

Report No.: EH/2011/80028 Issue Date: Sep. 26, 2011

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ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 22 SUBPART H, PART 24 SUBPART E and PART 27

OF

Product Name: 3G36W-V

Brand Name: NetComm

Model Name: 3G36W-V

FCC ID: XIA-3G36WV

Report No.: EH/2011/80028

Issue Date: Sep. 26, 2011

FCC Rule Part: 2,22H,24E &27

Prepared for: NetComm Limited

Level 2, 18-20 Orion Road, Lane Cove, NSW

Australia

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

NetComm Limited **Applicant:**

Level 2, 18-20 Orion Road, Lane Cove, NSW Australia

Product Name: 3G36W-V

Brand Name: NetComm

FCC ID: XIA-3G36WV

Model No.: 3G36W-V

Model Difference: N/A

File Number: EH/2011/80028

Aug. 09, 2011 ~ Sep. 23, 2011 **Date of test:**

Aug. 09, 2011 **Date of EUT Received:**

We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. Electronics & Communication Laboratory The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in TIA/EIA-603-C-2004 and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rule FCC PART 22 subpart H, PART 24 subpart E and PART 27.

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

Test By:	Lion Wang	Date:	Sep. 26, 2011	
	Lion Wang / Engineer			
Prepared By:	Gigi yeh	Date:	Sep. 26, 2011	
	Gigi Yeh / Clerk			
Approved By	Jim Chang	Date:	Sep. 26, 2011	
	Jim Chang / Supervisor			

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Version

Version No.	Date	Description
00	Sep. 26, 2011	Initial creation of document

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1. GENERAL PRODUCT INFORMATION

General:

Product Name:	3G36W-V
Brand Name:	NetComm
Model No.:	3G36W-V
Marketing Name:	HSPA+ Data Gateway
Model Difference:	N/A
Power Supply:	12V from AC/DC adapter, model: Au-79Dmu, Supplier: ELEMEN

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GSM and WCDMA:

	Operating Frequency		Rated Power		
	GSM / GPRS 850, Class 12	824.2 MHz- 848.8 MHz	33 dBm		
	EDGE 850, Class 12 824.2 MHz– 848.8 MHz		27 dBm		
	GSM / GPRS 1900, Class 12	1850.2MHz – 1909.8MHz	30 dBm		
Cellular Phone Standards Frequency Range and Power:	EDGE 1900, Class 12	1850.2MHz – 1909.8MHz	26 dBm		
Trequency Runge and Fower.	WCDMA/HSUPA/HSDPA /HSPA+ Band II	1852.4MHz – 1907.6MHz	24 dBm		
	WCDMA/HSUPA/HSDPA /HSPA+ Band IV	1712.4MHz –1752.6MHz	24 dBm		
	WCDMA/HSUPA/HSDPA /HSPA+ Band V	826.4MHz - 846.6MHz	24 dBm		
	GSM 850: 251KGXW, GSM 1900: 242KGXW,				
	GPRS 850: 244KGXW, GPRS 1900: 245KGXW,				
	EDGE 850: 245KG7W, EDGE 1900: 245KG7W,				
Type of Emission:	WCDMA Band II: 4M17F9W, WCDMA Band IV: 4M18F9W,				
Type of Emission.	WCDMA Band V: 4M17F9W, HSUPA Band II: 4M15F9W,				
	HSUPA Band IV: 4M18F9W, HSUPA Band V: 4M18F9W,				
	HSDPA Band II: 4M18F9W, HSDPA Band IV: 4M17F9W,				
	HSDPA Band V: 4M17F9W				
Hardware Version:	V1.31				
Software Version:	TBA				
	PIF Antenna				
Antenna Spec:	824~968MHz: 0.8~1.6 dBi				
	1710~2170 MHz: 2.0~4.3dBi				
IMEI:	35794502041126500				

This test report applies for GSM/GPRS/EDGE 850/1900, WCDMA/HSDPA/HSUPA/HSPA+ and band II / IV / V.

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Final Amplifier Voltage and Current Information:

Test mode	DC voltage (V)	DC current (mA)
GSM 850	12 Vdc	630
GSM 1900	12 Vdc	710
GPRS 850	12 Vdc	350
GPRS 1900	12 Vdc	450
EDGE 850	12 Vdc	320
EDGE 1900	12 Vdc	420
WCDMA B2	12 Vdc	760
WCDMA B5	12 Vdc	610
HSUPA B2	12 Vdc	740
HSUPA B5	12 Vdc	620
HSDPA B2	12 Vdc	750
HSDPA B5	12 Vdc	620
WCDMA B4	12 Vdc	730
HSDPA B4	12 Vdc	620
HSUPA B2	12 Vdc	700

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

This submittal(s) (test report) is intended for FCC ID: XIA-3G36WV filing to comply with Section Part 22 subpart H, Part 24 subpart E and Part27 of the FCC CFR 47 Rules.

1.2. Test Methodology

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

1.3. Test Facility

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

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

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

1.4. Special Accessories

Not available for this EUT intended for grant.

1.5. Equipment Modifications

Not available for this EUT intended for grant.

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2. SYSTEM TEST CONFIGURATION

2.1. EUT Configuration

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

2.2. EUT Exercise

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

2.3. Test Procedure

2.3.1 AC Power Line Conducted Emissions

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

2.3.2 Conducted Measurement at Antenna Port:

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

2.3.3 Radiated Emissions (ERP/EIRP):

The EUT is a placed on as turn table which is 80 cm above ground plane. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both Horizontal and Vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes and measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made "while keeping the antenna in the 'cone of radiation' from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response." is still within the 3dB illumination BW of the measurement antenna according to the requirements in Section 2 of TIA/EIA 603C.

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2.4. Measurement Equipment Used:

Conducted Emission Test Site					
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.
TYPE		NUMBER	NUMBER	CAL.	
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/19/2010	04/18/2012
Spectrum Analyzer	Agilent	E4440A	US41160416	01/23/2010	01/22/2012
Radio Communication Analyzer	R&S	CMU200	102189	05/13/2010	05/12/2012
800 – 1000MHz Filter	Micro-Tronics	BRM13462	001	01/05/2011	01/04/2012
1800 – 2000MHz Filter	Micro-Tronics	BRM13463	001	01/05/2011	01/04/2012
Temperature Chamber	TERCHY	MHG-120LF	911009	04/14/2010	04/13/2012
Temperature Chamber	GIANT FORCE	GTH-150-40- CP-AR	MAA0512-018	02/05/2010	02/04/2012
DC Block	Agilent	BLK-18	155452	07/05/2011	07/04/2012
Attenuator	Mini-Circuit	BW-S20W5	N/A	07/05/2011	07/04/2012
Attenuator	Mini-Circuit	BW-S10W5	N/A	07/05/2011	07/04/2012
Attenuator	Mini-Circuit	BW-S6W5	N/A	07/05/2011	07/04/2012
Splitter	Agilent	11636B	N/A	07/05/2011	07/04/2012
DC Power Supply	Chroma	41901	777188	04/17/2010	04/16/2012
Power Meter	Anritsu	ML2495A	1005007	02/17/2010	02/16/2012

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ERP, EIRP MEASUREMENT EQUIPMENT List 966 Chamber					
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.
TYPE		NUMBER	NUMBER	CAL.	
Spectrum Analyzer	R&S	FSP 40	100034	02/12/2010	02/11/2012
Bilog Antenna	SCHWAZBECK	VULB9160	3136	11/19/2010	11/18/2011
Dipole Antenna	SCHWAZBECK	VHAP	908/909	07/10/2010	07/09/2012
Dipole Antenna	SCHWAZBECK	UHAP	891/892	07/10/2010	07/09/2012
Hor.n antenna	SCHWAZBECK	BBHA 9120D	309	01/22/2010	01/21/2012
Horn antenna	SCHWAZBECK	BBHA 9120D	9120D-673	05/09/2010	05/08/2012
Signal Generator	R&S	SMR40	100210	01/22/2010	01/21/2012
Signal Generator	Agilent	E4438C	MY45093613	06/11/2011	06/10/2012
Pre-Amplifier	Agilent	8447D	1937A02834	11/28/2010	11/27/2011
Pre-Amplifier	Agilent	8449B	3008A01973	01/05/2010	01/04/2012
Attenuator	Mini-Circuit	BW-S20W5	001	07/05/2011	07/04/2012
Attenuator	Mini-Circuit	BW-S10W5	001	07/05/2011	07/04/2012
Attenuator	Mini-Circuit	BW-S6W5	001	07/05/2011	07/04/2012
Radio Communication Analyzer	R&S	CMU200	102189	05/13/2010	05/12/2012
Turn Table	HD	DT420	N/A	N.C.R	N.C.R
Antenna Tower	HD	MA240-N	240/657	N.C.R	N.C.R
Controller	HD	HD100	N/A	N.C.R	N.C.R
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-10M	10m	01/05/2011	01/04/2012
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-3M	3m	01/05/2010	01/04/2012
Filter 800-1000	Micro-Tronics	BRM13462	1	01/05/2010	01/04/2012
Filter 1800-2000	Micro-Tronics	BRM13463	1	01/05/2010	01/04/2012
3m Site	SGS	966 chamber	N/A	11/08/2010	11/09/2011

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2.5. Configuration of Tested System

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

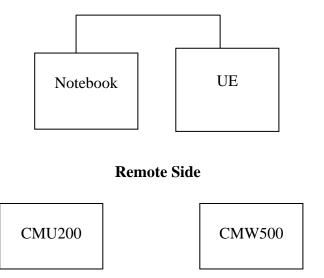


Table 2-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/ Type No.	Series No.	Data Cable	Power Cord
1.	Universal Radio Communication Tester	R&S	CMU200	102189	shielded	Un-shielded
2.	Universal Radio Com- munication Tester	R&S	CMW500	101582	shielded	Un-shielded

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3. SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result	
§2.1046(a)	RF Power Output	Compliant	
§2.1046(a)			
§22.913(a)(2)	ERP/ EIRP measurement	Compliant	
§24.232(c)	ERI / EIRI measurement	Compilant	
§27.50(d)(2)			
§2.1049(h)	99% Occupied Bandwidth	Compliant	
§2.1051	Out of Band Emissions at Antenna		
§22.917(a)	Terminals and	Compliant	
§24.238(a)	Band Edge	Compilant	
§27.53(g)	Dand Edge		
§2.1053			
§22.917(a)	Field Strength of Spurious Radiation	Compliant	
§24.238(a)	ricid Strength of Spanous Radiation	Compilant	
§27.53(g)			
§2.1055(a)(1)			
§22.355	Frequency Stability vs. Temperature	Compliant	
§24.235	Trequency Stability vs. Temperature	Compilant	
§27.54			
§2.1055(d)(2)			
§22.355	Frequency Stability vs. Voltage	Compliant	
§24.235	Trequency Stubinty vs. Voltage	Compilant	
§27.54			

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Max ERP/EIRP measurement result:

	dBm		W
GSM 850 Band	33.81	ERP	2.404
PCS 1900 Band	30.15	EIRP	1.035
GPRS 850 Band	33.91	ERP	2.460
GPRS 1900 Band	30.68	EIRP	1.169
EDGE 850 Band	32.07	ERP	1.611
EDGE 1900 Band	30.61	EIRP	1.151
WCDMA Band II	26.03	EIRP	0.401
WCDMA Band IV	27.36	EIRP	0.545
WCDMA Band V	26.02	EIRP	0.400
HSUPA Band II	27.62	EIRP	0.578
HSUPA Band IV	28.90	EIRP	0.776
HSUPA Band V	27.14	EIRP	0.518
HSDPA Band II	27.26	EIRP	0.532
HSDPA Band IV	28.82	EIRP	0.762
HSDPA Band V	26.94	EIRP	0.494

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 ERP/EIRP power and spurious radiation emission were measured as EUT stand up position (H plan) for GPRS 850 / 1900 bands and HSUPA Band II/V/IV were reported which has worst data.

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5. MEASUREMENT UNCERTAINTY FOR FIELD STRENGTH OF SPURIOUS RADIATION

	30MHz - 180MHz: 3.37dB			
Massurament uncertainty	180MHz -417MHz: 3.19dB			
Measurement uncertainty (Polarization: Vertical)	0.417GHz-1GHz: 3.19dB			
(I ofarization : Vertical)	1GHz - 18GHz: 4.04dB			
	18GHz - 40GHz: 4.04dB			
	30MHz - 167MHz: 4.22dB			
Magazanantan	167MHz -500MHz: 3.44dB			
Measurement uncertainty (Polarization: Horizontal)	0.5GHz-1GHz: 3.39dB			
3	0.5GHz-1GHz: 3.39dB			
(Polarization : Horizontal)	0.5GHz-1GHz: 3.39dB 1GHz - 18GHz: 4.08dB			

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6. RF POWER OUTPUT MEASUREMENT

6.1. Standard Applicable:

According to FCC §2.1046.

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

FCC 24.232(c) Peak Power Measurement limited to 2W

Part 27, 50(d) (2) mobile / portable stations are limited to 1W

3GPP Power limitation for HSDPA and HSUPA

Maximum Output Powers for HSDPA

Sub-test in ta- ble 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	Power	Class 3	Power Class 4		
C.11.1.3	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	

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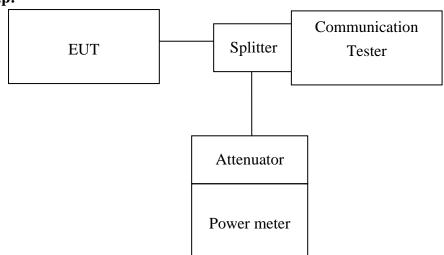
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6.2. Test Set-up:



Note: Measurement setup for testing on Antenna connector

6.3. 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.

6.4. Measurement Equipment Used:

Refer to section 2.4 in this report

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6.5. Measurement Result:

5.5.1RF Conducted Output Power

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

Result:

GSM850		
	PK(dBm)	AV(dBm)
CH 128	32.00	31.80
CH 190	32.00	31.80
CH 251	31.90	31.70

GPRS850	1Dn1UP		RS850 1Dn1UP 1Dn2UP		1Dn3UP		1Dn4UP	
	PK(dBm)	AV(dBm)	PK(dBm)	AV(dBm)	PK(dBm)	AV(dBm)	PK(dBm)	AV(dBm)
CH 128	32.00	31.80	31.70	31.50	29.70	29.50	27.70	27.60
CH 190	32.00	31.80	31.70	31.60	29.60	29.50	27.70	27.60
CH 251	31.90	31.70	31.70	31.50	29.60	29.50	27.70	27.50

EDGE850	1Dn1UP		1Dn2UP		1Dn3UP		1Dn4UP	
	PK(dBm)	AV(dBm)	PK(dBm)	AV(dBm)	PK(dBm)	AV(dBm)	PK(dBm)	AV(dBm)
CH 128	29.90	26.70	29.90	26.70	27.90	24.70	26.00	22.80
CH 190	29.90	26.80	29.90	26.70	27.90	24.70	25.90	22.80
CH 251	29.90	26.70	29.90	26.70	27.80	24.70	25.80	22.70

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GSM1900		
	PK(dBm)	AV(dBm)
CH 512	30.40	30.10
CH 661	29.70	29.50
CH 810	29.50	29.30

GPRS1900	1Dn1UP		1Dn2UP		1Dn3UP		1Dn4UP	
	PK(dBm)	AV(dBm)	PK(dBm)	AV(dBm)	PK(dBm)	AV(dBm)	PK(dBm)	AV(dBm)
CH 512	30.40	30.10	29.20	29.10	29.10	29.00	29.10	29.00
CH 661	29.70	29.50	29.10	28.90	29.00	28.90	29.00	28.90
CH 810	29.50	29.30	28.90	29.10	29.00	28.90	29.00	28.90

EDGE1900	1Dn1UP		1Dn1UP 1Dn2UP		1Dn3UP		1Dn4UP	
	PK(dBm)	AV(dBm)	PK(dBm)	AV(dBm)	PK(dBm)	AV(dBm)	PK(dBm)	AV(dBm)
CH 512	29.90	26.50	29.30	26.10	29.30	26.10	29.30	26.20
CH 661	29.80	26.60	29.20	26.00	29.20	26.00	29.20	26.00
CH 810	29.80	26.60	29.20	26.10	29.20	26.10	29.20	26.10

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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:

UMTS B2	WCDMA		HSI	OPA	HSUPA		
	PK(dBm)	AV(dBm)	PK(dBm)	AV(dBm)	PK(dBm)	AV(dBm)	
CH 9262	25.17	22.46	25.13	22.24	25.22	21.74	
CH 9400	25.08	22.21	25.10	22.03	25.06	21.35	
CH 9538	25.00	22.19	24.98	22.14	25.02	21.41	

UMTS B5	WCDMA		HSI	OPA	HSUPA		
	PK(dBm)	AV(dBm)	PK(dBm)	AV(dBm)	PK(dBm)	AV(dBm)	
CH 4132	25.66	22.03	25.96	21.85	25.71	21.64	
CH 4183	25.20	21.84	25.43	21.67	25.16	21.32	
CH 4233	25.75	22.17	26.01	21.95	25.73	21.74	

UMTS B4	WCDMA		1A HSDPA		HSUPA	
	PK(dBm)	AV(dBm)	PK(dBm)	AV(dBm)	PK(dBm)	AV(dBm)
CH 1312	25.52	22.20	25.69	21.90	25.03	21.02
CH 1413	25.46	22.16	25.61	21.90	25.00	21.16
CH 1513	25.76	22.18	25.80	22.02	25.38	21.30

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

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5.5.13: HSDPA Release 6 mode

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

HSDPA SUB-TEST Setting

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

Sub-test	βε	βа	β _d (SF)	βc/βd	βнs (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	1	25.26	24.79	24.11	20.3dBm – 25.7dBm	Pass
B2	2	24.97	24.76	24.10	20.3dBm – 25.7dBm	Pass
	3	24.78	24.34	23.58	19.8dBm – 25.7dBm	Pass
	4	24.85	24.35	23.70	19.8dBm – 25.7dBm	Pass

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Mode	Sub-test	, ,			Power Class 3 Limitation (dBm)	Comments
		1312	1413	1513		
HSDPA	1	24.66	25.30	25.12	20.3dBm – 25.7dBm	Pass
B4	2	24.83	25.06	25.13	20.3dBm – 25.7dBm	Pass
	3	24.18	24.85	24.59	19.8dBm – 25.7dBm	Pass
	4	24.25	24.86	24.71	19.8dBm – 25.7dBm	Pass

Mode	Sub-test	RMS	S Power (d Channel	Bm)	Power Class 3 Limitation (dBm)	Comments
		4132	4183	4233	uon (ubm)	
HSDPA	1	24.94	24.85	25.40	20.3dBm – 25.7dBm	Pass
B5	2	25.08	24.88	25.15	20.3dBm – 25.7dBm	Pass
	3	24.48	24.37	24.91	19.8dBm – 25.7dBm	Pass
	4	24.53	24.41	24.97	19.8dBm – 25.7dBm	Pass

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5.5.1.4: HSPA (HSDPA & HSUPA) Release 6 mode

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

HSPA SUB-TEST Setting

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

Sub- test	$eta_{ m c}$	$eta_{ m d}$	β _d (SF)	β_c/β_d	$\beta_{ m HS}$	$eta_{ m ec}$	$eta_{ m ed}$	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	209/22	1309/225	4	1	1.0	0.0	20	75	12.2
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67	12.2
3	15/15	9/15	64	15/9	30/15	30/15	β _{ed} 1: 47/15 β _{ed} 2: 47/15	4 4	2	2.0	1.0	15	92	12.2
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71	12.2
5	15/15 (Note 4)	15/15 (Note 4)	64	15/15 (Note 4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81	12.2

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

Results:

Mode	Sub-test	` ′			Power Class 3 Limita-	Comments
			Channel		tion (dBm)	
		9262	9400	9538		
HSUPA	1	25.01	24.88	24.19	18.8dBm – 25.7dBm	Pass
B2	2	23.06	22.95	22.23	16.8dBm – 25.7dBm	Pass
	3	24.07	23.90	23.27	17.8dBm – 25.7dBm	Pass
	4	23.19	23.00	22.27	16.8dBm – 25.7dBm	Pass
	5	24.90	24.74	24.10	18.8dBm – 25.7dBm	Pass

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Mode	Sub-test	RMS Power (dBm) Channel			Power Class 3 Limitation (dBm)	Comments
		1312	1413	1513	tion (ubin)	
HSUPA	1	24.87	25.18	25.22	18.8dBm – 25.7dBm	Pass
B4	2	22.92	23.25	23.26	16.8dBm – 25.7dBm	Pass
	3	23.93	24.20	24.30	17.8dBm – 25.7dBm	Pass
	4	23.05	23.30	23.30	16.8dBm – 25.7dBm	Pass
	5	24.76	25.04	25.13	18.8dBm – 25.7dBm	Pass

Mode	Sub-test	RMS	Power (d	Bm)	Power Class 3 Limita-	Comments
			Channel		tion (dBm)	
		4132	4183	4233		
HSUPA	1	25.11	24.92	25.20	18.8dBm – 25.7dBm	Pass
B5	2	23.17	23.00	23.24	16.8dBm – 25.7dBm	Pass
	3	24.15	23.98	24.28	17.8dBm – 25.7dBm	Pass
	4	23.22	23.06	23.32	16.8dBm – 25.7dBm	Pass
	5	24.97	24.75	25.09	18.8dBm – 25.7dBm	Pass

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5.5.1.5Minimum Communications Power Measurement

PCS 1900 band

PCL	0	1	2	3	4	5	6	7	8	
Output power (dBm)	29.2	29.2	29.2	29.2	27.7	26.2	24.2	22.2	20.2	
PCL	9	10	11	12	13	14	15	16	17	18
Output power (dBm)	18.4	16.4	14.3	12.3	10.4	8.3	6.3	4.4	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 IV

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.

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7. ERP, EIRP MEASUREMENT

7.1. Standard Applicable:

According to FCC §2.1046

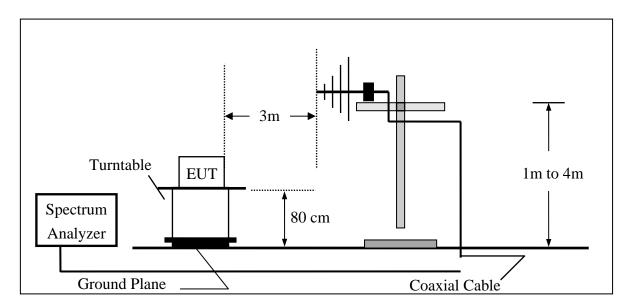
FCC 22.913(a) Mobile station are limited to 7W ERP.

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

FCC 27.50(d)(2) Fixed, mobile, and portable (hand-held) stations are limited to 1W EIRP.

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

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



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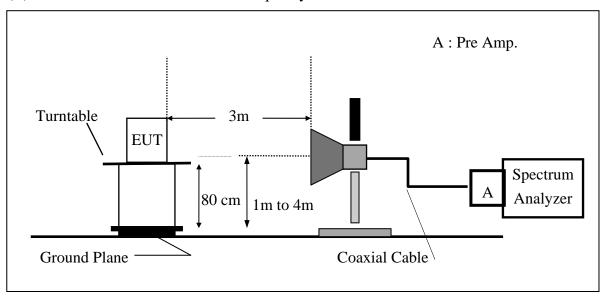
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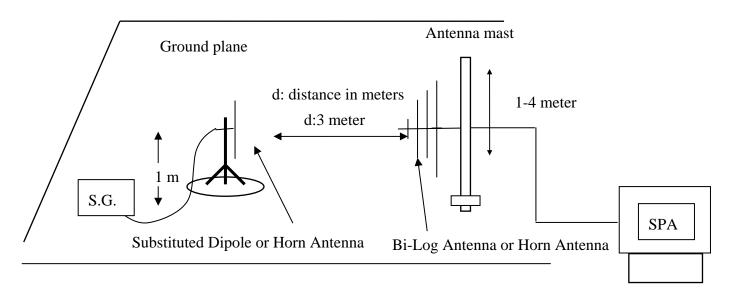
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(B) Radiated Emission Test Set-UP Frequency Over 1 GHz



(C) Substituted Method Test Set-UP



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7.3. Measurement Procedure:

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

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

ERP in frequency band 824.2 –848.80MHz were measured using a substitution method. The EUT was replaced by dipole antenna connected, the S.G. output was recorded and ERP was calculated as follows:

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

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

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

7.4. Measurement Equipment Used:

Refer to section 2.4 in this report



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7.5. Measurement Result:

EUT Mode	Frequency (MHz)	СН	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
	824.20	128		V	131.46	45.07	-7.87	3.62	33.57	38.45
	624.20	128	Н	Н	128.43	42.16	-7.87	3.62	30.66	38.45
GSM 850	836.60	100		V	131.36	45.11	-7.88	3.65	33.58	38.45
GSM 630	830.00	190	Н	Н	128.54	42.31	-7.88	3.65	30.78	38.45
	848 80	251	Н	V	131.49	45.37	-7.88	3.68	33.81	38.45
	848.80			Н	129.51	43.32	-7.88	3.68	31.76	38.45

Remark:

The RBW, VBW of SPA for frequency (1) RBW=300 KHz, VBW=1MHz

EUT Mode	Frequency (MHz)	СН	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
	1850.20	512	**	V	130.20	25.81	9.90	5.56	30.15	33.00
	1850.20	312	Н	Н	124.36	20.18	9.90	5.56	24.52	33.00
GSM 1900	1880.00	661		V	129.54	25.18	9.99	5.61	29.56	33.00
GSWI 1900	1000.00	001	Н	Н	123.57	19.43	9.99	5.61	23.80	33.00
	1909.80	910	О Н	V	129.04	24.71	10.08	5.66	29.13	33.00
		810		Н	122.95	18.84	10.08	5.66	23.26	33.00

Remark:

The RBW, VBW of SPA for frequency (1) RBW=300 KHz, VBW=1MHz

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EUT Mode	Frequency (MHz)	СН	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
	824.20	128		V	131.22	44.83	-7.87	3.62	33.33	38.45
	824.20	128	Н	Н	128.56	42.29	-7.87	3.62	30.79	38.45
GPRS 850	836.60	190		V	131.26	45.01	-7.88	3.65	33.48	38.45
GFK3 630	830.00		90 H	Н	128.14	41.91	-7.88	3.65	30.38	38.45
	949 90	251	Н	V	131.59	45.47	-7.88	3.68	33.91	38.45
	848.80			Н	129.07	42.88	-7.88	3.68	31.32	38.45

Remark:

(1) The RBW, VBW of SPA for frequency RBW=300 KHz, VBW=1MHz

EUT Mode	Frequency (MHz)	СН	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
	1850.20	512		V	130.73	26.34	9.90	5.56	30.68	33.00
	1030.20	312	Н	Н	124.04	19.86	9.90	5.56	24.20	33.00
GPRS 1900	1880.00	661	Н	V	129.86	25.50	9.99	5.61	29.88	33.00
GPKS 1900	1000.00			Н	123.47	19.33	9.99	5.61	23.70	33.00
	1000.80	810	Н	V	129.53	25.20	10.08	5.66	29.62	33.00
	1909.80			Н	124.42	20.31	10.08	5.66	24.73	33.00

Remark:

The RBW, VBW of SPA for frequency (1)

RBW=300 KHz, VBW=1MHz

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EUT Mode	Frequency (MHz)	СН	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
	824.20	128		V	129.48	43.09	-7.87	3.62	31.59	38.45
	024.20	120	Н	Н	126.72	40.45	-7.87	3.62	28.95	38.45
EDGE 950	836.60	190	Н	V	129.47	43.22	-7.88	3.65	31.69	38.45
	830.00			Н	126.46	40.23	-7.88	3.65	28.70	38.45
	949 90	251	Н	V	129.75	43.63	-7.88	3.68	32.07	38.45
	848.80	251		Н	127.01	40.82	-7.88	3.68	29.26	38.45

Remark:

(1) The RBW, VBW of SPA for frequency RBW=300 KHz, VBW=1MHz

EUT Mode	Frequency (MHz)	СН	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
	1850.20	512		V	130.66	26.27	9.90	5.56	30.61	33.00
	1030.20	312	Н	Н	123.95	19.77	9.90	5.56	24.11	33.00
EDGE 1900	1880.00	661	Н	V	129.85	25.49	9.99	5.61	29.87	33.00
EDGE 1900				Н	123.54	19.40	9.99	5.61	23.77	33.00
	1000.80	810	Н	V	129.54	25.21	10.08	5.66	29.63	33.00
	1909.80			Н	124.51	20.40	10.08	5.66	24.82	33.00

Remark:

The RBW, VBW of SPA for frequency (1)

RBW=300 KHz, VBW=1MHz

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Measurement Result:

EUT Mode	Frequency (MHz)	СН	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
	1052 10	02.62	**	V	126.08	21.70	9.90	5.56	26.03	33.00
	1852.40	9262	Н	Н	119.53	15.35	9.90	5.56	19.69	33.00
WCDMA	1880.00	9400	0 Н	V	126.00	21.64	9.99	5.61	26.02	33.00
Band II	1000.00	9400		Н	119.41	15.27	9.99	5.61	19.64	33.00
	1007.60	9538	Н	V	125.06	20.73	10.07	5.66	25.14	33.00
	1907.60 953	9336		Н	118.79	14.68	10.07	5.66	19.09	33.00

Remark:

(1) The RBW, VBW of SPA for frequency RBW = 5MHz, VBW = 8MHz

Measurement Result:

EUT Mode	Frequency (MHz)	СН	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
	1712.4	1312	**	V	127.61	23.09	9.48	5.33	27.23	33.00
	1/12.4	1312	Н	Н	121.73	17.40	9.48	5.33	21.54	33.00
WCDMA	1732.6	1413	Н	V	127.17	22.67	9.54	5.36	26.84	33.00
Band IV	1732.0			Н	121.20	16.89	9.54	5.36	21.06	33.00
	1752.6	1513	Н	V	127.64	23.16	9.61	5.40	27.36	33.00
	1/32.6			Н	121.37	17.08	9.61	5.40	21.29	33.00

Remark:

(1) The RBW, VBW of SPA for frequency

RBW= 5MHz, VBW= 8MHz

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EUT Mode	Frequency (MHz)	СН	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
	026.40	4100	**	V	123.50	37.14	-7.88	3.63	25.63	38.45
	826.40	4132	Н	Н	117.83	31.57	-7.88	3.63	20.07	38.45
WCDMA	836.60	4100	**	V	123.76	37.50	-7.88	3.65	25.97	38.45
Band V	830.00	4183	Н	Н	118.86	32.63	-7.88	3.65	21.10	38.45
	846 60	1222		V	123.72	37.57	-7.88	3.67	26.02	38.45
	040.00	846.60 4233	Н	Н	118.82	32.62	-7.88	3.67	21.07	38.45

Remark:

(1) The RBW, VBW of SPA for frequency

RBW= 5MHz, VBW= 8MHz



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Measurement Result:

EUT Mode	Frequency (MHz)	СН	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
	1050 10	02.62		V	127.67	23.29	9.90	5.56	27.62	33.00
	1852.40	9262	Н	Н	120.79	16.61	9.90	5.56	20.95	33.00
HSUPA	1880.00	9400	**	V	127.26	22.90	9.99	5.61	27.28	33.00
Band II	1880.00	9400	Н	Н	119.94	15.80	9.99	5.61	20.17	33.00
	1907.60	0538		V	126.86	22.53	10.07	5.66	26.94	33.00
	1907.00	9538	Н	Н	119.51	15.40	10.07	5.66	19.81	33.00

Remark:

(1) The RBW, VBW of SPA for frequency

RBW = 5MHz, VBW = 8MHz

EUT Mode	Frequency (MHz)	СН	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
	025.40	4100	**	V	124.70	38.34	-7.88	3.63	26.83	38.45
	826.40	4132	Н	Н	119.23	32.97	-7.88	3.63	21.47	38.45
HSUPA	836.60	4100		V	124.93	38.67	-7.88	3.65	27.14	38.45
Band V	830.00	4183	Н	Н	119.21	32.98	-7.88	3.65	21.45	38.45
	846.60	4222	Н	V	124.81	38.66	-7.88	3.67	27.11	38.45
	040.00	4233		Н	119.11	32.91	-7.88	3.67	21.36	38.45

Remark:

(1) The RBW, VBW of SPA for frequency

RBW = 5MHz, VBW = 8MHz

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Measurement Result:

EUT Mode	Frequency (MHz)	СН	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
	1712.4	1312		V	128.50	23.98	9.48	5.33	28.12	33.00
	1/12.4	1312	Н	Н	121.94	17.61	9.48	5.33	21.75	33.00
HSUPA	1732.6	1413	Н	V	128.25	23.75	9.54	5.36	27.92	33.00
Band IV	1732.0			Н	120.97	16.66	9.54	5.36	20.83	33.00
	1752.6	1513	Н	V	129.18	24.70	9.61	5.40	28.90	33.00
	1/32.6			Н	122.22	17.93	9.61	5.40	22.14	33.00

Remark:

(1) The RBW, VBW of SPA for frequency

RBW = 5MHz, VBW = 8MHz



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Measurement Result:

EUT Mode	Frequency (MHz)	СН	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
	1050 10	9262 H	**	V	127.20	22.82	9.90	5.56	27.15	33.00
	1852.40		Н	Н	120.55	16.37	9.90	5.56	20.71	33.00
HSDPA	1880.00	9400	**	V	127.24	22.88	9.99	5.61	27.26	33.00
Band II	1000.00	7400	Н	Н	120.19	16.05	9.99	5.61	20.42	33.00
	1907.60	9538	0538	V	126.01	21.68	10.07	5.66	26.09	33.00
	1507.00	9330	Н	Н	119.58	15.47	10.07	5.66	19.88	33.00

Remark:

(1) The RBW, VBW of SPA for frequency

RBW= 5MHz, VBW= 8MHz

EUT Mode	Frequency (MHz)	СН	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)				
	026.40	4132		4400	4400			V	124.63	38.27	-7.88	3.63	26.76	38.45
	826.40		Н	Н	118.89	32.63	-7.88	3.63	21.13	38.45				
HSDPA	836.60	4183	4183 H	41.02	4102		V	124.67	38.41	-7.88	3.65	26.88	38.45	
Band V	830.00			Н	Н	119.37	33.14	-7.88	3.65	21.61	38.45			
	846.60	4000				V	124.64	38.49	-7.88	3.67	26.94	38.45		
	040.00	4233	4233 H	Н	119.27	33.07	-7.88	3.67	21.52	38.45				

Remark:

(1) The RBW, VBW of SPA for frequency

RBW = 5MHz, VBW = 8MHz

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Measurement Result:

EUT Mode	Frequency (MHz)	СН	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)							
	1712.4	1312	1212	1212	1212	1212	1212	1212	1212	**	V	128.78	24.26	9.48	5.33	28.40	33.00
	1/12.4		Н	Н	122.07	17.74	9.48	5.33	21.88	33.00							
HSDPA	1732.6	1413	1413 H	1/113	1/113	1/112	1/113	1/113		V	128.29	23.79	9.54	5.36	27.96	33.00	
Band IV	1732.0			Н	Н	120.89	16.58	9.54	5.36	20.75	33.00						
	1752.6 1513		V	129.10	24.62	9.61	5.40	28.82	33.00								
		1313	Н	Н	122.23	17.94	9.61	5.40	22.15	33.00							

Remark:

(1) The RBW, VBW of SPA for frequency

RBW = 5MHz, VBW = 8MHz



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8. 99% OCCUPIED BANDWIDTH MEASUREMENT

8.1. Standard Applicable:

According to §FCC 2.1049.

8.2. Test Set-up:

Refer to section 5.2 in this report

8.3. Measurement Procedure:

The EUT's output RF connector was connected with a short cable to the spectrum analyzer, RBW (10/30KHz) was set to about 1% of emission BW, VBW= 3 times RBW(30/100KHz), -26dBc display line was placed on the screen (or 99% bandwidth), the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace.

8.4. Measurement Equipment Used:

Refer to section 2.4 in this report

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8.5. Measurement Result:

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (kHz)
	824.20	128	243.1643
GSM 850	836.60	190	251.1738
	848.80	251	246.6407

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (kHz)
	1850.20	512	242.1208
GSM 1900	1880.00	661	242.0715
	1909.80	810	241.0552

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (kHz)
	824.20	128	241.9354
GPRS 850	836.60	190	243.2151
	848.80	251	244.7761

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (kHz)
GPRS 1900	1850.20	512	234.9793
	1880.00	661	234.8342
	1909.80	810	245.2835

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EUT Mode	Frequency (MHz)	СН	99% Bandwidth (kHz)
	824.20	128	245.6224
EDGE 850	836.60	190	244.0161
	848.80	251	241.2040

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (kHz)
	1850.20	512	234.9793
EDGE 1900	1880.00	661	234.8342
	1909.80	810	245.2835

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
	1852.40	9262	4.1726
WCDMA II	1880.00	9400	4.1764
	1907.60	9538	4.1755

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
	1712.40	1312	4.1764
WCDMA IV	1732.60	1413	4.1684
	1752.60	1513	4.1815

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
WCDMA V	826.40	4132	4.1720
	836.00	4180	4.1652
	846.60	4233	4.1564

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EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
HSUPA II	1852.4	9262	4.1805
	1880.0	9400	4.1832
	1907.6	9538	4.1822

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
HSUPA IV	1712.40	1312	4.1632
	1732.60	1413	4.1668
	1752.60	1513	4.1723

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
HSUPA V	826.40	4132	4.1553
	836.60	4183	4.1852
	846.60	4233	4.1649

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
HSDPA II	1852.4	9262	4.1822
	1880.0	9400	4.1643
	1907.6	9538	4.1733

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
HSDPA IV	1712.40	1312	4.1620
	1732.60	1413	4.1703
	1752.60	1513	4.1638

EUT Mode	Frequency (MHz)	СН	99% Bandwidth (MHz)
HSDPA V	826.40	4132	4.1714
	836.60	4183	4.1901
	846.60	4233	4.1788

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Figure 8-1: GSM 850 Channel Low

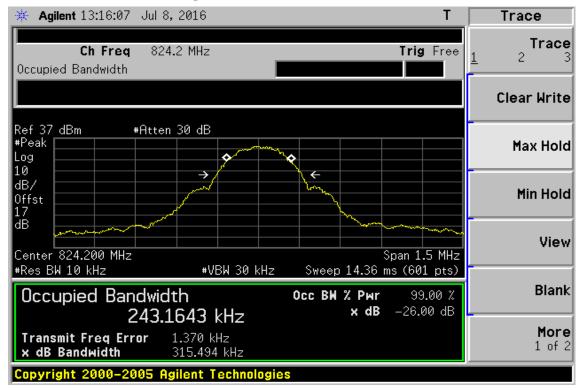
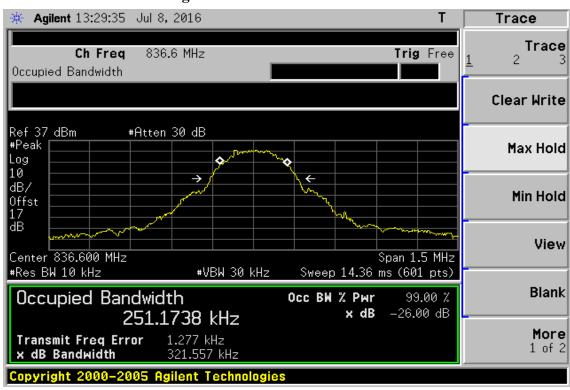


Figure 8-2: GSM 850 Channel Mid



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Figure 8-3: GSM 850 Channel High

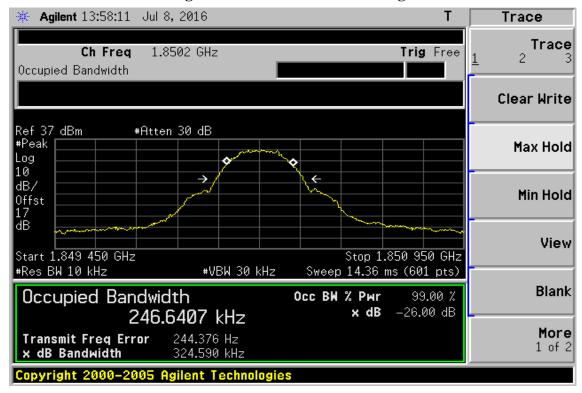
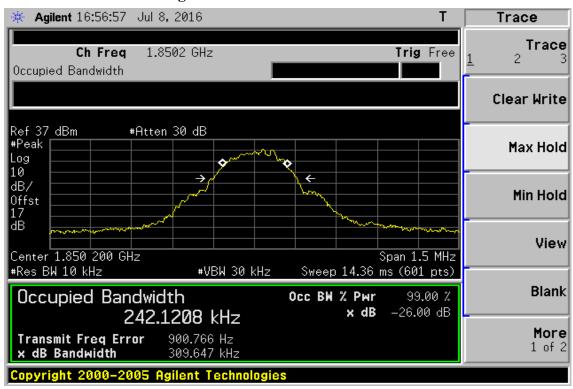


Figure 8-4: GSM 1900 Channel Low



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Figure 8-5: GSM 1900 Channel Mid

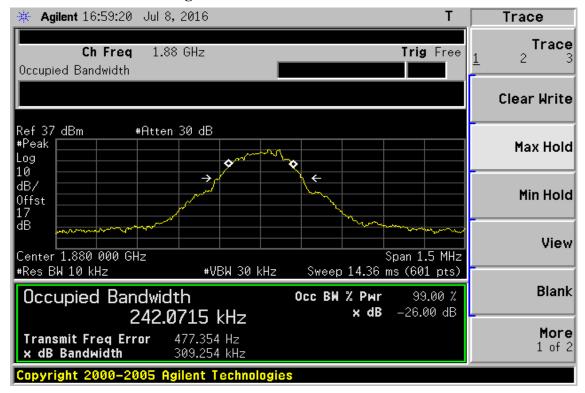
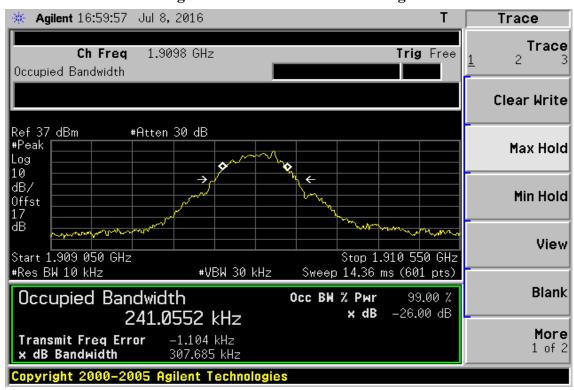


Figure 8-6: GSM 1900 Channel High



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Figure 8-7: GPRS 850 Channel Low

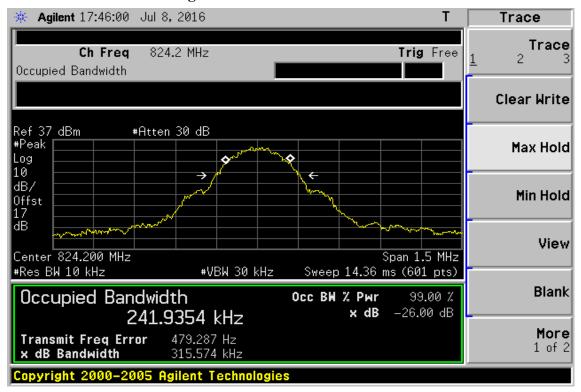
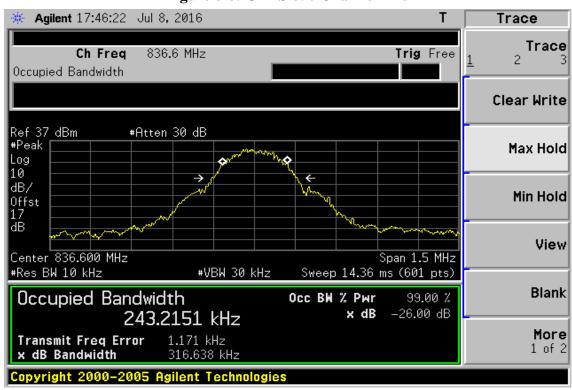


Figure 8-8: GPRS 850 Channel Mid



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Figure 8-9: GPRS 850 Channel High

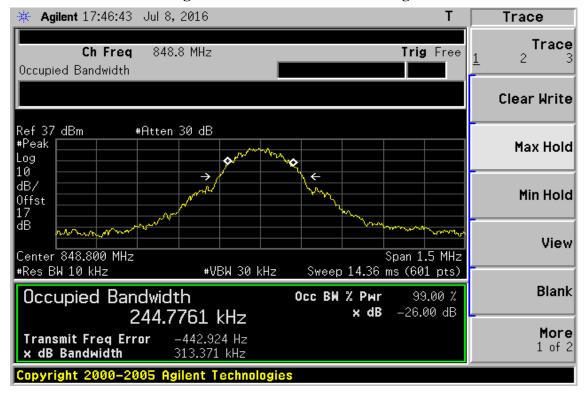
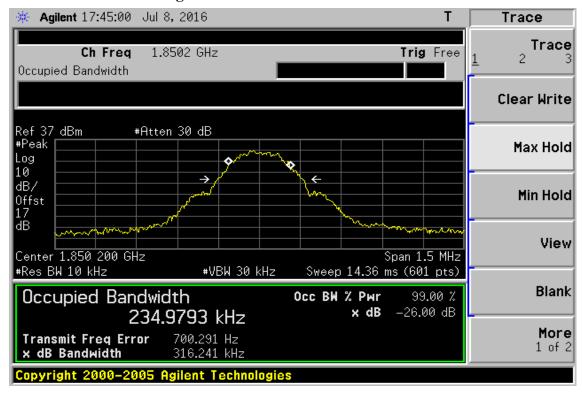


Figure 8-10: GPRS 1900 Channel Low



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Figure 8-11: GPRS 1900 Channel Mid

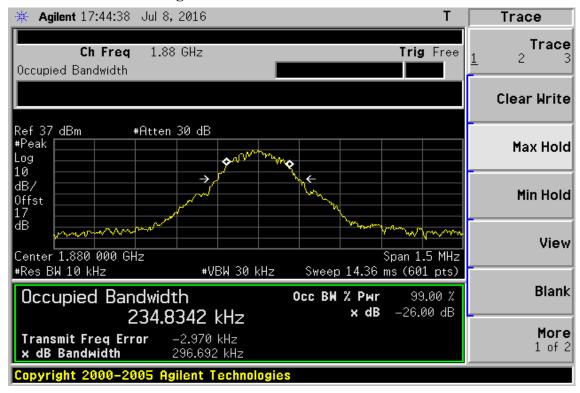
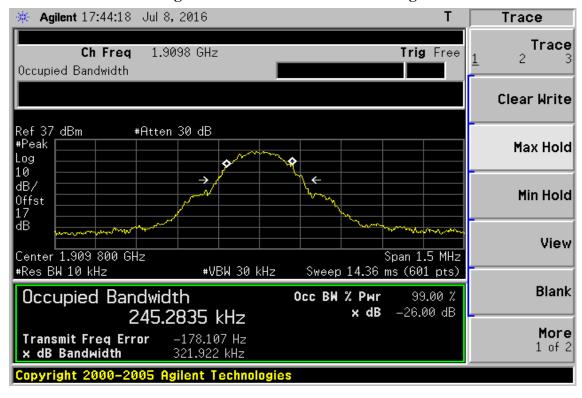


Figure 8-12: GPRS 1900 Channel High



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Figure 8-13: EDGE 850 Channel Low

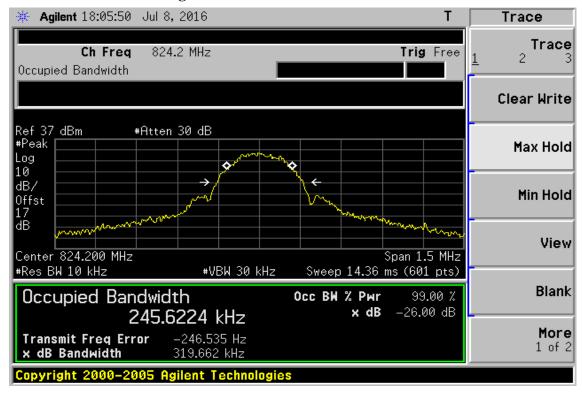
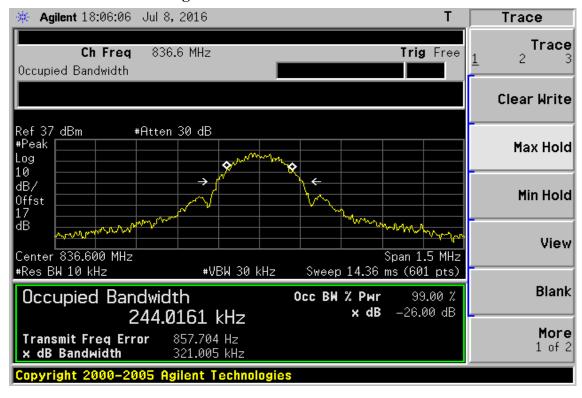


Figure 8-14 EDGE 850 Channel Mid



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Figure 8-15: EDGE 850 Channel High

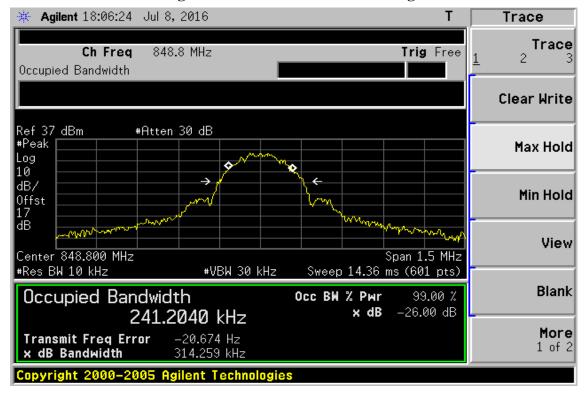
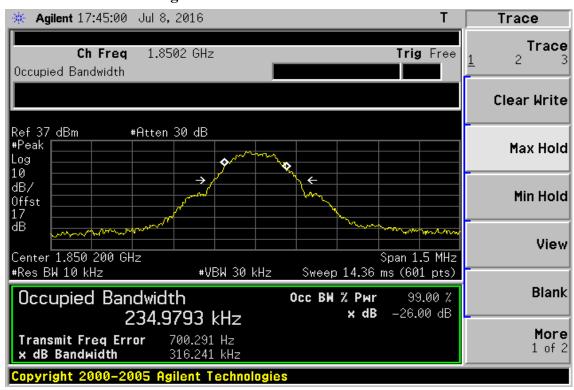


Figure 8-16: EDGE 1900 Channel Low



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Figure 8-17: EDGE 1900 Channel Mid

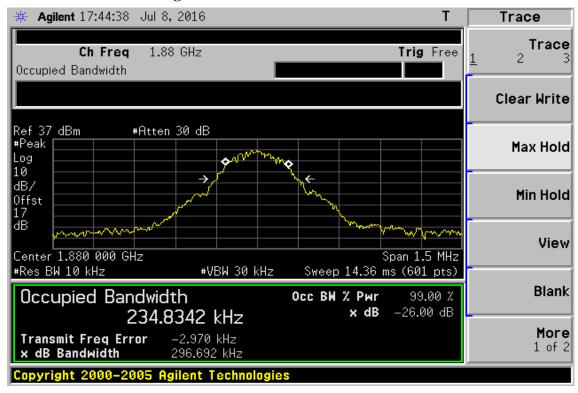
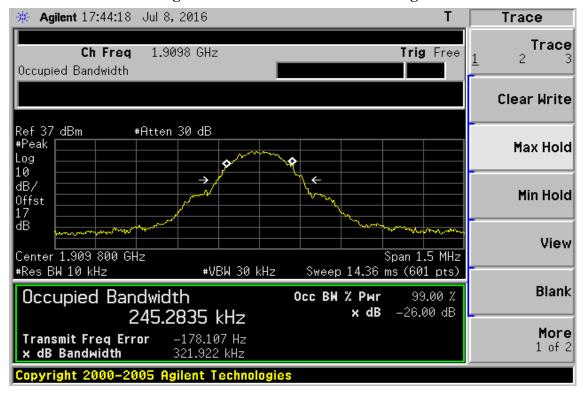


Figure 8-18: EDGE 1900 Channel High



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Figure 8-19: WCDMA II Channel Low

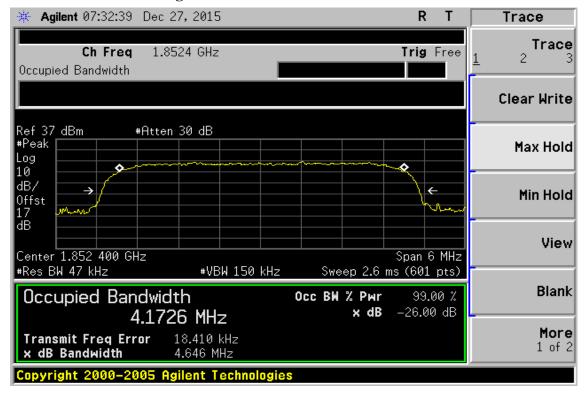
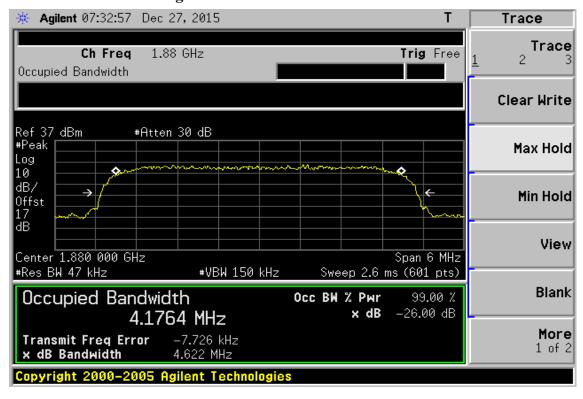


Figure 8-20: WCDMA II Channel Mid



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Figure 8-21: WCDMA II Channel High

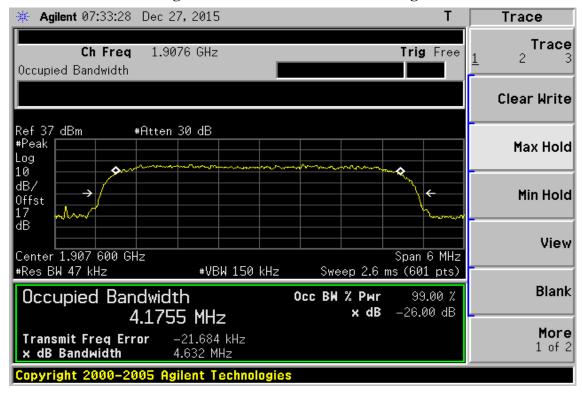
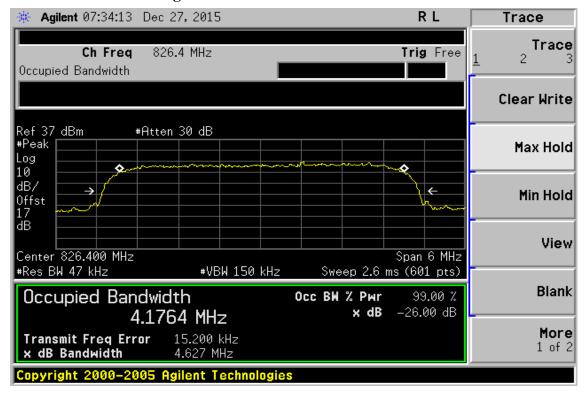


Figure 8-22: WCDMA IV Channel Low



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Figure 8-23: WCDMA IV Channel Mid

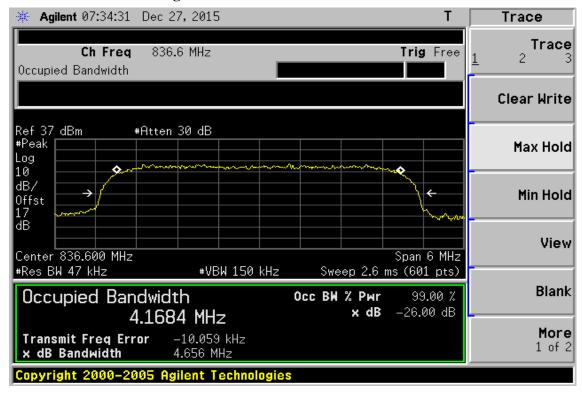
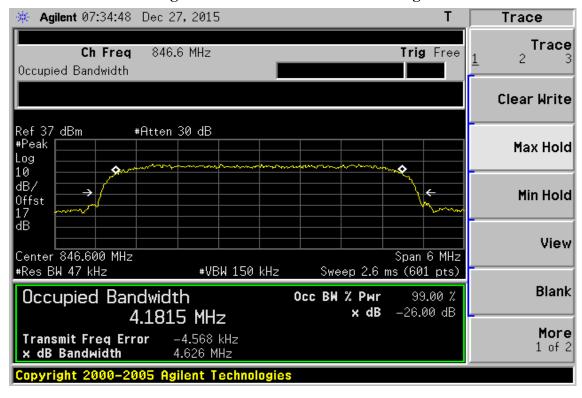


Figure 8-24: WCDMA IV Channel High



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Figure 8-25: WCDMA V Channel Low

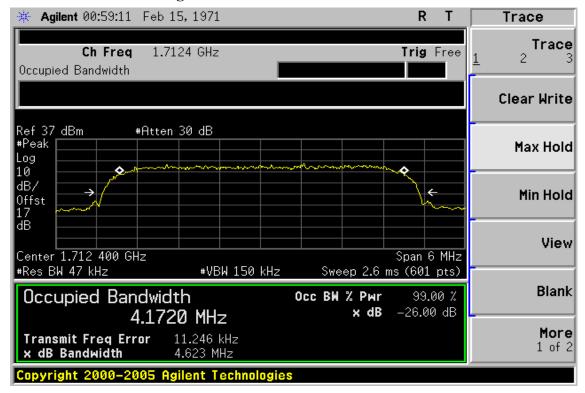
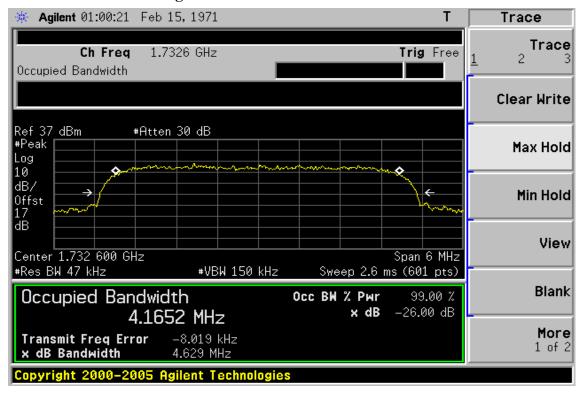


Figure 8-26: WCDMA V Channel Mid



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Figure 8-27: WCDMA V Channel High

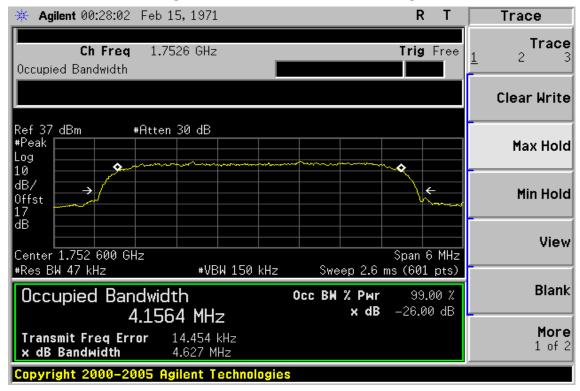
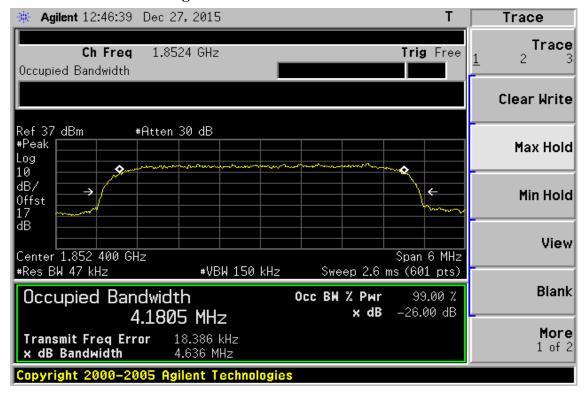


Figure 8-28: HSUPA II Channel Low



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Figure 8-29: HSUPA II Channel Mid

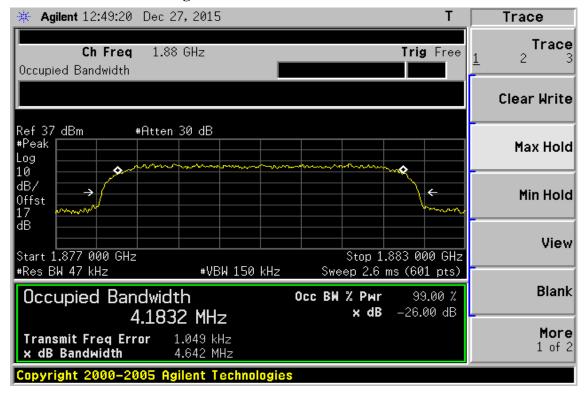
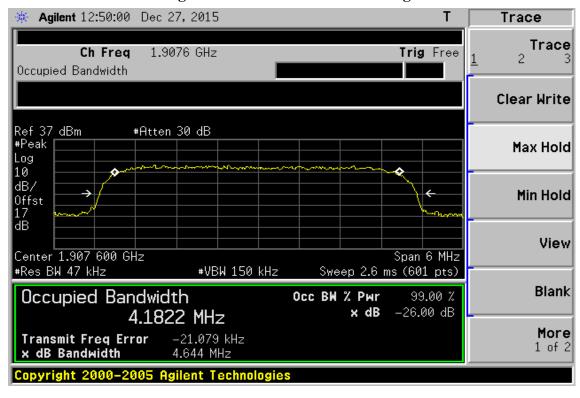


Figure 8-30: HSUPA II Channel High



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Figure 8-31: HSUPA IV Channel Low

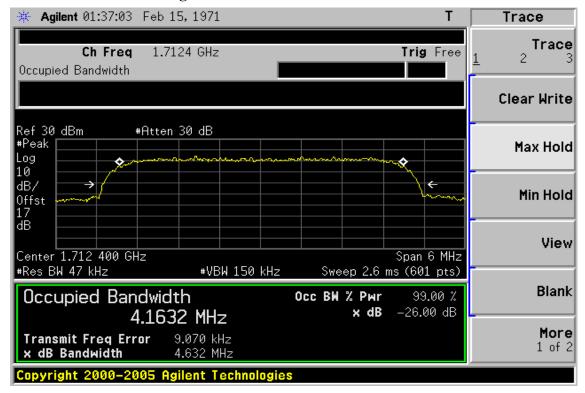
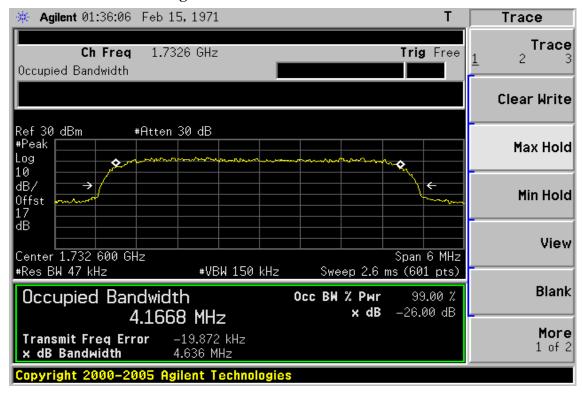


Figure 8-32: HSUPA IV Channel Mid



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Figure 8-33: HSUPA IV Channel High

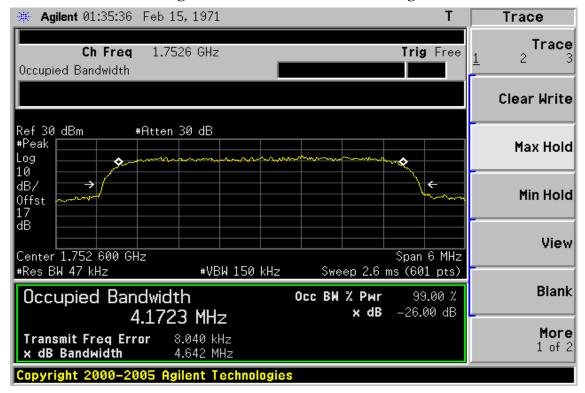
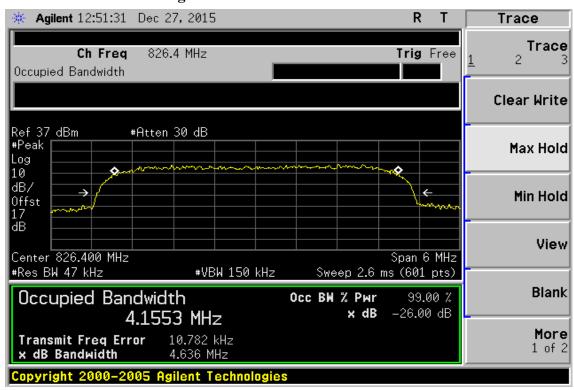


Figure 8-34: HSUPA V Channel Low



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Figure 8-35: HSUPA V Channel Mid

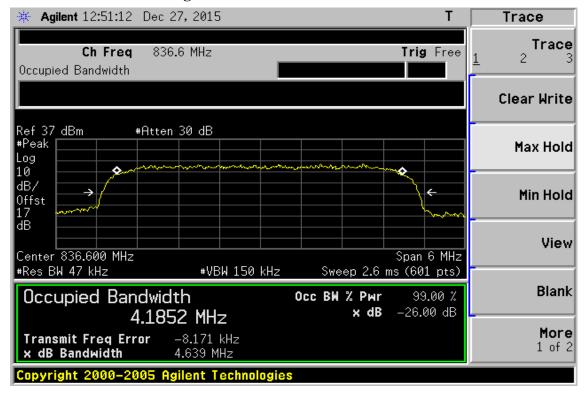
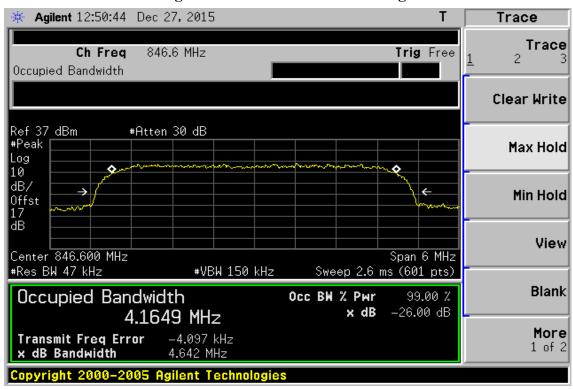


Figure 8-36: HSUPA V Channel High



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Figure 8-37: HSDPA II Channel Low

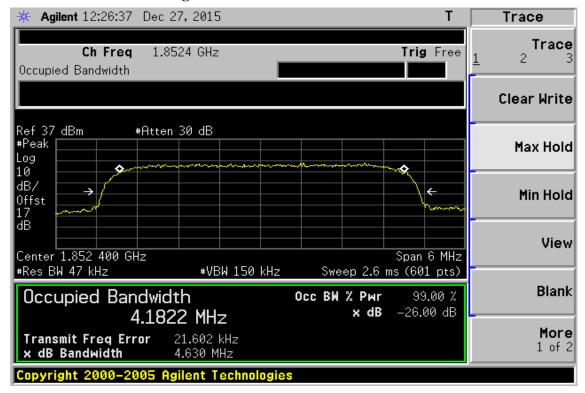
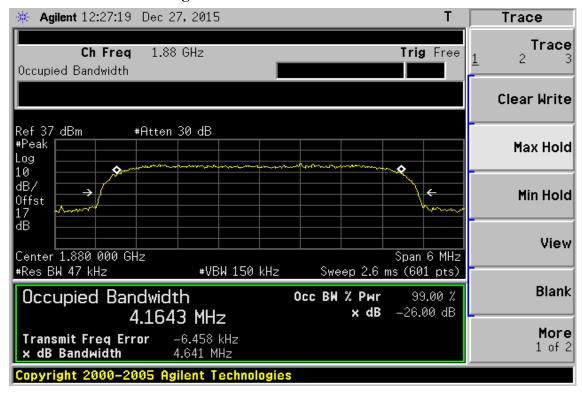


Figure 8-38: HSDPA II Channel Mid



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Figure 8-39: HSDPA II Channel High

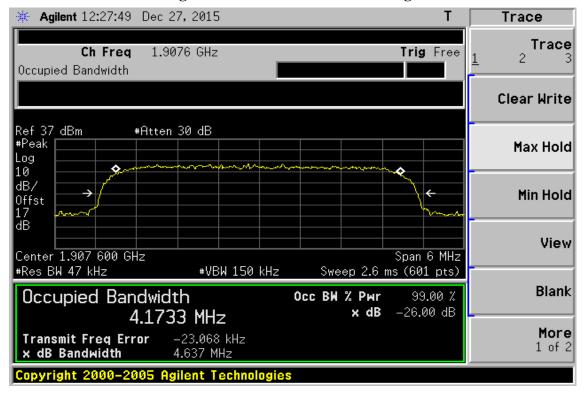
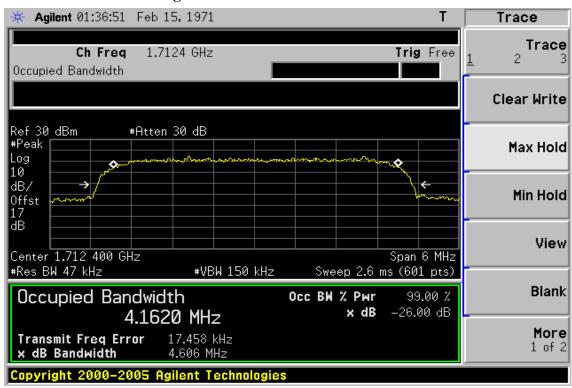


Figure 8-40: HSDPA IV Channel Low



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Figure 8-41: HSDPA IV Channel Mid

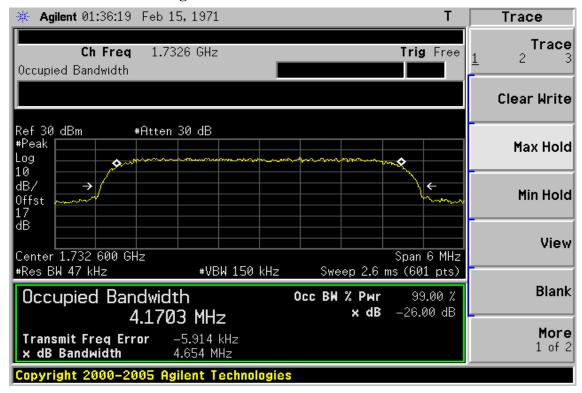
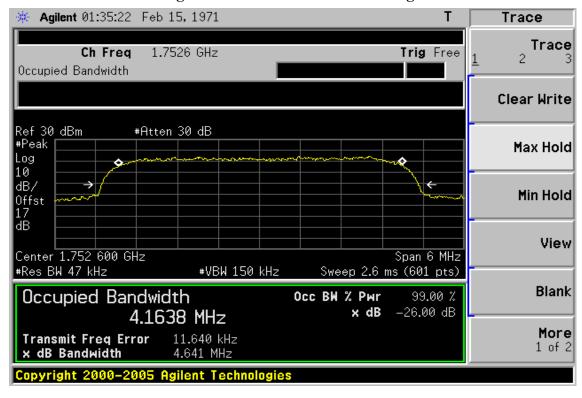


Figure 8-42: HSDPA IV Channel High



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Figure 8-43: HSDPA V Channel Low

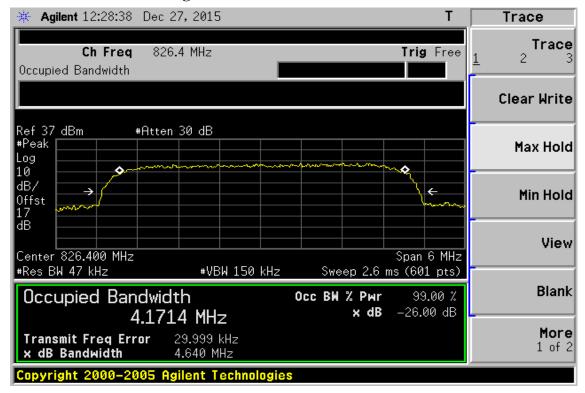
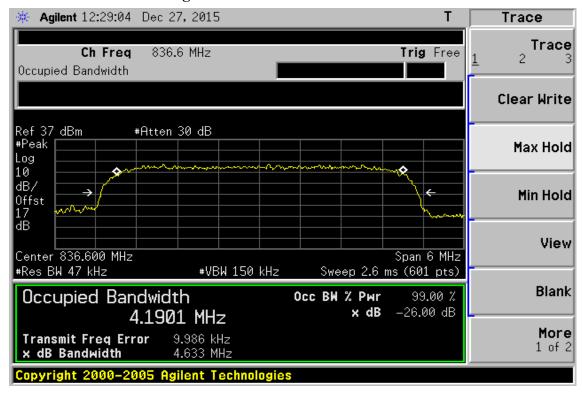


Figure 8-44: HSDPA V Channel Mid



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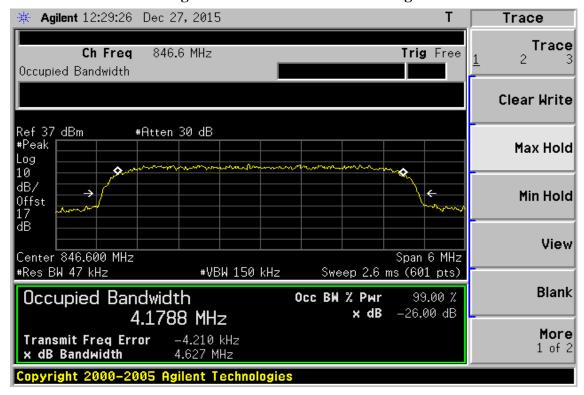
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Figure 8-45: HSDPA V Channel High



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9. OUT OF BAND EMISSION AT ANTENNA TERMINALS

9.1. Standard Applicable:

According to FCC §2.1051.

FCC §22.917(a),§24.238(a), §27.53(g) 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. Test SET-UP:

Refer to section 5.2 in this report

9.3. 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= 10th harmonic. Limit = -13dBm

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

Conducted Emission:

- To connect Antenna Port of EUT to Spectrum.
- 2. Set RBW = 1MHz & VBW = 1MHz on Spectrum.
- 3. Sweep the frequency to determine spurious emission as seen on spectrum from span of 30 to 1G, 1G to 2.5G, 2.5G to 7.5G, 7.5G to 10G, 10G to 15G and 15G to 20GHz

Via Software, combine 6 spans of frequency range into one plot

9.4. Measurement Equipment Used:

Refer to section 2.4 in this report

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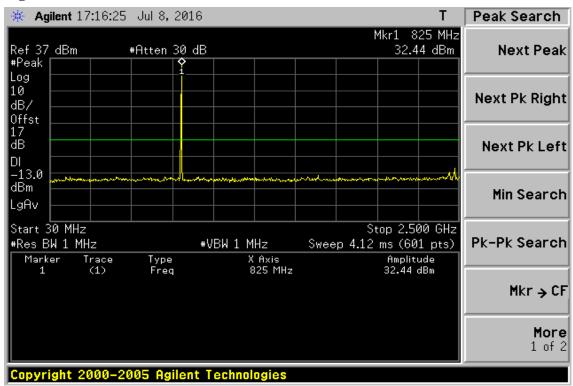
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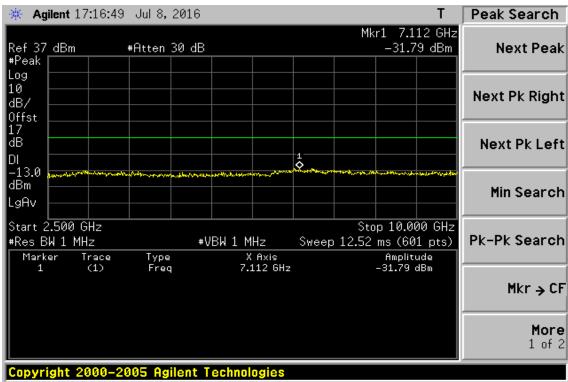
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9.5. Measurement Result:

Figure 9-1: Out of Band emission at antenna terminals – GSM 850 Channel Lowest





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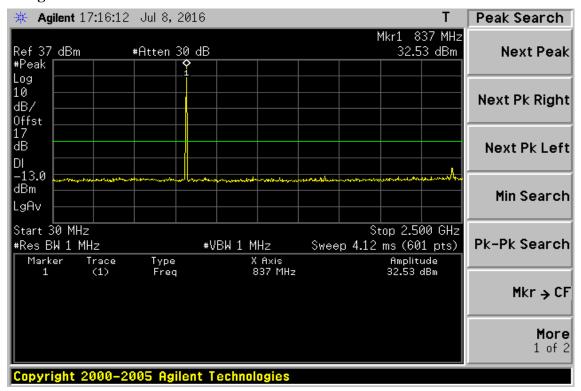
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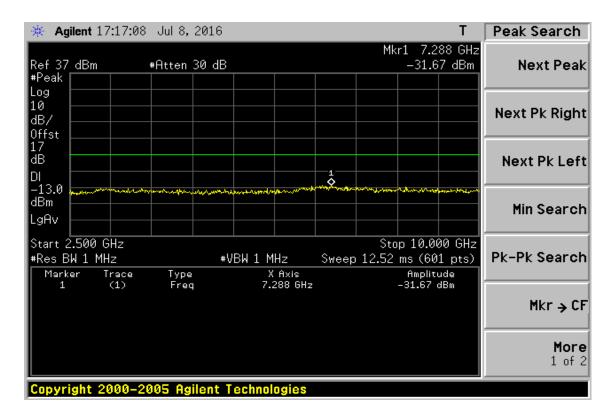
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Figure 9-2: Out of Band emission at antenna terminals – GSM 850 Channel Mid





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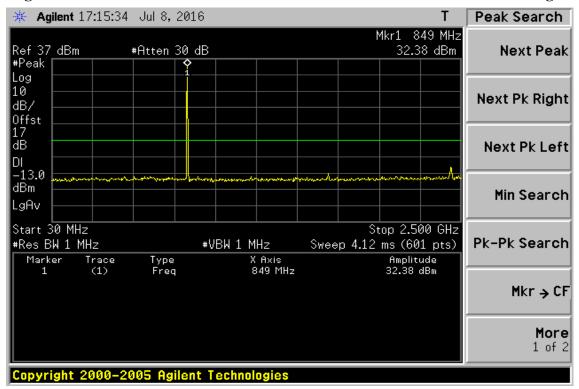
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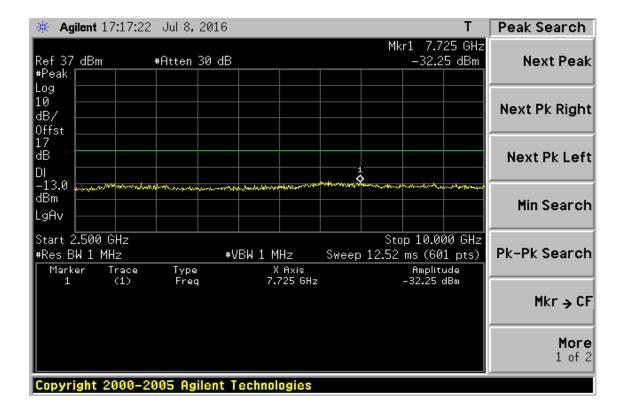
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Figure 9-3: Out of Band emission at antenna terminals – GSM 850 Channel Highest





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Figure 9-4: Band edge emission at antenna terminals – GPRS 850 Channel Lowest



Figure 9-5: Band edge emission at antenna terminals – GPRS 850 Channel Highest



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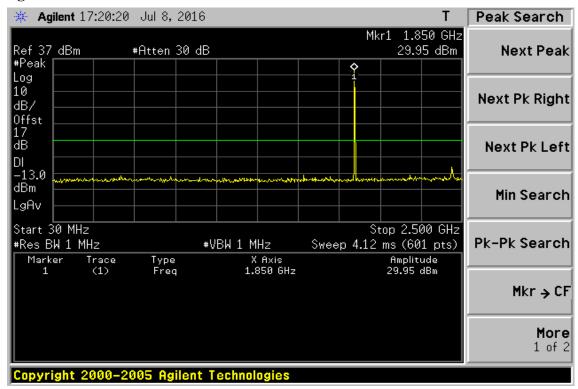
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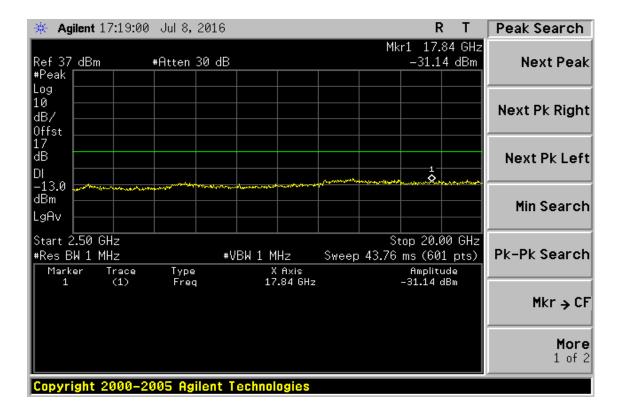
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Figure 9-6: Out of Band emission at antenna terminals – GSM 1900 Channel Lowest





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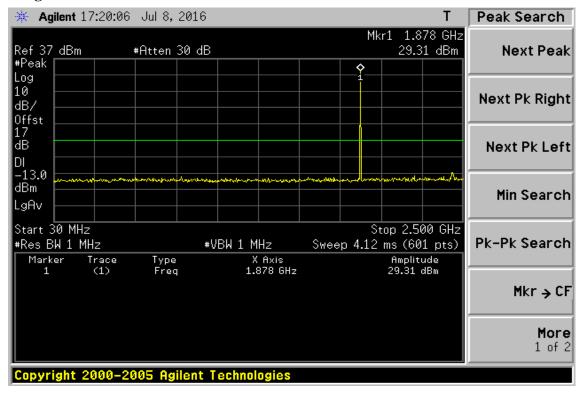
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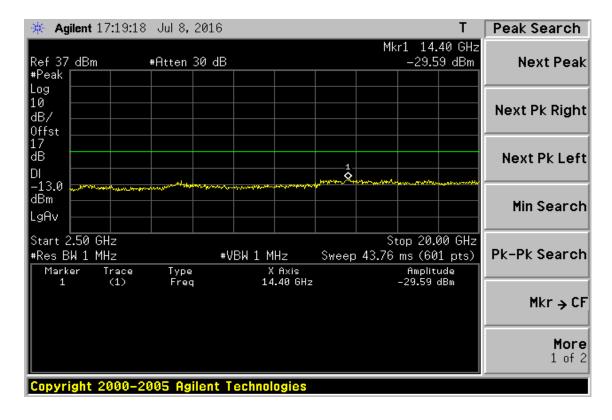
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Figure 9-7: Out of Band emission at antenna terminals - GSM 1900 Channel Mid





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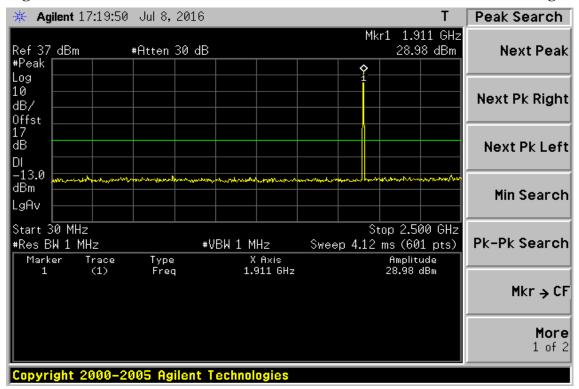
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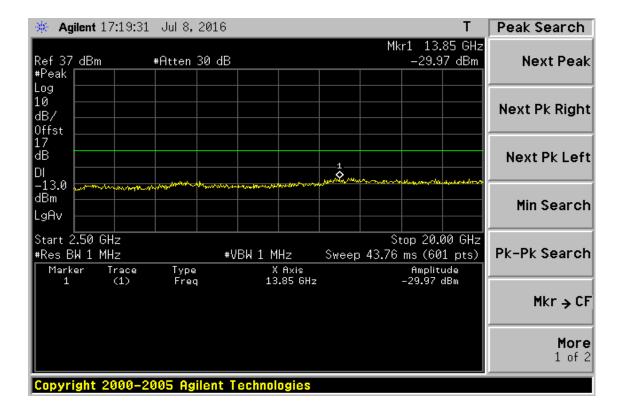
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Figure 9-8: Out of Band emission at antenna terminals – GSM 1900Channel Highest





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

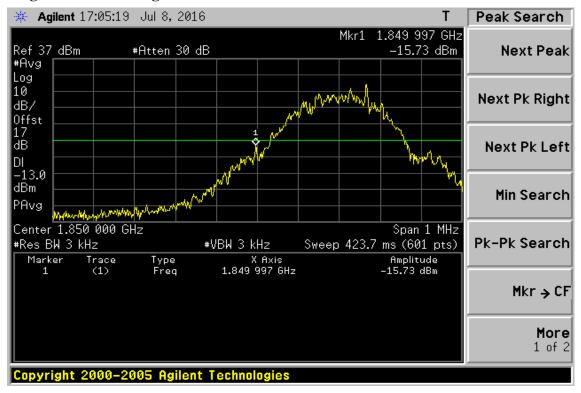
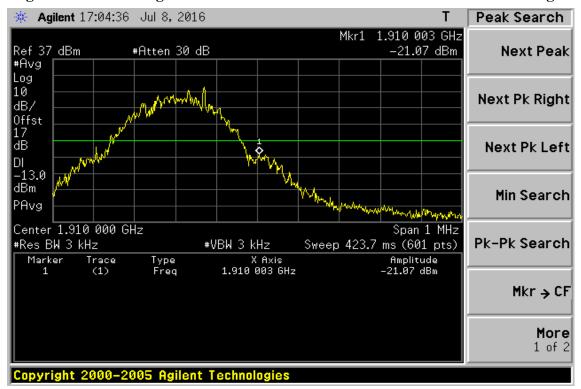


Figure 9-10: Band edge emission at antenna terminals – GSM 1900Channel Highest



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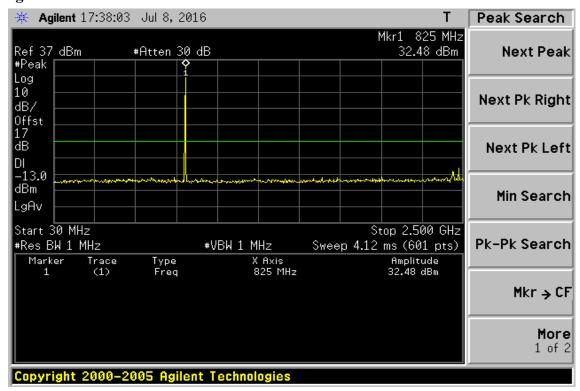
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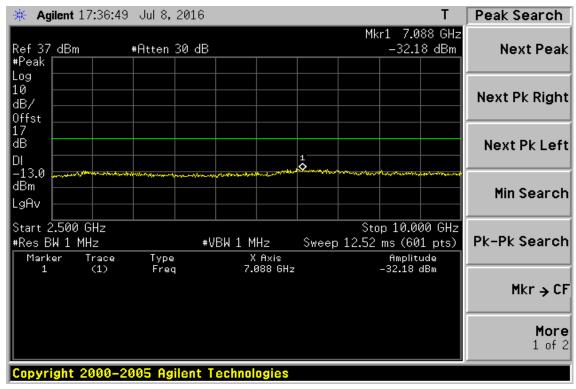
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Figure 9-11: Out of Band emission at antenna terminals – GPRS 850 Channel Lowest





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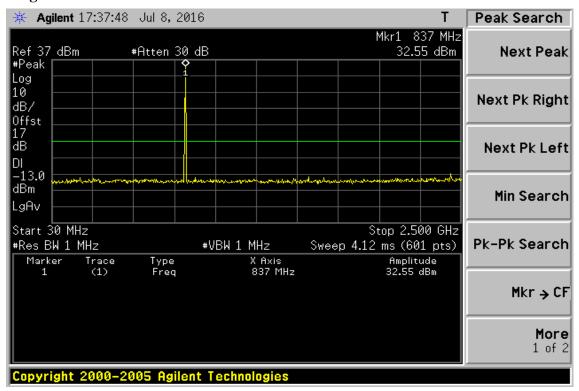
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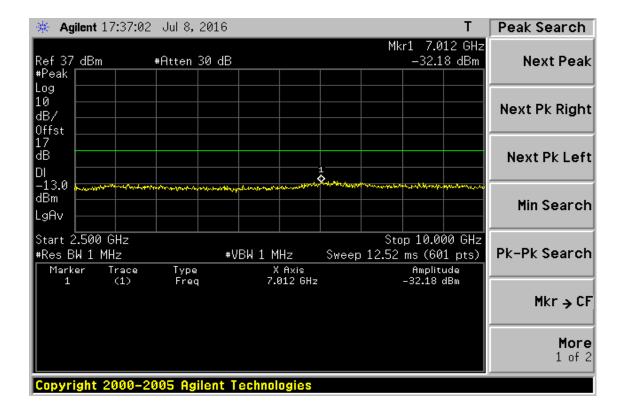
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Figure 9-12: Out of Band emission at antenna terminals - GPRS 850 Channel Mid





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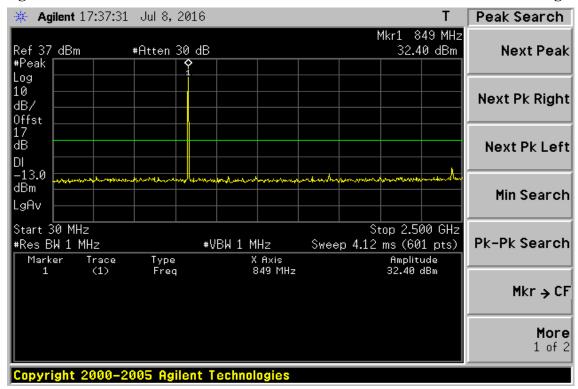
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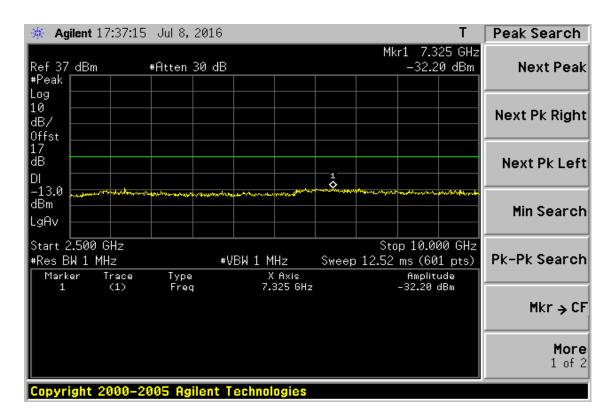
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Figure 9-13: Out of Band emission at antenna terminals – GPRS 850 Channel Highest





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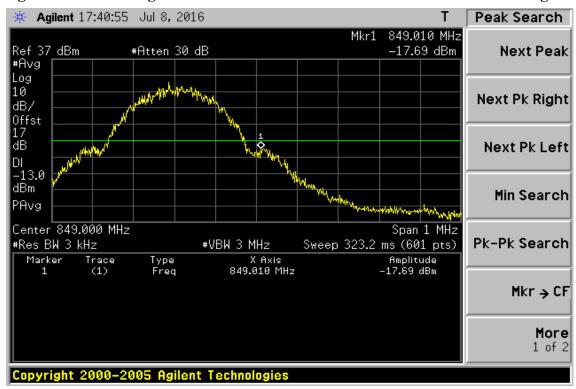


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Figure 9-14: Band edge emission at antenna terminals – GPRS 850 Channel Lowest



Figure 9-15: Band edge emission at antenna terminals – GPRS 850 Channel Highest



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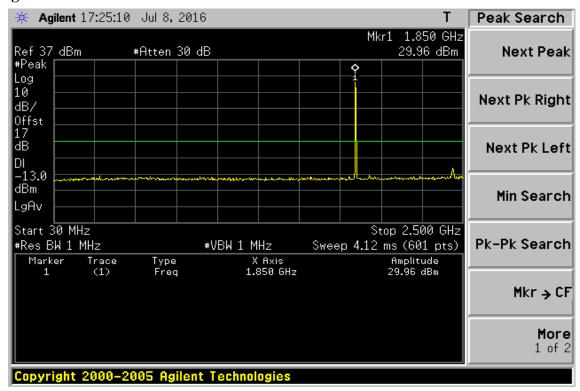
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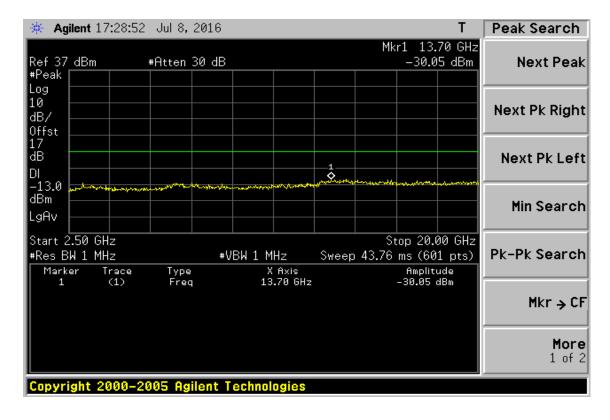
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Figure 9-16: Out of Band emission at antenna terminals – GPRS 1900 Channel Lowest





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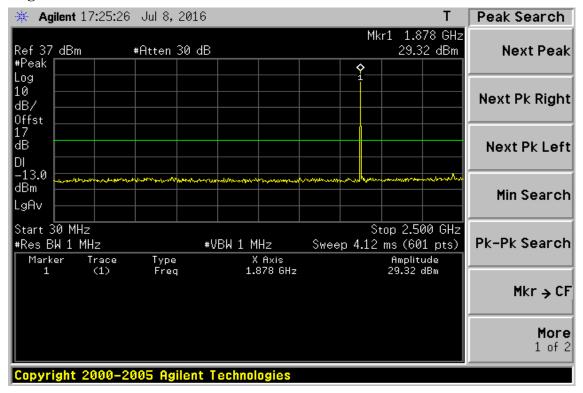
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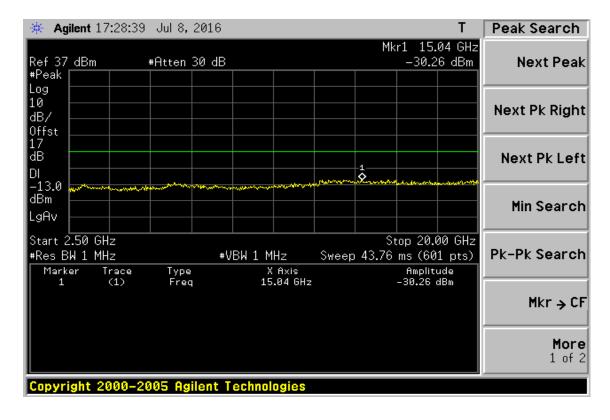
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Figure 9-17: Out of Band emission at antenna terminals - GPRS 1900 Channel Mid





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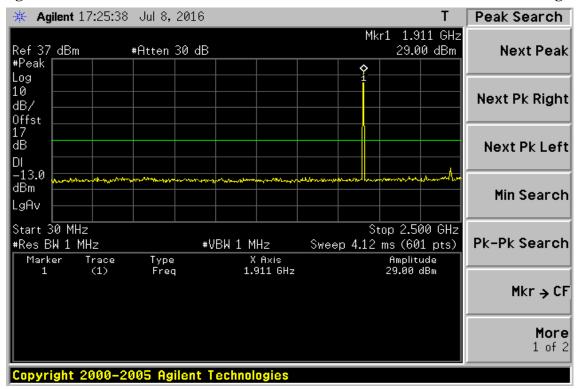
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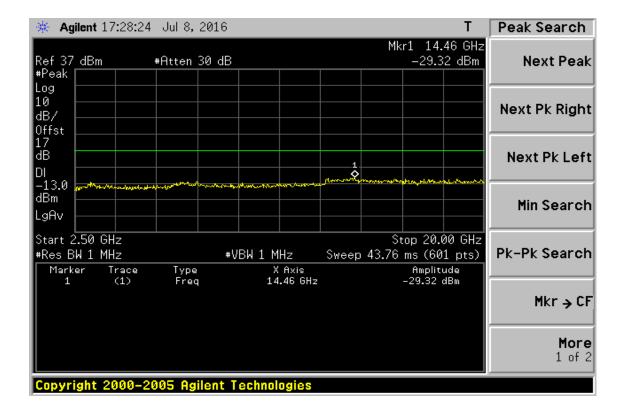
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Figure 9-18: Out of Band emission at antenna terminals – GPRS 1900Channel Highest





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Figure 9-19: Band edge emission at antenna terminals - GPRS 1900 Channel Lowest

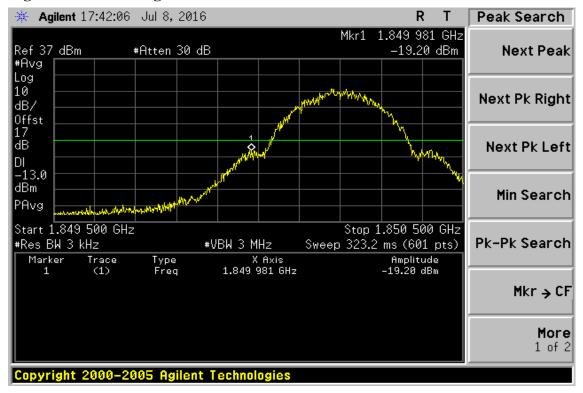
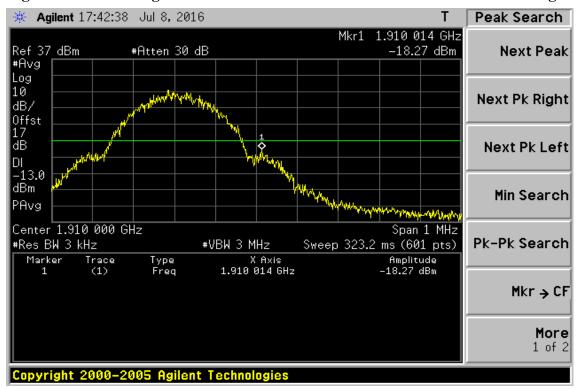


Figure 9-20: Band edge emission at antenna terminals – GPRS 1900Channel Highest



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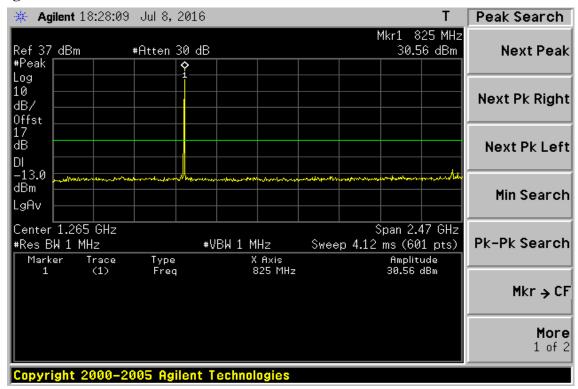
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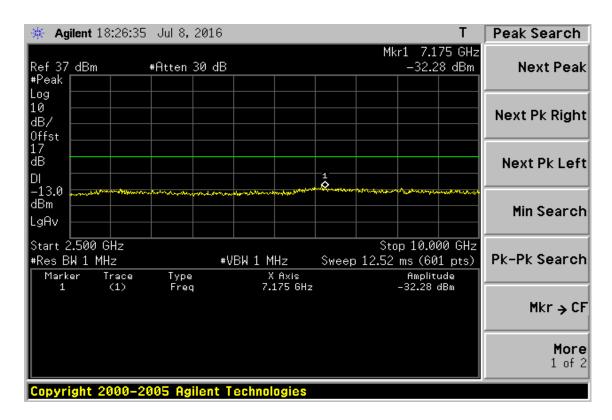
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Figure 9-21: Out of Band emission at antenna terminals – EDGE 850 Channel Lowest





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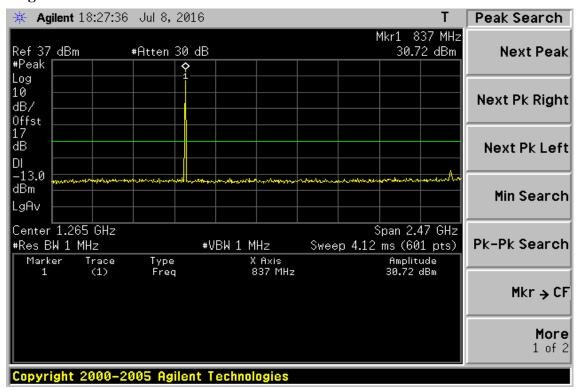
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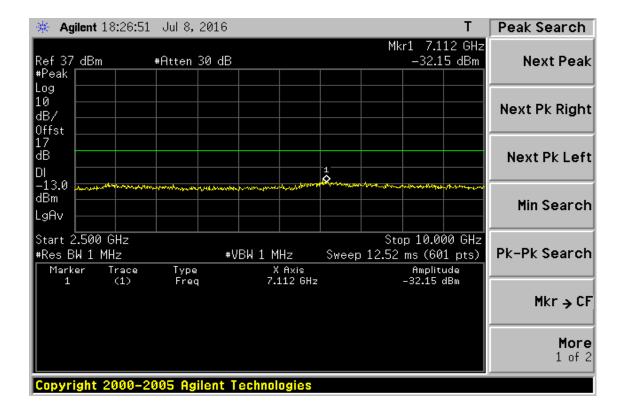
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Figure 9-22: Out of Band emission at antenna terminals – EDGE 850 Channel Mid





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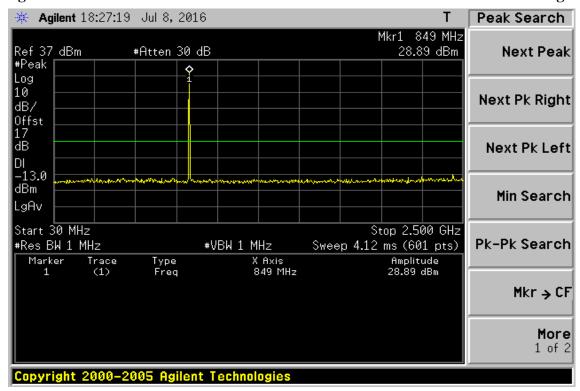
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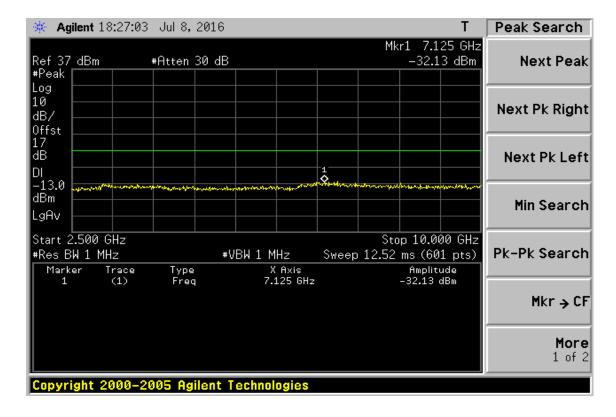
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Figure 9-23: Out of Band emission at antenna terminals – EDGE 850 Channel Highest





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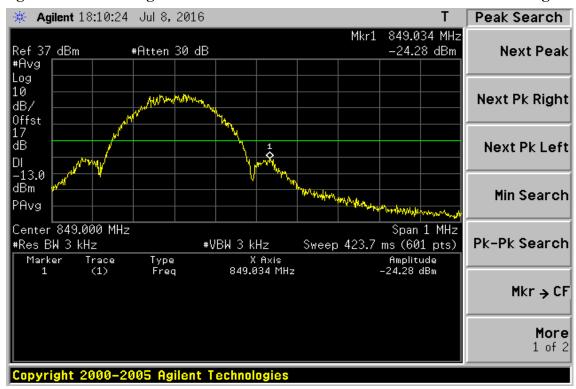


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Figure 9-24: Band edge emission at antenna terminals – EDGE 850 Channel Lowest



Figure 9-25: Band edge emission at antenna terminals – EDGE 850 Channel Highest



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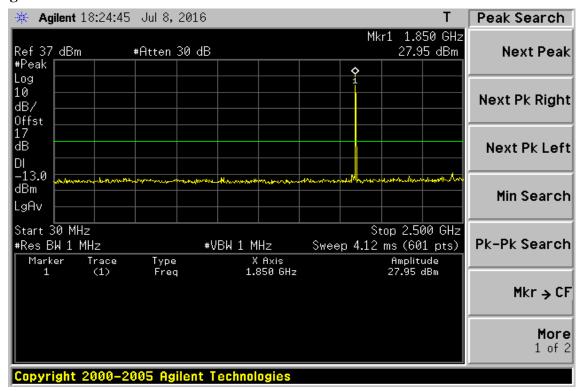
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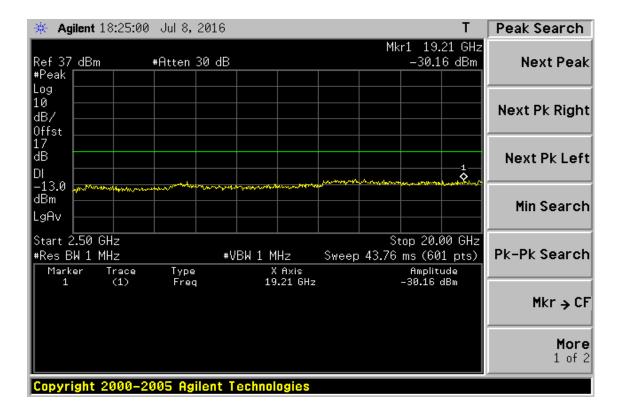
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Figure 9-26: Out of Band emission at antenna terminals – EDGE 1900 Channel Lowest





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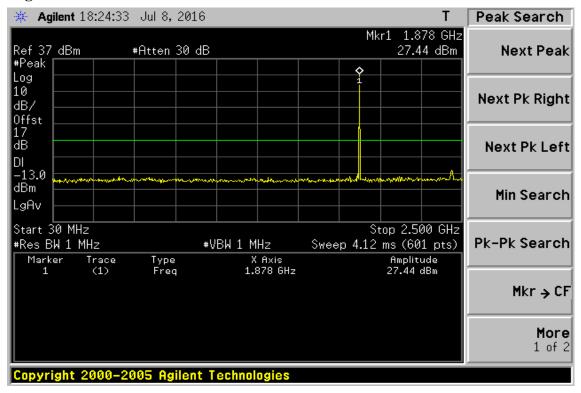
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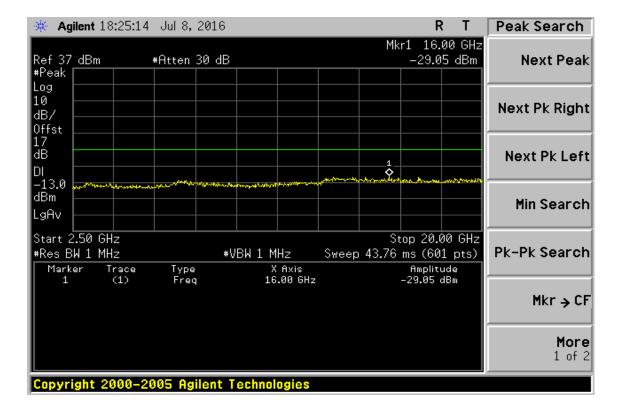
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Figure 9-27: Out of Band emission at antenna terminals - EDGE 1900 Channel Mid





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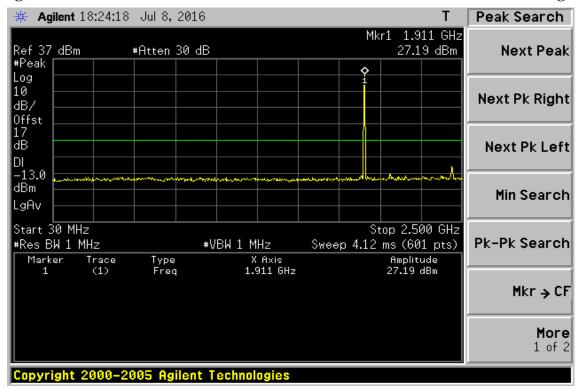
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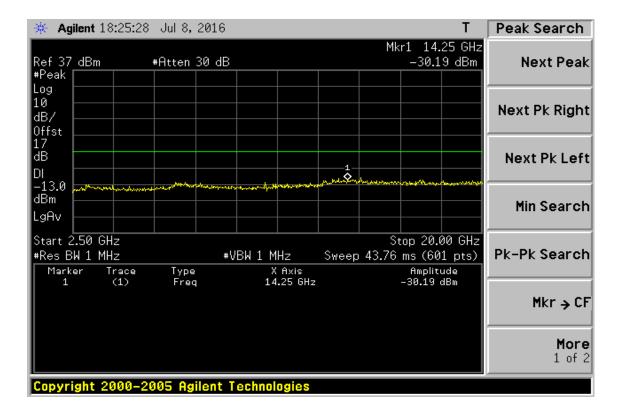
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Figure 9-28: Out of Band emission at antenna terminals – EDGE 1900Channel Highest





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Figure 9-29: Band edge emission at antenna terminals – EDGE 1900 Channel Lowest

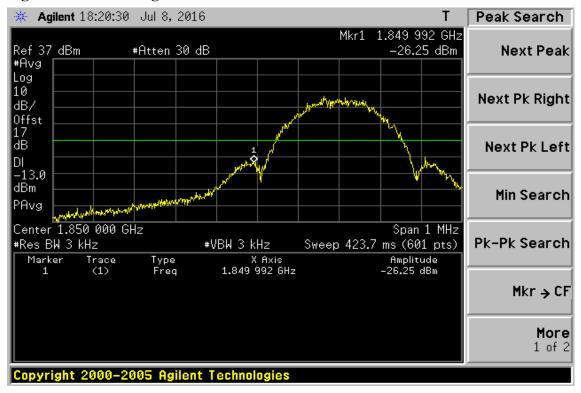
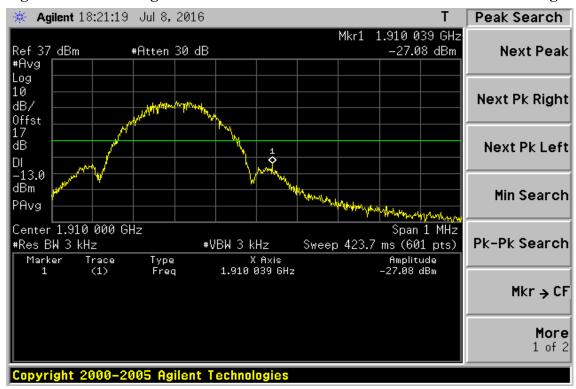


Figure 9-30: Band edge emission at antenna terminals – EDGE 1900Channel Highest



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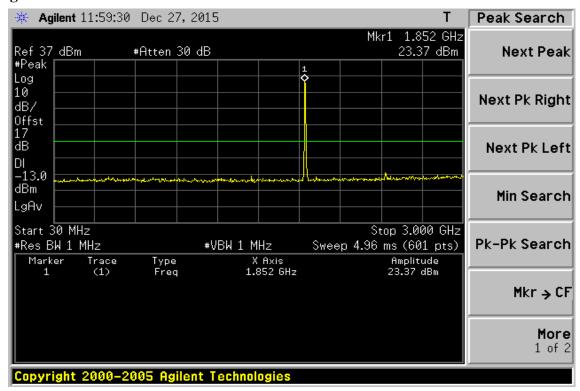
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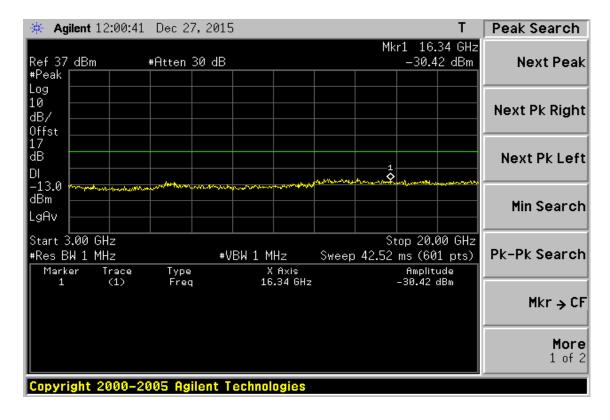
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Figure 9-31: Out of Band emission at antenna terminals – WCDMA II Channel Lowest





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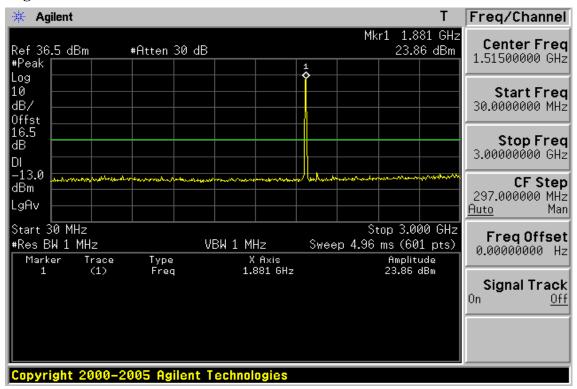
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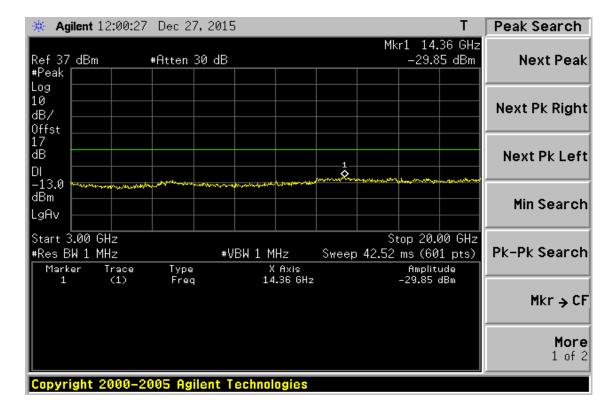
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Figure 9-32: Out of Band emission at antenna terminals – WCDMA II Channel Mid





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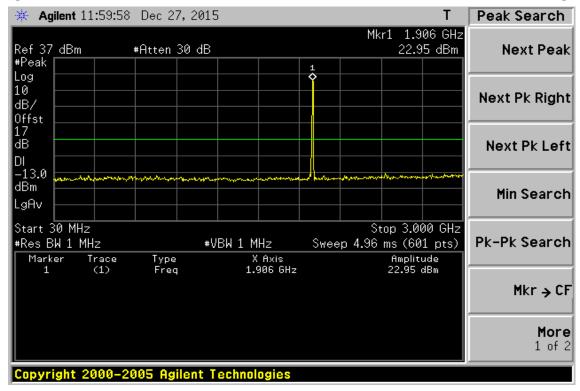
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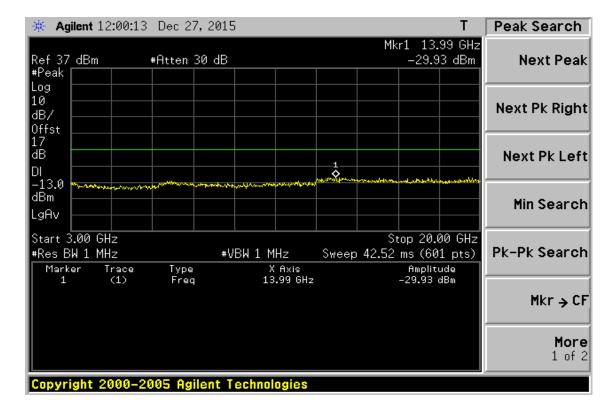
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Figure 9-33: Out of Band emission at antenna terminals – WCDMA II Channel Highest





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Figure 9-34: Bad edge emission at antenna terminals – WCDMA II Channel Lowest

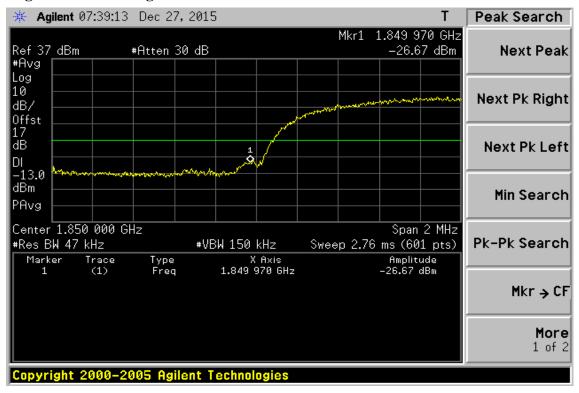


Figure 9-35: Band edge emission at antenna terminals – WCDMA II Channel Highest



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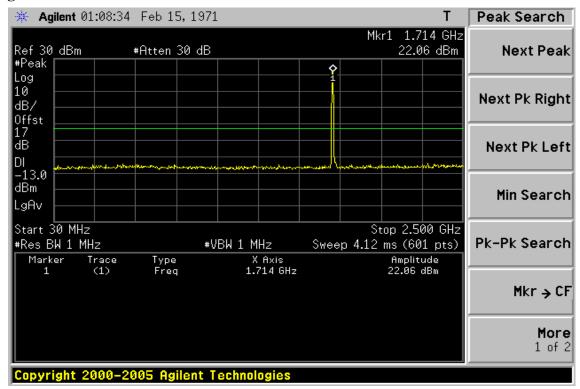
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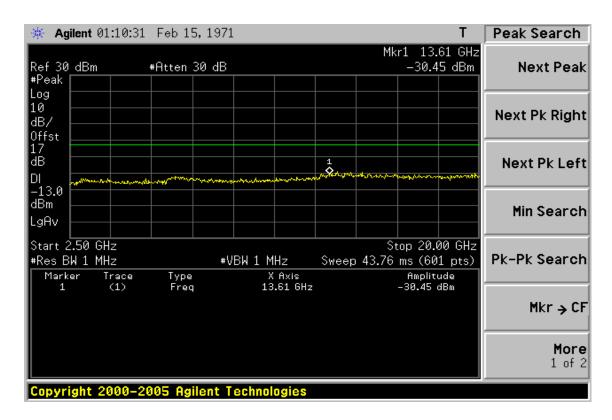
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Figure 9-36: Out of Band emission at antenna terminals – WCDMA IV Channel Lowest





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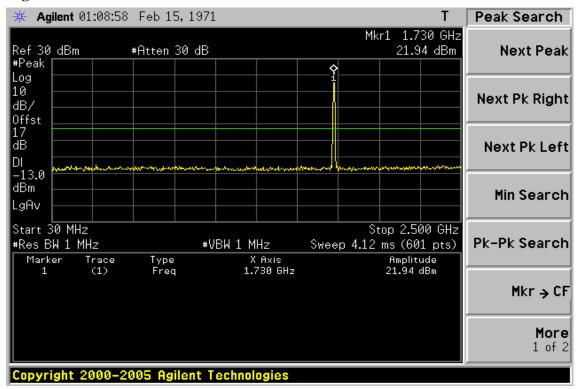
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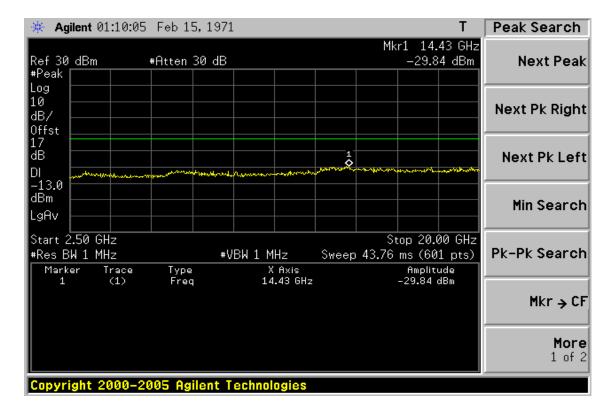
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Figure 9-37: Out of Band emission at antenna terminals – WCDMA IV Channel Mid





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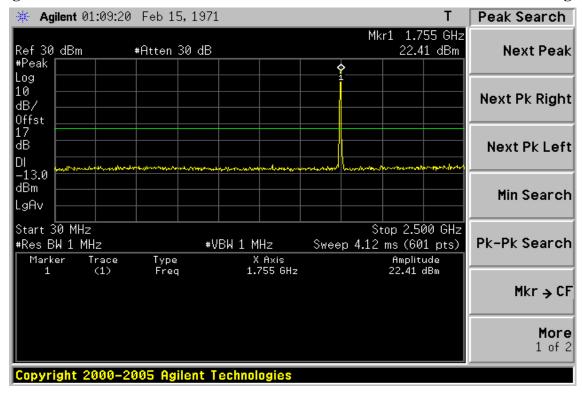
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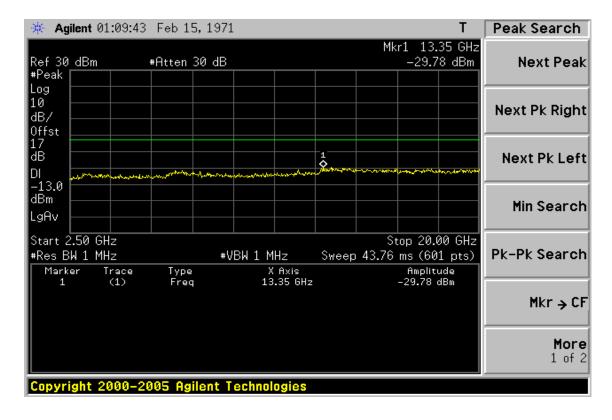


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Figure 9-38: Out of Band emission at antenna terminals – WCDMA IV Channel Highest





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Figure 9-39: Bad edge emission at antenna terminals – WCDMA IV Channel Lowest



Figure 9-40: Band edge emission at antenna terminals – WCDMA IV Channel Highest



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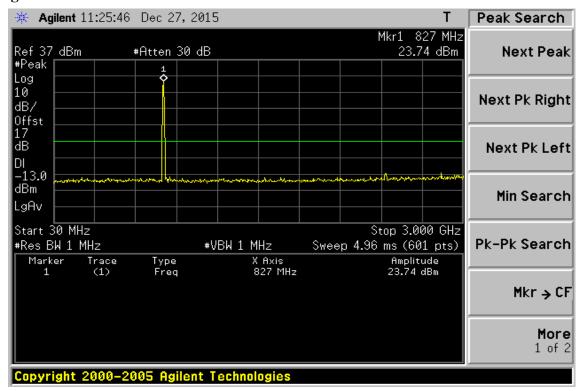
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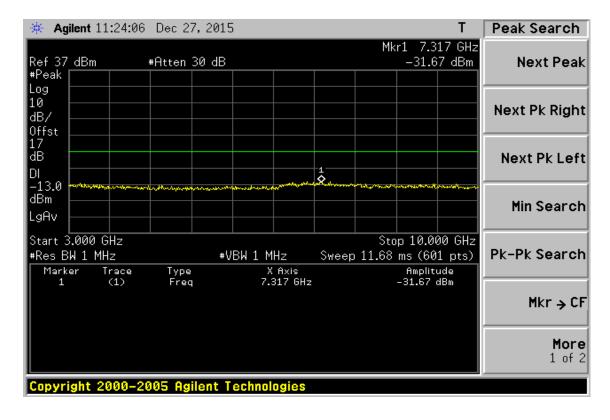
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Figure 9-41: Out of Band emission at antenna terminals – WCDMA V Channel Lowest





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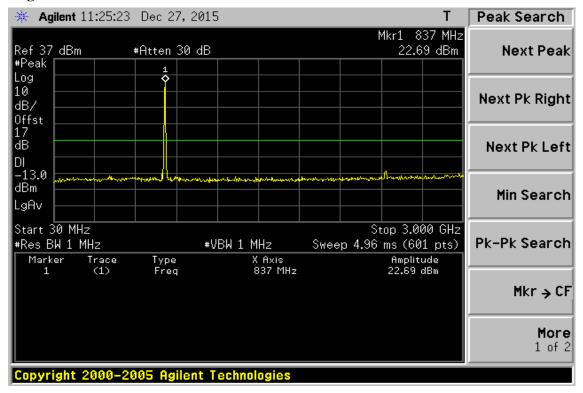
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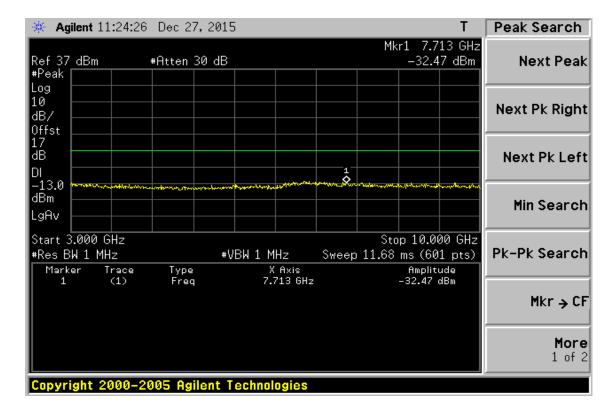
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Figure 9-42: Out of Band emission at antenna terminals – WCDMA V Channel Mid





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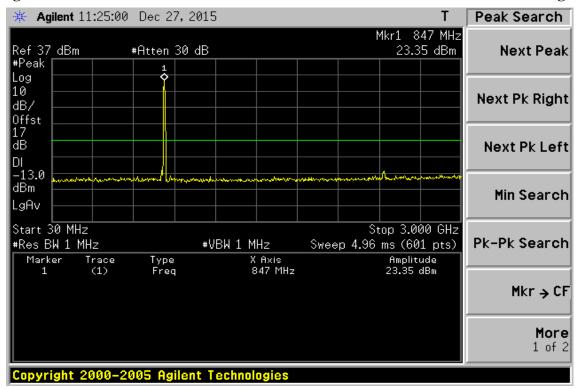
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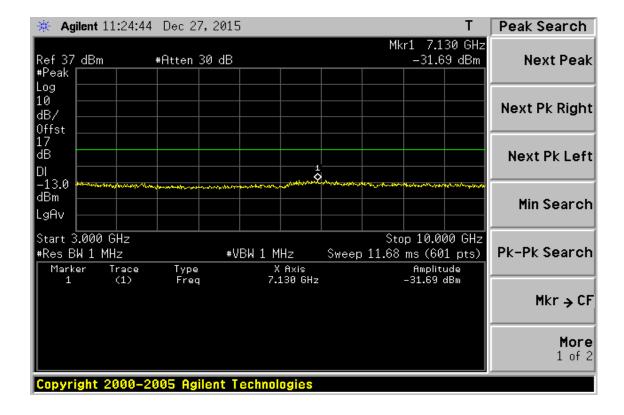
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Figure 9-43: Out of Band emission at antenna terminals – WCDMA V Channel Highest





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Figure 9-44: Bad edge emission at antenna terminals – WCDMA V Channel Lowest

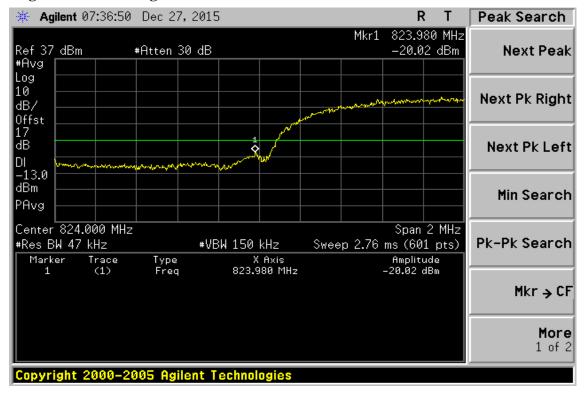
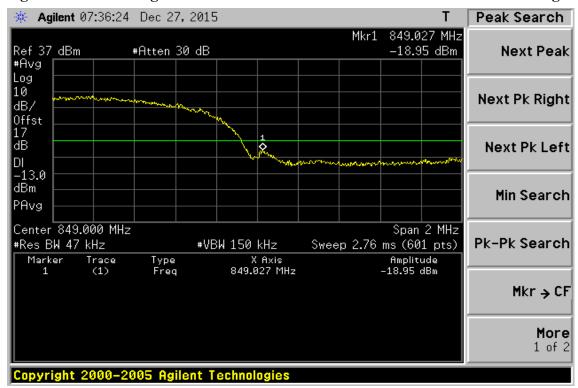


Figure 9-45: Band edge emission at antenna terminals – WCDMA V Channel Highest



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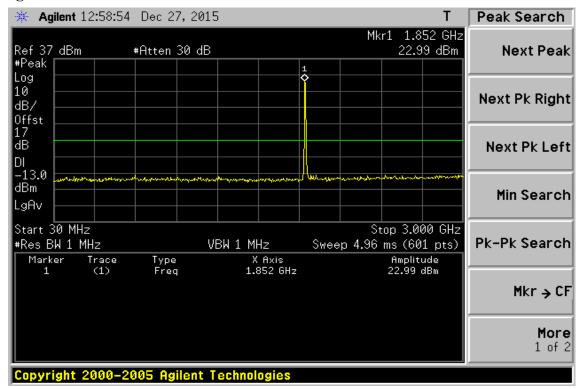
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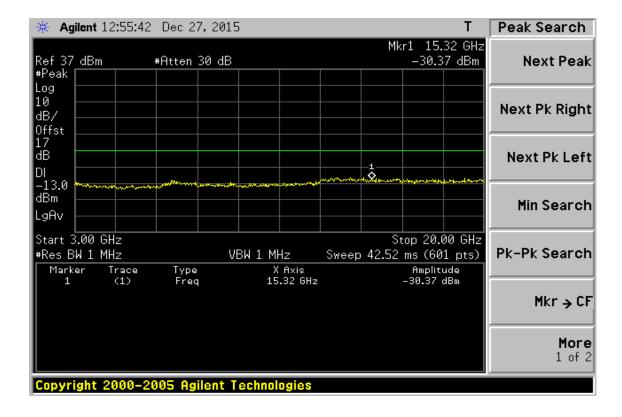
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Figure 9-46: Out of Band emission at antenna terminals – HSUPA II Channel Lowest





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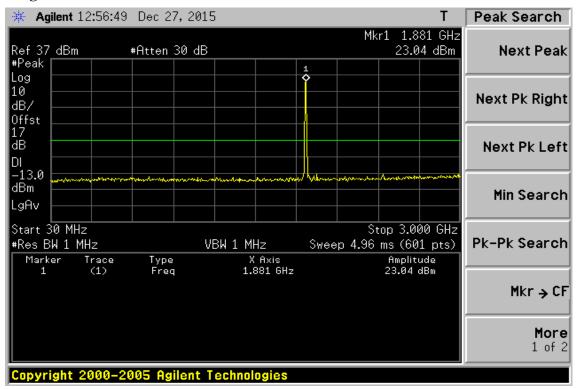
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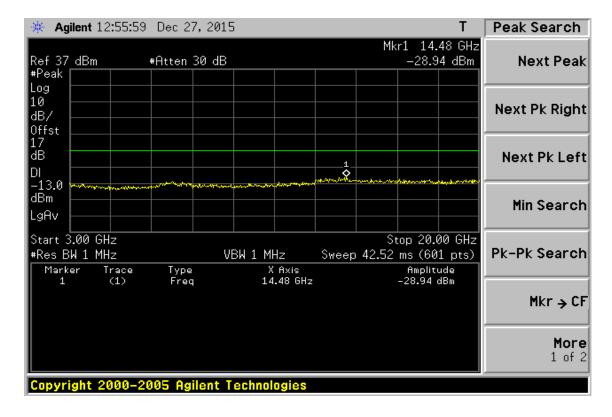
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Figure 9-47: Out of Band emission at antenna terminals – HSUPA II Channel Mid





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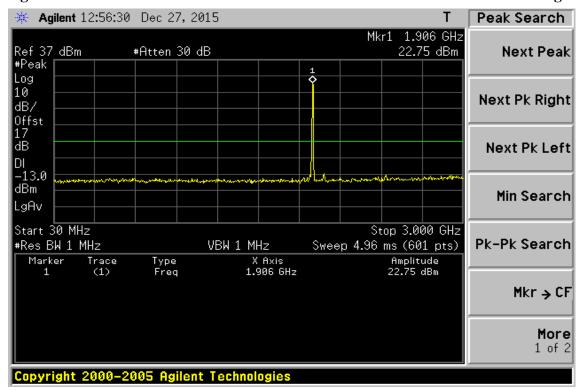
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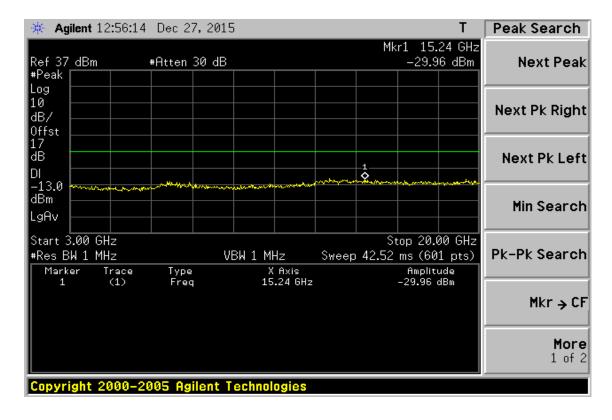
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Figure 9-48: Out of Band emission at antenna terminals – HSUPA II Channel Highest





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Figure 9-49: Bad edge emission at antenna terminals – HSUPA II Channel Lowest

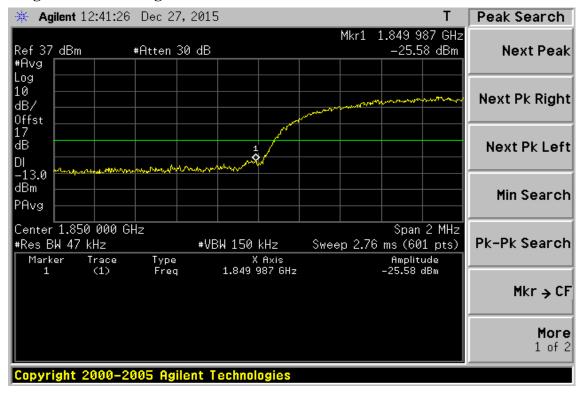
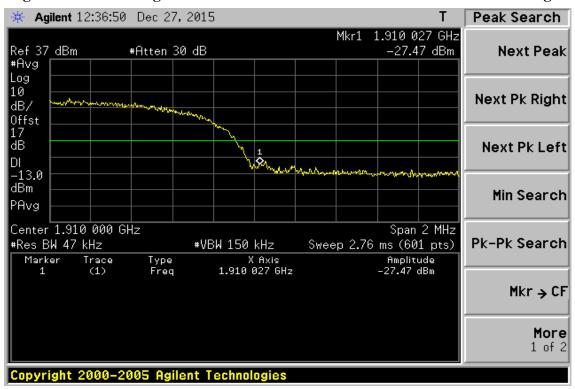


Figure 9-50: Band edge emission at antenna terminals – HSUPA II Channel Highest



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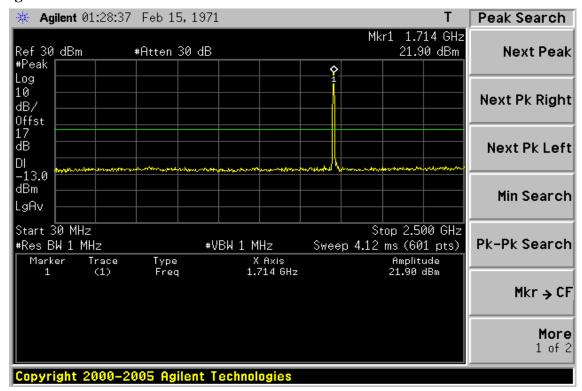
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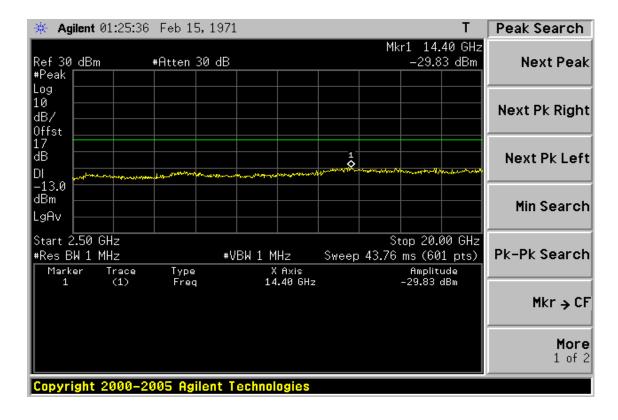
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Figure 9-51: Out of Band emission at antenna terminals – HSUPA IV Channel Lowest





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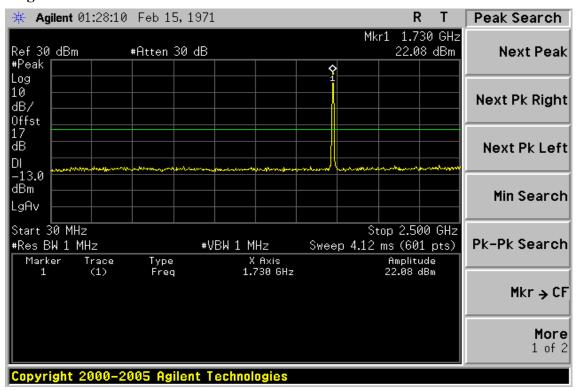
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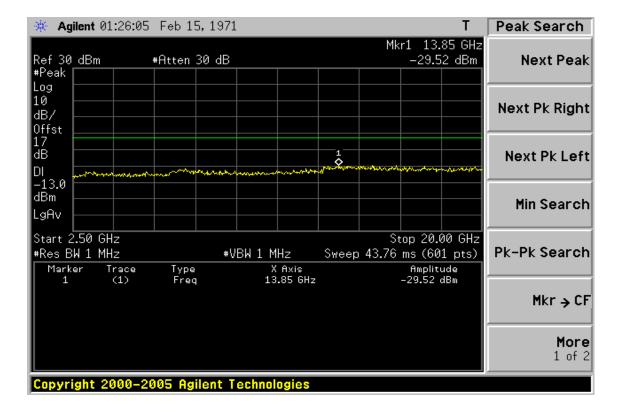
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Figure 9-52: Out of Band emission at antenna terminals – HSUPA IV Channel Mid





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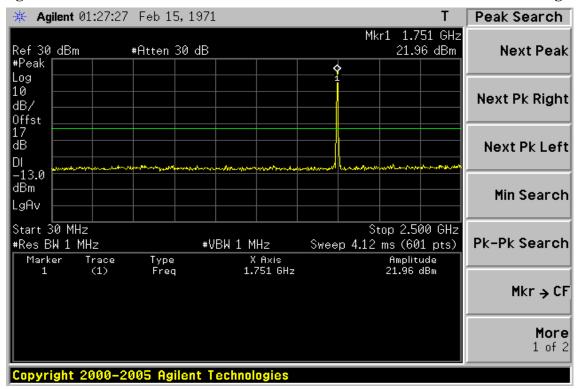
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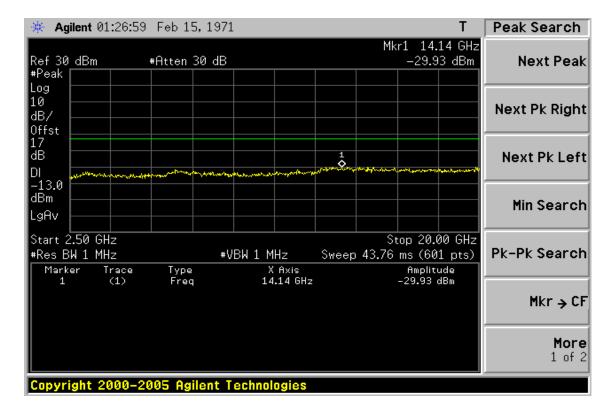
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Figure 9-53: Out of Band emission at antenna terminals – HSUPA IV Channel Highest





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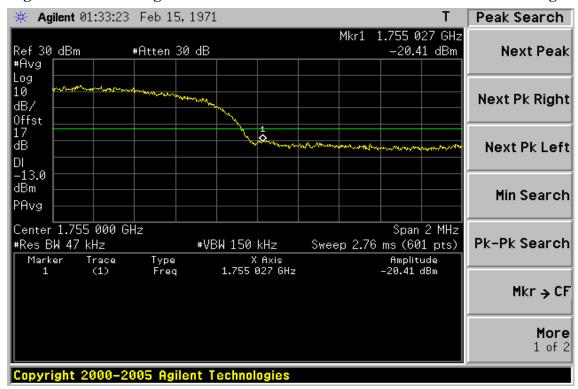
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Figure 9-54: Bad edge emission at antenna terminals – HSUPA IV Channel Lowest



Figure 9-55: Band edge emission at antenna terminals – HSUPA IV Channel Highest



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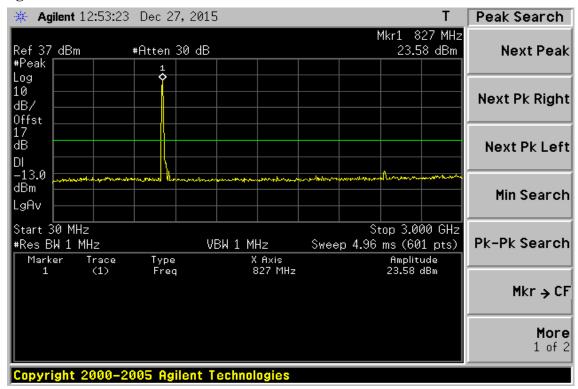
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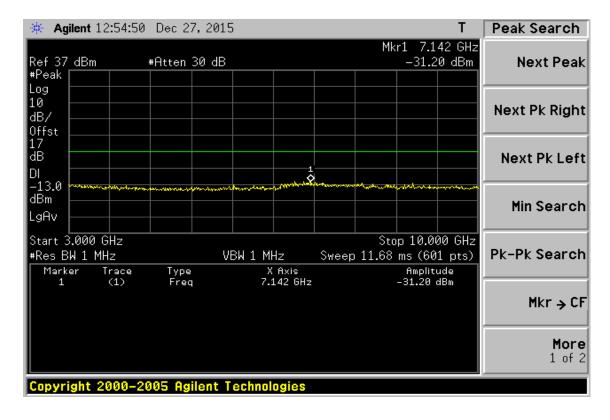


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Figure 9-56: Out of Band emission at antenna terminals – HSUPA V Channel Lowest





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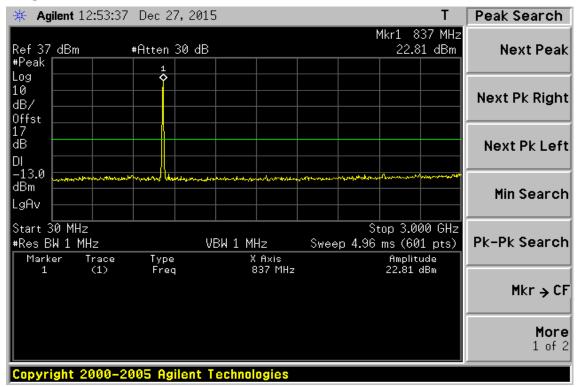
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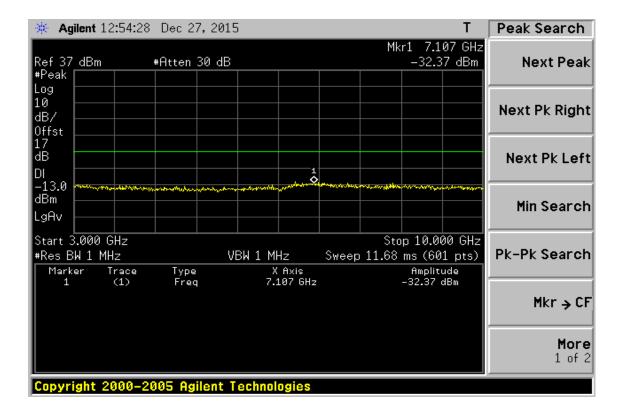
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Figure 9-57: Out of Band emission at antenna terminals – HSUPA V Channel Mid





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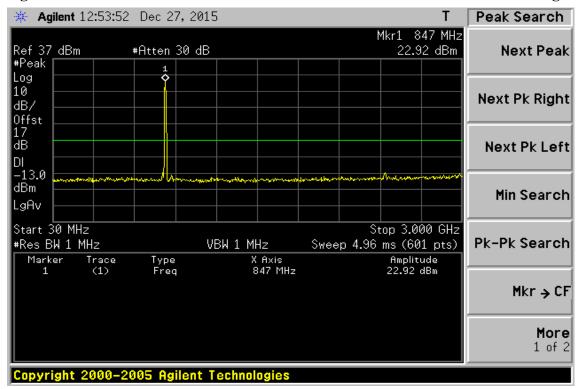
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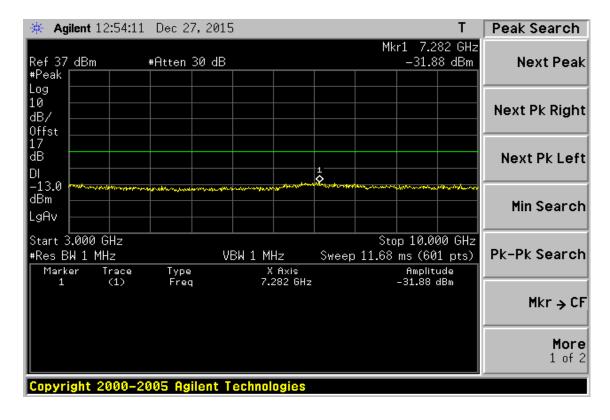
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Figure 9-58: Out of Band emission at antenna terminals – HSUPA V Channel Highest





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Figure 9-59: Bad edge emission at antenna terminals – HSUPA V Channel Lowest

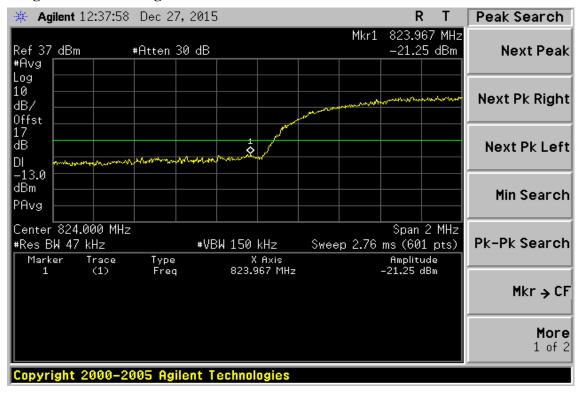
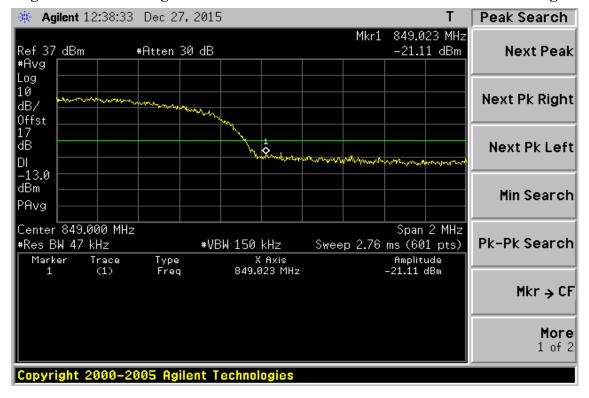


Figure 9-60: Band edge emission at antenna terminals – HSUPA V Channel Highest



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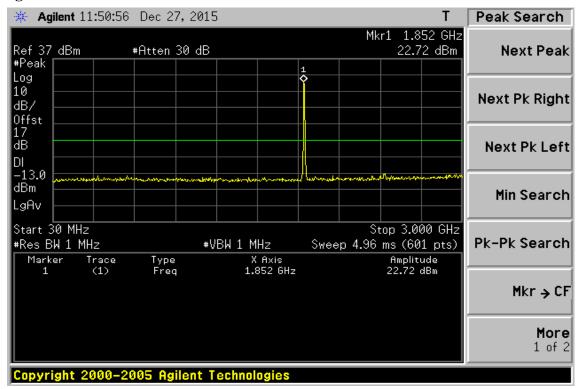
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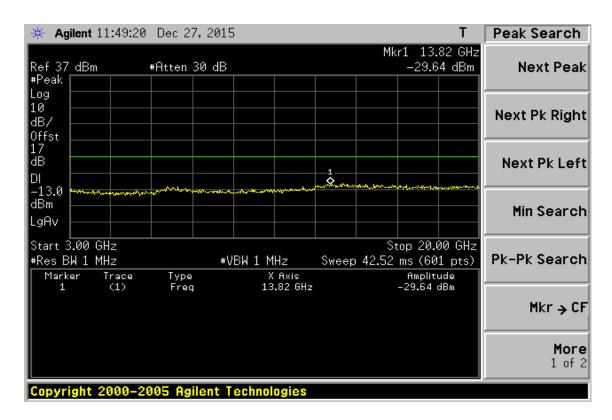
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Figure 9-61: Out of Band emission at antenna terminals – HSDPA II Channel Lowest





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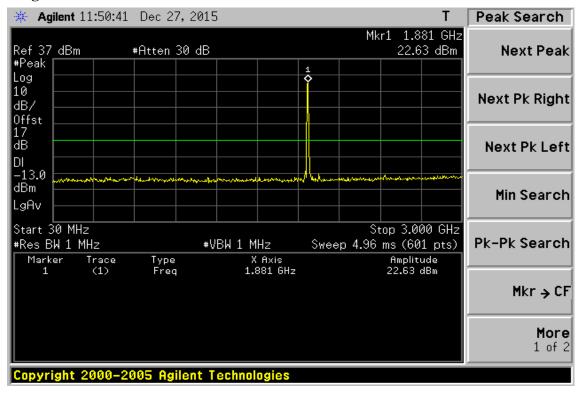
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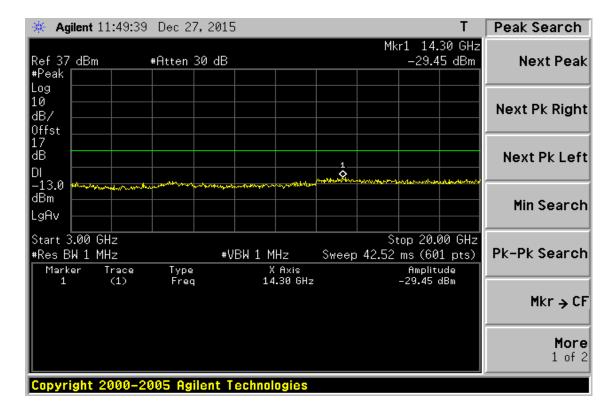
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Figure 9-62: Out of Band emission at antenna terminals – HSDPA II Channel Mid





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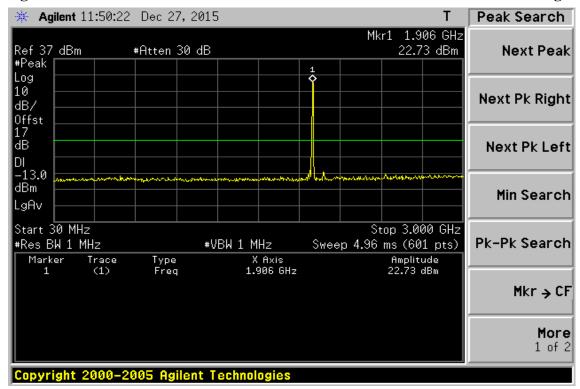
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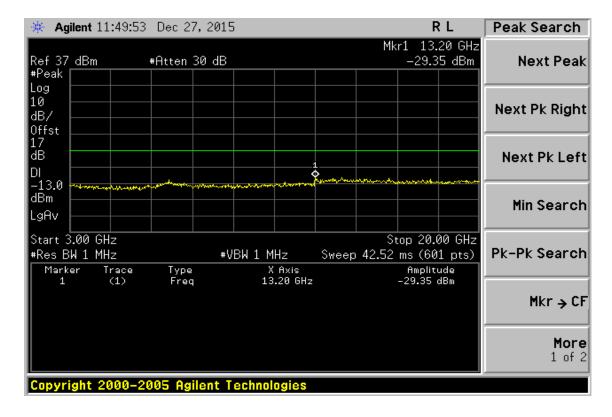
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Figure 9-63: Out of Band emission at antenna terminals – HSDPA II Channel Highest





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Figure 9-64: Bad edge emission at antenna terminals – HSDPA II Channel Lowest

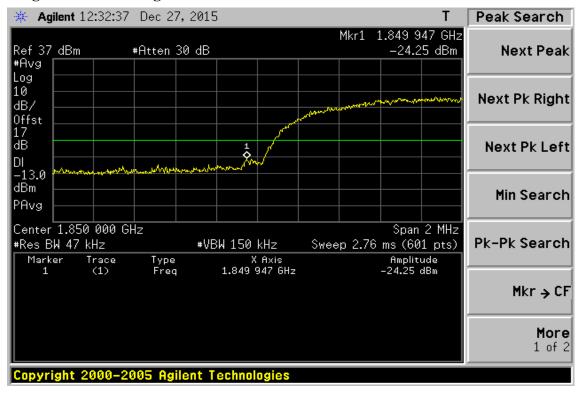
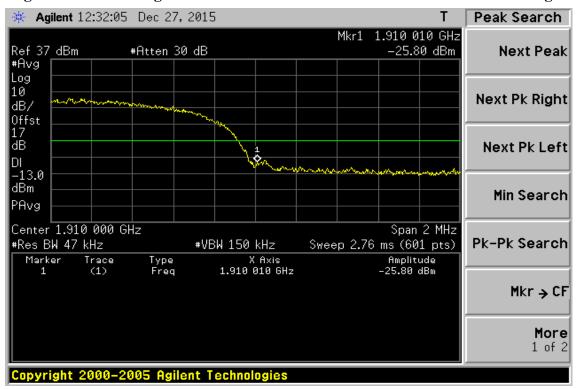


Figure 9-65: Band edge emission at antenna terminals – HSDPA II Channel Highest



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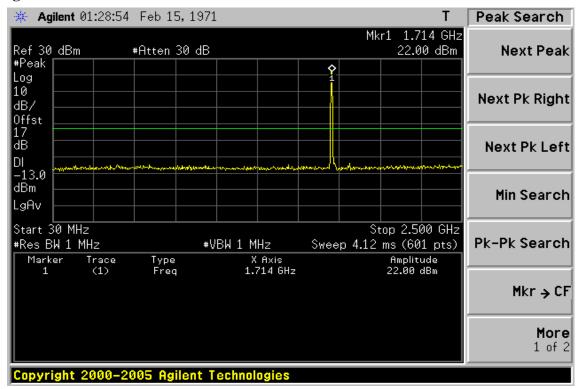
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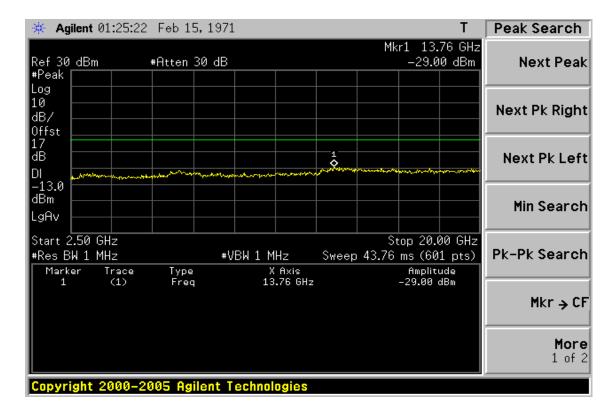
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Figure 9-66: Out of Band emission at antenna terminals – HSDPA IV Channel Lowest





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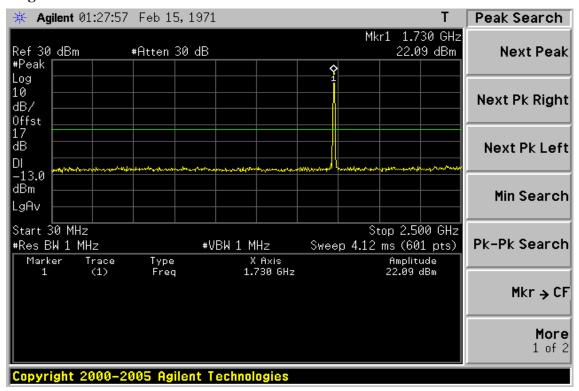
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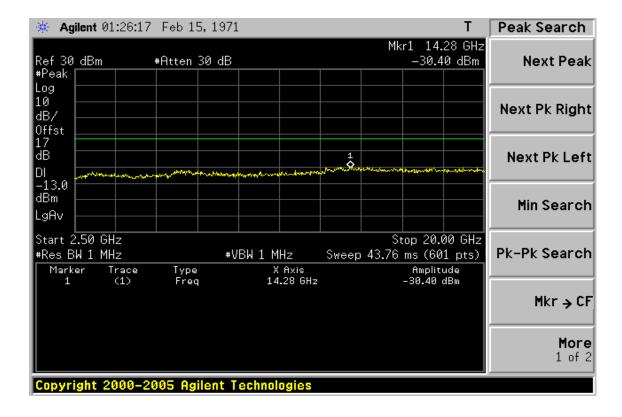
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Figure 9-67: Out of Band emission at antenna terminals – HSDPA IV Channel Mid





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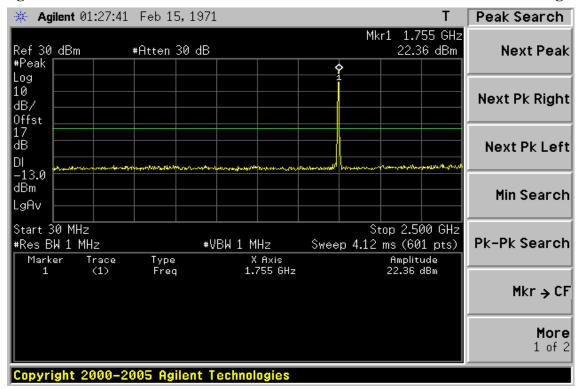
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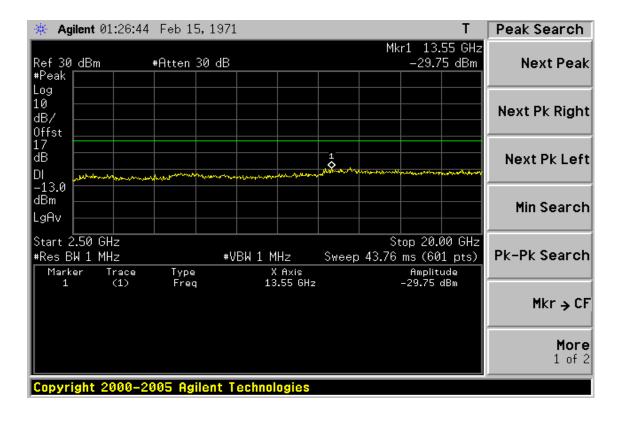
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Figure 9-68: Out of Band emission at antenna terminals – HSDPA IV Channel Highest





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Figure 9-69: Bad edge emission at antenna terminals – HSDPA IV Channel Lowest

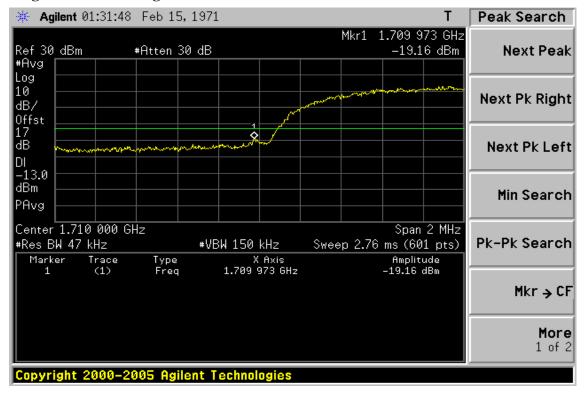
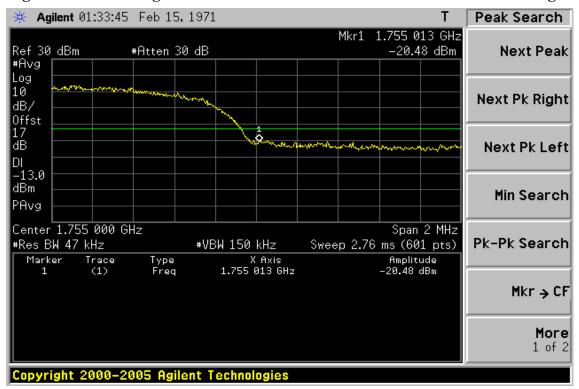


Figure 9-70: Band edge emission at antenna terminals – HSDPA IV Channel Highest



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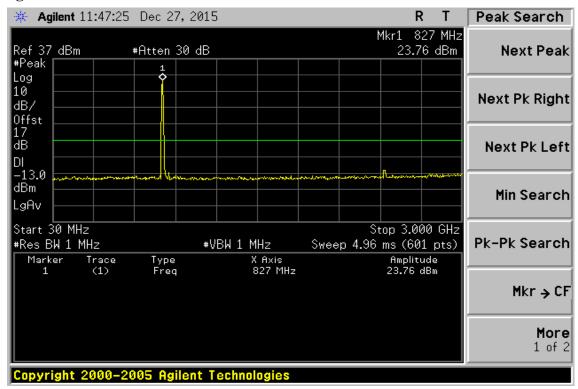
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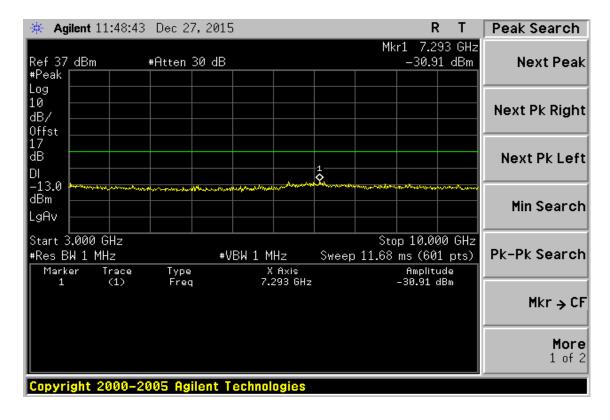


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Figure 9-71: Out of Band emission at antenna terminals – HSDPA V Channel Lowest





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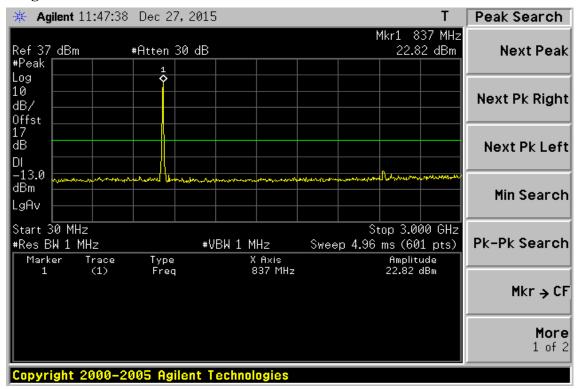
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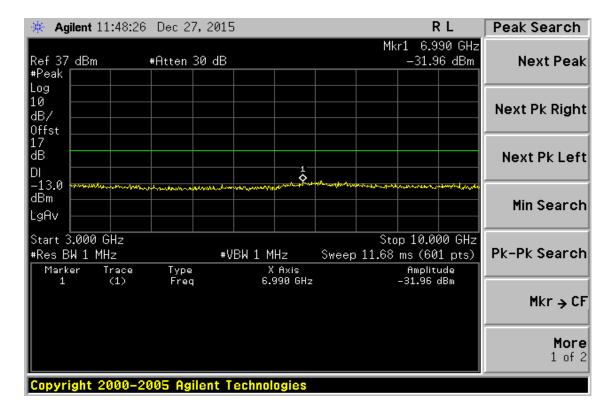
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Figure 9-72: Out of Band emission at antenna terminals – HSDPA V Channel Mid





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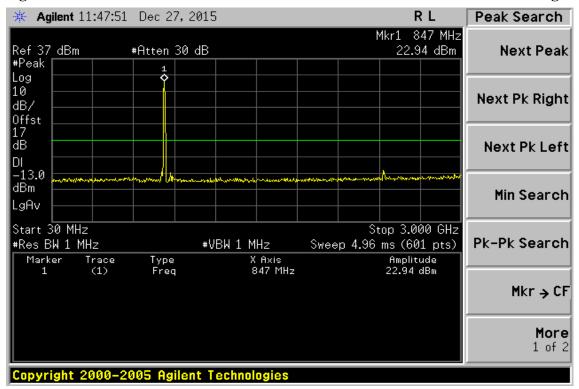
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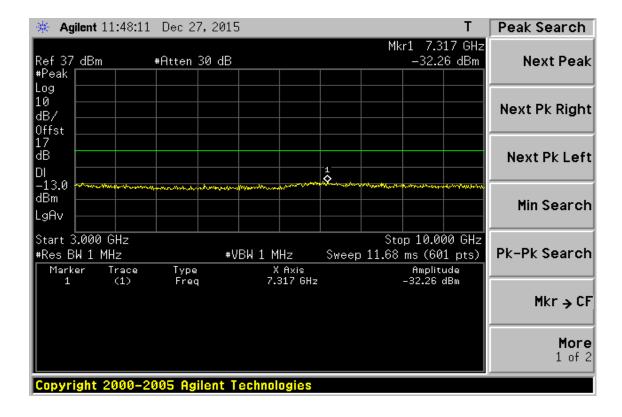


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Figure 9-73: Out of Band emission at antenna terminals – HSDPA V Channel Highest





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Figure 9-74: Bad edge emission at antenna terminals – HSDPA V Channel Lowest

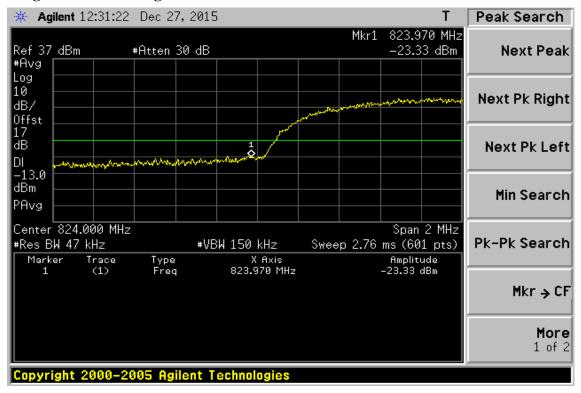


Figure 9-75: Band edge emission at antenna terminals – HSDPA V Channel Highest



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10. FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

10.1. Standard Applicable:

According to FCC §2.1053,

FCC §22.917(a),§24.238(a), §27.53(g) 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)

10.2. EUT Setup (Block Diagram of Configuration):

Refer to section 6.2 in this report

10.3. Measurement Procedure:

The EUT was placed on a non-conductive, The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels). Once spurious emission were identified, the power of the emission was determined using the substitution method.

The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency.

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

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

10.4. Measurement Equipment Used:

Refer to section 2.4 in this report

10.5. Measurement Result:

Refer to attach tabular data sheets.

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Radiated Spurious Emission Measurement Result: GPRS 850 Mode

Operation Mode : TX CH Low Mode Test Date: Sep. 13, 2011

Fundamental Frequency : 824.20 MHz Lion Test By: Temperature Pol: Ver : 25

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
194.90	46.75	V	-54.57	-7.84	1.70	-64.11	-13.00	-51.11
257.95	48.18	V	-51.45	-7.89	2.02	-61.36	-13.00	-48.36
340.40	46.80	V	-50.95	-7.69	2.32	-60.97	-13.00	-47.97
513.06	42.66	V	-51.05	-7.73	2.84	-61.62	-13.00	-48.62
641.10	42.27	V	-46.77	-7.81	3.14	-57.71	-13.00	-44.71
924.34	33.86	V	-50.83	-7.97	3.83	-62.63	-13.00	-49.63
1648.40	73.20	V	-31.38	9.29	5.23	-27.32	-13.00	-14.32
2472.60	70.45	V	-30.56	10.08	6.53	-27.01	-13.00	-14.01
3296.80	58.87	V	-40.00	12.17	7.71	-35.55	-13.00	-22.55
4121.00	46.83	V	-49.29	12.61	8.86	-45.54	-13.00	-32.54
4945.20	48.50	V	-43.97	12.65	9.74	-41.06	-13.00	-28.06
5769.40	47.84	V	-42.36	13.55	10.54	-39.34	-13.00	-26.34
6593.60		V		12.05	11.30		-13.00	
7417.80		V		11.49	12.10		-13.00	
8242.00		V		11.48	12.71		-13.00	

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:
- $4 \text{ ERP/EIRP } (dBm) = SG \text{ Setting}(dBm) + Antenna Gain } (dB/dBi) Cable loss } (dB)$

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Radiated Spurious Emission Measurement Result: GPRS 850 Mode

Operation Mode : TX CH Low Mode Test Date: Sep. 13, 2011

Fundamental Frequency : 824.20 MHz Lion Test By: Temperature Hor Pol: : 25

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
194.90	43.43	Н	-57.82	-7.84	1.70	-67.36	-13.00	-54.36
257.95	50.86	Н	-48.11	-7.89	2.02	-58.03	-13.00	-45.03
340.40	41.47	Н	-55.82	-7.69	2.32	-65.84	-13.00	-52.84
384.05	43.30	Н	-53.38	-7.65	2.46	-63.49	-13.00	-50.49
641.10	39.90	Н	-49.99	-7.81	3.14	-60.94	-13.00	-47.94
927.25	33.81	Н	-50.69	-7.98	3.84	-62.51	-13.00	-49.51
1648.40	78.10	Н	-26.30	9.29	5.23	-22.24	-13.00	-9.24
2472.60	70.35	Н	-30.56	10.08	6.53	-27.01	-13.00	-14.01
3296.80	57.91	Н	-41.19	12.17	7.71	-36.73	-13.00	-23.73
4121.00	46.13	Н	-50.12	12.61	8.86	-46.37	-13.00	-33.37
4945.20	42.63	Н	-50.01	12.65	9.74	-47.09	-13.00	-34.09
5769.40	44.98	Н	-45.33	13.55	10.54	-42.32	-13.00	-29.32
6593.60		Н		12.05	11.30		-13.00	
7417.80		Н		11.49	12.10		-13.00	
8242.00		Н		11.48	12.71		-13.00	

Remark:

- 1 The emission behaviors belong to narrowband spurious emission.
- 2 Remark"---" means that the emission level is too low to be measured
- 3 The result basic equation calculation is as follows:
- 4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dBd/dBi) Cable loss (dB)

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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Radiated Spurious Emission Measurement Result: GPRS 850 Mode

: TX CH Mid Mode Operation Mode Test Date: Sep. 13, 2011

Fundamental Frequency: 836.60 MHz Test By: Lion Temperature Pol: Ver : 25

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
194.90	46.75	V	-54.57	-7.84	1.70	-64.11	-13.00	-51.11
257.95	47.32	V	-52.31	-7.89	2.02	-62.22	-13.00	-49.22
340.40	44.98	V	-52.77	-7.69	2.32	-62.79	-13.00	-49.79
384.05	45.01	V	-51.17	-7.65	2.46	-61.29	-13.00	-48.29
641.10	41.36	V	-47.68	-7.81	3.14	-58.62	-13.00	-45.62
953.44	33.69	V	-50.85	-8.00	3.89	-62.74	-13.00	-49.74
1673.20	76.45	V	-28.11	9.36	5.27	-24.01	-13.00	-11.01
2509.80	72.27	V	-28.51	10.09	6.58	-25.01	-13.00	-12.01
3346.40	61.47	V	-37.39	12.28	7.79	-32.91	-13.00	-19.91
4183.00	47.75	V	-48.14	12.62	8.93	-44.45	-13.00	-31.45
5019.60	51.29	V	-40.86	12.67	9.81	-38.00	-13.00	-25.00
5856.20	46.84	V	-43.10	13.68	10.62	-40.04	-13.00	-27.04
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	

Remark:

- 1 The emission behaviors belongs to narrowband spurious emission.
- 2 Remark"---" means that the emission level is too low to be measured
- 3 The result basic equation calculation is as follows:
- 4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: GPRS 850 Mode

: TX CH Mid Mode Sep. 13, 2011 Operation Mode Test Date:

Fundamental Frequency: 836.60 MHz Test By: Lion Temperature Pol: Hor : 25

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
194.90	47.83	Н	-53.42	-7.84	1.70	-62.96	-13.00	-49.96
257.95	50.14	Н	-48.83	-7.89	2.02	-58.75	-13.00	-45.75
340.40	41.28	Н	-56.01	-7.69	2.32	-66.03	-13.00	-53.03
513.06	41.71	Н	-51.29	-7.73	2.84	-61.86	-13.00	-48.86
641.10	39.51	Н	-50.38	-7.81	3.14	-61.33	-13.00	-48.33
922.40	33.75	Н	-50.81	-7.97	3.83	-62.62	-13.00	-49.62
1673.20	81.53	Н	-22.85	9.36	5.27	-18.75	-13.00	-5.75
2509.80	73.35	Н	-27.35	10.09	6.58	-23.85	-13.00	-10.85
3346.40	62.59	Н	-36.47	12.28	7.79	-31.99	-13.00	-18.99
4183.00	47.98	Н	-48.05	12.62	8.93	-44.36	-13.00	-31.36
5019.60	45.89	Н	-46.43	12.67	9.81	-43.56	-13.00	-30.56
5856.20	47.19	Н	-42.83	13.68	10.62	-39.77	-13.00	-26.77
6692.80		Н		11.95	11.39		-13.00	
7529.40		Н		11.45	12.20		-13.00	
8366.00		Н		11.59	12.81		-13.00	

Remark:

- 1 The emission behaviors belong to narrowband spurious emission.
- 2 Remark"---" means that the emission level is too low to be measured
- 3 The result basic equation calculation is as follows:
- 4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: GPRS 850 Mode

: TX CH High Mode Sep. 13, 2011 Operation Mode Test Date:

Fundamental Frequency: 848.80 MHz Test By: Lion Temperature : 25 Pol: Ver

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
194.90	46.51	V	-54.81	-7.84	1.70	-64.35	-13.00	-51.35
257.95	47.89	V	-51.74	-7.89	2.02	-61.65	-13.00	-48.65
340.47	43.53	V	-54.22	-7.69	2.32	-64.24	-13.00	-51.24
513.06	43.23	V	-50.48	-7.73	2.84	-61.05	-13.00	-48.05
641.10	41.91	V	-47.13	-7.81	3.14	-58.07	-13.00	-45.07
936.95	33.63	V	-51.02	-7.99	3.86	-62.87	-13.00	-49.87
1697.60	78.66	V	-25.88	9.44	5.31	-21.75	-13.00	-8.75
2546.40	73.08	V	-27.56	10.20	6.63	-24.00	-13.00	-11.00
3395.20	62.12	V	-36.73	12.38	7.87	-32.22	-13.00	-19.22
4244.00	50.26	V	-45.40	12.63	9.00	-41.77	-13.00	-28.77
5092.80	53.86	V	-38.12	12.74	9.88	-35.25	-13.00	-22.25
5941.60	48.61	V	-41.08	13.81	10.70	-37.97	-13.00	-24.97
6790.40		V		11.86	11.48		-13.00	
7639.20		V		11.40	12.27		-13.00	
8488.00		V		11.70	12.91		-13.00	

Remark:

- 1 The emission behaviors belong to narrowband spurious emission.
- 2 Remark"---" means that the emission level is too low to be measured
- 3 The result basic equation calculation is as follows:
- 4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: GPRS 850 Mode

: TX CH High Mode Sep. 13, 2011 Operation Mode Test Date:

Fundamental Frequency: 848.80 MHz Test By: Lion Temperature : 25 Pol: Hor

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
185.20	41.60	Н	-58.90	-7.83	1.67	-68.40	-13.00	-55.40
257.95	50.42	Н	-48.55	-7.89	2.02	-58.47	-13.00	-45.47
296.75	42.91	Н	-54.85	-7.92	2.16	-64.93	-13.00	-51.93
384.05	43.32	Н	-53.36	-7.65	2.46	-63.47	-13.00	-50.47
641.10	38.76	Н	-51.13	-7.81	3.14	-62.08	-13.00	-49.08
943.74	33.32	Н	-50.97	-7.99	3.87	-62.83	-13.00	-49.83
1697.60	84.25	Н	-20.10	9.44	5.31	-15.97	-13.00	-2.97
2546.40	71.49	Н	-29.11	10.20	6.63	-25.55	-13.00	-12.55
3395.20	64.60	Н	-34.43	12.38	7.87	-29.91	-13.00	-16.91
4244.00	50.33	Н	-45.48	12.63	9.00	-41.86	-13.00	-28.86
5092.80	49.57	Н	-42.58	12.74	9.88	-39.72	-13.00	-26.72
5941.60	47.47	Н	-42.27	13.81	10.70	-39.16	-13.00	-26.16
6790.40	47.22	Н	-37.30	11.86	11.48	-36.93	-13.00	-23.93
7639.20		Н		11.40	12.27		-13.00	
8488.00		Н		11.70	12.91		-13.00	

Remark:

- 1 The emission behaviors belong to narrowband spurious emission.
- 2 Remark"---" means that the emission level is too low to be measured
- 3 The result basic equation calculation is as follows:
- 4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: GPRS 1900 Mode

: TX CH Low Mode Sep. 13, 2011 Operation Mode Test Date:

Fundamental Frequency: 1850.20MHz Test By: Lion Temperature : 25 Pol: Ver

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
194.90	45.62	V	-55.70	-7.84	1.70	-65.24	-13.00	-52.24
257.95	49.26	V	-50.37	-7.89	2.02	-60.28	-13.00	-47.28
340.40	44.19	V	-53.56	-7.69	2.32	-63.58	-13.00	-50.58
513.06	42.78	V	-50.93	-7.73	2.84	-61.50	-13.00	-48.50
641.10	42.02	V	-47.02	-7.81	3.14	-57.96	-13.00	-44.96
936.95	33.57	V	-51.08	-7.99	3.86	-62.93	-13.00	-49.93
1650.00	73.20	V	-31.38	9.29	5.23	-27.32	-13.00	-14.32
1650.00	73.20	V	-31.38	9.29	5.23	-27.32	-13.00	-14.32
3700.40	70.98	V	-26.95	12.61	8.31	-22.65	-13.00	-9.65
5550.60	73.92	V	-16.92	13.23	10.33	-14.02	-13.00	-1.02
7400.80	53.27	V	-27.97	11.50	12.08	-28.55	-13.00	-15.55
9251.00		V		11.92	13.50		-13.00	
11101.20		V		11.66	15.11		-13.00	
12951.40		V		13.63	16.60		-13.00	
14801.60		V		12.76	17.95		-13.00	
16651.80		V		15.92	19.14		-13.00	
18502.00		V		18.75	10.40		-13.00	

Remark:

- 1 The emission behaviors belong to narrowband spurious emission.
- 2 Remark"---" means that the emission level is too low to be measured
- 3 The result basic equation calculation is as follows:
- 4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: GPRS 1900 Mode

: TX CH Low Mode Operation Mode Test Date: Sep. 13, 2011

Fundamental Frequency: 1850.20MHz Test By: Lion Temperature : 25 Pol: Hor

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
194.90	42.42	Н	-58.83	-7.84	1.70	-68.37	-13.00	-55.37
257.95	52.00	Н	-46.97	-7.89	2.02	-56.89	-13.00	-43.89
340.40	44.83	Н	-52.46	-7.69	2.32	-62.48	-13.00	-49.48
513.06	41.81	Н	-51.19	-7.73	2.84	-61.76	-13.00	-48.76
641.10	39.99	Н	-49.90	-7.81	3.14	-60.85	-13.00	-47.85
924.34	33.68	Н	-50.86	-7.97	3.83	-62.67	-13.00	-49.67
3700.40	71.63	Н	-26.41	12.61	8.31	-22.11	-13.00	-9.11
5550.60	72.12	Н	-18.93	13.23	10.33	-16.03	-13.00	-3.03
7400.80	59.75	Н	-21.48	11.50	12.08	-22.06	-13.00	-9.06
9251.00		Н		11.92	13.50		-13.00	
11101.20		Н		11.66	15.11		-13.00	
12951.40		Н		13.63	16.60		-13.00	
14801.60		Н		12.76	17.95		-13.00	
16651.80		Н		15.92	19.14		-13.00	
18502.00		Н		18.75	10.40		-13.00	

Remark:

- 1 The emission behaviors belong to narrowband spurious emission.
- 2 Remark"---" means that the emission level is too low to be measured
- 3 The result basic equation calculation is as follows:
- 4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: GPRS 1900 Mode

Operation Mode : TX CH Mid Mode Test Date: Sep. 13, 2011

Fundamental Frequency: 1880MHz Test By: Lion Temperature Pol: Ver : 25

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
194.90	45.87	V	-55.45	-7.84	1.70	-64.99	-13.00	-51.99
257.95	51.37	V	-48.26	-7.89	2.02	-58.17	-13.00	-45.17
340.40	43.43	V	-54.32	-7.69	2.32	-64.34	-13.00	-51.34
384.05	44.09	V	-52.09	-7.65	2.46	-62.21	-13.00	-49.21
641.10	42.66	V	-46.38	-7.81	3.14	-57.32	-13.00	-44.32
932.10	33.51	V	-51.16	-7.98	3.85	-62.99	-13.00	-49.99
3760.00	69.80	V	-27.86	12.60	8.39	-23.64	-13.00	-10.64
5640.00	73.73	V	-16.85	13.36	10.41	-13.90	-13.00	-0.90
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	

Remark:

- 1 The emission behaviors belong to narrowband spurious emission.
- 2 Remark"---" means that the emission level is too low to be measured
- 3 The result basic equation calculation is as follows:
- 4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: GPRS 1900 Mode

Operation Mode : TX CH Mid Mode Test Date: Sep. 13, 2011

Fundamental Frequency: 1880MHz Test By: Lion Temperature Pol: Hor : 25

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
163.86	45.85	Н	-53.00	-7.81	1.62	-62.43	-13.00	-49.43
257.95	51.87	Н	-47.10	-7.89	2.02	-57.02	-13.00	-44.02
296.75	42.03	Н	-55.73	-7.92	2.16	-65.81	-13.00	-52.81
513.06	39.48	Н	-53.52	-7.73	2.84	-64.09	-13.00	-51.09
641.10	39.90	Н	-49.99	-7.81	3.14	-60.94	-13.00	-47.94
939.86	33.98	Н	-50.36	-7.99	3.86	-62.21	-13.00	-49.21
3760.00	72.74	Н	-25.03	12.60	8.39	-20.82	-13.00	-7.82
5640.00	72.21	Н	-18.54	13.36	10.41	-15.59	-13.00	-2.59
7520.00		Н		11.45	12.19		-13.00	
9400.00		Н		11.93	13.61		-13.00	
11280.00		Н		11.92	15.27		-13.00	
13160.00		Н		13.33	16.71		-13.00	
15040.00		Н		13.76	18.15		-13.00	
16920.00		Н		15.27	19.32		-13.00	
18800.00		Н		18.68	16.58		-13.00	

Remark:

- 1 The emission behaviors belong to narrowband spurious emission.
- 2 Remark"---" means that the emission level is too low to be measured
- 3 The result basic equation calculation is as follows:
- 4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: GPRS 1900 Mode

Operation Mode : TX CH High Mode Test Date: Sep. 13, 2011

Fundamental Frequency: 1909.8 MHz Test By: Lion Temperature Pol: Ver : 25

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
194.90	44.82	V	-56.50	-7.84	1.70	-66.04	-13.00	-53.04
257.95	51.79	V	-47.84	-7.89	2.02	-57.75	-13.00	-44.75
340.40	45.71	V	-52.04	-7.69	2.32	-62.06	-13.00	-49.06
513.06	42.11	V	-51.60	-7.73	2.84	-62.17	-13.00	-49.17
641.10	42.76	V	-46.28	-7.81	3.14	-57.22	-13.00	-44.22
914.64	33.86	V	-50.85	-7.96	3.82	-62.63	-13.00	-49.63
3819.60	69.23	V	-28.16	12.60	8.47	-24.03	-13.00	-11.03
5729.40	73.51	V	-16.81	13.49	10.50	-13.81	-13.00	-0.81
7639.20		V		11.40	12.27		-13.00	
9549.00		V		11.95	13.74		-13.00	
11458.80		V		12.17	15.43		-13.00	
13368.60		V		12.97	16.82		-13.00	
15278.40		V		15.00	18.29		-13.00	
17188.20		V		14.47	19.52		-13.00	
19098.00		V		18.66	20.78		-13.00	

Remark:

- 1 The emission behaviors belong to narrowband spurious emission.
- 2 Remark"---" means that the emission level is too low to be measured
- 3 The result basic equation calculation is as follows:
- 4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: GPRS 1900 Mode

Operation Mode : TX CH High Mode Test Date: Sep. 13, 2011

Fundamental Frequency: 1909.8 MHz Test By: Lion Temperature Pol: Hor : 25

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
175.56	41.83	Н	-57.92	-7.82	1.65	-67.40	-13.00	-54.40
257.95	52.07	Н	-46.90	-7.89	2.02	-56.82	-13.00	-43.82
296.75	40.93	Н	-56.83	-7.92	2.16	-66.91	-13.00	-53.91
384.05	43.71	Н	-52.97	-7.65	2.46	-63.08	-13.00	-50.08
641.10	39.80	Н	-50.09	-7.81	3.14	-61.04	-13.00	-48.04
941.80	33.90	Н	-50.41	-7.99	3.87	-62.27	-13.00	-49.27
3819.60	73.46	Н	-24.05	12.60	8.47	-19.91	-13.00	-6.91
5729.40	70.68	Н	-19.77	13.49	10.50	-16.78	-13.00	-3.78
7639.20		Н		11.40	12.27		-13.00	
9549.00		Н		11.95	13.74		-13.00	
11458.80		Н		12.17	15.43		-13.00	
13368.60		Н		12.97	16.82		-13.00	
15278.40		Н		15.00	18.29		-13.00	
17188.20		Н		14.47	19.52		-13.00	
19098.00		Н		18.66	20.78		-13.00	

Remark:

- 1 The emission behaviors belong to narrowband spurious emission.
- 2 Remark"---" means that the emission level is too low to be measured
- 3 The result basic equation calculation is as follows:
- 4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: HSUPA Band II Mode

: TX CH Low Mode Operation Mode Test Date: Sep. 13, 2011

Fundamental Frequency: 1852.40MHz Test By: Lion Temperature : 25 Pol: Ver

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
194.90	46.07	V	-55.25	-7.84	1.70	-64.79	-13.00	-51.79
257.95	50.42	V	-49.21	-7.89	2.02	-59.12	-13.00	-46.12
340.40	44.60	V	-53.15	-7.69	2.32	-63.17	-13.00	-50.17
384.05	44.82	V	-51.36	-7.65	2.46	-61.48	-13.00	-48.48
641.10	41.75	V	-47.29	-7.81	3.14	-58.23	-13.00	-45.23
927.25	34.28	V	-50.40	-7.98	3.84	-62.22	-13.00	-49.22
3704.80	65.77	V	-32.14	12.61	8.31	-27.85	-13.00	-14.85
5557.20	61.41	V	-29.41	13.24	10.33	-26.51	-13.00	-13.51
7409.60	48.43	V	-32.76	11.49	12.09	-33.36	-13.00	-20.36
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	

Remark:

- 1 The emission behaviors belong to narrowband spurious emission.
- 2 Remark"---" means that the emission level is too low to be measured
- 3 The result basic equation calculation is as follows:
- 4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: HSUPA Band II Mode

: TX CH Low Mode Operation Mode Test Date: Sep. 13, 2011

Fundamental Frequency: 1852.40MHz Test By: Lion Temperature : 25 Pol: Hor

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
194.90	42.82	Н	-58.43	-7.84	1.70	-67.97	-13.00	-54.97
257.95	50.97	Н	-48.00	-7.89	2.02	-57.92	-13.00	-44.92
296.75	42.39	Н	-55.37	-7.92	2.16	-65.45	-13.00	-52.45
384.05	42.31	Н	-54.37	-7.65	2.46	-64.48	-13.00	-51.48
641.10	39.24	Н	-50.65	-7.81	3.14	-61.60	-13.00	-48.60
946.65	34.05	Н	-50.20	-8.00	3.87	-62.07	-13.00	-49.07
3704.80	54.00	Н	-44.02	12.61	8.31	-39.73	-13.00	-26.73
5557.20	61.92	Н	-29.11	13.24	10.33	-26.21	-13.00	-13.21
7409.60	55.79	Н	-25.39	11.49	12.09	-25.99	-13.00	-12.99
9262.00		Н		11.92	13.51		-13.00	
11114.40		Н		11.68	15.12		-13.00	
12966.80		Н		13.62	16.61		-13.00	
14819.20		Н		12.83	17.96		-13.00	
16671.60		Н		15.87	19.15		-13.00	
18524.00		Н		18.74	10.86		-13.00	

Remark:

- 1 The emission behaviors belong to narrowband spurious emission.
- 2 Remark"---" means that the emission level is too low to be measured
- 3 The result basic equation calculation is as follows:
- 4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: HSUPA Band II Mode

Operation Mode : TX CH Mid Mode Test Date: Sep. 13, 2011

Fundamental Frequency: 1880.0MHz Test By: Lion Temperature Pol: Ver : 25

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
194.90	46.02	V	-55.30	-7.84	1.70	-64.84	-13.00	-51.84
257.95	50.34	V	-49.29	-7.89	2.02	-59.20	-13.00	-46.20
340.40	46.40	V	-51.35	-7.69	2.32	-61.37	-13.00	-48.37
513.06	43.09	V	-50.62	-7.73	2.84	-61.19	-13.00	-48.19
641.10	41.23	V	-47.81	-7.81	3.14	-58.75	-13.00	-45.75
917.55	33.87	V	-50.83	-7.97	3.82	-62.62	-13.00	-49.62
3760.00	64.65	V	-33.01	12.60	8.39	-28.79	-13.00	-15.79
5640.00	62.28	V	-28.30	13.36	10.41	-25.35	-13.00	-12.35
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	

Remark:

- 1 The emission behaviors belong to narrowband spurious emission.
- 2 Remark"---" means that the emission level is too low to be measured
- 3 The result basic equation calculation is as follows:
- 4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: HSUPA Band II Mode

Operation Mode : TX CH Mid Mode Test Date: Sep. 13, 2011

Fundamental Frequency: 1880.0MHz Test By: Lion Temperature Pol: Hor : 25

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
199.75	41.16	Н	-60.47	-7.84	1.71	-70.02	-13.00	-57.02
257.95	51.37	Н	-47.60	-7.89	2.02	-57.52	-13.00	-44.52
340.40	40.80	Н	-56.49	-7.69	2.32	-66.51	-13.00	-53.51
513.06	39.76	Н	-53.24	-7.73	2.84	-63.81	-13.00	-50.81
641.10	40.29	Н	-49.60	-7.81	3.14	-60.55	-13.00	-47.55
943.74	34.14	Н	-50.15	-7.99	3.87	-62.01	-13.00	-49.01
3760.00	67.33	Н	-30.44	12.60	8.39	-26.23	-13.00	-13.23
5640.00	60.47	Н	-30.28	13.36	10.41	-27.33	-13.00	-14.33
7520.00		Н		11.45	12.19		-13.00	
9400.00		Н		11.93	13.61		-13.00	
11280.00		Н		11.92	15.27		-13.00	
13160.00		Н		13.33	16.71		-13.00	
15040.00		Н		13.76	18.15		-13.00	
16920.00		Н		15.27	19.32		-13.00	
18800.00		Н		18.68	16.58		-13.00	

Remark:

- 1 The emission behaviors belong to narrowband spurious emission.
- 2 Remark"---" means that the emission level is too low to be measured
- 3 The result basic equation calculation is as follows:
- 4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: HSUPA Band II Mode

Operation Mode : TX CH High Mode Test Date: Sep. 13, 2011

Fundamental Frequency: 1907.6 MHz Test By: Lion Temperature Pol: Ver : 25

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
149.31	49.36	V	-47.99	-7.80	1.59	-57.38	-13.00	-44.38
257.95	49.78	V	-49.85	-7.89	2.02	-59.76	-13.00	-46.76
340.40	44.75	V	-53.00	-7.69	2.32	-63.02	-13.00	-50.02
513.06	45.02	V	-48.69	-7.73	2.84	-59.26	-13.00	-46.26
641.10	43.13	V	-45.91	-7.81	3.14	-56.85	-13.00	-43.85
927.25	34.51	V	-50.17	-7.98	3.84	-61.99	-13.00	-48.99
3815.20	63.31	V	-34.10	12.60	8.46	-29.96	-13.00	-16.96
5722.80	59.32	V	-31.01	13.48	10.49	-28.02	-13.00	-15.02
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	

Remark:

- 1 The emission behaviors belong to narrowband spurious emission.
- 2 Remark"---" means that the emission level is too low to be measured
- 3 The result basic equation calculation is as follows:
- 4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: HSUPA Band II Mode

Operation Mode : TX CH High Mode Test Date: Sep. 13, 2011

Fundamental Frequency: 1907.6 MHz Test By: Lion Temperature Pol: Hor : 25

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
194.90	41.17	Н	-60.08	-7.84	1.70	-69.62	-13.00	-56.62
257.95	51.93	Н	-47.04	-7.89	2.02	-56.96	-13.00	-43.96
340.40	42.77	Н	-54.52	-7.69	2.32	-64.54	-13.00	-51.54
384.05	43.31	Н	-53.37	-7.65	2.46	-63.48	-13.00	-50.48
641.10	39.20	Н	-50.69	-7.81	3.14	-61.64	-13.00	-48.64
927.25	33.68	Н	-50.82	-7.98	3.84	-62.64	-13.00	-49.64
3815.20	65.50	Н	-32.03	12.60	8.46	-27.89	-13.00	-14.89
5722.80	56.76	Н	-33.71	13.48	10.49	-30.72	-13.00	-17.72
7630.40		Н		11.41	12.27		-13.00	
9538.00		Н		11.95	13.73		-13.00	
11445.60		Н		12.15	15.42		-13.00	
13353.20		Н		13.00	16.81		-13.00	
15260.80		Н		14.91	18.28		-13.00	
17168.40		Н		14.53	19.50		-13.00	
19076.00		Н		18.65	20.76		-13.00	

Remark:

- 1 The emission behaviors belong to narrowband spurious emission.
- 2 Remark"---" means that the emission level is too low to be measured
- 3 The result basic equation calculation is as follows:
- 4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: HSUPA Band IV Mode

: TX CH Low Mode Operation Mode Test Date: Sep. 13, 2011

Fundamental Frequency: 1712.40MHz Test By: Lion Temperature : 25 Pol: Ver

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
190.05	44.30	V	-56.59	-7.83	1.69	-66.10	-13.00	-53.10
257.95	50.82	V	-48.81	-7.89	2.02	-58.72	-13.00	-45.72
340.40	43.93	V	-53.82	-7.69	2.32	-63.84	-13.00	-50.84
513.06	42.86	V	-50.85	-7.73	2.84	-61.42	-13.00	-48.42
641.10	42.17	V	-46.87	-7.81	3.14	-57.81	-13.00	-44.81
982.54	32.77	V	-51.10	-7.99	3.98	-63.07	-13.00	-50.07
3424.80	63.01	V	-35.84	12.45	7.91	-31.30	-13.00	-18.30
5137.20	57.43	V	-34.44	12.79	9.92	-31.58	-13.00	-18.58
6849.60	48.89	V	-35.34	11.80	11.54	-35.08	-13.00	-22.08
8562.00		V		11.73	12.97		-13.00	
10274.40		V		11.85	14.50		-13.00	
11986.80		V		13.15	15.91		-13.00	
13699.20		V		12.32	17.04		-13.00	
15411.60		V		15.69	18.36		-13.00	
17124.00		V		14.68	19.47		-13.00	

Remark:

- 1 The emission behaviors belong to narrowband spurious emission.
- 2 Remark"---" means that the emission level is too low to be measured
- 3 The result basic equation calculation is as follows:
- 4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: HSUPA Band IV Mode

: TX CH Low Mode Operation Mode Test Date: Sep. 13, 2011

Fundamental Frequency: 1712.40MHz Test By: Lion Temperature : 25 Pol: Hor

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
192.96	42.19	Н	-58.91	-7.83	1.69	-68.44	-13.00	-55.44
257.95	51.09	Н	-47.88	-7.89	2.02	-57.80	-13.00	-44.80
296.75	42.94	Н	-54.82	-7.92	2.16	-64.90	-13.00	-51.90
384.04	42.39	Н	-54.29	-7.65	2.46	-64.40	-13.00	-51.40
641.10	40.04	Н	-49.85	-7.81	3.14	-60.80	-13.00	-47.80
941.80	34.62	Н	-49.69	-7.99	3.87	-61.55	-13.00	-48.55
3424.80	66.19	Н	-32.81	12.45	7.91	-28.28	-13.00	-15.28
5137.20	55.39	Н	-36.66	12.79	9.92	-33.79	-13.00	-20.79
6849.60	57.10	Н	-27.12	11.80	11.54	-26.86	-13.00	-13.86
8562.00		Н		11.73	12.97		-13.00	
10274.40		Н		11.85	14.50		-13.00	
11986.80		Н		13.15	15.91		-13.00	
13699.20		Н		12.32	17.04		-13.00	
15411.60		Н		15.69	18.36		-13.00	
17124.00		Н		14.68	19.47		-13.00	

Remark:

- 1 The emission behaviors belong to narrowband spurious emission.
- 2 Remark"---" means that the emission level is too low to be measured
- 3 The result basic equation calculation is as follows:
- 4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: HSUPA Band IV Mode

Operation Mode : TX CH Mid Mode Test Date: Sep. 13, 2011

Fundamental Frequency: 1732.6MHz Test By: Lion Temperature Pol: Ver : 25

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
194.90	45.59	V	-55.73	-7.84	1.70	-65.27	-13.00	-52.27
257.95	50.33	V	-49.30	-7.89	2.02	-59.21	-13.00	-46.21
340.40	45.65	V	-52.10	-7.69	2.32	-62.12	-13.00	-49.12
513.06	43.33	V	-50.38	-7.73	2.84	-60.95	-13.00	-47.95
641.10	41.77	V	-47.27	-7.81	3.14	-58.21	-13.00	-45.21
936.95	33.57	V	-51.08	-7.99	3.86	-62.93	-13.00	-49.93
3464.80	60.99	V	-37.85	12.53	7.98	-33.29	-13.00	-20.29
5197.20	56.03	V	-35.69	12.85	9.98	-32.83	-13.00	-19.83
6929.60	46.50	V	-37.33	11.72	11.61	-37.22	-13.00	-24.22
8662.00		V		11.77	13.05		-13.00	
10394.40		V		11.75	14.59		-13.00	
12126.80		V		13.35	16.03		-13.00	
13859.20		V		11.98	17.16		-13.00	
15591.60		V		16.35	18.47		-13.00	
17324.00		V		14.02	19.62		-13.00	

Remark:

- 1 The emission behaviors belong to narrowband spurious emission.
- 2 Remark"---" means that the emission level is too low to be measured
- 3 The result basic equation calculation is as follows:
- 4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: HSUPA Band IV Mode

Operation Mode : TX CH Mid Mode Test Date: Sep. 13, 2011

Fundamental Frequency: 1732.6MHz Test By: Lion Temperature Pol: Hor : 25

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
194.90	41.53	Н	-59.72	-7.84	1.70	-69.26	-13.00	-56.26
257.95	50.36	Н	-48.61	-7.89	2.02	-58.53	-13.00	-45.53
340.40	41.73	Н	-55.56	-7.69	2.32	-65.58	-13.00	-52.58
384.05	43.35	Н	-53.33	-7.65	2.46	-63.44	-13.00	-50.44
641.10	39.65	Н	-50.24	-7.81	3.14	-61.19	-13.00	-48.19
939.86	33.99	Н	-50.35	-7.99	3.86	-62.20	-13.00	-49.20
3464.80	62.10	Н	-36.88	12.53	7.98	-32.32	-13.00	-19.32
5197.20	53.92	Н	-37.99	12.85	9.98	-35.13	-13.00	-22.13
6929.60	54.88	Н	-28.94	11.72	11.61	-28.83	-13.00	-15.83
8662.00		Н		11.77	13.05		-13.00	
10394.40		Н		11.75	14.59		-13.00	
12126.80		Н		13.35	16.03		-13.00	
13859.20		Н		11.98	17.16		-13.00	
15591.60		Н		16.35	18.47		-13.00	
17324.00		Н		14.02	19.62		-13.00	

Remark:

- 1 The emission behaviors belong to narrowband spurious emission.
- 2 Remark"---" means that the emission level is too low to be measured
- 3 The result basic equation calculation is as follows:
- 4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: HSUPA Band IV Mode

Operation Mode : TX CH High Mode Test Date: Sep. 13, 2011

Fundamental Frequency: 1752.6 MHz Test By: Lion Temperature Pol: Ver : 25

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
194.90	45.87	V	-55.45	-7.84	1.70	-64.99	-13.00	-51.99
257.95	49.91	V	-49.72	-7.89	2.02	-59.63	-13.00	-46.63
340.40	45.70	V	-52.05	-7.69	2.32	-62.07	-13.00	-49.07
384.05	44.70	V	-51.48	-7.65	2.46	-61.60	-13.00	-48.60
641.10	42.38	V	-46.66	-7.81	3.14	-57.60	-13.00	-44.60
932.10	33.68	V	-50.99	-7.98	3.85	-62.82	-13.00	-49.82
3505.20	62.17	V	-36.64	12.61	8.04	-32.06	-13.00	-19.06
5257.80	56.58	V	-35.00	12.91	10.04	-32.13	-13.00	-19.13
7010.40	46.02	V	-37.39	11.65	11.69	-37.44	-13.00	-24.44
8763.00		V		11.80	13.13		-13.00	
10515.60		V		11.66	14.68		-13.00	
12268.20		V		13.54	16.15		-13.00	
14020.80		V		11.67	17.28		-13.00	
15773.40		V		16.75	18.60		-13.00	
17526.00		V		13.21	19.76		-13.00	

Remark:

- 1 The emission behaviors belong to narrowband spurious emission.
- 2 Remark"---" means that the emission level is too low to be measured
- 3 The result basic equation calculation is as follows:
- 4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: HSUPA Band IV Mode

Operation Mode : TX CH High Mode Test Date: Sep. 13, 2011

Fundamental Frequency: 1752.6 MHz Test By: Lion Temperature Pol: Hor : 25

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
194.90	40.60	Н	-60.65	-7.84	1.70	-70.19	-13.00	-57.19
257.95	51.10	Н	-47.87	-7.89	2.02	-57.79	-13.00	-44.79
340.40	41.67	Н	-55.62	-7.69	2.32	-65.64	-13.00	-52.64
513.06	39.39	Н	-53.61	-7.73	2.84	-64.18	-13.00	-51.18
641.10	39.08	Н	-50.81	-7.81	3.14	-61.76	-13.00	-48.76
934.04	33.64	Н	-50.77	-7.98	3.85	-62.61	-13.00	-49.61
3505.20	60.97	Н	-37.96	12.61	8.04	-33.38	-13.00	-20.38
5257.80	56.54	Н	-35.23	12.91	10.04	-32.37	-13.00	-19.37
7010.40	55.21	Н	-28.19	11.65	11.69	-28.24	-13.00	-15.24
8763.00		Н		11.80	13.13		-13.00	
10515.60		Н		11.66	14.68		-13.00	
12268.20		Н		13.54	16.15		-13.00	
14020.80		Н		11.67	17.28		-13.00	
15773.40		Н		16.75	18.60		-13.00	
17526.00		Н		13.21	19.76		-13.00	

Remark:

- 1 The emission behaviors belong to narrowband spurious emission.
- 2 Remark"---" means that the emission level is too low to be measured
- 3 The result basic equation calculation is as follows:
- 4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: HSUPA Band V Mode

: TX CH Low Mode Operation Mode Test Date: Sep. 13, 2011

Fundamental Frequency: 826.40MHz Test By: Lion Temperature Pol: Ver : 25

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
190.05	43.66	V	-57.23	-7.83	1.69	-66.74	-13.00	-53.74
257.95	49.27	V	-50.36	-7.89	2.02	-60.27	-13.00	-47.27
340.40	36.72	V	-61.03	-7.69	2.32	-71.05	-13.00	-58.05
513.06	44.07	V	-49.64	-7.73	2.84	-60.21	-13.00	-47.21
641.10	42.06	V	-46.98	-7.81	3.14	-57.92	-13.00	-44.92
917.55	34.22	V	-50.48	-7.97	3.82	-62.27	-13.00	-49.27
1652.80	66.14	V	-38.44	9.30	5.23	-34.37	-13.00	-21.37
2479.20	59.68	V	-41.28	10.07	6.54	-37.75	-13.00	-24.75
3305.60	45.31	V	-53.56	12.19	7.73	-49.10	-13.00	-36.10
4132.00		V		12.62	8.87		-13.00	
4958.40		V		12.65	9.75		-13.00	
5784.80		V		13.58	10.55		-13.00	
6611.20		V		12.03	11.31		-13.00	
7437.60		V		11.48	12.12		-13.00	
8264.00		V		11.50	12.73		-13.00	

Remark:

- 1 The emission behaviors belong to narrowband spurious emission.
- 2 Remark"---" means that the emission level is too low to be measured
- 3 The result basic equation calculation is as follows:
- 4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: HSUPA Band V Mode

: TX CH Low Mode Operation Mode Test Date: Sep. 13, 2011

Fundamental Frequency: 826.40MHz Test By: Lion Temperature Pol: Hor : 25

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
199.75	40.57	Н	-61.06	-7.84	1.71	-70.61	-13.00	-57.61
257.95	49.64	Н	-49.33	-7.89	2.02	-59.25	-13.00	-46.25
321.00	41.75	Н	-55.72	-7.80	2.25	-65.77	-13.00	-52.77
513.06	40.85	Н	-52.15	-7.73	2.84	-62.72	-13.00	-49.72
641.10	38.94	Н	-50.95	-7.81	3.14	-61.90	-13.00	-48.90
943.74	33.66	Н	-50.63	-7.99	3.87	-62.49	-13.00	-49.49
1652.80	68.35	Н	-36.05	9.30	5.23	-31.98	-13.00	-18.98
2479.20	59.50	Н	-41.37	10.07	6.54	-37.83	-13.00	-24.83
3305.60	46.41	Н	-52.68	12.19	7.73	-48.22	-13.00	-35.22
4132.00		Н		12.62	8.87		-13.00	
4958.40		Н		12.65	9.75		-13.00	
5784.80		Н		13.58	10.55		-13.00	
6611.20		Н		12.03	11.31		-13.00	
7437.60		Н		11.48	12.12		-13.00	
8264.00		Н		11.50	12.73		-13.00	

Remark:

- 1 The emission behaviors belong to narrowband spurious emission.
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Radiated Spurious Emission Measurement Result: HSUPA Band V Mode

Operation Mode : TX CH Mid Mode Test Date: Sep. 13, 2011

Fundamental Frequency: 836.00MHz Test By: Lion Temperature Pol: Ver : 25

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
187.14	43.52	V	-57.11	-7.83	1.68	-66.61	-13.00	-53.61
257.95	50.70	V	-48.93	-7.89	2.02	-58.84	-13.00	-45.84
321.00	44.05	V	-53.94	-7.80	2.25	-63.99	-13.00	-50.99
384.05	43.99	V	-52.19	-7.65	2.46	-62.31	-13.00	-49.31
641.10	42.07	V	-46.97	-7.81	3.14	-57.91	-13.00	-44.91
914.64	34.36	V	-50.35	-7.96	3.82	-62.13	-13.00	-49.13
1673.20	66.58	V	-37.98	9.36	5.27	-33.88	-13.00	-20.88
2509.80	61.03	V	-39.75	10.09	6.58	-36.25	-13.00	-23.25
3346.40	46.29	V	-52.57	12.28	7.79	-48.09	-13.00	-35.09
4183.00		V		12.62	8.93		-13.00	
5019.60		V		12.67	9.81		-13.00	
5856.20		V		13.68	10.62		-13.00	
6692.80		V		11.95	11.39		-13.00	
7529.40		V		11.45	12.20		-13.00	
8366.00		V		11.59	12.81		-13.00	

Remark:

- 1 The emission behaviors belong to narrowband spurious emission.
- 2 Remark"---" means that the emission level is too low to be measured
- 3 The result basic equation calculation is as follows:
- 4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: HSUPA Band V Mode

Operation Mode : TX CH Mid Mode Test Date: Sep. 13, 2011

Fundamental Frequency: 836.00MHz Test By: Lion Temperature Pol: Hor : 25

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
170.65	40.31	Н	-59.06	-7.82	1.64	-68.52	-13.00	-55.52
257.95	51.53	Н	-47.44	-7.89	2.02	-57.36	-13.00	-44.36
289.96	41.54	Н	-56.43	-7.91	2.13	-66.48	-13.00	-53.48
513.06	41.41	Н	-51.59	-7.73	2.84	-62.16	-13.00	-49.16
641.10	39.30	Н	-50.59	-7.81	3.14	-61.54	-13.00	-48.54
934.04	33.59	Н	-50.82	-7.98	3.85	-62.66	-13.00	-49.66
1673.20	71.20	Н	-33.18	9.36	5.27	-29.08	-13.00	-16.08
2509.80	60.01	Н	-40.69	10.09	6.58	-37.19	-13.00	-24.19
3346.40	49.06	Н	-50.00	12.28	7.79	-45.52	-13.00	-32.52
4183.00		Н		12.62	8.93		-13.00	
5019.60		Н		12.67	9.81		-13.00	
5856.20		Н		13.68	10.62		-13.00	
6692.80		Н		11.95	11.39		-13.00	
7529.40		Н		11.45	12.20		-13.00	
8366.00		Н		11.59	12.81		-13.00	

Remark:

- 1 The emission behaviors belong to narrowband spurious emission.
- 2 Remark"---" means that the emission level is too low to be measured
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Radiated Spurious Emission Measurement Result: HSUPA Band V Mode

Operation Mode : TX CH High Mode Test Date: Sep. 13, 2011

Fundamental Frequency: 846.60 MHz Test By: Lion Temperature Pol: Ver : 25

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
160.95	43.44	V	-54.83	-7.81	1.62	-64.26	-13.00	-51.26
257.95	50.32	V	-49.31	-7.89	2.02	-59.22	-13.00	-46.22
335.55	37.89	V	-59.92	-7.72	2.31	-69.95	-13.00	-56.95
513.06	43.43	V	-50.28	-7.73	2.84	-60.85	-13.00	-47.85
641.10	40.95	V	-48.09	-7.81	3.14	-59.03	-13.00	-46.03
943.74	33.90	V	-50.74	-7.99	3.87	-62.60	-13.00	-49.60
1693.20	69.04	V	-35.50	9.42	5.30	-31.38	-13.00	-18.38
2539.80	63.18	V	-37.49	10.18	6.62	-33.94	-13.00	-20.94
3386.40	48.44	V	-50.41	12.36	7.85	-45.90	-13.00	-32.90
4233.00	42.70	V	-53.00	12.63	8.99	-49.36	-13.00	-36.36
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	

Remark:

- 1 The emission behaviors belong to narrowband spurious emission.
- 2 Remark"---" means that the emission level is too low to be measured
- 3 The result basic equation calculation is as follows:
- 4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dBd/dBi) Cable loss (dB)

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Radiated Spurious Emission Measurement Result: HSUPA Band V Mode

Operation Mode : TX CH High Mode Test Date: Sep. 13, 2011

Fundamental Frequency: 846.60MHz Test By: Lion Temperature Pol: Hor : 25

Humidity : 65%

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
192.96	44.01	Н	-57.09	-7.83	1.69	-66.62	-13.00	-53.62
257.95	52.07	Н	-46.90	-7.89	2.02	-56.82	-13.00	-43.82
316.15	38.45	Н	-59.06	-7.83	2.23	-69.12	-13.00	-56.12
513.06	40.22	Н	-52.78	-7.73	2.84	-63.35	-13.00	-50.35
641.10	38.99	Н	-50.90	-7.81	3.14	-61.85	-13.00	-48.85
932.10	33.96	Н	-50.48	-7.98	3.85	-62.31	-13.00	-49.31
1693.20	73.56	Н	-30.79	9.42	5.30	-26.67	-13.00	-13.67
2539.80	62.03	Н	-38.59	10.18	6.62	-35.03	-13.00	-22.03
3386.40	53.11	Н	-45.92	12.36	7.85	-41.41	-13.00	-28.41
4233.00	44.95	Н	-50.90	12.63	8.99	-47.26	-13.00	-34.26
5079.60		Н		12.73	9.87		-13.00	
5926.20		Н		13.79	10.69		-13.00	
6772.80		Н		11.87	11.47		-13.00	
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11. FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT

11.1. Standard Applicable:

According to FCC §2.1055(a) (1)

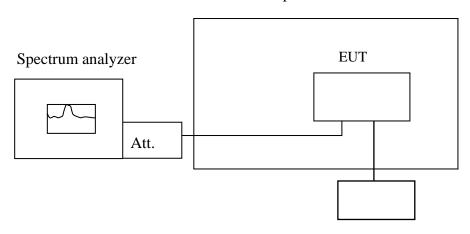
Frequency Tolerance: +/-2.5ppm for 850MHz band

+/-2.5ppm for 1900MHz band

§27.54: The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

11.2. Test Set-up:

Temperature Chamber



Variable DC Power Supply

Measurement setup for testing on Antenna connector

11.3. 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.

11.4. Measurement Equipment Used:

Refer to section 2.4 in this report

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11.5. Measurement Result:

Reference Frequency: GPRS 850 Mid Channel 836.6 MHz @ 20°C					
	Limit	: +/- 2.5 ppm = 20	91 Hz		
Power Supply	Environment	Frequency	Dolto (Hz)	Limit (Hz)	
Vac	Temperature ()	(MHz)	Delta (Hz)	Limit (Hz)	
12	-30	836.600007	-4.00	2091	
12	-20	836.600009	-6.00	2091	
12	-10	836.600012	-9.00	2091	
12	0	836.600011	-8.00	2091	
12	10	836.600007	-4.00	2091	
12	20	836.600009	-6.00	2091	
12	30	836.600003	0.00	2091	
12	40	836.600007	-4.00	2091	
12	50	836.600009	-6.00	2091	

Refer	Reference Frequency: GPRS 1900 Mid Channel 1880 MHz @ 20°C				
	Limit	+/-2.5 ppm = 470	00 Hz		
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)	
Vac	Temperature ($^{\circ}$ C)	(MHz)	Delta (112)	Lillit (112)	
12	-30	1880.000019	-7.00	4700	
12	-20	1880.000012	0.00	4700	
12	-10	1880.000008	4.00	4700	
12	0	1880.000012	0.00	4700	
12	10	1880.000011	1.00	4700	
12	20	1880.000007	5.00	4700	
12	30	1880.000012	0.00	4700	
12	40	1880.000013	-1.00	4700	
12	50	1880.000011	1.00	4700	

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Reference Fre	Reference Frequency: WCDMA II Mid Channel 1880 (ARFCN9400) MHz @ 20°C				
	Limit	+/-2.5 ppm = 470	00 Hz		
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)	
Vac	Temperature ($^{\circ}$ C)	(MHz)	Della (HZ)	Lilliit (HZ)	
12	-30	1879.999991	10.00	4700	
12	-20	1879.999992	9.00	4700	
12	-10	1879.999997	4.00	4700	
12	0	1879.999992	9.00	4700	
12	10	1879.999995	6.00	4700	
12	20	1879.999998	3.00	4700	
12	30	1880.000001	0.00	4700	
12	40	1880.000003	-2.00	4700	
12	50	1880.000002	-1.00	4700	

Reference Frequency: WCDMA IV Mid Channel 1732.6 (ARFCN1413) MHz @ 20°C						
	Limit: +/- 2.5 ppm = 4700 Hz					
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)		
Vac	Temperature ($^{\circ}$ C)	(MHz)	Dena (112)	Lillit (112)		
12	-30	1732.600004	-6.00	4700		
12	-20	1732.600003	-5.00	4700		
12	-10	1732.600001	-3.00	4700		
12	0	1732.600000	-2.00	4700		
12	10	1732.599998	0.00	4700		
12	20	1732.599996	2.00	4700		
12	30	1732.599998	0.00	4700		
12	40	1732.599993	5.00	4700		
12	50	1732.599995	3.00	4700		



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Reference Fre	Reference Frequency: WCDMA V Mid Channel 836.6 (ARFCN4183) MHz @ 20°C				
	Limit	+/-2.5 ppm = 20	90 Hz		
Power Supply	Environment	Frequency	Dolto (Hg)	Limit (Hg)	
Vac	Temperature ($^{\circ}$ C)	(MHz)	Delta (Hz)	Limit (Hz)	
12	-30	836.599999	-3.00	2091	
12	-20	836.599991	5.00	2091	
12	-10	836.599997	-1.00	2091	
12	0	836.599995	1.00	2091	
12	10	836.599991	5.00	2091	
12	20	836.599997	-1.00	2091	
12	30	836.599996	0.00	2091	
12	40	836.599995	1.00	2091	
12	50	836.599993	3.00	2091	

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12. FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT

12.1. Standard Applicable:

According to FCC §2.1055(a) (1)

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

+/-2.5ppm for 1900MHz band

§27.54: The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

12.2. Test Set-up:

Refer to section 10.2 in this report

12.3. Measurement Procedure:

Set chamber temperature to 25°C. 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.

12.4. Measurement Equipment Used:

Refer to section 2.4 in this report

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12.5. Measurement Result:

Reference Frequency: GPRS 850 Mid Channel 836.6 MHz @ 27					
	Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Uz)	
Vac	Temperature (°ℂ)	(MHz)	Dena (HZ)	Limit (Hz)	
126.5	25.00	836.600005	-4.00	2091.00	
110.0	25.00	836.600001	0.00	2091.00	
93.5	25.00	836.600004	-3.00	2091.00	

Reference Frequency: GPRS 1900 Mid Channel 1880 MHz @ 27					
	Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply	Environment	Frequency	Dolto (Uz)	Limit (Uz)	
Vac	Temperature (°C)	(MHz)	Delta (Hz)	Limit (Hz)	
126.5	25	1880.000003	2.00	4700	
110.0	25	1880.000005	0.00	4700	
93.5	25	1880.000002	3.00	4700	

Reference Frequency: WCDMA II Mid Channel 1880 (ARFCN9400) MHz					
	Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply	Environment	Frequency	Dolto (II-) Limit (II-)		
Vac	Temperature (°C)	(MHz)	Delta (Hz)	Limit (Hz)	
126.5	25	1879.999995	-3.00	4700	
110.0	25	1879.999992	0.00	4700	
93.5	25	1879.999991	1.00	4700	

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Reference Frequency: WCDMA IV Mid Channel 1732.6 (ARFCN1413) MHz					
	Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply	Environment	Frequency	Dolto (Hz)	Limit (Uz)	
Vac	Temperature (°C)	(MHz)	Delta (Hz)	Limit (Hz)	
126.5	25	1732.599999	-2.00	4700	
110.0	25	1732.599997	0.00	4700	
93.5	25	1732.600002	-5.00	4700	

Reference Frequency: WCDMA V Mid Channel 836.6 (ARFCN4183) MHz					
	Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply	Environment	Frequency	Dolto (Hz)	Limit (Hz)	
Vac	Temperature (°C)	(MHz)	Delta (Hz)	Limit (Hz)	
126.5	25.00	836.599994	2.00	2091.00	
110.0	25.00	836.599996	0.00	2091.00	
93.5	25.00	836.599991	5.00	2091.00	