ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

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

OF

Product Name:	**Smart Phone**
Marketing Name:	**Grid 4**
Brand Name:	**Fusion Garage**
Model Name:	**Grid 4**
Model Difference:	**N/A**
FCC ID:	**ZKN-GRID4**
Report No.:	**EH/2011/40055**
Issue Date:	**May. 30, 2011**
FCC Rule Part:	**2 , 22H & 24E**
Prepared for:	**Fusion Garage Pte Ltd** **5 harper Road Level 3 Level 3 Singapore 369673 Singapore**
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.*

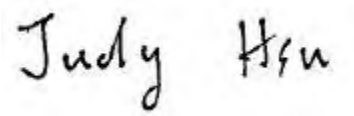
VERIFICATION OF COMPLIANCE

Applicant:	Fusion Garage Pte Ltd 5 harper Road Level 3 Level 3 Singapore 369673 Singapore
Product Name:	Smart Phone
Marketing Name:	Grid 4
Brand Name:	Fusion Garage
Model No.:	Grid 4
Model Difference:	N/A
FCC ID:	ZKN-GRID4
File Number:	EH/2011/40055
Date of test:	Apr. 25, 2011 ~ May. 24, 2011
Date of EUT Received:	Apr. 25, 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 and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rule FCC PART 22 subpart H, PART 24 subpart E.

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

Test By:		***Date:***	May. 30, 2011
	Blue Yang / Engineer		
Prepared By:		***Date:***	May. 30, 2011
	Judy Hsu / General Admin.		
Approved By:		***Date:***	May. 30, 2011
	Jim Chang / Supervisor		

Version

Version No.	Date	Description
00	May. 30, 2011	Initial creation of document

Table of Contents

1. GENERAL PRODUCT INFORMATION

General:

Product Name	Smart Phone	
Marketing Name	Grid 4	
Brand Name	Fusion Garage	
Model Name	Grid 4	
Model Difference	N/A	
Hardware Version	DVT1	
Software Version	SW07	
Data Cable	1. Model No.: SKN6238A; Supplier: Longwell (Main source) 2. Model No.:DX-80004; Supplier: Dreamer Thermal Technology Co., LTD (Second source)	
Simple Hands-free (SHF)	1. Model No.: HF-HB05D, Supplier: GaLien Electron(Main source) 2. Model No.: DLS-EP2015M-RR, Supplier: iMecury (Second source)	
Power Supply	3.7V DC from battery or 5V DC from adapter	
	Battery	Model No.: CA81; Supplier: JHT
	Adapter	Model No.: Grid 4; Supplier: FUSION GARAGE
Antenna Type	PIFA Antenna	

GSM and WCDMA:

Cellular Phone Standards Frequency Range and Power:	Operating Frequency		Rated Power
	GSM/GPRS 850 Class 12	824 MHz– 849MHz	33 dBm
	EDGE 850, Class 12	824 MHz– 849MHz	27 dBm
	GSM/GPRS 1900 Class 12	1850MHz – 1910MHz	30 dBm
	EDGE 1900, Class 12	1850MHz – 1910MHz	26 dBm
	WCDMA/HSUPA/HSDPA Band II	1852.4MHz – 1907.6MHz	24 dBm
	WCDMA/HSUPA/HSDPA Band V	826.4MHz – 846.6 MHz	24 dBm
Type of Emission	GSM/GPRS 850: 249KGXW, GSM/GPRS 1900 :251KGXW EDGE 850: 246KG7W, EDGE 1900:246KG7W WCDMA Band II: 4M16F9W,HSUPA Band II: 4M16F9W HSDPA Band II: 4M16F9W WCDMA Band V: 4M15F9W,HSUPA Band V: 4M15F9W HSDPA Band V: 4M18F9W		
IMEI:	354293040118583		

Final Amplifier Voltage and Current Information:

Test Mode	DC voltage (V)	DC current (mA)
GPRS 850	3.7 Vdc	370
GPRS 1900	3.7 Vdc	330
EDGE 850	3.7 Vdc	260
EDGE 1900	3.7 Vdc	280
WCDMA B2	3.7 Vdc	420
WCDMA B5	3.7 Vdc	410
HSUPA B2	3.7 Vdc	610
HSUPA B5	3.7 Vdc	590
HSDPA B2	3.7 Vdc	510
HSDPA B5	3.7 Vdc	500

This test report applies for GSM/GPRS/EDGE 850/1900 MHz, WCDMA/HSDPA/HSUPA band II/V.

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

This submittal(s) (test report) is intended for FCC ID: **ZKN-GRID4** filing to comply with Section Part 22 subpart H, Part 24 subpart E of the FCC CFR 47 Rules.

1.2. Test Methodology

Both conducted and radiated testing were performed according to the procedures document of TIA/EIA 603C and FCC CFR 47.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055 and 2.1057.

The Output power Procedure of KDB941225 (SAR Measurement Procedures for 3G devices, WCDMA / HSDPA) was used for EUT and Base station setting.

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-4

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

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

1.4. Special Accessories

Not available for this EUT intended for grant.

1.5. Equipment Modifications

Not available for this EUT intended for grant.

2. SYSTEM TEST CONFIGURATION

2.1. EUT Configuration

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

2.2. EUT Exercise

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

2.3. Test Procedure

2.3.1 AC Power Line Conducted Emissions

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

2.3.2 Conducted Measurement at Antenna Port:

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

2.3.3 Radiated Emissions (ERP/EIRP):

The EUT is a placed on as turn table which is 80 cm 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 2 of TIA/EIA 603C.

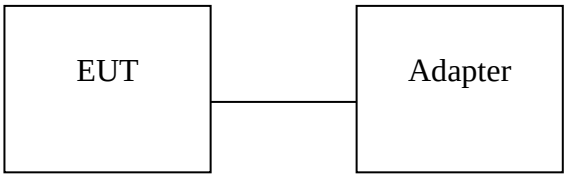
2.4. Measurement Equipment Used:

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	05/13/2010	05/13/2012
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	07/05/2010	07/04/2011
Splitter	Agilent	11636B	N/A	07/05/2010	07/04/2011
DC Power Supply	HP	6038A	2929A-07548	06/27/2010	06/26/2011
DC Power Supply	Topward	3303D	981327	10/25/2010	10/26/2012
Software	Audix	Ver 6.2009 – 23B	N/A	N/A	N/A

ERP, EIRP MEASUREMENT EQUIPMENT List 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	9160-3136	11/15/2010	11/14/2011
Dipole Antenna	SCHWAZBECK	VHAP	908/909	07/10/2010	07/09/2012
Dipole Antenna	SCHWAZBECK	UHAP	891/892	07/10/2010	07/09/2012
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	11/30/2010	11/29/2011
Pre-Amplifier	Agilent	8449B	3008A01973	01/05/2011	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	01/05/2011	01/04/2012
3m Site	SGS	966 chamber	N/A	11/09/2010	11/08/2011

2.5. Configuration of Tested System

Fig. 2-1 Configuration of Tested System



Remote Side

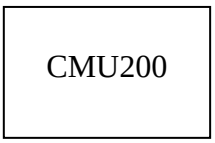


Table 2-1 Equipment Used in Tested System

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

3. SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
§2.1046(a)	RF Power Output	Compliant
§2.1046(a) §22.913(a)(2) §24.232(c)	ERP/ EIRP measurement	Compliant
§2.1049(h)	99% Occupied Bandwidth	Compliant
§2.1051 §22.917(a) §24.238(a)	Out of Band Emissions at Antenna Terminals and Band Edge	Compliant
§2.1053 §22.917(a) §24.238(a)	Field Strength of Spurious Radiation	Compliant
§2.1055(a)(1) §22.355 §24.235	Frequency Stability vs. Temperature	Compliant
§2.1055(d)(2) §22.355 §24.235	Frequency Stability vs. Voltage	Compliant

Max ERP/EIRP measurement result:

	dBm		W
GSM 850 Band	33.40	ERP	2.188
GSM 1900 Band	29.09	EIRP	0.811
GPRS 850 Band	33.11	ERP	2.046
GPRS 1900 Band	29.45	EIRP	0.881
EDGE 850 Band	33.01	ERP	2.000
EDGE 1900 Band	28.86	EIRP	0.769
WCDMA Band II	23.56	EIRP	0.227
HSUPA Band II	25.99	EIRP	0.397
HSDPA Band II	23.44	EIRP	0.221
WCDMA Band V	24.52	ERP	0.283
HSUPA Band V	24.61	ERP	0.289
HSDPA Band V	27.00	ERP	0.501

4. DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition.

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

The field strength of spurious radiation emission was measured as EUT stand-up position(H mode)and lie down position (E1, E2 mode) for GSM/GPRS/EDGE 850, GSM/GPRS/EDGE 1900 and WCDMA/HSUPA/HSDPA Band II, Band V with power adaptor.The worst-case of E2 position for GSM850, E1 position for GPRS1900/ HSUPA Band II /HSDPA Band IV 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

3GPP Power limitation for HSDPA and HSUPA

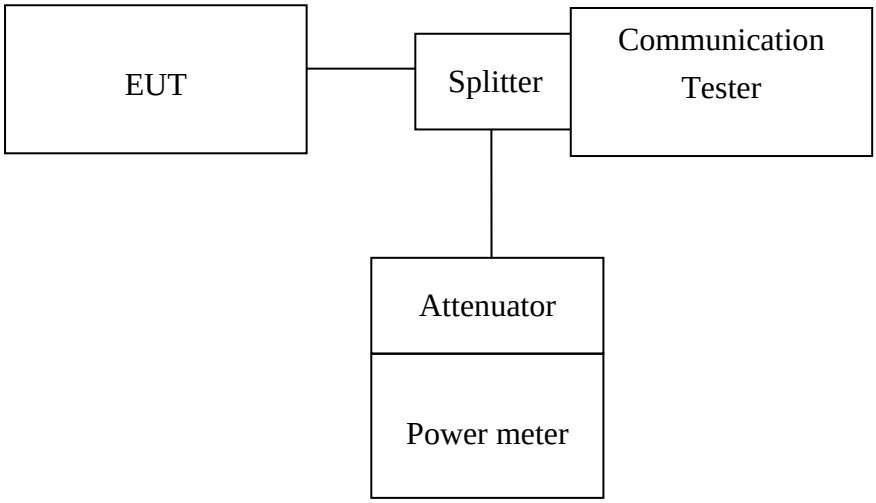
Maximum Output Powers for HSDPA

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(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:

5.1 RF Conducted Output Power

5.1.1.: GSM/GPRS/EDGE

Result:

EUT Mode	Frequency (MHz)	CH	Peak Power (1DN 1UP) (dBm)	Avg. Power (1DN 1UP) (dBm)
GSM 850	824.2	128	33.70	33.60
	836.6	190	33.90	33.80
	848.8	251	33.90	33.80

EUT Mode	Frequency (MHz)	CH	Peak Power (1DN 1UP) (dBm)	Avg. Power (1DN 1UP) (dBm)
GSM 1900	1850.2	512	28.30	28.10
	1880.0	661	29.40	29.30
	1909.8	810	29.00	28.90

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	33.50	33.40	31.40	31.30	29.10	29.00	28.00	27.90
	836.6	190	33.40	33.30	31.50	31.40	29.40	29.30	28.10	28.00
	848.8	251	33.90	33.80	31.40	31.30	29.50	29.40	28.20	28.10

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	28.20	28.00	26.20	26.10	24.00	23.70
	1880.0	661	30.30	30.20	28.50	28.40	26.70	26.50	24.20	24.10
	1909.8	810	30.50	30.40	28.50	28.40	26.60	26.50	24.50	24.40

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	30.00	26.90	28.40	25.30	26.70	23.60	25.70	22.30
	836.6	190	30.10	26.80	28.40	25.20	26.80	23.60	25.60	22.20
	848.8	251	30.00	27.00	28.50	25.30	26.90	23.70	25.60	22.20

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	28.70	25.40	27.50	24.20	25.20	21.80	23.50	20.10
	1880.0	661	29.40	26.00	27.80	24.50	25.50	22.10	23.90	20.60
	1909.8	810	29.10	25.80	27.60	24.30	25.40	22.00	23.90	20.40

Cable loss offset : 0.5 dB

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/-3). RMC 12.2kps is used for this testing.

Results:

EUT Mode	Frequency (MHz)	CH	Peak Power (dBm)	Avg Power (dBm)
WCDMA Band II	1852.40	9262	26.50	22.91
	1880.00	9400	26.20	22.67
	1907.60	9538	26.07	22.45

EUT Mode	Frequency (MHz)	CH	Peak Power (dBm)	Avg Power (dBm)
WCDMA Band V	826.40	4132	27.83	23.59
	836.60	4183	27.40	23.30
	846.60	4233	26.90	23.25

EUT Mode	Frequency (MHz)	CH	Peak Power (dBm)	Avg Power (dBm)
HSDPA Band II	1852.40	9262	25.03	20.44
	1880.00	9400	24.63	20.23
	1907.60	9538	24.72	20.05

EUT Mode	Frequency (MHz)	CH	Peak Power (dBm)	Avg Power (dBm)
HSDPA Band V	826.40	4132	25.43	20.84
	836.60	4183	25.47	20.67
	846.60	4233	25.05	20.14

EUT Mode	Frequency (MHz)	CH	Peak Power (dBm)	Avg Power (dBm)
HSUPA Band II	1852.40	9262	26.42	22.70
	1880.00	9400	26.12	22.57
	1907.60	9538	26.05	22.35

EUT Mode	Frequency (MHz)	CH	Peak Power (dBm)	Avg Power (dBm)
HSUPA Band V	826.40	4132	27.36	23.42
	836.60	4183	27.22	23.22
	846.60	4233	27.16	23.17

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

5.5.13: 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 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	23.08	22.56	22.31	20.3dBm – 25.7dBm	Pass
	2	22.79	22.53	22.30	20.3dBm – 25.7dBm	Pass
	3	22.60	22.11	21.78	19.8dBm – 25.7dBm	Pass
	4	22.67	22.12	21.90	19.8dBm – 25.7dBm	Pass

Results:

Mode	Sub-test	RMS Power (dBm) Channel			Power Class 3 Limitation (dBm)	Comments
		4132	4172	4233		
HSDPA B5	1	23.38	23.16	23.37	20.3dBm – 25.7dBm	Pass
	2	23.52	23.19	23.12	20.3dBm – 25.7dBm	Pass
	3	22.92	22.68	22.88	19.8dBm – 25.7dBm	Pass
	4	22.97	22.72	22.94	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:

Mode	Sub-test	RMS Power (dBm) Channel			Power Class 3 Limitation (dBm)	Comments
		9262	9400	9538		
HSUPA B2	1	22.83	22.65	22.39	17.3dBm – 25.7dBm	Pass
	2	20.88	20.72	20.43	16.8dBm – 25.7dBm	Pass
	3	21.89	21.67	21.47	17.8dBm – 25.7dBm	Pass
	4	21.01	20.77	20.47	16.8dBm – 25.7dBm	Pass
	5	22.72	22.51	22.30	17.3dBm – 25.7dBm	Pass

Results:

Mode	Sub-test	RMS Power (dBm) Channel			Power Class 3 Limitation (dBm)	Comments
		4132	4172	4233		
HSUPA B5	1	23.55	23.23	23.17	17.3dBm – 25.7dBm	Pass
	2	21.61	21.31	21.21	16.8dBm – 25.7dBm	Pass
	3	22.59	22.29	22.25	17.8dBm – 25.7dBm	Pass
	4	21.66	21.37	21.29	16.8dBm – 25.7dBm	Pass
	5	23.41	23.06	23.06	17.3dBm – 25.7dBm	Pass

5.5.2 Maximum Power Reduction: PCS1900 band

PCL	0	1	2	3	4	5	6	7	8
Output power (dBm)	29.3	27.1	24.7	23.2	21.3	18.3	17	14.8	12.7
PCL	**9**	**10**	**11**	**12**	**13**	**14**	**15**		
Output power (dBm)	10.8	8.5	6	3.9	2.4	0.4	-1.6		

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 / V

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 19 for measurement data) . The min. power was measures by a function key “minimum power” then record the read. It is -52.5dBm. The power variation can be 0.1dB step by setting.

6. ERP, EIRP MEASUREMENT

6.1. Standard Applicable:

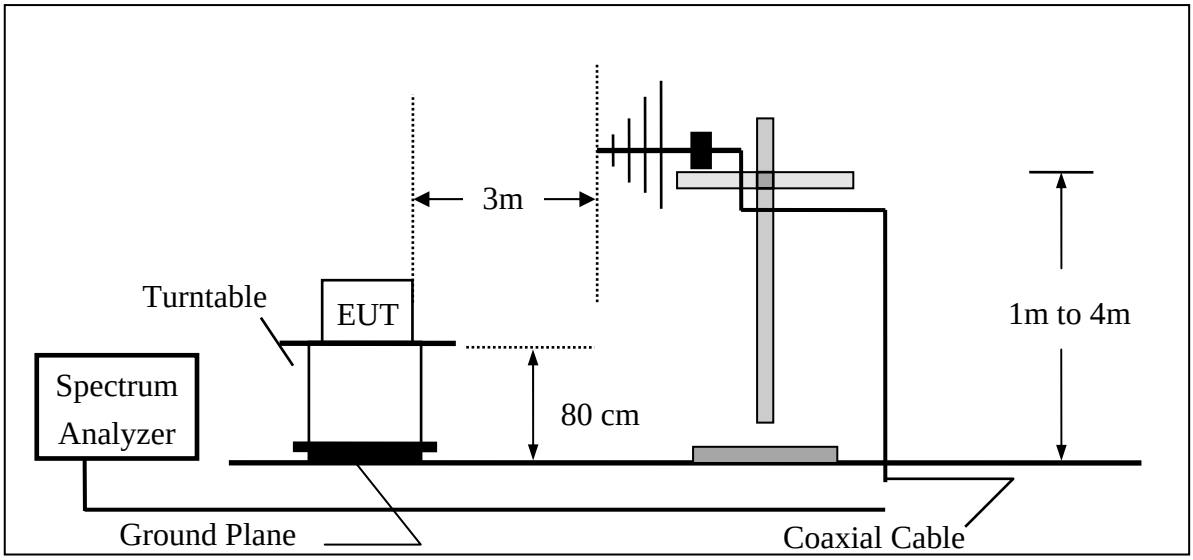
According to FCC §2.1046

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

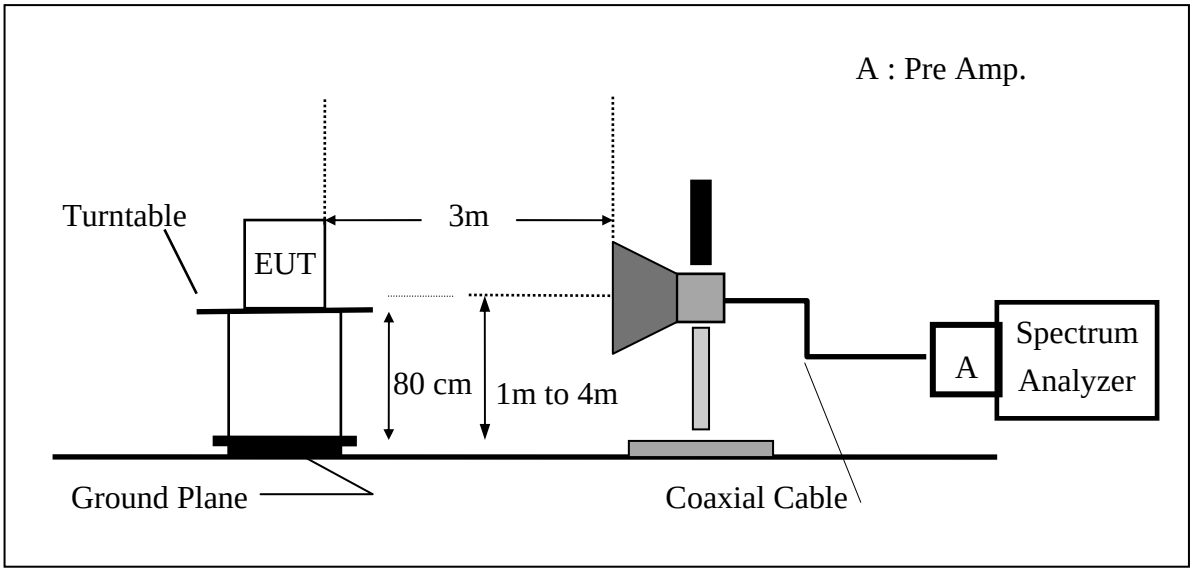
FCC 24.232(b) Mobile station are limited to 2W EIRP.

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

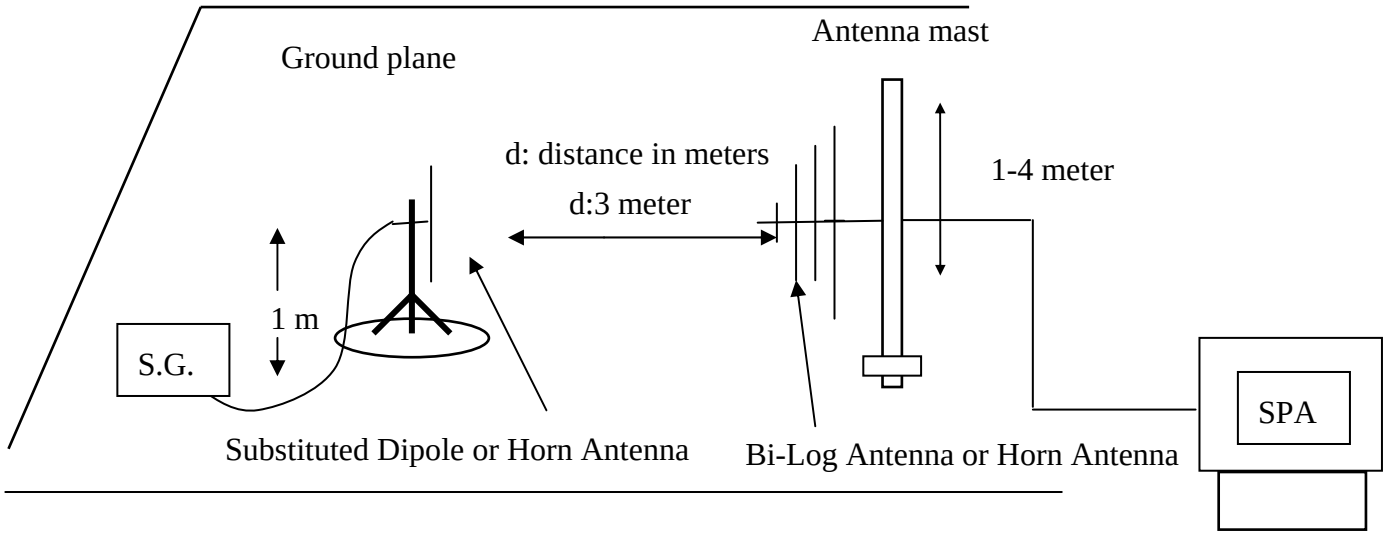
(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



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



(C) Substituted Method Test Set-UP



6.3. Measurement Procedure:

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

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

ERP in frequency band 824.2 –848.80MHz 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 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)
GSM 850	824.20	128	H	V	130.06	43.67	-7.87	3.62	32.17	38.45
				H	122.19	35.92	-7.87	3.62	24.42	38.45
			E1	V	121.86	35.47	-7.87	3.62	23.97	38.45
				H	129.60	43.33	-7.87	3.62	31.83	38.45
			E2	V	120.54	34.15	-7.87	3.62	22.65	38.45
				H	130.10	43.83	-7.87	3.62	32.33	38.45
	836.60	190	H	V	130.27	44.02	-7.88	3.65	32.49	38.45
				H	122.14	35.91	-7.88	3.65	24.38	38.45
			E1	V	122.64	36.39	-7.88	3.65	24.86	38.45
				H	130.40	44.17	-7.88	3.65	32.64	38.45
			E2	V	120.32	34.07	-7.88	3.65	22.54	38.45
				H	130.79	44.56	-7.88	3.65	33.03	38.45
	848.80	251	H	V	130.35	44.23	-7.88	3.68	32.67	38.45
				H	122.70	36.51	-7.88	3.68	24.95	38.45
			E1	V	122.77	36.65	-7.88	3.68	25.09	38.45
				H	130.68	44.49	-7.88	3.68	32.93	38.45
			E2	V	120.04	33.92	-7.88	3.68	22.36	38.45
				H	131.15	44.96	-7.88	3.68	**33.40**	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)
GSM 1900	1850.20	512	H	V	127.97	23.58	9.90	5.56	27.92	33.00
				H	127.15	22.97	9.90	5.56	27.31	33.00
			E1	V	128.37	23.98	9.90	5.56	28.32	33.00
				H	123.07	18.89	9.90	5.56	23.23	33.00
			E2	V	117.91	13.52	9.90	5.56	17.86	33.00
				H	128.96	24.78	9.90	5.84	28.84	33.00
	1880.00	661	H	V	127.10	22.74	9.99	5.61	27.12	33.00
				H	126.91	22.77	9.99	5.61	27.14	33.00
			E1	V	128.81	24.45	9.99	5.61	28.83	33.00
				H	122.01	17.87	9.99	5.61	22.24	33.00
			E2	V	117.06	12.70	9.99	5.61	17.08	33.00
				H	127.60	23.46	9.99	5.61	27.83	33.00
	1909.80	810	H	V	126.23	21.90	10.08	5.66	26.32	33.00
				H	126.94	22.83	10.08	5.66	27.25	33.00
			E1	V	129.00	24.67	10.08	5.66	**29.09**	33.00
				H	120.63	16.52	10.08	5.66	20.94	33.00
			E2	V	116.14	11.81	10.08	5.66	16.23	33.00
				H	126.78	22.67	10.08	5.66	27.09	33.00

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 (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
GPRS 850	824.20	128	H	V	130.42	44.03	-7.87	3.62	32.53	38.45
				H	122.70	36.43	-7.87	3.62	24.93	38.45
			E1	V	121.95	35.56	-7.87	3.62	24.06	38.45
				H	129.74	43.47	-7.87	3.62	31.97	38.45
			E2	V	119.12	32.73	-7.87	3.62	21.23	38.45
				H	130.57	44.30	-7.87	3.62	32.80	38.45
	836.60	190	H	V	129.67	43.42	-7.88	3.65	31.89	38.45
				H	122.89	36.66	-7.88	3.65	25.13	38.45
			E1	V	122.20	35.95	-7.88	3.65	24.42	38.45
				H	130.19	43.96	-7.88	3.65	32.43	38.45
			E2	V	118.77	32.52	-7.88	3.65	20.99	38.45
				H	130.59	44.36	-7.88	3.65	32.83	38.45
	848.80	251	H	V	130.79	44.67	-7.88	3.68	**33.11**	38.45
				H	122.28	36.09	-7.88	3.68	24.53	38.45
			E1	V	122.44	36.32	-7.88	3.68	24.76	38.45
				H	130.27	44.08	-7.88	3.68	32.52	38.45
			E2	V	119.28	33.16	-7.88	3.68	21.60	38.45
				H	130.62	44.43	-7.88	3.68	32.87	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	127.93	23.54	9.90	5.56	27.88	33.00
				H	127.34	23.16	9.90	5.56	27.50	33.00
			E1	V	129.50	25.11	9.90	5.56	**29.45**	33.00
				H	122.85	18.67	9.90	5.56	23.01	33.00
			E2	V	118.60	14.21	9.90	5.56	18.55	33.00
				H	129.11	24.93	9.90	5.84	28.99	33.00
	1880.00	661	H	V	127.18	22.82	9.99	5.61	27.20	33.00
				H	126.84	22.70	9.99	5.61	27.07	33.00
			E1	V	128.31	23.95	9.99	5.61	28.33	33.00
				H	121.67	17.53	9.99	5.61	21.90	33.00
			E2	V	117.33	12.97	9.99	5.61	17.35	33.00
				H	127.31	23.17	9.99	5.61	27.54	33.00
	1909.80	810	H	V	126.90	22.57	10.08	5.66	26.99	33.00
				H	126.92	22.81	10.08	5.66	27.23	33.00
			E1	V	128.50	24.17	10.08	5.66	28.59	33.00
				H	120.28	16.17	10.08	5.66	20.59	33.00
			E2	V	126.97	22.64	10.08	5.66	27.06	33.00
				H	116.51	12.40	10.08	5.66	16.82	33.00

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 (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
EDGE 850	824.20	128	H	V	129.99	43.60	-7.87	3.62	32.10	38.45
				H	123.06	36.79	-7.87	3.62	25.29	38.45
			E1	V	121.77	35.38	-7.87	3.62	23.88	38.45
				H	129.32	43.05	-7.87	3.62	31.55	38.45
			E2	V	119.03	32.64	-7.87	3.62	21.14	38.45
				H	130.42	44.15	-7.87	3.62	32.65	38.45
	836.60	190	H	V	130.46	44.21	-7.88	3.65	32.68	38.45
				H	122.70	36.47	-7.88	3.65	24.94	38.45
			E1	V	121.87	35.62	-7.88	3.65	24.09	38.45
				H	129.85	43.62	-7.88	3.65	32.09	38.45
			E2	V	118.76	32.51	-7.88	3.65	20.98	38.45
				H	130.56	44.33	-7.88	3.65	32.80	38.45
	848.80	251	H	V	130.69	44.57	-7.88	3.68	**33.01**	38.45
				H	123.23	37.04	-7.88	3.68	25.48	38.45
			E1	V	122.57	36.45	-7.88	3.68	24.89	38.45
				H	129.89	43.70	-7.88	3.68	32.14	38.45
			E2	V	119.20	33.08	-7.88	3.68	21.52	38.45
				H	130.56	44.37	-7.88	3.68	32.81	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	128.40	24.01	9.90	5.56	28.35	33.00
				H	125.19	21.01	9.90	5.56	25.35	33.00
			E1	V	128.91	24.52	9.90	5.56	**28.86**	33.00
				H	123.39	19.21	9.90	5.56	23.55	33.00
			E2	V	118.30	13.91	9.90	5.56	18.25	33.00
				H	128.89	24.71	9.90	5.84	28.77	33.00
	1880.00	661	H	V	126.54	22.18	9.99	5.61	26.56	33.00
				H	123.76	19.62	9.99	5.61	23.99	33.00
			E1	V	127.98	23.62	9.99	5.61	28.00	33.00
				H	122.09	17.95	9.99	5.61	22.32	33.00
			E2	V	117.69	13.33	9.99	5.61	17.71	33.00
				H	127.73	23.59	9.99	5.61	27.96	33.00
	1909.80	810	H	V	125.52	21.19	10.08	5.66	25.61	33.00
				H	123.05	18.94	10.08	5.66	23.36	33.00
			E1	V	127.55	23.22	10.08	5.66	27.64	33.00
				H	121.34	17.23	10.08	5.66	21.65	33.00
			E2	V	116.65	12.32	10.08	5.66	16.74	33.00
				H	127.17	23.06	10.08	5.66	27.48	33.00

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)
WCDMA Band II	1852.40	9262	H	V	122.01	17.63	9.90	5.56	21.96	33.00
				H	121.53	17.35	9.90	5.56	21.69	33.00
			E1	V	123.02	18.64	9.90	5.56	22.97	33.00
				H	116.82	12.64	9.90	5.56	16.98	33.00
			E2	V	108.01	3.63	9.90	5.56	7.96	33.00
				H	120.10	15.92	9.90	5.84	19.98	33.00
	1880.00	9400	H	V	121.35	16.99	9.99	5.61	21.37	33.00
				H	120.32	16.18	9.99	5.61	20.55	33.00
			E1	V	123.61	19.22	9.90	5.56	**23.56**	33.00
				H	116.32	12.18	9.99	5.61	16.55	33.00
			E2	V	110.02	5.66	9.99	5.61	10.04	33.00
				H	123.06	18.92	9.99	5.61	23.29	33.00
	1907.60	9538	H	V	121.38	17.05	10.07	5.66	21.46	33.00
				H	119.40	15.29	10.07	5.66	19.70	33.00
			E1	V	123.41	19.08	10.07	5.66	23.49	33.00
				H	115.50	11.39	10.07	5.66	15.80	33.00
			E2	V	112.04	7.71	10.07	5.66	12.12	33.00
				H	122.29	18.18	10.07	5.66	22.59	33.00

Remark：

(1) The RBW,VBW of SPA for frequency

RBW= 5MHz , VBW= 8MHz

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	122.09	35.73	-10.02	3.63	22.08	38.45
				H	114.24	27.98	-10.02	3.63	14.34	38.45
			E1	V	114.19	27.83	-10.02	3.63	14.18	38.45
				H	123.83	37.57	-10.02	3.63	23.93	38.45
			E2	V	113.91	27.55	-10.02	3.63	13.90	38.45
				H	121.35	35.09	-10.02	3.63	21.45	38.45
	836.60	4183	H	V	122.49	36.23	-10.02	3.65	22.56	38.45
				H	115.46	29.23	-10.02	3.65	15.56	38.45
			E1	V	114.71	28.45	-10.02	3.65	14.78	38.45
				H	124.25	38.02	-10.02	3.65	24.35	38.45
			E2	V	114.11	27.85	-10.02	3.65	14.18	38.45
				H	121.25	35.02	-10.02	3.65	21.35	38.45
	846.60	4233	H	V	122.76	36.61	-10.02	3.67	22.92	38.45
				H	116.01	29.81	-10.02	3.67	16.12	38.45
			E1	V	114.28	28.12	-10.02	3.67	14.43	38.45
				H	124.41	38.21	-10.02	3.67	**24.52**	38.45
			E2	V	113.78	27.63	-10.02	3.67	13.94	38.45
				H	121.09	34.89	-10.02	3.67	21.20	38.45

Remark:

(1) The RBW,VBW of SPA for frequency

RBW= 5MHz , VBW= 8MHz

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)
HSUPA Band II	1852.40	9262	H	V	123.51	19.13	9.90	5.56	23.46	33.00
				H	124.26	20.08	9.90	5.56	24.42	33.00
			E1	V	125.05	20.67	9.90	5.56	25.00	33.00
				H	120.76	16.58	9.90	5.56	20.92	33.00
			E2	V	113.21	8.83	9.90	5.56	13.16	33.00
				H	124.35	20.17	9.90	5.84	24.23	33.00
	1880.00	9400	H	V	121.69	17.33	9.99	5.61	21.71	33.00
				H	122.96	18.82	9.99	5.61	23.19	33.00
			E1	V	126.04	21.65	9.90	5.56	**25.99**	33.00
				H	119.46	15.32	9.99	5.61	19.69	33.00
			E2	V	112.99	8.63	9.99	5.61	13.01	33.00
				H	123.73	19.59	9.99	5.61	23.96	33.00
	1907.60	9538	H	V	122.52	18.19	10.07	5.66	22.60	33.00
				H	121.41	17.30	10.07	5.66	21.71	33.00
			E1	V	125.61	21.28	10.07	5.66	25.69	33.00
				H	118.90	14.79	10.07	5.66	19.20	33.00
			E2	V	110.58	6.25	10.07	5.66	10.66	33.00
				H	122.52	18.41	10.07	5.66	22.82	33.00

Remark：

(1) The RBW,VBW of SPA for frequency

RBW= 5MHz , VBW= 8MHz

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)
HSUPA Band V	826.40	4132	H	V	122.46	36.10	-10.02	3.63	22.45	38.45
				H	114.12	27.86	-10.02	3.63	14.22	38.45
			E1	V	114.20	27.84	-10.02	3.63	14.19	38.45
				H	123.49	37.23	-10.02	3.63	23.59	38.45
			E2	V	104.83	18.47	-10.02	3.63	4.82	38.45
				H	114.66	28.40	-10.02	3.63	14.76	38.45
	836.60	4183	H	V	123.23	36.97	-10.02	3.65	23.30	38.45
				H	114.60	28.37	-10.02	3.65	14.70	38.45
			E1	V	115.41	29.15	-10.02	3.65	15.48	38.45
				H	124.20	37.97	-10.02	3.65	24.30	38.45
			E2	V	106.16	19.90	-10.02	3.65	6.23	38.45
				H	115.59	29.36	-10.02	3.65	15.69	38.45
	846.60	4233	H	V	123.35	37.20	-10.02	3.67	23.51	38.45
				H	114.34	28.14	-10.02	3.67	14.45	38.45
			E1	V	115.22	29.06	-10.02	3.67	15.37	38.45
				H	124.50	38.30	-10.02	3.67	**24.61**	38.45
			E2	V	108.13	21.98	-10.02	3.67	8.29	38.45
				H	123.81	37.61	-10.02	3.67	23.92	38.45

Remark:

(1) The RBW,VBW of SPA for frequency

RBW= 5MHz , VBW= 8MHz

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	120.38	16.00	9.90	5.56	20.33	33.00
				H	119.91	15.73	9.90	5.56	20.07	33.00
			E1	V	123.49	19.11	9.90	5.56	**23.44**	33.00
				H	117.83	13.65	9.90	5.56	17.99	33.00
			E2	V	110.82	6.44	9.90	5.56	10.77	33.00
				H	123.05	18.87	9.90	5.84	22.93	33.00
	1880.00	9400	H	V	119.74	15.38	9.99	5.61	19.76	33.00
				H	119.97	15.83	9.99	5.61	20.20	33.00
			E1	V	123.12	18.76	9.99	5.61	23.14	33.00
				H	116.48	12.34	9.99	5.61	16.71	33.00
			E2	V	110.85	6.49	9.99	5.61	10.87	33.00
				H	123.15	19.01	9.99	5.61	23.38	33.00
	1907.60	9538	H	V	119.58	15.25	10.07	5.66	19.66	33.00
				H	119.30	15.19	10.07	5.66	19.60	33.00
			E1	V	122.38	18.05	10.07	5.66	22.46	33.00
				H	115.02	10.91	10.07	5.66	15.32	33.00
			E2	V	110.85	6.52	10.07	5.66	10.93	33.00
				H	121.85	17.74	10.07	5.66	22.15	33.00

Remark：

(1) The RBW,VBW of SPA for frequency

RBW= 5MHz , VBW= 8MHz

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	122.75	36.39	-7.88	3.63	24.88	38.45
				H	115.73	29.47	-7.88	3.63	17.97	38.45
			E1	V	113.31	26.95	-7.88	3.63	15.44	38.45
				H	124.07	37.81	-7.88	3.63	26.31	38.45
			E2	V	113.87	27.51	-7.88	3.63	16.00	38.45
				H	122.95	36.69	-7.88	3.63	25.19	38.45
	836.60	4183	H	V	123.51	37.26	-7.88	3.65	25.73	38.45
				H	116.35	30.12	-7.88	3.65	18.59	38.45
			E1	V	114.67	28.42	-7.88	3.65	16.89	38.45
				H	124.56	38.33	-7.88	3.65	26.80	38.45
			E2	V	114.54	28.29	-7.88	3.65	16.76	38.45
				H	123.80	37.57	-7.88	3.65	26.04	38.45
	846.60	4233	H	V	123.61	37.46	-7.88	3.67	25.91	38.45
				H	116.32	30.12	-7.88	3.67	18.57	38.45
			E1	V	115.02	28.87	-7.88	3.67	17.32	38.45
				H	124.75	38.55	-7.88	3.67	**27.00**	38.45
			E2	V	114.21	28.06	-7.88	3.67	16.51	38.45
				H	123.54	37.34	-7.88	3.67	25.79	38.45

Remark：

(1) The RBW,VBW of SPA for frequency

RBW= 5MHz , VBW= 8MHz

7. 99% OCCUPIED BANDWIDTH MEASUREMENT

7.1. Standard Applicable:

According to §FCC 2.1049.

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, GPRS RBW/VBW (10/30KHz) and WCDMA RBW/VBW(47/150 KHz) was set to about 1% of emission BW, 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 (MHz)
GSM 850	824.20	128	0.2439
	836.60	190	0.2437
	848.80	251	0.2493

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
GSM 1900	1850.20	512	0.2424
	1880.00	661	0.2424
	1909.80	810	0.2508

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
EDGE 850	824.20	128	0.2417
	836.60	190	0.2460
	848.80	251	0.2425

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
EDGE 1900	1850.20	512	0.2435
	1880.00	661	0.2406
	1909.80	810	0.2458

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
WCDMA Band II	1852.40	9262	4.1568
	1880.00	9400	4.1390
	1907.60	9538	4.1238

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
WCDMA Band V	826.40	4132	4.0715
	836.60	4183	4.1570
	846.60	4233	4.1469

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
HSUPA Band II	1852.40	9262	4.1346
	1880.00	9400	4.1594
	1907.60	9538	4.1127

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
HSUPA Band V	826.40	4132	4.1077
	836.60	4183	4.1457
	846.60	4233	4.1525

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
HSDPA Band II	1852.40	9262	4.1390
	1880.00	9400	4.1315
	1907.60	9538	4.1552

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
HSDPA Band V	826.40	4132	4.1237
	836.60	4183	4.1535
	846.60	4233	4.1783

Figure 7-1: GSM 850 Channel Low

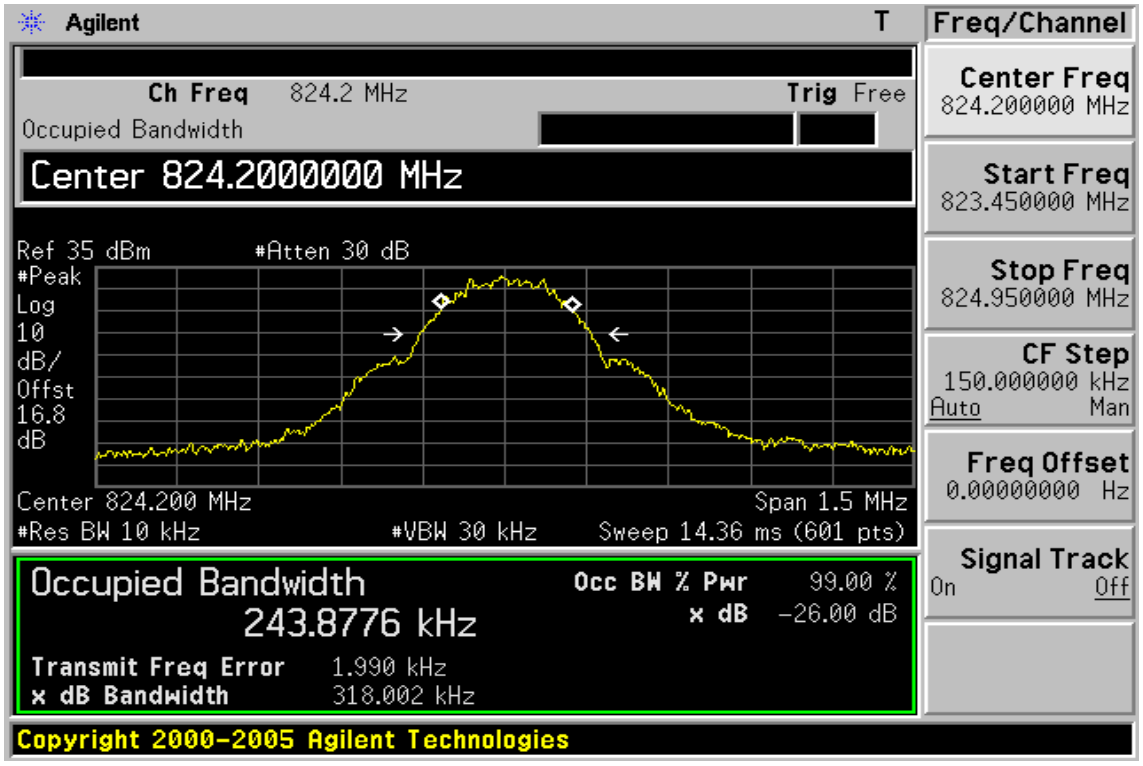


Figure 7-2: GSM 850 Channel Mid

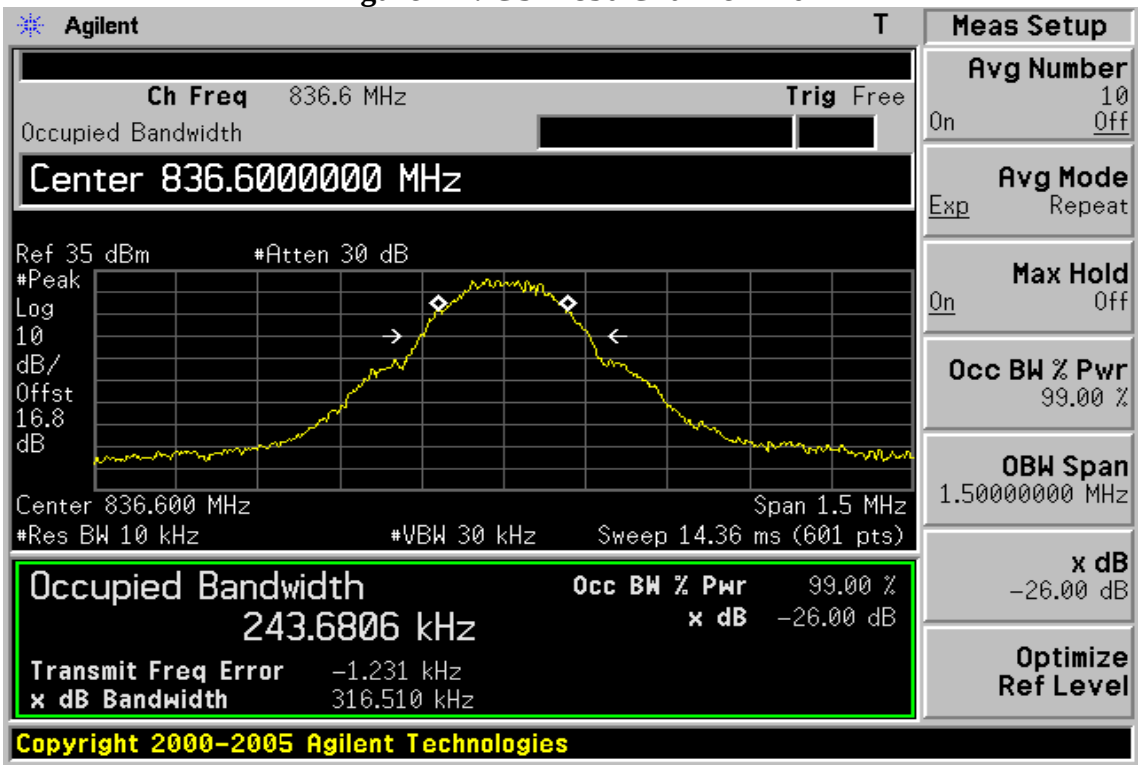


Figure 7-3: GSM 850 Channel High

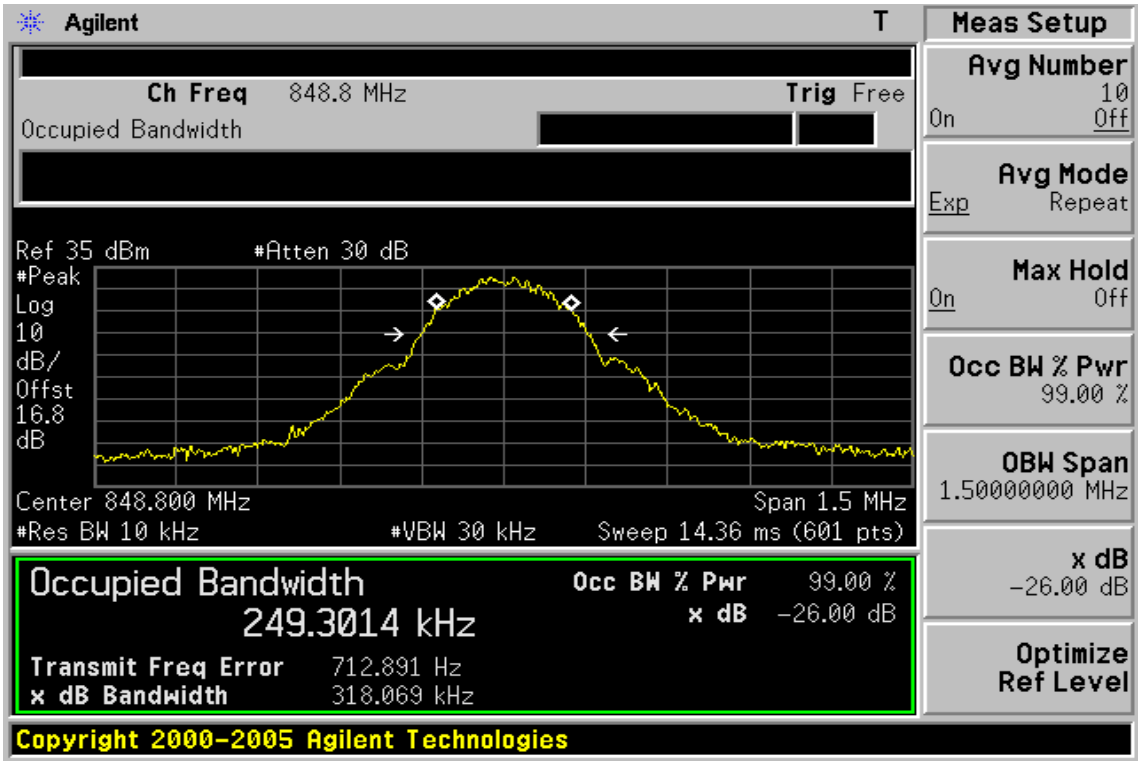


Figure 7-4: GSM 1900 Channel Low

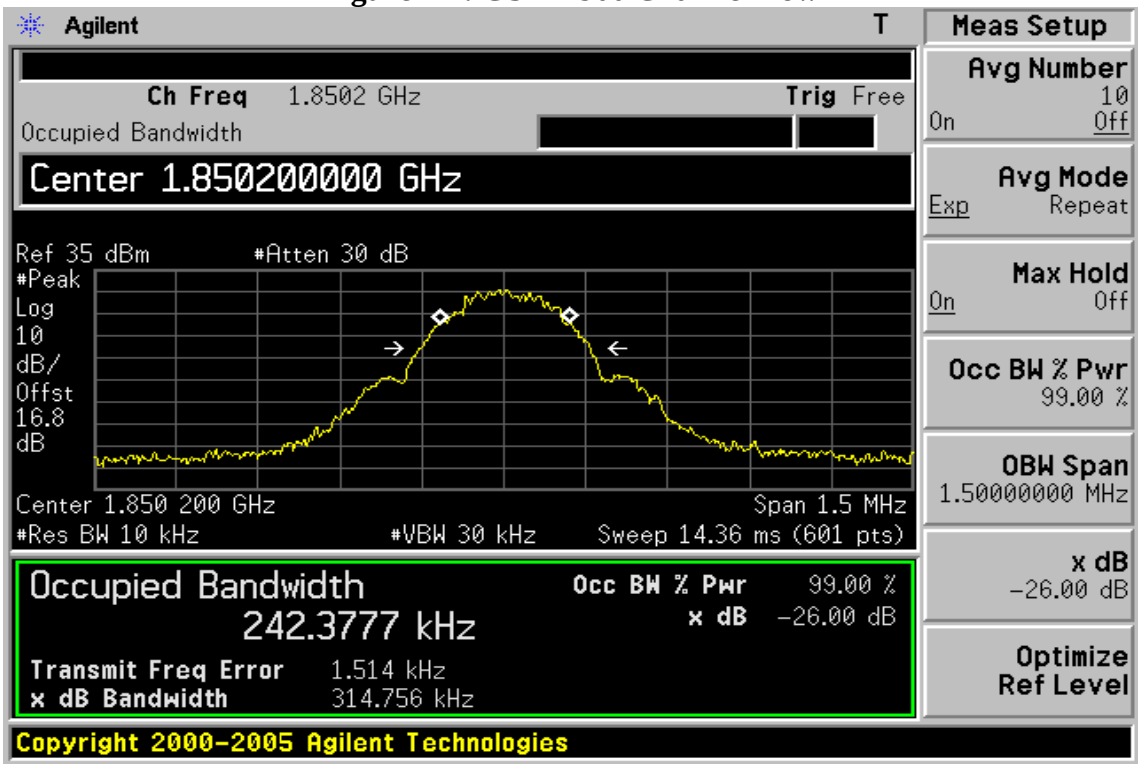


Figure 7-5: GSM 1900 Channel Mid

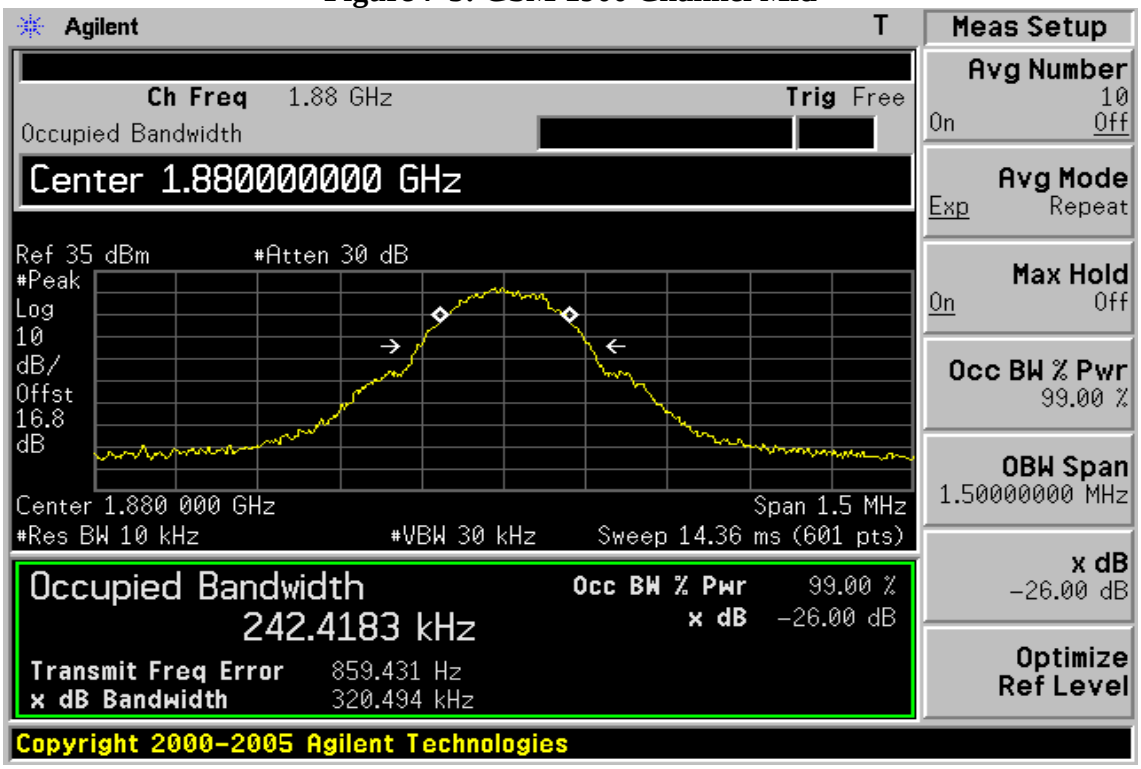


Figure 7-6: GSM 1900 Channel High

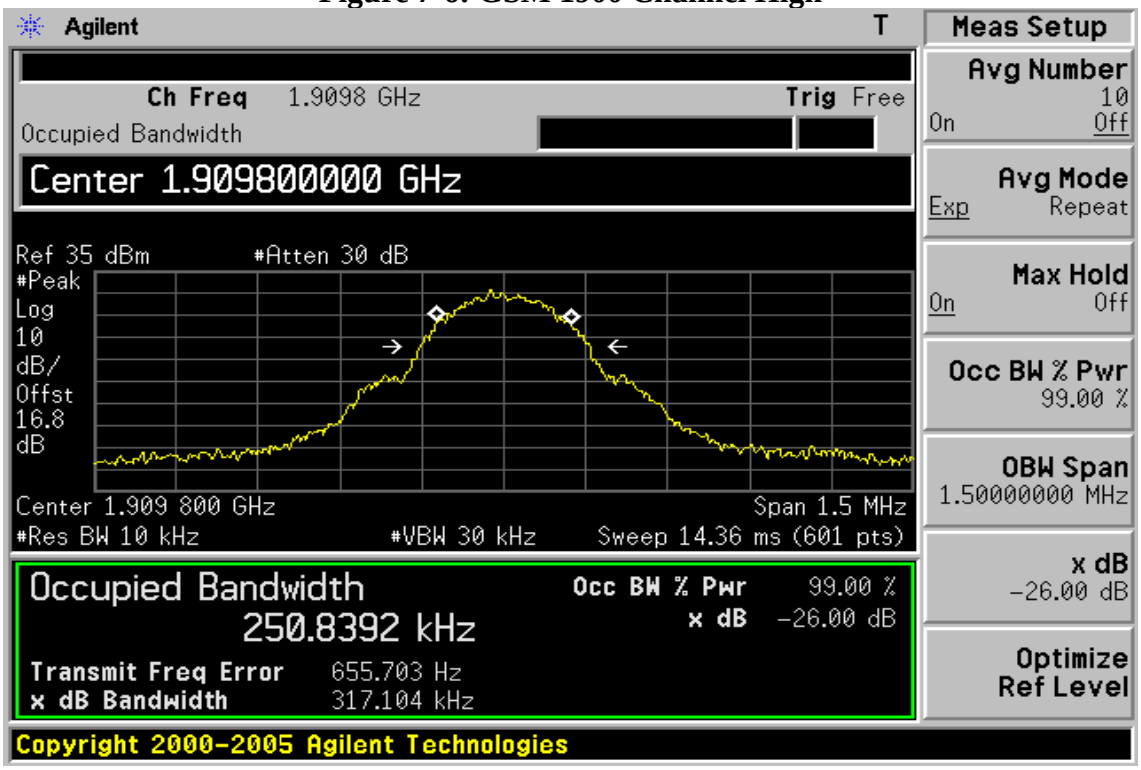


Figure 7-7: EDGE 850 Channel Low

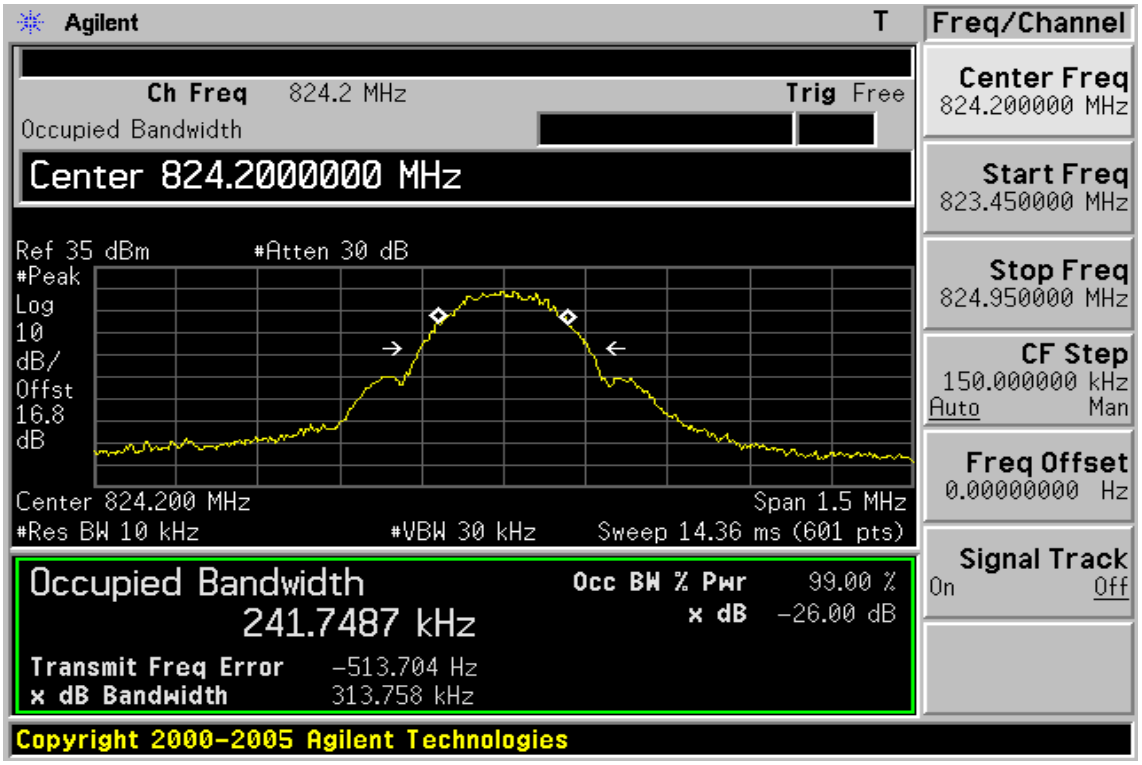


Figure 7-8: EDGE 850 Channel Mid

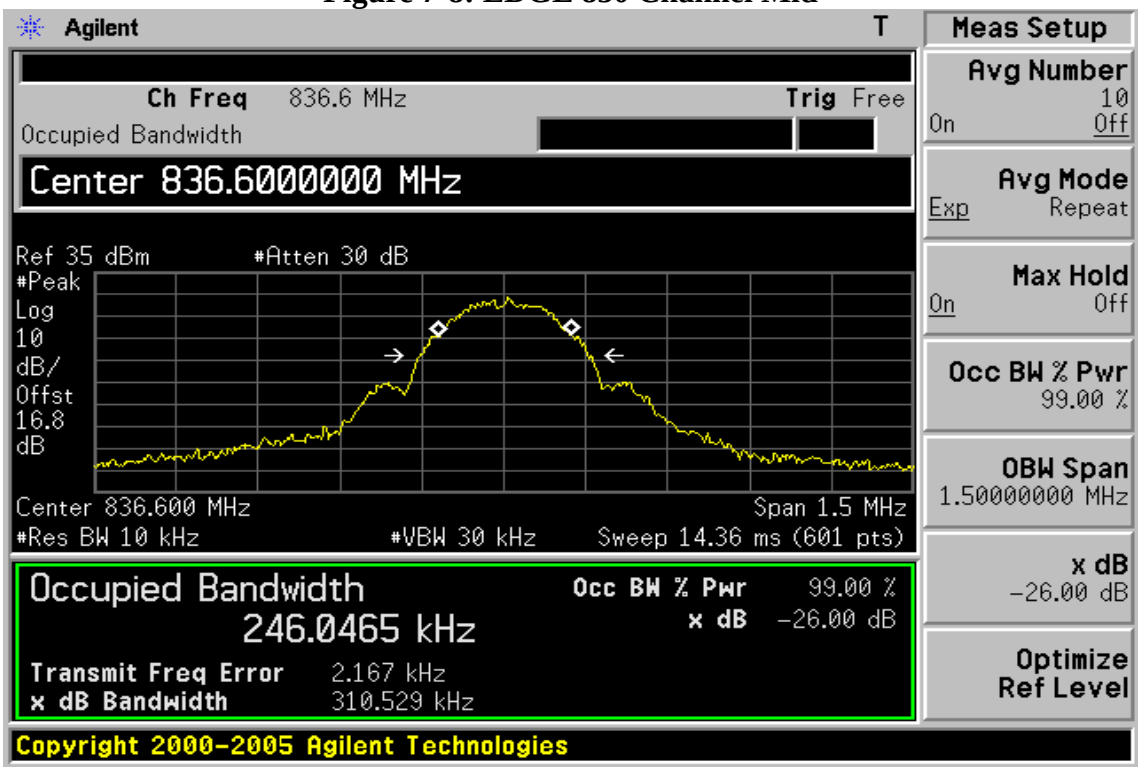


Figure 7-9: EDGE 850 Channel High

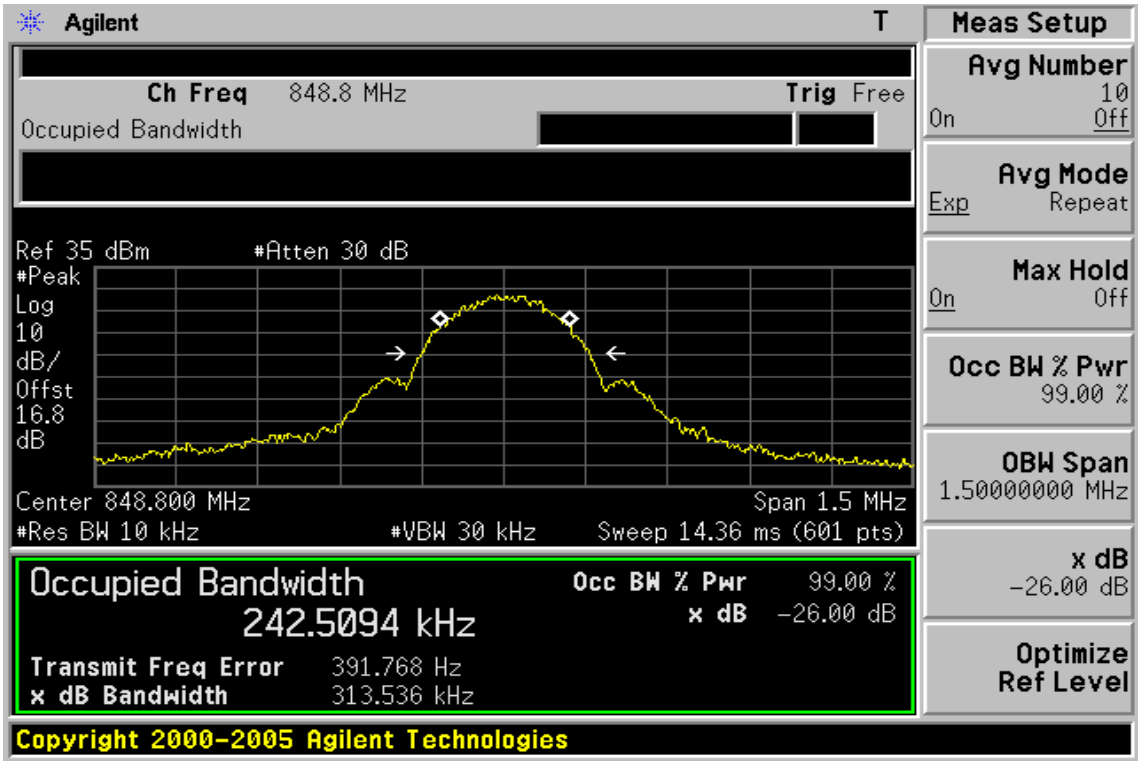


Figure 7-10: EDGE 1900 Channel Low

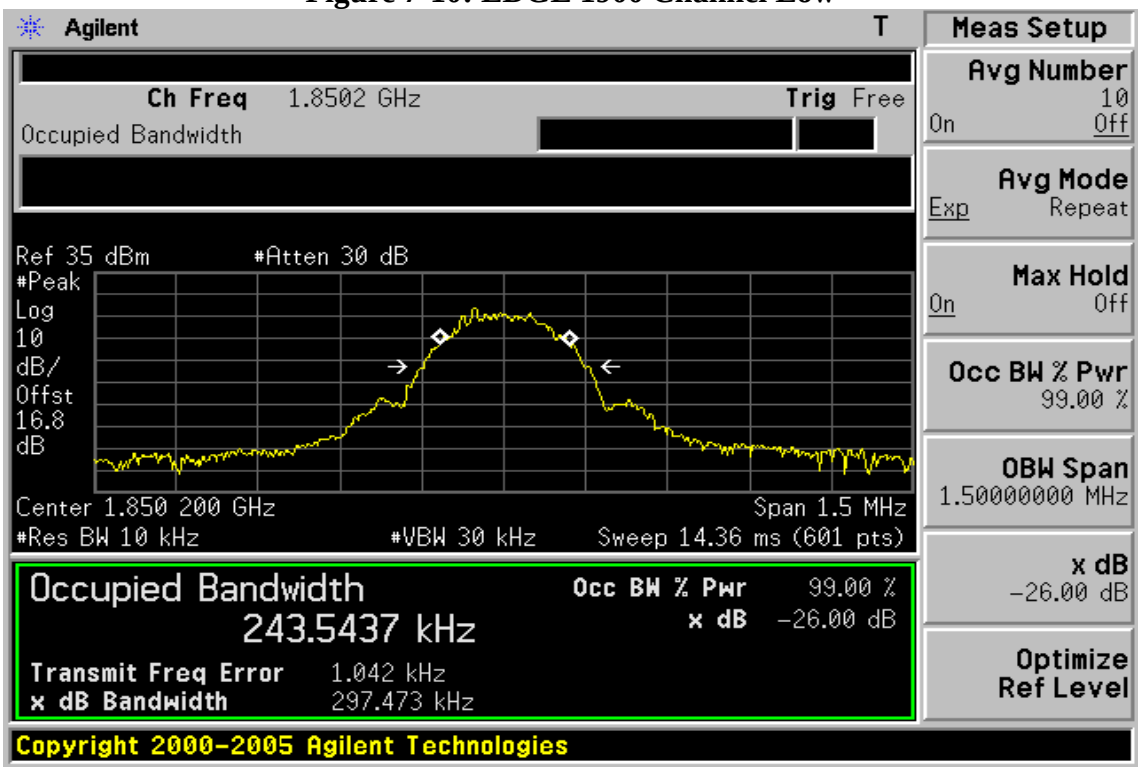


Figure 7-11: EDGE 1900 Channel Mid

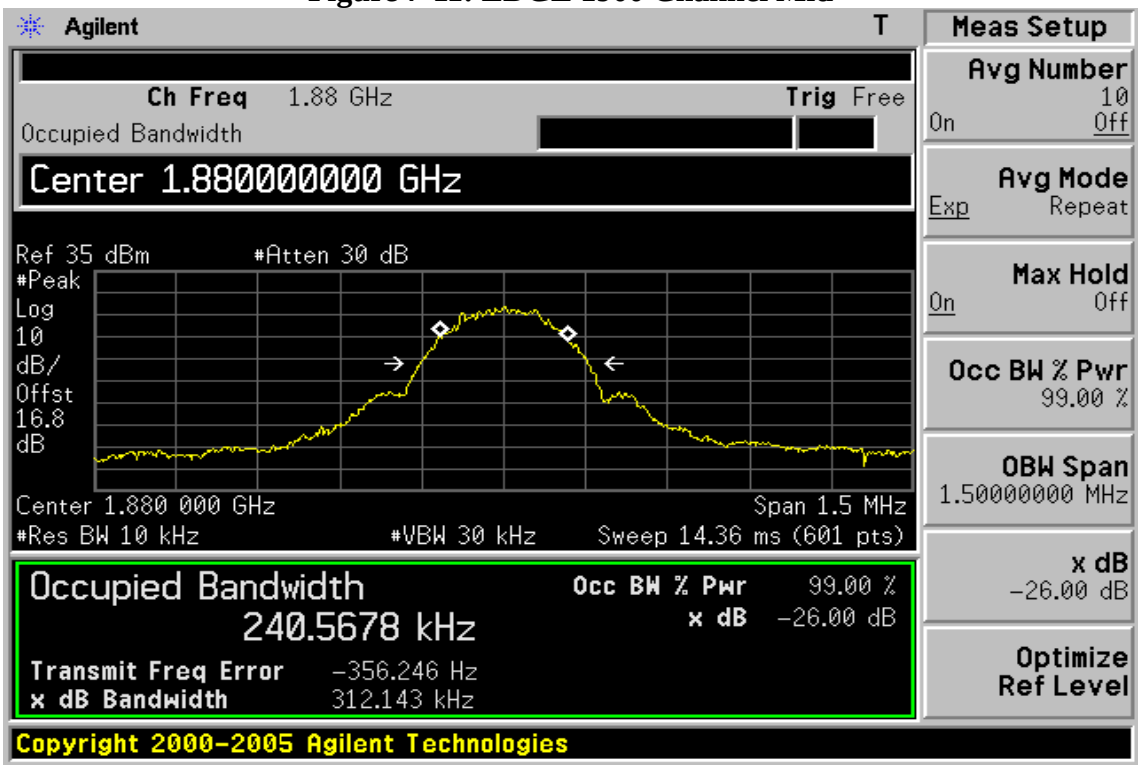


Figure 7-12: EDGE 1900 Channel High

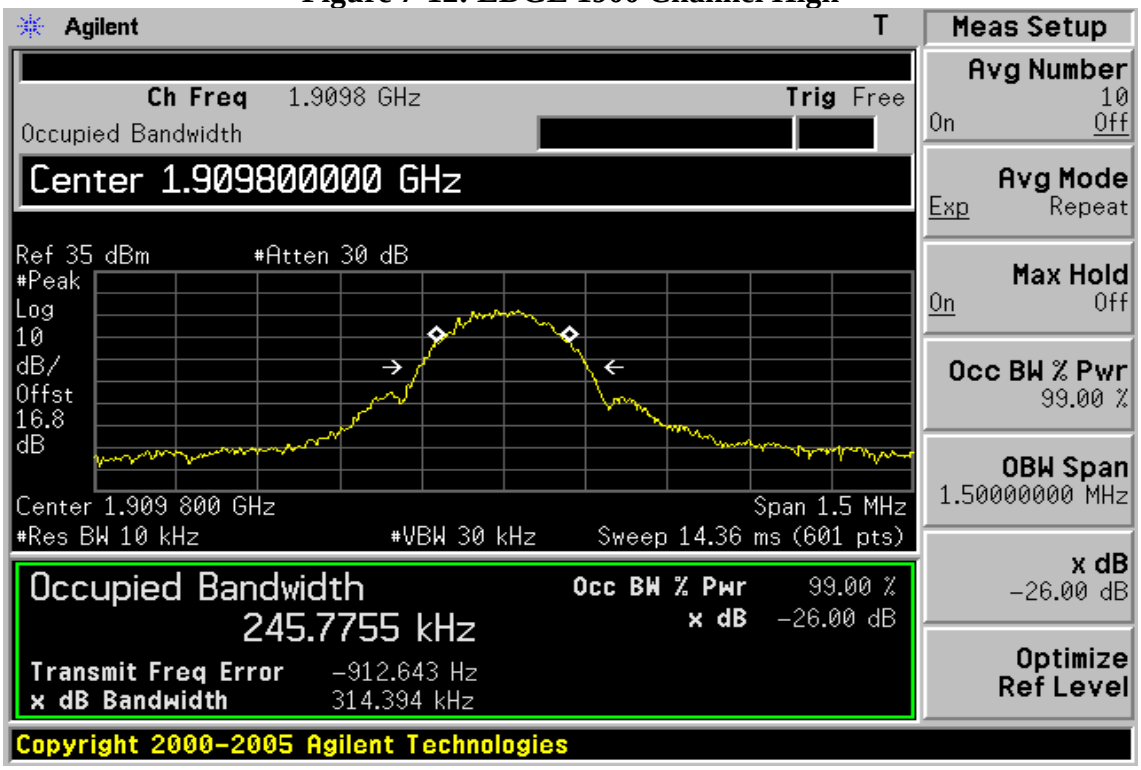


Figure 7-13: WCDMA Band II Channel Low

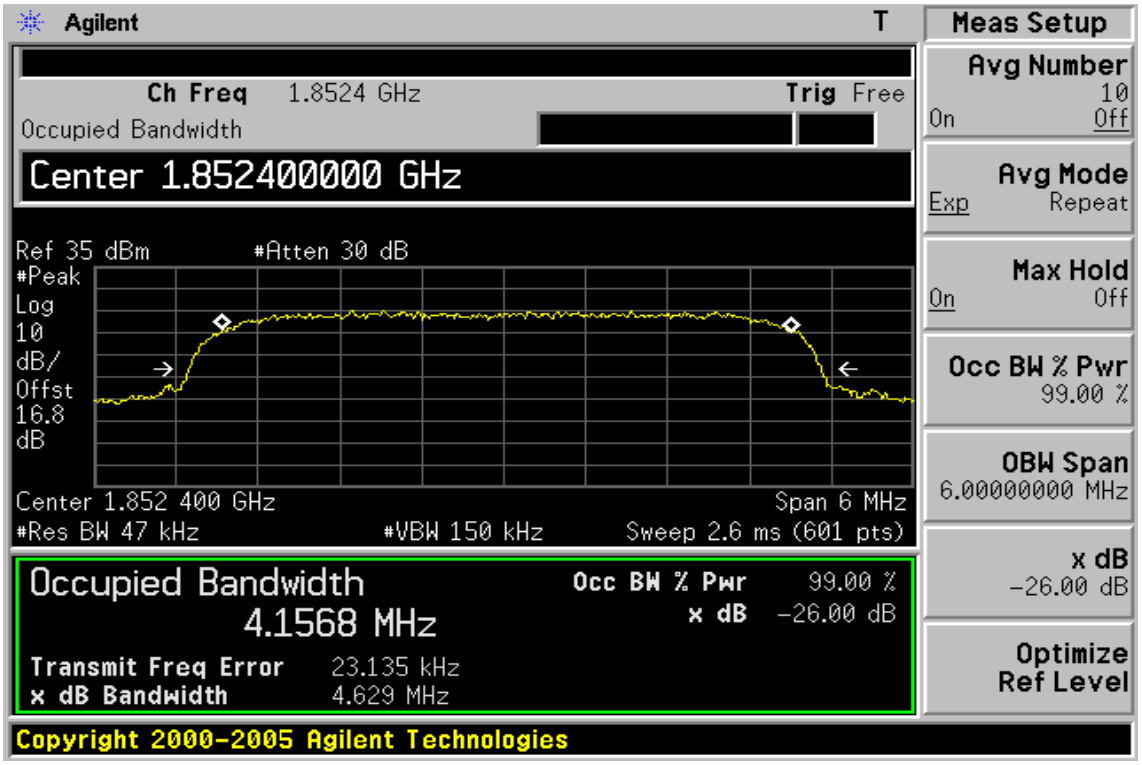


Figure 7-14: WCDMA Band II Channel Mid

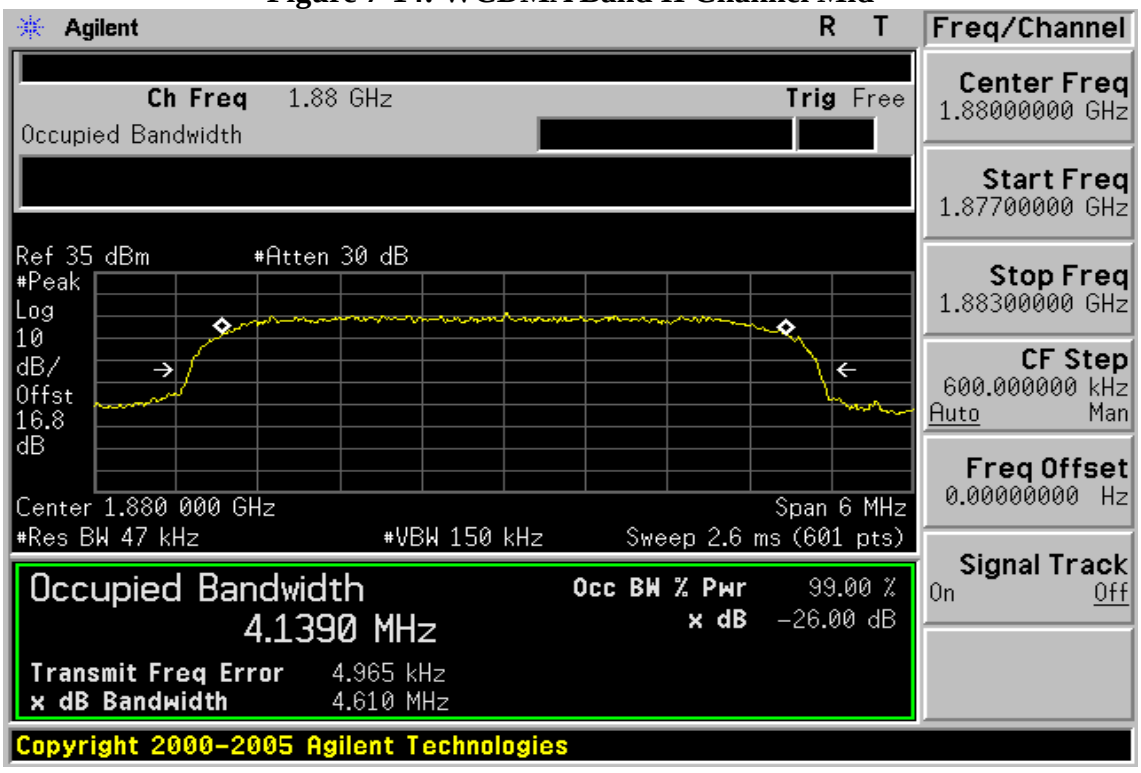


Figure 7-15: WCDMA Band II Channel High

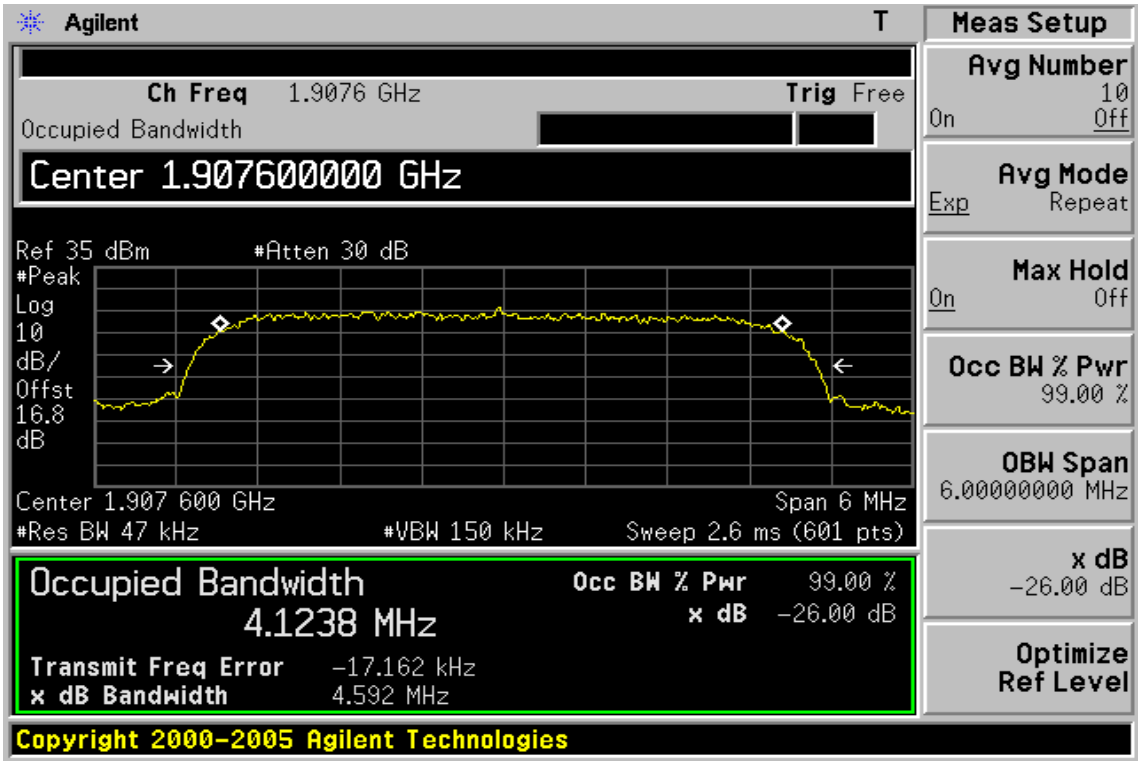


Figure 7-16: WCDMA Band V Channel Low

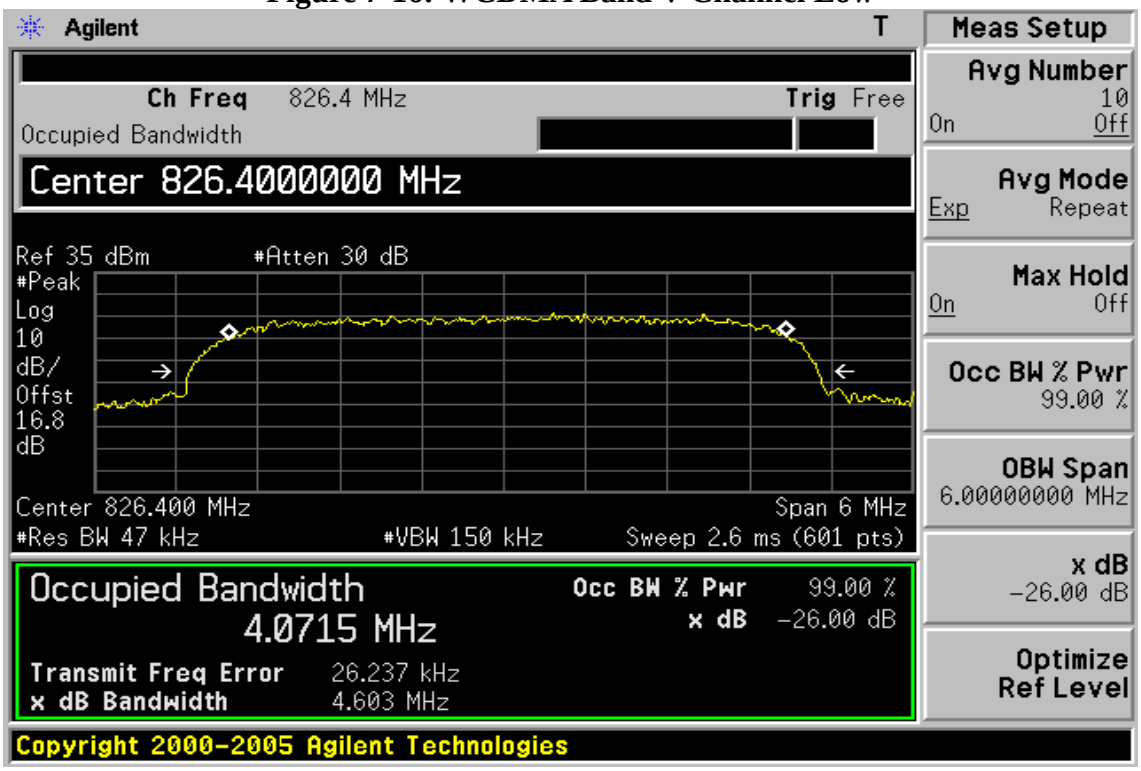


Figure 7-17: WCDMA Band V Channel Mid

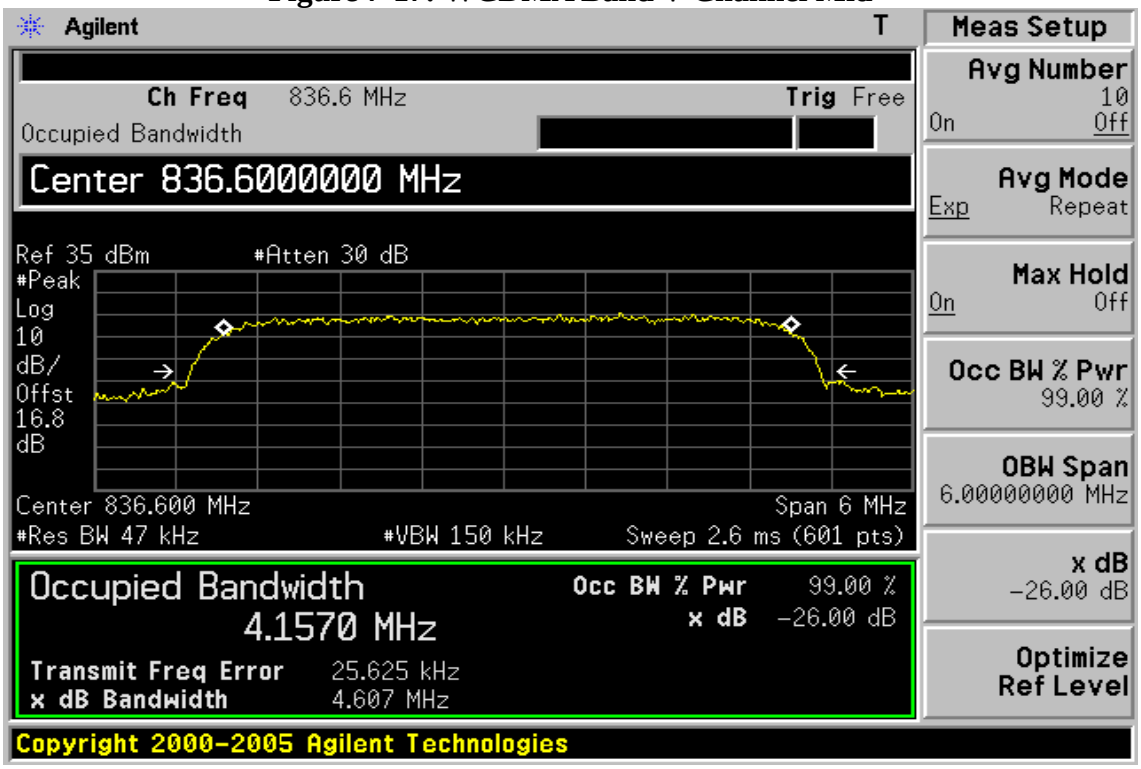


Figure 7-18: WCDMA Band V Channel High

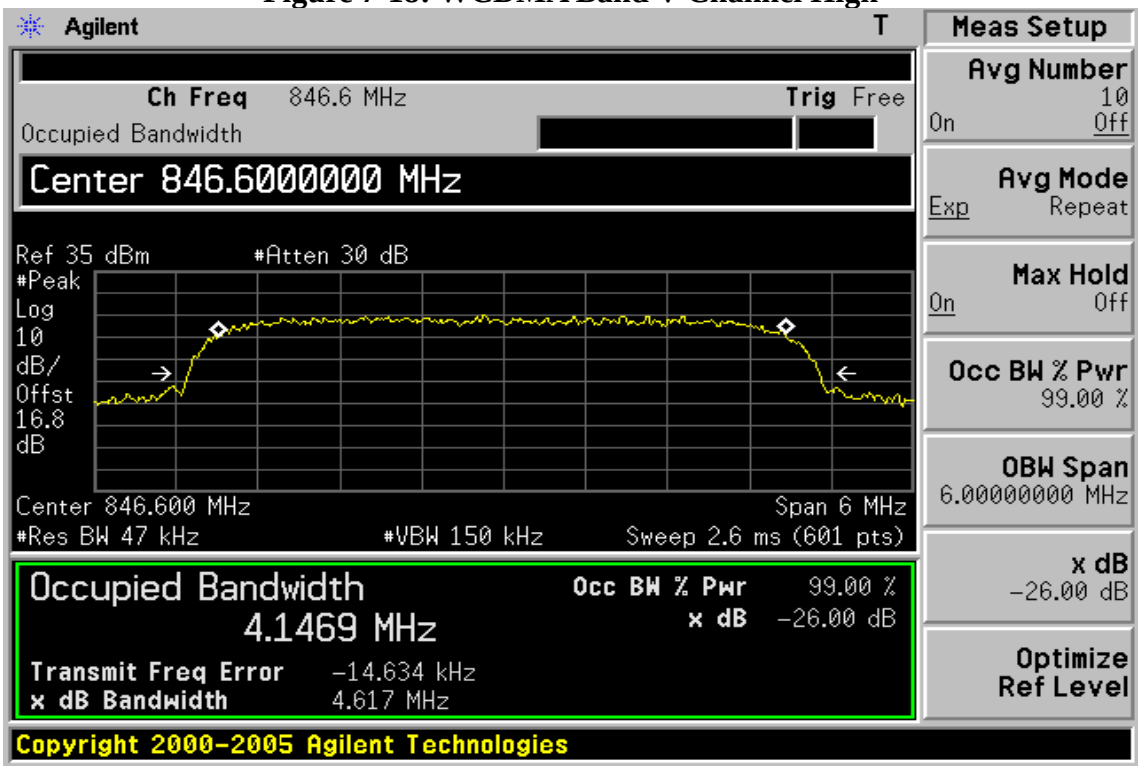


Figure 7-19: HSUPA Band II Channel Low

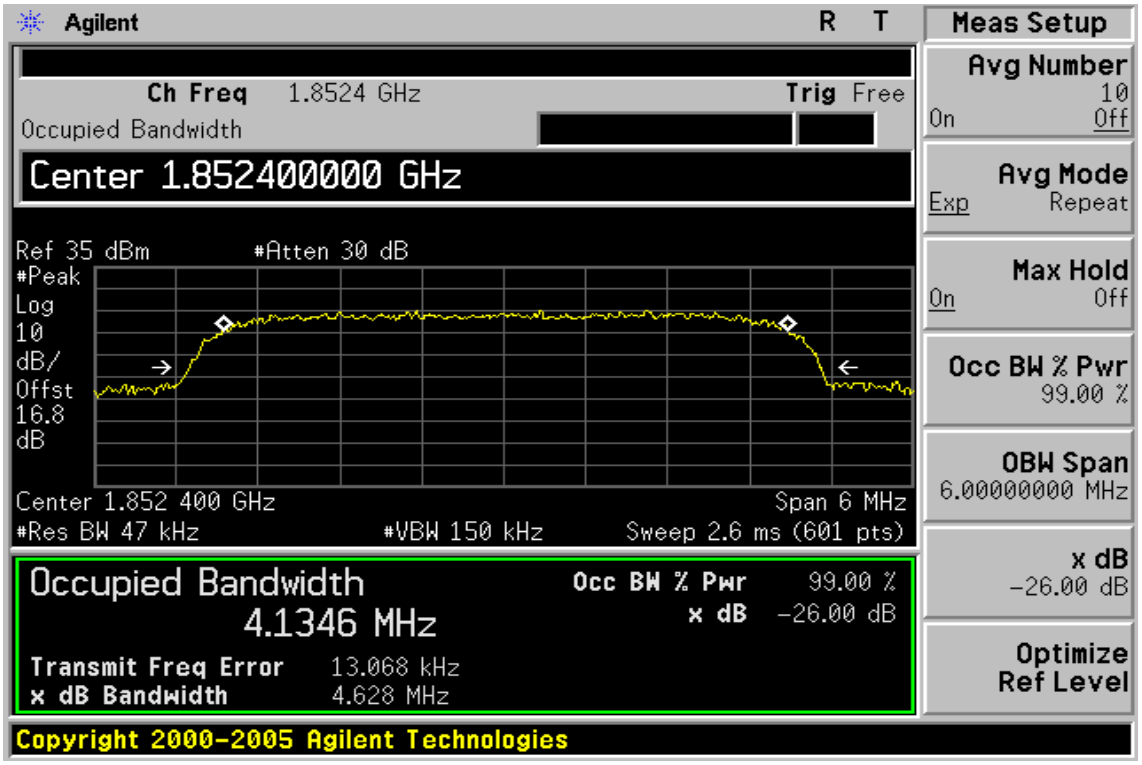


Figure 7-20 :HSUPA Band II Channel Mid

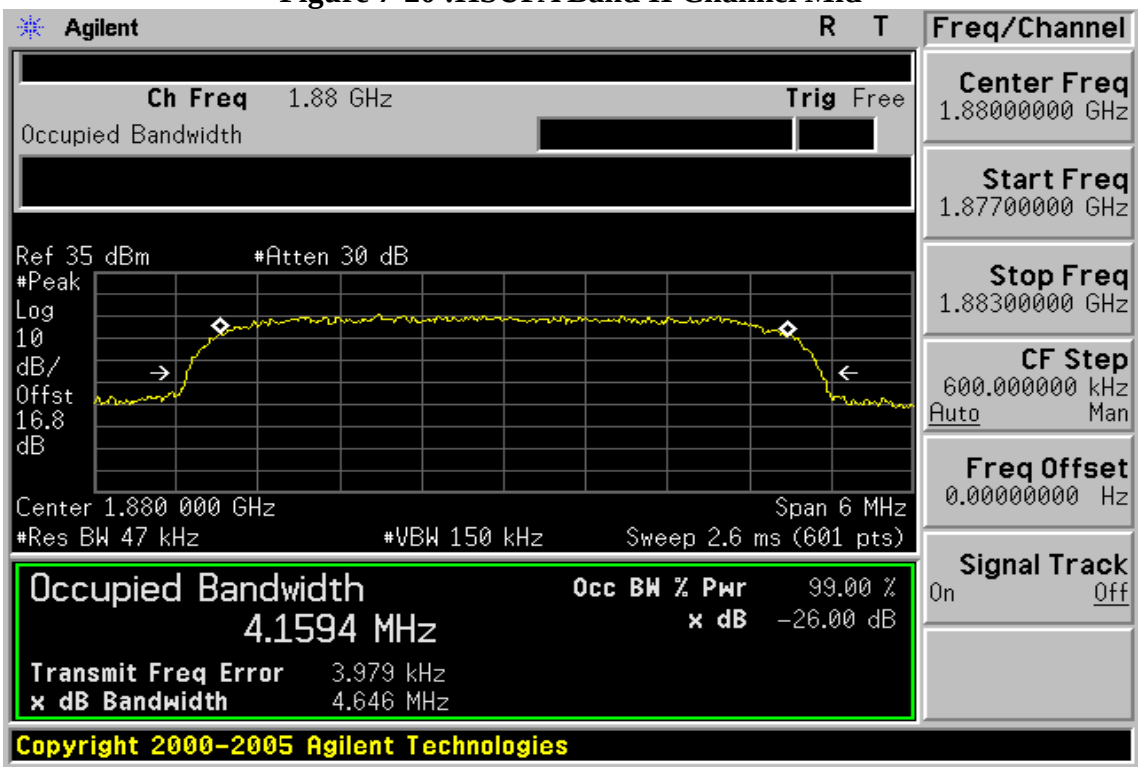


Figure 7-21: HSUPA Band II Channel High

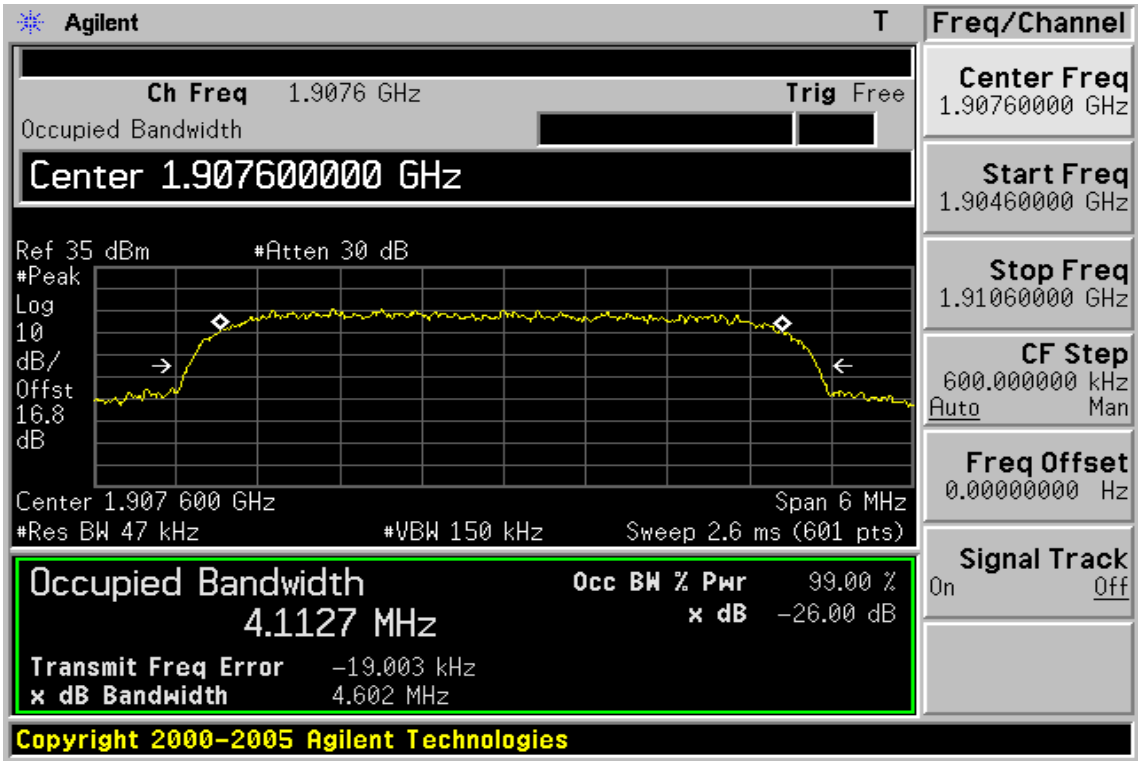


Figure 7-22: HSUPA Band V Channel Low

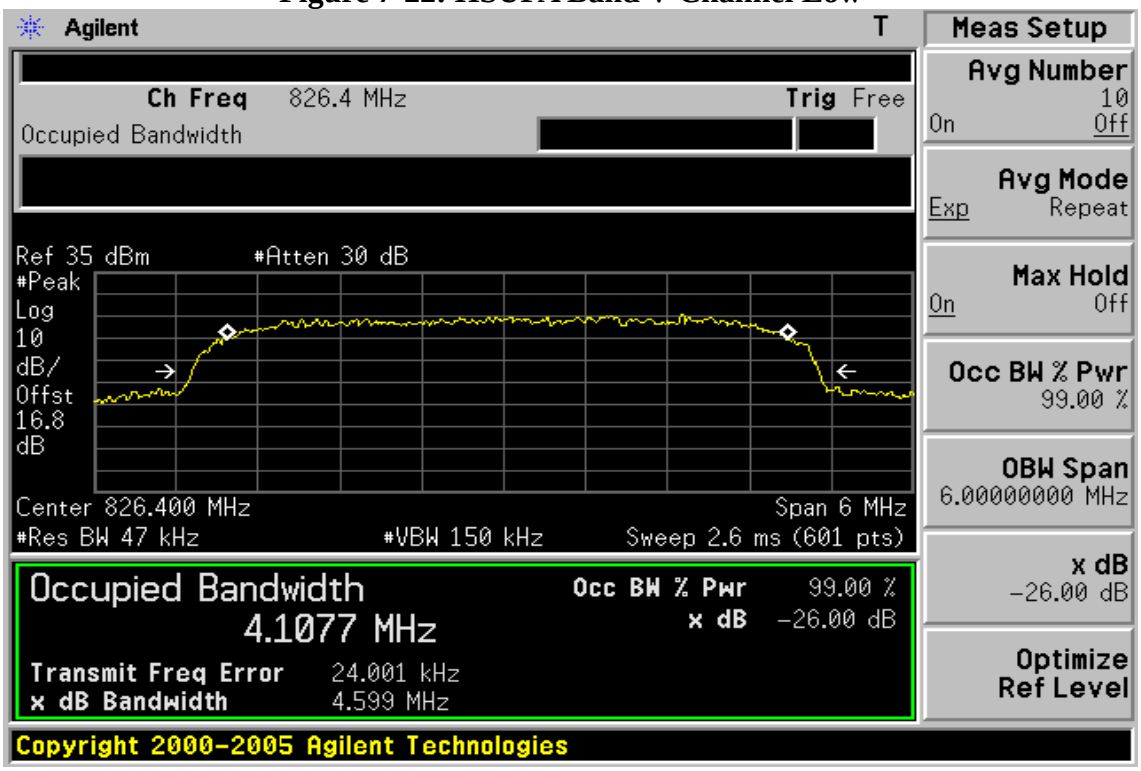


Figure 7-23: HSUPA Band V Channel Mid

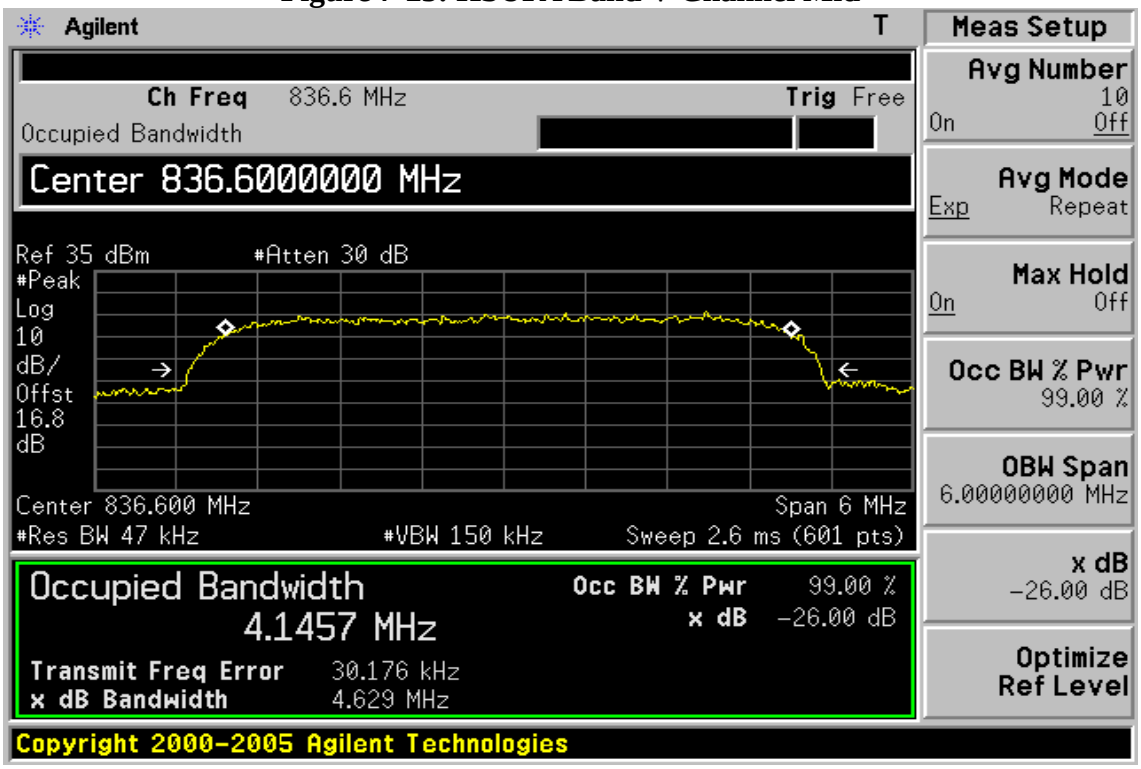


Figure 7-24: HSUPA Band V Channel High

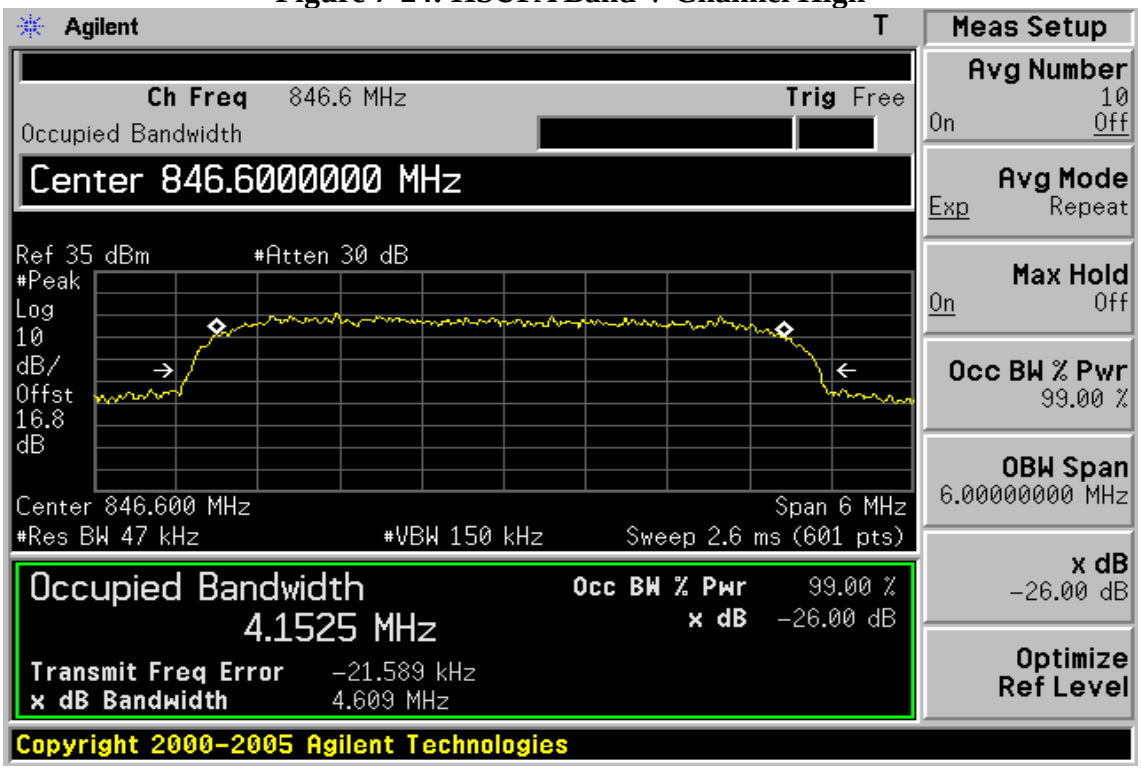


Figure 7-25: HSDPA Band II Channel Low

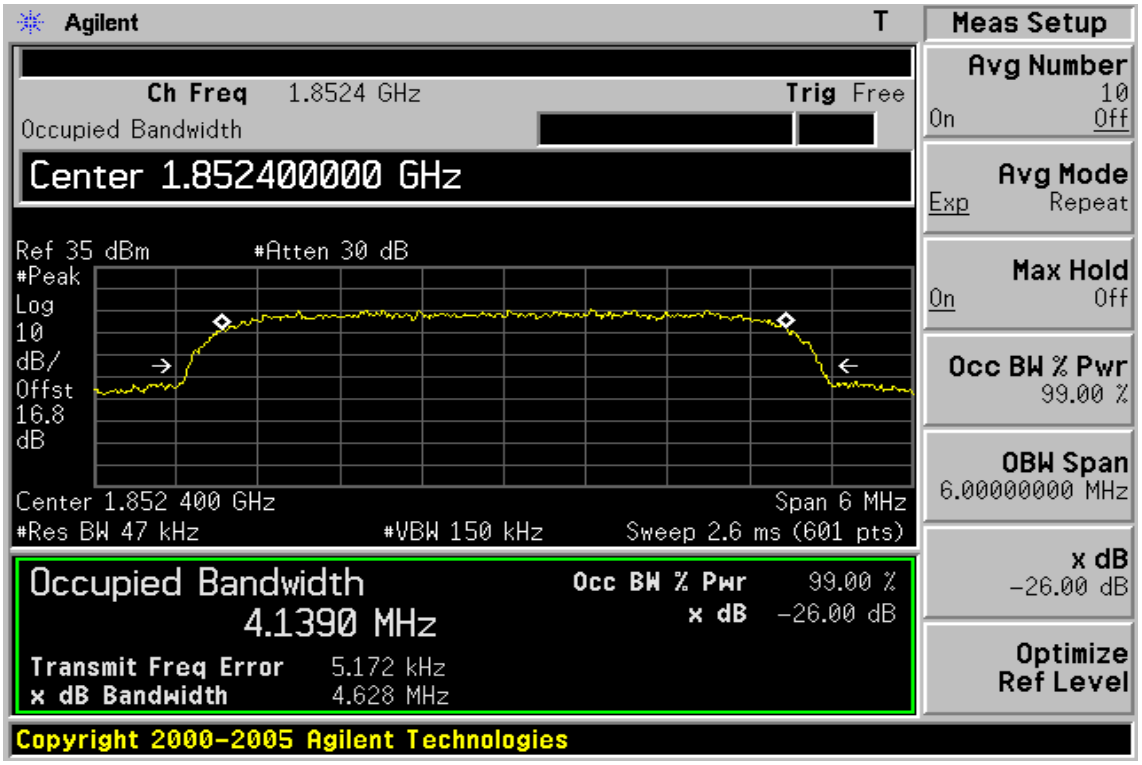


Figure 7-26 :HSDPA Band II Channel Mid

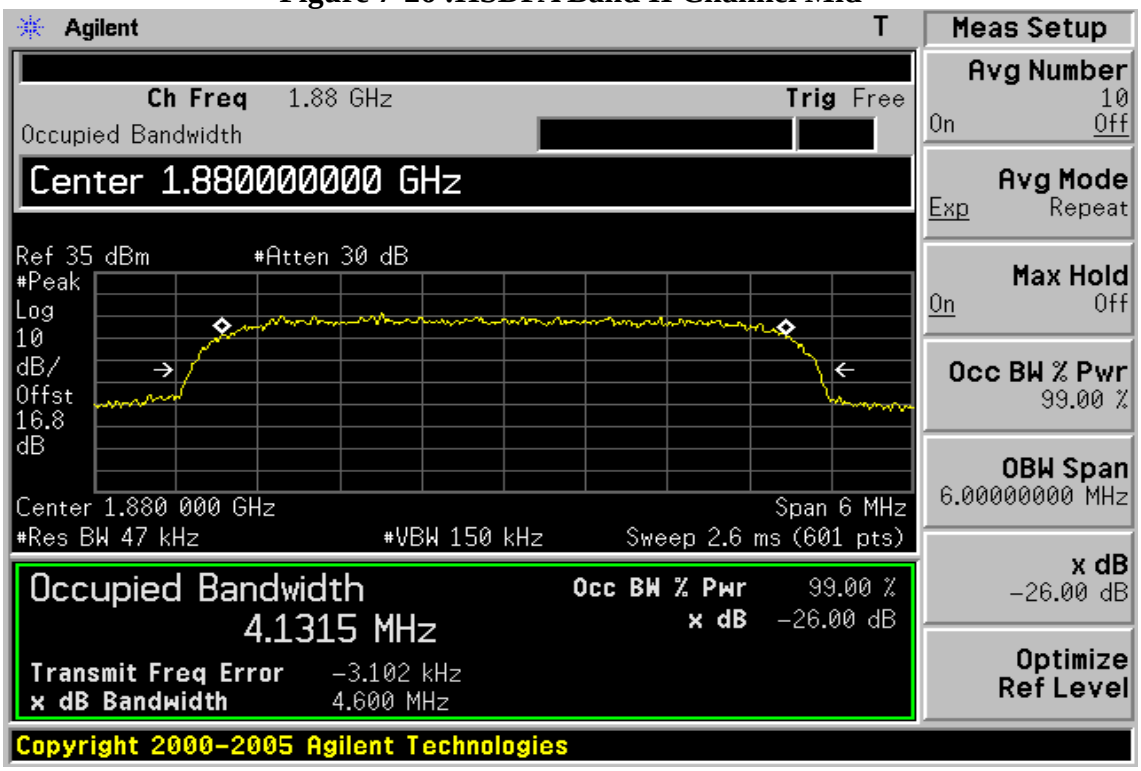


Figure 7-27: HSDPA Band II Channel High

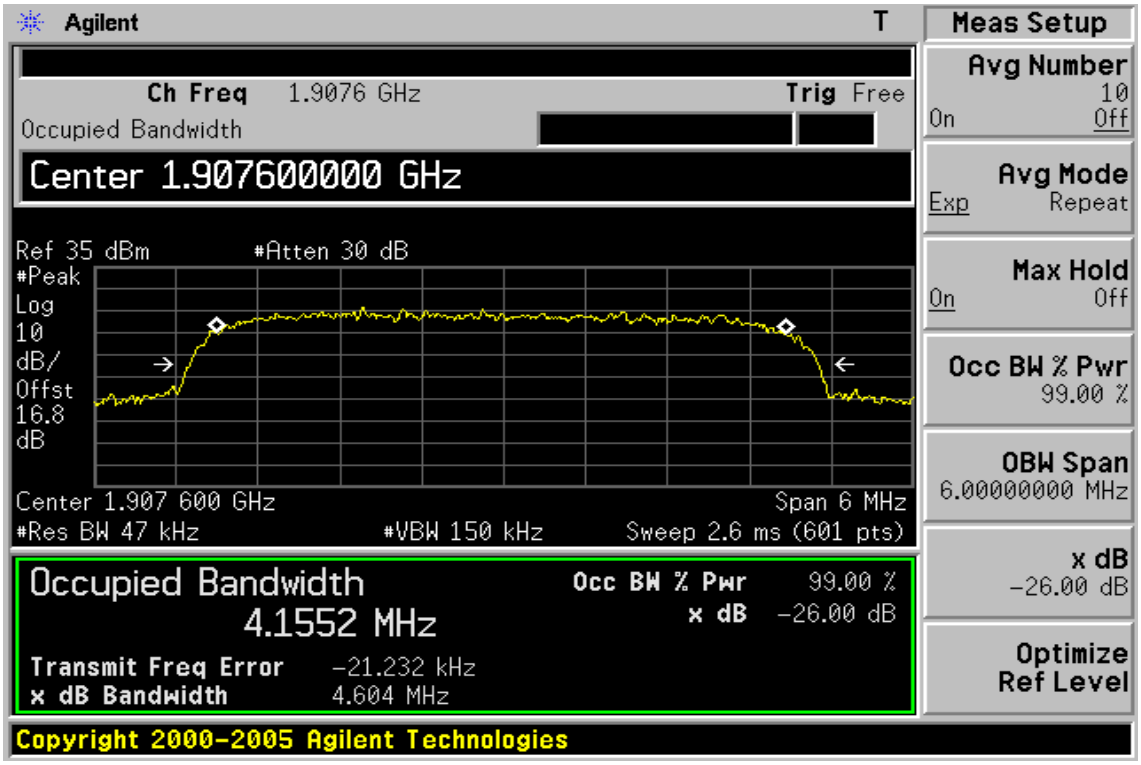


Figure 7-28: HSDPA Band V Channel Low

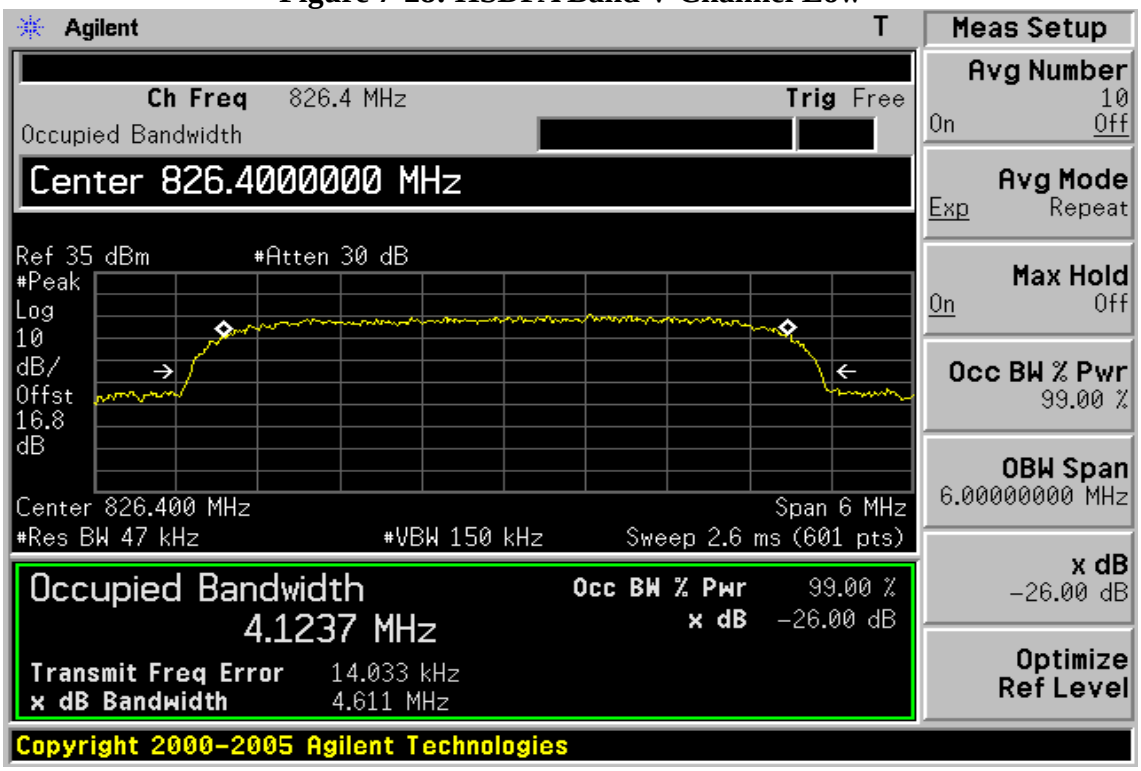


Figure 7-29: HSDPA Band V Channel Mid

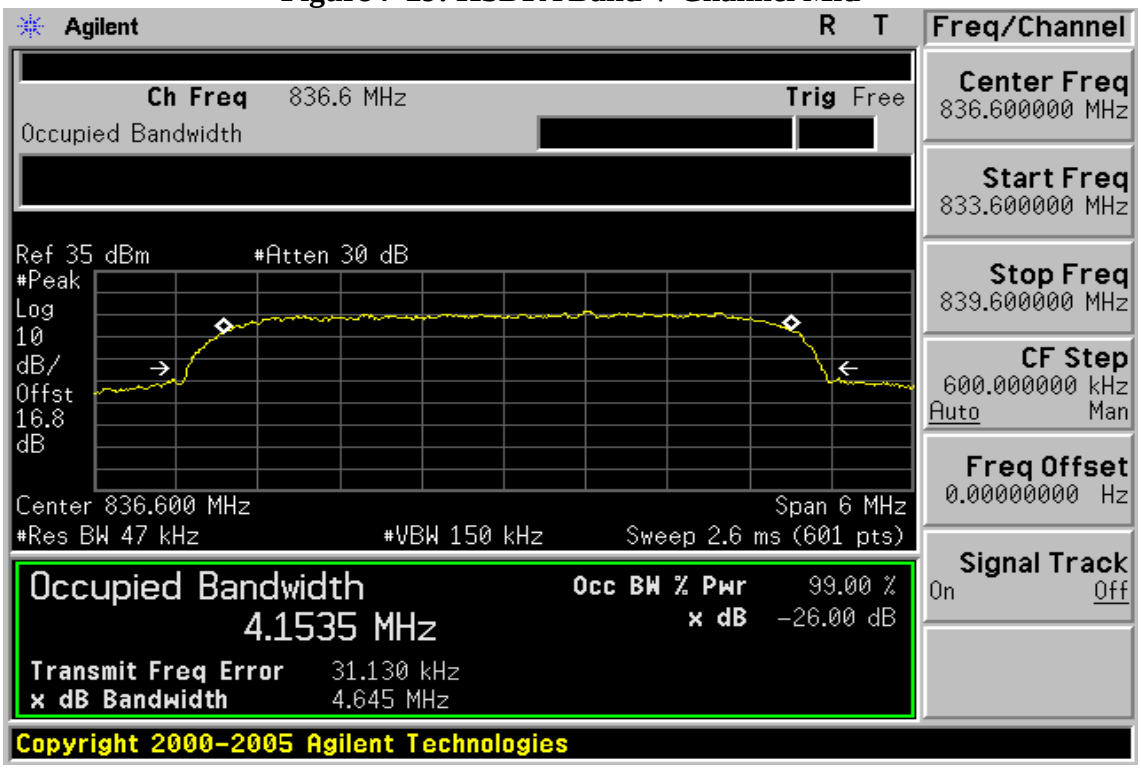
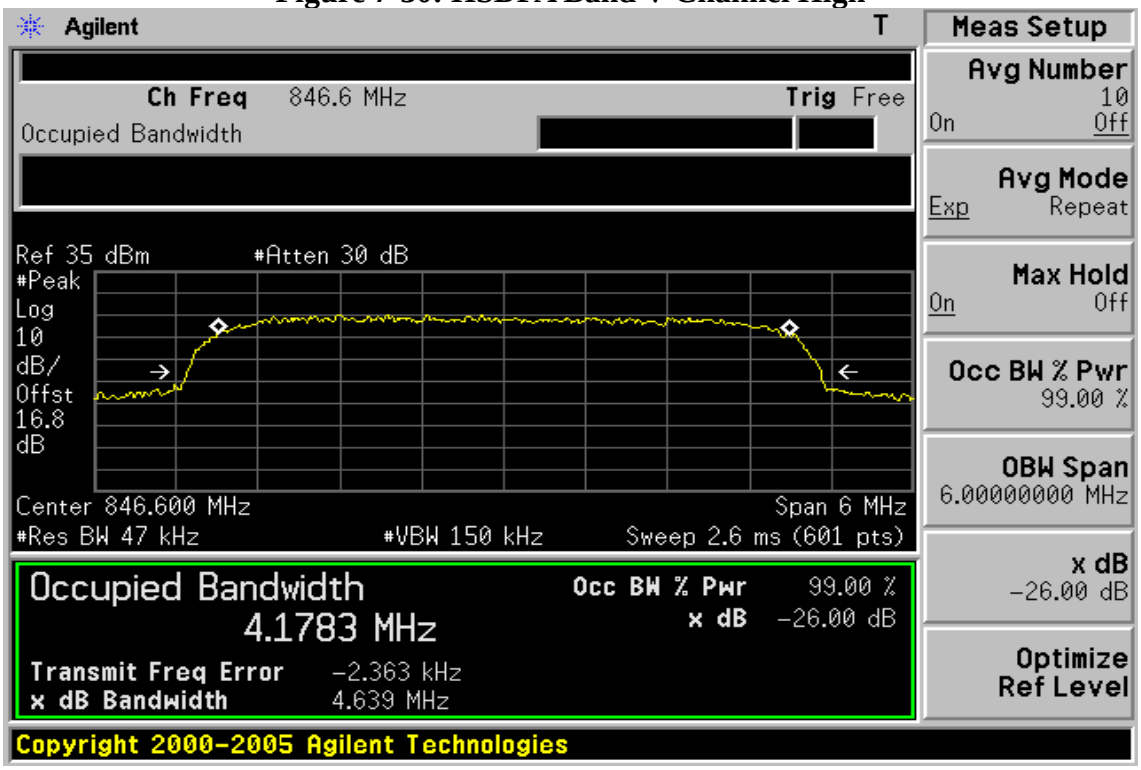


Figure 7-30: HSDPA Band V Channel High



8. OUT OF BAND EMISSION AT ANTENNA TERMINALS

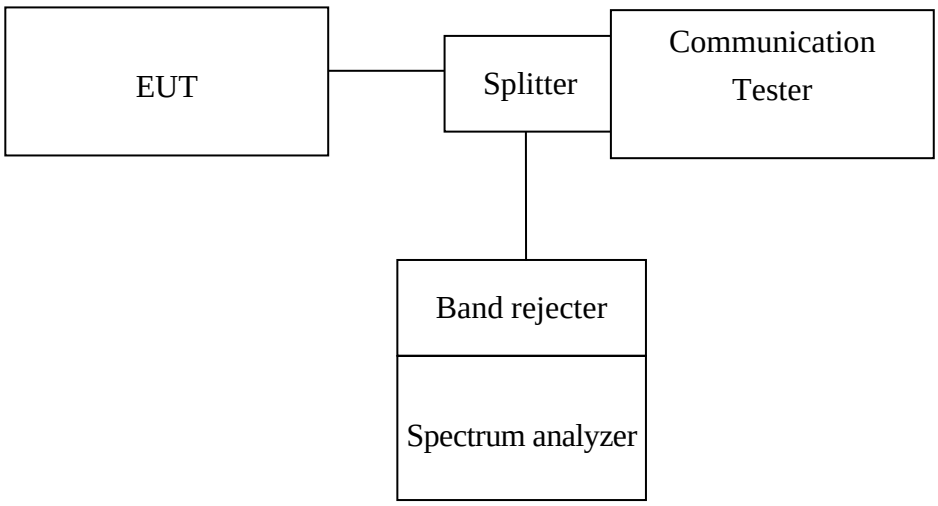
8.1. Standard Applicable:

According to FCC §2.1051.

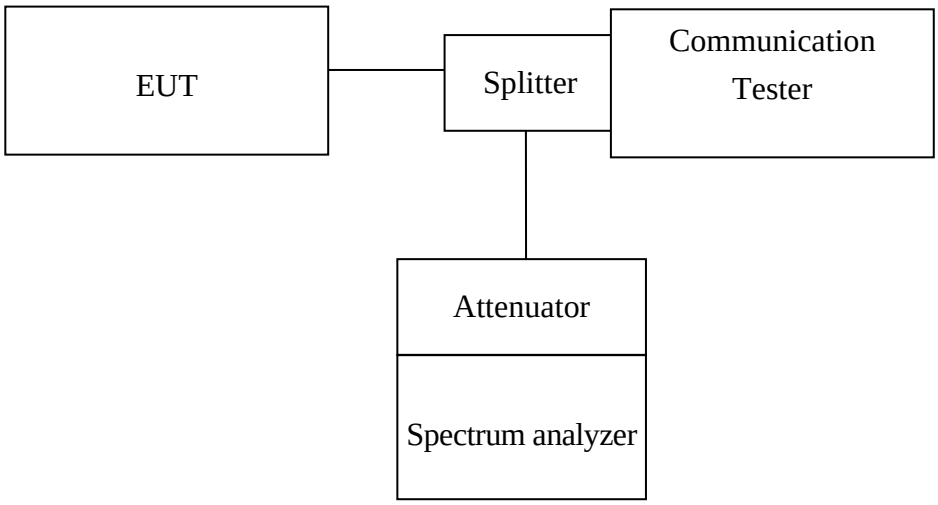
FCC §22.917(a),§24.238(a) the magnitude of each spurious and harmonic emission that can be detected when the equipment is operated under the conditions specified in the instruction manual and/ or alignment procedure, shall not be less than 43 + 10 log (mean output power in watts) dBc below the mean power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

8.2. Test SET-UP:

Out of band emission



Band Edge



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.

Conducted Emission:

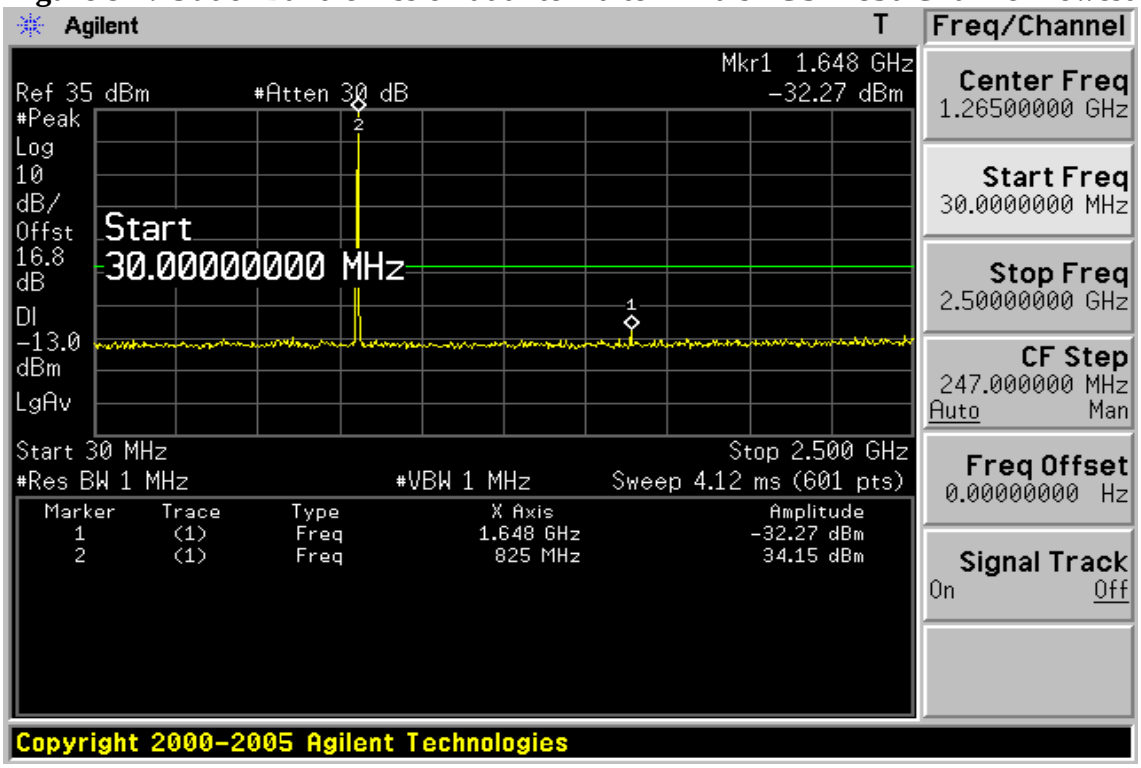
1. To connect Antenna Port of EUT to Spectrum.
2. Set RBW = 1MHz & VBW = 1MHz on Spectrum.
3. Sweep the frequency to determine spurious emission as seen on spectrum from span of 30 to 1G, 1G to 2.5G, 2.5G to 7.5G, 7.5G to 10G ,10G to 15G and 15G to 20GHz
4. Via Software, combine 6 spans of frequency range into one plot

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– GSM 850 Channel Lowest



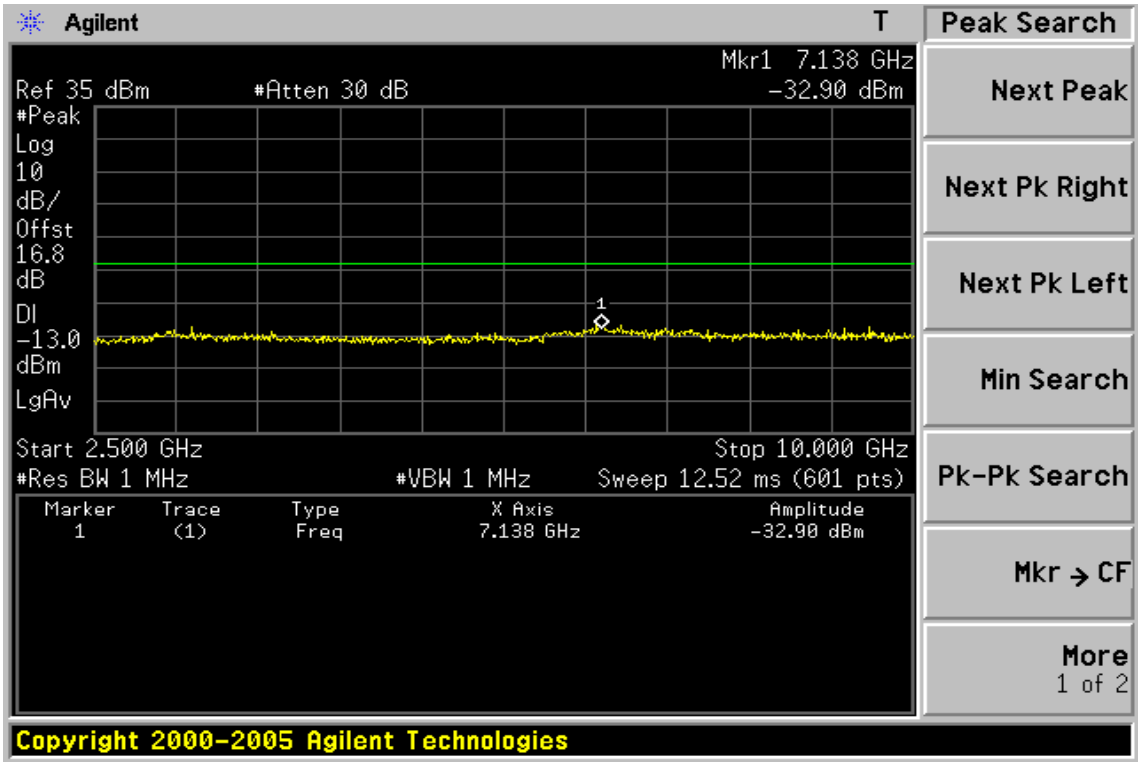
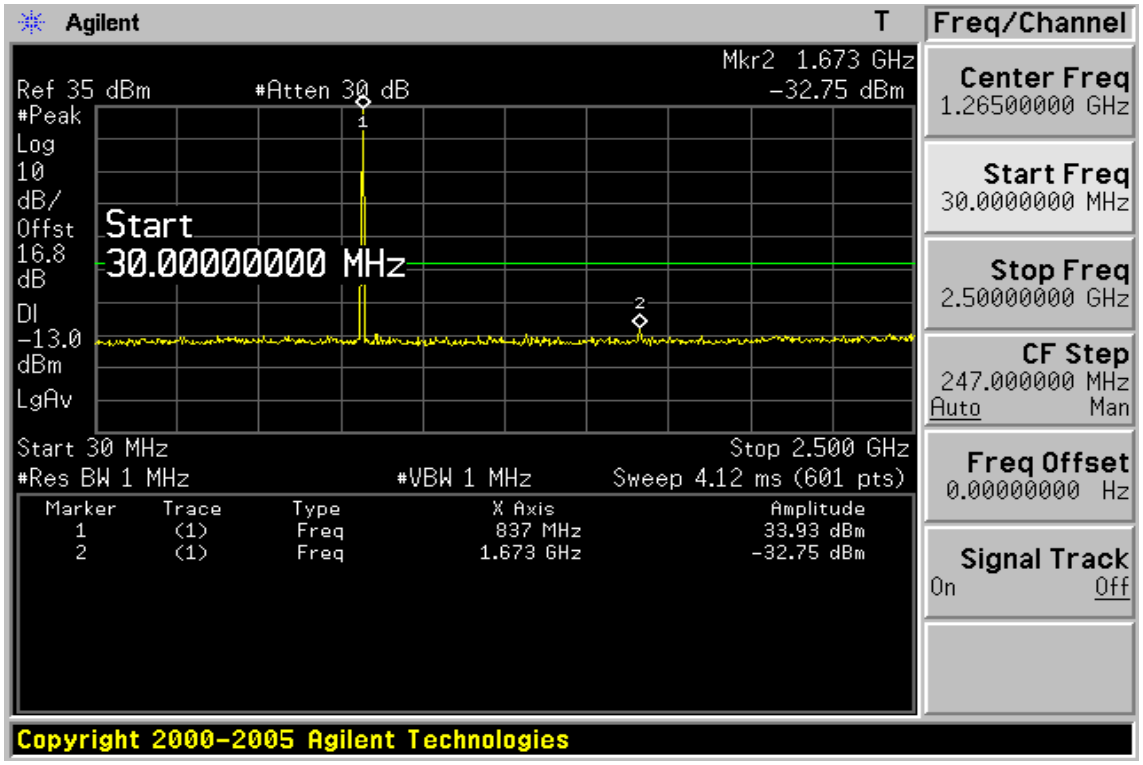


Figure 8-2: Out of Band emission at antenna terminals –GSM 850 Channel Mid



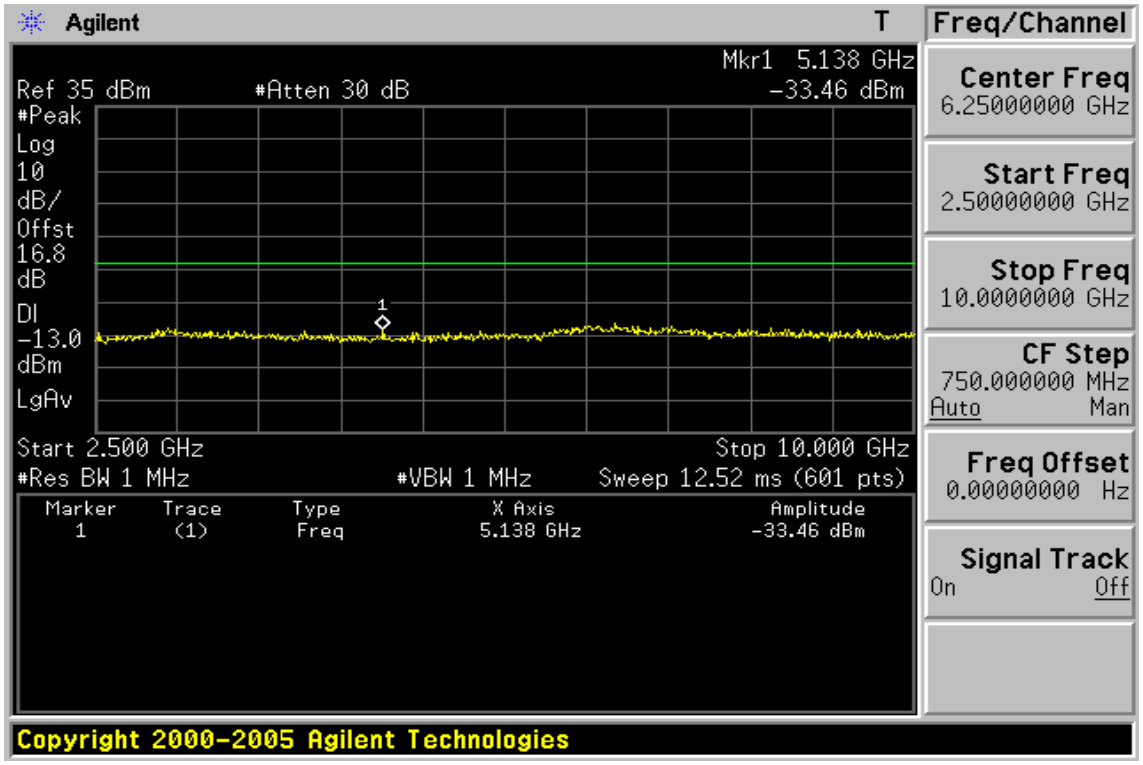
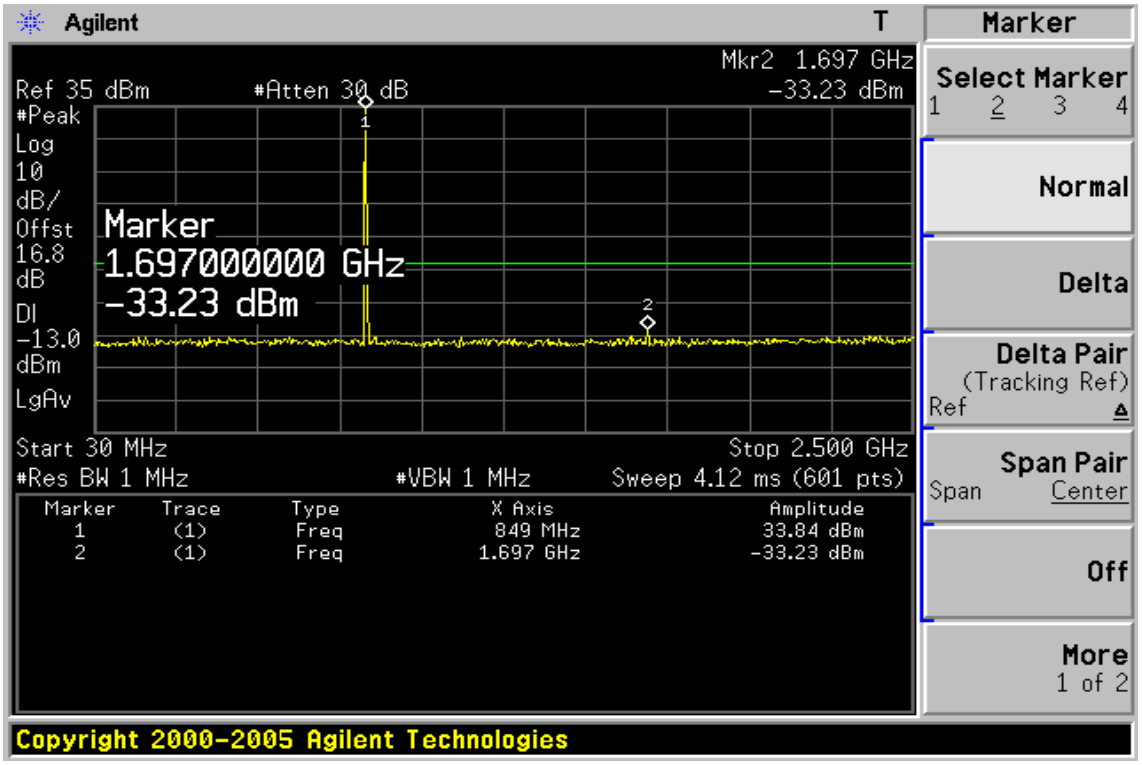


Figure 8-3: Out of Band emission at antenna terminals–GSM 850 Channel Highest



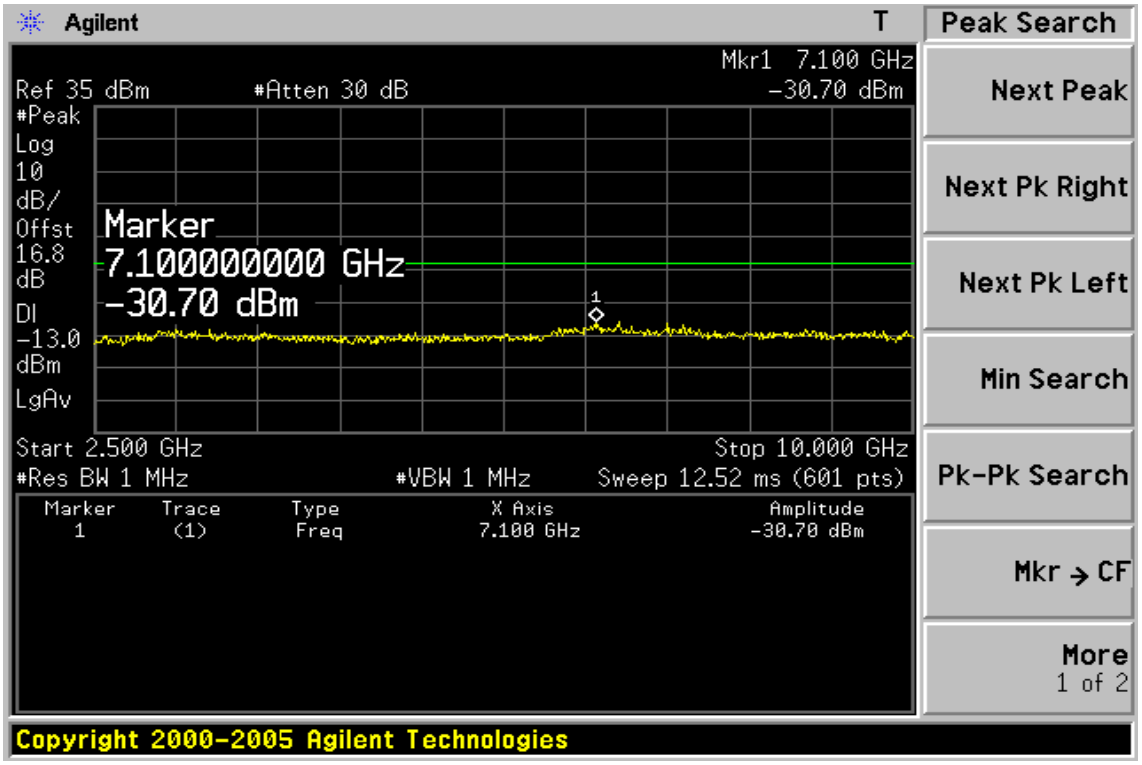


Figure 8-4: Band edge emission at antenna terminals –GSM 850 Channel Lowest

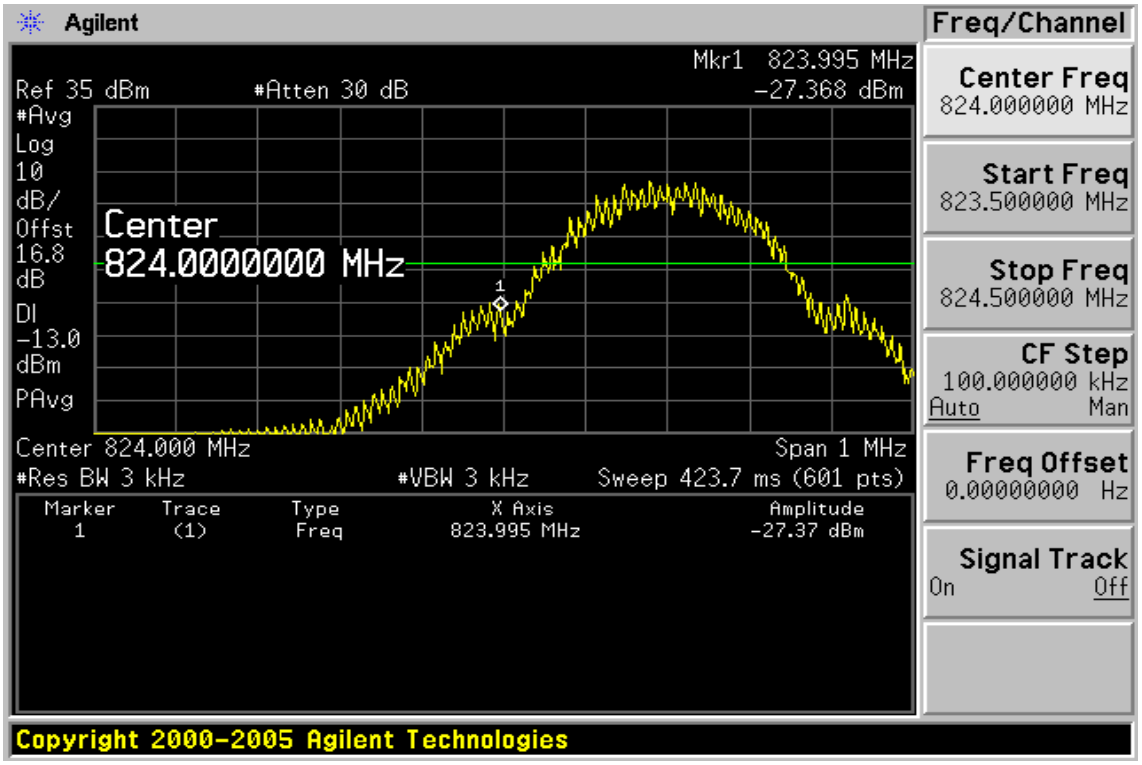


Figure 8-5: Band edge emission at antenna terminals –GSM 850 Channel Highest

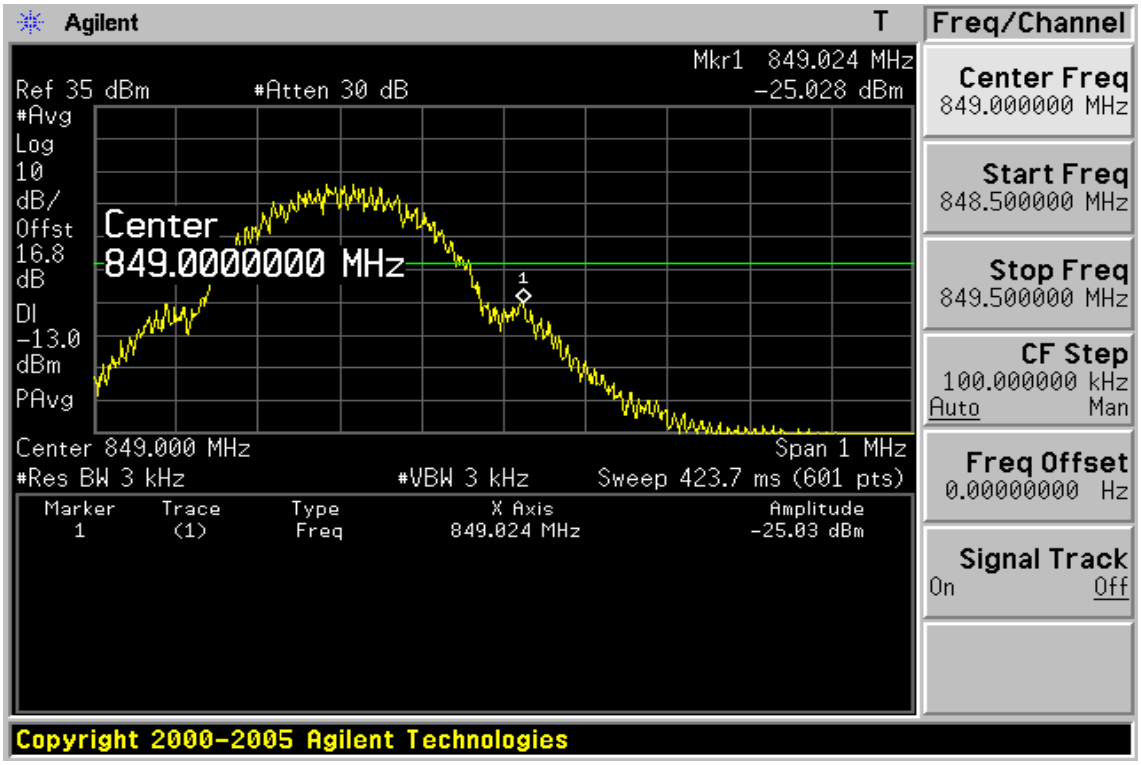
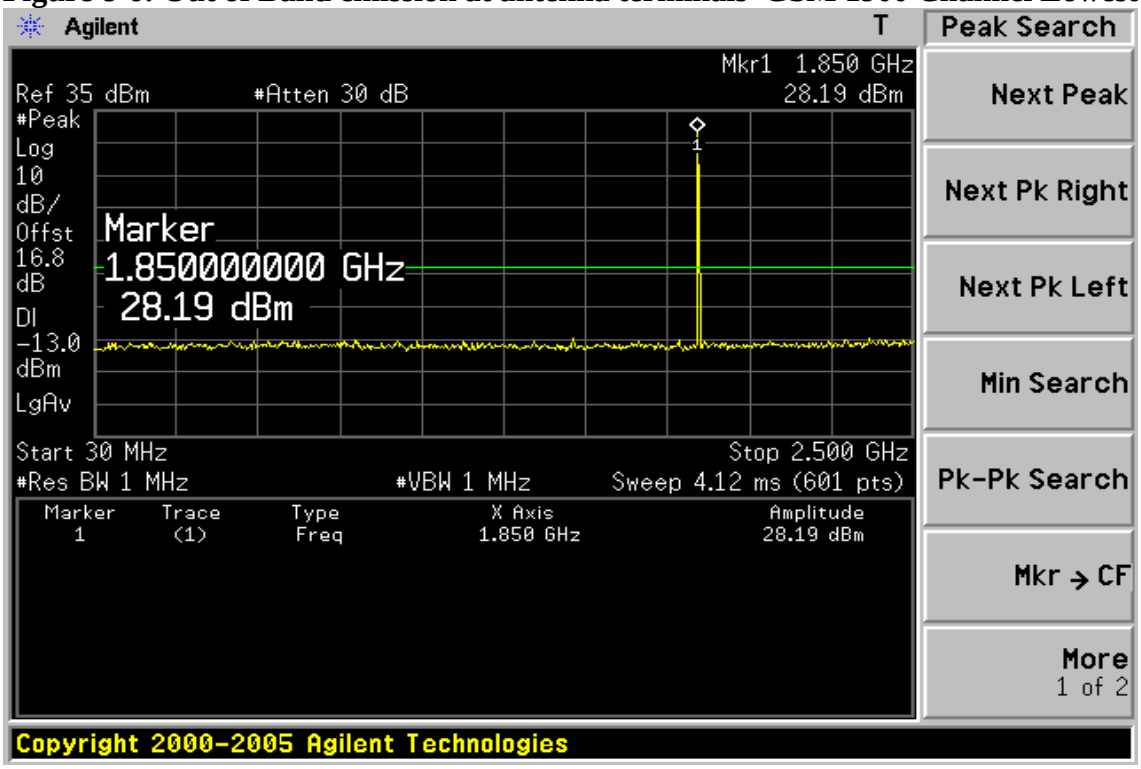


Figure 8-6: Out of Band emission at antenna terminals–GSM 1900 Channel Lowest



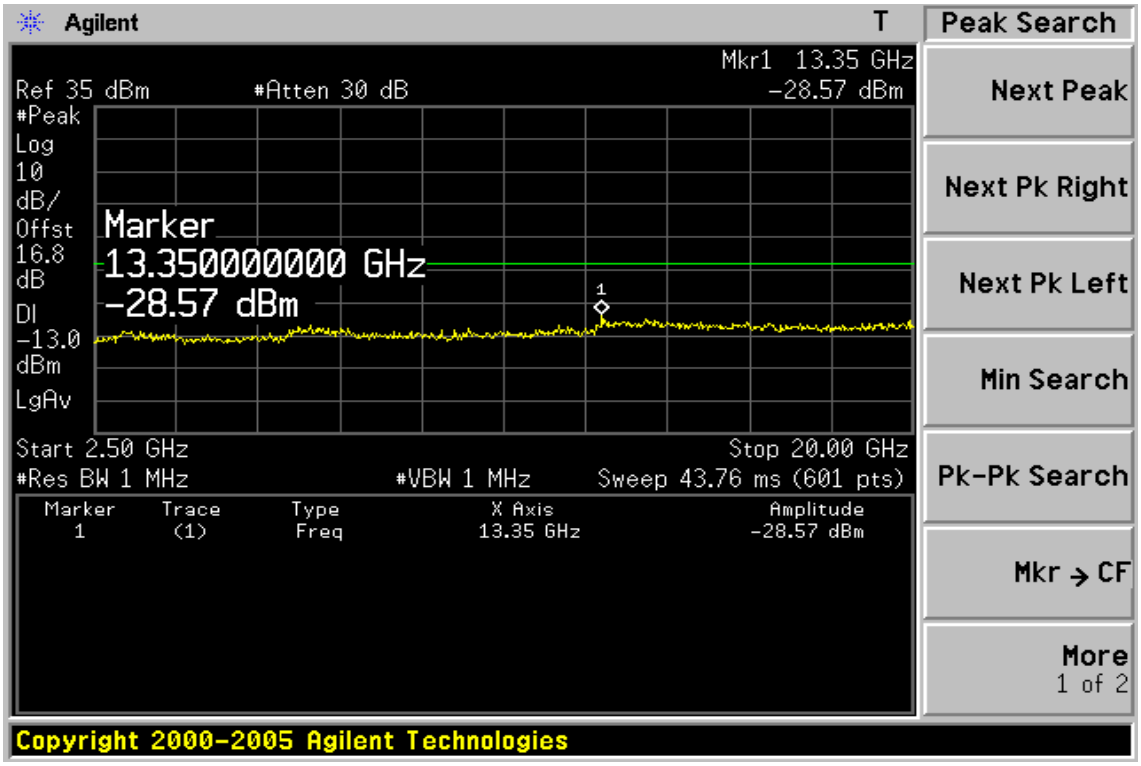
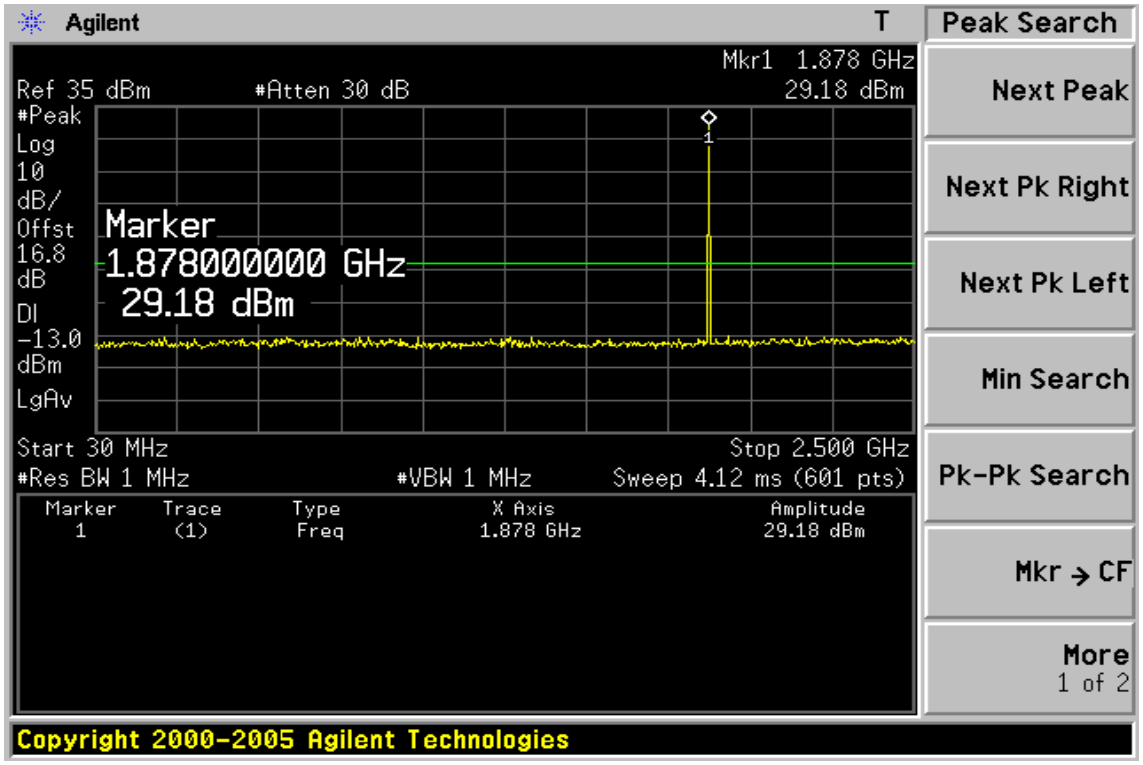


Figure 8-7: Out of Band emission at antenna terminals –GSM 1900 Channel Mid



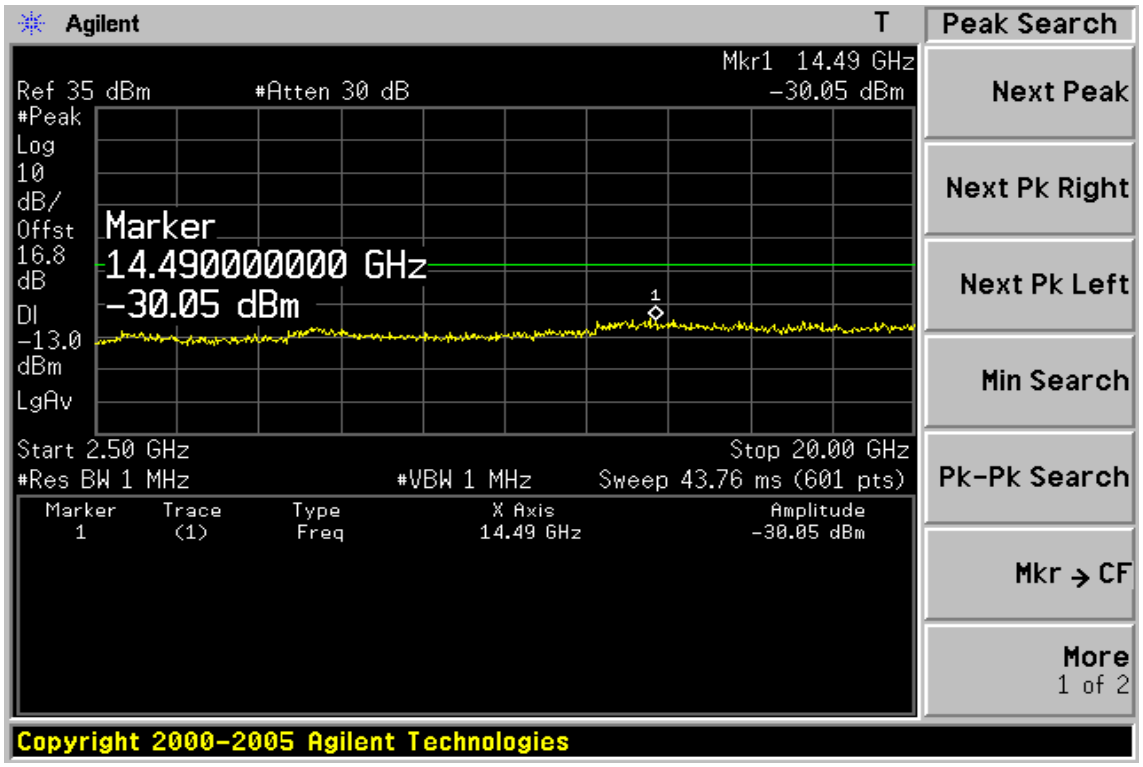
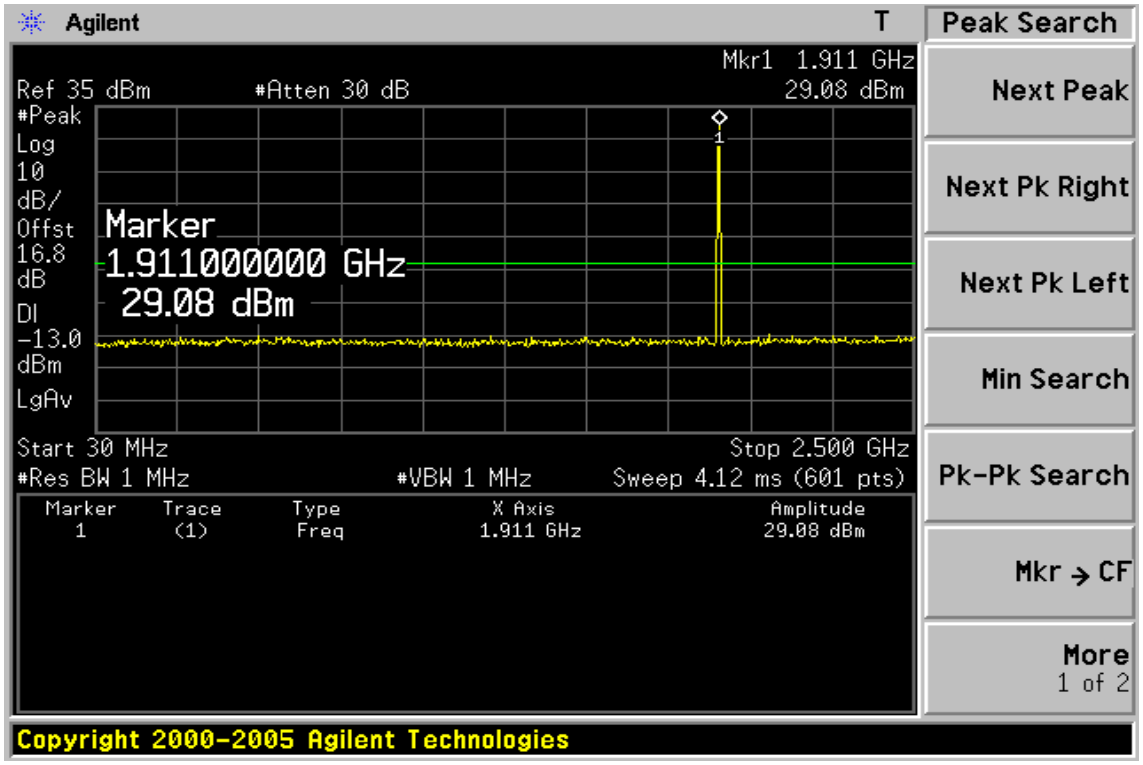


Figure 8-8: Out of Band emission at antenna terminals–GSM 1900 Channel Highest



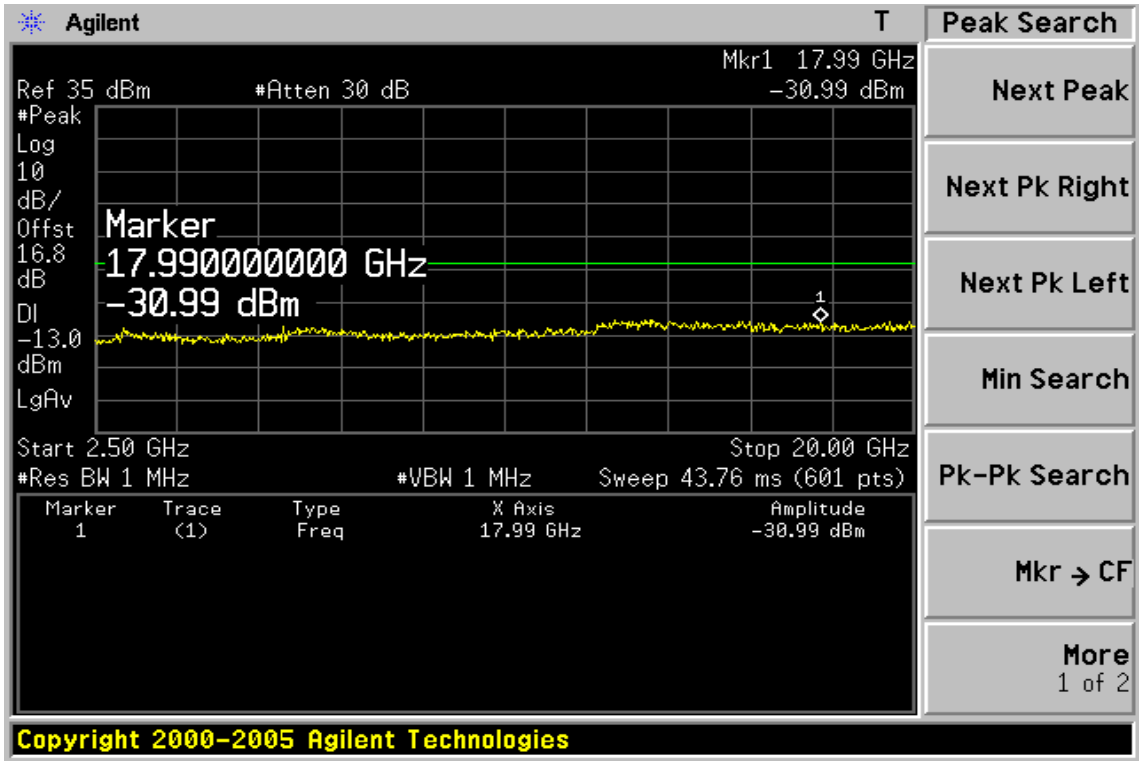


Figure 8-9: Bad edge emission at antenna terminals –GSM 1900 Channel Lowest

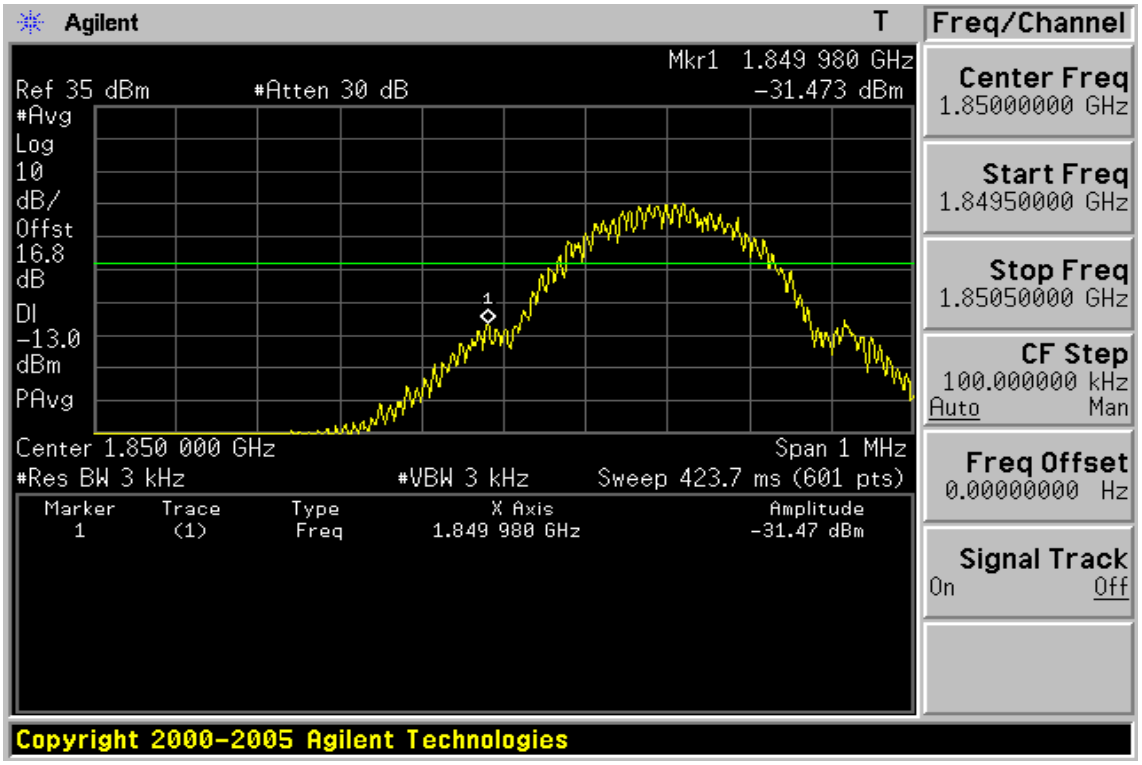


Figure 8-10: Band edge emission at antenna terminals –GSM 1900 Channel Highest

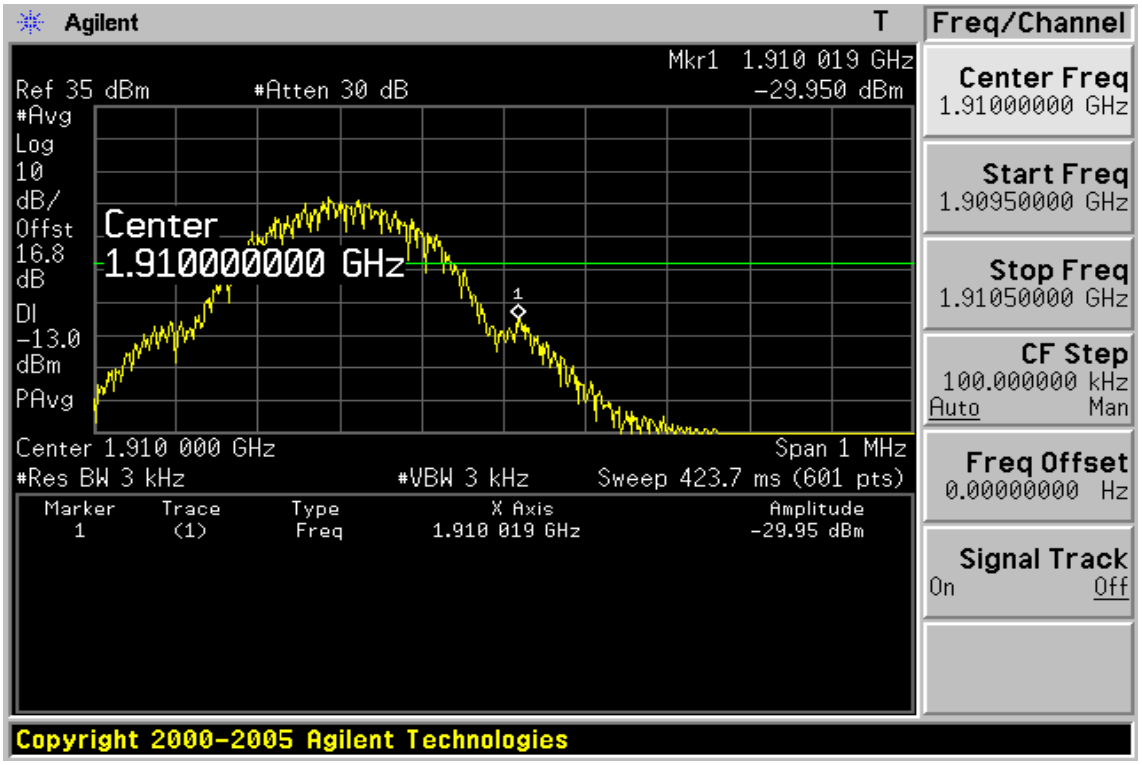
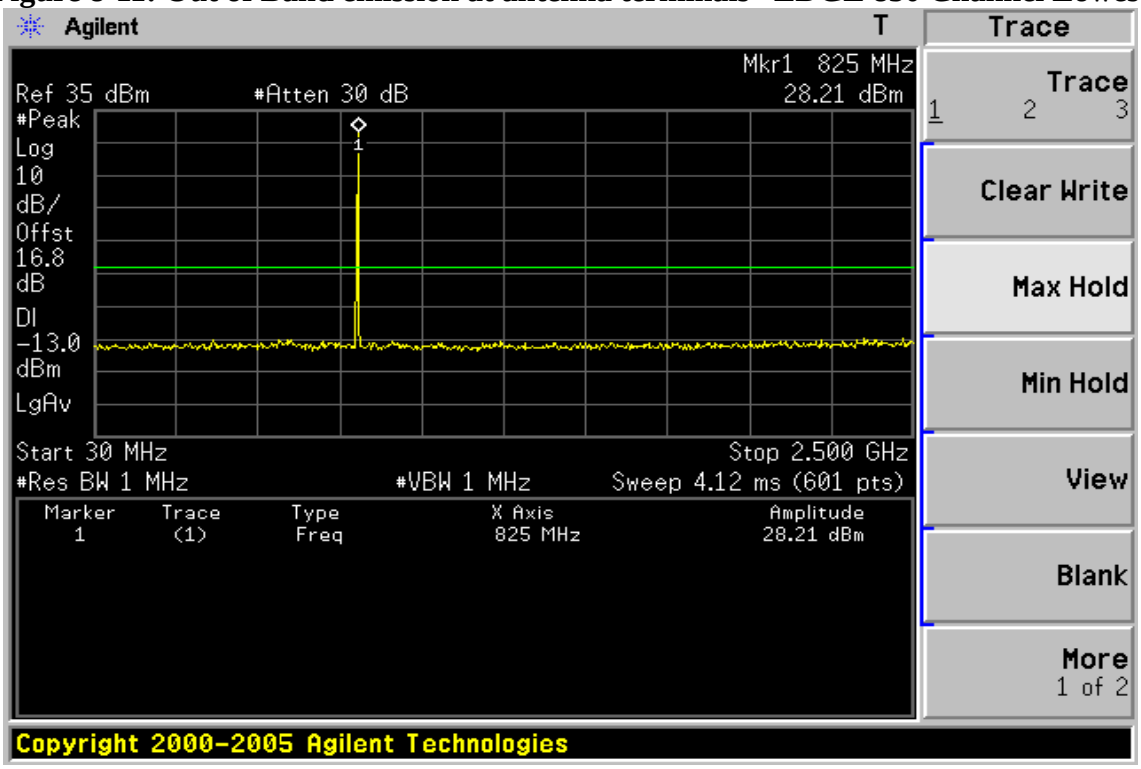


Figure 8-11: Out of Band emission at antenna terminals– EDGE 850 Channel Lowest



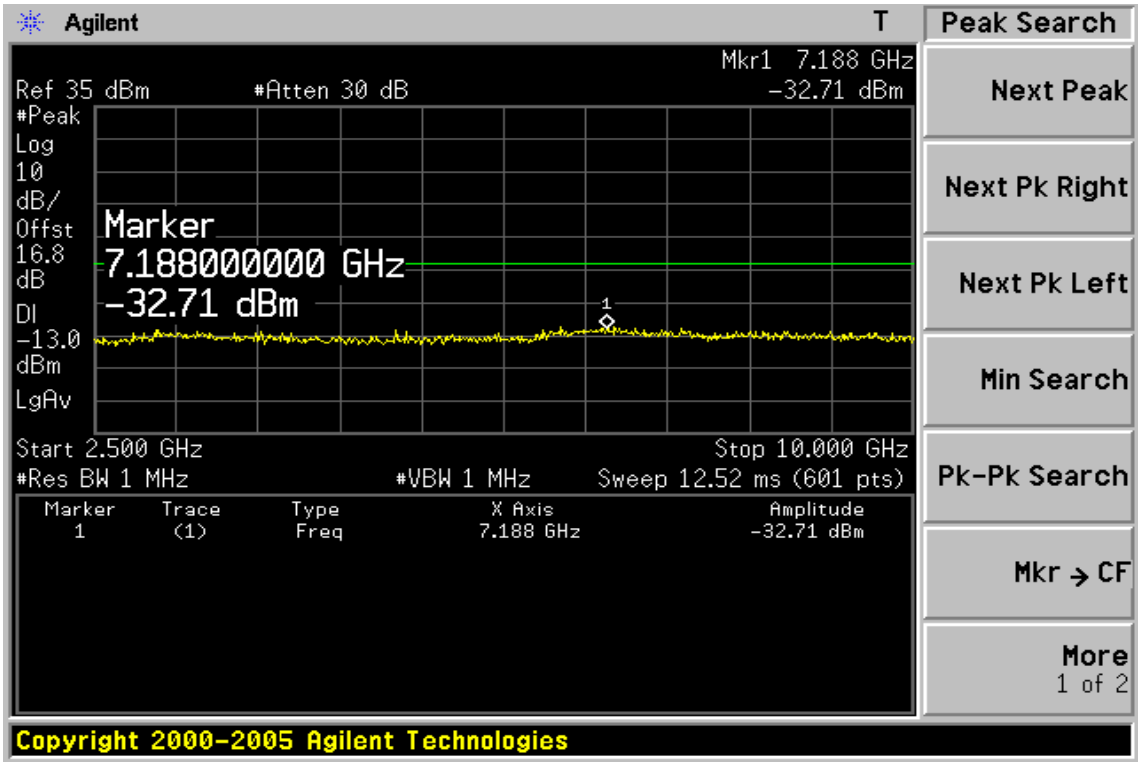
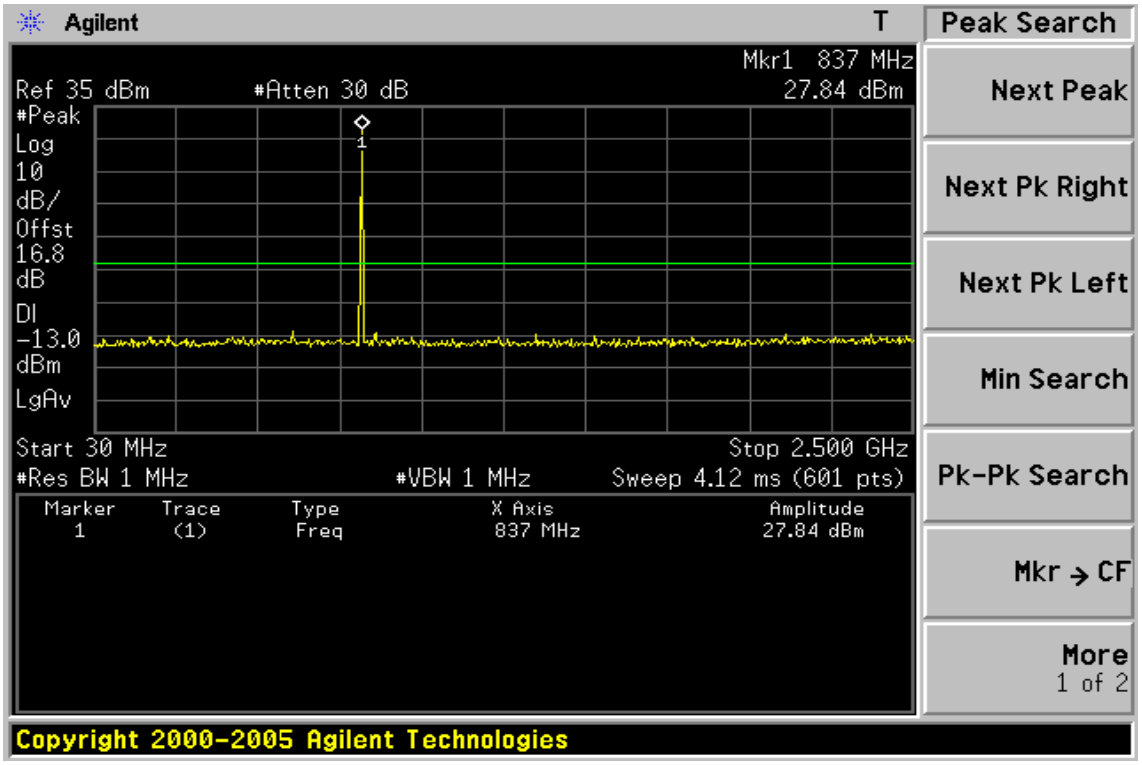


Figure 8-12: Out of Band emission at antenna terminals –EDGE 850 Channel Mid



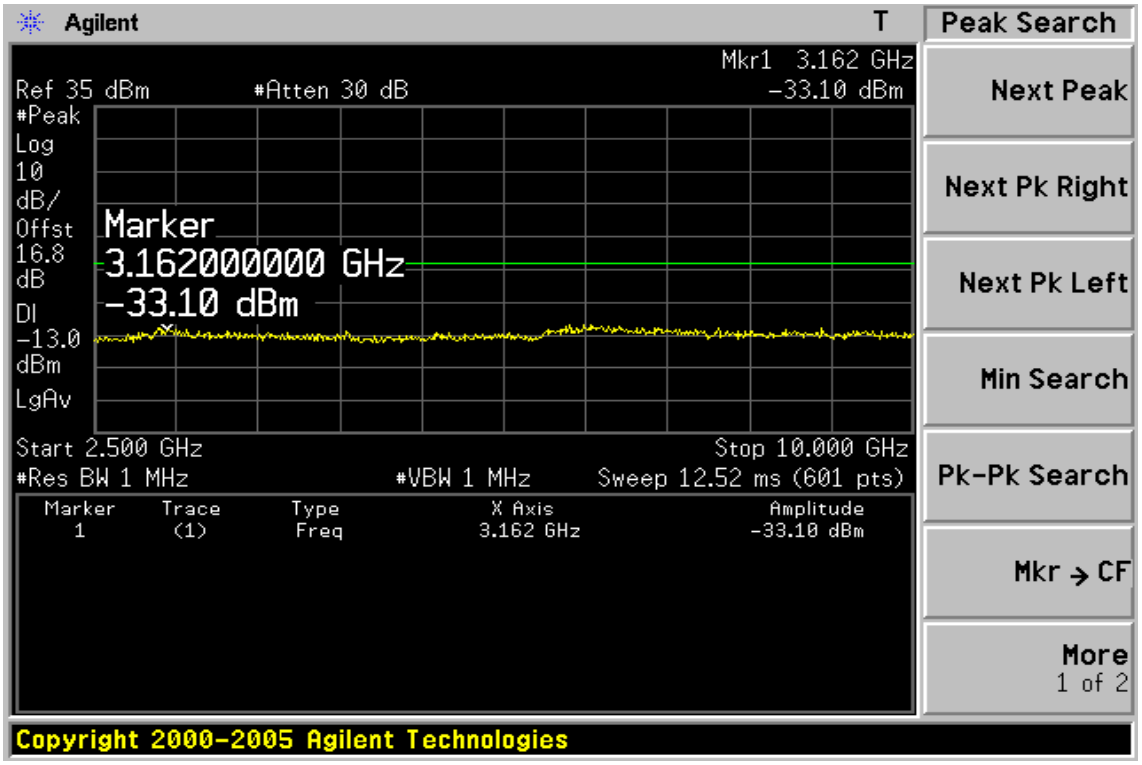
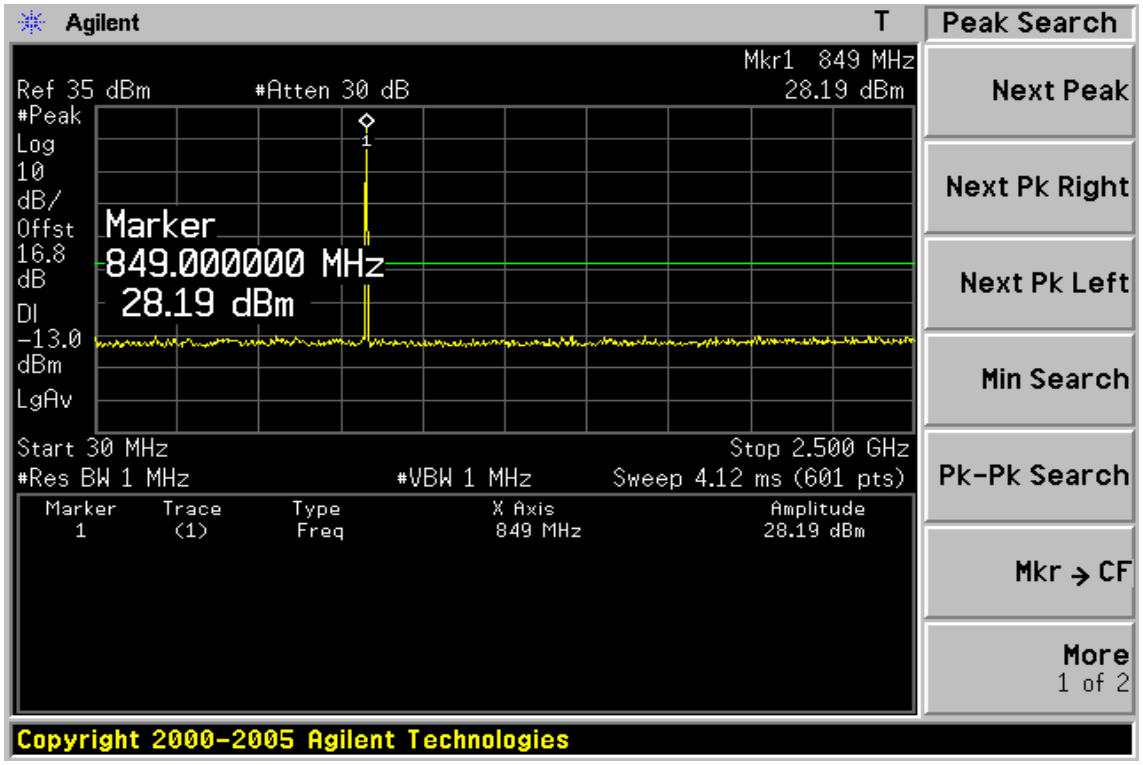


Figure 8-13: Out of Band emission at antenna terminals–EDGE 850 Channel Highest



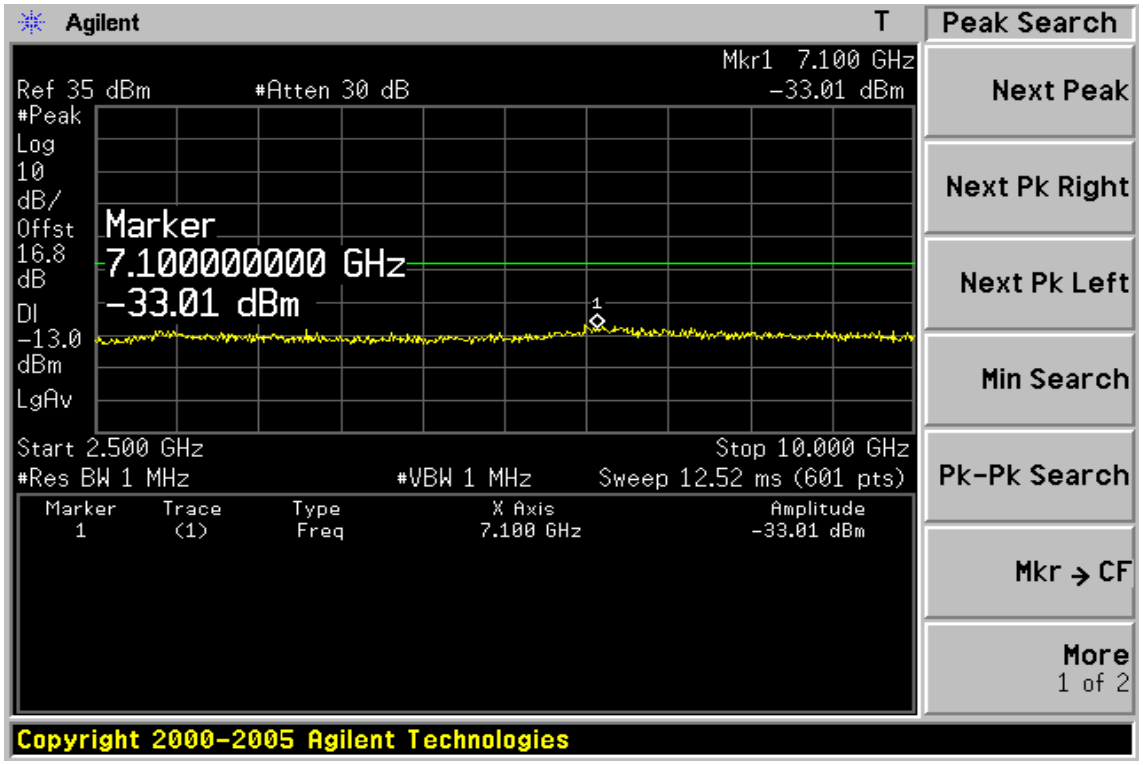


Figure 8-14: Band edge emission at antenna terminals –EDGE 850Channel Lowest

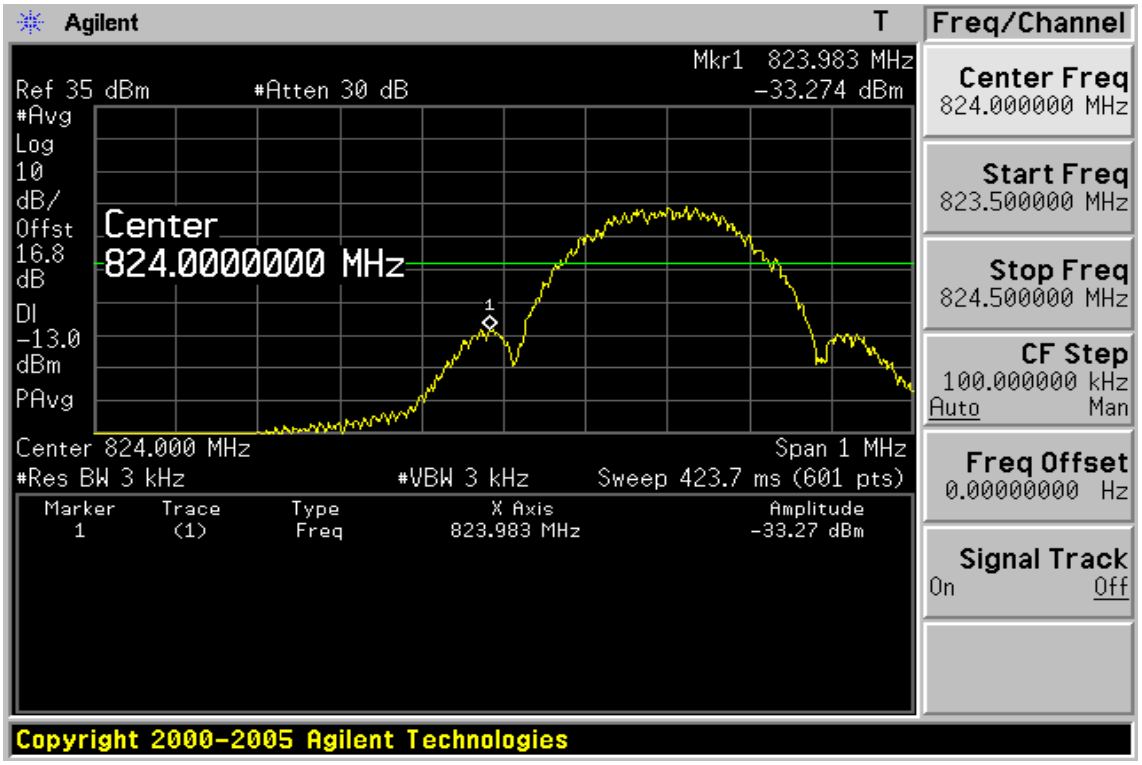


Figure 8-15: Band edge emission at antenna terminals –EDGE 850 Channel Highest

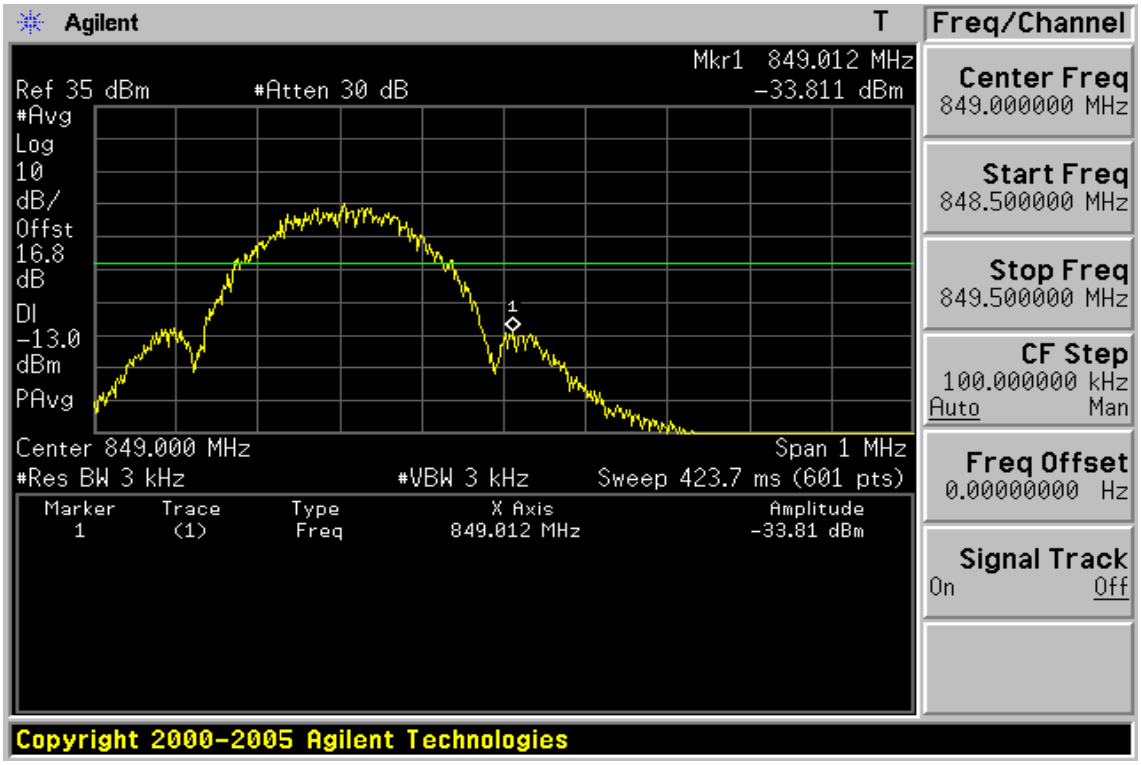
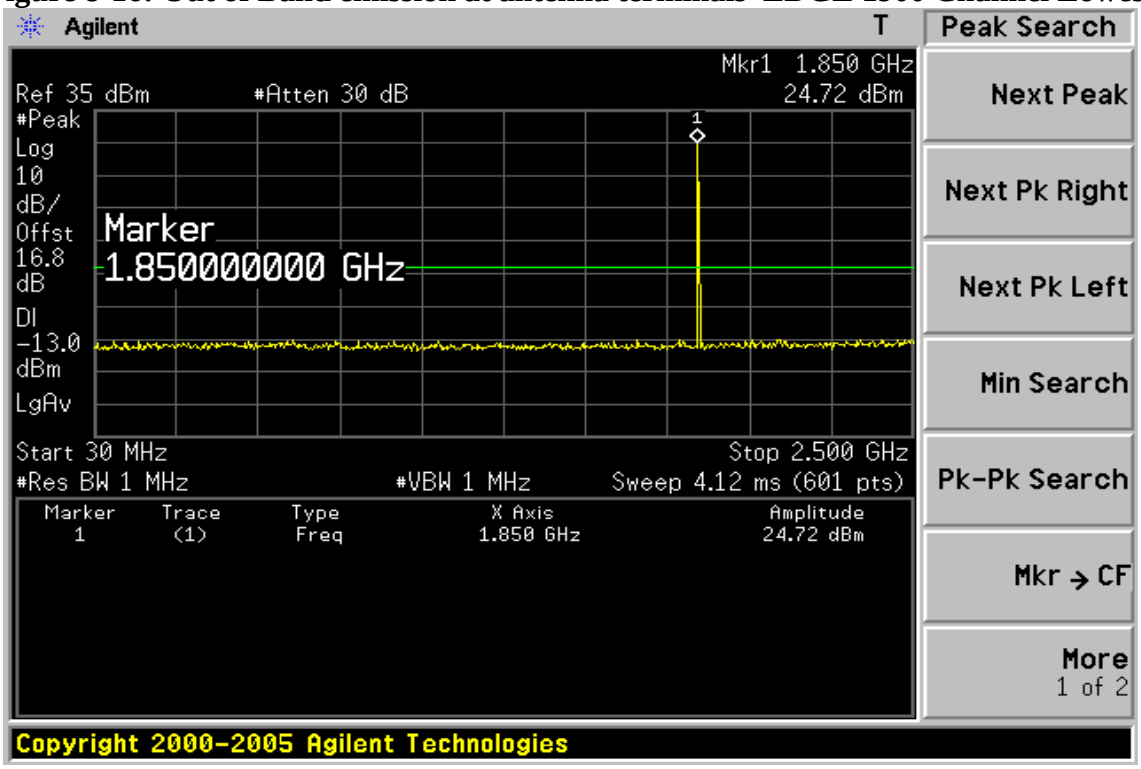


Figure 8-16: Out of Band emission at antenna terminals–EDGE 1900 Channel Lowest



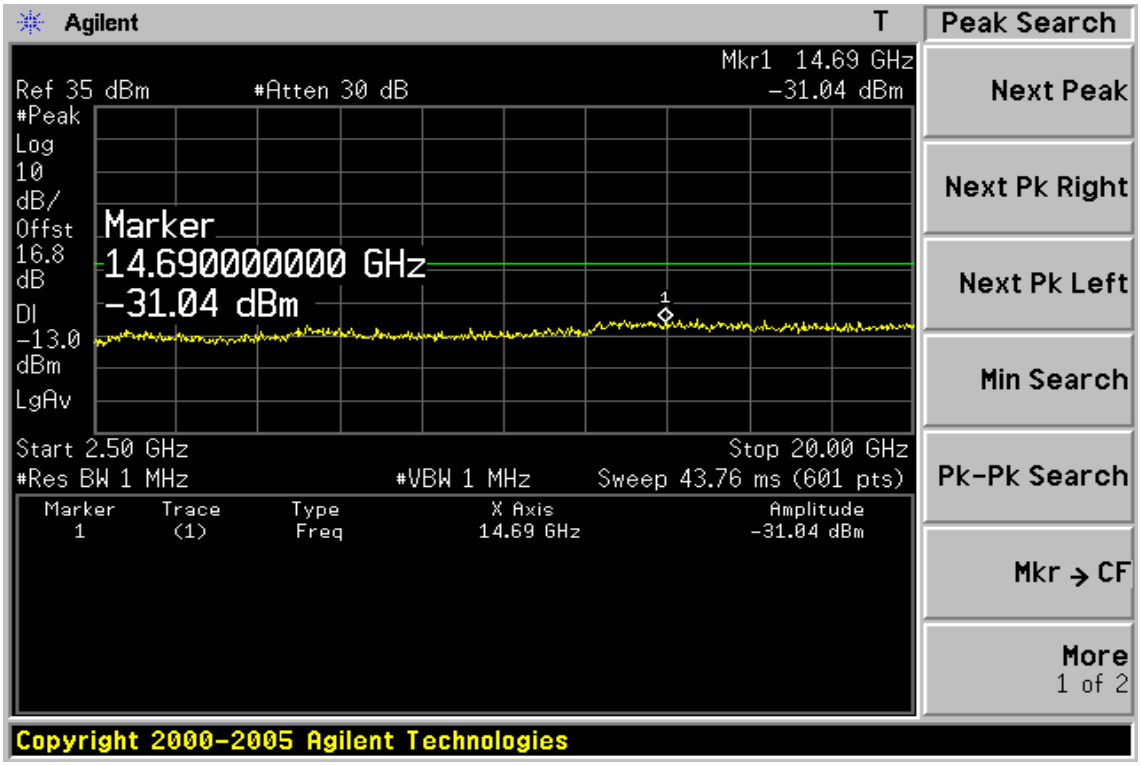
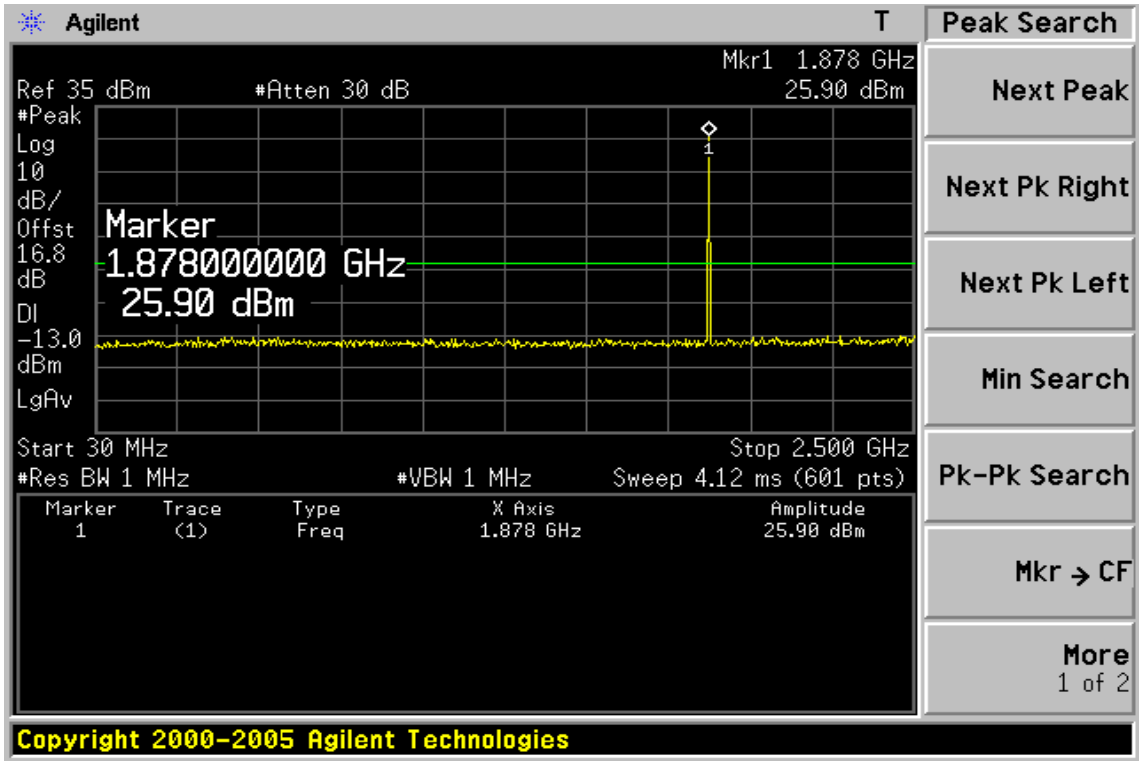


Figure 8-17: Out of Band emission at antenna terminals –EDGE 1900 Channel Mid



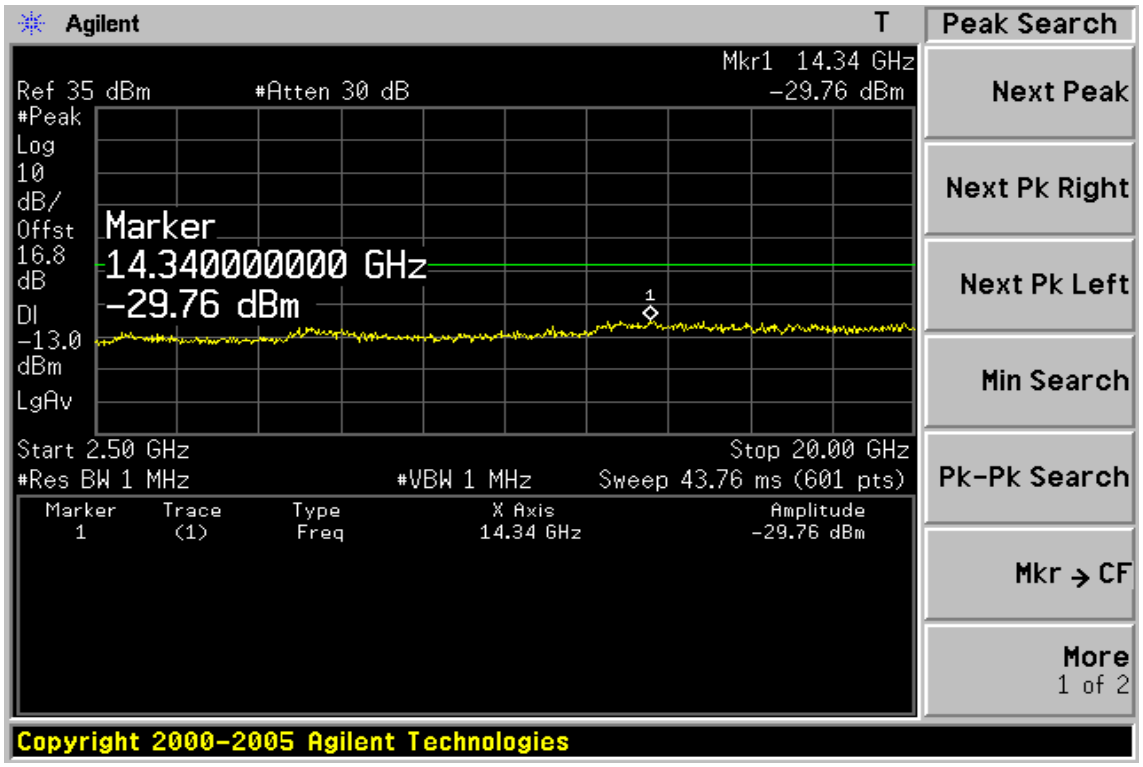
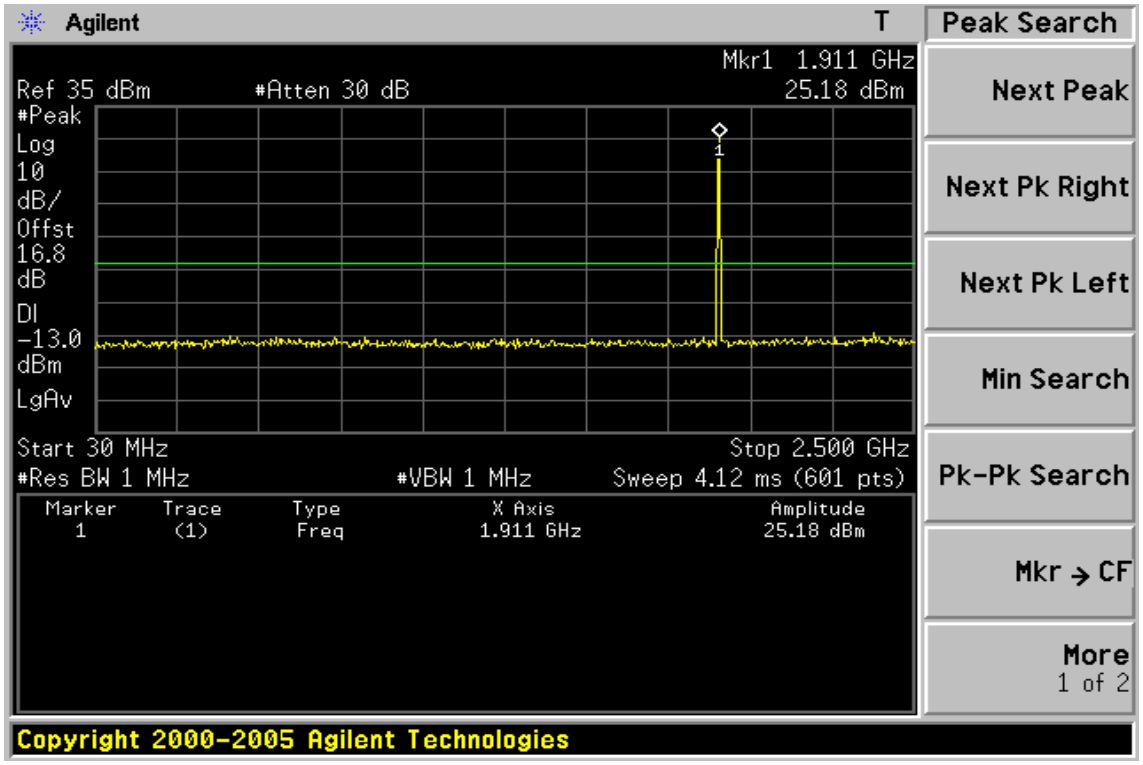


Figure 8-18: Out of Band emission at antenna terminals–EDGE 1900 Channel Highest



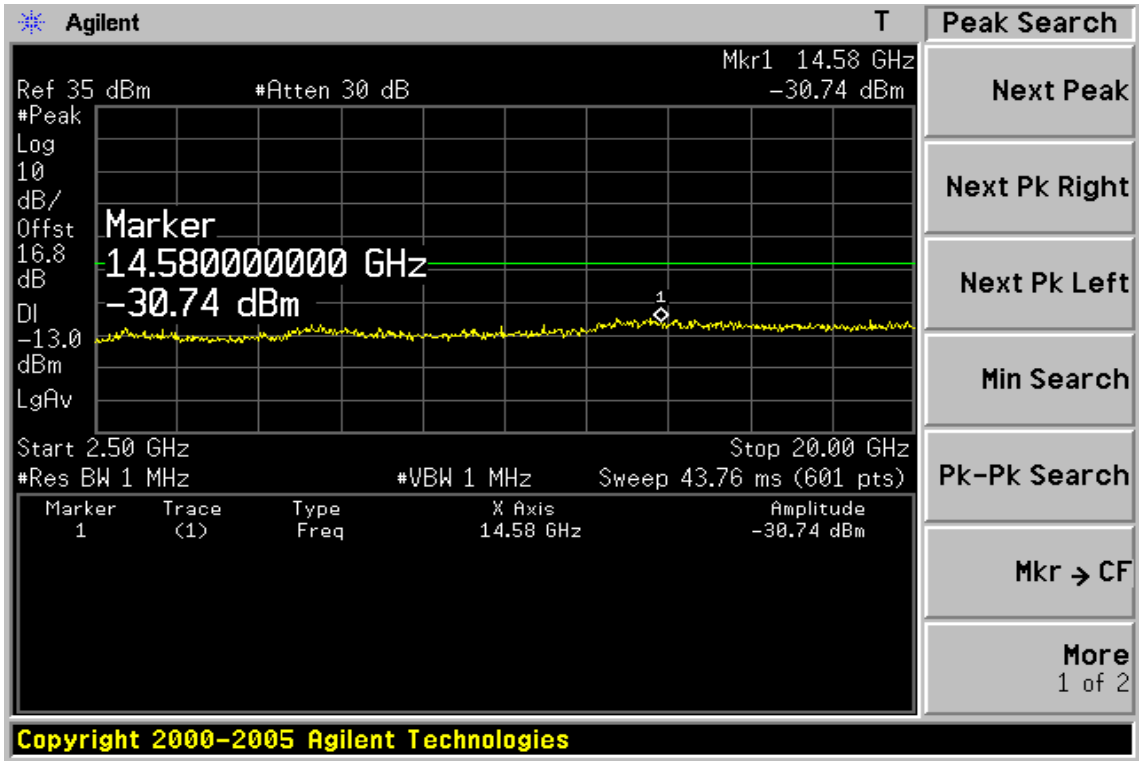


Figure 8-19: Bad edge emission at antenna terminals –EDGE 1900 Channel Lowest

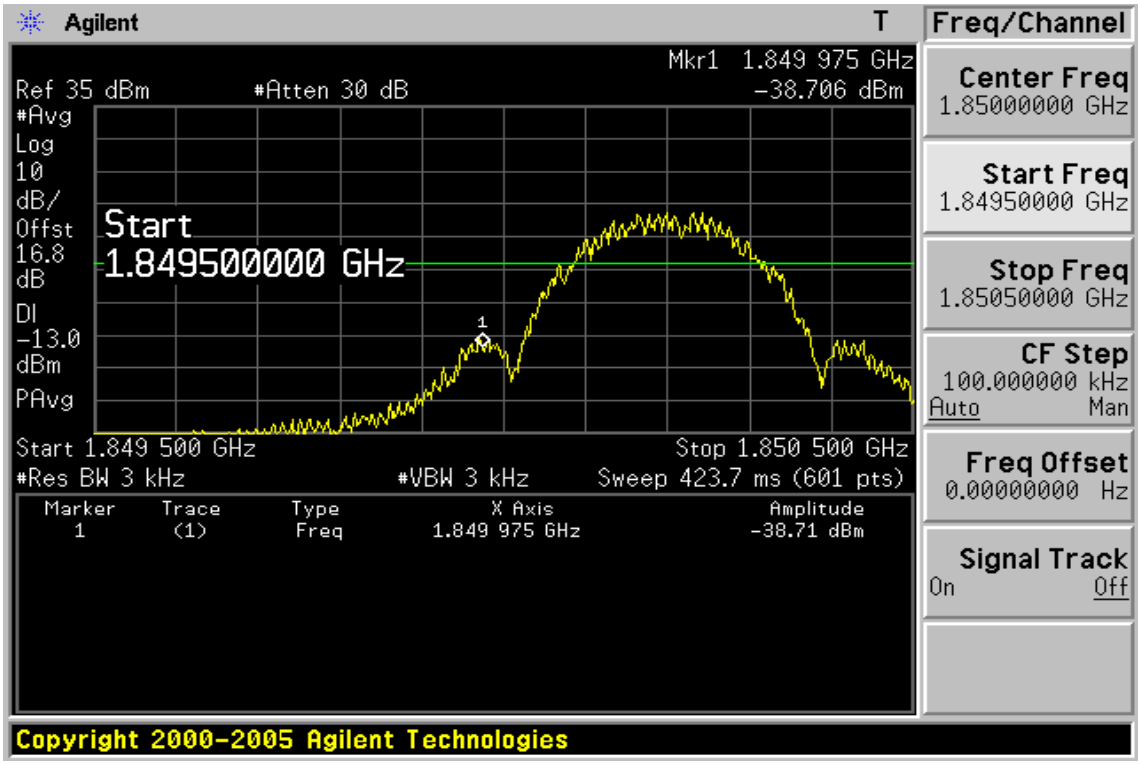


Figure 8-20: Band edge emission at antenna terminals –EDGE 1900 Channel Highest

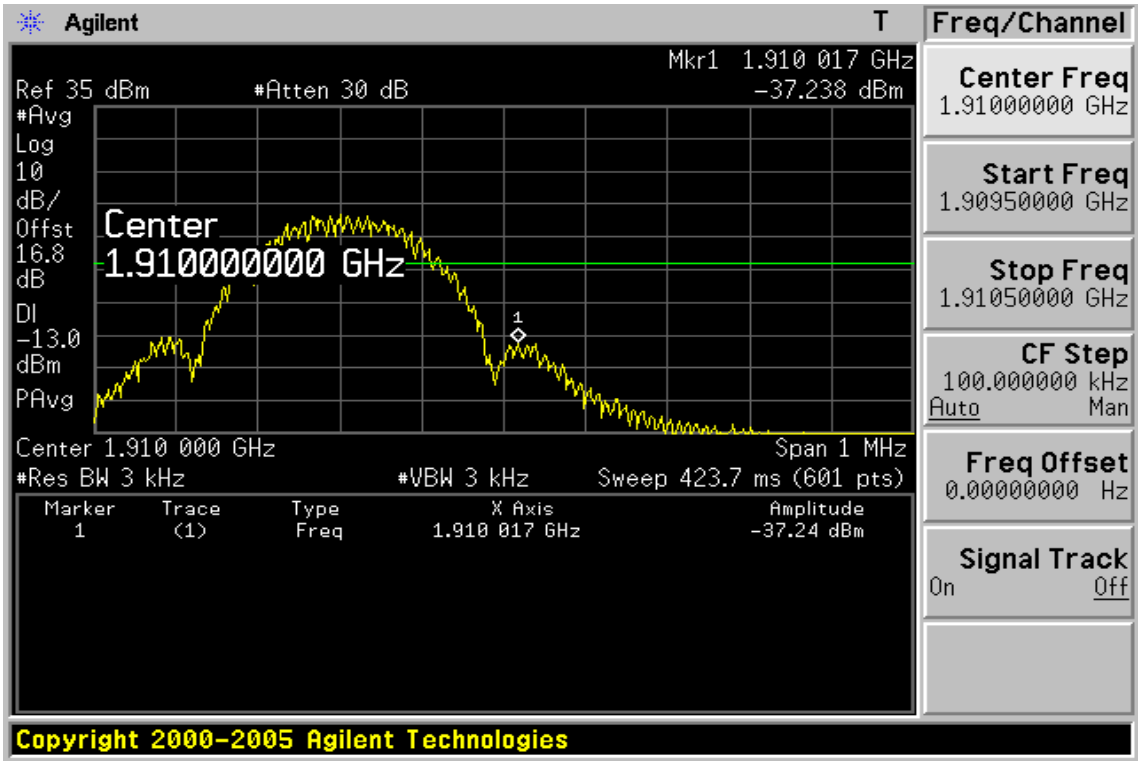
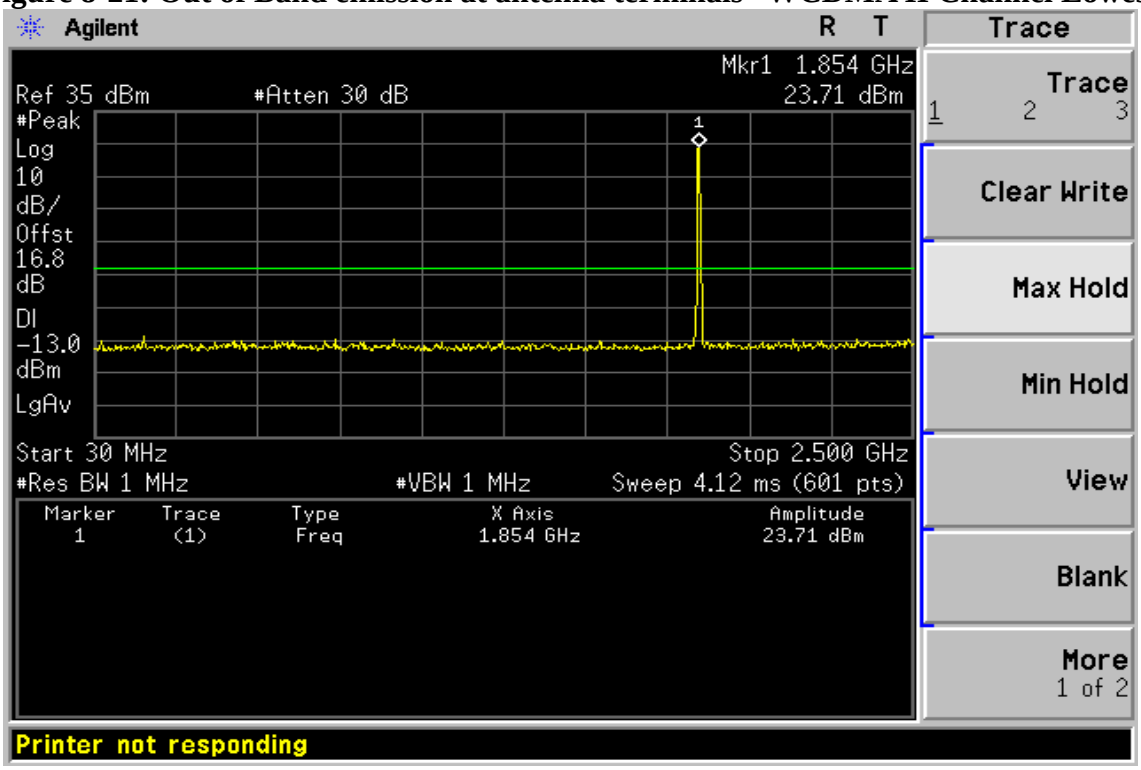


Figure 8-21: Out of Band emission at antenna terminals– WCDMA II Channel Lowest



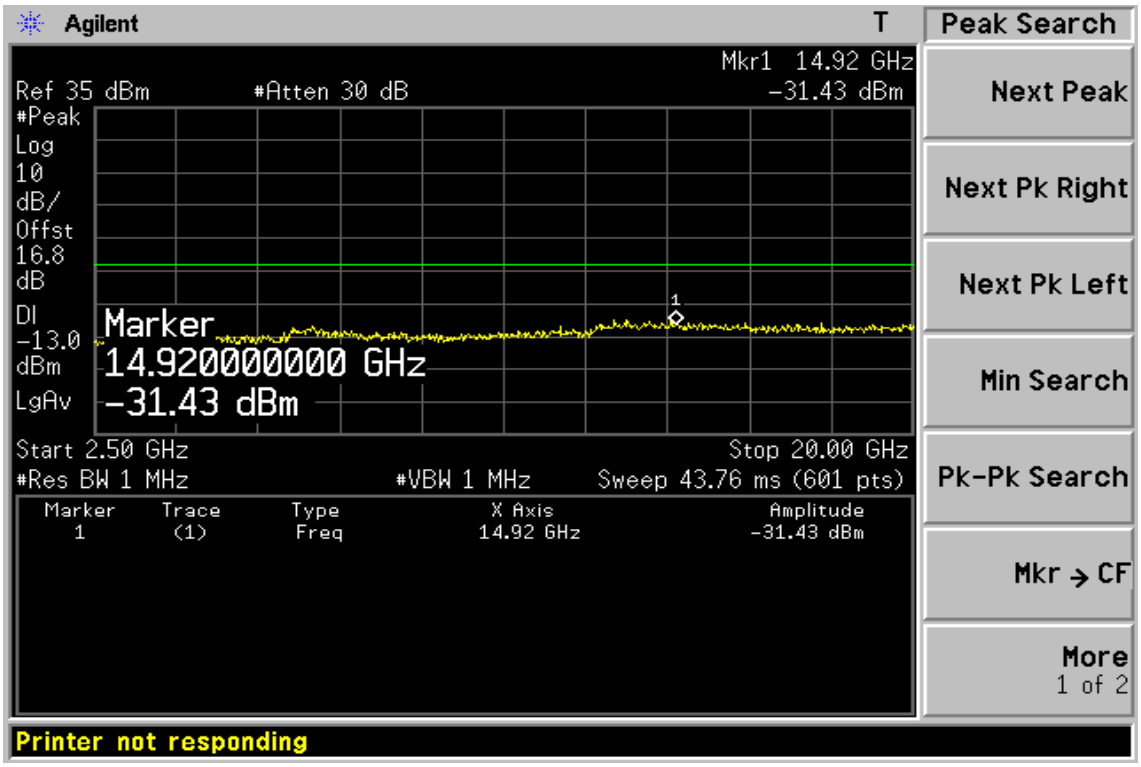
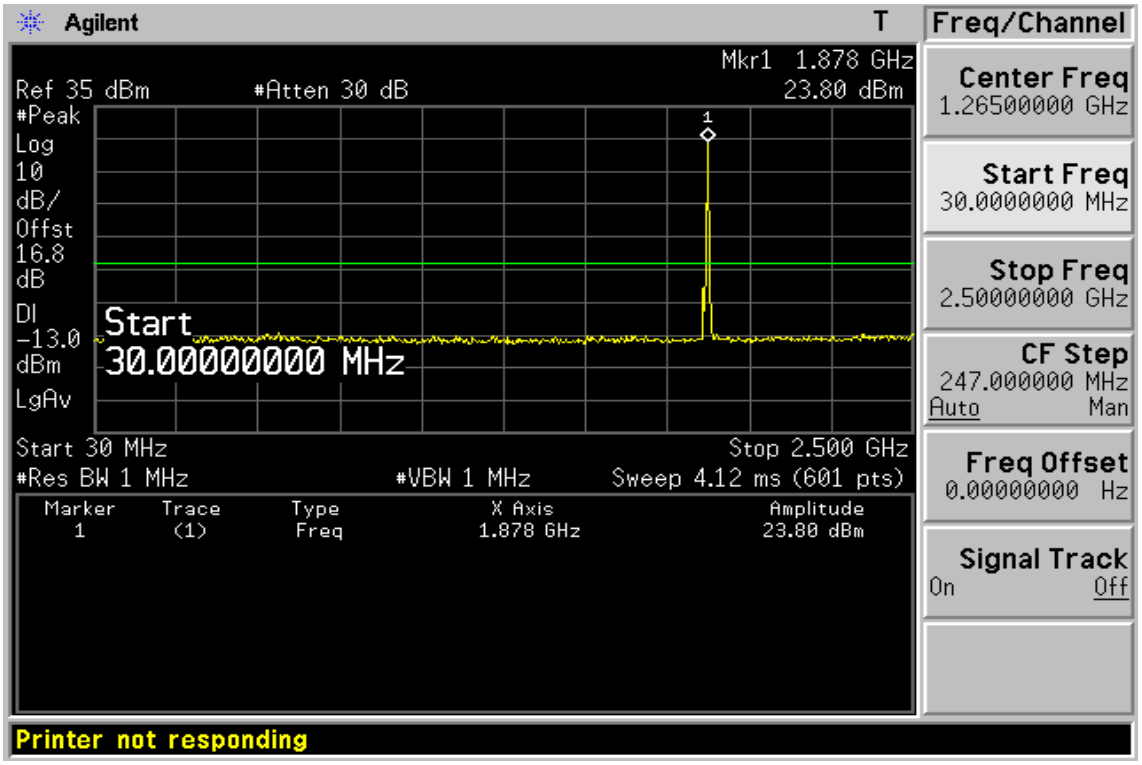


Figure 8-22: Out of Band emission at antenna terminals –WCDMA II Channel Mid



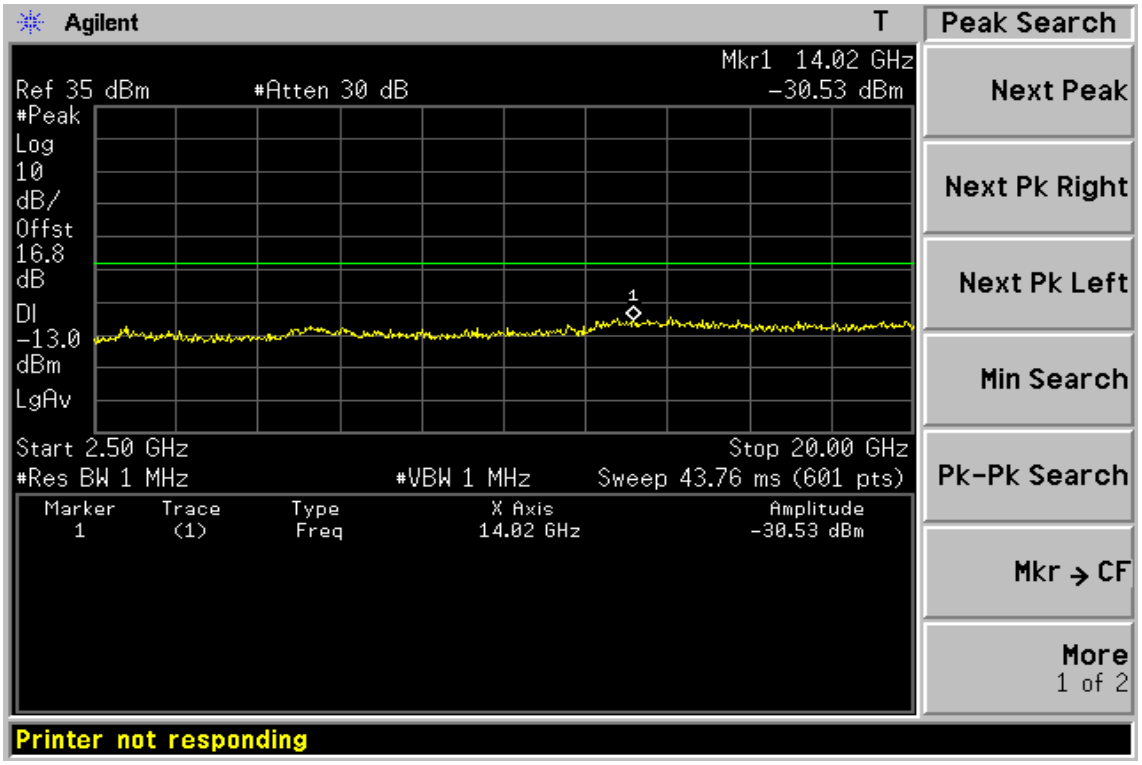
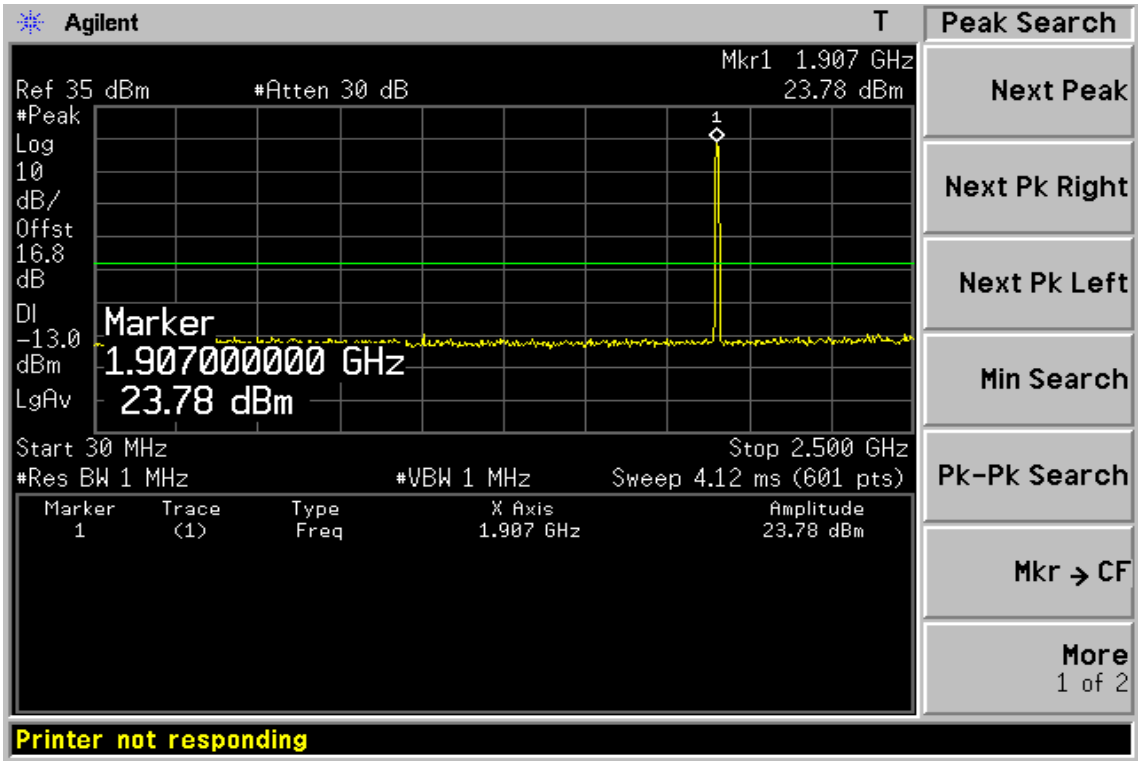


Figure 8-23: Out of Band emission at antenna terminals–WCDMA II Channel Highest



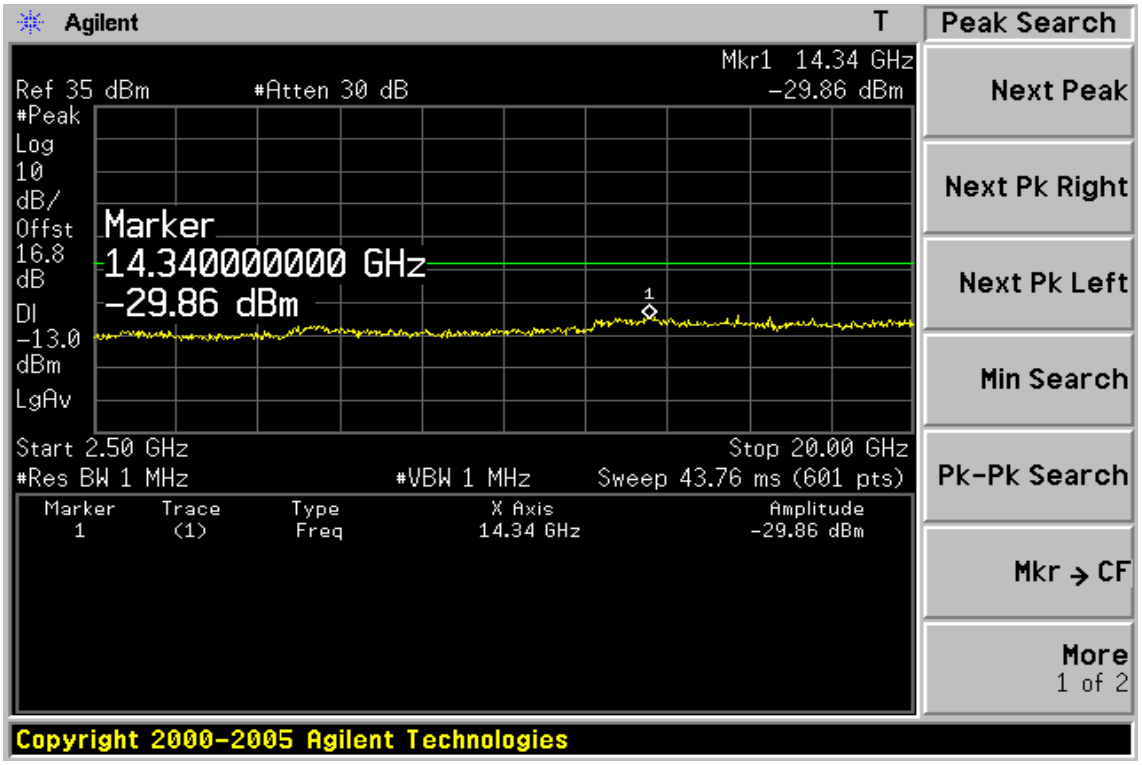


Figure 8-24: Band edge emission at antenna terminals –WCDMA II Channel Lowest

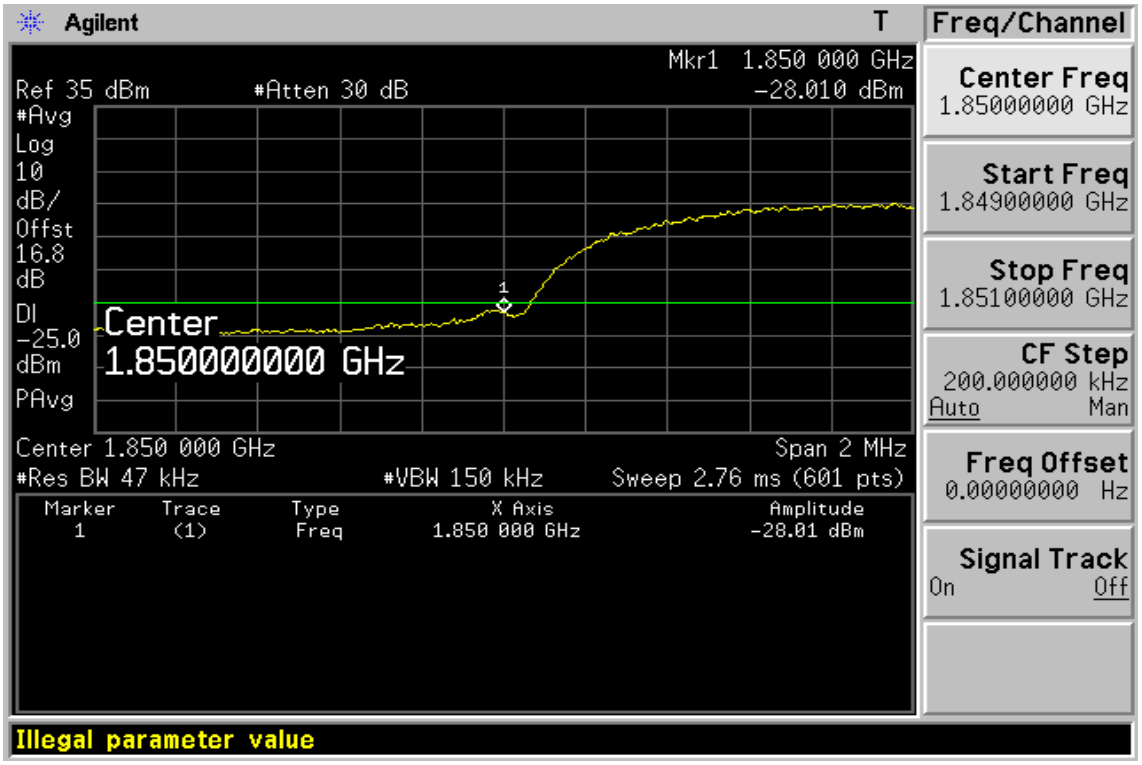


Figure 8-25: Band edge emission at antenna terminals –WCDMA II Channel Highest

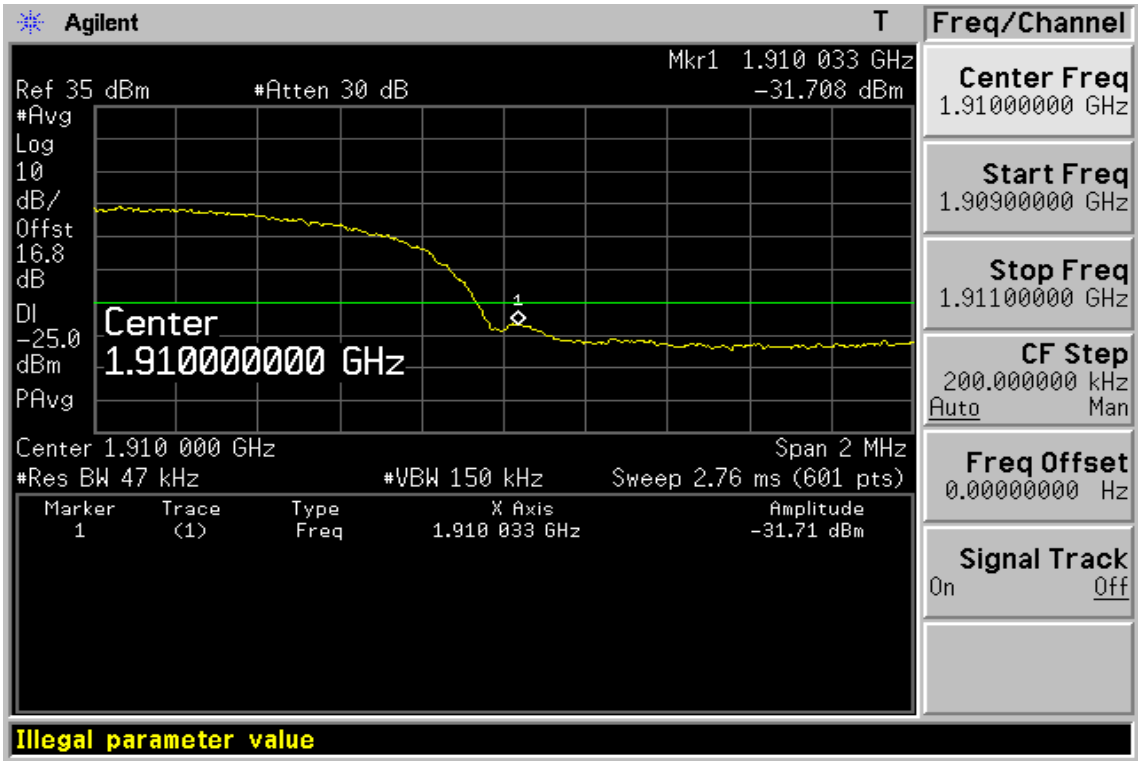
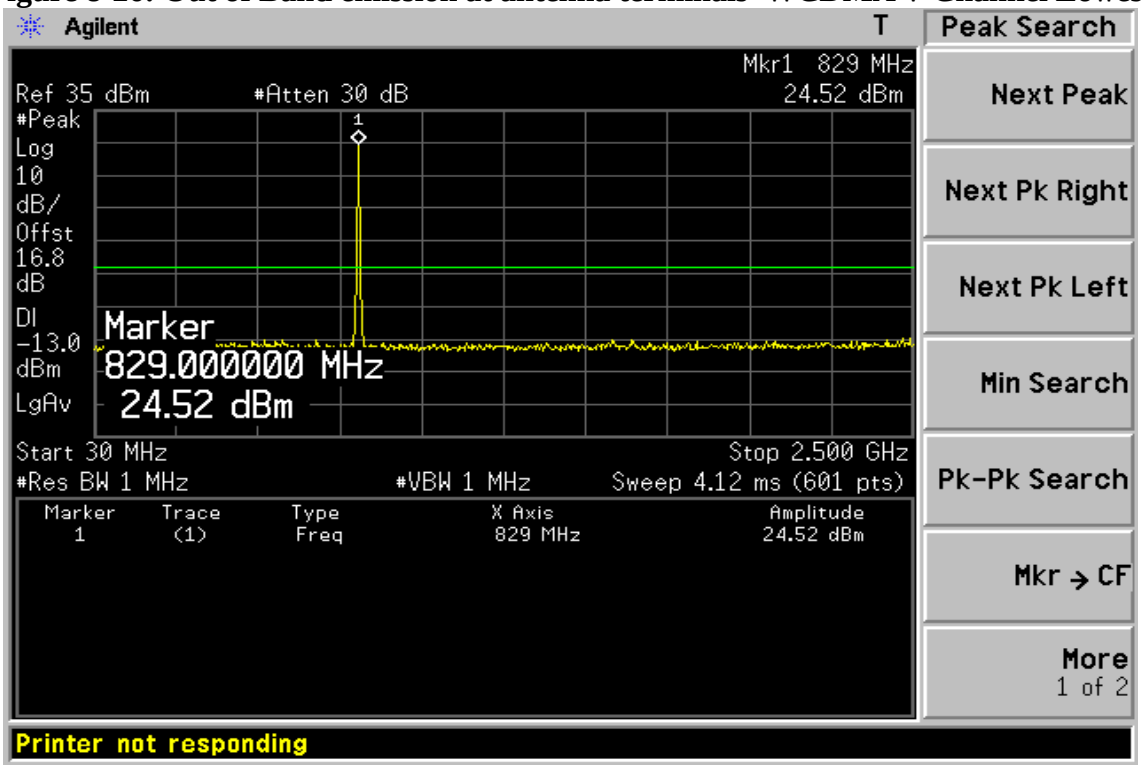


Figure 8-26: Out of Band emission at antenna terminals–WCDMA V Channel Lowest



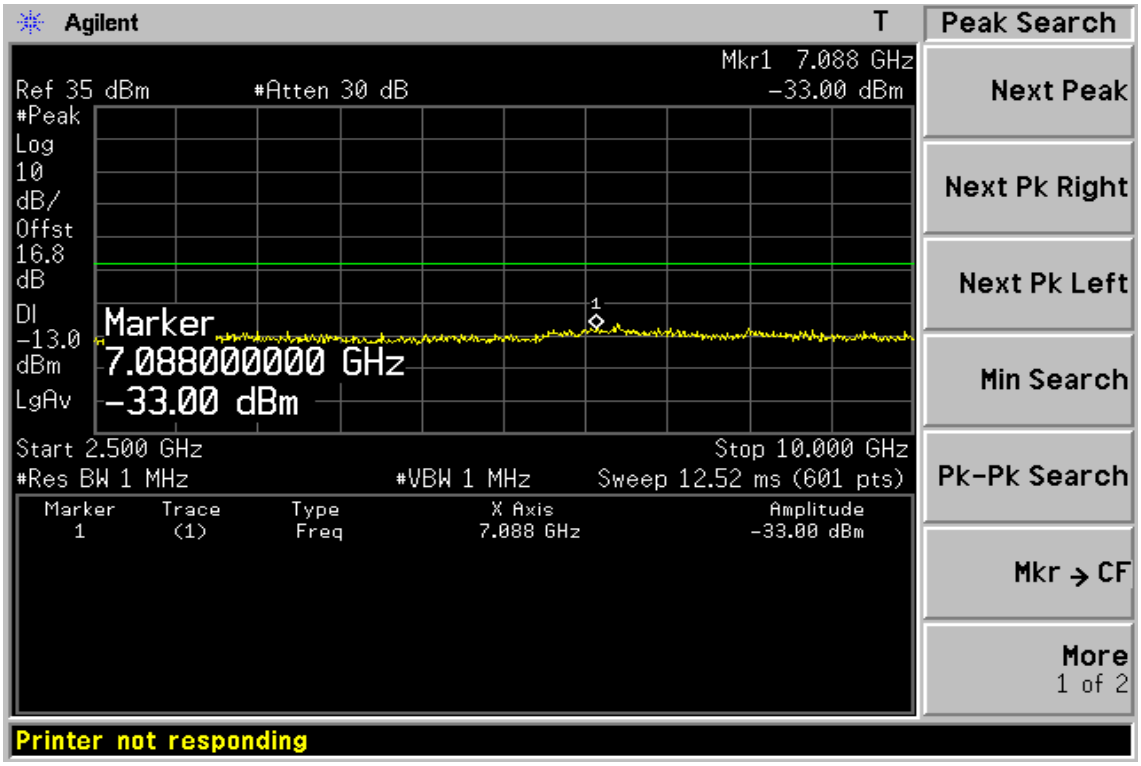
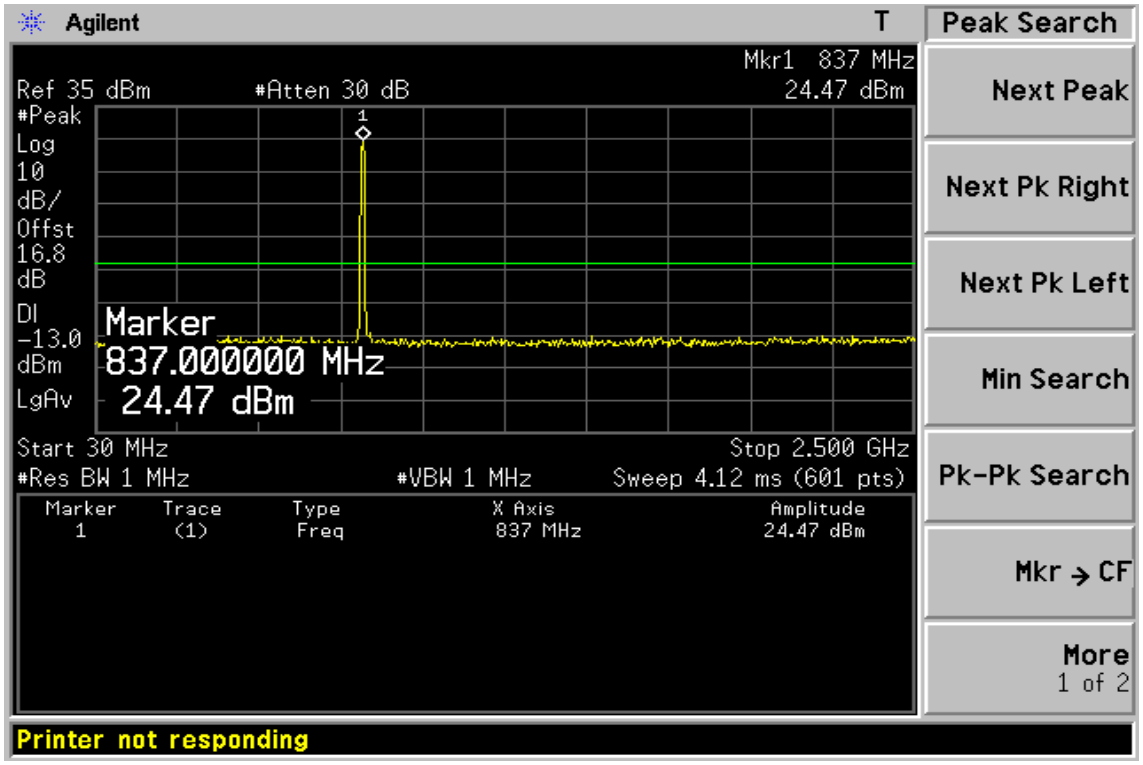


Figure 8-27: Out of Band emission at antenna terminals –WCDMA V Channel Mid



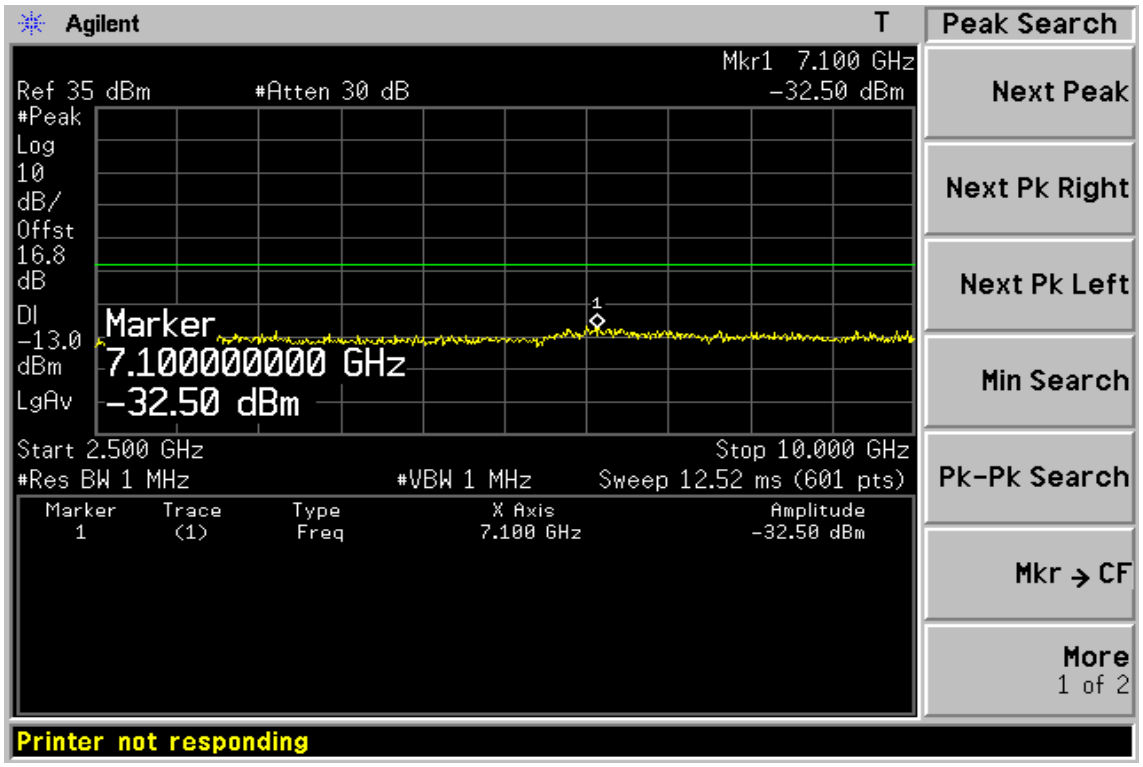
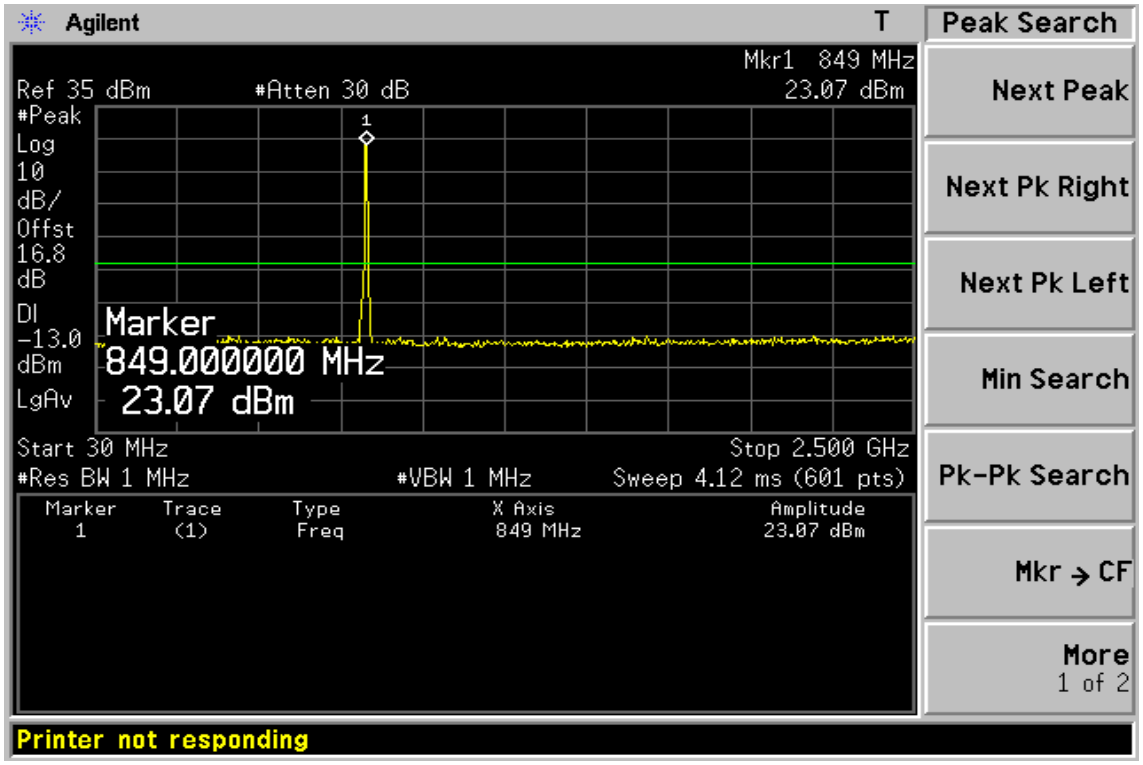


Figure 8-28: Out of Band emission at antenna terminals–WCDMA V Channel Highest



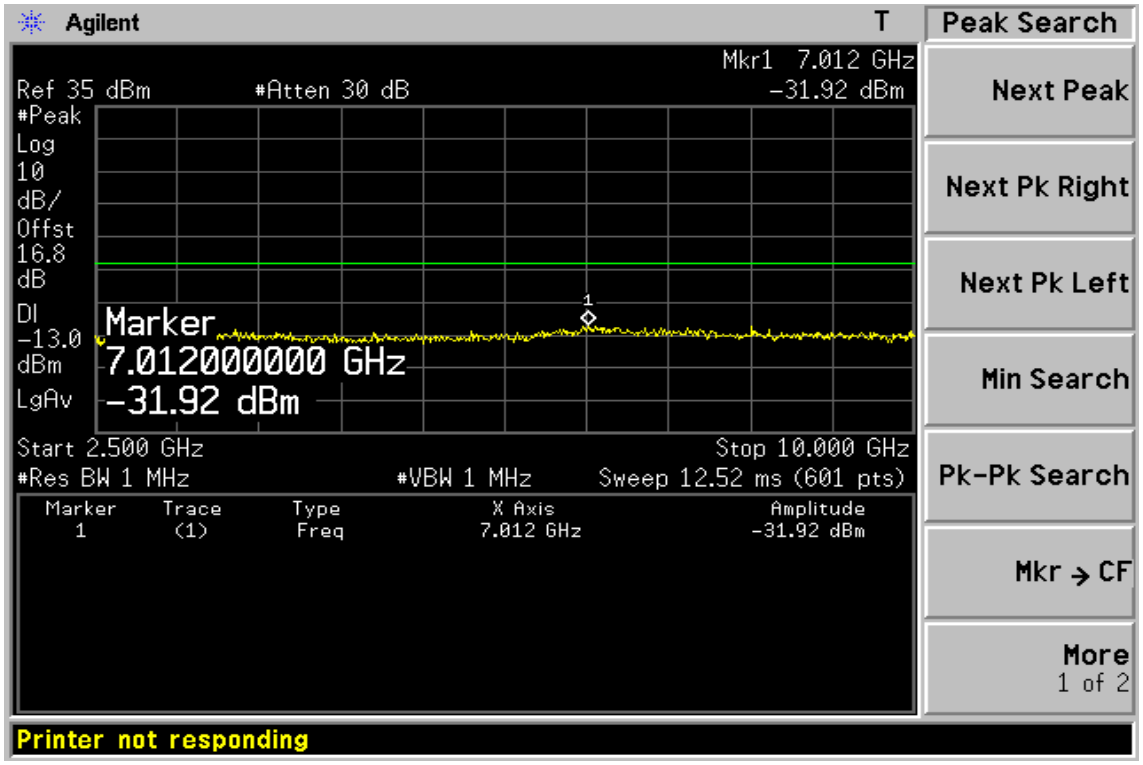


Figure 8-29: Bad edge emission at antenna terminals –WCDMA V Channel Lowest

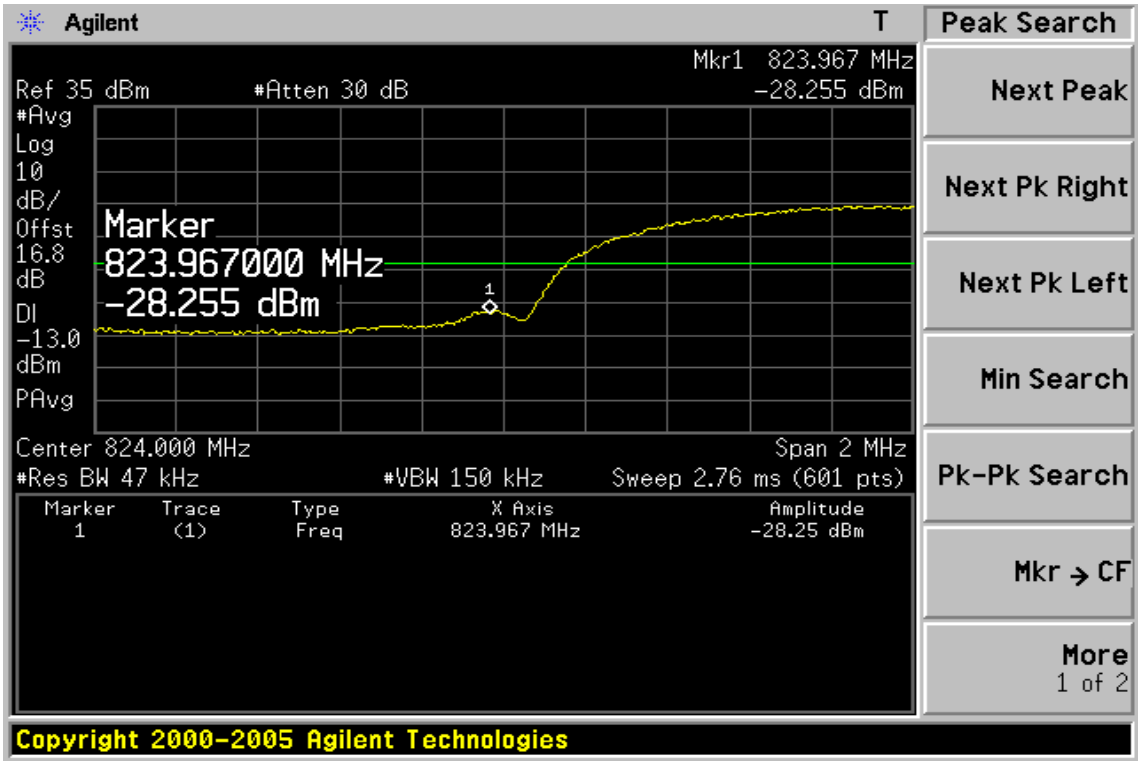


Figure 8-30: Band edge emission at antenna terminals –WCDMA V Channel Highest

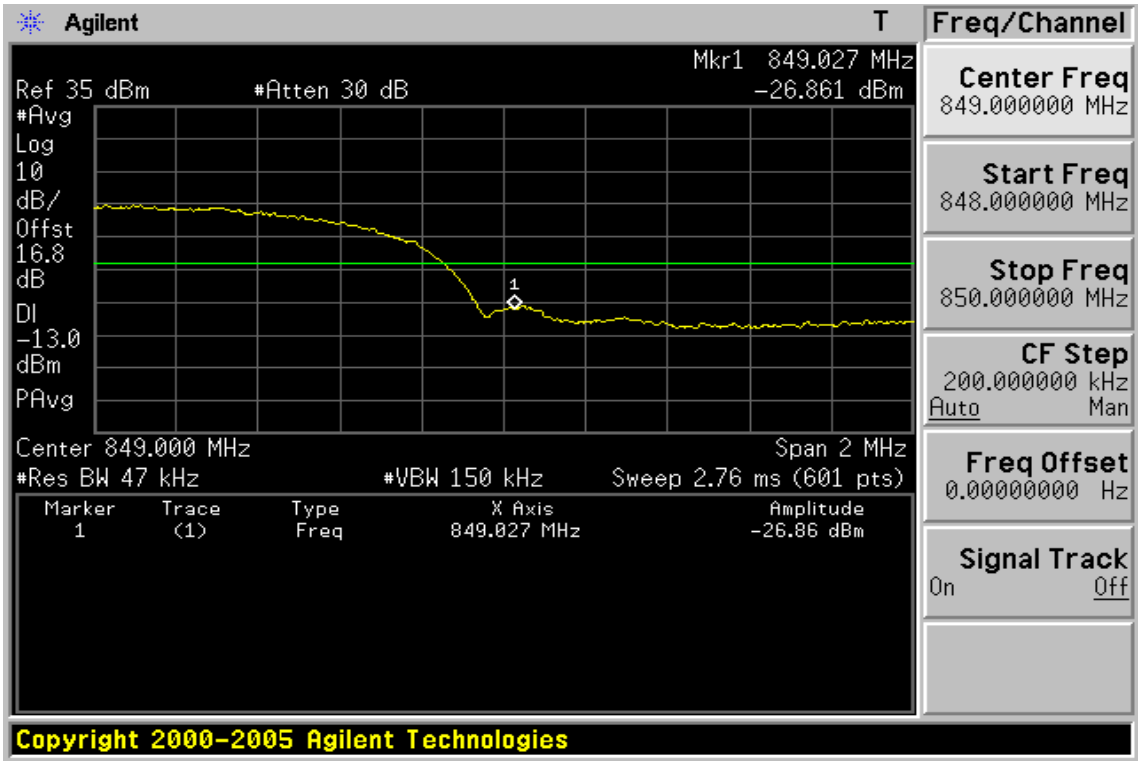
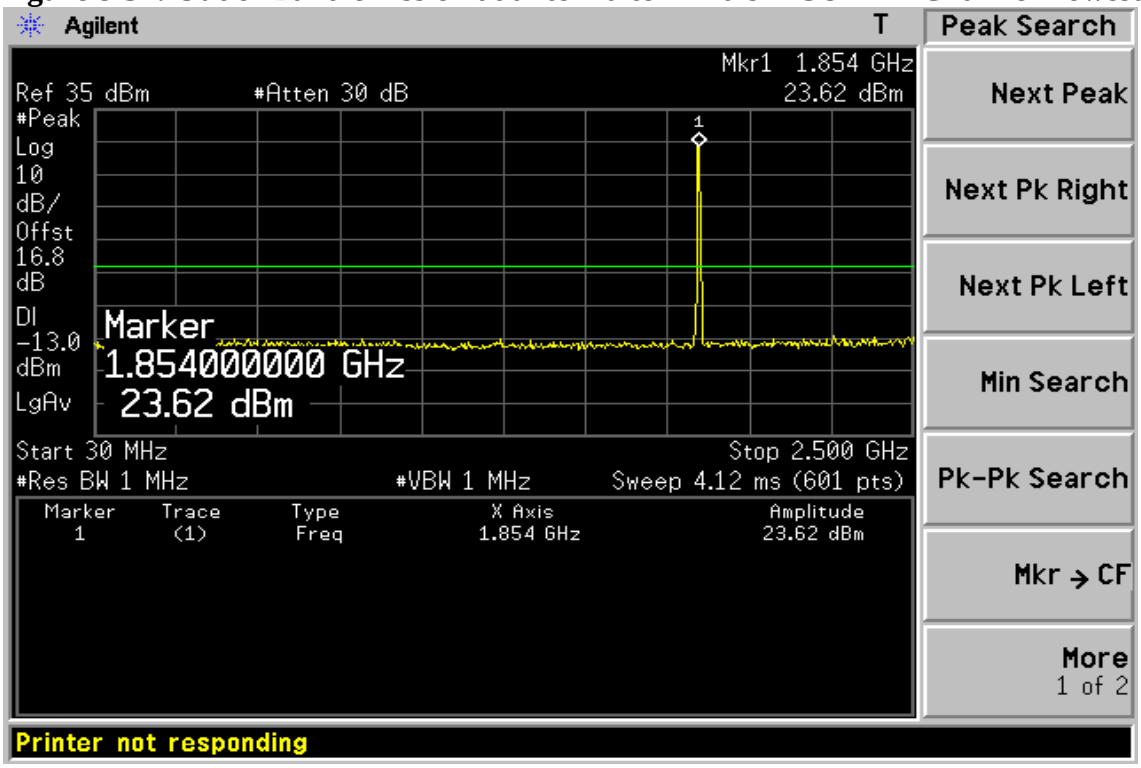


Figure 8-31: Out of Band emission at antenna terminals–HSUPA II Channel Lowest



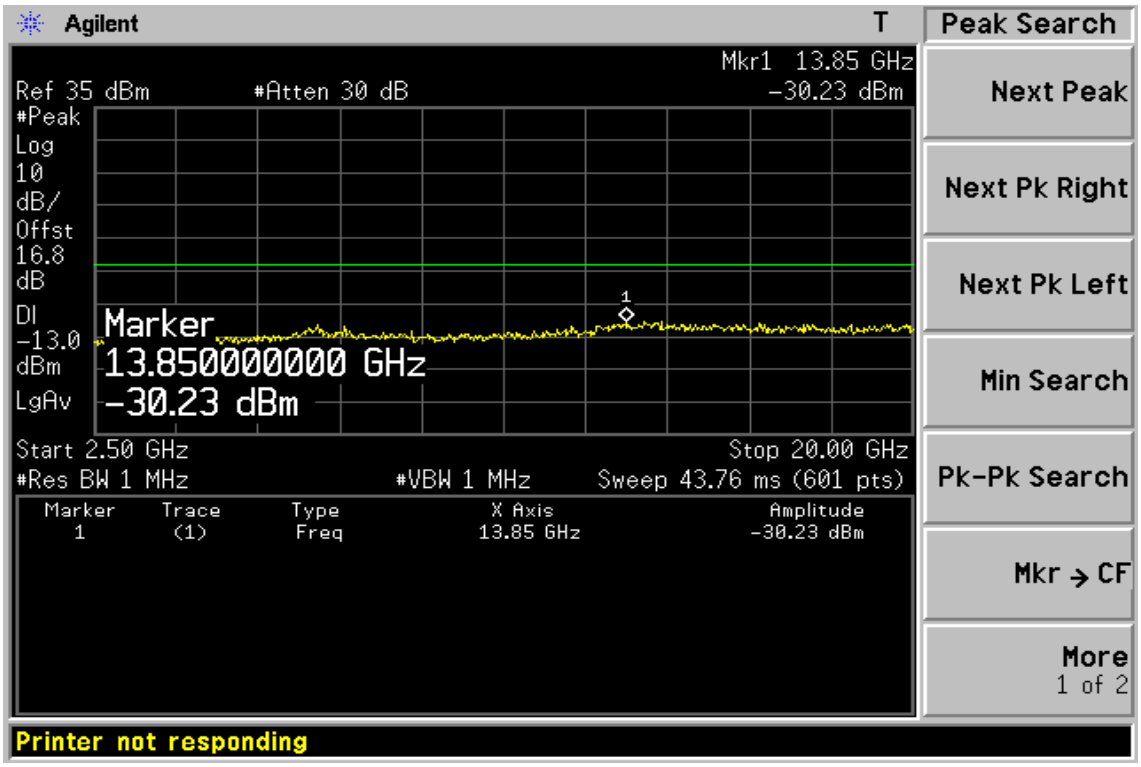
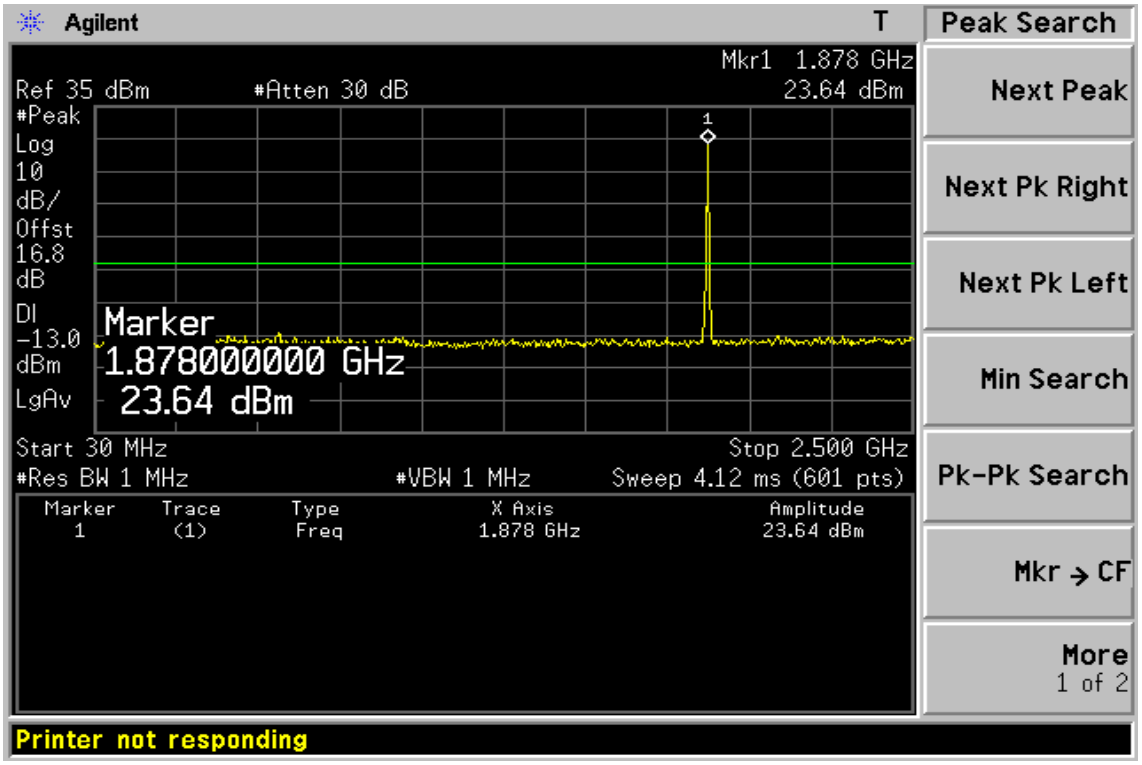


Figure 8-32: Out of Band emission at antenna terminals –HSUPA II Channel Mid



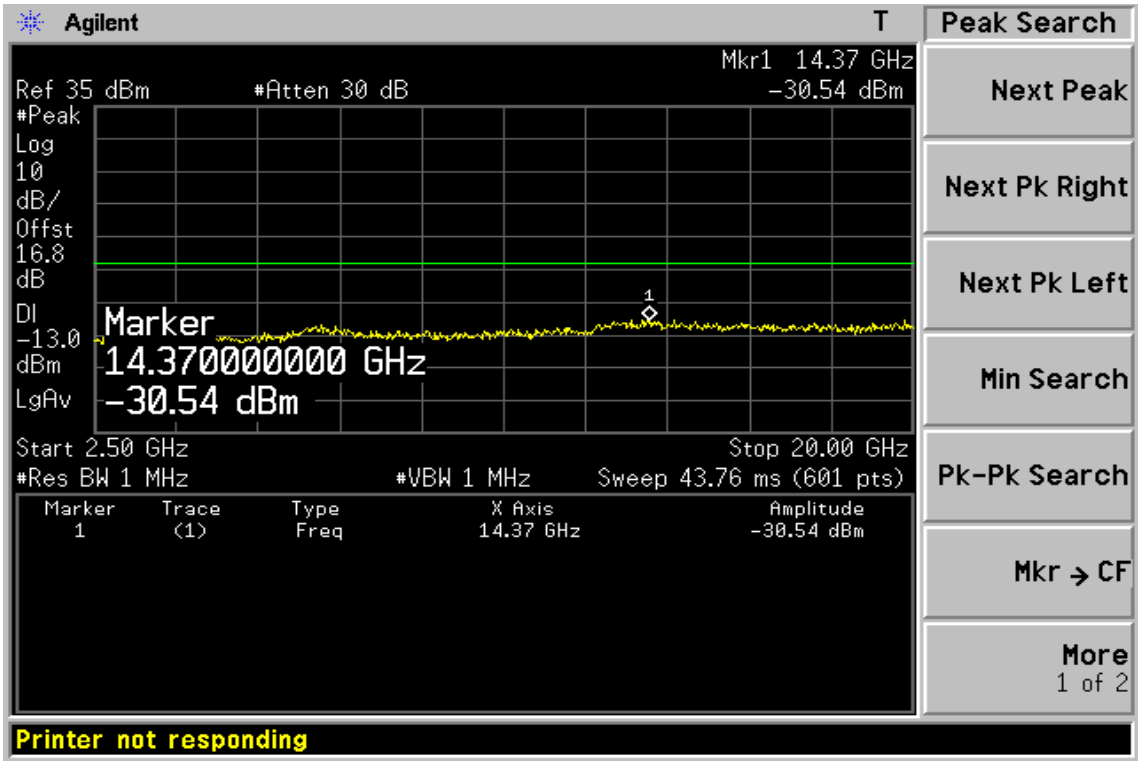
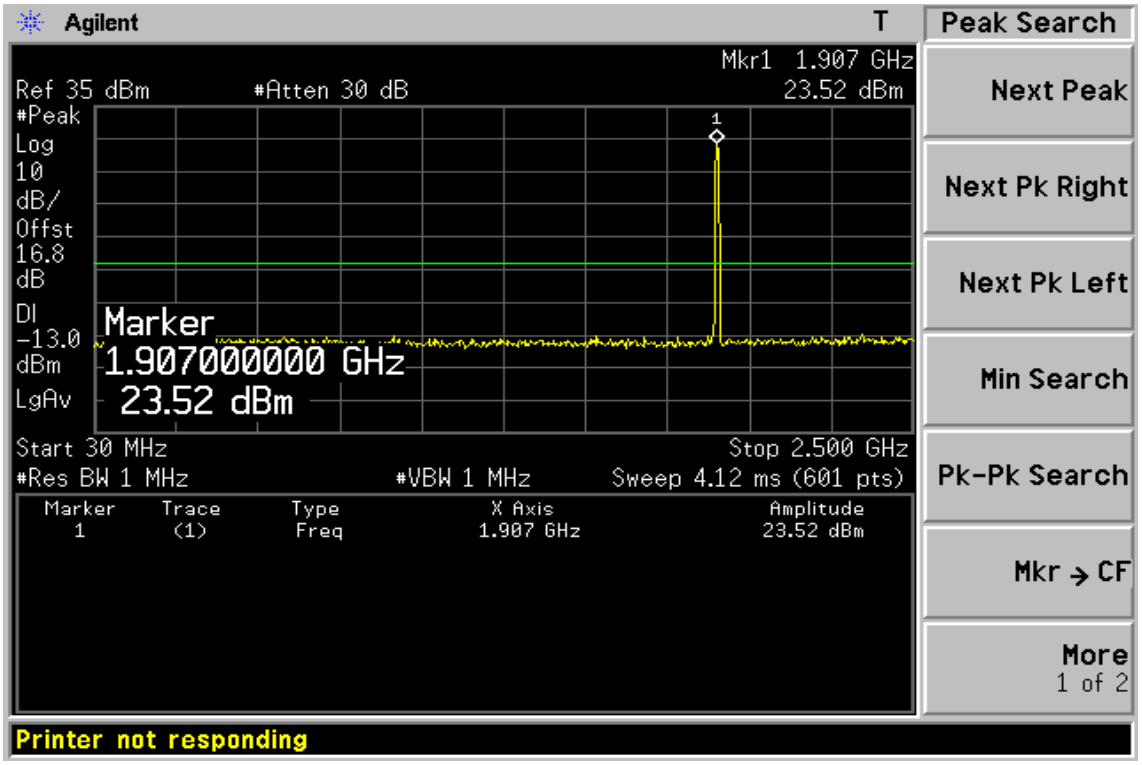


Figure 8-33: Out of Band emission at antenna terminals–HSUPA II Channel Highest



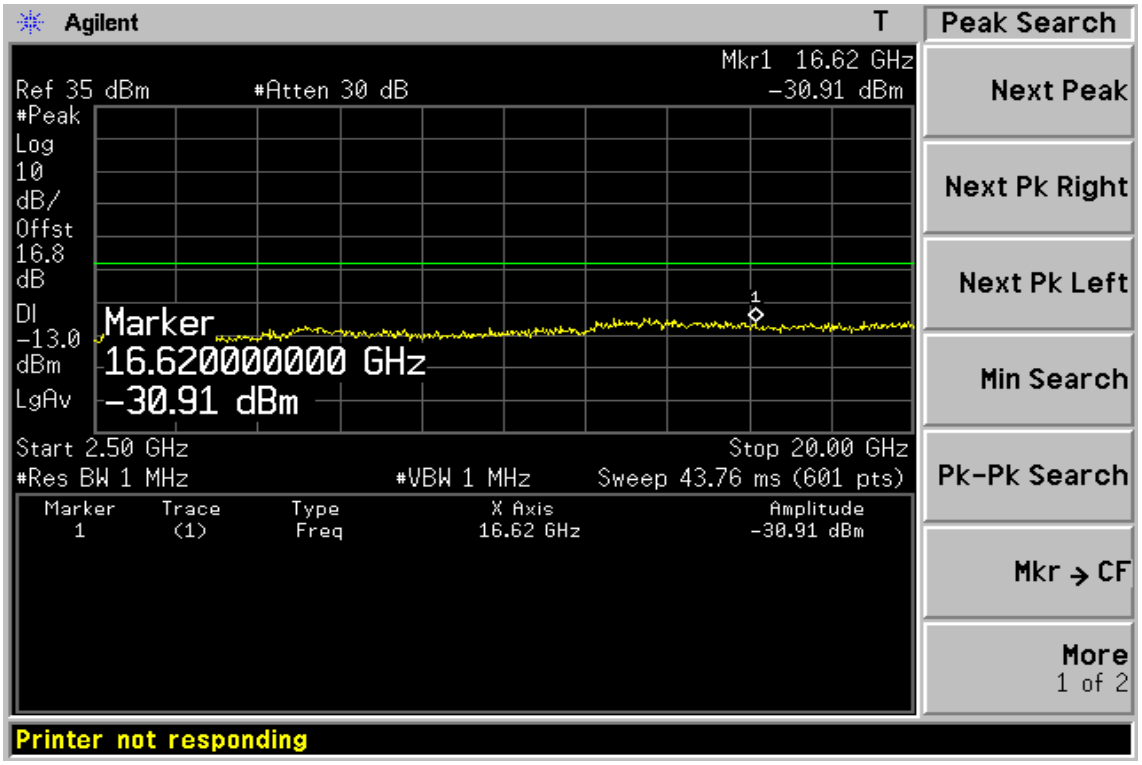


Figure 8-34: Band edge emission at antenna terminals –HSUPA II Channel Lowest

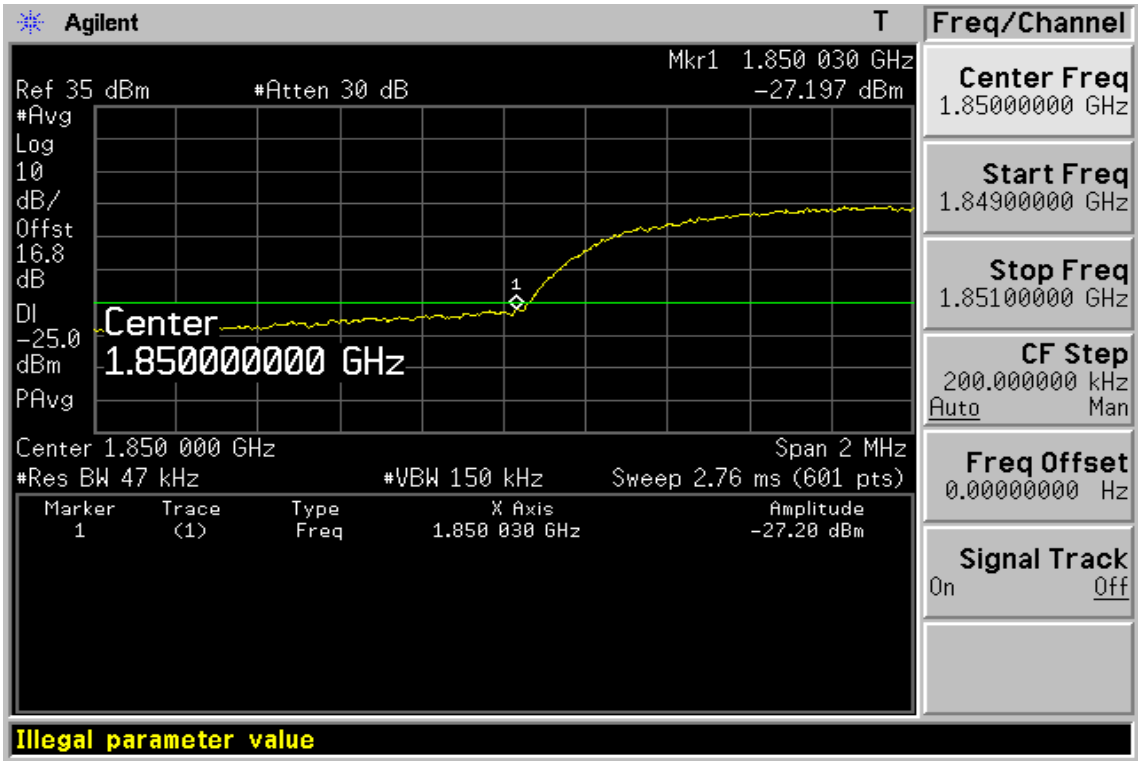


Figure 8-35: Band edge emission at antenna terminals –HSUPA II Channel Highest

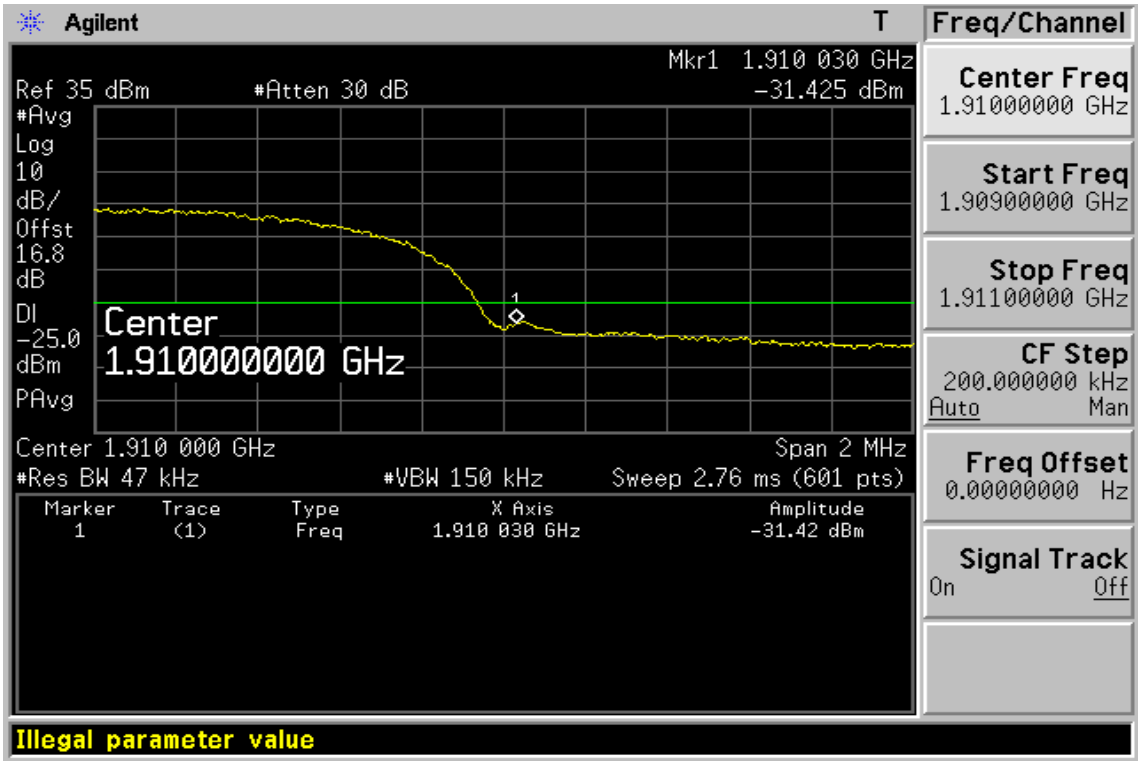
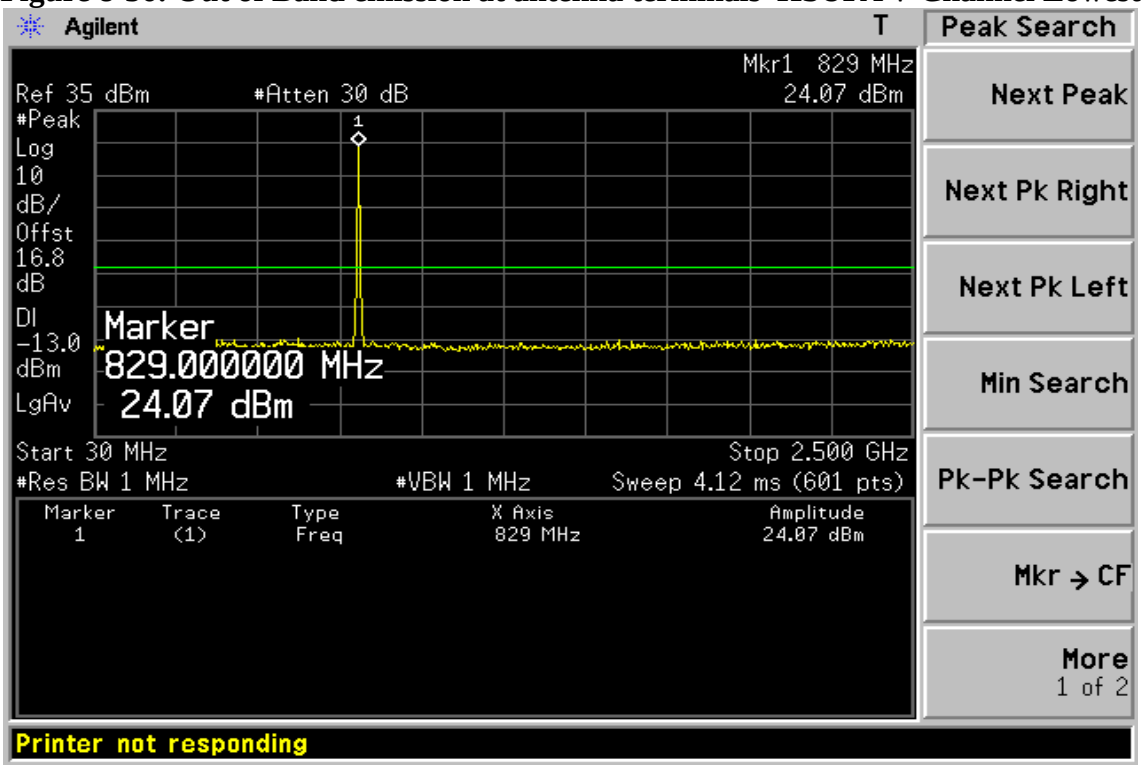


Figure 8-36: Out of Band emission at antenna terminals–HSUPA V Channel Lowest



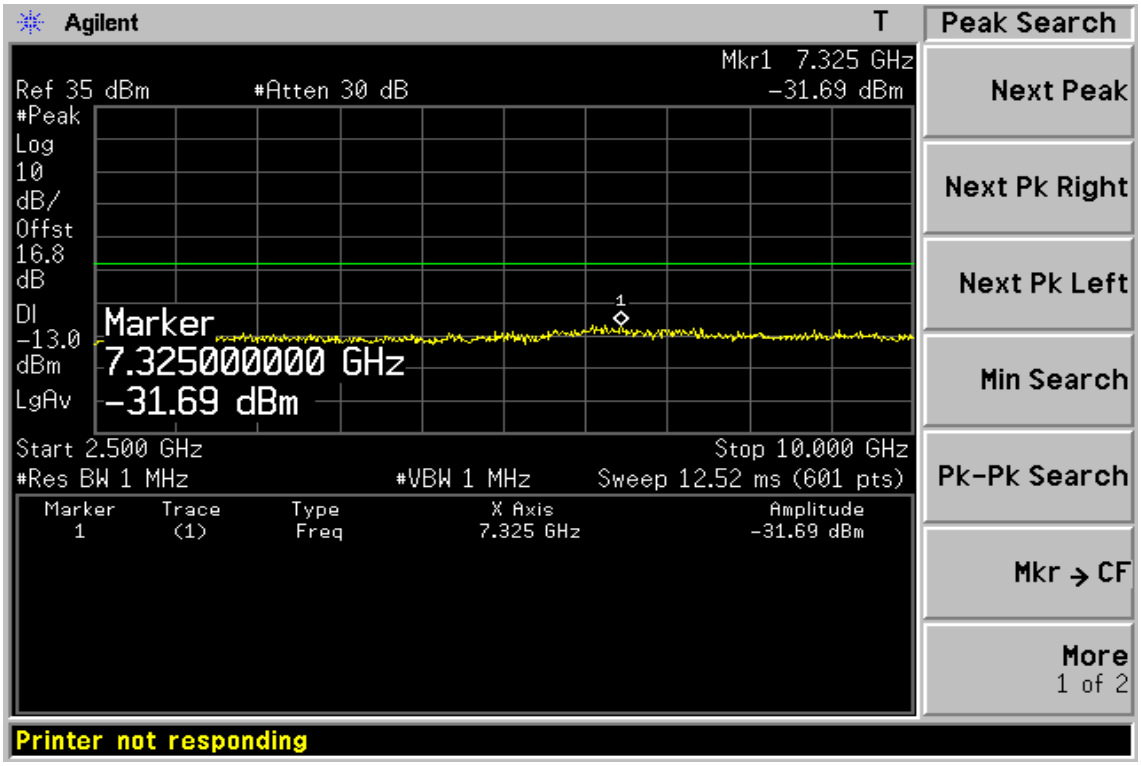
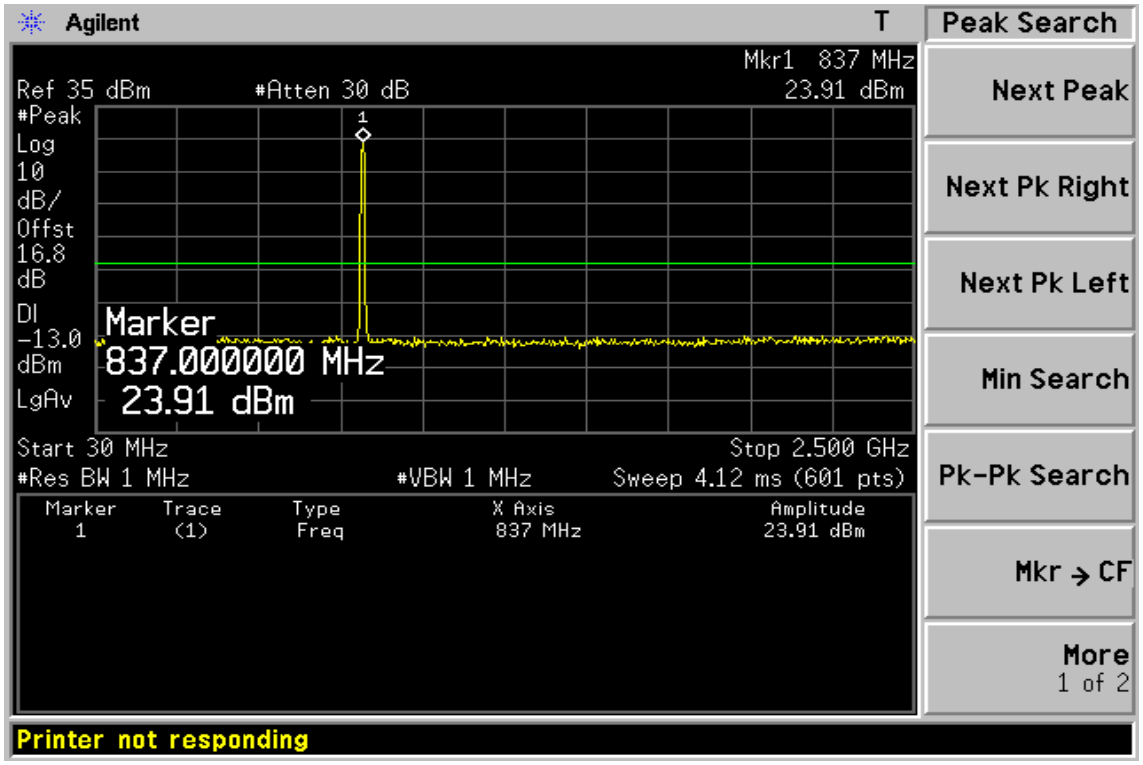


Figure 8-37: Out of Band emission at antenna terminals –HSUPA V Channel Mid



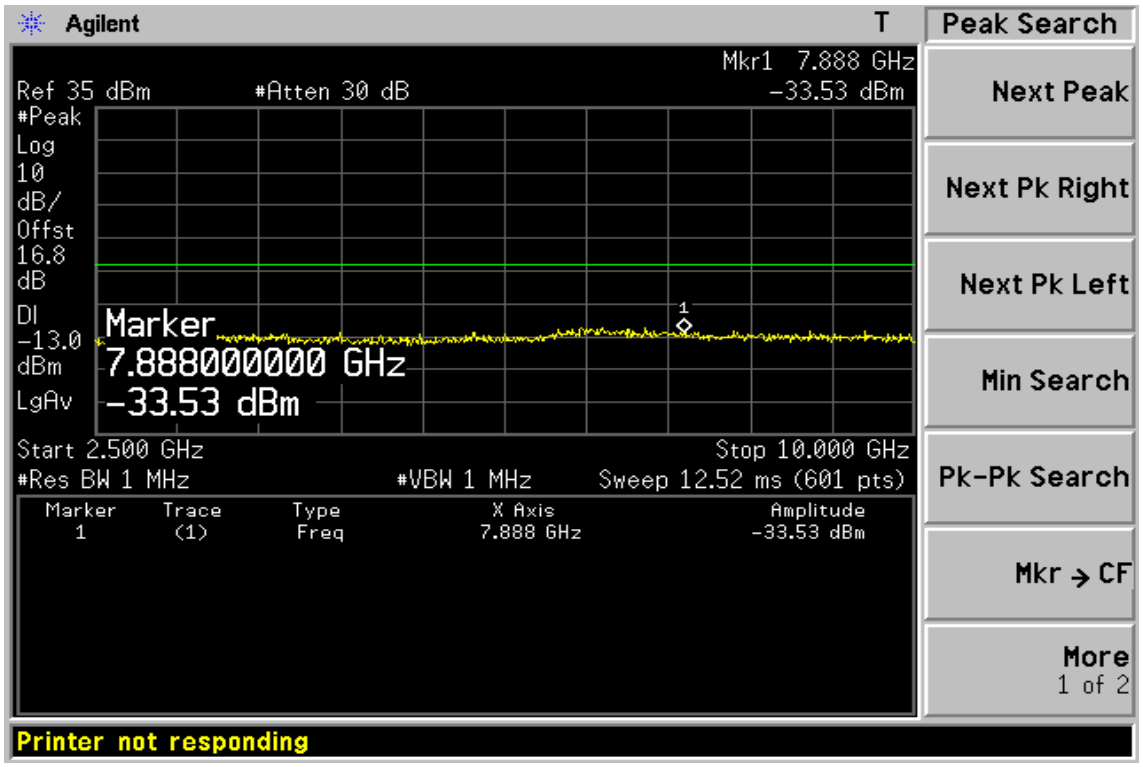
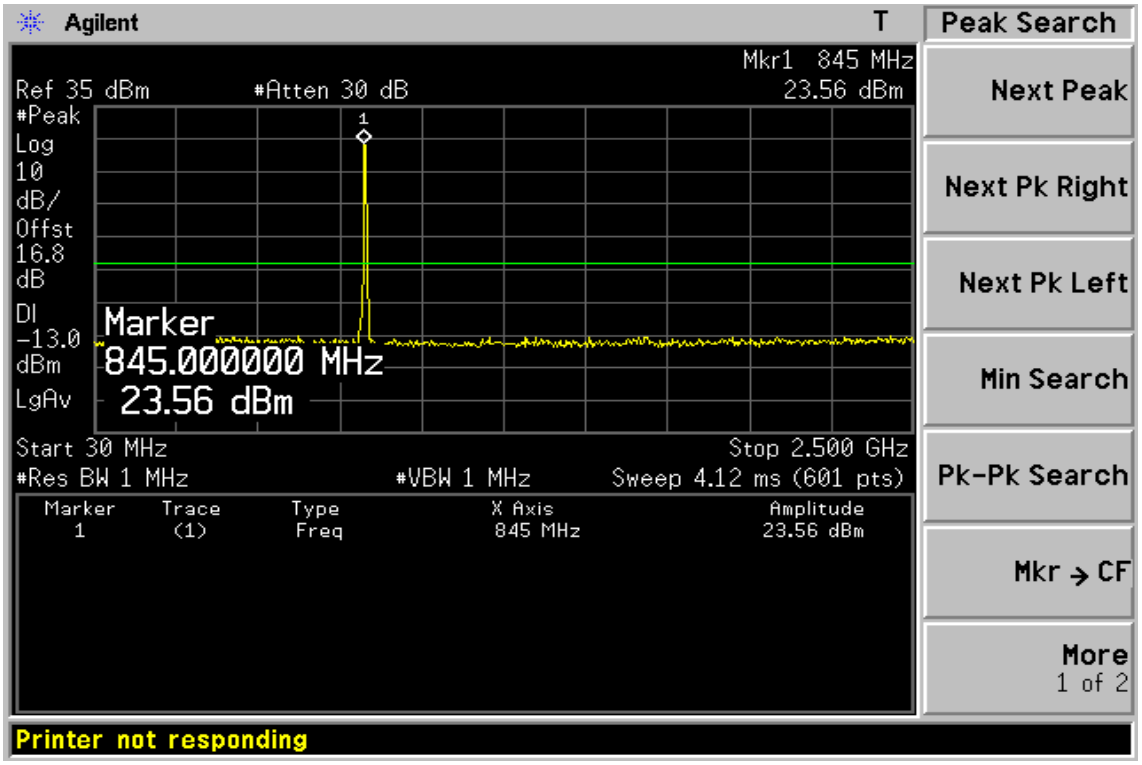


Figure 8-38: Out of Band emission at antenna terminals–HSUPA V Channel Highest



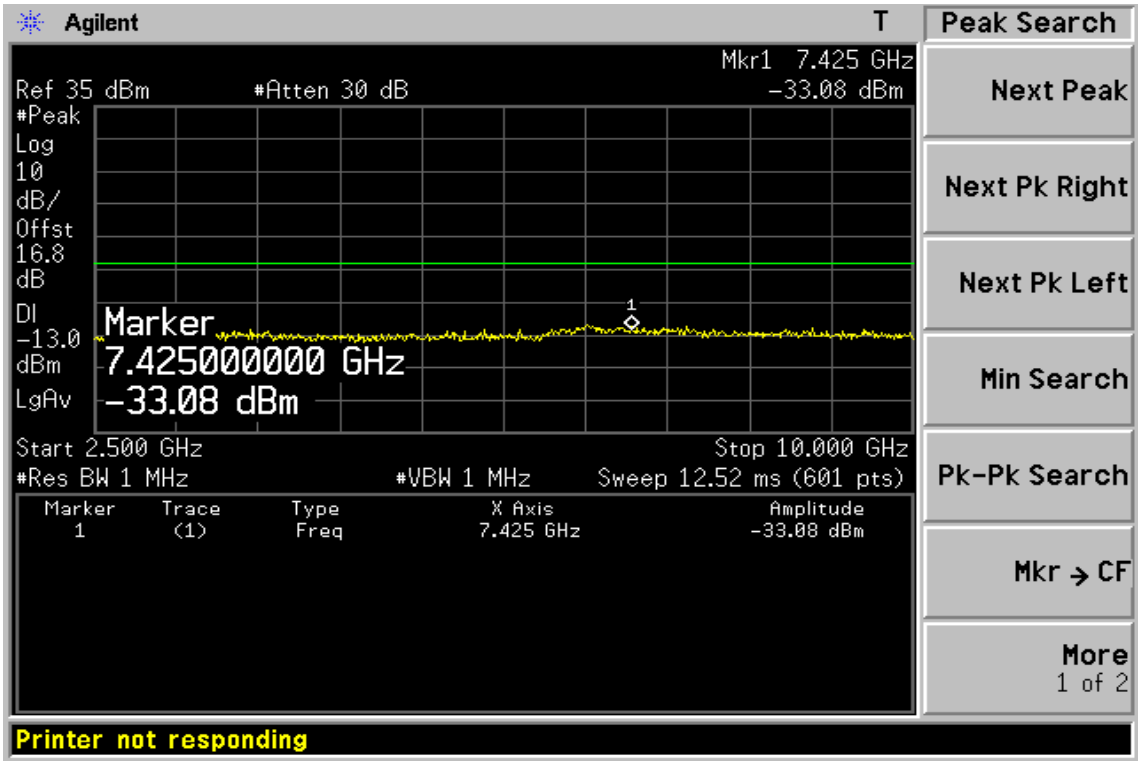


Figure 8-39: Bad edge emission at antenna terminals –HSUPA V Channel Lowest

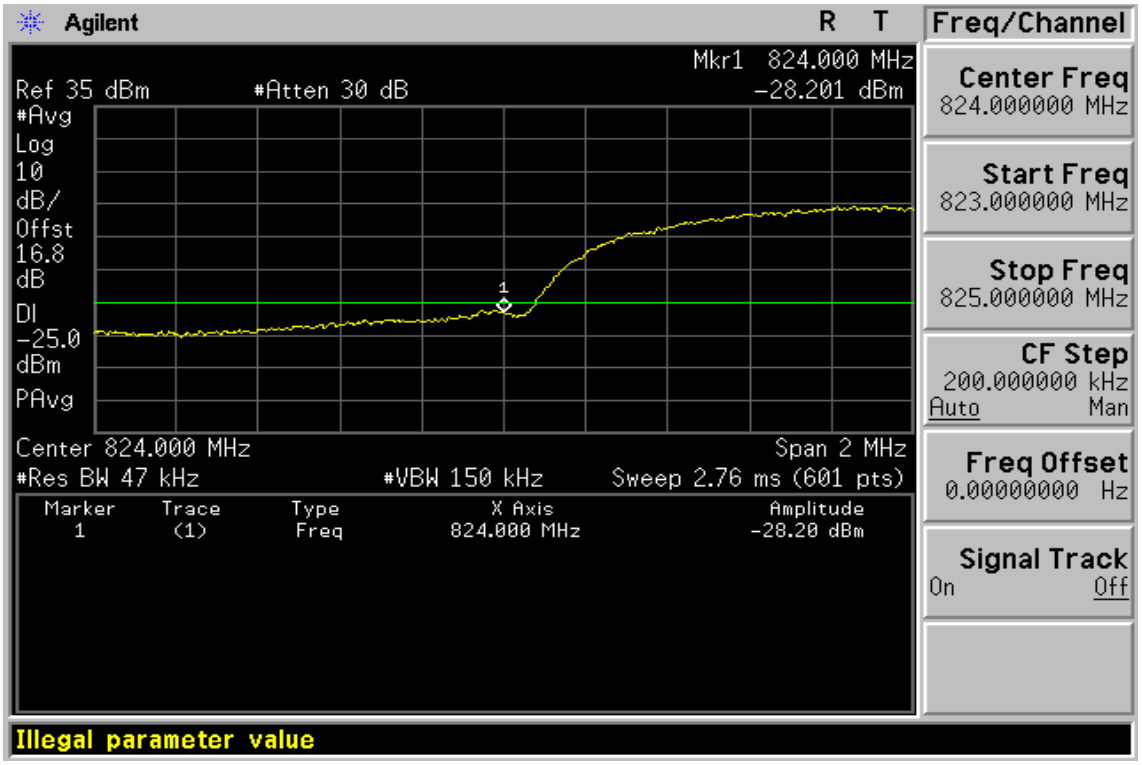


Figure 8-40: Band edge emission at antenna terminals –HSUPA V Channel Highest

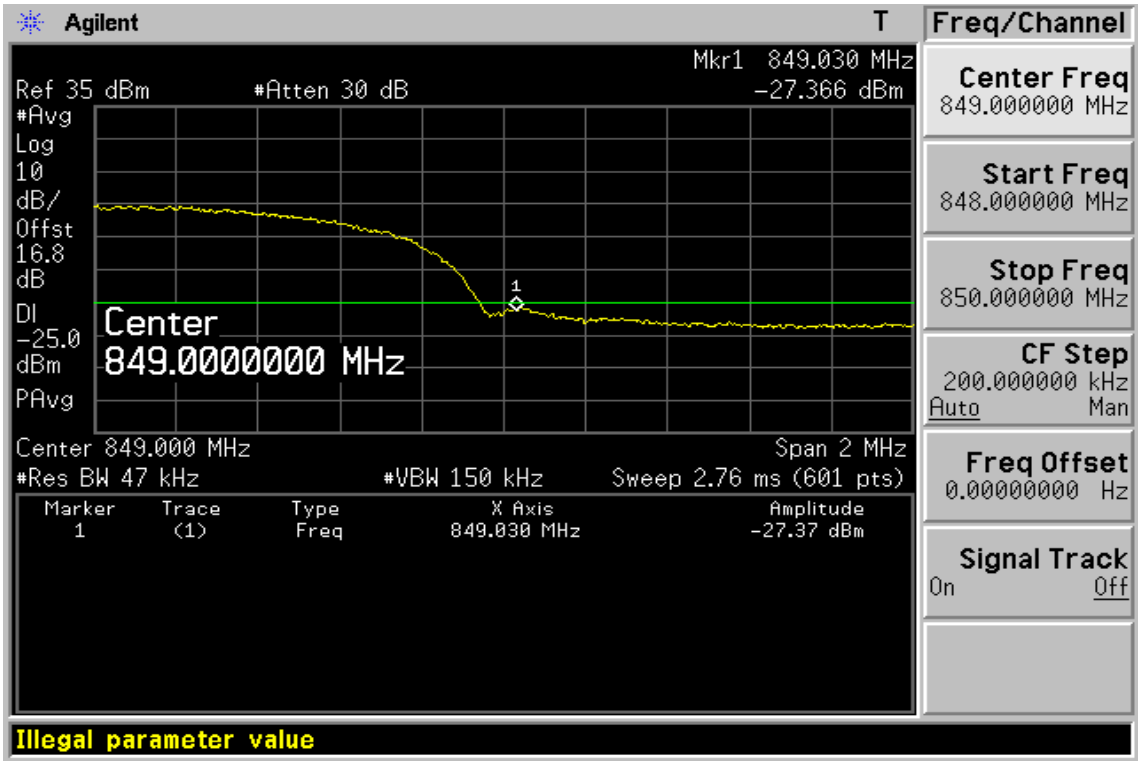
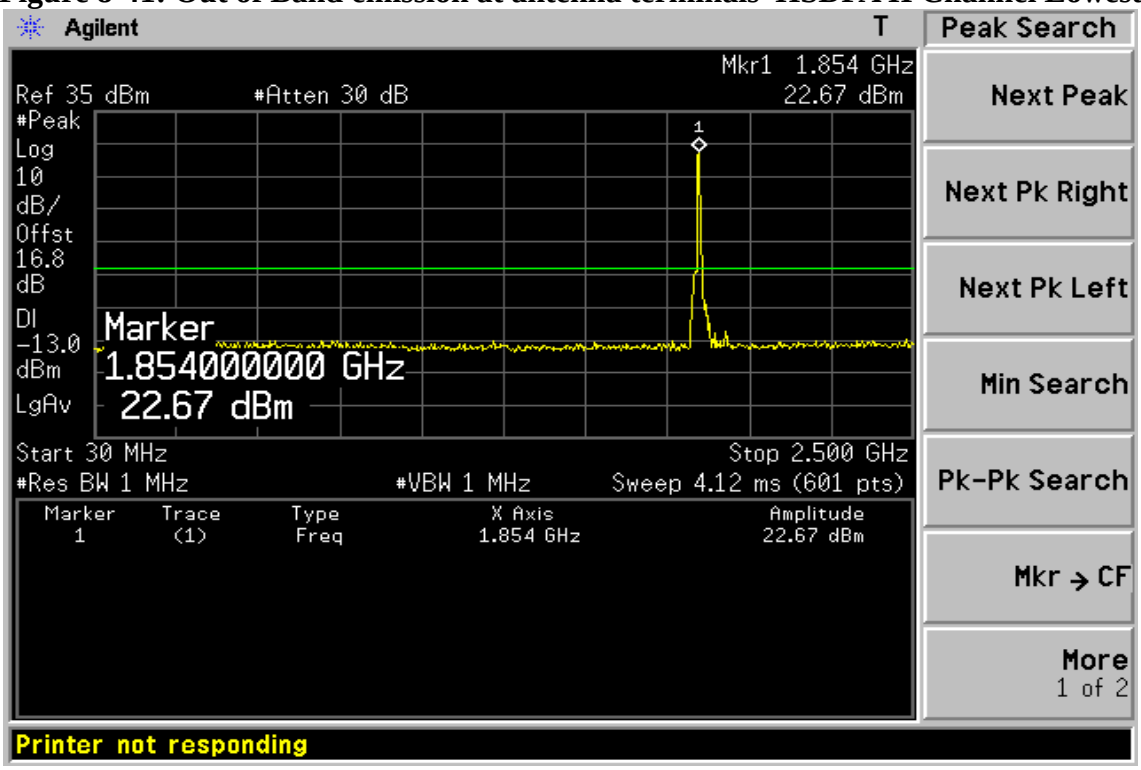


Figure 8-41: Out of Band emission at antenna terminals–HSDPA II Channel Lowest



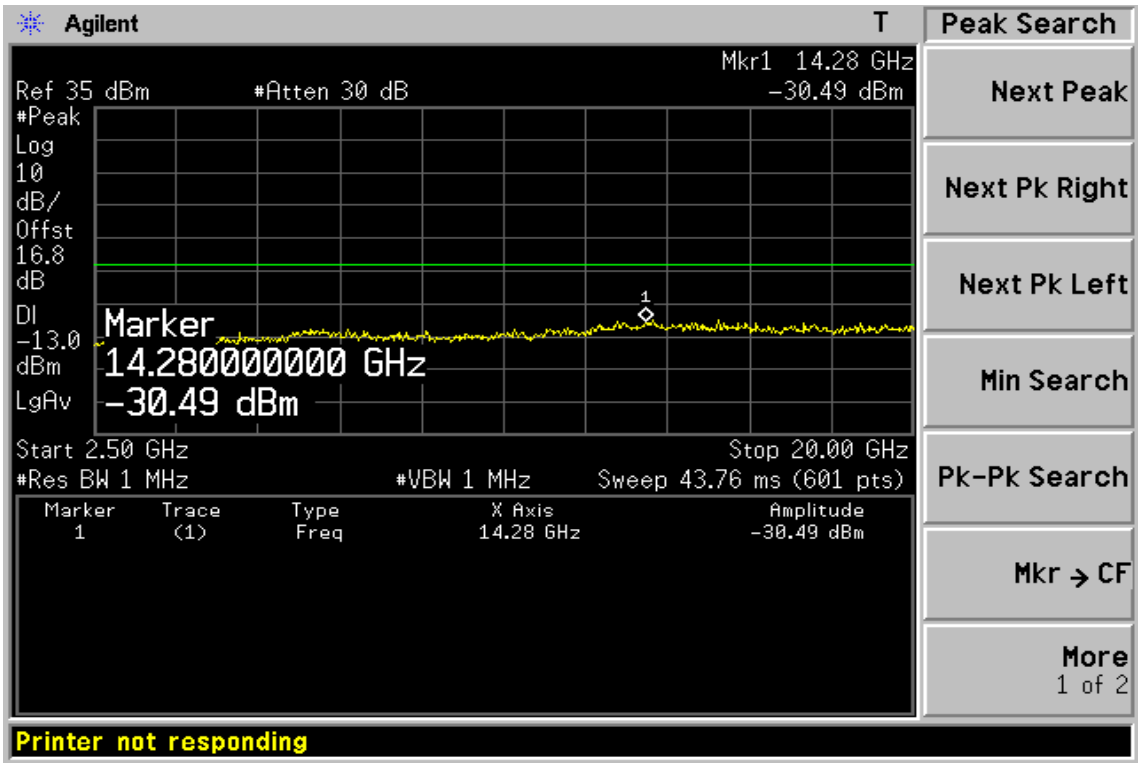
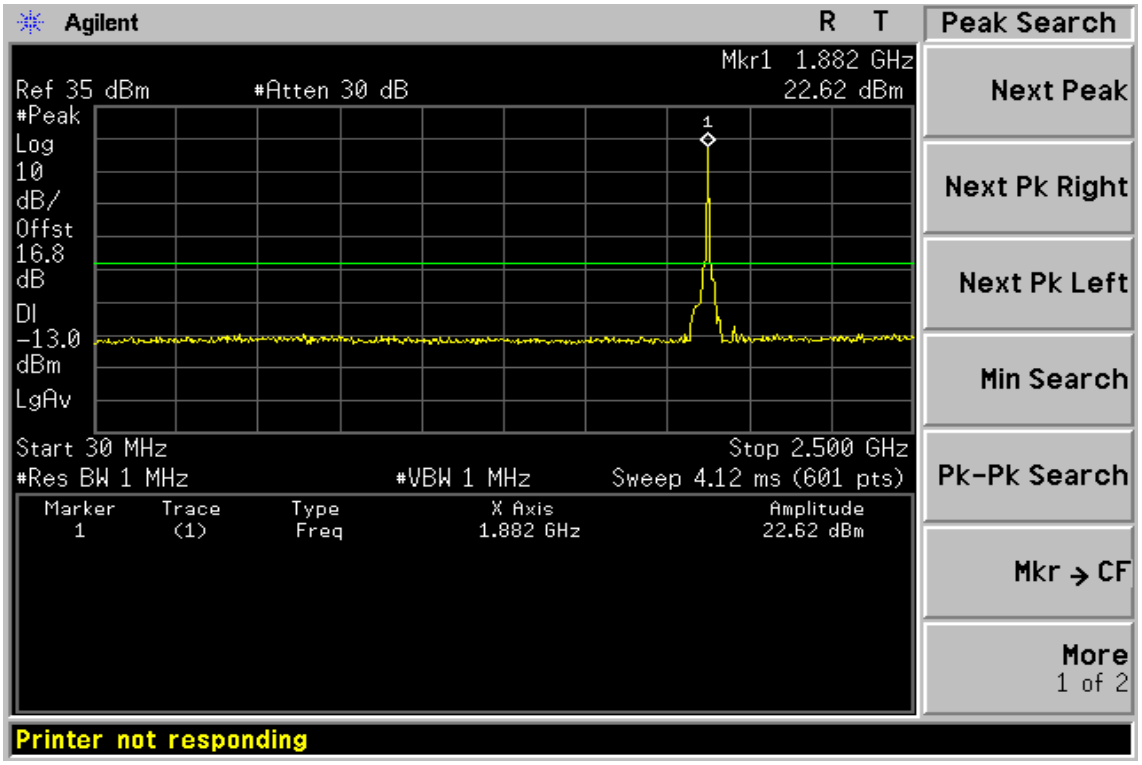


Figure 8-42: Out of Band emission at antenna terminals –HSDPA II Channel Mid



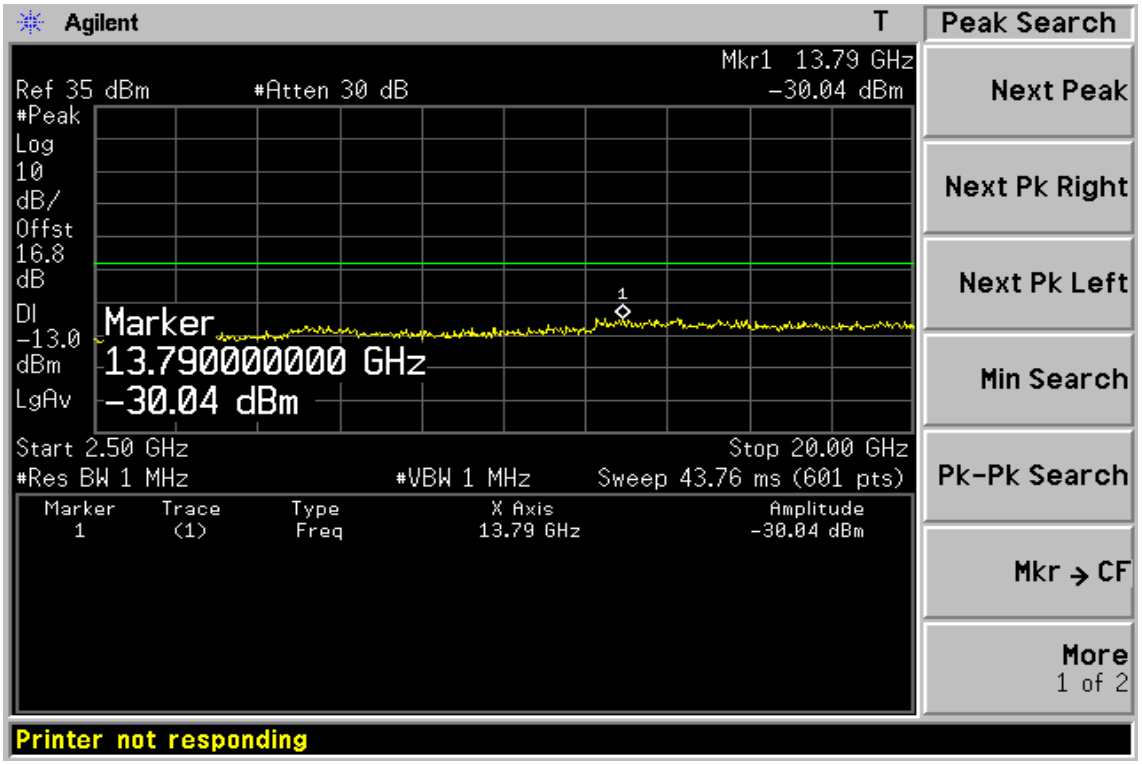
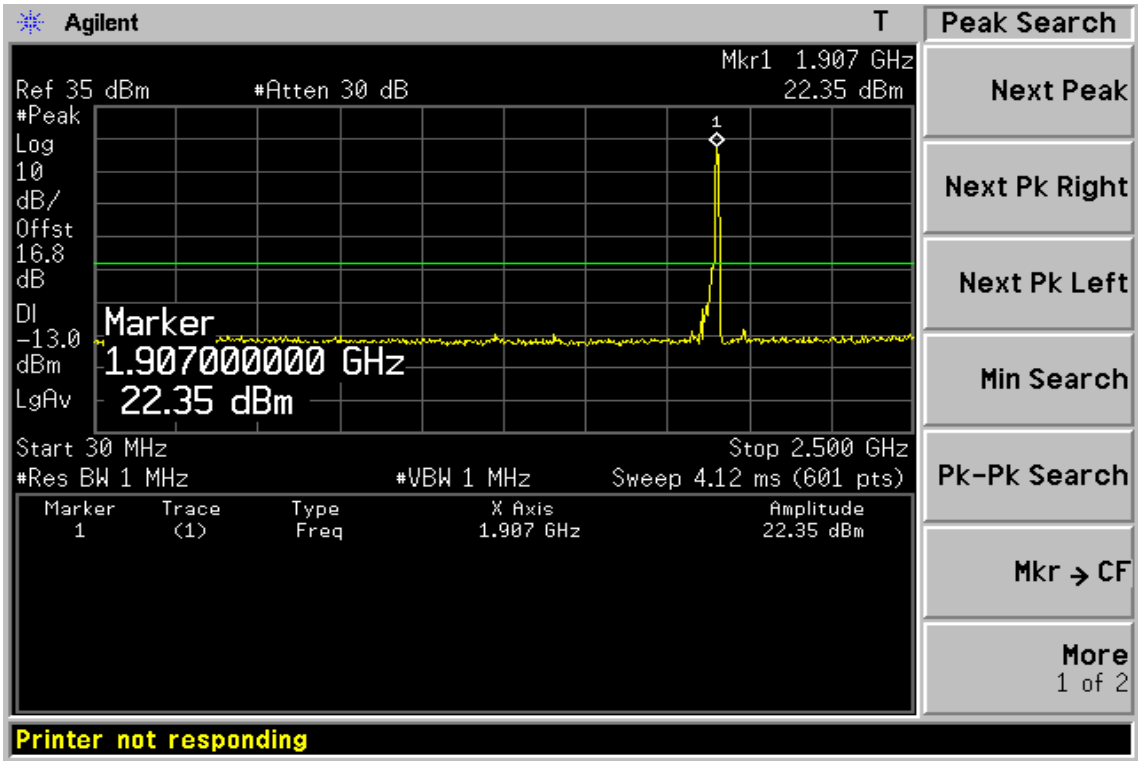


Figure 8-43: Out of Band emission at antenna terminals–HSDPA II Channel Highest



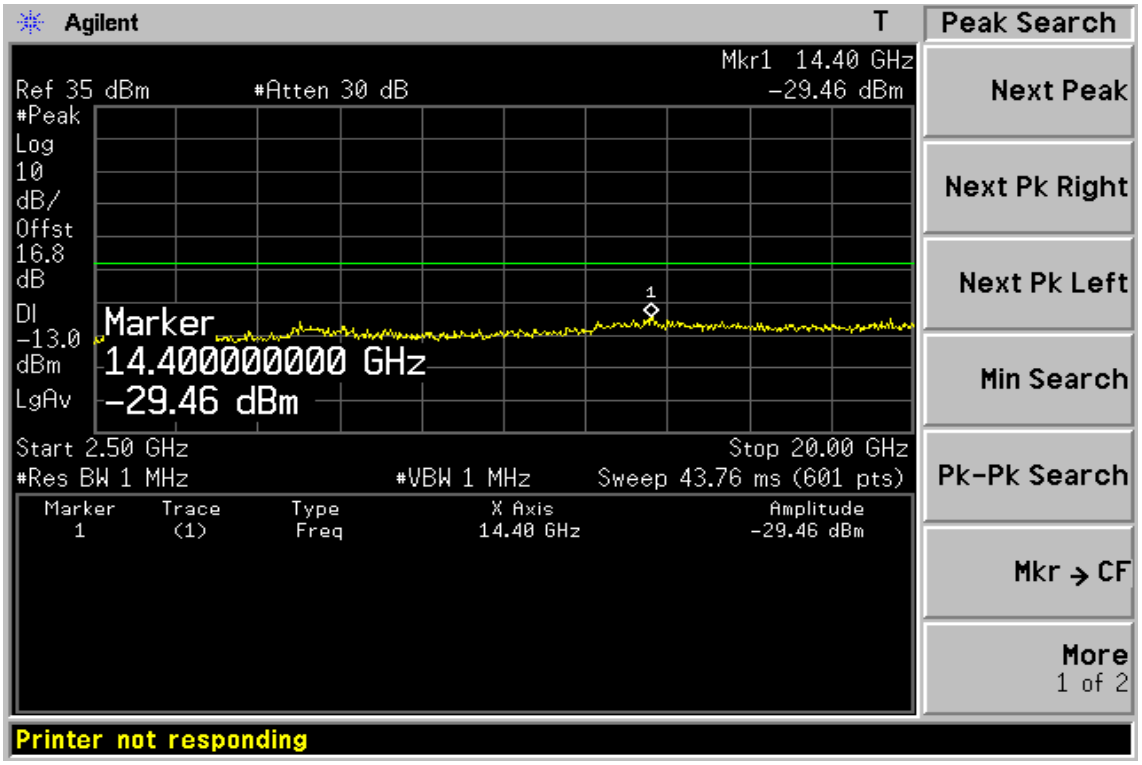


Figure 8-44: Band edge emission at antenna terminals –HSDPA II Channel Lowest

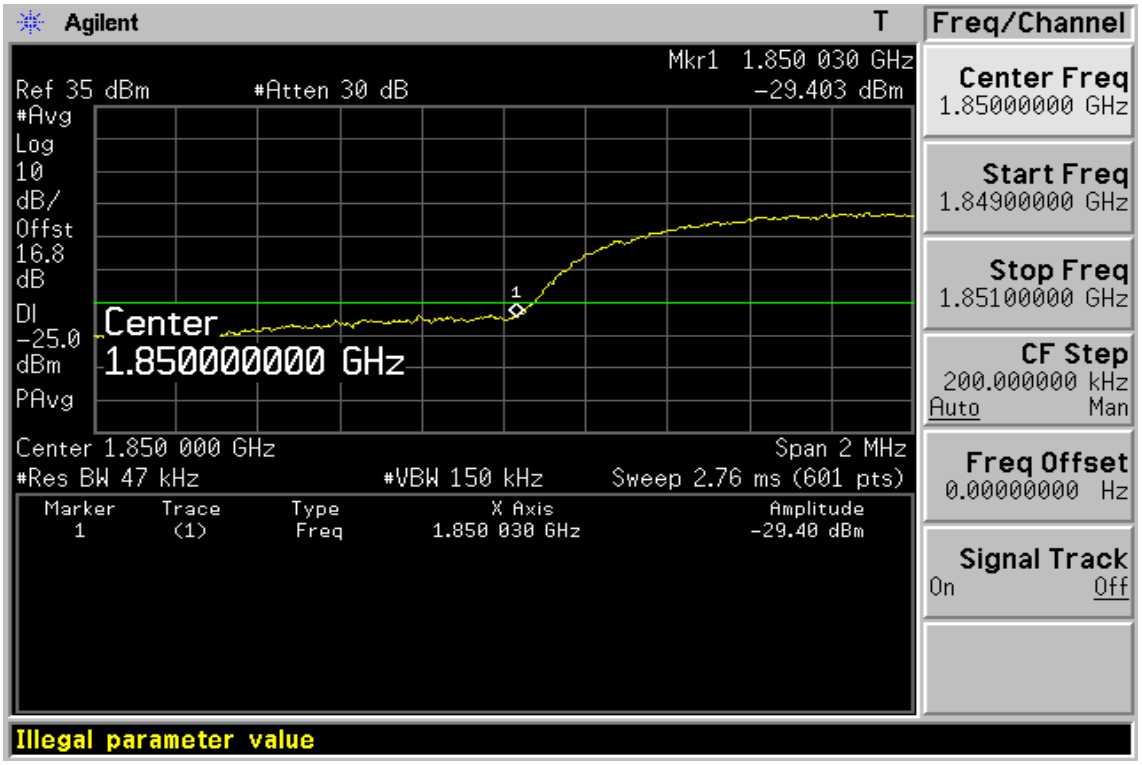


Figure 8-45: Band edge emission at antenna terminals –HSDPA II Channel Highest

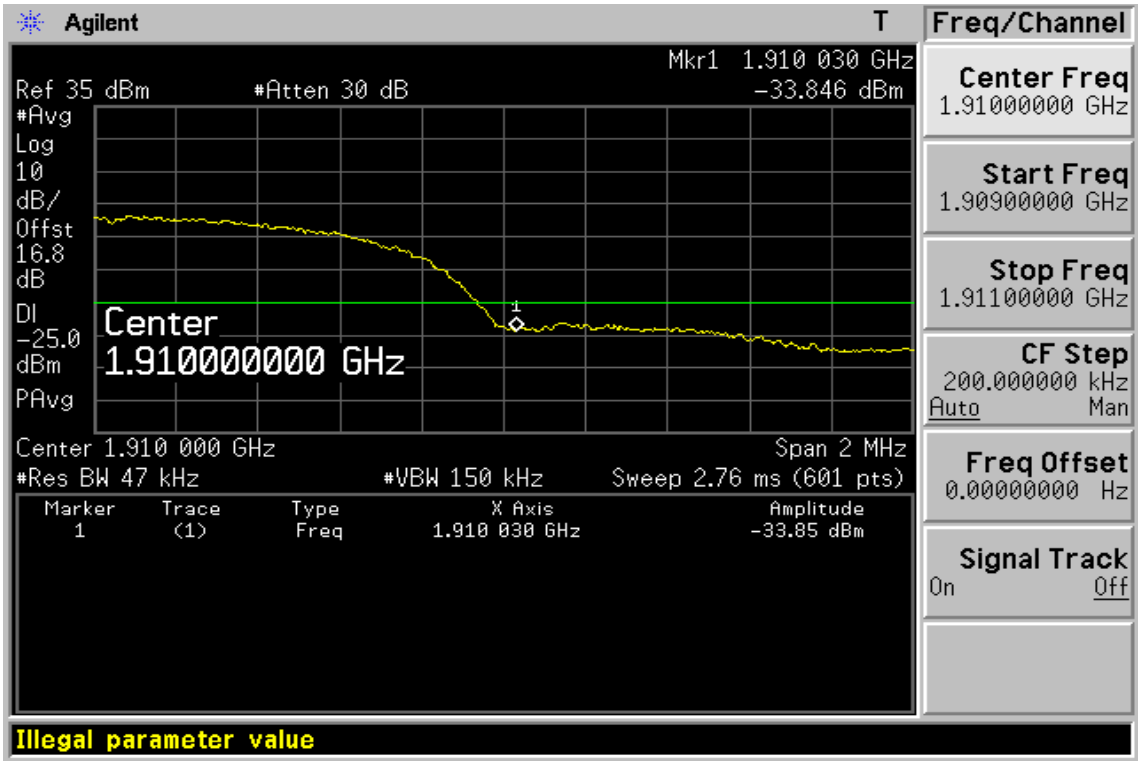
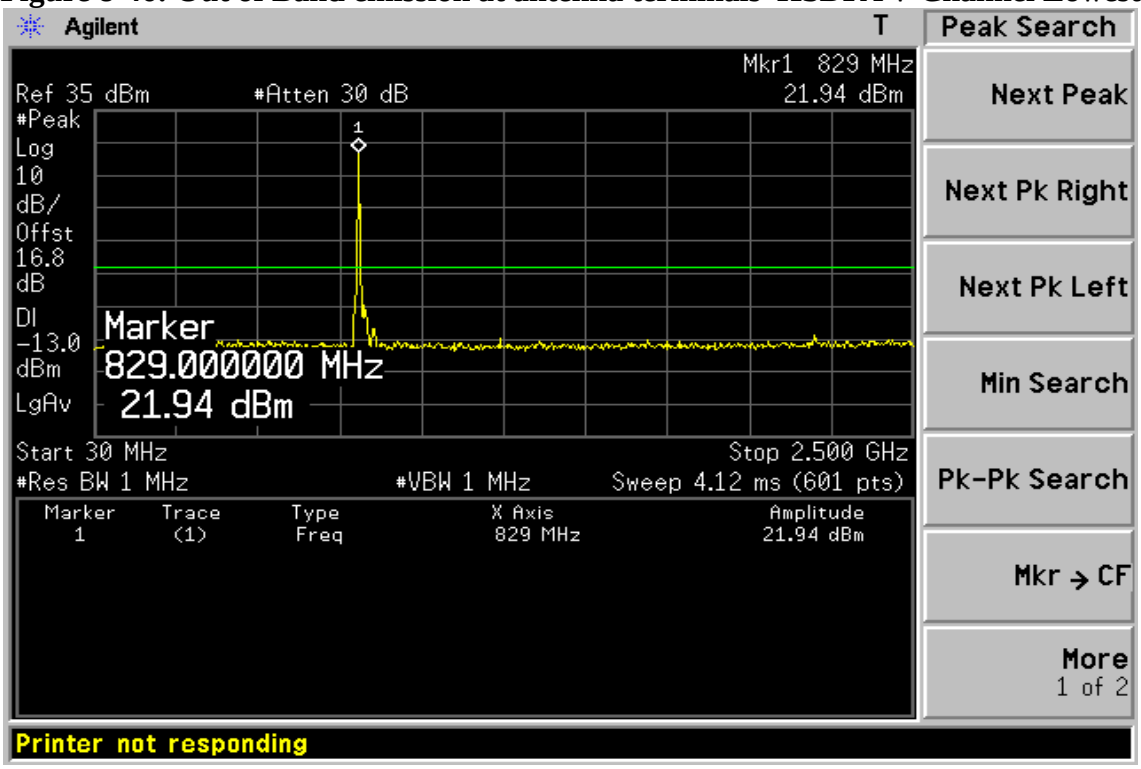


Figure 8-46: Out of Band emission at antenna terminals–HSDPA V Channel Lowest



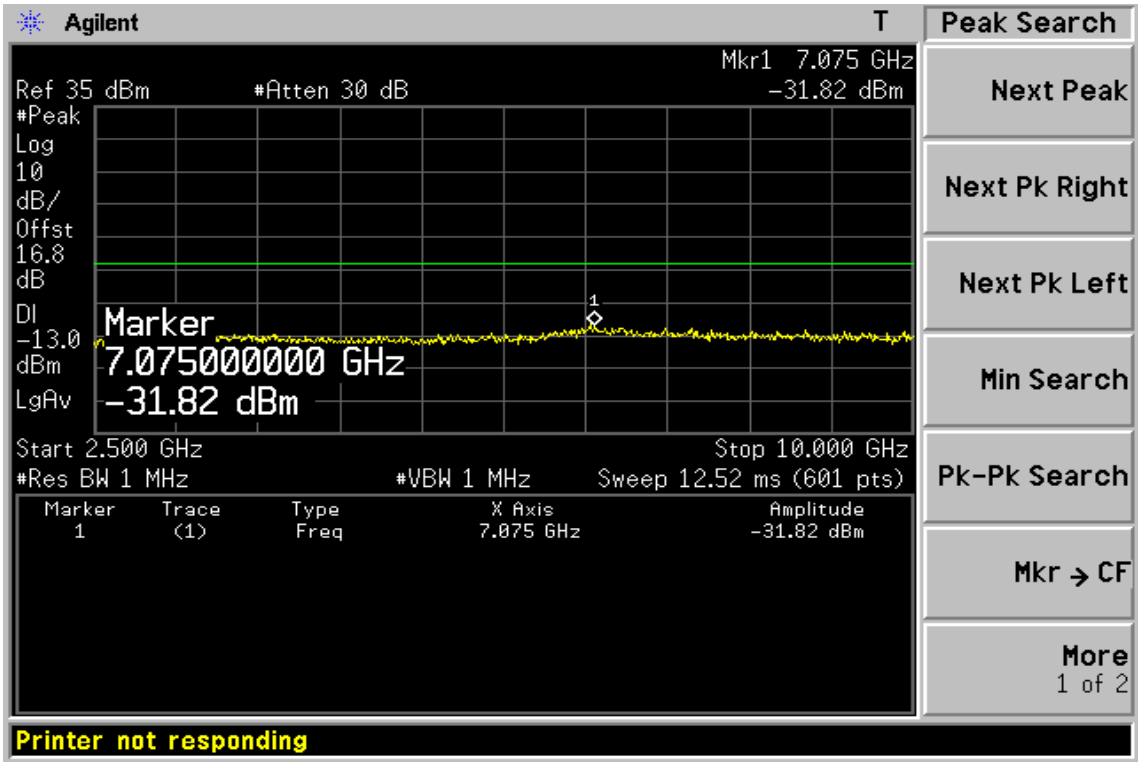
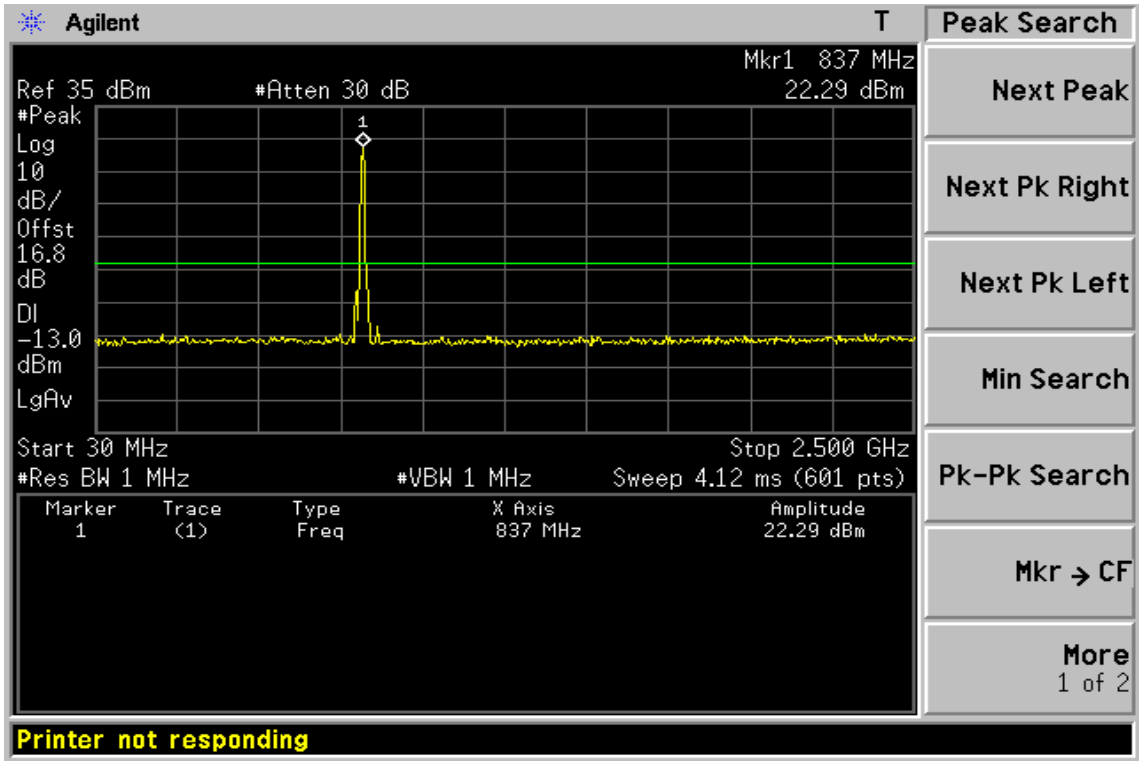


Figure 8-47: Out of Band emission at antenna terminals –HSDPA V Channel Mid



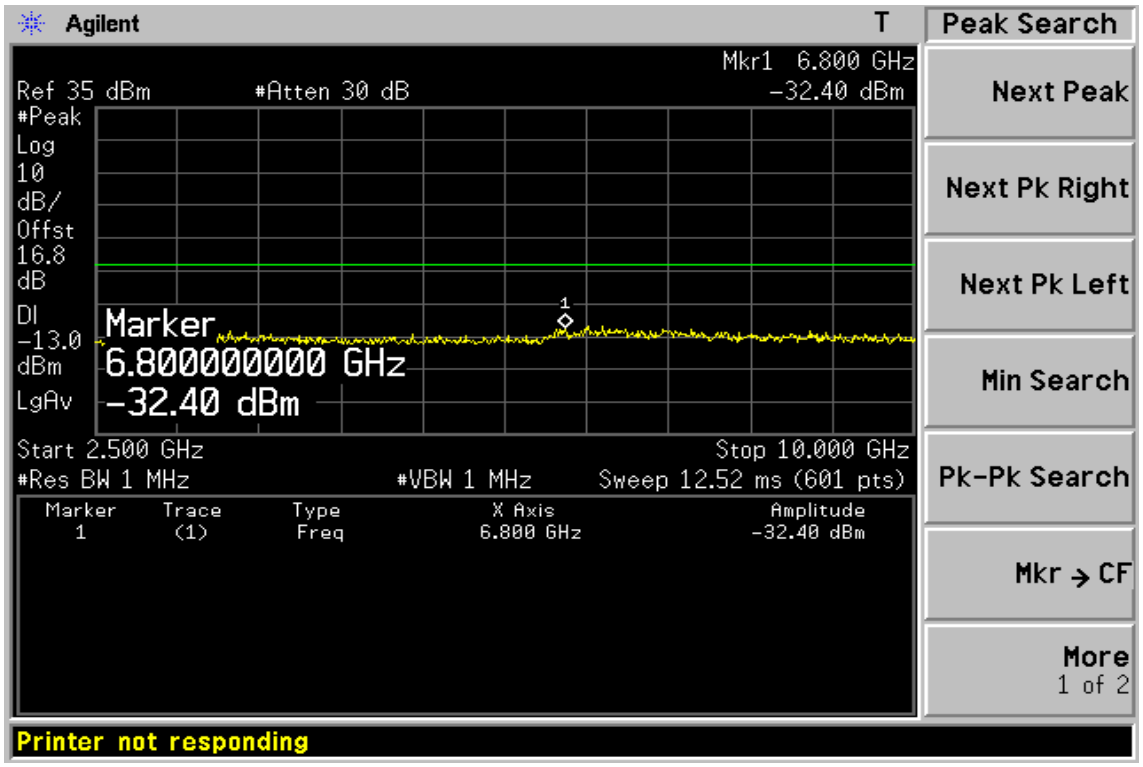
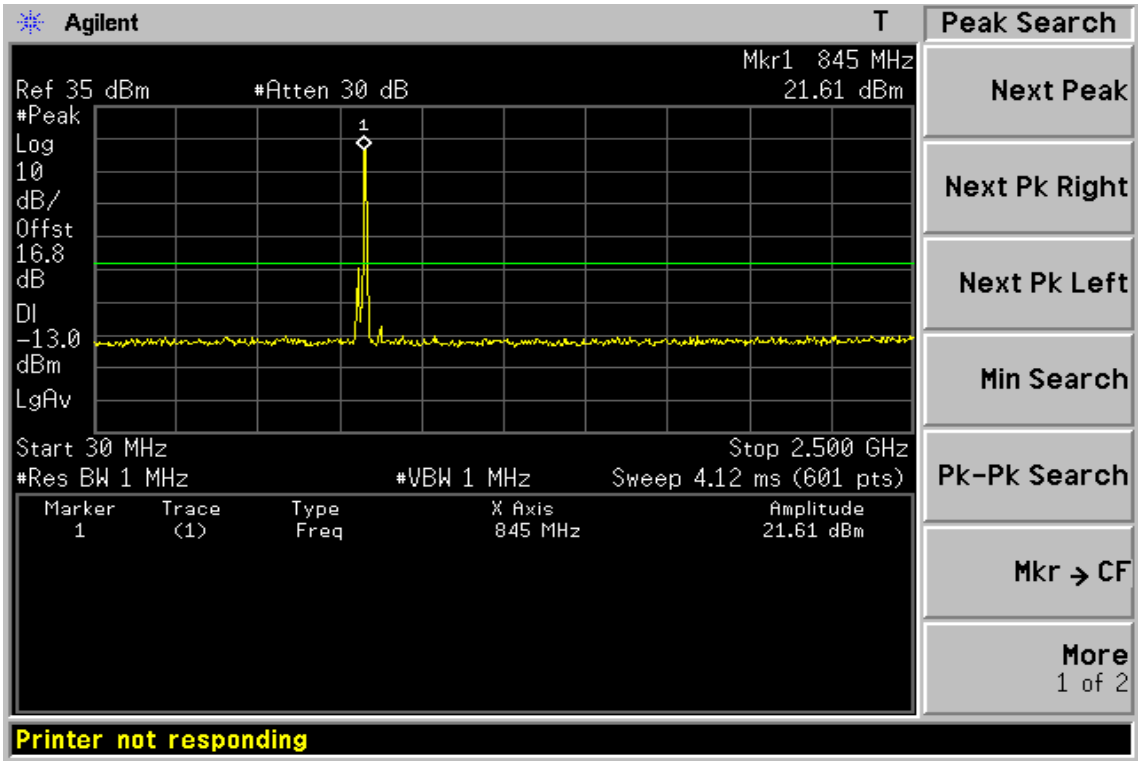


Figure 8-48: Out of Band emission at antenna terminals–HSDPA V Channel Highest



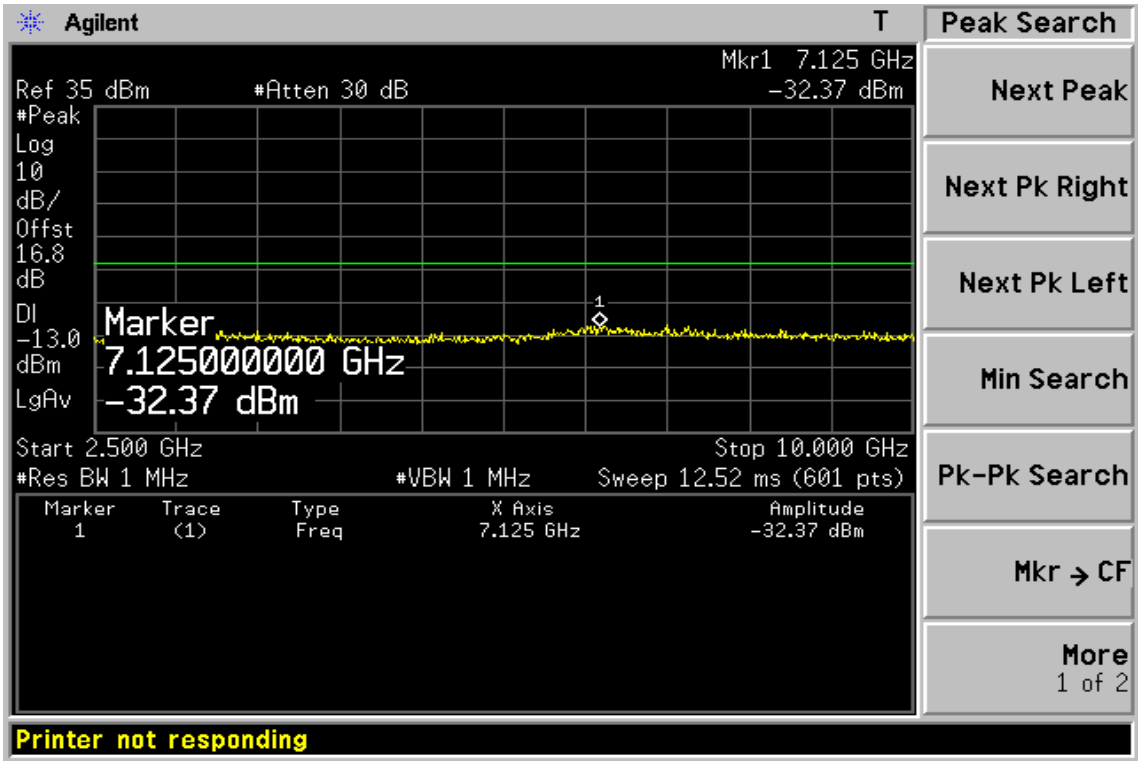


Figure 8-49: Bad edge emission at antenna terminals –HSDPA V Channel Lowest

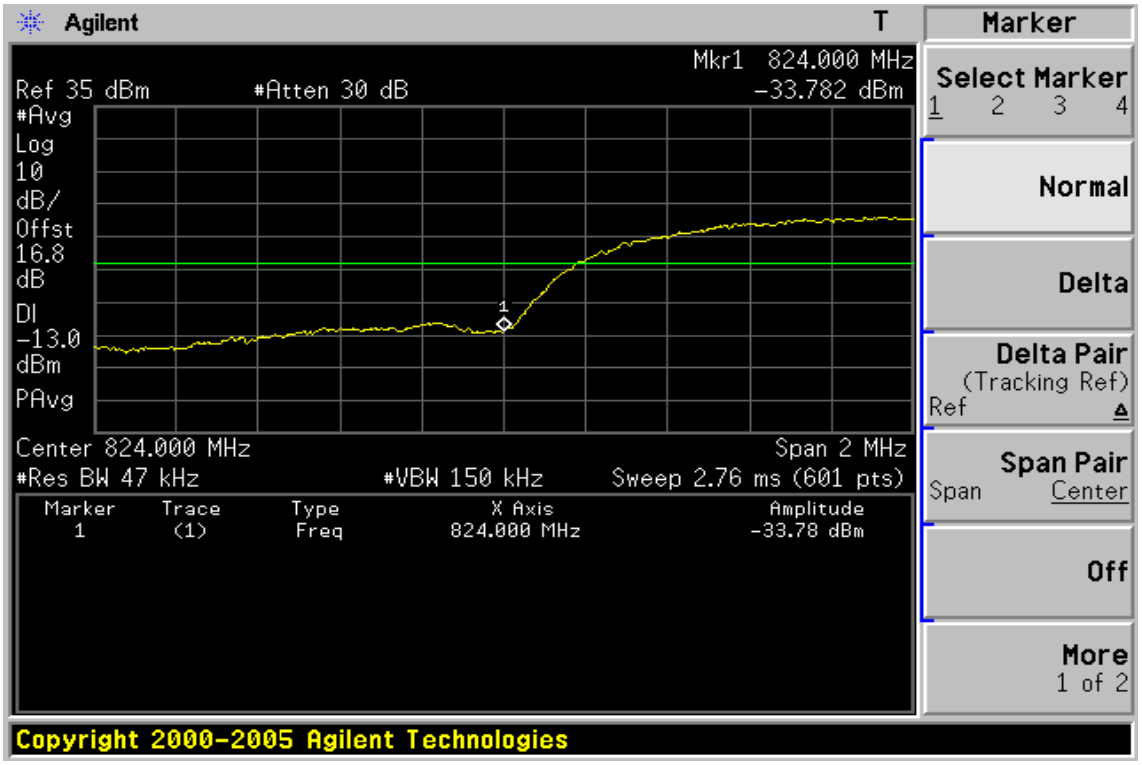
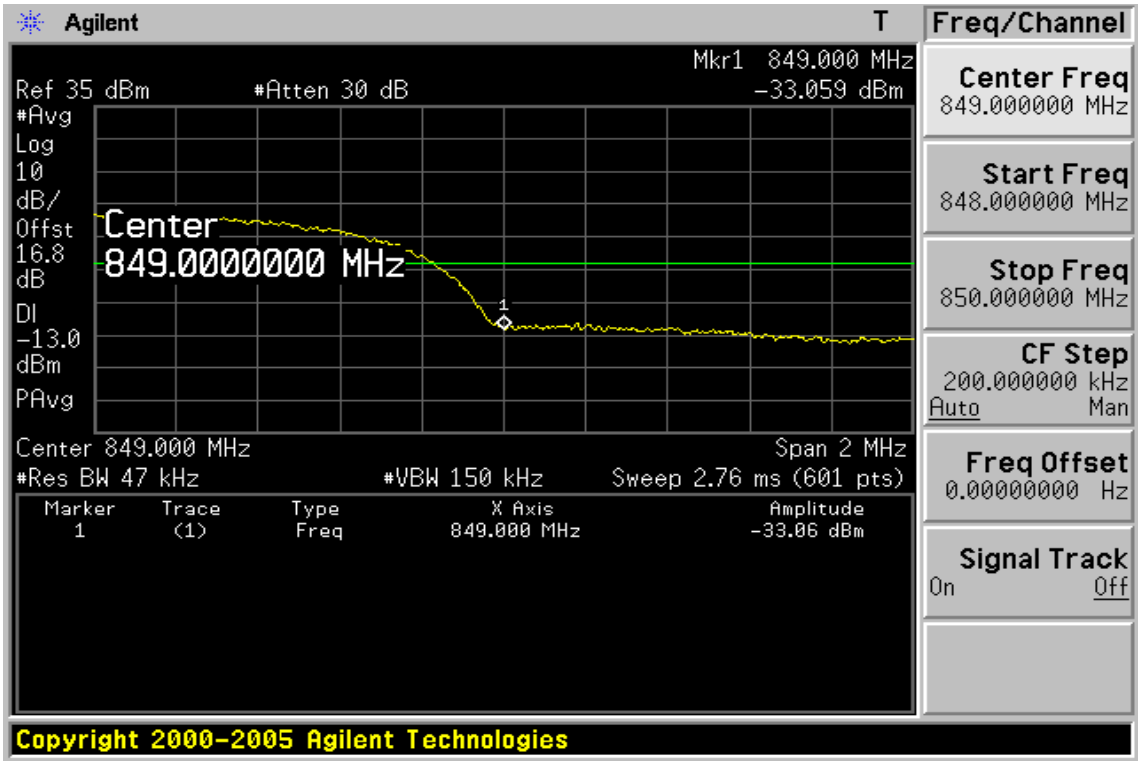


Figure 8-50: Band edge emission at antenna terminals –HSDPA V Channel Highest



9. FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

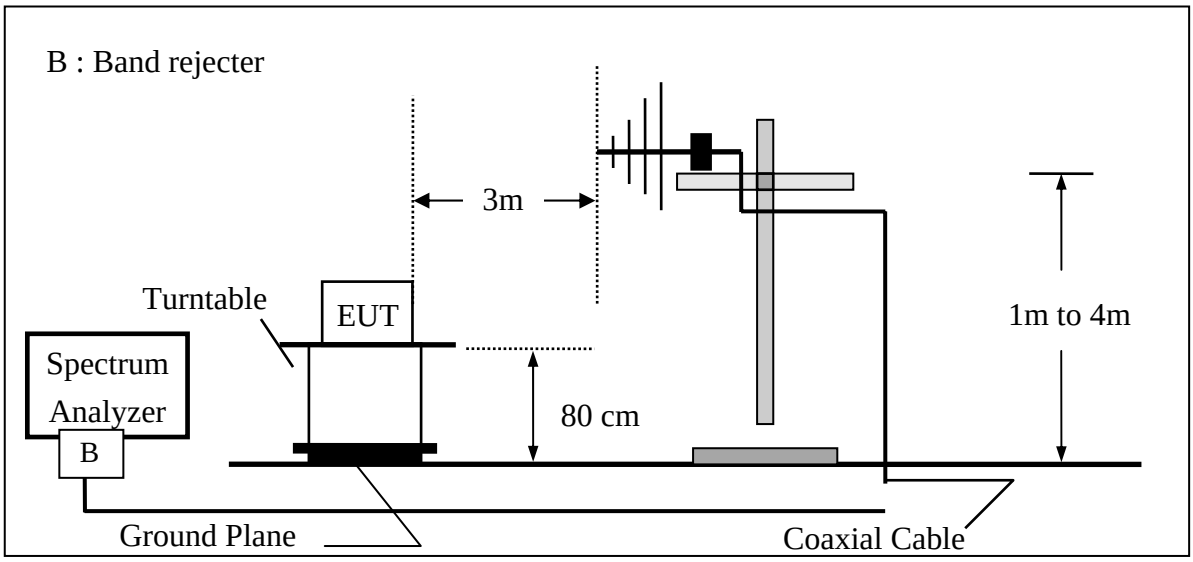
9.1. Standard Applicable:

According to FCC §2.1053,

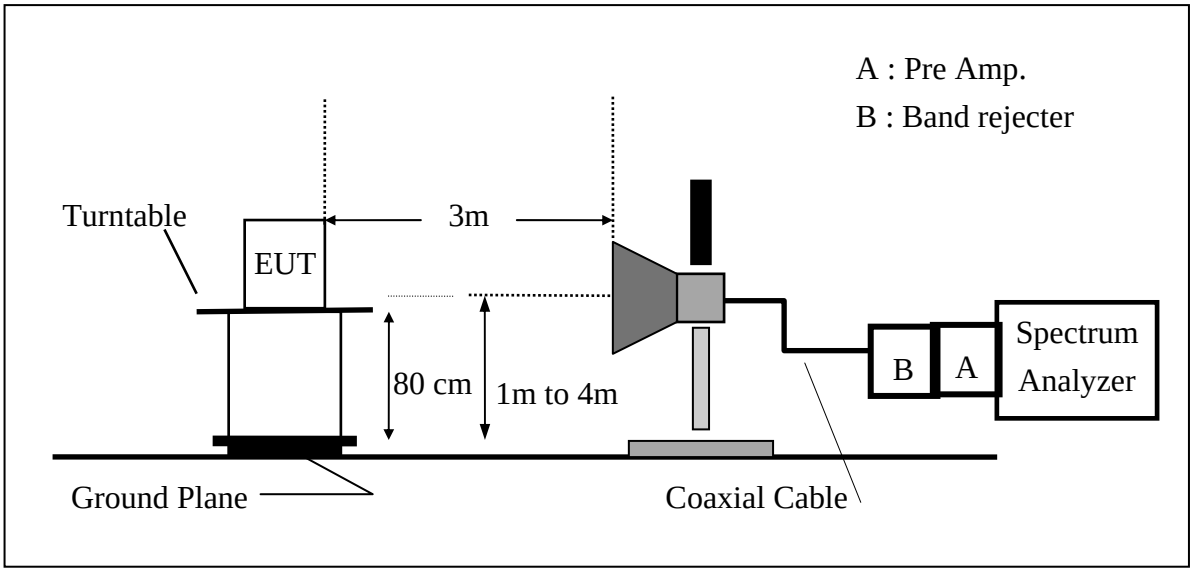
FCC §22.917(a),§24.238(a) the magnitude of each spurious and harmonic emission that can be detected when the equipment is operated under the conditions specified in the instruction manual and/ or alignment procedure, shall not be less than 43 + 10 log (mean output power in watts) dBc below the mean power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

9.2. EUT Setup (Block Diagram of Configuration):

Radiated Emission Test Set-Up, Frequency Below 1000MHz



Radiated Emission Test Set-UP Frequency Over 1 GHz



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: GSM 850 Mode

Operation Mode	: TX CH Low Mode	Test Date:	May. 23, 2011
Fundamental Frequency	: 824.20 MHz	Test By:	Blue
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
165.80	42.59	V	-56.12	-7.81	1.63	-65.56	-13.00	-52.56
219.15	36.08	V	-64.98	-7.86	1.82	-74.65	-13.00	-61.65
340.40	36.15	V	-61.60	-7.69	2.32	-71.62	-13.00	-58.62
558.65	34.40	V	-57.58	-7.77	2.97	-68.32	-13.00	-55.32
691.54	34.29	V	-55.06	-7.85	3.27	-66.18	-13.00	-53.18
927.25	34.59	V	-50.09	-7.98	3.84	-61.91	-13.00	-48.91
1648.40	---	V		9.29	5.23		-13.00	
2472.60	43.67	V	-57.34	10.08	6.53	-53.79	-13.00	-40.79
3296.80	---	V		12.17	7.71		-13.00	
4121.00	---	V		12.61	8.86		-13.00	
4945.20	---	V		12.65	9.74		-13.00	
5769.40	---	V		13.55	10.54		-13.00	
6593.60	---	V		12.05	11.30		-13.00	
7417.80	---	V		11.49	12.10		-13.00	
8242.00	---	V		11.48	12.71		-13.00	

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: GSM 850 Mode

Operation Mode	: TX CH Low Mode	Test Date:	May. 23, 2011
Fundamental Frequency	: 824.20 MHz	Test By:	Blue
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
156.10	41.88	H	-56.36	-7.80	1.60	-65.77	-13.00	-52.77
222.06	36.86	H	-63.72	-7.86	1.83	-73.41	-13.00	-60.41
330.70	32.73	H	-64.65	-7.75	2.29	-74.68	-13.00	-61.68
381.14	39.12	H	-57.60	-7.65	2.45	-67.71	-13.00	-54.71
699.30	34.19	H	-53.47	-7.86	3.29	-64.62	-13.00	-51.62
975.75	34.19	H	-49.87	-7.99	3.96	-61.82	-13.00	-48.82
1648.40	---	H		9.29	5.23		-13.00	
2472.60	62.17	H	-38.74	10.08	6.53	-35.19	-13.00	-22.19
3296.80	---	H		12.17	7.71		-13.00	
4121.00	---	H		12.61	8.86		-13.00	
4945.20	---	H		12.65	9.74		-13.00	
5769.40	---	H		13.55	10.54		-13.00	
6593.60	---	H		12.05	11.30		-13.00	
7417.80	---	H		11.49	12.10		-13.00	
8242.00	---	H		11.48	12.71		-13.00	

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

Remark:

1 The emission 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: GSM 850 Mode

Operation Mode	: TX CH Mid Mode	Test Date:	May. 23, 2011
Fundamental Frequency	: 836.60 MHz	Test By:	Blue
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
156.10	37.39	V	-60.45	-7.80	1.60	-69.86	-13.00	-56.86
222.06	35.69	V	-65.26	-7.86	1.83	-74.95	-13.00	-61.95
340.40	32.50	V	-65.25	-7.69	2.32	-75.27	-13.00	-62.27
551.86	34.39	V	-57.99	-7.76	2.96	-68.72	-13.00	-55.72
699.30	33.91	V	-55.52	-7.86	3.29	-66.67	-13.00	-53.67
941.80	34.36	V	-50.28	-7.99	3.87	-62.14	-13.00	-49.14
1673.20	41.42	V	-63.14	9.36	5.27	-59.04	-13.00	-46.04
2509.80	58.25	V	-42.53	10.09	6.58	-39.03	-13.00	-26.03
3346.40	---	V		12.28	7.79		-13.00	
4183.00	---	V		12.62	8.93		-13.00	
5019.60	---	V		12.67	9.81		-13.00	
5856.20	---	V		13.68	10.62		-13.00	
6692.80	---	V		11.95	11.39		-13.00	
7529.40	---	V		11.45	12.20		-13.00	
8366.00	---	V		11.59	12.81		-13.00	

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

Remark:

1 The emission behaviors belongs to narrowband spurious emission.

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

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: GSM 850 Mode

Operation Mode	: TX CH Mid Mode	Test Date:	May. 23, 2011
Fundamental Frequency	: 836.60 MHz	Test By:	Blue
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
156.10	38.73	H	-59.51	-7.80	1.60	-68.92	-13.00	-55.92
222.06	35.85	H	-64.73	-7.86	1.83	-74.42	-13.00	-61.42
325.85	33.40	H	-64.02	-7.78	2.27	-74.07	-13.00	-61.07
555.74	35.02	H	-56.58	-7.76	2.97	-67.31	-13.00	-54.31
689.60	33.59	H	-54.47	-7.85	3.26	-65.59	-13.00	-52.59
970.90	34.61	H	-49.47	-8.00	3.94	-61.41	-13.00	-48.41
1673.20	44.86	H	-59.52	9.36	5.27	-55.42	-13.00	-42.42
2509.80	65.16	H	-35.54	10.09	6.58	-32.04	-13.00	-19.04
3346.40	---	H		12.28	7.79		-13.00	
4183.00	40.93	H	-55.10	12.62	8.93	-51.41	-13.00	-38.41
5019.60	---	H		12.67	9.81		-13.00	
5856.20	---	H		13.68	10.62		-13.00	
6692.80	---	H		11.95	11.39		-13.00	
7529.40	---	H		11.45	12.20		-13.00	
8366.00	---	H		11.59	12.81		-13.00	

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

Remark:

1 The emission 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: GSM 850 Mode

Operation Mode	: TX CH High Mode	Test Date:	May. 23, 2011
Fundamental Frequency	: 848.80 MHz	Test By:	Blue
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
149.31	36.88	V	-60.47	-7.80	1.59	-69.86	-13.00	-56.86
222.06	35.43	V	-65.52	-7.86	1.83	-75.21	-13.00	-62.21
282.20	34.22	V	-64.61	-7.91	2.11	-74.63	-13.00	-61.63
558.65	34.12	V	-57.86	-7.77	2.97	-68.60	-13.00	-55.60
694.45	34.72	V	-54.66	-7.85	3.28	-65.79	-13.00	-52.79
953.44	34.49	V	-50.05	-8.00	3.89	-61.94	-13.00	-48.94
1697.60	43.32	V	-61.22	9.44	5.31	-57.09	-13.00	-44.09
2546.40	59.18	V	-41.46	10.20	6.63	-37.90	-13.00	-24.90
3395.20	---	V		12.38	7.87		-13.00	
4244.00	38.69	V	-56.97	12.63	9.00	-53.34	-13.00	-40.34
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)

Radiated Spurious Emission Measurement Result: GSM 850 Mode

Operation Mode	: TX CH High Mode	Test Date:	May. 23, 2011
Fundamental Frequency	: 848.80 MHz	Test By:	Blue
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
154.16	39.15	H	-58.94	-7.80	1.60	-68.35	-13.00	-55.35
222.06	35.38	H	-65.20	-7.86	1.83	-74.89	-13.00	-61.89
335.55	33.18	H	-64.15	-7.72	2.31	-74.18	-13.00	-61.18
513.06	35.09	H	-57.91	-7.73	2.84	-68.48	-13.00	-55.48
699.30	34.53	H	-53.13	-7.86	3.29	-64.28	-13.00	-51.28
970.90	34.73	H	-49.35	-8.00	3.94	-61.29	-13.00	-48.29
1697.60	45.75	H	-58.60	9.44	5.31	-54.47	-13.00	-41.47
2546.40	67.59	H	-33.01	10.20	6.63	-29.45	-13.00	-16.45
3395.20	---	H		12.38	7.87		-13.00	
4244.00	41.12	H	-54.69	12.63	9.00	-51.07	-13.00	-38.07
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:	May. 23, 2011
Fundamental Frequency	: 1850.20MHz	Test By:	Blue
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
156.10	40.78	V	-57.06	-7.80	1.60	-66.47	-13.00	-53.47
222.06	38.63	V	-62.32	-7.86	1.83	-72.01	-13.00	-59.01
332.64	34.42	V	-63.43	-7.74	2.29	-73.46	-13.00	-60.46
449.04	38.48	V	-55.48	-7.70	2.66	-65.84	-13.00	-52.84
650.80	34.20	V	-54.73	-7.81	3.16	-65.70	-13.00	-52.70
982.54	33.23	V	-50.64	-7.99	3.98	-62.61	-13.00	-49.61
3700.40	40.75	V	-57.18	12.61	8.31	-52.88	-13.00	-39.88
5550.60	41.66	V	-49.18	13.23	10.33	-46.28	-13.00	-33.28
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 (dBd/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: GPRS 1900 Mode

Operation Mode	: TX CH Low Mode	Test Date:	May. 23, 2011
Fundamental Frequency	: 1850.20MHz	Test By:	Blue
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
154.16	42.91	H	-55.18	-7.80	1.60	-64.59	-13.00	-51.59
222.06	39.00	H	-61.58	-7.86	1.83	-71.27	-13.00	-58.27
325.85	36.06	H	-61.36	-7.78	2.27	-71.41	-13.00	-58.41
558.65	33.68	H	-57.86	-7.77	2.97	-68.60	-13.00	-55.60
645.95	34.39	H	-55.41	-7.81	3.15	-66.37	-13.00	-53.37
961.20	33.50	H	-50.64	-8.00	3.91	-62.55	-13.00	-49.55
3700.40	41.34	H	-56.70	12.61	8.31	-52.40	-13.00	-39.40
5550.60	44.16	H	-46.89	13.23	10.33	-43.99	-13.00	-30.99
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 (dBd/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: GPRS 1900 Mode

Operation Mode	: TX CH Mid Mode	Test Date:	May. 23, 2011
Fundamental Frequency	: 1880MHz	Test By:	Blue
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
167.74	41.24	V	-57.64	-7.81	1.63	-67.09	-13.00	-54.09
222.06	37.84	V	-63.11	-7.86	1.83	-72.80	-13.00	-59.80
321.00	36.61	V	-61.38	-7.80	2.25	-71.43	-13.00	-58.43
485.90	39.58	V	-54.50	-7.71	2.76	-64.98	-13.00	-51.98
612.00	34.89	V	-54.52	-7.79	3.06	-65.38	-13.00	-52.38
972.84	33.79	V	-50.30	-8.00	3.95	-62.25	-13.00	-49.25
3760.00	39.72	V	-57.94	12.60	8.39	-53.72	-13.00	-40.72
5640.00	38.92	V	-51.66	13.36	10.41	-48.71	-13.00	-35.71
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 (dBd/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: GPRS 1900 Mode

Operation Mode	: TX CH Mid Mode	Test Date:	May. 23, 2011
Fundamental Frequency	: 1880MHz	Test By:	Blue
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
151.25	42.42	H	-55.45	-7.80	1.59	-64.84	-13.00	-51.84
222.06	37.59	H	-62.99	-7.86	1.83	-72.68	-13.00	-59.68
284.14	34.92	H	-63.23	-7.91	2.11	-73.26	-13.00	-60.26
555.74	34.00	H	-57.60	-7.76	2.97	-68.33	-13.00	-55.33
639.16	34.26	H	-55.67	-7.81	3.13	-66.61	-13.00	-53.61
972.84	33.46	H	-50.61	-8.00	3.95	-62.56	-13.00	-49.56
3760.00	43.53	H	-54.24	12.60	8.39	-50.03	-13.00	-37.03
5640.00	42.27	H	-48.48	13.36	10.41	-45.53	-13.00	-32.53
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 (dBd/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: GPRS 1900 Mode

Operation Mode	: TX CH High Mode	Test Date:	May. 23, 2011
Fundamental Frequency	: 1909.8 MHz	Test By:	Blue
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
170.65	41.45	V	-57.69	-7.82	1.64	-67.15	-13.00	-54.15
222.06	38.53	V	-62.42	-7.86	1.83	-72.11	-13.00	-59.11
282.20	42.49	V	-56.34	-7.91	2.11	-66.36	-13.00	-53.36
555.74	35.50	V	-56.65	-7.76	2.97	-67.39	-13.00	-54.39
652.74	33.96	V	-54.99	-7.81	3.17	-65.97	-13.00	-52.97
968.96	33.66	V	-50.52	-8.00	3.94	-62.46	-13.00	-49.46
3819.60	---	V		12.60	8.47		-13.00	
5729.40	40.70	V	-49.62	13.49	10.50	-46.62	-13.00	-33.62
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 (dBd/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: GPRS 1900 Mode

Operation Mode	: TX CH High Mode	Test Date:	May. 23, 2011
Fundamental Frequency	: 1909.8 MHz	Test By:	Blue
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
151.25	39.67	H	-58.20	-7.80	1.59	-67.59	-13.00	-54.59
222.06	37.56	H	-63.02	-7.86	1.83	-72.71	-13.00	-59.71
330.70	34.61	H	-62.77	-7.75	2.29	-72.80	-13.00	-59.80
555.74	33.89	H	-57.71	-7.76	2.97	-68.44	-13.00	-55.44
641.10	34.19	H	-55.70	-7.81	3.14	-66.65	-13.00	-53.65
966.05	34.15	H	-49.96	-8.00	3.93	-61.89	-13.00	-48.89
3819.60	---	H		12.60	8.47		-13.00	
5729.40	38.76	H	-51.69	13.49	10.50	-48.70	-13.00	-35.70
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 (dBd/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: HSUPA II Mode

Operation Mode	: TX CH Low Mode	Test Date:	May. 23, 2011
Fundamental Frequency	: 1852.4MHz	Test By:	Blue
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
149.31	38.27	V	-59.08	-7.80	1.59	-68.47	-13.00	-55.47
222.06	37.83	V	-63.12	-7.86	1.83	-72.81	-13.00	-59.81
340.40	36.47	V	-61.28	-7.69	2.32	-71.30	-13.00	-58.30
555.74	34.66	V	-57.49	-7.76	2.97	-68.23	-13.00	-55.23
607.15	35.09	V	-54.39	-7.79	3.05	-65.23	-13.00	-52.23
968.96	33.17	V	-51.01	-8.00	3.94	-62.95	-13.00	-49.95
3704.80	---	V		12.61	8.31		-13.00	
5557.20	35.91	V	-54.91	13.24	10.33	-52.01	-13.00	-39.01
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 (dBd/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: HSUPA II Mode

Operation Mode	: TX CH Low Mode	Test Date:	May. 23, 2011
Fundamental Frequency	: 1852.4MHz	Test By:	Blue
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
156.10	39.74	H	-58.50	-7.80	1.60	-67.91	-13.00	-54.91
222.06	37.64	H	-62.94	-7.86	1.83	-72.63	-13.00	-59.63
291.90	34.58	H	-63.33	-7.92	2.14	-73.39	-13.00	-60.39
558.65	33.88	H	-57.66	-7.77	2.97	-68.40	-13.00	-55.40
655.65	34.40	H	-55.08	-7.82	3.17	-66.07	-13.00	-53.07
970.90	34.02	H	-50.06	-8.00	3.94	-62.00	-13.00	-49.00
3704.80	---	H		12.61	8.31		-13.00	
5557.20	35.37	H	-55.66	13.24	10.33	-52.76	-13.00	-39.76
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 (dBd/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: HSUPA II Mode

Operation Mode	: TX CH Mid Mode	Test Date:	May. 23, 2011
Fundamental Frequency	: 1880MHz	Test By:	Blue
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
170.65	40.22	V	-58.92	-7.82	1.64	-68.38	-13.00	-55.38
222.06	37.37	V	-63.58	-7.86	1.83	-73.27	-13.00	-60.27
299.66	38.80	V	-59.46	-7.92	2.17	-69.55	-13.00	-56.55
559.62	34.49	V	-57.44	-7.77	2.97	-68.18	-13.00	-55.18
626.55	34.08	V	-55.14	-7.80	3.10	-66.04	-13.00	-53.04
980.60	33.42	V	-50.50	-7.99	3.97	-62.46	-13.00	-49.46
3760.00	35.26	V	-62.40	12.60	8.39	-58.18	-13.00	-45.18
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 (dBd/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: HSUPA II Mode

Operation Mode	: TX CH Mid Mode	Test Date:	May. 23, 2011
Fundamental Frequency	: 1880MHz	Test By:	Blue
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
149.31	38.86	H	-58.98	-7.80	1.59	-68.37	-13.00	-55.37
222.06	38.15	H	-62.43	-7.86	1.83	-72.12	-13.00	-59.12
338.46	33.29	H	-64.02	-7.70	2.32	-74.04	-13.00	-61.04
558.65	33.92	H	-57.62	-7.77	2.97	-68.36	-13.00	-55.36
616.85	34.56	H	-55.81	-7.80	3.07	-66.68	-13.00	-53.68
980.60	33.56	H	-50.47	-7.99	3.97	-62.43	-13.00	-49.43
3760.00	35.13	H	-62.64	12.60	8.39	-58.43	-13.00	-45.43
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 (dBd/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: HSUPA II Mode

Operation Mode	: TX CH High Mode	Test Date:	May. 23, 2011
Fundamental Frequency	: 1907.6 MHz	Test By:	Blue
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
170.65	39.68	V	-59.46	-7.82	1.64	-68.92	-13.00	-55.92
222.06	38.46	V	-62.49	-7.86	1.83	-72.18	-13.00	-59.18
280.26	35.66	V	-63.24	-7.91	2.10	-73.24	-13.00	-60.24
553.80	35.12	V	-57.15	-7.76	2.97	-67.88	-13.00	-54.88
662.44	33.62	V	-55.43	-7.82	3.19	-66.44	-13.00	-53.44
970.90	34.00	V	-50.14	-8.00	3.94	-62.08	-13.00	-49.08
3815.20	34.47	V	-62.94	12.60	8.46	-58.80	-13.00	-45.80
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 (dBd/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: HSUPA II Mode

Operation Mode	: TX CH High Mode	Test Date:	May. 23, 2011
Fundamental Frequency	: 1907.6MHz	Test By:	Blue
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
156.10	39.61	H	-58.63	-7.80	1.60	-68.04	-13.00	-55.04
222.06	37.55	H	-63.03	-7.86	1.83	-72.72	-13.00	-59.72
330.70	33.60	H	-63.78	-7.75	2.29	-73.81	-13.00	-60.81
555.74	33.76	H	-57.84	-7.76	2.97	-68.57	-13.00	-55.57
662.44	33.39	H	-55.81	-7.82	3.19	-66.82	-13.00	-53.82
961.20	33.55	H	-50.59	-8.00	3.91	-62.50	-13.00	-49.50
3815.20	35.29	H	-62.24	12.60	8.46	-58.10	-13.00	-45.10
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 (dBd/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: HSDPA V Mode

Operation Mode	: TX CH Low Mode	Test Date:	May. 23, 2011
Fundamental Frequency	: 826.40 MHz	Test By:	Blue
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
170.65	39.84	V	-59.30	-7.82	1.64	-68.76	-13.00	-55.76
222.06	35.08	V	-65.87	-7.86	1.83	-75.56	-13.00	-62.56
319.06	33.31	V	-64.70	-7.81	2.24	-74.76	-13.00	-61.76
551.86	34.11	V	-58.27	-7.76	2.96	-69.00	-13.00	-56.00
699.30	34.51	V	-54.92	-7.86	3.29	-66.07	-13.00	-53.07
959.26	33.87	V	-50.54	-8.00	3.91	-62.44	-13.00	-49.44
1652.80	42.95	V	-61.63	9.30	5.23	-57.56	-13.00	-44.56
2479.20	41.57	V	-59.39	10.07	6.54	-55.86	-13.00	-42.86
3305.60	---	V		12.19	7.73		-13.00	
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 (dBd/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: HSDPA V Mode

Operation Mode	: TX CH Low Mode	Test Date:	May. 23, 2011
Fundamental Frequency	: 826.40MHz	Test By:	Blue
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
149.31	35.18	H	-62.66	-7.80	1.59	-72.05	-13.00	-59.05
222.06	36.87	H	-63.71	-7.86	1.83	-73.40	-13.00	-60.40
328.76	32.72	H	-64.68	-7.76	2.28	-74.71	-13.00	-61.71
425.76	34.62	H	-60.50	-7.68	2.59	-70.77	-13.00	-57.77
697.36	34.14	H	-53.60	-7.86	3.28	-64.74	-13.00	-51.74
961.20	34.26	H	-49.88	-8.00	3.91	-61.79	-13.00	-48.79
1652.80	36.98	H	-67.42	9.30	5.23	-63.35	-13.00	-50.35
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 (dBd/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: HSDPA V Mode

Operation Mode	: TX CH Mid Mode	Test Date:	May. 23, 2011
Fundamental Frequency	: 836.60MHz	Test By:	Blue
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
149.31	36.80	V	-60.55	-7.80	1.59	-69.94	-13.00	-56.94
222.06	35.39	V	-65.56	-7.86	1.83	-75.25	-13.00	-62.25
296.75	34.95	V	-63.41	-7.92	2.16	-73.48	-13.00	-60.48
559.62	32.96	V	-58.97	-7.77	2.97	-69.71	-13.00	-56.71
699.30	34.04	V	-55.39	-7.86	3.29	-66.54	-13.00	-53.54
934.04	33.72	V	-50.94	-7.98	3.85	-62.78	-13.00	-49.78
1673.20	44.26	V	-60.30	9.36	5.27	-56.20	-13.00	-43.20
2509.80	40.86	V	-59.92	10.09	6.58	-56.42	-13.00	-43.42
3346.40	---	V		12.28	7.79		-13.00	
4183.00	---	V		12.62	8.93		-13.00	
5019.60	---	V		12.67	9.81		-13.00	
5856.20	---	V		13.68	10.62		-13.00	
6692.80	---	V		11.95	11.39		-13.00	
7529.40	---	V		11.45	12.20		-13.00	
8366.00	---	V		11.59	12.81		-13.00	

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 (dBd/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: HSDPA V Mode

Operation Mode	: TX CH Mid Mode	Test Date:	May. 23, 2011
Fundamental Frequency	: 836.60MHz	Test By:	Blue
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
149.31	34.71	H	-63.13	-7.80	1.59	-72.52	-13.00	-59.52
222.06	37.61	H	-62.97	-7.86	1.83	-72.66	-13.00	-59.66
296.75	33.80	H	-63.96	-7.92	2.16	-74.04	-13.00	-61.04
558.65	33.07	H	-58.47	-7.77	2.97	-69.21	-13.00	-56.21
694.45	34.06	H	-53.80	-7.85	3.28	-64.93	-13.00	-51.93
972.84	33.76	H	-50.31	-8.00	3.95	-62.26	-13.00	-49.26
1673.20	41.38	H	-63.00	9.36	5.27	-58.90	-13.00	-45.90
2509.80	---	H		10.09	6.58		-13.00	
3346.40	---	H		12.28	7.79		-13.00	
4183.00	---	H		12.62	8.93		-13.00	
5019.60	---	H		12.67	9.81		-13.00	
5856.20	---	H		13.68	10.62		-13.00	
6692.80	---	H		11.95	11.39		-13.00	
7529.40	---	H		11.45	12.20		-13.00	
8366.00	---	H		11.59	12.81		-13.00	

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

Remark:

1 The emission 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 (dBd/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: HSDPA V Mode

Operation Mode	: TX CH High Mode	Test Date:	May. 23, 2011
Fundamental Frequency	: 846.60 MHz	Test By:	Blue
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
149.31	36.46	V	-60.89	-7.80	1.59	-70.28	-13.00	-57.28
241.46	35.77	V	-64.44	-7.88	1.94	-74.27	-13.00	-61.27
319.06	33.28	V	-64.73	-7.81	2.24	-74.79	-13.00	-61.79
524.70	35.96	V	-57.36	-7.74	2.88	-67.98	-13.00	-54.98
699.30	34.43	V	-55.00	-7.86	3.29	-66.15	-13.00	-53.15
970.90	33.92	V	-50.22	-8.00	3.94	-62.16	-13.00	-49.16
1693.20	42.60	V	-61.94	9.42	5.30	-57.82	-13.00	-44.82
2539.80	41.88	V	-58.79	10.18	6.62	-55.24	-13.00	-42.24
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 (dBd/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: HSDPA V Mode

Operation Mode	: TX CH High Mode	Test Date:	May. 23, 2011
Fundamental Frequency	: 846.60 MHz	Test By:	Blue
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
196.84	41.99	H	-59.41	-7.84	1.70	-68.95	-13.00	-55.95
222.06	38.46	H	-62.12	-7.86	1.83	-71.81	-13.00	-58.81
335.55	32.38	H	-64.95	-7.72	2.31	-74.98	-13.00	-61.98
471.35	34.13	H	-59.57	-7.71	2.72	-70.00	-13.00	-57.00
700.27	33.70	H	-53.98	-7.86	3.29	-65.13	-13.00	-52.13
970.90	34.34	H	-49.74	-8.00	3.94	-61.68	-13.00	-48.68
1693.20	38.48	H	-65.87	9.42	5.30	-61.75	-13.00	-48.75
2539.80	39.86	H	-60.76	10.18	6.62	-57.20	-13.00	-44.20
3386.40	---	H		12.36	7.85		-13.00	
4233.00	---	H		12.63	8.99		-13.00	
5079.60	40.78	H	-51.40	12.73	9.87	-48.54	-13.00	-35.54
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 (dBd/dBi) – Cable loss (dB)

10. FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT

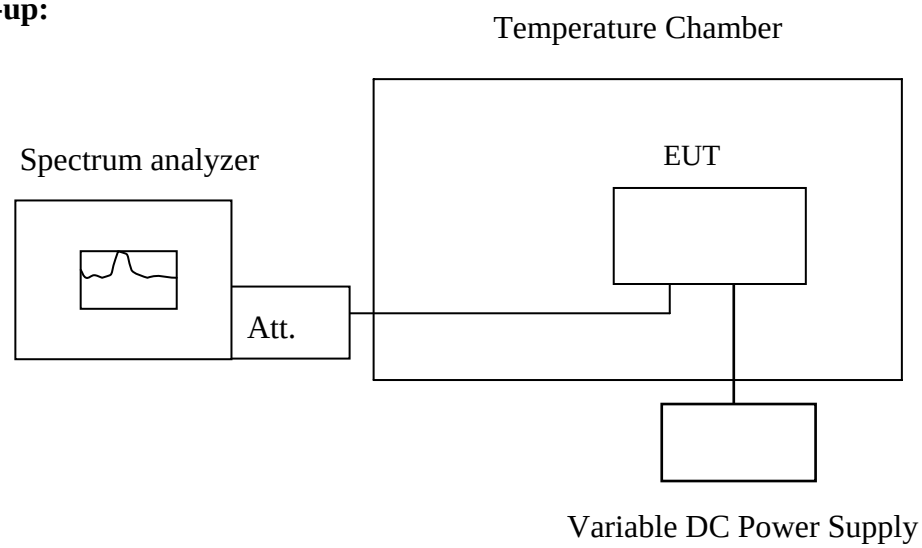
10.1. Standard Applicable:

According to FCC §2.1055(a) (1)

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

+/-2.5ppm for 1900MHz band

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^{o}C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to –30^{o}C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10^{o}C increased per stage until the highest temperature of +50^{o}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)		
3.8	-30	836.600012	-19.00	2091
3.8	-20	836.600009	-16.00	2091
3.8	-10	836.600008	-15.00	2091
3.8	0	836.600002	-9.00	2091
3.8	10	836.600005	-12.00	2091
3.8	20	836.599998	-5.00	2091
3.8	30	836.599993	0.00	2091
3.8	40	836.599995	-2.00	2091
3.8	50	836.599996	-3.00	2091

Reference Frequency: GPRS 1900Mid Channel 1880 MHz @ 20℃				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
3.8	-30	1880.000009	-16.00	4700
3.8	-20	1880.000005	-12.00	4700
3.8	-10	1880.000006	-13.00	4700
3.8	0	1880.000003	-10.00	4700
3.8	10	1880.000002	-9.00	4700
3.8	20	1880.000003	-10.00	4700
3.8	30	1879.999993	0.00	4700
3.8	40	1879.999988	5.00	4700
3.8	50	1879.999991	2.00	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)		
3.8	-30	1880.000010	-8.00	4700
3.8	-20	1880.000006	-4.00	4700
3.8	-10	1880.000003	-1.00	4700
3.8	0	1879.999995	7.00	4700
3.8	10	1879.999999	3.00	4700
3.8	20	1879.999995	7.00	4700
3.8	30	1880.000002	0.00	4700
3.8	40	1880.000003	-1.00	4700
3.8	50	1879.999995	7.00	4700

Reference Frequency: WCDMA V Mid Channel 836.6 MHz (ARFCN4183)				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
3.8	-30	836.599990	9.00	2091
3.8	-20	836.599989	10.00	2091
3.8	-10	836.599995	4.00	2091
3.8	0	836.599997	2.00	2091
3.8	10	836.599999	0.00	2091
3.8	20	836.599997	2.00	2091
3.8	30	836.599999	0.00	2091
3.8	40	836.599999	0.00	2091
3.8	50	836.599995	4.00	2091

Note: The battery is rated 3.7V dc

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

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	836.599999	2.00	2091.00
3.8	25.00	836.599998	0.00	2091.00
3.6	25.00	836.599995	5.00	2091.00
2.9 (End Point)	25.00	836.599992	7.00	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	1880.000007	3.00	4700
3.8	25	1880.000003	0.00	4700
3.6	25	1880.000002	-7.00	4700
2.9 (End Point)	25	1880.000005	6.00	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	1879.999998	3.00	4700
3.8	25	1879.999995	0.00	4700
3.6	25	1879.999997	-7.00	4700
2.9 (End Point)	25	1879.999992	6.00	4700

Reference Frequency: WCDMA V Mid Channel 836.6 MHz (ARFCN4183)				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
4.2	25	836.599999	2.00	2091.00
3.8	25	836.599997	0.00	2091.00
3.6	25	836.599995	5.00	2091.00
2.9 (End Point)	25	836.599994	7.00	2091.00

Note: The battery is rated 3.7V dc.