ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 22 SUBPART H, PART 24 SUBPART E AND INDUSTRY CANADA RSS-132 and RSS-133 REQUIREMENT

OF

Product Name:	**Smartphone**
Brand Name:	**HTC**
Model Name:	**PH06130**
Model Difference:	**N/A**
FCC ID:	**NM8PH06130**
IC:	**4115B-PH06130**
Report No.:	**EH/2011/40026**
Issue Date:	**Apr. 29, 2011**
FCC Rule Part:	**2 , 22H & 24E**
IC Rule Part:	**RSS 132, Issue 2 and RSS 133, Issue 5**
Prepared for:	**HTC Corporation** **No.23, Xinghua Rd., Taoyuan City, Taoyuan County 330, Taiwan**
Prepared by:	**SGS Taiwan Ltd.** **Electronics & Communication Laboratory** **No. 134, Wu Kung Rd., Wuku Industrial Zone, Taipei County, Taiwan.**

Note: *This report shall not be reproduced except in full, without the written approval of SGS Taiwan Ltd. This document may be altered or revised by SGS Taiwan Ltd. personnel only, and shall be noted in the revision section of the document.*

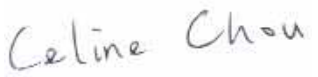
VERIFICATION OF COMPLIANCE

Applicant:	HTC Corporation No.23, Xinghua Rd., Taoyuan City, Taoyuan County 330, Taiwan
Product Name:	Smartphone
Brand Name:	HTC
FCC ID:	NM8PH06130
IC:	4115B-PH06130
Model No.:	PH06130
Model Difference:	N/A
File Number:	EH/2011/40026
Date of test:	Apr. 13, 2011 ~ Apr. 28, 2011
Date of EUT Received:	Apr. 13, 2011

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, Issue 2 of RSS-Gen 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 PART 22 subpart H, PART 24 subpart E and IC standards Issue 2 of RSS-132, Issue 5 of RSS-133.

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

Test By:		***Date:***	Apr. 29, 2011
	Bondi Liu / Engineer		
Prepared By:		***Date:***	Apr. 29, 2011
	Celine Chou / Clerk		
Approved By:		***Date:***	Apr. 29, 2011
	Jim Chang / Supervisor		

Version

Version No.	Date	Description
00	Apr. 29, 2011	Initial creation of document

Table of Contents

1. GENERAL PRODUCT INFORMATION 6
1.1. Related Submittal(s) / Grant (s) 9
1.2. Test Methodology 9
1.3. Test Facility 9
1.4. Special Accessories 9
1.5. Equipment Modifications 9
2. SYSTEM TEST CONFIGURATION 10
2.1. EUT Configuration 10
2.2. EUT Exercise 10
2.3. Test Procedure 10
2.4. Measurement Equipment Used: 11
2.5. Configuration of Tested System 13
3. SUMMARY OF TEST RESULTS 14
4. DESCRIPTION OF TEST MODES 15
5. RF POWER OUTPUT MEASUREMENT 16
5.1. Standard Applicable: 16
5.2. Test Set-up: 17
5.3. Measurement Procedure: 17
5.4. Measurement Equipment Used: 17
5.5. Measurement Result: 18
6. ERP, EIRP MEASUREMENT 23
6.1. Standard Applicable: 23
6.2. Test SET-UP (Block Diagram of Configuration): 23
6.3. Measurement Procedure: 25
6.4. Measurement Equipment Used: 25
6.5. Measurement Result: 26
7. 99% OCCUPIED BANDWIDTH MEASUREMENT 34
7.1. Standard Applicable: 34
7.2. Test Set-up: 34
7.3. Measurement Procedure: 34
7.4. Measurement Equipment Used: 34
7.5. Measurement Result: 35

8. OUT OF BAND EMISSION AT ANTENNA TERMINALS 49
8.1. Standard Applicable: 49
8.2. Test SET-UP: 50
8.3. Measurement Procedure: 51
8.4. Measurement Equipment Used: 51
8.5. Measurement Result: 52
9. FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT (TX) 84
9.1. Standard Applicable: 84
9.2. EUT Setup (Block Diagram of Configuration): 85
9.3. Measurement Procedure: 85
9.4. Measurement Equipment Used: 85
9.5. Measurement Result: 85
10. FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT 110
10.1. Standard Applicable: 110
10.2. Test Set-up: 110
10.3. Measurement Procedure: 110
10.4. Measurement Equipment Used: 110
10.5. Measurement Result: 111
11. FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT 113
11.1. Standard Applicable: 113
11.2. Test Set-up: 113
11.3. Measurement Procedure: 113
11.4. Measurement Equipment Used: 113
11.5. Measurement Result: 114
12. SPURIOUS RADIATED EMISSION TEST (RX) 115
12.1. Standard Applicable 115
12.2. EUT Setup 115
12.3. Measurement Procedure 115
12.4. Test SET-UP (Block Diagram of Configuration) 116
12.5. Measurement Equipment Used: 116
12.6. Field Strength Calculation 116
12.7. Measurement Result 116
PHOTOGRAPHS OF SET UP 141
PHOTOGRAPHS OF EUT 143

1. GENERAL PRODUCT INFORMATION

General:

Product Name:	Smartphone	
Brand Name:	HTC	
Model Name:	PH06130	
Model difference:	N/A	
Simple Hands-Free:	1. Model No.: HS G235, Supplier: KINGSTATE 2. Model No.: RC E160, Supplier: FOSTER 3. Model No.: RC E160, Supplier: COTRON 4. Model No.: RC E160, Supplier: Merry	
USB Cable:	1. Model No.: DC M410, Supplier: COXOC 2. Model No.: DC M410, Supplier: Foxlink 3. Model No.: DC M410, Supplier: MEC	
Power Supply	3.7Vdc Li-Ion battery or 5Vdc from AC/DC adapter	
	Battery:	1. Model No.: BH06100, Supplier: Formosa 2. Model No.: BH06100, Supplier: TWS
	Adapter :	1. Model No.: TC X 250, Supplier: Delta 2. Model No.: TC X 250, Supplier: Emerson 3. Model No.: TC X 250, Supplier: Phihong

GSM and WCDMA:

Cellular Phone Standards Frequency Range and Power:	Operating Frequency		Rated Power
	GSM/GPRS 850, Class 10	824.2 MHz– 848.8 MHz	33 dBm
	GSM/GPRS 1900, Class 10	1850.2MHz – 1909.8MHz	30 dBm
	EDGE 850, Class 10	824.2 MHz– 848.8 MHz	27 dBm
	EDGE 1900, Class 10	1850.2MHz – 1909.8MHz	26 dBm
	WCDMA/HSDPA Band II	1852.4MHz – 1907.6MHz	23.5 dBm
	WCDMA/HSDPA Band V	826.4MHz - 846.6MHz	23.5 dBm
Type of Emission:	GPRS850: 249KGXW, GPRS1900: 245KGXW EDGE 850: 245KG7W, EDGE 1900: 247KG7W WCDMA Band II: 4M14F9W,HSDPA Band II: 4M13F9W WCDMA Band V: 4M13F9W,HSDPA Band V: 4M12F9W		
Hardware Version:	N/A		
Software Version:	N/A		
IMEI:	357325040011579		

Bluetooth:

Frequency Range:	2402 – 2480MHz
Bluetooth Version:	V3.0
Channel number:	79 channels
Transmit Power:	0.04 dBm (Peak)
Modulation type:	Frequency Hopping Spread Spectrum
Antenna Designation:	PIFA Antenna / Antenna Gain: -0.22dBi
Type of Emission:	1M17FXD

The EUT is compliance with Bluetooth.

WLAN: 802.11 b/g/n

Frequency Range:	2412 – 2462 MHz
Channel number:	11 channels
Max. Output Power:	802.11 b: 20.13 dBm (Peak) 802.11 g: 16.72 dBm (Peak) 802.11 n _20MHz: 16.74dBm (Peak)
Modulation Technology:	DSSS, OFDM
Modulation type:	CCK, DQPSK, DBPSK for DSSS 64QAM. 16QAM, QPSK, BPSK for OFDM
Transition Rate:	802.11 b: 1/2/5.5/11 Mbps; 802.11 g: 6/9/12/18/24/36/48/54 Mbps 802.11 n_20MHz: 6.5 – 72Mbps
Antenna Designation:	PIFA Antenna / Antenna Gain: -0.22dBi
Type of Emission:	17M7G1D

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

GPS:

Receiver Frequency	L1 Band, 1575.42MHz
Frequency Conversion oscillator	19.2MHz
Antenna Designation	Fixed Internal

Final Amplifier Voltage and Current Information:

Test Mode	DC voltage (V)	DC current (mA)
GPRS 850	3.7 Vdc	650
GPRS 1900	3.7 Vdc	420
EDGE 850	3.7 Vdc	300
EDGE 1900	3.7 Vdc	250
WCDMA BC2	3.7 Vdc	240
HSDPA BC2	3.7 Vdc	250
WCDMA BC5	3.7 Vdc	240
HSDPA BC5	3.7 Vdc	250

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

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

This submittal(s) (test report) is intended for FCC ID: **NM8PH06130** filing to comply with Section Part 22 subpart H, Part 24 subpart E of the FCC CFR 47 Rules and IC: **4115B-PH06130** filing to comply with Issue 2 of RSS-132, Issue 5 of RSS-133

1.2. Test Methodology

Both conducted and radiated testing were performed according to the procedures document on chapter 13 of TIA/EIA 603C and FCC 47 CFR 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055, 2.1057, issue 2 of RSS-132 and issue 3 of RSS-133.

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 TIA/EIA 603C. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz us- ing CISPR Quasi-Peak and Average detector mode.

2.3.2 Conducted Measurement at Antenna Port:

According to measurement procured TIA/EIA 603C and RSS-Gen, 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 connect the antenna port of EUT to measurement equipment.

2.3.3 Radiated Emissions (ERP/EIRP):

According to measurement procured TIA/EIA 603C and RSS-Gen, The EUT is a placed on as turn table which is 0.8 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 and measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made “while keeping the antenna in the ‘cone of radiation’ from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response.” is still within the 3dB illumination BW of the measurement antenna according to the requirements in Section 8 and 13 of ANSI C63.4:2003.

2.4. Measurement Equipment Used:

Conducted Emission Test Site					
EQUIPMENT TYPE	**MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL DUE.**
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/19/2010	04/18/2012
Spectrum Analyzer	Agilent	E4440A	US41160416	01/23/2010	01/22/2012
Radio Communication Analyzer	R&S	CMU200	102189	05/13/2009	05/12/2011
800 – 1000MHz Filter	Micro-Tronics	BRM13462	001	01/05/2011	01/04/2012
1800 – 2000MHz Filter	Micro-Tronics	BRM13463	001	01/05/2011	01/04/2012
Temperature Chamber	TERCHY	MHG-120LF	911009	04/14/2010	04/13/2012
Temperature Chamber	GIANT FORCE	GTH-150-40-CP-AR	MAA0512-018	02/05/2010	02/04/2012
DC Block	Agilent	BLK-18	155452	07/05/2010	07/04/2011
Attenuator	Mini-Circuit	BW-S20W5	N/A	07/05/2010	07/04/2011
Attenuator	Mini-Circuit	BW-S10W5	N/A	07/05/2010	07/04/2011
Attenuator	Mini-Circuit	BW-S6W5	N/A	07/05/20010	07/04/2011
Splitter	Agilent	11636B	N/A	07/05/2010	07/04/2011
DC Power Supply	Chroma	41901	777188	04/17/2010	04/16/2012

966 Chamber					
EQUIPMENT TYPE	**MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL DUE.**
Spectrum Analyzer	R&S	FSP 40	100034	02/12/2010	02/11/2012
Bilog Antenna	SCHWAZBECK	VULB9160	3136	11/19/2010	11/18/2011
Dipole Antenna	SCHWAZBECK	VHAP	908/909	07/10/2009	07/09/2011
Dipole Antenna	SCHWAZBECK	UHAP	891/892	07/10/2009	07/09/2011
Hor.n antenna	SCHWAZBECK	BBHA 9120D	309	01/22/2010	01/21/2012
Horn antenna	SCHWAZBECK	BBHA 9120D	9120D-673	05/09/2010	05/08/2012
Signal Generator	R&S	SMR40	100210	01/22/2010	01/21/2012
Signal Generator	Agilent	E4438C	MY45093613	06/11/2010	06/10/2011
Pre-Amplifier	Agilent	8447D	1937A02834	11/28/2010	11/27/2011
Pre-Amplifier	Agilent	8449B	3008A01973	01/05/2010	01/04/2012
Attenuator	Mini-Circuit	BW-S20W5	001	07/05/2010	07/04/2011
Attenuator	Mini-Circuit	BW-S10W5	001	07/05/2010	07/04/2011
Attenuator	Mini-Circuit	BW-S6W5	001	07/05/2010	07/04/2011
Radio Communication Analyzer	R&S	CMU200	102189	05/13/2010	05/12/2012
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	01/05/2011	01/04/2012
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-3M	3m	01/05/2010	01/04/2012
Filter 800-1000	Micro-Tronics	BRM13462	1	01/05/2010	01/04/2012
Filter 1800-2000	Micro-Tronics	BRM13463	1	01/05/2010	01/04/2012
3m Site	SGS	966 chamber	N/A	11/08/2010	11/09/2011

2.5. Configuration of Tested System

Fig. 2-1 Radiated Emission and AC Power line Configuration

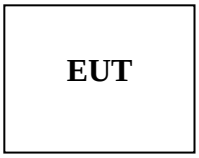
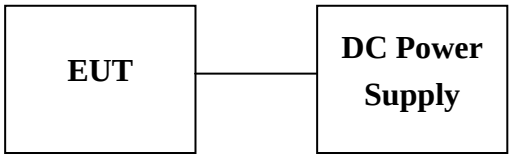


Fig. 2-2 Conduced Configuration



Remote site

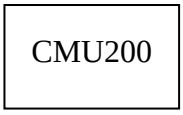


Table 2-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model / Type No.	Series No.
1.	Universal Radio Communication Tester	R&S	CMU200	102189
2.	DC Power Supply	Topward	3303D	981327

3. SUMMARY OF TEST RESULTS

FCC Rules	FCC Rules	Description Of Test	Result
§2.1046(a)	N/A	RF Power Output	Compliant
§2.1046(a) §22.913(a)(2) §24.232(c)	§4.8 (RSS-Gen) §4.4 (RSS-132) §6.4 (RSS-133)	ERP/ EIRP measurement	Compliant
§2.1049(h)	§4.6.1 (RSS-Gen) §2.3 (RSS-133)	99% Occupied Bandwidth	Compliant
§2.1051 §22.917(a) §24.238(a)	§4.9 (RSS-Gen) §4.5 (RSS-132) §6.5 (RSS-133)	Out of Band Emissions at Antenna Terminals and Band Edge	Compliant
§2.1053 §22.917(a) §24.238(a)	§4.9 (RSS-Gen) §4.5 (RSS-132) §6.5 (RSS-133)	Field Strength of Spurious Radiation	Compliant
§2.1055(a)(1) §22.355 §24.235	§4.7 (RSS-Gen) §4.3 (RSS-132) §6.3 (RSS-133)	Frequency Stability vs. Temperature	Compliant
§2.1055(d)(2) §22.355 §24.235	§4.7 (RSS-Gen) §4.3 (RSS-132) §6.3 (RSS-133)	Frequency Stability vs. Voltage	Compliant
N/A	§4.10 (RSS-Gen) §4.6 (RSS-132) §6.6 (RSS-133)	Receiver Spurious Emissions	Compliant
TIA/EIA 603C 2.1.3	§7.2.2 (RSS-Gen)	AC Power Line Conducted Emission	Compliant

Max ERP/EIRP measurement result:

	dBm	dB	W
GPRS 850 Band	32.44	ERP	1.754
GPRS 1900 Band	29.69	EIRP	0.931
EDGE 850 Band	30.23	ERP	1.054
EDGE 1900 Band	28.98	EIRP	0.791
WCDMA Band II	24.79	EIRP	0.301
WCDMA Band V	23.90	ERP	0.245
HSDPA Band II	25.53	EIRP	0.357
HSDPA Band V	24.30	ERP	0.269

4. DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition.

EUT was staying in continuous transmitting mode. Channel Low, Mid and High for each 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 and WCDMA/HSDPA Band II, V with power adaptor. The worst-case of E2 position for GPRS 850 band, E2 position for GPRS 1900, E2 position for HSDPA Band II and E2 position for HSDPA Band V were reported.

5. RF POWER OUTPUT MEASUREMENT

5.1. Standard Applicable:

According to FCC §2.1046.

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

FCC 24.232(C) Peak Power Measurement to 2W.

3GPP Power limitation for HSDPA and HSUPA

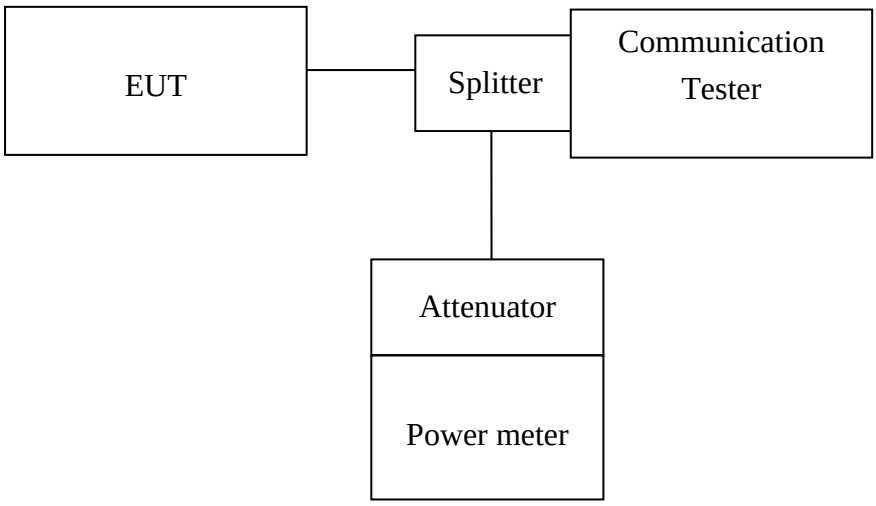
Maximum Output Powers for HSDPA

Sub-test in table C.10.1.4	Power Class 3		Power Class 4	
	Power (dBm)	Tol (dB)	Power (dBm)	Tol (dB)
1	+24	+1.7/-3.7	+21	+2.7/-2.7
2	+24	+1.7/-3.7	+21	+2.7/-2.7
3	+23.5	+2.2/-3.7	+20.5	+3.2/-2.7
4	+23.5	+2.2/-3.7	+20.5	+3.2/-2.7

Maximum Output Powers for HSUPA

Sub-test in table C.11.1.3	Power Class 3		Power Class 4	
	Power (dBm)	Tol (dB)	Power (dBm)	Tol (dB)
1	+24	+1.7/-6.7	+21	+2.7/-5.7
2	+22	+3.7/-5.2	+19	+4.7/-4.2
3	+23	+2.7/-5.2	+20	+3.7/-4.2
4	+22	+3.7/-5.2	+19	+4.7/-4.2
5	+24	+1.7/-6.7	+21	+2.7/-5.7

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. The Procedure of KDB941225 KDB941125 (SAR Measurement Procedures for 3G devices, WCDMA/HSDPA) was used for EUT and Base station setting. RMC 12.2kps is used for this testing

5.4. Measurement Equipment Used:

Refer to section 2.4 in this report

5.5. Measurement Result:

5.5.1. RF Conducted Output Power

5.5.1.1.: GPRS/EDGE (GMSK; 8-PSK)

Result:

EUT Mode	Frequency (MHz)	CH	Peak Power (1DN 1UP) (dBm)	Avg. Power (1DN 1UP) (dBm)	Peak Power (1DN 2UP) (dBm)	Avg. Power (1DN 2UP) (dBm)	Peak Power (1DN 3UP) (dBm)	Avg. Power (1DN 3UP) (dBm)	Peak Power (1DN 4UP) (dBm)	Avg. Power (1DN 4UP) (dBm)
GPRS 850 (Class 12)	824.2	128	33.10	33.00	33.10	32.90	33.00	32.80	32.90	32.70
	836.6	190	33.20	33.10	33.10	33.00	33.00	32.80	32.90	32.70
	848.8	251	33.10	33.00	33.10	32.90	32.90	32.70	32.90	32.70

EUT Mode	Frequency (MHz)	CH	Peak Power (1DN 1UP) (dBm)	Avg. Power (1DN 1UP) (dBm)	Peak Power (1DN 2UP) (dBm)	Avg. Power (1DN 2UP) (dBm)	Peak Power (1DN 3UP) (dBm)	Avg. Power (1DN 3UP) (dBm)	Peak Power (1DN 4UP) (dBm)	Avg. Power (1DN 4UP) (dBm)
GPRS 1900 (Class 12)	1850.2	512	30.00	29.90	30.00	29.80	30.00	29.80	29.90	29.80
	1880.0	661	30.20	30.10	30.20	30.00	30.10	30.00	30.10	29.90
	1909.8	810	30.30	30.20	30.30	30.10	30.20	30.00	30.20	30.00

EUT Mode	Frequency (MHz)	CH	Peak Power (1DN 1UP) (dBm)	Avg. Power (1DN 1UP) (dBm)	Peak Power (1DN 2UP) (dBm)	Avg. Power (1DN 2UP) (dBm)	Peak Power (1DN 3UP) (dBm)	Avg. Power (1DN 3UP) (dBm)	Peak Power (1DN 4UP) (dBm)	Avg. Power (1DN 4UP) (dBm)
EDGE 850 (Class 12)	824.2	128	30.60	27.30	30.50	27.30	30.50	27.30	30.40	27.20
	836.6	190	30.60	27.30	30.50	27.30	30.40	27.20	30.40	27.20
	848.8	251	30.50	27.20	30.40	27.20	30.40	27.20	30.40	27.20

EUT Mode	Frequency (MHz)	CH	Peak Power (1DN 1UP) (dBm)	Avg. Power (1DN 1UP) (dBm)	Peak Power (1DN 2UP) (dBm)	Avg. Power (1DN 2UP) (dBm)	Peak Power (1DN 3UP) (dBm)	Avg. Power (1DN 3UP) (dBm)	Peak Power (1DN 4UP) (dBm)	Avg. Power (1DN 4UP) (dBm)
EDGE 1900 (Class 12)	1850.2	512	29.30	26.10	29.30	26.00	29.20	26.00	29.30	26.00
	1880.0	661	29.50	26.30	29.50	26.20	29.40	26.10	29.40	26.00
	1909.8	810	29.60	26.40	29.50	26.30	29.50	26.30	29.40	26.30

5.5.1.2.: WCDMA mode

The following tests were completed according to the test requirements outlined in section 5.2 of the 3GPP TS34.121-1 V8.4.0 specification. The EUT supports power Class 3, which has a nominal maximum output power of 24 dBm (+1.7/-3.7). RMC 12.2kps is used for this testing.

Results:

EUT Mode	Frequency (MHz)	CH	Peak Power (dBm)	Avg Power (dBm)
WCDMA Band II	1852.4	9262	25.63	22.46
	1880.0	9400	25.68	22.57
	1907.6	9538	25.31	22.26

EUT Mode	Frequency (MHz)	CH	Peak Power (dBm)	Avg Power (dBm)
WCDMA Band V	826.40	4132	26.18	22.71
	836.60	4183	26.04	22.67
	846.60	4233	26.19	22.66

Note: The results above reflect max power with all up bits.

5.5.1.3.:HSDPA Release 6 mode

The following 4 Sub-Tests were completed according to the test requirements outlined in section 5.2A of the 3GPP TS34.121-1 V8.4.0 specification. All TX RMS power requirements for Power Class 3 were met according to table 5.2AA.5 and 5.2B.5 All UE channels and power ratio's are set according to table C10.1.4 & C11.1.3 in the 3GPP TS34.121-1 V8.4.0. RMC 12.2kps is used for this testing

HSDPA SUB-TEST Setting

Table C.10.1.4: β values for transmitter characteristics tests with HS-DPCCH(FOR HSDPA)

Sub-test	β_c	β_d	β_d *(SF)*	β_c/β_d	β_{HS} (*Note1, Note 2*)	CM (dB) *(Note 3)*	MPR (dB) *(Note 3)*	RMC (Kbps)
1	2/15	15/15	64	2/15	4/15	0.0	0.0	12.2
2	12/15 *(Note 4)*	15/15 *(Note 4)*	64	12/15 *(Note 4)*	24/15	1.0	0.0	12.2
3	15/15	8/15	64	15/8	30/15	1.5	0.5	12.2
4	15/15	4/15	64	15/4	30/15	1.5	0.5	12.2

Note: The recommended HSDPA MPRs are implemented as per following sub-tests.

Results:

Mode	Sub-test	RMS Power (dBm) Channel			Power Class 3 Limitation (dBm)	Comments
		9262	9400	9538		
HSDPA (B2)	1	22.40	22.26	21.94	20.3dBm – 25.7dBm	Pass
	2	22.11	22.23	21.93	20.3dBm – 25.7dBm	Pass
	3	21.92	21.81	21.41	19.8dBm – 25.7dBm	Pass
	4	21.99	21.82	21.53	19.8dBm – 25.7dBm	Pass

Mode	Sub-test	RMS Power (dBm) Channel			Power Class 3 Limitation (dBm)	Comments
		4132	4183	4233		
HSDPA (B5)	1	22.44	22.45	22.40	20.3dBm – 25.7dBm	Pass
	2	22.58	22.48	22.15	20.3dBm – 25.7dBm	Pass
	3	21.98	21.97	21.91	19.8dBm – 25.7dBm	Pass
	4	22.03	22.01	21.97	19.8dBm – 25.7dBm	Pass

5.5.1.4: HSPA (HSDPA & HSUPA) Release 6 mode

The following 5 Sub-Tests were completed according to the test requirements outlined in section 5.2A of the 3GPP TS34.121-1 V8.4.0 specification. All TX power requirements for Power Class 3 were met according to table 5.2AA.5 and 5.2B.5 All UE channels and power ratio's are set according to table C11.1.3 in the 3GPP TS34.121-1 V8.4.0. RMC 12.2kps is used for this testing

HSPA SUB-TEST Setting

Table C.11.1.3: β values for transmitter characteristics tests with HS-DPCCH and E-DCH(FOR HSUPA)

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS}	β_{ec}	β_{ed}	β_{ed} (SF)	β_{ed} (Codes)	CM (dB)	MPR (dB)	AG Index	E-TFCI	RMC (Kbps)
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/225	1309/225	4	1	1.0	0.0	20	75	12.2
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67	12.2
3	15/15	9/15	64	15/9	30/15	30/15	β_{ed}1: 47/15 β_{ed}2: 47/15	4 4	2	2.0	1.0	15	92	12.2
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71	12.2
5	15/15 (Note 4)	15/15 (Note 4)	64	15/15 (Note 4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81	12.2

Note: The recommended HSUPA are implemented as per following sub-tests.

Results:

N/A, because the EUT does not supports HSUPA function.

5.5.2. Minimum Communications Power Measurement

PCS 1900 band

PCL	0	1	2	3	4	5	6	7	8
Output power (dBm)	30.1	28.2	26.2	24.2	22.1	20.1	18.2	16.2	14.1
PCL	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**
Output power (dBm)	12.1	10	8	6	4	2	0		

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

WCDMA/HSDPA band II

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 20 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(c) Mobile station are limited to 2W EIRP.

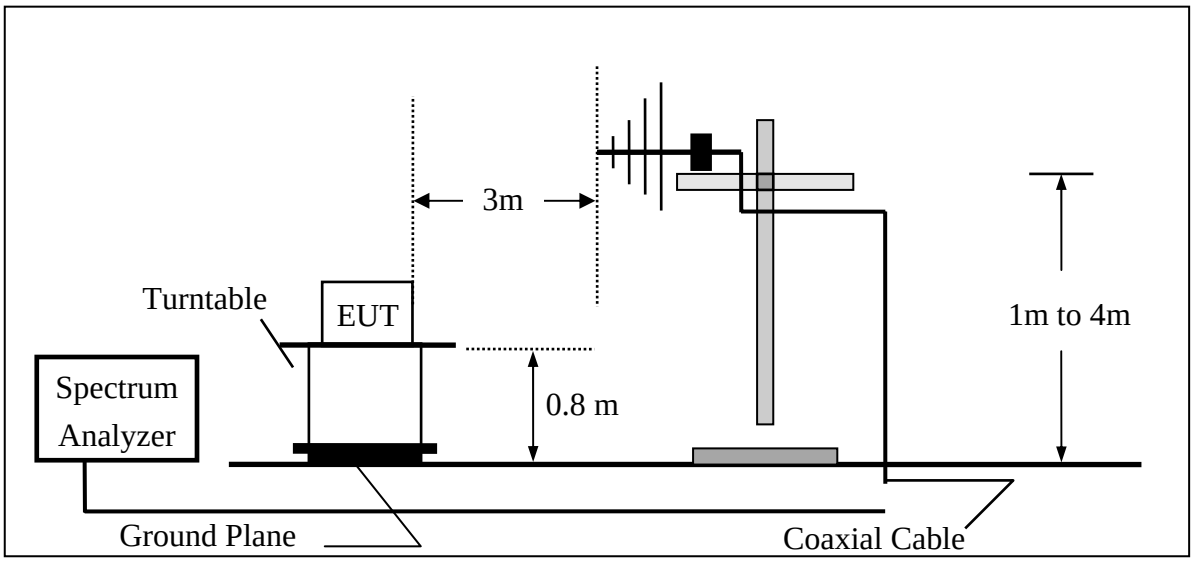
According to IC RSS-133 §6.4

The peak e.i.r.p. for transmitters operating in the band 1850-1910 MHz shall not exceed the limits 2W which given in SRSP-510.

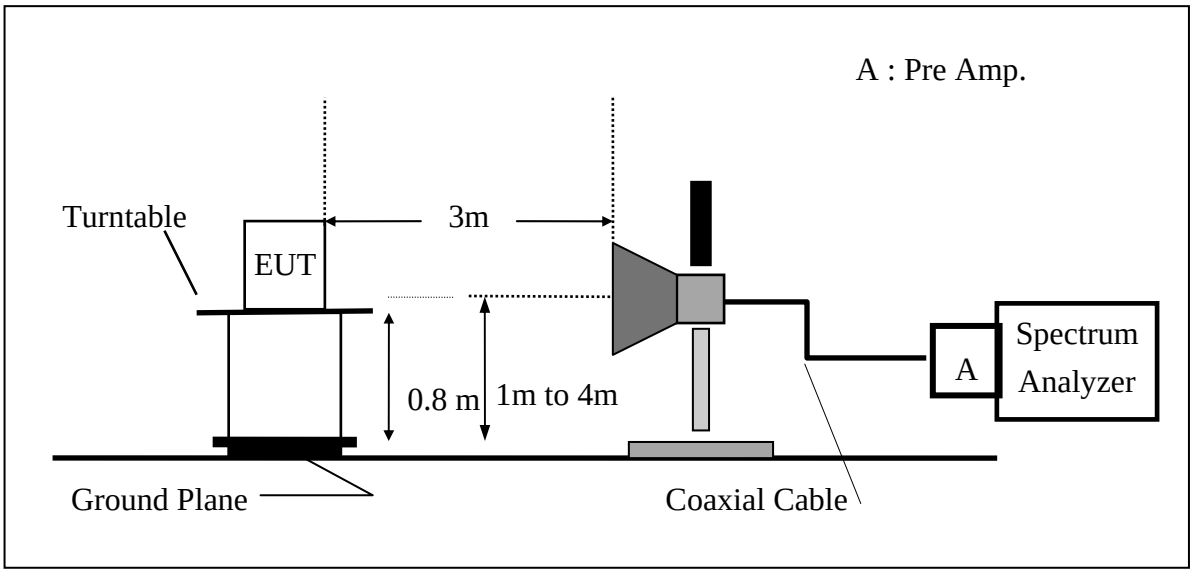
According to issue 2 of RSS 132, section 4.4. The transmitter output power shall not exceed the limits given in SRSP-503.

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

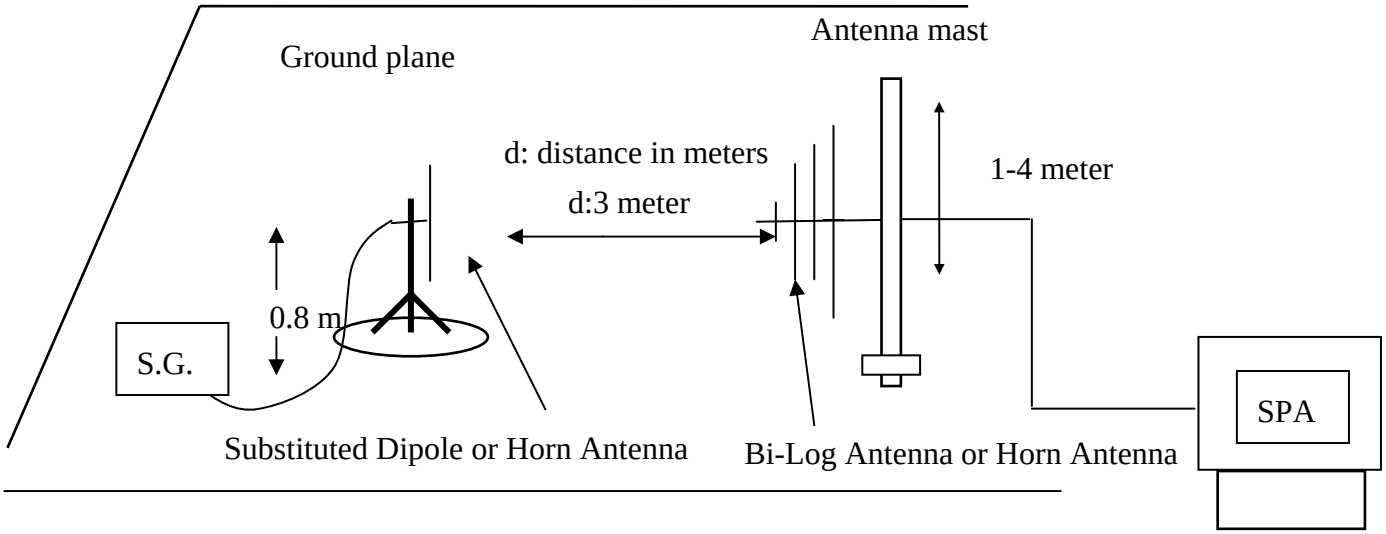
(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(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 –848.80MHz were measured using a substitution method. The EUT was replaced by dipole antenna connected, the S.G. output was recorded and ERP was calculated as follows:

EIRP in frequency band 1710-1755MHz and 1850.2 –1909.8MHz were measured using a substitution method. The EUT was replaced by a horn antenna connected, the S.G. output was recorded and EIRP was calculated as follows:

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:

Refer to section 2.4 in this report

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	128.04	41.65	-7.87	3.62	30.15	38.45
				H	120.99	34.72	-7.87	3.62	23.22	38.45
			E1	V	120.00	33.61	-7.87	3.62	22.11	38.45
				H	128.88	42.61	-7.87	3.62	31.11	38.45
			E2	V	120.73	34.34	-7.87	3.62	22.84	38.45
				H	130.21	43.94	-7.87	3.62	**32.44**	38.45
	836.60	190	H	V	127.85	41.60	-7.88	3.65	30.07	38.45
				H	121.08	34.85	-7.88	3.65	23.32	38.45
			E1	V	119.82	33.57	-7.88	3.65	22.04	38.45
				H	128.40	42.17	-7.88	3.65	30.64	38.45
			E2	V	120.06	33.81	-7.88	3.65	22.28	38.45
				H	129.43	43.20	-7.88	3.65	31.67	38.45
	848.80	251	H	V	127.61	41.49	-7.88	3.68	29.93	38.45
				H	121.11	34.92	-7.88	3.68	23.36	38.45
			E1	V	118.66	32.54	-7.88	3.68	20.98	38.45
				H	127.86	41.67	-7.88	3.68	30.11	38.45
			E2	V	119.22	33.10	-7.88	3.68	21.54	38.45
				H	129.01	42.82	-7.88	3.68	31.26	38.45

Remark：

(1) The RBW,VBW of SPA for frequency

RBW=300 KHz, VBW=1MHz

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)
GPRS 1900	1850.20	512	H	V	126.94	22.55	9.90	5.56	26.89	33.00
				H	128.51	24.33	9.90	5.56	28.67	33.00
			E1	V	128.14	23.75	9.90	5.56	28.09	33.00
				H	127.51	23.33	9.90	5.56	27.67	33.00
			E2	V	117.85	13.46	9.90	5.56	17.80	33.00
				H	129.81	25.63	9.90	5.84	**29.69**	33.00
	1880.00	661	H	V	125.88	21.52	9.99	5.61	25.90	33.00
				H	127.45	23.31	9.99	5.61	27.68	33.00
			E1	V	128.45	24.09	9.99	5.61	28.47	33.00
				H	127.32	23.18	9.99	5.61	27.55	33.00
			E2	V	117.31	12.95	9.99	5.61	17.33	33.00
				H	129.19	25.05	9.99	5.61	29.42	33.00
	1909.80	810	H	V	125.62	21.29	10.08	5.66	25.71	33.00
				H	127.04	22.93	10.08	5.66	27.35	33.00
			E1	V	128.19	23.86	10.08	5.66	28.28	33.00
				H	127.59	23.48	10.08	5.66	27.90	33.00
			E2	V	117.49	13.16	10.08	5.66	17.58	33.00
				H	129.03	24.92	10.08	5.66	29.34	33.00

Remark：

(1) The RBW,VBW of SPA for frequency

RBW=300K, VBW=1MHz

Measurement Result:

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
EDGE 850	824.20	128	H	V	127.46	41.07	-7.87	3.62	29.57	38.45
				H	119.43	33.16	-7.87	3.62	21.66	38.45
			E1	V	116.37	29.98	-7.87	3.62	18.48	38.45
				H	126.75	40.48	-7.87	3.62	28.98	38.45
			E2	V	116.24	29.85	-7.87	3.62	18.35	38.45
				H	128.00	41.73	-7.87	3.62	**30.23**	38.45
	836.60	190	H	V	127.04	40.79	-7.88	3.65	29.26	38.45
				H	118.65	32.42	-7.88	3.65	20.89	38.45
			E1	V	115.76	29.51	-7.88	3.65	17.98	38.45
				H	126.34	40.11	-7.88	3.65	28.58	38.45
			E2	V	115.99	29.74	-7.88	3.65	18.21	38.45
				H	127.88	41.65	-7.88	3.65	30.12	38.45
	848.80	251	H	V	125.25	39.13	-7.88	3.68	27.57	38.45
				H	115.04	28.85	-7.88	3.68	17.29	38.45
			E1	V	114.96	28.84	-7.88	3.68	17.28	38.45
				H	125.42	39.23	-7.88	3.68	27.67	38.45
			E2	V	114.42	28.30	-7.88	3.68	16.74	38.45
				H	127.13	40.94	-7.88	3.68	29.38	38.45

Remark：

(1) The RBW,VBW of SPA for frequency

RBW=300 KHz, VBW=1MHz

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)
EDGE 1900	1850.20	512	H	V	127.37	22.98	9.90	5.56	27.32	33.00
				H	127.91	23.73	9.90	5.56	28.07	33.00
			E1	V	128.55	24.16	9.90	5.56	28.50	33.00
				H	127.71	23.53	9.90	5.56	27.87	33.00
			E2	V	117.85	13.46	9.90	5.56	17.80	33.00
				H	129.07	24.89	9.90	5.84	28.95	33.00
	1880.00	661	H	V	126.61	22.25	9.99	5.61	26.63	33.00
				H	126.87	22.73	9.99	5.61	27.10	33.00
			E1	V	128.33	23.97	9.99	5.61	28.35	33.00
				H	127.71	23.57	9.99	5.61	27.94	33.00
			E2	V	117.22	12.86	9.99	5.61	17.24	33.00
				H	128.75	24.61	9.99	5.61	**28.98**	33.00
	1909.80	810	H	V	125.40	21.07	10.08	5.66	25.49	33.00
				H	126.01	21.90	10.08	5.66	26.32	33.00
			E1	V	128.20	23.87	10.08	5.66	28.29	33.00
				H	127.09	22.98	10.08	5.66	27.40	33.00
			E2	V	117.32	12.99	10.08	5.66	17.41	33.00
				H	128.55	24.44	10.08	5.66	28.86	33.00

Remark：

(1) The RBW,VBW of SPA for frequency

RBW=300K, VBW=1MHz

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 II	1852.40	9262	H	V	124.13	19.75	9.90	5.56	24.08	33.00
				H	124.15	19.97	9.90	5.56	24.31	33.00
			E1	V	122.75	18.37	9.90	5.56	22.70	33.00
				H	122.92	18.74	9.90	5.56	23.08	33.00
			E2	V	124.49	20.11	9.90	5.56	24.44	33.00
				H	124.34	20.16	9.90	5.84	24.22	33.00
	1880.00	9400	H	V	123.77	19.41	9.99	5.61	23.79	33.00
				H	123.71	19.57	9.99	5.61	23.94	33.00
			E1	V	123.53	19.14	9.90	5.56	23.48	33.00
				H	123.55	19.41	9.99	5.61	23.78	33.00
			E2	V	124.26	19.90	9.99	5.61	24.28	33.00
				H	124.18	20.04	9.99	5.61	24.41	33.00
	1907.60	9538	H	V	123.29	18.96	10.07	5.66	23.37	33.00
				H	123.40	19.29	10.07	5.66	23.70	33.00
			E1	V	123.22	18.89	10.07	5.66	23.30	33.00
				H	123.30	19.19	10.07	5.66	23.60	33.00
			E2	V	124.43	20.10	10.07	5.66	24.51	33.00
				H	124.49	20.38	10.07	5.66	**24.79**	33.00

Remark：

(1) The RBW,VBW of SPA for frequency

RBW= 5MHz , VBW= 5MHz

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	112.92	26.56	-10.02	3.63	12.91	38.45
				H	113.04	26.78	-10.02	3.63	13.14	38.45
			E1	V	120.95	34.59	-10.02	3.63	20.94	38.45
				H	120.70	34.44	-10.02	3.63	20.80	38.45
			E2	V	123.91	37.55	-10.02	3.63	**23.90**	38.45
				H	123.71	37.45	-10.02	3.63	23.81	38.45
	836.60	4183	H	V	112.13	25.87	-10.02	3.65	12.20	38.45
				H	112.22	25.99	-10.02	3.65	12.32	38.45
			E1	V	119.39	33.13	-10.02	3.65	19.46	38.45
				H	119.35	33.12	-10.02	3.65	19.45	38.45
			E2	V	123.00	36.74	-10.02	3.65	23.07	38.45
				H	122.93	36.70	-10.02	3.65	23.03	38.45
	846.60	4233	H	V	113.43	27.28	-10.02	3.67	13.59	38.45
				H	113.50	27.30	-10.02	3.67	13.61	38.45
			E1	V	120.24	34.08	-10.02	3.67	20.39	38.45
				H	120.42	34.22	-10.02	3.67	20.53	38.45
			E2	V	122.69	36.54	-10.02	3.67	22.85	38.45
				H	122.98	36.78	-10.02	3.67	23.09	38.45

Remark：

(1) The RBW,VBW of SPA for frequency

RBW= 5MHz , VBW= 5MHz

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)
HSDPA Band II	1852.40	9262	H	V	125.17	20.79	9.90	5.56	25.12	33.00
				H	125.37	21.19	9.90	5.56	**25.53**	33.00
			E1	V	123.36	18.98	9.90	5.56	23.31	33.00
				H	123.49	19.31	9.90	5.56	23.65	33.00
			E2	V	125.52	21.14	9.90	5.56	25.47	33.00
				H	125.16	20.98	9.90	5.84	25.04	33.00
	1880.00	9400	H	V	124.44	20.08	9.99	5.61	24.46	33.00
				H	124.46	20.32	9.99	5.61	24.69	33.00
			E1	V	123.80	19.41	9.90	5.56	23.75	33.00
				H	123.79	19.65	9.99	5.61	24.02	33.00
			E2	V	124.85	20.49	9.99	5.61	24.87	33.00
				H	124.82	20.68	9.99	5.61	25.05	33.00
	1907.60	9538	H	V	123.90	19.57	10.07	5.66	23.98	33.00
				H	123.68	19.57	10.07	5.66	23.98	33.00
			E1	V	123.31	18.98	10.07	5.66	23.39	33.00
				H	123.45	19.34	10.07	5.66	23.75	33.00
			E2	V	124.93	20.60	10.07	5.66	25.01	33.00
				H	124.82	20.71	10.07	5.66	25.12	33.00

Remark：

(1) The RBW,VBW of SPA for frequency

RBW= 5MHz , VBW= 5MHz

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)
HSDPA Band V	826.40	4132	H	V	113.90	27.54	-10.02	3.63	13.89	38.45
				H	113.84	27.58	-10.02	3.63	13.94	38.45
			E1	V	121.96	35.60	-10.02	3.63	21.95	38.45
				H	121.75	35.49	-10.02	3.63	21.85	38.45
			E2	V	124.31	37.95	-10.02	3.63	**24.30**	38.45
				H	124.09	37.83	-10.02	3.63	24.19	38.45
	836.60	4183	H	V	112.88	26.62	-10.02	3.65	12.95	38.45
				H	113.02	26.79	-10.02	3.65	13.12	38.45
			E1	V	120.13	33.87	-10.02	3.65	20.20	38.45
				H	120.33	34.10	-10.02	3.65	20.43	38.45
			E2	V	122.61	36.35	-10.02	3.65	22.68	38.45
				H	122.64	36.41	-10.02	3.65	22.74	38.45
	846.60	4233	H	V	114.67	28.52	-10.02	3.67	14.83	38.45
				H	114.47	28.27	-10.02	3.67	14.58	38.45
			E1	V	121.05	34.89	-10.02	3.67	21.20	38.45
				H	121.28	35.08	-10.02	3.67	21.39	38.45
			E2	V	123.17	37.02	-10.02	3.67	23.33	38.45
				H	123.32	37.12	-10.02	3.67	23.43	38.45

Remark：

(1) The RBW,VBW of SPA for frequency

RBW= 5MHz , VBW= 5MHz

7. 99% OCCUPIED BANDWIDTH MEASUREMENT

7.1. Standard Applicable:

According to §FCC 2.1049.

According to IC RSS-Gen §4.6.1

According to IC RSS-133 §2.3

7.2. Test Set-up:

Refer to section 5.2 in this report

7.3. Measurement Procedure:

The EUT's output RF connector was connected with a short cable to the spectrum analyzer, RBW was set to about 1% of emission BW, VBW= 3 times RBW (10/30KHz) for GSM/EDGE; VBW= 3 times RBW (47/150KHz) for WCDMA/HSUPA, -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:

Refer to section 2.4 in this report

7.5. Measurement Result:

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (kHz)
GPRS 850	824.20	128	245.7216
	836.60	190	241.4022
	848.80	251	249.5266

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (kHz)
GPRS 1900	1850.20	512	243.9434
	1880.00	661	242.8927
	1909.80	810	245.5401

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (kHz)
EDGE 850	824.20	128	245.7788
	836.60	190	242.8603
	848.80	251	244.6665

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (kHz)
EDGE 1900	1850.20	512	244.4171
	1880.00	661	244.8383
	1909.80	810	247.7238

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
WCDMA II	1852.40	9262	4.1420
	1880.00	9400	4.1407
	1907.60	9538	4.1439

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
WCDMA V	826.40	4132	4.1337
	836.00	4180	4.1381
	846.60	4233	4.1366

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
HSDPA II	1852.4	9262	4.1395
	1880.0	9400	4.1388
	1907.6	9538	4.1399

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
HSDPA V	826.40	4132	4.1267
	836.60	4183	4.1259
	846.60	4233	4.1288

Figure 7-1: GPRS 850 Channel Low

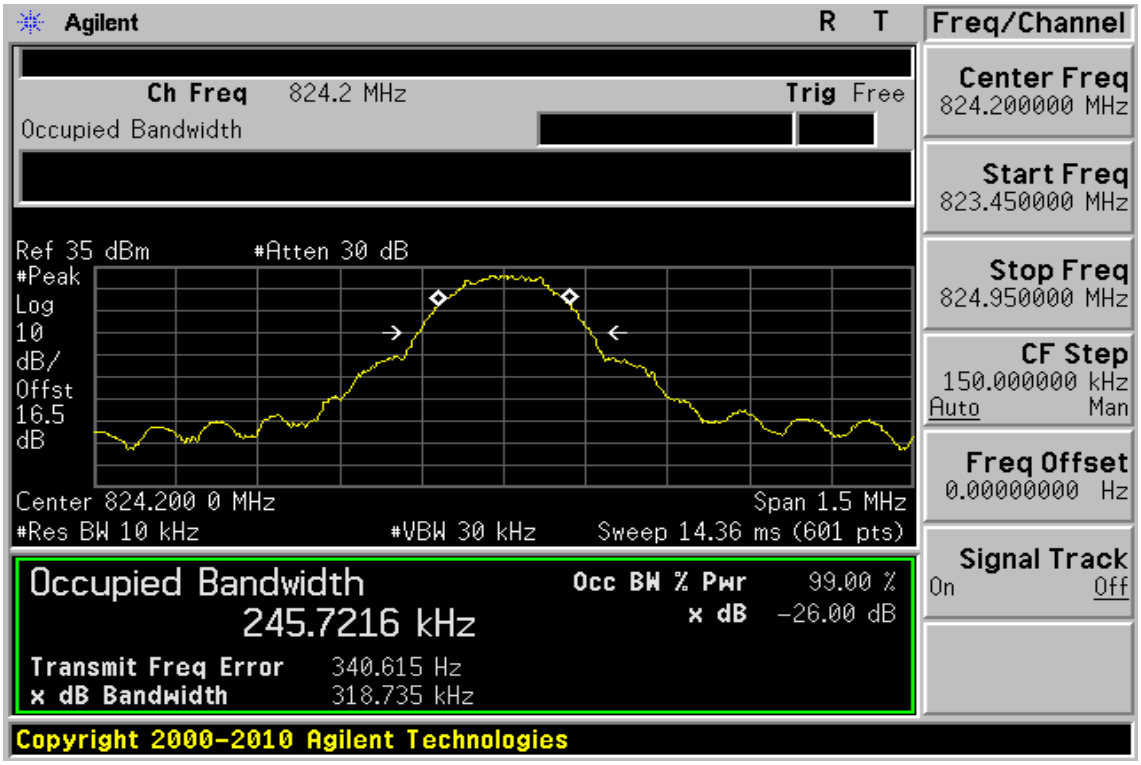


Figure 7-2 GPRS 850 Channel Mid

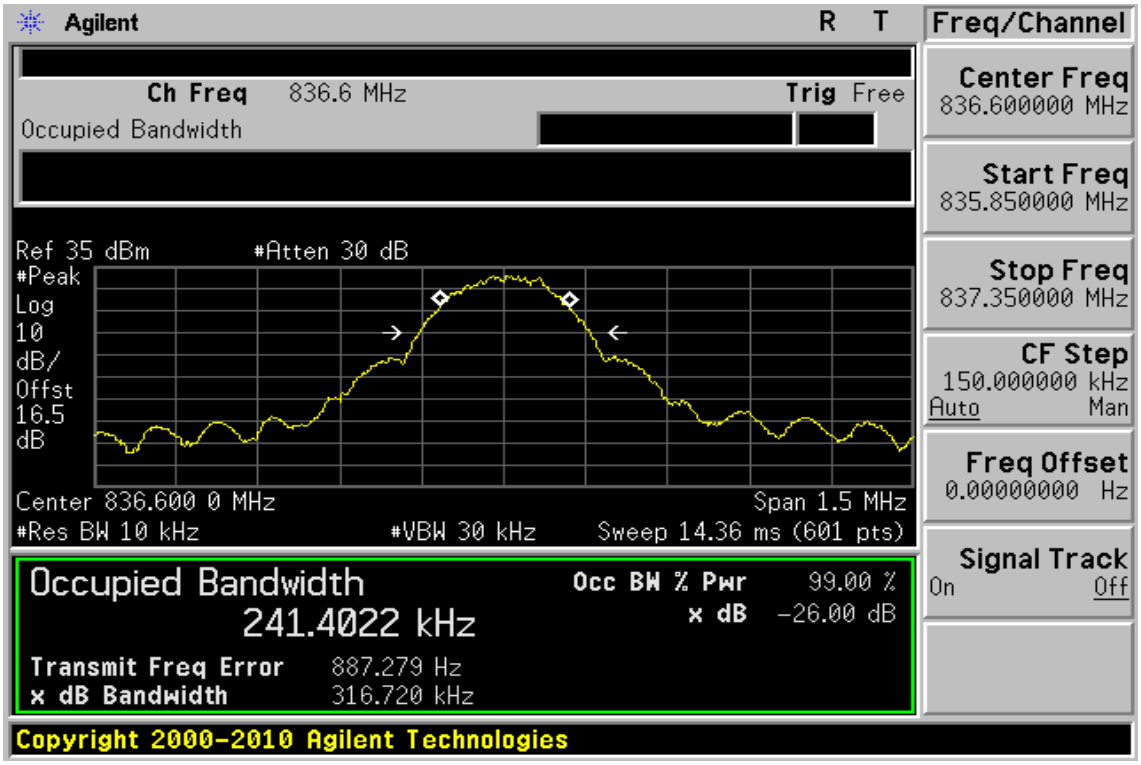


Figure 7-3: GPRS 850 Channel High

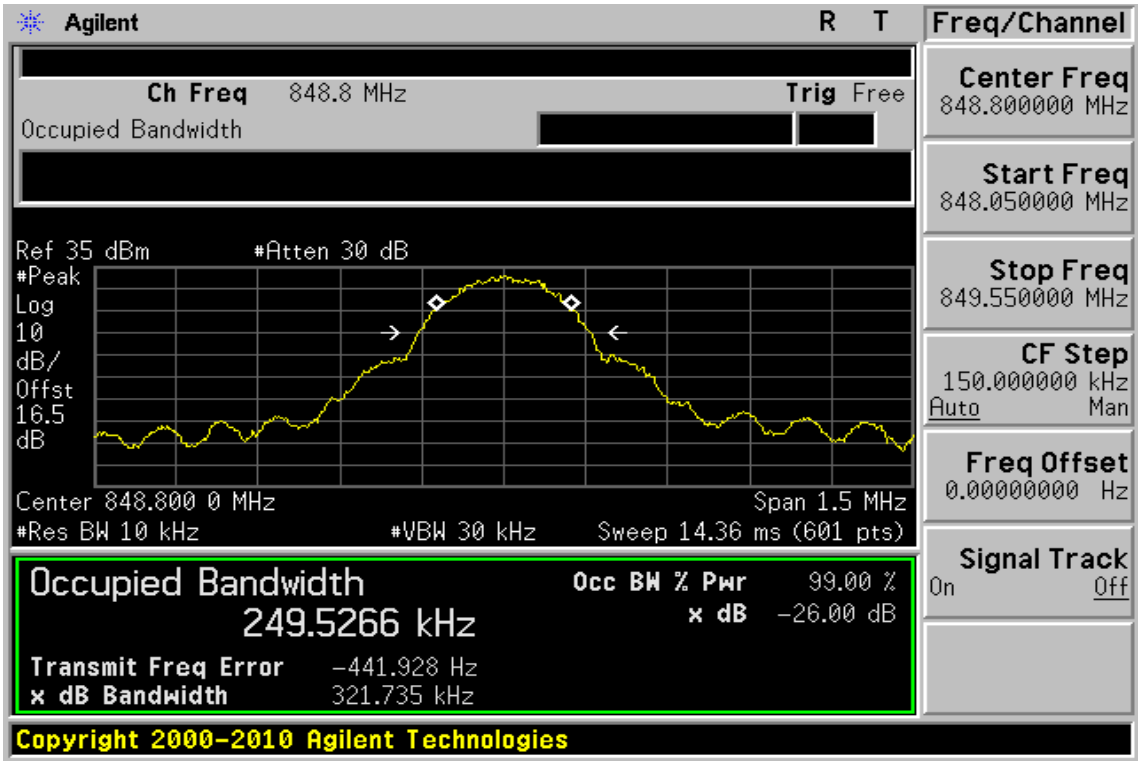


Figure 7-4: GPRS 1900 Channel Low

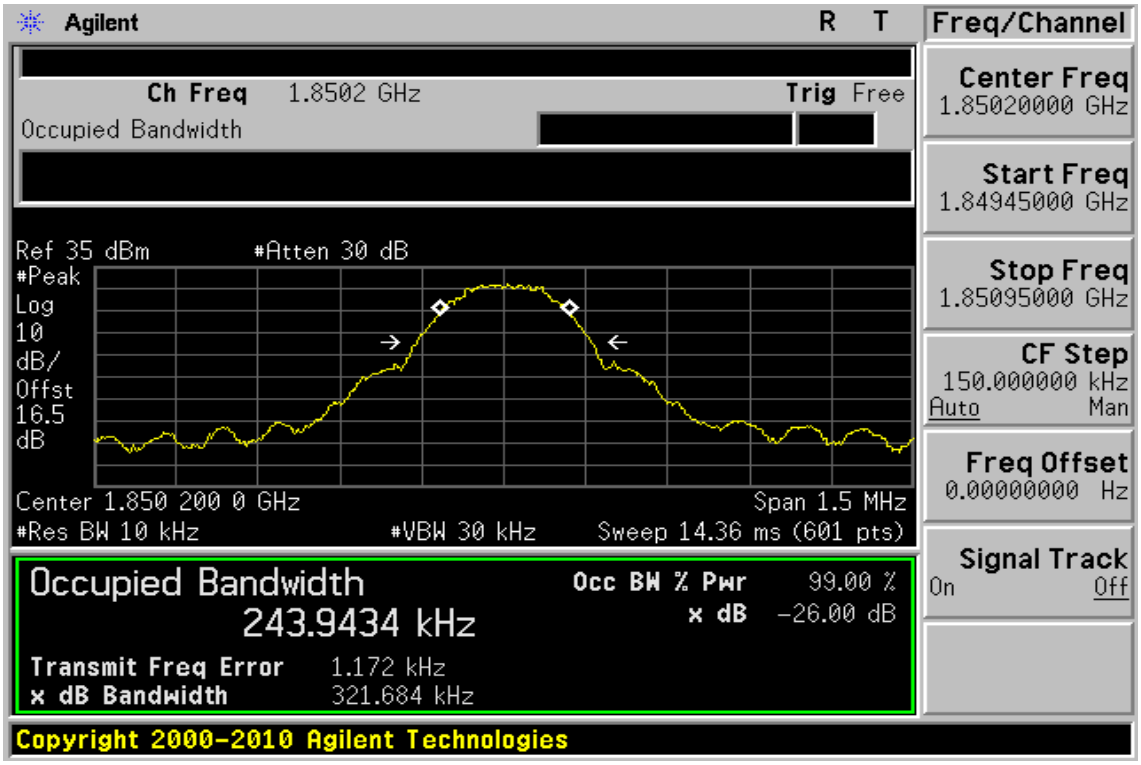


Figure 7-5 GPRS 1900 Channel Mid

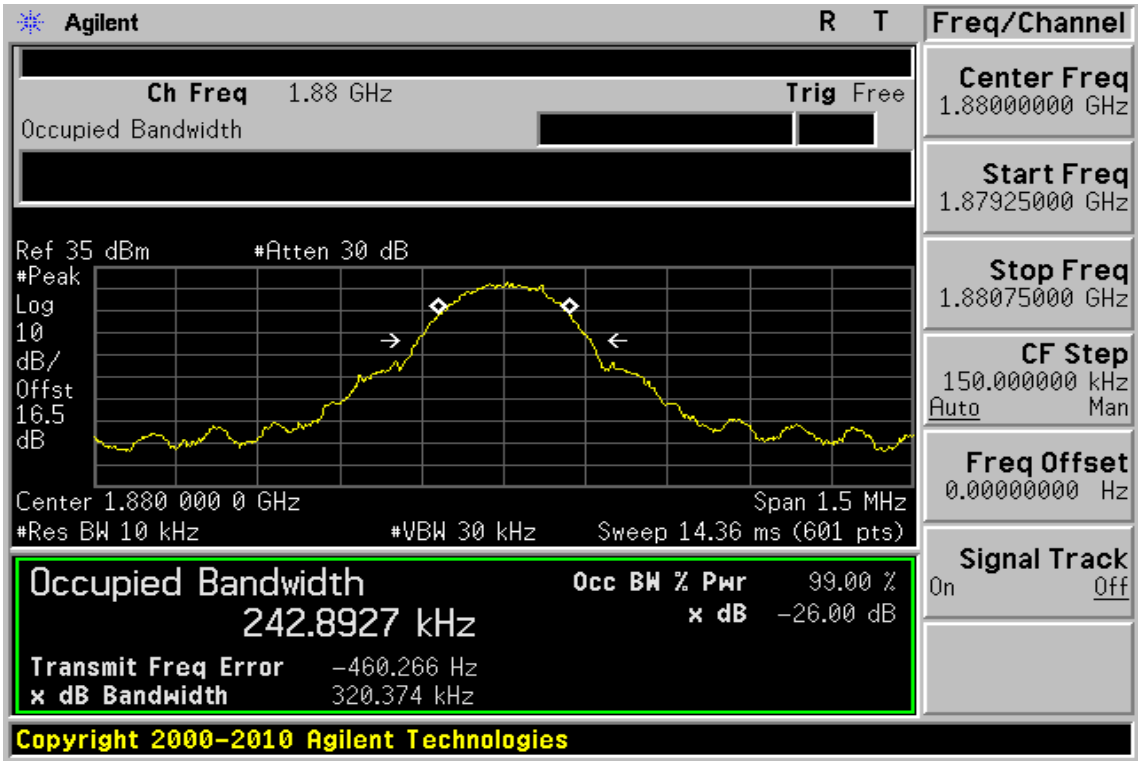


Figure 7-6: GPRS 1900 Channel High

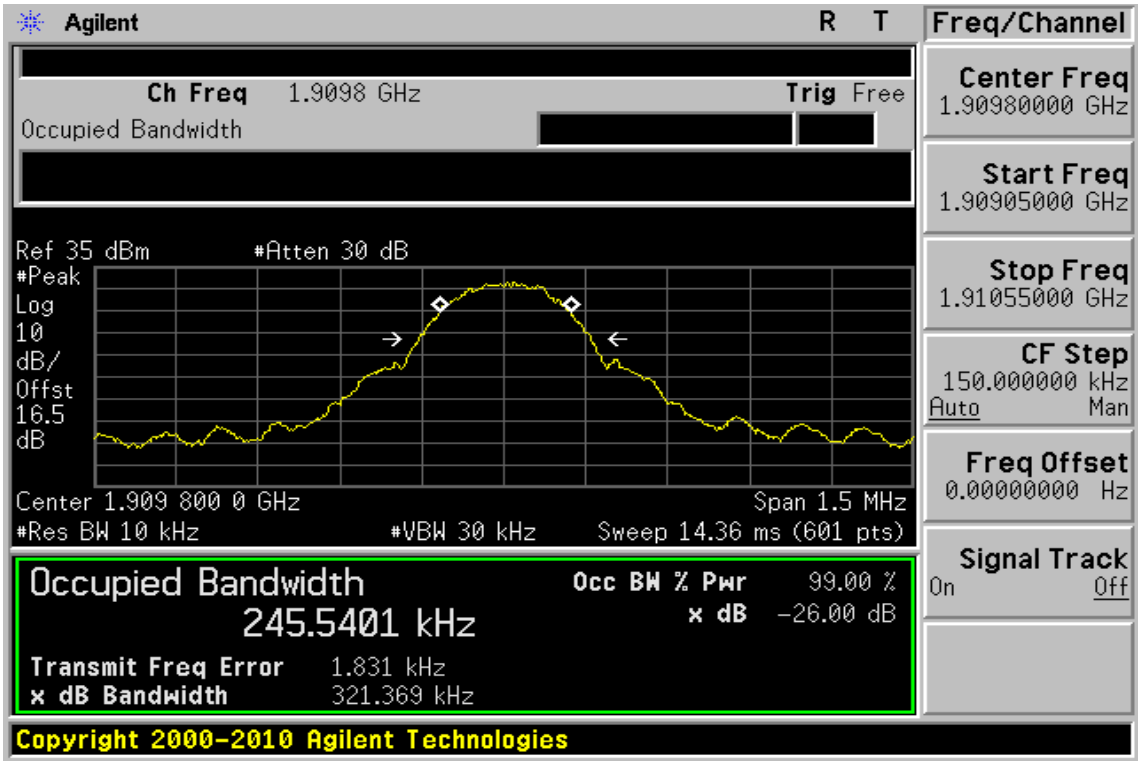


Figure 7-7: EDGE 850 Channel Low

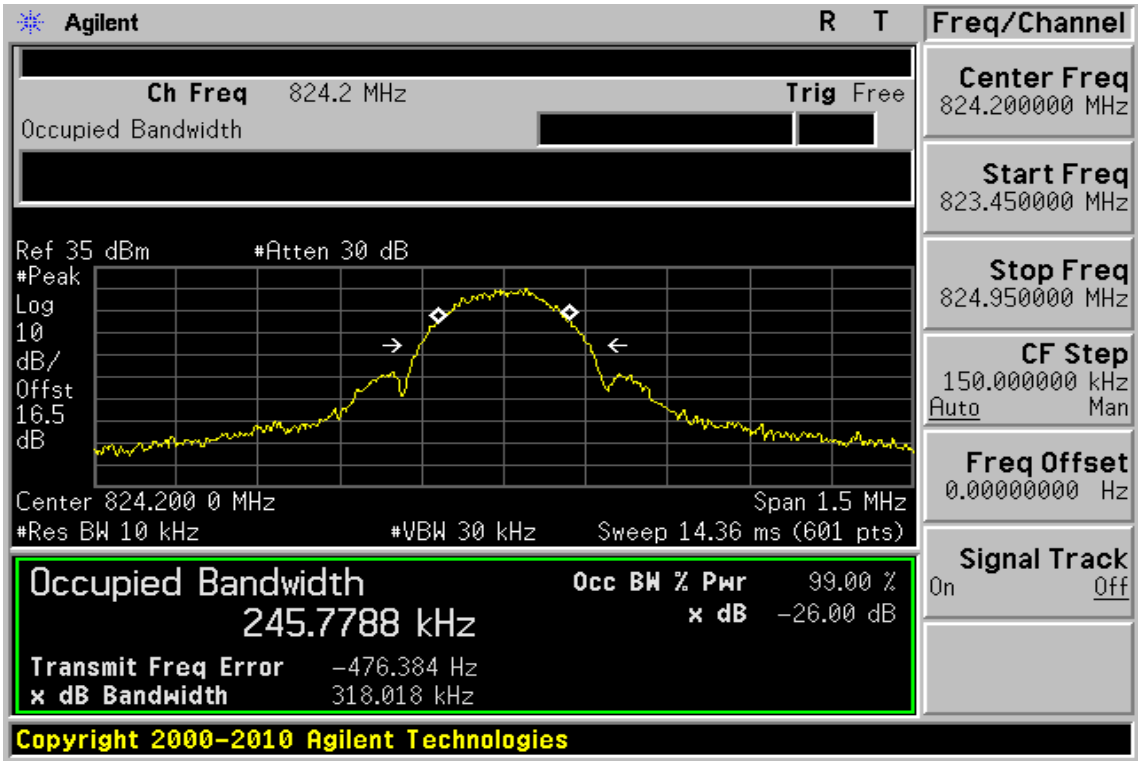


Figure 7-8 EDGE 850 Channel Mid

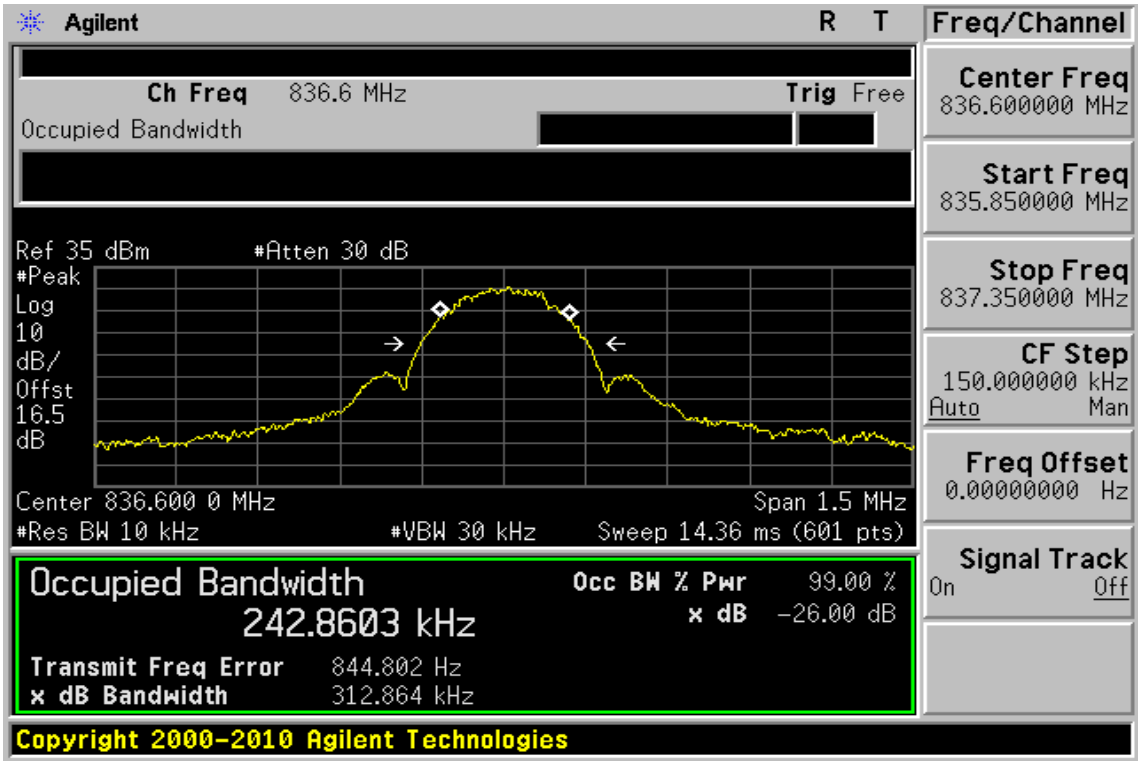


Figure 7-9: EDGE 850 Channel High

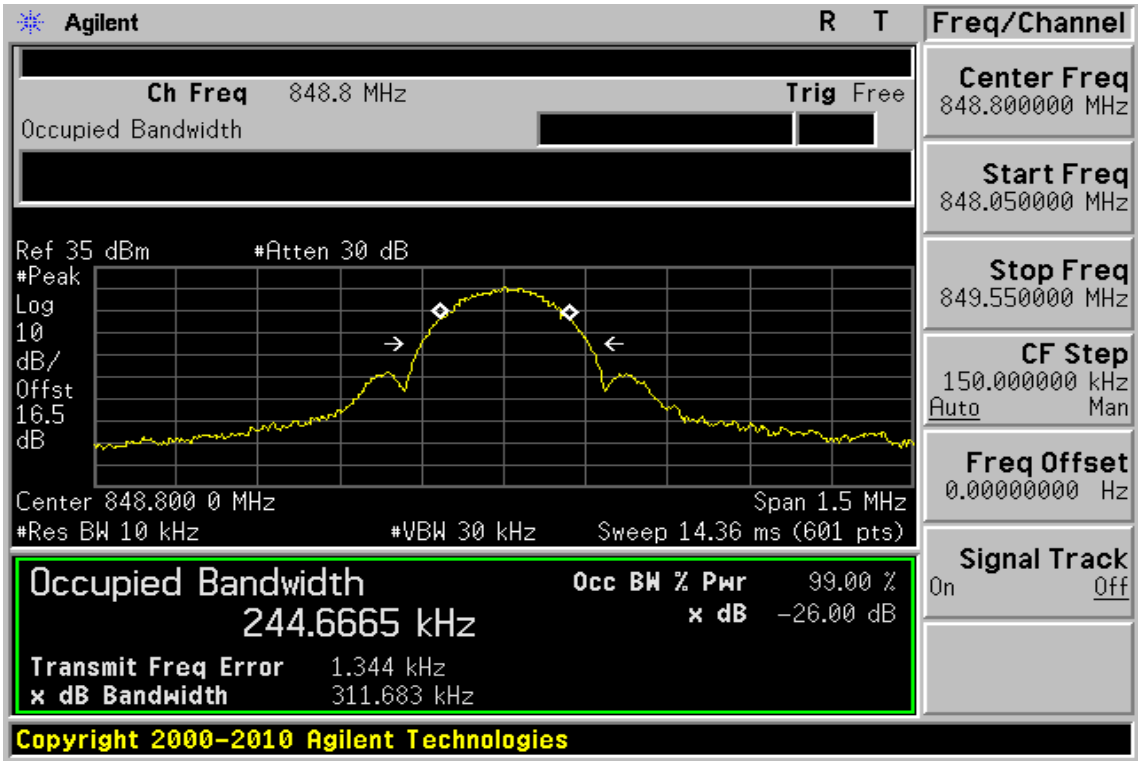


Figure 7-10: EDGE 1900 Channel Low

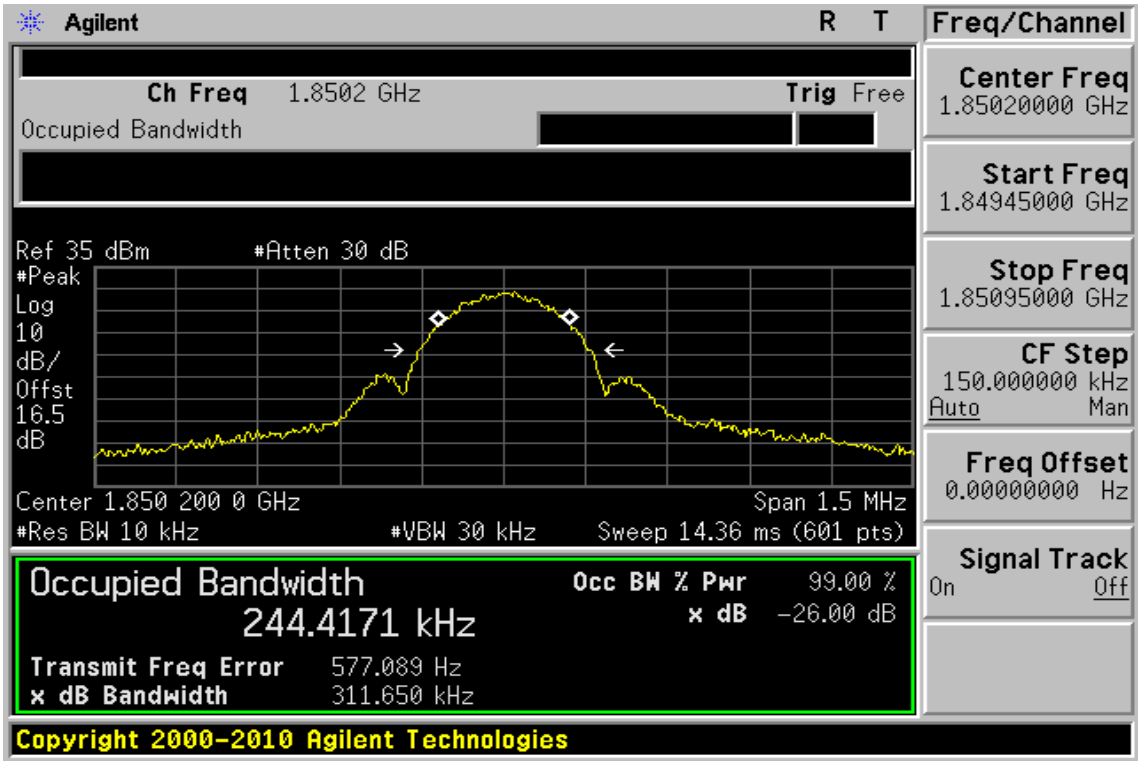


Figure 7-11 EDGE 1900 Channel Mid

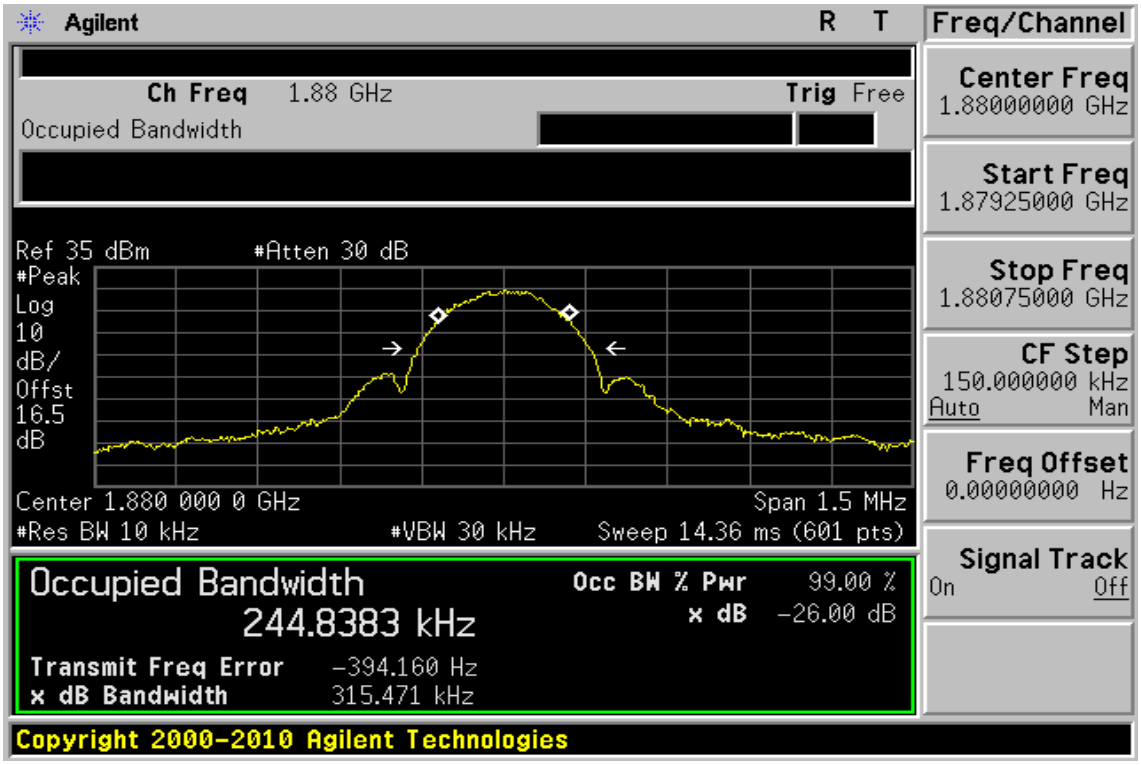


Figure 7-12: EDGE 1900 Channel High

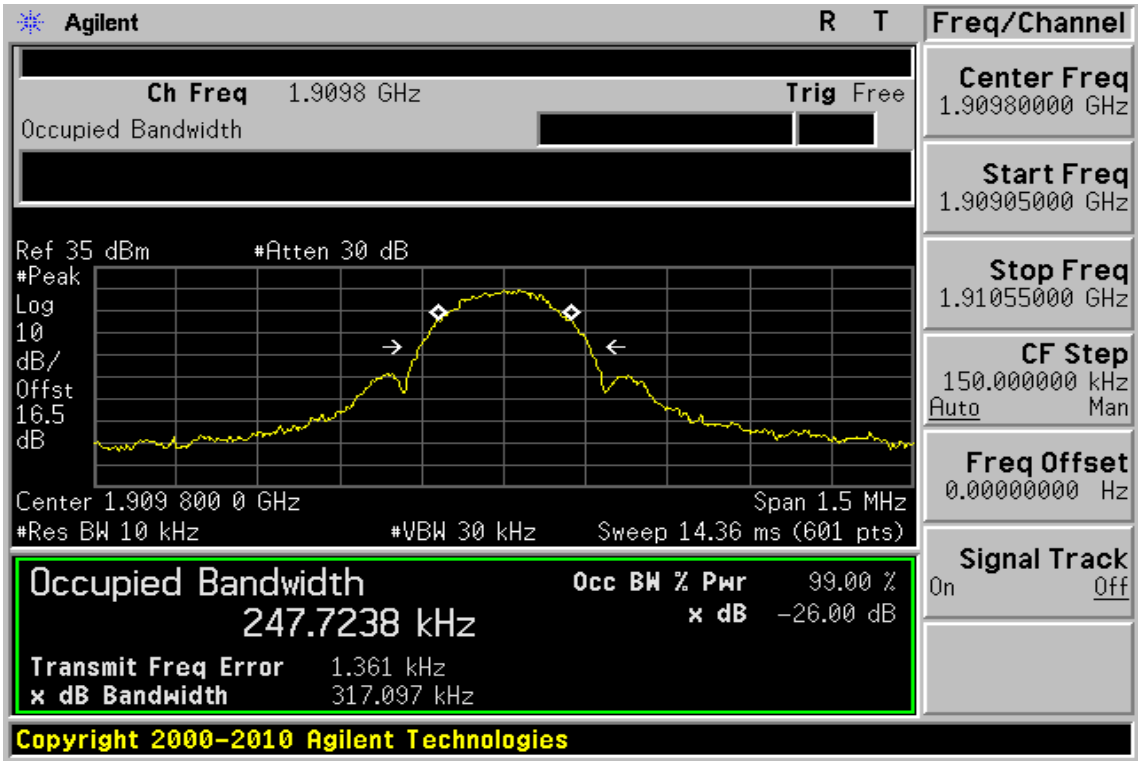


Figure 7-13: WCDMA II Channel Low

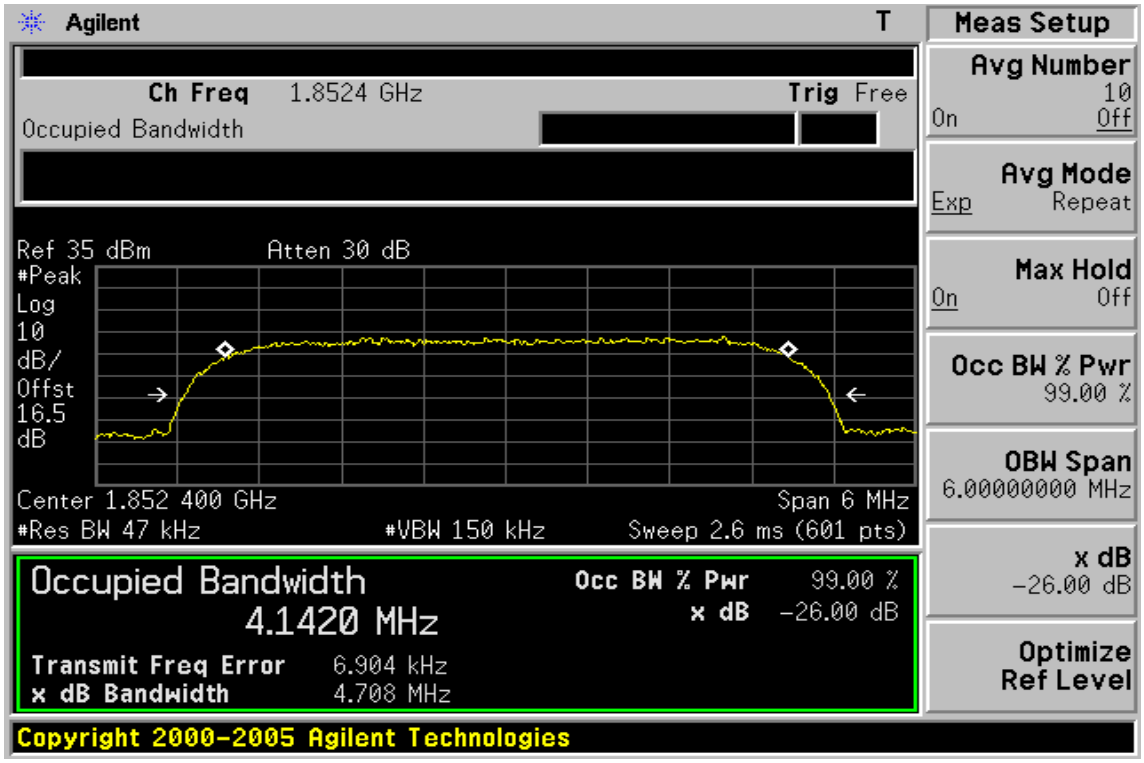


Figure 7-14 WCDMA II Channel Mid

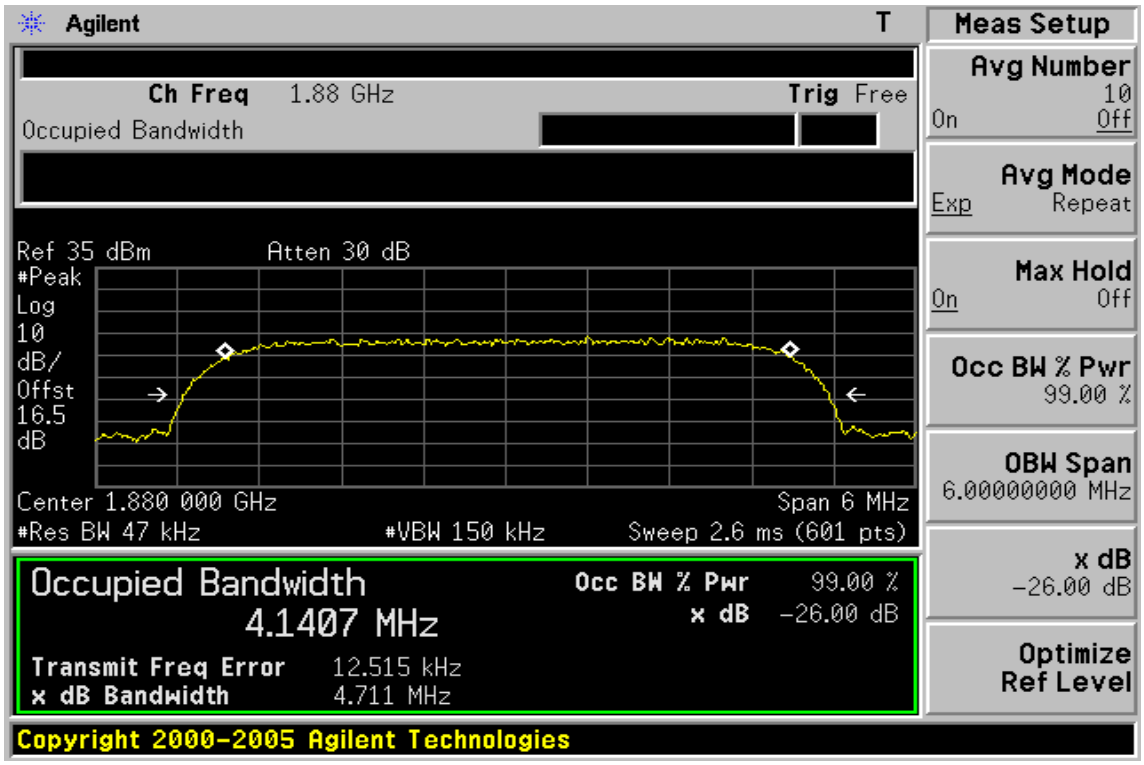


Figure 7-15: WCDMA II Channel High

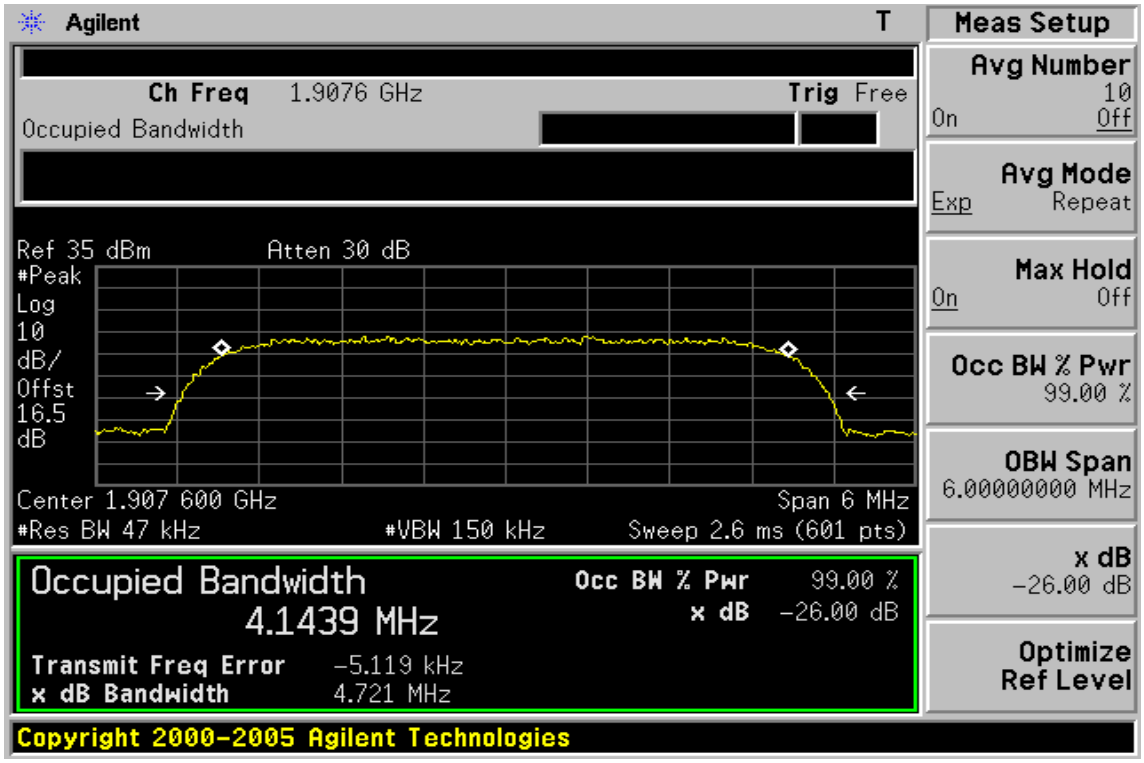


Figure 7-16: WCDMA V Channel Low

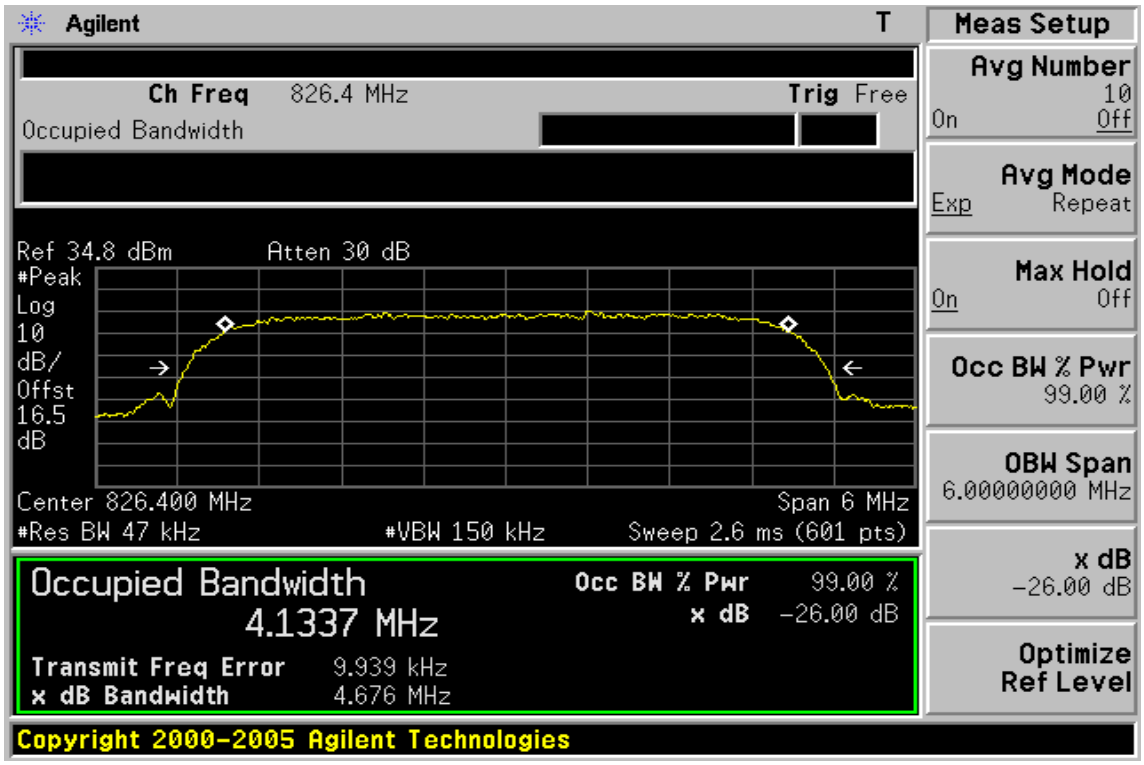


Figure 7-17 WCDMA V Channel Mid

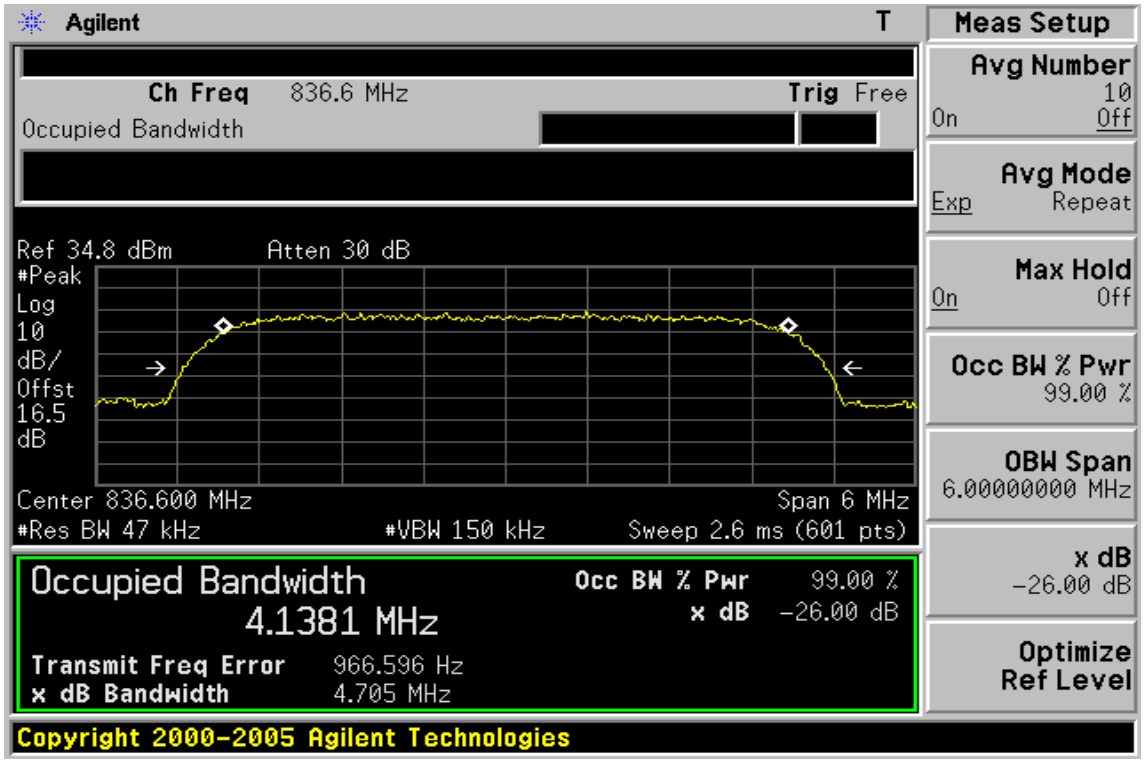


Figure 7-18: WCDMA V Channel High

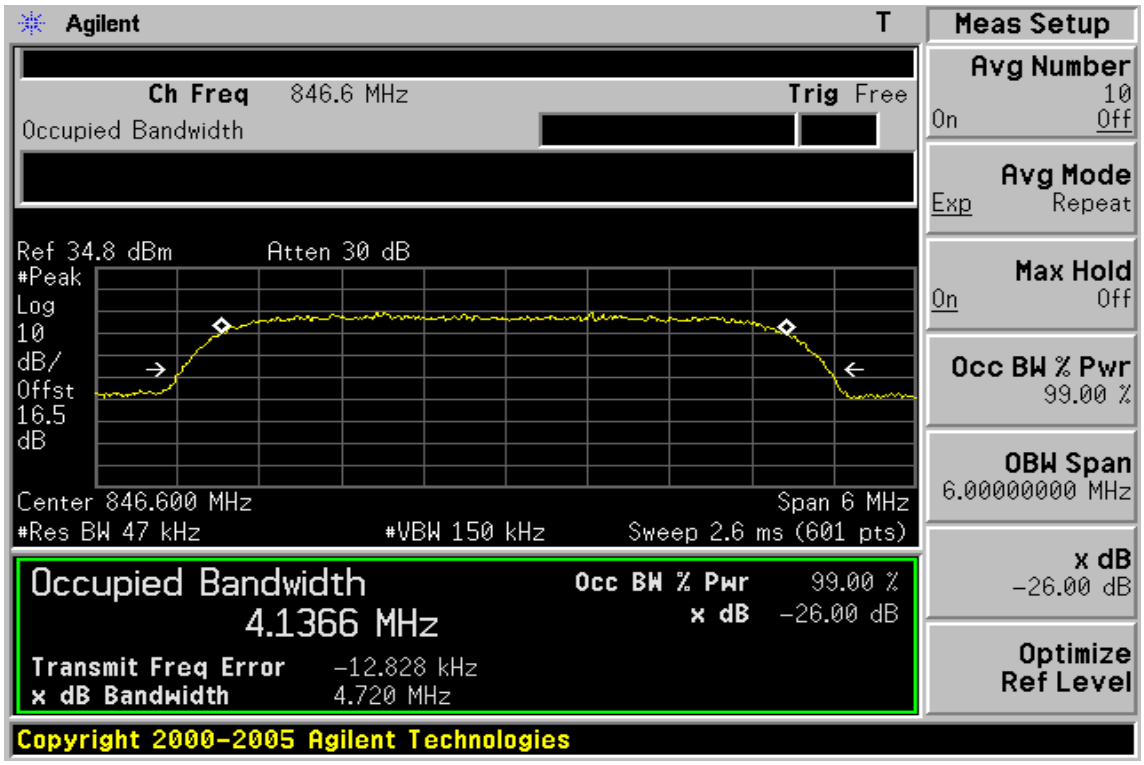


Figure 7-19: HSDPA II Channel Low

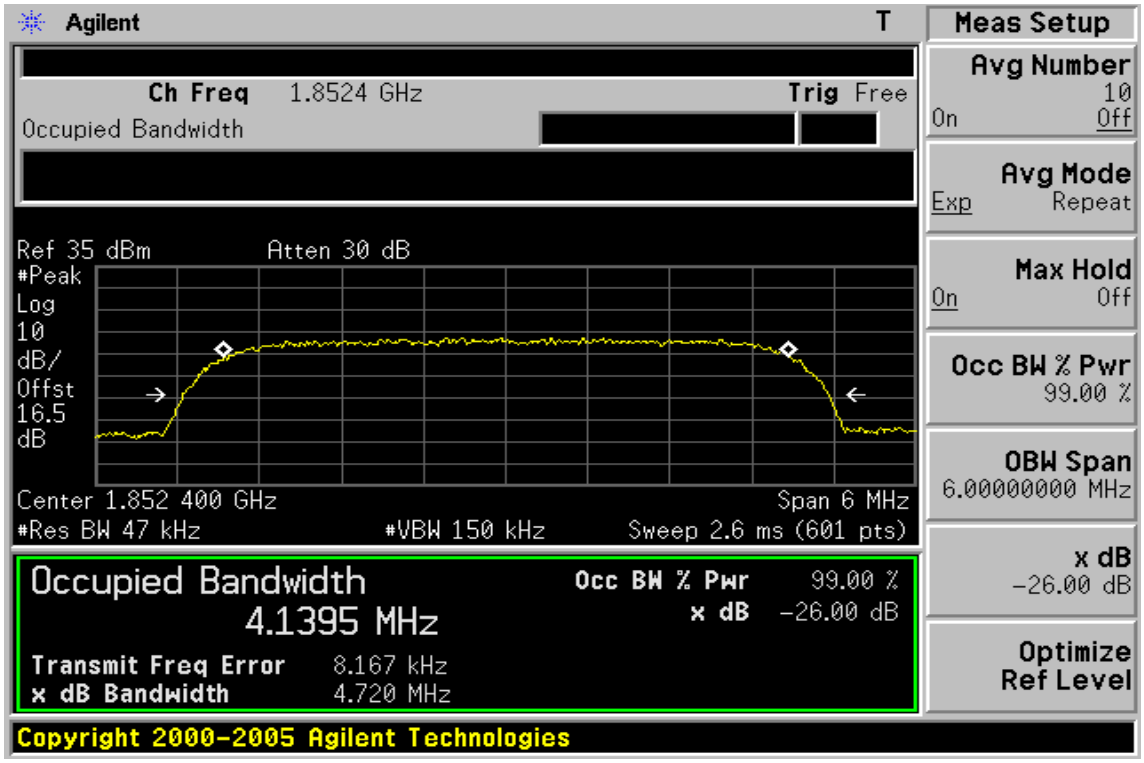


Figure 7-20 HSDPA II Channel Mid

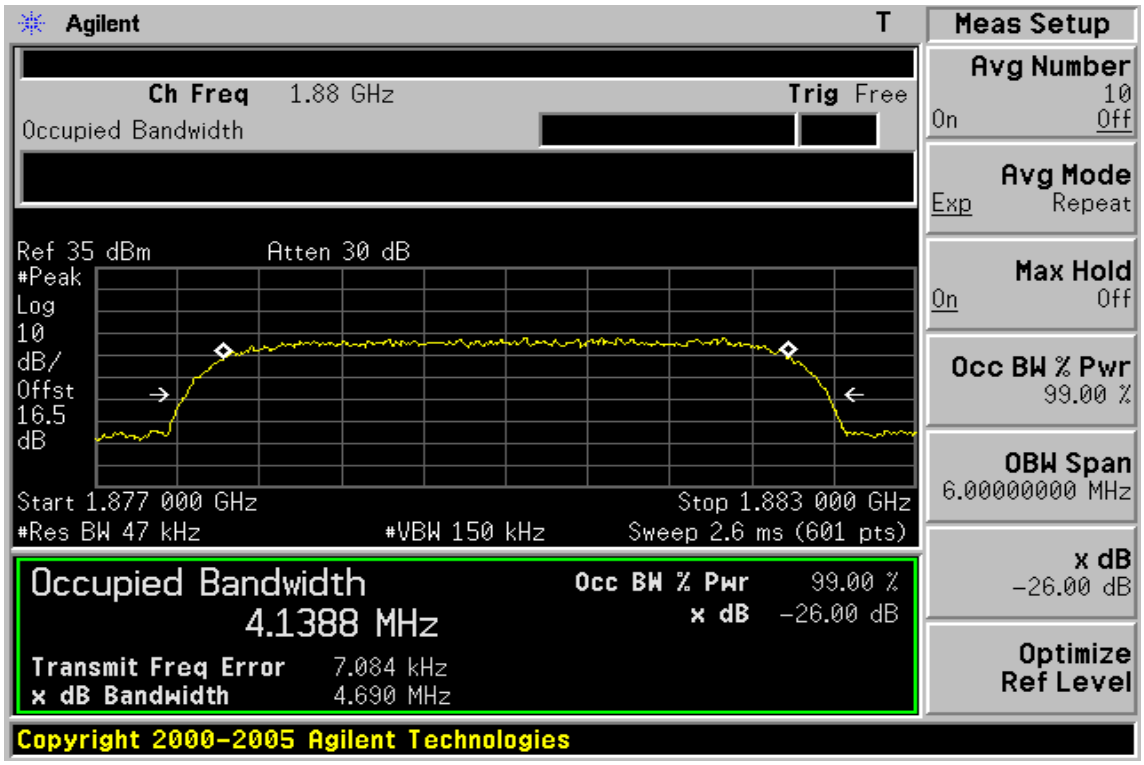


Figure 7-21: HSDPA II Channel High

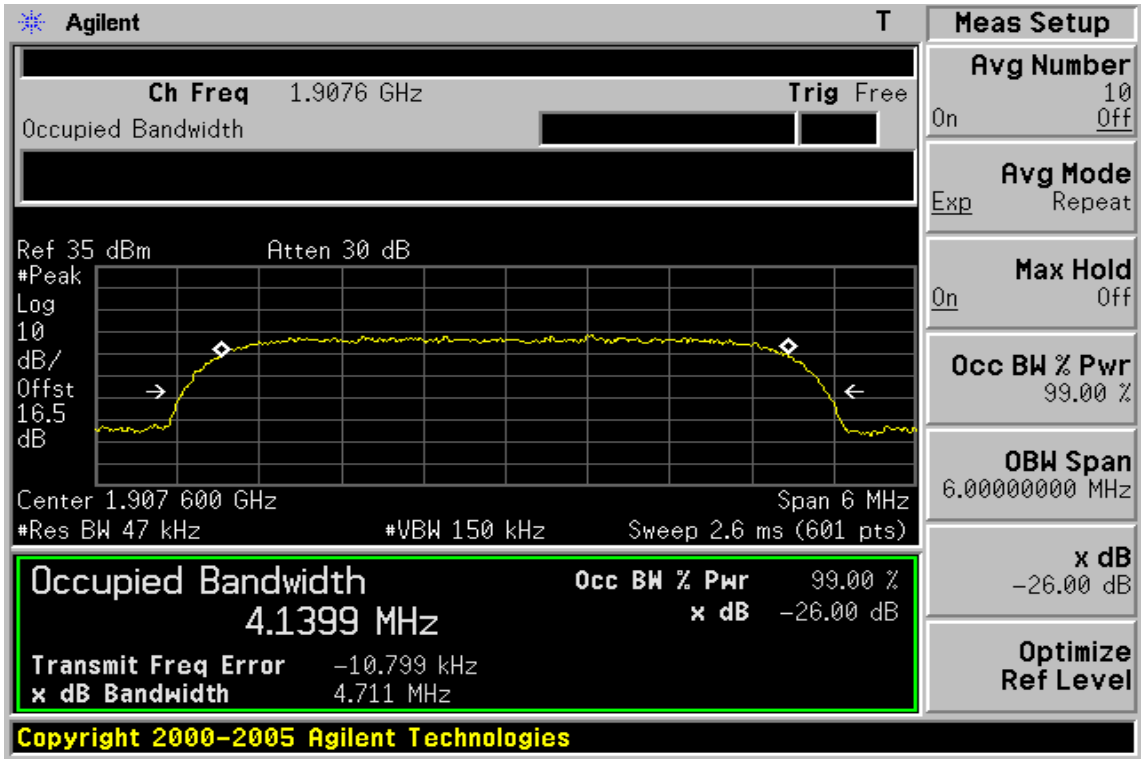


Figure 7-22: HSDPA V Channel Low

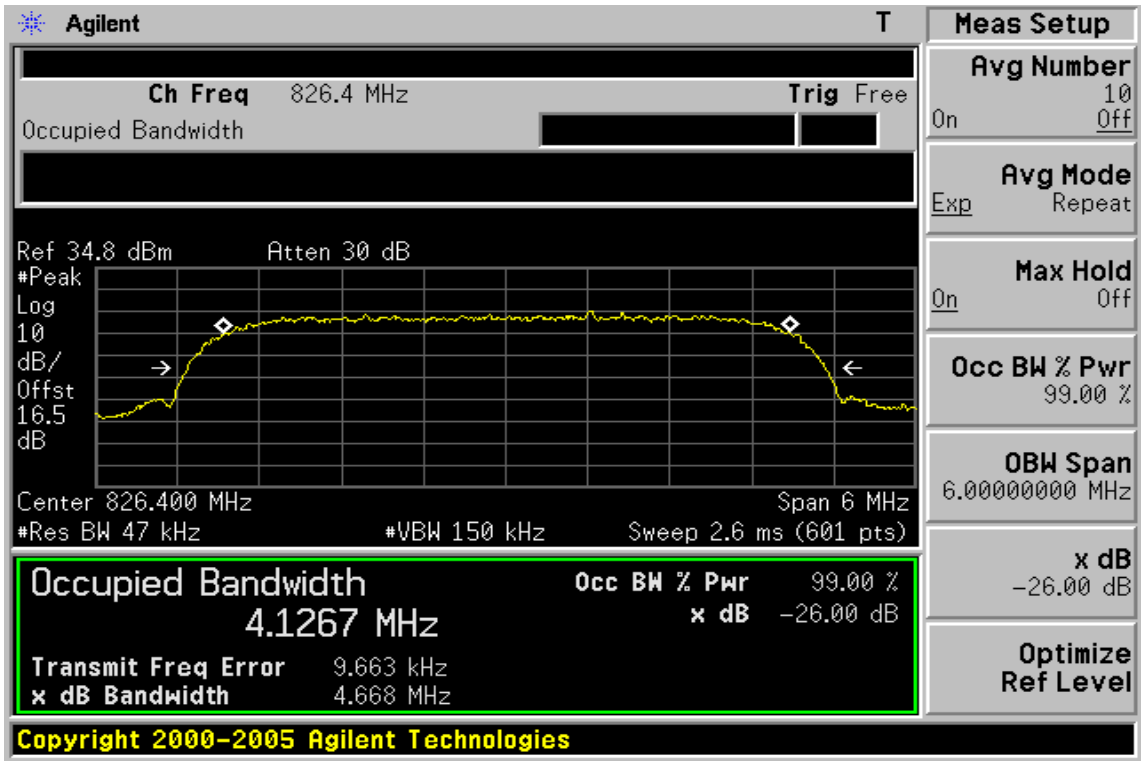


Figure 7-23 HSDPA V Channel Mid

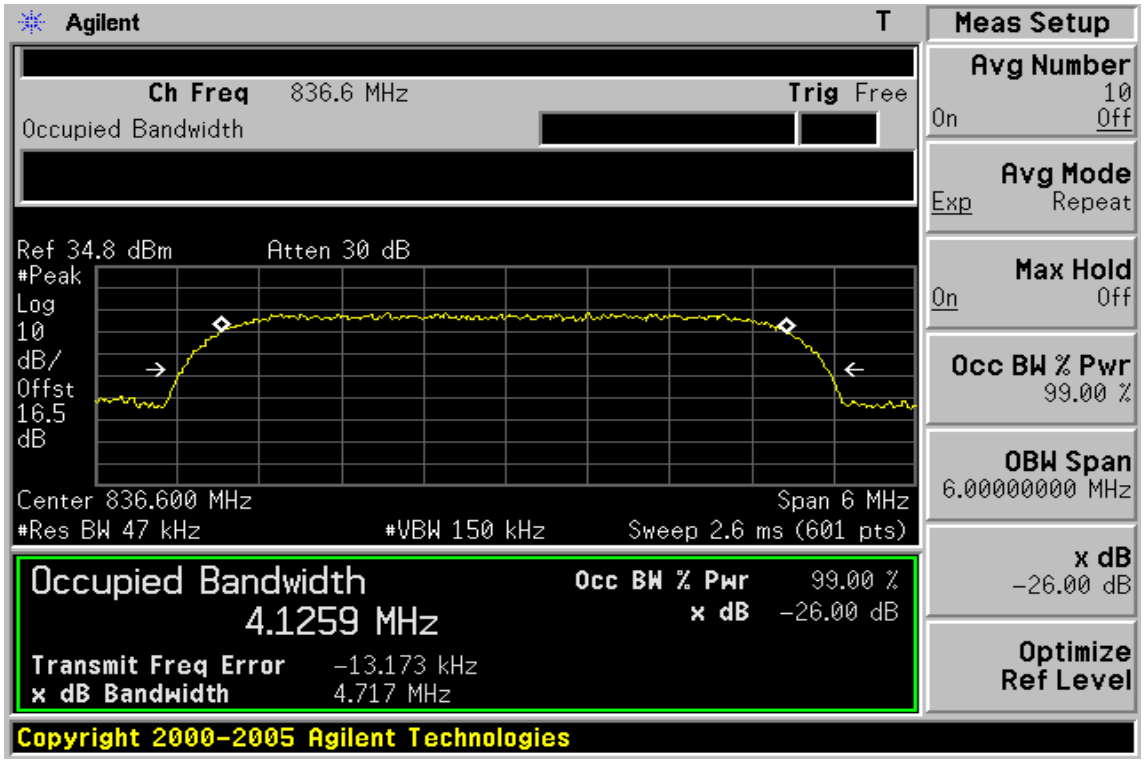
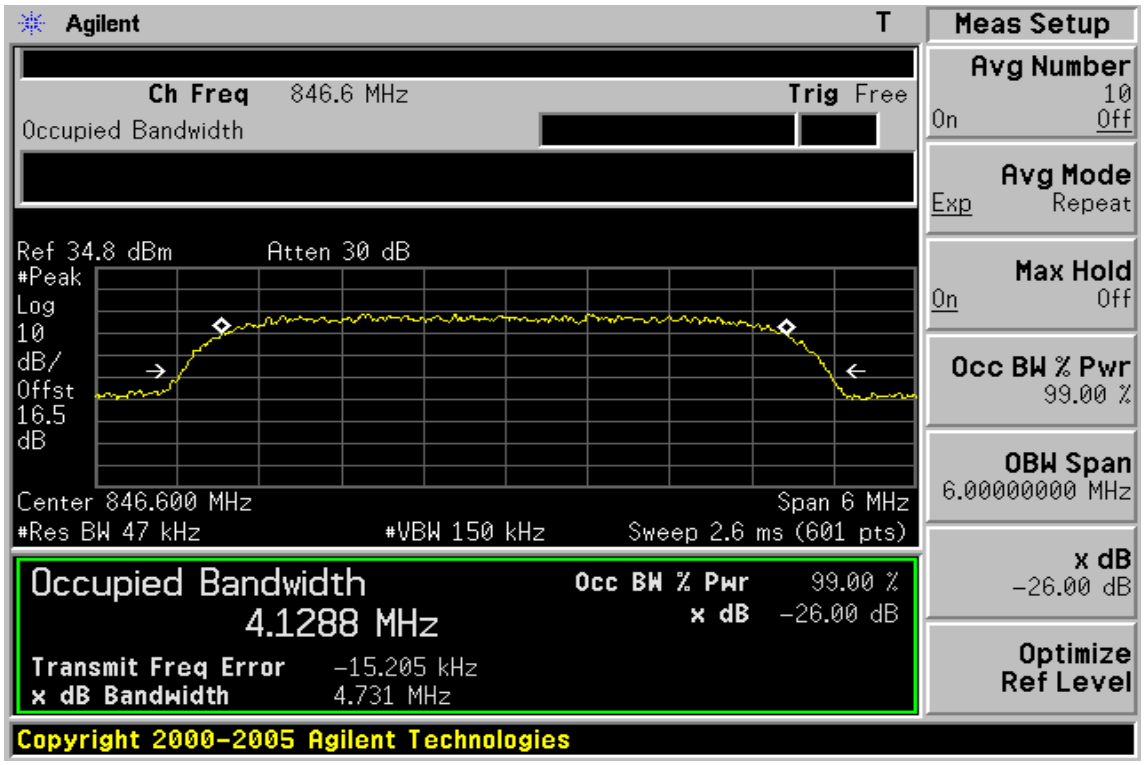


Figure 7-24: HSDPA V Channel High



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)

According to RSS-132 §4.5

4.5.1 Out-of-block Emissions

Mobile and base station equipment with emission bandwidth less than or equal to 4 MHz shall comply with 4.5.1.1. Mobile station equipment with emission bandwidth greater than 4 MHz shall comply with 4.5.1.2. Base station equipment with emission bandwidth greater than 4 MHz shall comply with either 4.5.1.2 or 4.5.1.3.

4.5.1.1 In the first 1.0 MHz band immediately outside and adjacent to the licensee's frequency block, the power of emissions per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (in watts) by at least 43 + 10 log (P), dB. After the first 1.0 MHz, the power of emissions shall be attenuated below the transmitter output power by at least

43 + 10 log (P), dB, in any 100 kHz bandwidth.

4.5.1.2 In the first 1.0 MHz band immediately outside and adjacent to the licensee's frequency block, the power of emissions per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (in watts) by at least 43 + 10 log (P), dB. After the first 1.0 MHz, the power of emissions shall be attenuated below the transmitter output power by at least

43 + 10 log (P), dB, in any 1 MHz bandwidth

According to RSS-133 §6.5

6.5.1 Out-of-Block Emissions

a. Mobile stations must comply with subsection i. below.

In the first 1.0MHz band immediately outside and adjacent to the licensee's frequency block. the power of emissions per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (in watts) by at least 43 + 10 log (P) dB.

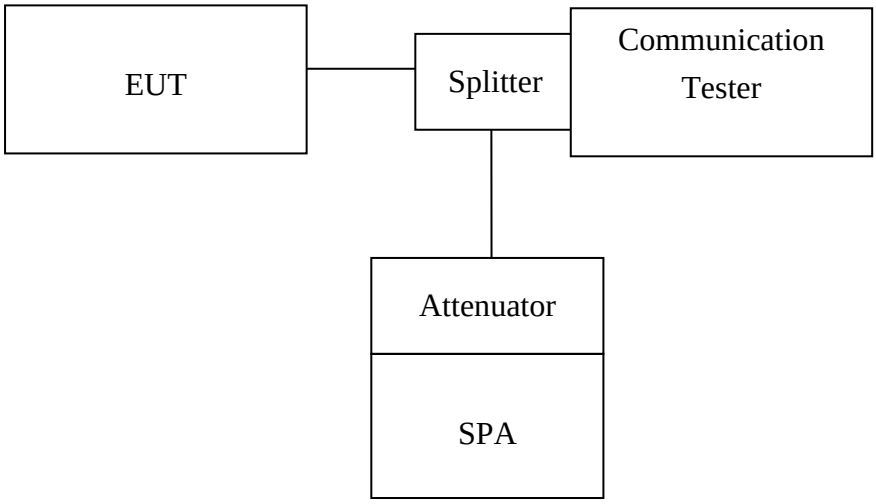
b. After the first 1.0 MHz (for equipment that complies with a.i. of this subsection) or 1.5 MHz (for equipment that complies with all of this subsection), the power of emissions shall be attenuated below the transmitter output power by at least 43 + 10 log (P), dB, per any MHz of bandwidth.

(Note: If the test result using 1% of the emission bandwidth is used, then power integration over 1.0 MHz is required; alternatively, the spectrum analyzer resolution and video bandwidths can be increased to 1.0 MHz for this measurement).

6.5.2 Out-of-Sub-band Emissions

Outside the sub-bands 1850-1910 MHz and 1930-1990 MHz, the attenuation shall be equal to or greater than the out-of-block emission limits in Section 6.5.1.

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

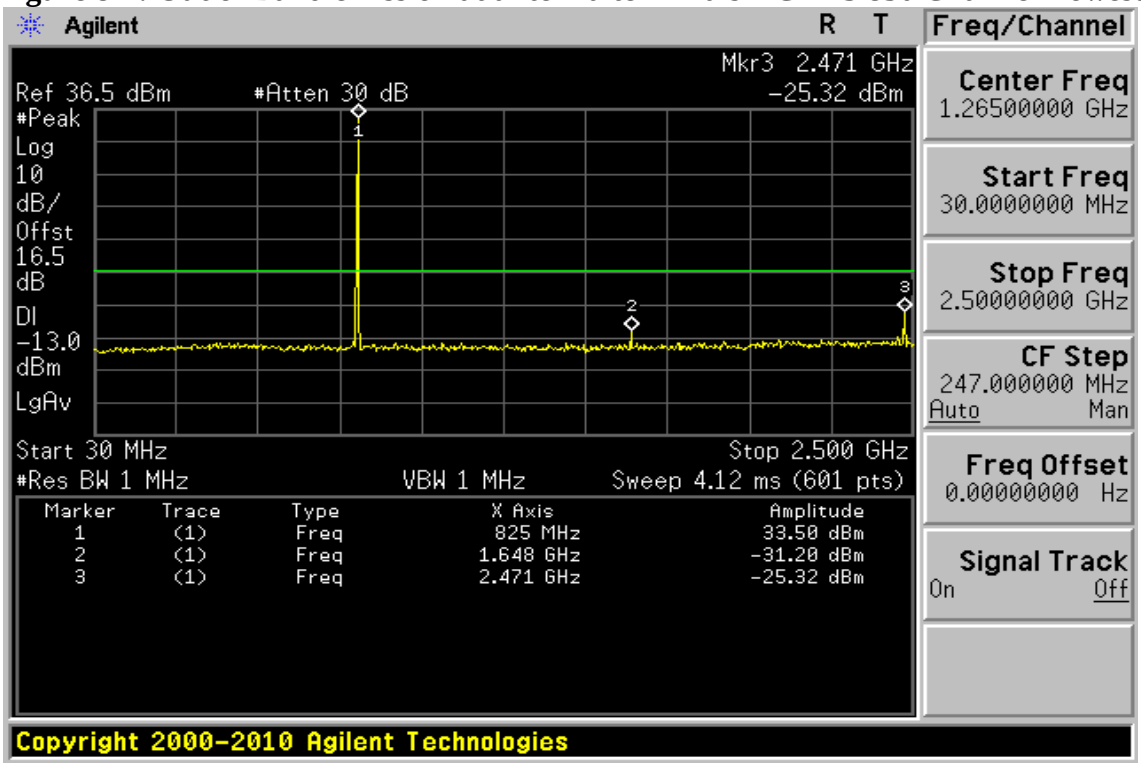
Band Edge Requirements: In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the out of band Emissions. Limit, -13dBm.

8.4. Measurement Equipment Used:

Refer to section 2.4 in this report

8.5. Measurement Result:

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



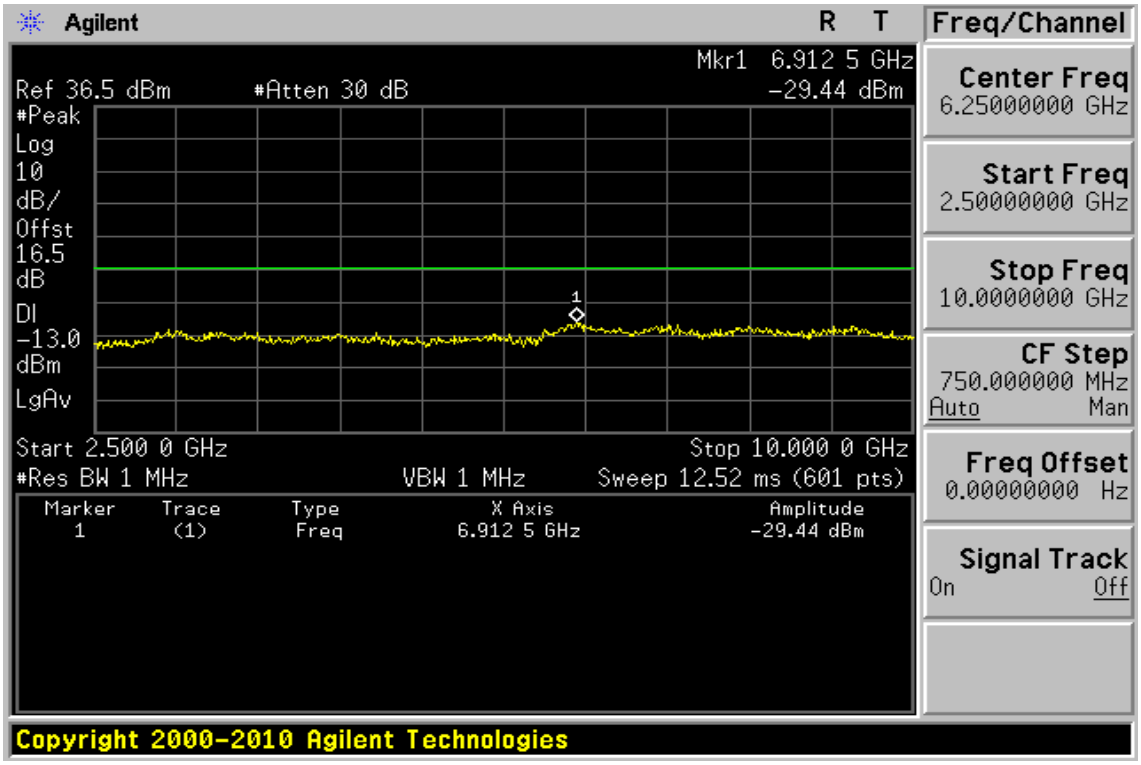
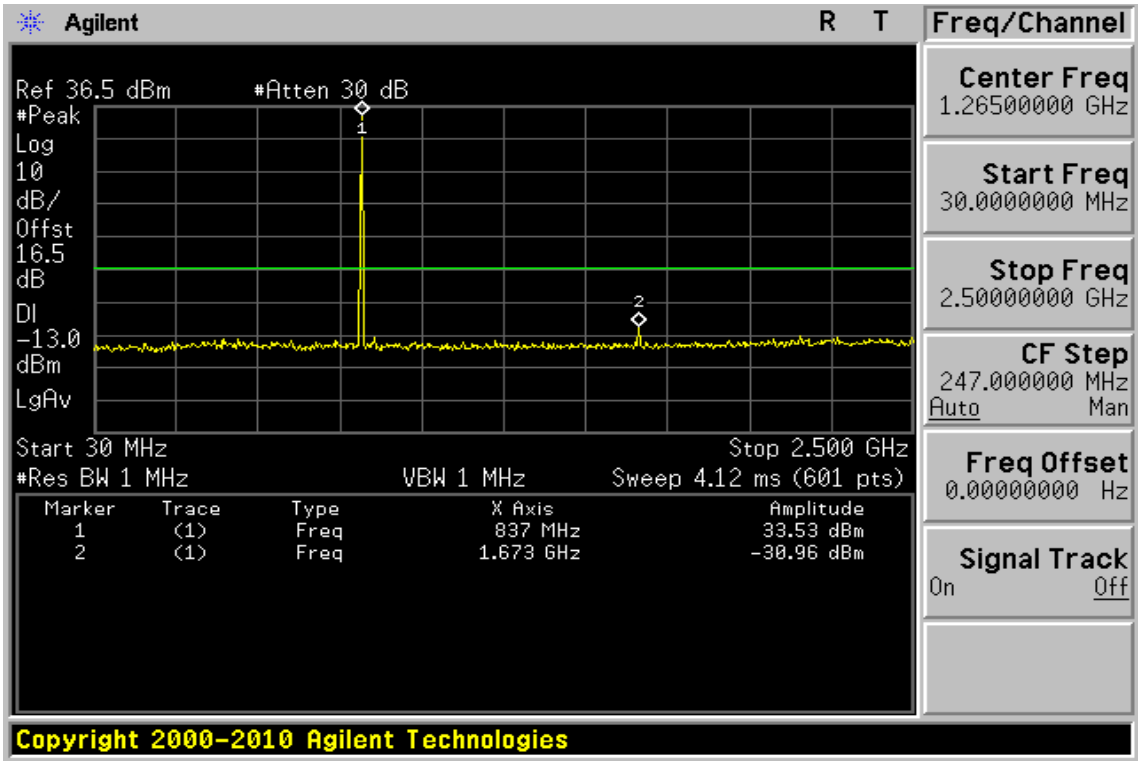


Figure 8-2: Out of Band emission at antenna terminals – GPRS 850 Channel Mid



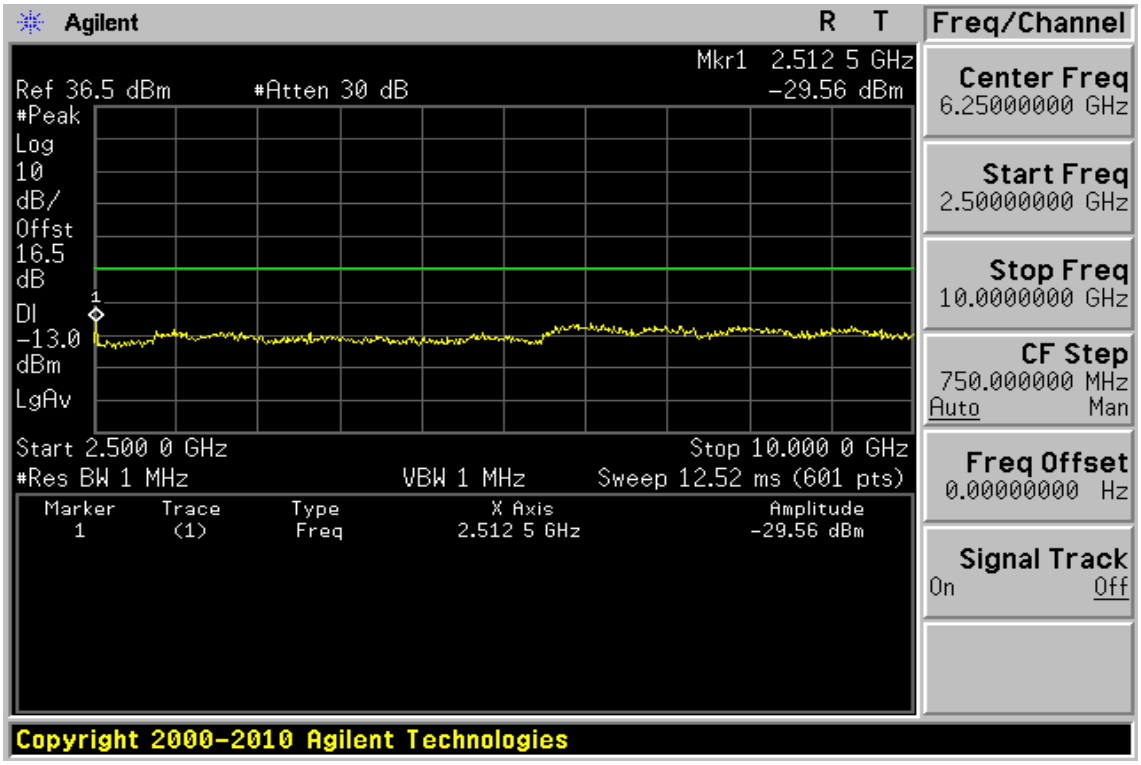
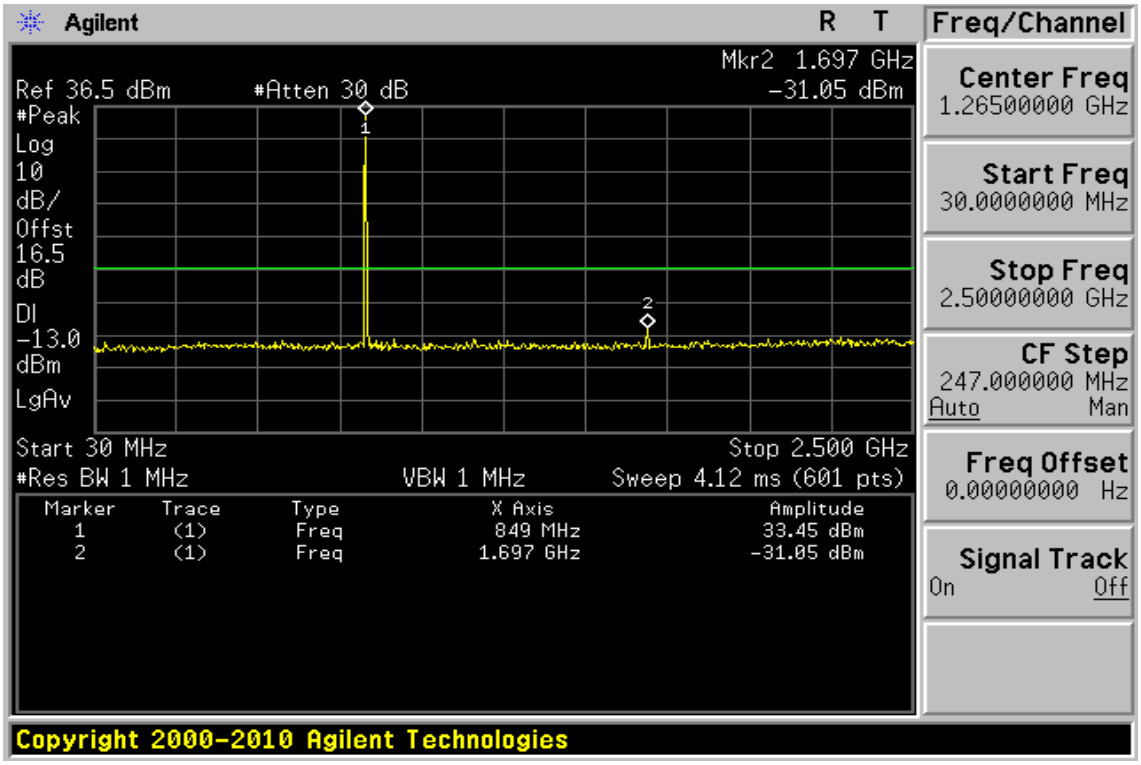


Figure 8-3: Out of Band emission at antenna terminals – GPRS 850 Channel Highest



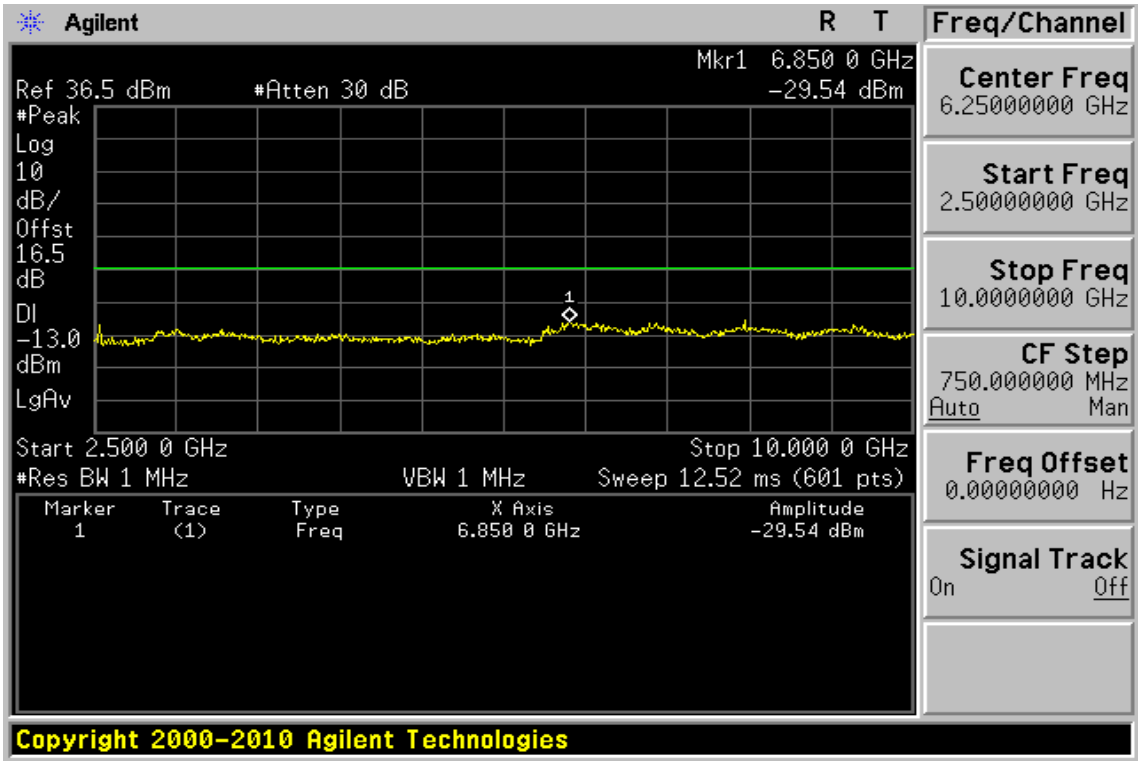


Figure 8-4: Band edge emission at antenna terminals – GPRS 850 Channel Lowest

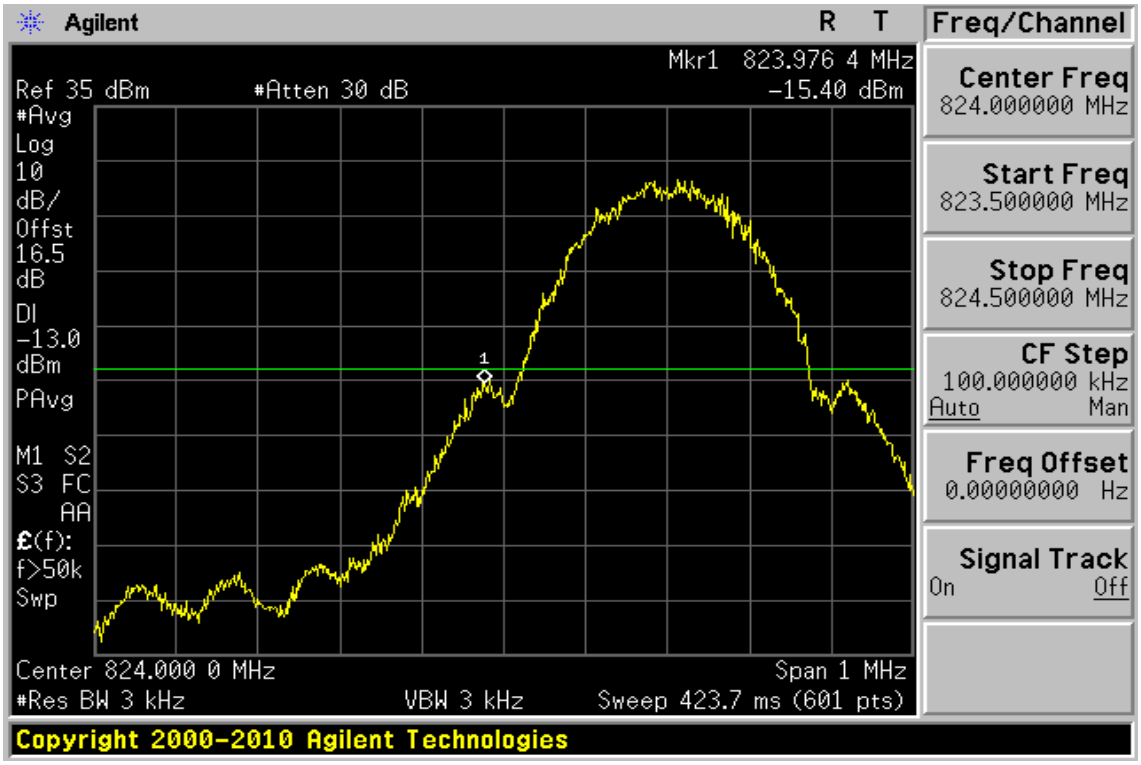


Figure 8-5: Band edge emission at antenna terminals – GPRS 850 Channel Highest

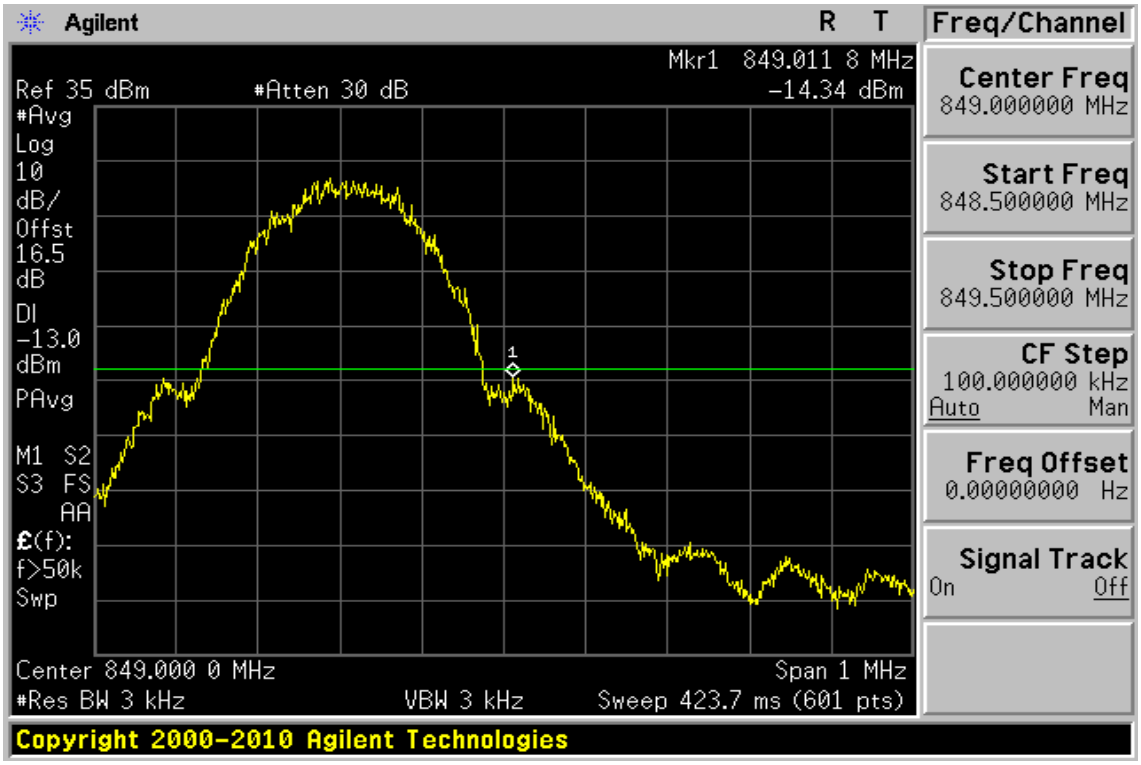
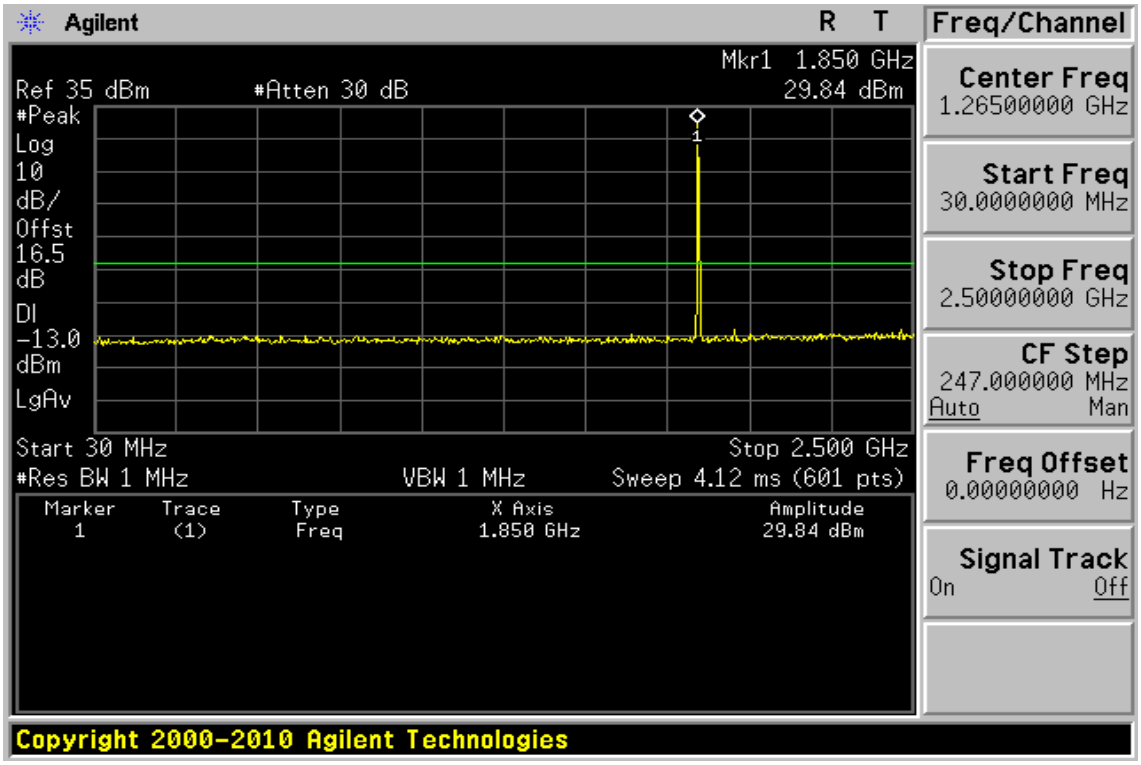


Figure 8-6: Out of Band emission at antenna terminals – GPRS 1900 Channel Lowest



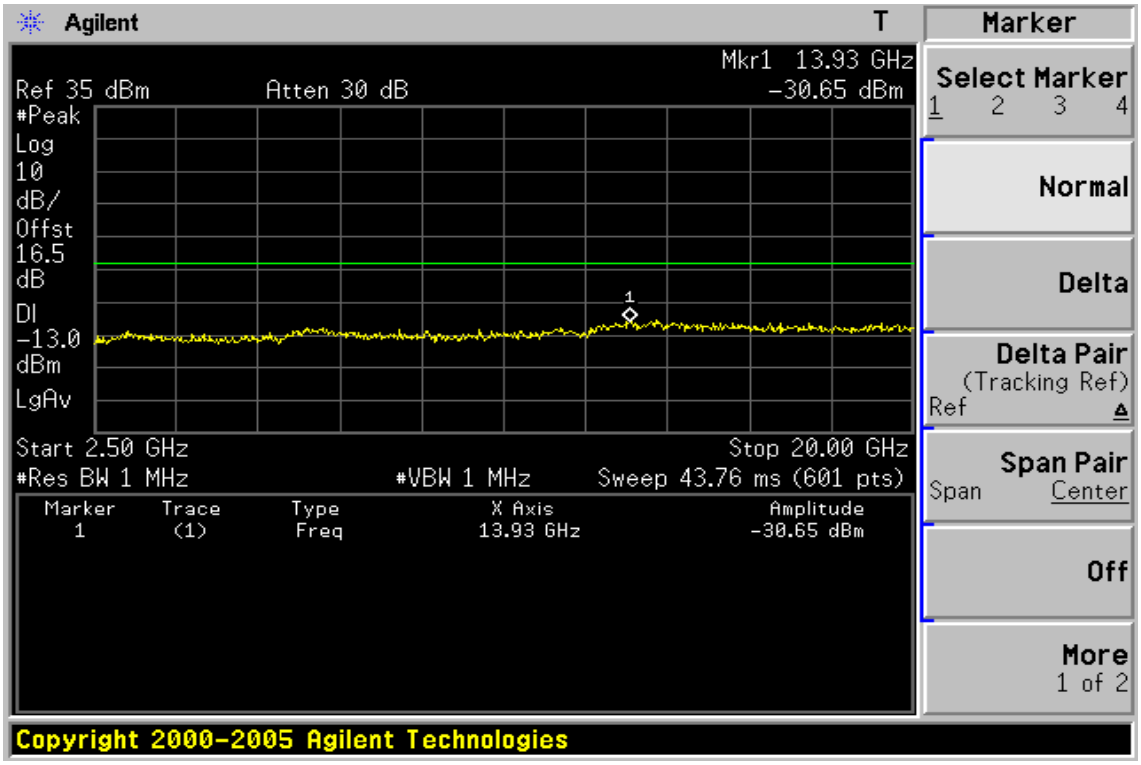
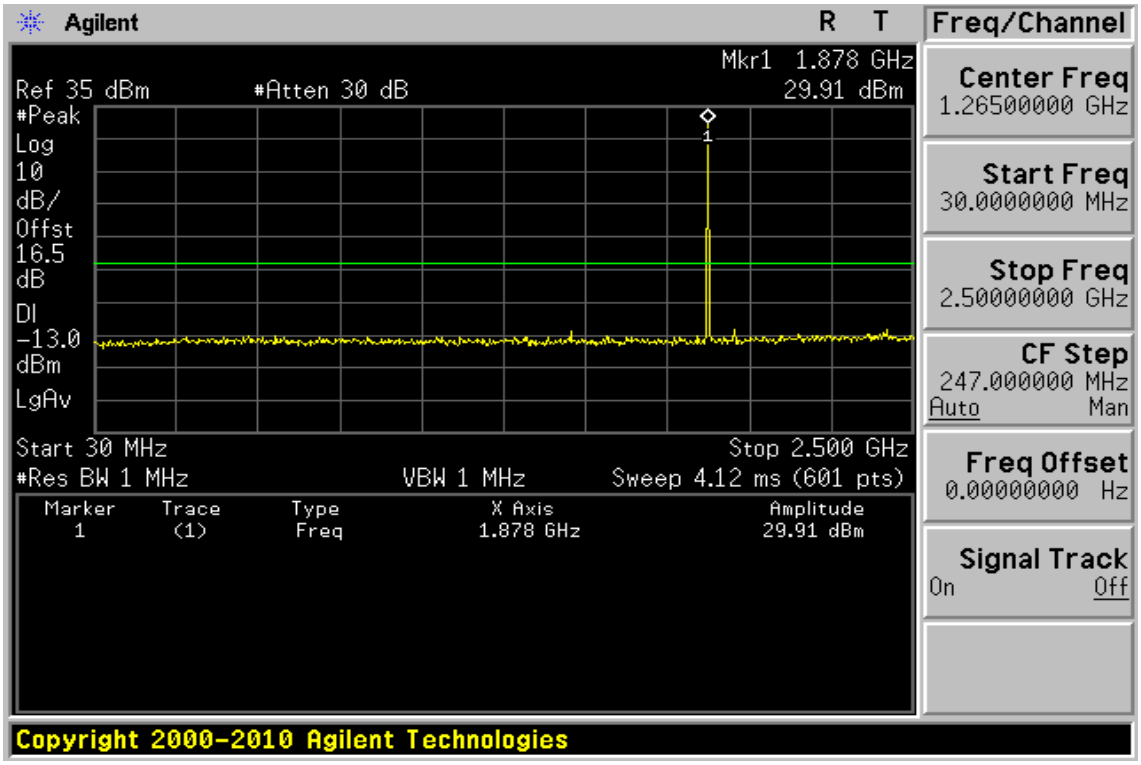


Figure 8-7: Out of Band emission at antenna terminals – GPRS 1900 Channel Mid



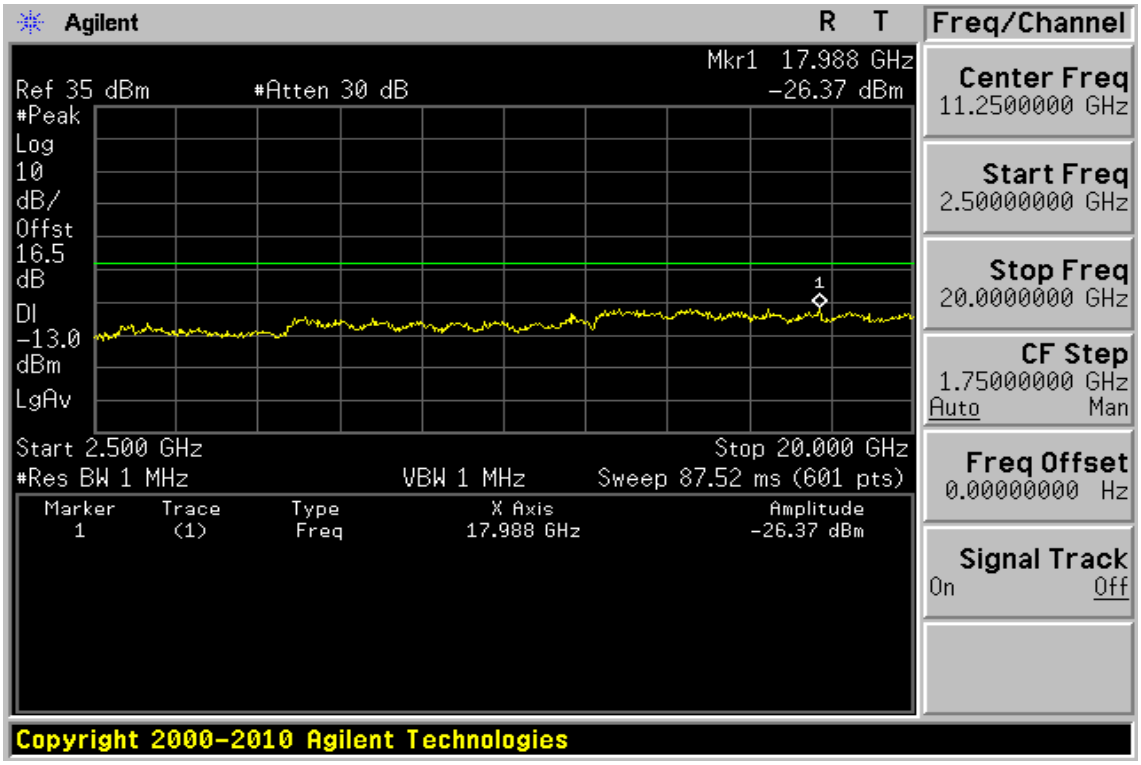
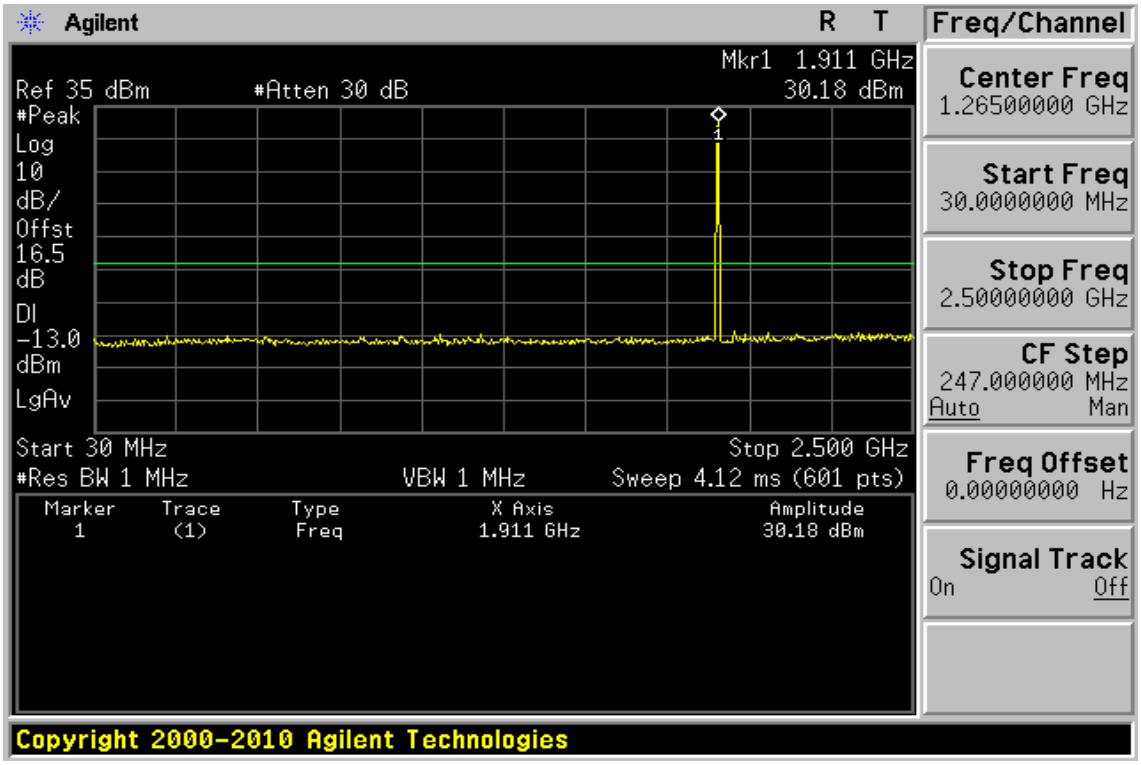


Figure 8-8: Out of Band emission at antenna terminals – GPRS 1900 Channel Highest



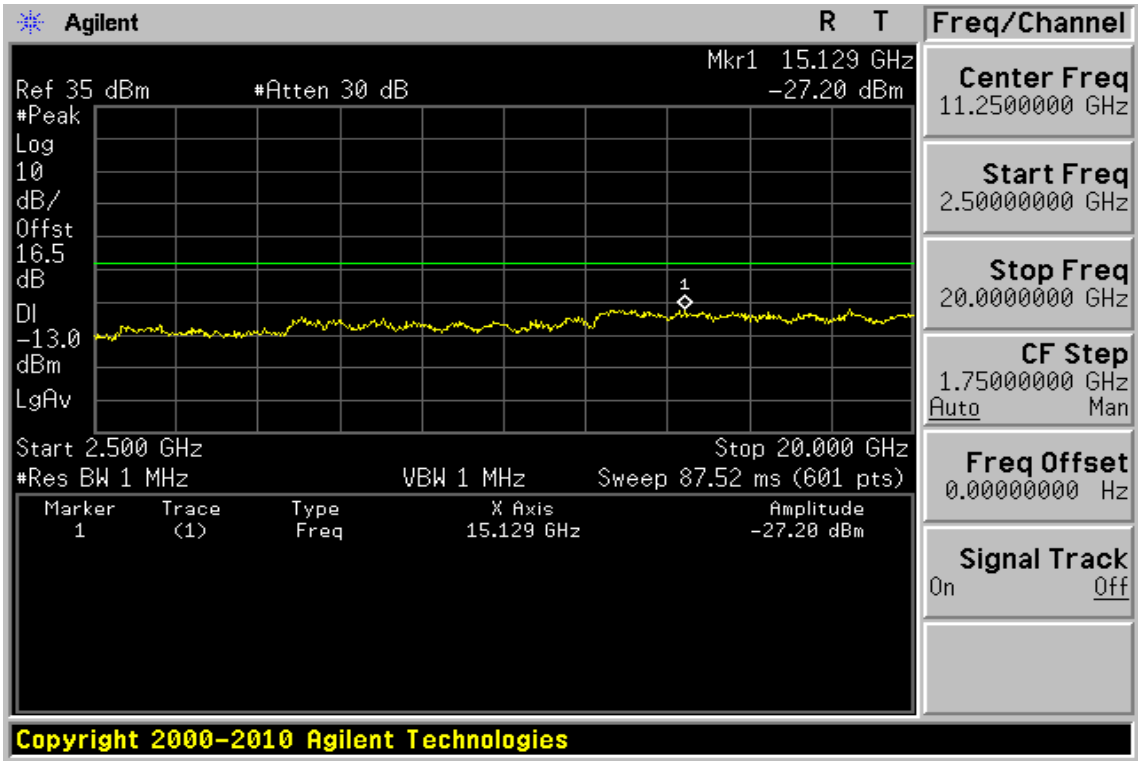


Figure 8-9: Band edge emission at antenna terminals – GPRS 1900 Channel Lowest

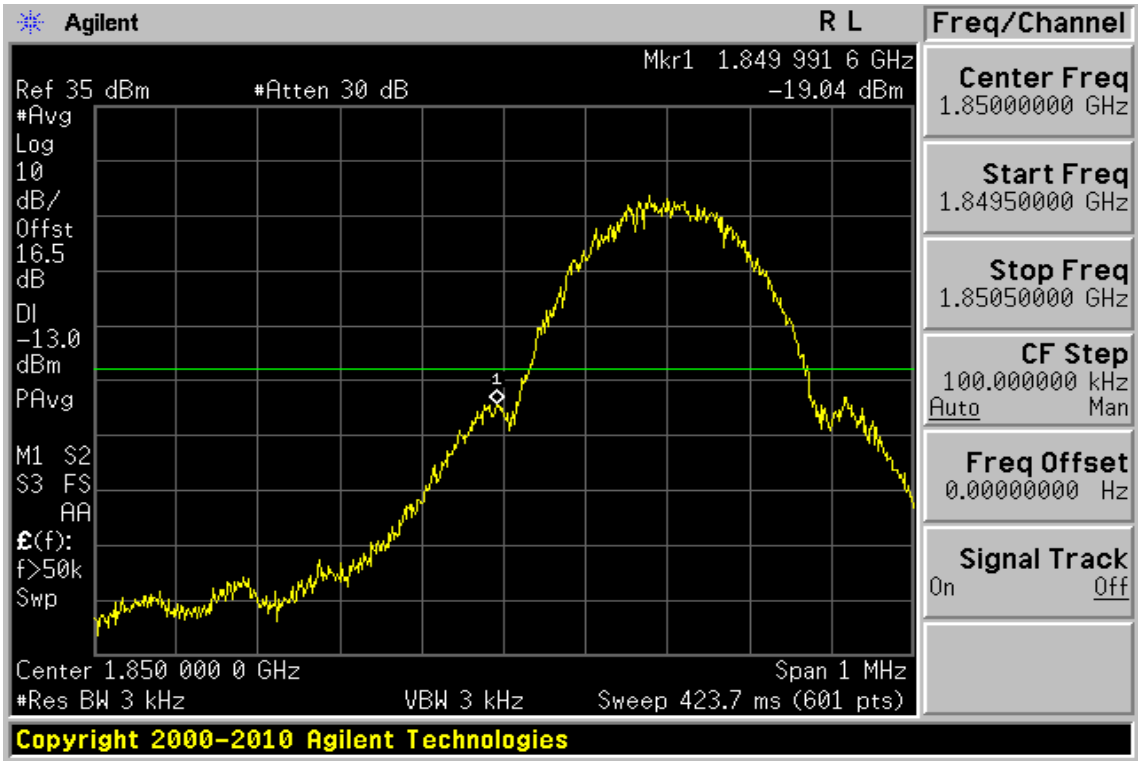


Figure 8-10: Band edge emission at antenna terminals – GPRS 1900 Channel Highest

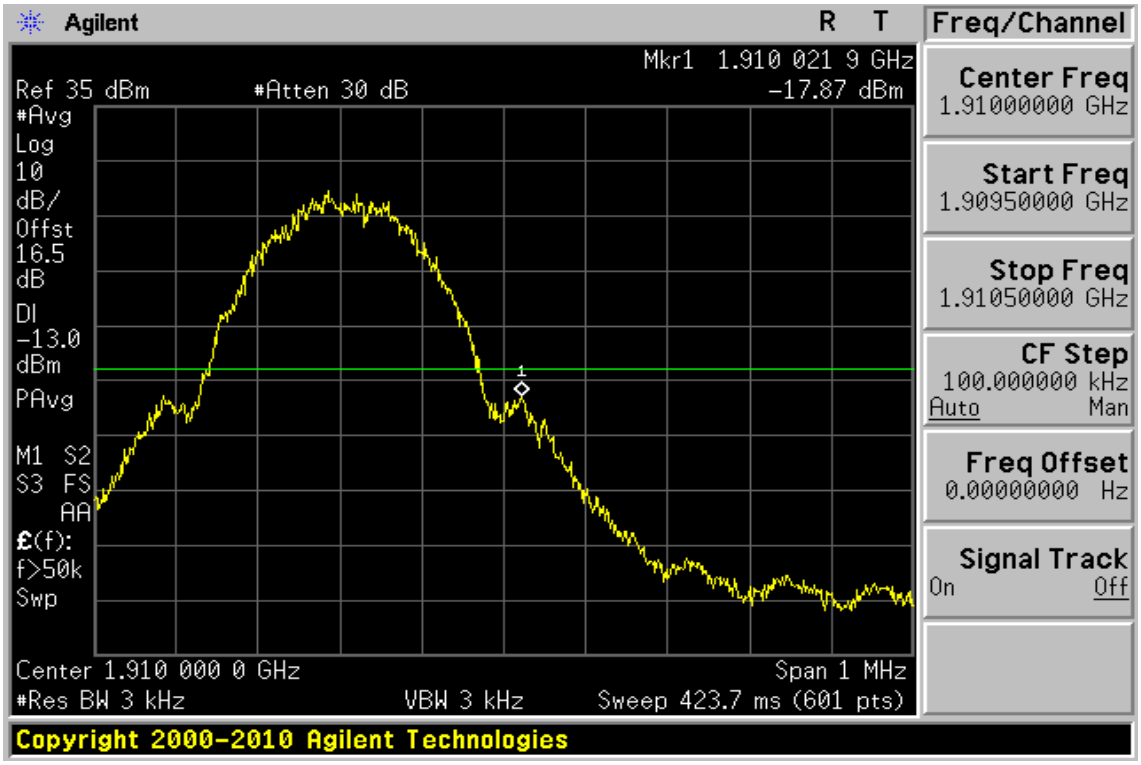
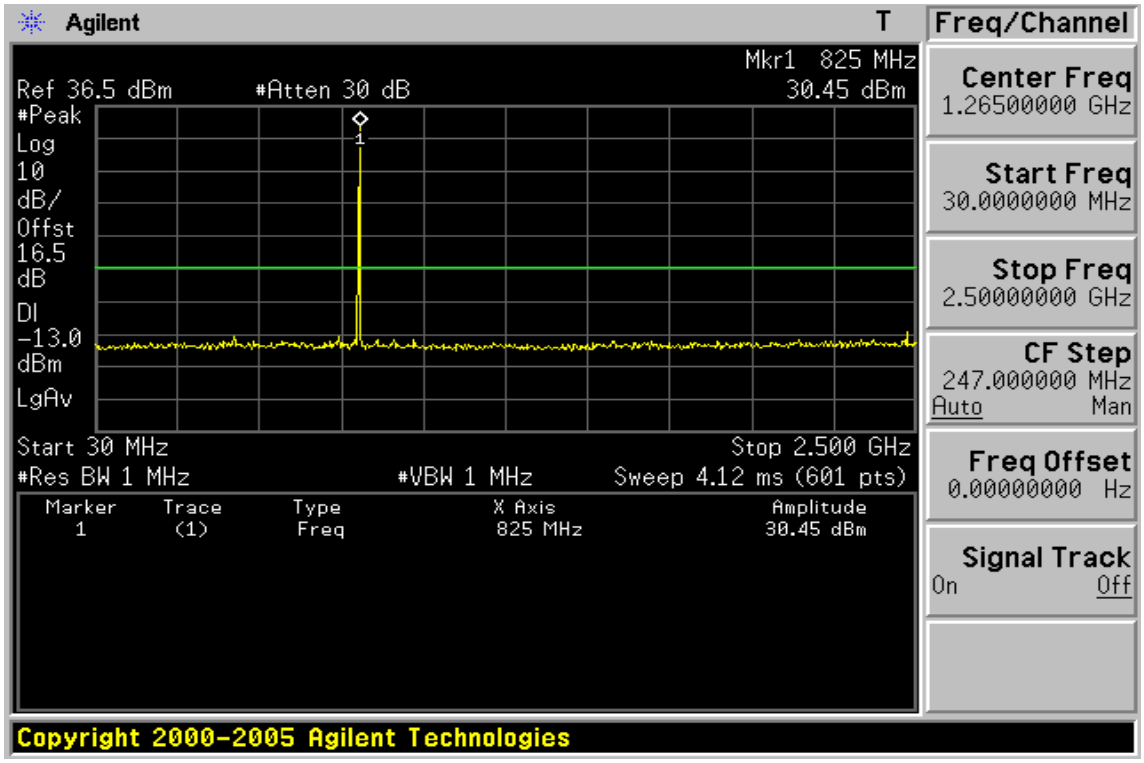


Figure 8-11: Out of Band emission at antenna terminals – EDGE 850 Channel Lowest



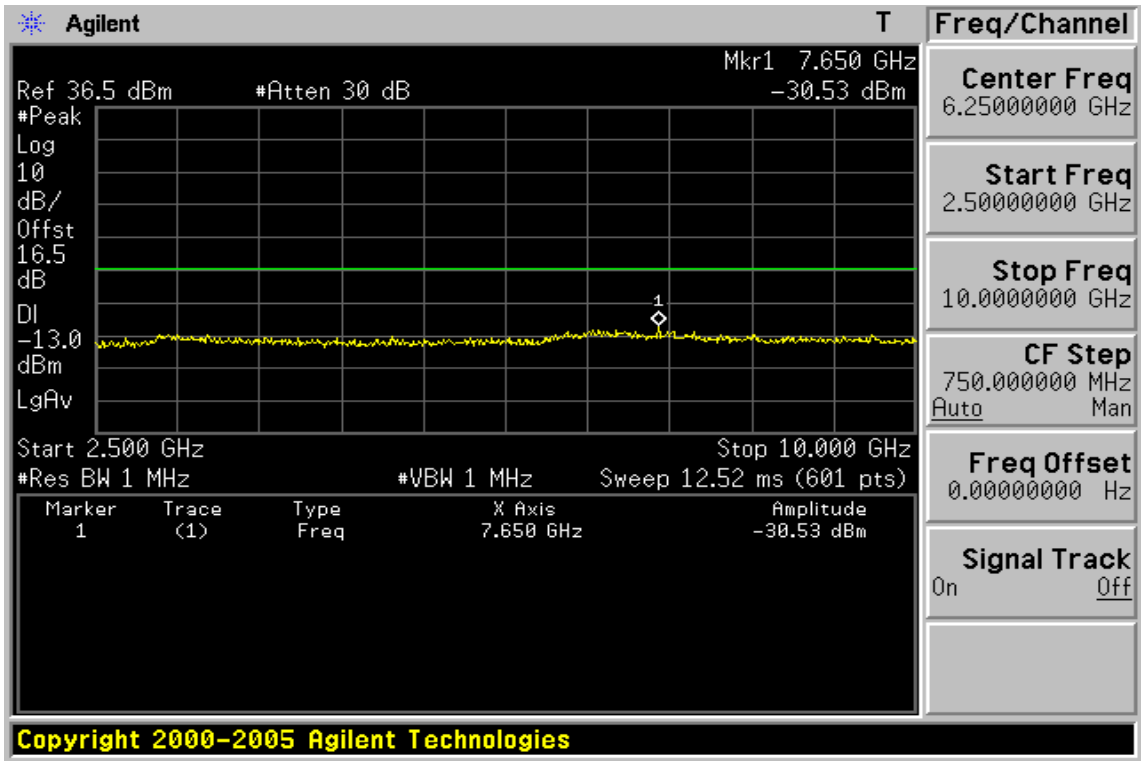
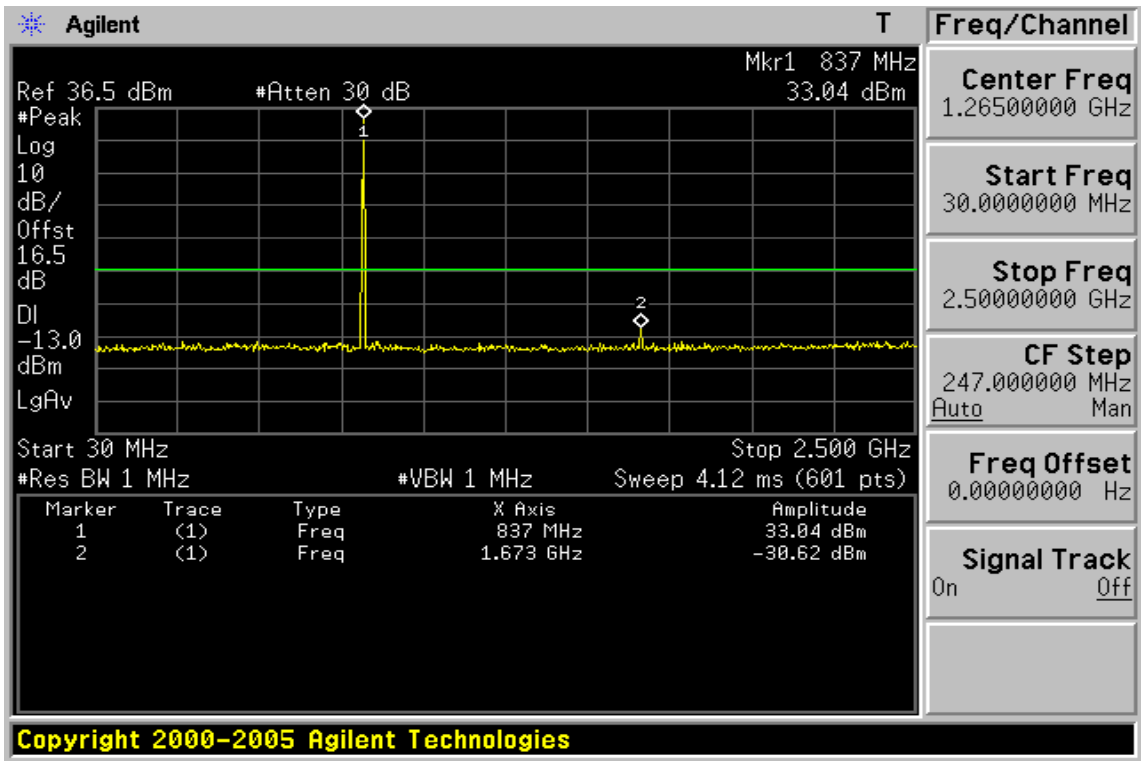


Figure 8-12: Out of Band emission at antenna terminals – EDGE 850 Channel Mid



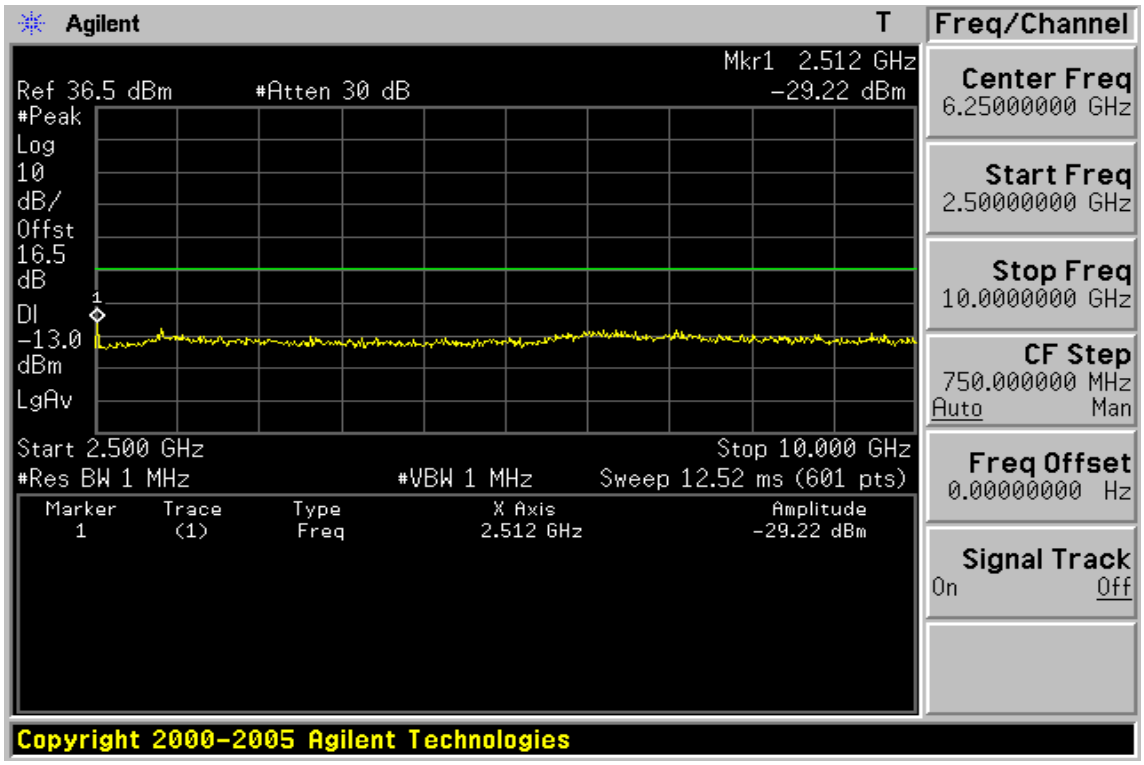
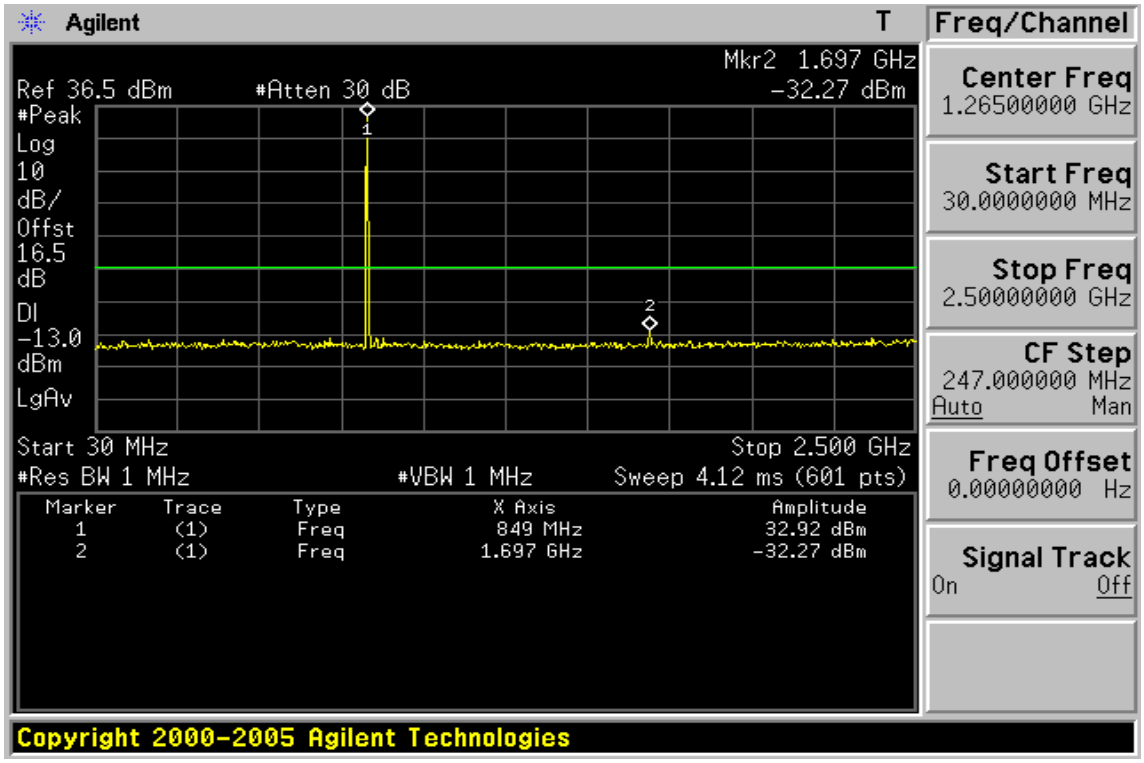


Figure 8-13: Out of Band emission at antenna terminals – EDGE 850 Channel Highest



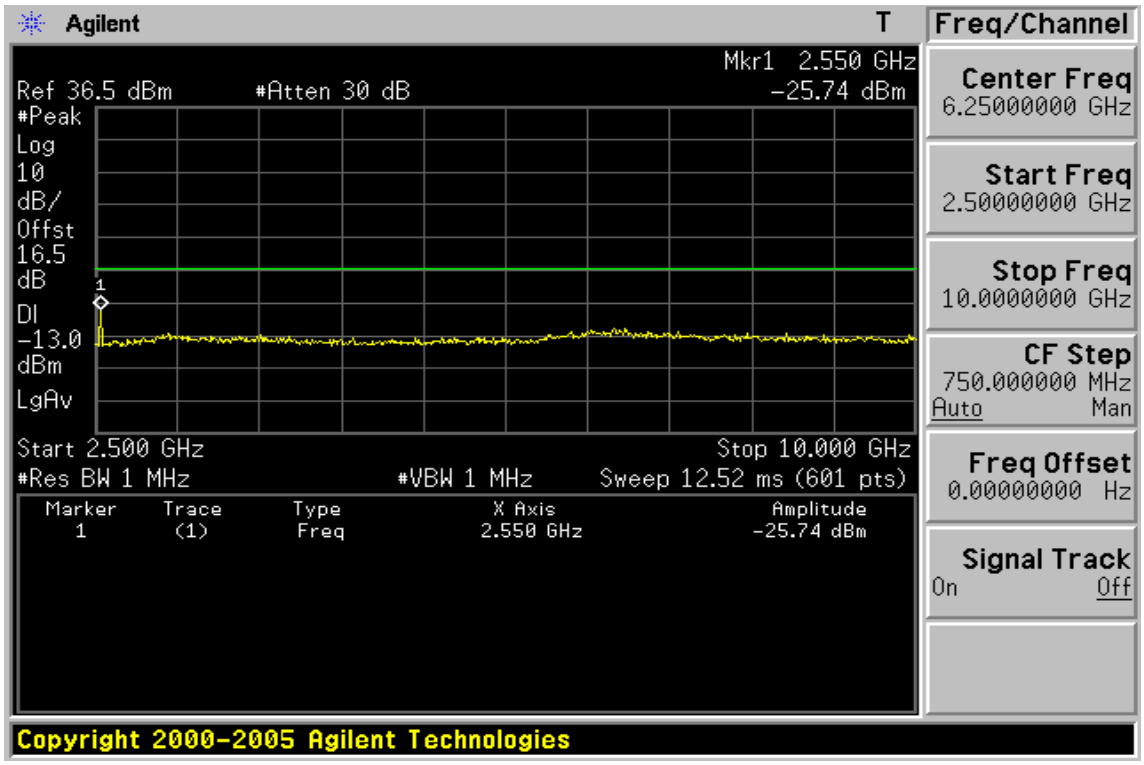


Figure 8-14: Band edge emission at antenna terminals – EDGE 850 Channel Lowest

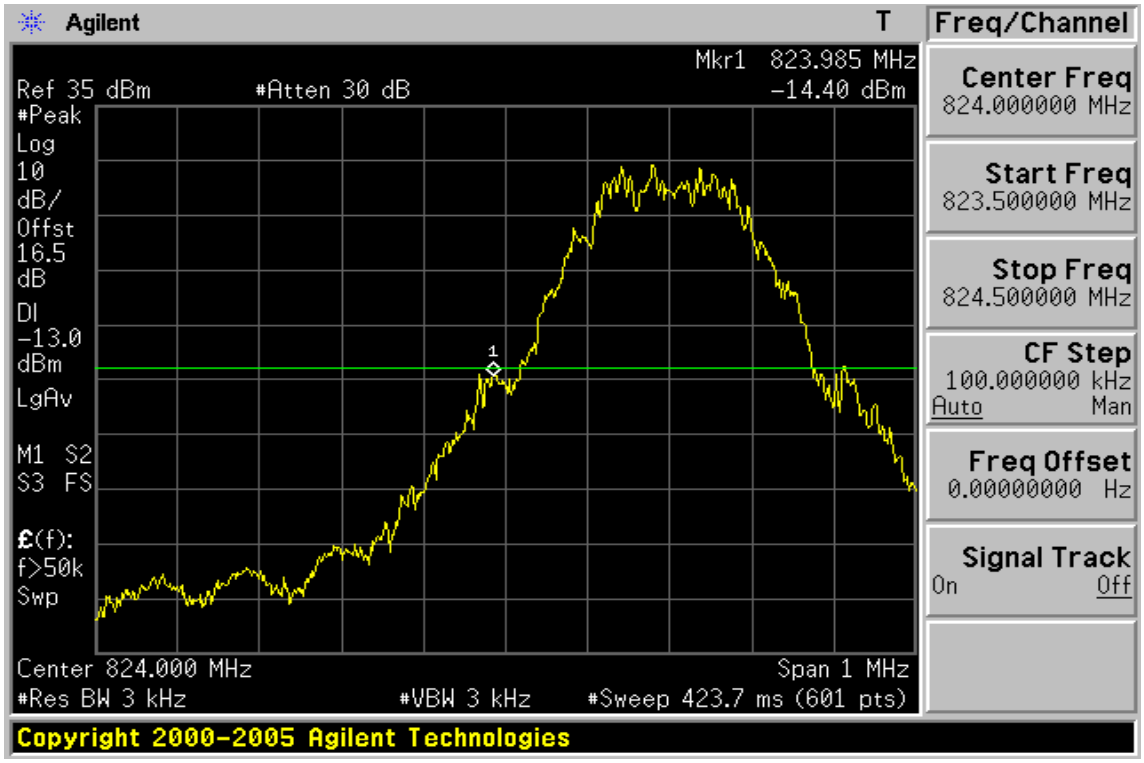


Figure 8-15: Band edge emission at antenna terminals – EDGE 850 Channel Highest

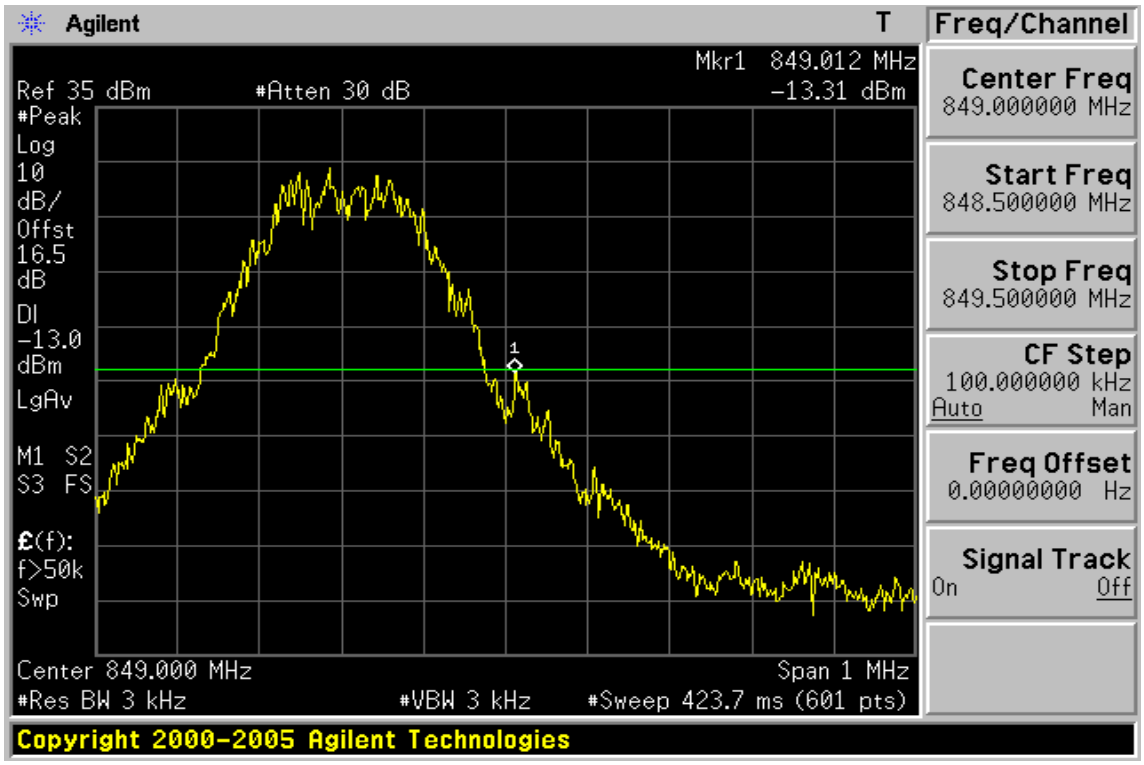
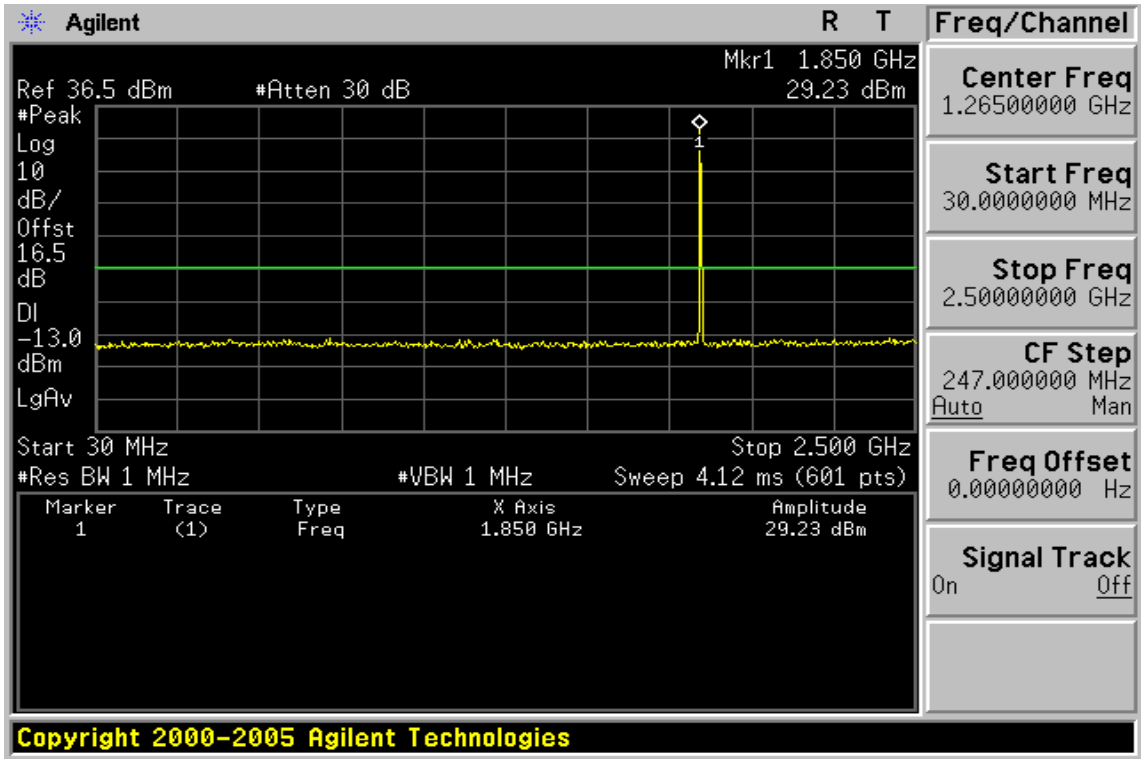


Figure 8-16: Out of Band emission at antenna terminals – EDGE 1900 Channel Lowest



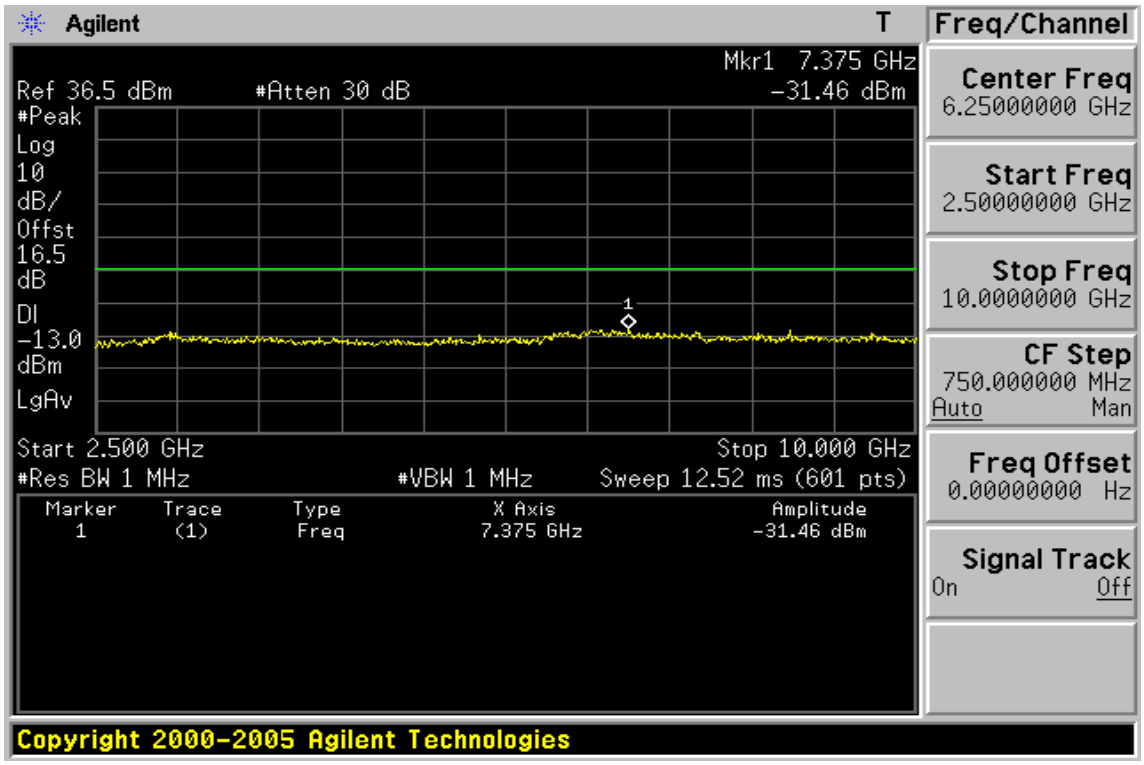
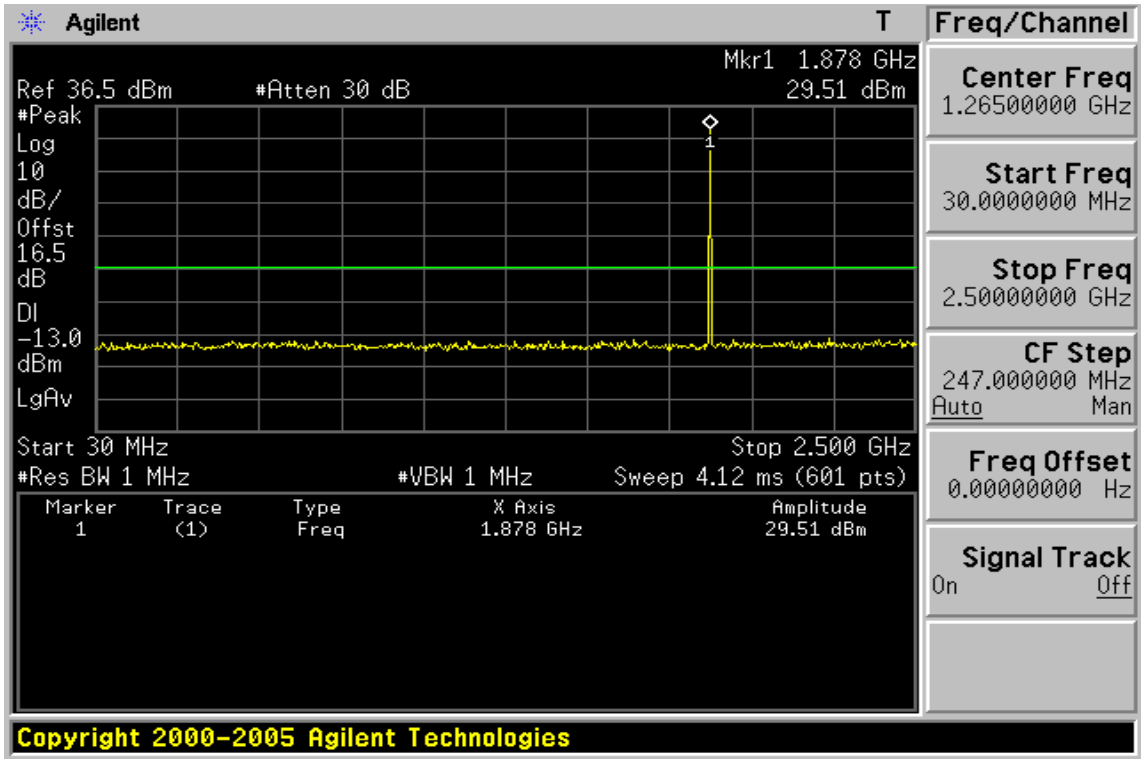


Figure 8-17: Out of Band emission at antenna terminals – EDGE 1900 Channel Mid



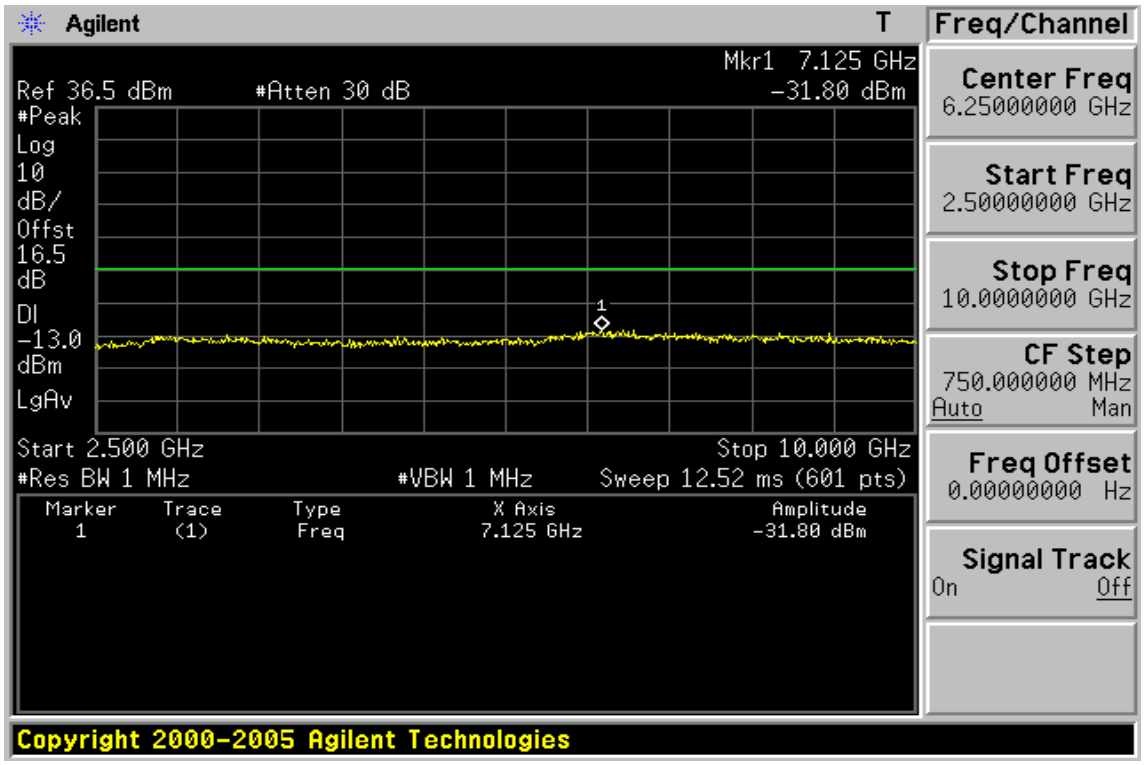
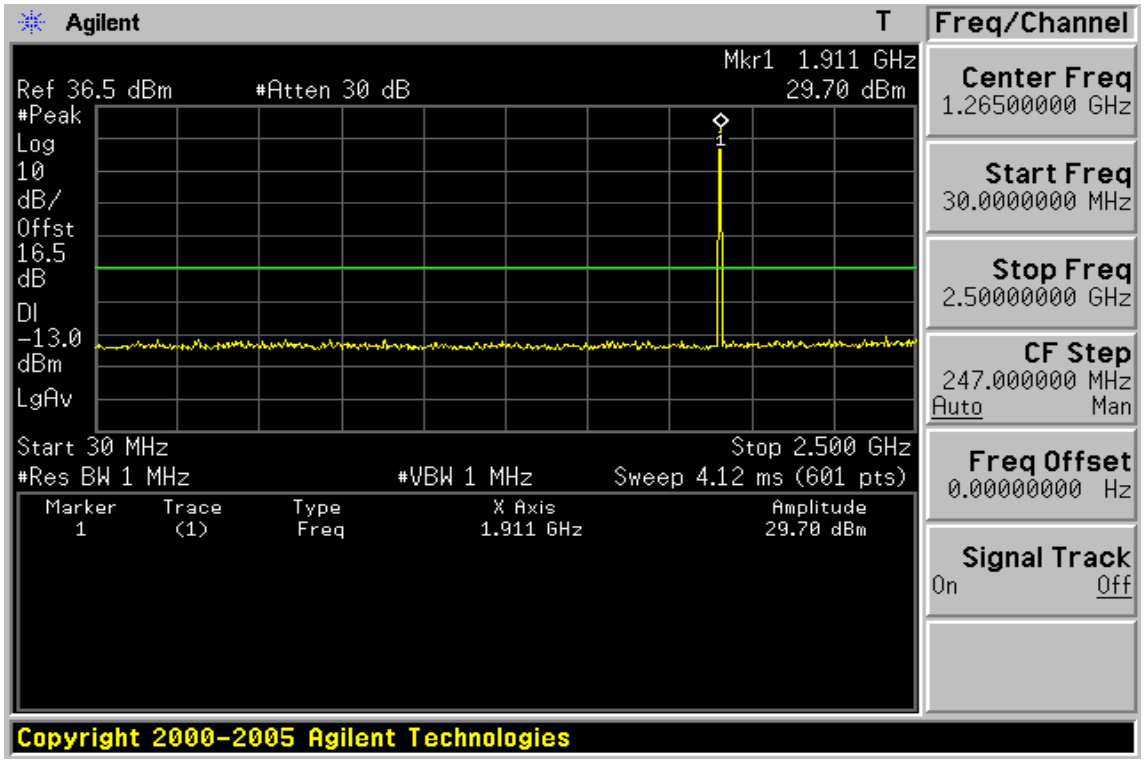


Figure 8-18: Out of Band emission at antenna terminals – EDGE 1900 Channel Highest



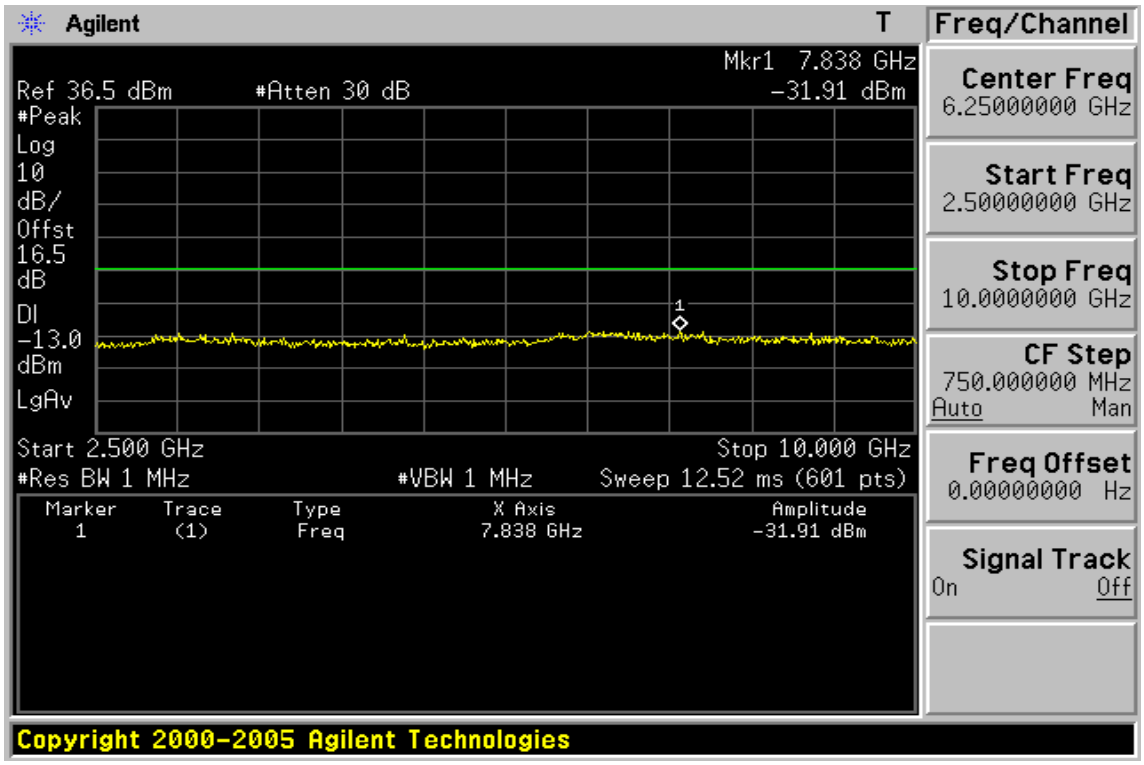


Figure 8-19: Band edge emission at antenna terminals – EDGE 1900 Channel Lowest

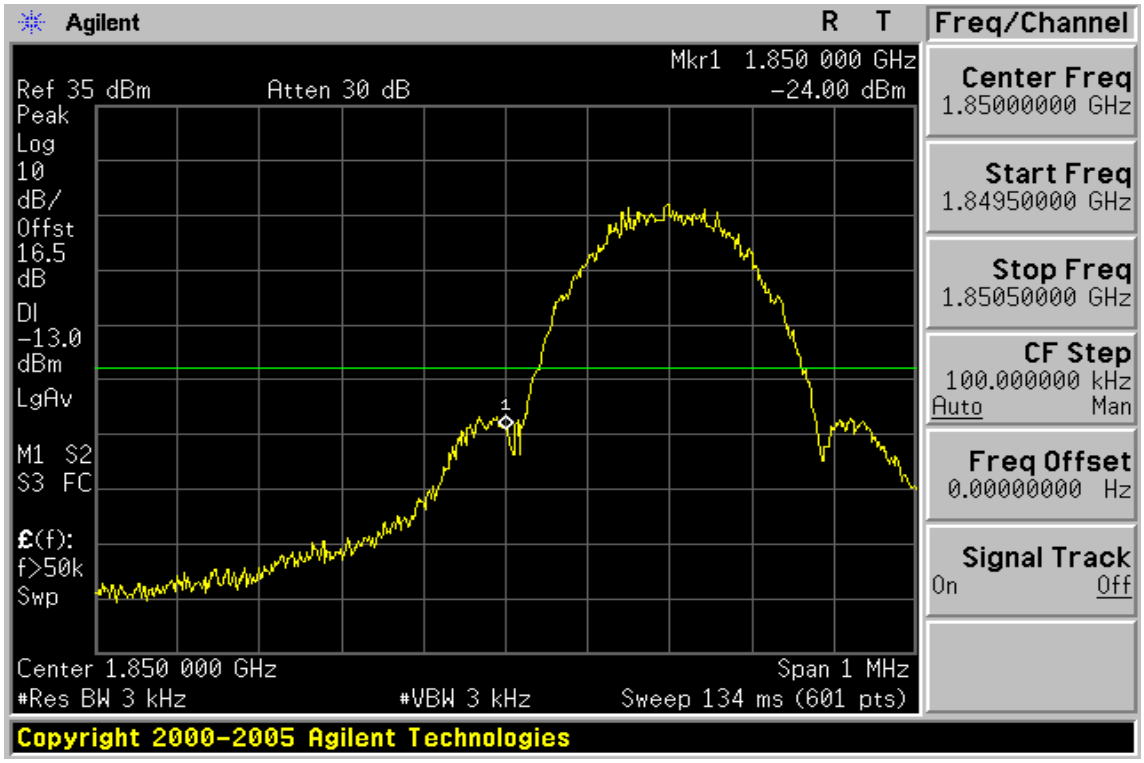


Figure 8-20: Band edge emission at antenna terminals – EDGE 1900 Channel Highest

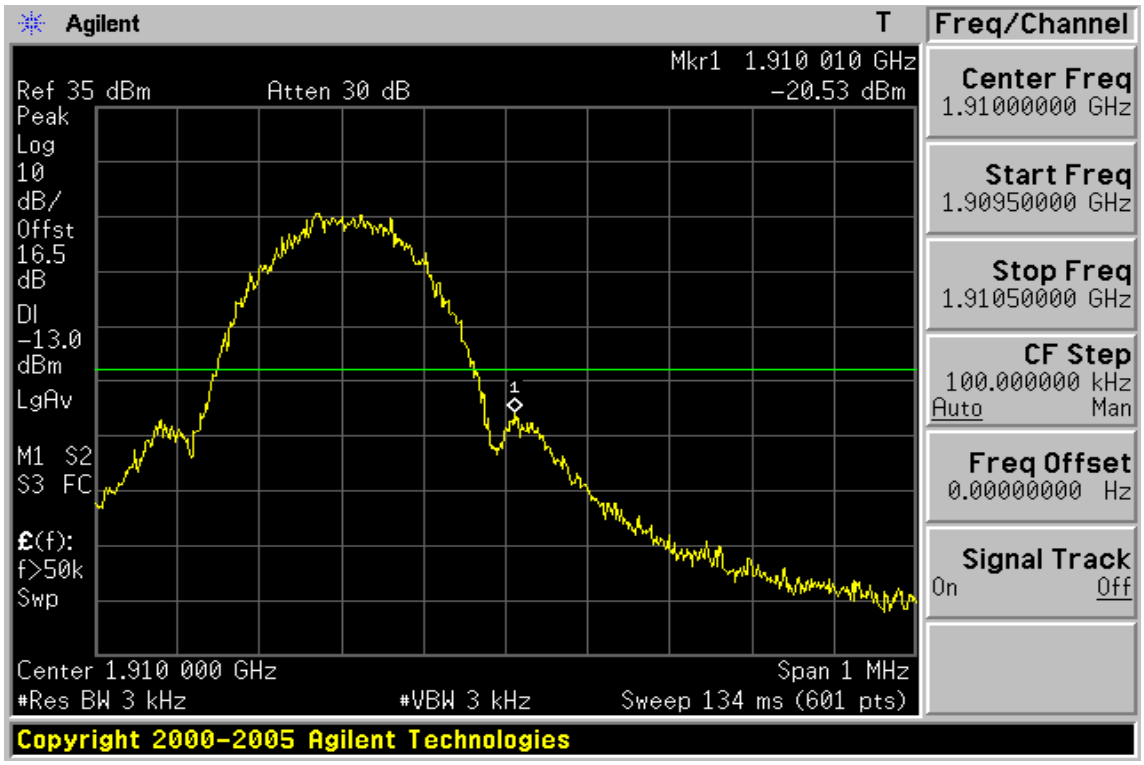
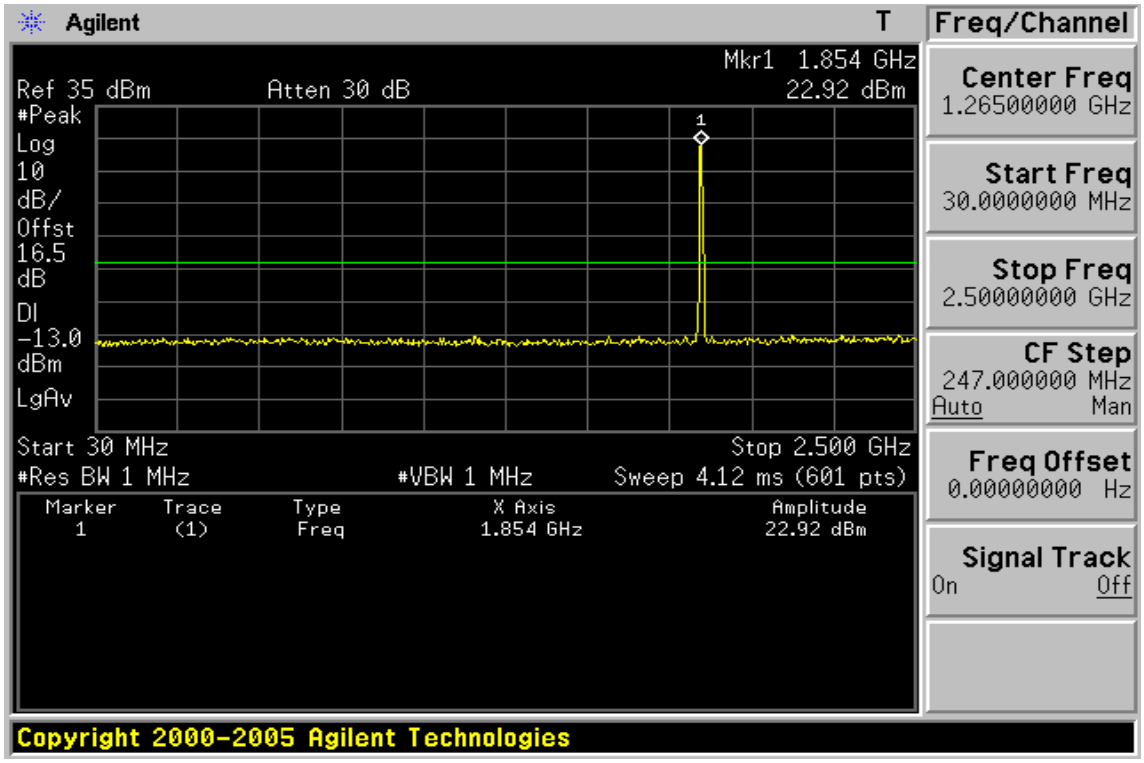


Figure 8-21: Out of Band emission at antenna terminals – WCDMA II Channel Lowest



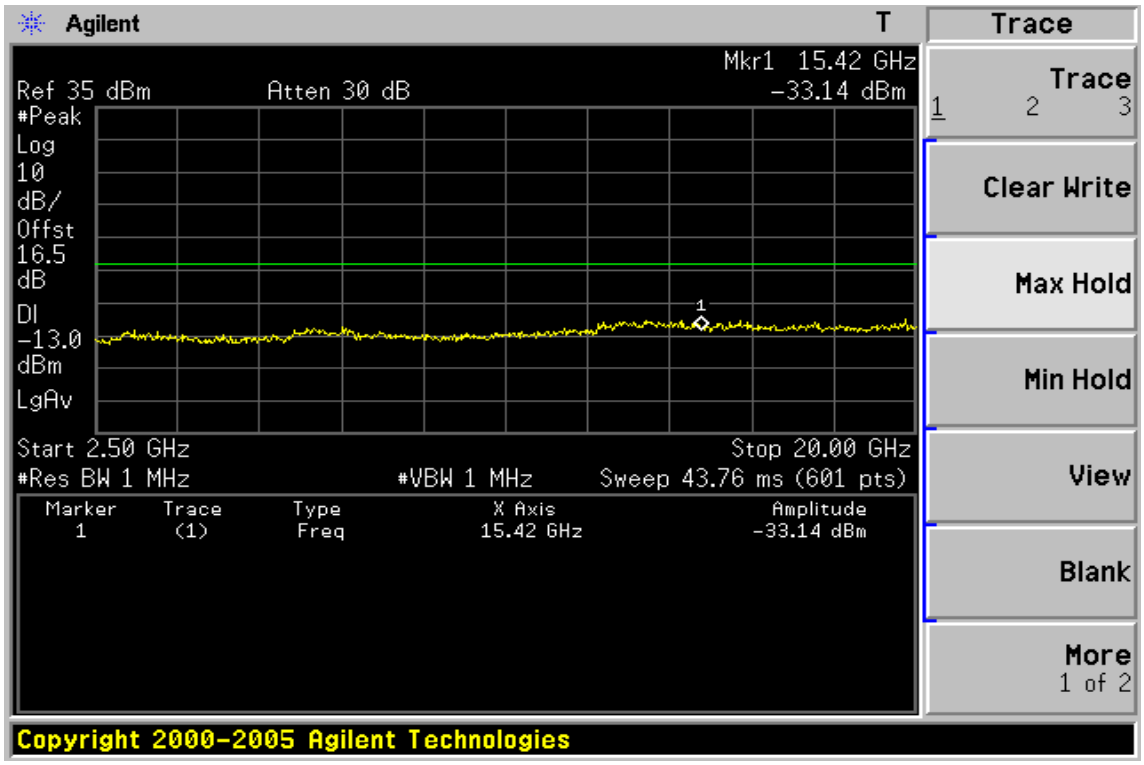
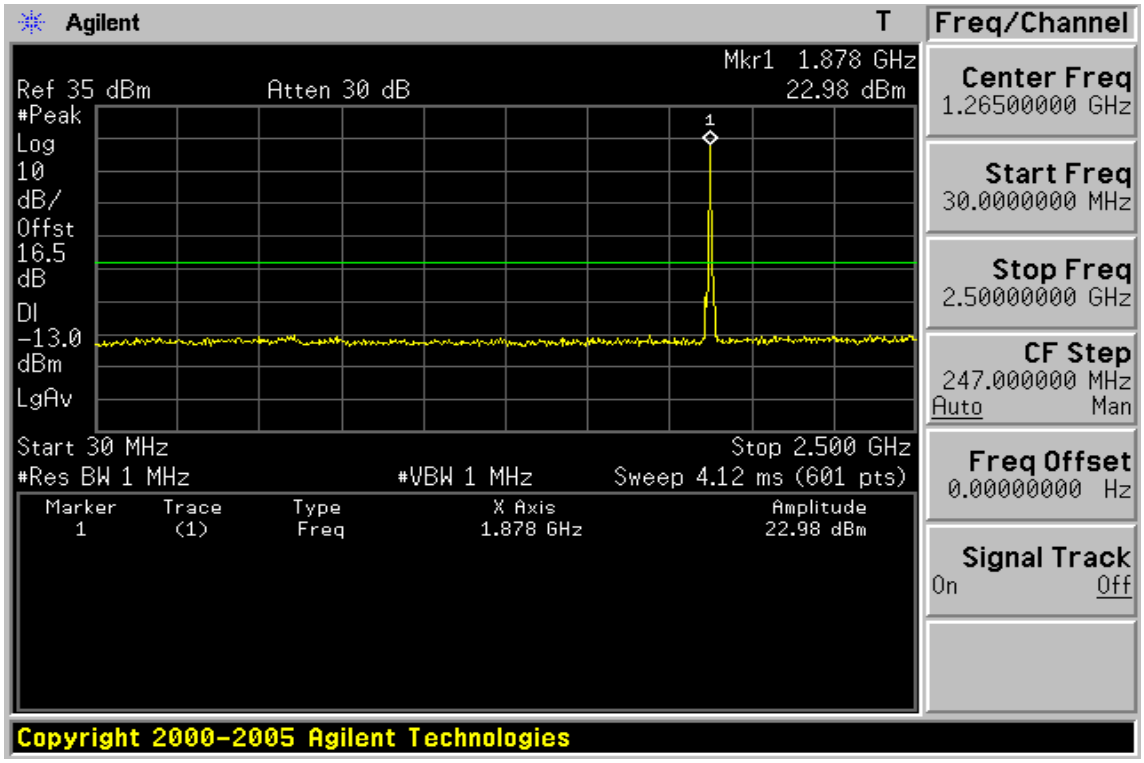


Figure 8-22: Out of Band emission at antenna terminals – WCDMA II Channel Mid



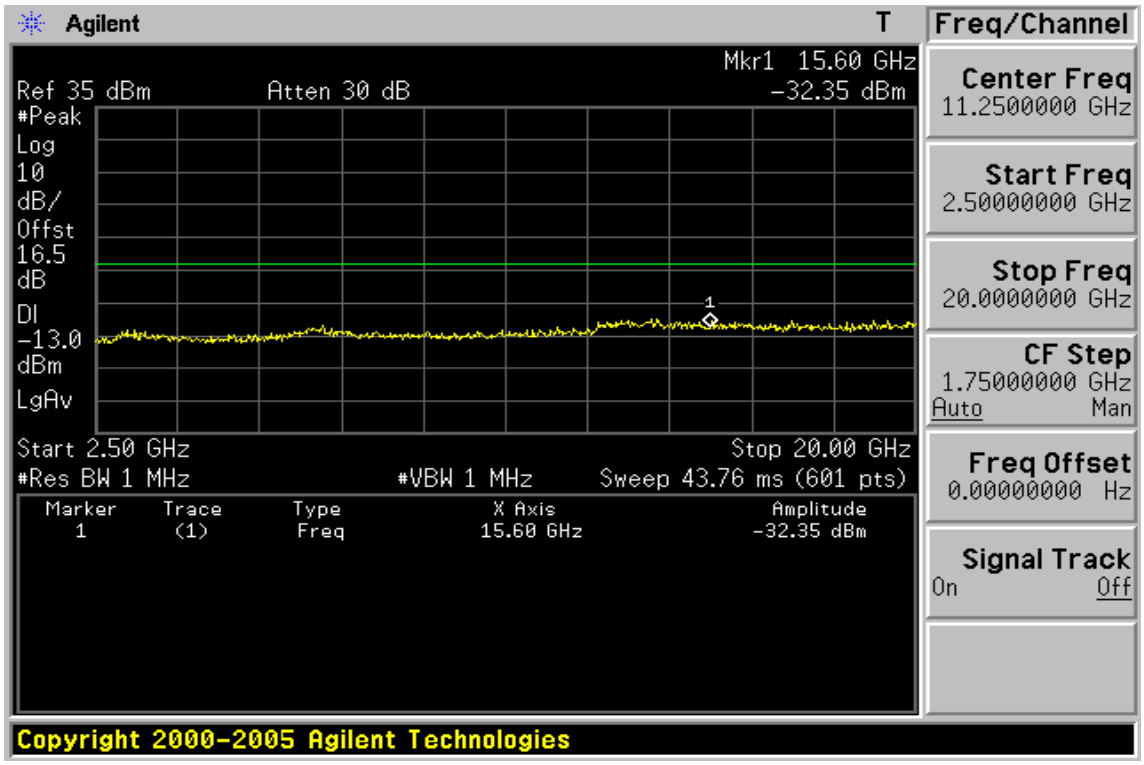
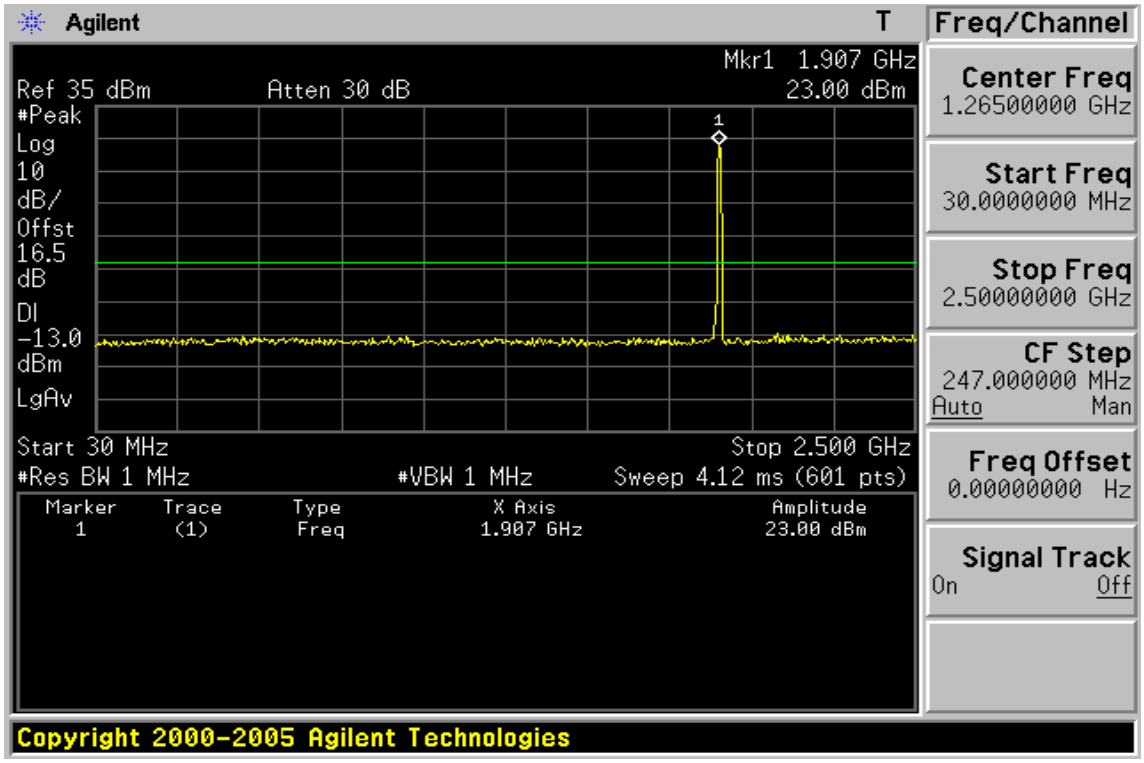


Figure 8-23: Out of Band emission at antenna terminals – WCDMA II Channel Highest



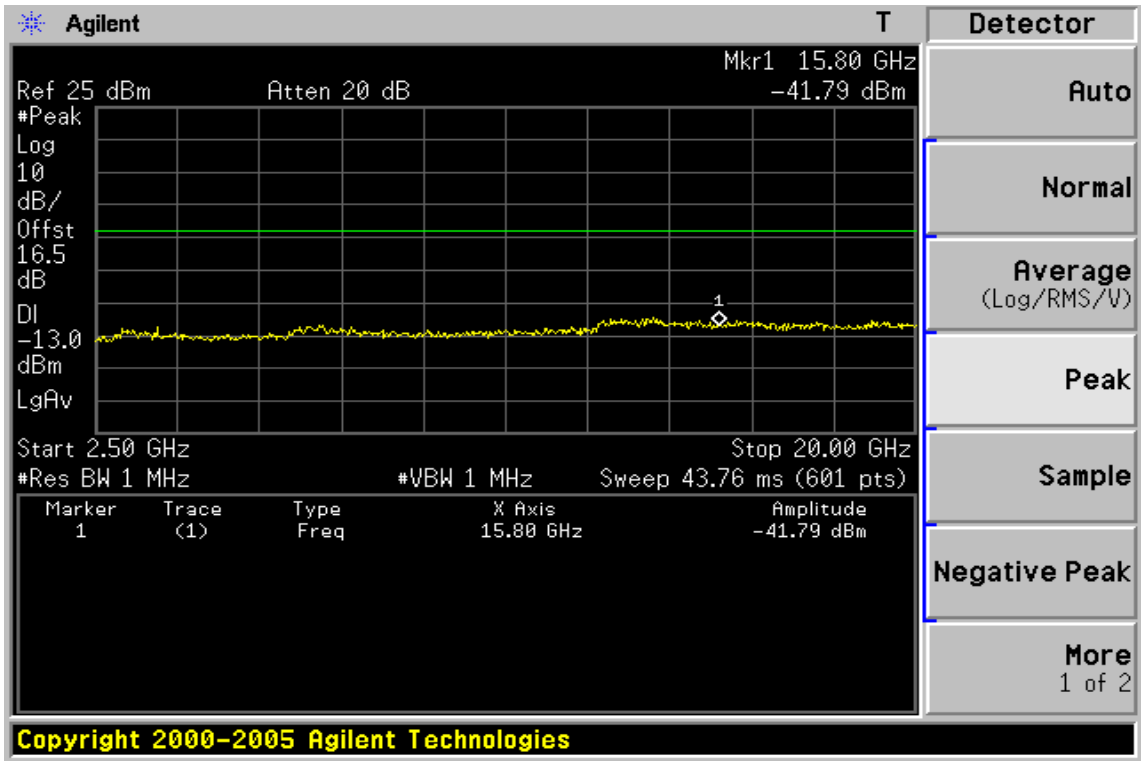


Figure 8-24: Band edge emission at antenna terminals – WCDMA II Channel Lowest

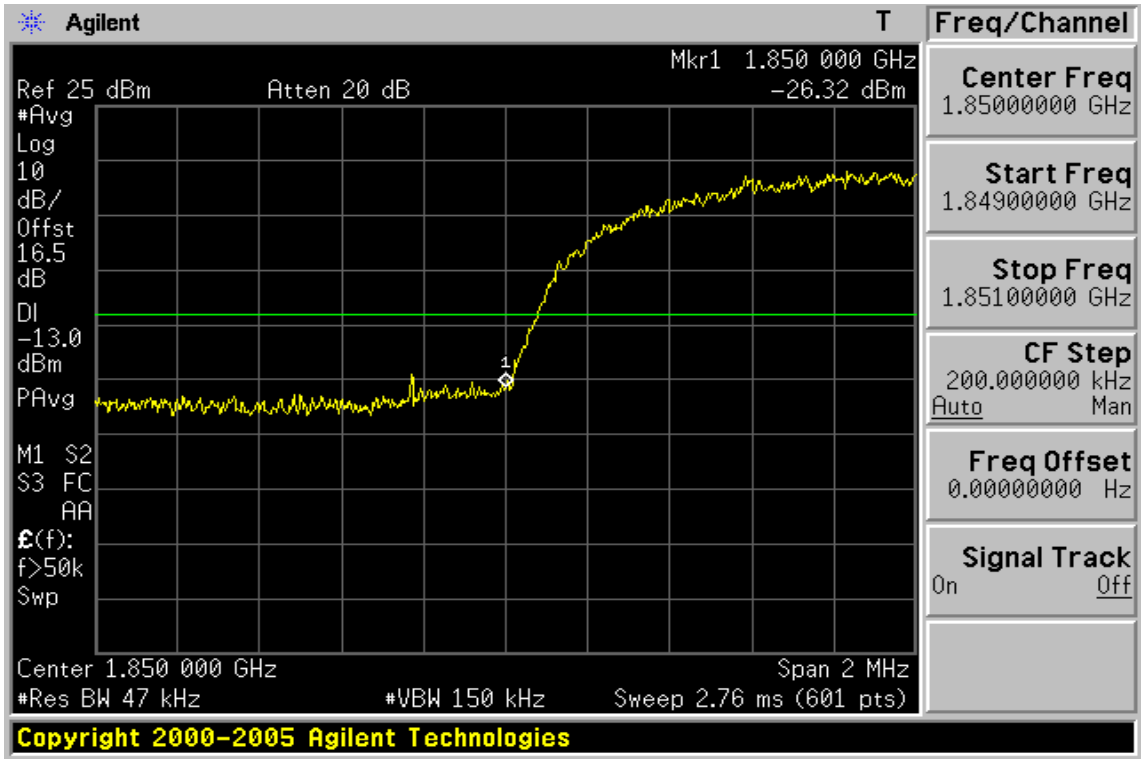


Figure 8-25: Band edge emission at antenna terminals – WCDMA II Channel Highest

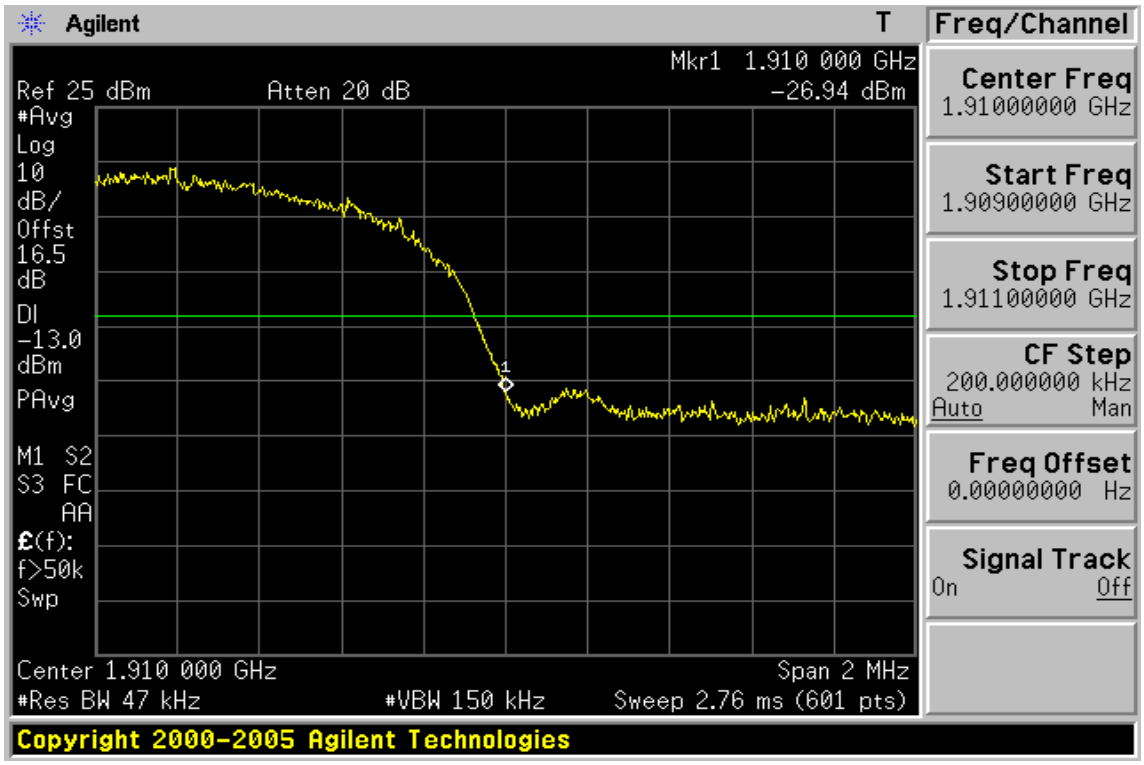
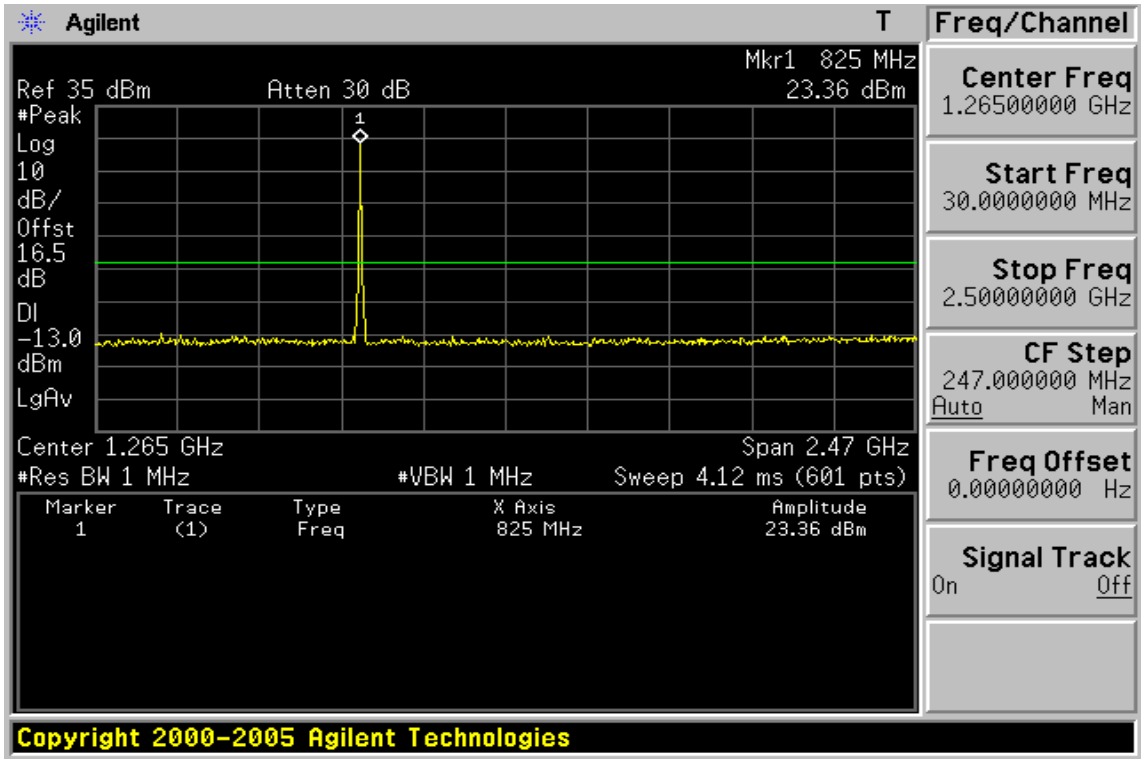


Figure 8-26: Out of Band emission at antenna terminals – WCDMA V Channel Lowest



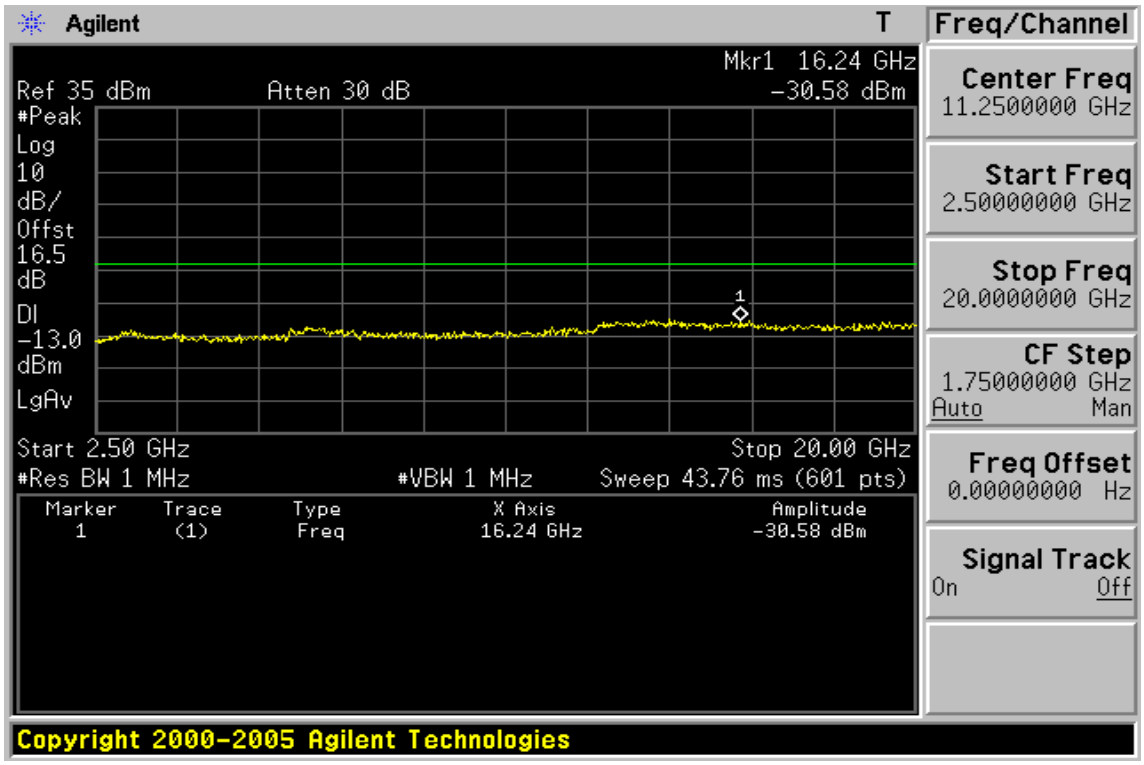
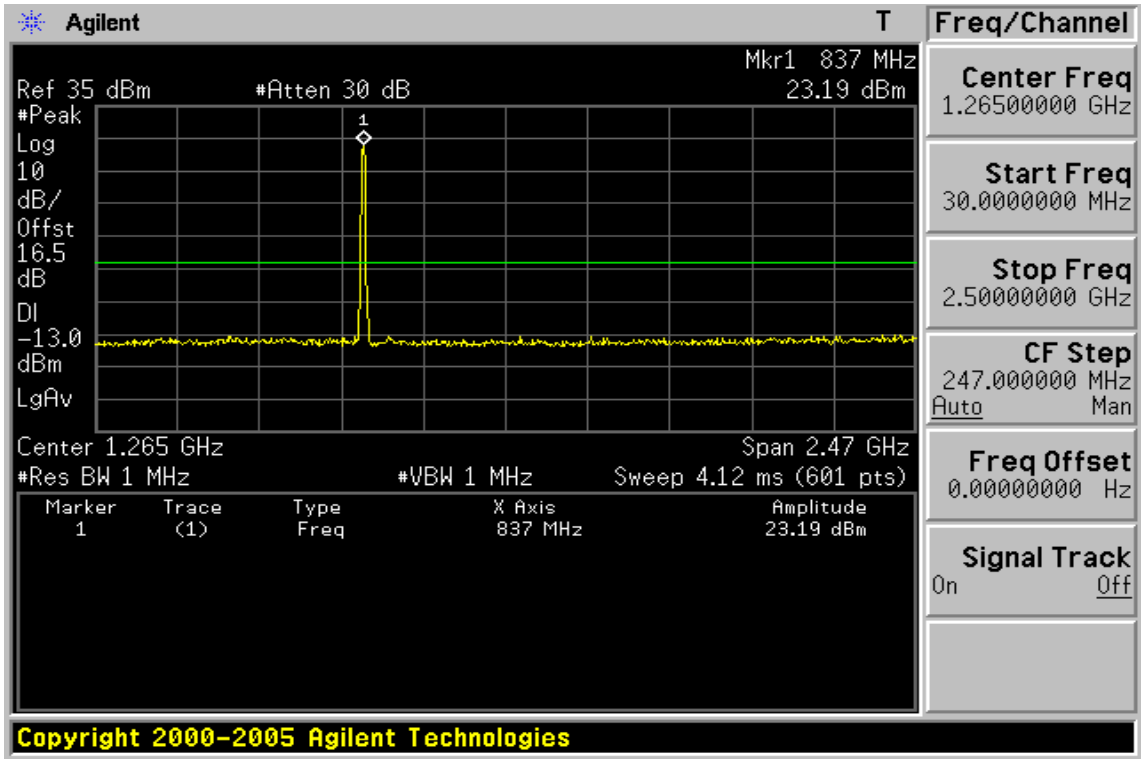


Figure 8-27: Out of Band emission at antenna terminals – WCDMA V Channel Mid



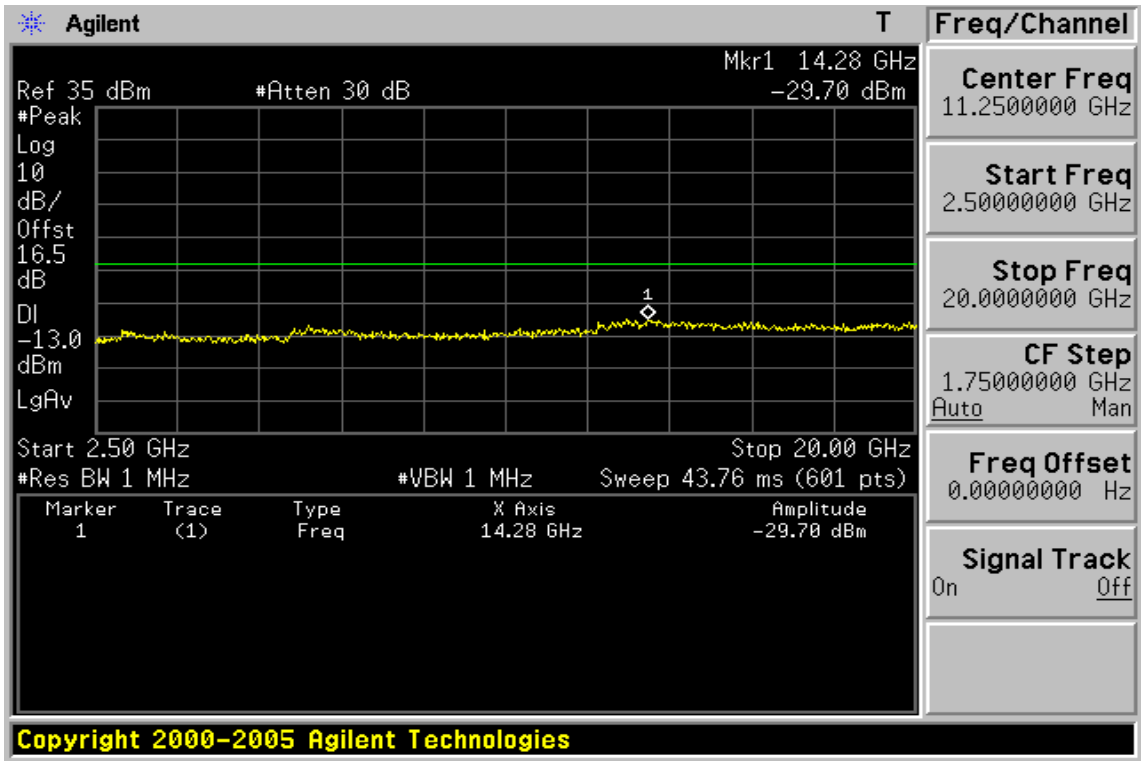
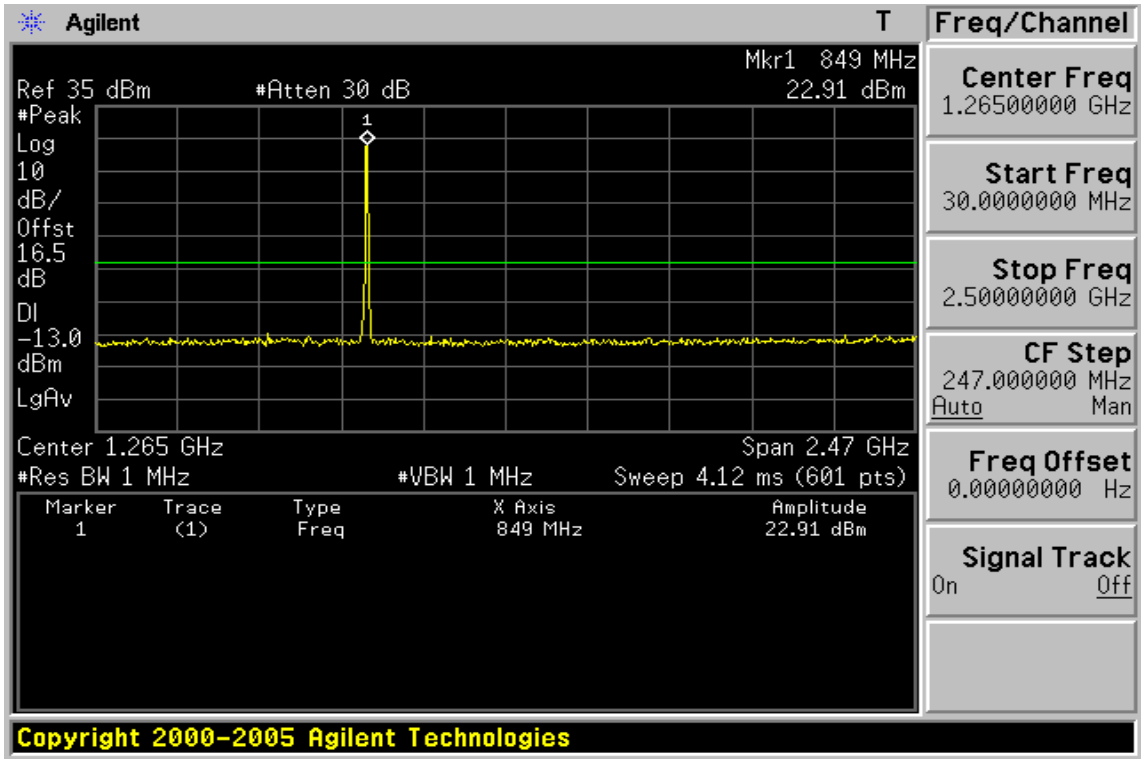


Figure 8-28: Out of Band emission at antenna terminals – WCDMA V Channel Highest



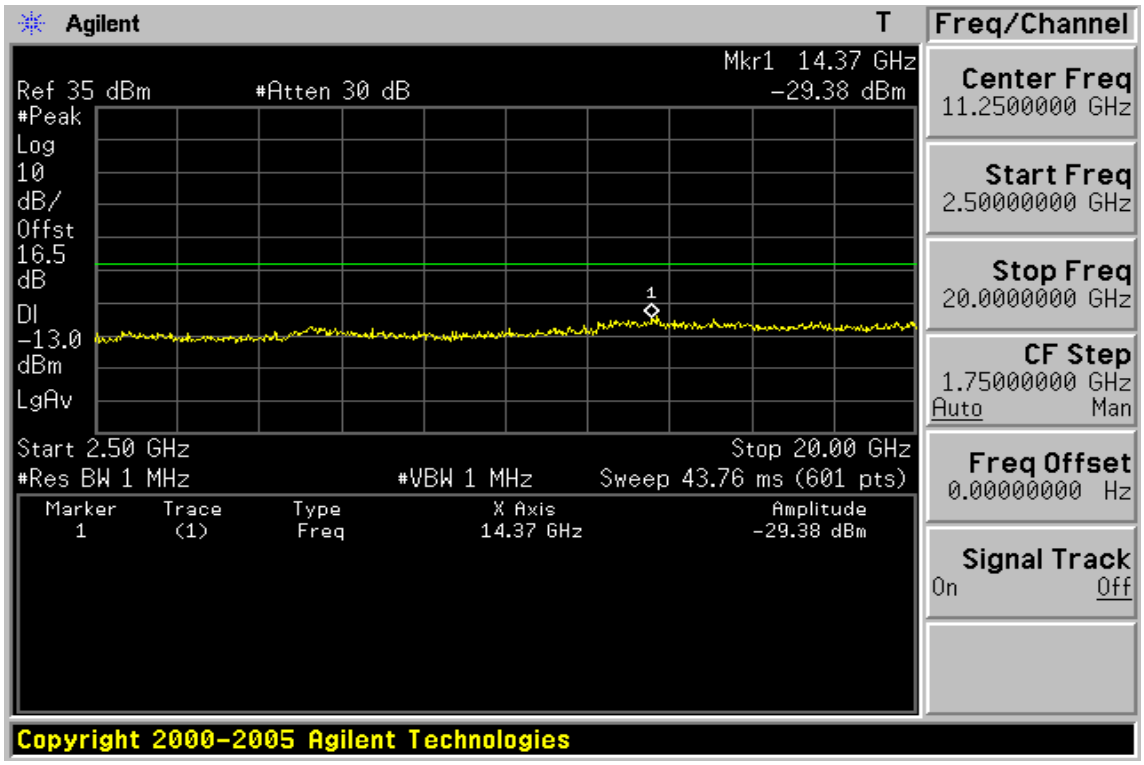


Figure 8-29: Band edge emission at antenna terminals – WCDMA V Channel Lowest

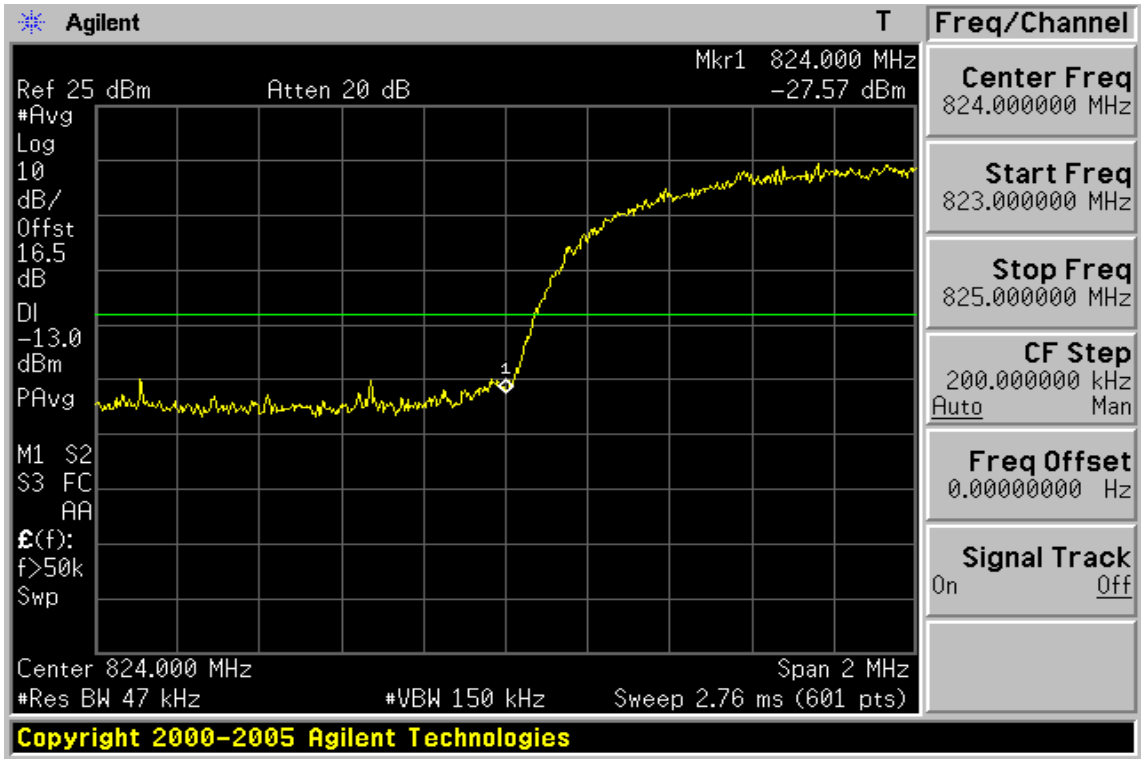


Figure 8-30: Band edge emission at antenna terminals – WCDMA V Channel Highest

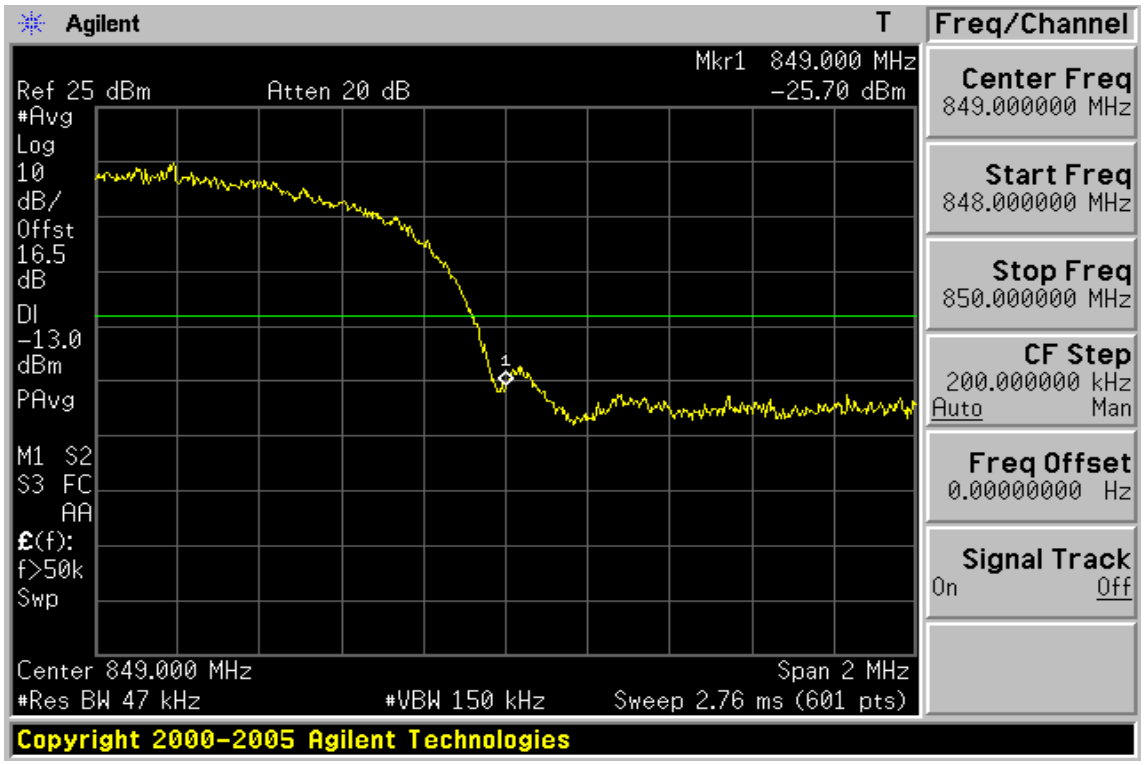
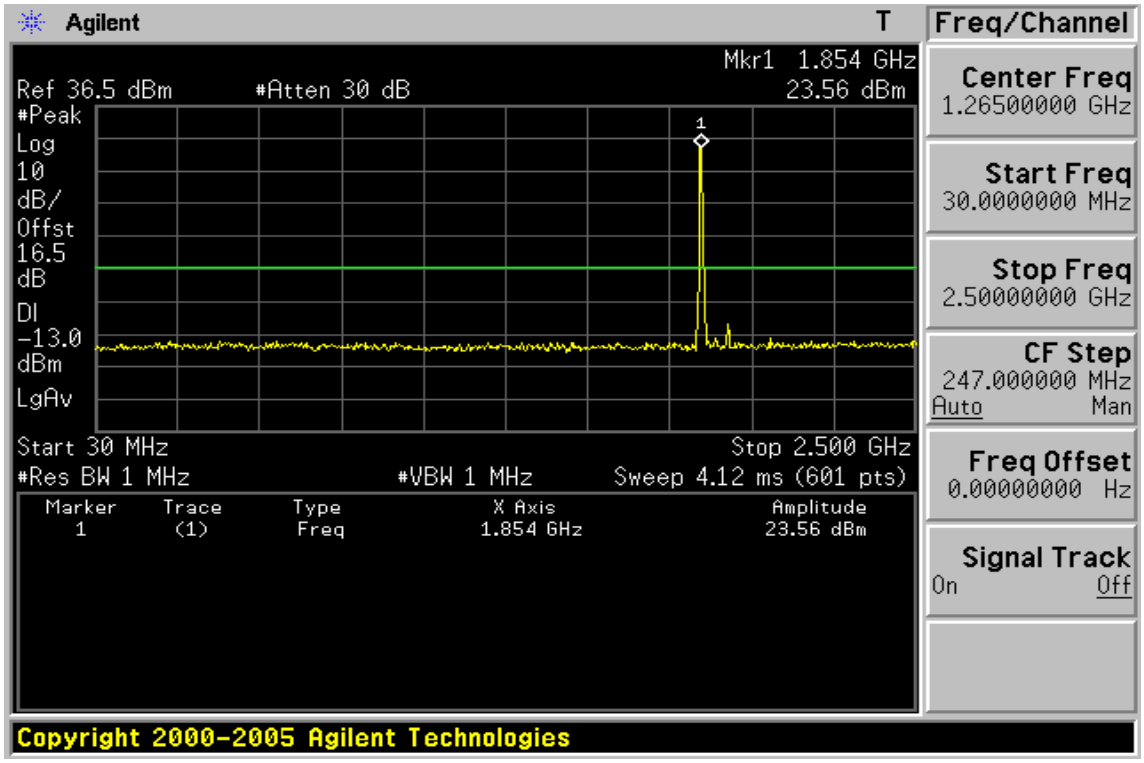


Figure 8-31: Out of Band emission at antenna terminals – HSDPA II Channel Lowest



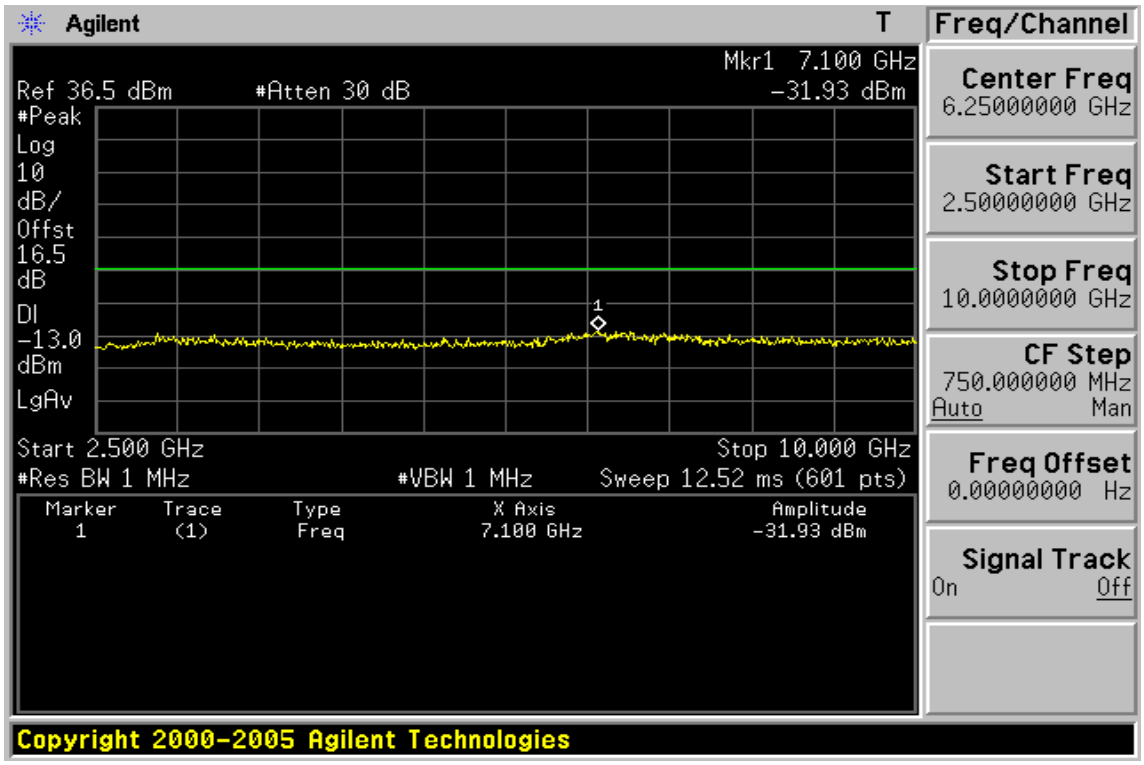
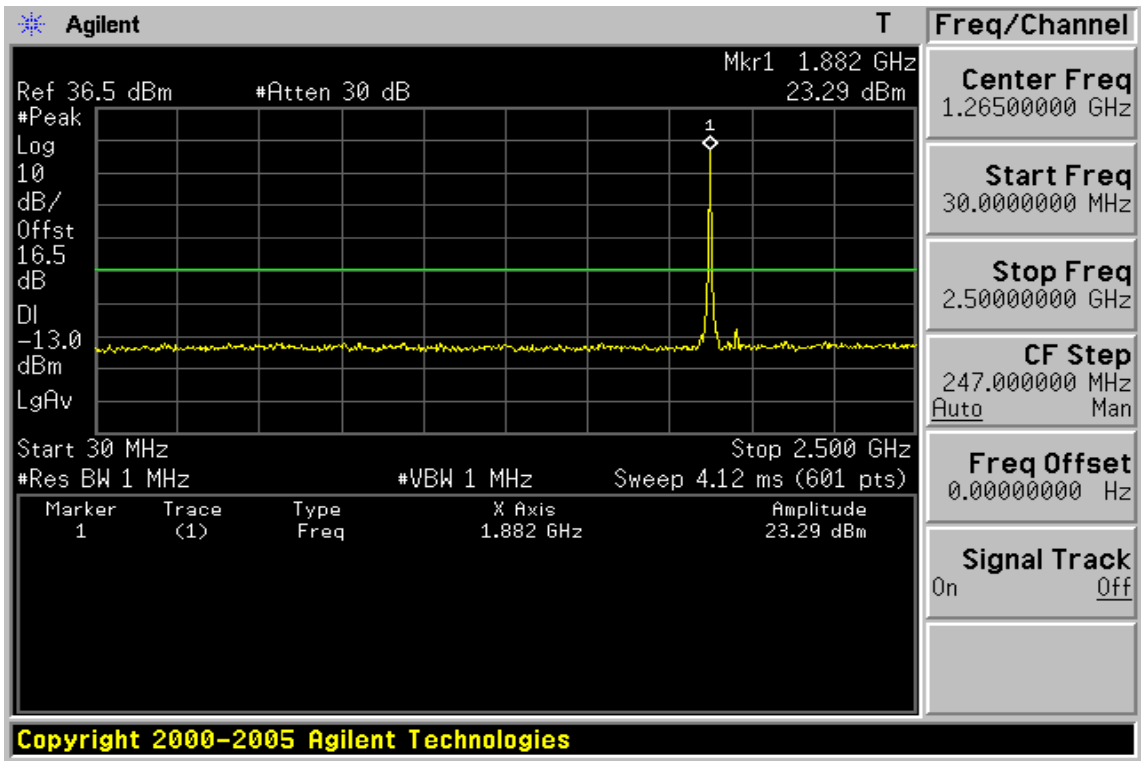


Figure 8-32: Out of Band emission at antenna terminals – HSDPA II Channel Mid



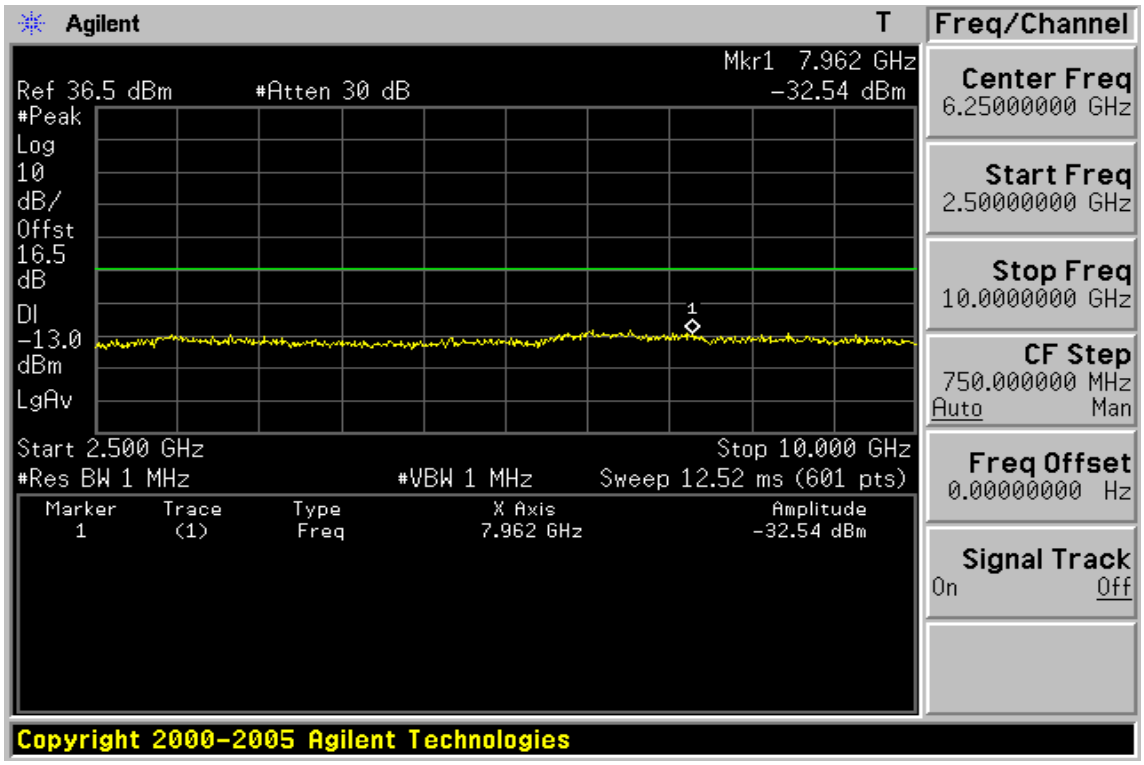
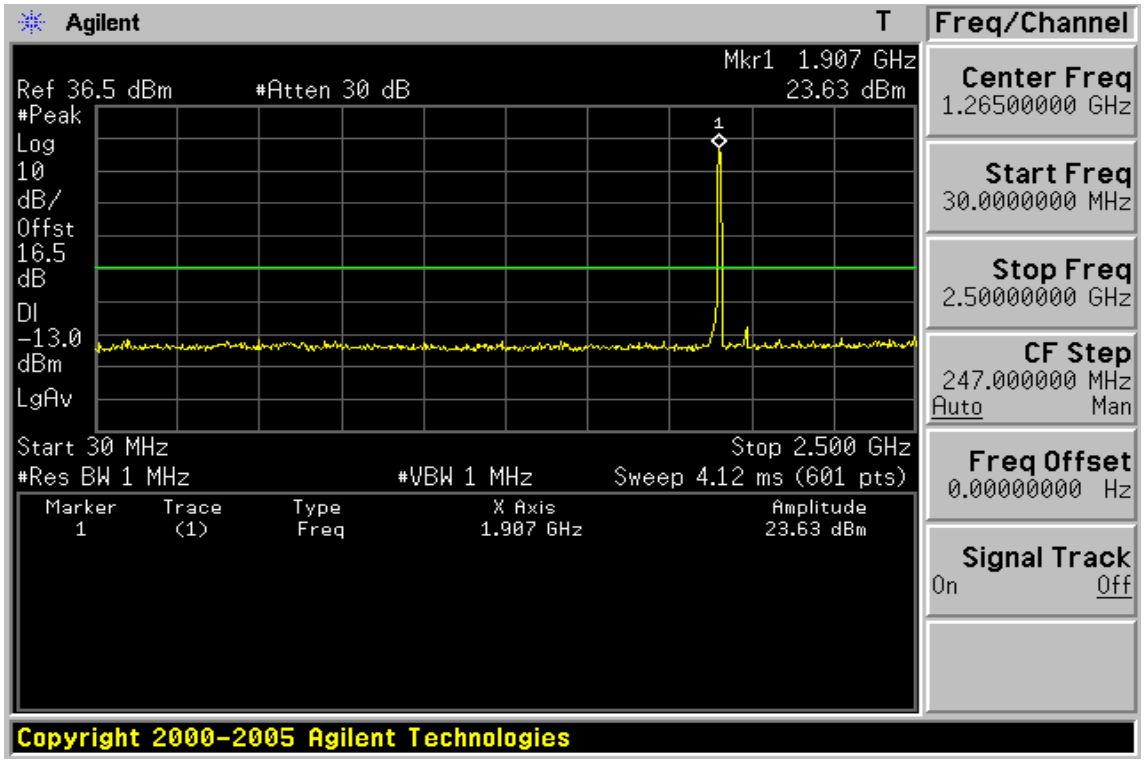


Figure 8-33: Out of Band emission at antenna terminals – HSDPA II Channel Highest



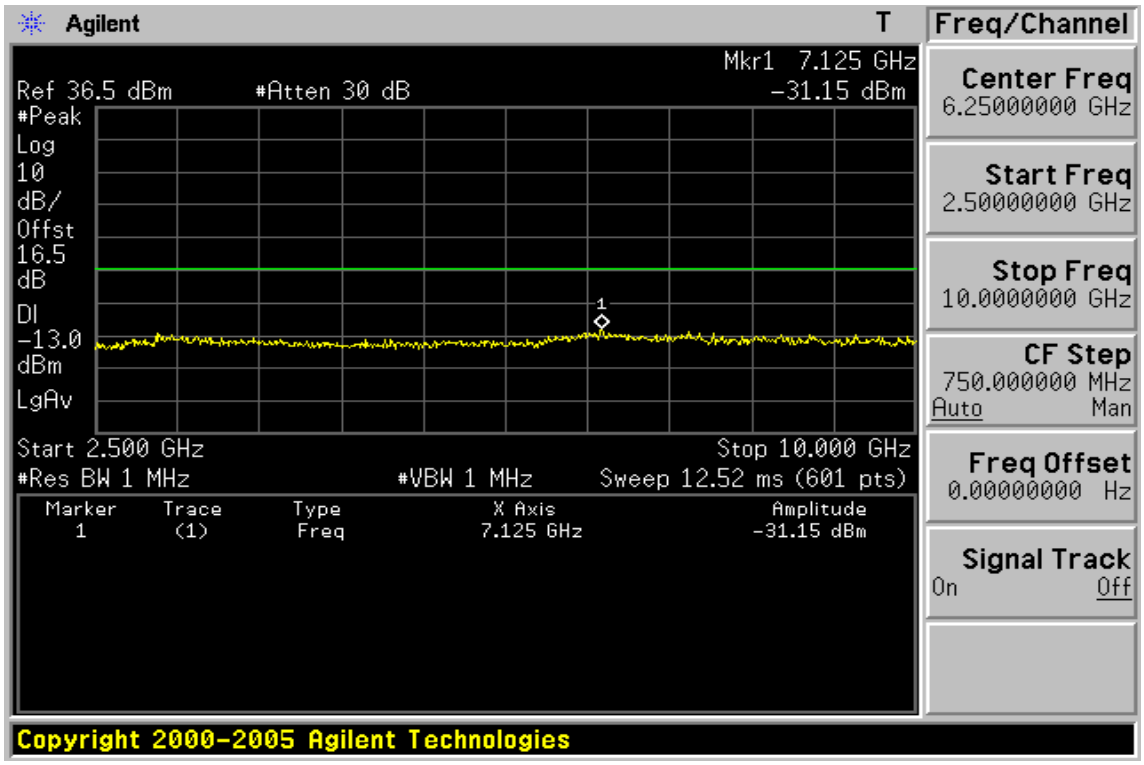


Figure 8-34: Band edge emission at antenna terminals – HSDPA II Channel Lowest

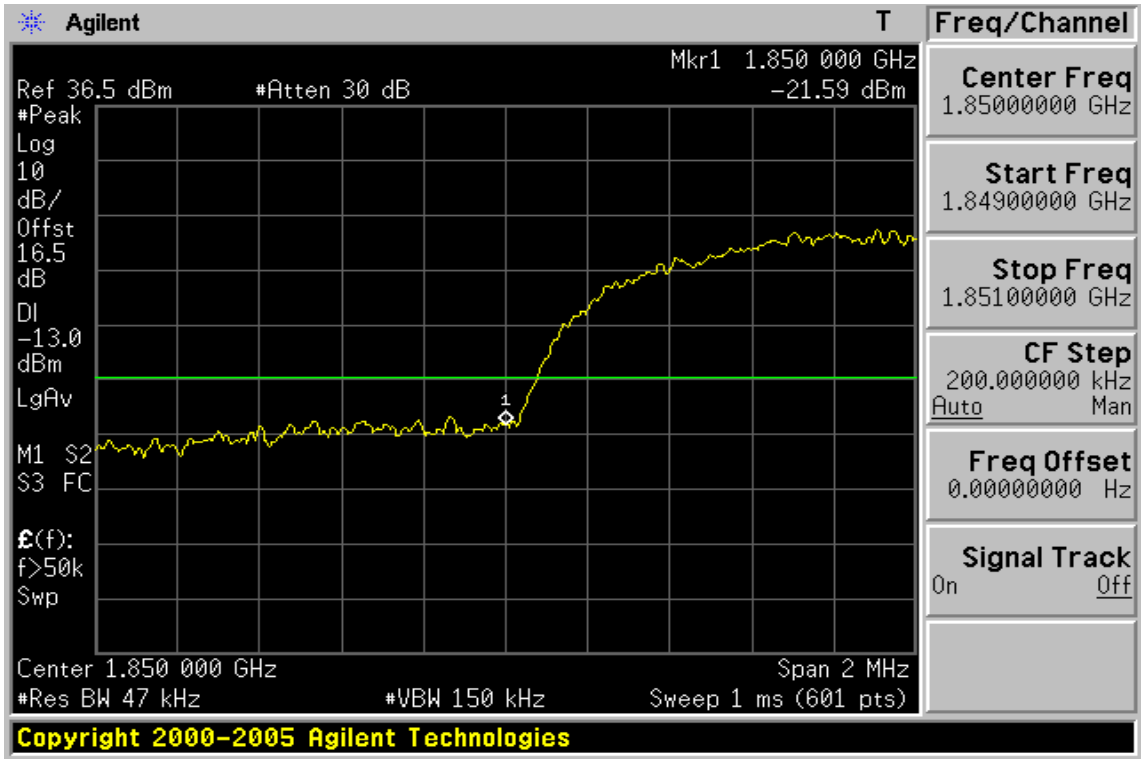
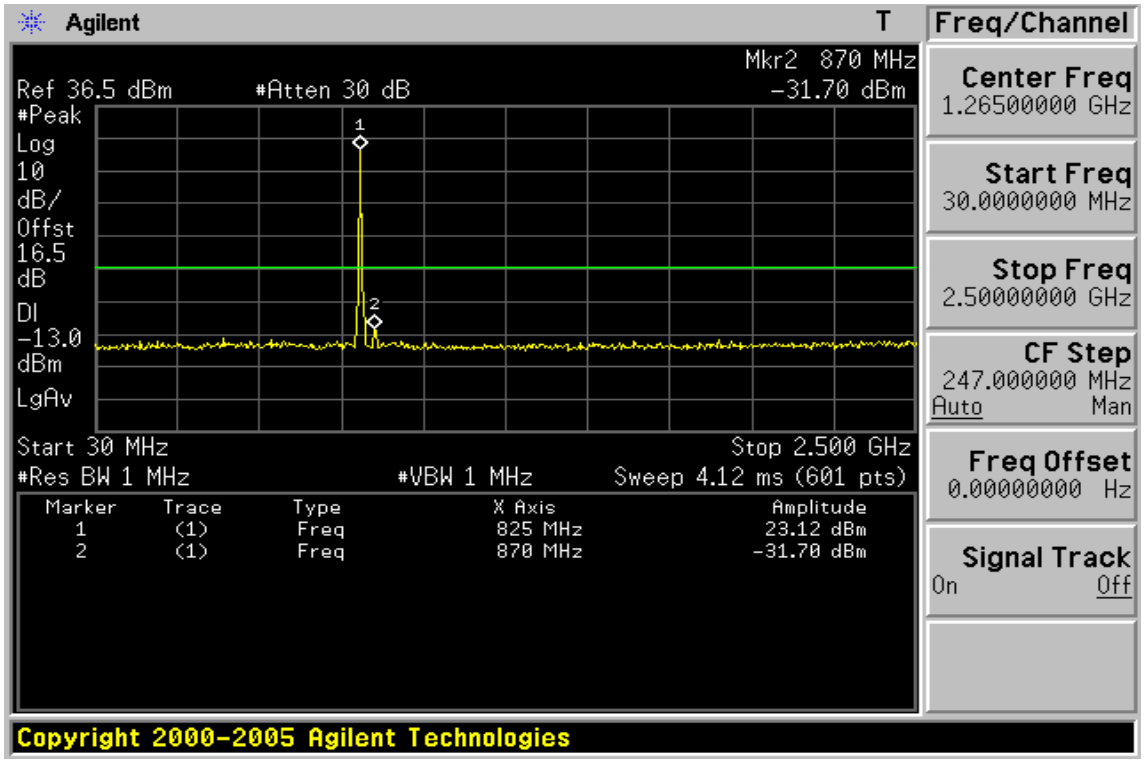


Figure 8-35: Band edge emission at antenna terminals – HSDPA II Channel Highest

Figure 8-36: Out of Band emission at antenna terminals – HSDPA V Channel Lowest



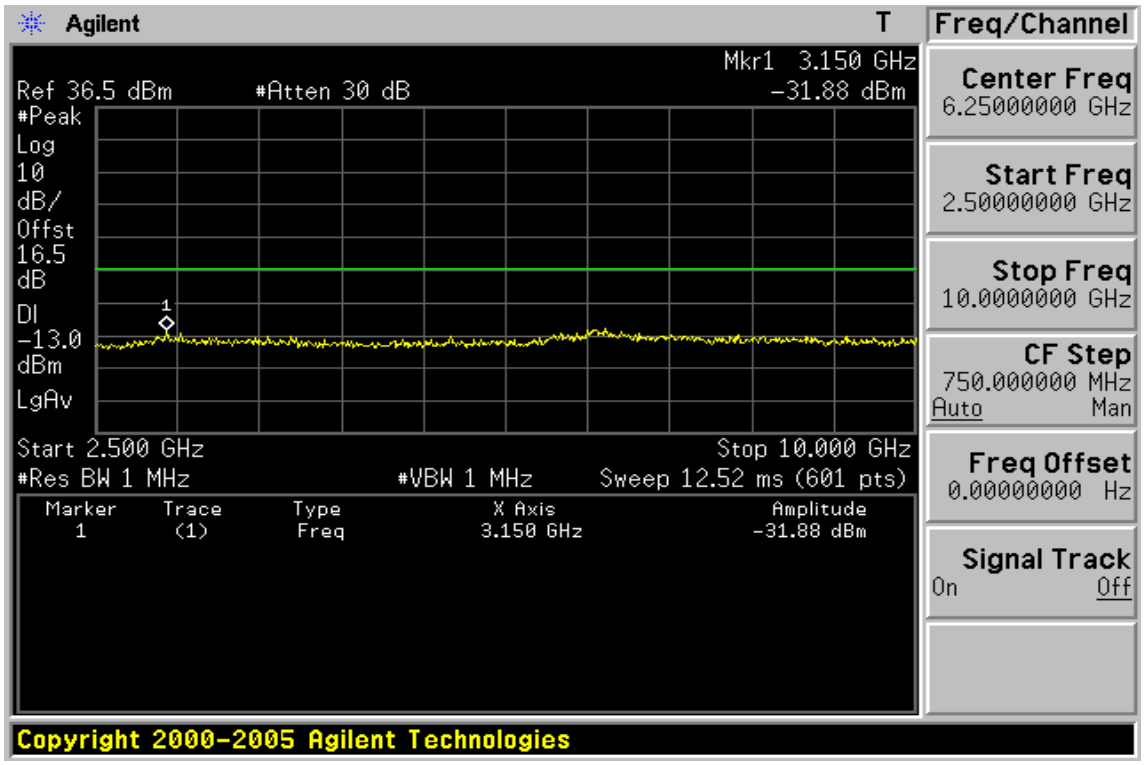
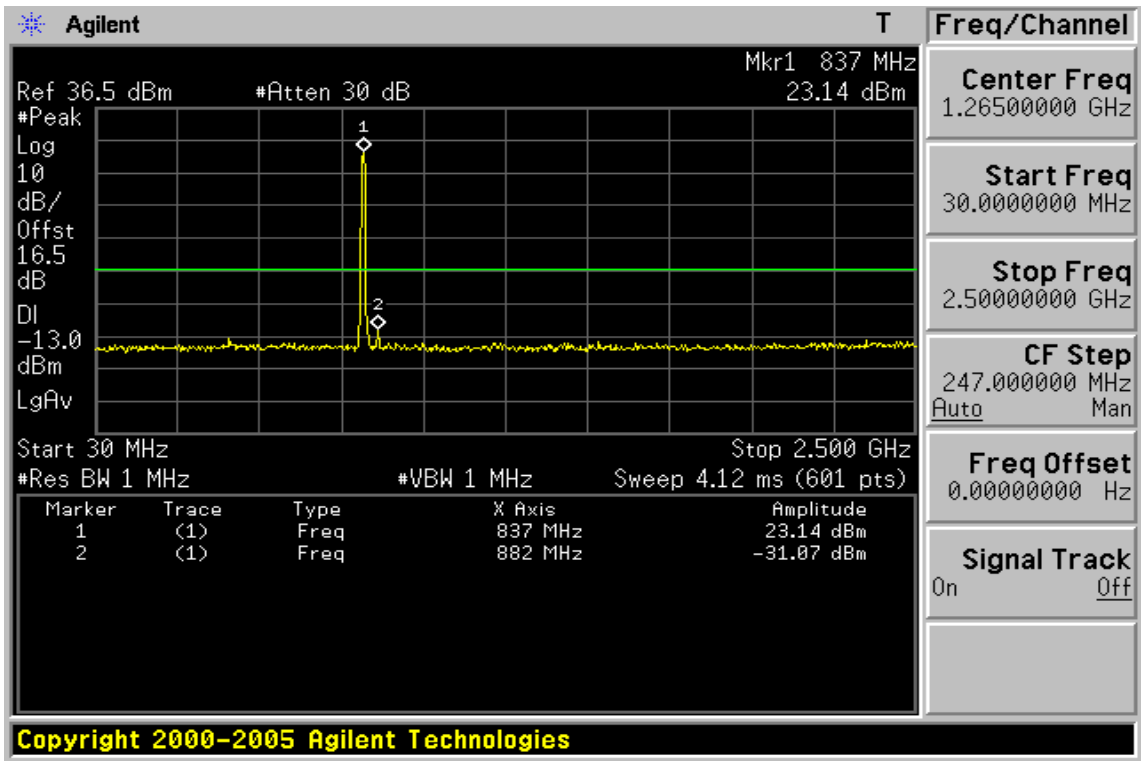


Figure 8-37: Out of Band emission at antenna terminals – HSDPA V Channel Mid



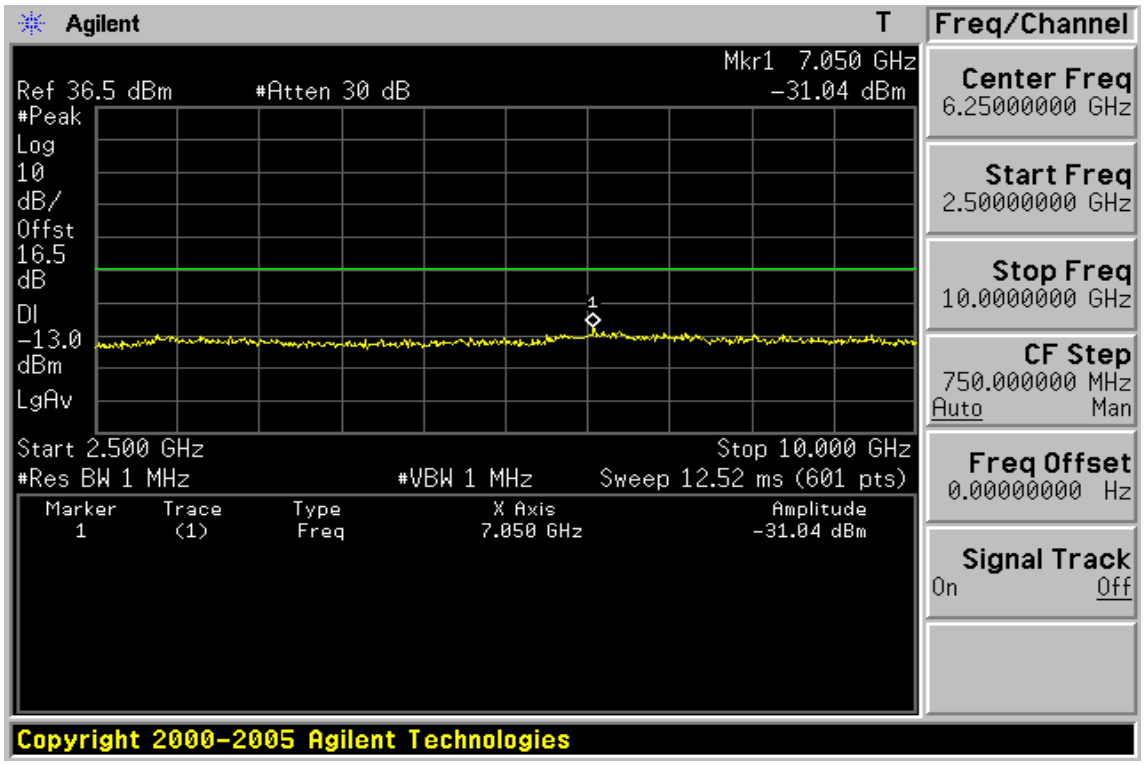
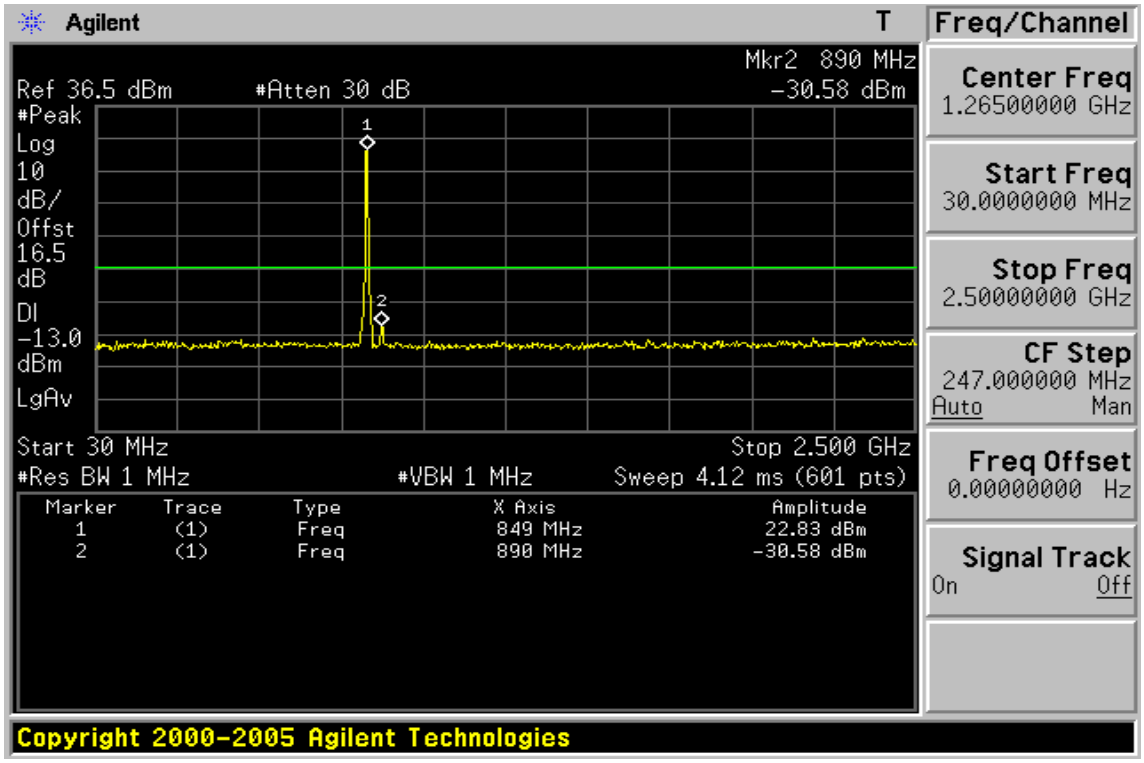


Figure 8-38: Out of Band emission at antenna terminals – HSDPA V Channel Highest



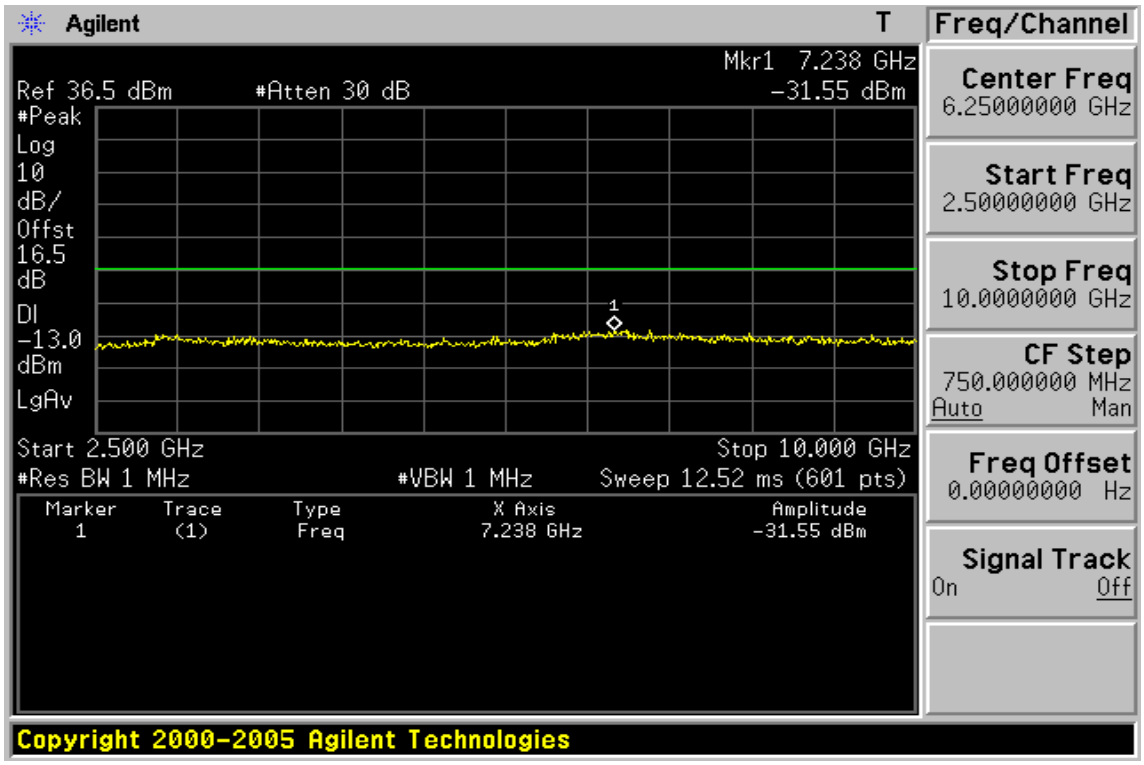


Figure 8-39: Band edge emission at antenna terminals – HSDPA V Channel Lowest

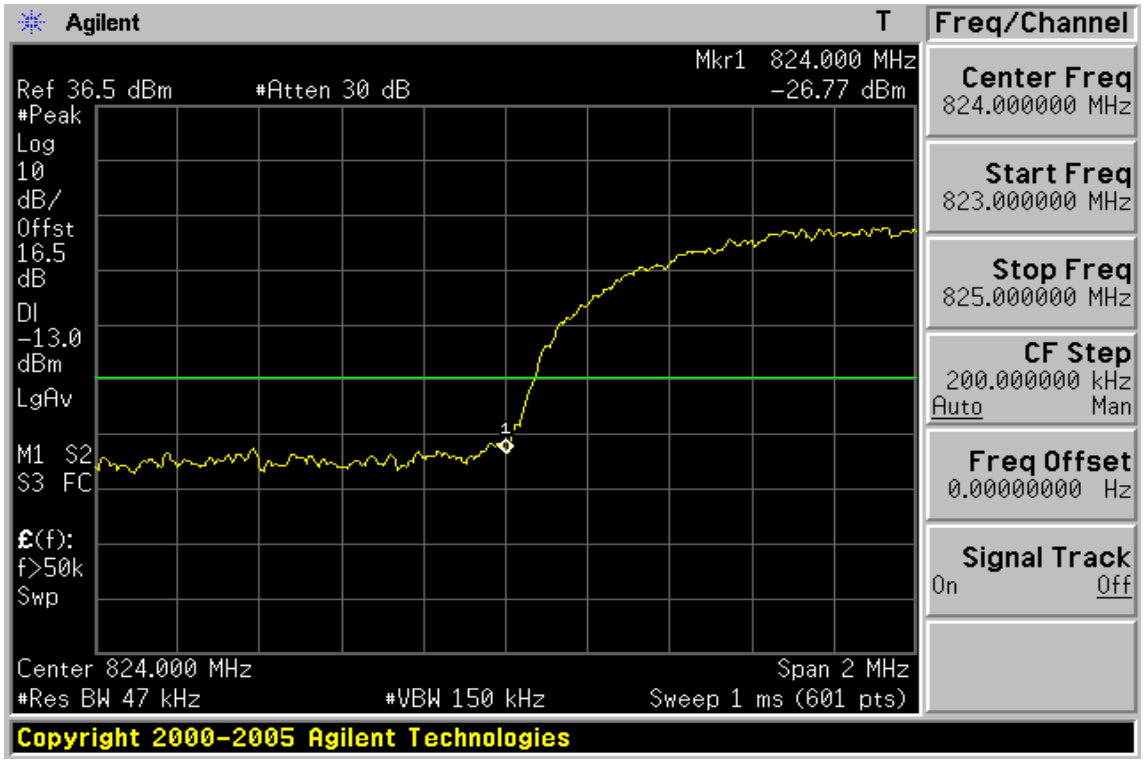
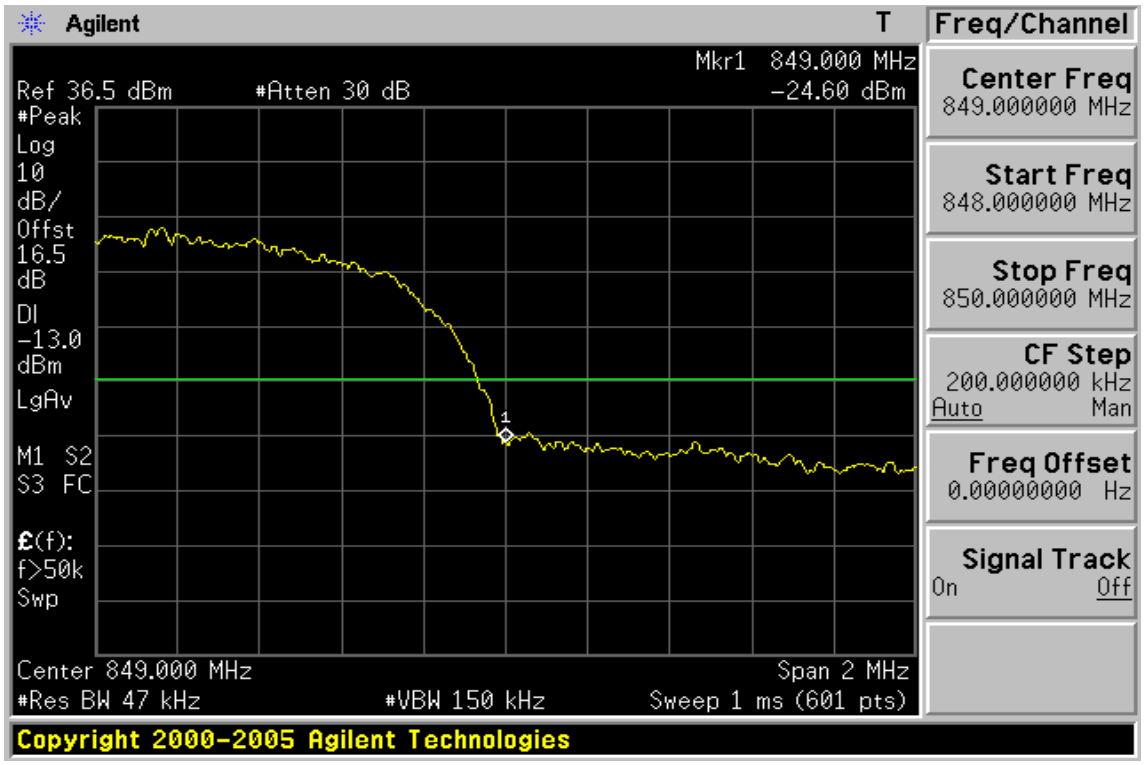


Figure 8-40: Band edge emission at antenna terminals – HSDPA V Channel Highest



9. FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT (TX)

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)

According to RSS-132 §4.5

4.5.1 Out-of-block Emissions

Mobile and base station equipment with emission bandwidth less than or equal to 4 MHz shall comply with 4.5.1.1. Mobile station equipment with emission bandwidth greater than 4 MHz shall comply with 4.5.1.2. Base station equipment with emission bandwidth greater than 4 MHz shall comply with either 4.5.1.2 or 4.5.1.3.

4.5.1.1 In the first 1.0 MHz band immediately outside and adjacent to the licensee's frequency block, the power of emissions per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (in watts) by at least 43 + 10 log (P), dB. After the first 1.0 MHz, the power of emissions shall be attenuated below the transmitter output power by at least

43 + 10 log (P), dB, in any 100 kHz bandwidth.

4.5.1.2 In the first 1.0 MHz band immediately outside and adjacent to the licensee's frequency block, the power of emissions per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (in watts) by at least 43 + 10 log (P), dB. After the first 1.0 MHz, the power of emissions shall be attenuated below the transmitter output power by at least

43 + 10 log (P), dB, in any 1 MHz bandwidth

According to RSS-133 §6.5

6.5.1 Out-of-Block Emissions

a. Mobile stations must comply with subsection i. below.

In the first 1.0MHz band immediately outside and adjacent to the licensee's frequency block. the power of emissions per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (in watts) by at least 43 + 10 log (P) dB.

b. After the first 1.0 MHz (for equipment that complies with a.i. of this subsection) or 1.5 MHz (for equipment that complies with all of this subsection), the power of emissions shall be attenuated below the transmitter output power by at least 43 + 10 log (P), dB, per any MHz of bandwidth.

(Note: If the test result using 1% of the emission bandwidth is used, then power integration over 1.0 MHz is required; alternatively, the spectrum analyzer resolution and video bandwidths can be increased to 1.0 MHz for this measurement).

6.5.2 Out-of-Sub-band Emissions

Outside the sub-bands 1850-1910 MHz and 1930-1990 MHz, the attenuation shall be equal to or greater than the out-of-block emission limits in Section 6.5.1.

9.2. EUT Setup (Block Diagram of Configuration):

Refer to section 6.2 in this report

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 was 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:

Refer to section 2.4 in this report

9.5. Measurement Result:

Refer to attach tabular data sheets.

Radiated Spurious Emission Measurement Result: GPRS 850 Mode

Operation Mode	: TX CH Low Mode	Test Date:	Apr. 28, 2011
Fundamental Frequency	: 824.20 MHz	Test By:	Bondi
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)
167.74	35.58	V	-63.30	-7.81	1.63	-72.75	-13.00	-59.75
241.46	35.34	V	-64.87	-7.88	1.94	-74.70	-13.00	-61.70
328.76	32.72	V	-65.17	-7.76	2.28	-75.21	-13.00	-62.21
558.65	32.68	V	-59.30	-7.77	2.97	-70.04	-13.00	-57.04
699.30	33.36	V	-56.07	-7.86	3.29	-67.22	-13.00	-54.22
932.10	33.45	V	-51.22	-7.98	3.85	-63.05	-13.00	-50.05
1650.00	60.47	V	-44.11	9.29	5.23	-40.05	-13.00	-27.05
2482.00	54.19	V	-46.75	10.07	6.54	-43.23	-13.00	-30.23
3288.00	57.67	V	-41.20	12.15	7.70	-36.75	-13.00	-23.75
4120.00	39.48	V	-56.65	12.61	8.86	-52.89	-13.00	-39.89
4952.00	41.10	V	-51.34	12.65	9.74	-48.43	-13.00	-35.43
5777.50	45.07	V	-45.10	13.57	10.55	-42.08	-13.00	-29.08
6590.00	39.46	V	-46.08	12.05	11.29	-45.33	-13.00	-32.33
7417.80	---	V		11.49	12.10		-13.00	
8242.00	---	V		11.48	12.71		-13.00	

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

Remark:

1 The emission 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)

Operation Mode	: TX CH Low Mode	Test Date:	Apr. 28, 2011
Fundamental Frequency	: 824.20 MHz	Test By:	Bondi
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)
160.95	36.32	H	-62.30	-7.81	1.62	-71.72	-13.00	-58.72
219.15	32.83	H	-67.89	-7.86	1.82	-77.57	-13.00	-64.57
332.64	32.98	H	-64.38	-7.74	2.29	-74.41	-13.00	-61.41
555.74	32.40	H	-59.20	-7.76	2.97	-69.93	-13.00	-56.93
687.66	33.30	H	-54.85	-7.85	3.26	-65.95	-13.00	-52.95
934.04	33.69	H	-50.72	-7.98	3.85	-62.56	-13.00	-49.56
1650.00	32.66	H	-71.74	9.29	5.23	-67.68	-13.00	-54.68
2482.00	71.90	H	-28.95	10.07	6.54	-25.42	-13.00	-12.42
3288.00	59.84	H	-39.26	12.15	7.70	-34.81	-13.00	-21.81
4120.00	58.37	H	-37.89	12.61	8.86	-34.13	-13.00	-21.13
4952.00	45.45	H	-47.15	12.65	9.74	-44.24	-13.00	-31.24
5777.50	38.38	H	-51.91	13.57	10.55	-48.89	-13.00	-35.89
6593.60	41.99	H	-43.53	12.05	11.30	-42.78	-13.00	-29.78
7417.80	---	H		11.49	12.10		-13.00	
8242.00	---	H		11.48	12.71		-13.00	

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

Remark:

1 The emission 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)

Operation Mode	: TX CH Mid Mode	Test Date:	Apr. 28, 2011
Fundamental Frequency	: 836.60 MHz	Test By:	Bondi
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)
173.56	37.50	V	-61.91	-7.82	1.65	-71.37	-13.00	-58.37
245.34	31.72	V	-68.35	-7.89	1.96	-78.20	-13.00	-65.20
338.46	32.36	V	-65.41	-7.70	2.32	-75.43	-13.00	-62.43
555.74	33.36	V	-58.79	-7.76	2.97	-69.53	-13.00	-56.53
694.45	32.88	V	-56.50	-7.85	3.28	-67.63	-13.00	-54.63
972.84	33.02	V	-51.07	-8.00	3.95	-63.02	-13.00	-50.02
1663.00	56.33	V	-48.24	9.33	5.25	-44.16	-13.00	-31.16
2508.00	51.46	V	-49.33	10.08	6.58	-45.83	-13.00	-32.83
3340.00	55.91	V	-42.95	12.26	7.78	-38.47	-13.00	-25.47
4185.00	40.56	V	-55.32	12.62	8.93	-51.63	-13.00	-38.63
5019.60	---	V		12.67	9.81		-13.00	
5856.20	---	V		13.68	10.62		-13.00	
6692.80	---	V		11.95	11.39		-13.00	
7529.40	---	V		11.45	12.20		-13.00	
8366.00	---	V		11.59	12.81		-13.00	

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)

Operation Mode	: TX CH Mid Mode	Test Date:	Apr. 28, 2011
Fundamental Frequency	: 836.60 MHz	Test By:	Bondi
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)
175.50	36.67	H	-63.08	-7.82	1.65	-72.55	-13.00	-59.55
250.19	31.32	H	-67.89	-7.89	1.99	-77.77	-13.00	-64.77
338.46	31.67	H	-65.64	-7.70	2.32	-75.66	-13.00	-62.66
555.74	32.07	H	-59.53	-7.76	2.97	-70.26	-13.00	-57.26
691.54	34.37	H	-53.61	-7.85	3.27	-64.73	-13.00	-51.73
922.40	33.03	H	-51.53	-7.97	3.83	-63.34	-13.00	-50.34
1663.00	70.17	H	-34.22	9.33	5.25	-30.14	-13.00	-17.14
2508.00	60.79	H	-39.92	10.08	6.58	-36.41	-13.00	-23.41
3340.00	53.81	H	-45.26	12.26	7.78	-40.77	-13.00	-27.77
4185.00	46.86	H	-49.16	12.62	8.93	-45.48	-13.00	-32.48
5017.00	37.86	H	-54.46	12.67	9.81	-51.60	-13.00	-38.60
5856.20	---	H		13.68	10.62		-13.00	
6687.50	37.82	H	-47.22	11.96	11.39	-46.65	-13.00	-33.65
7529.40	---	H		11.45	12.20		-13.00	
8366.00	---	H		11.59	12.81		-13.00	

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

Remark:

1 The emission 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)

Operation Mode	: TX CH High Mode	Test Date:	Apr. 28, 2011
Fundamental Frequency	: 848.80 MHz	Test By:	Bondi
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)
170.65	38.00	V	-61.14	-7.82	1.64	-70.60	-13.00	-57.60
250.19	33.19	V	-66.69	-7.89	1.99	-76.57	-13.00	-63.57
335.55	32.46	V	-65.35	-7.72	2.31	-75.38	-13.00	-62.38
551.86	32.51	V	-59.87	-7.76	2.96	-70.60	-13.00	-57.60
697.36	33.01	V	-56.40	-7.86	3.28	-67.54	-13.00	-54.54
943.74	33.03	V	-51.61	-7.99	3.87	-63.47	-13.00	-50.47
1702.00	51.71	V	-52.82	9.45	5.32	-48.69	-13.00	-35.69
2547.00	52.68	V	-47.96	10.20	6.63	-44.40	-13.00	-31.40
3392.00	45.37	V	-53.48	12.37	7.86	-48.97	-13.00	-35.97
4244.00	---	V		12.63	9.00		-13.00	
5092.80	---	V		12.74	9.88		-13.00	
5941.60	---	V		13.81	10.70		-13.00	
6790.40	---	V		11.86	11.48		-13.00	
7639.20	---	V		11.40	12.27		-13.00	
8488.00	---	V		11.70	12.91		-13.00	

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)

Operation Mode	: TX CH High Mode	Test Date:	Apr. 28, 2011
Fundamental Frequency	: 848.80 MHz	Test By:	Bondi
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)
154.16	32.39	H	-65.70	-7.80	1.60	-75.11	-13.00	-62.11
243.40	31.92	H	-67.62	-7.88	1.95	-77.46	-13.00	-64.46
335.55	31.59	H	-65.74	-7.72	2.31	-75.77	-13.00	-62.77
555.74	32.51	H	-59.09	-7.76	2.97	-69.82	-13.00	-56.82
687.66	32.77	H	-55.38	-7.85	3.26	-66.48	-13.00	-53.48
936.00	33.19	H	-51.20	-7.99	3.85	-63.04	-13.00	-50.04
1702.00	65.72	H	-38.62	9.45	5.32	-34.49	-13.00	-21.49
2547.00	61.05	H	-39.55	10.20	6.63	-35.98	-13.00	-22.98
3392.00	46.12	H	-52.91	12.37	7.86	-48.39	-13.00	-35.39
4244.00	---	H		12.63	9.00		-13.00	
5092.80	---	H		12.74	9.88		-13.00	
5941.60	---	H		13.81	10.70		-13.00	
6790.40	---	H		11.86	11.48		-13.00	
7639.20	---	H		11.40	12.27		-13.00	
8488.00	---	H		11.70	12.91		-13.00	

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

Remark:

1 The emission 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 Mode	Test Date:	Apr. 28, 2011
Fundamental Frequency	: 1850.20MHz	Test By:	Bondi
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)
149.31	32.56	V	-64.79	-7.80	1.59	-74.18	-13.00	-61.18
222.06	35.33	V	-65.62	-7.86	1.83	-75.31	-13.00	-62.31
338.46	31.57	V	-66.20	-7.70	2.32	-76.22	-13.00	-63.22
551.86	32.17	V	-60.21	-7.76	2.96	-70.94	-13.00	-57.94
668.26	33.43	V	-55.68	-7.83	3.21	-66.72	-13.00	-53.72
917.55	32.51	V	-52.19	-7.97	3.82	-63.98	-13.00	-50.98
3697.50	42.20	V	-55.74	12.61	8.30	-51.44	-13.00	-38.44
5550.60	---	V		13.23	10.33		-13.00	
7400.80	---	V		11.50	12.08		-13.00	
9251.00	---	V		11.92	13.50		-13.00	
11101.20	---	V		11.66	15.11		-13.00	
12951.40	---	V		13.63	16.60		-13.00	
14801.60	---	V		12.76	17.95		-13.00	
16651.80	---	V		15.92	19.14		-13.00	
18502.00	---	V		18.75	10.40		-13.00	

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

Remark:

1 The emission 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)

Operation Mode	: TX CH Low Mode	Test Date:	Apr. 28, 2011
Fundamental Frequency	: 1850.20MHz	Test By:	Bondi
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)
165.80	34.26	H	-64.74	-7.81	1.63	-74.18	-13.00	-61.18
238.55	32.52	H	-67.26	-7.88	1.93	-77.06	-13.00	-64.06
322.94	32.33	H	-65.12	-7.79	2.26	-75.17	-13.00	-62.17
516.94	32.97	H	-59.89	-7.73	2.85	-70.48	-13.00	-57.48
613.94	33.23	H	-57.20	-7.80	3.07	-68.06	-13.00	-55.06
972.84	32.51	H	-51.56	-8.00	3.95	-63.51	-13.00	-50.51
3697.50	42.15	H	-55.91	12.61	8.30	-51.60	-13.00	-38.60
5550.60	---	H		13.23	10.33		-13.00	
7400.80	---	H		11.50	12.08		-13.00	
9251.00	---	H		11.92	13.50		-13.00	
11101.20	---	H		11.66	15.11		-13.00	
12951.40	---	H		13.63	16.60		-13.00	
14801.60	---	H		12.76	17.95		-13.00	
16651.80	---	H		15.92	19.14		-13.00	
18502.00	---	H		18.75	10.40		-13.00	

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

Remark:

1 The emission 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)

Operation Mode	: TX CH Mid Mode	Test Date:	Apr. 28, 2011
Fundamental Frequency	: 1880MHz	Test By:	Bondi
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)
149.31	32.88	V	-64.47	-7.80	1.59	-73.86	-13.00	-60.86
248.25	31.78	V	-68.18	-7.89	1.98	-78.04	-13.00	-65.04
328.76	32.63	V	-65.26	-7.76	2.28	-75.30	-13.00	-62.30
558.65	32.29	V	-59.69	-7.77	2.97	-70.43	-13.00	-57.43
672.14	32.36	V	-56.79	-7.83	3.22	-67.84	-13.00	-54.84
980.60	32.32	V	-51.60	-7.99	3.97	-63.56	-13.00	-50.56
3762.00	40.45	V	-57.20	12.60	8.39	-52.99	-13.00	-39.99
5640.00	---	V		13.36	10.41		-13.00	
7520.00	---	V		11.45	12.19		-13.00	
9400.00	---	V		11.93	13.61		-13.00	
11280.00	---	V		11.92	15.27		-13.00	
13160.00	---	V		13.33	16.71		-13.00	
15040.00	---	V		13.76	18.15		-13.00	
16920.00	---	V		15.27	19.32		-13.00	
18800.00	---	V		18.68	16.58		-13.00	

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

Remark:

1 The emission 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)

Operation Mode	: TX CH Mid Mode	Test Date:	Apr. 28, 2011
Fundamental Frequency	: 1880MHz	Test By:	Bondi
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)
158.04	32.81	H	-65.58	-7.81	1.61	-75.00	-13.00	-62.00
248.25	32.61	H	-66.70	-7.89	1.98	-76.56	-13.00	-63.56
322.94	32.30	H	-65.15	-7.79	2.26	-75.20	-13.00	-62.20
551.86	32.71	H	-58.97	-7.76	2.96	-69.70	-13.00	-56.70
613.94	33.80	H	-56.63	-7.80	3.07	-67.49	-13.00	-54.49
975.75	32.23	H	-51.83	-7.99	3.96	-63.78	-13.00	-50.78
3762.50	37.76	H	-60.00	12.60	8.39	-55.79	-13.00	-42.79
5640.00	---	H		13.36	10.41		-13.00	
7520.00	---	H		11.45	12.19		-13.00	
9400.00	---	H		11.93	13.61		-13.00	
11280.00	---	H		11.92	15.27		-13.00	
13160.00	---	H		13.33	16.71		-13.00	
15040.00	---	H		13.76	18.15		-13.00	
16920.00	---	H		15.27	19.32		-13.00	
18800.00	---	H		18.68	16.58		-13.00	

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

Remark:

1 The emission 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)

Operation Mode	: TX CH High Mode	Test Date:	Apr. 28, 2011
Fundamental Frequency	: 1909.8 MHz	Test By:	Bondi
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)
173.56	34.90	V	-64.51	-7.82	1.65	-73.97	-13.00	-60.97
248.25	32.98	V	-66.98	-7.89	1.98	-76.84	-13.00	-63.84
340.40	31.92	V	-65.83	-7.69	2.32	-75.85	-13.00	-62.85
553.80	32.91	V	-59.36	-7.76	2.97	-70.09	-13.00	-57.09
652.74	32.44	V	-56.51	-7.81	3.17	-67.49	-13.00	-54.49
936.95	34.04	V	-50.61	-7.99	3.86	-62.46	-13.00	-49.46
3827.50	40.01	V	-57.35	12.60	8.48	-53.22	-13.00	-40.22
5729.40	---	V		13.49	10.50		-13.00	
7639.20	---	V		11.40	12.27		-13.00	
9549.00	---	V		11.95	13.74		-13.00	
11458.80	---	V		12.17	15.43		-13.00	
13368.60	---	V		12.97	16.82		-13.00	
15278.40	---	V		15.00	18.29		-13.00	
17188.20	---	V		14.47	19.52		-13.00	
19098.00	---	V		18.66	20.78		-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)

Operation Mode	: TX CH High Mode	Test Date:	Apr. 28, 2011
Fundamental Frequency	: 1909.8 MHz	Test By:	Bondi
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)
156.10	33.63	H	-64.61	-7.80	1.60	-74.02	-13.00	-61.02
248.25	32.13	H	-67.18	-7.89	1.98	-77.04	-13.00	-64.04
325.85	33.09	H	-64.33	-7.78	2.27	-74.38	-13.00	-61.38
524.70	34.73	H	-57.87	-7.74	2.88	-68.48	-13.00	-55.48
648.86	32.67	H	-57.07	-7.81	3.16	-68.04	-13.00	-55.04
966.05	32.11	H	-52.00	-8.00	3.93	-63.93	-13.00	-50.93
3827.50	40.15	H	-57.32	12.60	8.48	-53.20	-13.00	-40.20
5729.40	---	H		13.49	10.50		-13.00	
7639.20	---	H		11.40	12.27		-13.00	
9549.00	---	H		11.95	13.74		-13.00	
11458.80	---	H		12.17	15.43		-13.00	
13368.60	---	H		12.97	16.82		-13.00	
15278.40	---	H		15.00	18.29		-13.00	
17188.20	---	H		14.47	19.52		-13.00	
19098.00	---	H		18.66	20.78		-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: HSDPA II Mode

Operation Mode	: TX CH Low Mode	Test Date:	Apr. 28, 2011
Fundamental Frequency	: 1852.4MHz	Test By:	Bondi
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)
158.04	33.55	V	-64.46	-7.81	1.61	-73.88	-13.00	-60.88
228.85	33.41	V	-67.28	-7.87	1.87	-77.02	-13.00	-64.02
330.70	32.31	V	-65.56	-7.75	2.29	-75.59	-13.00	-62.59
435.46	34.66	V	-59.73	-7.69	2.62	-70.03	-13.00	-57.03
621.70	33.20	V	-56.09	-7.80	3.09	-66.97	-13.00	-53.97
966.05	32.22	V	-52.03	-8.00	3.93	-63.96	-13.00	-50.96
3717.00	41.94	V	-55.91	12.61	8.33	-51.64	-13.00	-38.64
5557.20	---	V		13.24	10.33		-13.00	
7409.60	---	V		11.49	12.09		-13.00	
9262.00	---	V		11.92	13.51		-13.00	
11114.40	---	V		11.68	15.12		-13.00	
12966.80	---	V		13.62	16.61		-13.00	
14819.20	---	V		12.83	17.96		-13.00	
16671.60	---	V		15.87	19.15		-13.00	
18524.00	---	V		18.74	10.86		-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)

Operation Mode	: TX CH Low Mode	Test Date:	Apr. 28, 2011
Fundamental Frequency	: 1852.4MHz	Test By:	Bondi
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)
156.10	33.10	H	-65.14	-7.80	1.60	-74.55	-13.00	-61.55
248.25	32.19	H	-67.12	-7.89	1.98	-76.98	-13.00	-63.98
325.85	31.87	H	-65.55	-7.78	2.27	-75.60	-13.00	-62.60
558.65	33.12	H	-58.42	-7.77	2.97	-69.16	-13.00	-56.16
639.16	32.74	H	-57.19	-7.81	3.13	-68.13	-13.00	-55.13
970.90	31.88	H	-52.20	-8.00	3.94	-64.14	-13.00	-51.14
3697.50	42.63	H	-55.43	12.61	8.30	-51.12	-13.00	-38.12
5557.20	---	H		13.24	10.33		-13.00	
7409.60	---	H		11.49	12.09		-13.00	
9262.00	---	H		11.92	13.51		-13.00	
11114.40	---	H		11.68	15.12		-13.00	
12966.80	---	H		13.62	16.61		-13.00	
14819.20	---	H		12.83	17.96		-13.00	
16671.60	---	H		15.87	19.15		-13.00	
18524.00	---	H		18.74	10.86		-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)

Operation Mode	: TX CH Mid Mode	Test Date:	Apr. 28, 2011
Fundamental Frequency	: 1880MHz	Test By:	Bondi
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)
156.10	32.62	V	-65.22	-7.80	1.60	-74.63	-13.00	-61.63
248.25	32.83	V	-67.13	-7.89	1.98	-76.99	-13.00	-63.99
335.55	32.39	V	-65.42	-7.72	2.31	-75.45	-13.00	-62.45
558.65	32.40	V	-59.58	-7.77	2.97	-70.32	-13.00	-57.32
655.65	32.46	V	-56.52	-7.82	3.17	-67.51	-13.00	-54.51
980.60	32.41	V	-51.51	-7.99	3.97	-63.47	-13.00	-50.47
3762.00	38.65	V	-59.00	12.60	8.39	-54.79	-13.00	-41.79
5640.00	---	V		13.36	10.41		-13.00	
7520.00	---	V		11.45	12.19		-13.00	
9400.00	---	V		11.93	13.61		-13.00	
11280.00	---	V		11.92	15.27		-13.00	
13160.00	---	V		13.33	16.71		-13.00	
15040.00	---	V		13.76	18.15		-13.00	
16920.00	---	V		15.27	19.32		-13.00	
18800.00	---	V		18.68	16.58		-13.00	

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

Remark:

1 The emission 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)

Operation Mode	: TX CH Mid Mode	Test Date:	Apr. 28, 2011
Fundamental Frequency	: 1880MHz	Test By:	Bondi
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)
149.31	32.48	H	-65.36	-7.80	1.59	-74.75	-13.00	-61.75
225.94	33.64	H	-66.75	-7.87	1.86	-76.47	-13.00	-63.47
316.15	32.46	H	-65.05	-7.83	2.23	-75.11	-13.00	-62.11
555.74	32.55	H	-59.05	-7.76	2.97	-69.78	-13.00	-56.78
610.06	33.50	H	-57.00	-7.79	3.06	-67.85	-13.00	-54.85
975.75	32.71	H	-51.35	-7.99	3.96	-63.30	-13.00	-50.30
3762.50	39.47	H	-58.29	12.60	8.39	-54.08	-13.00	-41.08
5640.00	---	H		13.36	10.41		-13.00	
7520.00	---	H		11.45	12.19		-13.00	
9400.00	---	H		11.93	13.61		-13.00	
11280.00	---	H		11.92	15.27		-13.00	
13160.00	---	H		13.33	16.71		-13.00	
15040.00	---	H		13.76	18.15		-13.00	
16920.00	---	H		15.27	19.32		-13.00	
18800.00	---	H		18.68	16.58		-13.00	

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

Remark:

1 The emission 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)

Operation Mode	: TX CH High Mode	Test Date:	Apr. 28, 2011
Fundamental Frequency	: 1907.6MHz	Test By:	Bondi
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)
167.74	34.18	V	-64.70	-7.81	1.63	-74.15	-13.00	-61.15
248.25	32.83	V	-67.13	-7.89	1.98	-76.99	-13.00	-63.99
328.76	33.14	V	-64.75	-7.76	2.28	-74.79	-13.00	-61.79
558.65	32.62	V	-59.36	-7.77	2.97	-70.10	-13.00	-57.10
658.56	32.77	V	-56.24	-7.82	3.18	-67.24	-13.00	-54.24
951.50	32.49	V	-52.10	-8.00	3.88	-63.98	-13.00	-50.98
3808.00	41.16	V	-56.28	12.60	8.46	-52.14	-13.00	-39.14
5722.80	---	V		13.48	10.49		-13.00	
7630.40	---	V		11.41	12.27		-13.00	
9538.00	---	V		11.95	13.73		-13.00	
11445.60	---	V		12.15	15.42		-13.00	
13353.20	---	V		13.00	16.81		-13.00	
15260.80	---	V		14.91	18.28		-13.00	
17168.40	---	V		14.53	19.50		-13.00	
19076.00	---	V		18.65	20.76		-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)

Operation Mode	: TX CH High Mode	Test Date:	Apr. 28, 2011
Fundamental Frequency	: 1907.6MHz	Test By:	Bondi
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)
149.31	32.04	H	-65.80	-7.80	1.59	-75.19	-13.00	-62.19
248.25	33.80	H	-65.51	-7.89	1.98	-75.37	-13.00	-62.37
332.64	32.36	H	-65.00	-7.74	2.29	-75.03	-13.00	-62.03
558.65	32.96	H	-58.58	-7.77	2.97	-69.32	-13.00	-56.32
652.74	32.86	H	-56.75	-7.81	3.17	-67.73	-13.00	-54.73
985.45	33.26	H	-50.74	-7.99	3.99	-62.72	-13.00	-49.72
3808.00	40.27	H	-57.29	12.60	8.46	-53.14	-13.00	-40.14
5722.80	---	H		13.48	10.49		-13.00	
7630.40	---	H		11.41	12.27		-13.00	
9538.00	---	H		11.95	13.73		-13.00	
11445.60	---	H		12.15	15.42		-13.00	
13353.20	---	H		13.00	16.81		-13.00	
15260.80	---	H		14.91	18.28		-13.00	
17168.40	---	H		14.53	19.50		-13.00	
19076.00	---	H		18.65	20.76		-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: HSDPA V Mode

Operation Mode	: TX CH Low Mode	Test Date:	Apr. 28, 2011
Fundamental Frequency	: 826.4MHz	Test By:	Bondi
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)
194.90	36.55	V	-64.77	-9.98	1.70	-76.45	-13.00	-63.45
248.25	31.89	V	-68.07	-10.03	1.98	-80.07	-13.00	-67.07
340.40	38.54	V	-59.21	-9.83	2.32	-71.37	-13.00	-58.37
553.80	32.25	V	-60.02	-9.90	2.97	-72.89	-13.00	-59.89
697.36	33.86	V	-55.55	-10.00	3.28	-68.83	-13.00	-55.83
970.90	33.43	V	-50.71	-10.14	3.94	-64.79	-13.00	-51.79
1650.00	37.49	V	-67.09	9.29	5.23	-63.03	-13.00	-50.03
2479.20	36.16	V	-64.80	10.07	6.54	-61.27	-13.00	-48.27
3305.60	34.95	V	-63.92	12.19	7.73	-59.46	-13.00	-46.46
4132.00	---	V		12.62	8.87		-13.00	
4958.40	---	V		12.65	9.75		-13.00	
5784.80	---	V		13.58	10.55		-13.00	
6611.20	---	V		12.03	11.31		-13.00	
7437.60	---	V		11.48	12.12		-13.00	
8264.00	---	V		11.50	12.73		-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)

Operation Mode	: TX CH Low Mode	Test Date:	Apr. 28, 2011
Fundamental Frequency	: 826.4MHz	Test By:	Bondi
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)
163.86	33.15	H	-65.70	-9.95	1.62	-77.27	-13.00	-64.27
235.64	31.84	H	-68.08	-10.02	1.91	-80.00	-13.00	-67.00
322.94	31.89	H	-65.56	-9.93	2.26	-77.75	-13.00	-64.75
558.65	32.86	H	-58.68	-9.91	2.97	-71.56	-13.00	-58.56
697.36	33.11	H	-54.63	-10.00	3.28	-67.91	-13.00	-54.91
970.90	33.10	H	-50.98	-10.14	3.94	-65.06	-13.00	-52.06
1650.00	47.47	H	-56.93	9.29	5.23	-52.87	-13.00	-39.87
2479.20	---	H		10.07	6.54		-13.00	
3305.60	---	H		12.19	7.73		-13.00	
4132.00	---	H		12.62	8.87		-13.00	
4958.40	---	H		12.65	9.75		-13.00	
5784.80	---	H		13.58	10.55		-13.00	
6611.20	---	H		12.03	11.31		-13.00	
7437.60	---	H		11.48	12.12		-13.00	
8264.00	---	H		11.50	12.73		-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)

Operation Mode	: TX CH Mid Mode	Test Date:	Apr. 28, 2011
Fundamental Frequency	: 836.6MHz	Test By:	Bondi
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)
154.16	32.54	V	-65.12	-9.94	1.60	-76.67	-13.00	-63.67
225.94	33.11	V	-67.69	-10.01	1.86	-79.55	-13.00	-66.55
338.46	38.00	V	-59.77	-9.84	2.32	-71.93	-13.00	-58.93
546.04	32.01	V	-60.61	-9.90	2.95	-73.45	-13.00	-60.45
691.54	33.35	V	-56.00	-9.99	3.27	-69.26	-13.00	-56.26
959.26	32.85	V	-51.56	-10.14	3.91	-65.60	-13.00	-52.60
1663.00	37.41	V	-67.16	9.33	5.25	-63.08	-13.00	-50.08
2508.00	---	V		10.08	6.58		-13.00	
3344.00	---	V		12.27	7.79		-13.00	
4180.00	---	V		12.62	8.93		-13.00	
5016.00	---	V		12.67	9.81		-13.00	
5852.00	---	V		13.68	10.62		-13.00	
6688.00	---	V		11.96	11.39		-13.00	
7524.00	---	V		11.45	12.20		-13.00	
8360.00	---	V		11.58	12.81		-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)

Operation Mode	: TX CH Mid Mode	Test Date:	Apr. 28, 2011
Fundamental Frequency	: 836.6MHz	Test By:	Bondi
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
167.74	34.86	H	-64.29	-9.95	1.63	-75.87	-13.00	-62.87
250.19	31.45	H	-67.76	-10.03	1.99	-79.78	-13.00	-66.78
330.70	32.61	H	-64.77	-9.89	2.29	-76.94	-13.00	-63.94
495.60	33.00	H	-60.49	-9.86	2.79	-73.13	-13.00	-60.13
691.54	33.55	H	-54.43	-9.99	3.27	-67.69	-13.00	-54.69
972.84	32.72	H	-51.35	-10.14	3.95	-65.44	-13.00	-52.44
1663.00	48.66	H	-55.73	9.33	5.25	-51.65	-13.00	-38.65
2508.00	---	H		10.08	6.58		-13.00	
3344.00	---	H		12.27	7.79		-13.00	
4180.00	---	H		12.62	8.93		-13.00	
5016.00	---	H		12.67	9.81		-13.00	
5852.00	---	H		13.68	10.62		-13.00	
6688.00	---	H		11.96	11.39		-13.00	
7524.00	---	H		11.45	12.20		-13.00	
8360.00	---	H		11.58	12.81		-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)

Operation Mode	: TX CH High Mode	Test Date:	Apr. 28, 2011
Fundamental Frequency	: 846.6MHz	Test By:	Bondi
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)
156.10	33.00	V	-64.84	-9.94	1.60	-76.39	-13.00	-63.39
250.19	34.30	V	-65.58	-10.03	1.99	-77.60	-13.00	-64.60
296.75	32.85	V	-65.51	-10.06	2.16	-77.72	-13.00	-64.72
553.80	32.44	V	-59.83	-9.90	2.97	-72.70	-13.00	-59.70
697.36	32.84	V	-56.57	-10.00	3.28	-69.85	-13.00	-56.85
961.20	33.92	V	-50.44	-10.14	3.91	-64.49	-13.00	-51.49
1702.00	37.16	V	-67.37	9.45	5.32	-63.24	-13.00	-50.24
2539.80	---	V		10.18	6.62		-13.00	
3386.40	---	V		12.36	7.85		-13.00	
4233.00	---	V		12.63	8.99		-13.00	
5079.60	---	V		12.73	9.87		-13.00	
5926.20	---	V		13.79	10.69		-13.00	
6772.80	---	V		11.87	11.47		-13.00	
7619.40	---	V		11.41	12.26		-13.00	
8466.00	---	V		11.68	12.89		-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)

Operation Mode	: TX CH High Mode	Test Date:	Apr. 28, 2011
Fundamental Frequency	: 846.6MHz	Test By:	Bondi
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)
156.10	32.87	H	-65.37	-9.94	1.60	-76.92	-13.00	-63.92
219.15	34.06	H	-66.66	-10.00	1.82	-78.48	-13.00	-65.48
335.55	31.40	H	-65.93	-9.86	2.31	-78.10	-13.00	-65.10
558.65	32.87	H	-58.67	-9.91	2.97	-71.55	-13.00	-58.55
687.66	34.30	H	-53.85	-9.99	3.26	-67.09	-13.00	-54.09
961.20	33.15	H	-50.99	-10.14	3.91	-65.04	-13.00	-52.04
1702.00	50.42	H	-53.92	9.45	5.32	-49.79	-13.00	-36.79
2539.80	---	H		10.18	6.62		-13.00	
3386.40	---	H		12.36	7.85		-13.00	
4233.00	---	H		12.63	8.99		-13.00	
5079.60	---	H		12.73	9.87		-13.00	
5926.20	---	H		13.79	10.69		-13.00	
6772.80	---	H		11.87	11.47		-13.00	
7619.40	---	H		11.41	12.26		-13.00	
8466.00	---	H		11.68	12.89		-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(a) (1)

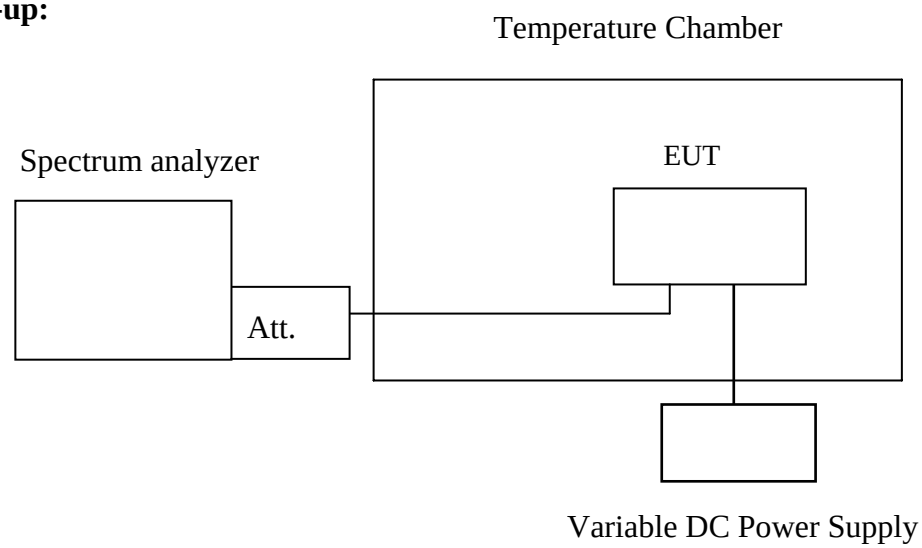
Frequency Tolerance: +/-2.5ppm for 850MHz band

+/-2.5ppm for 1900MHz band

According to RSS-133 §6.3, RSS-132 §4.3

The carrier frequency shall not depart from the reference frequency in excess of ±2.5 ppm for mobile stations

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:

Refer to section 2.4 in this report

10.5. Measurement Result:

Reference Frequency: GPRS 850 Mid Channel 836.6 MHz @ 25℃				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
3.7	-30	836.600042	-54.00	2091
3.7	-20	836.600017	-29.00	2091
3.7	-10	836.600011	-23.00	2091
3.7	0	836.600006	-18.00	2091
3.7	10	836.599995	-7.00	2091
3.7	20	836.599988	0.00	2091
3.7	30	836.599993	-5.00	2091
3.7	40	836.600018	-30.00	2091
3.7	50	836.600005	-17.00	2091

Reference Frequency: GPRS 1900 Mid Channel 1880 MHz @ 20℃				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
3.7	-30	1879.999971	-20.00	4700
3.7	-20	1879.999965	-14.00	4700
3.7	-10	1879.999981	-30.00	4700
3.7	0	1879.999991	-40.00	4700
3.7	10	1879.999979	-28.00	4700
3.7	20	1879.999951	0.00	4700
3.7	30	1879.999956	-5.00	4700
3.7	40	1879.999961	-10.00	4700
3.7	50	1879.999958	-7.00	4700

Reference Frequency: WCDMA II Mid Channel 1880 (ARFCN9400) MHz				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
3.7	-30	1880.000045	-33.00	4700
3.7	-20	1880.000039	-27.00	4700
3.7	-10	1880.000036	-24.00	4700
3.7	0	1880.000024	-12.00	4700
3.7	10	1880.000013	-1.00	4700
3.7	20	1880.000012	0.00	4700
3.7	30	1880.000005	7.00	4700
3.7	40	1880.000007	5.00	4700
3.7	50	1880.000003	9.00	4700

Reference Frequency: WCDMA V Mid Channel 836.6 (ARFCN4183) MHz				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
3.7	-30	836.600021	-18.00	2091
3.7	-20	836.600014	-11.00	2091
3.7	-10	836.600007	-4.00	2091
3.7	0	836.600011	-8.00	2091
3.7	10	836.600005	-2.00	2091
3.7	20	836.600003	0.00	2091
3.7	30	836.599999	4.00	2091
3.7	40	836.599989	14.00	2091
3.7	50	836.599993	10.00	2091

11. FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT

11.1. Standard Applicable:

According to FCC §2.1055(a) (1)

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

+/-2.5ppm for 1900MHz band

According to RSS-133 §6.3, RSS-132 §4.3

The carrier frequency shall not depart from the reference frequency in excess of ±2.5 ppm for mobile stations.

11.2. Test Set-up:

Refer to section 10.2 in this report

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:

Refer to section 2.4 in this report

11.5. Measurement Result:

Reference Frequency: GPRS 850 Mid Channel 836.6 MHz @ 25℃				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
4.2	25.00	836.599985	-5.00	2091.00
3.7	25.00	836.59998	0.00	2091.00
3.6	25.00	836.599979	1.00	2091.00
3.1 (End Point)	25.00	836.599317	663.00	2091.00

Reference Frequency: GPRS 1900 Mid Channel 1880 MHz @ 25℃				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
4.2	25	1879.999962	-5.00	4700
3.7	25	1879.999957	0.00	4700
3.6	25	1879.999948	9.00	4700
3.1 (End Point)	25	1879.998602	1355.00	4700

Reference Frequency: WCDMA II Mid Channel 1880 (ARFCN9400) MHz				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
4.2	25	1880.000009	3.00	4700
3.7	25	1880.000012	0.00	4700
3.6	25	1879.999992	20.00	4700
3.1 (Endpoint)	25	1879.999973	39.00	4700

Reference Frequency: WCDMA V Mid Channel 836.6 (ARFCN4183) MHz				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
4.2	25.00	836.600015	-12.00	2091.00
3.7	25.00	836.600003	0.00	2091.00
3.6	25.00	836.599973	30.00	2091.00
3.1 (End Point)	25.00	836.599964	39.00	2091.00

12. SPURIOUS RADIATED EMISSION TEST (RX)

12.1. Standard Applicable

According to RSS 132 §4.6, all spurious emissions shall comply with the limits of Table 2. The resolution bandwidth of the spectrum analyzer shall be 100 kHz for spurious emissions measurements below 1.0 GHz, and 1.0 MHz for measurements above 1.0 GHz.

Frequency (MHz)	Field strength μV/m	Distance (m)	Field strength at 3m dBμV/m
30-88	100	3	40
88-216	150	3	43.5
216-960	200	3	46
Above 960	500	3	54

According to RSS 133 §6.6, Receiver spurious emissions shall comply with the limits specified in RSS-Gen.

12.2. EUT Setup

1. The radiated emission tests were performed in the 3 meter open-test site, using the setup in accordance with the ANSI C63.4-2003.
2. The EUT was put in the front of the test table. The rear of the EUT and peripherals were placed flushed with the rear of the tabletop.
3. The spacing between the peripherals was 10 centimeters.
4. External I/O cables were draped along the edge of the test table and bundle when necessary.
5. The host was connected with 110Vac/60Hz power source.

12.3. Measurement Procedure

1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. The turn table shall rotate 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
5. Repeat above procedures until all frequency measured were complete.

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

Refer to section 6.2 in this report

12.5. Measurement Equipment Used:

Refer to section 2.4 in this report

12.6. Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor(if any) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CL - AG

Where	FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
	RA = Reading Amplitude	AG = Amplifier Gain
	AF = Antenna Factor	

12.7. Measurement Result

Refer to attach tabular data sheets.

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	GPRS 850 CH Low Mode	Test Date	Apr. 28, 2011
Fundamental Frequency	824.2 MHz	Test By	Bondi
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
175.50	V	Peak	39.52	-14.26	25.26	43.50	-18.24
262.80	V	Peak	33.28	-13.61	19.67	46.00	-26.33
340.40	V	Peak	32.88	-12.01	20.87	46.00	-25.13
559.62	V	Peak	33.12	-7.35	25.77	46.00	-20.23
592.60	V	Peak	34.73	-6.27	28.46	46.00	-17.54
895.24	V	Peak	35.29	-1.13	34.16	46.00	-11.84
177.44	H	Peak	35.28	-14.38	20.90	43.50	-22.60
264.74	H	Peak	32.98	-13.59	19.39	46.00	-26.61
332.64	H	Peak	33.04	-12.16	20.88	46.00	-25.12
558.65	H	Peak	32.95	-7.38	25.57	46.00	-20.43
660.50	H	Peak	33.52	-4.99	28.53	46.00	-17.47
885.54	H	Peak	33.81	-1.27	32.54	46.00	-13.46

Remark：

(1) Measuring frequencies from 30 MHz to the 1GHz.

(2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/AV detector mode.

(3) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

Operation Mode	GPRS 850 CH Mid Mode	Test Date	Apr. 28, 2011
Fundamental Frequency	836.6 MHz	Test By	Bondi
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
173.56	V	Peak	36.76	-14.16	22.60	43.50	-20.90
264.74	V	Peak	37.85	-13.59	24.26	46.00	-21.74
338.46	V	Peak	32.68	-12.05	20.63	46.00	-25.37
555.74	V	Peak	33.13	-7.47	25.66	46.00	-20.34
655.65	V	Peak	33.02	-4.97	28.05	46.00	-17.95
883.60	V	Peak	34.29	-1.40	32.89	46.00	-13.11
149.31	H	Peak	32.97	-12.90	20.07	43.50	-23.43
241.46	H	Peak	33.08	-14.09	18.99	46.00	-27.01
330.70	H	Peak	37.34	-12.22	25.12	46.00	-20.88
558.65	H	Peak	33.46	-7.38	26.08	46.00	-19.92
697.36	H	Peak	33.76	-5.05	28.71	46.00	-17.29
968.96	H	Peak	32.74	-0.85	31.89	54.00	-22.11

Remark：

(1) Measuring frequencies from 30 MHz to the 1GHz.

(2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/AV detector mode.

(3) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

Operation Mode	GPRS 850 CH High Mode	Test Date	Apr. 28, 2011
Fundamental Frequency	848.8 MHz	Test By	Bondi
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
149.31	V	Peak	33.38	-12.90	20.48	43.50	-23.02
267.65	V	Peak	35.63	-13.57	22.06	46.00	-23.94
301.60	V	Peak	38.89	-13.09	25.80	46.00	-20.20
551.86	V	Peak	33.49	-7.59	25.90	46.00	-20.10
655.65	V	Peak	33.51	-4.97	28.54	46.00	-17.46
980.60	V	Peak	33.33	-0.77	32.56	54.00	-21.44
151.25	H	Peak	33.99	-12.89	21.10	43.50	-22.40
264.74	H	Peak	33.28	-13.59	19.69	46.00	-26.31
330.70	H	Peak	33.43	-12.22	21.21	46.00	-24.79
558.65	H	Peak	33.51	-7.38	26.13	46.00	-19.87
619.76	H	Peak	34.17	-5.63	28.54	46.00	-17.46
901.06	H	Peak	33.40	-1.07	32.33	46.00	-13.67

Remark：

(1) Measuring frequencies from 30 MHz to the 1GHz.

(2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/AV detector mode.

(3) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

Operation Mode	GPRS 1900 CH Low Mode	Test Date	Apr. 28, 2011
Fundamental Frequency	1850.2 MHz	Test By	Bondi
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
154.16	V	Peak	37.94	-13.06	24.88	43.50	-18.62
255.40	V	Peak	33.95	-13.69	20.26	46.00	-25.74
328.76	V	Peak	33.14	-12.34	20.80	46.00	-25.20
555.74	V	Peak	33.36	-7.47	25.89	46.00	-20.11
660.50	V	Peak	33.36	-4.99	28.37	46.00	-17.63
975.75	V	Peak	33.31	-0.80	32.51	54.00	-21.49
151.25	H	Peak	34.39	-12.89	21.50	43.50	-22.00
255.04	H	Peak	33.32	-13.69	19.63	46.00	-26.37
338.46	H	Peak	34.44	-12.05	22.39	46.00	-23.61
558.65	H	Peak	33.99	-7.38	26.61	46.00	-19.39
641.10	H	Peak	33.62	-5.17	28.45	46.00	-17.55
982.54	H	Peak	33.27	-0.75	32.52	54.00	-21.48

Remark：

(1) Measuring frequencies from 30 MHz to the 1GHz.

(2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/AV detector mode.

(3) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

Operation Mode	GPRS 1900 CH Mid Mode	Test Date	Apr. 28, 2011
Fundamental Frequency	1880 MHz	Test By	Bondi
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
175.50	V	Peak	36.44	-14.26	22.18	43.50	-21.32
253.10	V	Peak	33.34	-13.70	19.64	46.00	-26.36
330.70	V	Peak	32.99	-12.22	20.77	46.00	-25.23
553.80	V	Peak	33.54	-7.53	26.01	46.00	-19.99
662.44	V	Peak	33.16	-5.01	28.15	46.00	-17.85
990.30	V	Peak	33.38	-0.70	32.68	54.00	-21.32
158.04	H	Peak	33.19	-13.28	19.91	43.50	-23.59
264.74	H	Peak	33.04	-13.59	19.45	46.00	-26.55
335.55	H	Peak	33.50	-12.10	21.40	46.00	-24.60
558.65	H	Peak	33.35	-7.38	25.97	46.00	-20.03
610.06	H	Peak	34.17	-5.81	28.36	46.00	-17.64
990.30	H	Peak	33.15	-0.70	32.45	54.00	-21.55

Remark：

(1) Measuring frequencies from 30 MHz to the 1GHz.

(2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/AV detector mode.

(3) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

Operation Mode	GPRS 1900 CH High Mode	Test Date	Apr. 28, 2011
Fundamental Frequency	1909.8 MHz	Test By	Bondi
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
149.31	V	Peak	34.90	-12.90	22.00	43.50	-21.50
255.04	V	Peak	37.65	-13.69	23.96	46.00	-22.04
296.75	V	Peak	38.02	-13.15	24.87	46.00	-21.13
558.65	V	Peak	33.40	-7.38	26.02	46.00	-19.98
648.86	V	Peak	33.63	-4.97	28.66	46.00	-17.34
883.60	V	Peak	33.82	-1.40	32.42	46.00	-13.58
151.25	H	Peak	33.65	-12.89	20.76	43.50	-22.74
255.04	H	Peak	33.21	-13.69	19.52	46.00	-26.48
325.85	H	Peak	33.66	-12.41	21.25	46.00	-24.75
558.65	H	Peak	33.16	-7.38	25.78	46.00	-20.22
652.74	H	Peak	32.99	-4.96	28.03	46.00	-17.97
917.55	H	Peak	33.25	-1.05	32.20	46.00	-13.80

Remark：

(1) Measuring frequencies from 30 MHz to the 1GHz.

(2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/AV detector mode.

(3) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

Operation Mode	HSDPA Band II CH Low Mode	Test Date	Apr. 28, 2011
Fundamental Frequency	1852.4 MHz	Test By	Bondi
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
173.56	V	Peak	35.93	-14.16	21.77	43.50	-21.73
253.10	V	Peak	33.31	-13.70	19.61	46.00	-26.39
309.36	V	Peak	33.53	-12.80	20.73	46.00	-25.27
398.60	V	Peak	37.98	-10.05	27.93	46.00	-18.07
662.44	V	Peak	33.63	-5.01	28.62	46.00	-17.38
978.66	V	Peak	32.79	-0.78	32.01	54.00	-21.99
149.31	H	Peak	33.63	-12.90	20.73	43.50	-22.77
260.86	H	Peak	32.97	-13.63	19.34	46.00	-26.66
330.70	H	Peak	33.19	-12.22	20.97	46.00	-25.03
546.04	H	Peak	33.83	-7.70	26.13	46.00	-19.87
612.00	H	Peak	34.46	-5.77	28.69	46.00	-17.31
975.75	H	Peak	33.28	-0.80	32.48	54.00	-21.52

Remark：

(1) Measuring frequencies from 30 MHz to the 1GHz.

(2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/AV detector mode.

(3) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

Operation Mode	HSDPA Band II CH Mid Mode	Test Date	Apr. 28, 2011
Fundamental Frequency	1880 MHz	Test By	Bondi
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
151.25	V	Peak	33.83	-12.89	20.94	43.50	-22.56
157.95	V	Peak	35.11	-13.66	21.45	43.50	-22.05
311.30	V	Peak	34.28	-12.76	21.52	46.00	-24.48
548.95	V	Peak	33.31	-7.66	25.65	46.00	-20.35
640.10	V	Peak	33.64	-5.17	28.47	46.00	-17.53
978.66	V	Peak	33.27	-0.78	32.49	54.00	-21.51
149.31	H	Peak	33.41	-12.90	20.51	43.50	-22.99
264.74	H	Peak	32.95	-13.59	19.36	46.00	-26.64
332.64	H	Peak	32.78	-12.16	20.62	46.00	-25.38
551.86	H	Peak	33.54	-7.59	25.95	46.00	-20.05
655.65	H	Peak	33.22	-4.97	28.25	46.00	-17.75
975.75	H	Peak	33.44	-0.80	32.64	54.00	-21.36

Remark：

(1) Measuring frequencies from 30 MHz to the 1GHz.

(2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/AV detector mode.

(3) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

Operation Mode	HSDPA Band II CH High Mode	Test Date	Apr. 28, 2011
Fundamental Frequency	1907.6 MHz	Test By	Bondi
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
173.56	V	Peak	36.44	-14.16	22.28	43.50	-21.22
260.86	V	Peak	35.68	-13.63	22.05	46.00	-23.95
313.24	V	Peak	36.01	-12.70	23.31	46.00	-22.69
536.34	V	Peak	33.66	-7.92	25.74	46.00	-20.26
660.50	V	Peak	33.63	-4.99	28.64	46.00	-17.36
936.95	V	Peak	33.01	-1.04	31.97	46.00	-14.03
149.31	H	Peak	34.17	-12.90	21.27	43.50	-22.23
264.74	H	Peak	33.23	-13.59	19.64	46.00	-26.36
340.40	H	Peak	33.19	-12.01	21.18	46.00	-24.82
548.95	H	Peak	33.65	-7.66	25.99	46.00	-20.01
662.44	H	Peak	33.46	-5.01	28.45	46.00	-17.55
988.36	H	Peak	33.15	-0.72	32.43	54.00	-21.57

Remark：

(1) Measuring frequencies from 30 MHz to the 1GHz.

(2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/AV detector mode.

(3) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

Operation Mode	HSDPA Band V CH Low Mode	Test Date	Apr. 28, 2011
Fundamental Frequency	826.40 MHz	Test By	Bondi
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
173.56	V	Peak	38.60	-14.16	24.44	43.50	-19.06
251.16	V	Peak	33.96	-13.72	20.24	46.00	-25.76
328.76	V	Peak	33.40	-12.34	21.06	46.00	-24.94
558.65	V	Peak	33.43	-7.38	26.05	46.00	-19.95
691.54	V	Peak	33.78	-5.03	28.75	46.00	-17.25
975.75	V	Peak	33.03	-0.80	32.23	54.00	-21.77
149.31	H	Peak	33.49	-12.90	20.59	43.50	-22.91
269.59	H	Peak	32.99	-13.55	19.44	46.00	-26.56
338.46	H	Peak	34.35	-12.05	22.30	46.00	-23.70
553.80	H	Peak	33.81	-7.53	26.28	46.00	-19.72
658.56	H	Peak	33.58	-4.98	28.60	46.00	-17.40
980.60	H	Peak	33.77	-0.77	33.00	54.00	-21.00

Remark：

(1) Measuring frequencies from 30 MHz to the 1GHz.

(2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/AV detector mode.

(3) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

Operation Mode	HSDPA Band V CH Mid Mode	Test Date	Apr. 28, 2011
Fundamental Frequency	836.60 MHz	Test By	Bondi
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
158.04	V	Peak	34.35	-13.28	21.07	43.50	-22.43
260.86	V	Peak	34.24	-13.63	20.61	46.00	-25.39
296.75	V	Peak	34.19	-13.15	21.04	46.00	-24.96
558.65	V	Peak	33.21	-7.38	25.83	46.00	-20.17
664.35	V	Peak	33.37	-5.02	28.35	46.00	-17.65
966.05	V	Peak	33.24	-0.86	32.38	54.00	-21.62
151.25	H	Peak	33.84	-12.89	20.95	43.50	-22.55
251.16	H	Peak	33.35	-13.72	19.63	46.00	-26.37
340.40	H	Peak	32.89	-12.01	20.88	46.00	-25.12
553.80	H	Peak	33.51	-7.53	25.98	46.00	-20.02
660.50	H	Peak	33.56	-4.99	28.57	46.00	-17.43
895.24	H	Peak	34.97	-1.13	33.84	46.00	-12.16

Remark：

(1) Measuring frequencies from 30 MHz to the 1GHz.

(2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/AV detector mode.

(3) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

Operation Mode	HSDPA Band V CH High Mode	Test Date	Apr. 28, 2011
Fundamental Frequency	846.60 MHz	Test By	Bondi
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
154.16	V	Peak	33.97	-13.06	20.91	43.50	-22.59
231.76	V	Peak	35.33	-14.41	20.92	46.00	-25.08
330.70	V	Peak	32.95	-12.22	20.73	46.00	-25.27
558.65	V	Peak	33.35	-7.38	25.97	46.00	-20.03
664.35	V	Peak	33.73	-5.02	28.71	46.00	-17.29
966.05	V	33.35	33.35	-0.86	32.49	54.00	-21.51
149.31	H	Peak	33.39	-12.90	20.49	43.50	-23.01
267.65	H	Peak	33.16	-13.57	19.59	46.00	-26.41
340.40	H	Peak	33.42	-12.01	21.41	46.00	-24.59
559.62	H	Peak	33.12	-7.35	25.77	46.00	-20.23
662.44	H	Peak	33.45	-5.01	28.44	46.00	-17.56
980.60	H	Peak	33.13	-0.77	32.36	54.00	-21.64

Remark：

(1) Measuring frequencies from 30 MHz to the 1GHz.

(2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/AV detector mode.

(3) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(4) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	GPRS 850 CH Low Mode	Test Date	Apr. 28, 2011
Fundamental Frequency	824.2 MHz	Test By	Bondi
Temperature	25 ℃	Pol	Ver. / Hor.
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Factor (dB)	Actual Peak FS (dBuV/m)	Actual AV FS (dBuV/m)	Peak Limit at 3m (dBuV/m)	AV Limit at 3m (dBuV/m)	Margin (dB)
1648.4	V	--	--			--	74.00	54.00	
2472.6	V	--	--			--	74.00	54.00	
3296.8	V	--	--			--	74.00	54.00	
4121.0	V	--	--			--	74.00	54.00	
4802.5	V	34.91	--	6.02	40.93	--	74.00	54.00	-13.07
4945.2	V	--	--			--	74.00	54.00	
1648.4	H	--	--			--	74.00	54.00	
2472.6	H	--	--			--	74.00	54.00	
3296.8	H	--	--			--	74.00	54.00	
4121.0	H	--	--			--	74.00	54.00	
4945.2	H	--	--			--	74.00	54.00	
4997.5	H	34.47	--	6.44	40.91	--	74.00	54.00	-13.09

Remark:

(1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency。

(2) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column。

(4) Spectrum Peak Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.

(5) Spectrum AV Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Operation Mode	GPRS 850 CH Mid Mode	Test Date	Apr. 28, 2011
Fundamental Frequency	836.6 MHz	Test By	Bondi
Temperature	25 ℃	Pol	Ver. / Hor.
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Factor (dB)	Actual Peak FS (dBuV/m)	Actual AV FS (dBuV/m)	Peak Limit at 3m (dBuV/m)	AV Limit at 3m (dBuV/m)	Margin (dB)
1673.2	V	--	--			--	74.00	54.00	
2509.8	V	--	--			--	74.00	54.00	
3346.4	V	--	--			--	74.00	54.00	
4183.0	V	--	--			--	74.00	54.00	
4965.0	V	34.77	--	6.38	41.15	--	74.00	54.00	-12.85
5019.6	V	--	--			--	74.00	54.00	
1673.2	H	--	--			--	74.00	54.00	
2509.8	H	--	--			--	74.00	54.00	
3346.4	H	--	--			--	74.00	54.00	
4183.0	H	--	--			--	74.00	54.00	
4718.0	H	35.09	--	5.83	40.92	--	74.00	54.00	-13.08
5019.6	H	--	--			--	74.00	54.00	

Remark:

(1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency。

(2) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column。

(4) Spectrum Peak Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.

(5) Spectrum AV Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Operation Mode	GPRS 850 CH High Mode	Test Date	Apr. 28, 2011
Fundamental Frequency	848.8 MHz	Test By	Bondi
Temperature	25 ℃	Pol	Ver. / Hor.
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Factor (dB)	Actual Peak FS (dBuV/m)	Actual AV FS (dBuV/m)	Peak Limit at 3m (dBuV/m)	AV Limit at 3m (dBuV/m)	Margin (dB)
1697.6	V	--	--			--	74.00	54.00	
2546.4	V	--	--			--	74.00	54.00	
3395.2	V	--	--			--	74.00	54.00	
4244.0	V	--	--			--	74.00	54.00	
4913.0	V	34.83	--	6.26	41.09	--	74.00	54.00	-12.91
5092.8	V	--	--			--	74.00	54.00	
1697.6	H	--	--			--	74.00	54.00	
2546.4	H	--	--			--	74.00	54.00	
3395.2	H	--	--			--	74.00	54.00	
4244.0	H	--	--			--	74.00	54.00	
4913.0	H	34.45	--	6.26	40.71	--	74.00	54.00	-13.29
5092.8	H	--	--			--	74.00	54.00	

Remark:

(1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency。

(2) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column。

(4) Spectrum Peak Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.

(5) Spectrum AV Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Operation Mode	GPRS 1900 CH Low Mode	Test Date	Apr. 28, 2011
Fundamental Frequency	1850.2 MHz	Test By	Bondi
Temperature	25 ℃	Pol	Ver. / Hor.
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Factor (dB)	Actual Peak FS (dBuV/m)	Actual AV FS (dBuV/m)	Peak Limit at 3m (dBuV/m)	AV Limit at 3m (dBuV/m)	Margin (dB)
3700.4	V	--	--			--	74.00	54.00	
4867.5	V	34.97	--	6.17	41.14	--	74.00	54.00	-12.86
5550.6	V	--	--			--	74.00	54.00	
7400.8	V	--	--			--	74.00	54.00	
9251.0	V	--	--			--	74.00	54.00	
11101.2	V	--	--			--	74.00	54.00	
3700.4	H	--	--			--	74.00	54.00	
4562.0	H	35.00	--	5.46	40.46	--	74.00	54.00	-13.54
5550.6	H	--	--			--	74.00	54.00	
7400.8	H	--	--			--	74.00	54.00	
9251.0	H	--	--			--	74.00	54.00	
11101.2	H	--	--			--	74.00	54.00	

Remark:

(1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency。

(2) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column。

(4) Spectrum Peak Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.

(5) Spectrum AV Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Operation Mode	GPRS 1900 CH Mid Mode	Test Date	Apr. 28, 2011
Fundamental Frequency	1880 MHz	Test By	Bondi
Temperature	25 ℃	Pol	Ver. / Hor.
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Factor (dB)	Actual Peak FS (dBuV/m)	Actual AV FS (dBuV/m)	Peak Limit at 3m (dBuV/m)	AV Limit at 3m (dBuV/m)	Margin (dB)
3760.0	V	--	--			--	74.00	54.00	
4997.5	V	34.60	--	6.44	41.04	--	74.00	54.00	-12.96
5640.0	V	--	--			--	74.00	54.00	
7520.0	V	--	--			--	74.00	54.00	
9400.0	V	--	--			--	74.00	54.00	
11280.0	V	--	--			--	74.00	54.00	
3760.0	H	--	--			--	74.00	54.00	
4705.0	H	35.29	--	5.80	41.09	--	74.00	54.00	-12.91
5640.0	H	--	--			--	74.00	54.00	
7520.0	H	--	--			--	74.00	54.00	
9400.0	H	--	--			--	74.00	54.00	
11280.0	H	--	--			--	74.00	54.00	

Remark:

(1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency。

(2) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column。

(4) Spectrum Peak Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.

(5) Spectrum AV Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Operation Mode	GPRS 1900 CH High Mode	Test Date	Apr. 28, 2011
Fundamental Frequency	1909.8 MHz	Test By	Bondi
Temperature	25 ℃	Pol	Ver. / Hor.
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Factor (dB)	Actual Peak FS (dBuV/m)	Actual AV FS (dBuV/m)	Peak Limit at 3m (dBuV/m)	AV Limit at 3m (dBuV/m)	Margin (dB)
3819.6	V	--	--			--	74.00	54.00	
4848.0	V	34.86	--	6.10	40.96	--	74.00	54.00	-13.04
5729.4	V	--	--			--	74.00	54.00	
7639.2	V	--	--			--	74.00	54.00	
9549.0	V	--	--			--	74.00	54.00	
11458.8	V	--	--			--	74.00	54.00	
3819.6	H	--	--			--	74.00	54.00	
4770.0	H	34.85	--	5.93	40.78	--	74.00	54.00	-13.22
5729.4	H	--	--			--	74.00	54.00	
7639.2	H	--	--			--	74.00	54.00	
9549.0	H	--	--			--	74.00	54.00	
11458.8	H	--	--			--	74.00	54.00	

Remark:

(1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency。

(2) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column。

(4) Spectrum Peak Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.

(5) Spectrum AV Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Operation Mode	HSDPA Band II CH Low Mode	Test Date	Apr. 28, 2011
Fundamental Frequency	1852.4 MHz	Test By	Bondi
Temperature	25 ℃	Pol	Ver. / Hor.
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Factor (dB)	Actual Peak FS (dBuV/m)	Actual AV FS (dBuV/m)	Peak Limit at 3m (dBuV/m)	AV Limit at 3m (dBuV/m)	Margin (dB)
3704.8	V	--	--			--	74.00	54.00	
4737.5	V	35.01	--	5.86	40.87	--	74.00	54.00	-13.13
5557.2	V	--	--			--	74.00	54.00	
7409.6	V	--	--			--	74.00	54.00	
9262.0	V	--	--			--	74.00	54.00	
11114.4	V	--	--			--	74.00	54.00	
3704.8	H	--	--			--	74.00	54.00	
4978.0	H	34.57	--	6.39	40.96	--	74.00	54.00	-13.04
5557.2	H	--	--			--	74.00	54.00	
7409.6	H	--	--			--	74.00	54.00	
9262.0	H	--	--			--	74.00	54.00	
11114.4	H	--	--			--	74.00	54.00	

Remark:

(1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency。

(2) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column。

(4) Spectrum Peak Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.

(5) Spectrum AV Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Operation Mode	HSDPA Band II CH Mid Mode	Test Date	Apr. 28, 2011
Fundamental Frequency	1880 MHz	Test By	Bondi
Temperature	25 ℃	Pol	Ver. / Hor.
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Factor (dB)	Actual Peak FS (dBuV/m)	Actual AV FS (dBuV/m)	Peak Limit at 3m (dBuV/m)	AV Limit at 3m (dBuV/m)	Margin (dB)
3760.0	V	--	--			--	74.00	54.00	
4887.0	V	34.87	--	6.23	41.10	--	74.00	54.00	-12.90
5640.0	V	--	--			--	74.00	54.00	
7520.0	V	--	--			--	74.00	54.00	
9400.0	V	--	--			--	74.00	54.00	
11280.0	V	--	--			--	74.00	54.00	
3760.0	H	--	--			--	74.00	54.00	
4783.0	H	35.05	--	6.00	41.05	--	74.00	54.00	-12.95
5640.0	H	--	--			--	74.00	54.00	
7520.0	H	--	--			--	74.00	54.00	
9400.0	H	--	--			--	74.00	54.00	
11280.0	H	--	--			--	74.00	54.00	

Remark:

(1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency。

(2) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column。

(4) Spectrum Peak Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.

(5) Spectrum AV Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Operation Mode	HSDPA Band II CH High Mode	Test Date	Apr. 28, 2011
Fundamental Frequency	1907.6 MHz	Test By	Bondi
Temperature	25 ℃	Pol	Ver. / Hor.
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Factor (dB)	Actual Peak FS (dBuV/m)	Actual AV FS (dBuV/m)	Peak Limit at 3m (dBuV/m)	AV Limit at 3m (dBuV/m)	Margin (dB)
3815.2	V	--	--			--	74.00	54.00	
4965.0	V	34.68	--	6.38	41.06	--	74.00	54.00	-12.94
5722.8	V	--	--			--	74.00	54.00	
7630.4	V	--	--			--	74.00	54.00	
9538.0	V	--	--			--	74.00	54.00	
11445.6	V	--	--			--	74.00	54.00	
3815.2	H	--	--			--	74.00	54.00	
4887.0	H	35.24	--	6.23	41.47	--	74.00	54.00	-12.53
5722.8	H	--	--			--	74.00	54.00	
7630.4	H	--	--			--	74.00	54.00	
9538.0	H	--	--			--	74.00	54.00	
11445.6	H	--	--			--	74.00	54.00	

Remark:

(1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency。

(2) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column。

(4) Spectrum Peak Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.

(5) Spectrum AV Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Operation Mode	HSDPA Band V CH Low Mode	Test Date	Apr. 28, 2011
Fundamental Frequency	826.40 MHz	Test By	Bondi
Temperature	25 ℃	Pol	Ver. / Hor.
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Factor (dB)	Actual Peak FS (dBuV/m)	Actual AV FS (dBuV/m)	Peak Limit at 3m (dBuV/m)	AV Limit at 3m (dBuV/m)	Margin (dB)
1652.8	V	--	--			--	74.00	54.00	
2479.2	V	--	--			--	74.00	54.00	
3305.6	V	--	--			--	74.00	54.00	
4132.0	V	--	--			--	74.00	54.00	
4932.5	V	34.10	--	6.28	40.38	--	74.00	54.00	-13.62
4958.4	V	--	--			--	74.00	54.00	
1652.8	H	--	--			--	74.00	54.00	
2479.2	H	--	--			--	74.00	54.00	
3305.6	H	--	--			--	74.00	54.00	
4132.0	H	--	--			--	74.00	54.00	
4958.4	H	--	--			--	74.00	54.00	
4997.5	H	34.16	--	6.44	40.60	--	74.00	54.00	-13.40

Remark:

(1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency。

(2) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column。

(4) Spectrum Peak Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.

(5) Spectrum AV Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Operation Mode	HSDPA Band V CH Mid Mode	Test Date	Apr. 28, 2011
Fundamental Frequency	836.60 MHz	Test By	Bondi
Temperature	25 ℃	Pol	Ver. / Hor.
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Factor (dB)	Actual Peak FS (dBuV/m)	Actual AV FS (dBuV/m)	Peak Limit at 3m (dBuV/m)	AV Limit at 3m (dBuV/m)	Margin (dB)
1673.2	V	--	--			--	74.00	54.00	
2509.8	V	--	--			--	74.00	54.00	
3346.4	V	--	--			--	74.00	54.00	
4183.0	V	--	--			--	74.00	54.00	
4867.5	V	34.49	--	6.17	40.66	--	74.00	54.00	-13.34
5019.6	V	--	--			--	74.00	54.00	
1673.2	H	--	--			--	74.00	54.00	
2509.8	H	--	--			--	74.00	54.00	
3346.4	H	--	--			--	74.00	54.00	
4183.0	H	--	--			--	74.00	54.00	
4997.5	H	35.15	--	6.44	41.59	--	74.00	54.00	-12.41
5019.6	H	--	--			--	74.00	54.00	

Remark:

(1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency。

(2) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column。

(4) Spectrum Peak Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.

(5) Spectrum AV Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Operation Mode	HSDPA Band V CH High Mode	Test Date	Apr. 28, 2011
Fundamental Frequency	846.60 MHz	Test By	Bondi
Temperature	25 ℃	Pol	Ver. / Hor.
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Factor (dB)	Actual Peak FS (dBuV/m)	Actual AV FS (dBuV/m)	Peak Limit at 3m (dBuV/m)	AV Limit at 3m (dBuV/m)	Margin (dB)
1693.2	V	--	--			--	74.00	54.00	
2539.8	V	--	--			--	74.00	54.00	
3386.4	V	--	--			--	74.00	54.00	
4233.0	V	--	--			--	74.00	54.00	
5017.0	V	34.83	--	6.48	41.31	--	74.00	54.00	-12.69
5079.6	V	--	--			--	74.00	54.00	
1693.2	H	--	--			--	74.00	54.00	
2539.8	H	--	--			--	74.00	54.00	
3386.4	H	--	--			--	74.00	54.00	
4233.0	H	--	--			--	74.00	54.00	
4835.0	H	35.04	--	6.11	41.15	--	74.00	54.00	-12.85
5079.6	H	--	--			--	74.00	54.00	

Remark:

(1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency。

(2) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column。

(4) Spectrum Peak Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.

(5) Spectrum AV Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.