ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

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

OF

Product Name:	**PDA Phone**
Brand Name:	**HTC**
Marketing Name:	**N/A**
Model Name:	**SAPP500**
Model Difference:	**N/A**
FCC ID:	**NM8SPRR**
Report No.:	**EH/2009/50012**
Issue Date:	**May 27, 2009**
FCC Rule Part:	**2 , 22H & 24E**
Prepared for:	**HTC Corporation** **No. 23 Xinghua Rd., Taoyuan City, Taoyuan County 330, Taiwan, ROC**
Prepared by:	**SGS Taiwan Ltd.** **Electronics & Communication Laboratory** **No. 134, Wu Kung Rd., Wuku Industrial Zone, Taipei County, Taiwan.**

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VERIFICATION OF COMPLIANCE

Applicant:	HTC Corporation No. 23 Xinghua Rd., Taoyuan City, Taoyuan County 330, Taiwan, ROC
Product Name:	PDA Phone
FCC ID:	NM8SPRR
Brand Name:	HTC
Marketing Name:	N/A
Model No.:	SAPP500
Model Difference:	N/A
File Number:	EH/2009/50012
Date of test:	May 11, 2009 ~ May 24, 2009
Date of EUT Received:	May 11, 2009

We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. Electronics & Communication Laboratory The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in TIA/EIA-603-C-2004, Issue 2 of RSS-Gen and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rule FCC PART 22 subpart H and FCC PART 24 subpart E.
The test results of this report relate only to the tested sample identified in this report.

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	Jason Huang/Engineer		
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	Alex Hsieh / Sr.Engineer		
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	Vincent Su/Manager		

Version

Version No.	Date	Description
00	May. 27, 2009	Initial creation of document

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1. GENERAL INFORMATION

General:

Product Name	PDA Phone	
Brand Name	HTC	
Model Name	SAPP500	
Model Difference	N/A	
Data Cable (USB)	1. Model No.: DC U200, Supplier: ACON 2. Model No.: DC U200, Supplier: MEC 3. Model No.: DC U200, Supplier: FoxLink	
Simple Hands-free (SHF)	1. Model No.: HS S200, Supplier: COTRON 2. Model No.: HS S200, Supplier: Kingstate	
Power Supply	3.7 Vdc re-chargeable battery or 5Vdc by AC/DC power adapter	
	Battery:	1. Model: SAPP160, Supplier: Total Wireless Solution(TWS) 2. Model No.: SAPP160, Supplier: WELLDONE
	Adapter:	Model No.: PSAA05A-050, Supplier: PHIHONG

GSM and WCDMA:

	Operating Frequency		Rated Power
Cellular Phone Standards Frequency Range and Power	GSM/GPRS/EDGE 850 Class 10	824.2 MHz– 848.8 MHz	33 dBm
	GSM/GPRS/EDGE 900 Class 10	880.2MHz – 914.8MHz	33 dBm
	GSM/GPRS/EDGE 1800 Class 10	1710.2MHz – 1784.8MHz	30 dBm
	GSM/GPRS/EDGE 1900 Class 10	1850.2MHz – 1909.8MHz	30 dBm
	WCDMA/HSDPA/HSUPA Band II	1852.4MHz – 1907.6MHz	24 dBm
	WCDMA/HSDPA/HSUPA Band V	826.4MHz –846.6MHz	24 dBm
	HSDPA/HSUPA data rate: downlink up to 7.2Mbps ,uplink up to 2Mbps		
IMEI	35294903		

WLAN:

Frequency Range:	2412 – 2462 MHz
Channel number:	11 channels
Max. Output Power:	802.11 b: 17.08 dBm (Peak) 802.11 g: 13.21 dBm (Peak)
Modulation Technology:	DSSS, OFDM
Modulation type:	CCK, DQPSK, DBPSK for DSSS 64QAM. 16QAM, QPSK, BPSK for OFDM
Transition Rate:	802.11 b: 1/2/5.5/11 Mbps; 802.11 g: 6/9/12/18/24/36/48/54 Mbps
Antenna Designation:	PIFA Antenna / 1.1dBi.

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

Bluetooth:

Bluetooth Version	☐ V1.1 (GFSK) ☐ V1.2 (GFSK) ☐ V2.0 (GFSK) ☒ V2.0 + EDR (GFSK + π /4DQPSK + 8DPSK) ☐ V2.1 + EDR (GFSK + π /4DQPSK + 8DPSK)
Frequency Range	2402 – 2480MHz
Channel number	79 channels max.
Rated Power	0.01 dBm (Peak)
Modulation type	Frequency Hopping Spread Spectrum
Antenna Designation	PIFA Antenna / 1.1dBi.

The EUT is compliance with Bluetooth Standard.

This test report applies for GSM/GPRS/EDGE 850/1900.

1.2 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for **FCC ID: NM8SPRR** filing to comply with Section Part 22 subpart H and Part 24 subpart E of the FCC CFR 47 Rules.

1.3 Test Methodology

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

1.4 Test Facility

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

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

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

1.5 Special Accessories

Not available for this EUT intended for grant.

1.6 Equipment Modifications

Not available for this EUT intended for grant.

2. SYSTEM TEST CONFIGURATION

2.1 EUT Configuration

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

2.2 EUT Exercise

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

2.3 Test Procedure

2.3.1 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 and RSS-Gen, the EUT is placed on a turn table which is 0.8 m above ground plane. A low loss of RF cable was used to con- nect the antenna port of EUT to measurement equipment.

2.3.3 Radiated Emissions (ERP/EIRP):

According to measurement procured TIA/EIA 603C and RSS-Gen. The EUT is placed on a turn table which is 1.0 m above ground plane. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the rela- tive positions of this hand-held transmitter (EUT) was rotated through three or- thogonal axes according to the requirements.

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

2.4. Measurement Equipment Used:

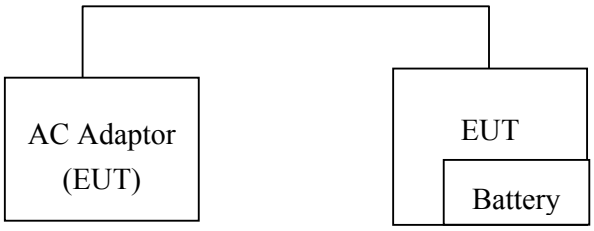
AC POWER LINE CONDUCTED EMISSION EQUIPMENT List					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
EMI Test Receiver	R&S	ESCS30	828985/004	09/16/2008	09/15/2009
LISN	Rolf-Heine	NNB-2/16Z	99012	04/28/2009	04/27/2010
LISN	FCC	FCC-LISN-50 /250-25-2-01	04034	04/28/2009	04/27/2010
Coaxial Cables	N/A	WK CE Cable	N/A	10/30/2008	10/29/2009

Conducted Emission Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/19/2008	04/18/2010
Spectrum Analyzer	Agilent	E4440A	US41160416	01/23/2008	01/22/2010
Radio Communication Analyzer	R&S	CMU200	102189	05/13/208	05/13/2010
800 – 1000MHz Filter	Micro-Tronics	BRM13462	001	01/05/2009	01/04/2010
1800 – 2000MHz Filter	Micro-Tronics	BRM13463	001	01/05/2009	01/04/2010
Temperature Chamber	TERCHY	MHG-120LF	911009	04/14/2008	04/13/2010
Temperature Chamber	GIANT FORCE	GTH-150-40-CP-AR	MAA0512-018	02/05/2008	02/04/2010
DC Block	Agilent	BLK-18	155452	07/05/2008	07/04/2009
Attenuator	Mini-Circuit	BW-S20W5	N/A	07/05/2008	07/04/2009
Attenuator	Mini-Circuit	BW-S10W5	N/A	07/05/2008	07/04/2009
Attenuator	Mini-Circuit	BW-S6W5	N/A	07/05/2008	07/04/2009
Splitter	Agilent	11636B	N/A	07/05/2008	07/04/2009
DC Power Supply	HP	6038A	2929A-07548	06/27/2007	06/26/2009
DC Power Supply	Topward	3303D	981327	10/26/2007	10/25/2009

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	02/12/2009	02/11/2010
Bilog Antenna	SCHWAZBECK	VULB9160	9160-3136	11/15/2008	11/14/2009
Dipole Antenna	SCHWAZBECK	VHAP	908/909	07/10/2008	07/09/2010
Dipole Antenna	SCHWAZBECK	UHAP	891/892	07/10/2008	07/09/2010
Hor.n antenna	SCHWAZBECK	BBHA 9120D	309	05/09/2008	05/10/2010
Horn antenna	SCHWAZBECK	BBHA 9120D	9120D-320	03/14/2009	03/13/2010
Signal Generator	R&S	SMR40	100210	01/22/2008	01/21/2010
Signal Generator	Agilent	E4438C	MY45093613	05/22/2009	05/21/2010
Pre-Amplifier	Agilent	8447D	1937A02834	11/30/2008	11/29/2009
Pre-Amplifier	Agilent	8449B	3008A01973	01/05/2009	01/04/2010
Attenuator	Mini-Circuit	BW-S20W5	001	07/05/2008	07/04/2009
Attenuator	Mini-Circuit	BW-S10W5	001	07/05/2008	07/04/2009
Attenuator	Mini-Circuit	BW-S6W5	001	07/05/2008	07/04/2009
Radio Communication Analyzer	R&S	CMU200	102189	05/13/2008	05/13/2010
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	01/05/2009	01/04/2010
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-3M	3m	01/05/2009	01/04/2010
3m Site	SGS	966 chamber	N/A	11/08/2008	11/09/2009

2.5 Configuration of Tested System

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



Remote Side

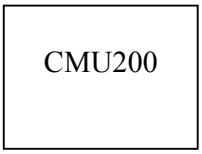


Table 2-1 Equipment Used in Tested System

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

3. SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
§2.1046(a) §22.913(a)(2) §24.232(c)	RF Conducted 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	Compliant
§2.1053 §22.917(a) §24.238(a)	Field Strength of Spurious Radiation (TX)	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
§15.207(a)	AC Power Line Conducted Emission	Compliant

Max ERP/EIRP measurement result:

	dBm		W
GSM 850 Band	31.84	ERP	1.528
GSM 1900 Band	26.45	EIRP	0.442
EDGE 850 Band	27.68	ERP	0.586
EDGE 1900 Band	26.39	EIRP	0.436
WCDMA Band V	21.37	ERP	0.137
WCDMA Band II	21.65	EIRP	0.146
HSDPA Band V	21.10	ERP	0.129
HSDPA Band II	19.89	EIRP	0.097
HSUPA Band V	20.49	ERP	0.112
HSUPA Band II	22.73	EIRP	0.187

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 with power adaptor. The worst-case of E1 position for GSM 850 band, H position for GSM 1900/WCDMA Band V & Band II 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(d) Peak Power Measurement, FCC 24.232(c) Maximum Power Reduction.

3GPP Power limitation for HSDPA and HSUPA

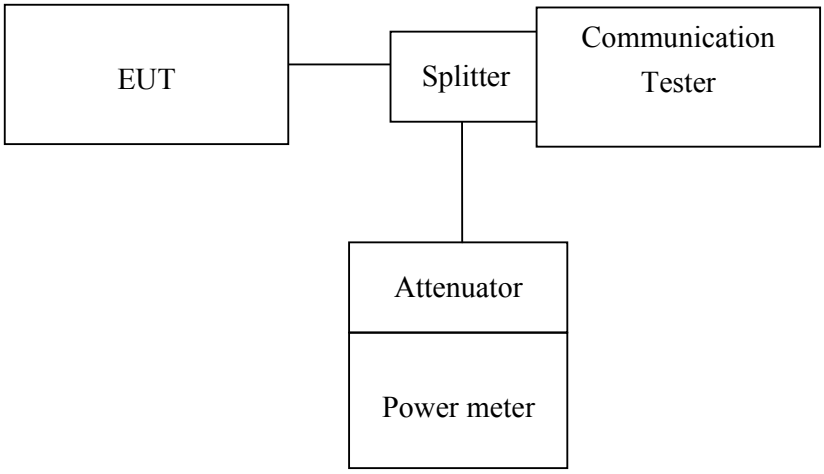
Maximum Output Powers for HSDPA

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

Maximum Output Powers for HSUPA

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

5.2 Test Set-up:



Note: *Measurement setup for testing on Antenna connector*

5.3 Measurement Procedure:

The transmitter output was connected to a calibrated attenuator, the other end of which was connected to a power meter. Transmitter output was read off the power meter in dBm. The power output at the transmitter antenna port was determined by adding the value of the attenuator to the power meter reading. The Procedure of KDB941225 KDB941125(SAR Measurement Procedures for 3G devices, WCDMA/HSDPA) was used for EUT and Base station setting. RMC 12.2kps is used for this testing

5.4 Measurement Equipment Used:

Refer to section 2.4 in this report

5.5 Measurement Result:

5.5.1 RF Conducted Output Power

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

Result:

Frequency (MHz)	CH	1 Time Slot				2 Time Slot			
		GMSK Mode		8-PSK Mode		GMSK Mode		8-PSK Mode	
		Peak Power (dBm)	AV Power (dBm)	Peak Power (dBm)	AV Power (dBm)	Peak Power (dBm)	AV Power (dBm)	Peak Power (dBm)	AV Power (dBm)
824.2	128	33.90	33.70	30.60	27.40	33.30	33.20	30.10	26.90
836.6	190	33.90	33.70	30.60	27.40	33.30	33.20	30.10	26.90
848.8	251	33.70	33.70	30.50	27.30	33.20	33.10	30.00	26.80
1850.2	512	30.10	30.00	28.00	24.80	29.70	29.60	27.50	24.30
1880.0	661	30.00	29.90	27.90	24.70	29.60	29.50	27.40	24.20
1909.8	810	29.90	29.70	27.80	24.60	29.50	29.30	27.30	24.10

5.5.1.2.: WCDMA mode

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

Results:

EUT Mode	Frequency (MHz)	CH	Peak Power (dBm)	RMS. Power (dBm)
WCDMA Band II	1852.4	9262	26.24	22.62
	1880.0	9400	25.84	22.23
	1907.6	9538	25.35	21.70

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

EUT Mode	Frequency (MHz)	CH	Peak Power (dBm)	RMS. Power (dBm)
WCDMA Band V	826.4	4132	26.00	22.43
	836.6	4183	25.97	22.40
	846.6	4233	25.81	22.35

5.5.1.3.:HSDPA Release 6 mode

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

HSDPA SUB-TEST Setting

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

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

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

Results:

Mode	Sub-test	RMS Power (dBm) Channel			Power Class 3 Limitation (dBm)	Comments
		9262	9400	9538		
HSDPA(B2)	1	22.91	22.49	21.97	20.3dBm – 25.7dBm	Pass
	2	**22.5**	**22.09**	**21.55**	20.3dBm – 25.7dBm	Pass
	3	**22.43**	**22.04**	**21.44**	19.8dBm – 25.7dBm	Pass
	4	**22.5**	**22.05**	**21.56**	19.8dBm – 25.7dBm	Pass

Mode	Sub-test	RMS Power (dBm) Channel			Power Class 3 Limitation (dBm)	Comments
		4132	4183	4233		
HSDPA(B5)	1	22.65	22.69	22.54	20.3dBm – 25.7dBm	Pass
	2	22.36	22.29	22.22	20.3dBm – 25.7dBm	Pass
	3	22.19	22.21	22.05	19.8dBm – 25.7dBm	Pass
	4	22.24	22.25	22.11	19.8dBm – 25.7dBm	Pass

5.5.1.3.: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 RMS power requirements for Power Class 3 were met according to table 5.2AA.5 and 5.2B.5 All UE channels and power ratio's are set according to table 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	$\beta_{ed}1$: 47/15 $\beta_{ed}2$: 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 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		
HSUPA(B2)	1	22.54	22.21	21.64	18.8dBm – 25.7dBm	Pass
	2	20.59	20.28	19.82	16.8dBm – 25.7dBm	Pass
	3	21.6	21.23	20.67	17.8dBm – 25.7dBm	Pass
	4-	20.72	20.33	19.72	16.8dBm – 25.7dBm	Pass
	5	22.43	22.07	21.55	18.8dBm – 25.7dBm	Pass

Mode	Sub-test	RMS Power (dBm) Channel			Power Class 3 Limitation (dBm)	Comments
		4132	4183	4233		
HSUPA(B5)	1	22.39	22.33	22.27	18.8dBm – 25.7dBm	Pass
	2	20.45	20.41	20.31	16.8dBm – 25.7dBm	Pass
	3	21.43	21.39	21.35	17.8dBm – 25.7dBm	Pass
	4	20.50	20.47	20.39	16.8dBm – 25.7dBm	Pass
	5	22.25	22.16	22.18	18.8dBm – 25.7dBm	Pass

5.5.2. Minimum Communications Power Measurement

PCS 1900 band

PCL	0	1	2	3	4	5	6	7	8
Output power (dBm)	29.5	28	25.5	24	22.1	20.1	18.1	16.1	14.1
PCL	9	10	11	12	13	14	15	16	17
Output power (dBm)	12.2	10.2	8.2	6.2	4.3	2.3	0.3		

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/HSUPA 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 15 for measurement data) . The min. power was measures by a function key "minimum power" then record the read. It is -52.5dBm. The power variation can be 0.1dB step by setting.

6. ERP, EIRP MEASUREMENT

6.1 Standard Applicable

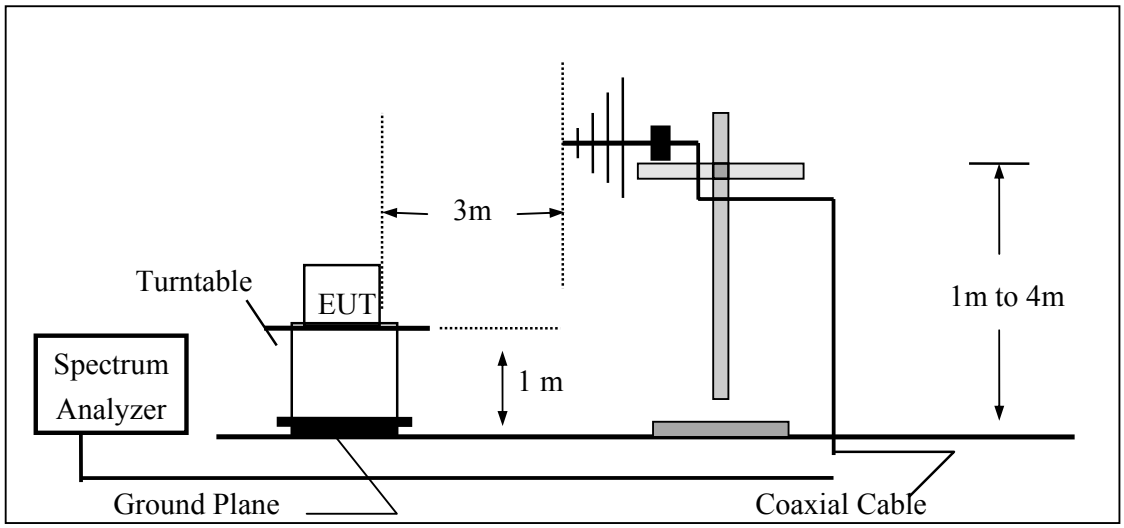
According to FCC §2.1046

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

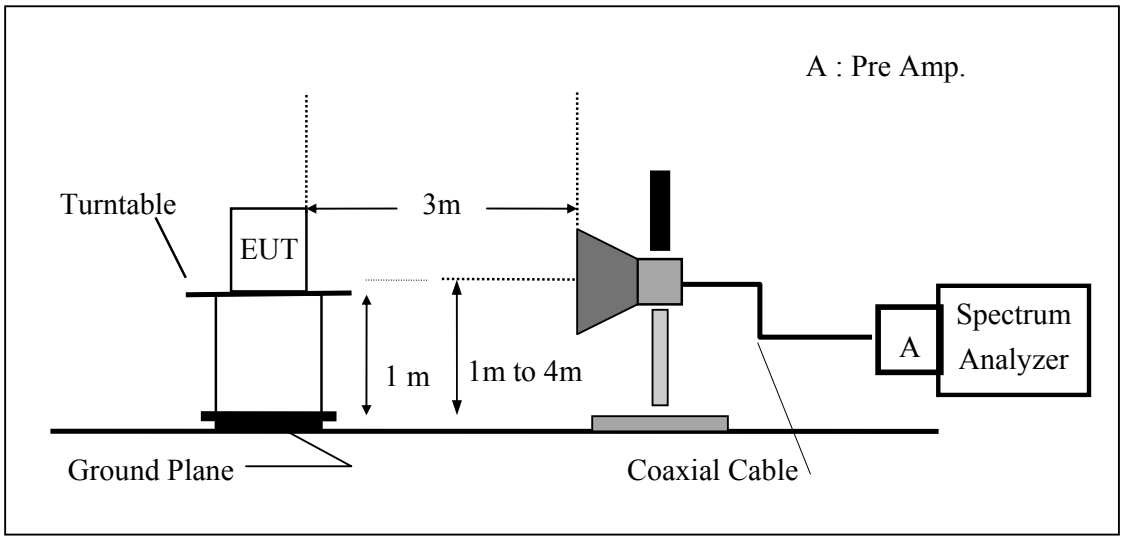
FCC 24.232(c) Mobile station are limited to 2W EIRP.

6.2 Test SET-UP (Block Diagram of Configuration)

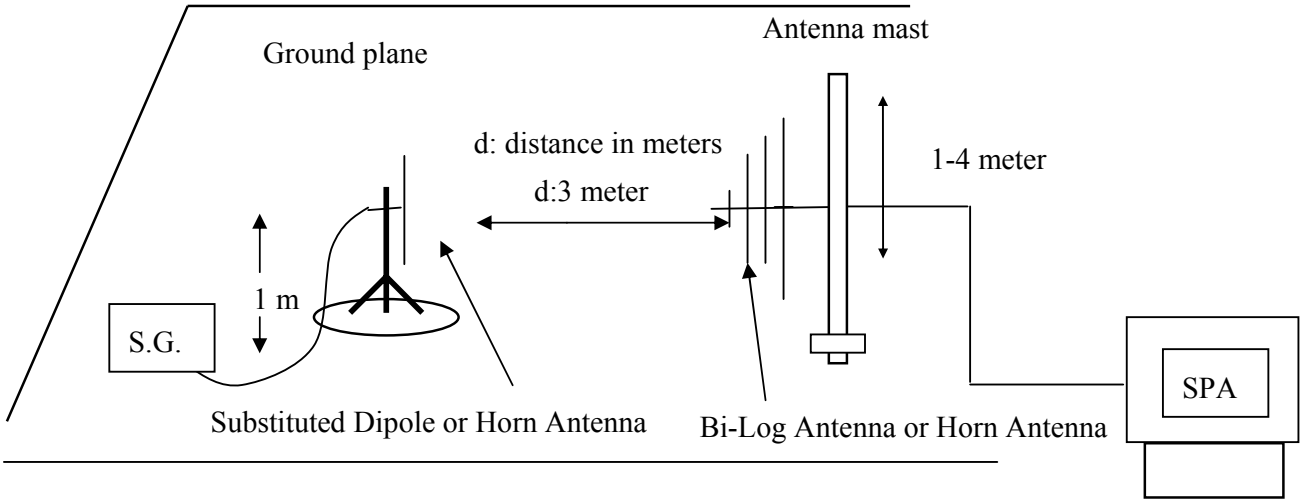
(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



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



(C) Substituted Method Test Set-UP



6.3 Measurement Procedure

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

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

ERP in frequency band 824.2 –848.80.8MHz were measured using a substitution method. The EUT was replaced by dipole antenna connected, the S.G. output was recorded and ERP was calculated as follows:

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

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

EIRP = S.G. output (dBm) + Antenna Gain (dBi) – Cable Loss (dB)

6.4 Measurement Equipment Used:

Please refer to section 2.4.

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	116.76	29.44	-7.87	3.64	17.92	38.45
				H	127.86	40.20	-7.87	3.64	28.69	38.45
			E1	V	127.48	40.16	-7.87	3.64	28.64	38.45
				H	117.08	29.42	-7.87	3.64	17.91	38.45
			E2	V	115.63	28.31	-7.87	3.64	16.79	38.45
				H	128.99	41.33	-7.87	3.64	29.82	38.45
	836.60	190	H	V	117.05	30.02	-7.88	3.70	18.45	38.45
				H	128.88	41.54	-7.88	3.70	29.97	38.45
			E1	V	129.15	42.12	-7.88	3.70	30.55	38.45
				H	118.85	31.51	-7.88	3.70	19.94	38.45
			E2	V	113.66	26.63	-7.88	3.70	15.06	38.45
				H	127.86	40.52	-7.88	3.70	28.95	38.45
	848.80	251	H	V	117.32	30.58	-7.88	3.75	18.95	38.45
				H	129.73	42.71	-7.88	3.75	31.08	38.45
			E1	V	130.21	43.47	-7.88	3.75	**31.84**	38.45
				H	119.41	32.39	-7.88	3.75	20.76	38.45
			E2	V	116.94	30.20	-7.88	3.75	18.57	38.45
				H	130.02	43.00	-7.88	3.75	31.37	38.45

Remark：

(1) The RBW,VBW of SPA for frequency

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

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

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
GSM 1900	1850.20	512	H	V	111.47	4.51	9.90	5.41	9.00	33.00
				H	128.85	21.96	9.90	5.41	**26.45**	33.00
			E1	V	127.18	20.22	9.90	5.41	24.71	33.00
				H	122.28	15.39	9.90	5.41	19.88	33.00
			E2	V	127.43	20.47	9.90	5.41	24.96	33.00
				H	127.73	20.84	9.90	5.84	24.90	33.00
	1880.00	661	H	V	110.90	3.95	9.99	5.46	8.48	33.00
				H	127.47	20.60	9.99	5.46	25.13	33.00
			E1	V	126.03	19.08	9.99	5.46	23.61	33.00
				H	121.75	14.88	9.99	5.46	19.41	33.00
			E2	V	125.77	18.82	9.99	5.46	23.35	33.00
				H	126.15	19.28	9.99	5.46	23.81	33.00
	1909.80	810	H	V	108.60	1.66	10.08	5.51	6.23	33.00
				H	124.93	18.08	10.08	5.51	22.64	33.00
			E1	V	125.15	18.21	10.08	5.51	22.78	33.00
				H	120.84	13.99	10.08	5.51	18.55	33.00
			E2	V	124.84	17.90	10.08	5.51	22.47	33.00
				H	126.80	19.95	10.08	5.51	24.51	33.00

Remark：

(1) The RBW,VBW of SPA for frequency

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

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

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
EDGE 850	824.20	128	H	V	113.68	26.36	-7.87	3.64	14.84	38.45
				H	124.99	37.33	-7.87	3.64	25.82	38.45
			E1	V	124.57	37.25	-7.87	3.64	25.73	38.45
				H	112.83	25.17	-7.87	3.64	13.66	38.45
			E2	V	111.64	24.32	-7.87	3.64	12.80	38.45
				H	125.28	37.62	-7.87	3.64	26.11	38.45
	836.60	190	H	V	113.65	26.62	-7.88	3.70	15.05	38.45
				H	125.68	38.34	-7.88	3.70	26.77	38.45
			E1	V	125.83	38.80	-7.88	3.70	27.23	38.45
				H	113.96	26.62	-7.88	3.70	15.05	38.45
			E2	V	113.32	26.29	-7.88	3.70	14.72	38.45
				H	125.94	38.60	-7.88	3.70	27.03	38.45
	848.80	251	H	V	112.81	26.07	-7.88	3.75	14.44	38.45
				H	125.05	38.03	-7.88	3.75	26.40	38.45
			E1	V	126.05	39.31	-7.88	3.75	**27.68**	38.45
				H	113.59	26.57	-7.88	3.75	14.94	38.45
			E2	V	113.91	27.17	-7.88	3.75	15.54	38.45
				H	126.19	39.17	-7.88	3.75	27.54	38.45

Remark：

(1) The RBW,VBW of SPA for frequency

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

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

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
EDGE 1900	1850.20	512	H	V	111.19	4.23	9.90	5.41	8.72	33.00
				H	128.79	21.90	9.90	5.41	**26.39**	33.00
			E1	V	126.12	19.16	9.90	5.41	23.65	33.00
				H	121.40	14.51	9.90	5.41	19.00	33.00
			E2	V	126.53	19.57	9.90	5.41	24.06	33.00
				H	126.60	19.71	9.90	5.84	23.77	33.00
	1880.00	661	H	V	110.58	3.63	9.99	5.46	8.16	33.00
				H	127.32	20.45	9.99	5.46	24.98	33.00
			E1	V	124.86	17.91	9.99	5.46	22.44	33.00
				H	120.91	14.04	9.99	5.46	18.57	33.00
			E2	V	124.95	18.00	9.99	5.46	22.53	33.00
				H	125.17	18.30	9.99	5.46	22.83	33.00
	1909.80	810	H	V	108.26	1.32	10.08	5.51	5.89	33.00
				H	126.44	19.59	10.08	5.51	24.15	33.00
			E1	V	123.99	17.05	10.08	5.51	21.62	33.00
				H	119.84	12.99	10.08	5.51	17.55	33.00
			E2	V	124.26	17.32	10.08	5.51	21.89	33.00
				H	124.12	17.27	10.08	5.51	21.83	33.00

Remark：

(1) The RBW,VBW of SPA for frequency

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

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

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
WCDMA Band V	826.40	128	H	V	104.54	18.18	-7.88	3.63	6.67	38.45
				H	119.13	32.87	-7.88	3.63	**21.37**	38.45
			E1	V	118.14	31.78	-7.88	3.63	20.27	38.45
				H	106.83	20.57	-7.88	3.63	9.07	38.45
			E2	V	104.97	18.61	-7.88	3.63	7.10	38.45
				H	117.67	31.41	-7.88	3.63	19.91	38.45
	836.00	190	H	V	105.45	19.19	-7.88	3.65	7.66	38.45
				H	117.71	31.48	-7.88	3.65	19.95	38.45
			E1	V	118.04	31.78	-7.88	3.65	20.25	38.45
				H	106.14	19.91	-7.88	3.65	8.38	38.45
			E2	V	104.46	18.20	-7.88	3.65	6.67	38.45
				H	117.94	31.71	-7.88	3.65	20.18	38.45
	846.60	251	H	V	105.70	19.55	-7.88	3.67	8.00	38.45
				H	117.94	31.74	-7.88	3.67	20.19	38.45
			E1	V	118.48	32.32	-7.88	3.67	20.77	38.45
				H	104.81	18.61	-7.88	3.67	7.06	38.45
			E2	V	104.37	18.22	-7.88	3.67	6.67	38.45
				H	117.89	31.69	-7.88	3.67	20.14	38.45

Remark：

(1) The RBW,VBW of SPA for frequency

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

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

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
WCDMA Band II	1852.40	9262	H	V	103.17	-1.21	9.90	5.56	3.12	33.00
				H	119.98	15.80	9.90	5.56	20.14	33.00
			E1	V	117.77	13.39	9.90	5.56	17.72	33.00
				H	113.26	9.08	9.90	5.56	13.42	33.00
			E2	V	118.49	14.11	9.90	5.56	18.44	33.00
				H	118.78	14.60	9.90	5.84	18.66	33.00
	1880.00	9400	H	V	104.43	0.07	9.99	5.61	4.45	33.00
				H	121.17	17.03	9.99	5.61	21.40	33.00
			E1	V	117.45	13.06	9.90	5.56	17.40	33.00
				H	111.92	7.78	9.99	5.61	12.15	33.00
			E2	V	118.66	14.30	9.99	5.61	18.68	33.00
				H	117.39	13.25	9.99	5.61	17.62	33.00
	1907.60	9538	H	V	103.19	-1.14	10.07	5.66	3.27	33.00
				H	121.35	17.24	10.07	5.66	**21.65**	33.00
			E1	V	117.72	13.39	10.07	5.66	17.80	33.00
				H	112.75	8.64	10.07	5.66	13.05	33.00
			E2	V	119.21	14.88	10.07	5.66	19.29	33.00
				H	118.47	14.36	10.07	5.66	18.77	33.00

Remark：

(1) The RBW,VBW of SPA for frequency

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

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

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
WCDMA Band V HSDPA	826.40	128	H	V	104.52	18.16	-7.88	3.63	6.65	38.45
				H	117.29	31.03	-7.88	3.63	19.53	38.45
			E1	V	117.84	31.48	-7.88	3.63	19.97	38.45
				H	106.50	20.24	-7.88	3.63	8.74	38.45
			E2	V	104.74	18.38	-7.88	3.63	6.87	38.45
				H	118.37	32.11	-7.88	3.63	20.61	38.45
	836.00	190	H	V	117.87	31.61	-7.88	3.65	20.08	38.45
				H	105.00	18.77	-7.88	3.65	7.24	38.45
			E1	V	118.39	32.13	-7.88	3.65	20.60	38.45
				H	107.32	21.09	-7.88	3.65	9.56	38.45
			E2	V	104.56	18.30	-7.88	3.65	6.77	38.45
				H	118.11	31.88	-7.88	3.65	20.35	38.45
	846.60	251	H	V	105.51	19.36	-7.88	3.67	7.81	38.45
				H	118.01	31.81	-7.88	3.67	20.26	38.45
			E1	V	118.48	32.32	-7.88	3.67	20.77	38.45
				H	106.46	20.26	-7.88	3.67	8.71	38.45
			E2	V	105.12	18.97	-7.88	3.67	7.42	38.45
				H	118.85	32.65	-7.88	3.67	**21.10**	38.45

Remark：

(1) The RBW,VBW of SPA for frequency

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

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

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
WCDMA Band II HSDPA	1852.40	9262	H	V	102.38	-2.00	9.90	5.56	2.33	33.00
				H	116.15	11.97	9.90	5.56	16.31	33.00
			E1	V	116.30	11.92	9.90	5.56	16.25	33.00
				H	113.76	9.58	9.90	5.56	13.92	33.00
			E2	V	117.33	12.95	9.90	5.56	17.28	33.00
				H	116.90	12.72	9.90	5.84	16.78	33.00
	1880.00	9400	H	V	105.80	1.44	9.99	5.61	5.82	33.00
				H	118.94	14.80	9.99	5.61	19.17	33.00
			E1	V	117.33	12.94	9.90	5.56	17.28	33.00
				H	115.54	11.40	9.99	5.61	15.77	33.00
			E2	V	117.83	13.47	9.99	5.61	17.85	33.00
				H	117.36	13.22	9.99	5.61	17.59	33.00
	1907.60	9538	H	V	107.25	2.92	10.07	5.66	7.33	33.00
				H	119.59	15.48	10.07	5.66	**19.89**	33.00
			E1	V	116.91	12.58	10.07	5.66	16.99	33.00
				H	114.29	10.18	10.07	5.66	14.59	33.00
			E2	V	117.78	13.45	10.07	5.66	17.86	33.00
				H	117.14	13.03	10.07	5.66	17.44	33.00

Remark：

(1) The RBW,VBW of SPA for frequency

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

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

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
WCDMA Band V HSUPA	826.40	128	H	V	104.71	18.35	-7.88	3.63	6.84	38.45
				H	117.57	31.31	-7.88	3.63	19.81	38.45
			E1	V	117.91	31.55	-7.88	3.63	20.04	38.45
				H	106.65	20.39	-7.88	3.63	8.89	38.45
			E2	V	104.64	18.28	-7.88	3.63	6.77	38.45
				H	117.88	31.62	-7.88	3.63	20.12	38.45
	836.00	190	H	V	105.72	19.46	-7.88	3.65	7.93	38.45
				H	117.85	31.62	-7.88	3.65	20.09	38.45
			E1	V	118.28	32.02	-7.88	3.65	**20.49**	38.45
				H	105.60	19.37	-7.88	3.65	7.84	38.45
			E2	V	104.82	18.56	-7.88	3.65	7.03	38.45
				H	117.59	31.36	-7.88	3.65	19.83	38.45
	846.60	251	H	V	105.12	18.97	-7.88	3.67	7.42	38.45
				H	118.00	31.80	-7.88	3.67	20.25	38.45
			E1	V	118.11	31.95	-7.88	3.67	20.40	38.45
				H	104.53	18.33	-7.88	3.67	6.78	38.45
			E2	V	103.94	17.79	-7.88	3.67	6.24	38.45
				H	117.86	31.66	-7.88	3.67	20.11	38.45

Remark：

(1) The RBW,VBW of SPA for frequency

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

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

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
WCDMA Band II HSUPA	1852.40	9262	H	V	105.62	1.24	9.90	5.56	5.57	33.00
				H	121.66	17.48	9.90	5.56	21.82	33.00
			E1	V	119.01	14.63	9.90	5.56	18.96	33.00
				H	113.92	9.74	9.90	5.56	14.08	33.00
			E2	V	119.63	15.25	9.90	5.56	19.58	33.00
				H	120.05	15.87	9.90	5.84	19.93	33.00
	1880.00	9400	H	V	105.96	1.60	9.99	5.61	5.98	33.00
				H	121.99	17.85	9.99	5.61	22.22	33.00
			E1	V	117.57	13.18	9.90	5.56	17.52	33.00
				H	112.26	8.12	9.99	5.61	12.49	33.00
			E2	V	118.68	14.32	9.99	5.61	18.70	33.00
				H	117.82	13.68	9.99	5.61	18.05	33.00
	1907.60	9538	H	V	104.90	0.57	10.07	5.66	4.98	33.00
				H	122.43	18.32	10.07	5.66	**22.73**	33.00
			E1	V	118.00	13.67	10.07	5.66	18.08	33.00
				H	113.14	9.03	10.07	5.66	13.44	33.00
			E2	V	120.06	15.73	10.07	5.66	20.14	33.00
				H	119.01	14.90	10.07	5.66	19.31	33.00

Remark：

(1) The RBW,VBW of SPA for frequency

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

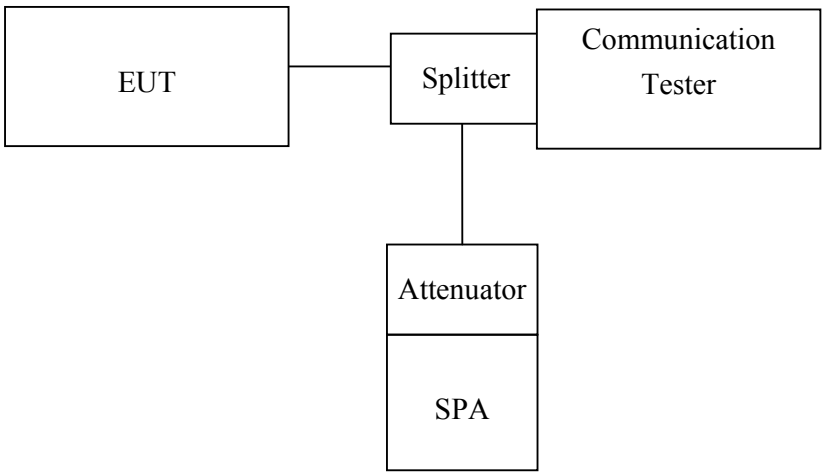
Above 1GHz was RBW= 1MHz , VBW= 3MHz

7. 99% OCCUPIED BANDWIDTH MEASUREMENT

7.1 Standard Applicable

According to §FCC 2.1049.

7.2 Test Set-up:



Note: *Measurement setup for testing on Antenna connector*

7.3 Measurement Procedure

The EUT's output RF connector was connected with a short cable to the spectrum analyzer, RBW (10KHz) was set to about 1% of emission BW, VBW= 30KHz, -26dBc display line was placed on the screen (or 99% bandwidth), the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace.

7.4 Measurement Equipment Used:

Please refer to section 2.4.

Measurement Result:

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
GSM 850	824.20	128	0.2431
	836.60	190	0.2486
	848.80	251	0.2434

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
GSM 1900	1850.20	512	0.2476
	1880.00	661	0.2450
	1909.80	810	0.2435

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
EDGE 850	824.20	128	0.2441
	836.60	190	0.2456
	848.80	251	0.2439

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
EDGE 1900	1850.20	512	0.2437
	1880.00	661	0.2399
	1909.80	810	0.2413

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
WCDMA Band V	826.40	128	4.1823
	836.00	190	4.1575
	846.60	251	4.1388

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
WCDMA Band II	1850.40	9262	4.1804
	1880.00	9400	4.1686
	1907.60	9538	4.1808

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
HSDPA Band V	826.40	128	4.1892
	836.00	190	4.1643
	846.60	251	4.1563

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
HSDPA Band II	1852.40	9262	4.1691
	1880.00	9400	4.1763
	1907.60	9538	4.1674

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
HSUPA Band V	826.40	128	4.1892
	836.00	190	4.1643
	846.60	251	4.1563

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
HSUPA Band II	1852.40	9262	4.1691
	1880.00	9400	4.1763
	1907.60	9538	4.1674

Figure 7-1: GSM 850 Channel Low

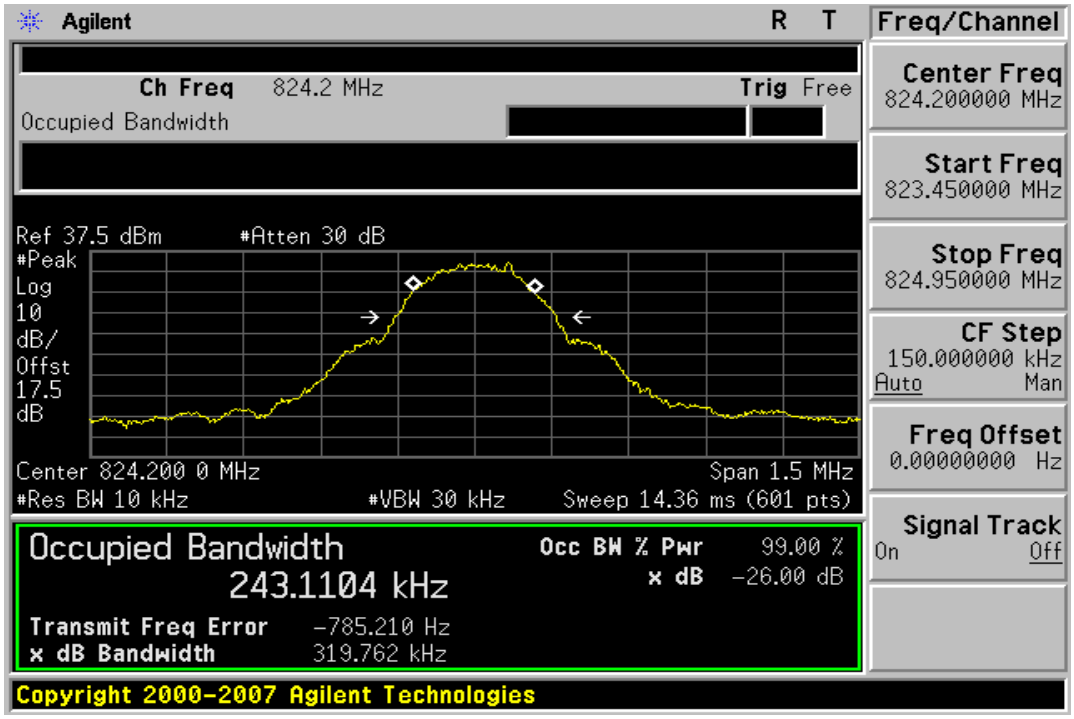


Figure 7-2 GSM 850 Channel Mid

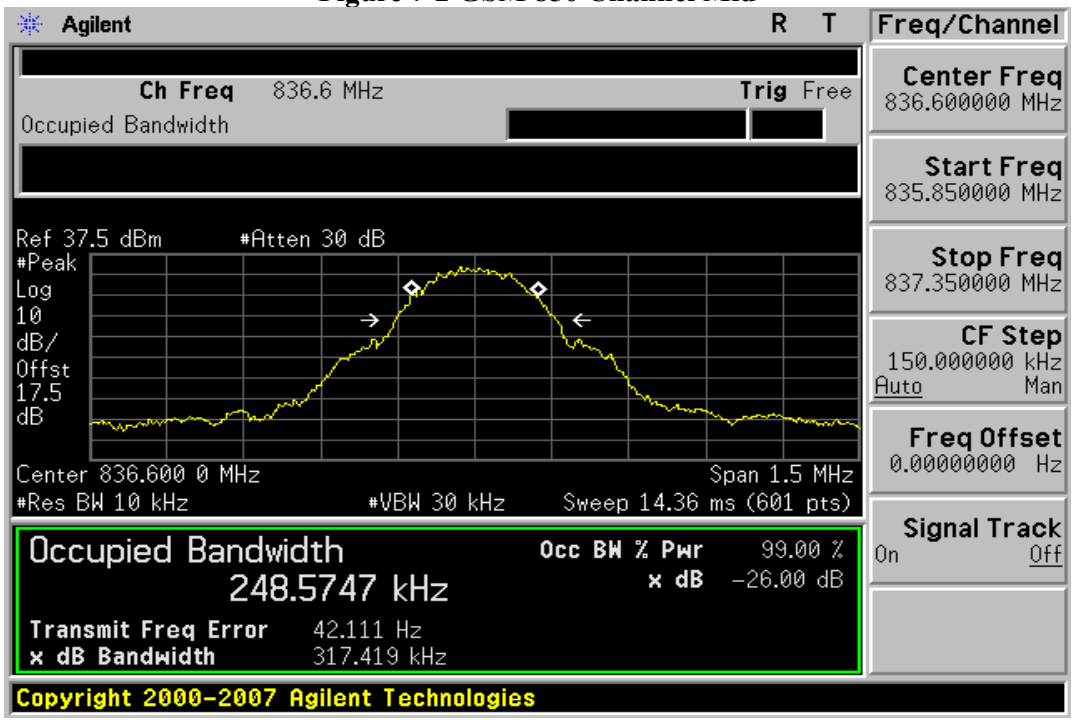


Figure 7-3: GSM 850 Channel High

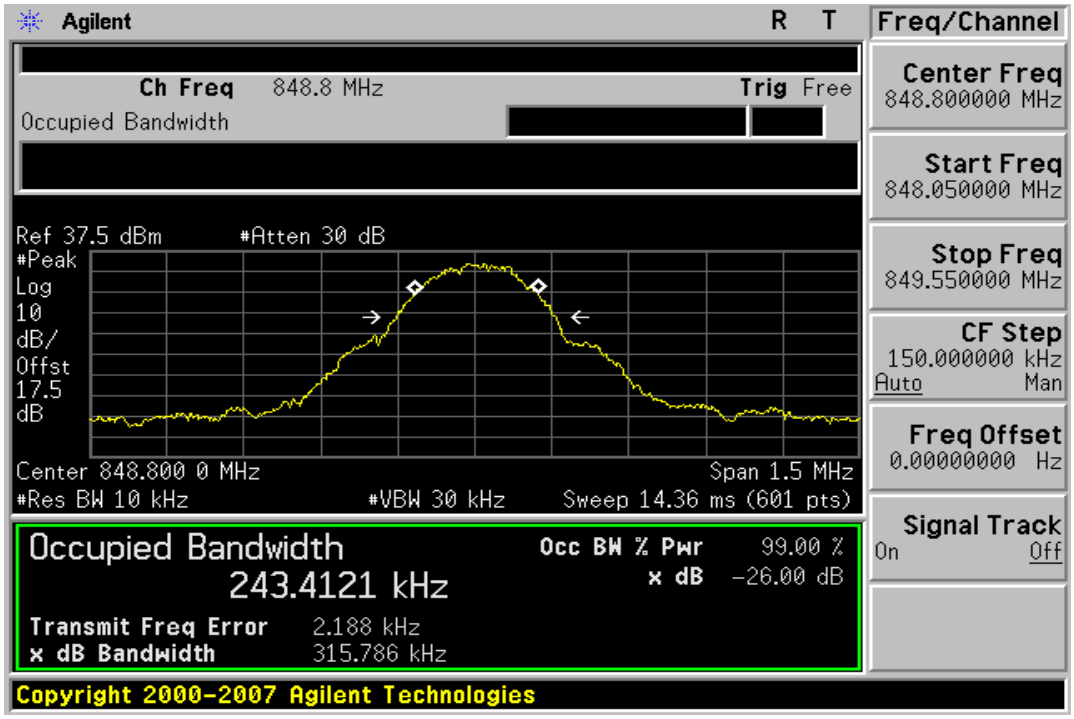


Figure 7-4: GSM 1900 Channel Low

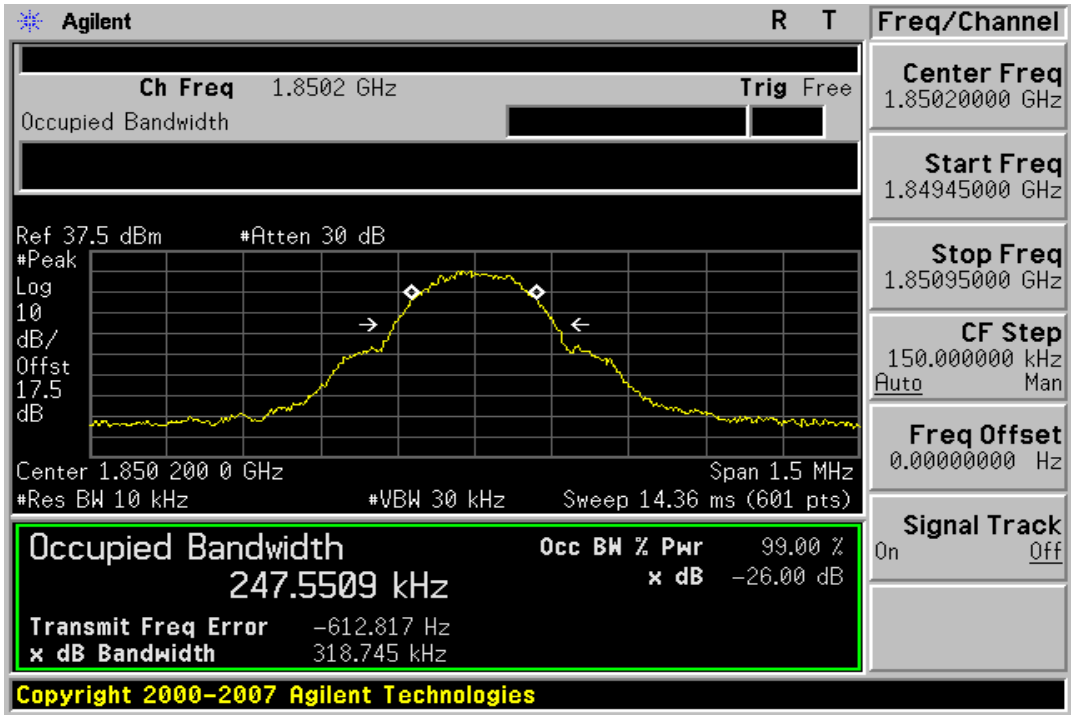


Figure 7-5 GSM 1900 Channel Mid

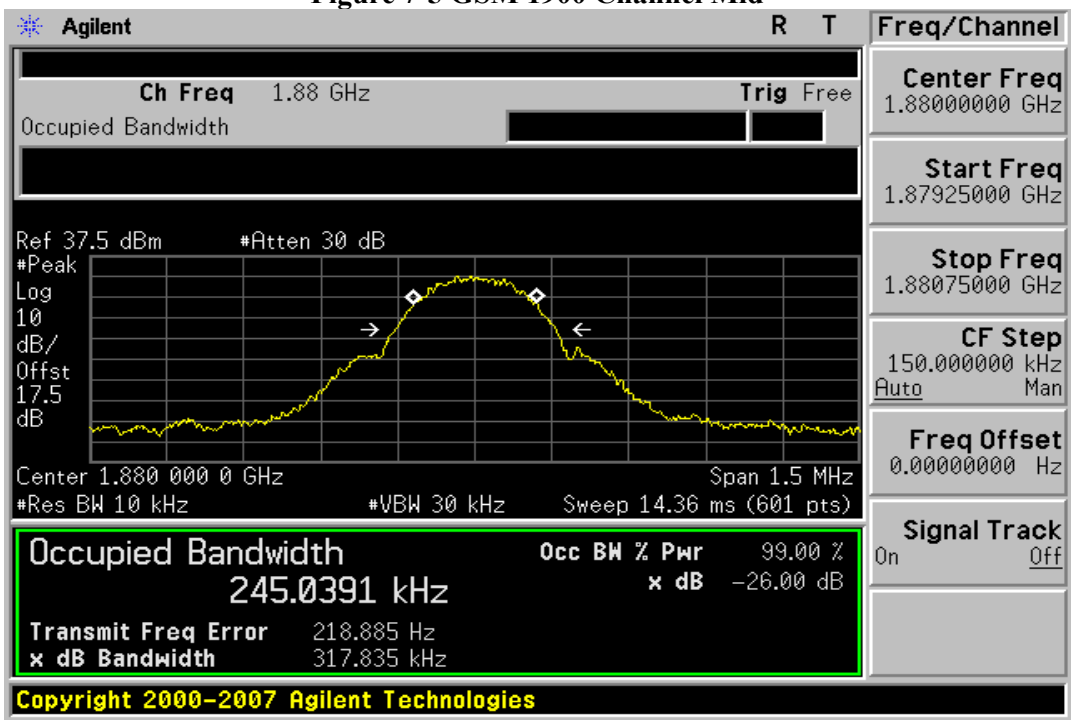


Figure 7-6: GSM 1900 Channel High

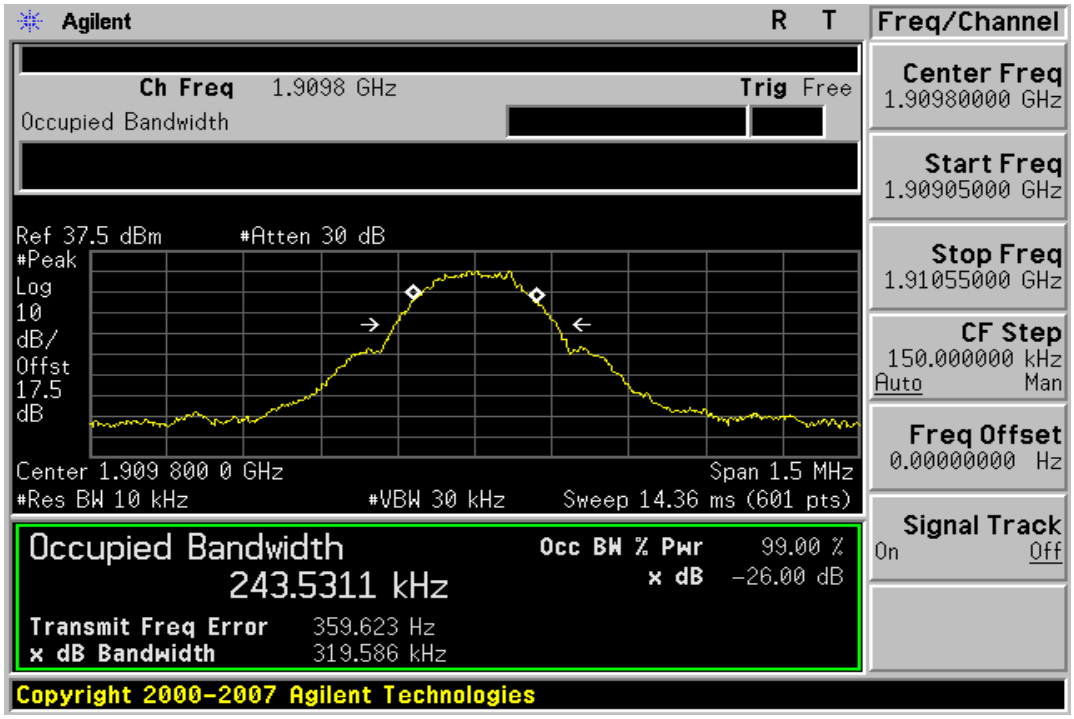


Figure 7-7: EDGE 850 Channel Low

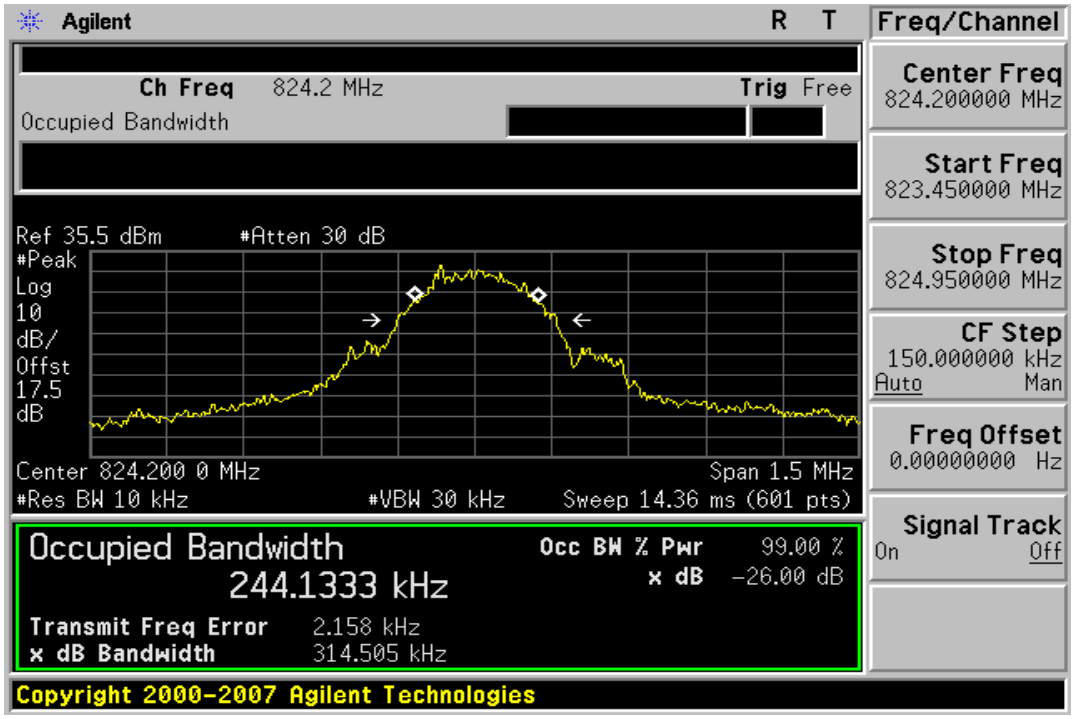


Figure 7-8 EDGE 850 Channel Mid

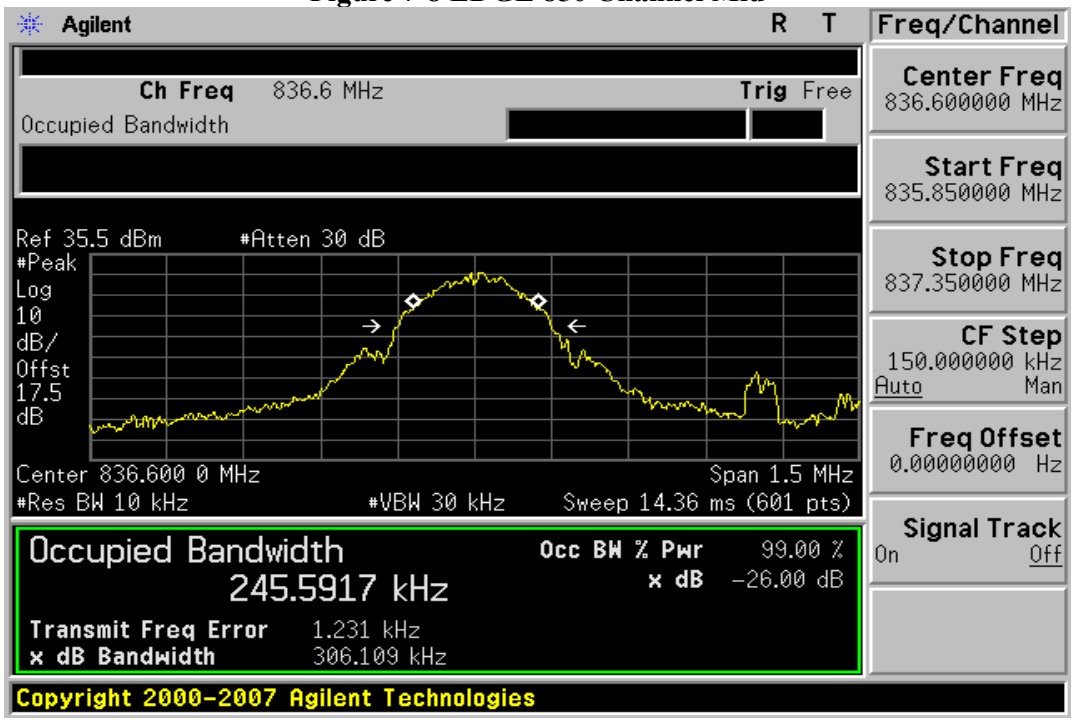


Figure 7-9: EDGE 850 Channel High

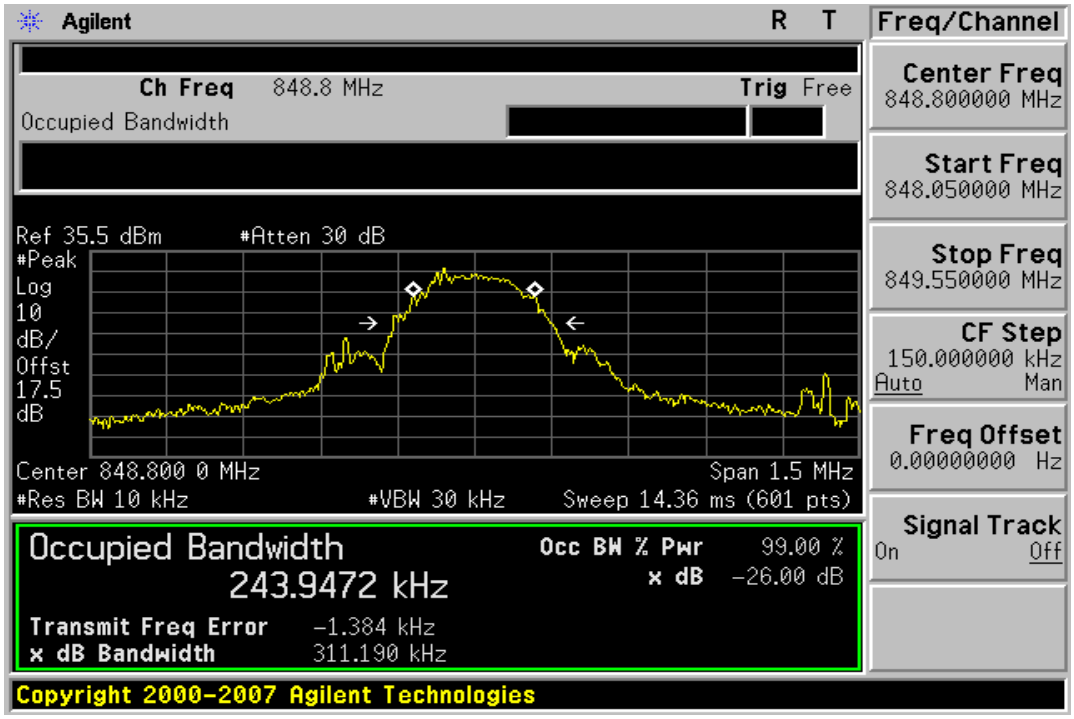


Figure 7-10: EDGE 1900 Channel Low

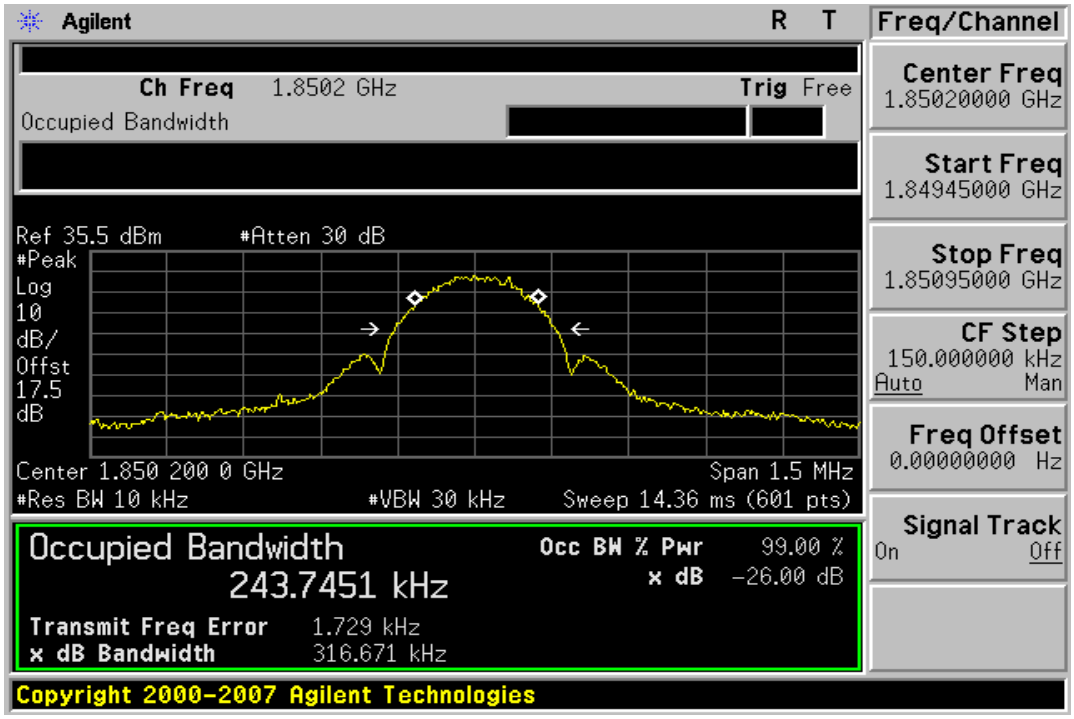


Figure 7-11 EDGE 1900 Channel Mid

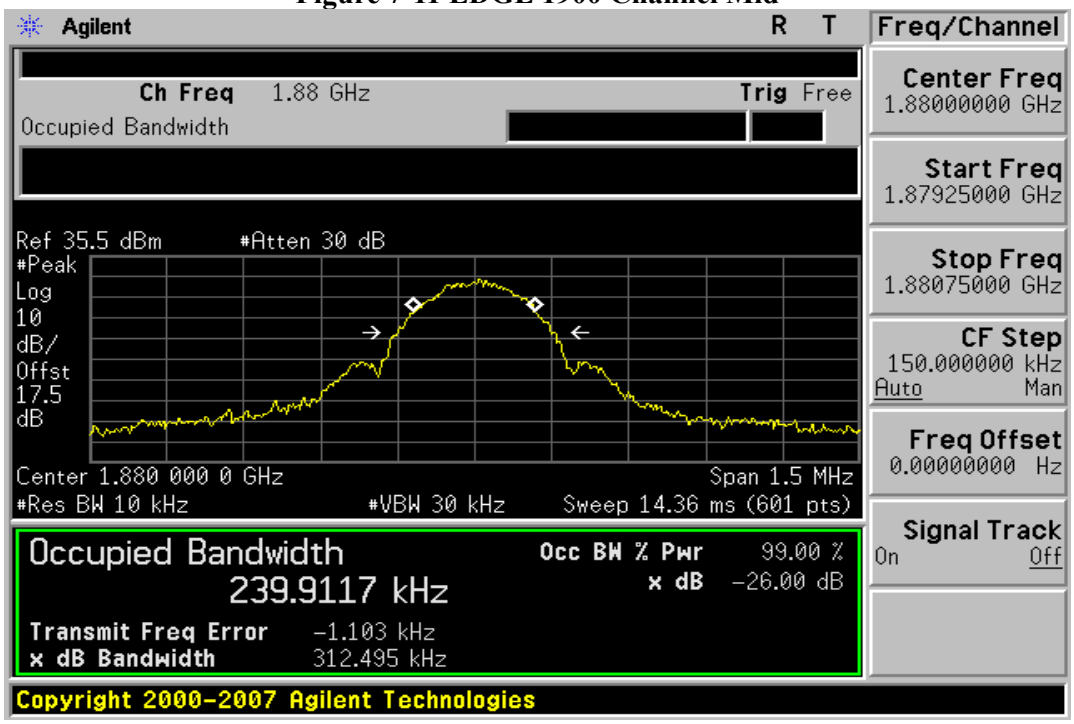


Figure 7-12: EDGE 1900 Channel High

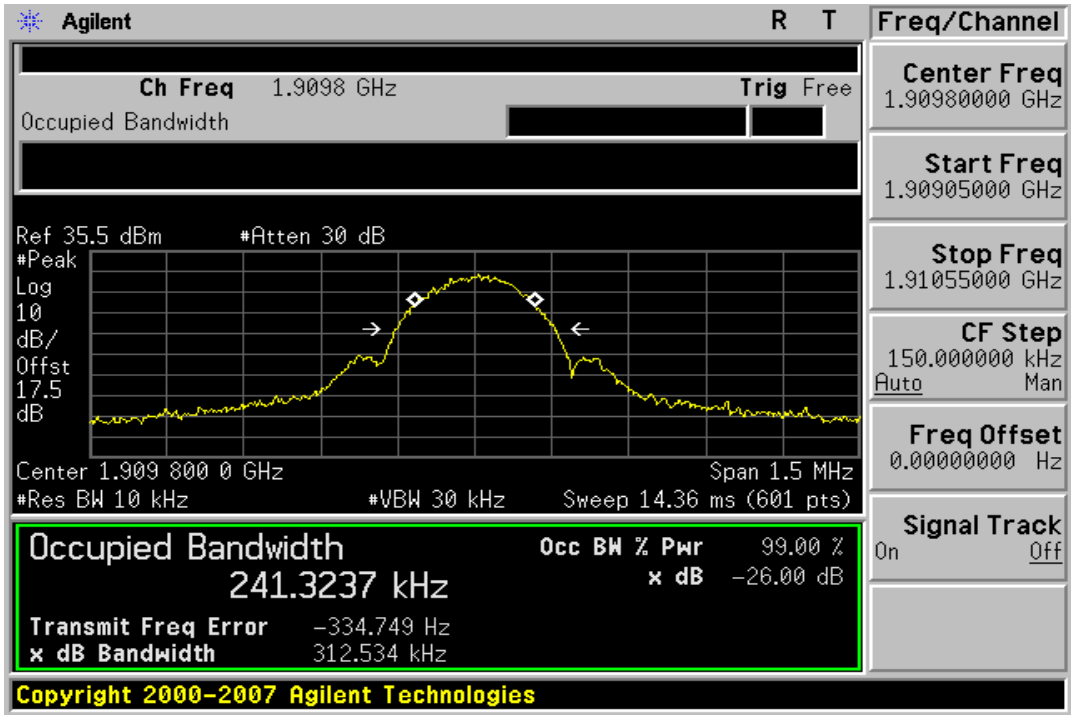


Figure 7-13: WCDMA Band V Channel Low

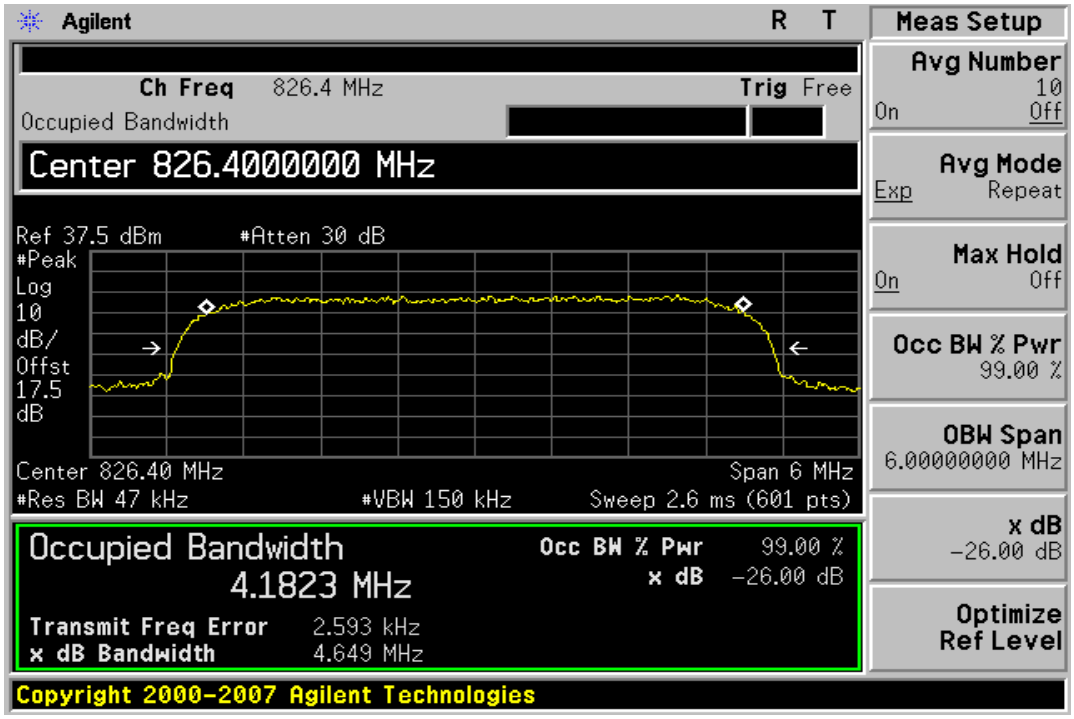


Figure 7-14 WCDMA Band V Channel Mid

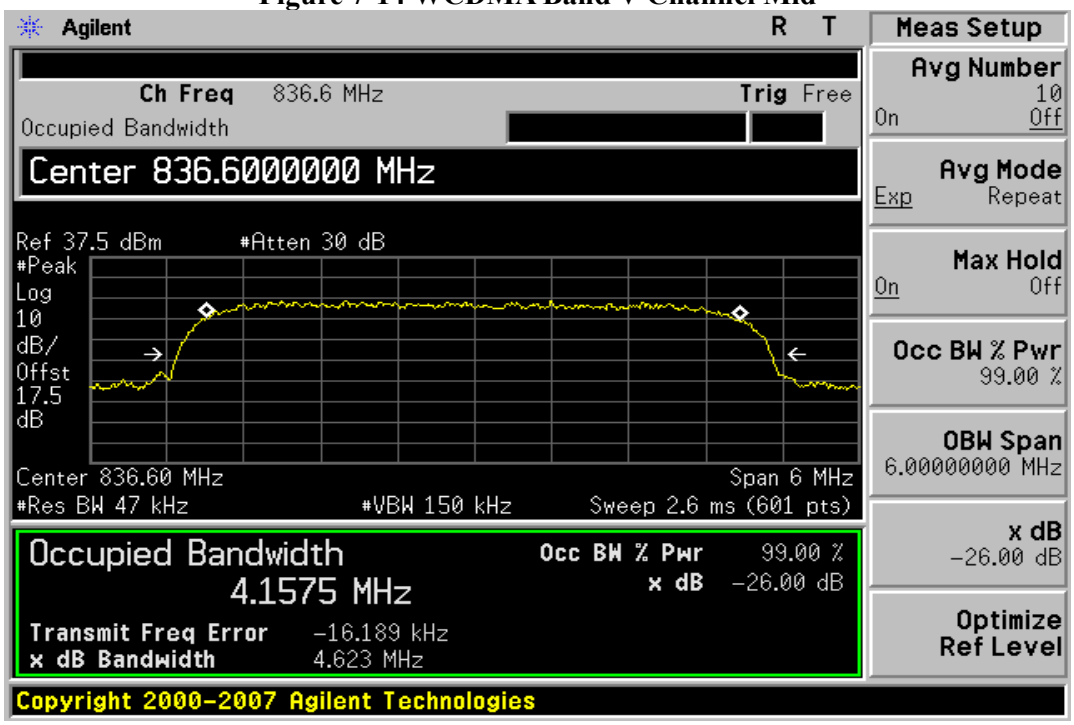


Figure 7-15: WCDMA Band V Channel High

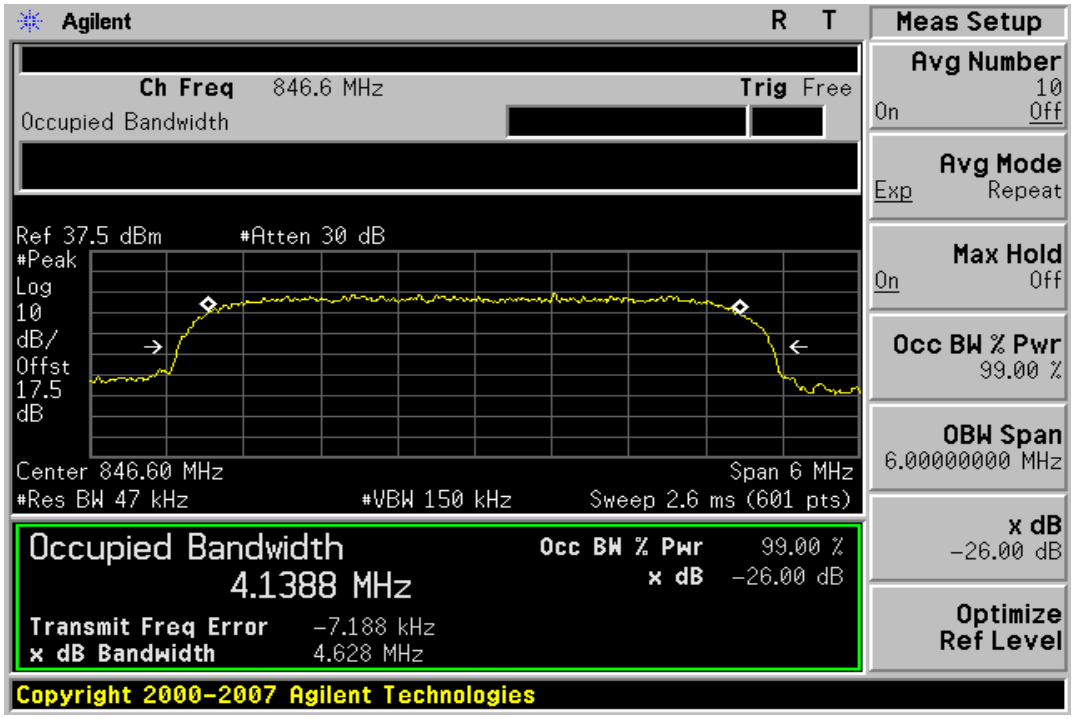


Figure 7-16: WCDMA Band II Channel Low

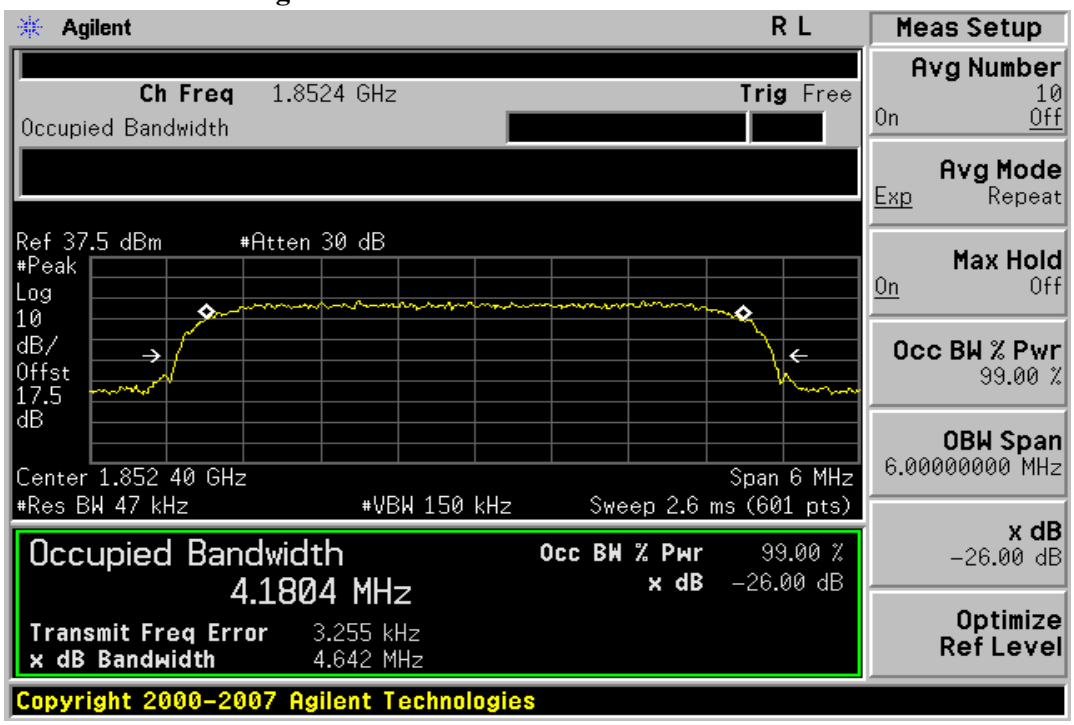


Figure 7-17 WCDMA Band II Channel Mid

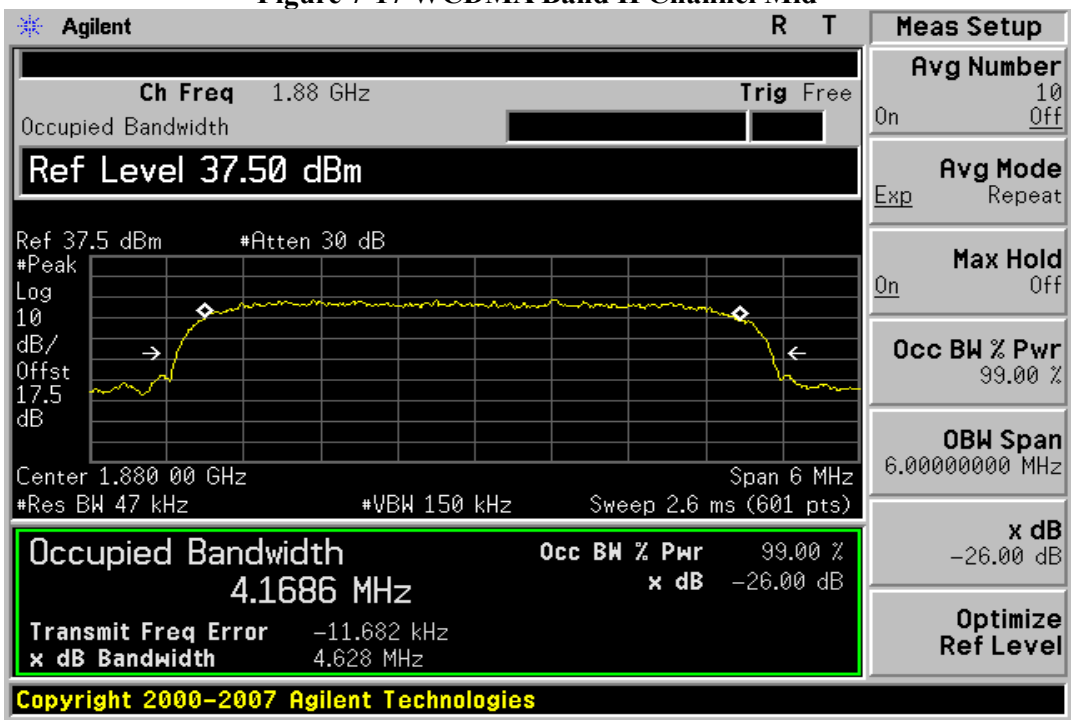


Figure 7-18: WCDMA Band II Channel High

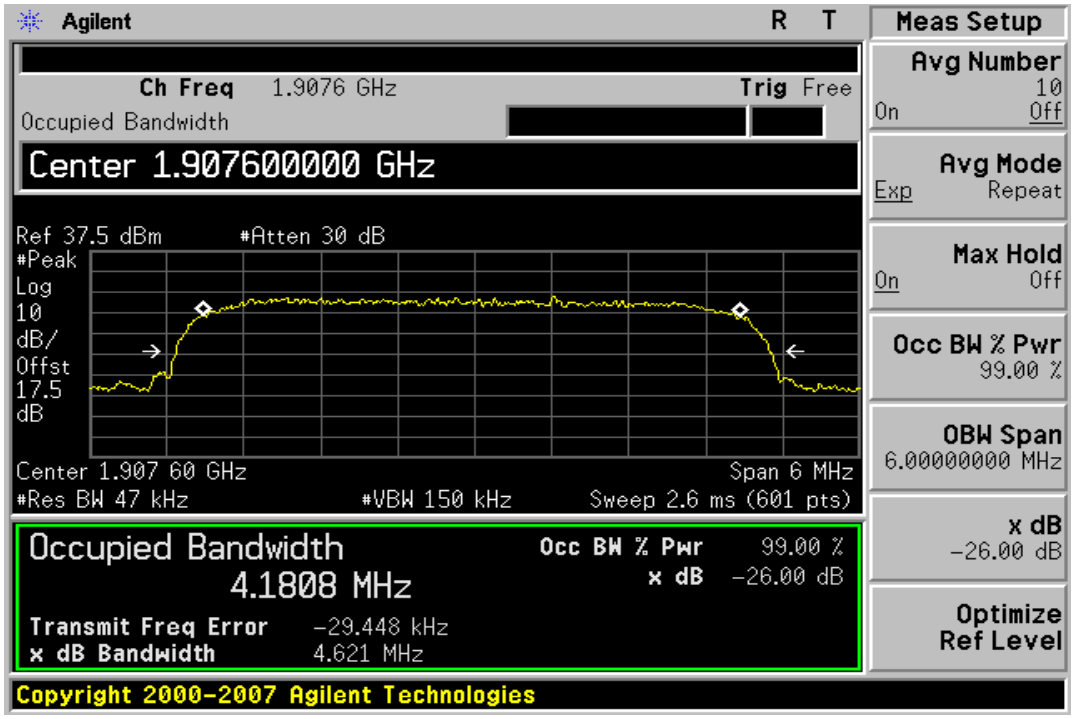


Figure 7-19: WCDMA Band V HSDPA Channel Low

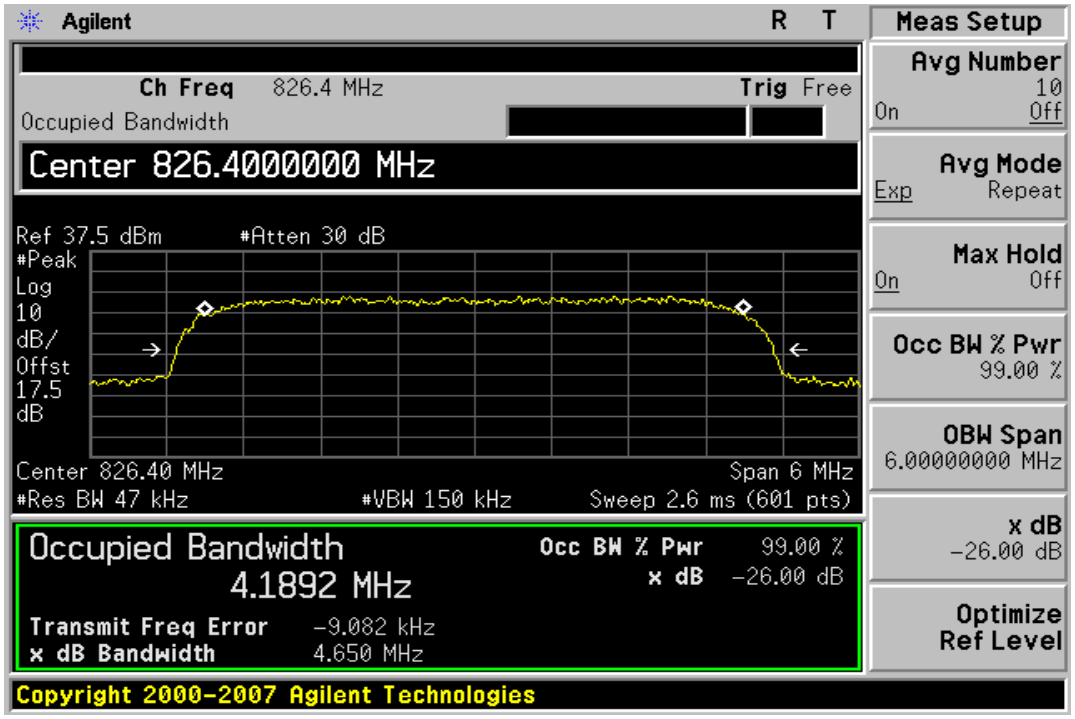


Figure 7-20 WCDMA Band V HSDPA Channel Mid

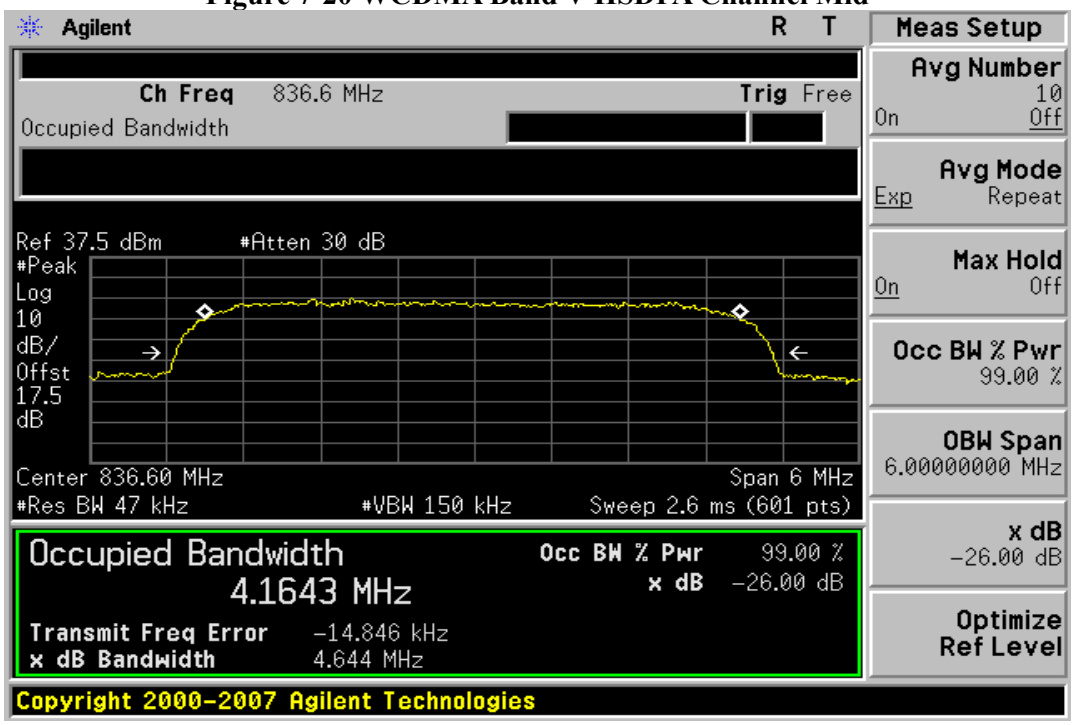


Figure 7-21: WCDMA Band V HSDPA Channel High

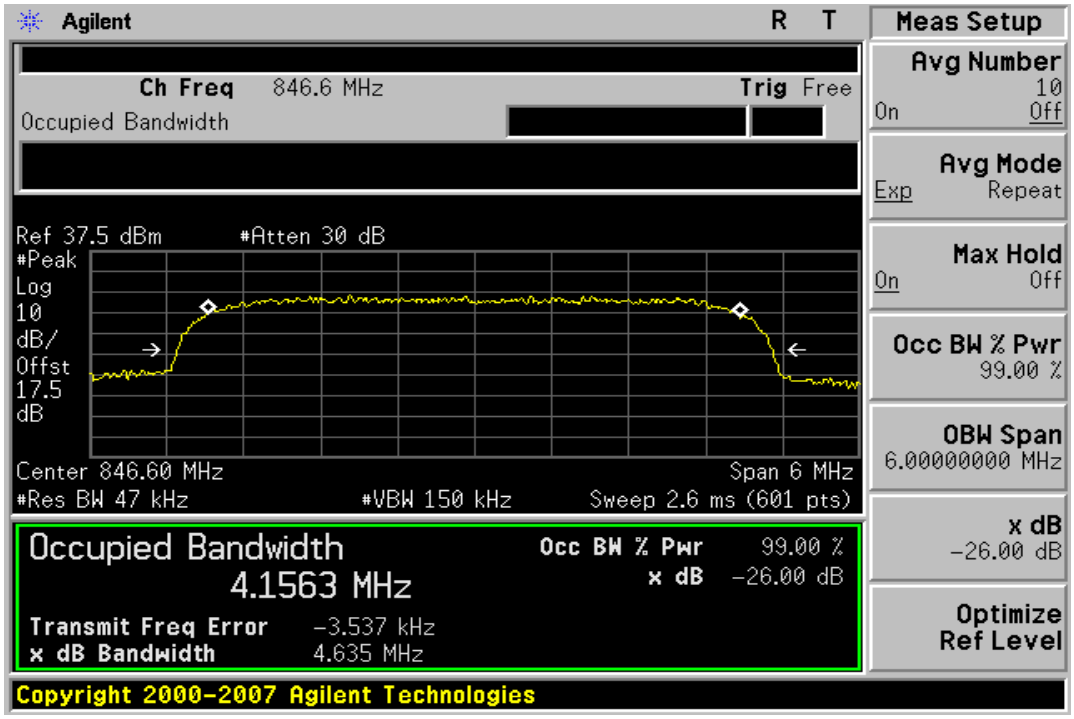


Figure 7-22: WCDMA Band II HSDPA Channel Low

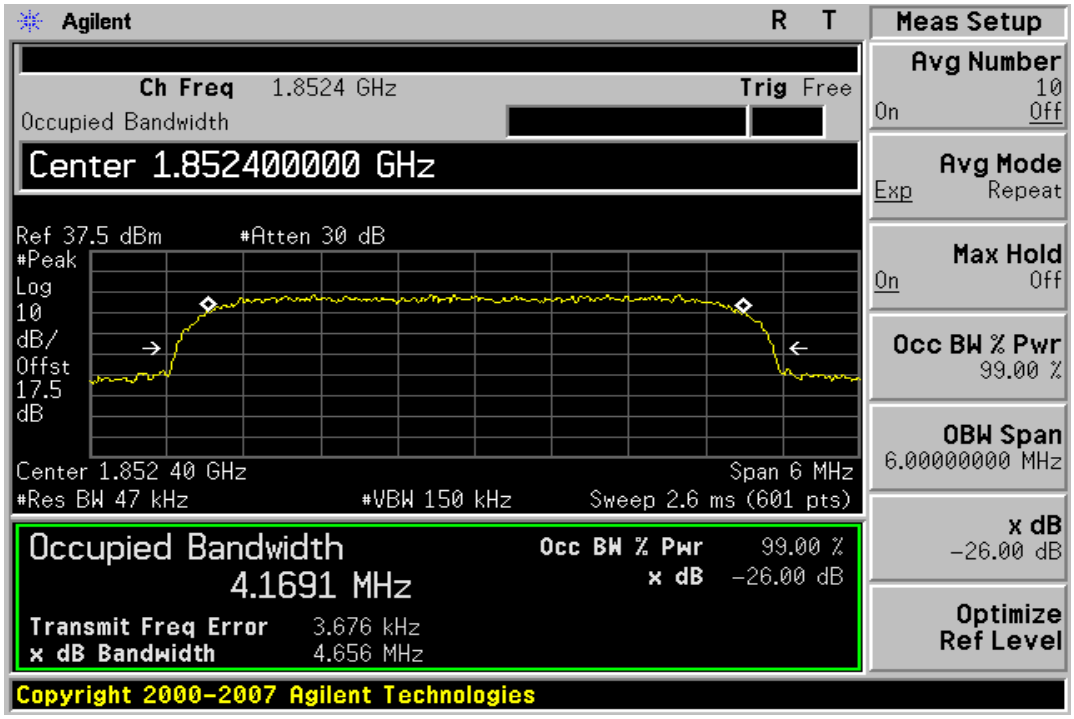


Figure 7-23 WCDMA Band V HSDPA Channel Mid

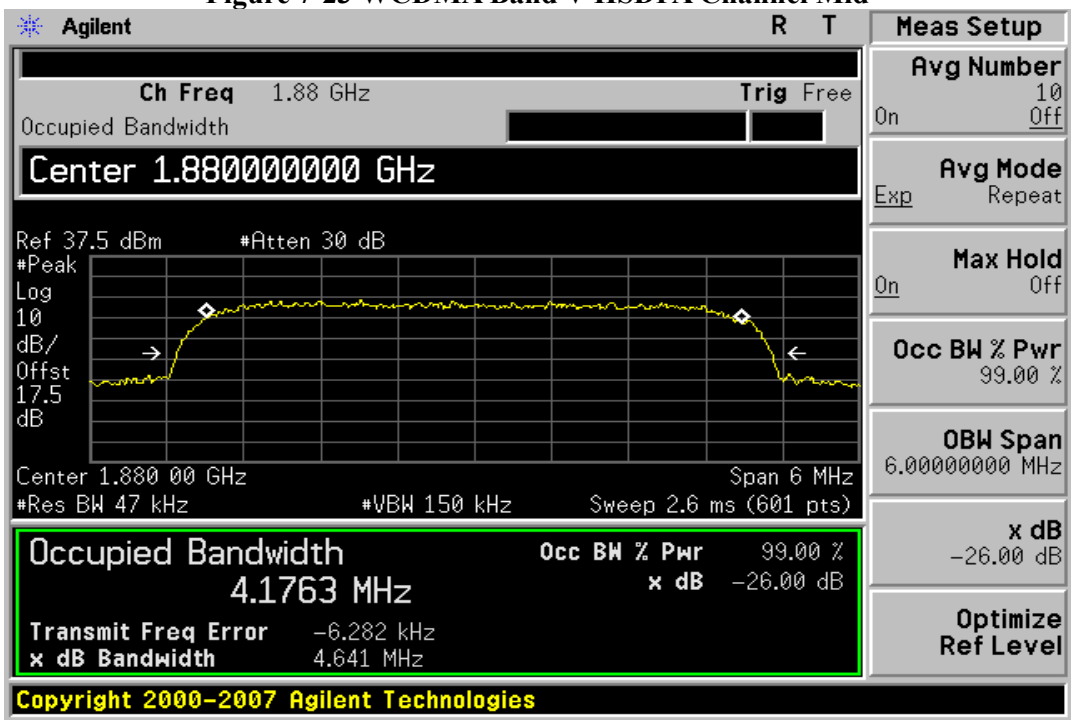


Figure 7-24: WCDMA Band V HSDPA Channel High

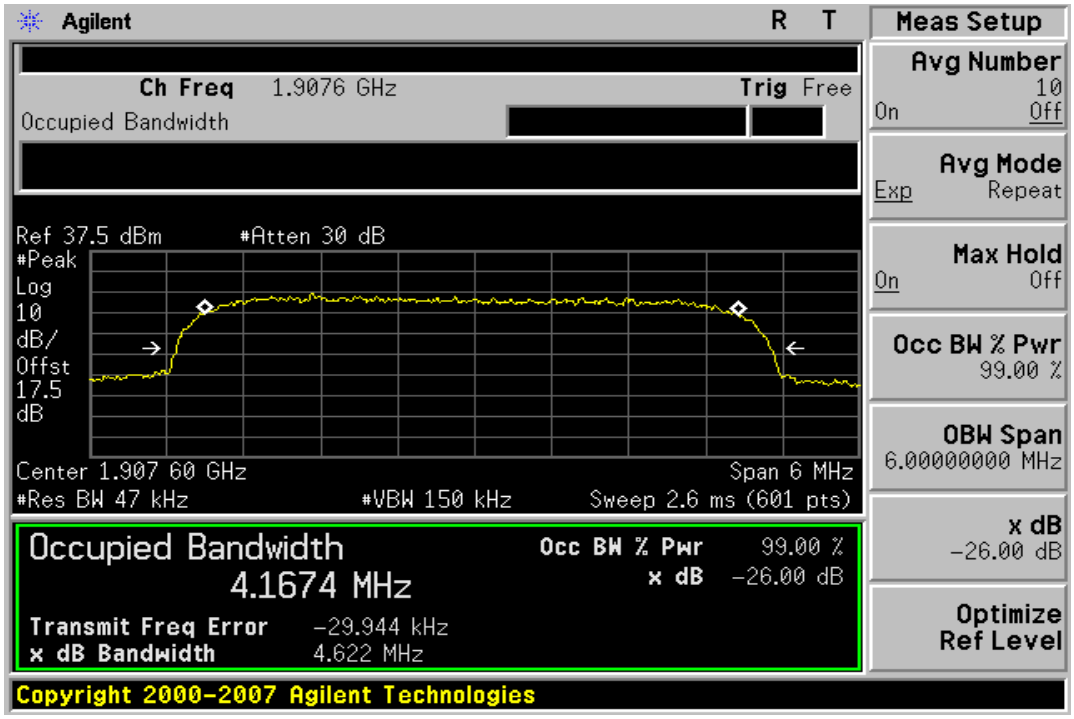


Figure 7-25: WCDMA Band V HSUPA Channel Low

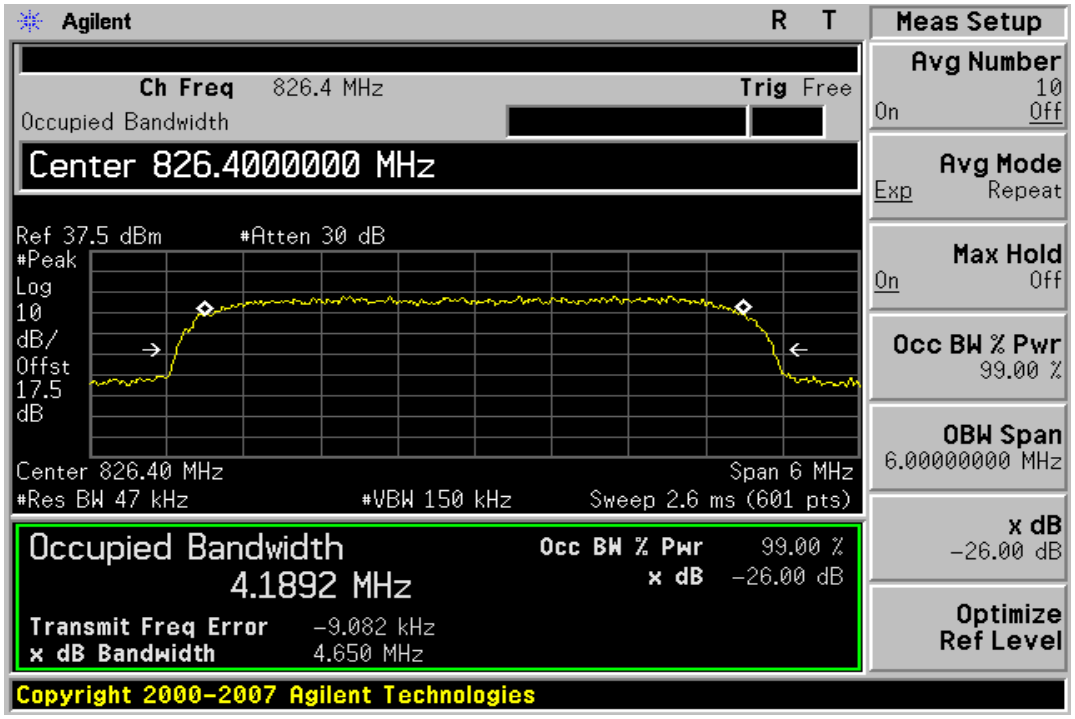


Figure 7-26 WCDMA Band V HSUPA Channel Mid

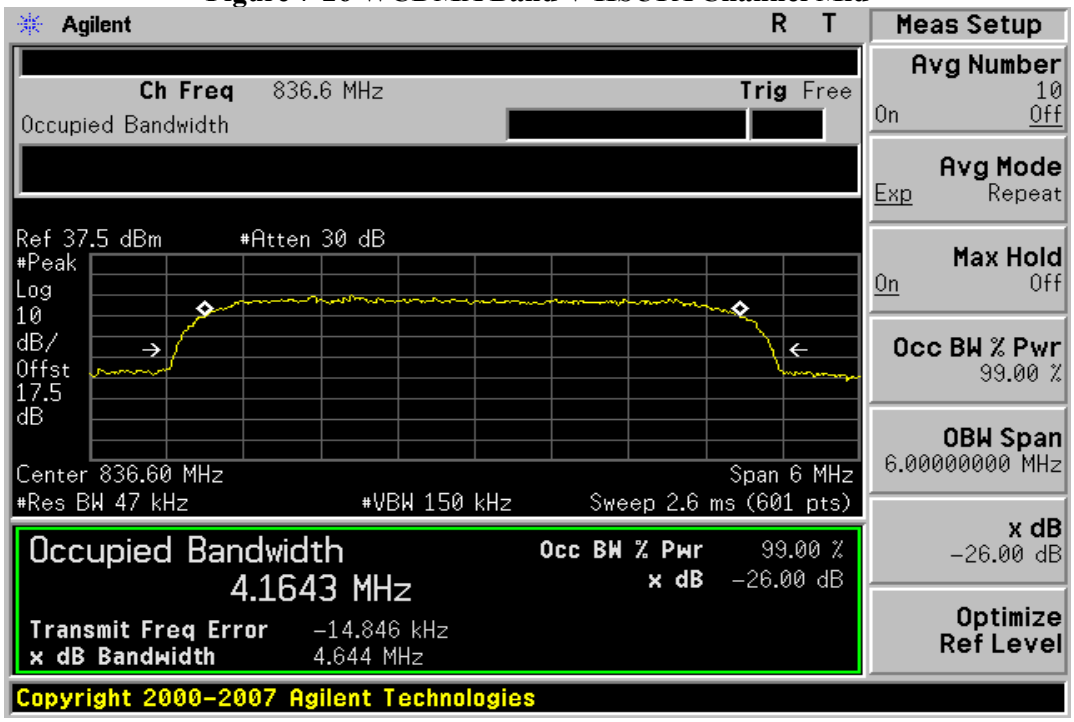


Figure 7-27: WCDMA Band V HSUPA Channel High

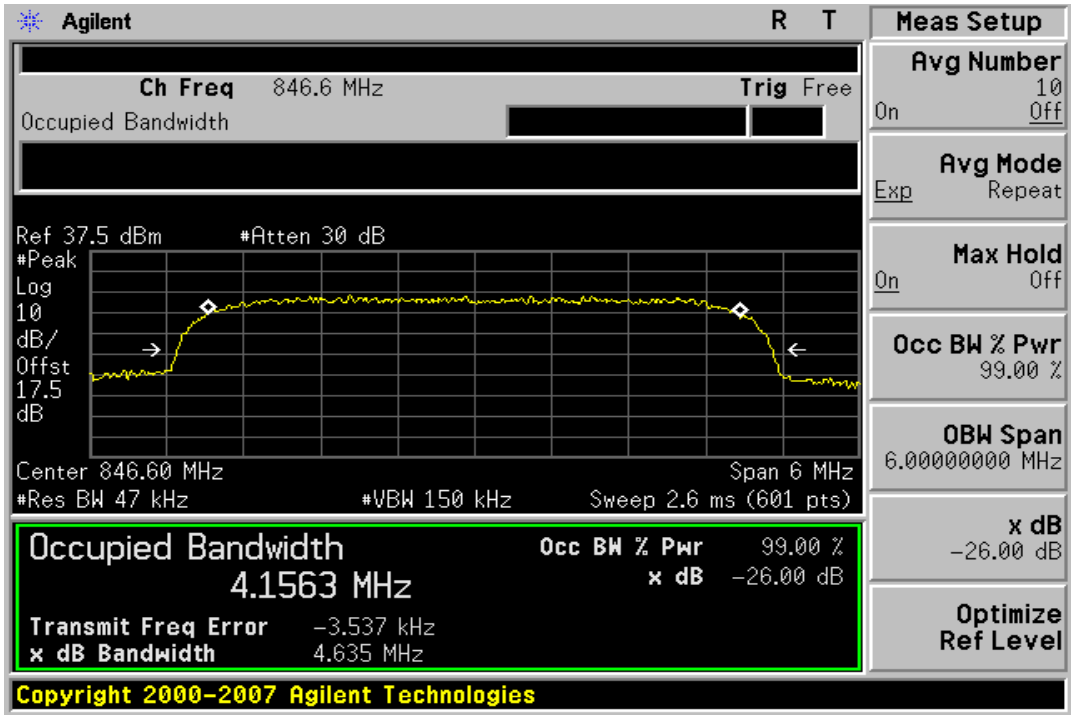


Figure 7-28: WCDMA Band II HSUPA Channel Low

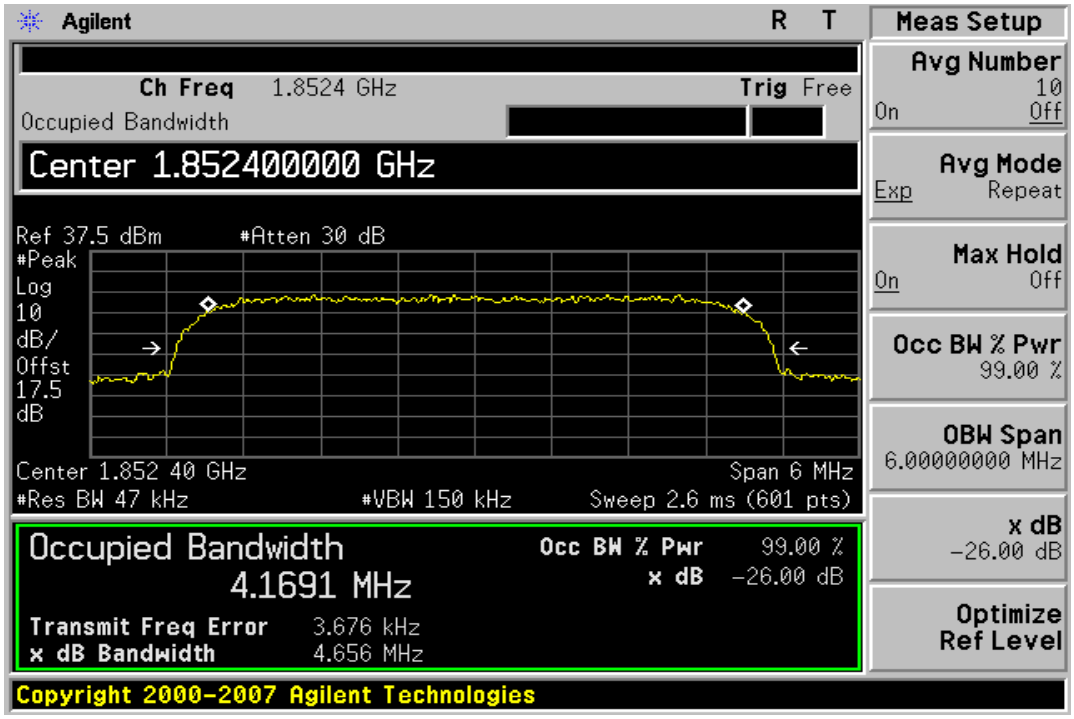


Figure 7-29 WCDMA Band V HSUPA Channel Mid

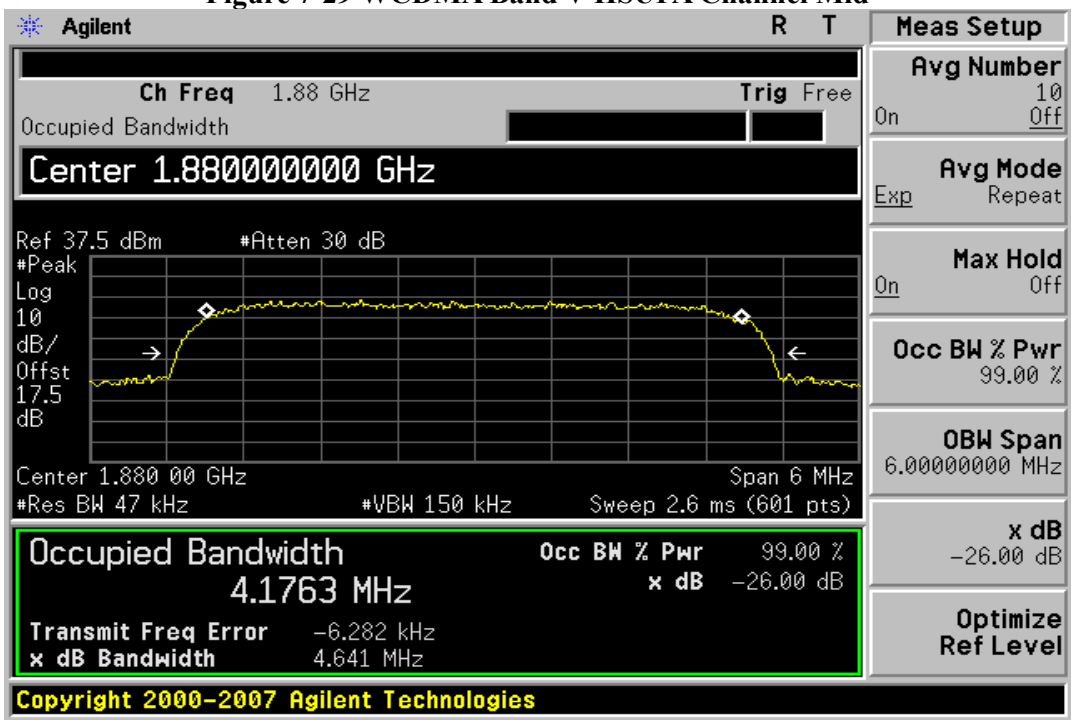
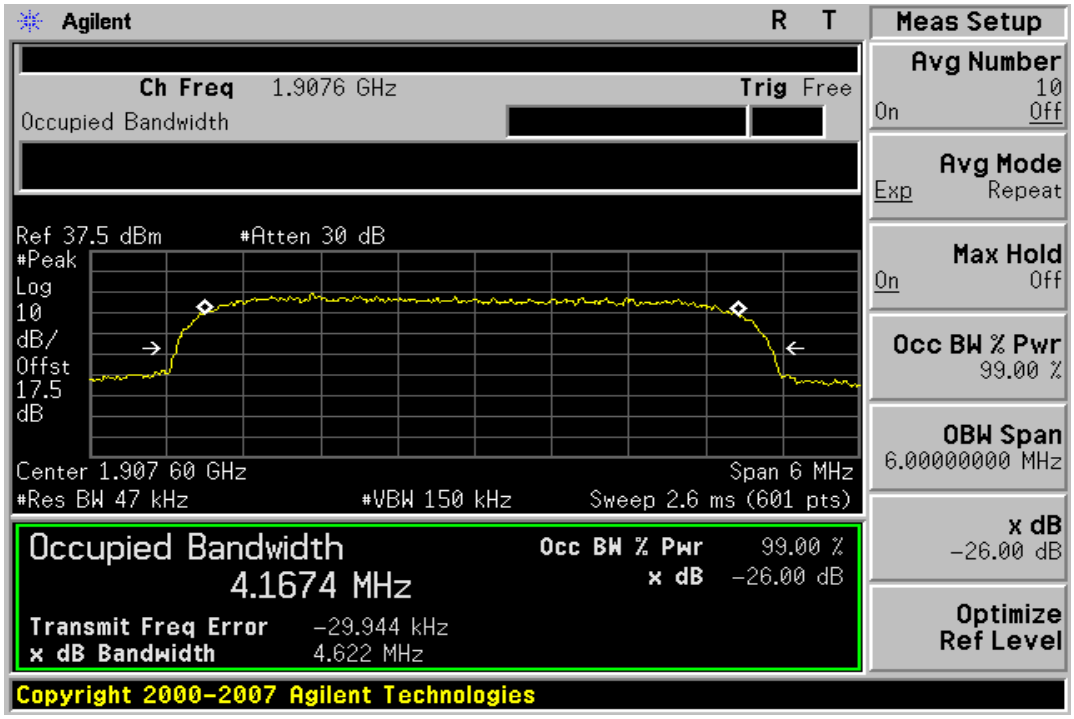


Figure 7-30: WCDMA Band V HSUPA Channel High



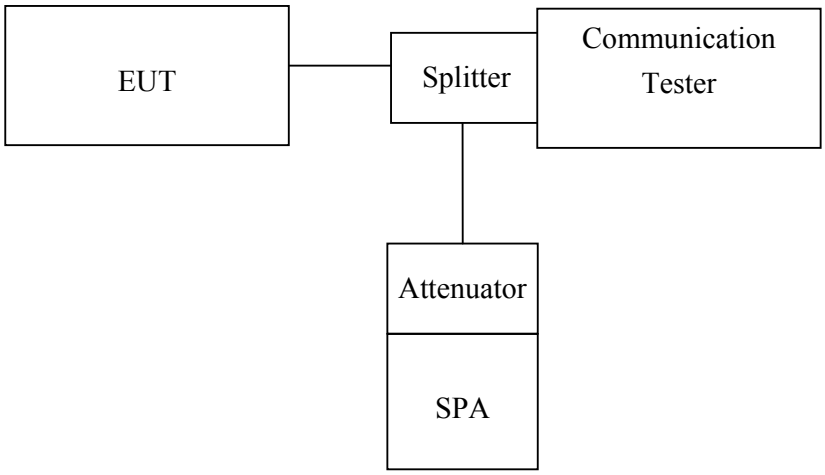
8. OUT OF BAND EMISSION AT ANTENNA TERMINALS (TX)

8.1 Standard Applicable

According to FCC §2.1051.

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

8.2 Test SET-UP



Note: *Measurement setup for testing on Antenna connector*

8.3 Measurement Procedure

The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 1MHz, sufficient scans were taken to show the out of band Emissions if any up to 10th harmonic.

For the out of band: Set the RBW, VBW = 1MHz, Start=30MHz, Stop= 10 th harmonic. Limit = -13dBm

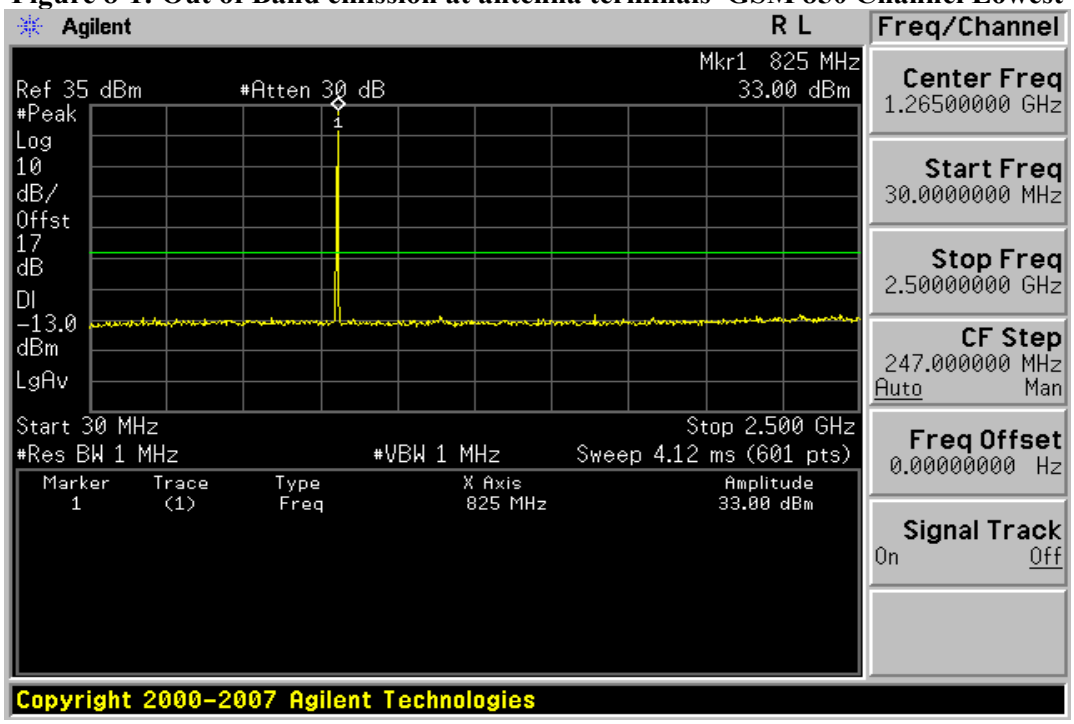
Band Edge Requirements(1850MHz and 1910MHz) : In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the out of band Emissions. Limit, -13dBm.

8.4 Measurement Equipment Used:

Please refer to section 2.4.

8.5 Measurement Result

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



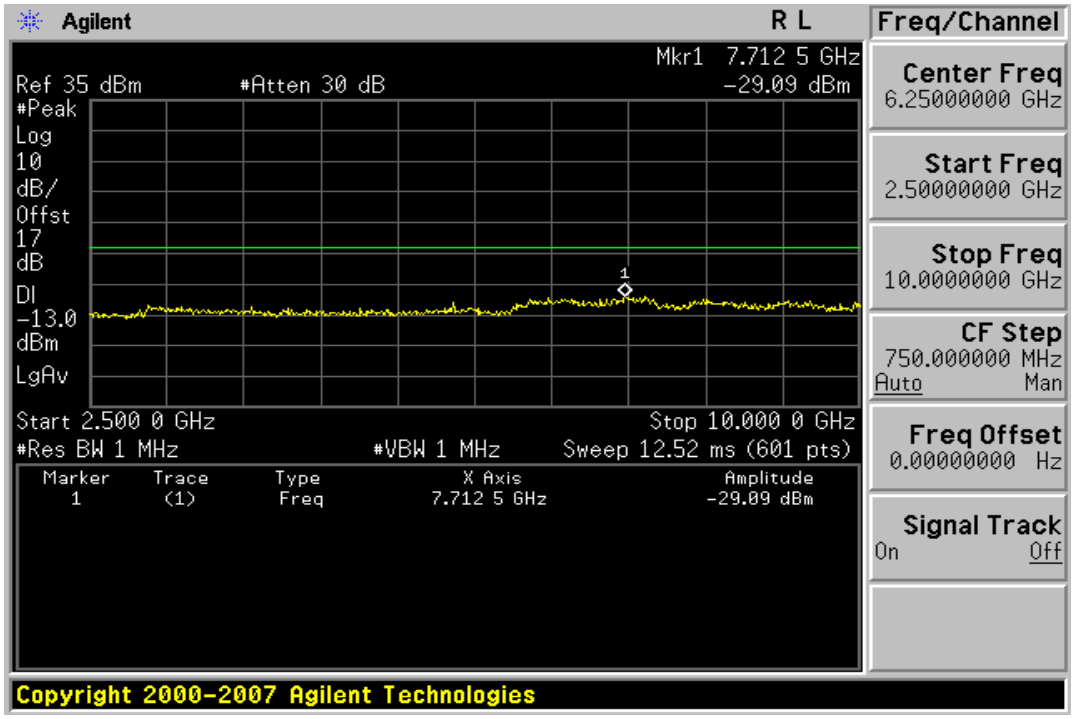
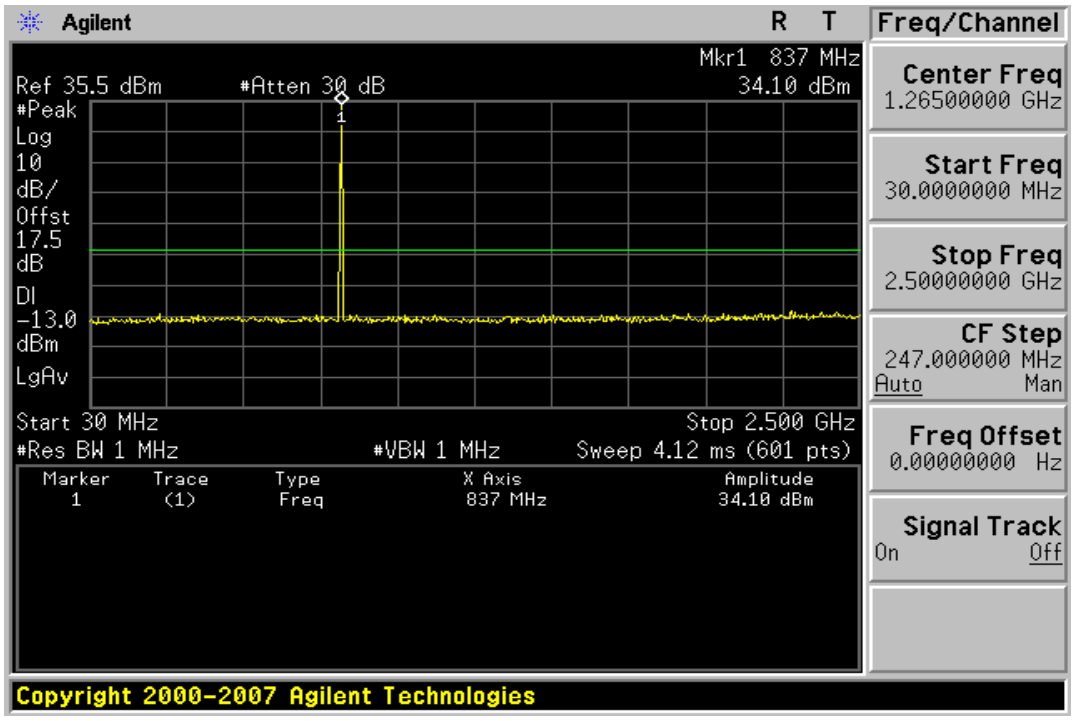


Figure 8-2: Out of Band emission at antenna terminals –GSM 850 Channel Mid



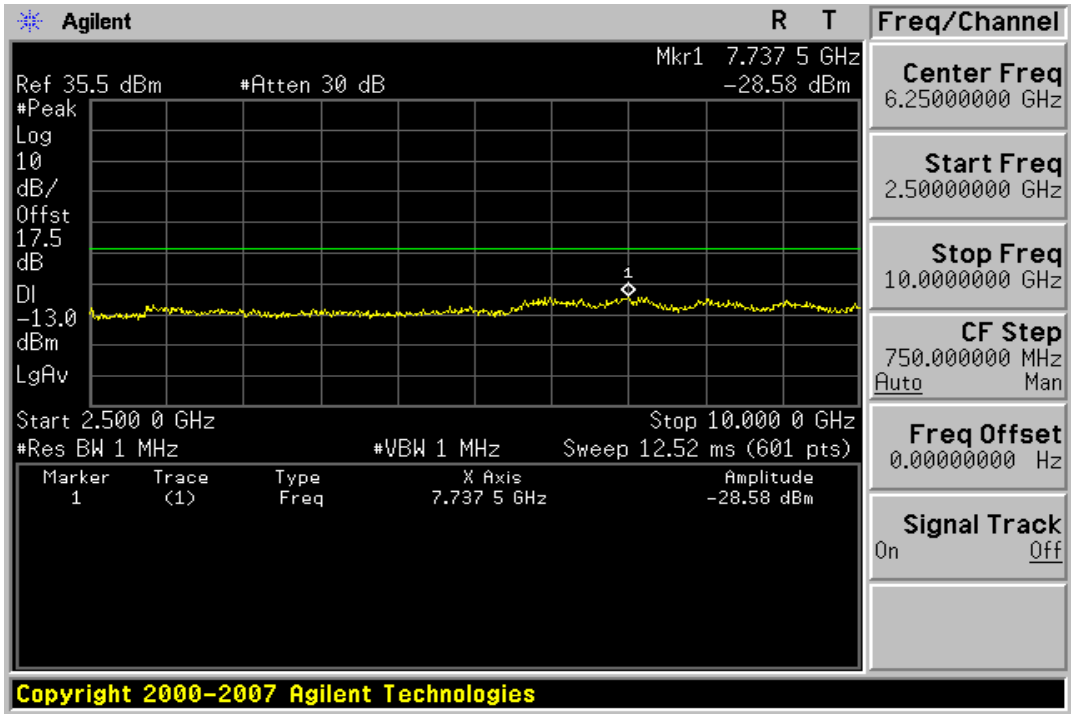
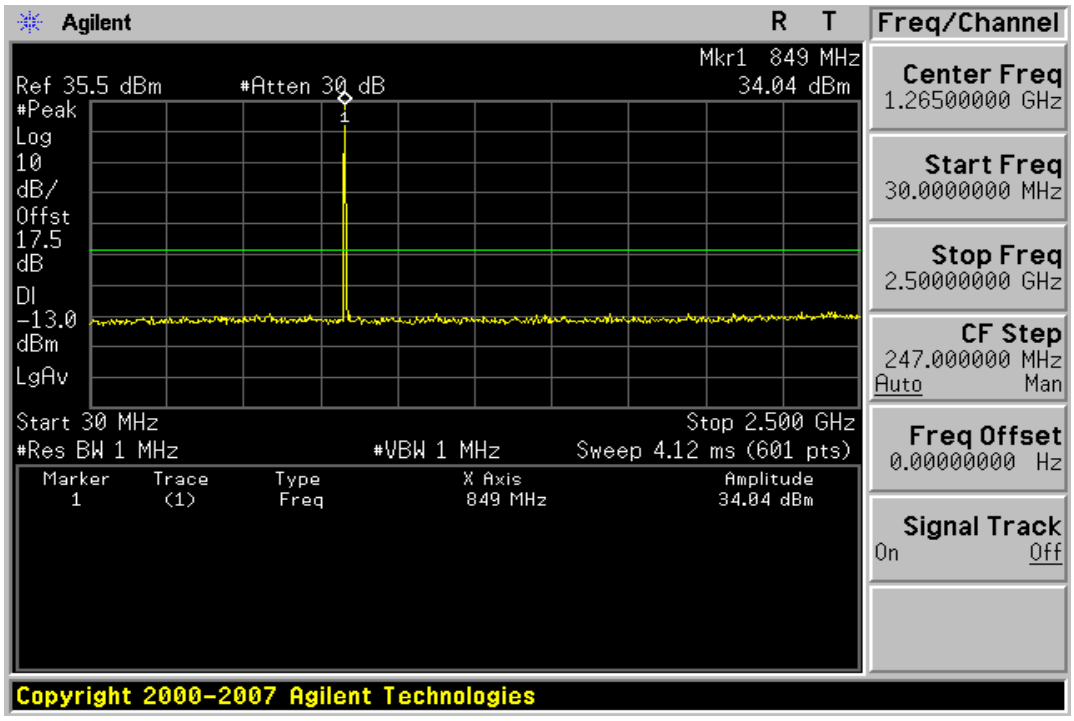


Figure8-3: Out of Band emission at antenna terminals–GSM 850 Channel Highest



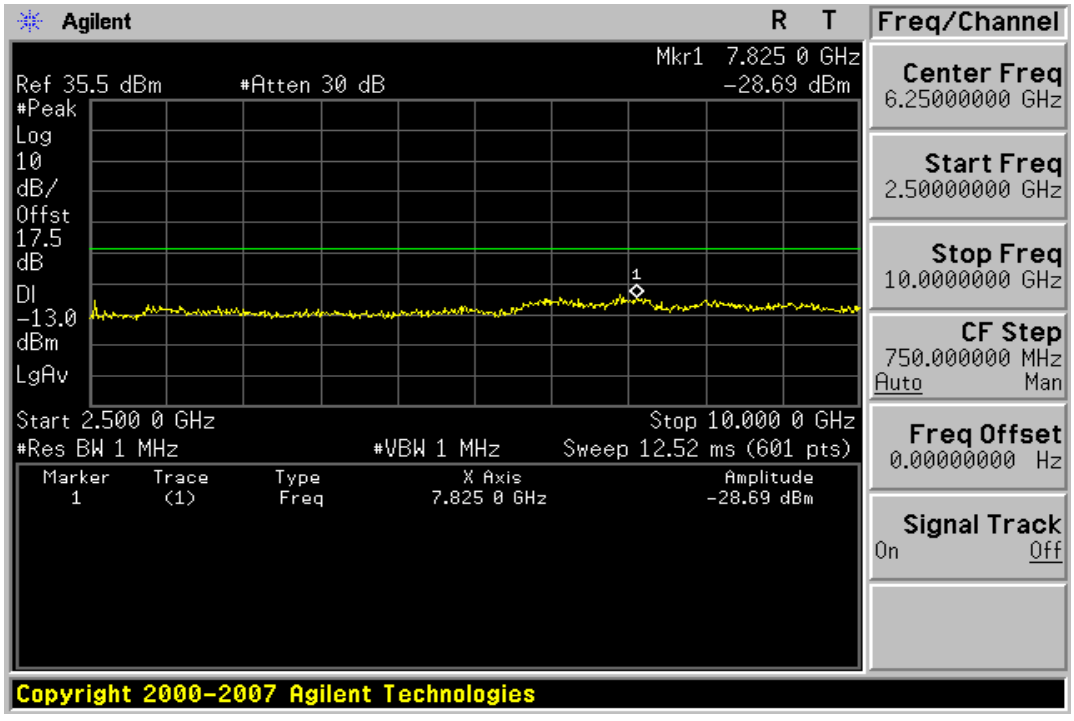


Figure 8-4: Band edge emission at antenna terminals –GSM 850 Channel Lowest

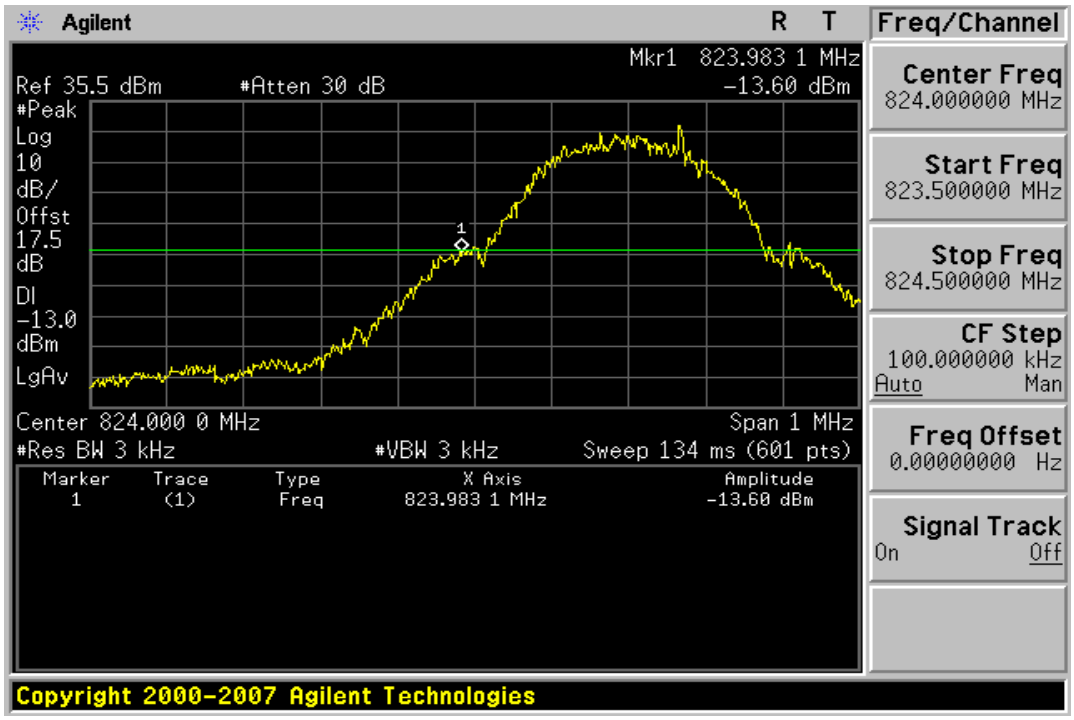


Figure 8-5: Band edge emission at antenna terminals –GSM 850 Channel Highest

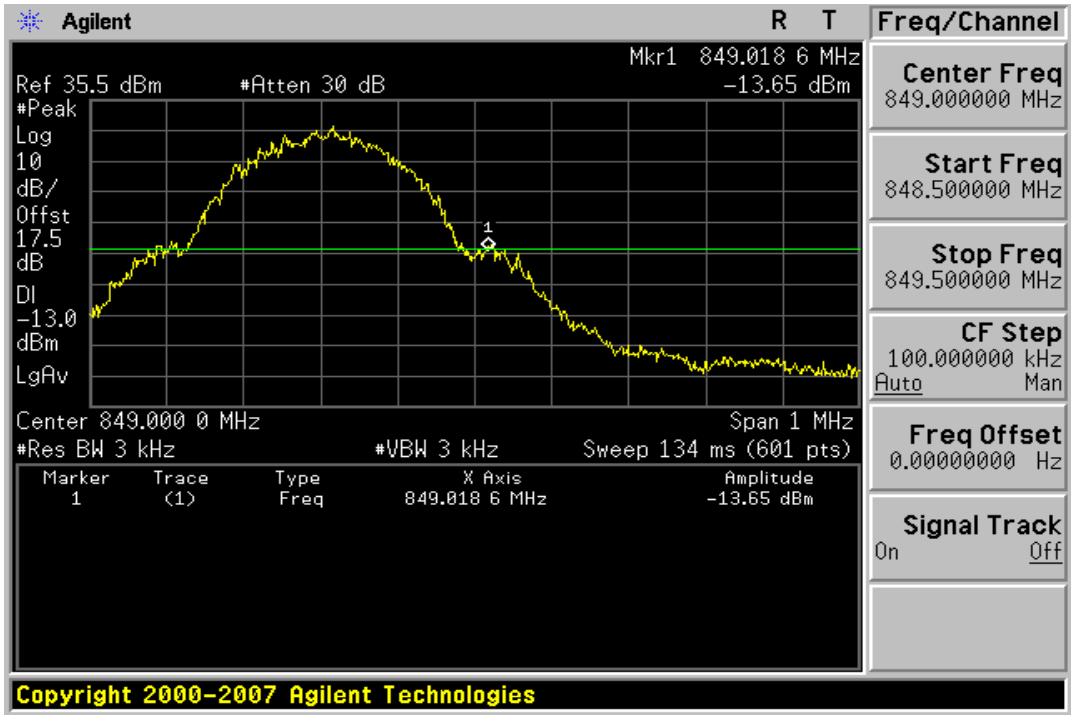
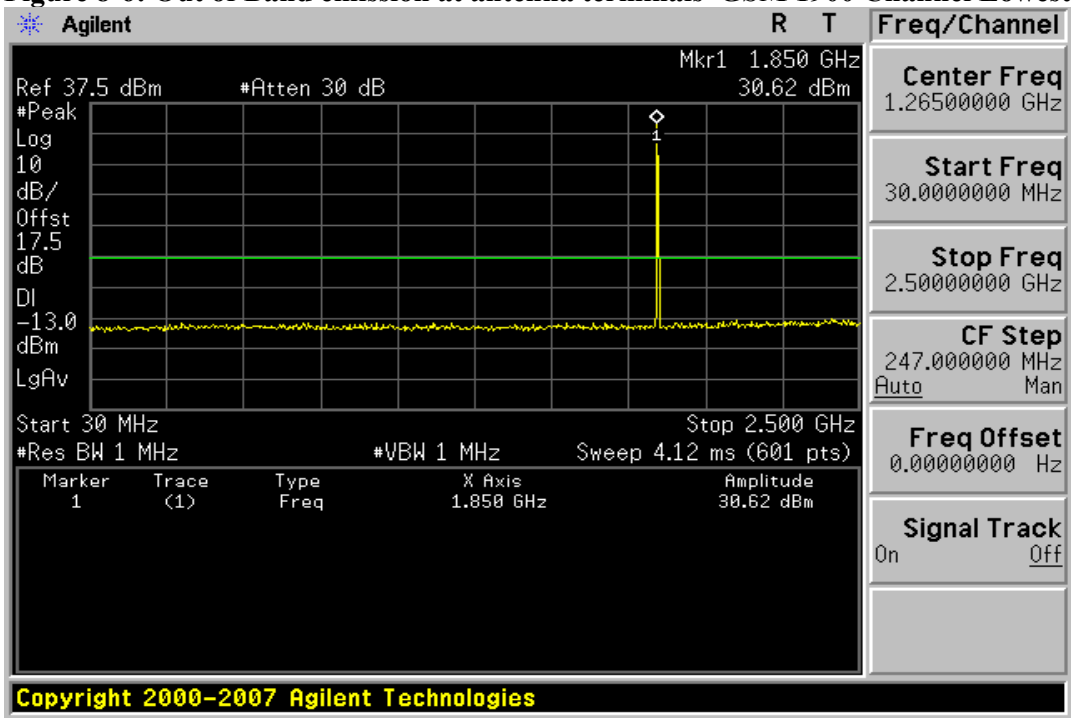


Figure 8-6: Out of Band emission at antenna terminals–GSM 1900 Channel Lowest



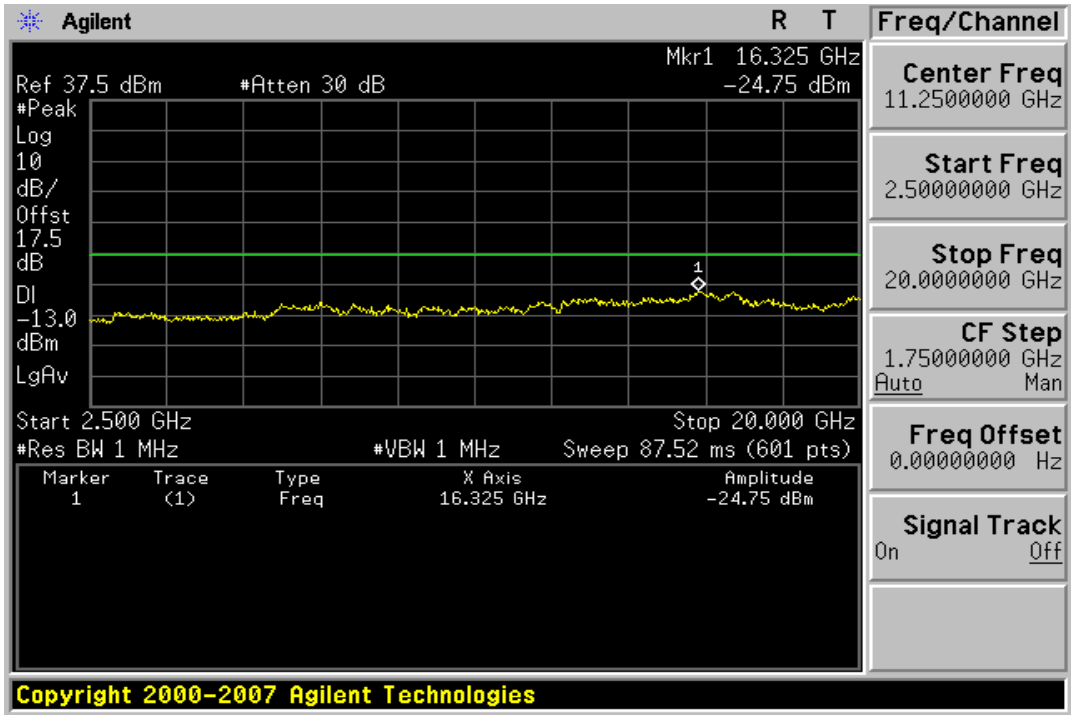
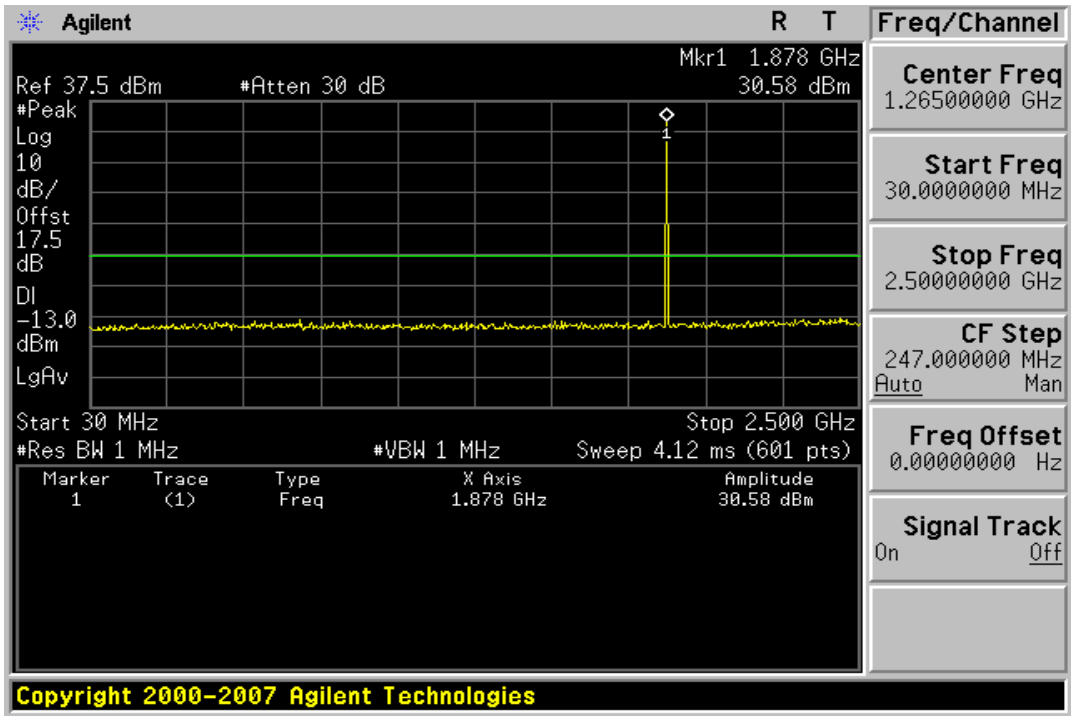


Figure 8-7: Out of Band emission at antenna terminals –GSM 1900 Channel Mid



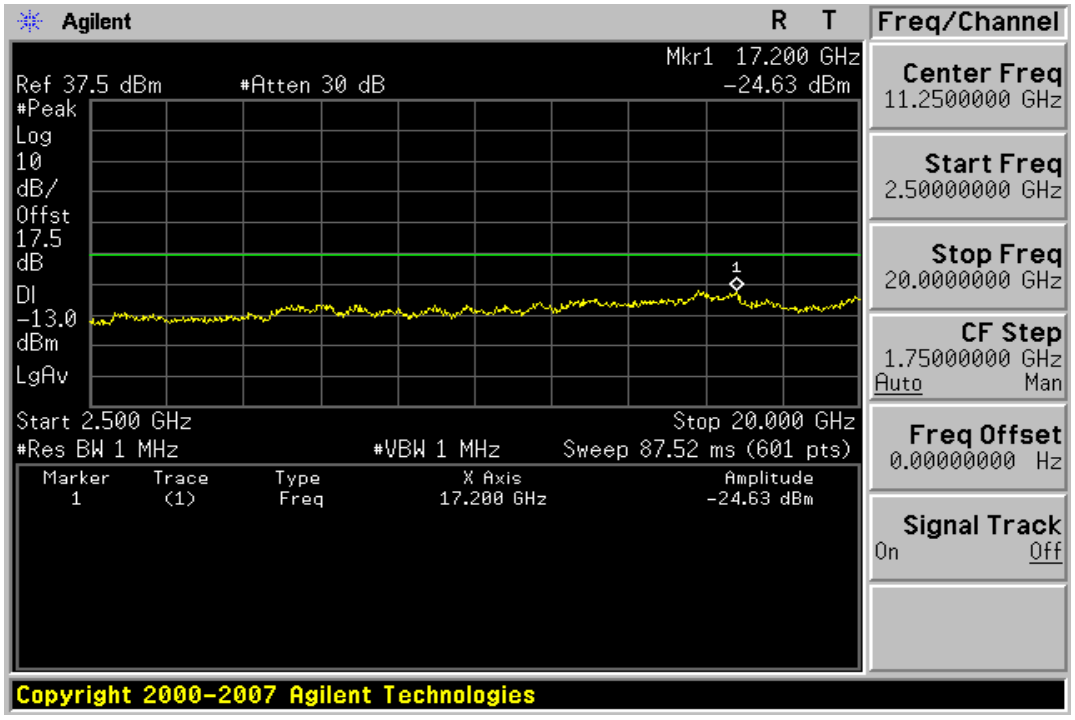
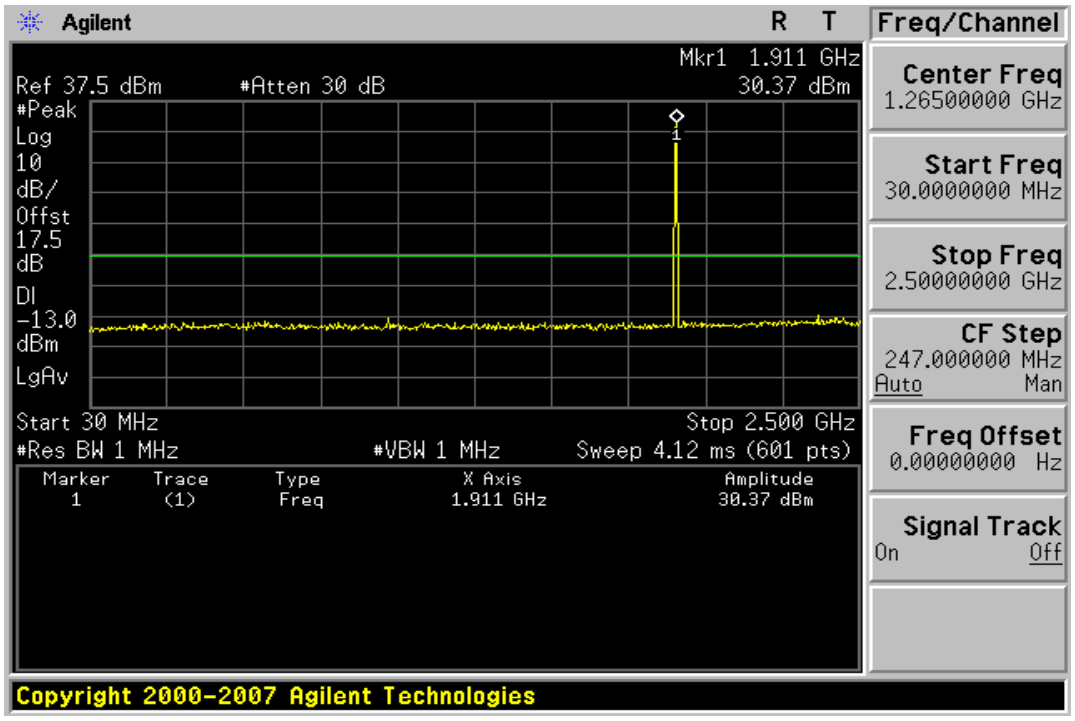


Figure 8-8: Out of Band emission at antenna terminals–GSM 1900 Channel Highest



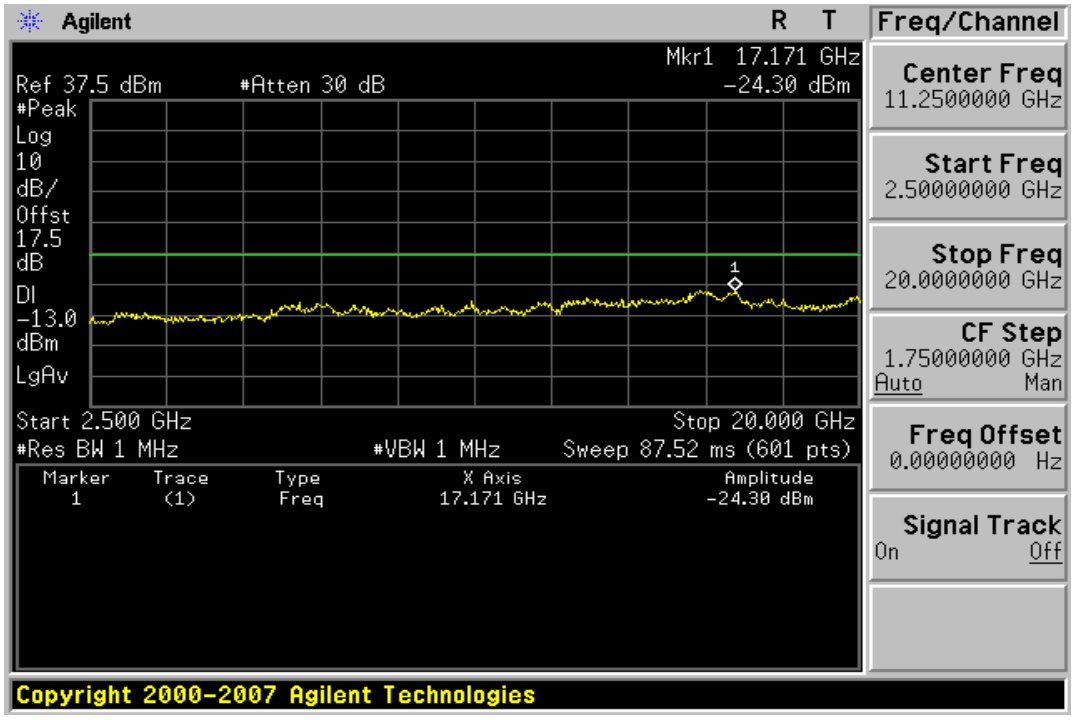


Figure 8-9: Band edge emission at antenna terminals –GSM 1900 Channel Lowest

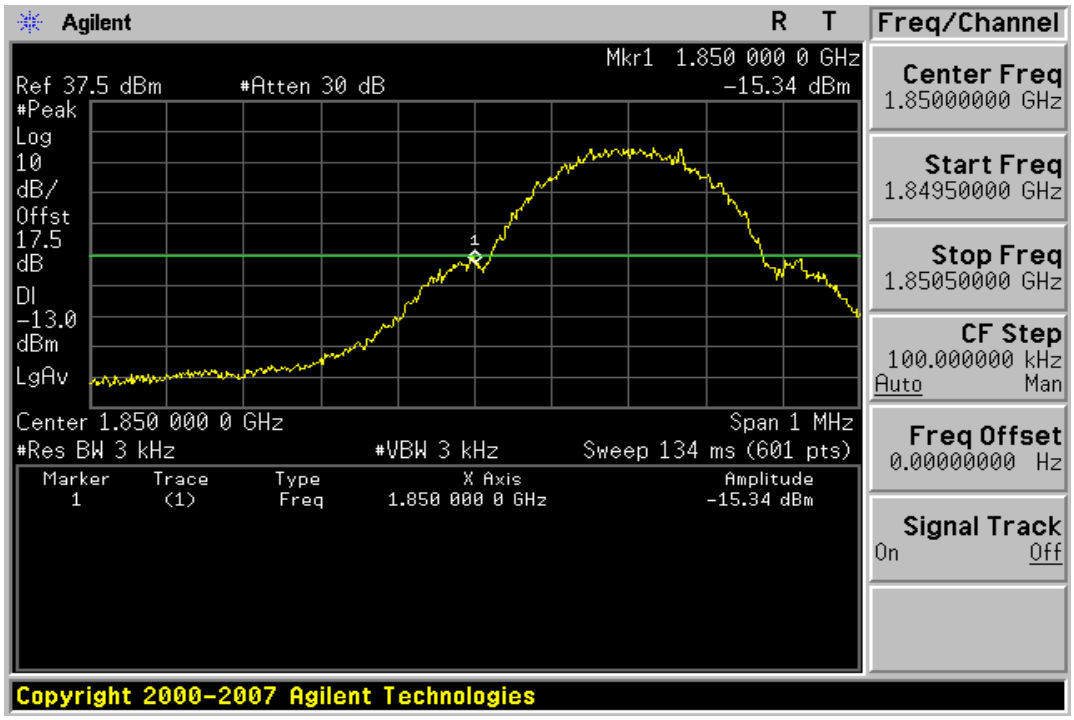


Figure 8-10: Band edge emission at antenna terminals –GSM 1900 Channel Highest

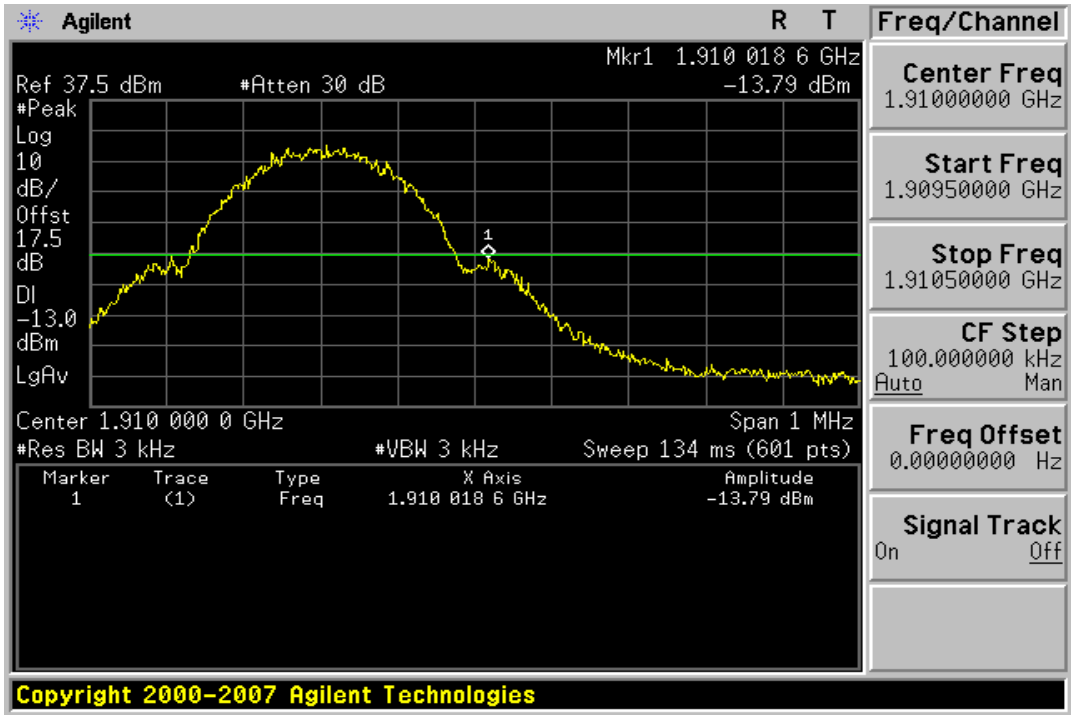
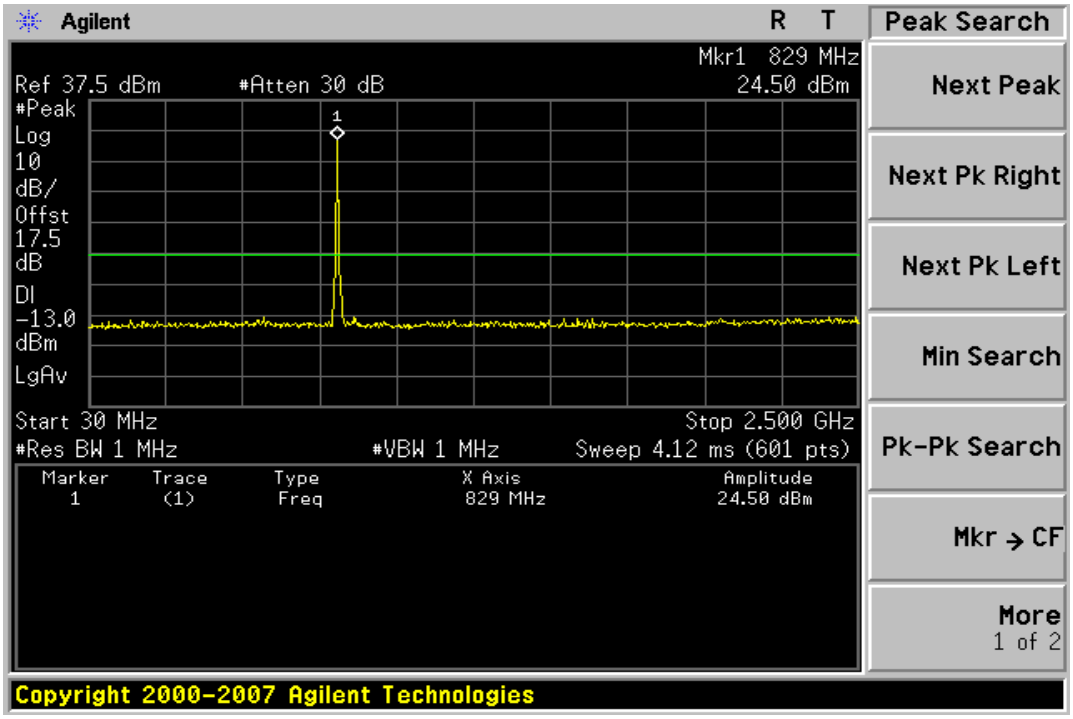


Figure 8-11: Out of Band emission at antenna terminals–WCDMA Band V Channel Lowest



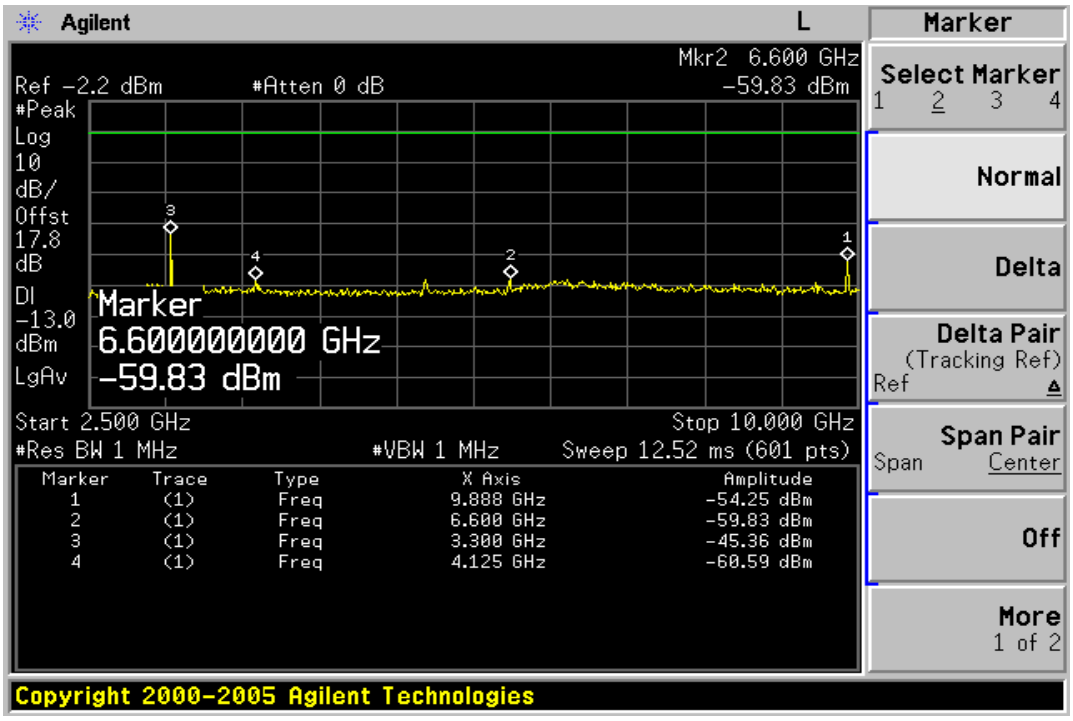
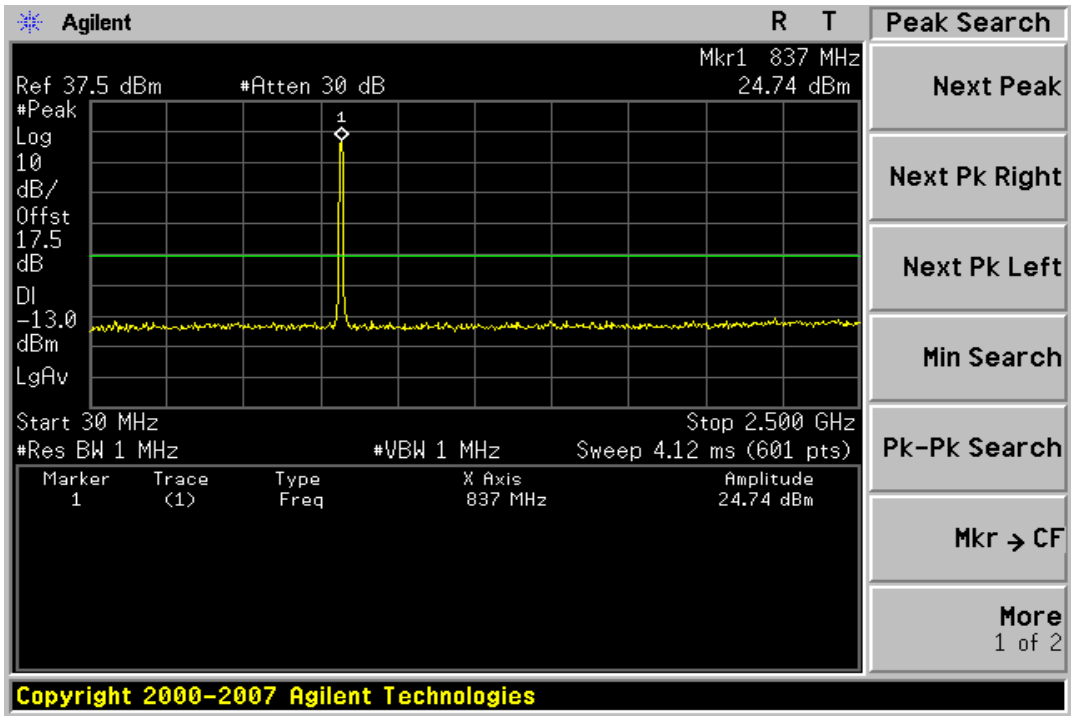


Figure 8-12: Out of Band emission at antenna terminals –WCDMA Band V Channel Mid



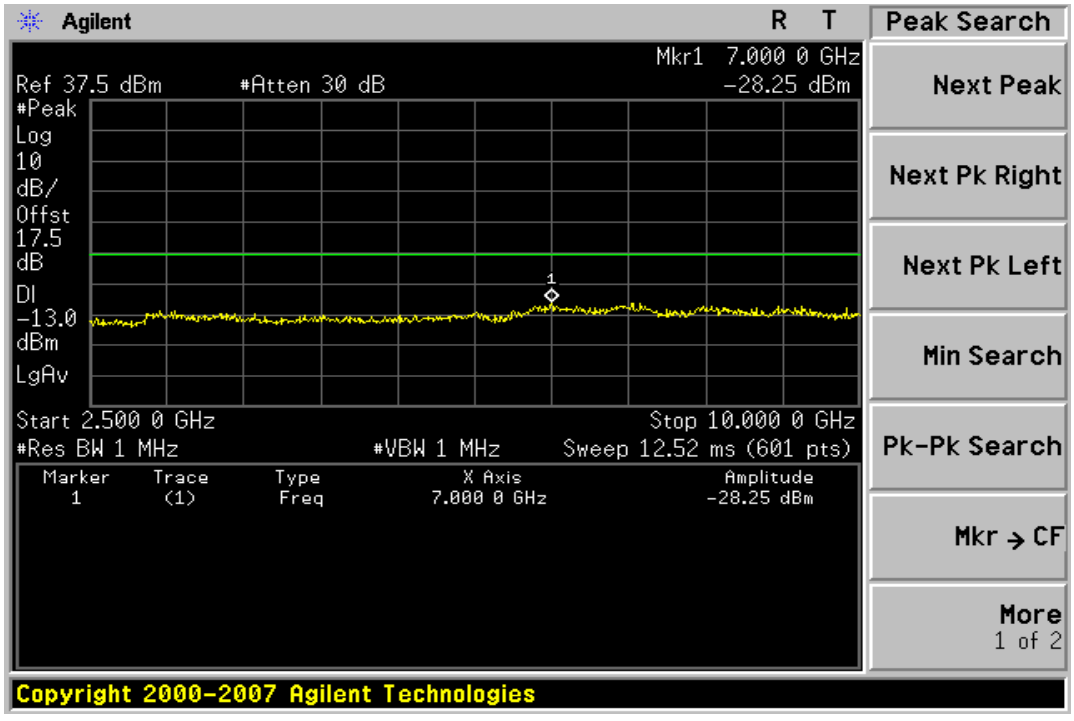
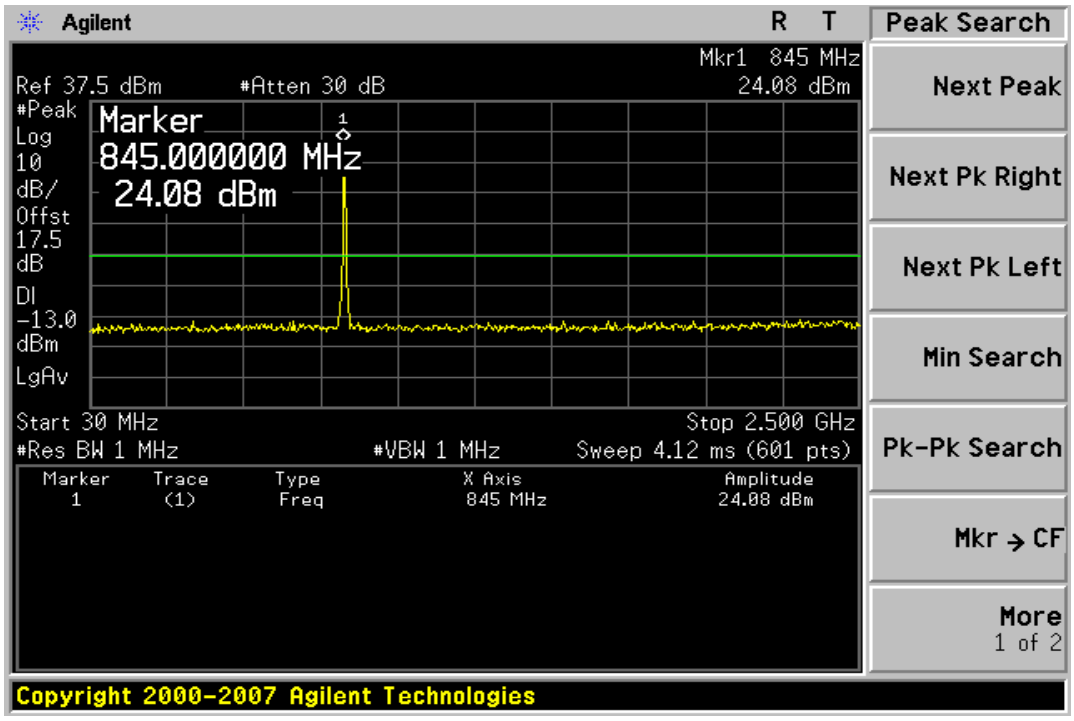


Figure 8-13: Out of Band emission at antenna terminals–WCDMA Band V Channel Highest



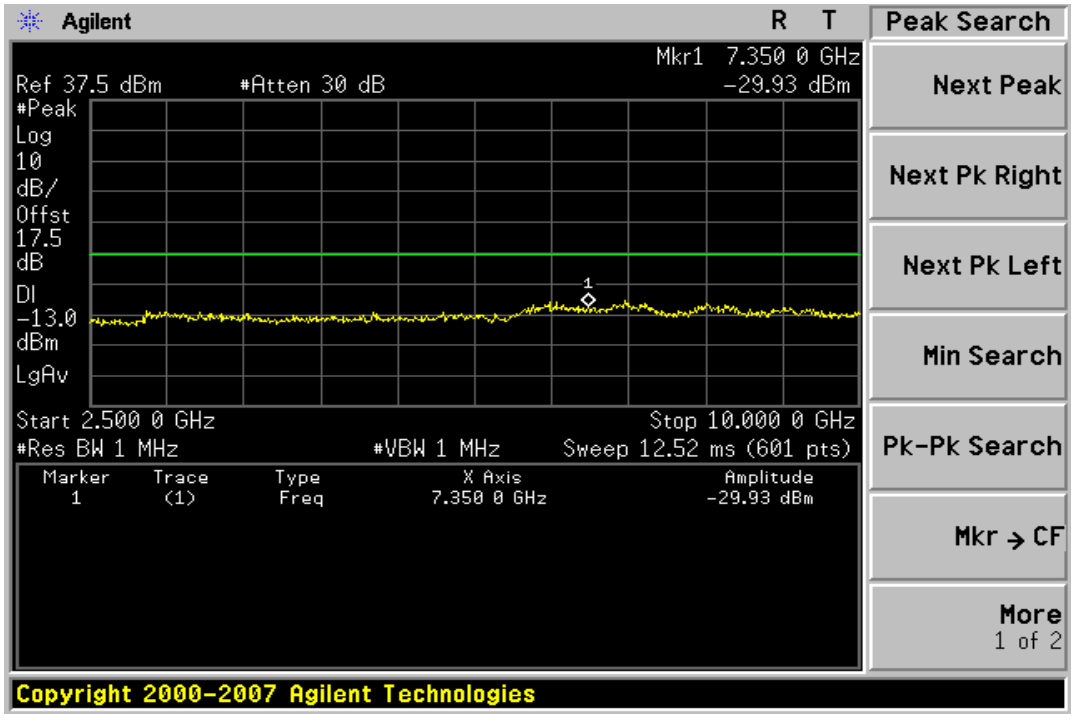


Figure 8-14: Band edge emission at antenna terminals –WCDMA Band V Channel Lowest

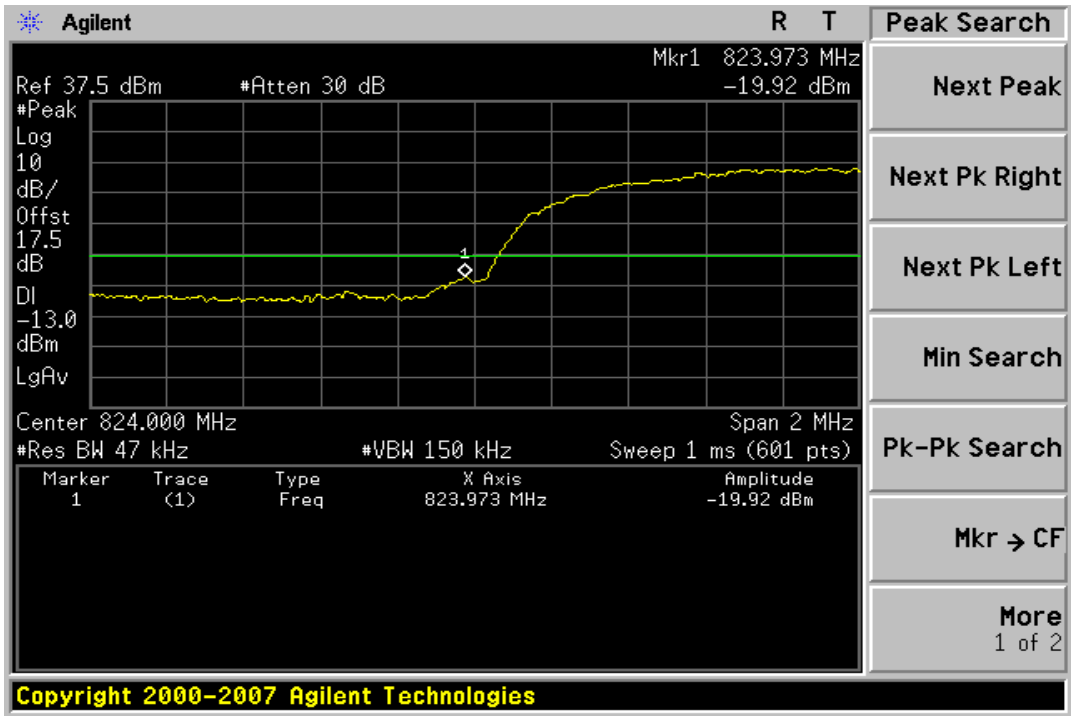


Figure 8-15: Band edge emission at antenna terminals –WCDMA Band V Channel Highest

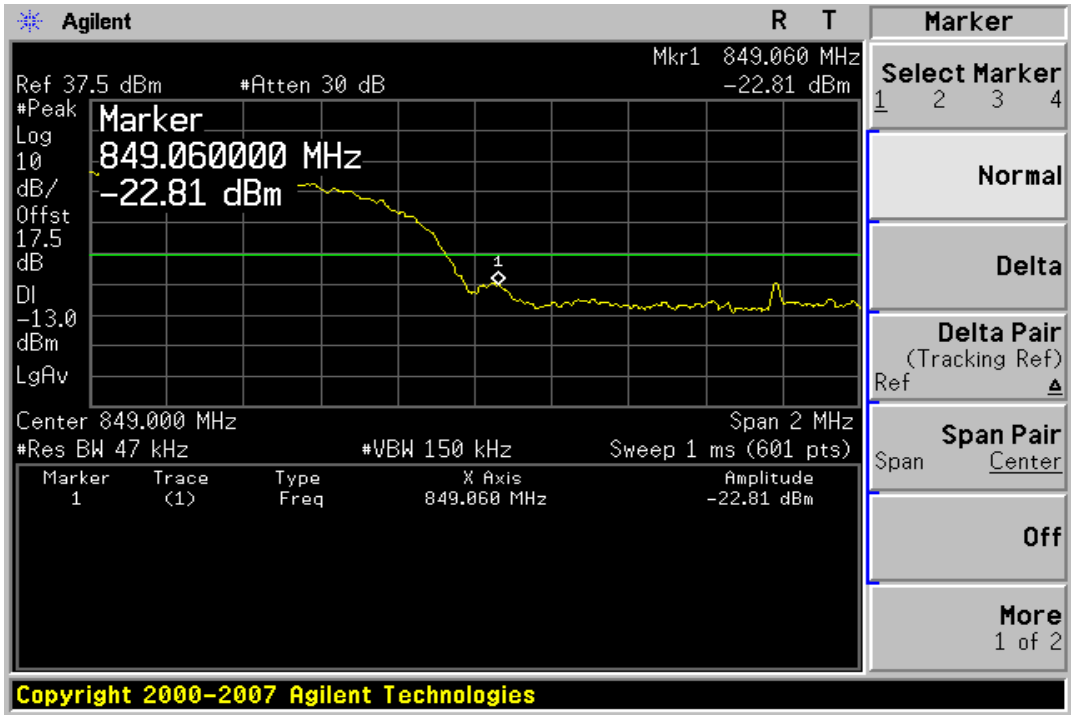
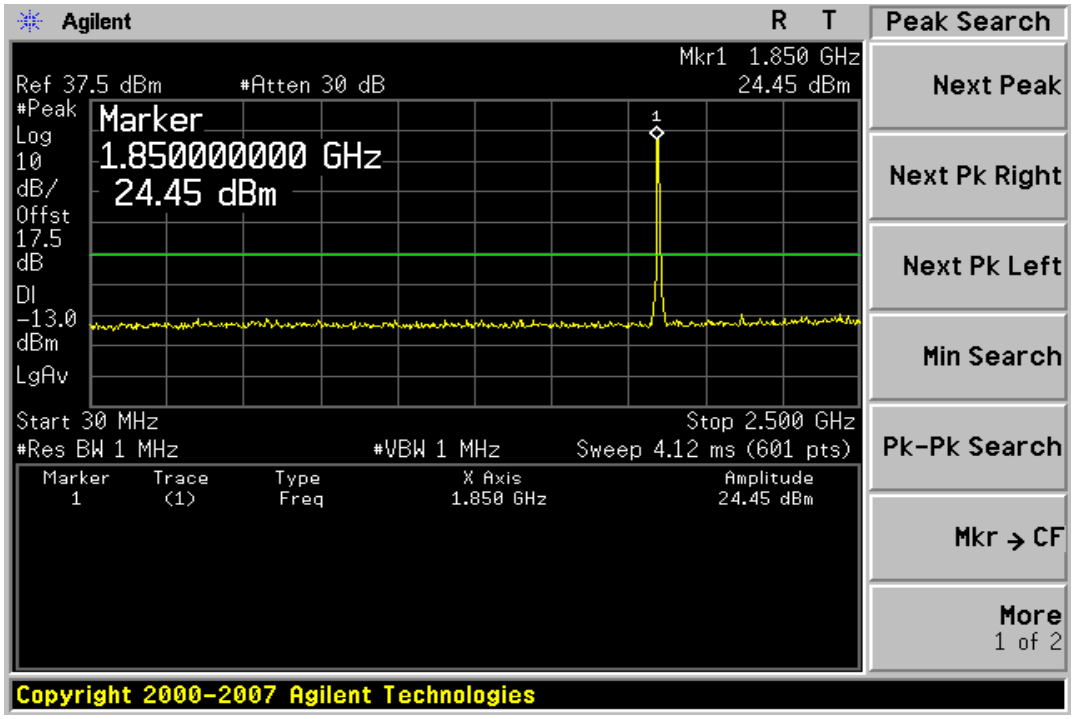


Figure 8-16: Out of Band emission at antenna terminals–WCDMA Band II Channel Lowest



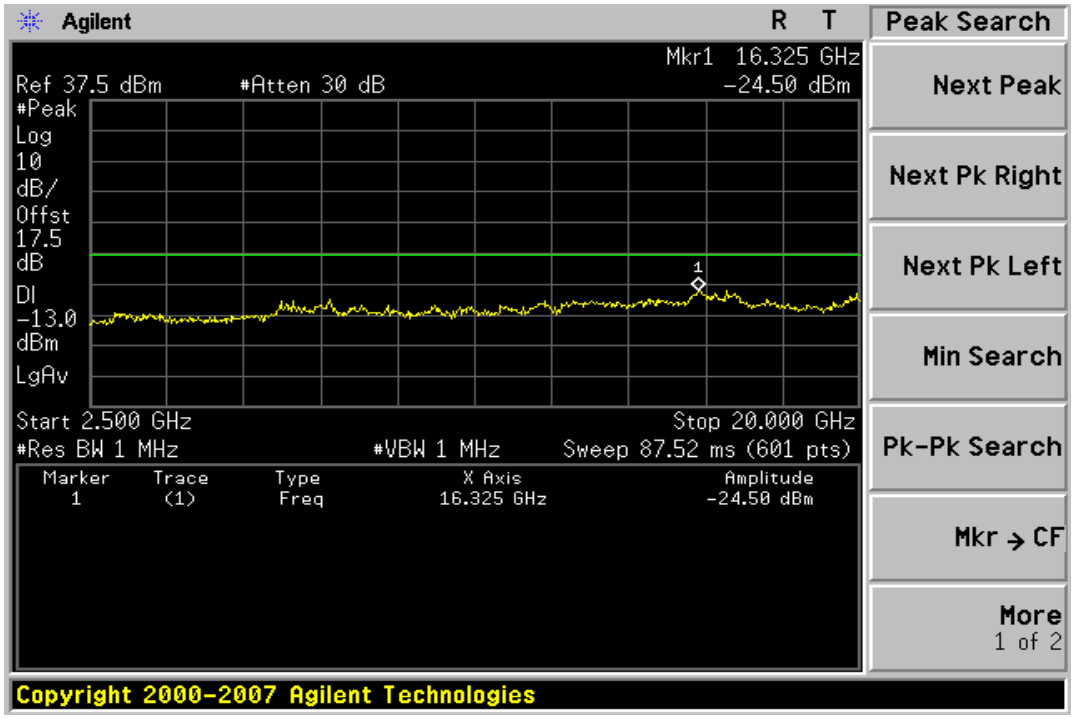
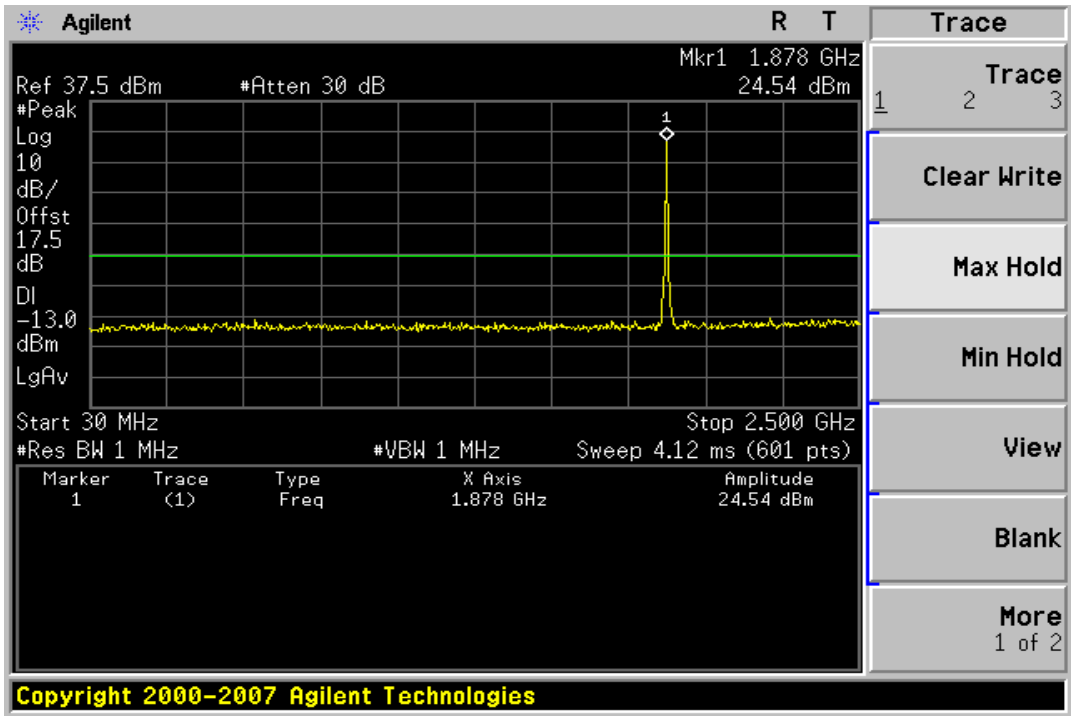


Figure 8-17: Out of Band emission at antenna terminals –WCDMA Band II Channel Mid



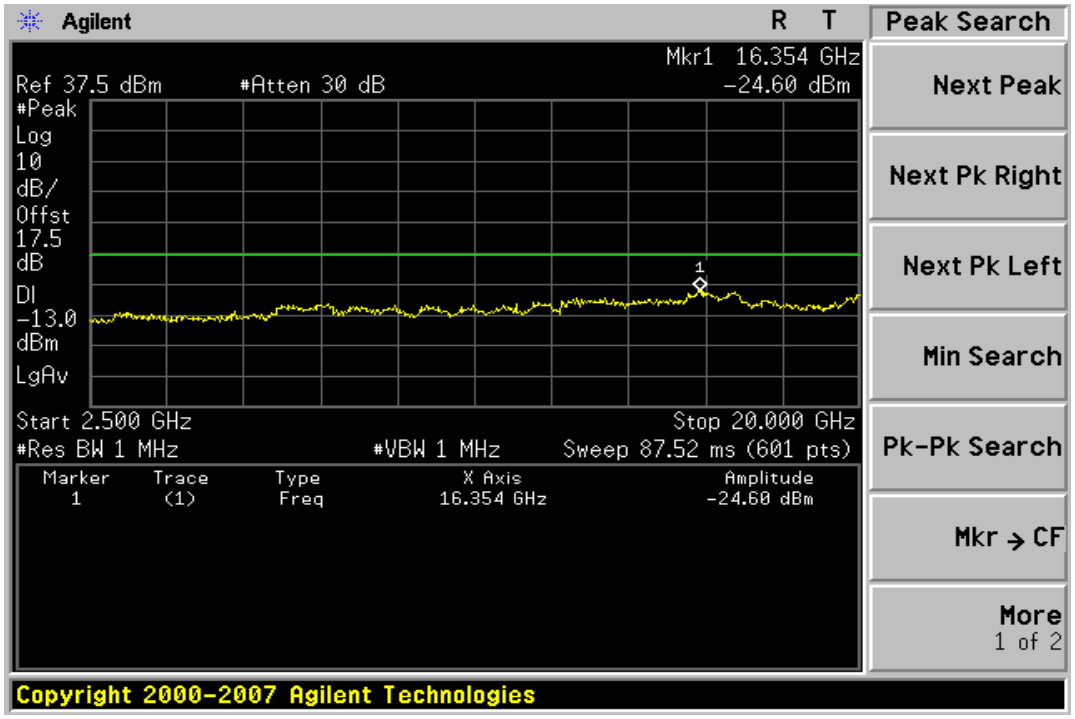
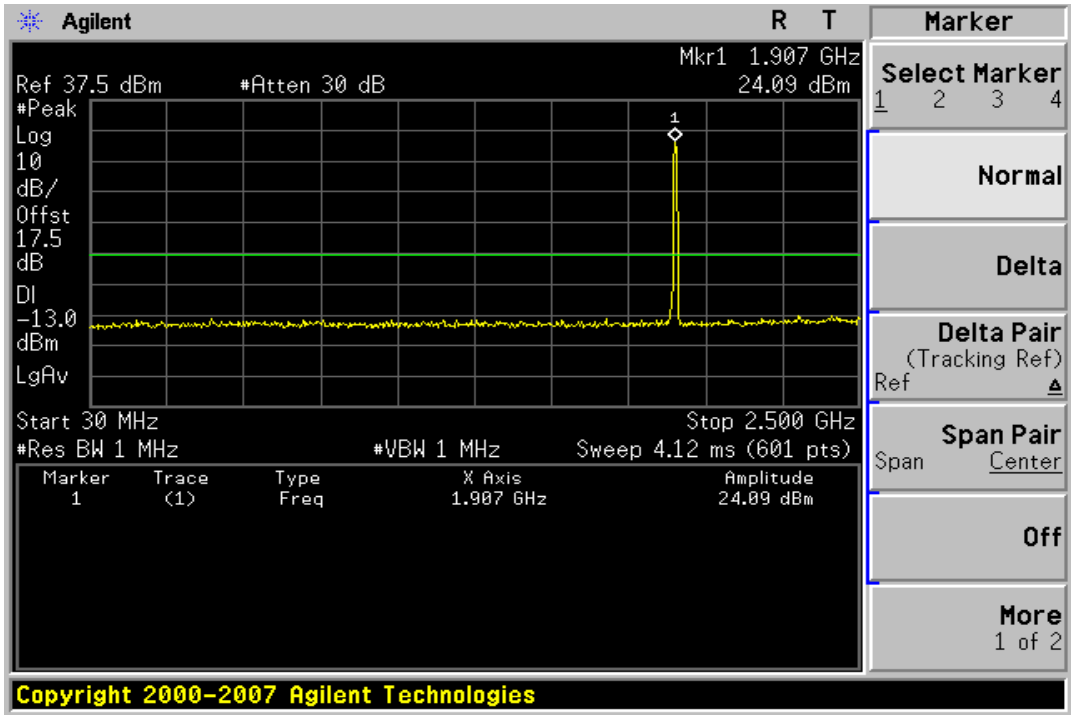


Figure 8-18: Out of Band emission at antenna terminals–WCDMA Band II Channel Highest



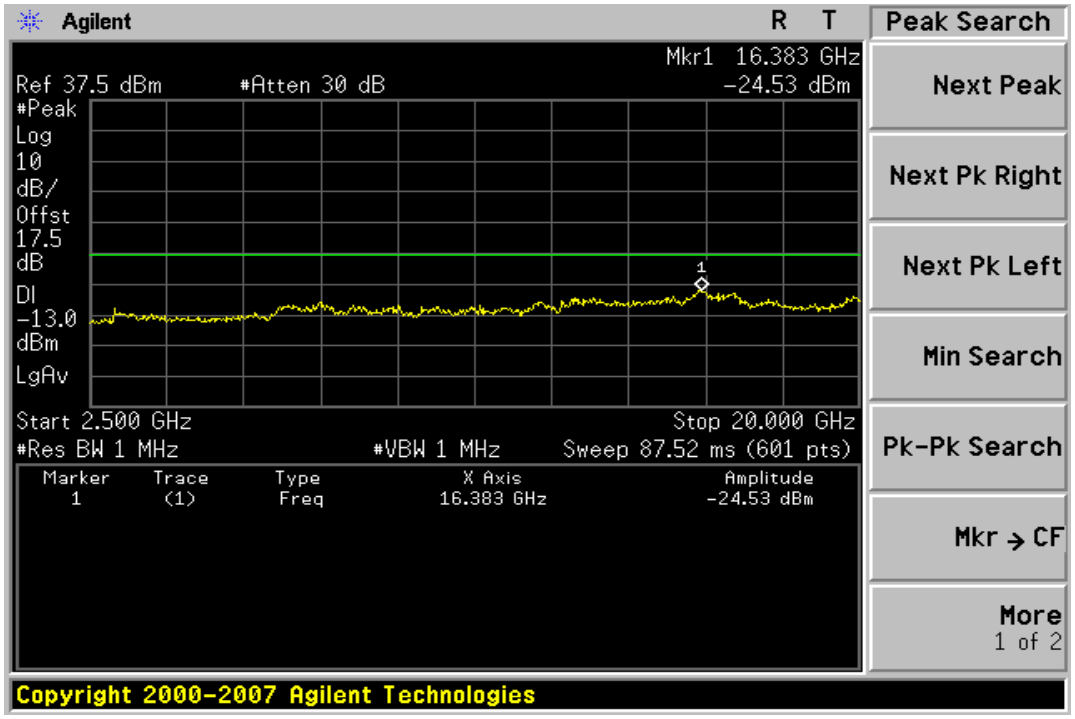


Figure 8-19: Band edge emission at antenna terminals –WCDMA Band II Channel Lowest

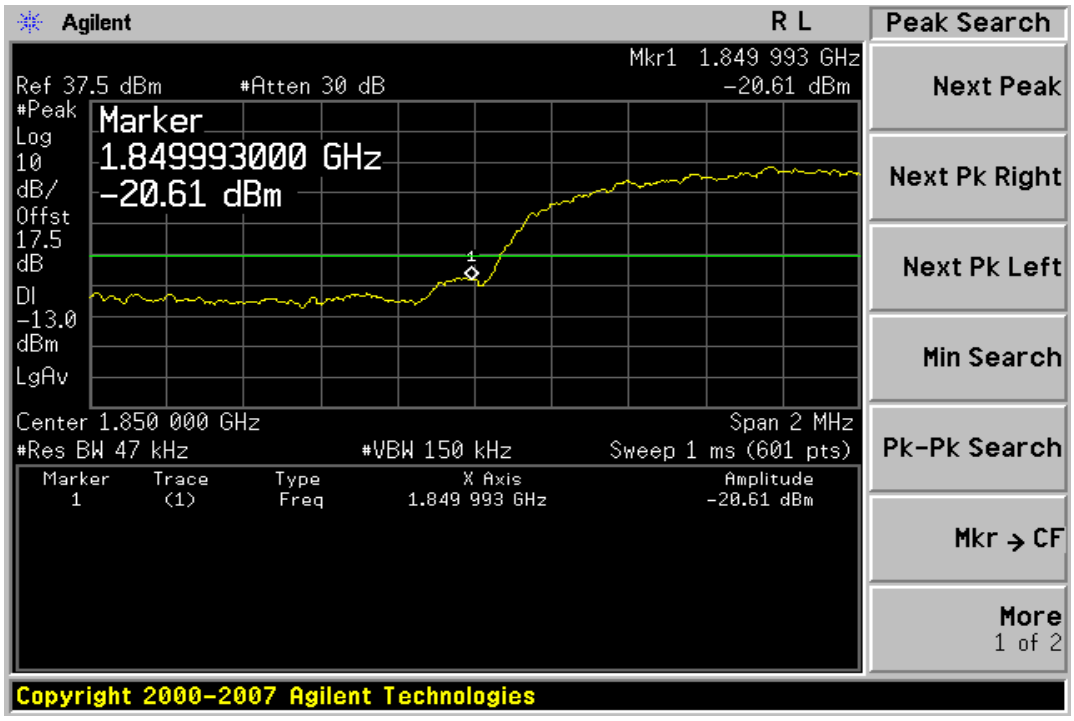
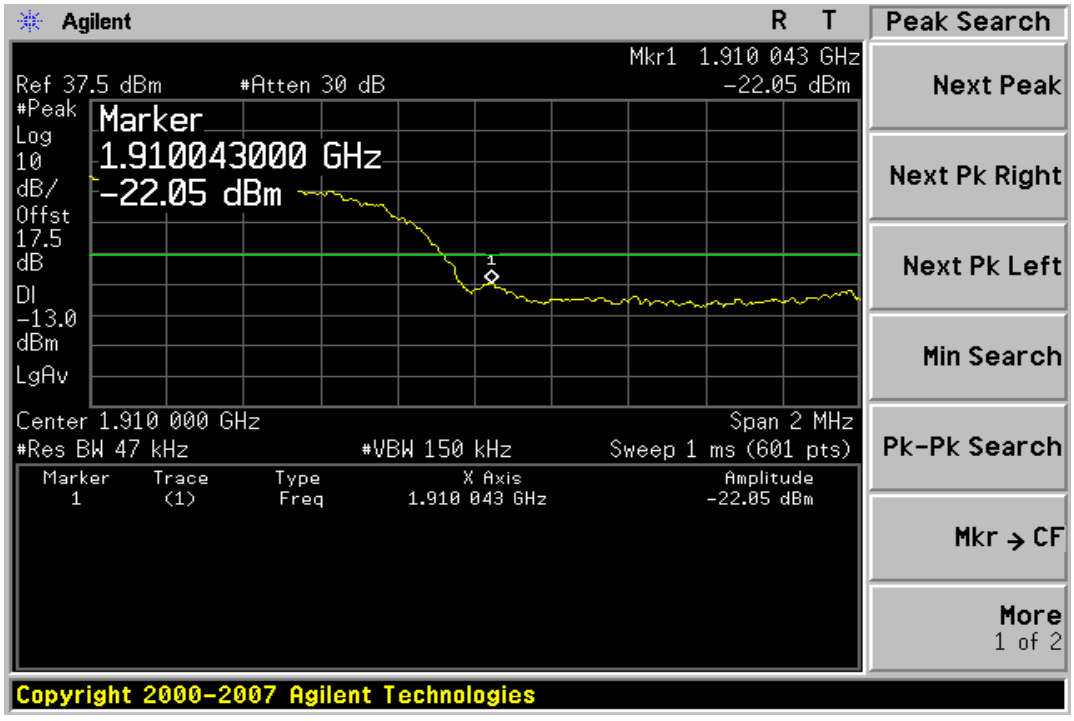


Figure 8-20: Band edge emission at antenna terminals –WCDMA Band II Channel Highest



9. FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT (TX)

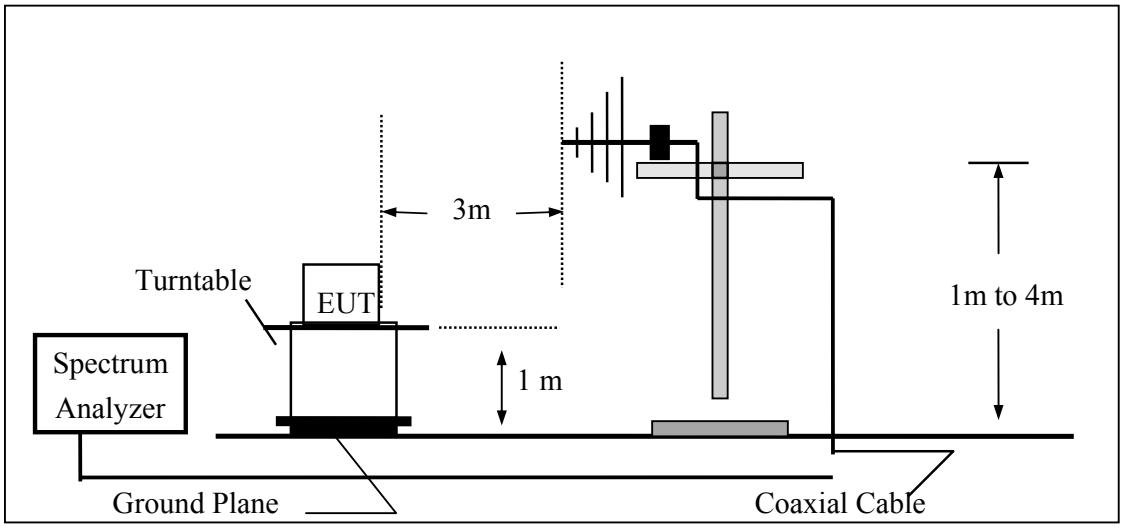
9.1 Standard Applicable

According to FCC §2.1053,

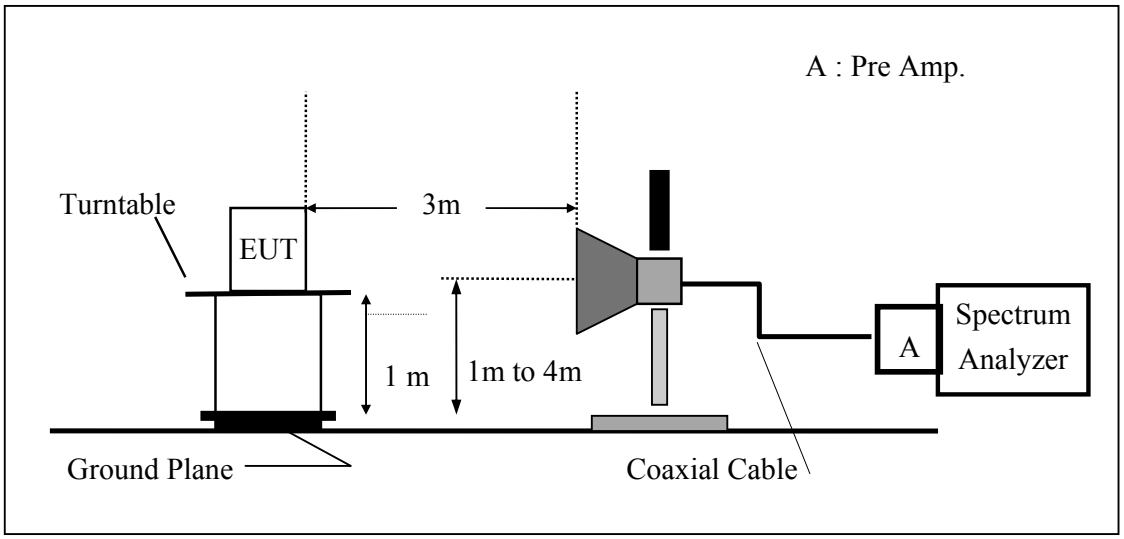
FCC §22.917(a),§24.238(a), the magnitude of each spurious and harmonic emission that can be detected when the equipment is operated under the conditions specified in the instruction manual and/or alignment procedure, shall not be less than 43 + 10 log (mean output power in watts) dBc below the mean power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

9.2 EUT Setup (Block Diagram of Configuration)

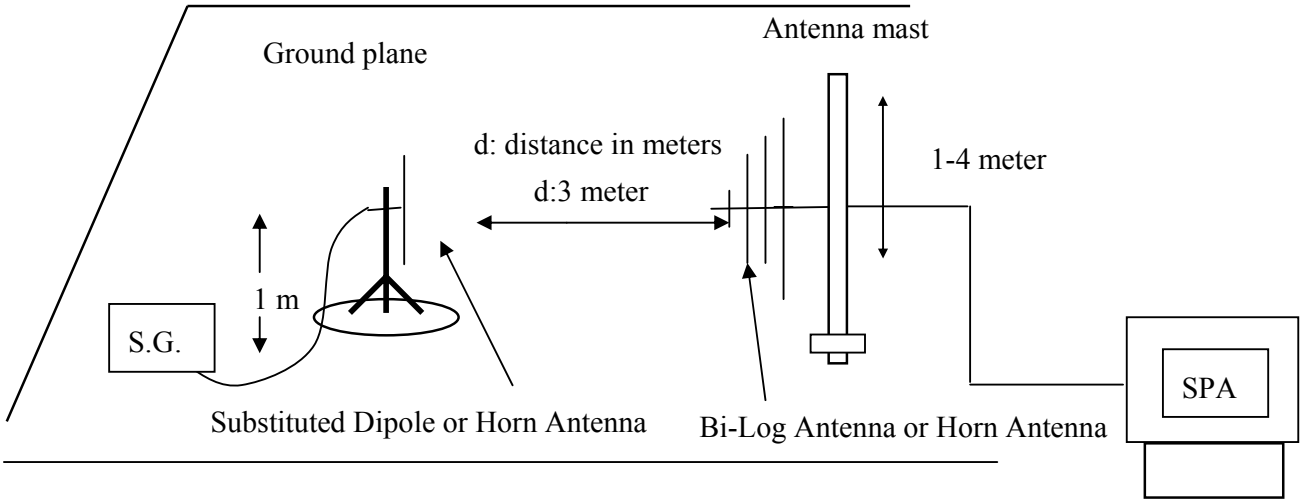
(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



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



(C) Substituted Method Test Set-UP



9.3 Measurement Procedure

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

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

ERP in frequency band 824.2 –848.80.8MHz were measured using a substitution method. The EUT was replaced by dipole antenna connected, the S.G. output was recorded and ERP was calculated as follows:

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

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

EIRP = S.G. output (dBm) + Antenna Gain (dBi) – Cable Loss (dB)

9.4 Measurement Equipment Used:

Please refer to section 2.4.

9.5 Measurement Result

Refer to attach tabular data sheets.

Radiated Spurious Emission Measurement Result: GSM 850 Mode

Operation Mode	: TX CH Low E1 Mode	Test Date:	May. 11, 2009
Fundamental Frequency	: 824.20 MHz	Test By:	Jason
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
41.64	39.47	V	-63.18	-2.31	0.80	-66.30	-13.00	-53.30
53.28	40.27	V	-68.14	-0.55	0.92	-69.61	-13.00	-56.61
77.53	41.82	V	-69.60	-2.12	1.07	-72.79	-13.00	-59.79
96.93	45.45	V	-58.46	-7.76	1.20	-67.42	-13.00	-54.42
153.19	32.02	V	-65.88	-7.80	1.47	-75.15	-13.00	-62.15
824.00	76.58	V	-10.75	-7.87	3.64	-22.27	-13.00	-9.27
1648.40	40.35	V	-66.69	9.29	5.06	-62.46	-13.00	-49.46
2472.60	47.91	V	-56.15	10.08	6.30	-52.38	-13.00	-39.38
3296.80	---	V		12.17	7.26		-13.00	
4121.00	---	V		12.61	8.33		-13.00	
4945.20	---	V		12.65	9.19		-13.00	
5769.40	---	V		13.55	9.80		-13.00	
6593.60	---	V		12.05	10.61		-13.00	
7417.80	---	V		11.49	11.28		-13.00	
8242.00	---	V		11.48	12.26		-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 E1 Mode	Test Date:	May. 11, 2009
Fundamental Frequency	: 824.20 MHz	Test By:	Jason
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
43.58	41.69	H	-62.65	-1.92	0.83	-65.39	-13.00	-52.39
65.89	40.81	H	-71.04	-0.83	0.98	-72.85	-13.00	-59.85
77.53	40.92	H	-71.46	-2.12	1.07	-74.64	-13.00	-61.64
455.83	30.86	H	-64.36	-7.70	2.58	-74.65	-13.00	-61.65
698.33	31.94	H	-57.79	-7.86	3.31	-68.96	-13.00	-55.96
824.00	70.87	H	-16.79	-7.87	3.64	-28.31	-13.00	-15.31
1648.40	---	H		9.29	5.06		-13.00	
2472.60	51.14	H	-52.92	10.08	6.30	-49.14	-13.00	-36.14
3296.80	---	H		12.17	7.26		-13.00	
4121.00	---	H		12.61	8.33		-13.00	
4945.20	---	H		12.65	9.19		-13.00	
5769.40	---	H		13.55	9.80		-13.00	
6593.60	---	H		12.05	10.61		-13.00	
7417.80	---	H		11.49	11.28		-13.00	
8242.00	---	H		11.48	12.26		-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 E1 Mode	Test Date:	May. 11, 2009
Fundamental Frequency	: 836.60 MHz	Test By:	Jason
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
41.64	40.38	V	-62.27	-2.31	0.80	-65.39	-13.00	-52.39
53.28	40.96	V	-67.45	-0.55	0.92	-68.92	-13.00	-55.92
90.14	43.53	V	-60.86	-7.75	1.16	-69.77	-13.00	-56.77
601.33	31.90	V	-58.59	-7.79	2.94	-69.32	-13.00	-56.32
795.33	32.15	V	-55.78	-7.87	3.53	-67.18	-13.00	-54.18
1673.20	42.31	V	-64.72	9.36	5.10	-60.46	-13.00	-47.46
2509.80	53.38	V	-50.50	10.09	6.35	-46.76	-13.00	-33.76
3346.40	---	V		12.28	7.29		-13.00	
4183.00	---	V		12.62	8.40		-13.00	
5019.60	---	V		12.67	9.26		-13.00	
5856.20	---	V		13.68	9.85		-13.00	
6692.80	---	V		11.95	10.74		-13.00	
7529.40	---	V		11.45	11.35		-13.00	
8366.00	---	V		11.59	12.43		-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 E1 Mode	Test Date:	May. 11, 2009
Fundamental Frequency	: 836.60 MHz	Test By:	Jason
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
43.58	41.52	H	-62.82	-1.92	0.83	-65.56	-13.00	-52.56
65.89	41.36	H	-70.49	-0.83	0.98	-72.30	-13.00	-59.30
77.53	40.98	H	-71.40	-2.12	1.07	-74.58	-13.00	-61.58
601.33	32.33	H	-59.28	-7.79	2.94	-70.01	-13.00	-57.01
778.84	31.69	H	-56.69	-7.87	3.50	-68.05	-13.00	-55.05
1673.20	---	H		9.36	5.10		-13.00	
2509.80	52.40	H	-51.47	10.09	6.35	-47.73	-13.00	-34.73
3346.40	---	H		12.28	7.29		-13.00	
4183.00	---	H		12.62	8.40		-13.00	
5019.60	---	H		12.67	9.26		-13.00	
5856.20	---	H		13.68	9.85		-13.00	
6692.80	---	H		11.95	10.74		-13.00	
7529.40	---	H		11.45	11.35		-13.00	
8366.00	---	H		11.59	12.43		-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 E1 Mode	Test Date:	May. 11, 2009
Fundamental Frequency	: 848.80 MHz	Test By:	Jason
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
41.64	40.04	V	-62.61	-2.31	0.80	-65.73	-13.00	-52.73
53.28	39.70	V	-68.71	-0.55	0.92	-70.18	-13.00	-57.18
75.59	41.11	V	-70.41	-1.85	1.05	-73.32	-13.00	-60.32
90.14	42.50	V	-61.89	-7.75	1.16	-70.80	-13.00	-57.80
153.19	32.80	V	-65.10	-7.80	1.47	-74.37	-13.00	-61.37
850.00	80.45	V	-6.26	-7.88	3.75	-17.89	-13.00	-4.89
1697.60	46.74	V	-60.28	9.44	5.14	-55.99	-13.00	-42.99
2546.40	49.97	V	-53.82	10.20	6.40	-50.02	-13.00	-37.02
3395.20	---	V		12.38	7.33		-13.00	
4244.00	---	V		12.63	8.46		-13.00	
5092.80	---	V		12.74	9.32		-13.00	
5941.60	---	V		13.81	9.89		-13.00	
6790.40	---	V		11.86	10.87		-13.00	
7639.20	---	V		11.40	11.48		-13.00	
8488.00	---	V		11.70	12.59		-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 E1 Mode	Test Date:	May. 11, 2009
Fundamental Frequency	: 848.80 MHz	Test By:	Jason
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
43.58	41.91	H	-62.43	-1.92	0.83	-65.17	-13.00	-52.17
65.89	40.83	H	-71.02	-0.83	0.98	-72.83	-13.00	-59.83
77.53	41.86	H	-70.52	-2.12	1.07	-73.70	-13.00	-60.70
155.13	30.83	H	-68.08	-7.80	1.48	-77.36	-13.00	-64.36
618.79	31.68	H	-59.47	-7.80	2.96	-70.23	-13.00	-57.23
850.00	74.62	H	-12.37	-7.88	3.75	-24.00	-13.00	-11.00
1697.60	40.83	H	-66.15	9.44	5.14	-61.86	-13.00	-48.86
2546.40	48.51	H	-55.27	10.20	6.40	-51.47	-13.00	-38.47
3395.20	---	H		12.38	7.33		-13.00	
4244.00	---	H		12.63	8.46		-13.00	
5092.80	---	H		12.74	9.32		-13.00	
5941.60	---	H		13.81	9.89		-13.00	
6790.40	---	H		11.86	10.87		-13.00	
7639.20	---	H		11.40	11.48		-13.00	
8488.00	---	H		11.70	12.59		-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 1900 Mode

Operation Mode	: TX CH Low H Mode	Test Date:	May. 11, 2009
Fundamental Frequency	: 1850.20MHz	Test By:	Jason
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
58.13	44.57	V	-65.93	-0.49	0.94	-67.35	-13.00	-54.35
90.14	47.16	V	-57.23	-7.75	1.16	-66.14	-13.00	-53.14
657.59	32.69	V	-57.67	-7.82	3.05	-68.54	-13.00	-55.54
392.78	---	V		-7.66	2.42		-13.00	
458.74	---	V		-7.70	2.59		-13.00	
1850.00	66.82	V	-40.14	9.90	5.41	-35.65	-13.00	-22.65
3700.40	39.16	V	-62.42	12.61	7.73	-57.54	-13.00	-44.54
5550.60	44.59	V	-50.62	13.23	9.68	-47.08	-13.00	-34.08
7400.80	---	V		11.50	11.28		-13.00	
9251.00	---	V		11.92	13.10		-13.00	
11101.20	---	V		11.66	14.33		-13.00	
12951.40	---	V		13.63	15.98		-13.00	
14801.60	---	V		12.76	17.27		-13.00	
16651.80	---	V		15.92	19.04		-13.00	
18502.00	---	V		18.75	21.21		-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 1900 Mode

Operation Mode	: TX CH Low H Mode	Test Date:	May. 11, 2009
Fundamental Frequency	: 1850.20MHz	Test By:	Jason
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
38.73	45.41	H	-57.78	-3.25	0.77	-61.80	-13.00	-48.80
58.13	45.73	H	-64.70	-0.49	0.94	-66.13	-13.00	-53.13
90.14	46.84	H	-56.85	-7.75	1.16	-65.77	-13.00	-52.77
640.13	33.16	H	-57.43	-7.81	2.99	-68.22	-13.00	-55.22
895.24	33.45	H	-52.45	-7.94	3.81	-64.21	-13.00	-51.21
1850.00	83.45	H	-23.44	9.90	5.41	-18.95	-13.00	-5.95
3700.40	41.85	H	-59.51	12.61	7.73	-54.63	-13.00	-41.63
5550.60	46.14	H	-48.99	13.23	9.68	-45.44	-13.00	-32.44
7400.80	---	H		11.50	11.28		-13.00	
9251.00	---	H		11.92	13.10		-13.00	
11101.20	---	H		11.66	14.33		-13.00	
12951.40	---	H		13.63	15.98		-13.00	
14801.60	---	H		12.76	17.27		-13.00	
16651.80	---	H		15.92	19.04		-13.00	
18502.00	---	H		18.75	21.21		-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 1900 Mode

Operation Mode	: TX CH Mid H Mode	Test Date:	May. 11, 2009
Fundamental Frequency	: 1880MHz	Test By:	Jason
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
30.00	46.94	V	-57.76	-7.34	0.69	-65.79	-13.00	-52.79
58.13	45.03	V	-65.47	-0.49	0.94	-66.89	-13.00	-53.89
75.59	46.51	V	-65.01	-1.85	1.05	-67.92	-13.00	-54.92
133.79	40.42	V	-59.16	-7.79	1.39	-68.34	-13.00	-55.34
604.24	32.64	V	-57.84	-7.79	2.95	-68.58	-13.00	-55.58
3760.00	39.76	V	-61.54	12.60	7.82	-56.76	-13.00	-43.76
5640.00	45.23	V	-49.73	13.36	9.73	-46.10	-13.00	-33.10
7520.00	---	V		11.45	11.33		-13.00	
9400.00	---	V		11.93	13.15		-13.00	
11280.00	---	V		11.92	14.56		-13.00	
13160.00	---	V		13.33	16.11		-13.00	
15040.00	---	V		13.76	17.57		-13.00	
16920.00	---	V		15.27	19.66		-13.00	
18800.00	---	V		18.68	21.34		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

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

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: GSM 1900 Mode

Operation Mode	: TX CH Mid H Mode	Test Date:	May. 11, 2009
Fundamental Frequency	: 1880MHz	Test By:	Jason
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
38.73	45.19	H	-58.00	-3.25	0.77	-62.02	-13.00	-49.02
58.13	42.93	H	-67.50	-0.49	0.94	-68.93	-13.00	-55.93
90.14	45.83	H	-57.86	-7.75	1.16	-66.78	-13.00	-53.78
124.09	41.70	H	-59.27	-7.78	1.34	-68.39	-13.00	-55.39
159.98	37.66	H	-61.56	-7.81	1.49	-70.86	-13.00	-57.86
3760.00	41.29	H	-59.82	12.60	7.82	-55.03	-13.00	-42.03
5640.00	46.90	H	-47.99	13.36	9.73	-44.36	-13.00	-31.36
7520.00	---	H		11.45	11.33		-13.00	
9400.00	---	H		11.93	13.15		-13.00	
11280.00	---	H		11.92	14.56		-13.00	
13160.00	---	H		13.33	16.11		-13.00	
15040.00	---	H		13.76	17.57		-13.00	
16920.00	---	H		15.27	19.66		-13.00	
18800.00	---	H		18.68	21.34		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

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

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: GSM 1900 Mode

Operation Mode	: TX CH High H Mode	Test Date:	May. 11, 2009
Fundamental Frequency	: 1909.8 MHz	Test By:	Jason
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
58.13	46.00	V	-64.50	-0.49	0.94	-65.92	-13.00	-52.92
75.59	46.96	V	-64.56	-1.85	1.05	-67.47	-13.00	-54.47
135.73	39.73	V	-59.62	-7.79	1.40	-68.80	-13.00	-55.80
746.83	31.65	V	-56.70	-7.87	3.43	-68.00	-13.00	-55.00
1910.00	63.11	V	-43.83	10.08	5.51	-39.26	-13.00	-26.26
3981.60	37.41	V	-62.87	12.60	8.17	-58.45	-13.00	-45.45
5972.40	43.04	V	-50.98	13.86	9.91	-47.03	-13.00	-34.03
7963.20	35.12	V	-48.83	11.27	11.88	-49.44	-13.00	-36.44
9954.00	---	V		12.08	13.43		-13.00	
11944.80	---	V		13.08	15.21		-13.00	
13935.60	---	V		11.82	16.86		-13.00	
15926.40	---	V		17.08	18.33		-13.00	
17917.20	---	V		9.63	20.12		-13.00	
19908.00	---	V		18.88	20.85		-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 1900 Mode

Operation Mode	: TX CH High H Mode	Test Date:	May. 11, 2009
Fundamental Frequency	: 1909.8 MHz	Test By:	Jason
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
38.73	45.21	H	-57.98	-3.25	0.77	-62.00	-13.00	-49.00
58.13	42.93	H	-67.50	-0.49	0.94	-68.93	-13.00	-55.93
90.14	45.04	H	-58.65	-7.75	1.16	-67.57	-13.00	-54.57
119.24	42.47	H	-58.95	-7.78	1.31	-68.04	-13.00	-55.04
577.08	32.20	H	-59.72	-7.78	2.85	-70.35	-13.00	-57.35
1910.00	83.12	H	-23.73	10.08	5.51	-19.17	-13.00	-6.17
3981.60	39.46	H	-60.72	12.60	8.17	-56.29	-13.00	-43.29
5972.40	43.81	H	-50.20	13.86	9.91	-46.25	-13.00	-33.25
7963.20	---	H		11.27	11.88		-13.00	
9954.00	---	H		12.08	13.43		-13.00	
11944.80	---	H		13.08	15.21		-13.00	
13935.60	---	H		11.82	16.86		-13.00	
15926.40	---	H		17.08	18.33		-13.00	
17917.20	---	H		9.63	20.12		-13.00	
19908.00	---	H		18.88	20.85		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

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

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: WCDMA Band V Mode

Operation Mode	: TX CH Low H Mode	Test Date:	May. 11, 2009
Fundamental Frequency	: 826.40 MHz	Test By:	Jason
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
56.19	41.45	V	-68.21	-0.51	1.09	-69.82	-13.00	-56.82
75.59	44.98	V	-66.54	-1.85	1.19	-69.59	-13.00	-56.59
90.14	49.45	V	-53.73	-7.75	1.27	-62.75	-13.00	-49.75
106.63	43.94	V	-57.37	-7.77	1.39	-66.52	-13.00	-53.52
148.34	36.96	V	-60.48	-7.80	1.58	-69.86	-13.00	-56.86
825.00	62.30	V	-24.08	-7.88	3.63	-35.58	-13.00	-22.58
1652.80	---	V		9.30	5.23		-13.00	
2479.20	37.40	V	-63.56	10.07	6.54	-60.03	-13.00	-47.03
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	34.63	V	-55.52	13.58	10.55	-52.50	-13.00	-39.50
6611.20	---	V		12.03	11.31		-13.00	
7437.60	---	V		11.48	12.12		-13.00	
8264.00	---	V		11.50	12.73		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

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

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: WCDMA Band V Mode

Operation Mode	: TX CH Low H Mode	Test Date:	May. 11, 2009
Fundamental Frequency	: 826.40 MHz	Test By:	Jason
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
38.73	46.02	H	-57.17	-3.25	0.90	-61.32	-13.00	-48.32
56.19	42.04	H	-67.60	-0.51	1.09	-69.20	-13.00	-56.20
75.59	43.87	H	-68.49	-1.85	1.19	-71.53	-13.00	-58.53
90.14	45.97	H	-57.76	-7.75	1.27	-66.78	-13.00	-53.78
825.00	69.26	H	-17.01	-7.88	3.63	-28.51	-13.00	-15.51
1652.80	37.47	H	-66.93	9.30	5.23	-62.86	-13.00	-49.86
2479.20	36.55	H	-64.32	10.07	6.54	-60.78	-13.00	-47.78
3305.60	---	H		12.19	7.73		-13.00	
4132.00	34.95	H	-61.26	12.62	8.87	-57.52	-13.00	-44.52
4958.40	---	H		12.65	9.75		-13.00	
5784.80	---	H		13.58	10.55		-13.00	
6611.20	---	H		12.03	11.31		-13.00	
7437.60	---	H		11.48	12.12		-13.00	
8264.00	---	H		11.50	12.73		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

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

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: WCDMA Band V Mode

Operation Mode	: TX CH Mid H Mode	Test Date:	May. 11, 2009
Fundamental Frequency	: 836.60 MHz	Test By:	Jason
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
41.64	40.64	V	-62.01	-2.31	0.93	-65.26	-13.00	-52.26
56.19	42.11	V	-67.55	-0.51	1.09	-69.16	-13.00	-56.16
75.59	44.82	V	-66.70	-1.85	1.19	-69.75	-13.00	-56.75
90.14	48.89	V	-54.29	-7.75	1.27	-63.31	-13.00	-50.31
104.69	43.74	V	-57.75	-7.76	1.38	-66.89	-13.00	-53.89
1673.20	58.99	V	-45.57	9.36	5.27	-41.47	-13.00	-28.47
2509.80	---	V		10.09	6.58		-13.00	
2740.00	36.13	V	-63.78	10.76	6.90	-59.92	-13.00	-46.92
3346.40	---	V		12.28	7.79		-13.00	
4183.00	---	V		12.62	8.93		-13.00	
5019.60	33.88	V	-58.27	12.67	9.81	-55.41	-13.00	-42.41
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 (dB/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: WCDMA Band V Mode

Operation Mode	: TX CH Mid H Mode	Test Date:	May. 11, 2009
Fundamental Frequency	: 836.60 MHz	Test By:	Jason
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
38.73	45.99	H	-57.20	-3.25	0.90	-61.35	-13.00	-48.35
56.19	41.93	H	-67.71	-0.51	1.09	-69.31	-13.00	-56.31
75.59	44.69	H	-67.67	-1.85	1.19	-70.71	-13.00	-57.71
90.14	46.32	H	-57.41	-7.75	1.27	-66.43	-13.00	-53.43
429.64	36.11	H	-58.81	-7.68	2.60	-69.10	-13.00	-56.10
1673.20	40.85	H	-63.53	9.36	5.27	-59.43	-13.00	-46.43
2509.80	---	H		10.09	6.58		-13.00	
2927.50	---	H		11.31	7.15		-13.00	
3346.40	---	H		12.28	7.79		-13.00	
4183.00	34.83	H	-61.20	12.62	8.93	-57.51	-13.00	-44.51
5019.60	---	H		12.67	9.81		-13.00	
5856.20	35.63	H	-54.39	13.68	10.62	-51.33	-13.00	-38.33
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: WCDMA Band V Mode

Operation Mode	: TX CH High H Mode	Test Date:	May. 11, 2009
Fundamental Frequency	: 846.60 MHz	Test By:	Jason
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
30.00	43.18	V	-61.52	-7.34	0.95	-69.81	-13.00	-56.81
56.19	41.92	V	-67.74	-0.51	1.09	-69.35	-13.00	-56.35
75.59	45.50	V	-66.02	-1.85	1.19	-69.07	-13.00	-56.07
90.14	49.00	V	-54.18	-7.75	1.27	-63.20	-13.00	-50.20
96.93	44.98	V	-57.33	-7.76	1.33	-66.42	-13.00	-53.42
850.00	60.55	V	-25.56	-7.88	3.68	-37.12	-13.00	-24.12
1693.20	---	V		9.42	5.30		-13.00	
2539.80	---	V		10.18	6.62		-13.00	
3386.40	35.74	V	-63.11	12.36	7.85	-58.60	-13.00	-45.60
4233.00	---	V		12.63	8.99		-13.00	
5079.60	---	V		12.73	9.87		-13.00	
5926.20	---	V		13.79	10.69		-13.00	
6772.80	---	V		11.87	11.47		-13.00	
7619.40	---	V		11.41	12.26		-13.00	
8466.00	---	V		11.68	12.89		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

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

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: WCDMA Band V Mode

Operation Mode	: TX CH High H Mode	Test Date:	May. 11, 2009
Fundamental Frequency	: 846.60 MHz	Test By:	Jason
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
38.73	45.80	H	-57.39	-3.25	0.90	-61.54	-13.00	-48.54
56.19	41.41	H	-68.23	-0.51	1.09	-69.83	-13.00	-56.83
75.59	45.26	H	-67.10	-1.85	1.19	-70.14	-13.00	-57.14
90.14	45.92	H	-57.81	-7.75	1.27	-66.83	-13.00	-53.83
104.69	38.47	H	-64.04	-7.76	1.38	-73.18	-13.00	-60.18
850.00	68.92	H	-17.27	-7.88	3.68	-28.83	-13.00	-15.83
1693.20	40.95	H	-63.40	9.42	5.30	-59.28	-13.00	-46.28
2539.80	36.36	H	-64.26	10.18	6.62	-60.70	-13.00	-47.70
3386.40	---	H		12.36	7.85		-13.00	
4233.00	---	H		12.63	8.99		-13.00	
5079.60	---	H		12.73	9.87		-13.00	
5926.20	---	H		13.79	10.69		-13.00	
6772.80	---	H		11.87	11.47		-13.00	
7619.40	---	H		11.41	12.26		-13.00	
8466.00	---	H		11.68	12.89		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

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

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: WCDMA Band II Mode

Operation Mode	: TX CH Low H Mode	Test Date:	May. 11, 2009
Fundamental Frequency	: 1850.40MHz	Test By:	Jason
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
30.00	50.81	V	-53.89	-7.34	0.95	-62.18	-13.00	-49.18
38.73	46.19	V	-55.98	-3.25	0.90	-60.12	-13.00	-47.12
90.14	52.11	V	-51.07	-7.75	1.27	-60.09	-13.00	-47.09
104.69	47.03	V	-54.46	-7.76	1.38	-63.60	-13.00	-50.60
159.98	32.59	V	-65.60	-7.81	1.61	-75.02	-13.00	-62.02
1850.00	60.20	V	-44.19	9.90	5.56	-39.85	-13.00	-26.85
3704.80	35.47	V	-62.44	12.61	8.31	-58.15	-13.00	-45.15
5557.20	---	V		13.24	10.33		-13.00	
7409.60	---	V		11.49	12.09		-13.00	
9262.00	---	V		11.92	13.51		-13.00	
11114.40	---	V		11.68	15.12		-13.00	
12966.80	---	V		13.62	16.61		-13.00	
14819.20	---	V		12.83	17.96		-13.00	
16671.60	---	V		15.87	19.15		-13.00	
18524.00	---	V		18.74	10.86		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

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

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: WCDMA Band II Mode

Operation Mode	: TX CH Low H Mode	Test Date:	May. 11, 2009
Fundamental Frequency	: 1850.40MHz	Test By:	Jason
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
38.73	45.03	H	-58.16	-3.25	0.90	-62.31	-13.00	-49.31
75.59	41.40	H	-70.96	-1.85	1.19	-74.00	-13.00	-61.00
106.63	41.96	H	-60.35	-7.77	1.39	-69.50	-13.00	-56.50
159.98	33.03	H	-65.51	-7.81	1.61	-74.94	-13.00	-61.94
407.33	32.05	H	-64.01	-7.67	2.53	-74.21	-13.00	-61.21
1850.00	67.89	H	-36.29	9.90	5.56	-31.95	-13.00	-18.95
3704.80	34.69	H	-63.33	12.61	8.31	-59.04	-13.00	-46.04
5557.20	34.71	H	-56.32	13.24	10.33	-53.42	-13.00	-40.42
7409.60	---	H		11.49	12.09		-13.00	
9262.00	---	H		11.92	13.51		-13.00	
11114.40	---	H		11.68	15.12		-13.00	
12966.80	---	H		13.62	16.61		-13.00	
14819.20	---	H		12.83	17.96		-13.00	
16671.60	---	H		15.87	19.15		-13.00	
18524.00	---	H		18.74	10.86		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

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

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: WCDMA Band II Mode

Operation Mode	: TX CH Mid H Mode	Test Date:	May. 11, 2009
Fundamental Frequency	: 1880MHz	Test By:	Jason
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
30.00	49.80	V	-54.90	-7.34	0.95	-63.19	-13.00	-50.19
38.73	43.84	V	-58.33	-3.25	0.90	-62.47	-13.00	-49.47
75.59	47.08	V	-64.44	-1.85	1.19	-67.49	-13.00	-54.49
90.14	51.57	V	-51.61	-7.75	1.27	-60.63	-13.00	-47.63
104.69	47.05	V	-54.44	-7.76	1.38	-63.58	-13.00	-50.58
1868.00	57.78	V	-46.59	9.95	5.59	-42.23	-13.00	-29.23
3760.00	34.39	V	-63.27	12.60	8.39	-59.05	-13.00	-46.05
5640.00	---	V		13.36	10.41		-13.00	
7520.00	---	V		11.45	12.19		-13.00	
9400.00	---	V		11.93	13.61		-13.00	
11280.00	---	V		11.92	15.27		-13.00	
13160.00	---	V		13.33	16.71		-13.00	
15040.00	---	V		13.76	18.15		-13.00	
16920.00	---	V		15.27	19.32		-13.00	
18800.00	---	V		18.68	16.58		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

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

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: WCDMA Band II Mode

Operation Mode : TX CH Mid H Mode
Fundamental Frequency : 1880MHz
Temperature : 25℃
Humidity : 65%

Test Date: May. 11, 2009
Test By: Jason
Pol: Hor

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
38.73	44.16	H	-59.03	-3.25	0.90	-63.18	-13.00	-50.18
75.59	44.01	H	-68.35	-1.85	1.19	-71.39	-13.00	-58.39
106.63	40.46	H	-61.85	-7.77	1.39	-71.00	-13.00	-58.00
159.98	31.86	H	-66.68	-7.81	1.61	-76.11	-13.00	-63.11
547.98	32.24	H	-59.55	-7.76	2.95	-70.26	-13.00	-57.26
1868.00	56.98	H	-47.18	9.95	5.59	-42.82	-13.00	-29.82
3760.00	34.90	H	-62.87	12.60	8.39	-58.66	-13.00	-45.66
5640.00	34.38	H	-56.37	13.36	10.41	-53.42	-13.00	-40.42
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	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

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

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: WCDMA Band II Mode

Operation Mode	: TX CH High H Mode	Test Date:	May. 11, 2009
Fundamental Frequency	: 1907.60 MHz	Test By:	Jason
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
30.00	49.14	V	-55.56	-7.34	0.95	-63.85	-13.00	-50.85
38.73	45.34	V	-56.83	-3.25	0.90	-60.97	-13.00	-47.97
75.59	47.79	V	-63.73	-1.85	1.19	-66.78	-13.00	-53.78
90.14	51.48	V	-51.70	-7.75	1.27	-60.72	-13.00	-47.72
104.69	46.01	V	-55.48	-7.76	1.38	-64.62	-13.00	-51.62
1910.00	61.03	V	-43.30	10.08	5.66	-38.88	-13.00	-25.88
3815.20	33.97	V	-63.44	12.60	8.46	-59.30	-13.00	-46.30
5230.00	---	V		12.88	10.02		-13.00	
5722.80	---	V		13.48	10.49		-13.00	
7630.40	---	V		11.41	12.27		-13.00	
9538.00	---	V		11.95	13.73		-13.00	
11445.60	---	V		12.15	15.42		-13.00	
13353.20	---	V		13.00	16.81		-13.00	
15260.80	---	V		14.91	18.28		-13.00	
17168.40	---	V		14.53	19.50		-13.00	
19076.00	---	V		18.65	20.76		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

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

3 The result basic equation calculation is as follows:

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

Radiated Spurious Emission Measurement Result: WCDMA Band II Mode

Operation Mode	: TX CH High H Mode	Test Date:	May. 11, 2009
Fundamental Frequency	: 1907.60 MHz	Test By:	Jason
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
38.73	44.44	H	-58.75	-3.25	0.90	-62.90	-13.00	-49.90
65.89	47.07	H	-64.78	-0.83	1.12	-66.73	-13.00	-53.73
75.59	42.42	H	-69.94	-1.85	1.19	-72.98	-13.00	-59.98
92.08	43.18	H	-60.41	-7.75	1.29	-69.45	-13.00	-56.45
106.63	39.76	H	-62.55	-7.77	1.39	-71.70	-13.00	-58.70
1910.00	70.56	H	-33.55	10.08	5.66	-29.13	-13.00	-16.13
3815.20	35.73	H	-61.80	12.60	8.46	-57.66	-13.00	-44.66
5477.50	34.47	H	-56.80	13.13	10.26	-53.93	-13.00	-40.93
5722.80	---	H		13.48	10.49		-13.00	
7630.40	---	H		11.41	12.27		-13.00	
9538.00	---	H		11.95	13.73		-13.00	
11445.60	---	H		12.15	15.42		-13.00	
13353.20	---	H		13.00	16.81		-13.00	
15260.80	---	H		14.91	18.28		-13.00	
17168.40	---	H		14.53	19.50		-13.00	
19076.00	---	H		18.65	20.76		-13.00	

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

Remark：

1 The emission behaviors belong to narrowband spurious emission.

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

3 The result basic equation calculation is as follows:

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

10. FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT

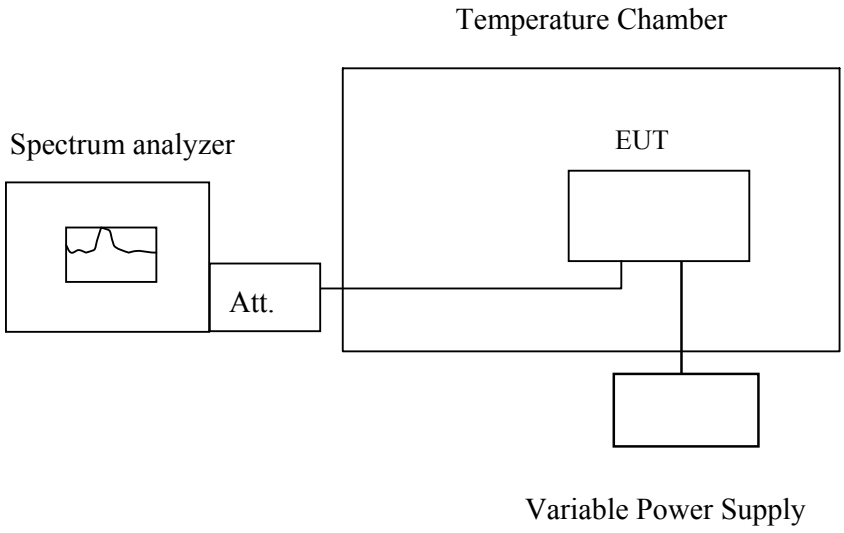
10.1 Standard Applicable

According to FCC §2.1055(d)(1)(2)

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

+/-2.5ppm for 1900MHz band

10.2 Test Set-up:



Note : Measurement setup for testing on Antenna connector

10.3 Measurement Procedure

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to –30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

10.4 Measurement Equipment Used:

Please refer to section 2.4.

10.5 Measurement Result

Reference Frequency: GSM 850 Mid Channel 836.6 MHz @ 25℃				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
3.7	-30	836.599984	12.00	2091
3.7	-20	836.599981	15.00	2091
3.7	-10	836.599990	6.00	2091
3.7	0	836.600002	-6.00	2091
3.7	10	836.600001	-5.00	2091
3.7	20	836.599996	0.00	2091
3.7	30	836.599991	5.00	2091
3.7	40	836.599992	4.00	2091
3.7	50	836.599987	9.00	2091

Reference Frequency: GSM 1900 Mid Channel 1880 MHz @ 25℃				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
3.7	-30	1879.999968	5.00	4700
3.7	-20	1879.999957	16.00	4700
3.7	-10	1879.999965	8.00	4700
3.7	0	1879.999966	7.00	4700
3.7	10	1879.999969	4.00	4700
3.7	20	1879.999973	0.00	4700
3.7	30	1879.999975	-2.00	4700
3.7	40	1879.999961	12.00	4700
3.7	50	1879.999959	14.00	4700

Note: The battery is rated 3.7V dc.

Reference Frequency: WCDMA Band V Mid Channel 836.6 MHz @ 25℃				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
3.7	-30	836.599997	2.00	2091
3.7	-20	836.599998	1.00	2091
3.7	-10	836.599997	2.00	2091
3.7	0	836.599997	2.00	2091
3.7	10	836.599990	9.00	2091
3.7	20	836.599999	0.00	2091
3.7	30	836.600000	-1.00	2091
3.7	40	836.600001	-2.00	2091
3.7	50	836.600002	-3.00	2091

Reference Frequency: WCDMA Band II Mid Channel 1880 MHz @ 25℃				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
3.7	-30	1879.999991	8.00	4700
3.7	-20	1879.999996	3.00	4700
3.7	-10	1879.999995	4.00	4700
3.7	0	1879.999996	3.00	4700
3.7	10	1879.999998	1.00	4700
3.7	20	1879.999999	0.00	4700
3.7	30	1880.000001	-2.00	4700
3.7	40	1880.000001	-2.00	4700
3.7	50	1880.000002	-3.00	4700

Note: The battery is rated 3.7V dc.

11. FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT

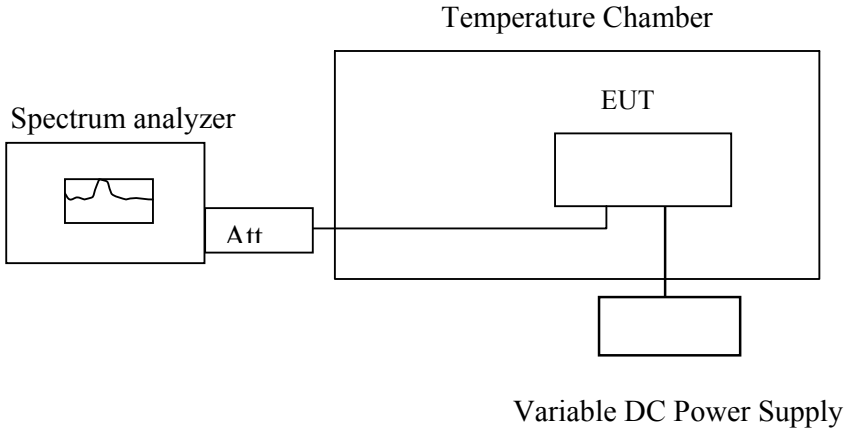
11.1 Standard Applicable

According to FCC §2.1055(d)(1)(2)

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

+/-2.5ppm for 1900MHz band

11.2 Test Set-up:



Note: *Measurement setup for t*

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:

Please refer to section 2.4.

11.5 Measurement Result

Reference Frequency: GSM 850 Mid Channel 836.6 MHz @ 25℃				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
4.25	25.00	836.600000	-8.00	2091.00
3.70	25.00	836.599992	0.00	2091.00
3.50	25.00	836.599909	83.00	2091.00
3.3 (End Point)	25.00	836.599900	92.00	2091.00

Reference Frequency:GSM 1900 Mid Channel 1880 MHz @ 25℃				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
4.25	25	1879.999990	7.00	4700
3.7	25	1879.999997	0.00	4700
3.5	25	1879.999981	16.00	4700
3.3 (Endpoint)	25	1879.999957	40.00	4700

Note: The battery is rated 3.7V dc.

Reference Frequency: WCDMA Band V Mid Channel 836.6 MHz @ 25℃				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
4.25	25.00	836.599999	-1.00	2091.00
3.70	25.00	836.599998	0.00	2091.00
3.50	25.00	836.599995	4.00	2091.00
3.3 (End Point)	25.00	836.599990	9.00	2091.00

Reference Frequency: WCDMA Band II Mid Channel 1880 MHz @ 25℃				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
4.25	25	1880.000001	-3.00	4700
3.7	25	1879.999998	0.00	4700
3.5	25	1879.999996	5.00	4700
3.3 (Endpoint)	25	1879.999990	11.00	4700

Note: The battery is rated 3.7V dc.

12. AC POWER LINE CONDUCTED EMISSION TEST

12.1 Standard Applicable

According to §15.207. The emission value for frequency within 150KHz to 30MHz shall not exceed criteria of below chart.

Frequency range MHz	Limits dB(uV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50
Note 1.The lower limit shall apply at the transition frequencies 2.The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.		

12.2 EUT Setup

1. The conducted emission tests were performed in the test site, using the setup in accordance with the ANSI C63.4-2003.
2. The EUT was plug-in DC power adaptort and was placed on the center of the back edge on the test table. The peripherals like earphone was placed on the side of the EUT. The rear of the EUT and peripherals were placed flushed with the rear of the tabletop.
3. The Power adaptor was connected with 110Vac/60Hz power source.

12.3 Measurement Procedure

1. The EUT was placed on a table which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete.

12.4 Measurement Equipment Used:

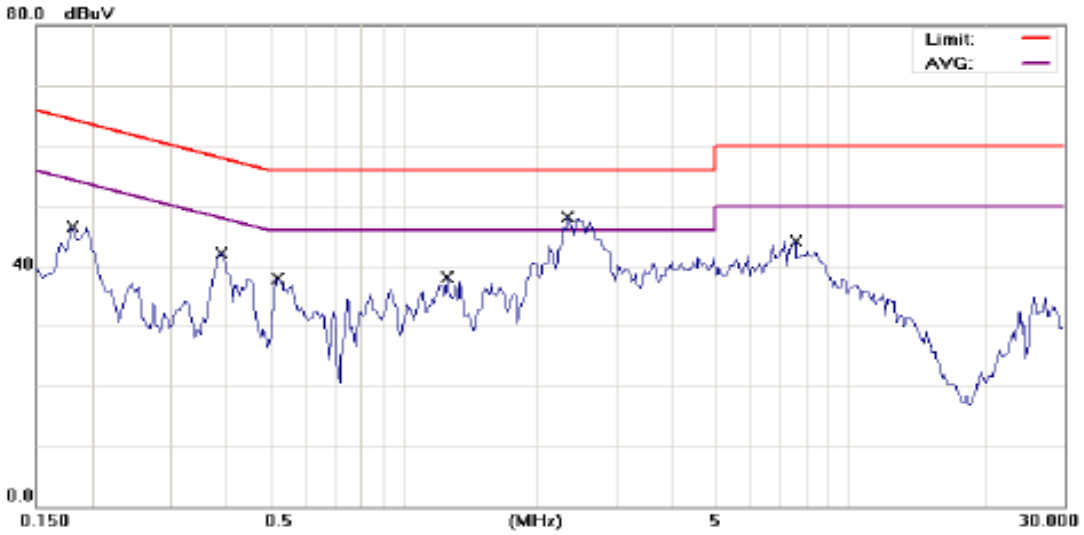
Please refer to section 2.4.

12.5 Measurement Result

The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range. Significant peaks are then marked as shown on the following data page, and these signals are then quasi-peaked.

AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode:	GSM 850 LINK			Test Date:	May. 12, 2009
Temperature:	25 ℃	Humidity:	59 %	Test By:	Jason

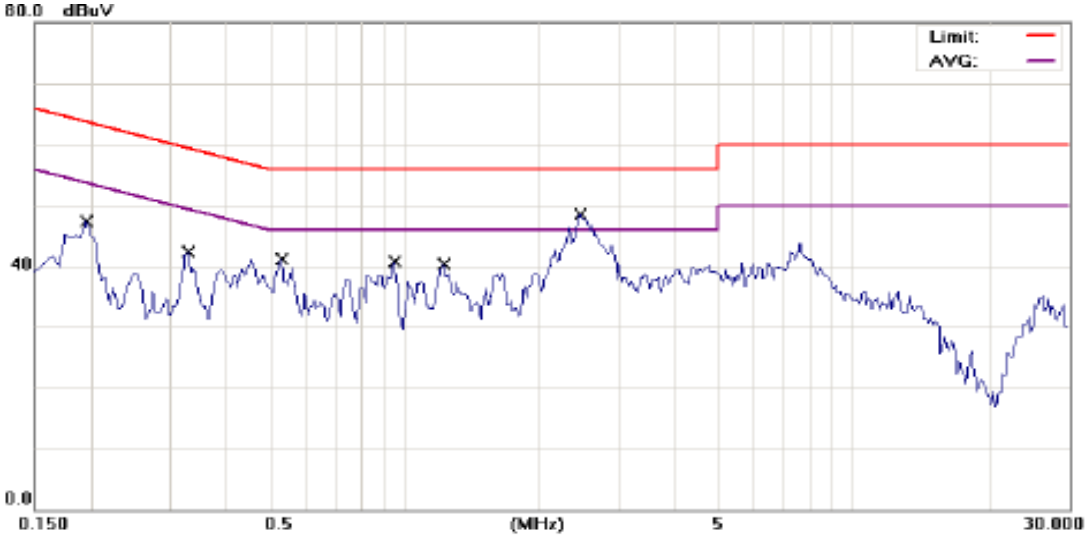


Site SGS CONDUCTED #1
Limit: CISPR22/11 Class B Conduction(QP)
EUT: PDA Phone
M/N: SAPP500
Note: GSM 850 LINK MODE

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

Temperature: 23 ℃
Humidity: 62 %
Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1800	38.80	0.14	38.94	64.49	-25.55	QP	
2		0.1800	24.20	0.14	24.34	54.49	-30.15	AVG	
3		0.3900	40.00	0.08	40.08	58.06	-17.98	QP	
4		0.3900	27.50	0.08	27.58	48.06	-20.48	AVG	
5		0.5200	35.90	0.07	35.97	56.00	-20.03	QP	
6		0.5200	25.50	0.07	25.57	46.00	-20.43	AVG	
7		1.2500	34.10	0.10	34.20	56.00	-21.80	QP	
8		1.2500	23.80	0.10	23.90	46.00	-22.10	AVG	
9		2.3300	42.10	0.13	42.23	56.00	-13.77	QP	
10	*	2.3300	34.20	0.13	34.33	46.00	-11.67	AVG	
11		7.5600	39.40	0.27	39.67	60.00	-20.33	QP	
12		7.5600	30.60	0.27	30.87	50.00	-19.13	AVG	



Site SGS CONDUCTED #1
Limit: CISPR22/11 Class B Conduction(QP)
EUT: PDA Phone
M/N: SAPP500
Note: GSM 850 LINK MODE

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

Temperature: 23 ℃
Humidity: 62 %
Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1950	41.70	0.15	41.85	63.82	-21.97	QP	
2		0.1950	27.50	0.15	27.65	53.82	-26.17	AVG	
3		0.3300	39.20	0.12	39.32	59.45	-20.13	QP	
4		0.3300	29.60	0.12	29.72	49.45	-19.73	AVG	
5		0.5300	39.30	0.10	39.40	56.00	-16.60	QP	
6		0.5300	27.10	0.10	27.20	46.00	-18.80	AVG	
7		0.9500	37.00	0.12	37.12	56.00	-18.88	QP	
8		0.9500	21.80	0.12	21.92	46.00	-24.08	AVG	
9		1.2200	37.10	0.13	37.23	56.00	-18.77	QP	
10		1.2200	25.30	0.13	25.43	46.00	-20.57	AVG	
11		2.4700	44.20	0.15	44.35	56.00	-11.65	QP	
12	*	2.4700	35.30	0.15	35.45	46.00	-10.55	AVG	

AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode:	GSM 1900 Link			Test Date:	May. 12, 2009
Temperature:	25 ℃	Humidity:	59 %	Test By:	Jason

Site SGS CONDUCTED #1
Limit: CISPR22/11 Class B Conduction(QP)
EUT: PDA Phone
M/N: SAPP500
Note: GSM 1900 LINK MODE

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

Temperature: 23 ℃
Humidity: 62 %
Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1850	41.40	0.14	41.54	64.26	-22.72	QP	
2		0.1850	23.50	0.14	23.64	54.26	-30.62	AVG	
3		0.3900	40.50	0.08	40.58	58.06	-17.48	QP	
4		0.3900	29.10	0.08	29.18	48.06	-18.88	AVG	
5		0.5200	35.70	0.07	35.77	56.00	-20.23	QP	
6		0.5200	25.20	0.07	25.27	46.00	-20.73	AVG	
7		1.2100	35.80	0.10	35.90	56.00	-20.10	QP	
8		1.2100	24.40	0.10	24.50	46.00	-21.50	AVG	
9		2.4300	43.00	0.13	43.13	56.00	-12.87	QP	
10	*	2.4300	33.70	0.13	33.83	46.00	-12.17	AVG	
11		6.9800	39.30	0.25	39.55	60.00	-20.45	QP	
12		6.9800	30.60	0.25	30.85	50.00	-19.15	AVG	

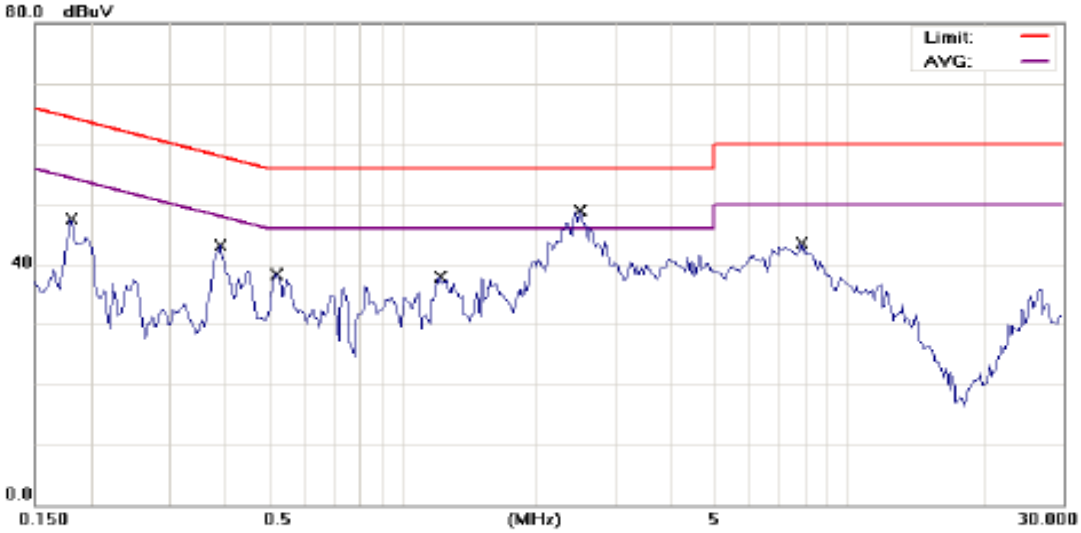
Site SGS CONDUCTED #1
Limit: CISPR22/11 Class B Conduction(QP)
EUT: PDA Phone
M/N: SAPP500
Note: GSM 1900 LINK MODE

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

Temperature: 23 °C
Humidity: 62 %
Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1800	40.20	0.16	40.36	64.49	-24.13	QP	
2		0.1800	28.10	0.16	28.26	54.49	-26.23	AVG	
3		0.3300	37.50	0.12	37.62	59.45	-21.83	QP	
4		0.3300	28.00	0.12	28.12	49.45	-21.33	AVG	
5		0.4550	38.80	0.10	38.90	56.78	-17.88	QP	
6		0.4550	27.30	0.10	27.40	46.78	-19.38	AVG	
7		0.5600	39.10	0.10	39.20	56.00	-16.80	QP	
8		0.5600	27.30	0.10	27.40	46.00	-18.60	AVG	
9		2.5300	43.90	0.16	44.06	56.00	-11.94	QP	
10	*	2.5300	35.60	0.16	35.76	46.00	-10.24	AVG	
11		7.8000	38.40	0.30	38.70	60.00	-21.30	QP	
12		7.8000	30.20	0.30	30.50	50.00	-19.50	AVG	

Operation Mode:	EDGE 850 LINK			Test Date:	May. 12, 2009
Temperature:	25 ℃	Humidity:	59 %	Test By:	Jason

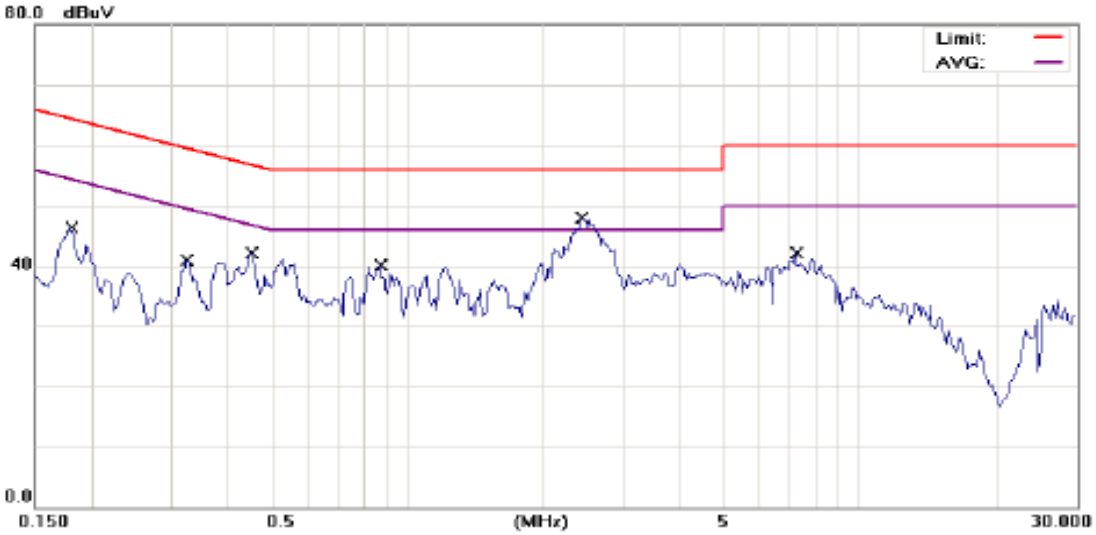


Site SGS CONDUCTED #1
Limit: CISPR22/11 Class B Conduction(QP)
EUT: PDA Phone
M/N: SAPP500
Note: EDGE 850 LINK MODE

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

Temperature: 23 ℃
Humidity: 62 %
Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1800	38.90	0.14	39.04	64.49	-25.45	QP	
2		0.1800	23.20	0.14	23.34	54.49	-31.15	AVG	
3		0.3900	40.80	0.08	40.88	58.06	-17.18	QP	
4		0.3900	29.40	0.08	29.48	48.06	-18.58	AVG	
5		0.5200	35.90	0.07	35.97	56.00	-20.03	QP	
6		0.5200	24.30	0.07	24.37	46.00	-21.63	AVG	
7		1.2100	35.90	0.10	36.00	56.00	-20.00	QP	
8		1.2100	25.00	0.10	25.10	46.00	-20.90	AVG	
9		2.5000	44.20	0.14	44.34	56.00	-11.66	QP	
10	*	2.5000	35.90	0.14	36.04	46.00	-9.96	AVG	
11		7.8200	39.30	0.29	39.59	60.00	-20.41	QP	
12		7.8200	30.80	0.29	31.09	50.00	-18.91	AVG	



Site SGS CONDUCTED #1
Limit: CISPR22/11 Class B Conduction(QP)
EUT: PDA Phone
M/N: SAPP600
Note: EDGE 850 LINK MODE

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

Temperature: 23 °C
Humidity: 62 %
Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1800	39.80	0.16	39.96	64.49	-24.53	QP	
2		0.1800	27.40	0.16	27.56	54.49	-26.93	AVG	
3		0.3250	36.40	0.12	36.52	59.58	-23.06	QP	
4		0.3250	25.20	0.12	25.32	49.58	-24.26	AVG	
5		0.4500	38.60	0.10	38.70	56.88	-18.18	QP	
6		0.4500	27.80	0.10	27.90	46.88	-18.98	AVG	
7		0.8700	37.20	0.11	37.31	56.00	-18.69	QP	
8		0.8700	23.60	0.11	23.71	46.00	-22.29	AVG	
9		2.4300	43.80	0.15	43.95	56.00	-12.05	QP	
10	*	2.4300	34.20	0.15	34.35	46.00	-11.65	AVG	
11		7.2400	38.20	0.28	38.48	60.00	-21.52	QP	
12		7.2400	29.80	0.28	30.08	50.00	-19.92	AVG	

AC POWER LINE CONDUCTED EMISSION TEST DATA

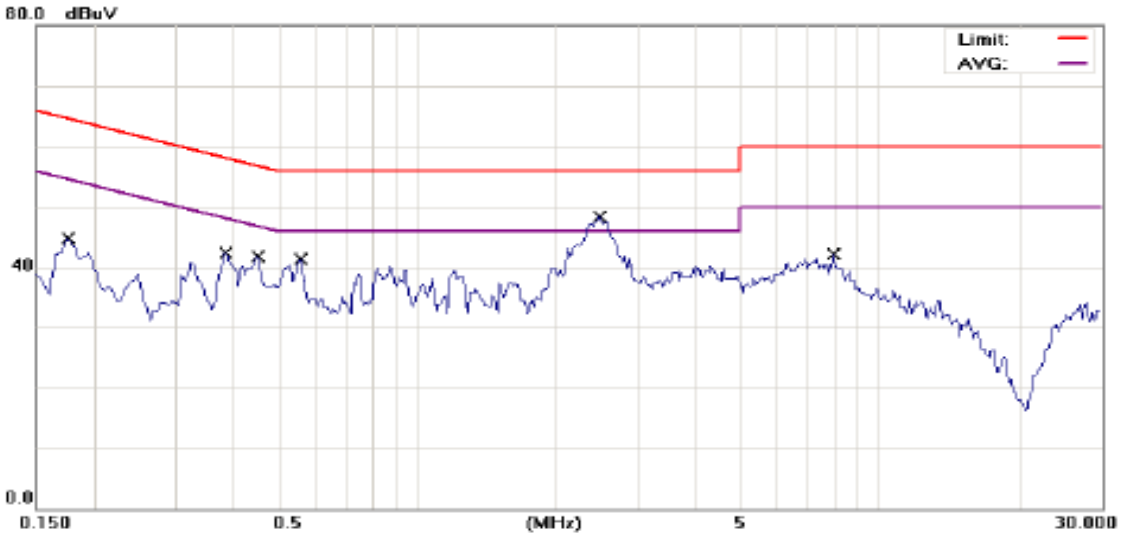
Operation Mode:	EDGE 1900 Link			Test Date:	May. 12, 2009
Temperature:	25 ℃	Humidity:	59 %	Test By:	Jason

Site SGS CONDUCTED #1
Limit: CISPR22/11 Class B Conduction(QP)
EUT: PDA Phone
M/N: SAPP500
Note: EDGE 1900 LINK MODE

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

Temperature: 23 ℃
Humidity: 62 %
Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1800	34.50	0.14	34.64	64.49	-29.85	QP	
2		0.1800	21.30	0.14	21.44	54.49	-33.05	AVG	
3		0.3900	35.90	0.08	35.98	58.06	-22.08	QP	
4		0.3900	20.70	0.08	20.78	48.06	-27.28	AVG	
5		0.5300	29.80	0.07	29.87	56.00	-26.13	QP	
6		0.5300	18.50	0.07	18.57	46.00	-27.43	AVG	
7		1.2600	28.70	0.10	28.80	56.00	-27.20	QP	
8		1.2600	19.50	0.10	19.60	46.00	-26.40	AVG	
9		2.4400	35.60	0.13	35.73	56.00	-20.27	QP	
10	*	2.4400	29.20	0.13	29.33	46.00	-16.67	AVG	
11		7.8200	32.80	0.29	33.09	60.00	-26.91	QP	
12		7.8200	23.80	0.29	24.09	50.00	-25.91	AVG	



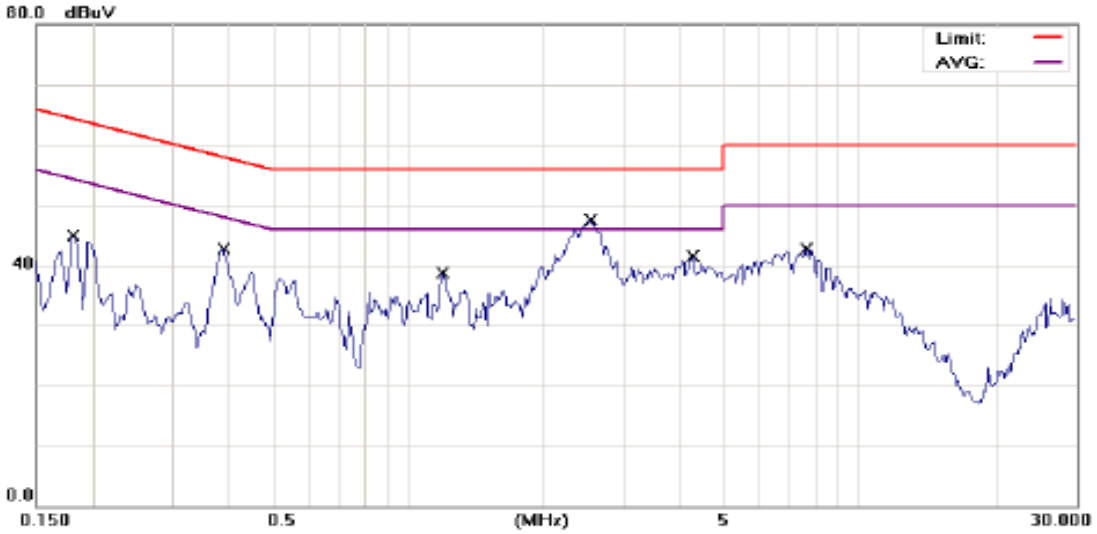
Site SGS CONDUCTED #1
Limit: CISPR22/11 Class B Conduction(QP)
EUT: PDA Phone
M/N: SAPP500
Note: EDGE 1900 LINK MODE

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

Temperature: 23 °C
Humidity: 62 %
Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1750	32.40	0.17	32.57	64.72	-32.15	QP	
2		0.1750	22.20	0.17	22.37	54.72	-32.35	AVG	
3		0.3850	33.40	0.11	33.51	58.17	-24.66	QP	
4		0.3850	20.70	0.11	20.81	48.17	-27.36	AVG	
5		0.4500	37.20	0.10	37.30	56.88	-19.58	QP	
6		0.4500	23.70	0.10	23.80	46.88	-23.08	AVG	
7		0.5600	35.00	0.10	35.10	56.00	-20.90	QP	
8		0.5600	23.20	0.10	23.30	46.00	-22.70	AVG	
9		2.4800	35.50	0.15	35.65	56.00	-20.35	QP	
10	*	2.4800	28.10	0.15	28.25	46.00	-17.75	AVG	
11		7.9600	32.40	0.31	32.71	60.00	-27.29	QP	
12		7.9600	23.50	0.31	23.81	50.00	-26.19	AVG	

Operation Mode:	WCDMA Band V LINK			Test Date:	May. 12, 2009
Temperature:	25 ℃	Humidity:	59 %	Test By:	Jason



Site SGS CONDUCTED #1
Limit: CISPR22/11 Class B Conduction(QP)
EUT: PDA Phone
M/N: SAPP500
Note: WCDMA B5 LINK MODE

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

Temperature: 23 ℃
Humidity: 62 %
Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1800	38.50	0.14	38.64	64.49	-25.85	QP	
2		0.1800	23.60	0.14	23.74	54.49	-30.75	AVG	
3		0.3900	40.10	0.08	40.18	58.06	-17.88	QP	
4		0.3900	28.10	0.08	28.18	48.06	-19.88	AVG	
5		1.1900	34.90	0.10	35.00	56.00	-21.00	QP	
6		1.1900	21.50	0.10	21.60	46.00	-24.40	AVG	
7		2.5400	42.50	0.14	42.64	56.00	-13.36	QP	
8	*	2.5400	34.90	0.14	35.04	46.00	-10.96	AVG	
9		4.2800	34.90	0.15	35.05	56.00	-20.95	QP	
10		4.2800	26.70	0.15	26.85	46.00	-19.15	AVG	
11		7.6400	38.50	0.28	38.78	60.00	-21.22	QP	
12		7.6400	30.10	0.28	30.38	50.00	-19.62	AVG	

Site SGS CONDUCTED #1
Limit: CISPR22/11 Class B Conduction(QP)
EUT: PDA Phone
M/N: SAPP500
Note: WCDMA B5 LINK MODE

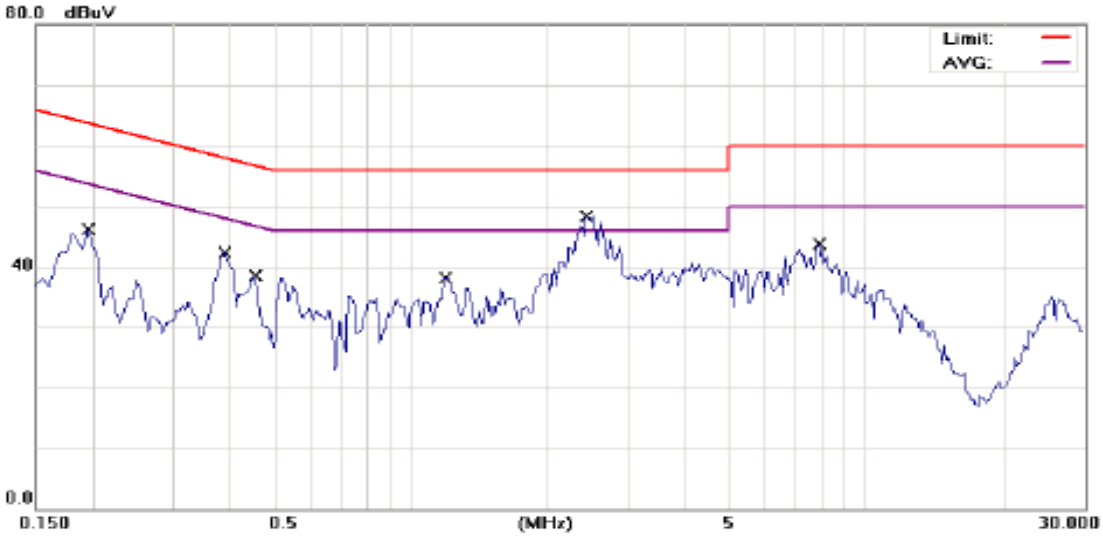
Phase: N
Power: AC 120V/60Hz
Distance:

Temperature: 23 °C
Humidity: 62 %
Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1800	38.90	0.16	39.06	64.49	-25.43	QP	
2		0.1800	26.50	0.16	26.66	54.49	-27.83	AVG	
3		0.1950	38.30	0.15	38.45	63.82	-25.37	QP	
4		0.1950	25.90	0.15	26.05	53.82	-27.77	AVG	
5		0.4500	38.70	0.10	38.80	56.88	-18.08	QP	
6		0.4500	27.70	0.10	27.80	46.88	-19.08	AVG	
7		0.5300	39.10	0.10	39.20	56.00	-16.80	QP	
8		0.5300	28.60	0.10	28.70	46.00	-17.30	AVG	
9		2.5200	43.60	0.16	43.76	56.00	-12.24	QP	
10	*	2.5200	35.60	0.16	35.76	46.00	-10.24	AVG	
11		7.0200	38.00	0.27	38.27	60.00	-21.73	QP	
12		7.0200	30.00	0.27	30.27	50.00	-19.73	AVG	

AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode:	WCDMA Band II Link			Test Date:	May. 12, 2009
Temperature:	25 ℃	Humidity:	59 %	Test By:	Jason

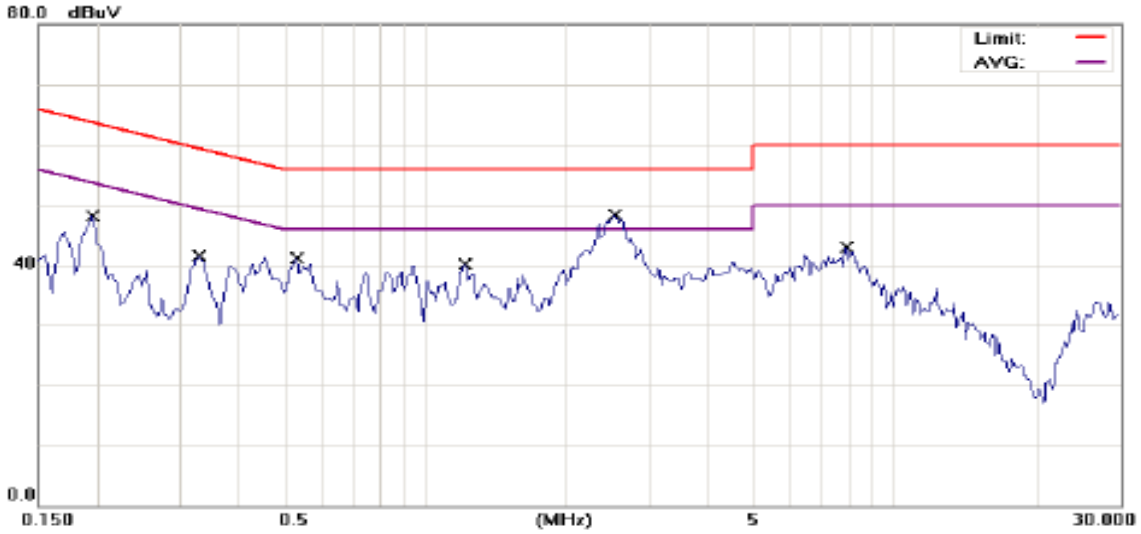


Site SGS CONDUCTED #1
Limit: CISPR22/11 Class B Conduction(QP)
EUT: PDA Phone
M/N: SAPP500
Note: WCDMA B2 LINK MODE

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

Temperature: 23 ℃
Humidity: 62 %
Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1950	39.70	0.13	39.83	63.82	-23.99	QP	
2		0.1950	24.30	0.13	24.43	53.82	-29.39	AVG	
3		0.3900	40.50	0.08	40.58	58.06	-17.48	QP	
4		0.3900	29.60	0.08	29.68	48.06	-18.38	AVG	
5		0.4550	33.80	0.07	33.87	56.78	-22.91	QP	
6		0.4550	24.30	0.07	24.37	46.78	-22.41	AVG	
7		1.1900	35.30	0.10	35.40	56.00	-20.60	QP	
8		1.1900	22.80	0.10	22.90	46.00	-23.10	AVG	
9		2.4300	43.20	0.13	43.33	56.00	-12.67	QP	
10	*	2.4300	34.00	0.13	34.13	46.00	-11.87	AVG	
11		7.8600	39.20	0.29	39.49	60.00	-20.51	QP	
12		7.8600	30.50	0.29	30.79	50.00	-19.21	AVG	



Site SGS CONDUCTED #1
Limit: CISPR22/11 Class B Conduction(QP)
EUT: PDA Phone
M/N: SAPP600
Note: WCDMA B2 LINK MODE

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

Temperature: 23 °C
Humidity: 62 %
Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1950	40.20	0.15	40.35	63.82	-23.47	QP	
2		0.1950	26.40	0.15	26.55	53.82	-27.27	AVG	
3		0.3300	38.20	0.12	38.32	59.45	-21.13	QP	
4		0.3300	28.80	0.12	28.92	49.45	-20.53	AVG	
5		0.5300	39.40	0.10	39.50	56.00	-16.50	QP	
6		0.5300	28.00	0.10	28.10	46.00	-17.90	AVG	
7		1.2100	36.80	0.13	36.93	56.00	-19.07	QP	
8		1.2100	25.40	0.13	25.53	46.00	-20.47	AVG	
9		2.5300	43.90	0.16	44.06	56.00	-11.94	QP	
10	*	2.5300	36.00	0.16	36.16	46.00	-9.84	AVG	
11		7.8800	38.80	0.31	39.11	60.00	-20.89	QP	
12		7.8800	30.30	0.31	30.61	50.00	-19.39	AVG	

Operation Mode:	WCDMA Band V HSDPA LINK			Test Date:	May. 24, 2009
Temperature:	25 ℃	Humidity:	59 %	Test By:	Jason

Site SGS CONDUCTED #1
Limit: CISPR22/11 Class B Conduction(QP)
EUT: PDA Phone
M/N: SAPP500
Note: HSUPA B5 LINK MODE

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

Temperature: 23 ℃
Humidity: 62 %
Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1950	29.20	0.13	29.33	63.82	-34.49	QP	
2		0.1950	14.20	0.13	14.33	53.82	-39.49	AVG	
3		0.3900	34.20	0.08	34.28	58.06	-23.78	QP	
4		0.3900	19.70	0.08	19.78	48.06	-28.28	AVG	
5		1.2100	28.20	0.10	28.30	56.00	-27.70	QP	
6		1.2100	17.30	0.10	17.40	46.00	-28.60	AVG	
7		2.4400	35.70	0.13	35.83	56.00	-20.17	QP	
8	*	2.4400	28.80	0.13	28.93	46.00	-17.07	AVG	
9		4.5700	26.80	0.16	26.96	56.00	-29.04	QP	
10		4.5700	17.60	0.16	17.76	46.00	-28.24	AVG	
11		7.7600	33.00	0.28	33.28	60.00	-26.72	QP	
12		7.7600	23.80	0.28	24.08	50.00	-25.92	AVG	

Site SGS CONDUCTED #1
Limit: CISPR22/11 Class B Conduction(QP)
EUT: PDA Phone
M/N: SAPP500
Note: HSUPA B5 LINK MODE

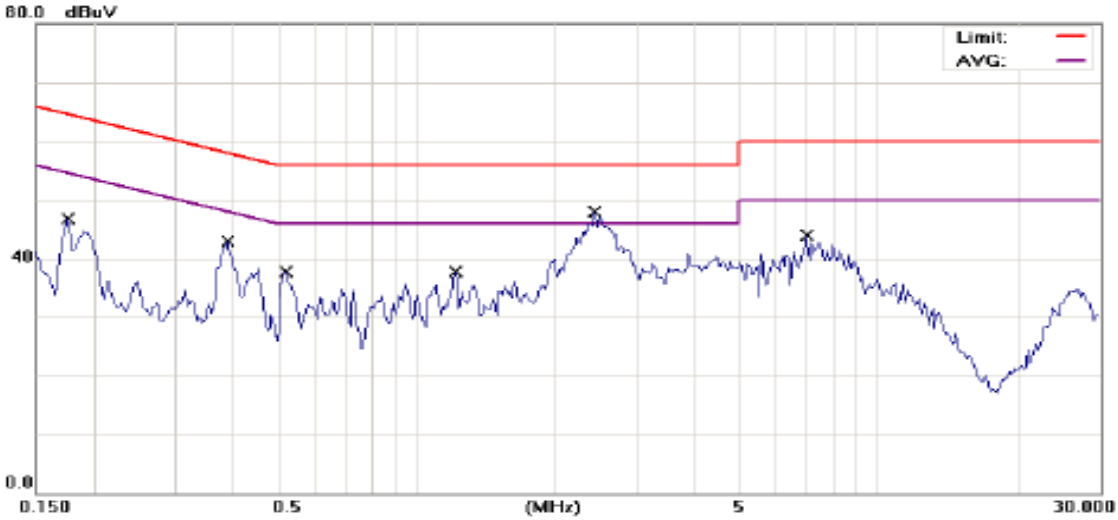
Phase: N
Power: AC 120V/60Hz
Distance:

Temperature: 23 °C
Humidity: 62 %
Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1800	32.70	0.16	32.86	64.49	-31.63	QP	
2		0.1800	24.80	0.16	24.96	54.49	-29.53	AVG	
3	*	0.4150	44.60	0.11	44.71	57.55	-12.84	QP	
4		0.4150	33.80	0.11	33.91	47.55	-13.64	AVG	
5		0.9400	29.30	0.12	29.42	56.00	-26.58	QP	
6		0.9400	15.30	0.12	15.42	46.00	-30.58	AVG	
7		2.4400	36.70	0.15	36.85	56.00	-19.15	QP	
8		2.4400	29.40	0.15	29.55	46.00	-16.45	AVG	
9		4.5800	27.10	0.18	27.28	56.00	-28.72	QP	
10		4.5800	18.40	0.18	18.58	46.00	-27.42	AVG	
11		7.0800	30.70	0.27	30.97	60.00	-29.03	QP	
12		7.0800	22.10	0.27	22.37	50.00	-27.63	AVG	

AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode:	WCDMA Band II HSDPA Link			Test Date:	May. 24, 2009
Temperature:	25 ℃	Humidity:	59 %	Test By:	Jason

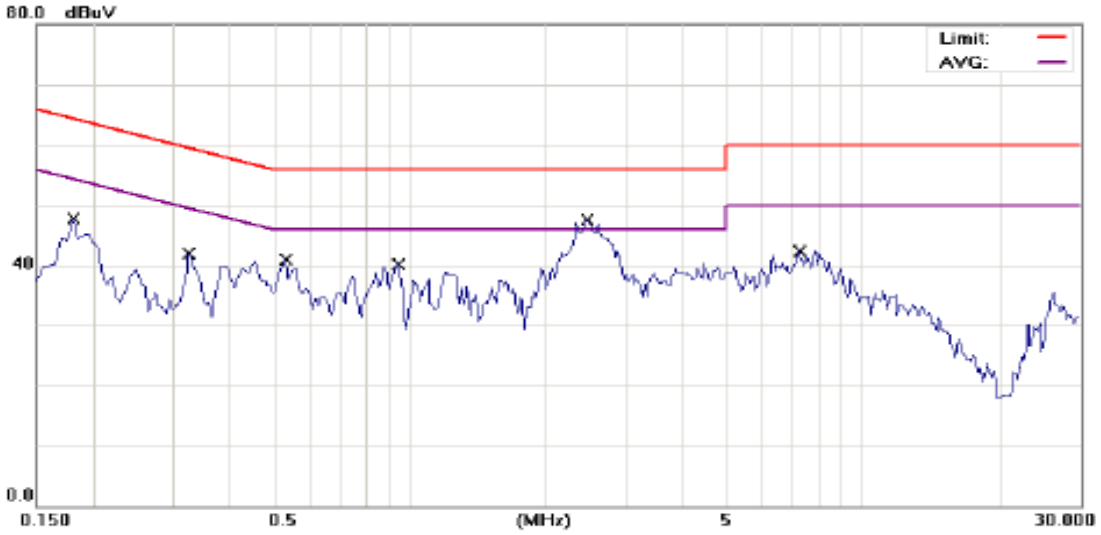


Site SGS CONDUCTED #1
Limit: CISPR22/11 Class B Conduction(QP)
EUT: PDA Phone
M/N: SAPP500
Note: HSUPA B2 LINK MODE

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

Temperature: 23 ℃
Humidity: 62 %
Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1750	38.30	0.15	38.45	64.72	-26.27	QP	
2		0.1750	22.90	0.15	23.05	54.72	-31.67	AVG	
3		0.3900	40.10	0.08	40.18	58.06	-17.88	QP	
4		0.3900	28.40	0.08	28.48	48.06	-19.58	AVG	
5		0.5200	35.60	0.07	35.67	56.00	-20.33	QP	
6		0.5200	30.20	0.07	30.27	56.00	-25.73	QP	
7		0.5200	19.90	0.07	19.97	46.00	-26.03	AVG	
8		1.2100	29.80	0.10	29.90	56.00	-26.10	QP	
9		1.2100	18.60	0.10	18.70	46.00	-27.30	AVG	
10		2.4300	43.10	0.13	43.23	56.00	-12.77	QP	
11	*	2.4300	34.00	0.13	34.13	46.00	-11.87	AVG	
12		7.0000	33.70	0.25	33.95	60.00	-26.05	QP	
13		7.0000	24.90	0.25	25.15	50.00	-24.85	AVG	



Site SGS CONDUCTED #1
Limit: CISPR22/11 Class B Conduction(QP)
EUT: PDA Phone
M/N: SAPP500
Note: HSUPA B2 LINK MODE

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

Temperature: 23 °C
Humidity: 62 %
Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1800	39.70	0.16	39.86	64.49	-24.63	QP	
2		0.1800	27.50	0.16	27.66	54.49	-26.83	AVG	
3		0.3250	38.50	0.12	38.62	59.58	-20.96	QP	
4		0.3250	29.00	0.12	29.12	49.58	-20.46	AVG	
5		0.5300	39.10	0.10	39.20	56.00	-16.80	QP	
6		0.5300	27.60	0.10	27.70	46.00	-18.30	AVG	
7		0.9400	37.80	0.12	37.92	56.00	-18.08	QP	
8		0.9400	22.80	0.12	22.92	46.00	-23.08	AVG	
9	*	2.4500	44.10	0.15	44.25	56.00	-11.75	QP	
10		2.4500	34.10	0.15	34.25	46.00	-11.75	AVG	
11		7.2400	38.30	0.28	38.58	60.00	-21.42	QP	
12		7.2400	30.00	0.28	30.28	50.00	-19.72	AVG	

Operation Mode:	WCDMA Band V HSUPA LINK			Test Date:	Mar. 03, 2008
Temperature:	25 ℃	Humidity:	59 %	Test By:	Jason

Site SGS CONDUCTED #1
Limit: CISPR22/11 Class B Conduction(QP)
EUT: PDA Phone
M/N: SAPP500
Note: HSUPA B5 LINK MODE

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

Temperature: 23 ℃
Humidity: 62 %
Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1950	29.20	0.13	29.33	63.82	-34.49	QP	
2		0.1950	14.20	0.13	14.33	53.82	-39.49	AVG	
3		0.3900	34.20	0.08	34.28	58.06	-23.78	QP	
4		0.3900	19.70	0.08	19.78	48.06	-28.28	AVG	
5		1.2100	28.20	0.10	28.30	56.00	-27.70	QP	
6		1.2100	17.30	0.10	17.40	46.00	-28.60	AVG	
7		2.4400	35.70	0.13	35.83	56.00	-20.17	QP	
8	*	2.4400	28.80	0.13	28.93	46.00	-17.07	AVG	
9		4.5700	26.80	0.16	26.96	56.00	-29.04	QP	
10		4.5700	17.60	0.16	17.76	46.00	-28.24	AVG	
11		7.7600	33.00	0.28	33.28	60.00	-26.72	QP	
12		7.7600	23.80	0.28	24.08	50.00	-25.92	AVG	

Site SGS CONDUCTED #1
Limit: CISPR22/11 Class B Conduction(QP)
EUT: PDA Phone
M/N: SAPP500
Note: HSUPA B5 LINK MODE

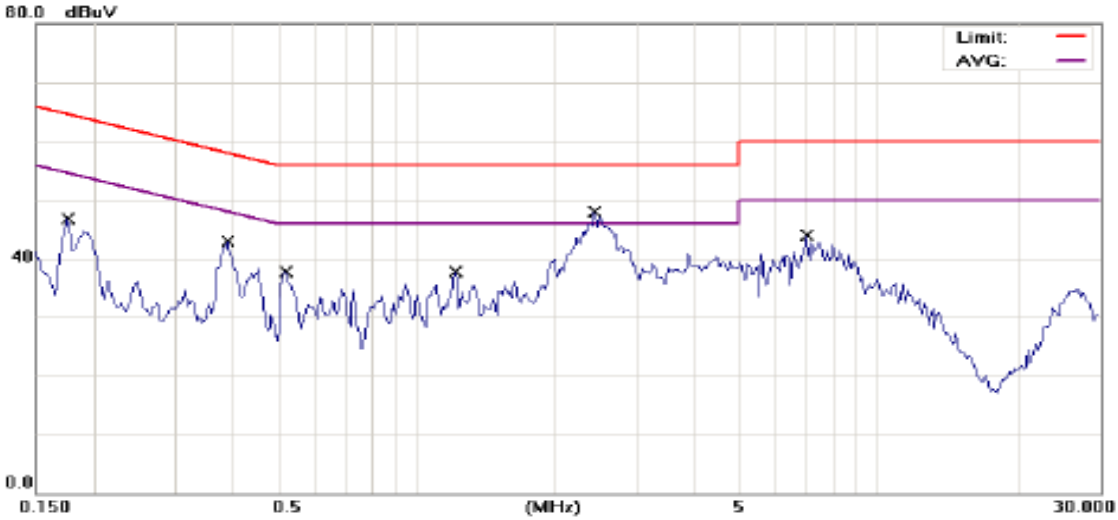
Phase: N
Power: AC 120V/60Hz
Distance:

Temperature: 23 °C
Humidity: 62 %
Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1800	32.70	0.16	32.86	64.49	-31.63	QP	
2		0.1800	24.80	0.16	24.96	54.49	-29.53	AVG	
3	*	0.4150	44.60	0.11	44.71	57.55	-12.84	QP	
4		0.4150	33.80	0.11	33.91	47.55	-13.64	AVG	
5		0.9400	29.30	0.12	29.42	56.00	-26.58	QP	
6		0.9400	15.30	0.12	15.42	46.00	-30.58	AVG	
7		2.4400	36.70	0.15	36.85	56.00	-19.15	QP	
8		2.4400	29.40	0.15	29.55	46.00	-16.45	AVG	
9		4.5800	27.10	0.18	27.28	56.00	-28.72	QP	
10		4.5800	18.40	0.18	18.58	46.00	-27.42	AVG	
11		7.0800	30.70	0.27	30.97	60.00	-29.03	QP	
12		7.0800	22.10	0.27	22.37	50.00	-27.63	AVG	

AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode:	WCDMA Band II HSUPA Link			Test Date:	Mar. 03, 2008
Temperature:	25 ℃	Humidity:	59 %	Test By:	Jason

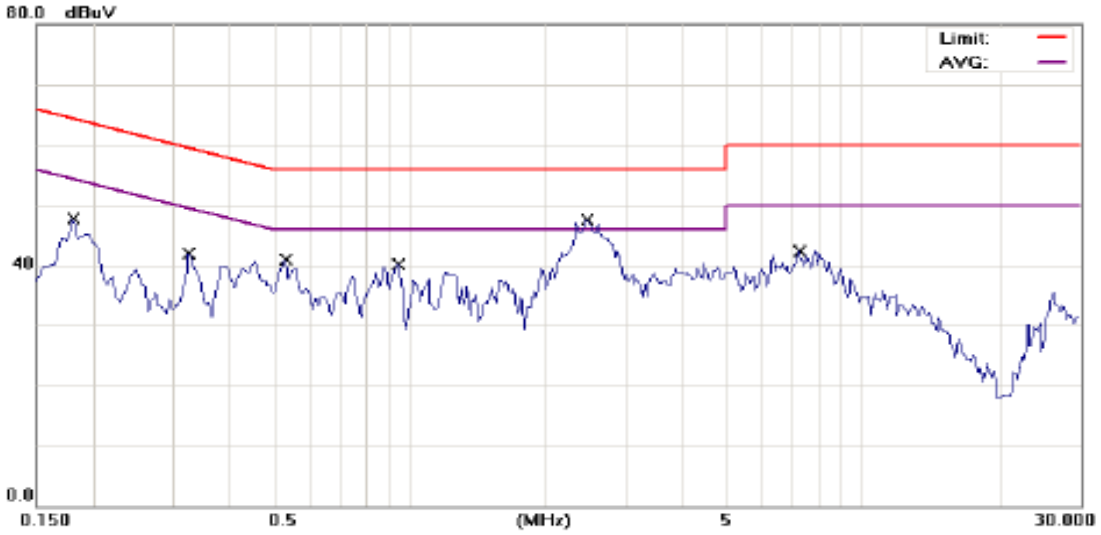


Site SGS CONDUCTED #1
Limit: CISPR22/11 Class B Conduction(QP)
EUT: PDA Phone
M/N: SAPP600
Note: HSUPA B2 LINK MODE

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

Temperature: 23 ℃
Humidity: 62 %
Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1750	38.30	0.15	38.45	64.72	-26.27	QP	
2		0.1750	22.90	0.15	23.05	54.72	-31.67	AVG	
3		0.3900	40.10	0.08	40.18	58.06	-17.88	QP	
4		0.3900	28.40	0.08	28.48	48.06	-19.58	AVG	
5		0.5200	35.60	0.07	35.67	56.00	-20.33	QP	
6		0.5200	30.20	0.07	30.27	56.00	-25.73	QP	
7		0.5200	19.90	0.07	19.97	46.00	-26.03	AVG	
8		1.2100	29.80	0.10	29.90	56.00	-26.10	QP	
9		1.2100	18.60	0.10	18.70	46.00	-27.30	AVG	
10		2.4300	43.10	0.13	43.23	56.00	-12.77	QP	
11	*	2.4300	34.00	0.13	34.13	46.00	-11.87	AVG	
12		7.0000	33.70	0.25	33.95	60.00	-26.05	QP	
13		7.0000	24.90	0.25	25.15	50.00	-24.85	AVG	



Site SGS CONDUCTED #1
Limit: CISPR22/11 Class B Conduction(QP)
EUT: PDA Phone
M/N: SAPP500
Note: HSUPA B2 LINK MODE

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

Temperature: 23 °C
Humidity: 62 %
Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1800	39.70	0.16	39.86	64.49	-24.63	QP	
2		0.1800	27.50	0.16	27.66	54.49	-26.83	AVG	
3		0.3250	38.50	0.12	38.62	59.58	-20.96	QP	
4		0.3250	29.00	0.12	29.12	49.58	-20.46	AVG	
5		0.5300	39.10	0.10	39.20	56.00	-16.80	QP	
6		0.5300	27.60	0.10	27.70	46.00	-18.30	AVG	
7		0.9400	37.80	0.12	37.92	56.00	-18.08	QP	
8		0.9400	22.80	0.12	22.92	46.00	-23.08	AVG	
9	*	2.4500	44.10	0.15	44.25	56.00	-11.75	QP	
10		2.4500	34.10	0.15	34.25	46.00	-11.75	AVG	
11		7.2400	38.30	0.28	38.58	60.00	-21.42	QP	
12		7.2400	30.00	0.28	30.28	50.00	-19.72	AVG	