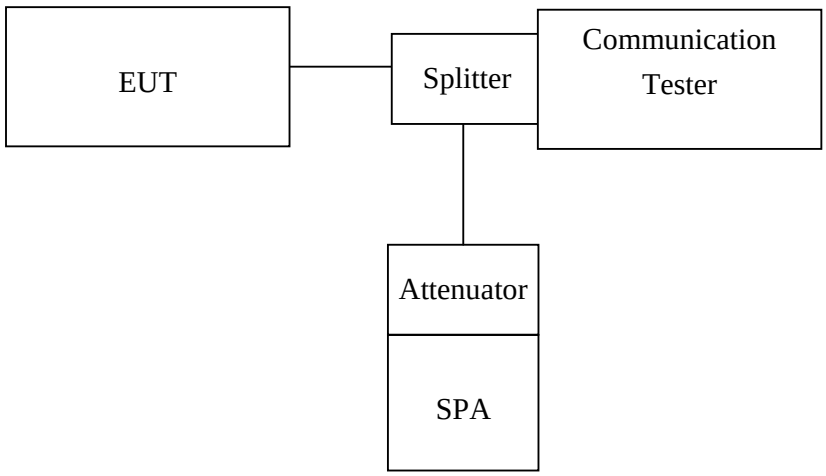
Above 1GHz was RBW= 1MHz , VBW= 3MHz

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	04/19/2008	04/18/2010
Spectrum Analyzer	Agilent	7405A	US41160416	07/04/2007	07/03/2009
Power Sensor	Anritsu	MA2490A	31431	07/07/2007	07/06/2009
Power Meter	Anritsu	ML2487A	6K00002070	05/28/2008	05/27/2010
Temperature Chamber	TERCHY	MHG-120LF	911009	04/14/2008	04/13/2010
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	02/13/2008	02/12/2009
Attenuator	Mini-Circuit	BW-S10W5	N/A	07/05/2008	07/04/2009
Attenuator	Mini-Circuit	BW-S6W5	N/A	07/05/2008	07/04/2009
Splitter	Agilent	11636B	51818 / 51820	07/05/2008	07/04/2009
Signal Generator	R&S	SMR40	100210	01/22/2008	01/21/2009
DC Power Supply	Agilent	6038A	2929A-07548	06/27/2007	06/26/2009
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/19/2008	04/18/2010

7.5 Measurement Result:

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
GPRS 850	824.20	128	0.2436
	836.60	190	0.2449
	848.80	251	0.2425

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
GPRS 1900	1850.20	512	0.2444
	1880.00	661	0.2414
	1909.80	810	0.2443

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
EDGE 850	824.20	128	0.2439
	836.60	190	0.2455
	848.80	251	0.2443

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
EDGE 1900	1850.20	512	0.2429
	1880.00	661	0.2454
	1909.80	810	0.2444

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
WCDMA V	826.40	4132	4.1588
	836.00	4180	4.1708
	846.60	4233	4.1633

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
WCDMA II	1852.40	9262	4.1651
	1880.00	9400	4.1582
	1907.60	9538	4.1546

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
WCDMA V HSDPA	826.40	4132	4.1599
	836.00	4180	4.1595
	846.60	4233	4.1656

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
WCDMA II HSDPA	1852.40	9262	4.1691
	1880.00	9400	4.1696
	1907.60	9538	4.1706

Figure 7-1: GPRS 850 Channel Low

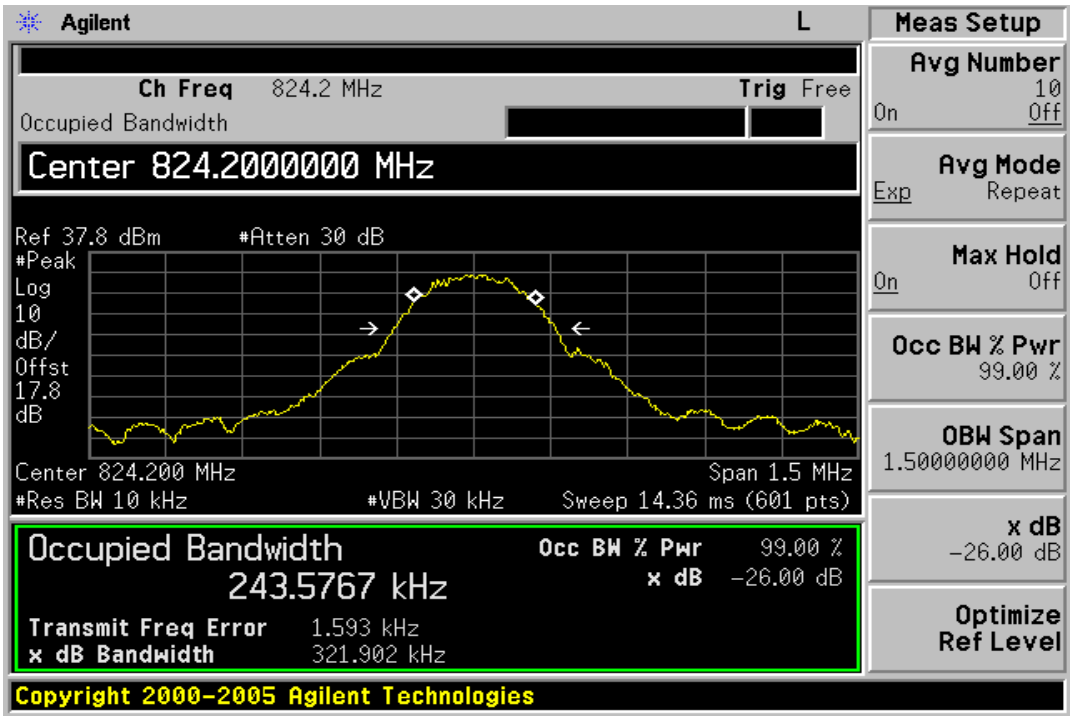


Figure 7-2 GPRS 850 Channel Mid

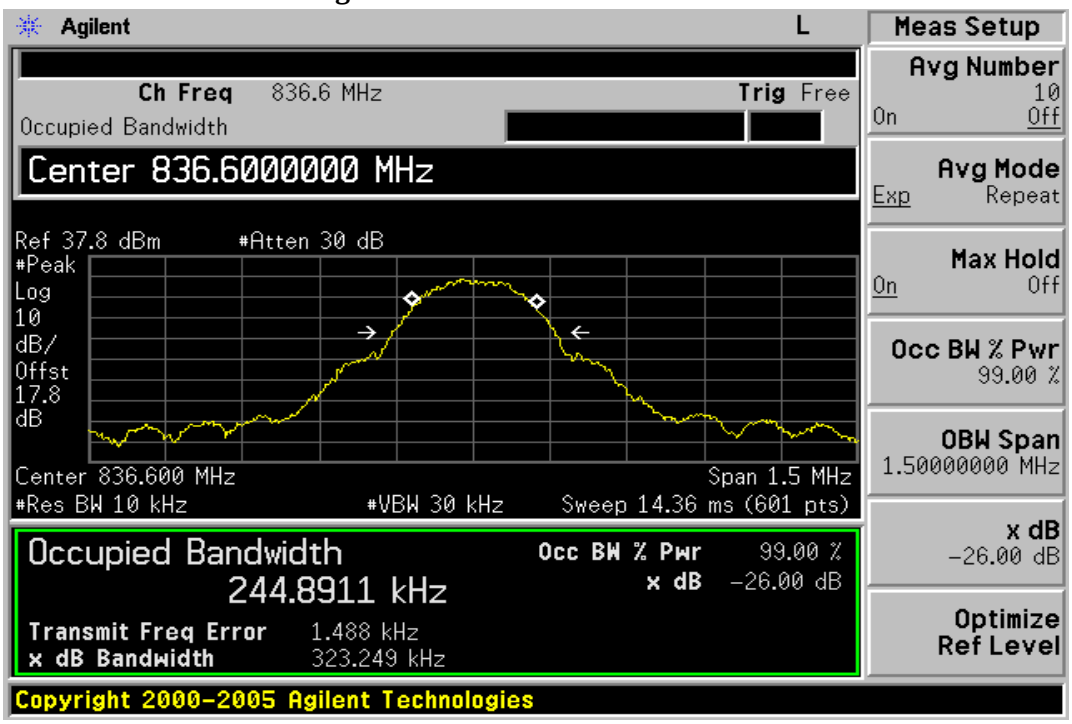


Figure 7-3: GPRS 850 Channel High

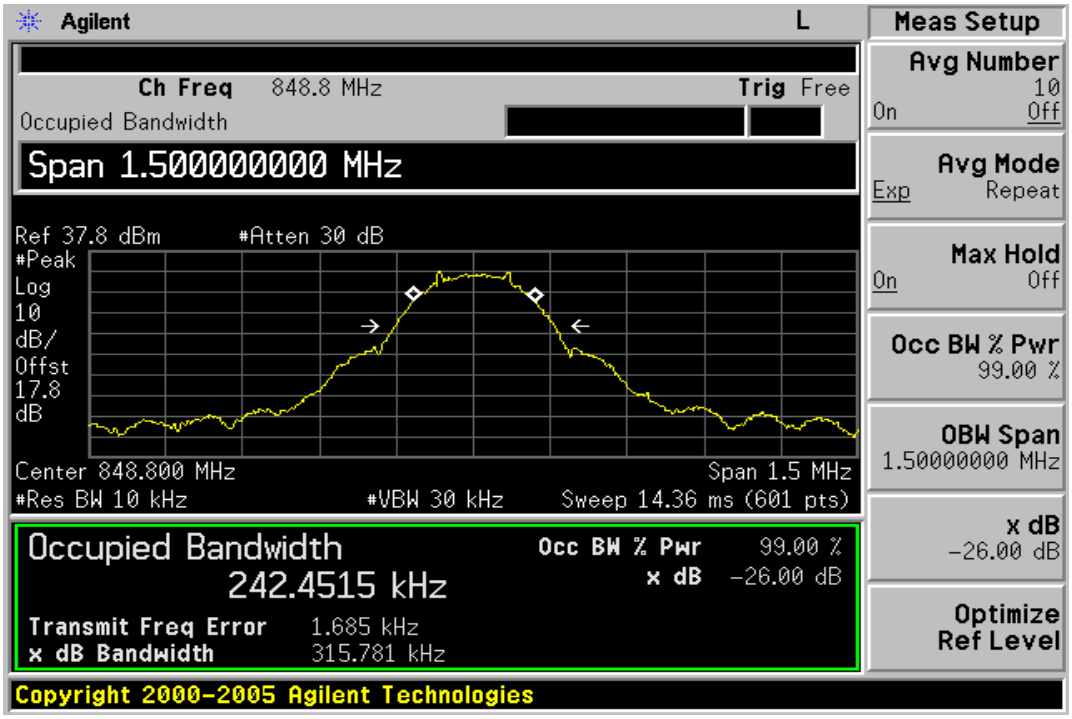


Figure 7-4: GPRS 1900 Channel Low

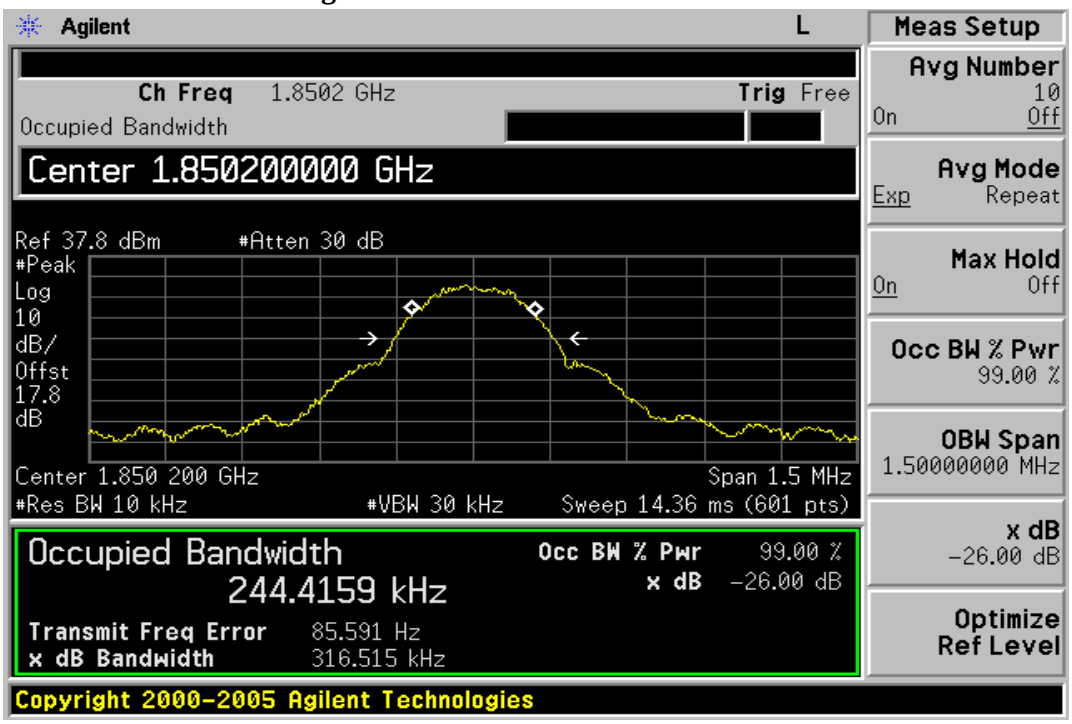


Figure 7-5 GPRS 1900 Channel Mid

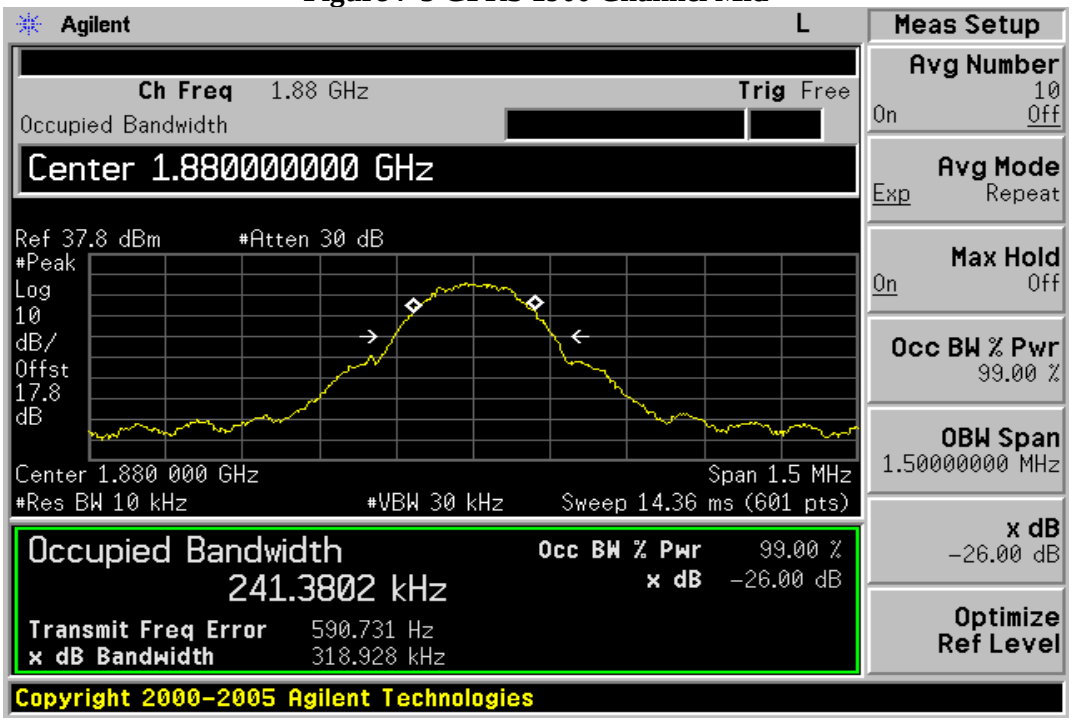


Figure 7-6: GPRS 1900 Channel High

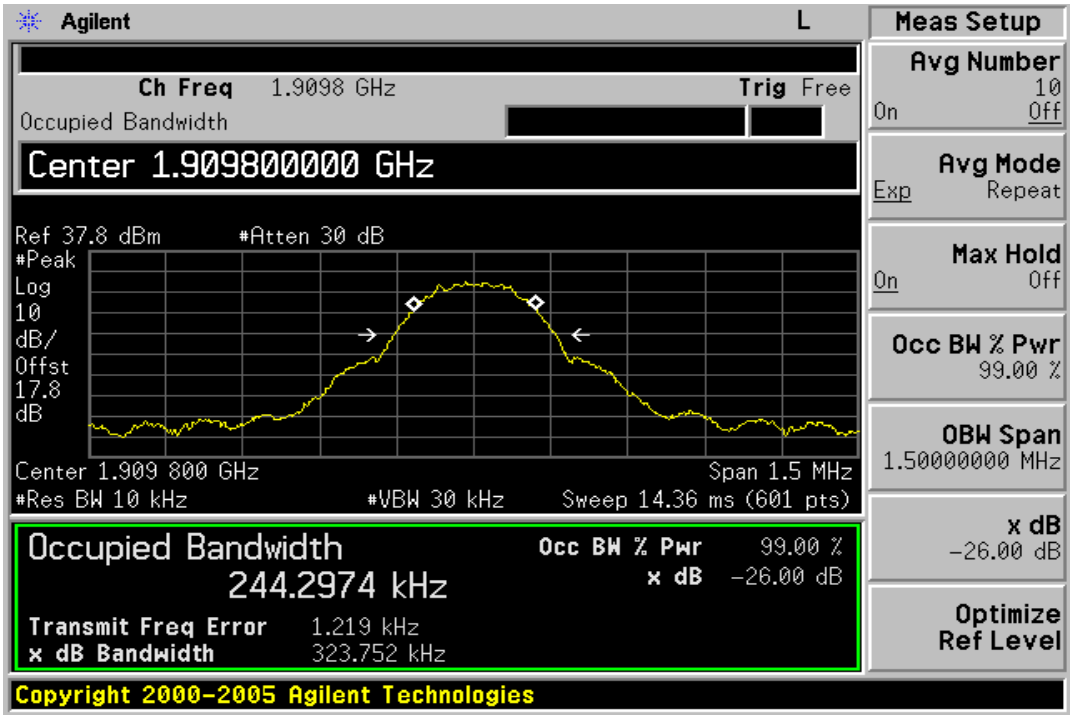


Figure 7-7: EDGE 850 Channel Low

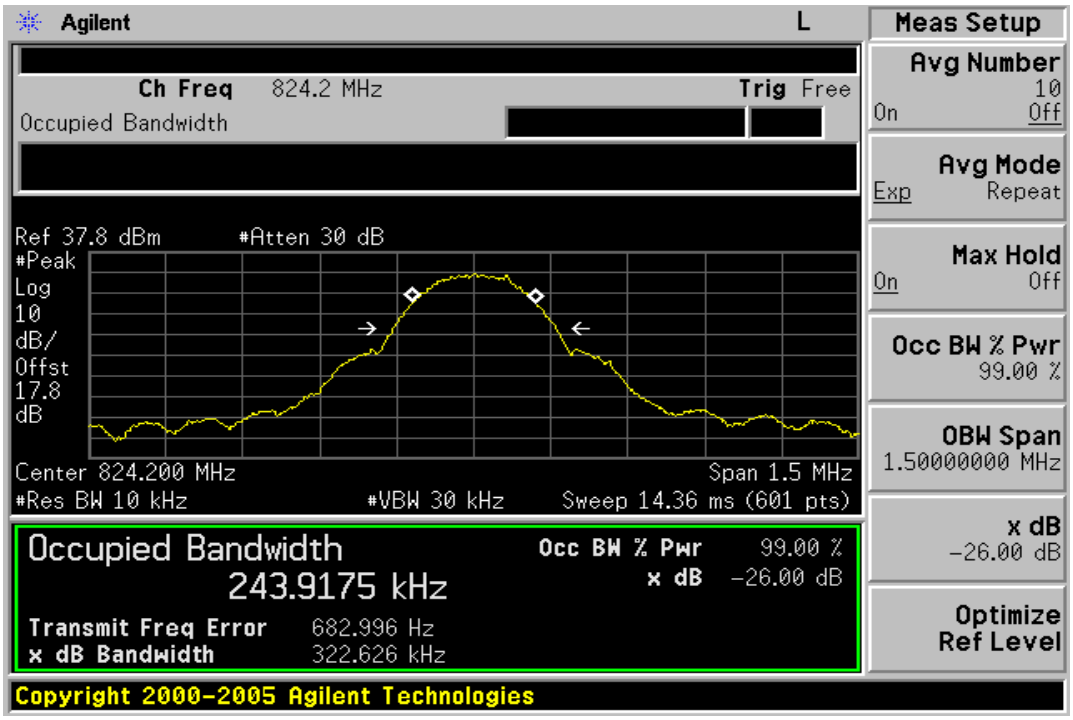


Figure 7-8 EDGE 850 Channel Mid

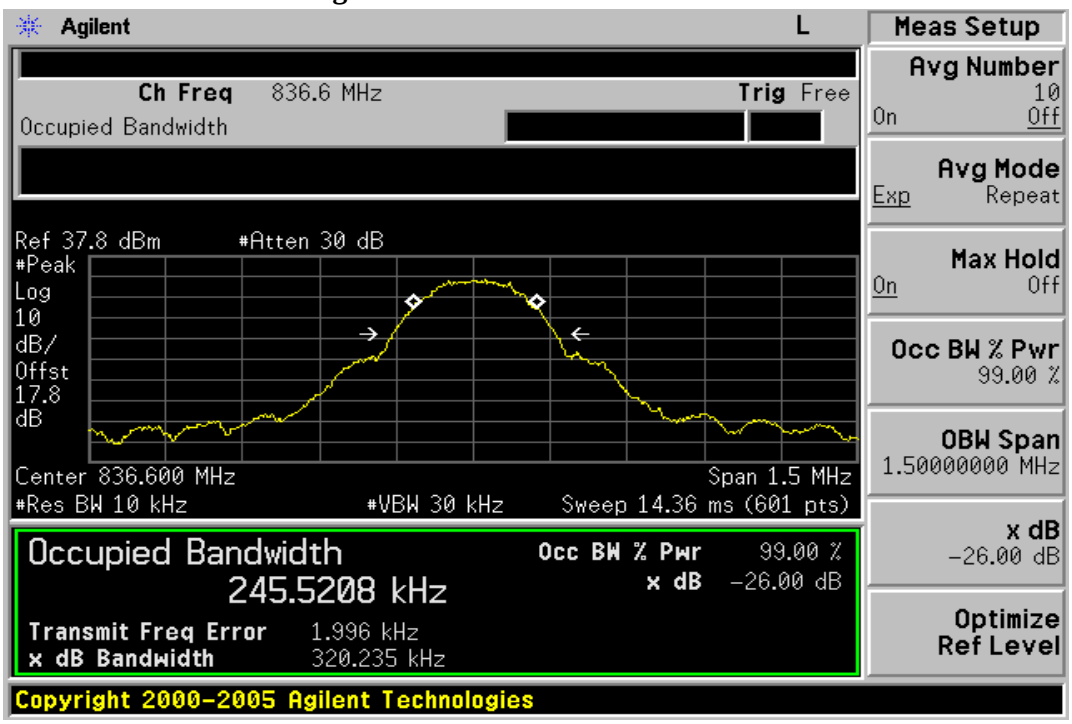


Figure 7-9: EDGE 850 Channel High

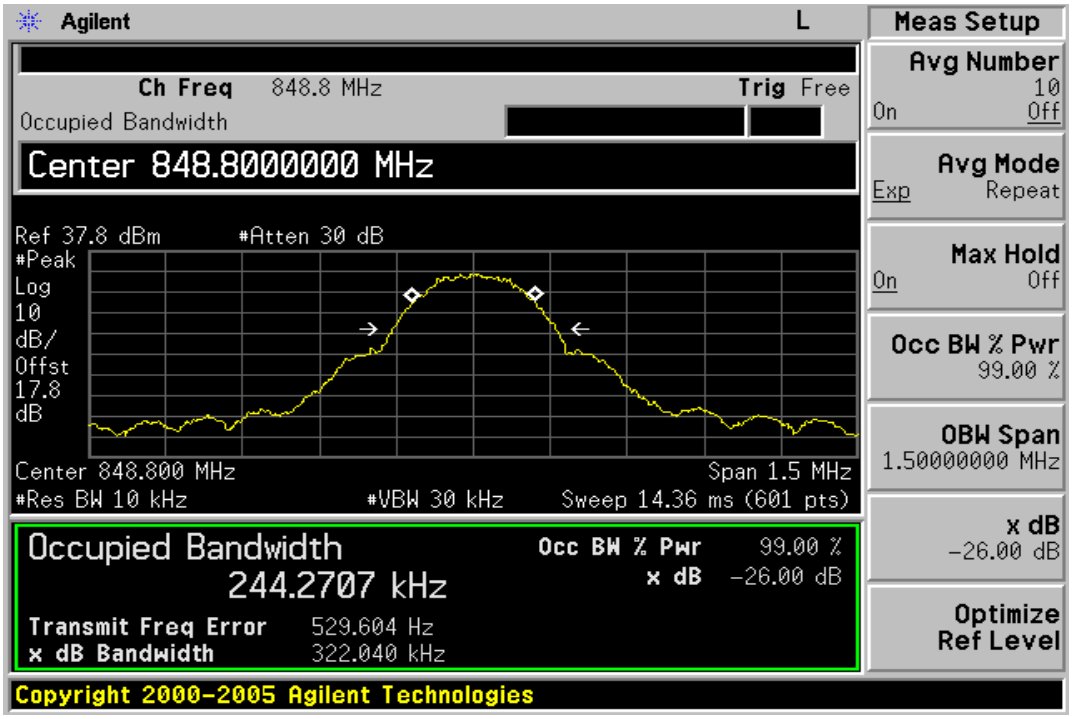


Figure 7-10: EDGE 1900 Channel Low

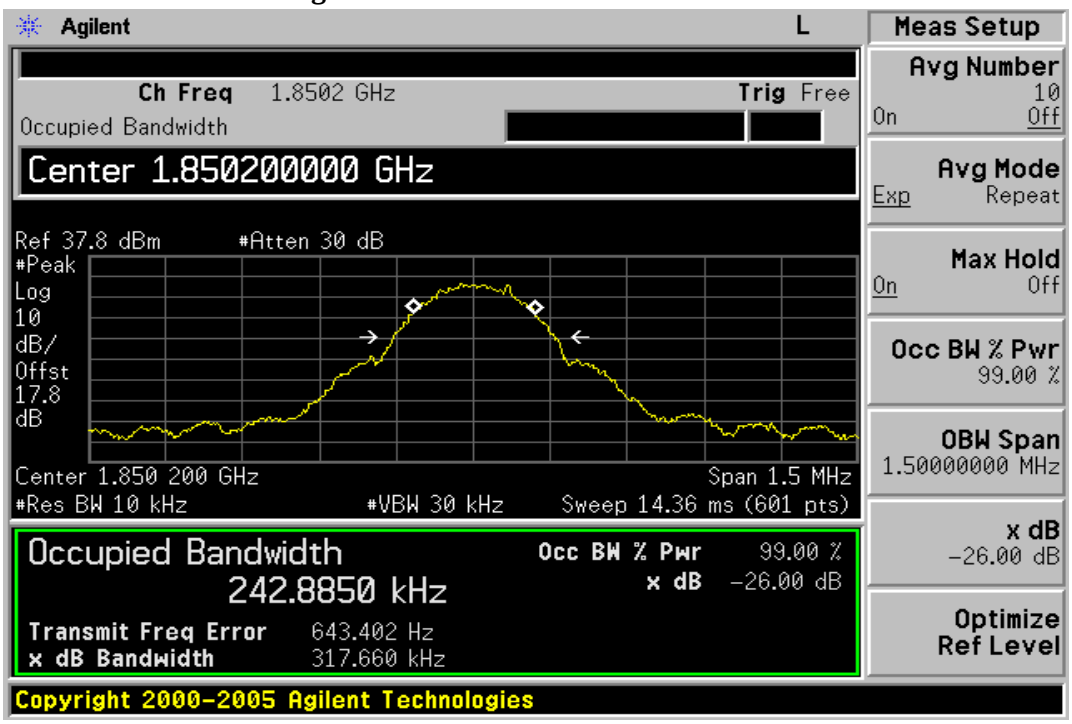


Figure 7-11: EDGE 1900 Channel Mid

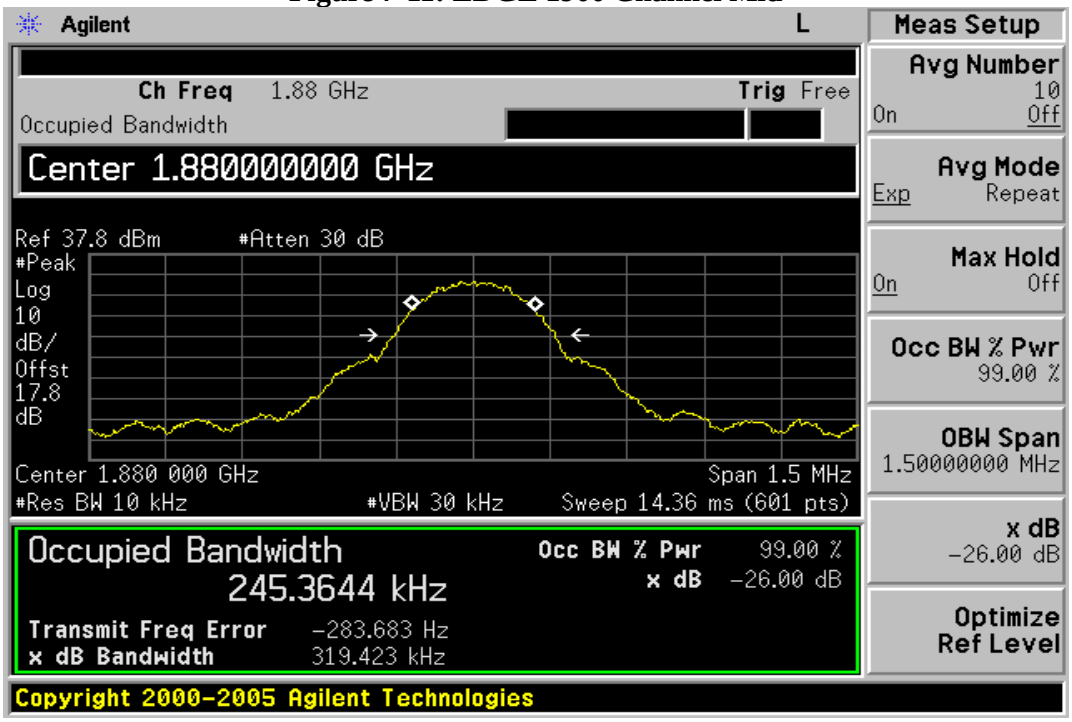


Figure 7-12: EDGE 1900 Channel High

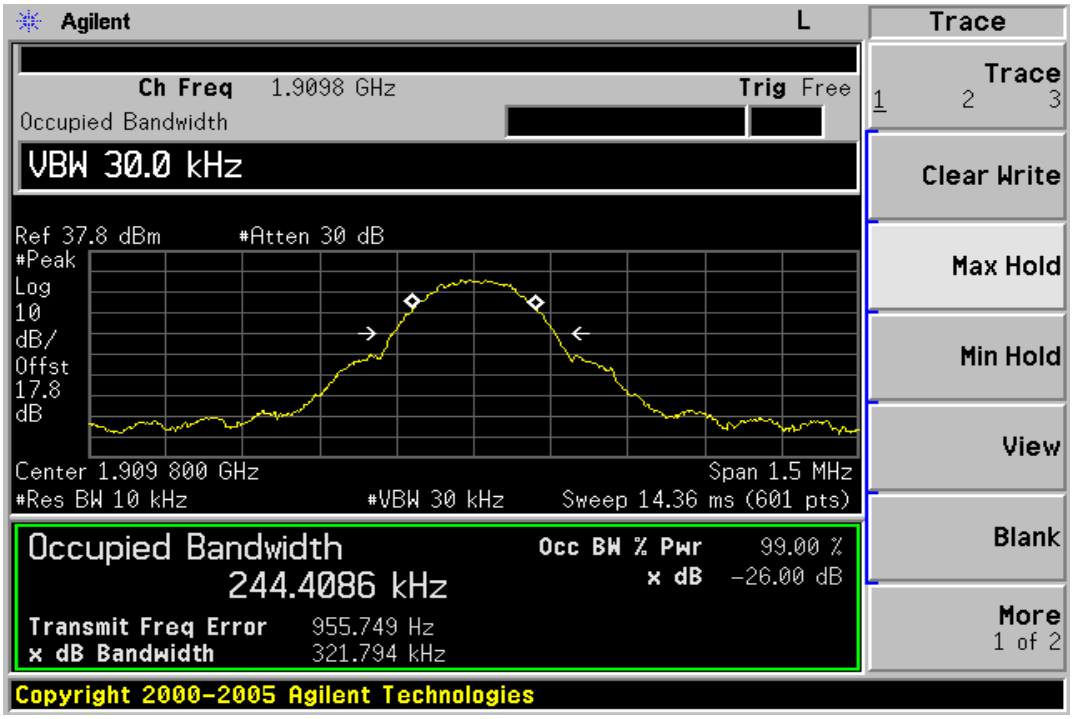


Figure 7-13: WCDMA II Channel Low

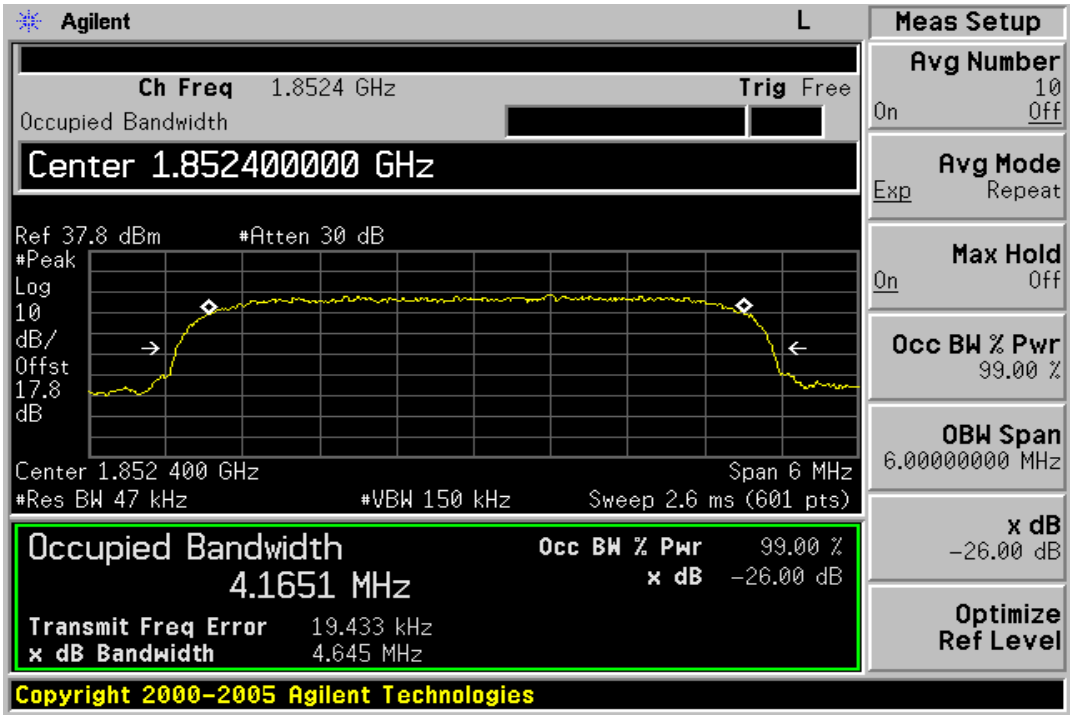


Figure 7-14: WCDMA II Channel Mid

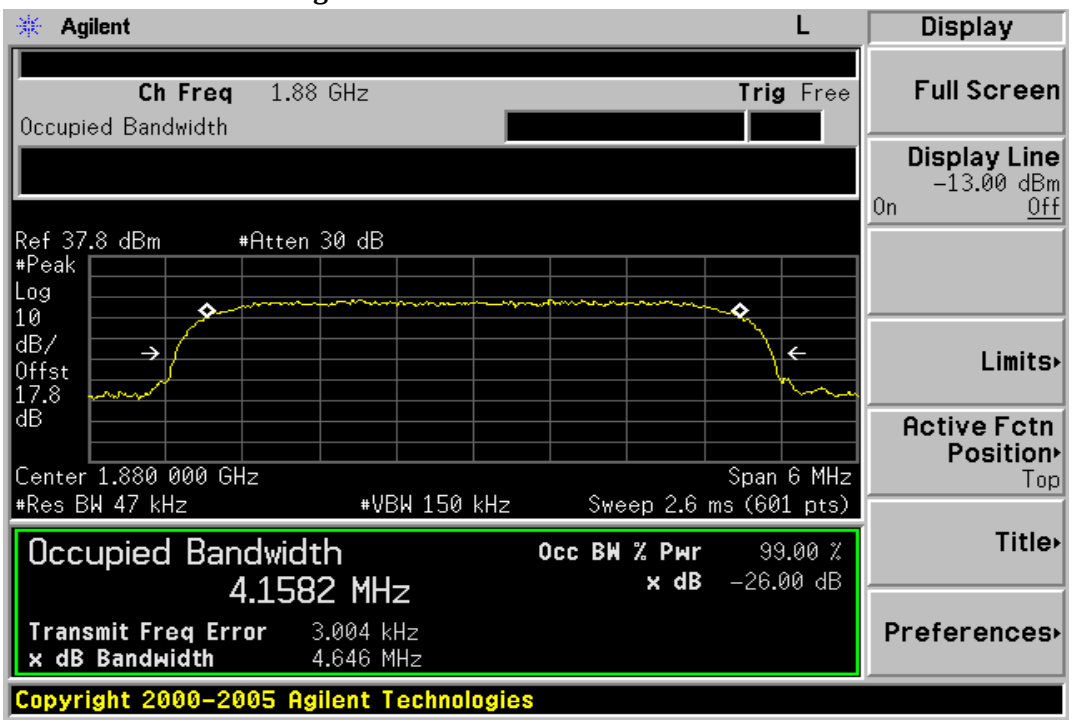


Figure 7-15: WCDMA II Channel High

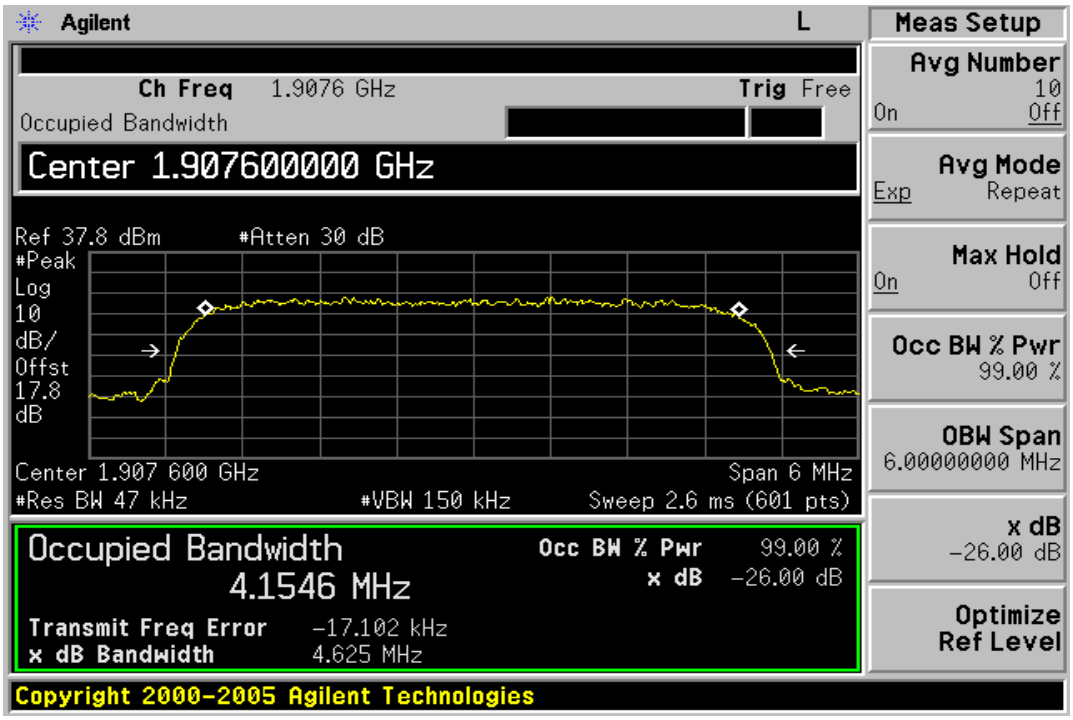


Figure 7-16: WCDMA V Channel Low

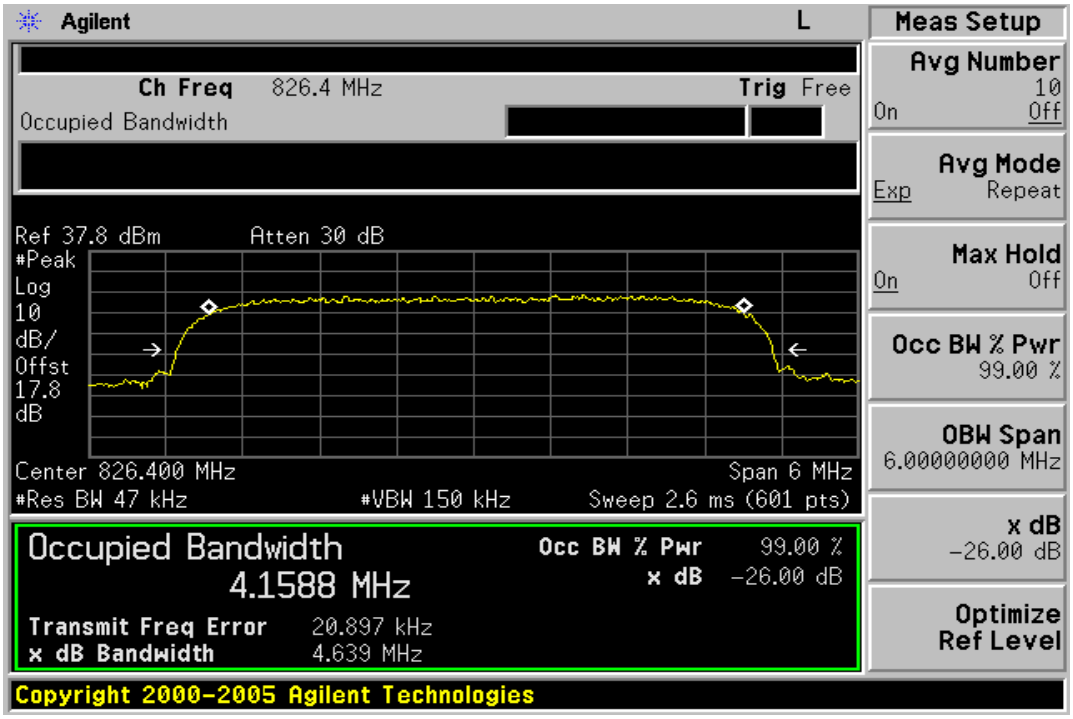


Figure 7-17: WCDMA V Channel Mid

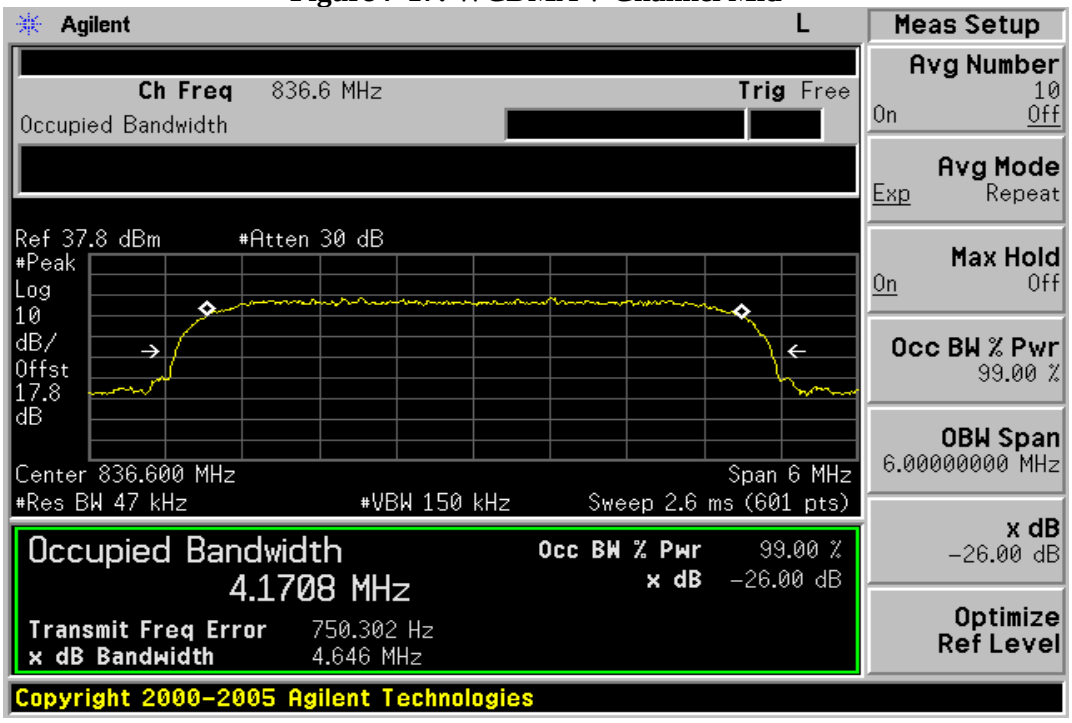


Figure 7-18: WCDMA V Channel High

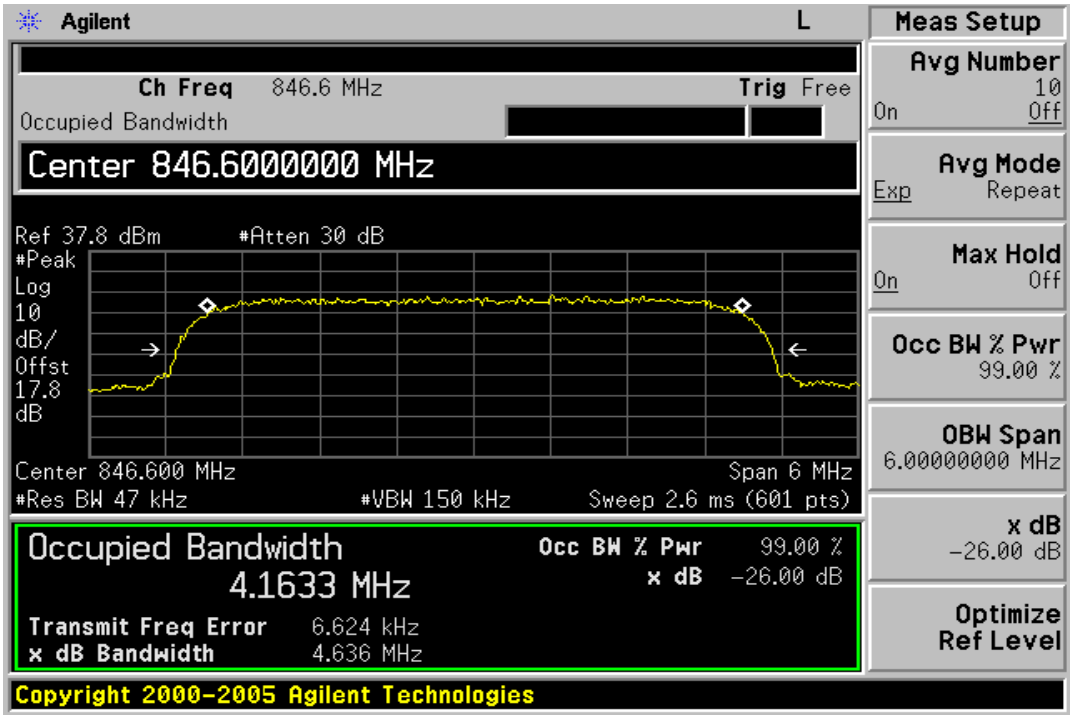


Figure 7-19: WCDMA II HSDPA Channel Low

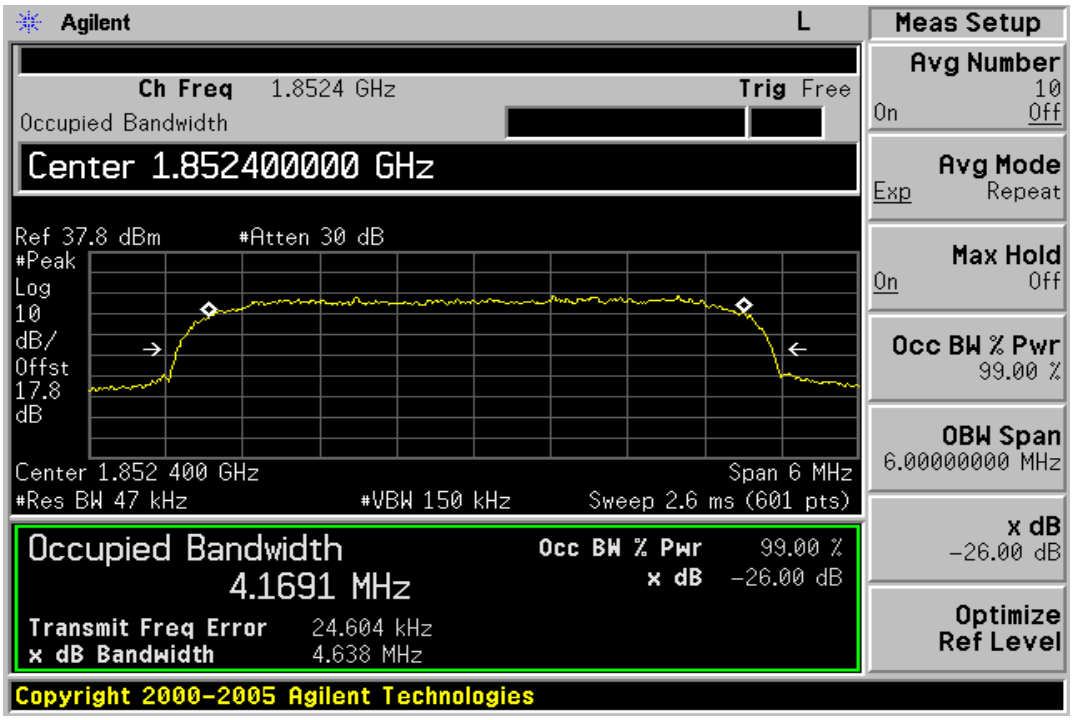


Figure 7-20: WCDMA II HSDPA Channel Mid

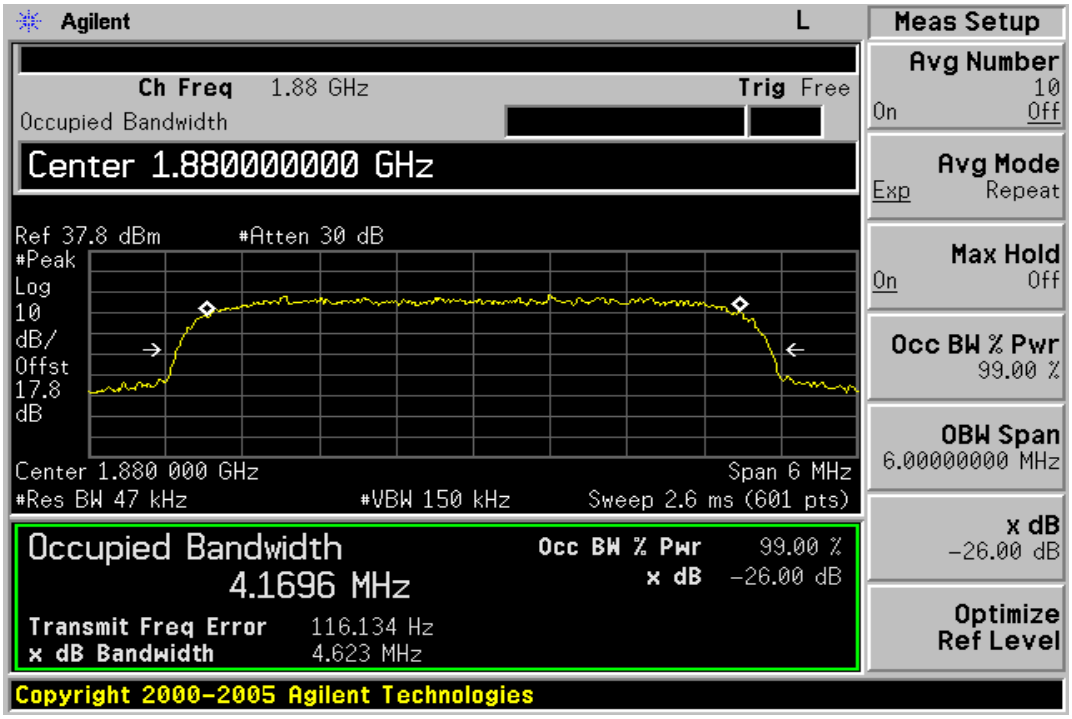


Figure 7-21: WCDMA II HSDPA Channel High

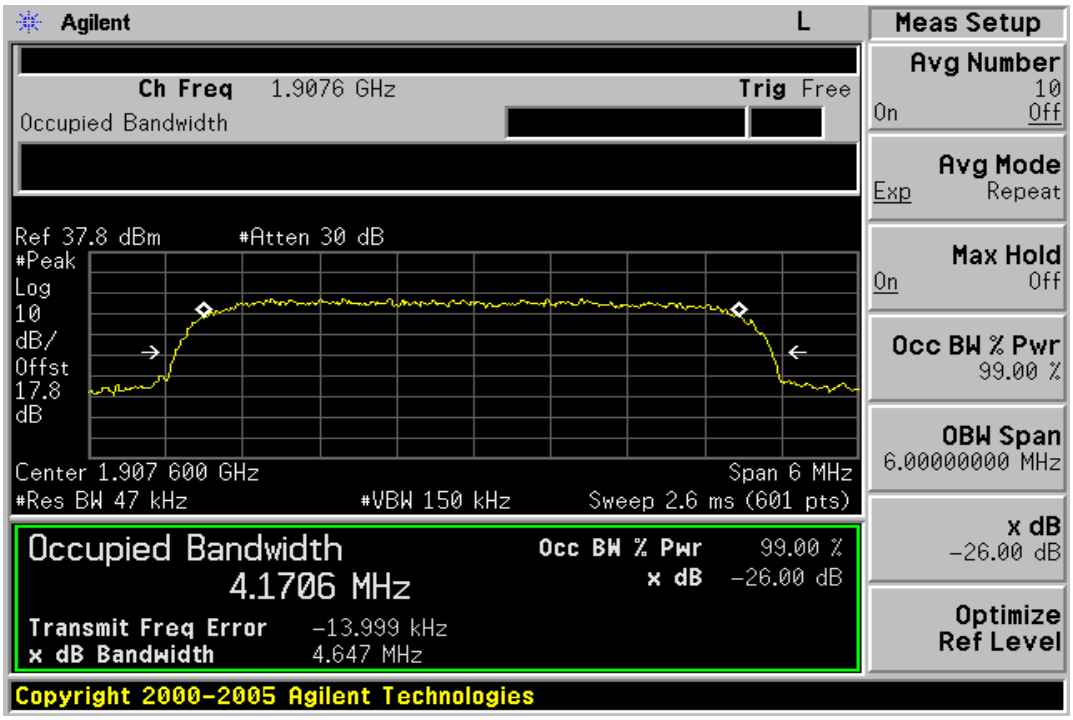


Figure 7-22: WCDMA V HSDPA Channel Low

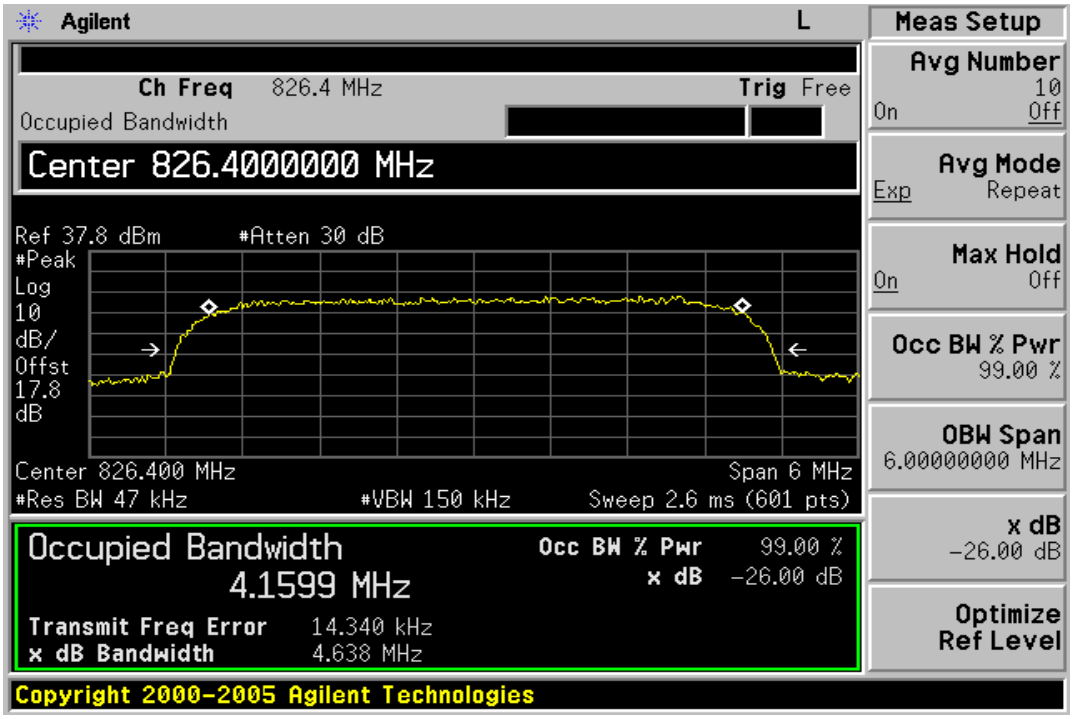


Figure 7-23: WCDMA V HSDPA Channel Mid

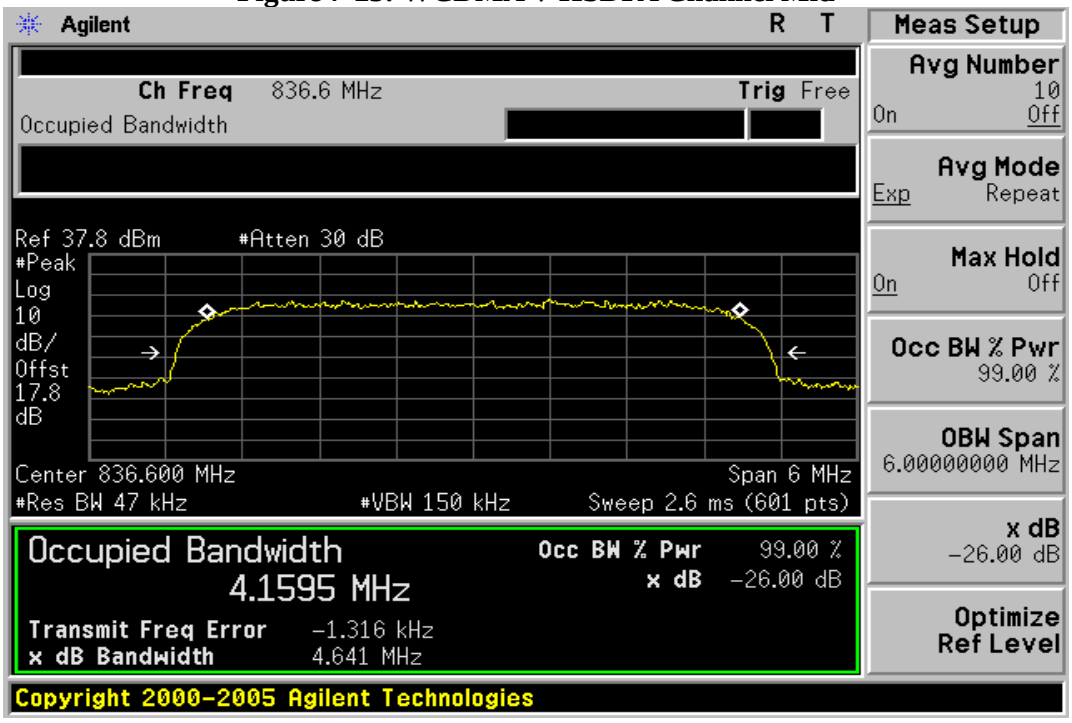
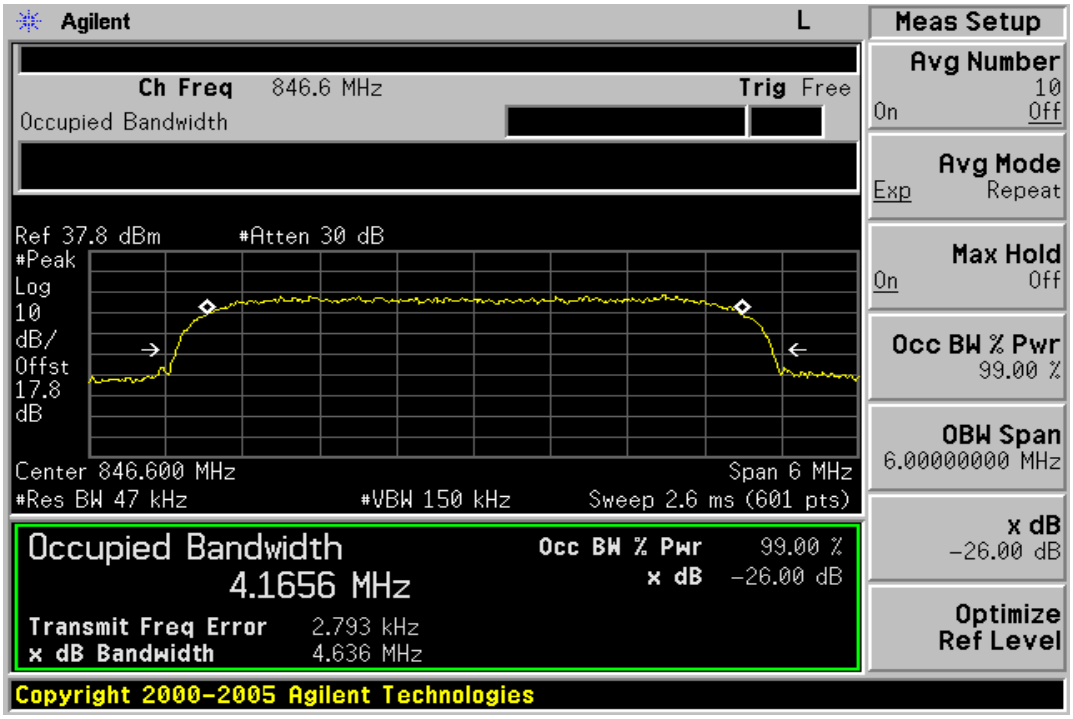


Figure 7-24: WCDMA V HSDPA Channel High



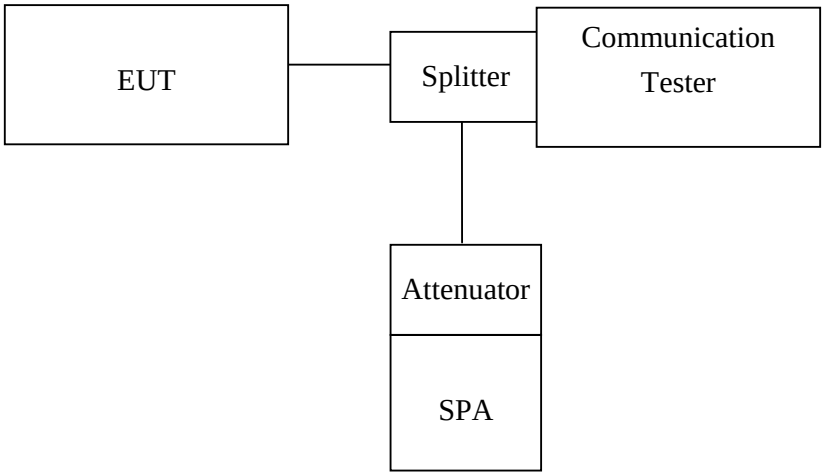
8. OUT OF BAND EMISSION AT ANTENNA TERMINALS

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

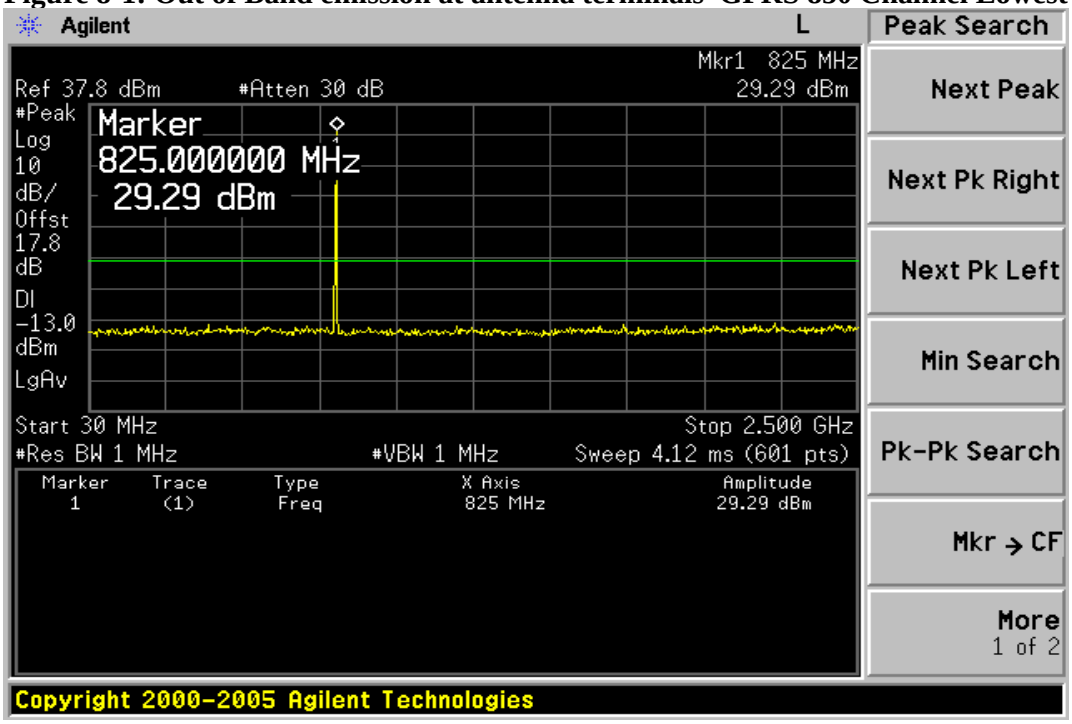
Band Edge Requirements: In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the out of band Emissions. Limit, -13dBm.

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	04/19/2008	04/18/2010
Spectrum Analyzer	Agilent	7405A	US41160416	07/04/2007	07/03/2008
Power Sensor	Anritsu	MA2490A	31431	07/07/2007	07/06/2009
Power Meter	Anritsu	ML2487A	6K00002070	05/28/2008	05/27/2010
Communication Test	R&S	SMU200	102189	05/13/2008	05/12/2009
Temperature Chamber	TERCHY	MHG-120LF	911009	04/14/2008	04/13/2010
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	02/13/2008	02/12/2009
Attenuator	Mini-Circuit	BW-S10W5	N/A	07/05/2008	07/04/2009
Attenuator	Mini-Circuit	BW-S6W5	N/A	07/05/2008	07/04/2009
Splitter	Mini-Circuit	ZFSC-2-10G	N/A	10/07/2007	10/06/2008
Signal Generator	R&S	SMR40	100210	01/22/2008	01/21/2009
DC Power Supply	Agilent	6038A	2929A-07548	07/05/2008	07/04/2009
Band reject filter	Wicro-tronics	BRM13462	001	06/28/2008	06/29/2009

8.5 Measurement Result

Figure 8-1: Out of Band emission at antenna terminals–GPRS 850 Channel Lowest



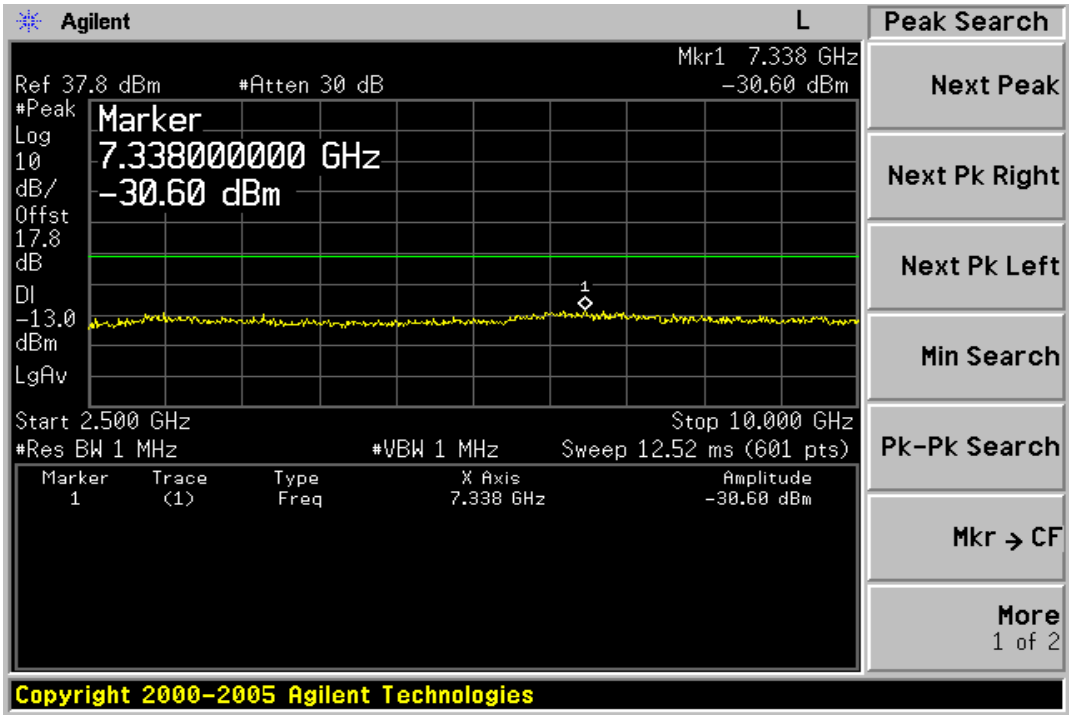
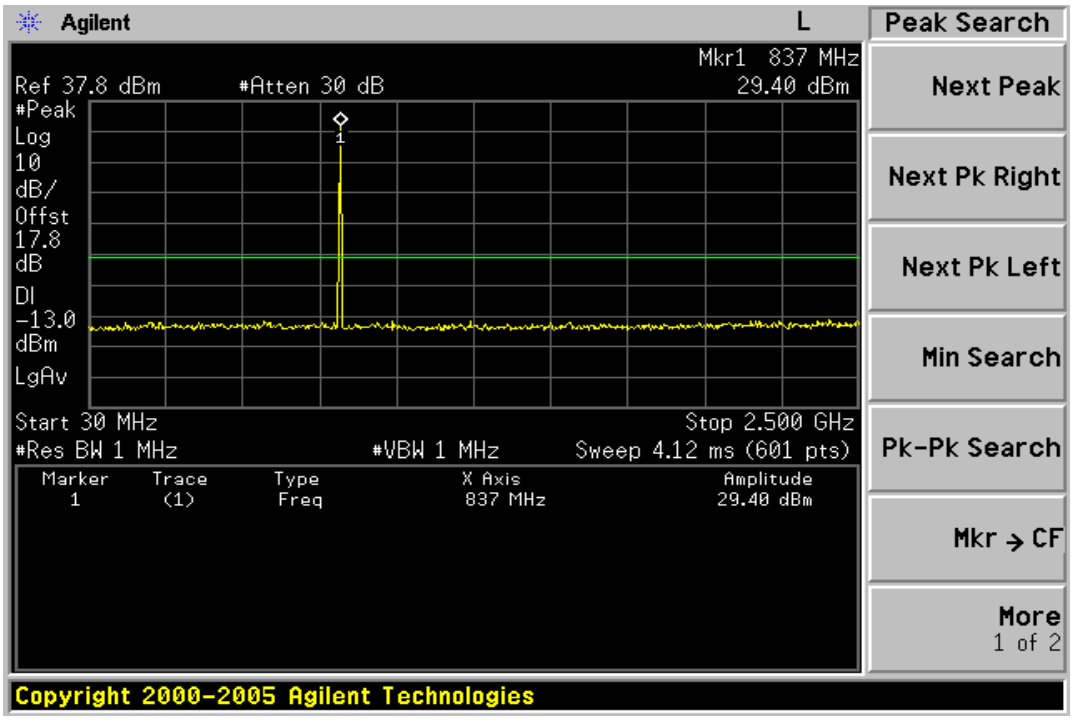


Figure 8-2: Out of Band emission at antenna terminals –GPRS 850 Channel Mid



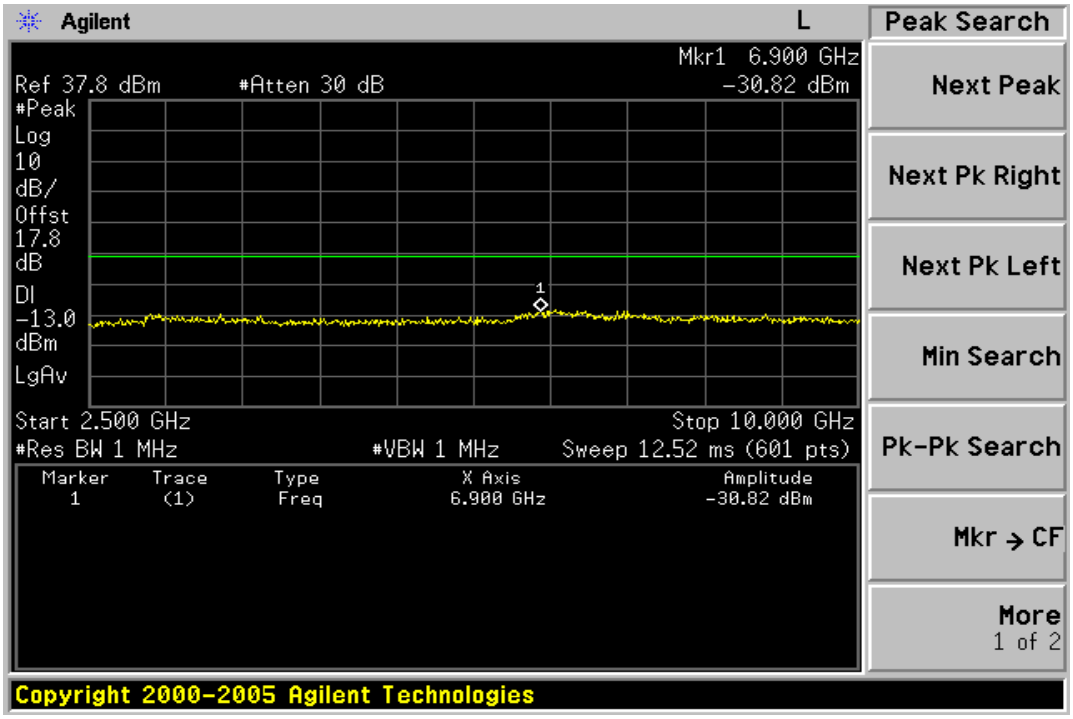
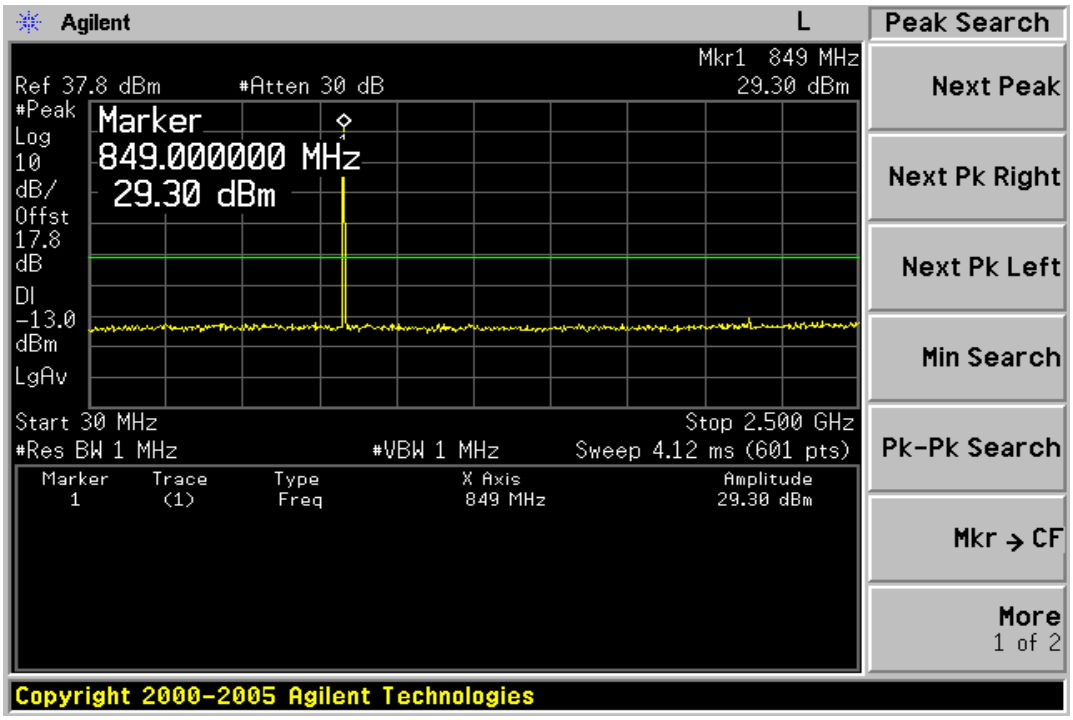


Figure 8-3: Out of Band emission at antenna terminals–GPRS 850 Channel Highest



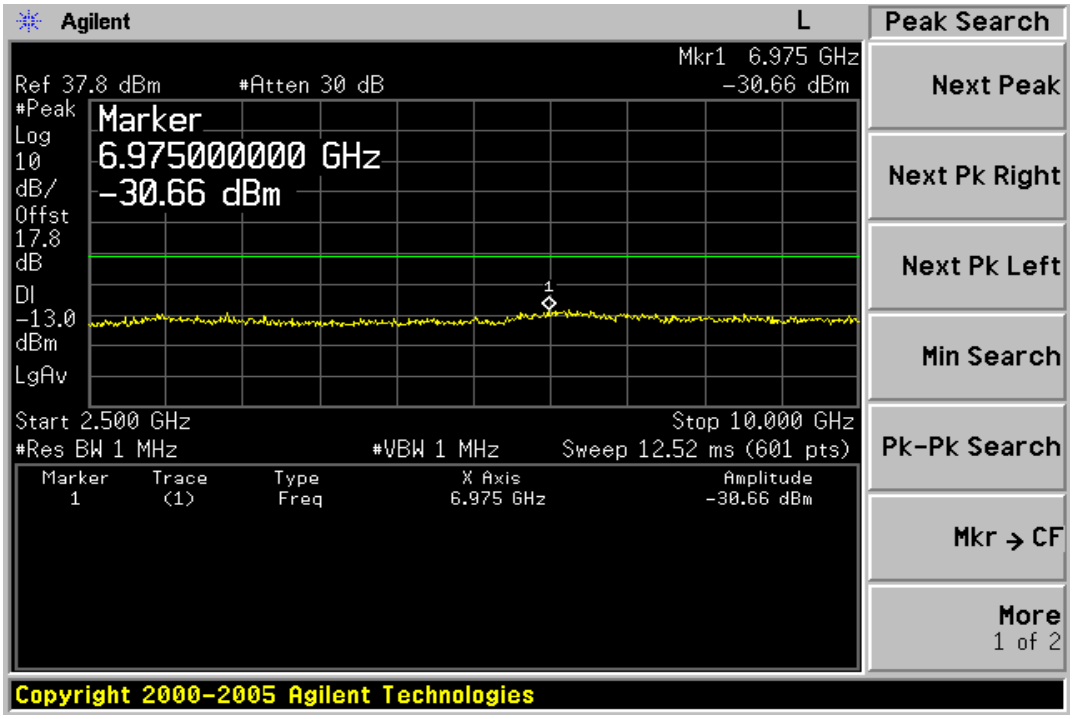


Figure 8-4: Band edge emission at antenna terminals –GPRS 850 Channel Lowest

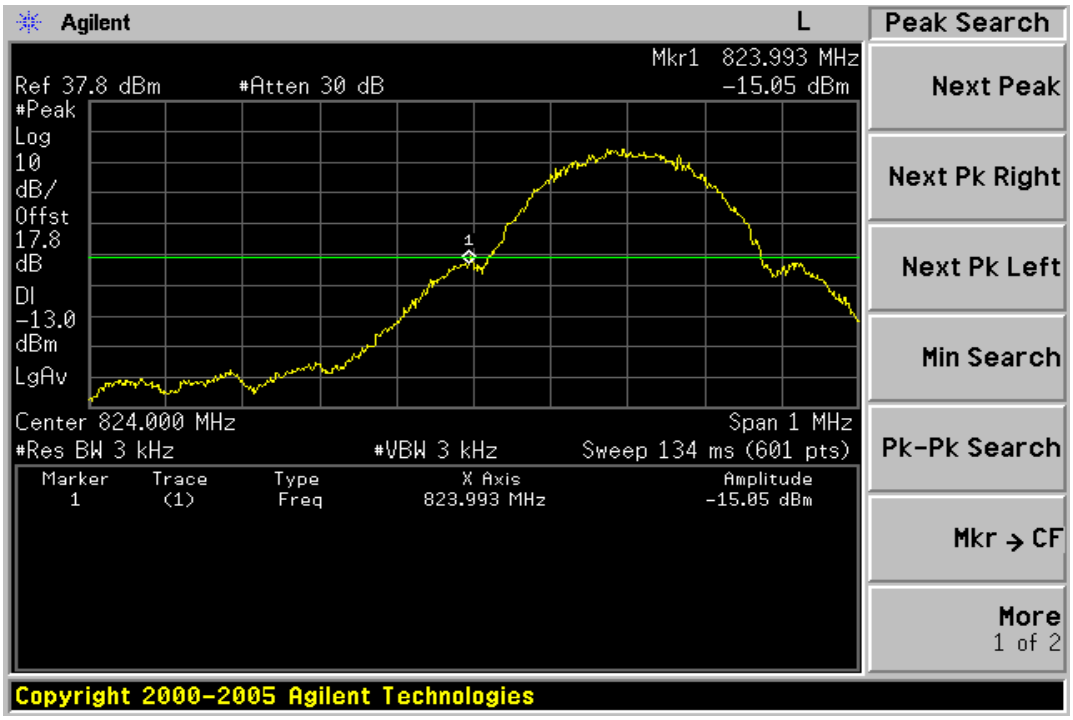


Figure 8-5: Band edge emission at antenna terminals –GPRS 850 Channel Highest

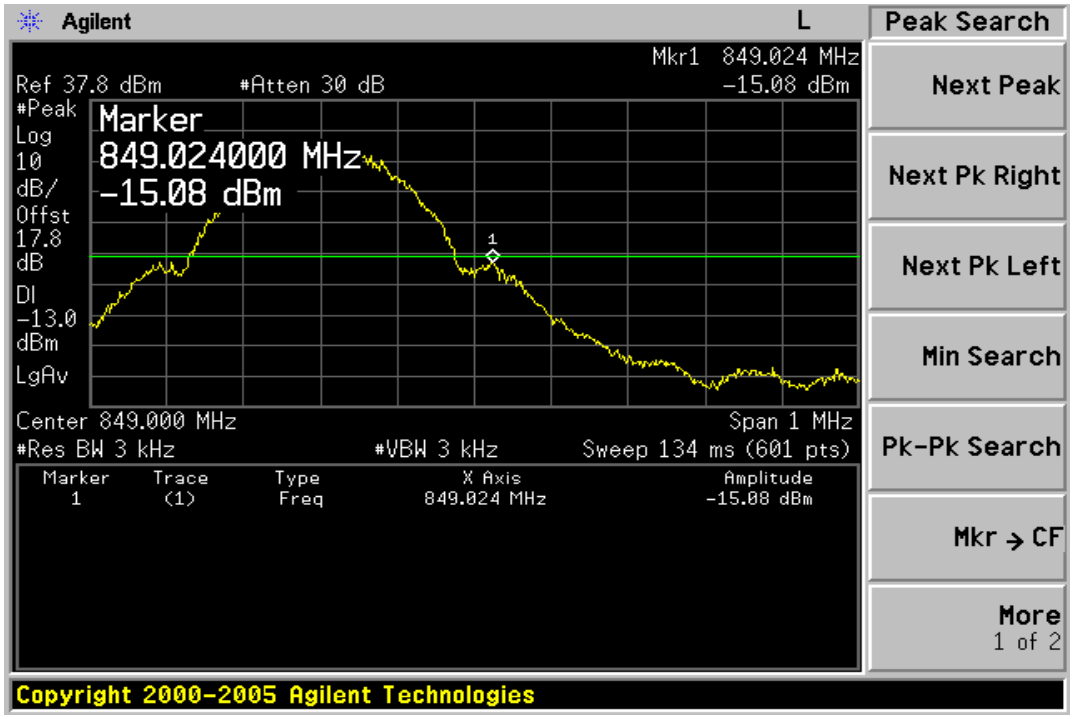
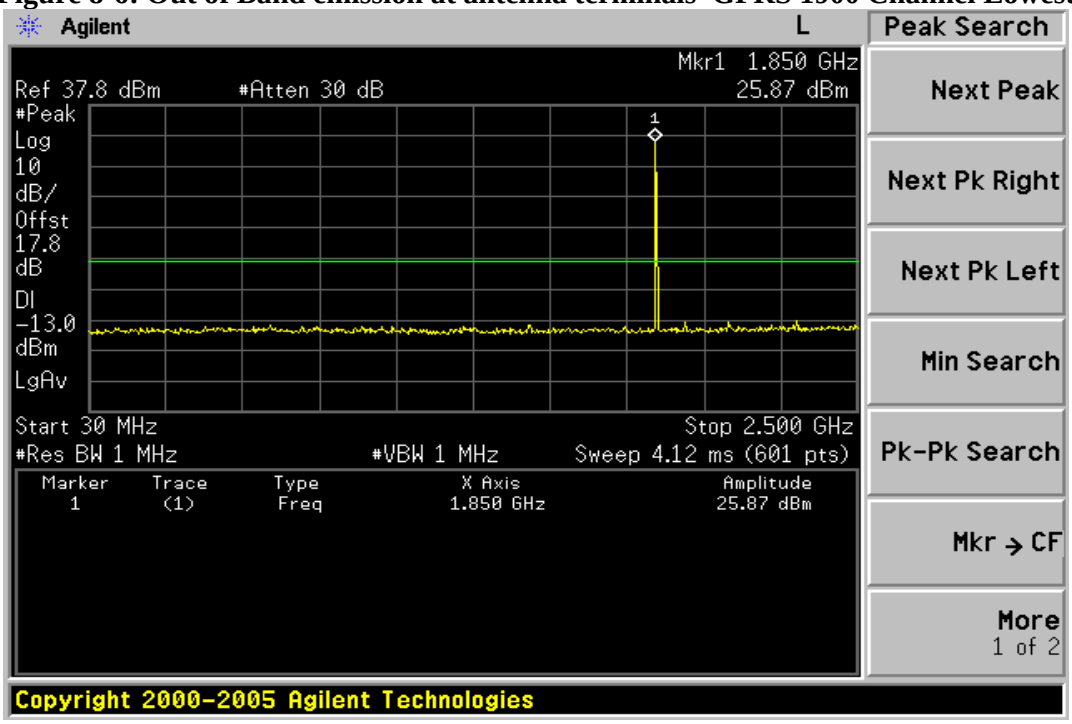


Figure 8-6: Out of Band emission at antenna terminals–GPRS 1900 Channel Lowest



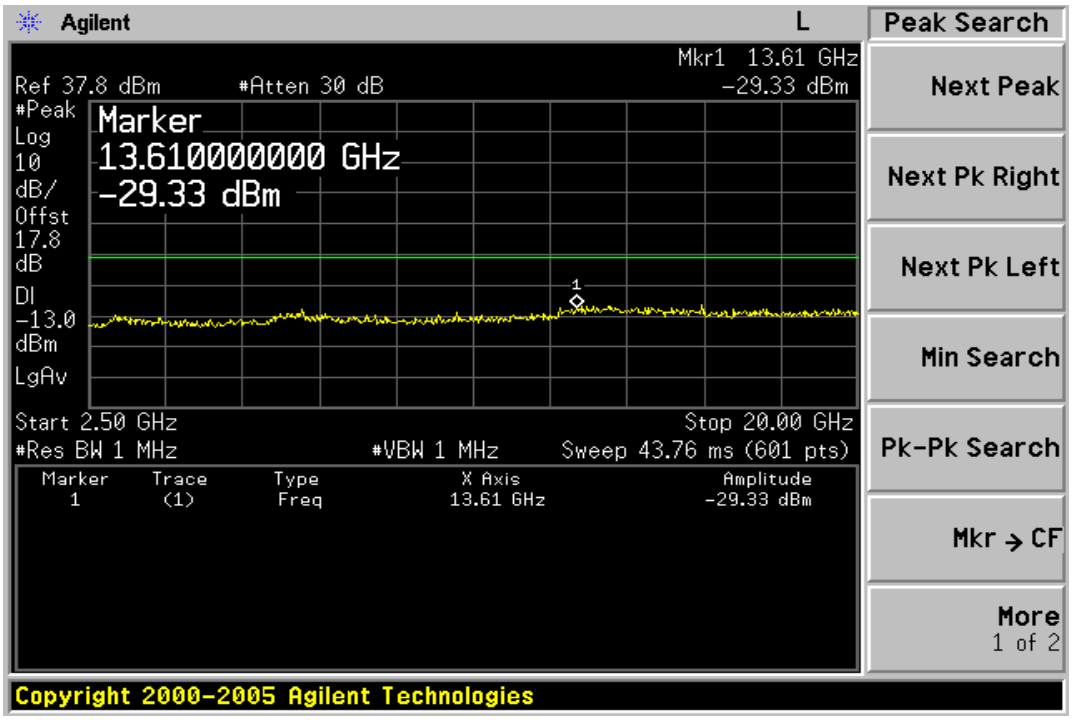
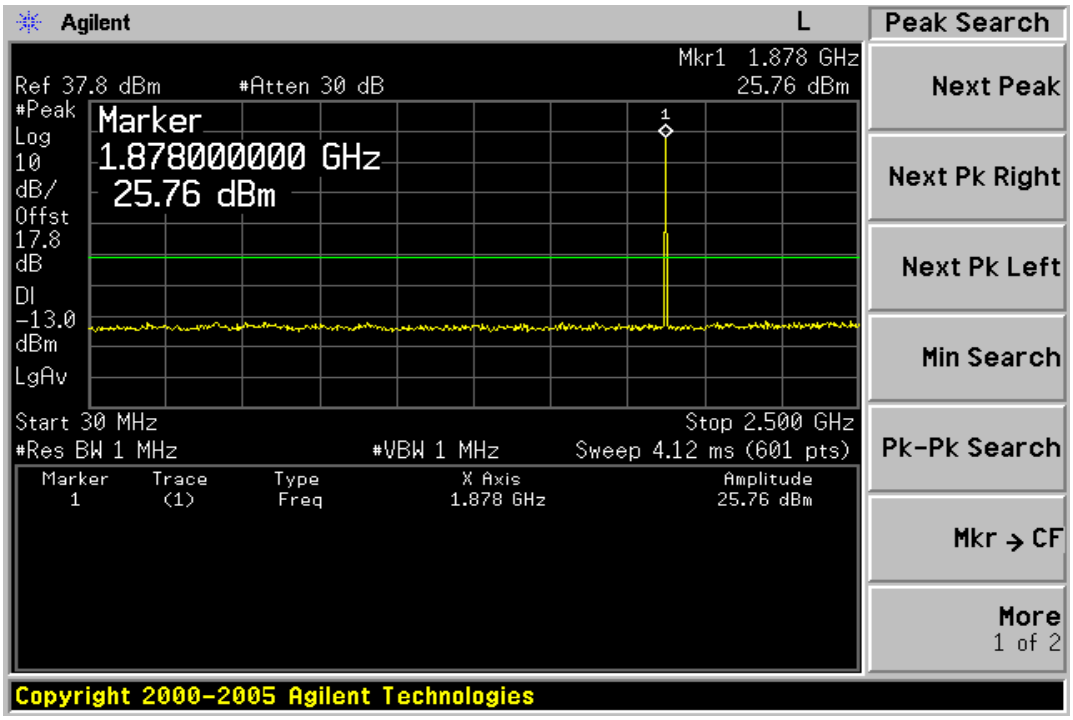


Figure 8-7: Out of Band emission at antenna terminals –GPRS 1900 Channel Mid



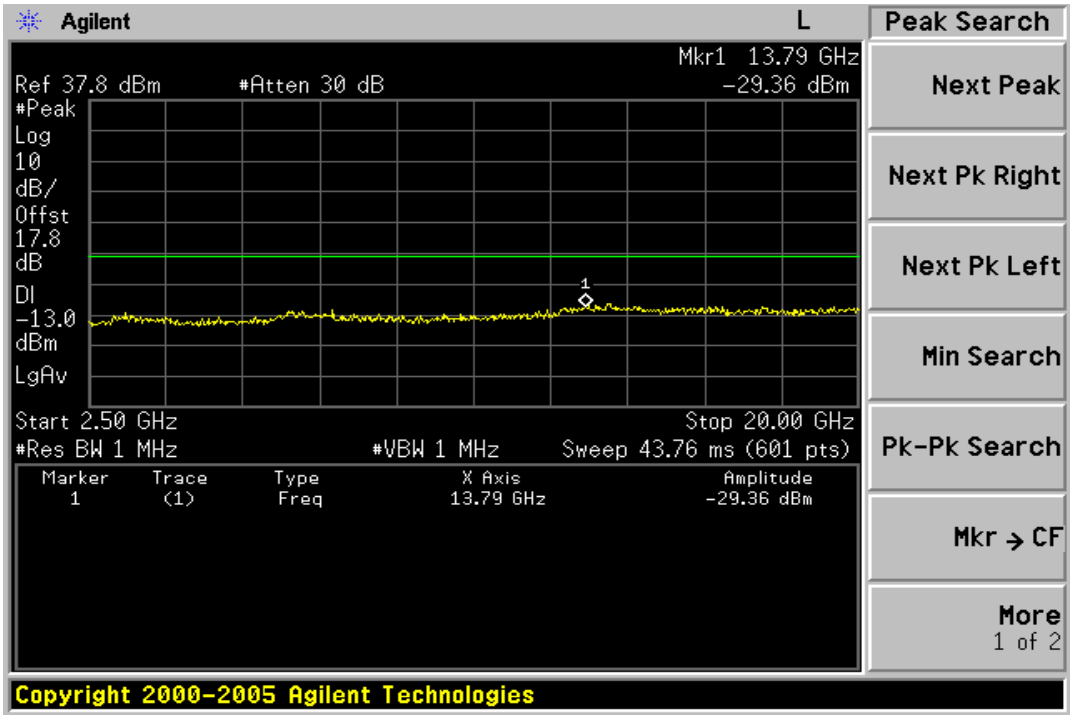
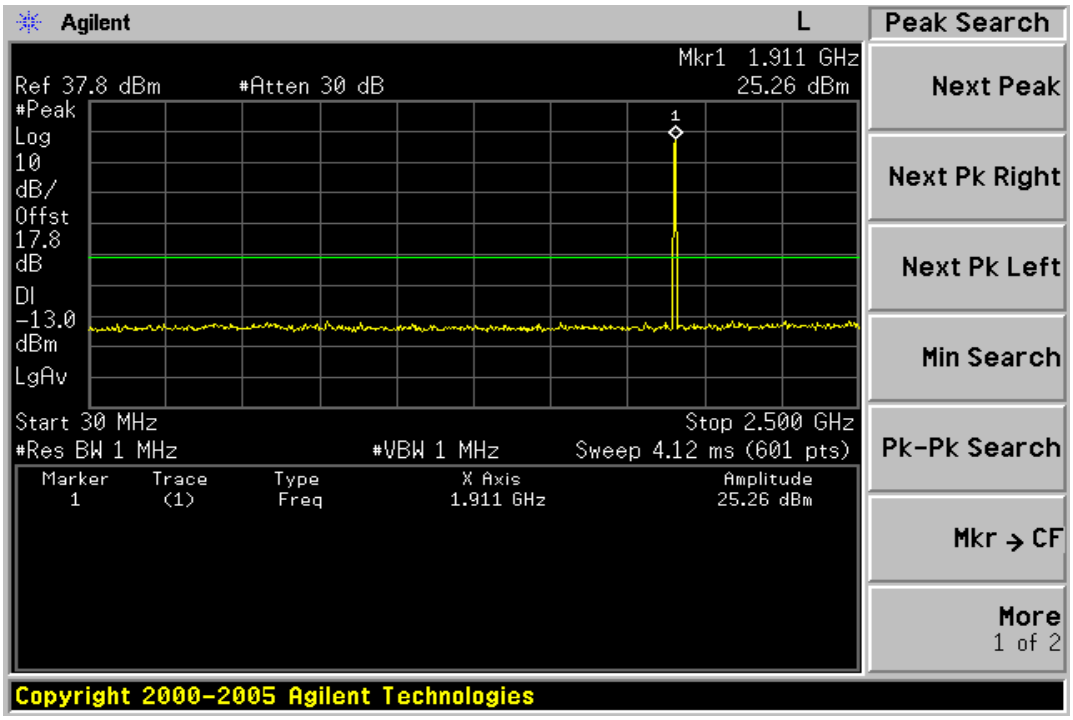


Figure 8-8: Out of Band emission at antenna terminals–GPRS 1900 Channel Highest



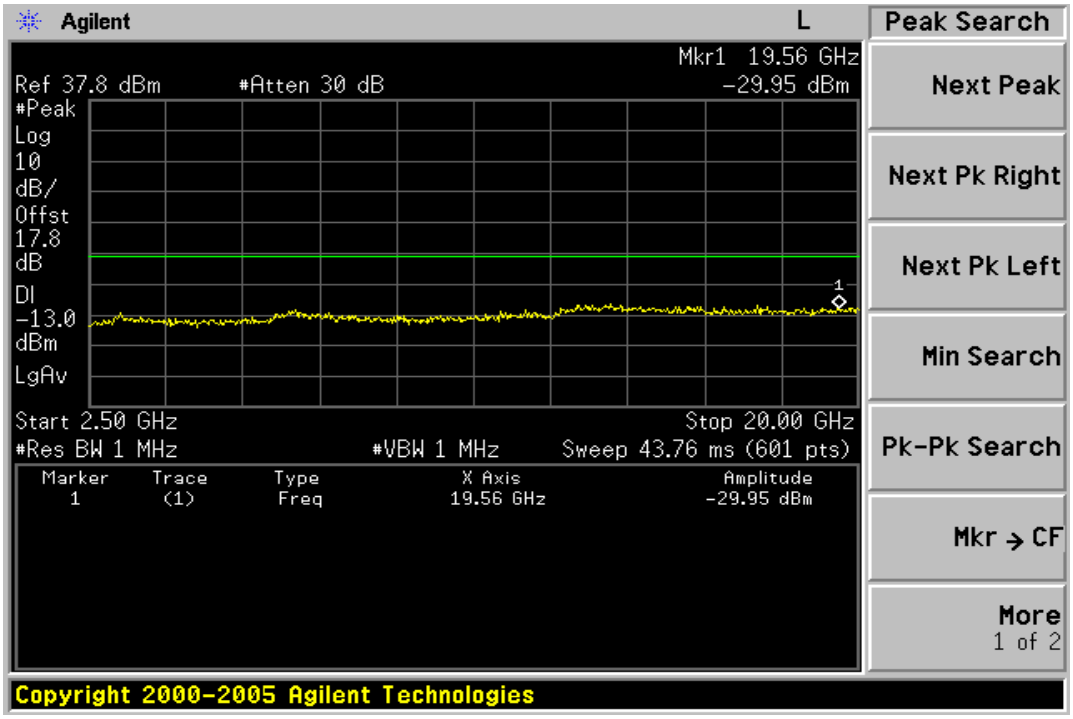


Figure 8-9: Bad edge emission at antenna terminals –GPRS 1900 Channel Lowest

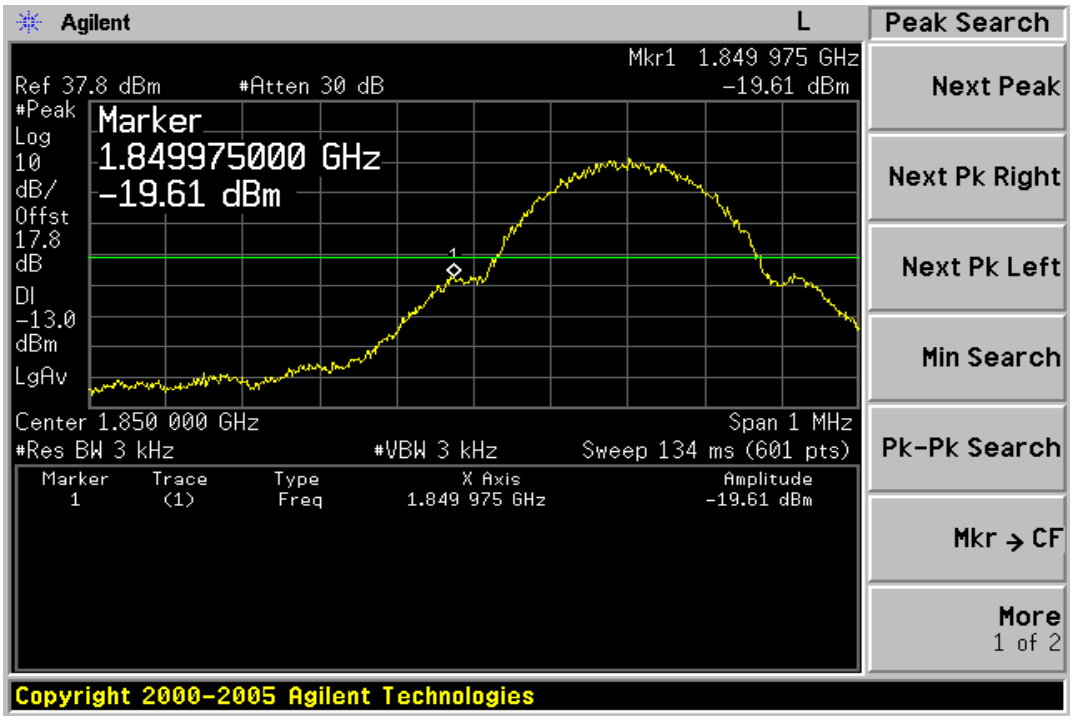


Figure 8-10: Band edge emission at antenna terminals –GPRS 1900 Channel Highest

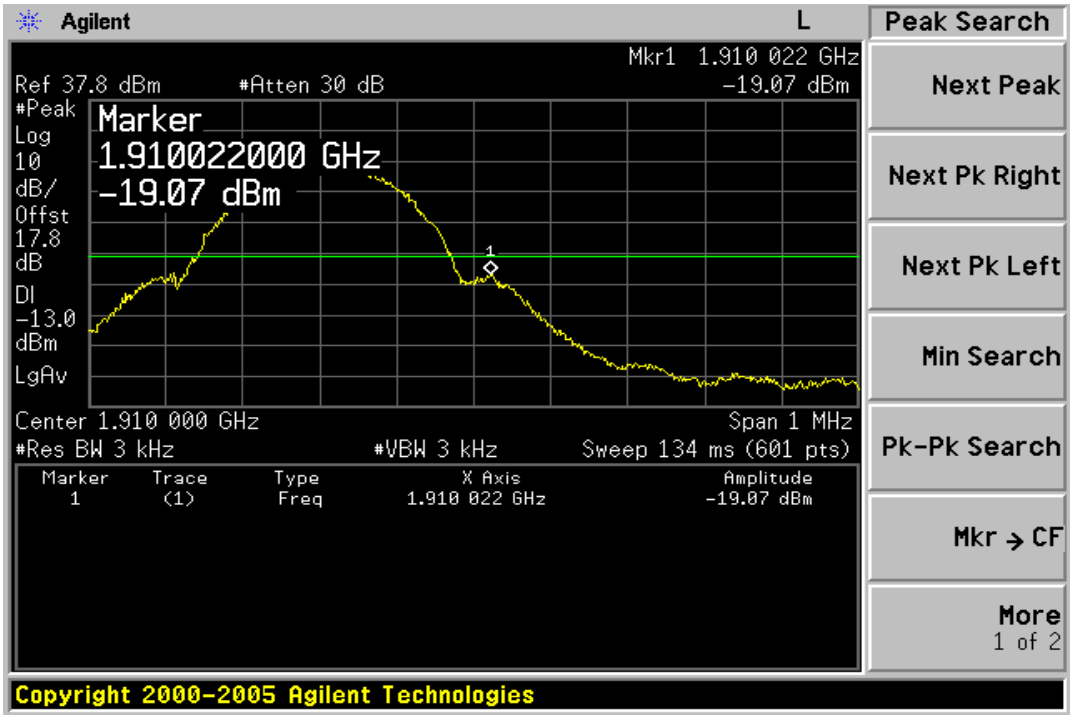


Figure 8-11: Band edge emission at antenna terminals –EDGE 850 Channel Lowest

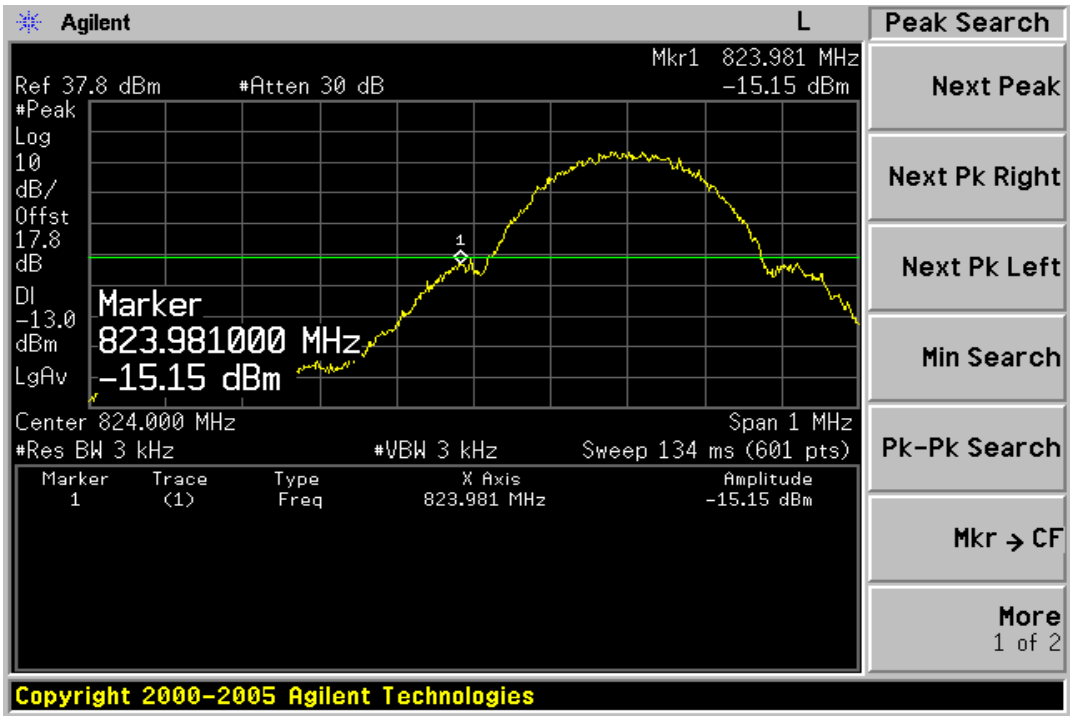


Figure 8-12: Band edge emission at antenna terminals –EDGE 850 Channel Highest

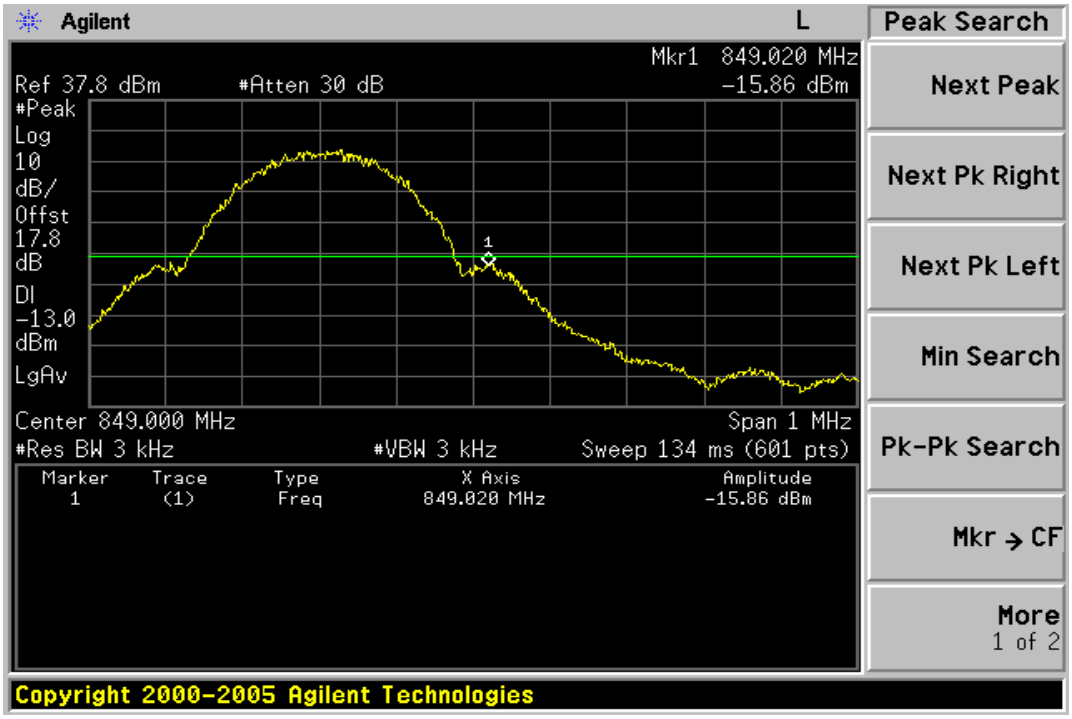


Figure 8-13: Bad edge emission at antenna terminals –EDGE 1900 Channel Lowest

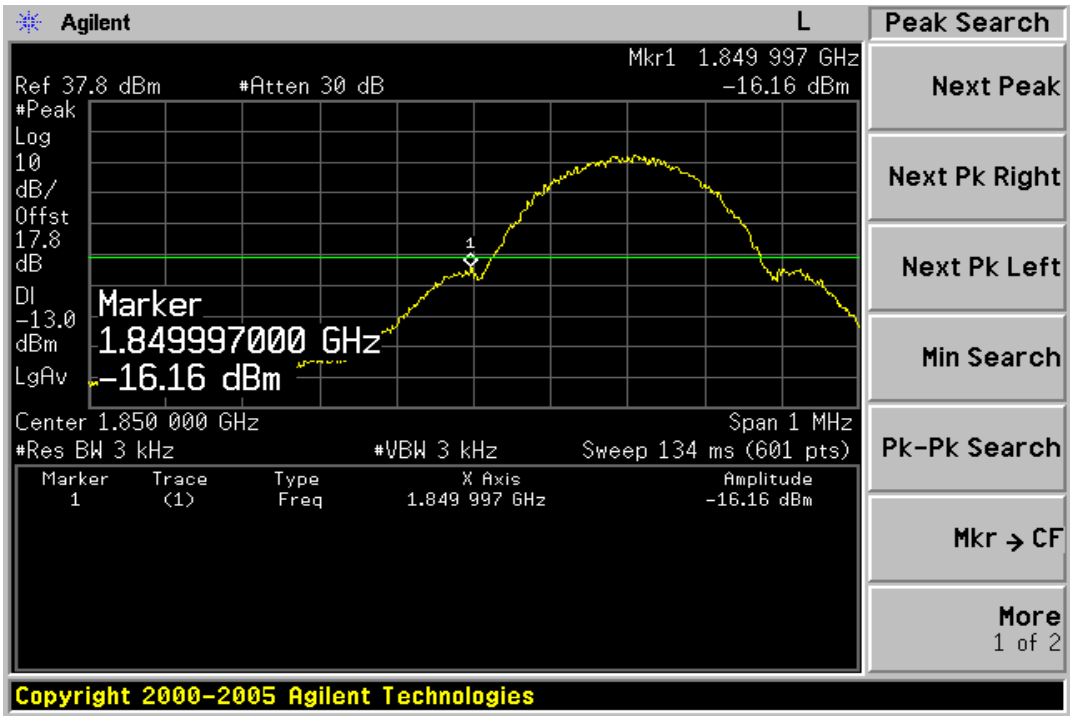


Figure 8-14: Band edge emission at antenna terminals –EDGE 1900 Channel Highest

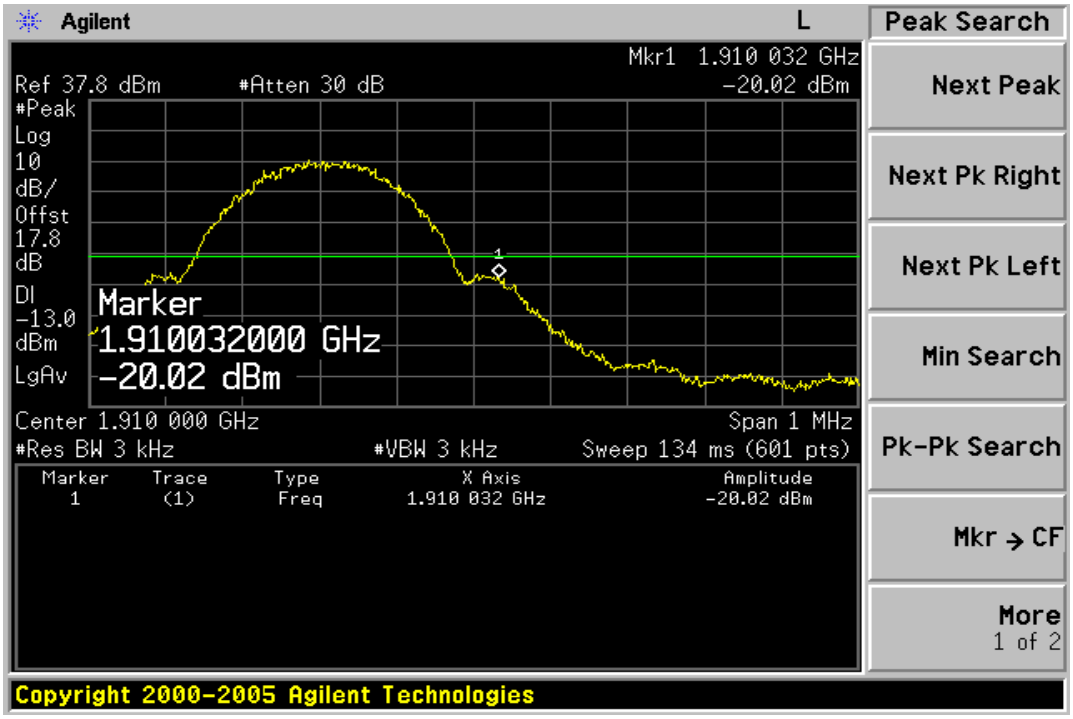
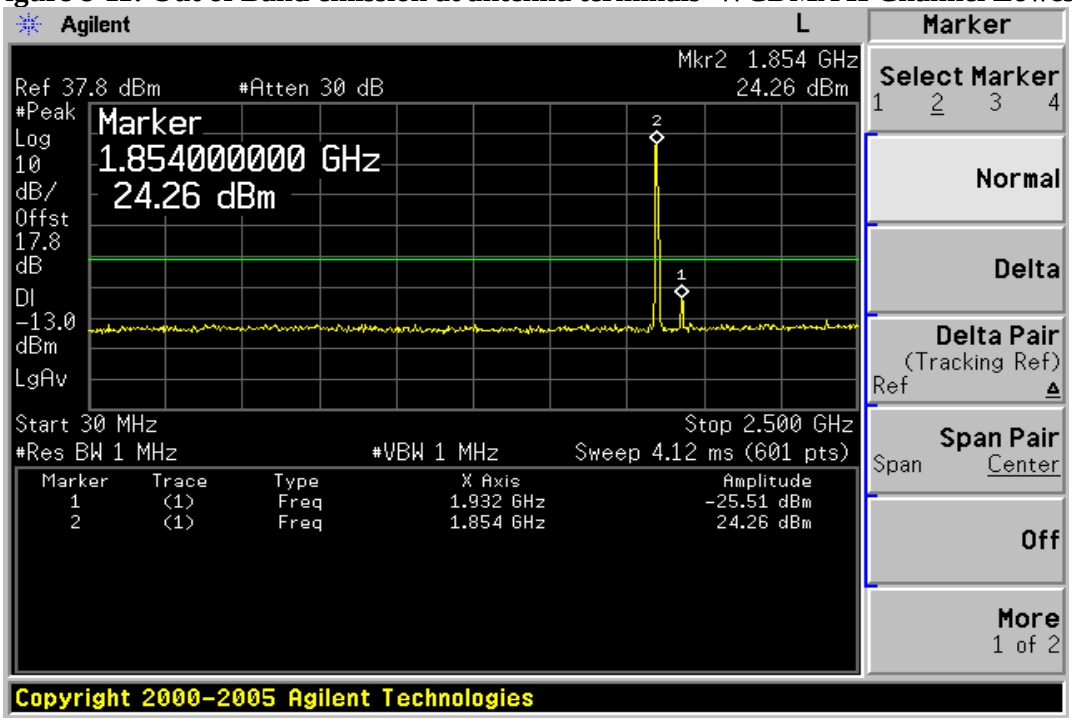


Figure 8-11: Out of Band emission at antenna terminals–WCDMA II Channel Lowest



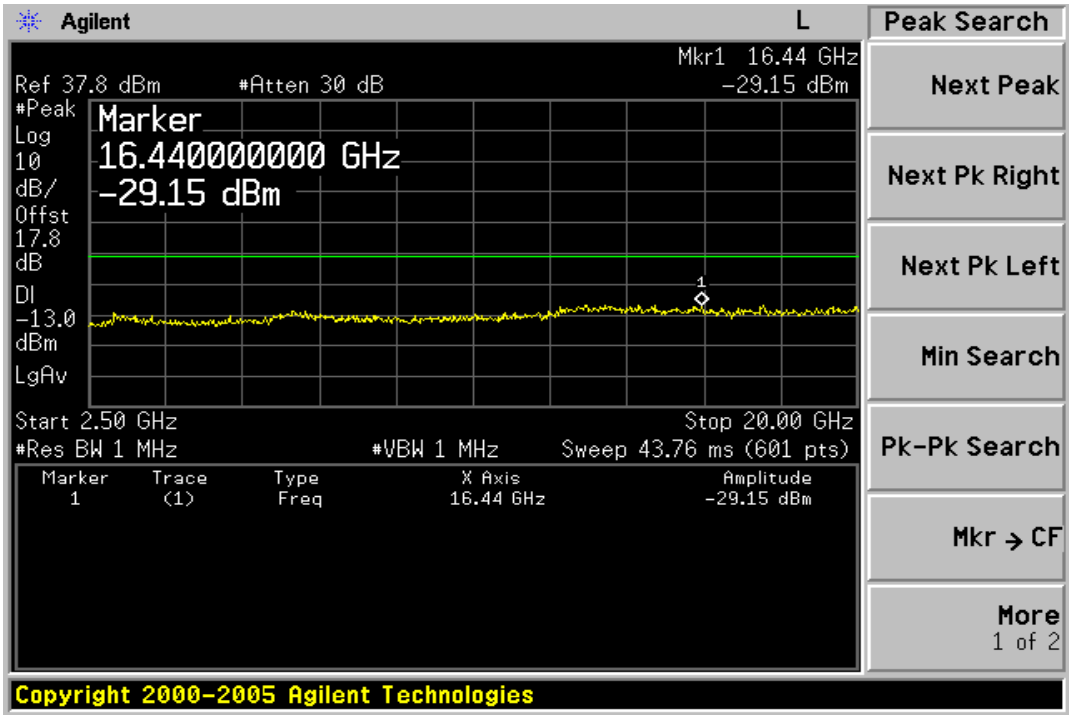
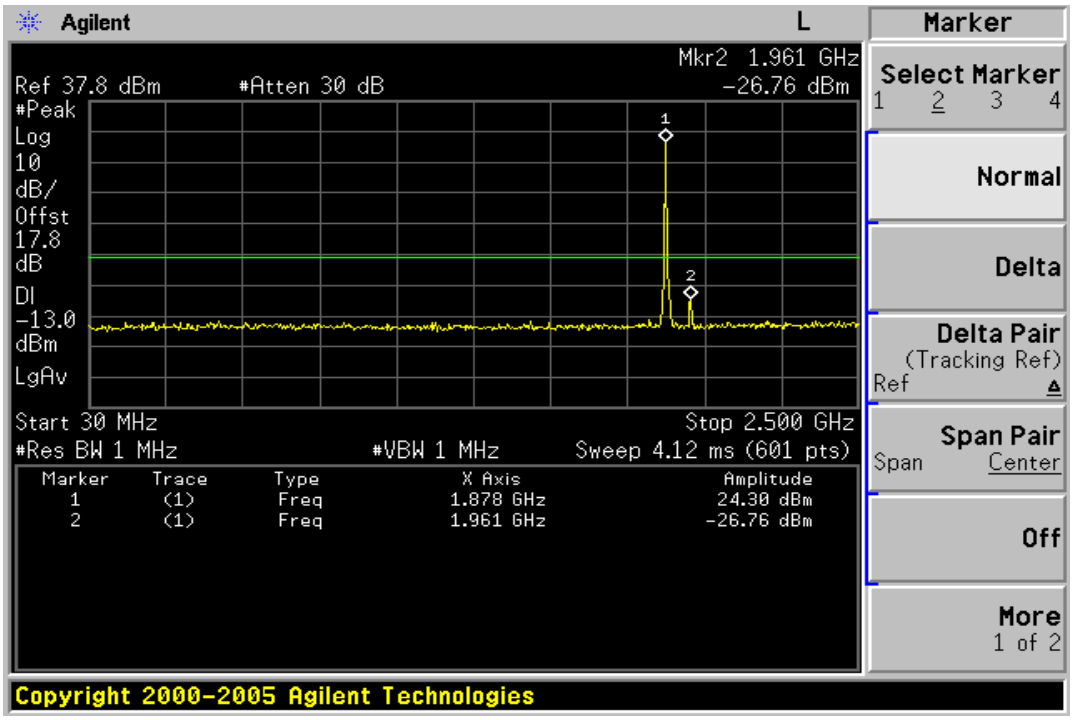


Figure 8-12: Out of Band emission at antenna terminals –WCDMA II Channel Mid



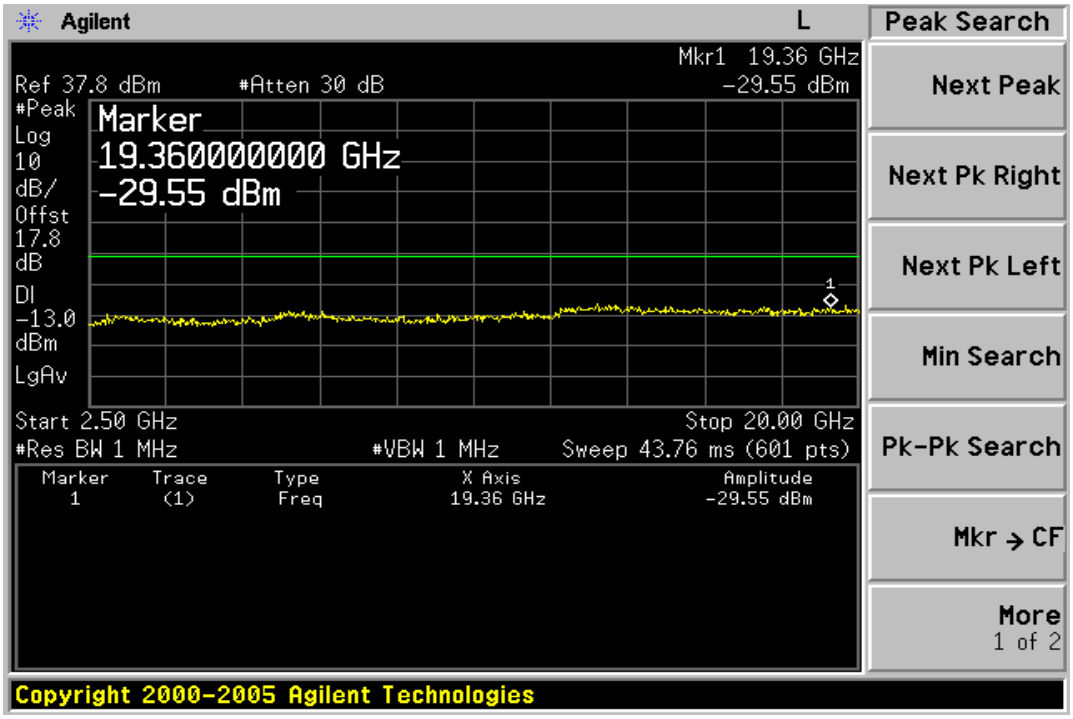
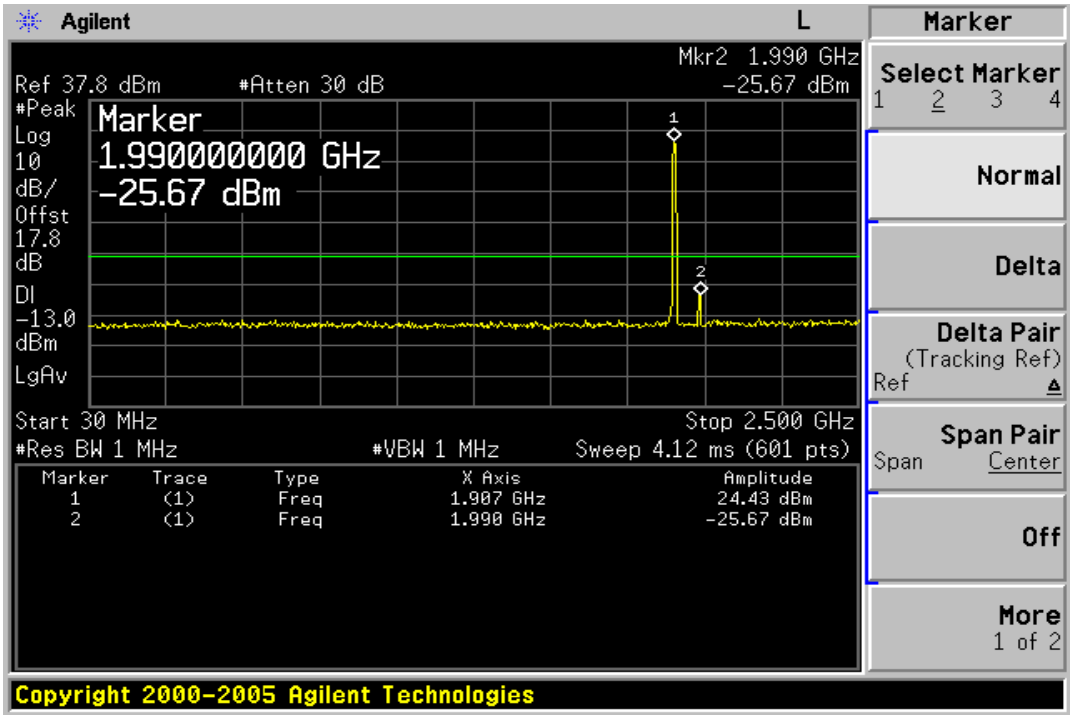


Figure 8-13: Out of Band emission at antenna terminals–WCDMA II Channel Highest



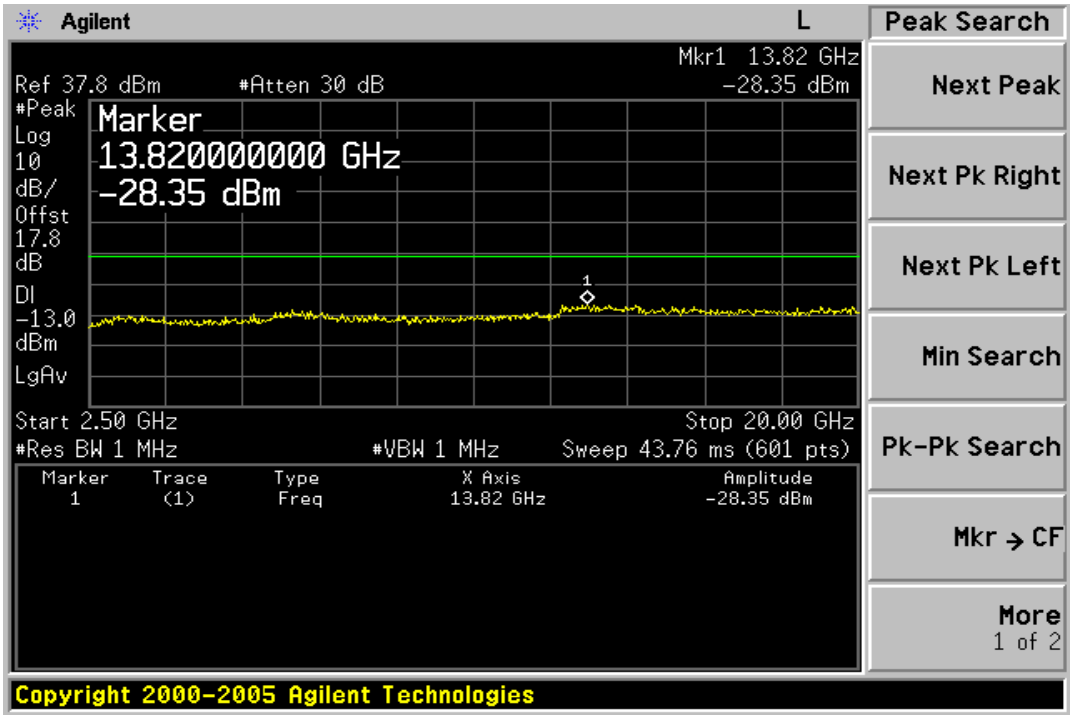


Figure 8-14: Bad edge emission at antenna terminals –WCDMA II Channel Lowest

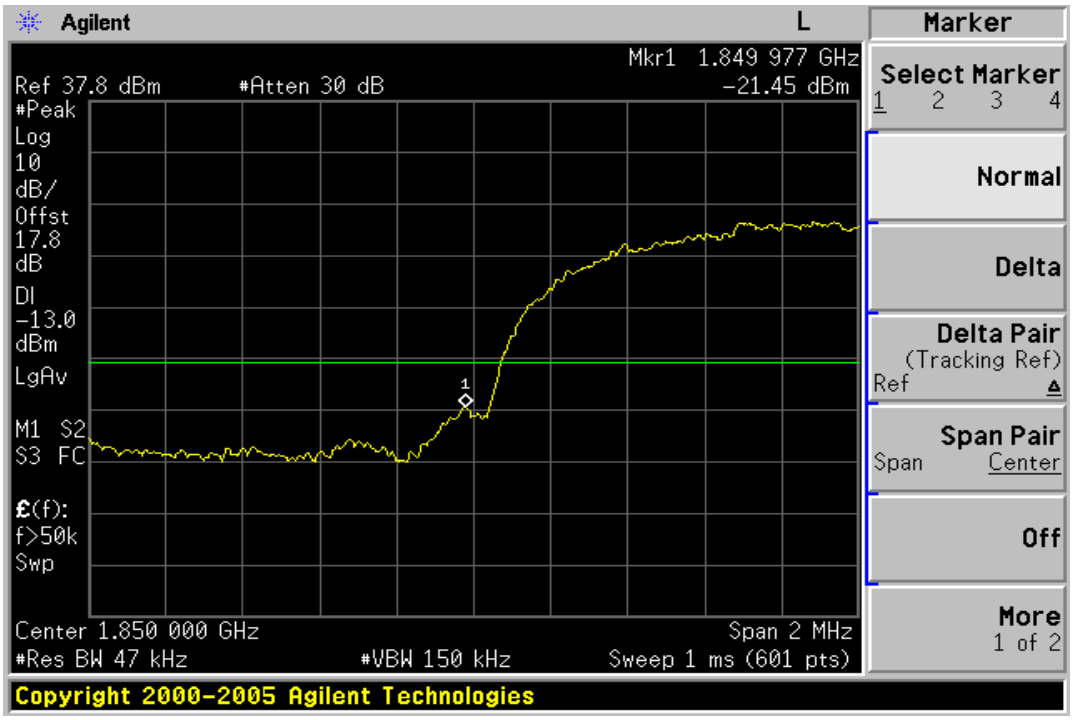


Figure 8-15: Band edge emission at antenna terminals –WCDMA II Channel Highest

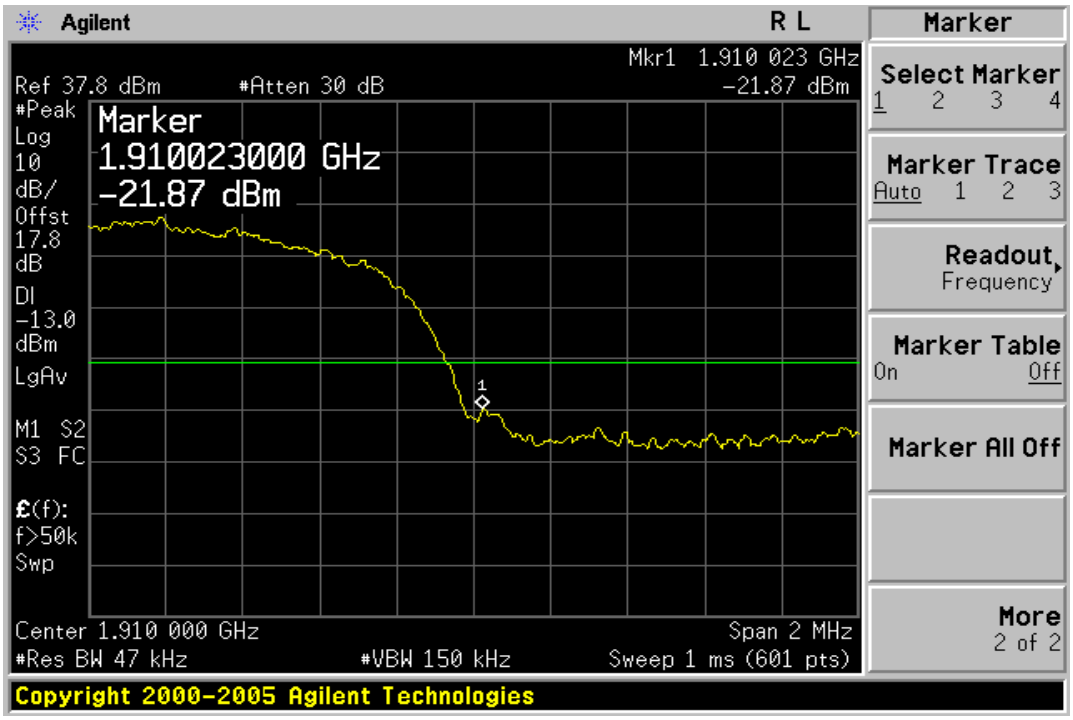
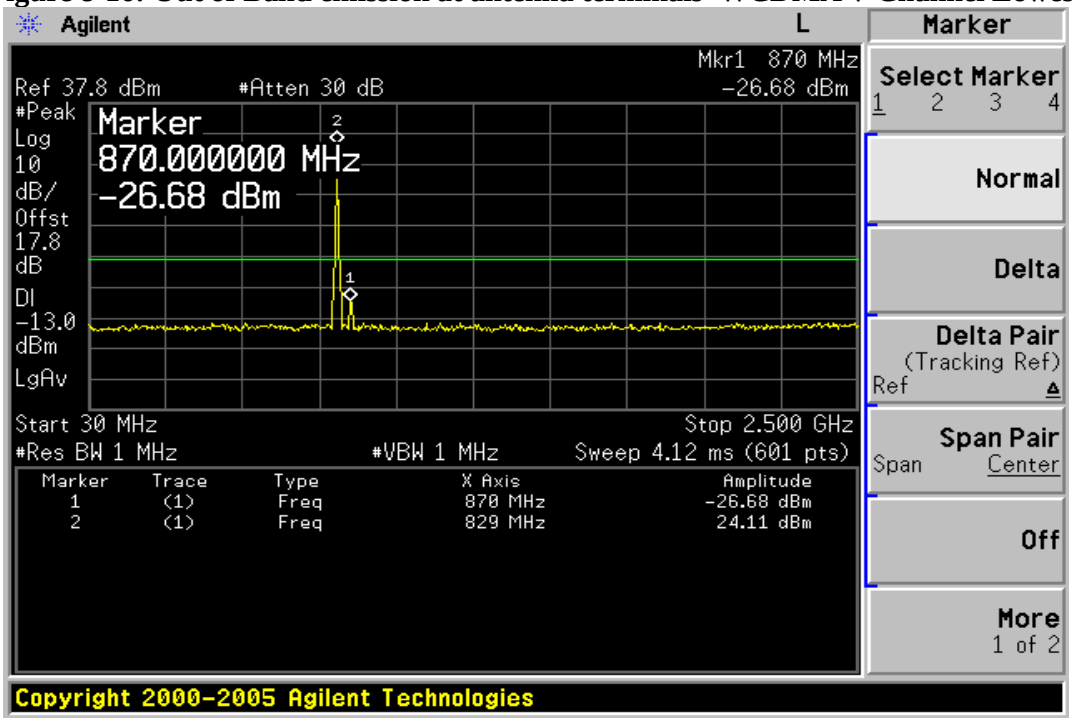


Figure 8-16: Out of Band emission at antenna terminals–WCDMA V Channel Lowest



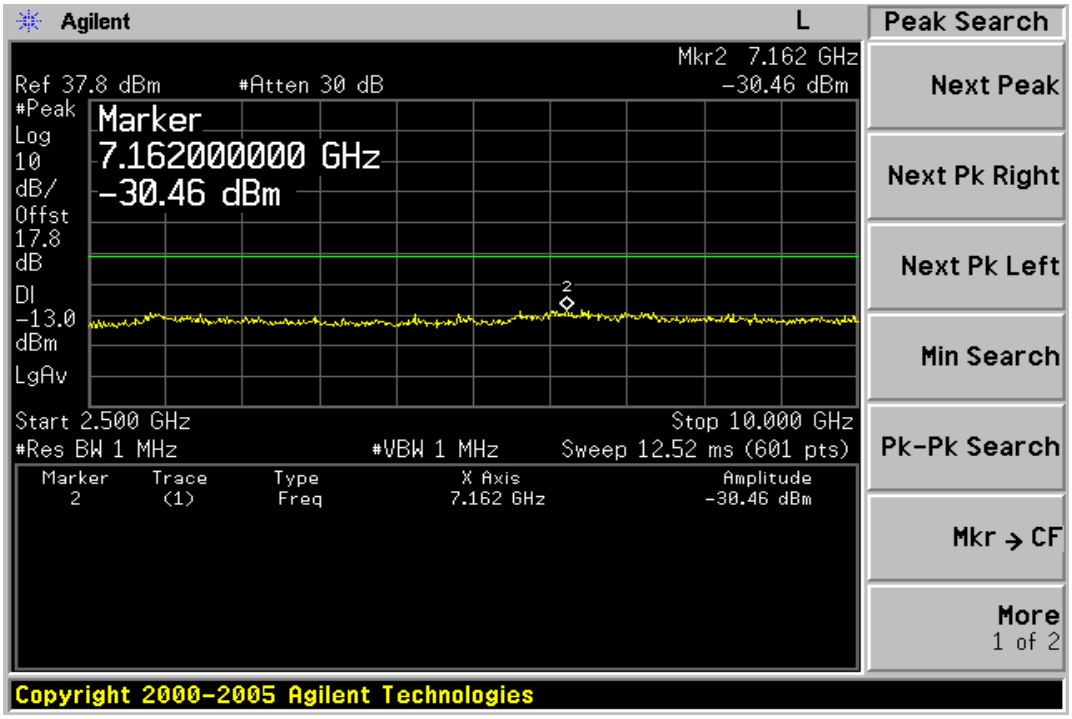
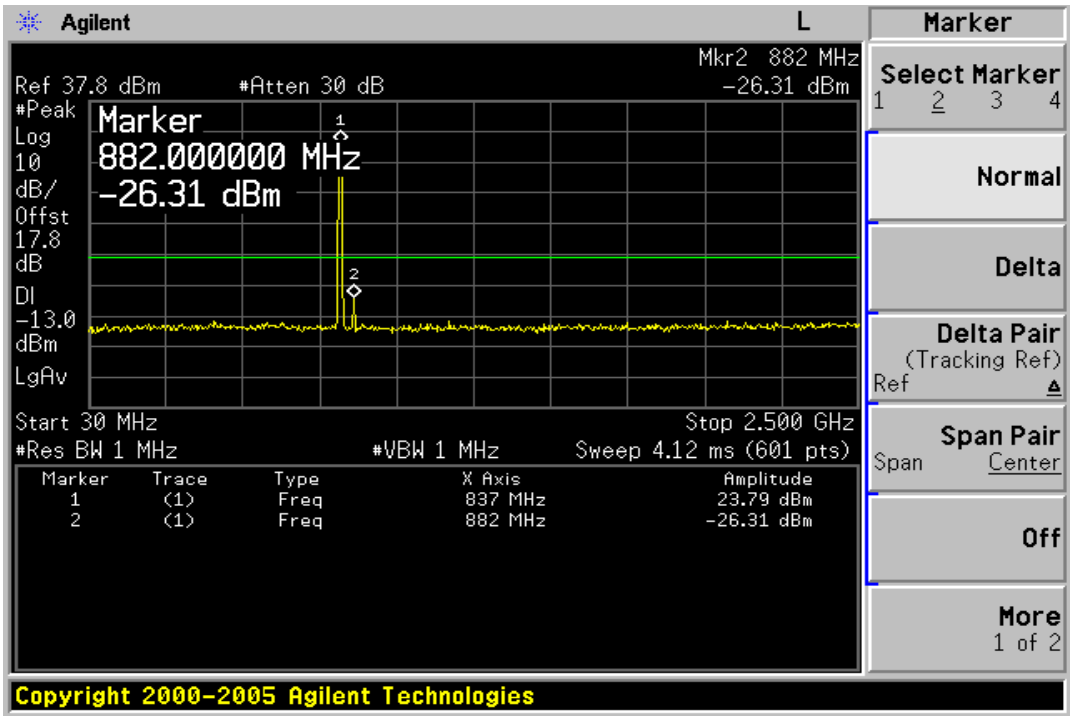


Figure 8-17: Out of Band emission at antenna terminals –WCDMA V Channel Mid



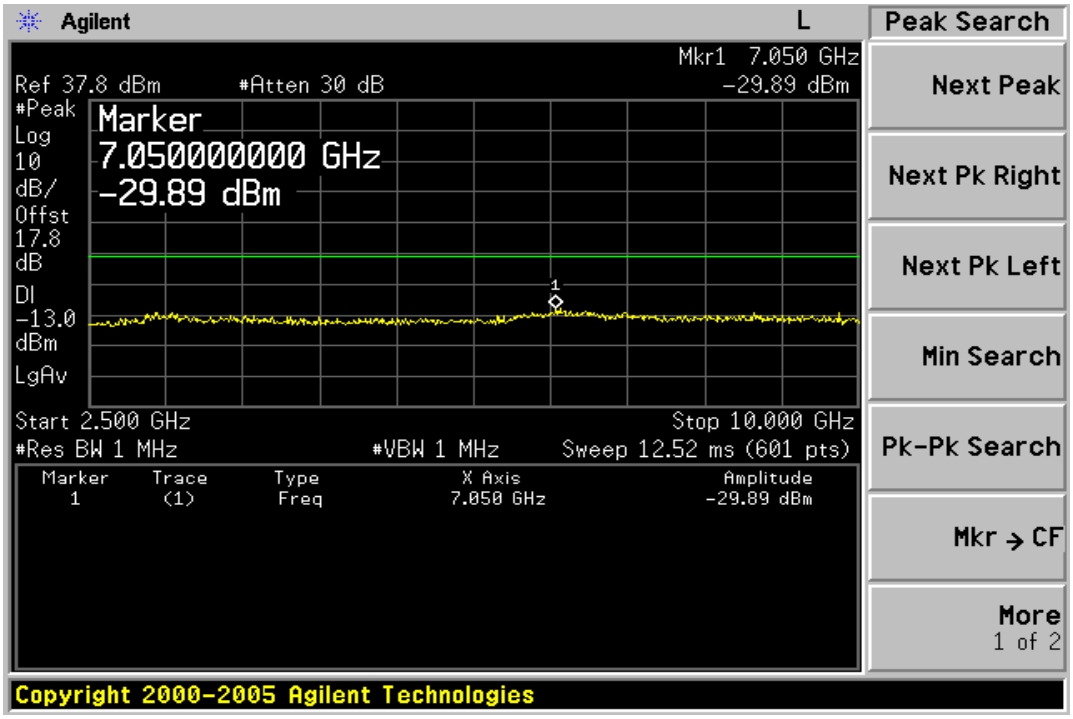
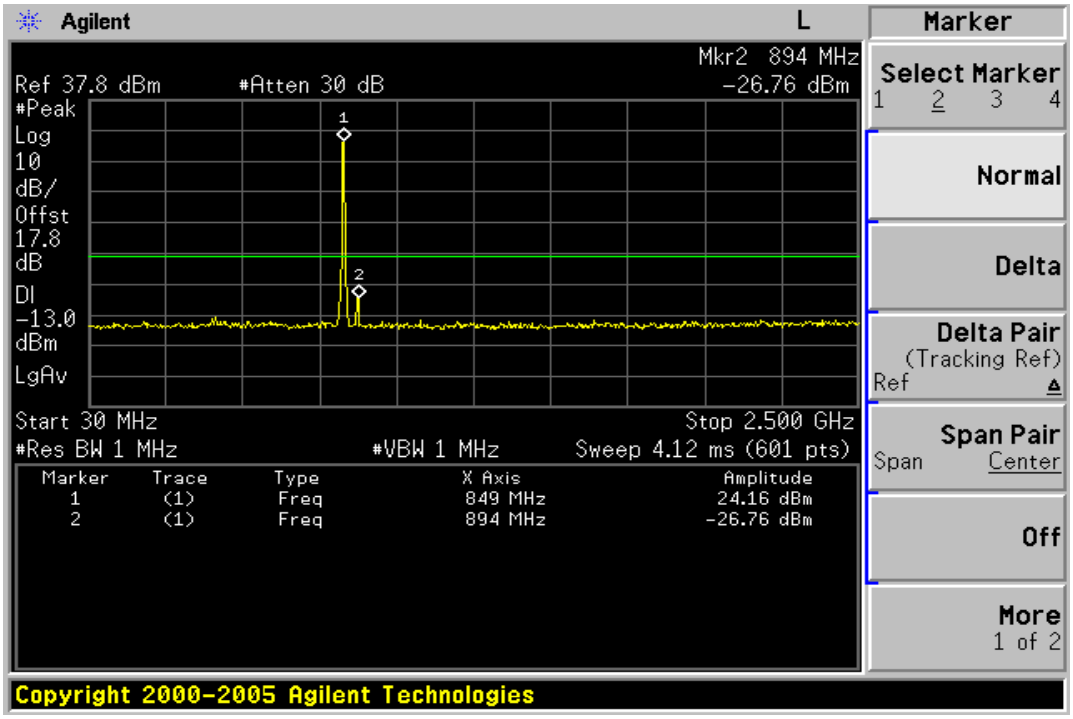


Figure 8-18: Out of Band emission at antenna terminals–WCDMA V Channel Highest



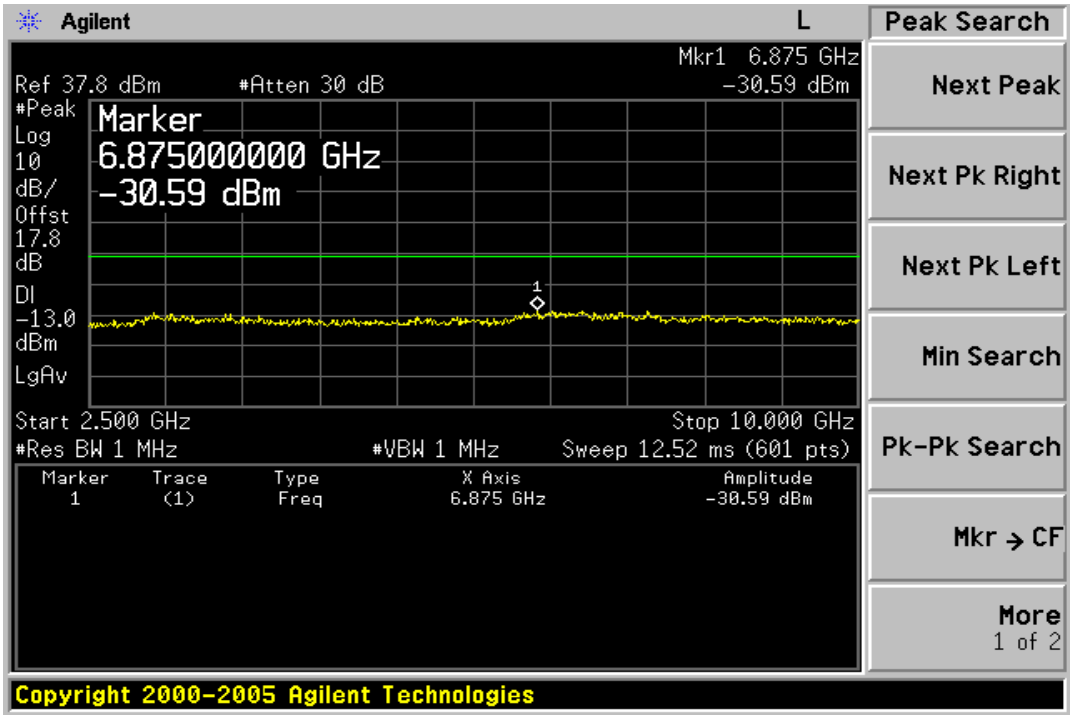


Figure 8-19: Bad edge emission at antenna terminals –WCDMA V Channel Lowest

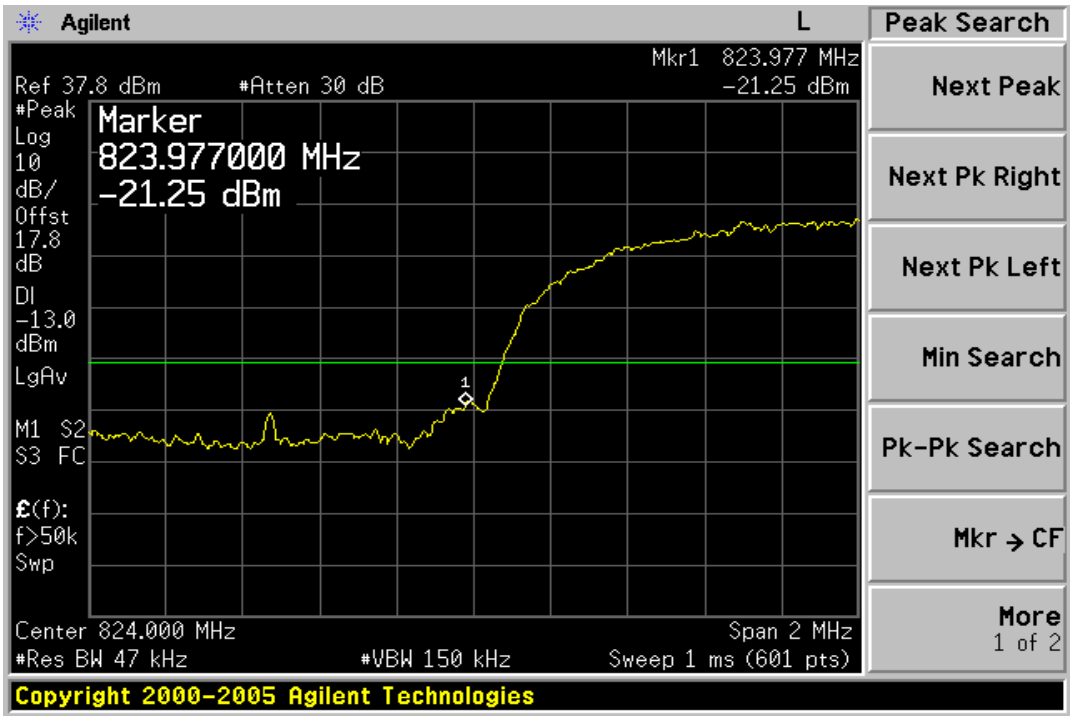


Figure 8-20: Band edge emission at antenna terminals –WCDMA V Channel Highest

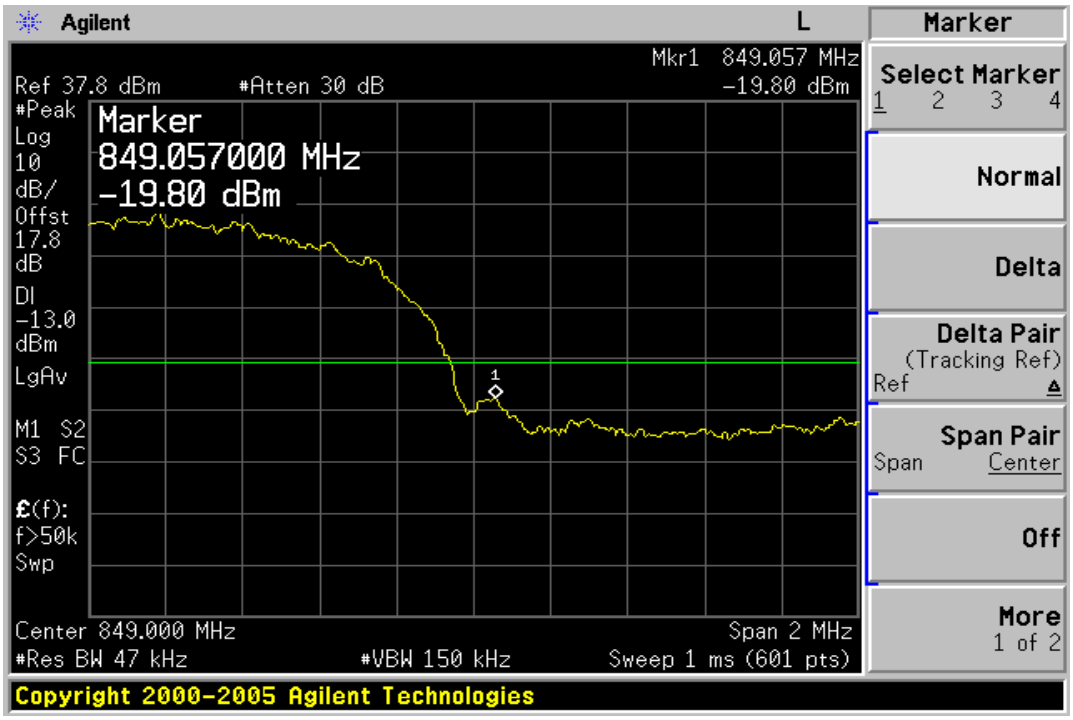


Figure 8-19: Bad edge emission at antenna terminals –WCDMA II HSDPA Channel Lowest

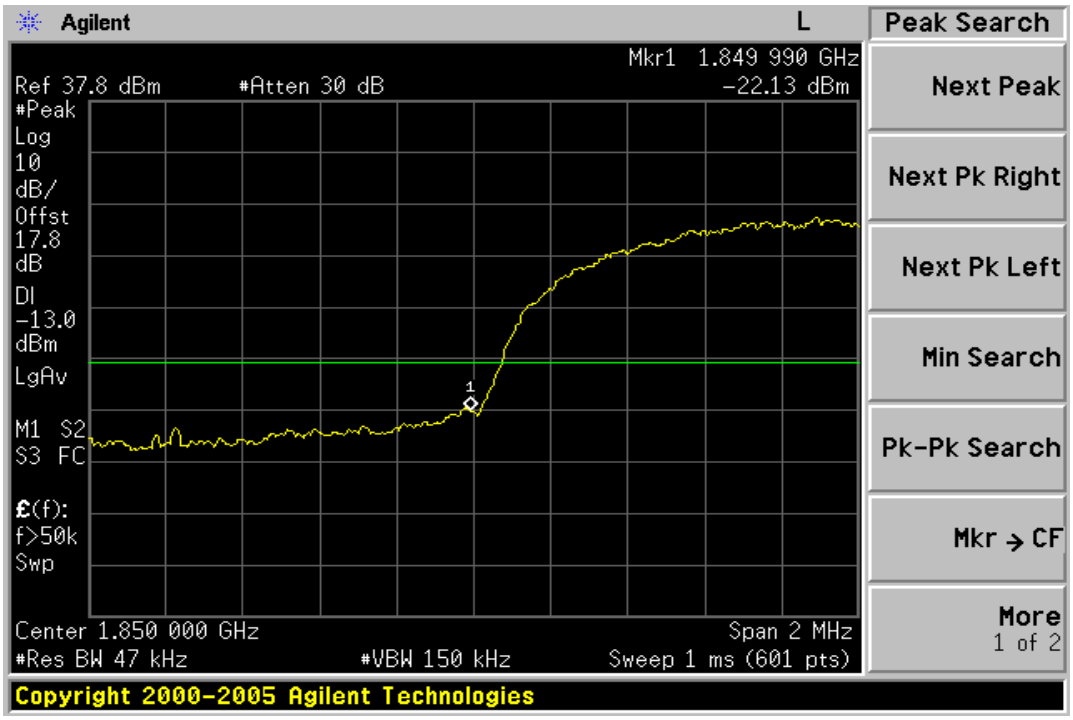


Figure 8-20: Band edge emission at antenna terminals –WCDMA V HSDPA Channel Highest

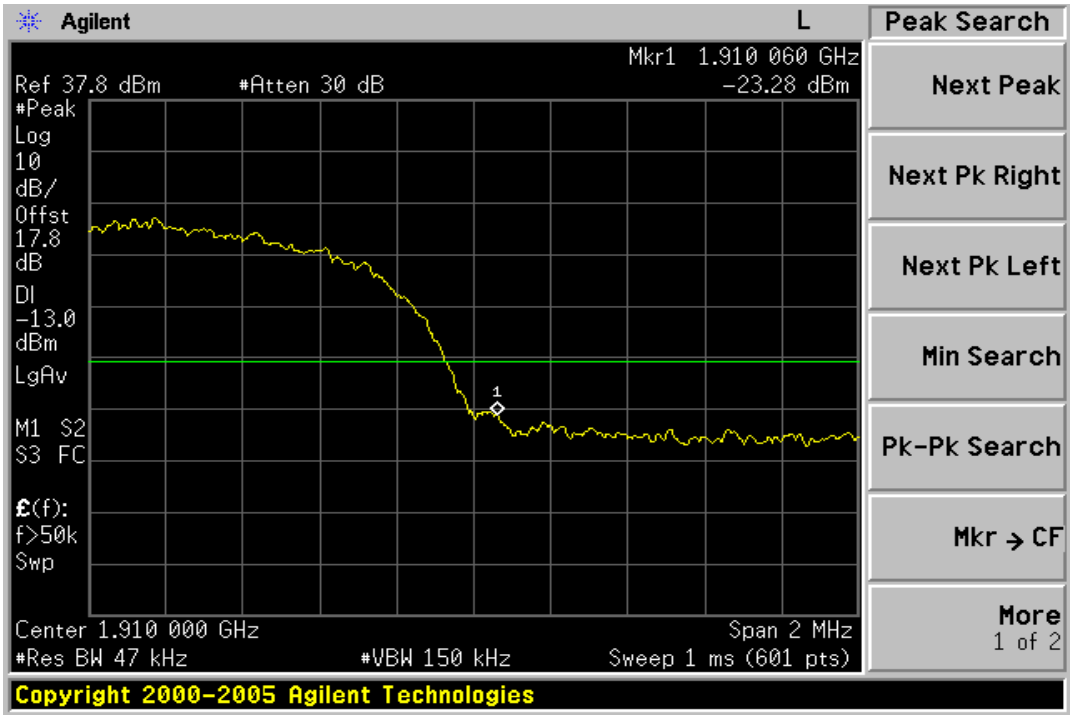


Figure 8-19: Bad edge emission at antenna terminals –WCDMA V HSDPA Channel Lowest

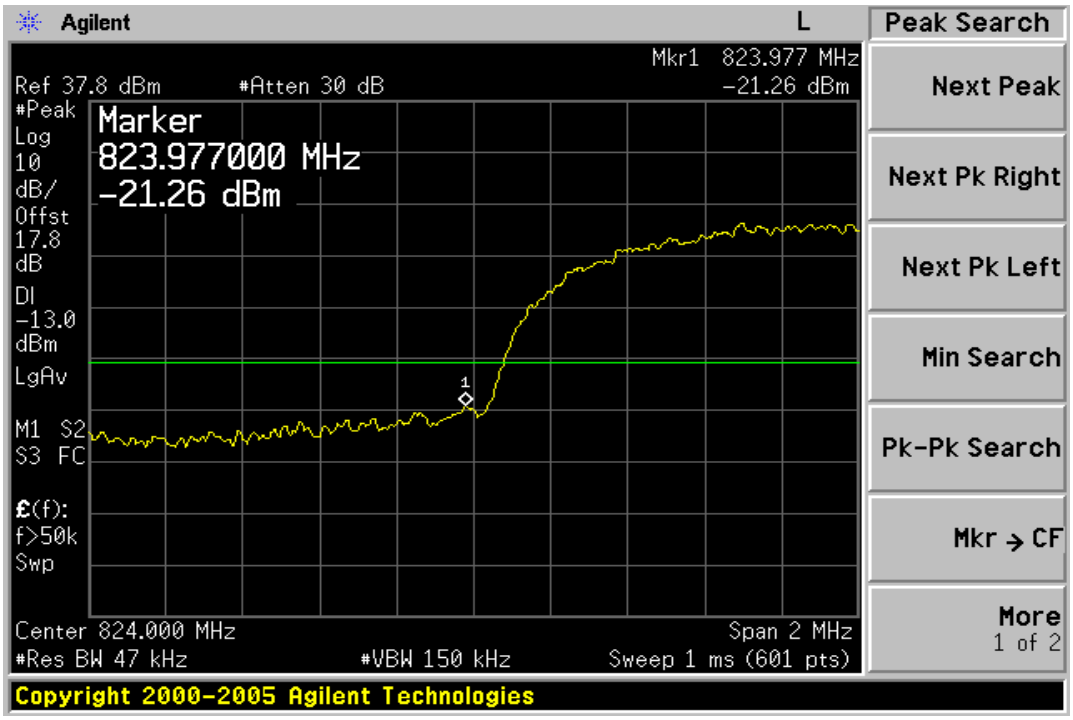
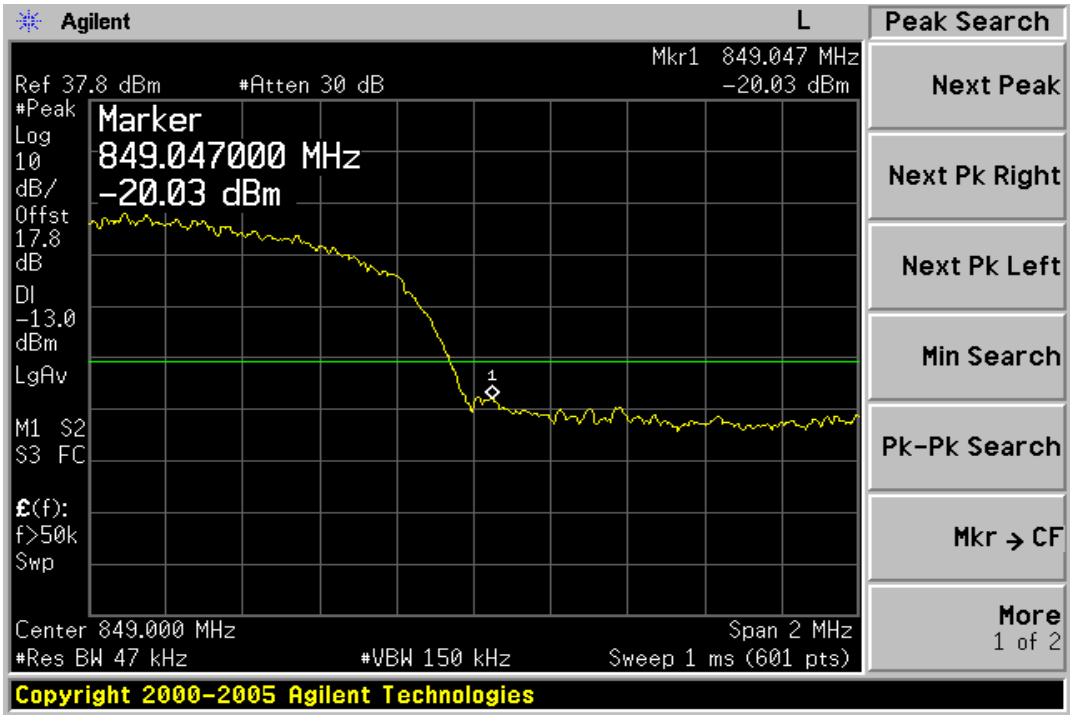


Figure 8-20: Band edge emission at antenna terminals –WCDMA V HSDPA Channel Highest



9. FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

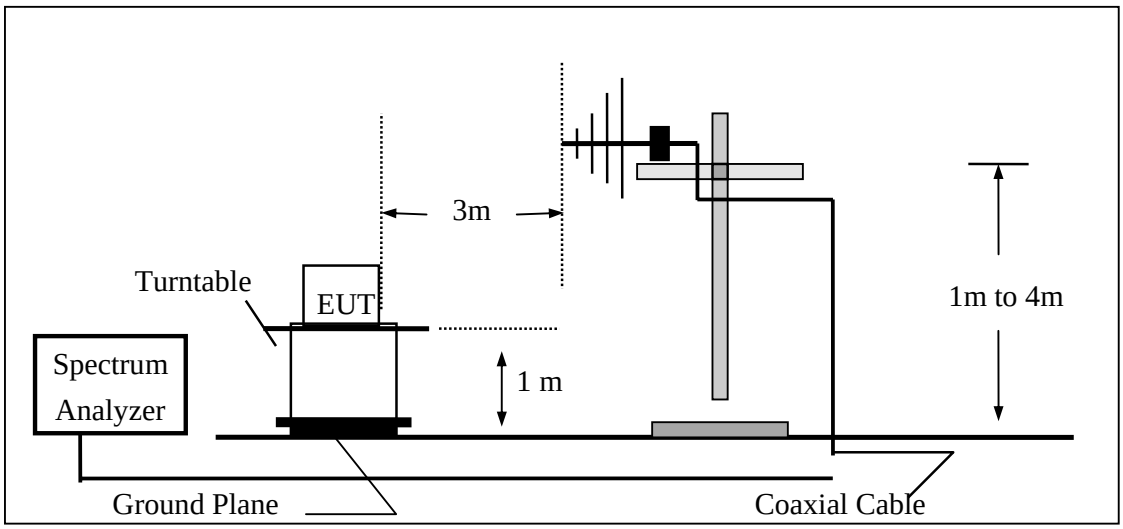
9.1 Standard Applicable

According to FCC §2.1053,

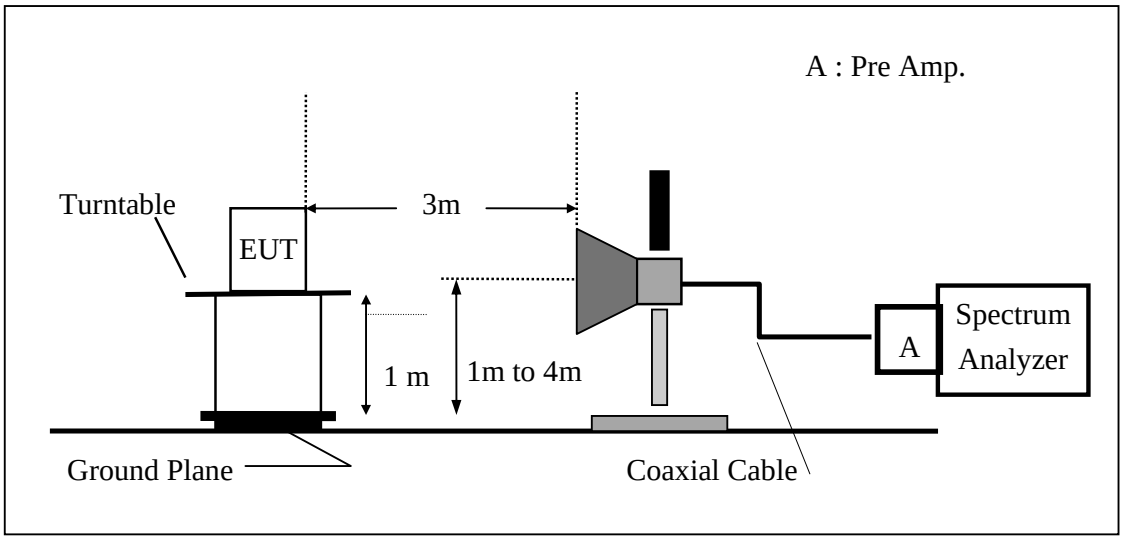
FCC §22.917(a),§24.238(a), the magnitude of each spurious and harmonic emission that can be detected when the equipment is operated under the conditions specified in the instruction manual and/ or alignment procedure, shall not be less than 43 + 10 log (mean output power in watts) dBc below the mean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

9.2 EUT Setup (Block Diagram of Configuration)

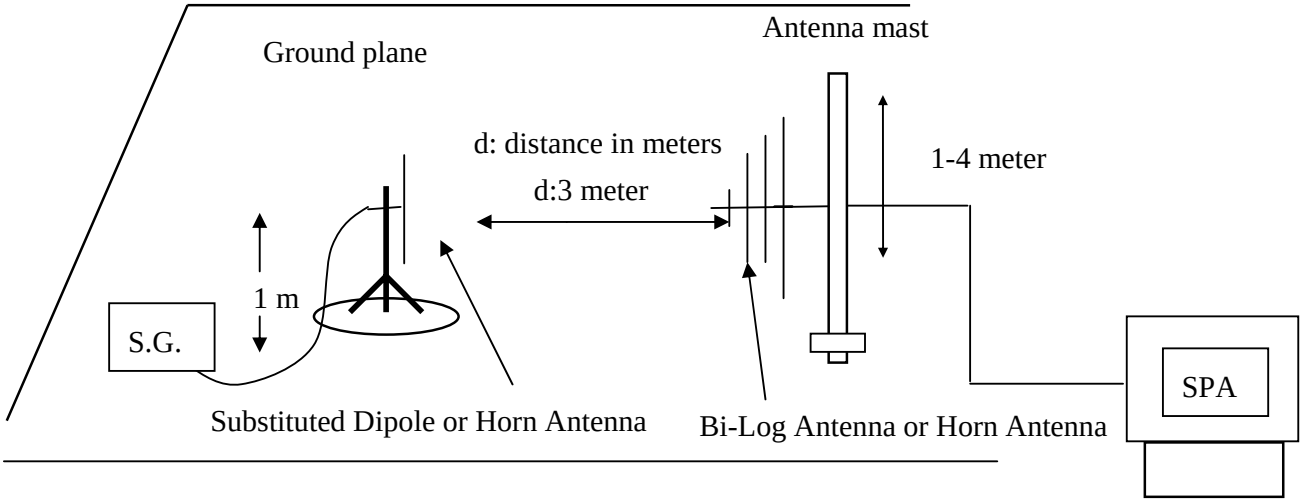
(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(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	04/19/2008	04/18/2010
Spectrum Analyzer	Agilent	E7405A	US41160416	07/04/2007	07/03/2009
Bi-log Antenna	SCHWAZBECK	VULB9160	3224	11/29/2007	11/28/2008
Horn antenna	SCHWAZBECK	BBHA 9120D	309/320	03/14/2008	03/13/2009
Communication Test	R&S	CMU200	102189	05/13/2008	05/12/2009
Pre-Amplifier	HP	8447F	3113A06892	01/05/2008	01/04/2009
Pre-Amplifier	HP	8449B	3008A01973	01/05/2008	01/04/2009
Signal Generator	R&S	SMR40	100210	01/22/2008	01/21/2009
Turn Table	HD	DT420	N/A	N.C.R	N.C.R
Antenna Tower	HD	MA240-N	240/657	N.C.R	N.C.R
Controller	HD	HD100	N/A	N.C.R	N.C.R
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-10M	10m	02/13/2008	02/12/2009
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-3M	3m	02/13/2008	02/12/2009
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-0.5M	0.5m	02/13/2008	02/12/2009
Site NSA	SGS	966 chamber	N/A	11/17/2007	11/16/2008
Site NSA	SGS	10m Open-Site	N/A	10/02/2007	10/01/2008
Attenuator	Mini-Circuit	BW-S10W5	N/A	07/05/2008	07/04/2009
Temperature Chamber	TERCHY	MHG-120LF	911009	04/14/2008	04/13/2010
Dipole Antenna	SCHWAZBECK	VHAP	908/909	07/10/2008	07/10/2010
Dipole Antenna	SCHWAZBECK	UHAP	891/892	07/10/2008	07/10/2010

9.5 Measurement Result

Refer to attach tabular data sheets.

Radiated Spurious Emission Measurement Result: GPRS 850 Mode

Operation Mode	: TX CH Low E2 Mode	Test Date:	Sep. 20, 2008
Fundamental Frequency	: 824.20 MHz	Test By:	Jazz
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
130.88	59.13	V	-57.36	-7.78	0.97	-66.11	-13.00	-53.11
235.64	64.24	V	-52.31	-7.88	1.39	-61.58	-13.00	-48.58
528.58	48.47	V	-60.44	-7.74	2.00	-70.19	-13.00	-57.19
824.00	66.50	V	-37.23	-7.87	2.48	-47.58	-13.00	-34.58
1648.40	48.04	V	-67.59	9.29	3.56	-61.87	-13.00	-48.87
2472.60	---	V		10.08	4.42		-13.00	
3296.80	48.07	V	-65.14	12.17	5.15	-58.13	-13.00	-45.13
4121.00	---	V		12.61	5.77		-13.00	
4945.20	46.95	V	-61.64	12.65	6.40	-55.38	-13.00	-42.38
5769.40	---	V		13.55	7.12		-13.00	
6593.60	50.09	V	-51.77	12.05	7.73	-47.45	-13.00	-34.45
7417.80	---	V		11.49	8.21		-13.00	
8242.00	---	V		11.48	8.84		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: GPRS 850 Mode

Operation Mode	: TX CH Low E2 Mode	Test Date:	Sep. 20, 2008
Fundamental Frequency	: 824.20 MHz	Test By:	Jazz
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
153.19	59.87	H	-57.01	-7.80	1.04	-65.85	-13.00	-52.85
235.64	70.32	H	-43.59	-7.88	1.39	-52.86	-13.00	-39.86
478.14	60.54	H	-49.95	-7.71	1.82	-59.49	-13.00	-46.49
824.00	77.93	H	-25.54	-7.87	2.48	-35.89	-13.00	-22.89
1648.40	56.38	H	-59.09	9.29	3.56	-53.37	-13.00	-40.37
2472.60	---	H		10.08	4.42		-13.00	
3296.80	---	H		12.17	5.15		-13.00	
4121.00	---	H		12.61	5.77		-13.00	
4945.20	---	H		12.65	6.40		-13.00	
5769.40	---	H		13.55	7.12		-13.00	
6593.60	52.73	H	-48.98	12.05	7.73	-44.66	-13.00	-31.66
7417.80	---	H		11.49	8.21		-13.00	
8242.00	---	H		11.48	8.84		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: GPRS 850 Mode

Operation Mode	: TX CH Mid E2 Mode	Test Date:	Sep. 20, 2008
Fundamental Frequency	: 836.60 MHz	Test By:	Jazz
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
128.94	61.42	V	-55.29	-7.78	0.96	-64.04	-13.00	-51.04
235.64	64.19	V	-52.36	-7.88	1.39	-61.63	-13.00	-48.63
1673.20	49.60	V	-66.05	9.36	3.59	-60.28	-13.00	-47.28
2509.80	---	V		10.09	4.46		-13.00	
3346.40	---	V		12.28	5.19		-13.00	
4183.00	---	V		12.62	5.82		-13.00	
5019.60	---	V		12.67	6.46		-13.00	
5856.20	---	V		13.68	7.21		-13.00	
6692.80	4.32	V	-97.08	11.95	7.80	-92.93	-13.00	-79.93
7529.40	---	V		11.45	8.27		-13.00	
8366.00	---	V		11.59	8.93		-13.00	

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

Remark：

1 The emission behaviors belongs to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: GPRS 850 Mode

Operation Mode	: TX CH Mid E2 Mode	Test Date:	Sep. 20, 2008
Fundamental Frequency	: 836.60 MHz	Test By:	Jazz
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
235.64	70.84	H	-43.07	-7.88	1.39	-52.34	-13.00	-39.34
480.08	61.18	H	-49.34	-7.71	1.82	-58.88	-13.00	-45.88
1673.20	53.55	H	-61.93	9.36	3.59	-56.16	-13.00	-43.16
2509.80	---	H		10.09	4.46		-13.00	
3346.40	---	H		12.28	5.19		-13.00	
4183.00	---	H		12.62	5.82		-13.00	
5019.60	---	H		12.67	6.46		-13.00	
5856.20	---	H		13.68	7.21		-13.00	
6692.80	48.49	H	-52.69	11.95	7.80	-48.54	-13.00	-35.54
7529.40	---	H		11.45	8.27		-13.00	
8366.00	---	H		11.59	8.93		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: GPRS 850 Mode

Operation Mode	: TX CH High E2 Mode	Test Date:	Sep. 20, 2008
Fundamental Frequency	: 848.80 MHz	Test By:	Jazz
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
128.94	60.86	V	-55.85	-7.78	0.96	-64.60	-13.00	-51.60
235.64	64.07	V	-52.48	-7.88	1.39	-61.75	-13.00	-48.75
366.59	54.35	V	-58.00	-7.65	1.67	-67.32	-13.00	-54.32
850.00	67.11	V	-36.63	-7.88	2.54	-47.05	-13.00	-34.05
1697.60	49.94	V	-65.73	9.44	3.61	-59.90	-13.00	-46.90
2546.40	---	V		10.20	4.49		-13.00	
3395.20	48.87	V	-64.26	12.38	5.23	-57.10	-13.00	-44.10
4244.00	---	V		12.63	5.87		-13.00	
5092.80	---	V		12.74	6.51		-13.00	
5941.60	46.23	V	-60.08	13.81	7.31	-53.58	-13.00	-40.58
6790.40	---	V		11.86	7.87		-13.00	
7639.20	---	V		11.40	8.36		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: GPRS 850 Mode

Operation Mode	: TX CH High E2 Mode	Test Date:	Sep. 20, 2008
Fundamental Frequency	: 848.80 MHz	Test By:	Jazz
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
155.13	61.30	H	-55.43	-7.80	1.05	-64.29	-13.00	-51.29
235.64	71.18	H	-42.73	-7.88	1.39	-52.00	-13.00	-39.00
480.08	64.24	H	-46.28	-7.71	1.82	-55.82	-13.00	-42.82
850.00	81.63	H	-22.11	-7.88	2.54	-32.53	-13.00	-19.53
1697.60	57.01	H	-58.48	9.44	3.61	-52.66	-13.00	-39.66
2546.40	---	H		10.20	4.49		-13.00	
3395.20	---	H		12.38	5.23		-13.00	
4244.00	---	H		12.63	5.87		-13.00	
5092.80	---	H		12.74	6.51		-13.00	
5941.60	---	H		13.81	7.31		-13.00	
6790.40	47.71	H	-52.96	11.86	7.87	-48.98	-13.00	-35.98
7639.20	---	H		11.40	8.36		-13.00	
8488.00	---	H		11.70	9.02		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: GPRS 1900 Mode

Operation Mode	: TX CH Low E2 Mode	Test Date:	Sep. 20, 2008
Fundamental Frequency	: 1850.20MHz	Test By:	Jazz
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
128.94	60.26	V	-56.45	-7.78	0.96	-65.20	-13.00	-52.20
240.49	64.95	V	-51.63	-7.88	1.40	-60.91	-13.00	-47.91
1850.00	83.57	V	-32.22	9.90	3.77	-26.09	-13.00	-13.09
3700.40	50.07	V	-62.46	12.61	5.46	-55.31	-13.00	-42.31
5550.60	53.93	V	-53.82	13.23	6.88	-47.48	-13.00	-34.48
7400.80	---	V		11.50	8.20		-13.00	
9251.00	---	V		11.92	9.53		-13.00	
11101.20	---	V		11.66	10.53		-13.00	
12951.40	---	V		13.63	11.38		-13.00	
14801.60	---	V		12.76	12.26		-13.00	
16651.80	---	V		15.92	13.03		-13.00	
18502.00	---	V		18.75	7.03		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: GPRS 1900 Mode

Operation Mode	: TX CH Low E2 Mode	Test Date:	Sep. 20, 2008
Fundamental Frequency	: 1850.20MHz	Test By:	Jazz
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
235.64	71.06	H	-42.85	-7.88	1.39	-52.12	-13.00	-39.12
475.23	61.19	H	-49.26	-7.71	1.82	-58.79	-13.00	-45.79
717.73	55.90	H	-50.90	-7.86	2.33	-61.10	-13.00	-48.10
1850.00	71.10	H	-44.45	9.90	3.77	-38.32	-13.00	-25.32
3700.40	50.04	H	-62.51	12.61	5.46	-55.36	-13.00	-42.36
5550.60	51.07	H	-56.49	13.23	6.88	-50.15	-13.00	-37.15
7400.80	---	H		11.50	8.20		-13.00	
9251.00	---	H		11.92	9.53		-13.00	
11101.20	---	H		11.66	10.53		-13.00	
12951.40	---	H		13.63	11.38		-13.00	
14801.60	---	H		12.76	12.26		-13.00	
16651.80	---	H		15.92	13.03		-13.00	
18502.00	---	H		18.75	7.03		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: GPRS 1900 Mode

Operation Mode	: TX CH Mid E2 Mode	Test Date:	Sep. 20, 2008
Fundamental Frequency	: 1880MHz	Test By:	Jazz
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
130.88	58.76	V	-57.73	-7.78	0.97	-66.48	-13.00	-53.48
235.64	64.91	V	-51.64	-7.88	1.39	-60.91	-13.00	-47.91
366.59	55.28	V	-57.07	-7.65	1.67	-66.39	-13.00	-53.39
3760.00	48.44	V	-63.93	12.60	5.50	-56.83	-13.00	-43.83
5640.00	47.98	V	-59.44	13.36	6.98	-53.07	-13.00	-40.07
7520.00	---	V		11.45	8.26		-13.00	
9400.00	---	V		11.93	9.61		-13.00	
11280.00	---	V		11.92	10.57		-13.00	
13160.00	---	V		13.33	11.53		-13.00	
15040.00	---	V		13.76	12.32		-13.00	
16920.00	---	V		15.27	13.14		-13.00	
18800.00	---	V		18.68	11.20		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark”---“ means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: GPRS 1900 Mode

Operation Mode	: TX CH Mid E2 Mode	Test Date:	Sep. 20, 2008
Fundamental Frequency	: 1880MHz	Test By:	Jazz
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
237.58	70.79	H	-43.15	-7.88	1.40	-52.42	-13.00	-39.42
480.08	63.09	H	-47.43	-7.71	1.82	-56.97	-13.00	-43.97
717.73	55.75	H	-51.05	-7.86	2.33	-61.25	-13.00	-48.25
3760.00	47.06	H	-65.31	12.60	5.50	-58.21	-13.00	-45.21
5640.00	47.73	H	-59.52	13.36	6.98	-53.14	-13.00	-40.14
7520.00	---	H		11.45	8.26		-13.00	
9400.00	---	H		11.93	9.61		-13.00	
11280.00	---	H		11.92	10.57		-13.00	
13160.00	---	H		13.33	11.53		-13.00	
15040.00	---	H		13.76	12.32		-13.00	
16920.00	---	H		15.27	13.14		-13.00	
18800.00	---	H		18.68	11.20		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark”---“ means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: GPRS 1900 Mode

Operation Mode	: TX CH High E2 Mode	Test Date:	Sep. 20, 2008
Fundamental Frequency	: 1909.8 MHz	Test By:	Jazz
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
129.94	59.03	V	-57.57	-7.78	0.96	-66.32	-13.00	-53.32
235.64	65.07	V	-51.48	-7.88	1.39	-60.75	-13.00	-47.75
623.64	49.06	V	-58.13	-7.80	2.17	-68.10	-13.00	-55.10
1910.00	82.09	V	-33.74	10.08	3.83	-27.49	-13.00	-14.49
3981.60	50.37	V	-61.44	12.60	5.67	-54.50	-13.00	-41.50
5972.40	---	V		13.86	7.34		-13.00	
7963.20	---	V		11.27	8.64		-13.00	
9954.00	---	V		12.08	9.85		-13.00	
11944.80	---	V		13.08	10.94		-13.00	
13935.60	---	V		11.82	11.94		-13.00	
15926.40	---	V		17.08	12.51		-13.00	
17917.20	---	V		9.63	13.58		-13.00	
19908.00	---	V		18.88	14.32		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: GPRS 1900 Mode

Operation Mode	: TX CH High E2 Mode	Test Date:	Sep. 20, 2008
Fundamental Frequency	: 1909.8 MHz	Test By:	Jazz
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
235.64	71.20	H	-42.71	-7.88	1.39	-51.98	-13.00	-38.98
478.14	62.69	H	-47.80	-7.71	1.82	-57.34	-13.00	-44.34
720.64	55.69	H	-50.99	-7.86	2.33	-61.18	-13.00	-48.18
1910.00	68.05	H	-47.52	10.08	3.83	-41.27	-13.00	-28.27
3981.60	44.29	H	-67.42	12.60	5.67	-60.49	-13.00	-47.49
5972.40	---	H		13.86	7.34		-13.00	
7963.20	---	H		11.27	8.64		-13.00	
9954.00	---	H		12.08	9.85		-13.00	
11944.80	---	H		13.08	10.94		-13.00	
13935.60	---	H		11.82	11.94		-13.00	
15926.40	---	H		17.08	12.51		-13.00	
17917.20	---	H		9.63	13.58		-13.00	
19908.00	---	H		18.88	14.32		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: WCDMA V Mode

Operation Mode	: TX CH Low E1 Mode	Test Date:	Sep. 19, 2008
Fundamental Frequency	: 826.4 MHz	Test By:	Jazz
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
128.94	58.13	V	-58.58	-7.78	0.96	-67.33	-13.00	-54.33
232.73	58.39	V	-58.15	-7.87	1.39	-67.40	-13.00	-54.40
480.08	55.01	V	-55.19	-7.71	1.82	-64.73	-13.00	-51.73
825.00	70.05	V	-33.68	-7.88	2.48	-44.04	-13.00	-31.04
1652.80	43.22	V	-72.42	9.30	3.57	-66.68	-13.00	-53.68
2479.20	---	V		10.07	4.43		-13.00	
3305.60	48.11	V	-65.09	12.19	5.16	-58.07	-13.00	-45.07
4132.00	---	V		12.62	5.78		-13.00	
4958.40	---	V		12.65	6.41		-13.00	
5784.80	---	V		13.58	7.14		-13.00	
6611.20	---	V		12.03	7.74		-13.00	
7437.60	---	V		11.48	8.21		-13.00	
8264.00	---	V		11.50	8.86		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: WCDMA V Mode

Operation Mode	: TX CH Low E1 Mode	Test Date:	Sep. 19, 2008
Fundamental Frequency	: 826.4 MHz	Test By:	Jazz
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
187.14	65.99	H	-48.32	-7.83	1.24	-57.39	-13.00	-44.39
298.69	60.32	H	-54.40	-7.92	1.45	-63.77	-13.00	-50.77
478.14	58.99	H	-51.50	-7.71	1.82	-61.04	-13.00	-48.04
825.00	71.89	H	-31.59	-7.88	2.48	-41.95	-13.00	-28.95
1652.80	42.34	H	-73.14	9.30	3.57	-67.40	-13.00	-54.40
2479.20	---	H		10.07	4.43		-13.00	
3305.60	---	H		12.19	5.16		-13.00	
4132.00	---	H		12.62	5.78		-13.00	
4958.40	---	H		12.65	6.41		-13.00	
5784.80	---	H		13.58	7.14		-13.00	
6611.20	---	H		12.03	7.74		-13.00	
7437.60	---	H		11.48	8.21		-13.00	
8264.00	---	H		11.50	8.86		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: WCDMA V Mode

Operation Mode	: TX CH Mid E1 Mode	Test Date:	Sep. 19, 2008
Fundamental Frequency	: 836.60 MHz	Test By:	Jazz
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
130.88	57.93	V	-58.56	-7.78	0.97	-67.31	-13.00	-54.31
189.08	62.70	V	-53.20	-7.83	1.25	-62.28	-13.00	-49.28
230.79	58.61	V	-57.91	-7.87	1.38	-67.17	-13.00	-54.17
1672.00	42.03	V	-73.62	9.36	3.59	-67.85	-13.00	-54.85
2508.00	46.23	V	-67.21	10.08	4.46	-61.58	-13.00	-48.58
3344.00	46.45	V	-66.72	12.27	5.19	-59.64	-13.00	-46.64
4180.00	---	V		12.62	5.82		-13.00	
5016.00	---	V		12.67	6.45		-13.00	
5852.00	---	V		13.68	7.21		-13.00	
6688.00	---	V		11.96	7.80		-13.00	
7524.00	---	V		11.45	8.26		-13.00	
8360.00	---	V		11.58	8.93		-13.00	

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

Remark：

1 The emission behaviors belongs to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: WCDMA V Mode

Operation Mode	: TX CH Mid E1 Mode	Test Date:	Sep. 19, 2008
Fundamental Frequency	: 836.60 MHz	Test By:	Jazz
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
184.23	65.35	H	-49.19	-7.83	1.23	-58.24	-13.00	-45.24
230.70	64.21	H	-49.62	-7.87	1.38	-58.87	-13.00	-45.87
480.08	59.55	H	-50.97	-7.71	1.82	-60.51	-13.00	-47.51
1672.00	42.63	H	-72.85	9.36	3.59	-67.08	-13.00	-54.08
2508.00	---	H		10.08	4.46		-13.00	
3344.00	---	H		12.27	5.19		-13.00	
4180.00	---	H		12.62	5.82		-13.00	
5016.00	---	H		12.67	6.45		-13.00	
5852.00	---	H		13.68	7.21		-13.00	
6688.00	---	H		11.96	7.80		-13.00	
7524.00	---	H		11.45	8.26		-13.00	
8360.00	---	H		11.58	8.93		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: WCDMA V Mode

Operation Mode	: TX CH High E1 Mode	Test Date:	Sep. 19, 2008
Fundamental Frequency	: 846.6 MHz	Test By:	Jazz
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
99.84	60.85	V	-59.14	-7.76	0.88	-67.78	-13.00	-54.78
230.79	58.27	V	-58.25	-7.87	1.38	-67.51	-13.00	-54.51
480.08	53.52	V	-56.68	-7.71	1.82	-66.22	-13.00	-53.22
850.00	69.66	V	-34.08	-7.88	2.54	-44.50	-13.00	-31.50
1693.20	42.50	V	-73.17	9.42	3.61	-67.35	-13.00	-54.35
2539.80	---	V		10.18	4.49		-13.00	
3386.40	---	V		12.36	5.22		-13.00	
4233.00	---	V		12.63	5.86		-13.00	
5079.60	---	V		12.73	6.50		-13.00	
5926.20	---	V		13.79	7.29		-13.00	
6772.80	---	V		11.87	7.86		-13.00	
7619.40	---	V		11.41	8.34		-13.00	
8466.00	---	V		11.68	9.01		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: WCDMA V Mode

Operation Mode	: TX CH High E1 Mode	Test Date:	Sep. 19, 2008
Fundamental Frequency	: 846.6 MHz	Test By:	Jazz
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
187.14	65.91	H	-48.40	-7.83	1.24	-57.47	-13.00	-44.47
298.69	59.57	H	-55.15	-7.92	1.45	-64.52	-13.00	-51.52
417.03	49.50	H	-62.02	-7.67	1.75	-71.45	-13.00	-58.45
480.08	60.41	H	-50.11	-7.71	1.82	-59.65	-13.00	-46.65
850.00	71.24	H	-32.50	-7.88	2.54	-42.92	-13.00	-29.92
1693.20	42.50	H	-72.99	9.42	3.61	-67.17	-13.00	-54.17
2539.80	---	H		10.18	4.49		-13.00	
3386.40	---	H		12.36	5.22		-13.00	
4233.00	---	H		12.63	5.86		-13.00	
5079.60	---	H		12.73	6.50		-13.00	
5926.20	---	H		13.79	7.29		-13.00	
6772.80	---	H		11.87	7.86		-13.00	
7619.40	---	H		11.41	8.34		-13.00	
8466.00	---	H		11.68	9.01		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: WCDMA II Mode

Operation Mode	: TX CH Low E2 Mode	Test Date:	Sep. 19, 2008
Fundamental Frequency	: 1852.4MHz	Test By:	Jazz
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
128.94	56.70	V	-60.01	-7.78	0.96	-68.76	-13.00	-55.76
230.79	57.35	V	-59.17	-7.87	1.38	-68.43	-13.00	-55.43
1850.00	66.94	V	-48.85	9.90	3.77	-42.72	-13.00	-29.72
3704.80	43.40	V	-69.12	12.61	5.46	-61.97	-13.00	-48.97
5557.20	---	V		13.24	6.89		-13.00	
7409.60	---	V		11.49	8.20		-13.00	
9262.00	---	V		11.92	9.53		-13.00	
11114.40	---	V		11.68	10.54		-13.00	
12966.80	---	V		13.62	11.39		-13.00	
14819.20	---	V		12.83	12.27		-13.00	
16671.60	---	V		15.87	13.04		-13.00	
18524.00	---	V		18.74	7.34		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: WCDMA II Mode

Operation Mode	: TX CH Low E2 Mode	Test Date:	Sep. 19, 2008
Fundamental Frequency	: 1852.4MHz	Test By:	Jazz
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
184.23	65.92	H	-48.61	-7.83	1.23	-57.66	-13.00	-44.66
478.14	63.06	H	-47.43	-7.71	1.82	-56.97	-13.00	-43.97
676.99	52.82	H	-54.80	-7.84	2.30	-64.94	-13.00	-51.94
1850.00	72.40	H	-43.15	9.90	3.77	-37.02	-13.00	-24.02
3704.80	42.79	H	-69.74	12.61	5.46	-62.60	-13.00	-49.60
5557.20	---	H		13.24	6.89		-13.00	
7409.60	---	H		11.49	8.20		-13.00	
9262.00	---	H		11.92	9.53		-13.00	
11114.40	---	H		11.68	10.54		-13.00	
12966.80	---	H		13.62	11.39		-13.00	
14819.20	---	H		12.83	12.27		-13.00	
16671.60	---	H		15.87	13.04		-13.00	
18524.00	---	H		18.74	7.34		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: WCDMA II Mode

Operation Mode	: TX CH Mid E2 Mode	Test Date:	Sep. 19, 2008
Fundamental Frequency	: 1880MHz	Test By:	Jazz
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
130.88	57.47	V	-59.02	-7.78	0.97	-67.77	-13.00	-54.77
240.49	63.80	V	-52.78	-7.88	1.40	-62.06	-13.00	-49.06
3760.00	44.68	V	-67.69	12.60	5.50	-60.59	-13.00	-47.59
5640.00	---	V		13.36	6.98		-13.00	
7520.00	---	V		11.45	8.26		-13.00	
9400.00	---	V		11.93	9.61		-13.00	
11280.00	---	V		11.92	10.57		-13.00	
13160.00	---	V		13.33	11.53		-13.00	
15040.00	---	V		13.76	12.32		-13.00	
16920.00	---	V		15.27	13.14		-13.00	
18800.00	---	V		18.68	11.20		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: WCDMA II Mode

Operation Mode	: TX CH Mid E2 Mode	Test Date:	Sep. 19, 2008
Fundamental Frequency	: 1880MHz	Test By:	Jazz
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
184.23	65.41	H	-49.12	-7.83	1.23	-58.17	-13.00	-45.17
240.49	63.80	H	-50.19	-7.88	1.40	-59.47	-13.00	-46.47
478.14	58.65	H	-51.84	-7.71	1.82	-61.38	-13.00	-48.38
3760.00	44.94	H	-67.43	12.60	5.50	-60.33	-13.00	-47.33
5640.00	---	H		13.36	6.98		-13.00	
7520.00	---	H		11.45	8.26		-13.00	
9400.00	---	H		11.93	9.61		-13.00	
11280.00	---	H		11.92	10.57		-13.00	
13160.00	---	H		13.33	11.53		-13.00	
15040.00	---	H		13.76	12.32		-13.00	
16920.00	---	H		15.27	13.14		-13.00	
18800.00	---	H		18.68	11.20		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: WCDMA II Mode

Operation Mode	: TX CH High E2 Mode	Test Date:	Sep. 19, 2008
Fundamental Frequency	: 1907.6 MHz	Test By:	Jazz
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
128.94	57.07	V	-59.64	-7.78	0.96	-68.39	-13.00	-55.39
232.73	58.18	V	-58.36	-7.87	1.39	-67.61	-13.00	-54.61
497.54	50.51	V	-59.87	-7.72	1.84	-69.42	-13.00	-56.42
1910.00	56.63	V	-59.20	10.08	3.83	-52.95	-13.00	-39.95
3815.20	44.07	V	-68.16	12.60	5.54	-61.10	-13.00	-48.10
5722.80	---	V		13.48	7.07		-13.00	
7630.40	---	V		11.41	8.35		-13.00	
9538.00	---	V		11.95	9.68		-13.00	
11445.60	---	V		12.15	10.61		-13.00	
13353.20	---	V		13.00	11.66		-13.00	
15260.80	---	V		14.91	12.35		-13.00	
17168.40	---	V		14.53	13.25		-13.00	
19076.00	---	V		18.65	14.03		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: WCDMA II Mode

Operation Mode	: TX CH High E2 Mode	Test Date:	Sep. 19, 2008
Fundamental Frequency	: 1907.6 MHz	Test By:	Jazz
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
184.23	66.03	H	-48.50	-7.83	1.23	-57.55	-13.00	-44.55
480.08	60.78	H	-49.74	-7.71	1.82	-59.28	-13.00	-46.28
720.64	56.62	H	-50.06	-7.86	2.33	-60.25	-13.00	-47.25
1910.00	75.07	H	-40.50	10.08	3.83	-34.25	-13.00	-21.25
3815.20	44.74	H	-67.47	12.60	5.54	-60.41	-13.00	-47.41
5722.80	---	H		13.48	7.07		-13.00	
7630.40	---	H		11.41	8.35		-13.00	
9538.00	---	H		11.95	9.68		-13.00	
11445.60	---	H		12.15	10.61		-13.00	
13353.20	---	H		13.00	11.66		-13.00	
15260.80	---	H		14.91	12.35		-13.00	
17168.40	---	H		14.53	13.25		-13.00	
19076.00	---	H		18.65	14.03		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

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

10. FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT

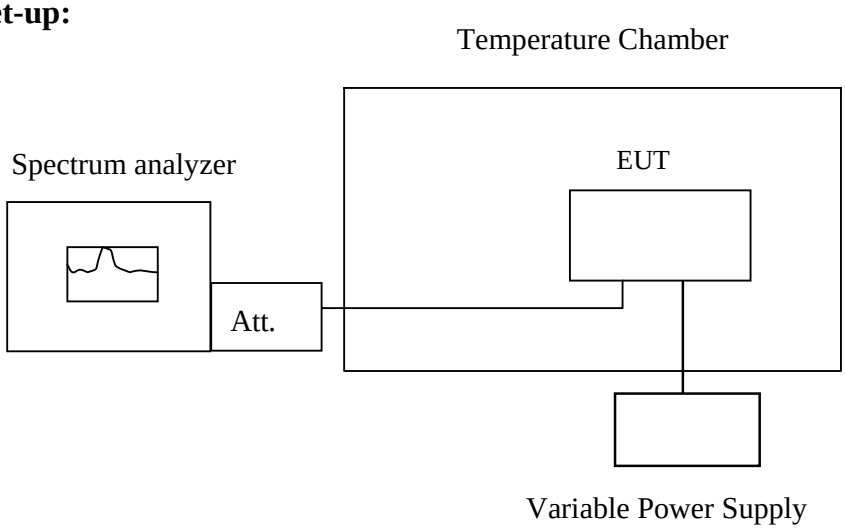
10.1 Standard Applicable

According to FCC §2.1055(d)(1)(2)

Frequency Tolerance: +/-2.5ppm for 850MHz band

+/-2.5ppm for 1900MHz band

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 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	04/19/2008	04/18/2010
Spectrum Analyzer	Agilent	7405A	US41160416	07/04/2007	07/03/2009
Power Sensor	Anritsu	MA2490A	31431	07/07/2007	07/06/2009
Power Meter	Anritsu	ML2487A	6K00002070	05/28/2008	05/27/2010
Communication Test	R&S	CMU200	102189	05/13/2008	05/12/2009
Temperature Chamber	TERCHY	MHG-120LF	911009	04/14/2008	04/13/2010
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	02/13/2008	02/12/2009
Attenuator	Mini-Circuit	BW-S10W5	N/A	07/05/2008	07/04/2009
Attenuator	Mini-Circuit	BW-S6W5	N/A	07/05/2008	07/04/2009
Splitter	Agilent	11636B	51818 / 51820	07/05/2008	07/04/2009
Signal Generator	R&S	SMR40	100210	01/22/2008	01/21/2009
DC Power Supply	Agilent	6038A	2929A-07548	06/27/2007	06/26/2009

10.5 Measurement Result

Reference Frequency: GPRS Mid Channel 836.6 MHz @ 25℃				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
5	-30	836.600018	-24.00	2091
5	-20	836.600033	-39.00	2091
5	-10	836.600012	-18.00	2091
5	0	836.600009	-15.00	2091
5	10	836.60001	-16.00	2091
5	20	836.599994	0.00	2091
5	30	836.600001	-7.00	2091
5	40	836.599992	2.00	2091
5	50	836.600005	-11.00	2091

Reference Frequency: GPRS Mid Channel 1880 MHz @ 25℃				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
5	-30	1879.999960	31.00	4700
5	-20	1880.000005	-14.00	4700
5	-10	1880.000029	-38.00	4700
5	0	1880.000021	-30.00	4700
5	10	1880.000009	-18.00	4700
5	20	1879.999991	0.00	4700
5	30	1879.999994	-3.00	4700
5	40	1879.999963	28.00	4700
5	50	1879.999990	1.00	4700

Reference Frequency: WCDMA V Mid Channel 836.6 MHz @ 25℃				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
5	-30	836.599997	2.00	2091
5	-20	836.599999	0.00	2091
5	-10	836.599998	1.00	2091
5	0	836.600001	-2.00	2091
5	10	836.599997	2.00	2091
5	20	836.599999	0.00	2091
5	30	836.600001	-2.00	2091
5	40	836.600002	-3.00	2091
5	50	836.600003	-4.00	2091

Reference Frequency: WCDMA II Mid Channel 1880 MHz @ 25℃				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
5	-30	1879.999992	6.00	4700
5	-20	1879.999993	5.00	4700
5	-10	1879.999991	7.00	4700
5	0	1879.999989	9.00	4700
5	10	1879.999997	1.00	4700
5	20	1879.999998	0.00	4700
5	30	1879.999999	-1.00	4700
5	40	1880.000002	-4.00	4700
5	50	1880.000003	-5.00	4700

11. FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT

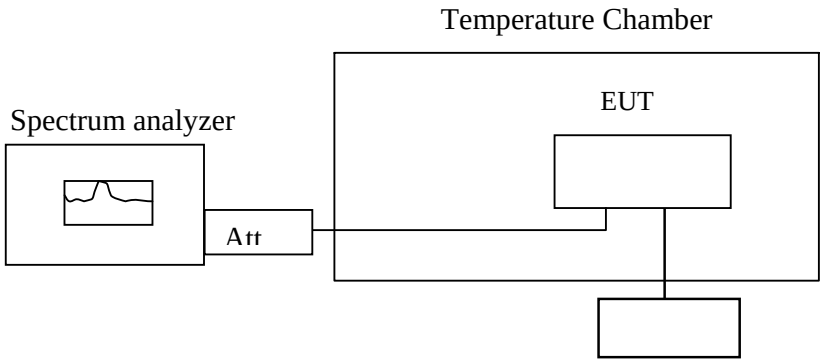
11.1 Standard Applicable

According to FCC §2.1055(d)(1)(2)

Frequency Tolerance: +/-2.5ppm for 850MHz band

+/-2.5ppm for 1900MHz band

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	04/19/2008	04/18/2010
Spectrum Analyzer	Agilent	7405A	US41160416	07/04/2007	07/03/2009
Power Sensor	Anritsu	MA2490A	31431	07/07/2007	07/06/2009
Power Meter	Anritsu	ML2487A	6K00002070	05/28/2008	05/27/2010
Communication Test	R&S	CMU200	102189	05/13/2008	05/12/2009
Temperature Chamber	TERCHY	MHG-120LF	911009	04/14/2008	04/13/2010
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	02/13/2008	02/12/2009
Attenuator	Mini-Circuit	BW-S10W5	N/A	07/05/2008	07/04/2009
Attenuator	Mini-Circuit	BW-S6W5	N/A	07/05/2008	07/04/2009
Splitter	Agilent	11636B	51818 / 51820	07/05/2008	07/04/2009
Signal Generator	R&S	SMR40	100210	01/22/2008	01/21/2009
DC Power Supply	Agilent	6038A	2929A-07548	06/27/2007	06/26/2009

11.5 Measurement Result

Reference Frequency: GPRS Mid Channel 836.6 MHz @ 25℃				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
5.75	25.00	836.599998	10.00	2091
5.00	25.00	836.600008	0.00	2091
4.25	25.00	836.599991	17.00	2091
3.1 (End Point)	25.00	836.600020	12.00	2091

Reference Frequency: GPRS Mid Channel 1880 MHz @ 25℃				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
5.75	25.00	1879.999970	0.00	4700
5.00	25.00	1879.999986	-16.00	4700
4.25	25.00	1879.999983	-13.00	4700
3.1 (End Point)	25.00	1879.999982	-12.00	4700

Reference Frequency: WCDMA V Mid Channel 836.6 MHz @ 25℃				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
5.75	25.00	836.599997	2.00	2091
5.00	25.00	836.599999	0.00	2091
4.25	25.00	836.600001	-2.00	2091
3.1 (End Point)	25.00	836.599994	5.00	2091

Reference Frequency: WCDMA II Mid Channel 1880 MHz @ 25℃				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
5.75	25.00	1880.000002	0.00	4700
5.00	25.00	1879.999998	4.00	4700
4.25	25.00	1879.999996	6.00	4700
3.1 (End Point)	25.00	1879.999997	5.00	4700

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:

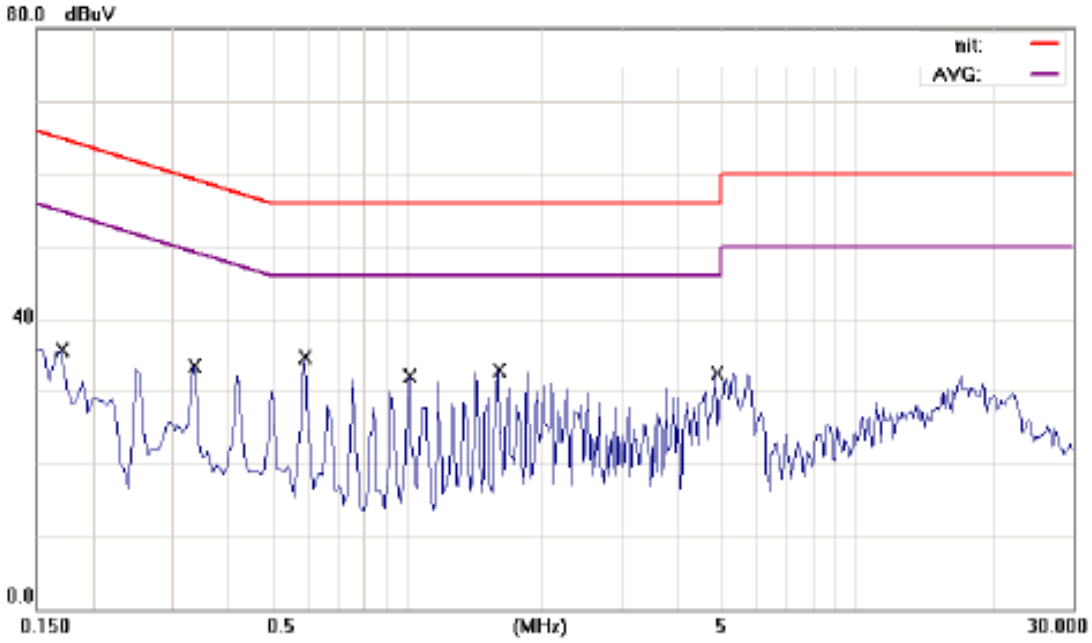
Conducted Emission Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
EMI Test Receiver	R&S	ESCS30	828985/004	09/15/2008	09/14/2009
LISN	Rolf-Heine	NNB-2/16Z	99012	02/18/2008	02/17/2009
LISN	FCC	FCC-LISN-50/250-25-2-01	04034	02/18/2008	02/17/2009
Coaxial Cables	N/A	WK CE Cable	N/A	10/30/2007	10/29/2008
EMI Test Receiver	R&S	ESCS30	828985/004	09/15/2007	09/14/2008

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:	GPRS 850 LINK			Test Date:	Sep. 19, 2008
Temperature:	26 ℃	Humidity:	58 %	Test By:	Jazz

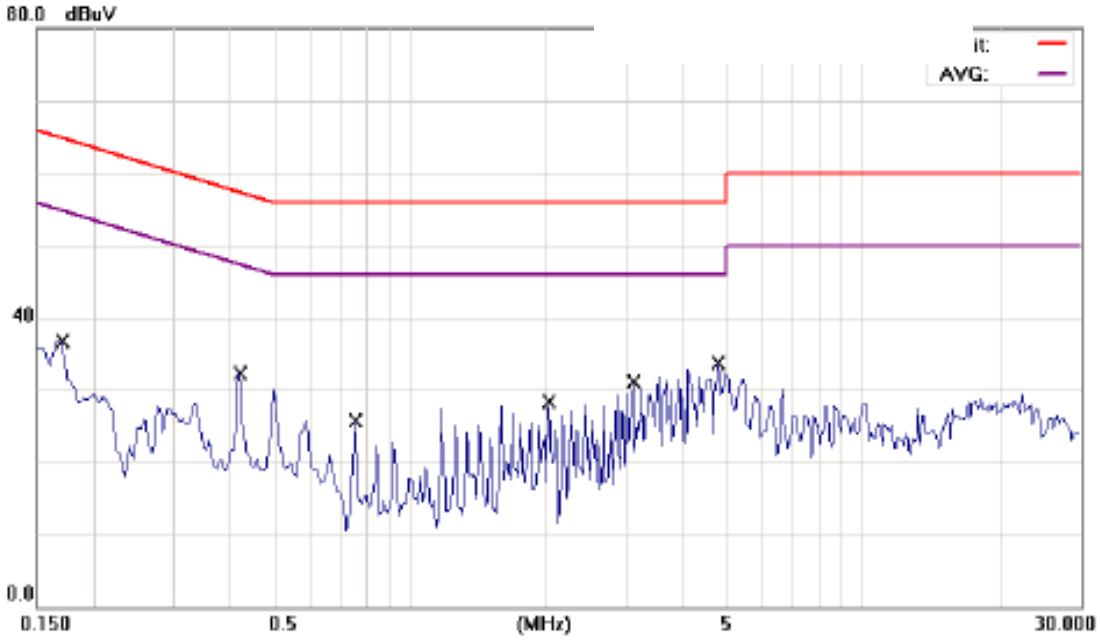


Site SGS CONDUCTED #1
Limit: CISPR22/11 Class B Conduction(QP)
EUT: HSDPA USB Data Modem
M/N: C152
Note: GPRS 850 MODE

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

Temperature: 25 ℃
Humidity: 62 %
Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1700	35.35	0.31	35.66	64.96	-29.30	QP	
2		0.3350	33.36	0.11	33.47	59.33	-25.86	QP	
3	*	0.5900	34.66	0.06	34.72	56.00	-21.28	QP	
4		1.0100	32.05	0.04	32.09	56.00	-23.91	QP	
5		1.5950	32.84	0.04	32.88	56.00	-23.12	QP	
6		4.8800	32.50	0.05	32.55	56.00	-23.45	QP	

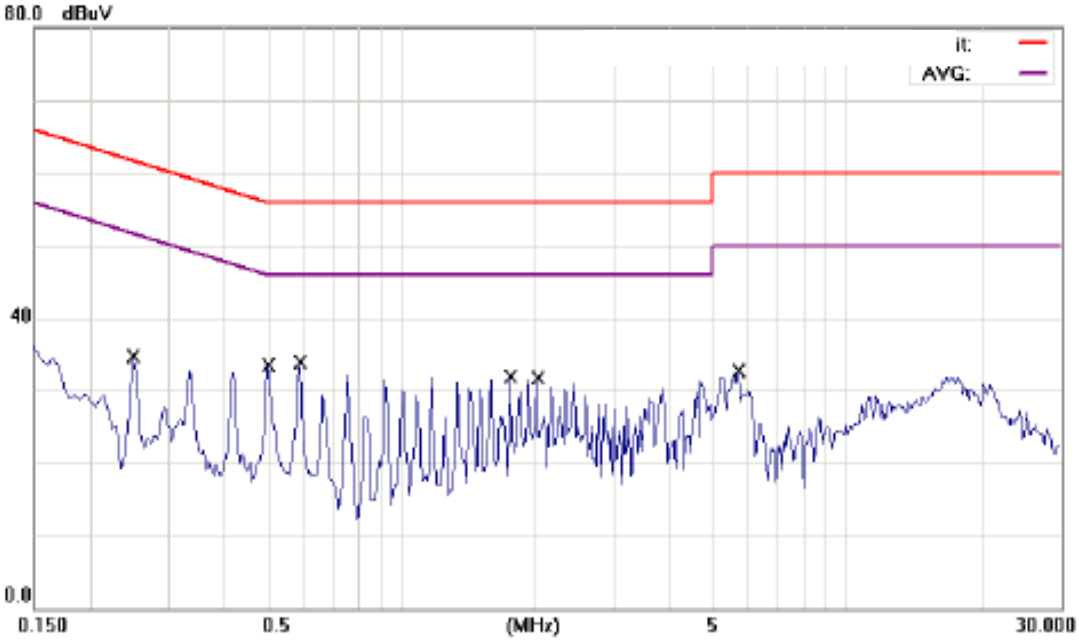


Site SGS CONDUCTED #1 | Phase: N | Temperature: 25 ℃
Limit: CISPR22/11 Class B Conduction(QP) | Power: AC 120V/60Hz | Humidity: 62 %
EUT: HSDPA USB Data Modem | Distance: | Air Pressure: hpa
M/N: C152
Note: GPRS 850 MODE

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1700	36.50	0.29	36.79	64.96	-28.17	QP	
2		0.4200	32.23	0.07	32.30	57.45	-25.15	QP	
3		0.7550	25.69	0.04	25.73	56.00	-30.27	QP	
4		2.0150	28.35	0.03	28.38	56.00	-27.62	QP	
5		3.1100	30.97	0.04	31.01	56.00	-24.99	QP	
6	*	4.7900	33.55	0.06	33.61	56.00	-22.39	QP	

AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode:	GPRS 1900 Link			Test Date:	Sep. 19, 2008
Temperature:	26 ℃	Humidity:	58 %	Test By:	Jazz

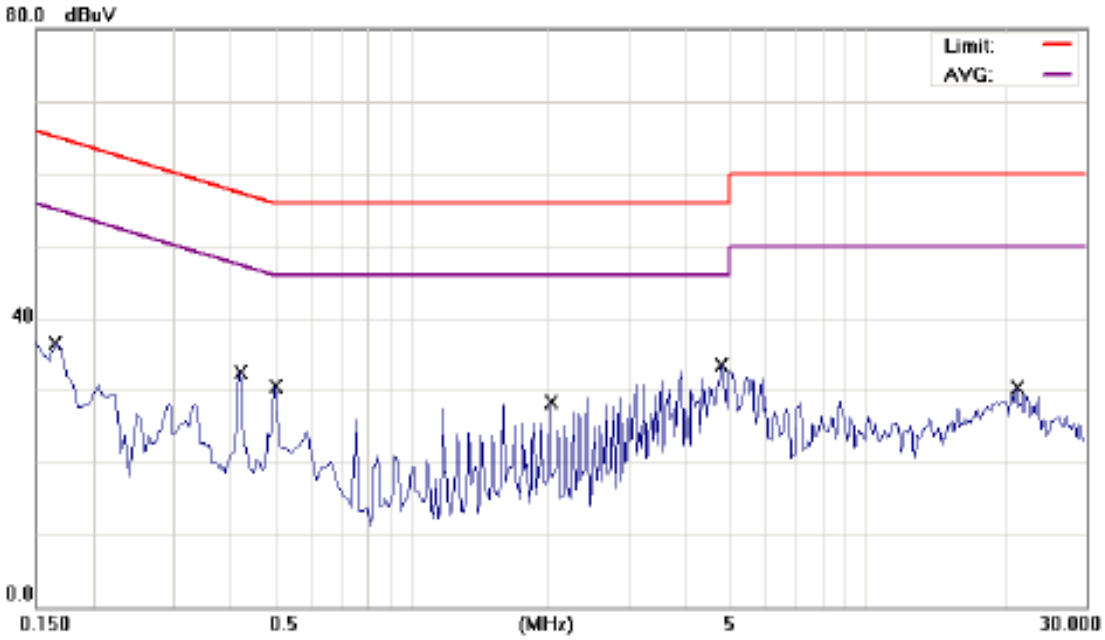


Site SGS CONDUCTED #1
Limit: CISPR22/11 Class B Conduction(QP)
EUT: HSDPA USB Data Modem
M/N: C152
Note: GPRS 1900 MODE

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

Temperature: 25 ℃
Humidity: 62 %
Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.2500	34.56	0.14	34.70	61.76	-27.06	QP	
2		0.5000	33.36	0.06	33.42	56.00	-22.58	QP	
3	*	0.5900	33.93	0.06	33.99	56.00	-22.01	QP	
4		1.7600	31.90	0.04	31.94	56.00	-24.06	QP	
5		2.0150	31.62	0.04	31.66	56.00	-24.34	QP	
6		5.7000	32.56	0.07	32.63	60.00	-27.37	QP	



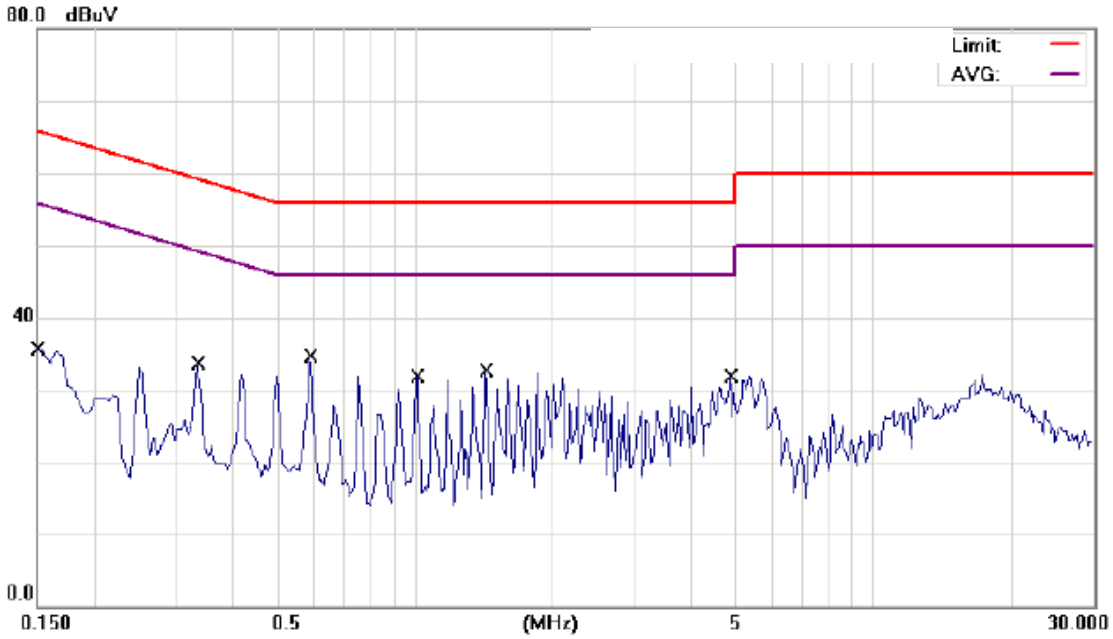
Site SGS CONDUCTED #1
Limit: CISPR22/11 Class B Conduction(QP)
EUT: HSDPA USB Data Modem
M/N: C152
Note: GPRS 1900 MODE

Phase: *N*
Power: AC 120V/60Hz
Distance:

Temperature: 25 ℃
Humidity: 62 %
Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1650	36.13	0.32	36.45	65.21	-28.76	QP	
2		0.4200	32.48	0.07	32.55	57.45	-24.90	QP	
3		0.5000	30.47	0.05	30.52	56.00	-25.48	QP	
4		2.0150	28.29	0.03	28.32	56.00	-27.68	QP	
5	*	4.7900	33.49	0.06	33.55	56.00	-22.45	QP	
6		21.3400	30.22	0.18	30.40	60.00	-29.60	QP	

Operation Mode:	WCDMA II LINK			Test Date:	Sep. 19, 2008
Temperature:	26 ℃	Humidity:	58 %	Test By:	Jazz

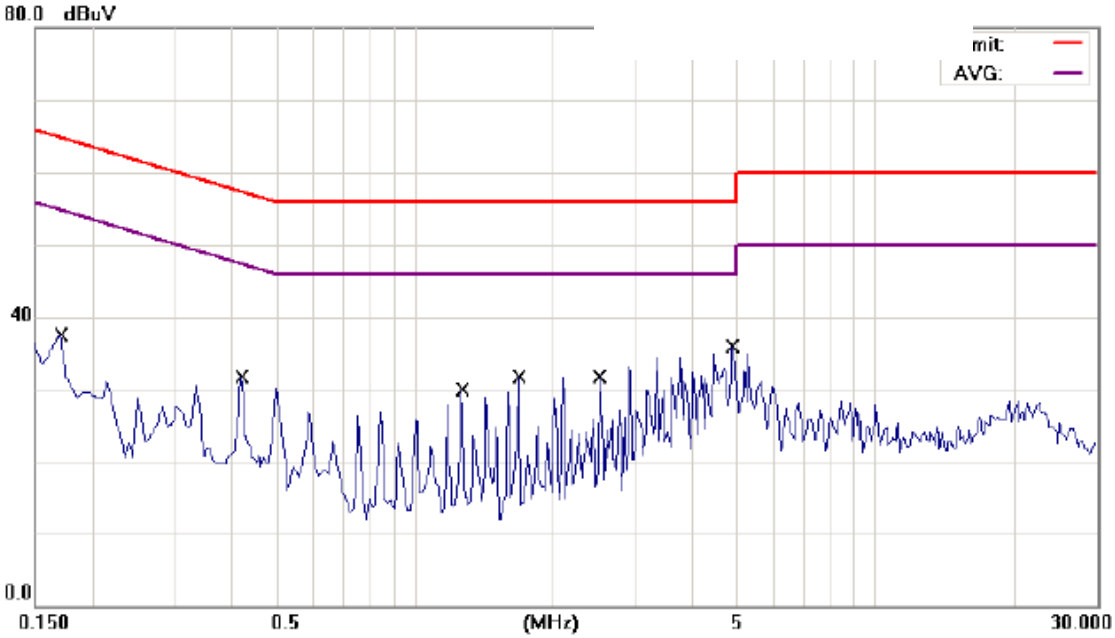


Site SGS CONDUCTED #1
Limit: CISPR22/11 Class B Conduction(QP)
EUT: HSDPA USB Data Modem
M/N: C152
Note: WCDMA B2 MODE

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

Temperature: 25 ℃
Humidity: 62 %
Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1500	35.38	0.41	35.79	66.00	-30.21	QP	
2		0.3350	33.54	0.11	33.65	59.33	-25.68	QP	
3	*	0.5900	34.74	0.06	34.80	56.00	-21.20	QP	
4		1.0100	31.81	0.04	31.85	56.00	-24.15	QP	
5		1.4300	32.69	0.04	32.73	56.00	-23.27	QP	
6		4.8800	31.85	0.05	31.90	56.00	-24.10	QP	



Site SGS CONDUCTED #1
Limit: CISPR22/11 Class B Conduction(QP)
EUT: HSDPA USB Data Modem
M/N: C152
Note: WCDMA B2 MODE

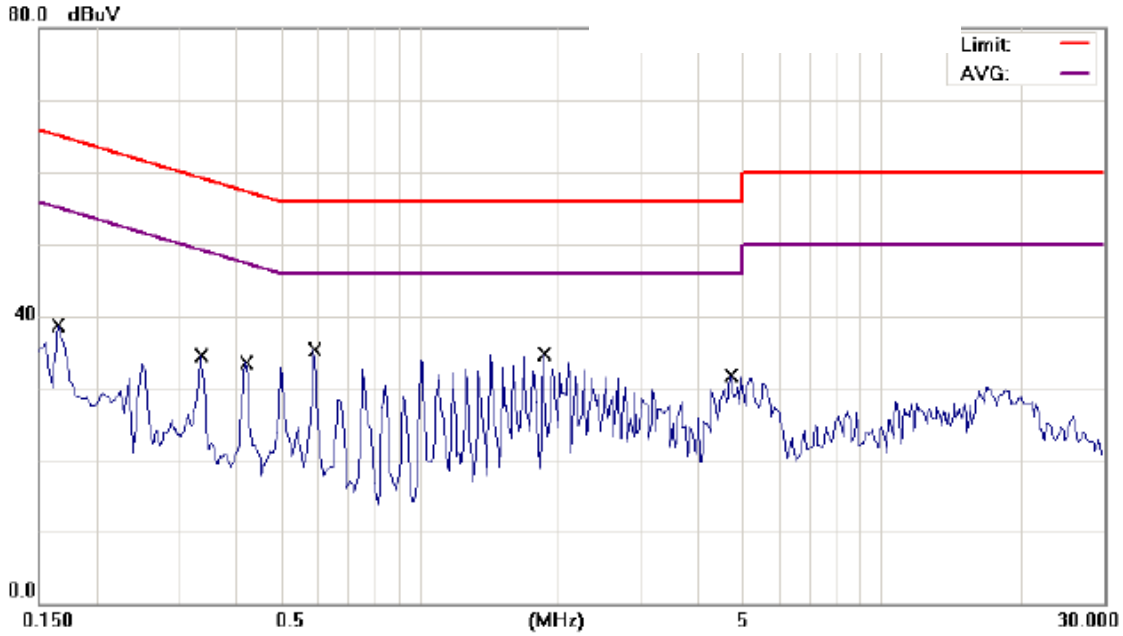
Phase: *N*
Power: AC 120V/60Hz
Distance:

Temperature: 25 ℃
Humidity: 62 %
Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1700	37.16	0.29	37.45	64.96	-27.51	QP	
2		0.4200	31.61	0.07	31.68	57.45	-25.77	QP	
3		1.2650	29.87	0.03	29.90	56.00	-26.10	QP	
4		1.6850	31.69	0.03	31.72	56.00	-24.28	QP	
5		2.5250	31.76	0.03	31.79	56.00	-24.21	QP	
6	*	4.8950	35.89	0.06	35.95	56.00	-20.05	QP	

AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode:	WCDMA V Link			Test Date:	Sep. 19, 2008
Temperature:	26 ℃	Humidity:	58 %	Test By:	Jazz

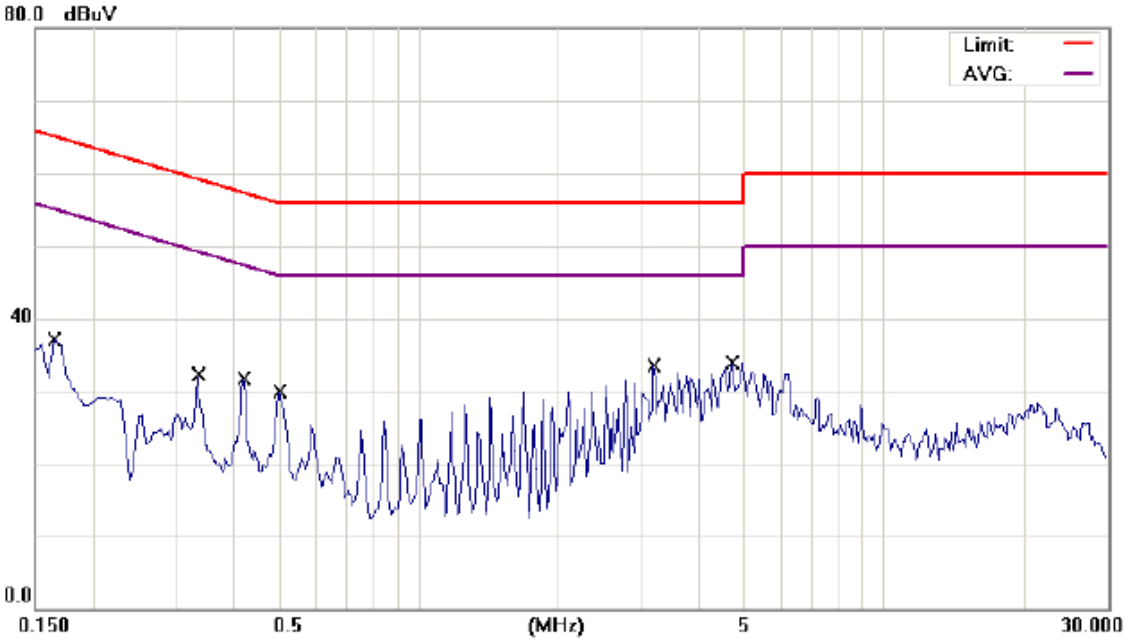


Site SGS CONDUCTED #1
Limit: CISPR22/11 Class B Conduction(QP)
EUT: HSDPA USB Data Modem
M/N: C152
Note: WCDMA B5 MODE

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

Temperature: 25 ℃
Humidity: 62 %
Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1650	38.37	0.34	38.71	65.21	-26.50	QP	
2		0.3350	34.37	0.11	34.48	59.33	-24.85	QP	
3		0.4200	33.52	0.08	33.60	57.45	-23.85	QP	
4	*	0.5900	35.28	0.06	35.34	56.00	-20.66	QP	
5		1.8500	34.64	0.04	34.68	56.00	-21.32	QP	
6		4.7150	31.72	0.05	31.77	56.00	-24.23	QP	



Site SGS CONDUCTED #1
Limit: CISPR22/11 Class B Conduction(QP)
EUT: HSDPA USB Data Modem
M/N: C152
Note: WCDMA B5 MODE

Phase: *N*
Power: AC 120V/60Hz
Distance:

Temperature: 25 ℃
Humidity: 62 %
Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1650	36.76	0.32	37.08	65.21	-28.13	QP	
2		0.3350	32.21	0.10	32.31	59.33	-27.02	QP	
3		0.4200	31.65	0.07	31.72	57.45	-25.73	QP	
4		0.5000	29.77	0.05	29.82	56.00	-26.18	QP	
5		3.2000	33.52	0.04	33.56	56.00	-22.44	QP	
6	*	4.7150	33.83	0.05	33.88	56.00	-22.12	QP	