ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

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

OF

Product Name:	**VTC6110-ATT4**
Brand Name:	**N/A**
Model No.:	**VTC6110-ATT4**
Model Difference:	**N/A**
FCC ID:	**YHI-VTC6110ATT4**
Report No.:	**EH/2012/70043**
Issue Date:	**Aug. 27, 2012**
FCC Rule Part:	**2 , 22H & 24E & 27**
Prepared for:	**NEXCOM international Co., LTD 15F,No.920, Chung-Cheng Road Zhonghe Dist., New Lionpei City Lionwan 235,R.O.C**
Prepared by:	**SGS Lionwan Ltd. No.134, Wu Kung Road, New Lionpei Industrial Park, Wuku District, New Lionpei City, Lionwan 24803**

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VERIFICATION OF COMPLIANCE

Applicant:	NEXCOM international Co., LTD 15F,No.920, Chung-Cheng Road Zhonghe Dist., New Lionpei City Lionwan 235,R.O.C
Product Name:	VTC6110-ATT4
Brand Name:	N/A
Model No.:	VTC6110-ATT4
Model Difference:	N/A
FCC ID:	YHI-VTC6110ATT4
File Number:	EH/2012/70043
Date of test:	Jul. 12, 2012 ~ Aug. 27, 2012
Date of EUT Received:	Jul. 12, 2011

We hereby certify that:

The above equipment was tested by SGS Lionwan Ltd. Electronics & Communication Laboratory
The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in TIA/EIA-603-C-2004, Issue 3 of RSS-Gen and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rule PART 22 subpart H, PART 24 subpart E, PART 27.
The test results of this report relate only to the tested sample identified in this report.

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Test By:	Lion Wang	***Date:***	Aug. 27, 2012
	Lion Wang / Engineer		
Prepared By:	Bondi Liu	***Date:***	Aug. 27, 2012
	Bondi Liu / Sr . Engineer		
Approved By:	Jim Chang	***Date:***	Aug. 27, 2012
	Jim Chang / Supervisor		

Version

Version No.	Date	Description
00	Aug. 27, 2012	Initial creation of document

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GENERAL PRODUCT INFORMATION

General:

Product Name:	VTC6110-ATT4
Brand Name:	N/A
Model No.:	VTC6110-ATT4
Model Difference:	N/A
Power Supply:	19Vdc by AC/DC power adapter

GPRS / WCDMA LTE:

Cellular Phone Standards Frequency Range:	GPRS 850, Class 10	824.2 MHz– 848.8 MHz	33 dBm
	EDGE 850, Class 12	824.2 MHz– 848.8 MHz	27 dBm
	GPRS 1900, Class 10	1850.2MHz – 1909.8MHz	30 dBm
	EDGE 1900, Class 12	1850.2MHz – 1909.8MHz	26 dBm
	WCDMA/HSUPA/HSDPA Band II	1852.4MHz – 1907.6MHz	24 dBm
	WCDMA/HSUPA/HSDPA Band V	826.4MHz - 846.6MHz	24 dBm
	5MHz BW LTE-Band 4	1712.5MHz – 1752.5MHz	23 dBm
	10MHz BW LTE-Band 4	1715MHz – 1750MHz	23 dBm
	5MHz BW LTE-Band 17	706.5MHz – 713.5MHz	23 dBm
	10MHz BW LTE-Band 17	709MHz - 711MHz	23 dBm
IMEI:	012626000223253		
Hardware Version:	N/A		
Software Version:	N/A		

This test report applies for GPRS/EDGE 850 1900,WCDMA / HSDPA / HSUPA Band2 and 5 and LTE Band 4 and 17.

Final Amplifier Voltage and Current Information:

Test Mode	DC voltage (V)	DC current (mA)
GPRS 850	19 Vdc	220
GPRS 1900	19 Vdc	210
EDGE 850	19 Vdc	230
EDGE 1900	19 Vdc	220
WCDMA B2	19 Vdc	220
WCDMA B5	19 Vdc	230
HSDPA B2	19 Vdc	240
HSDPA B5	19 Vdc	250
HSUPA B2	19 Vdc	230
HSUPA B5	19 Vdc	240
LTE B4 5M QPSK	19 Vdc	240
LTE B4 5M 16QAM	19 Vdc	230
LTE B4 10M QPSK	19 Vdc	250
LTE B4 10M 16QAM	19 Vdc	240
LTE B17 5M QPSK	19 Vdc	240
LTE B17 5M 16QAM	19 Vdc	230
LTE B17 10M QPSK	19 Vdc	240
LTE B17 10M 16QAM	19 Vdc	230

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

This submittal(s) (test report) is intended for **FCC ID: YHI-VTC6110ATT4** filing to comply with Section Part 22 subpart H, Part 24 subpart E and Part27 subpart C & subpart L of the FCC CFR 47 Rules.

1.2. Test Methodology

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

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

1.3. Test Facility

The measurement facilities used to collect the 3m Radiated Emission and AC power line conducted data are located on the address of SGS Lionwan Ltd. Electronics & Communication Laboratory No. 134, Wu Kung Rd., Wuku Industrial Zone, Lionpei Country, Lionwan 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 Lionwan Ltd. Electronics & Communication Laboratory No. 29, Pau-Tou-Tsuo Valley Chia-Pau Tsuen, Linkou Hsiang, Lionpei county, which is constructed and calibrated to meet the CISPR 22/EN 55022 requirements. SGS Site No. 1(3 &10 meters) and FCC Registration Number: 94644.

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

1.4. Special Accessories

Not available for this EUT intended for grant.

1.5. Equipment Modifications

Not available for this EUT intended for grant.

2. SYSTEM TEST CONFIGURATION

2.1. EUT Configuration

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

2.2. EUT Exercise

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

2.3. Test Procedure

2.3.1 AC Power Line Conducted Emissions

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

2.3.2 Conducted Measurement at Antenna Port:

According to measurement procured TIA/EIA 603C and RSS-Gen Issue 3, the EUT is placed on a turn table which is 0.8 m above ground plane. A low loss of RF cable was used to connect the antenna port of EUT to measurement equipment.

2.3.3 Radiated Emissions (ERP/EIRP):

According to measurement procured TIA/EIA 603C and RSS-Gen Issue 3, The EUT is a placed on as turn table which is 0.8 m above ground plane. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both Horizontal and Vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes and measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made “while keeping the antenna in the ‘cone of radiation’ from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response.” is still within the 3dB illumination BW of the measurement antenna according to the requirements in Section 8 and 13 of ANSI C63.4:2003.

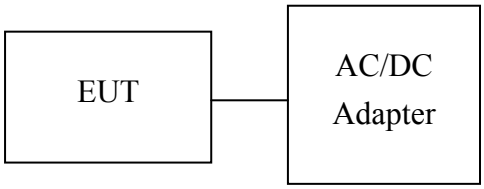
2.4. Measurement Equipment Used:

Conducted Emission Test Site					
EQUIPMENT TYPE	**MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL DUE.**
Spectrum Analyzer	Agilent	E4446A	MY51100003	04/15/2011	04/14/2013
Spectrum Analyzer	Agilent	E4440A	US41160416	03/17/2012	03/16/2014
Radio Communication Analyzer	R & S	CMU200	102189	08/12/2012	08/11/2014
WIDEB. RADIO COMIN. TESTER	R & S	CMW500	101582	07/12/2012	07/11/2013
Temperature Chamber	TERCHY	MHG-120LF	911009	04/16/2012	04/15/2014
DC Block	Mini-Circuits	BLK-18-S+	1	02/28/2012	02/27/2013
Attenuator	Mini-Circuit	BW-S10W2+	002	02/28/2012	02/27/2013
Splitter	Agilent	11636B	N/A	02/28/2012	02/27/2013
DC Power Supply	Agilent	E3640A	MY40005907	07/15/2011	07/14/2013

ERP, EIRP MEASUREMENT EQUIPMENT List 966 Chamber					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY51100003	04/15/2011	04/14/2013
EXA Spectrum Analyzer	Agilent	N9010A	MY50420195	02/15/2011	02/14/2013
Spectrum Analyzer	R&S	FSV-30	101398	10/18/2011	10/17/2013
Bilog Antenna	SCHWAZBECK	VULB9168	378	01/10/2012	01/09/2014
Bilog Antenna	SCHWAZBECK	VULB9160	3158	11/24/2011	11/23/2013
Dipole Antenna	SCHWAZBECK	VHAP	908/909	07/17/2012	07/16/2014
Dipole Antenna	SCHWAZBECK	UHAP	891/892	07/17/2012	07/16/2014
Horn antenna	ETS.LINDGREN	3117	123995	05/19/2011	05/18/2013
Horn antenna	ETS.LINDGREN	3117	123995	05/19/2011	05/18/2013
Horn Antenna	Schwarzbeck	BBHA9170	184	01/17/2012	01/17/2014
Horn Antenna	Schwarzbeck	BBHA9170	185	07/11/2011	07/10/2013
RF amplifier	Miteq	AMF-6F-2600 400-40-8P	971576	12/28/2011	12/27/2012
Signal Generator	R&S	SMR40	100210	02/02/2012	02/01/2014
Signal Generator	Agilent	E4438C	MY45093613	07/15/2011	07/14/2013
Pre-Amplifier	Agilent	8447D	1937A02834	01/04/2012	01/03/2013
Pre-Amplifier	EMC Instruments Corp.	EMC0126530	980038	01/04/2012	01/03/2013
Attenuator	Mini-Circuit	BW-S10W2+	004	02/28/2012	02/27/2013
Radio Communication Analyzer	R & S	CMU200	102189	08/12/2012	08/11/2014
WIDEB. RADIO COMIN. TESTER	R & S	CMW500	101582	07/12/2012	07/11/2014
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	966_Tx	10m	01/04/2012	01/03/2013
Low Loss Cable	HUBER+SUHNER	966_Rx	3m	01/04/2012	01/03/2013
Filter 800-1000	Micro-Tronics	EWT	M2	02/28/2012	02/28/2013
Filter 1800-2000	Micro-Tronics	EWT	M2	02/28/2012	02/28/2013
1GHz High Pass Filter	Micro-Tronics	HPM50108	32	02/28/2012	02/27/2013
2GHz High Pass Filter	Micro-Tronics	HPM50110	36	02/28/2012	02/27/2013
3m Site NSA	SGS	966 chamber	N/A	07/15/2012	07/14/2013

2.5. Configuration of Tested System

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



Remote Side

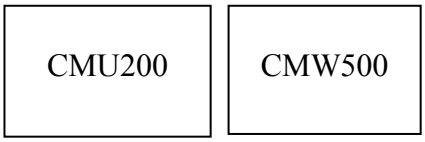


Table 2-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/ Type No.	Series No.	Data Cable	Power Cord
1.	Universal Radio Communication Tester	R&S	CMU200	102189	shielded	Un-shielded
2.	Universal Radio Communication Tester	R&S	CMW500	101582	shielded	Un-shielded
3.	AC/DC Adapter	FSP GROUP INC	FSP120-AAB	N/A	shielded	Un-shielded

3. SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
§2.1046(a) §22.913(a)(2) §24.232(c) §27.50(c)(10) §27.50(d)(4)	RF Power Output	Compliant
§2.1046(a) §22.913(a)(2) §24.232(c) §27.50(c)(10) §27.50(d)(4)	ERP/ EIRP measurement	Compliant
§2.1049(h)	99% Occupied Bandwidth	Compliant
§2.1051 §22.917(a) §24.238(a) §27.53(g)	Out of Band Emissions at Antenna Terminals and Band Edge	Compliant
§2.1053 §22.917(a) §24.238(a) §27.53(c)(2) §27.53(g) §27.53(h)	Field Strength of Spurious Radiation	Compliant
§27.50(i)	Peak to Average Ratio	Compliant
§27.53f	Spurious emission in 1559 -1610MHz Band	N/A
§2.1055(a)(1) §22.355 §24.235 §27.54	Frequency Stability vs. Temperature	Compliant
§2.1055(d)(2) §22.355 §24.235 §27.54	Frequency Stability vs. Voltage	Compliant

Max ERP/EIRP measurement result:

	dBm		W
GPRS 850 Band	22.16	ERP	0.164
GPRS 1900 Band	26.69	EIRP	0.467
EDGE 850 Band	19.50	ERP	0.089
EDGE 1900 Band	23.54	EIRP	0.226
WCDMA Band II	22.00	EIRP	0.158
WCDMA Band V	15.33	ERP	0.034
HSUPA Band II	22.68	EIRP	0.185
HSUPA Band V	15.90	ERP	0.039
HSDPA Band II	23.34	EIRP	0.216
HSDPA Band V	16.04	ERP	0.040
LTE Band 4/5MMz /QPSK RB 1 Offset 24	20.69	EIRP	0.117
LTE Band 4/5MMz /16QAM RB 1 Offset 24	24.82	EIRP	0.303
LTE Band 4/5MMz /QPSK RB 1 Offset 0	19.58	EIRP	0.091
LTE Band 4/5MMz /16QAM RB 1 Offset 0	23.80	EIRP	0.240
LTE Band 4/10MMz /QPSK RB 1 Offset 49	21.05	EIRP	0.127
LTE Band 4/10MMz /16QAM RB 1 Offset 49	20.65	EIRP	0.116
LTE Band 4/10MMz /QPSK RB 1 Offset 0	23.95	EIRP	0.248
LTE Band 4/10MMz /16QAM RB 1 Offset 0	22.16	EIRP	0.164
LTE Band 17/5MMz /QPSK RB 1 Offset 24	15.33	ERP	0.034
LTE Band 17/5MMz /16QAM RB 1 Offset 24	15.86	ERP	0.039
LTE Band 17/5MMz /QPSK RB 1 Offset 0	15.36	ERP	0.034
LTE Band 17/5MMz /16QAM RB 1 Offset 0	15.68	ERP	0.037
LTE Band 17/10MMz /QPSK RB 1 Offset 49	16.30	ERP	0.043
LTE Band 17/10MMz /16QAM RB 1 Offset 49	16.17	ERP	0.041
LTE Band 17/10MMz /QPSK RB 1 Offset 0	14.89	ERP	0.031
LTE Band 17/10MMz /16QAM RB 1 Offset 0	15.66	ERP	0.037

4. DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition.

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

The field strength of spurious radiation emission was measured as EUT stand-up position(H mode)and lie down position (E1, E2 mode) for GSM/EDGE and WCDMA Band II and V with power adaptor. The worst-case of E2 position for GSM850/ GSM1900/ WCDMA Band II Band V and LTE Band 4 and 17 were reported.

In comparison among the RSE data of the all modulations (GPRS/EDGE/WCDMA/HSPA/HSPA+) we found that while the radiation is in GPRS mode, the spurious emission is found to be the worst, and therefore documenting the data of radiated spurious emission on GPRS 850/1900 mode would be representative sufficiently.

The RSE Data for all combinations have been measured, and only the results being measured close to the required limit are shown on the report by correlation.

In comparison among all CSE data of the variety of combination on LTE band 4 & 17, respectively, It's found to generate the highest emission at 5MHz and 10 MHz Transmission Bandwidth while RB size = 1 with 0 offset. Be aware of that only CSE data that yields the worst measurement with supported modulation scheme (QPSK, 16QAM) are shown on the corresponding section.

For Peak to Average Ratio test, all combination (RB arrangement with different modulation scheme) has been evaluated, the data with the following setting: RB number = 25; Offset = 0 for 5MHz with 16QAM, and RB number = 50; Offset =0 for 10MHz with 16QAM are shown as representative plot on the report.

For Band edge, all combinations has been assessed and measured, only data output the emission close to limit are presented on the corresponding section of this report. The following lists the combinational setting of measurement representation as documents on the report.

Band 4		
QPSK		
	Low Channel	High Channel
5MHz	RB Size = 1 ; Offset = 0	RB Size = 1 ; Offset = 24
10MHz	RB Size = 1 ; Offset = 0	RB Size = 1 ; Offset = 49

Band 4		
16QAM		
	Low Channel	High Channel
5MHz	RB Size = 1 ; Offset = 0	RB Size = 1 ; Offset = 24
10MHz	RB Size = 1 ; Offset = 0	RB Size = 1 ; Offset = 49

Band 17		
QPSK		
	Low Channel	High Channel
5MHz	RB Size = 1 ; Offset = 0	RB Size = 1 ; Offset = 24
10MHz	RB Size = 1 ; Offset = 0	RB Size = 1 ; Offset = 49

Band 17		
16QAM		
	Low Channel	High Channel
5MHz	RB Size = 1 ; Offset = 0	RB Size = 1 ; Offset = 24
10MHz	RB Size = 1 ; Offset = 0	RB Size = 1 ; Offset = 49

5. MEASUREMENT UNCERLIONNTY FOR FIELD STRENGTH OF SPURIOUS RADIATION

Measurement uncerLionnty (Polarization : **Vertical**)	30MHz - 180MHz: 3.37dB
	180MHz -417MHz: 3.19dB
	0.417GHz-1GHz: 3.19dB
	1GHz - 18GHz: 4.04dB
	18GHz - 40GHz: 4.04dB

Measurement uncerLionnty (Polarization : **Horizontal**)	30MHz - 167MHz: 4.22dB
	167MHz -500MHz: 3.44dB
	0.5GHz-1GHz: 3.39dB
	1GHz - 18GHz: 4.08dB
	18GHz - 40GHz: 4.08dB

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(c)(10) Portable stations are limited to 3W
Part 27, 50(d)(4) Portable stations are limited to 1W

3GPP Power limitation for HSDPA and HSUPA

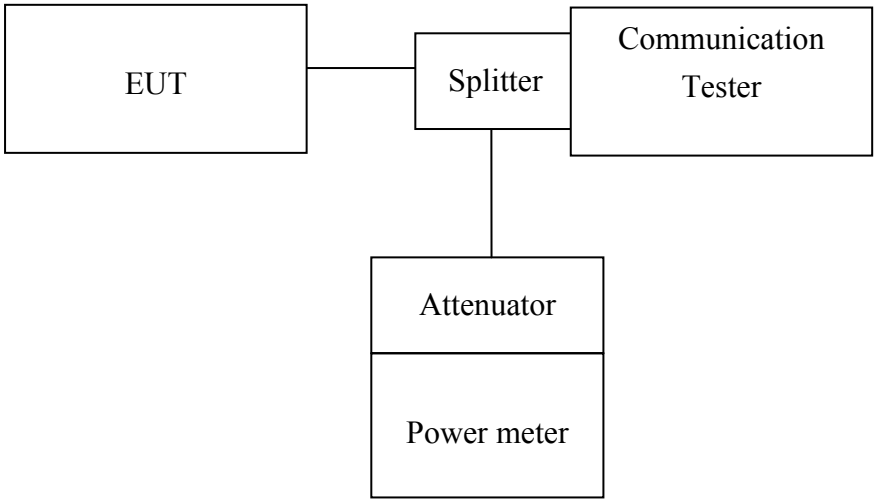
Maximum Output Powers for HSDPA

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

Maximum Output Powers for HSUPA

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

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

6.4. Measurement Equipment Used:

Refer to section 2.4 in this report

6.5. Measurement Result:

6.5.1. RF Conducted Output Power

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

Result:

Frequency (MHz)	CH	1 Time Slot				2 Time Slot			
		GMSK Mode		8-PSK Mode		GMSK Mode		8-PSK Mode	
		Peak Power (dBm)	AV Power (dBm)	Peak Power (dBm)	AV Power (dBm)	Peak Power (dBm)	AV Power (dBm)	Peak Power (dBm)	AV Power (dBm)
824.2	128	31.40	31.20	28.40	25.20	31.30	31.00	28.30	25.10
836.6	190	31.40	31.20	28.60	25.40	31.30	31.10	28.50	25.30
848.8	251	31.80	31.60	28.70	25.50	31.70	31.50	28.60	25.40
1850.2	512	27.30	27.10	25.80	22.60	27.20	27.00	25.60	22.40
1880.0	661	27.50	27.30	25.80	22.60	27.30	27.10	25.60	22.40
1909.8	810	27.70	27.50	26.20	23.00	27.40	27.20	26.00	22.80

Frequency (MHz)	CH	3 Time Slot		4 Time Slot	
		8-PSK Mode		8-PSK Mode	
		Peak Power (dBm)	AV Power (dBm)	Peak Power (dBm)	AV Power (dBm)
824.2	128	28.10	24.90	28.10	24.90
836.6	190	28.30	25.20	28.30	25.20
848.8	251	28.40	25.20	28.40	25.20
1850.2	512	25.40	22.20	25.30	22.10
1880.0	661	25.50	22.30	25.30	22.10
1909.8	810	25.90	22.70	25.60	22.40

offset : 850:0.4 dBm, 1900:0.5 dBm

6.5.1.2.: WCDMA mode

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

Results:

EUT Mode	Frequency (MHz)	CH	Peak Power (dBm)	Avg. Power (dBm)
WCDMA Band II	1852.4	9262	24.59	21.05
	1880.0	9400	24.57	21.04
	1907.6	9538	23.97	20.72

EUT Mode	Frequency (MHz)	CH	Peak Power (dBm)	Avg. Power (dBm)
WCDMA Band V	826.4	4132	25.90	22.43
	836.6	4183	25.76	22.19
	846.6	4233	25.58	22.11

offset : b2:0.5 dbm b5:0.4 dbm

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

6.5.1.3.: MPR Table

LTE Band 4 _5 MHz

BW (MHz)	Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Conducted power(dBm)	Target Power(dBm)	MPR Target(dB)
5	QPSK	19975	1712.5	1	24	21.67	23	0
				1	0	21.84	23	0
				12	6	20.66	23	1
				25	0	20.74	23	1
		20175	1732.5	1	24	21.55	23	0
				1	0	21.65	23	0
				12	6	20.52	23	1
				25	0	20.49	23	1
		20375	1752.5	1	24	21.59	23	0
				1	0	21.87	23	0
				12	6	20.59	23	1
				25	0	20.57	23	1
5	16 QAM	19975	1712.5	1	24	21.22	23	1
				1	0	21.14	23	1
				12	6	19.81	23	2
				25	0	20.19	23	2
		20175	1732.5	1	24	20.97	23	1
				1	0	20.99	23	1
				12	6	19.59	23	2
				25	0	19.99	23	2
		20375	1752.5	1	24	20.98	23	1
				1	0	21.23	23	1
				12	6	19.69	23	2
				25	0	20.08	23	2

LTE Band 4 _10 MHz

BW (MHz)	Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Conducted power(dBm)	Target Power(dBm)	MPR Target(dB)
10	QPSK	20000	1715	1	49	21.48	23	0
				1	0	21.63	23	0
				25	12	20.81	23	1
				50	0	20.72	23	1
		20175	1732.5	1	49	21.65	23	0
				1	0	21.84	23	0
				25	12	20.58	23	1
				50	0	20.57	23	1
		20350	1750	1	49	21.37	23	0
				1	0	21.43	23	0
				25	12	20.77	23	1
				50	0	20.69	23	1
10	16 QAM	2000	1715	1	49	21.25	23	1
				1	0	21.31	23	1
				25	12	20.18	23	2
				50	0	19.92	23	2
		20175	1732.5	1	49	20.97	23	1
				1	0	21.24	23	1
				25	12	19.94	23	2
				50	0	19.73	23	2
		20350	1750	1	49	21.08	23	1
				1	0	21.13	23	1
				25	12	20.13	23	2
				50	0	19.86	23	2

LTE Band 17 _5 MHz

BW (MHz)	Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Conducted power(dBm)	Target Power(dBm)	MPR Target(dB)
5	QPSK	23755	706.5	1	24	21.96	23	0
				1	0	21.95	23	0
				12	6	20.63	23	1
				25	0	20.59	23	1
		23790	710	1	24	22.01	23	0
				1	0	21.95	23	0
				12	6	20.81	23	1
				25	0	20.64	23	1
		23825	713.5	1	24	21.67	23	0
				1	0	21.65	23	0
				12	6	20.81	23	1
				25	0	20.79	23	1
5	16 QAM	23755	706.5	1	24	21.26	23	1
				1	0	21.17	23	1
				12	6	19.77	23	2
				25	0	20.09	23	2
		23790	710	1	24	21.39	23	1
				1	0	21.36	23	1
				12	6	19.79	23	2
				25	0	20.02	23	2
		23825	713.5	1	24	20.19	23	1
				1	0	20.18	23	1
				12	6	20.17	23	2
				25	0	20.14	23	2

LTE Band 17 _10 MHz

BW (MHz)	Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Conducted power(dBm)	Target Power(dBm)	MPR Target(dB)
10	QPSK	23780	709	1	49	22.03	23	0
				1	0	21.82	23	0
				25	12	20.55	23	1
				50	0	20.52	23	1
		23790	710	1	49	21.91	23	0
				1	0	21.88	23	0
				25	12	20.69	23	1
				50	0	20.68	23	1
		23800	711	1	49	21.85	23	0
				1	0	21.81	23	0
				25	12	20.54	23	1
				50	0	20.44	23	1
10	16 QAM	23780	709	1	49	21.34	23	1
				1	0	21.24	23	1
				25	12	19.88	23	2
				50	0	19.59	23	2
		23790	710	1	49	21.11	23	1
				1	0	21.04	23	1
				25	12	19.77	23	2
				50	0	19.62	23	2
		23800	711	1	49	21.09	23	1
				1	0	21.07	23	1
				25	12	19.66	23	2
				50	0	19.55	23	2

6.5.1.4.:HSDPA Release 6 mode

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

HSDPA SUB-TEST Setting

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

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

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

Results:

Mode	Sub-test	Avg. Power (dBm) Channel			Power Class 3 Limitation (dBm)	Comments
		9262	9400	9538		
HSDPA (B2)	1	21.22	20.93	20.58	20.3dBm – 25.7dBm	Pass
	2	20.93	20.9	20.57	20.3dBm – 25.7dBm	Pass
	3	20.74	20.48	20.05	19.8dBm – 25.7dBm	Pass
	4	20.81	20.49	20.17	19.8dBm – 25.7dBm	Pass

Mode	Sub-test	Avg. Power (dBm) Channel			Power Class 3 Limitation (dBm)	Comments
		4132	4183	4233		
HSDPA (B5)	1	22.22	22.05	22.23	20.3dBm – 25.7dBm	Pass
	2	22.36	22.08	21.98	20.3dBm – 25.7dBm	Pass
	3	21.76	21.57	21.74	19.8dBm – 25.7dBm	Pass
	4	21.81	21.61	21.8	19.8dBm – 25.7dBm	Pass

6.5.1.5.: HSPA (HSDPA & HSUPA) Release 6 mode

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

HSPA SUB-TEST Setting

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

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

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

Results:

Mode	Sub-test	Avg. Power (dBm) Channel			Power Class 3 Limitation (dBm)	Comments
		9262	9400	9538		
HSUPA(B2)	1	20.97	21.02	20.66	18.8dBm – 25.7dBm	Pass
	2	19.02	19.09	18.7	16.8dBm – 25.7dBm	Pass
	3	20.03	20.04	19.74	17.8dBm – 25.7dBm	Pass
	4	19.15	19.14	18.74	16.8dBm – 25.7dBm	Pass
	5	20.86	20.88	20.57	18.8dBm – 25.7dBm	Pass

Mode	Sub-test	Avg. Power (dBm) Channel			Power Class 3 Limitation (dBm)	Comments
		4132	4183	4233		
HSUPA(B5)	1	22.39	22.12	22.03	18.8dBm – 25.7dBm	Pass
	2	20.45	20.2	20.07	16.8dBm – 25.7dBm	Pass
	3	21.43	21.18	21.11	17.8dBm – 25.7dBm	Pass
	4	20.5	20.26	20.15	16.8dBm – 25.7dBm	Pass
	5	22.25	21.95	21.92	18.8dBm – 25.7dBm	Pass

6.5.2. Minimum Communications Power Measurement PCS 1900 band

PCL	0	1	2	3	4	5	6	7	8	9
Output power (dBm)	27.3	27.3	27.3	27.3	25.1	23.5	21.1	19.2	17.7	15.2
PCL	10	11	12	13	14	15	16	17	18	
Output power (dBm)	14.2	12	10.2	8.2	6.2	4.3	2.4	0.4	-1.1	

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

WCDMA/HSDPA/HSUPA band II

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 -52.3dBm. The power variation can be 0.1dB step by setting.

7. PEAK TO AVERAGE RATIO

7.1. Standard Applicable:

FCC 27.50(i)

Peak transmit power shall be measured over any interval of continuous transmission using instrumentation calibrated in terms of rms-equivalent voltage.

The measurement results shall be properly adjusted for any instrument limitations, such as detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, etc., so as to obLionn a true peak measurement for the emission in question over the full bandwidth of the channel.

To measure transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission shall not exceed 13 dB.

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

Refer to section 2.4 in this report

7.3. Measurement Procedure:

Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;

Set the number of counts to a value that stabilizes the measured CCDF curve;

7.4. Measurement Result:

Refer to next page for plot.

Figure 7-1: 5MHz BW LTE-Band 4(16QAM Number: 25 Offset: 0) Channel Low

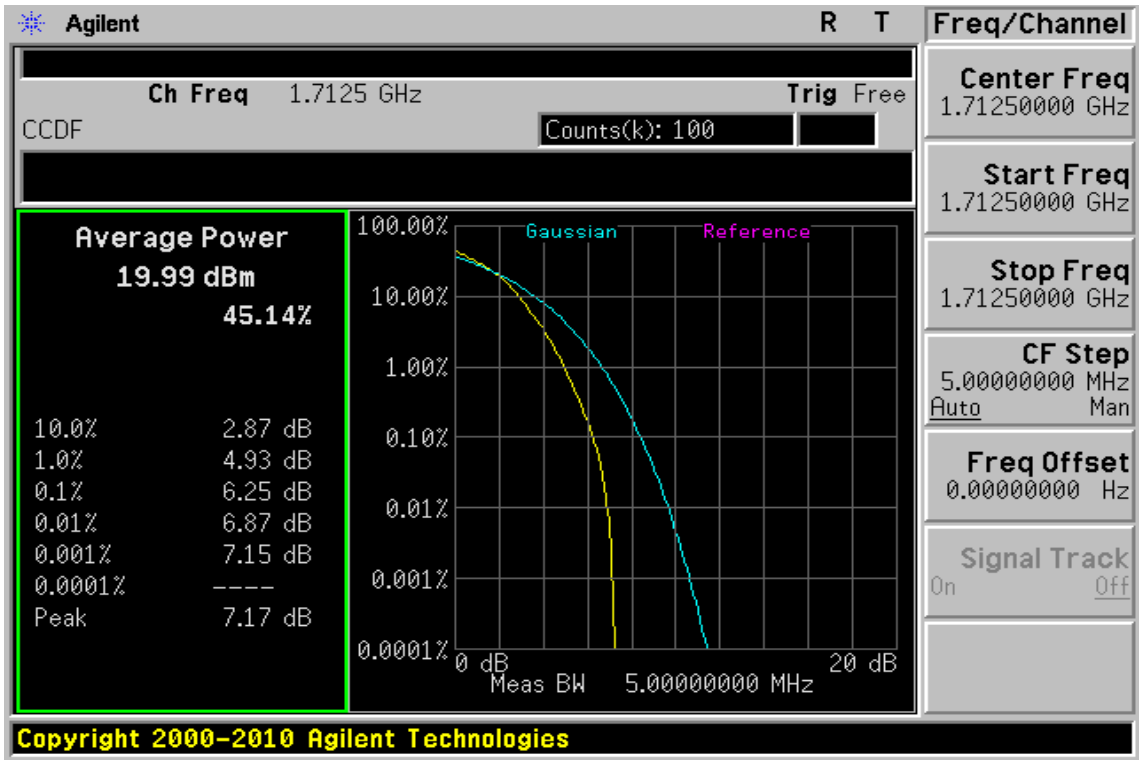


Figure 7-2: 5MHz BW LTE-Band 4(16QAM Number: 25 Offset: 0) Channel Mid

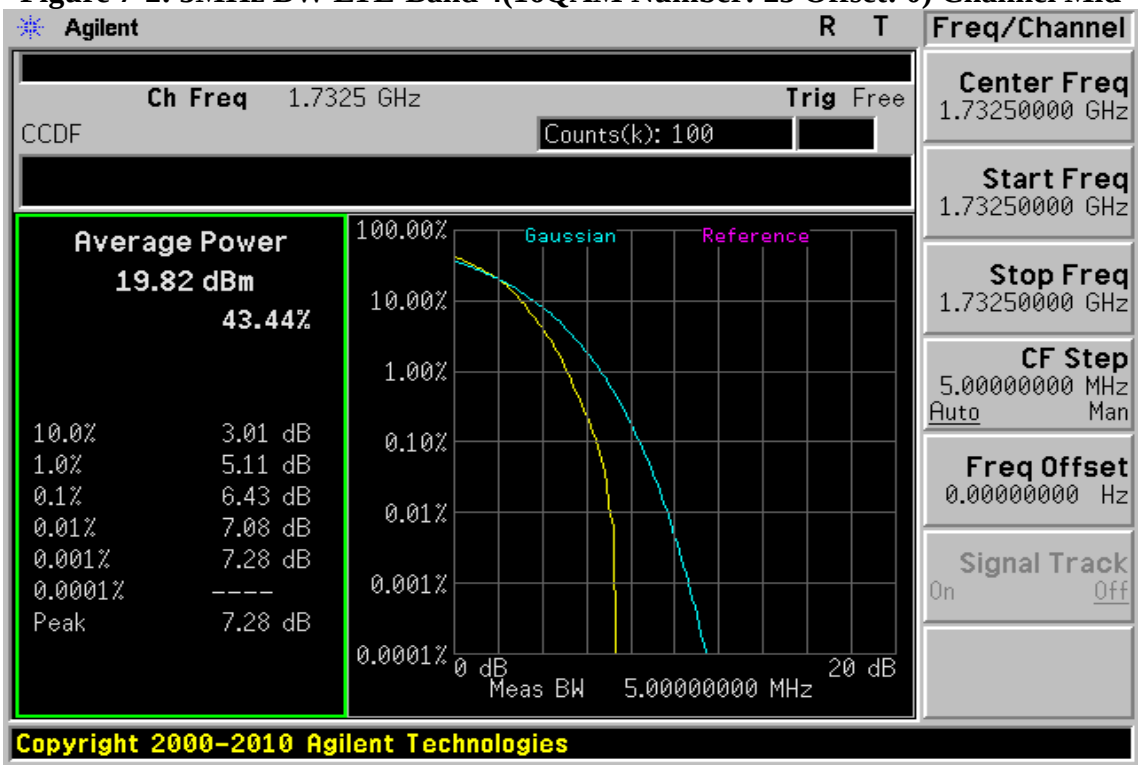


Figure 7-3: 5MHz BW LTE-Band 4(16QAM Number: 25 Offset: 0) Channel High

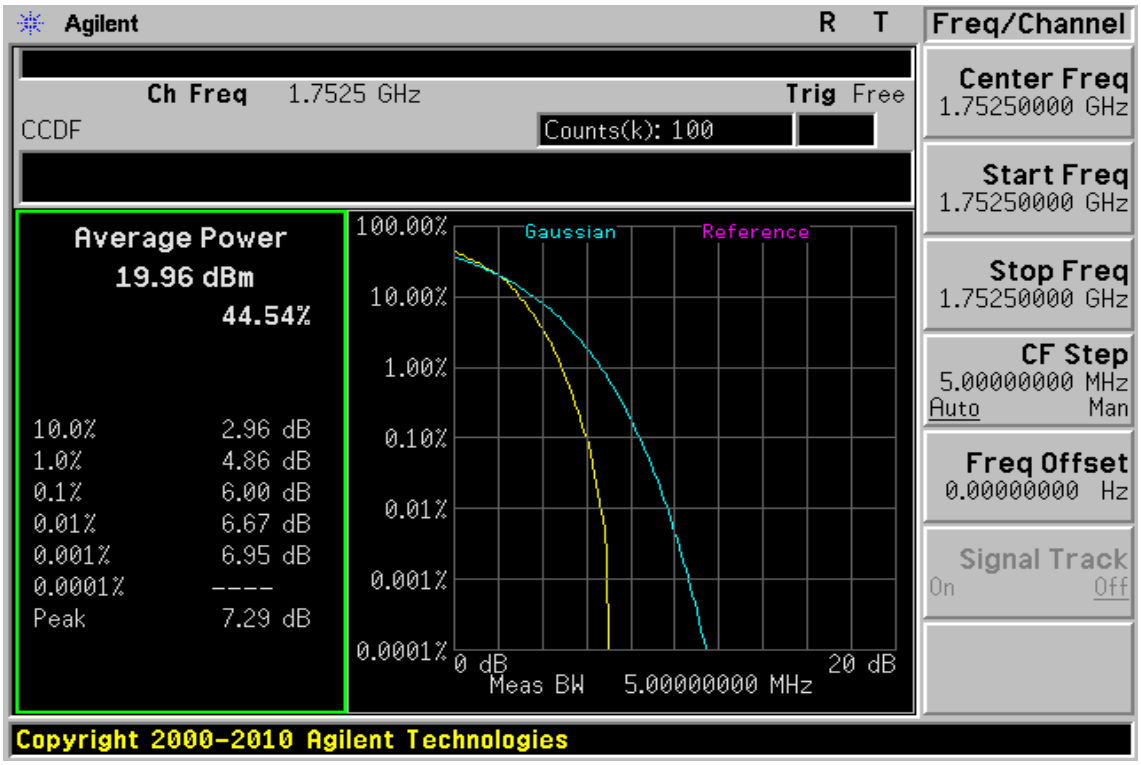


Figure 7-4: 10MHz BW LTE-Band 4(16QAM Number: 50 Offset: 0) Channel Low

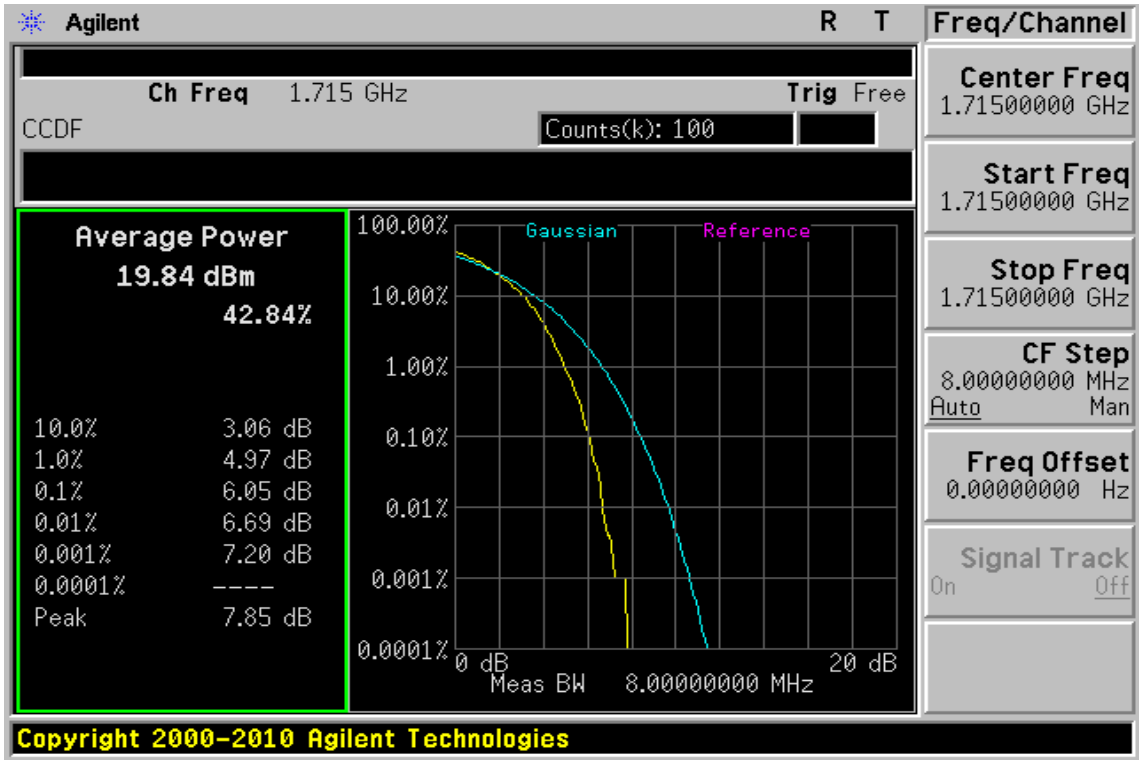


Figure 7-5: 10MHz BW LTE-Band 4(16QAM Number: 50 Offset: 0) Channel Mid

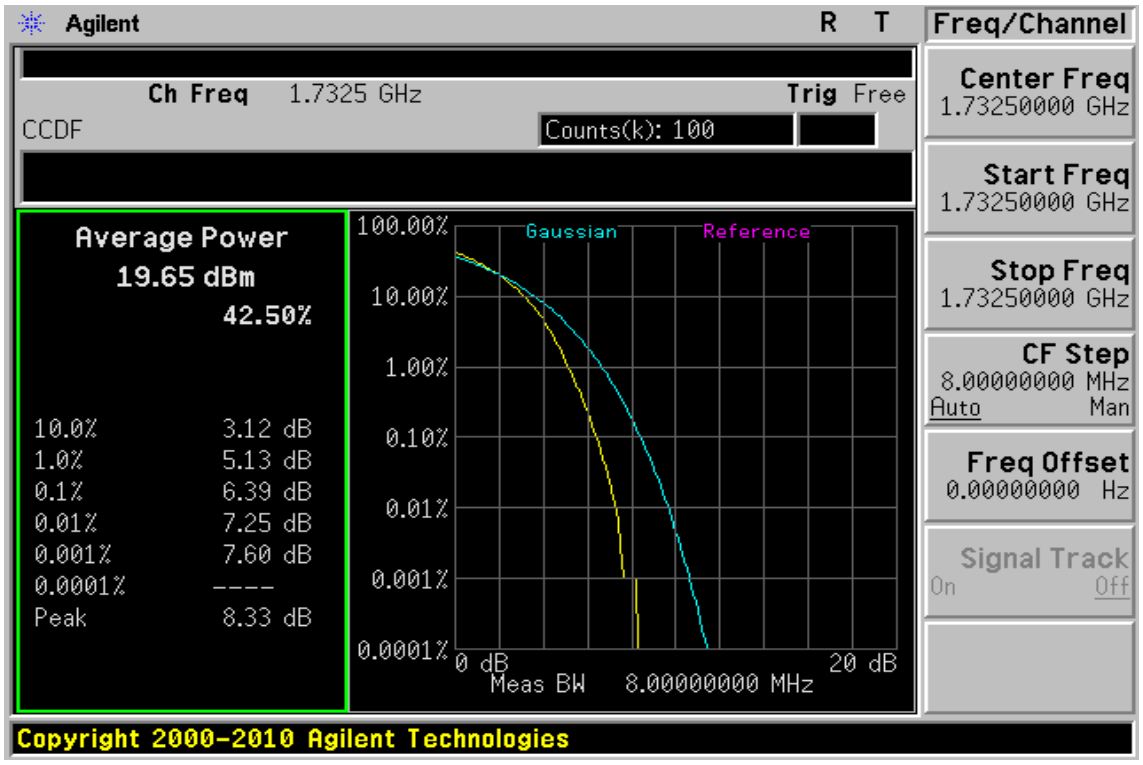


Figure 7-6: 10MHz BW LTE-Band 4(16QAM Number: 50 Offset: 0) Channel High

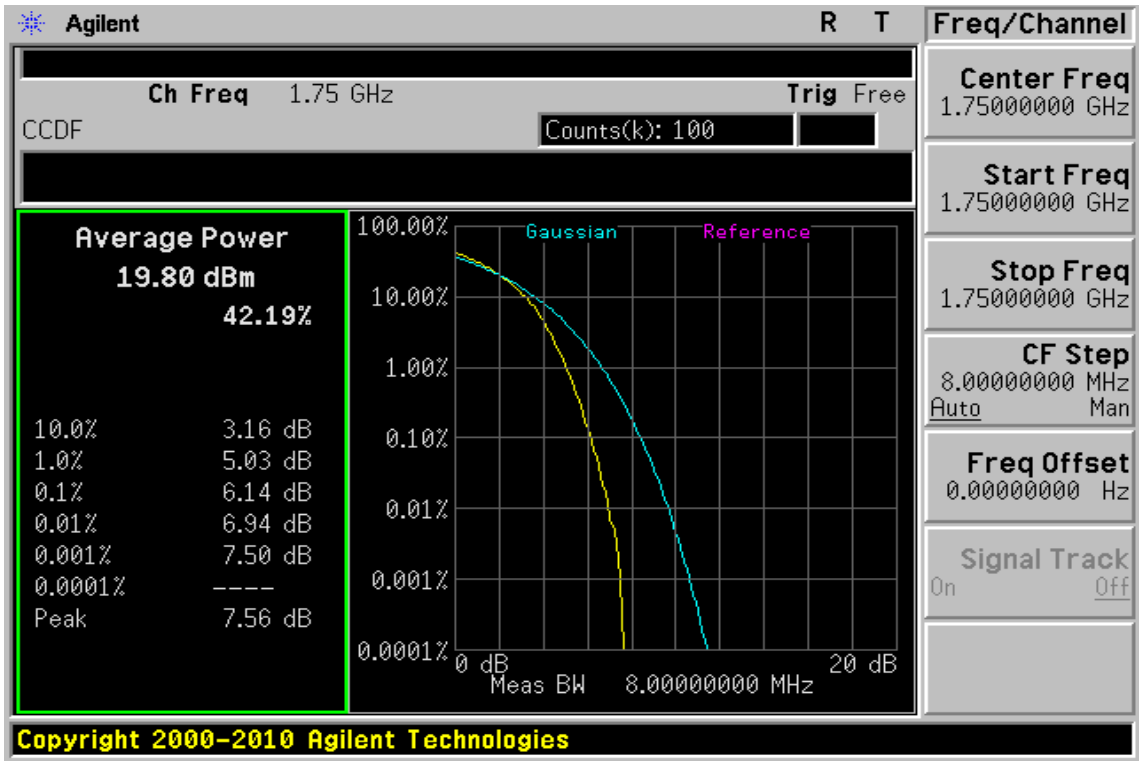


Figure 7-7: 5MHz BW LTE-Band 17(16QAM Number: 25 Offset: 0) Channel Low

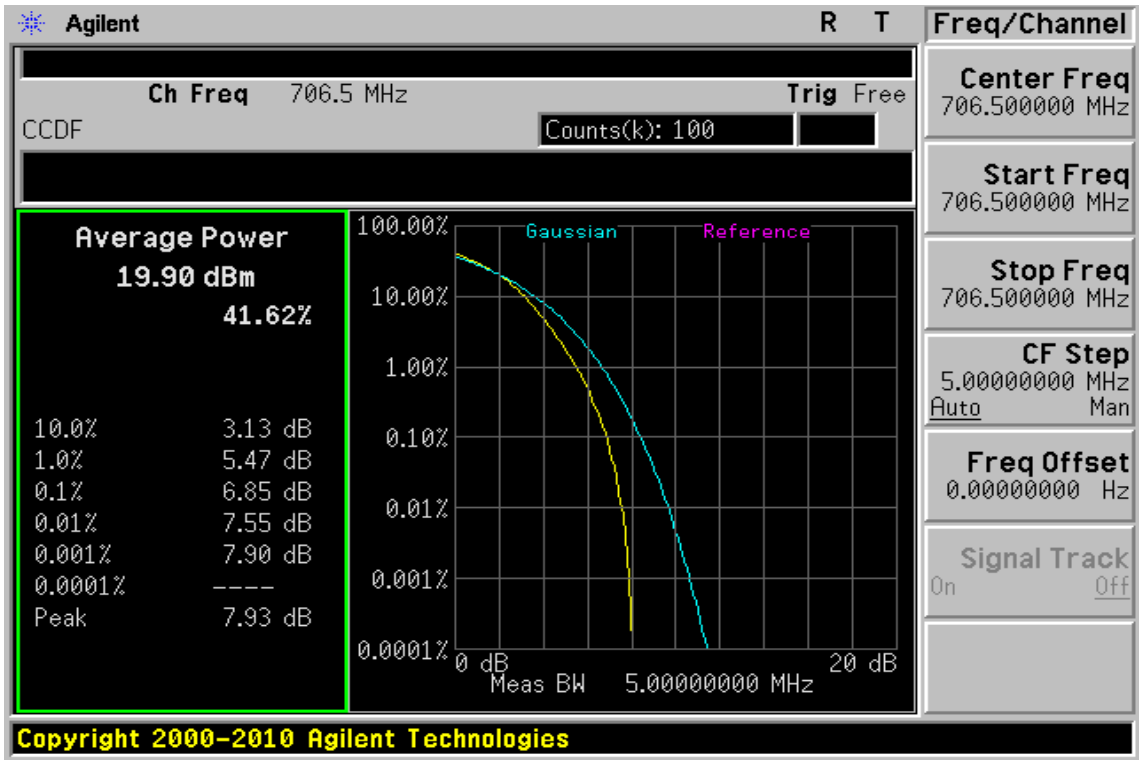


Figure 7-8: 5MHz BW LTE-Band 17(16QAM Number: 25 Offset: 0) Channel Mid

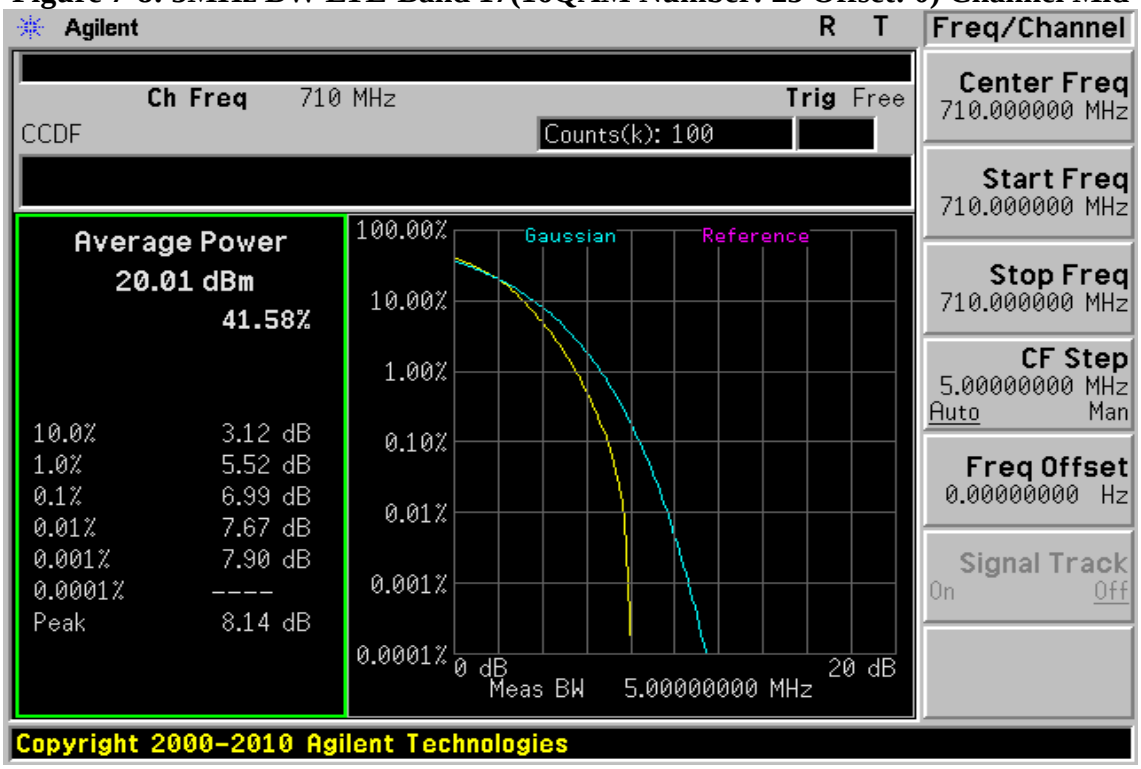


Figure 7-9: 5MHz BW LTE-Band 17(16QAM Number: 25 Offset: 0) Channel High

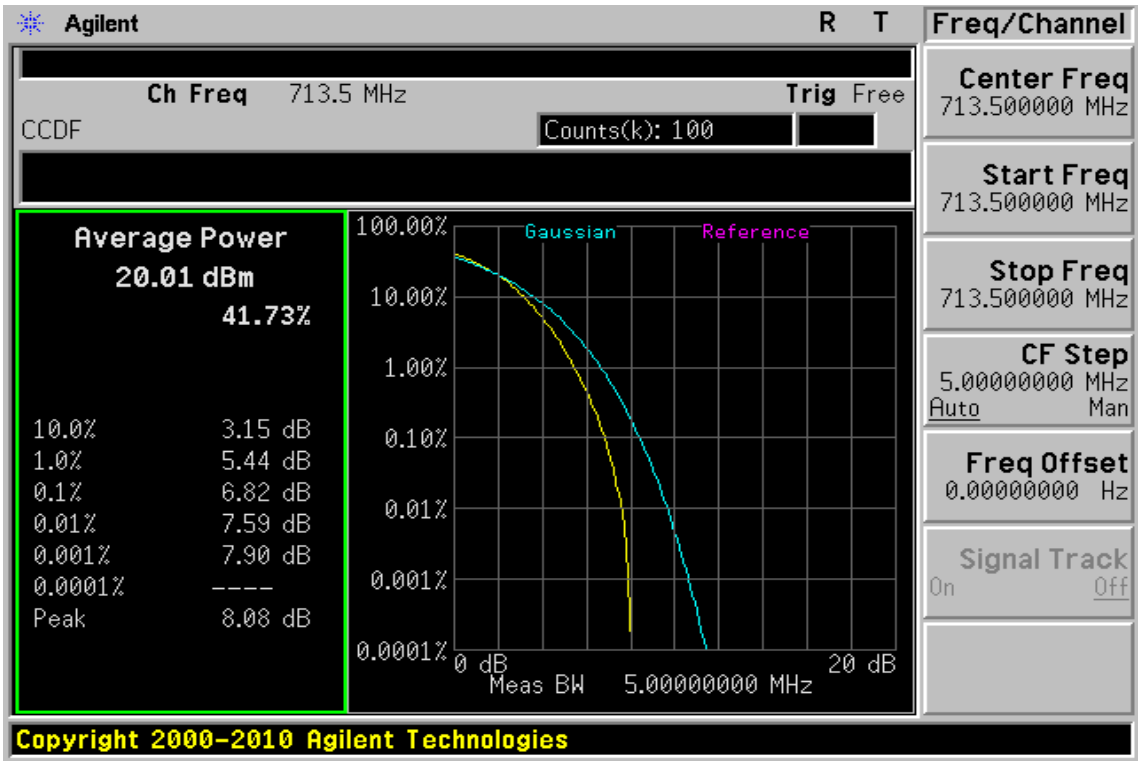


Figure 7-10: 10MHz BW LTE-Band 17(16QAM Number: 50 Offset: 0) Channel Low

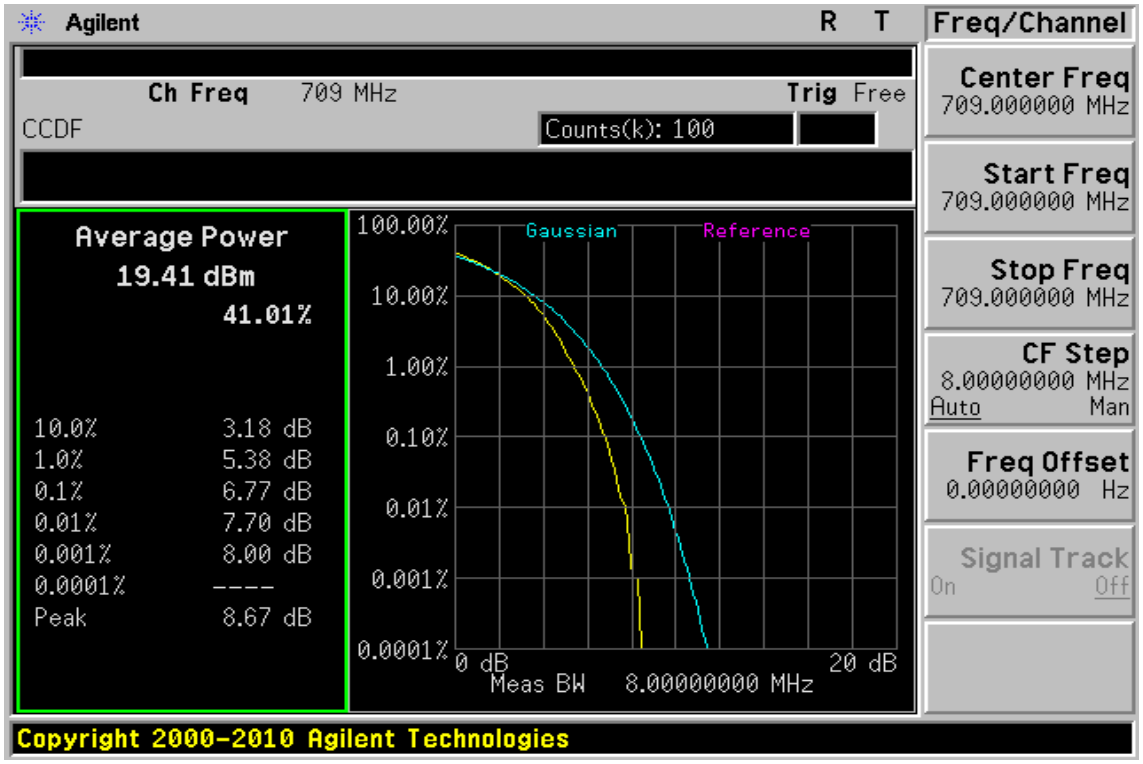


Figure 7-11: 10MHz BW LTE-Band 17(16QAM Number: 50 Offset: 0) Channel Mid

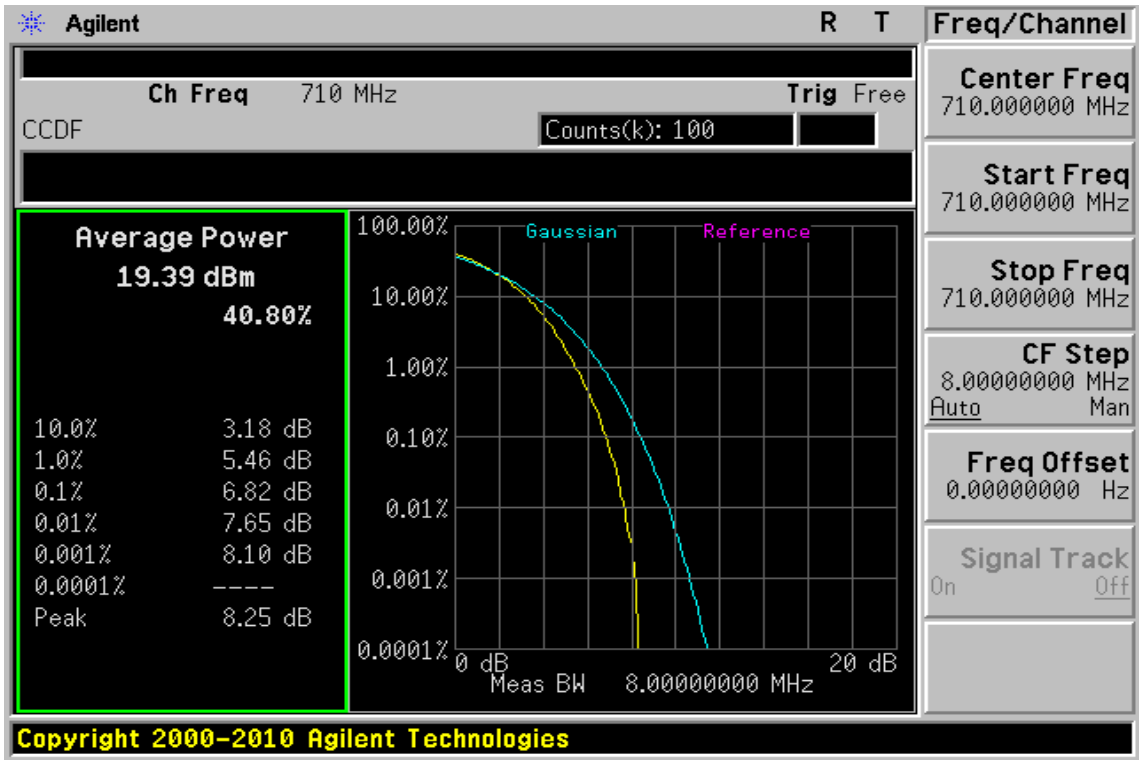
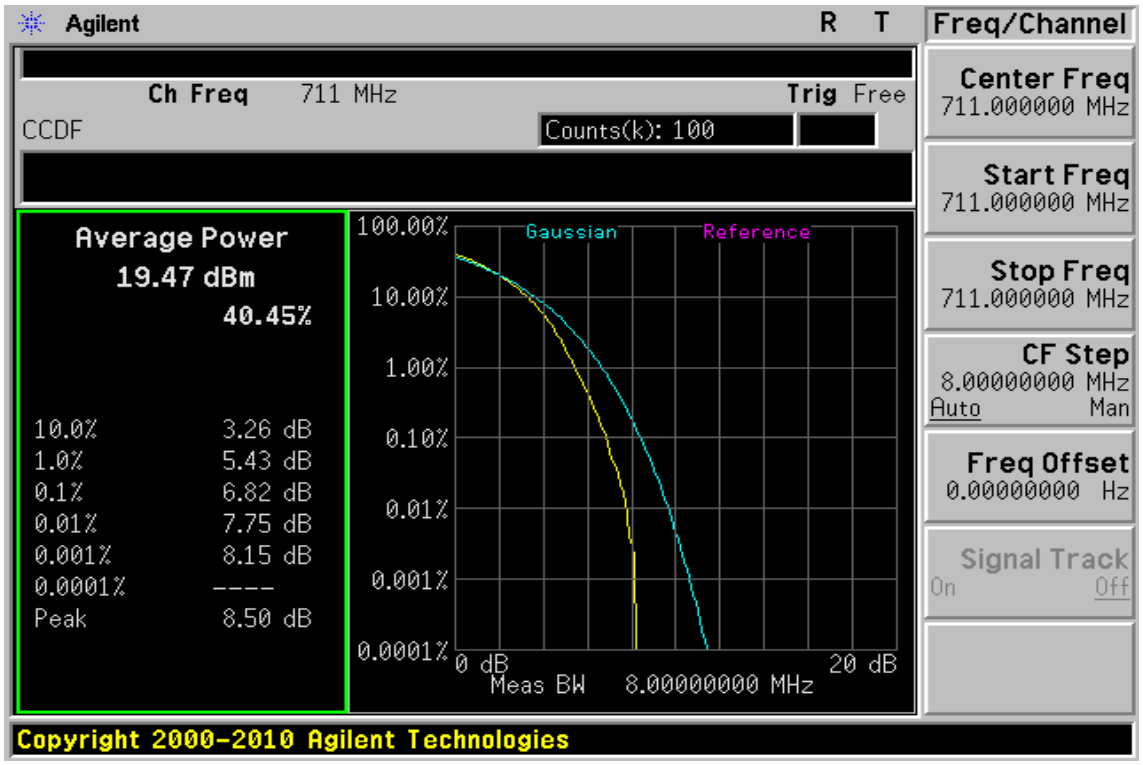


Figure 7-12: 10MHz BW LTE-Band 17(16QAM Number: 50 Offset: 0) Channel High



8. ERP, EIRP MEASUREMENT

8.1. Standard Applicable:

According to FCC §2.1046

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

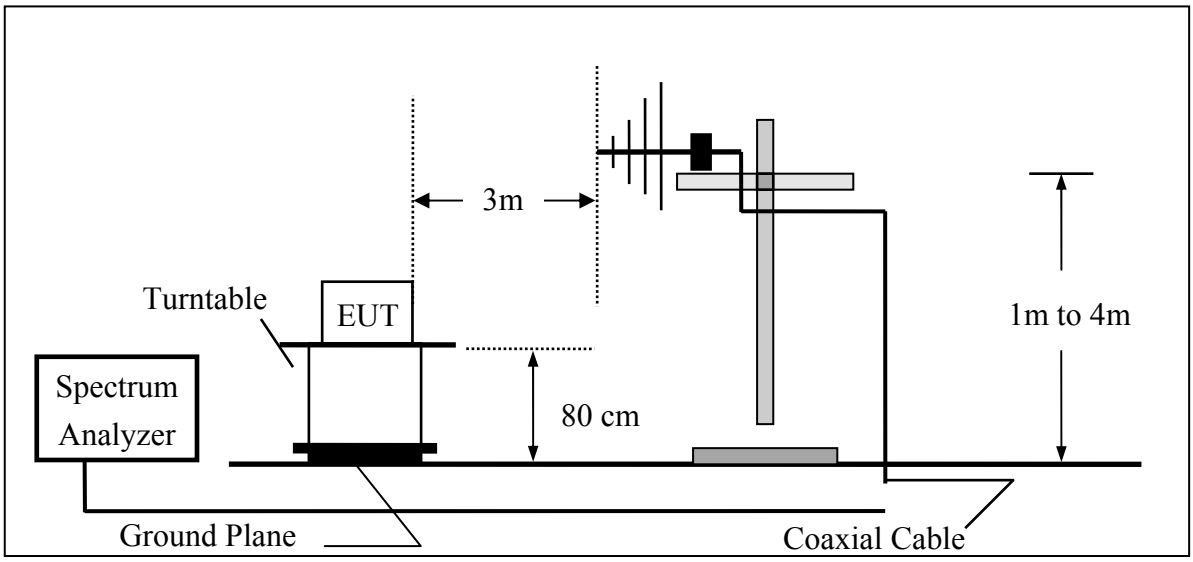
FCC 24.232(b) Mobile station are limited to 2W EIRP.

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

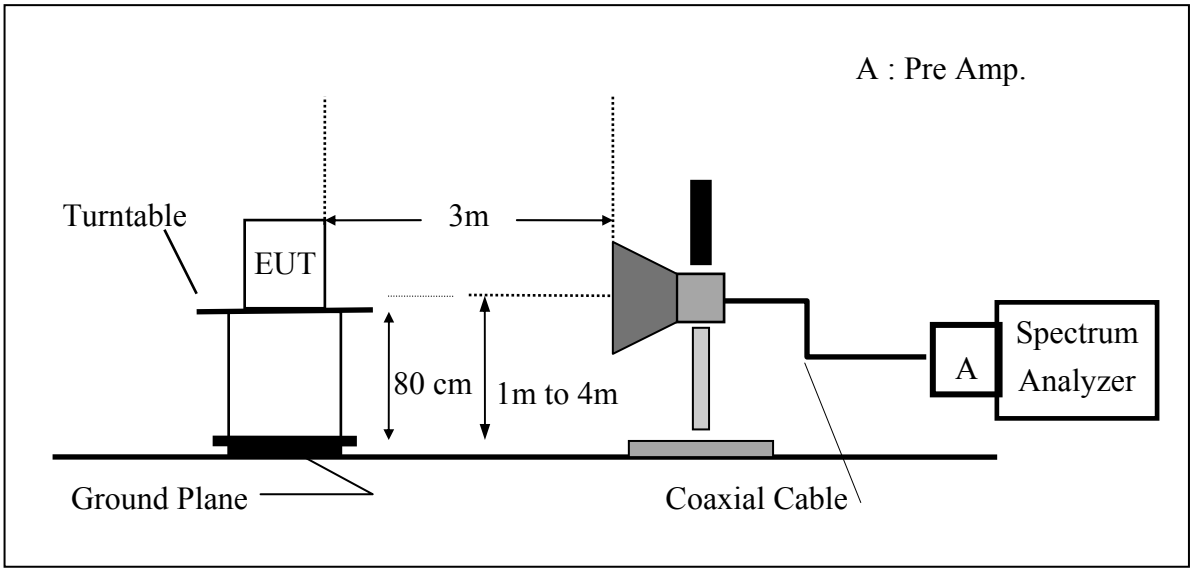
FCC 27.50(c)(10) Portable station are limited to 3W ERP.

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

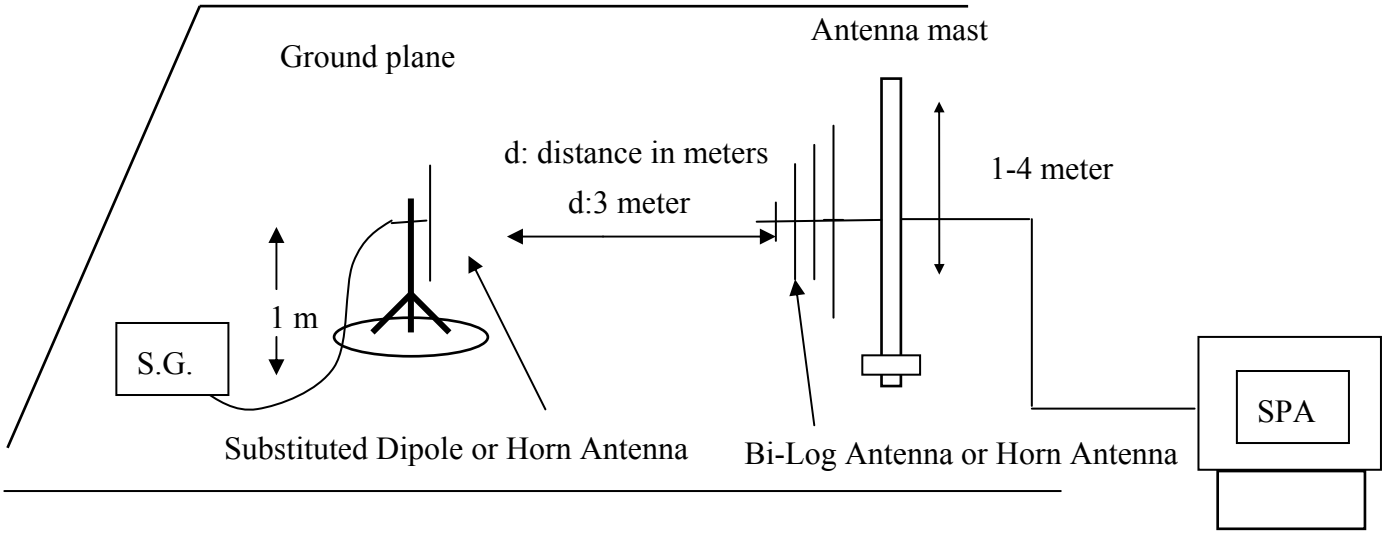
(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



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



(C) Substituted Method Test Set-UP



8.3. 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 698MHz, - 746MHz, 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)

8.4. Measurement Equipment Used:

Refer to section 2.4 in this report

8.5. Measurement Result:

EUT				Measurement					
Operation Band	Pol.	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
		MHz		V/H	dBm	dBd	dB	dBm	dBm
GPRS 850	E2	824.20	128	V	20.13	3.96	-4.22	19.87	38.45
				H	22.42	3.96	-4.22	**22.16**	38.45
		836.60	190	V	19.18	4.00	-4.24	18.94	38.45
				H	21.99	4.00	-4.24	21.75	38.45
		848.80	251	V	20.03	4.03	-4.33	19.73	38.45
				H	20.37	4.03	-4.33	20.07	38.45

EUT				Measurement					
Operation Band	Pol.	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
		MHz		V/H	dBm	dBd	dB	dBm	dBm
GPRS 1900	E2	1850.20	512	V	28.01	4.17	-5.49	**26.69**	33.00
				H	21.24	4.51	-5.49	20.26	33.00
		1880.00	661	V	25.79	4.13	-5.56	24.36	33.00
				H	19.93	4.44	-5.56	18.80	33.00
		1909.80	810	V	26.41	4.10	-5.56	24.95	33.00
				H	18.25	4.36	-5.56	17.06	33.00

Remark：

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

EUT				Measurement					
Operation Band	Pol.	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
		MHz		V/H	dBm	dBd	dB	dBm	dBm
EDGE 850	E2	824.20	128	V	16.97	3.96	-4.22	16.71	38.45
				H	19.70	3.96	-4.22	19.44	38.45
		836.60	190	V	16.63	4.00	-4.24	16.39	38.45
				H	19.74	4.00	-4.24	**19.50**	38.45
		848.80	251	V	16.61	4.03	-4.33	16.31	38.45
				H	17.08	4.03	-4.33	16.78	38.45

EUT				Measurement					
Operation Band	Pol.	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
		MHz		V/H	dBm	dBd	dB	dBm	dBm
EDGE 1900	E2	1850.20	512	V	24.86	4.17	-5.49	**23.54**	33.00
				H	19.00	4.51	-5.49	18.02	33.00
		1880.00	661	V	24.57	4.13	-5.56	23.14	33.00
				H	18.04	4.44	-5.56	16.91	33.00
		1909.80	810	V	24.47	4.09	-5.56	23.01	33.00
				H	16.71	4.36	-5.56	15.52	33.00

Remark：

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

EUT				Measurement					
Operation Band	Pol.	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
		MHz		V/H	dBm	dBi	dB	dBm	dBm
WCDMA Band II	E2	1852.4	9262	V	22.63	4.17	-5.49	21.31	33.00
				H	16.94	4.51	-5.49	15.95	33.00
		1880.0	9400	V	23.43	4.13	-5.56	**22.00**	33.00
				H	16.57	4.44	-5.56	15.45	33.00
		1907.6	9538	V	22.99	4.10	-5.62	21.46	33.00
				H	14.25	4.37	-5.62	13.00	33.00

EUT				Measurement					
Operation Band	Pol.	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
		MHz		V/H	dBm	dBi	dB	dBm	dBm
WCDMA Band V	E2	826.40	4132	V	12.89	3.97	-4.22	12.64	38.45
				H	15.58	3.97	-4.22	**15.33**	38.45
		836.60	4183	V	12.11	4.00	-4.24	11.87	38.45
				H	15.39	4.00	-4.24	15.15	38.45
		846.60	4233	V	12.53	4.02	-4.24	12.32	38.45
				H	13.17	4.02	-4.24	12.95	38.45

Remark：

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

EUT				Measurement					
Operation Band	Pol.	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
		MHz		V/H	dBm	dBi	dB	dBm	dBm
HAUPA Band II	E2	1852.4	9262	V	24.00	4.17	-5.49	**22.68**	33.00
				H	17.33	4.51	-5.49	16.35	33.00
		1880.0	9400	V	23.57	4.13	-5.56	22.14	33.00
				H	18.82	4.44	-5.56	17.70	33.00
		1907.6	9538	V	23.41	4.10	-5.62	21.88	33.00
				H	17.88	4.37	-5.62	16.63	33.00

EUT				Measurement					
Operation Band	Pol.	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
		MHz		V/H	dBm	dBi	dB	dBm	dBm
HSUPA Band V	E2	826.40	4132	V	13.53	3.97	-4.22	13.28	38.45
				H	16.15	3.97	-4.22	**15.90**	38.45
		836.60	4183	V	12.74	4.00	-4.24	12.51	38.45
				H	15.75	4.00	-4.24	15.51	38.45
		846.60	4233	V	13.07	4.02	-4.24	12.85	38.45
				H	13.63	4.02	-4.24	13.41	38.45

Remark：

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

EUT				Measurement					
Operation Band	Pol.	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
		MHz		V/H	dBm	dBi	dB	dBm	dBm
HADPA Band II	E2	1852.4	9262	V	24.65	4.17	-5.49	**23.34**	33.00
				H	17.81	4.51	-5.49	16.83	33.00
		1880.0	9400	V	23.83	4.14	-5.56	22.41	33.00
				H	17.60	4.44	-5.56	16.47	33.00
		1907.6	9538	V	23.90	4.10	-5.62	22.38	33.00
				H	14.95	4.37	-5.62	13.70	33.00

EUT				Measurement					
Operation Band	Pol.	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
		MHz		V/H	dBm	dBi	dB	dBm	dBm
HSDPA Band V	E2	826.40	4132	V	14.16	3.97	-4.22	13.91	38.45
				H	16.30	3.97	-4.22	**16.04**	38.45
		836.60	4183	V	12.88	4.00	-4.24	12.64	38.45
				H	15.94	4.00	-4.24	15.70	38.45
		846.60	4233	V	14.10	4.02	-4.24	13.89	38.45
				H	13.89	4.02	-4.24	13.67	38.45

Remark：

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

Measurement Result:

BAND 4 / BW: 5M / QPSK / RB: 1,24									
EUT				Measurement					
Operation Band	Pol.	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
		MHz		V/H	dBm	dBi	dB	dBm	dBm
LTE Band 4	E2	1712.5	19975	V	18.83	4.39	-5.40	17.82	30.00
				H	16.68	4.79	-5.40	16.07	30.00
		1732.5	20175	V	18.94	4.35	-5.42	17.86	30.00
				H	17.97	4.78	-5.42	17.33	30.00
		1752.5	20375	V	21.82	4.31	-5.44	**20.69**	30.00
				H	18.21	4.76	-5.44	17.53	30.00

BAND 4 / BW: 5M / QPSK / RB: 1,0									
EUT				Measurement					
Operation Band	Pol.	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
		MHz		V/H	dBm	dBi	dB	dBm	dBm
LTE Band 4	E2	1712.5	19975	V	19.80	4.40	-5.40	18.80	30.00
				H	16.66	4.79	-5.40	16.05	30.00
		1732.5	20175	V	19.63	4.36	-5.42	18.56	30.00
				H	18.06	4.78	-5.42	17.41	30.00
		1752.5	20375	V	20.70	4.31	-5.44	**19.58**	30.00
				H	18.26	4.77	-5.44	17.59	30.00

Remark：

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

Measurement Result:

BAND 4 / BW: 5M / 16QAM / RB: 1,24									
EUT				Measurement					
Operation Band	Pol.	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
		MHz		V/H	dBm	dBi	dB	dBm	dBm
LTE Band 4	E2	1712.5	19975	V	25.33	4.39	-5.40	24.32	30.00
				H	23.15	4.79	-5.40	22.54	30.00
		1732.5	20175	V	25.90	4.35	-5.42	**24.82**	30.00
				H	22.62	4.78	-5.42	21.98	30.00
		1752.5	20375	V	23.46	4.31	-5.44	22.33	30.00
				H	22.30	4.76	-5.44	21.63	30.00

BAND 4 / BW: 5M / 16QAM / RB: 1,0									
EUT				Measurement					
Operation Band	Pol.	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
		MHz		V/H	dBm	dBi	dB	dBm	dBm
LTE Band 4	E2	1712.5	19975	V	24.43	4.40	-5.40	23.43	30.00
				H	22.04	4.79	-5.40	21.43	30.00
		1732.5	20175	V	24.23	4.36	-5.42	23.16	30.00
				H	22.29	4.78	-5.42	21.64	30.00
		1752.5	20375	V	24.93	4.31	-5.44	**23.80**	30.00
				H	23.20	4.77	-5.44	22.54	30.00

Remark：

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

Measurement Result:

BAND 4 / BW: 10M / QPSK / RB: 1,49									
EUT				Measurement					
Operation Band	Pol.	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
		MHz		V/H	dBm	dBi	dB	dBm	dBm
LTE Band 4	E2	1712.5	19975	V	18.81	4.38	-5.40	17.79	30.00
				H	17.14	4.79	-5.40	16.53	30.00
		1732.5	20175	V	19.06	4.34	-5.42	17.98	30.00
				H	17.61	4.78	-5.42	16.96	30.00
		1752.5	20375	V	22.18	4.31	-5.44	**21.05**	30.00
				H	21.47	4.76	-5.44	20.79	30.00

BAND 4 / BW: 10M / QPSK / RB: 1,0									
EUT				Measurement					
Operation Band	Pol.	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
		MHz		V/H	dBm	dBi	dB	dBm	dBm
LTE Band 4	E2	1712.5	19975	V	19.88	4.40	-5.40	18.88	30.00
				H	16.35	4.79	-5.40	15.74	30.00
		1732.5	20175	V	20.23	4.36	-5.40	19.19	30.00
				H	19.04	4.78	-5.40	18.42	30.00
		1752.5	20375	V	21.75	4.32	-5.42	**20.65**	30.00
				H	19.86	4.77	-5.42	19.21	30.00

Remark：

(1) The RBW,VBW of SPA for frequency RBW= 10MHz , VBW= 10MHz

Measurement Result:

BAND 4 / BW: 10M / 16QAM / RB: 1,49									
EUT				Measurement					
Operation Band	Pol.	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
		MHz		V/H	dBm	dBi	dB	dBm	dBm
LTE Band 4	E2	1712.5	19975	V	24.97	4.38	-5.40	**23.95**	30.00
				H	22.39	4.79	-5.40	21.78	30.00
		1732.5	20175	V	24.69	4.34	-5.42	23.61	30.00
				H	21.41	4.78	-5.42	20.76	30.00
		1752.5	20375	V	23.10	4.31	-5.44	21.97	30.00
				H	22.49	4.76	-5.44	21.81	30.00

BAND 4 / BW: 10M / 16QAM / RB: 1,0									
EUT				Measurement					
Operation Band	Pol.	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	EIRP	Limit
		MHz		V/H	dBm	dBi	dB	dBm	dBm
LTE Band 4	E2	1712.5	19975	V	22.51	4.40	-5.40	21.51	30.00
				H	18.69	4.79	-5.40	18.08	30.00
		1732.5	20175	V	22.80	4.36	-5.40	21.76	30.00
				H	21.33	4.78	-5.40	20.71	30.00
		1752.5	20375	V	23.26	4.32	-5.42	**22.16**	30.00
				H	22.50	4.77	-5.42	21.85	30.00

Remark：

(1) The RBW,VBW of SPA for frequency RBW= 10MHz , VBW= 10MHz

Measurement Result:

BAND 17 / BW: 5M / QPSK / RB: 1,24									
EUT				Measurement					
Operation Band	Pol.	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
		MHz		V/H	dBm	dBi	dB	dBm	dBm
LTE Band 17	E2	706.5	23755	V	15.27	4.04	-3.98	**15.33**	34.70
				H	13.88	4.04	-3.98	13.94	34.70
		710.0	23790	V	15.23	4.00	-3.98	15.25	34.70
				H	14.03	4.00	-3.98	14.05	34.70
		713.5	23825	V	14.98	3.95	-3.98	14.95	34.70
				H	14.13	3.95	-3.98	14.10	34.70

BAND 17 / BW: 5M / QPSK / RB: 1,0									
EUT				Measurement					
Operation Band	Pol.	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
		MHz		V/H	dBm	dBi	dB	dBm	dBm
LTE Band 17	E2	706.5	23755	V	13.87	4.10	-3.98	13.98	34.70
				H	13.40	4.10	-3.98	13.52	34.70
		710.0	23790	V	15.08	4.05	-3.98	15.15	34.70
				H	13.81	4.05	-3.98	13.88	34.70
		713.5	23825	V	15.34	4.01	-3.98	**15.36**	34.70
				H	14.15	4.01	-3.98	14.18	34.70

Remark：

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

Measurement Result:

BAND 17 / BW: 5M / 16QAM / RB: 1,24									
EUT				Measurement					
Operation Band	Pol.	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
		MHz		V/H	dBm	dBi	dB	dBm	dBm
LTE Band 17	E2	706.5	23755	V	15.80	4.05	-3.98	**15.86**	34.70
				H	14.40	4.04	-3.98	14.45	34.70
		710.0	23790	V	15.77	4.00	-3.98	15.79	34.70
				H	14.77	4.00	-3.98	14.78	34.70
		713.5	23825	V	15.14	3.95	-3.98	15.11	34.70
				H	14.33	3.95	-3.98	14.30	34.70

BAND 17 / BW: 5M / 16QAM / RB: 1,0									
EUT				Measurement					
Operation Band	Pol.	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
		MHz		V/H	dBm	dBi	dB	dBm	dBm
LTE Band 17	E2	706.5	23755	V	15.13	4.10	-3.98	15.24	34.70
				H	13.73	4.10	-3.98	13.84	34.70
		710.0	23790	V	15.61	4.05	-3.98	**15.68**	34.70
				H	14.19	4.05	-3.98	14.26	34.70
		713.5	23825	V	15.32	4.01	-3.98	15.34	34.70
				H	14.24	4.01	-3.98	14.27	34.70

Remark：

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

Measurement Result:

BAND 17 / BW: 10M / QPSK / RB: 1,49									
EUT				Measurement					
Operation Band	Pol.	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
		MHz		V/H	dBm	dBi	dB	dBm	dBm
LTE Band 17	E2	706.5	23755	V	15.14	3.98	-3.98	15.14	34.70
				H	14.06	3.98	-3.98	14.06	34.70
		710.0	23790	V	16.31	3.97	-3.98	**16.30**	34.70
				H	14.20	3.97	-3.98	14.19	34.70
		713.5	23825	V	15.25	3.95	-3.98	15.22	34.70
				H	14.39	3.96	-3.98	14.37	34.70

BAND 17 / BW: 10M / QPSK / RB: 1,0									
EUT				Measurement					
Operation Band	Pol.	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
		MHz		V/H	dBm	dBi	dB	dBm	dBm
LTE Band 17	E2	706.5	23755	V	14.55	4.09	-3.98	14.66	34.70
				H	12.74	4.09	-3.98	12.85	34.70
		710.0	23790	V	14.79	4.08	-3.98	**14.89**	34.70
				H	13.44	4.08	-3.98	13.54	34.70
		713.5	23825	V	14.56	4.07	-3.98	14.65	34.70
				H	12.91	4.07	-3.98	13.00	34.70

Remark：

(1) The RBW,VBW of SPA for frequency RBW= 10MHz , VBW= 10MHz

Measurement Result:

BAND 17 / BW: 10M / 16QAM / RB: 1,49									
EUT				Measurement					
Operation Band	Pol.	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
		MHz		V/H	dBm	dBi	dB	dBm	dBm
LTE Band 17	E2	706.5	23755	V	16.17	3.98	-3.98	**16.17**	34.70
				H	15.07	3.98	-3.98	15.07	34.70
		710.0	23790	V	15.78	3.97	-3.98	15.77	34.70
				H	14.31	3.97	-3.98	14.30	34.70
		713.5	23825	V	15.80	3.96	-3.98	15.77	34.70
				H	14.40	3.96	-3.98	14.38	34.70

BAND 17 / BW: 10M / 16QAM / RB: 1,0									
EUT				Measurement					
Operation Band	Pol.	Fundamental Frequency	CH	Antenna Pol.	S.G. Output	Antenna Gain	Cable Loss	ERP	Limit
		MHz		V/H	dBm	dBi	dB	dBm	dBm
LTE Band 17	E2	706.5	23755	V	15.25	4.09	-3.98	15.36	34.70
				H	13.83	4.09	-3.98	13.94	34.70
		710.0	23790	V	15.54	4.08	-3.98	15.64	34.70
				H	13.92	4.08	-3.98	14.02	34.70
		713.5	23825	V	15.58	4.07	-3.98	**15.66**	34.70
				H	14.14	4.07	-3.98	14.23	34.70

Remark：

(1) The RBW,VBW of SPA for frequency RBW= 10MHz , VBW= 10MHz

9. 99% OCCUPIED BANDWIDTH MEASUREMENT

9.1. Standard Applicable:

According to §FCC 2.1049.

9.2. Test Set-up:

Refer to section 5.2 in this report

9.3. 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.

9.4. Measurement Equipment Used:

Refer to section 2.4 in this report

Measurement Result:

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
GPRS850	824.20	128	0.2405
	836.60	190	0.2381
	848.80	251	0.2431

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
GPRS 1900	1850.20	512	0.2425
	1880.00	661	0.2451
	1909.80	810	0.2542

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
EDGE 850	824.20	128	0.2476
	836.60	190	0.2434
	848.80	251	0.2439

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
EDGE 1900	1850.20	512	0.2442
	1880.00	661	0.2470
	1909.80	810	0.2432

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
WCDMA II	1852.40	9262	4.1230
	1880.00	9400	4.1416
	1907.60	9538	4.1493

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
WCDMA V	826.40	4132	4.1250
	836.00	4180	4.1318
	846.60	4233	4.1240

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
HSUPA II	1852.4	9262	4.1571
	1880.0	9400	4.1381
	1907.6	9538	4.1522

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
HSUPA V	826.40	4132	4.1376
	836.60	4183	4.1533
	846.60	4233	4.1594

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
HSDPA II	1852.4	9262	4.1326
	1880.0	9400	4.1457
	1907.6	9538	4.1386

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
HSDPA V	826.40	4132	4.1426
	836.60	4183	4.1502
	846.60	4233	4.1192

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
5MHz BW LTE-Band 4 (QPSK RB Number: 25 Offset: 0)	1712.5	19975	4.5064
	1732.5	20175	4.5076
	1752.5	20375	4.4983

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
5MHz BW LTE-Band 4 (16QAM RB Number: 25 Offset: 0)	1712.5	19975	4.4710
	1732.5	20175	4.5060
	1752.5	20375	4.4941

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
10MHz BW LTE-Band 4 (QPSK RB Number: 50 Offset: 0)	1715	20000	8.9740
	1732.5	20175	8.9896
	1750	20350	8.9644

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
10MHz BW LTE-Band 4 (16QAM RB Number: 50 Offset: 0)	1715	20000	8.9731
	1732.5	20175	8.9823
	1750	20350	8.9548

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
5MHz BW LTE-Band 17 (QPSK RB Number: 25 Offset: 0)	706.5	23755	4.5033
	710	23790	4.5138
	713.5	23835	4.4924

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
5MHz BW LTE-Band 17 (16QAM RB Number: 25 Offset: 0)	706.5	23755	4.5157
	710	23790	4.5002
	713.5	23835	4.5059

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
10MHz BW LTE-Band 17 (QPSK RB Number: 50 Offset: 0)	709	23780	9.0122
	710	23790	9.0042
	711	23800	9.0083

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
10MHz BW LTE-Band 4 (16QAM RB Number: 50 Offset: 0)	709	23780	8.9813
	710	23790	8.9891
	711	23800	8.9579

Figure 9-1: GRPS 850 Channel Low

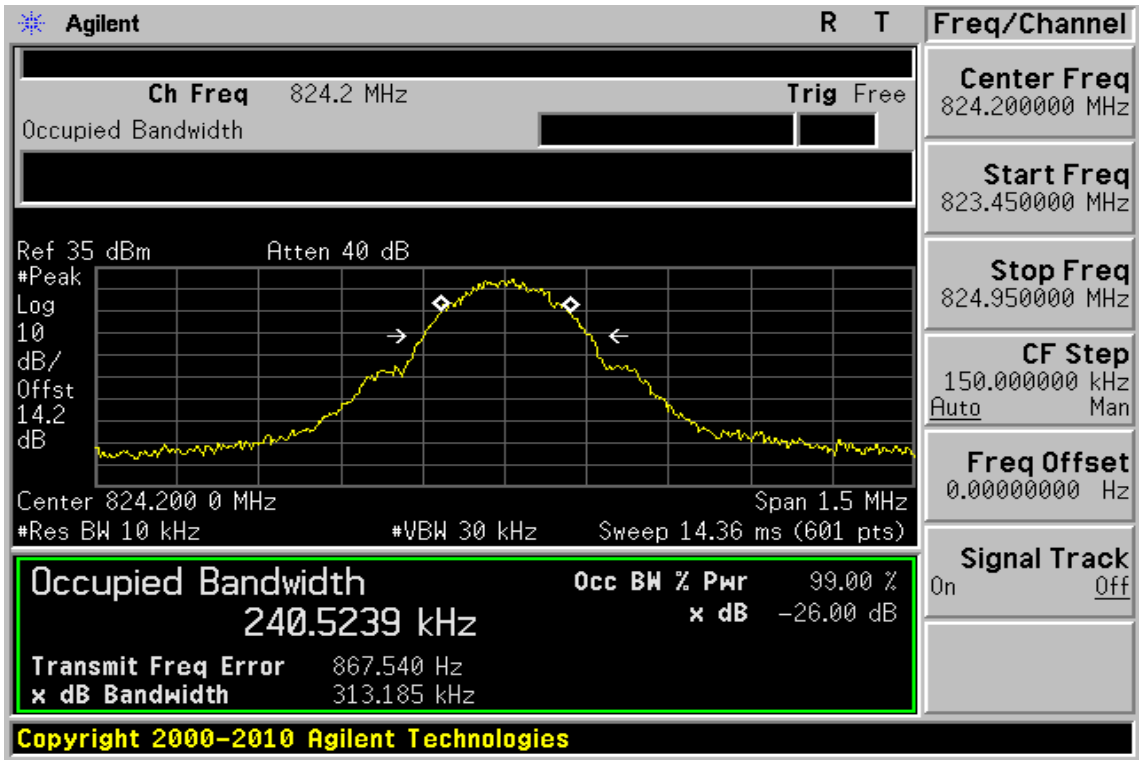
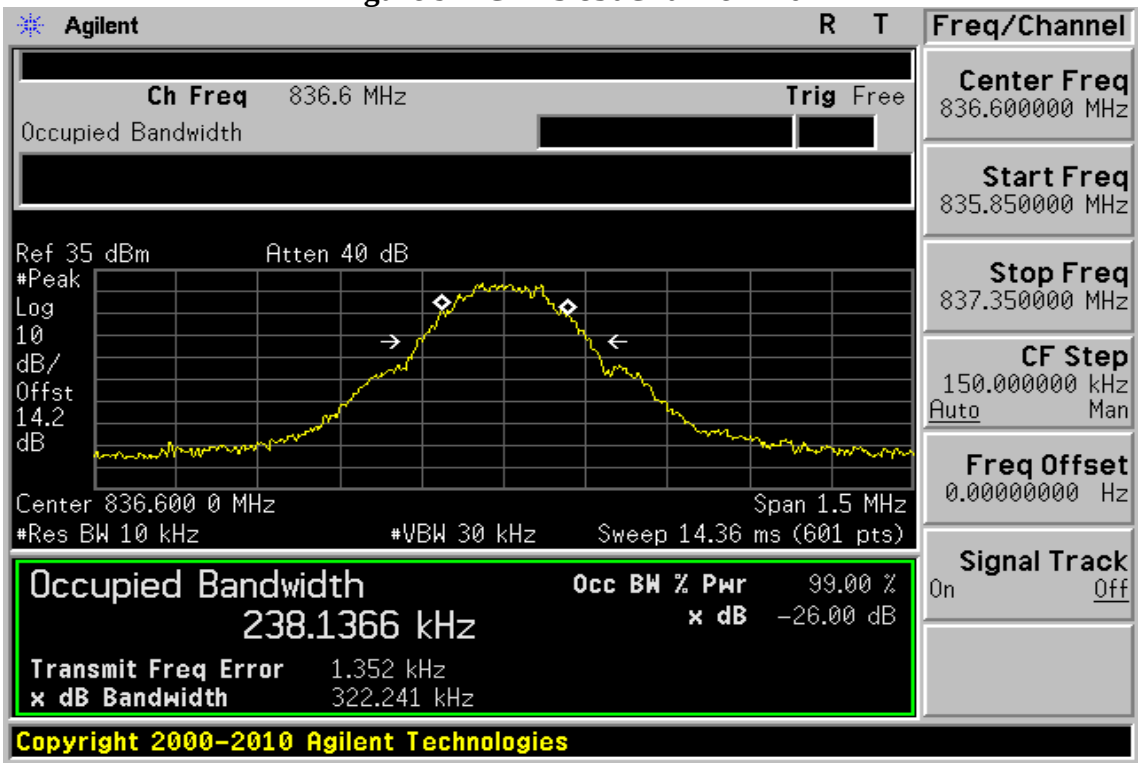


Figure 9-2 GRPS 850Channel Mid



GPRS Figure 9-3: GRPS 850 Channel High

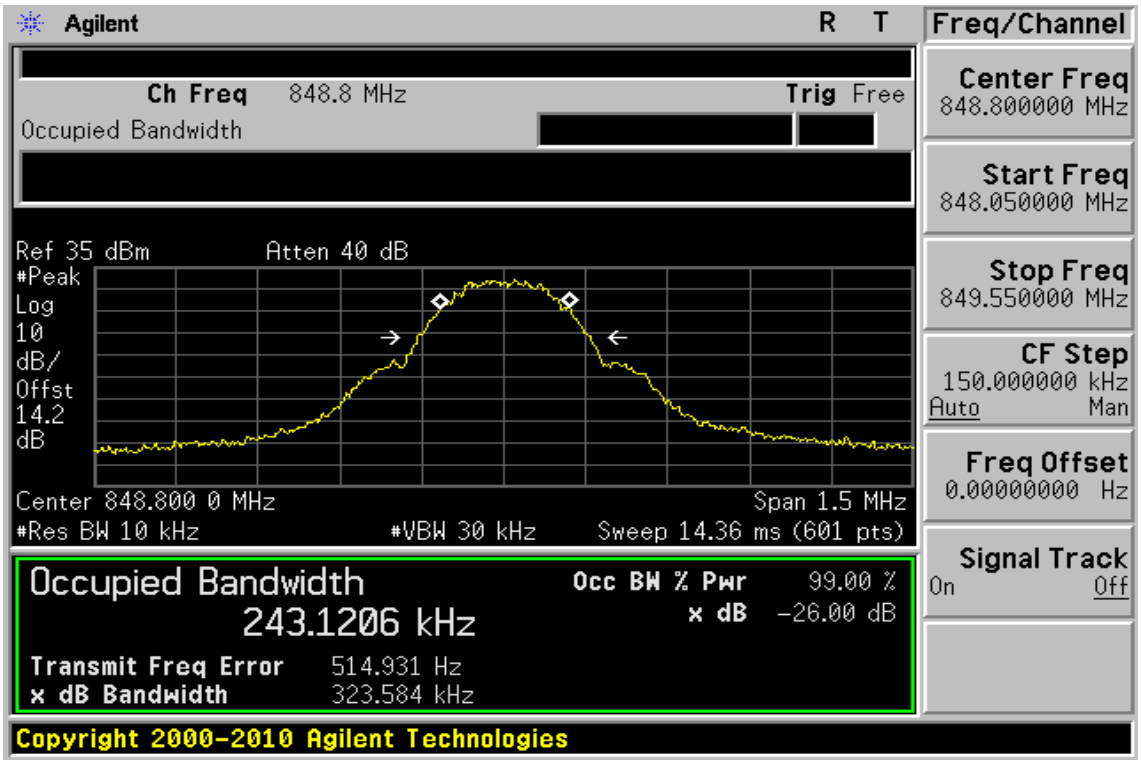


Figure 9-4: GRPS 1900 Channel Low

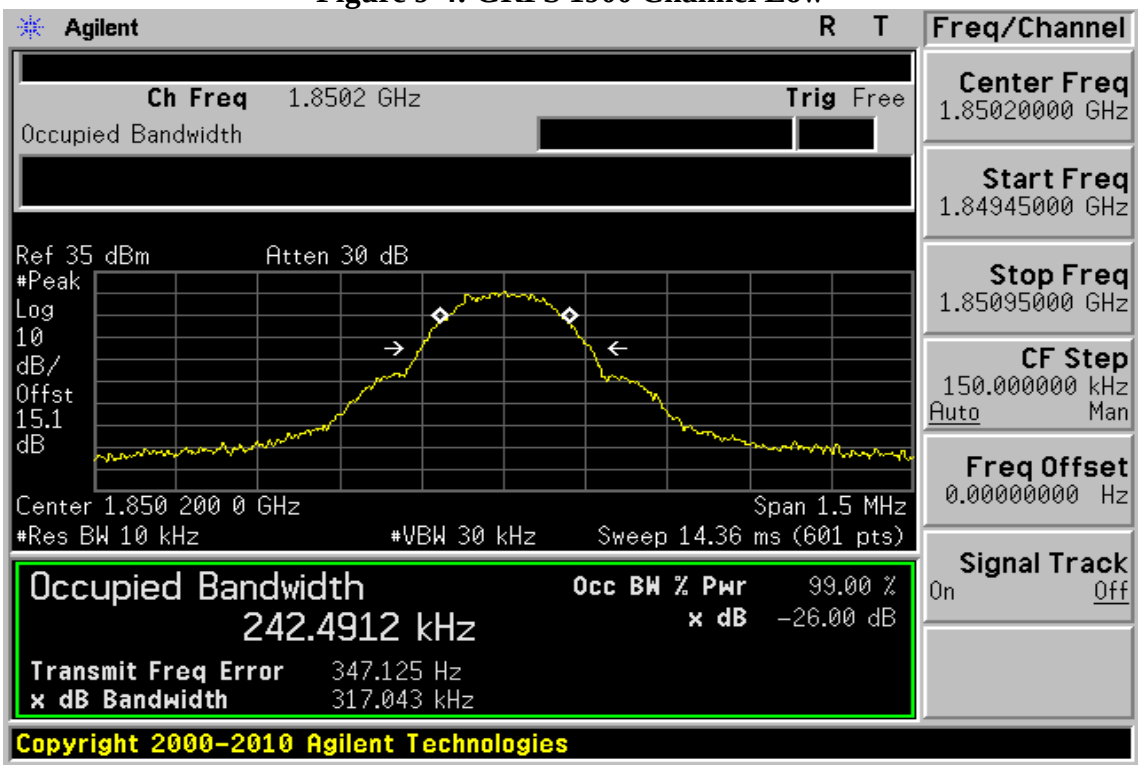


Figure 9-5 GRPS 1900 Channel Mid

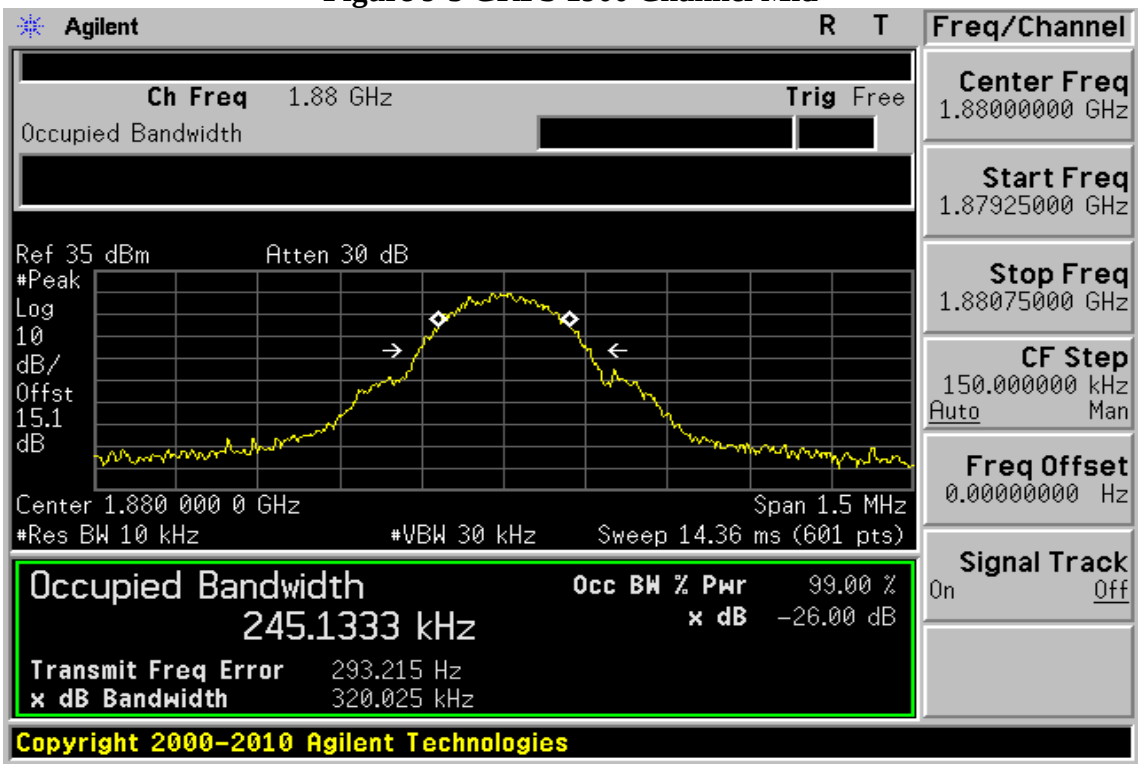


Figure 9-6: GRPS 1900 Channel High

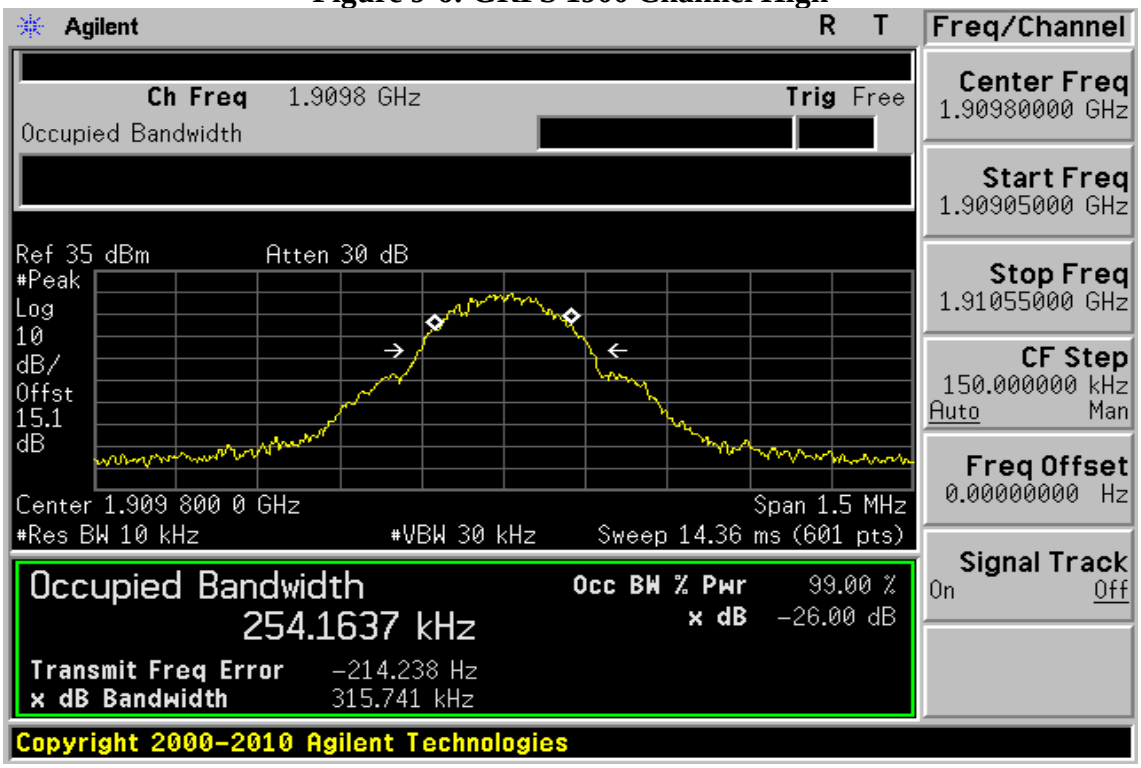


Figure 9-7: EDGE 850 Channel Low

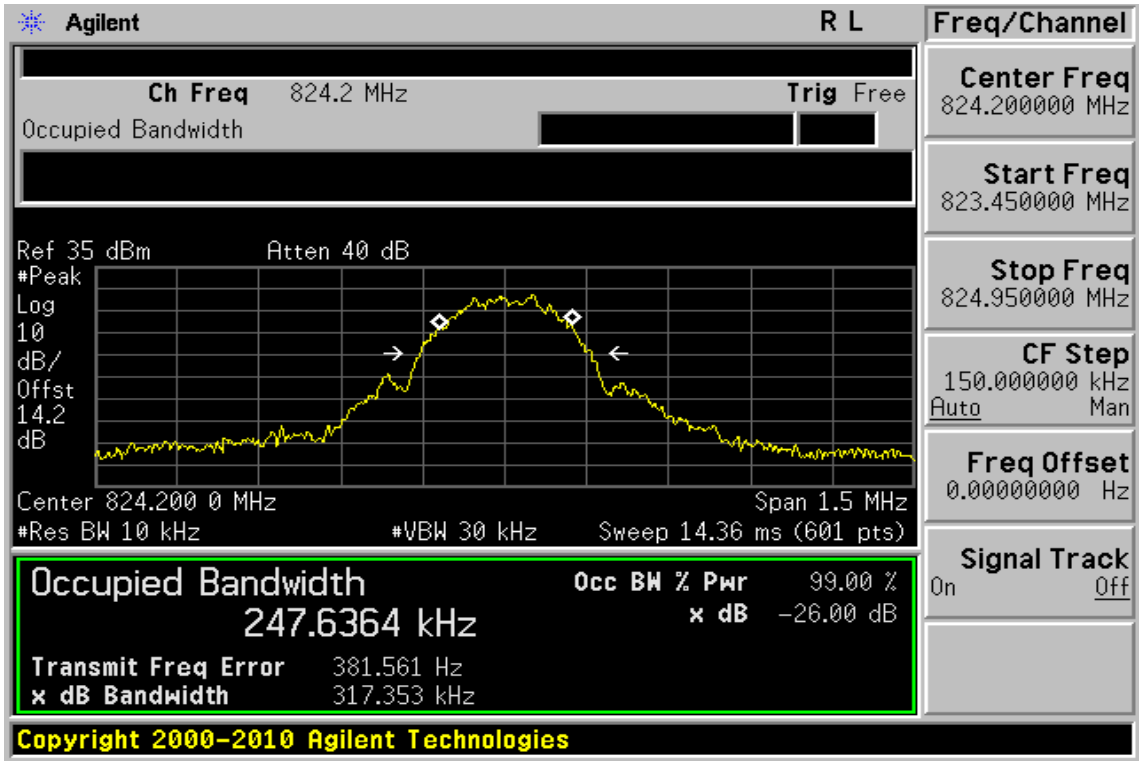
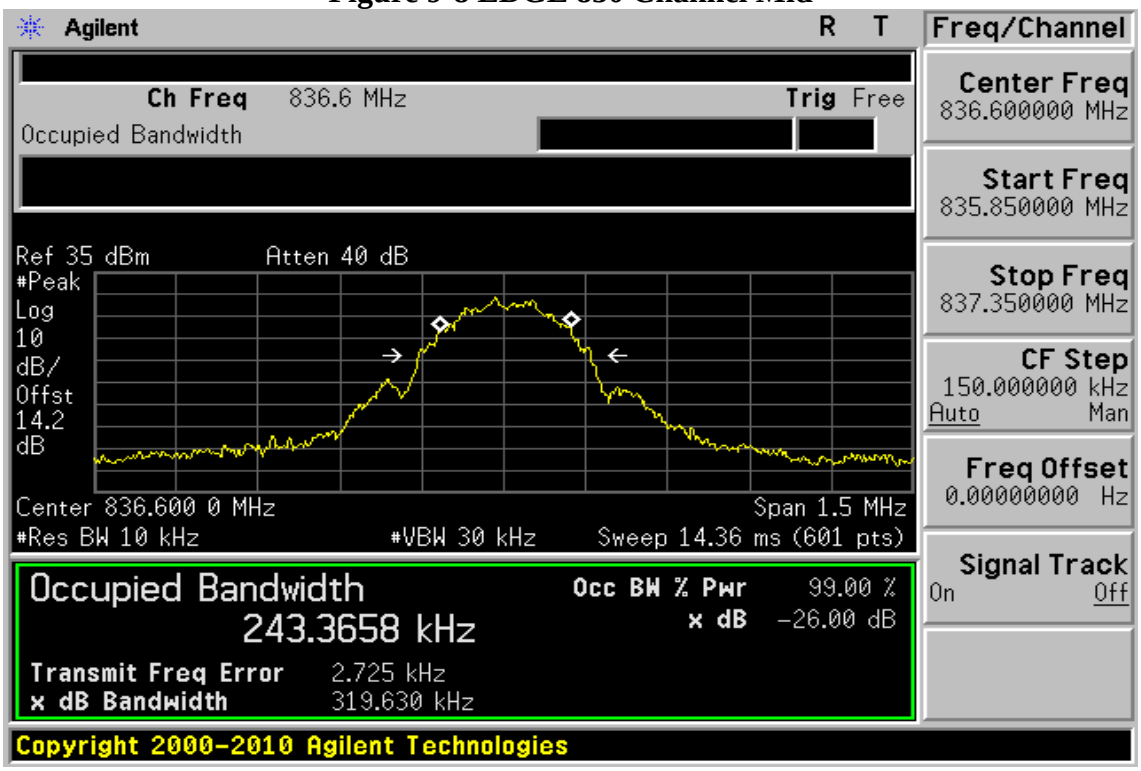


Figure 9-8 EDGE 850 Channel Mid



GPRS Figure 9-9: EDGE 850 Channel High

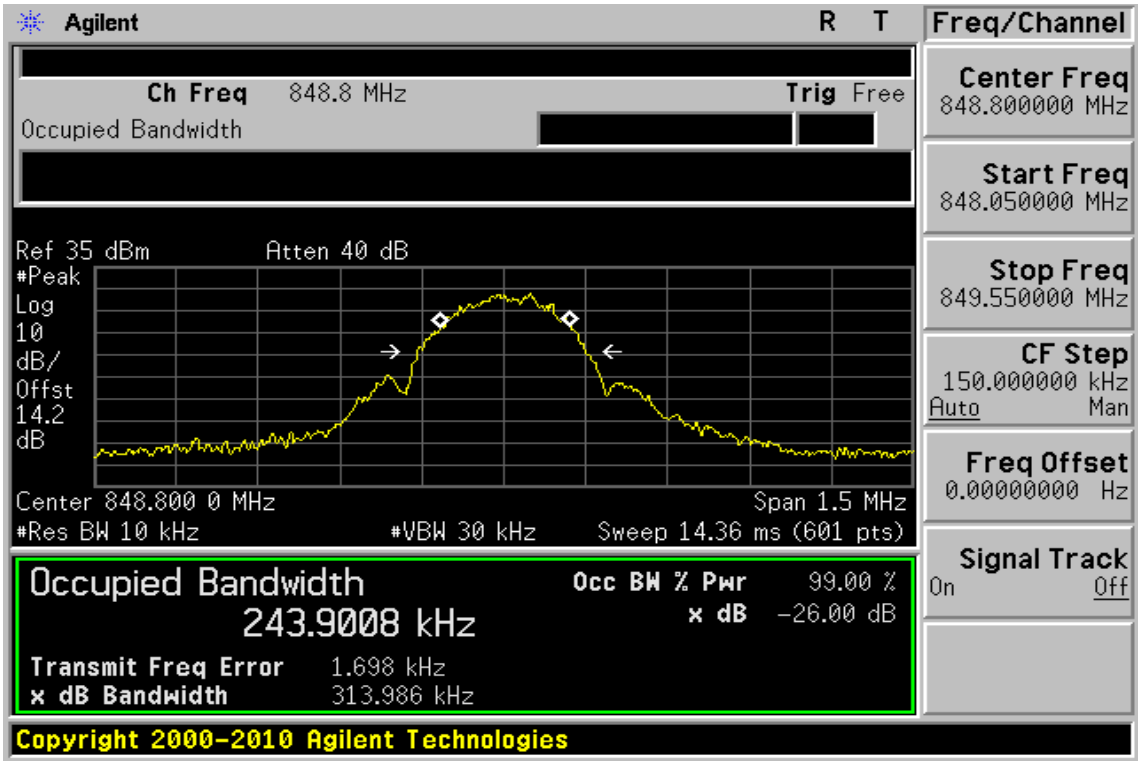


Figure 9-10: EDGE 1900 Channel Low

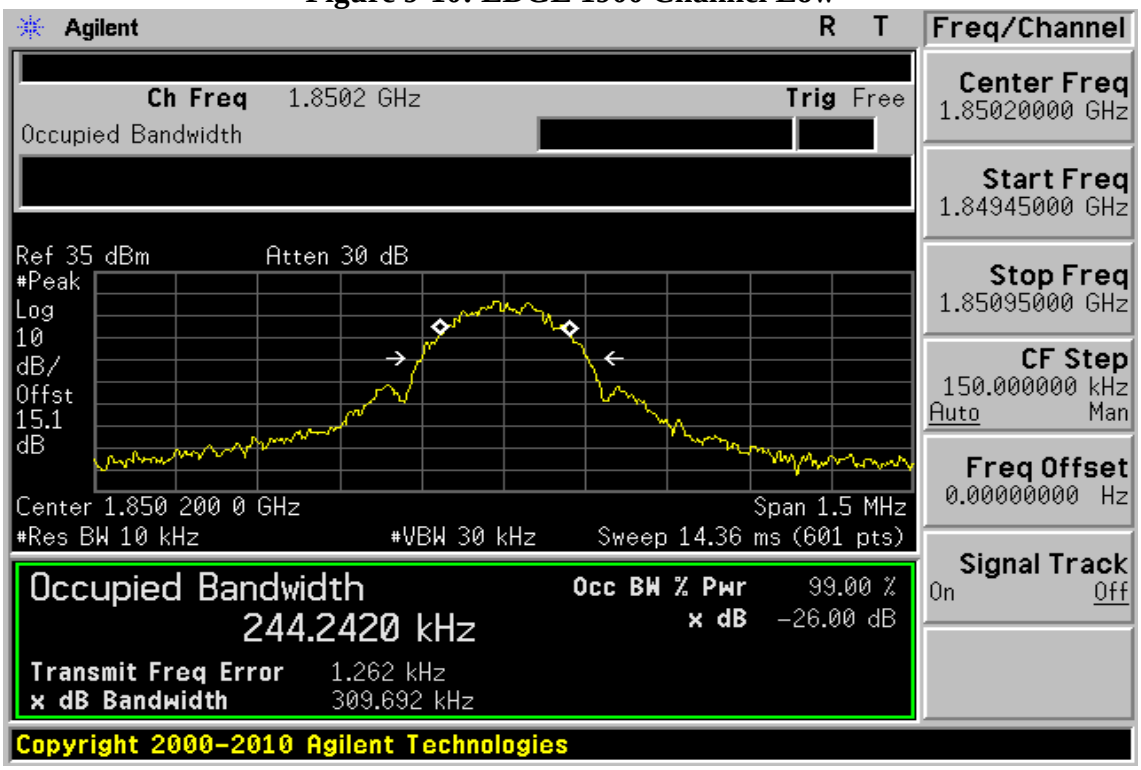


Figure 9-11 EDGE 1900 Channel Mid

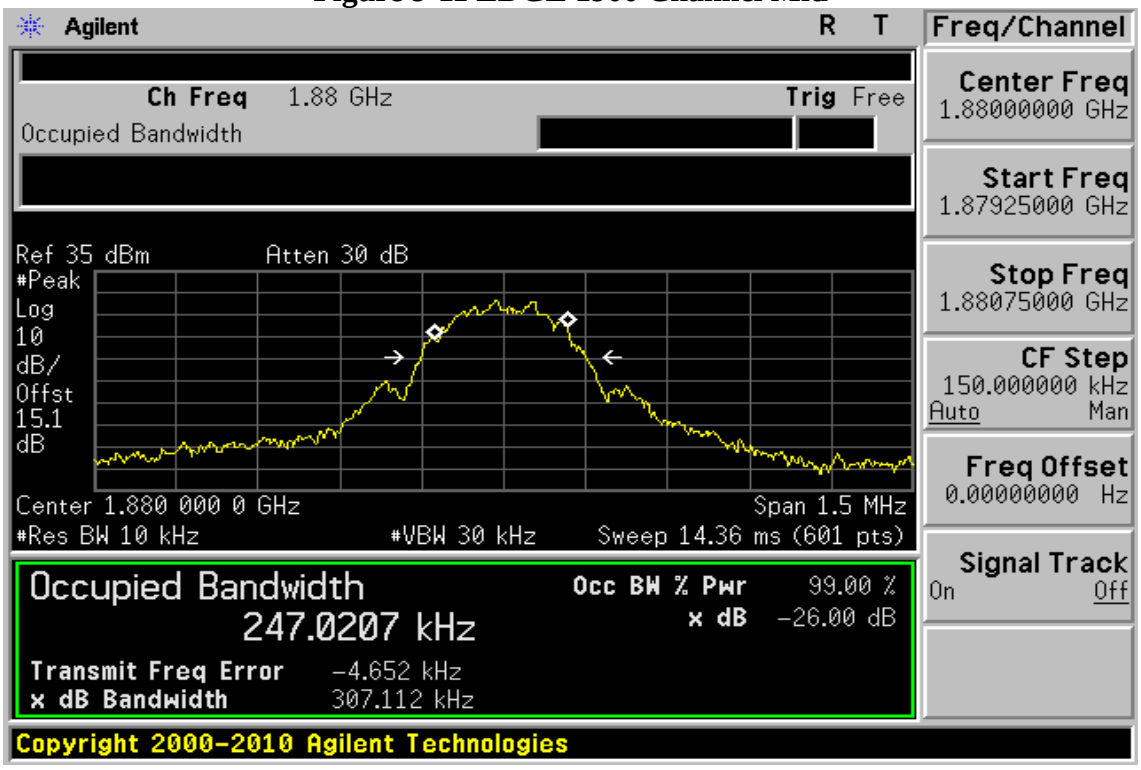


Figure 9-12: EDGE 1900 Channel High

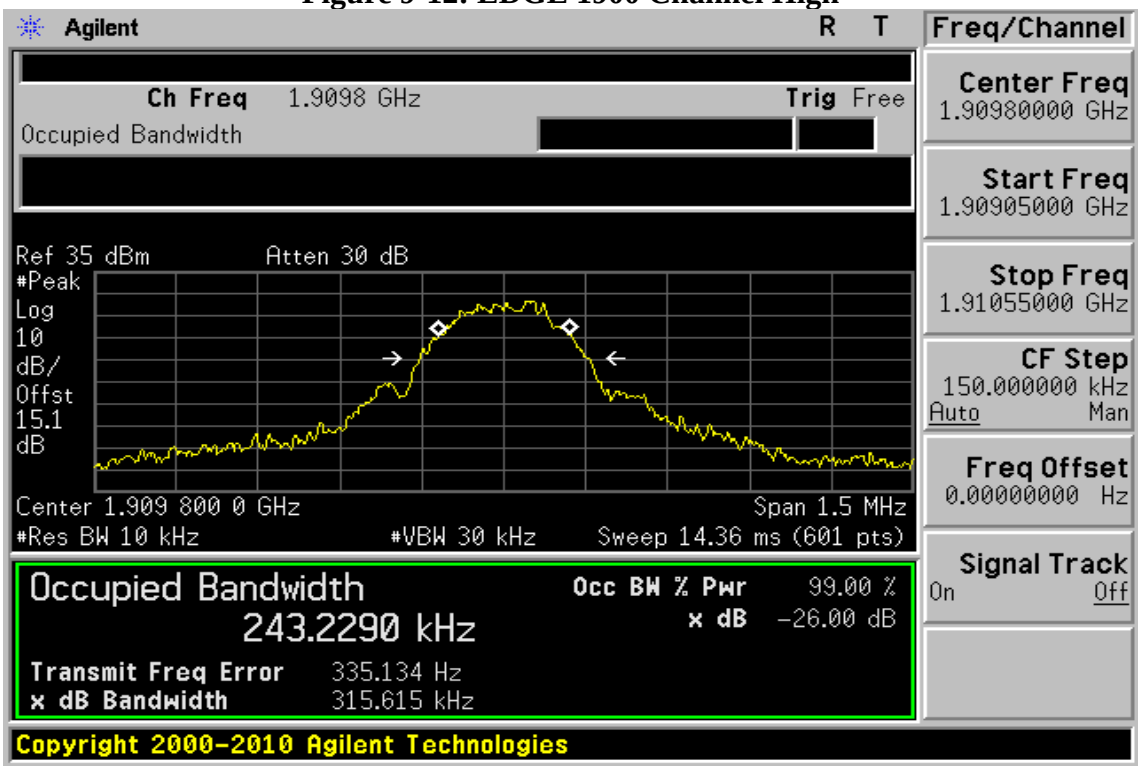


Figure 9-13: WCDMA II Channel Low

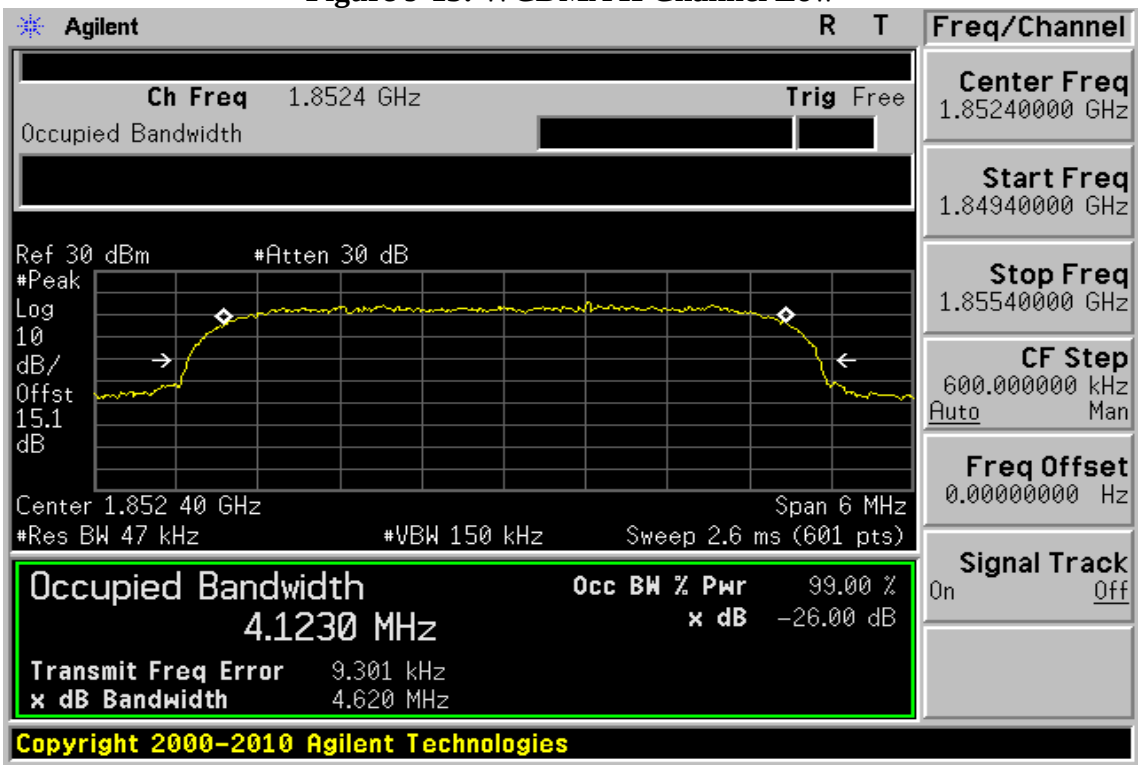


Figure 9-14 WCDMA II Channel Mid

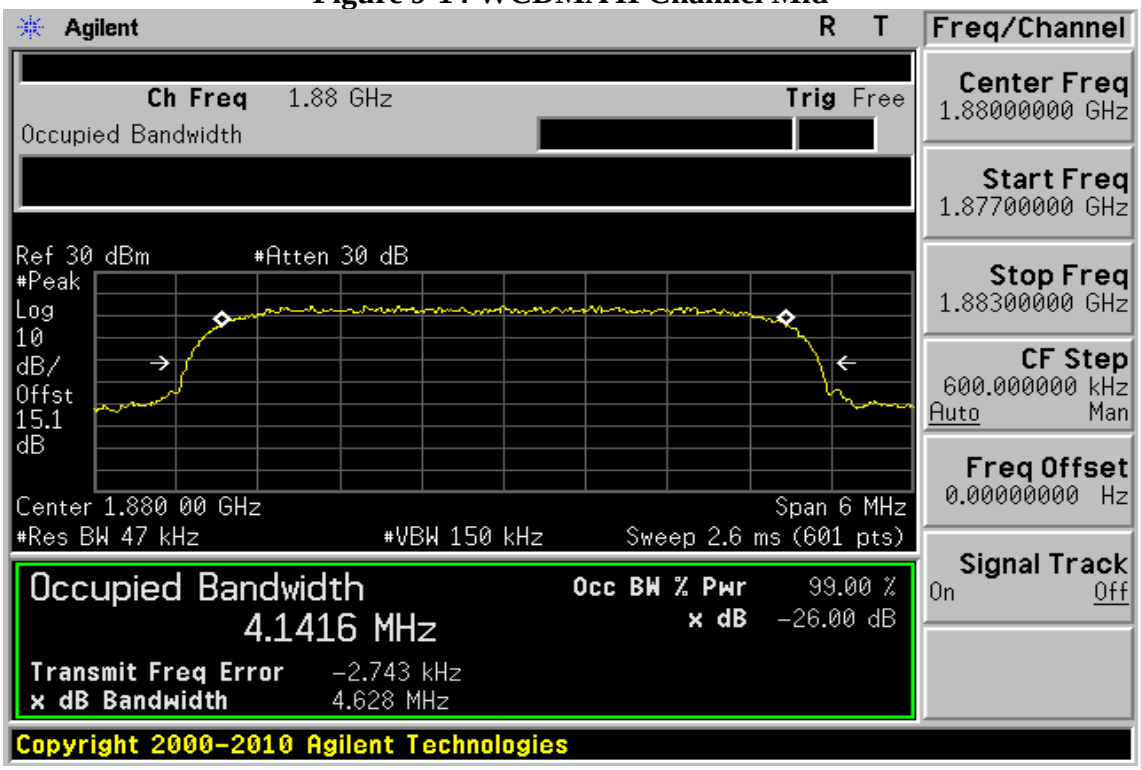


Figure 9-15: WCDMA II Channel High

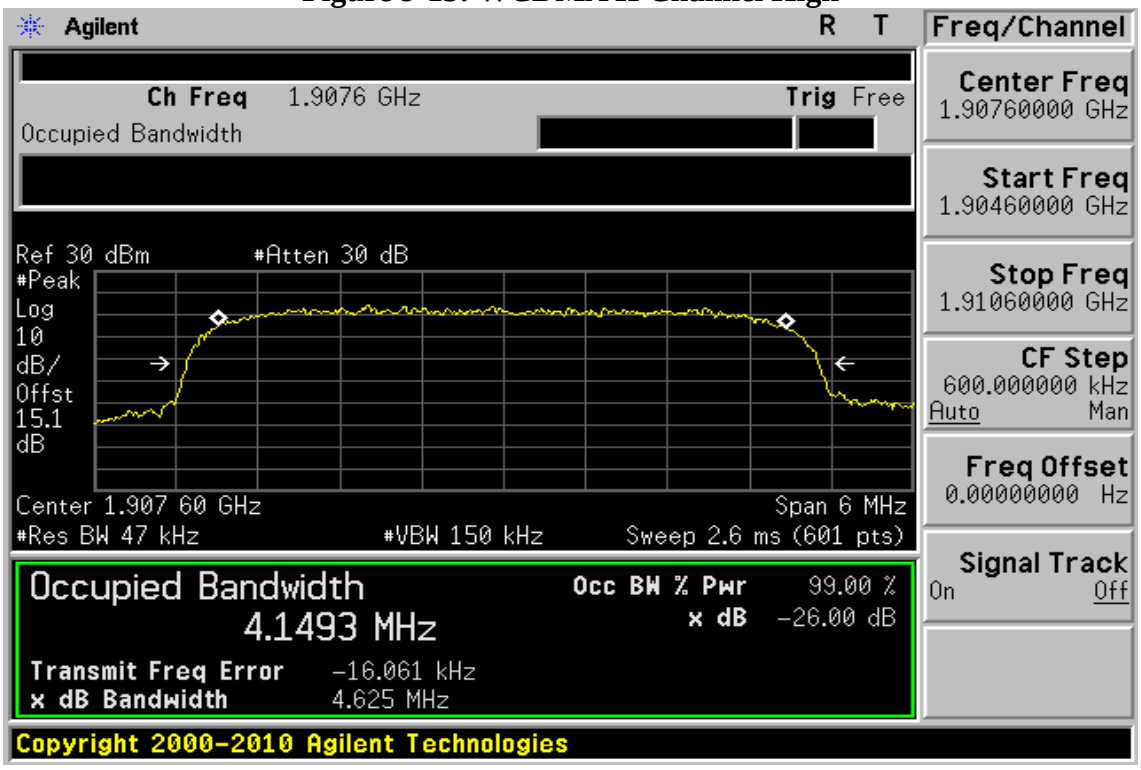


Figure 9-16: WCDMA V Channel Low

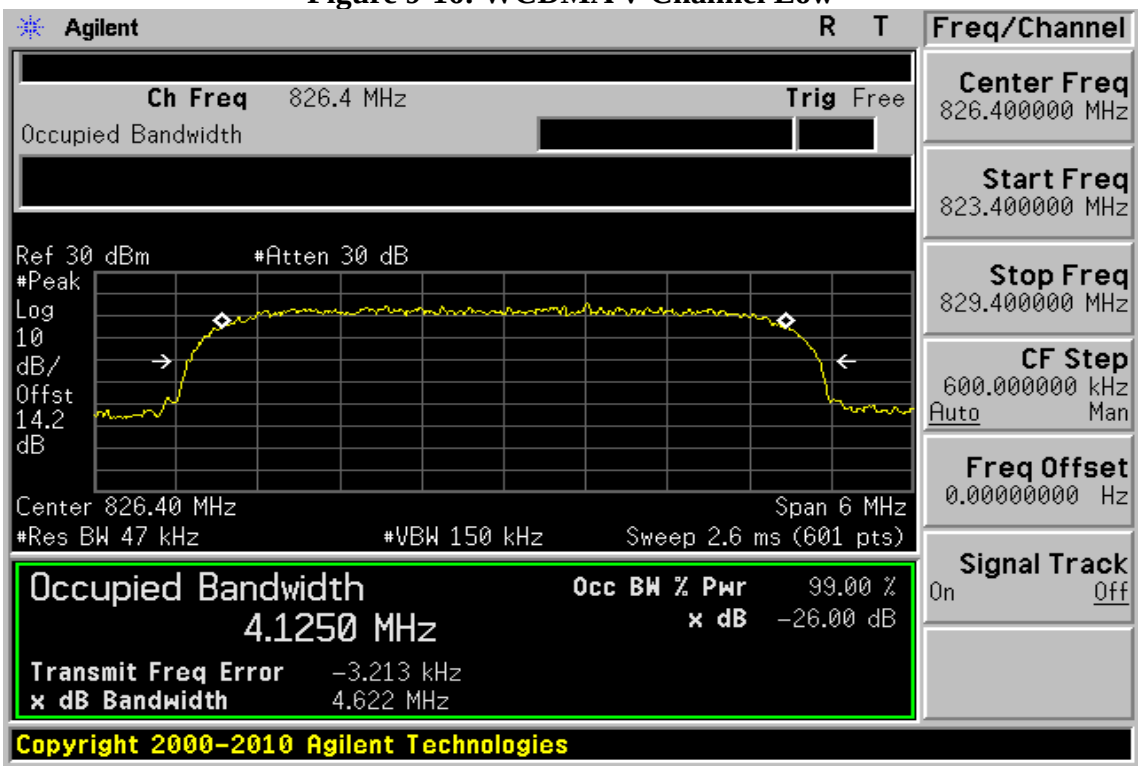


Figure 9-17: WCDMA II Channel Mid

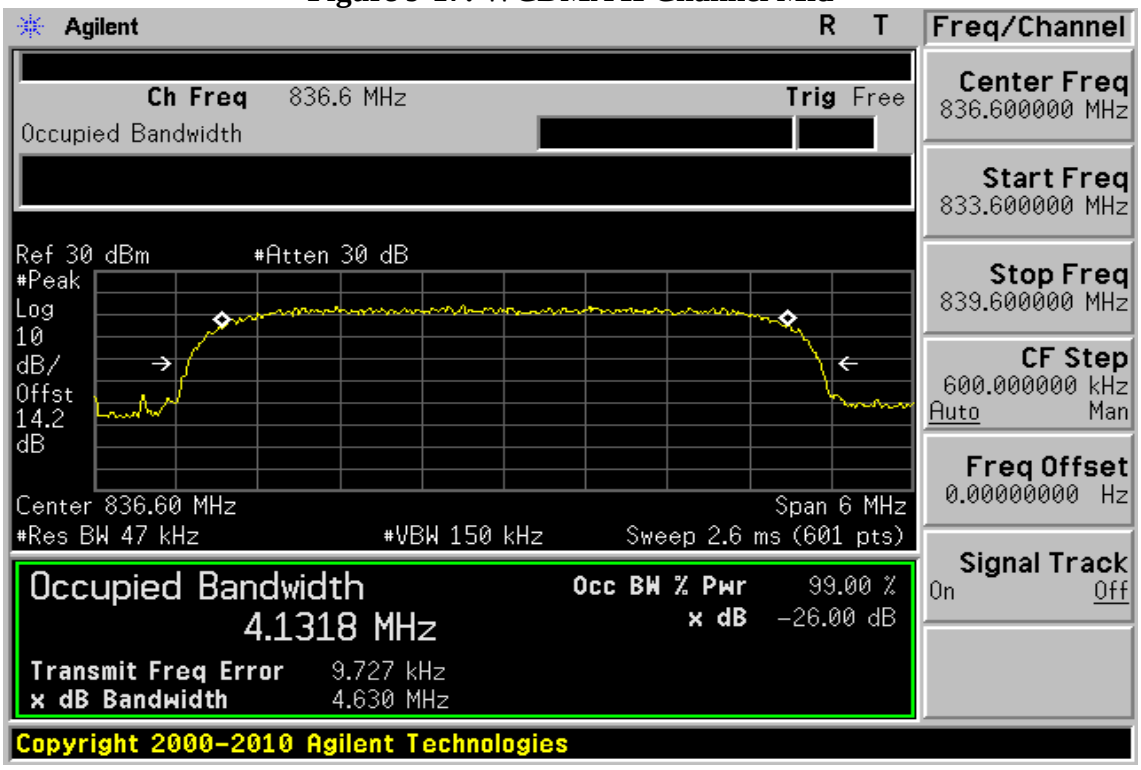


Figure 9-18: WCDMA II Channel High

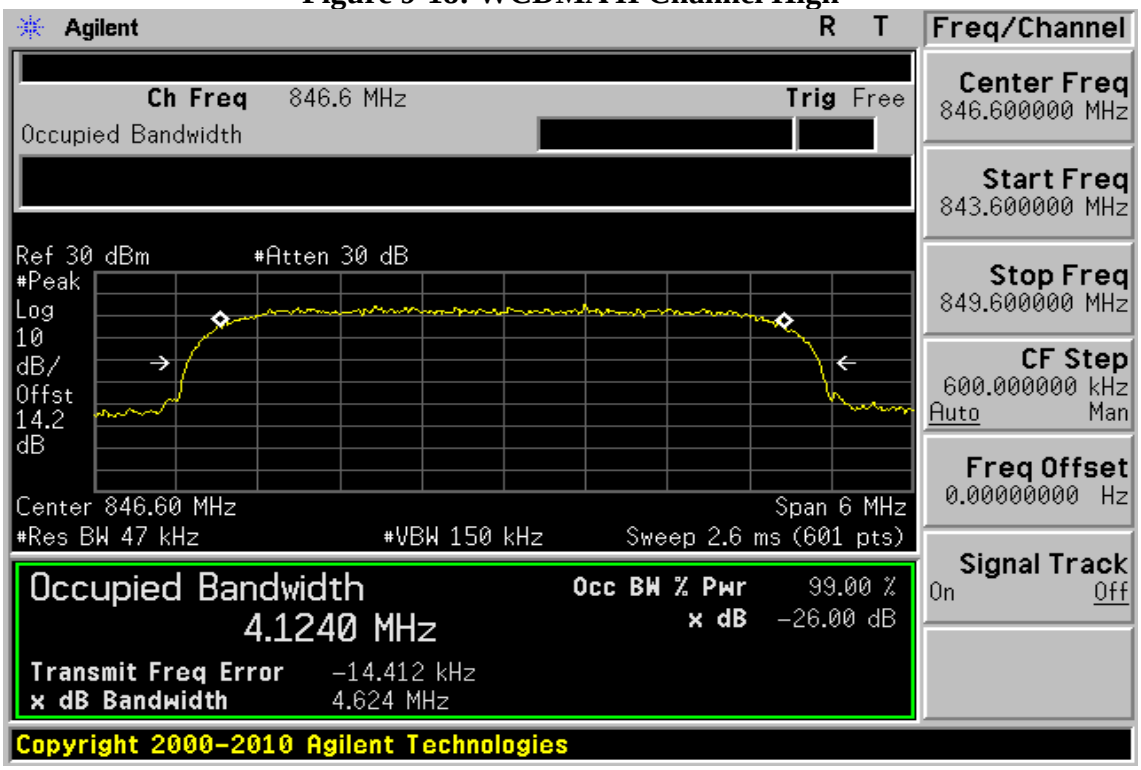


Figure 9-19: HSUPA II Channel Low

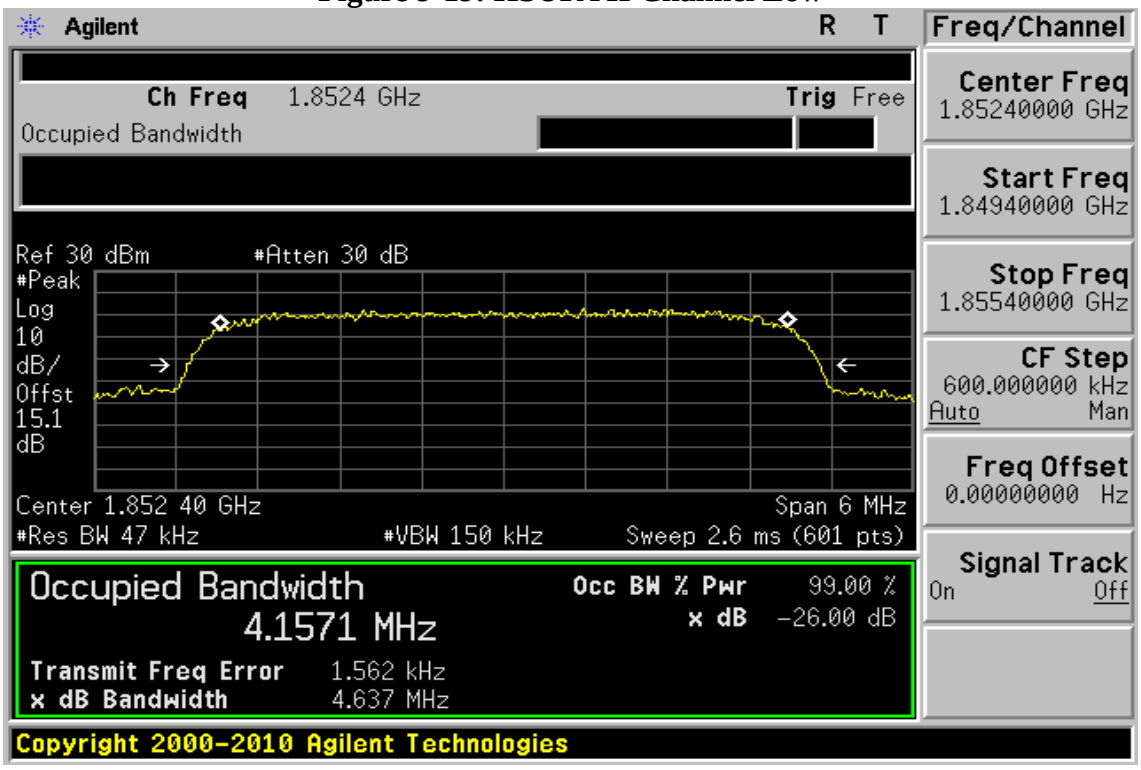


Figure 9-20: HSUPA II Channel Mid

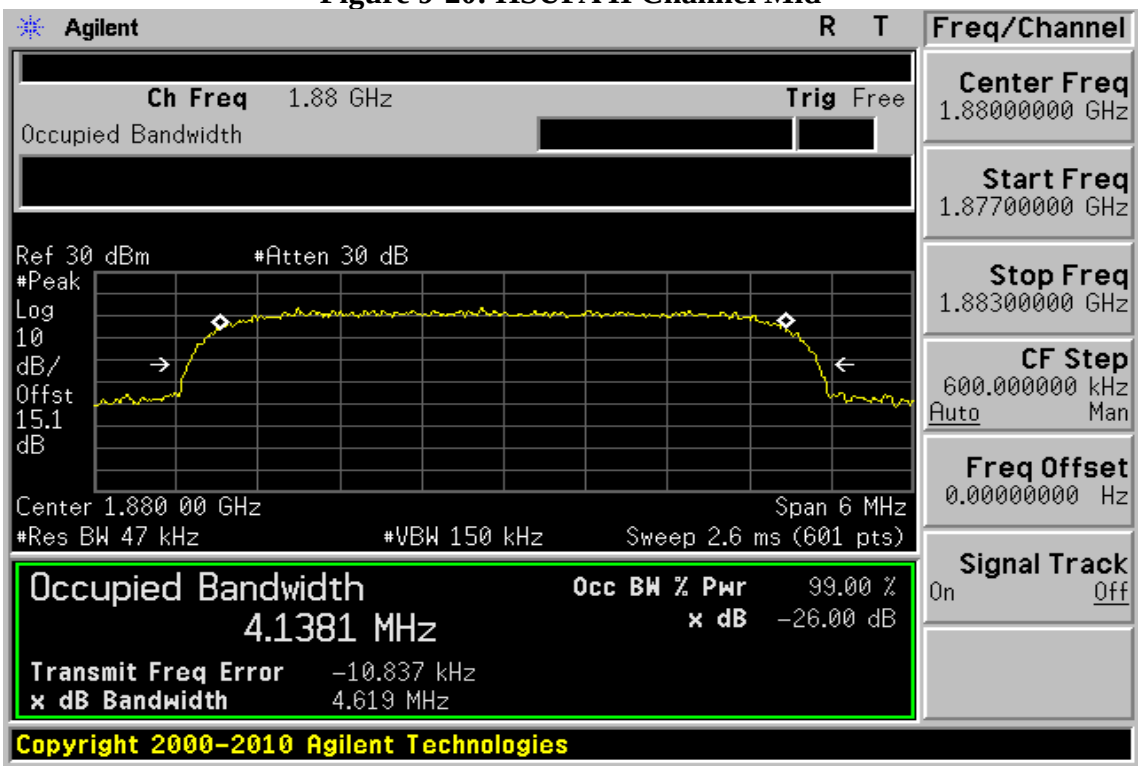


Figure 9-21: HSUPA II Channel High

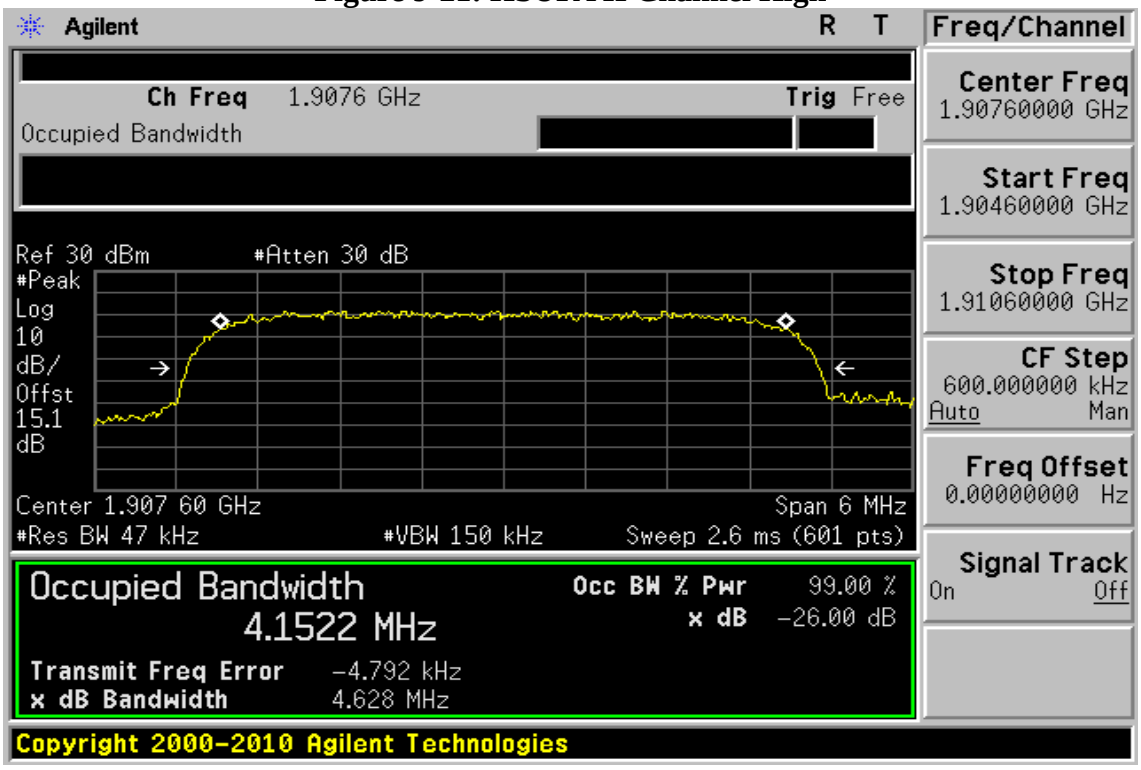


Figure 9-22: HSUPA V Channel Low

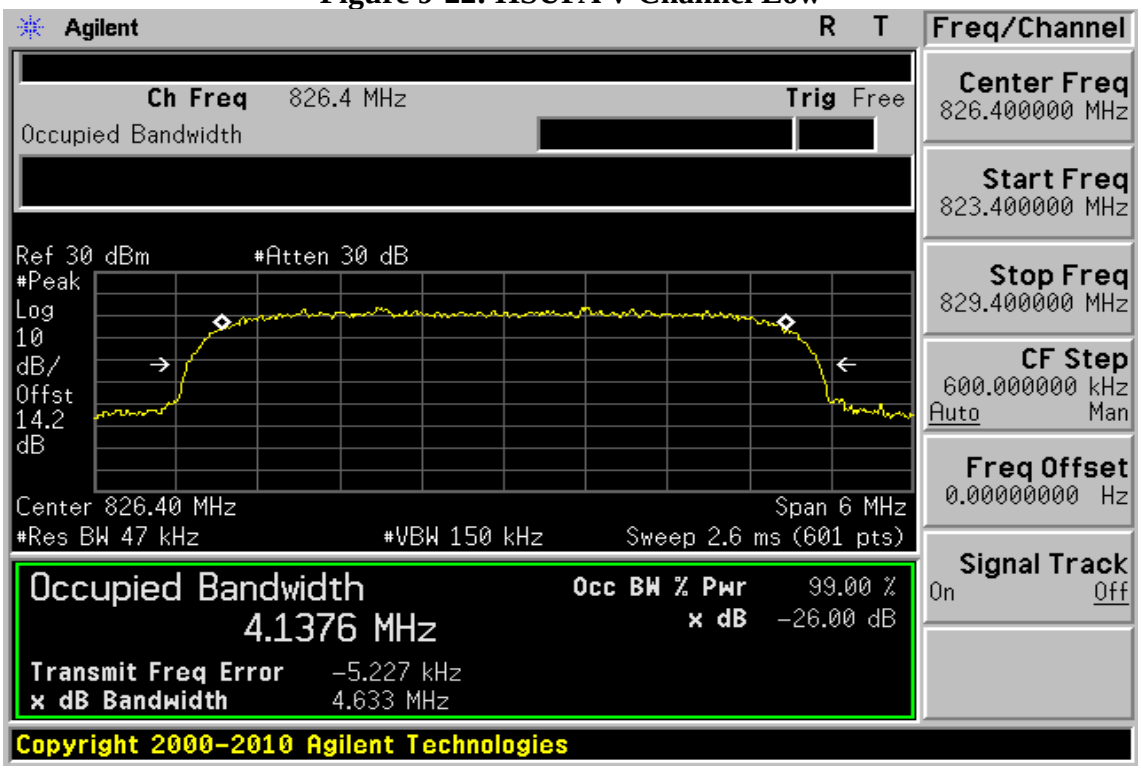


Figure 9-23: HSUPA V Channel Mid

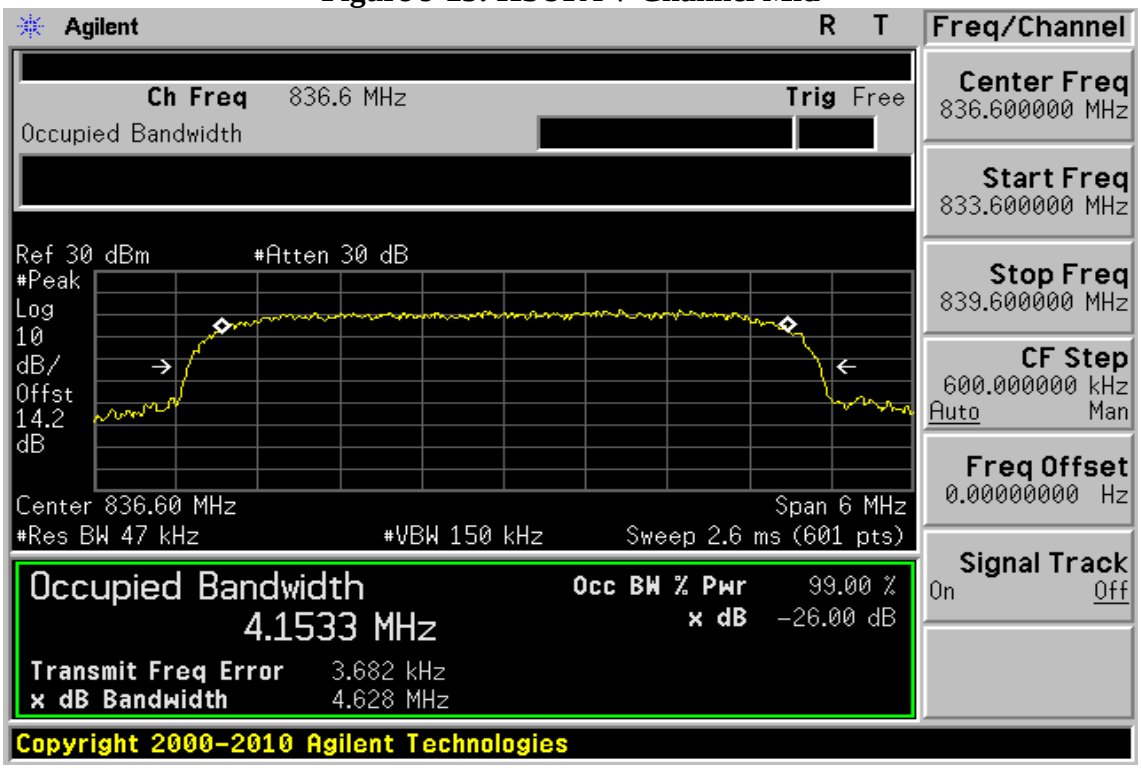


Figure 9-24: HSUPA V Channel High

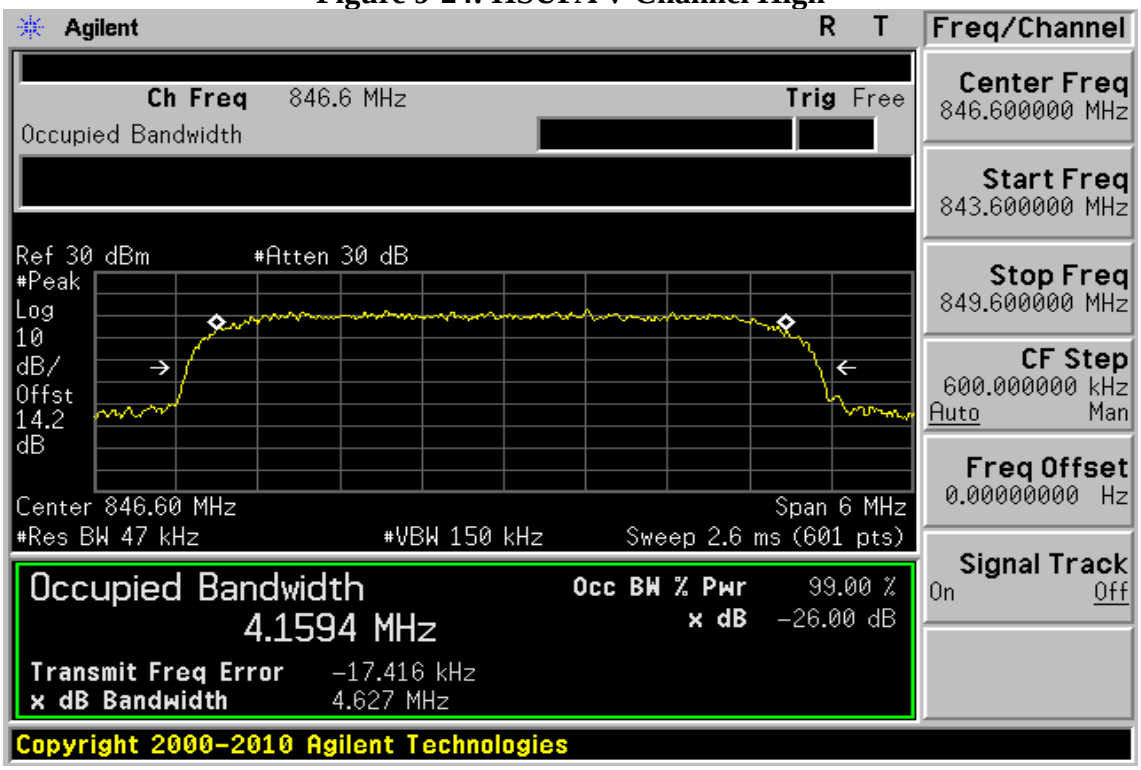


Figure 9-25: HSDPA II Channel Low

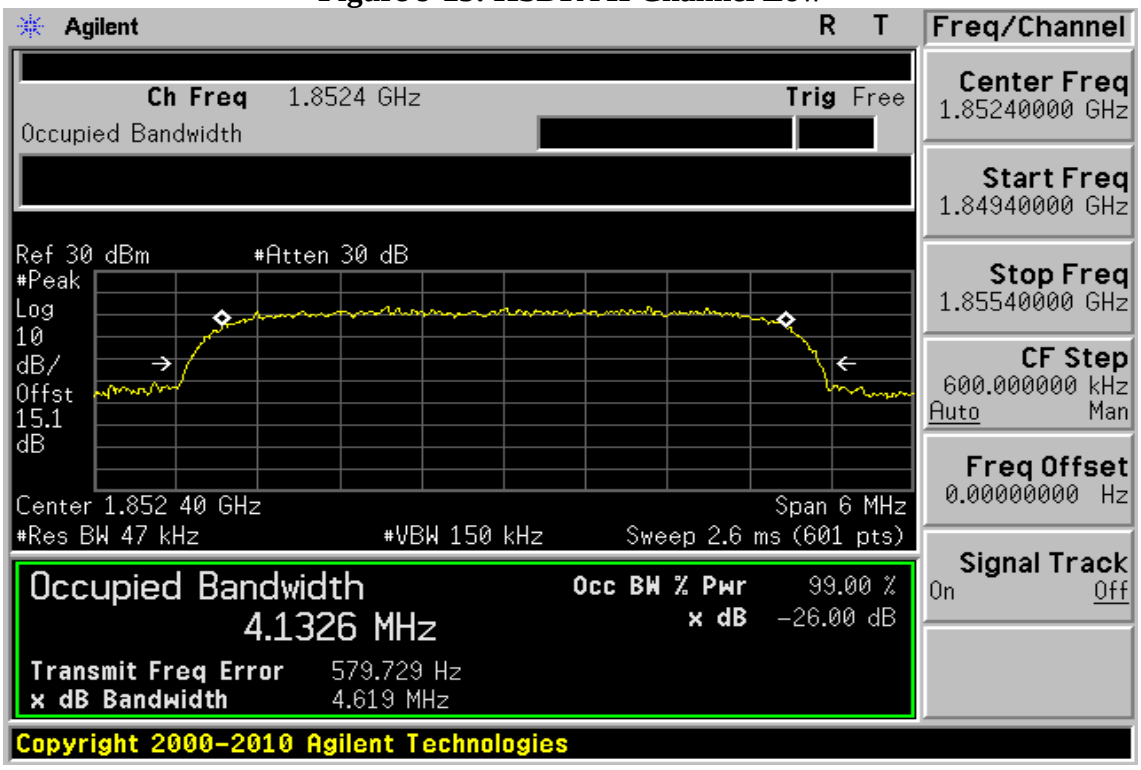


Figure 9-26: HSDPA II Channel Mid

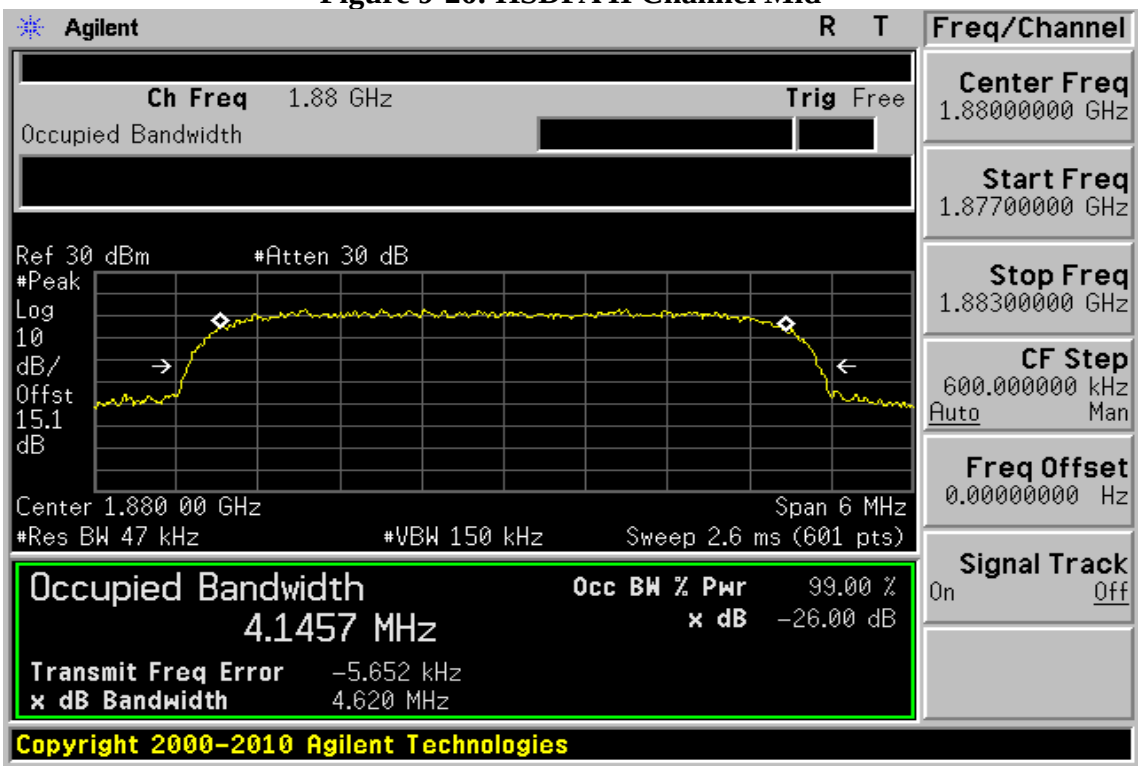


Figure 9-27: HSDPA II Channel High

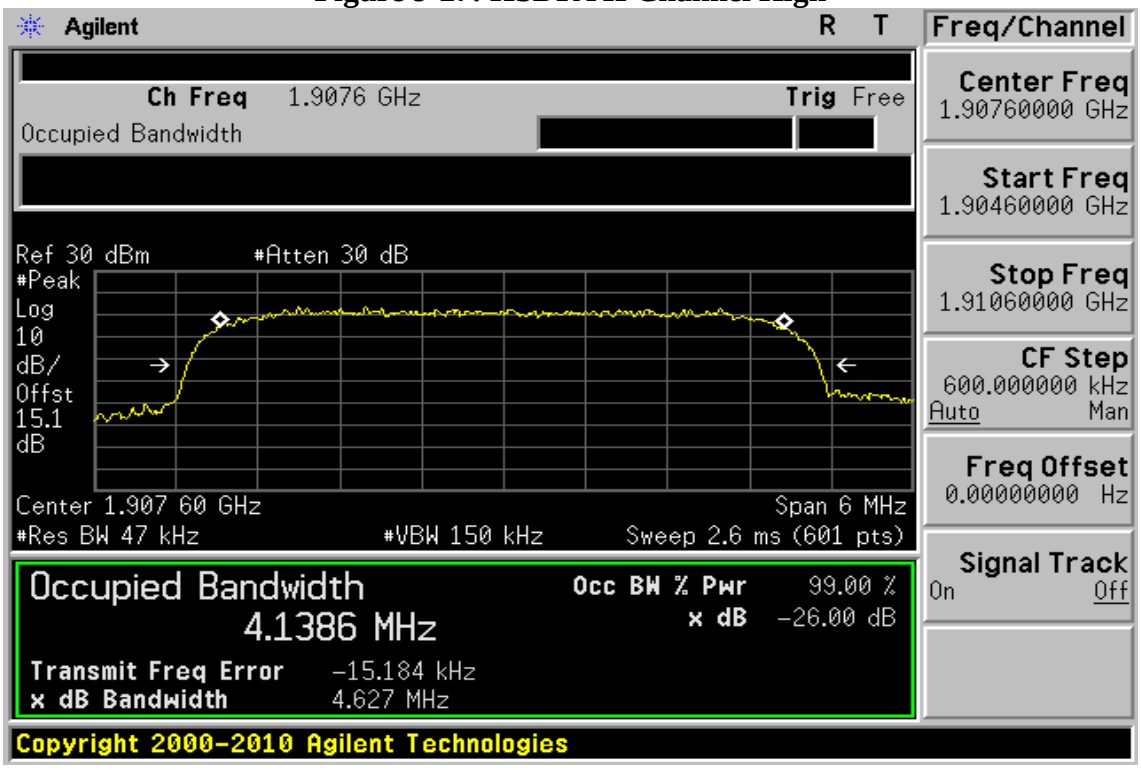


Figure 9-28: HSDPA V Channel Low

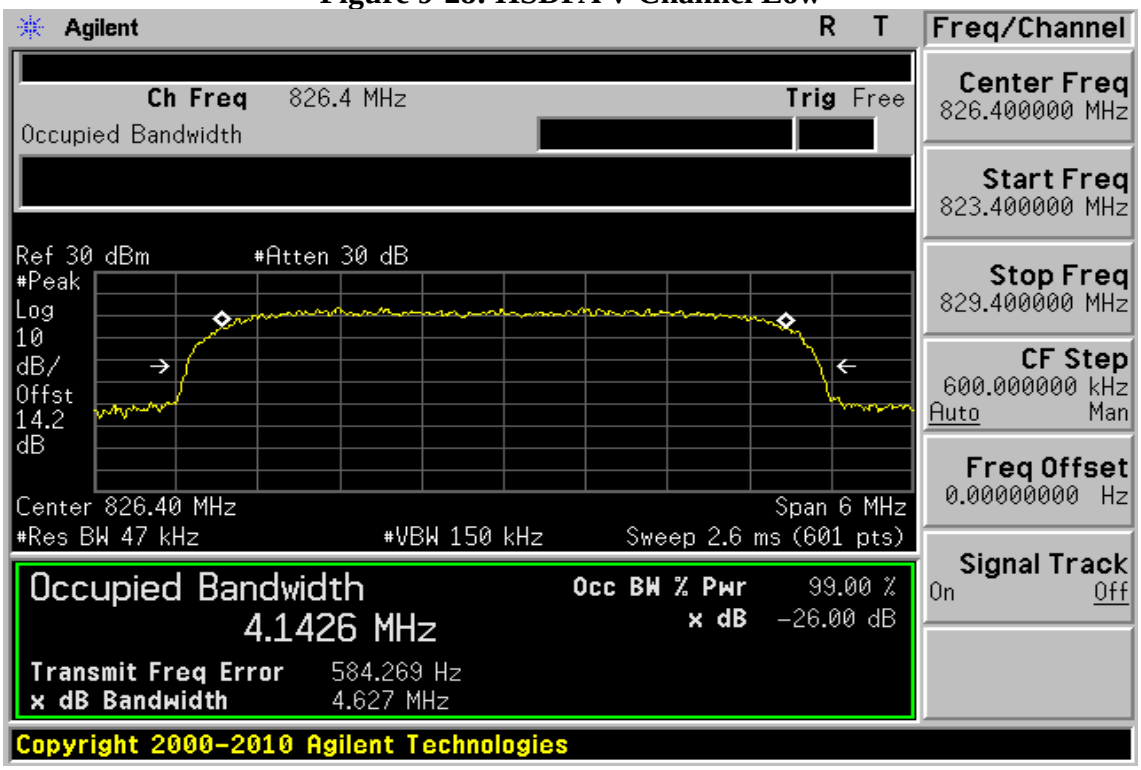


Figure 9-29: HSDPA V Channel Mid

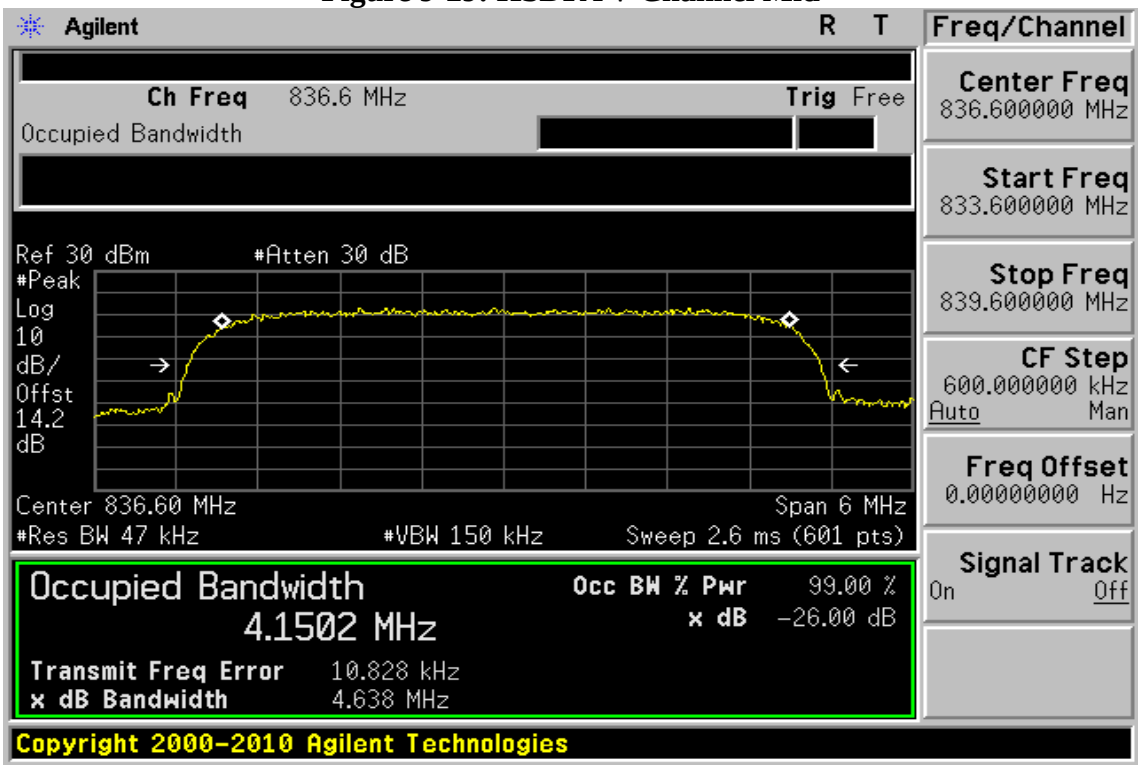


Figure 9-30: HSDPA V Channel High

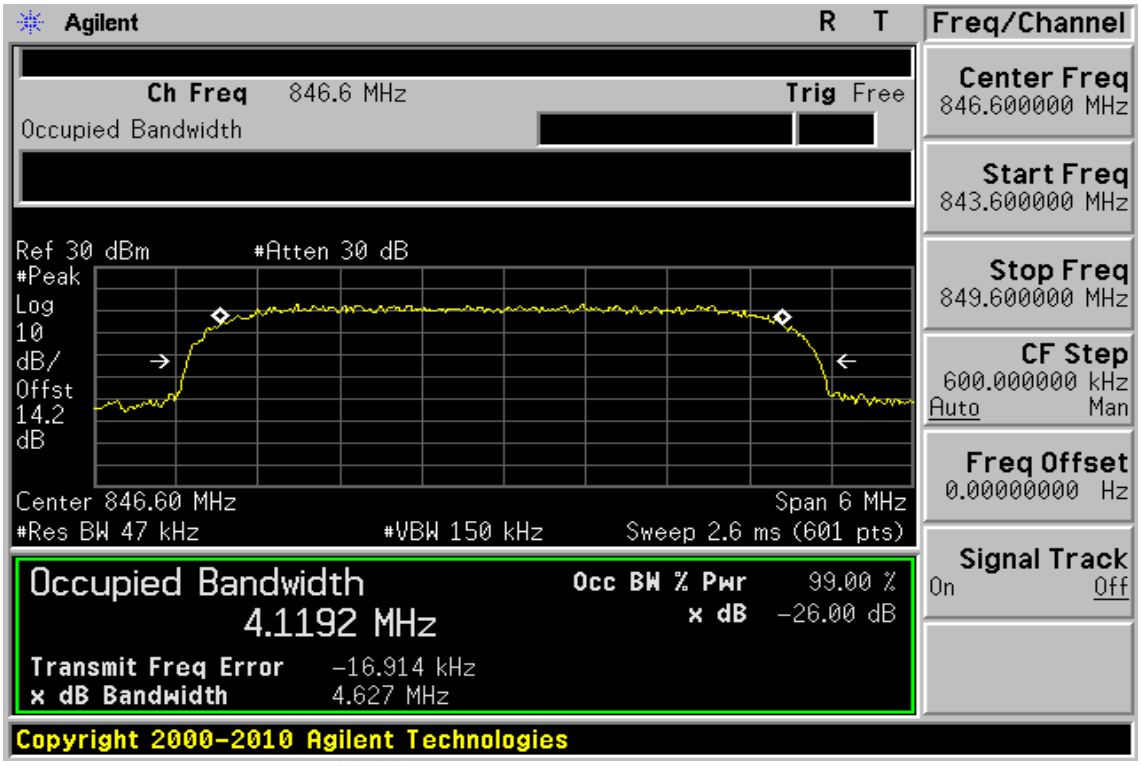


Figure 9-31: 5MHz BW LTE-Band 4(QPSK RB Number: 25 Offset: 0) Channel Low

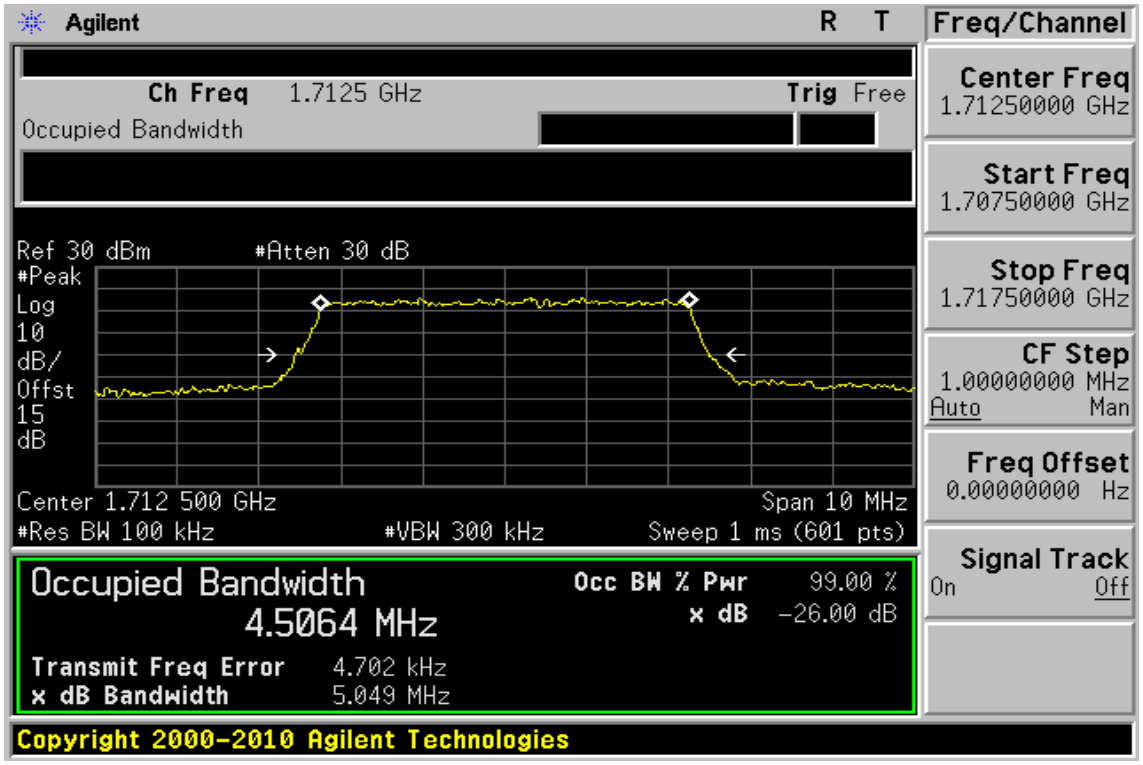


Figure 9-32: 5MHz BW LTE-Band 4(QPSK RB Number: 25 Offset: 0) Channel Mid

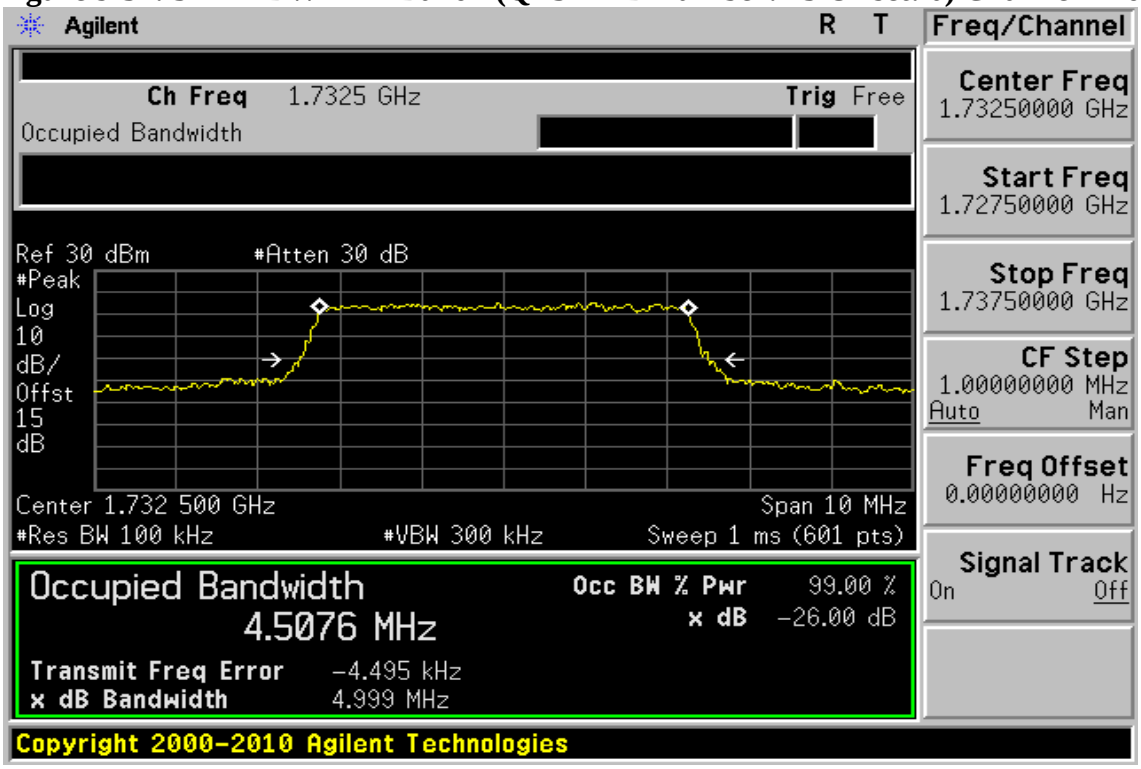


Figure 9-33: 5MHz BW LTE-Band 4(QPSK RB Number: 25 Offset: 0) Channel High

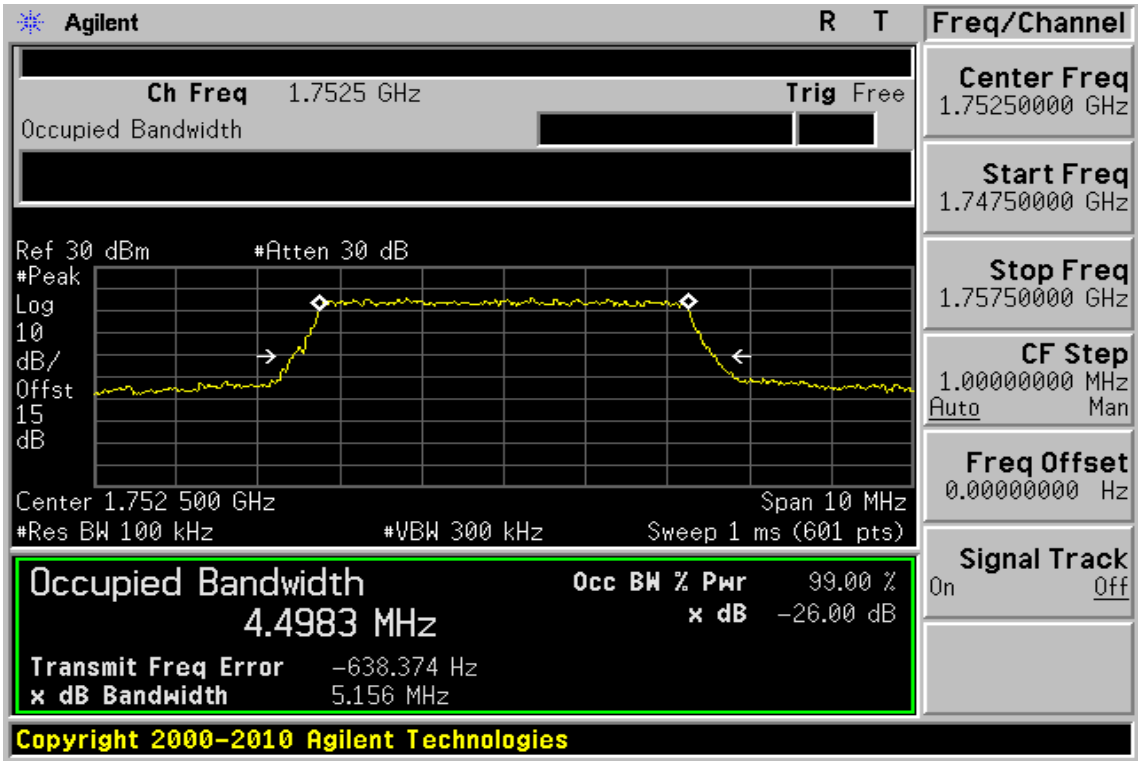


Figure 9-34: 5MHz BW LTE-Band 4(16QAM RB Number: 25 Offset: 0) Channel Low

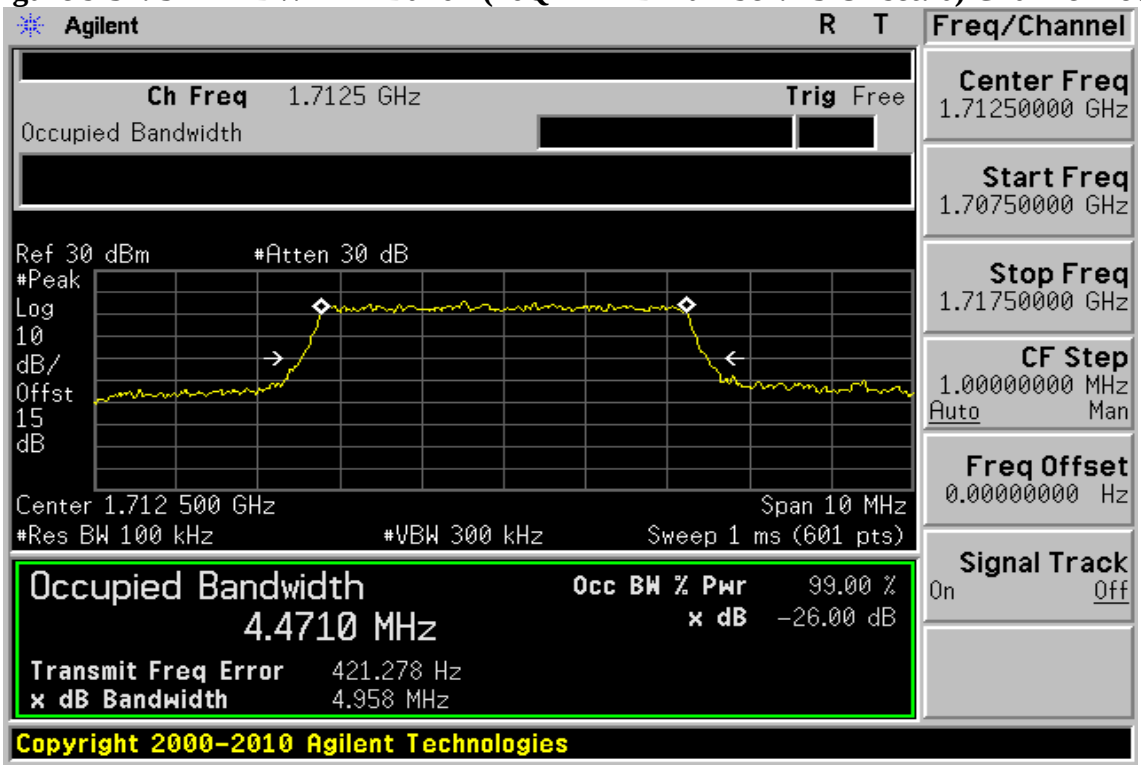


Figure 9-35: 5MHz BW LTE-Band 4(16QAM RB Number: 25 Offset: 0) Channel Mid

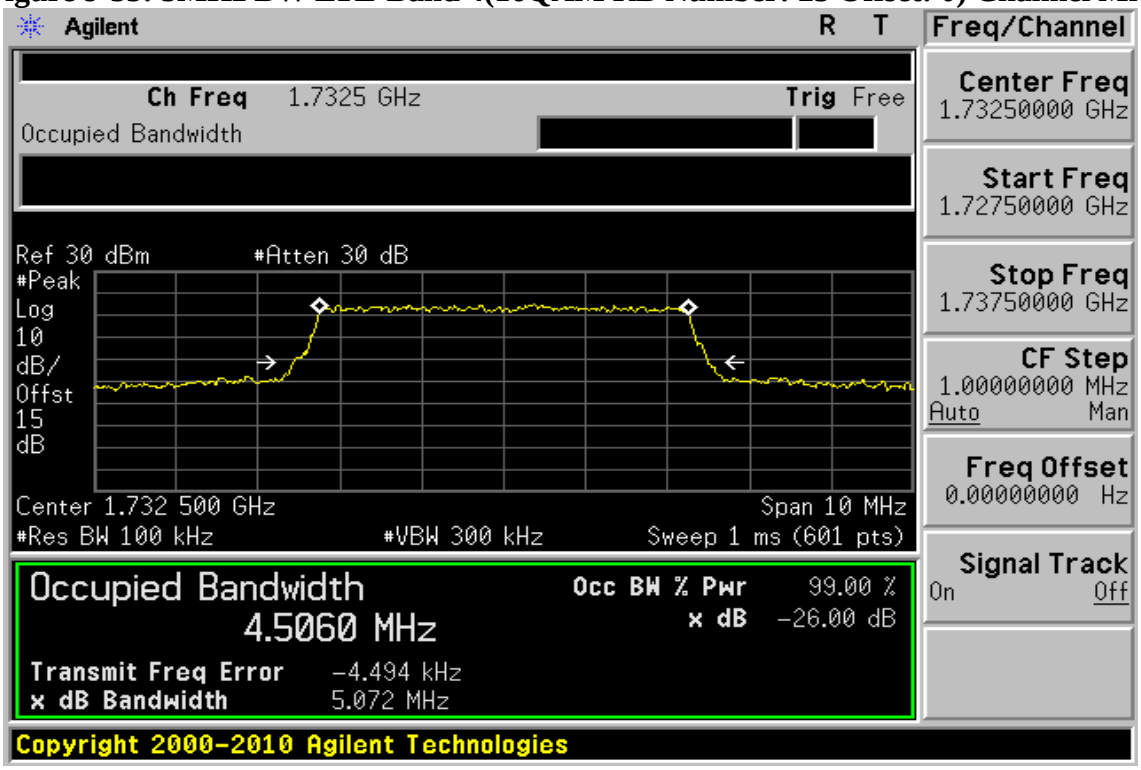


Figure 9-36: 5MHz BW LTE-Band 4(16QAM RB Number: 25 Offset: 0) Channel High

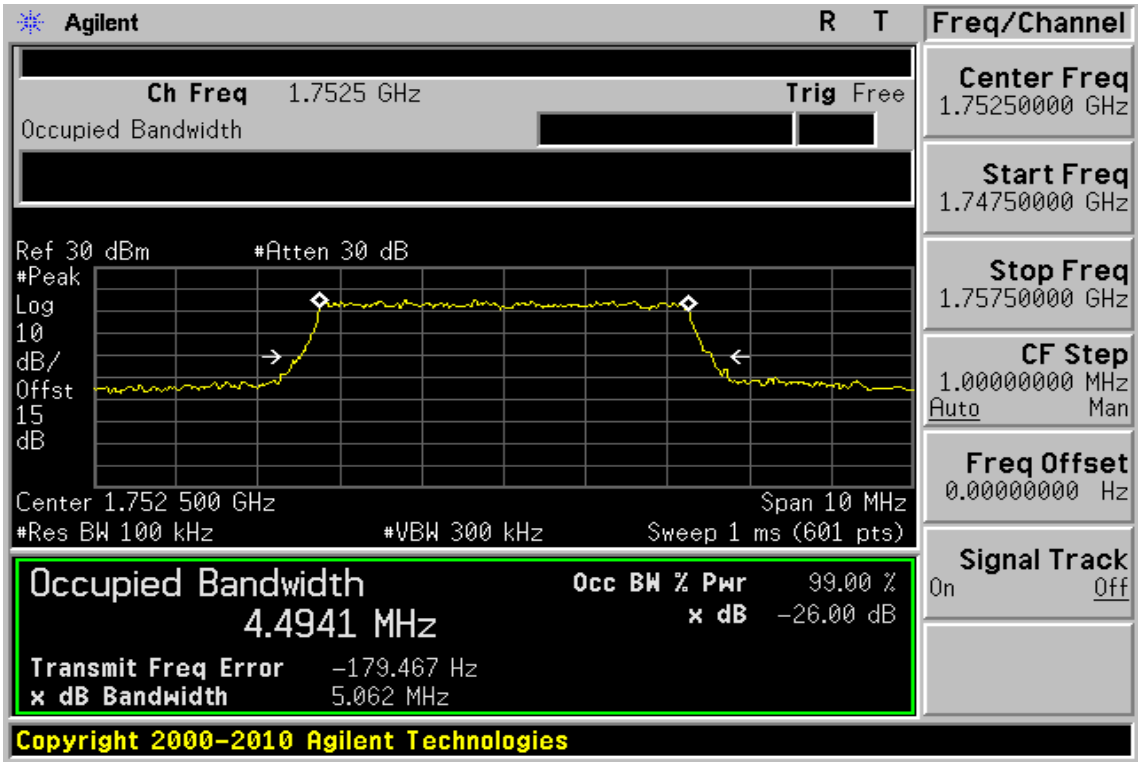


Figure 9-37: 10MHz BW LTE-Band 4(QPSK RB Number: 50 Offset: 0) Channel Low

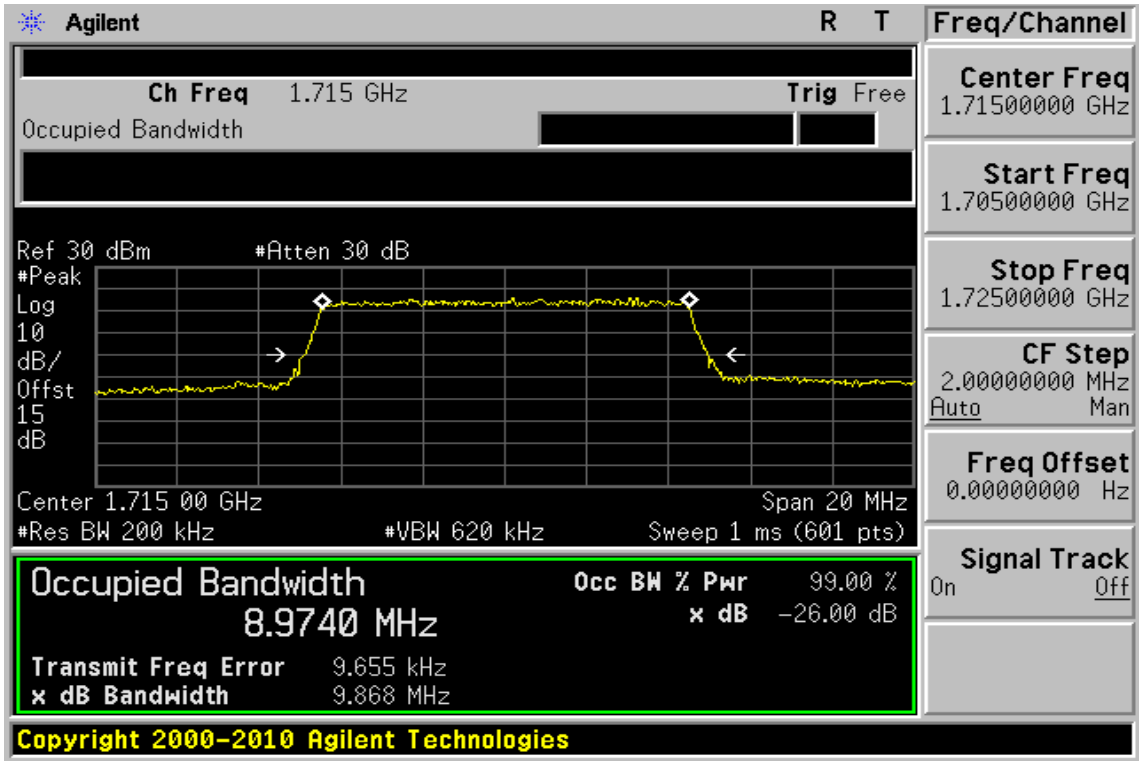


Figure 9-38: 10MHz BW LTE-Band 4(QPSK RB Number: 50 Offset: 0) Channel Mid

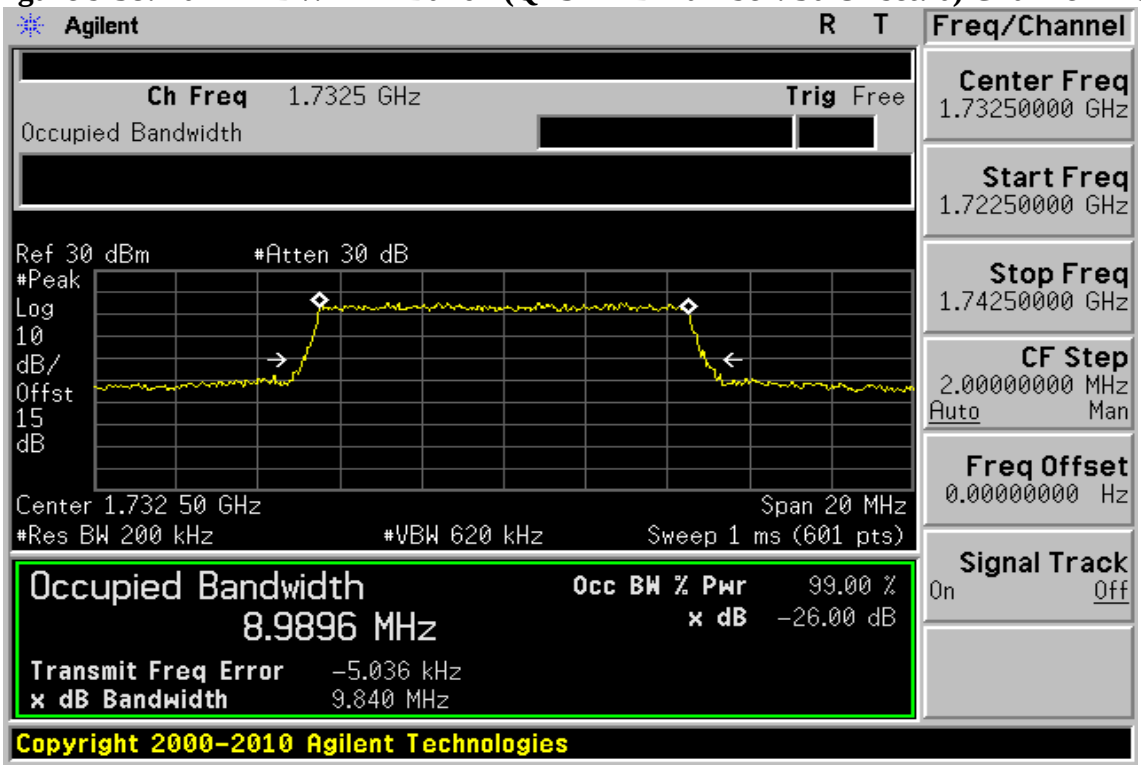


Figure 9-39: 10MHz BW LTE-Band 4(QPSK RB Number: 50 Offset: 0) Channel High

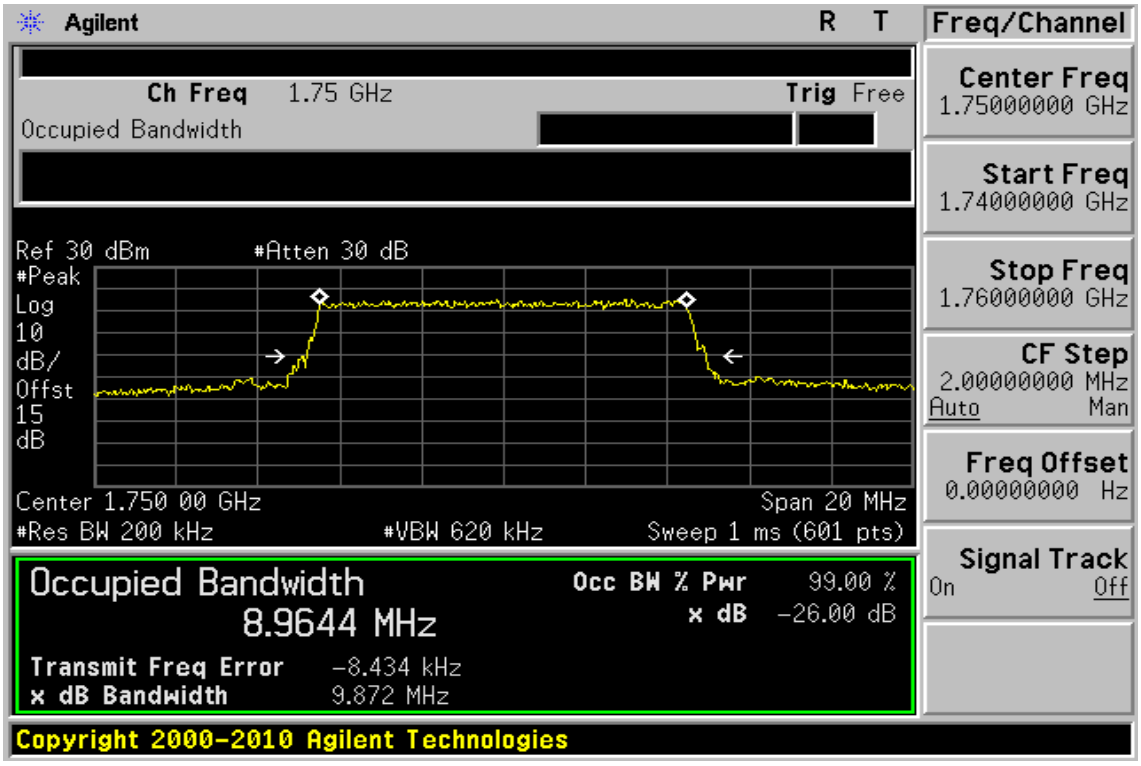


Figure 9-40: 10MHz BW LTE-Band 4(16QAM RB Number: 50 Offset: 0) Channel Low

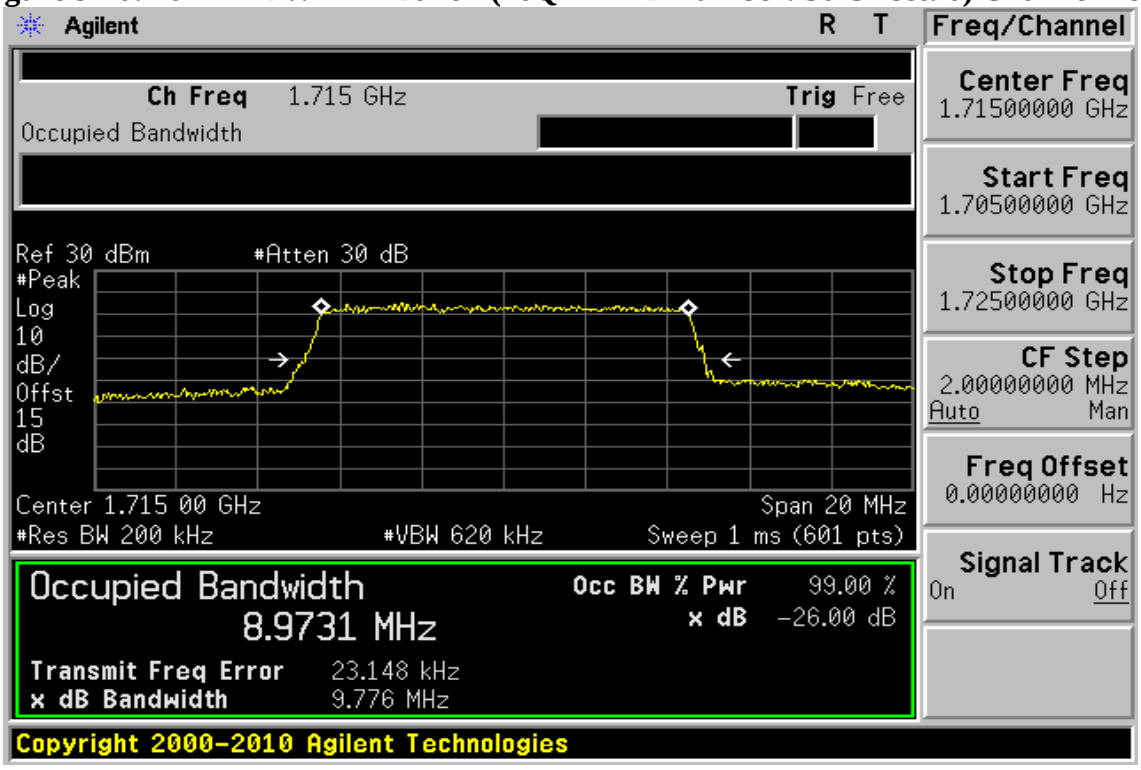


Figure 9-41: 10MHz BW LTE-Band 4(16QAM RB Number: 50 Offset: 0) Channel Mid

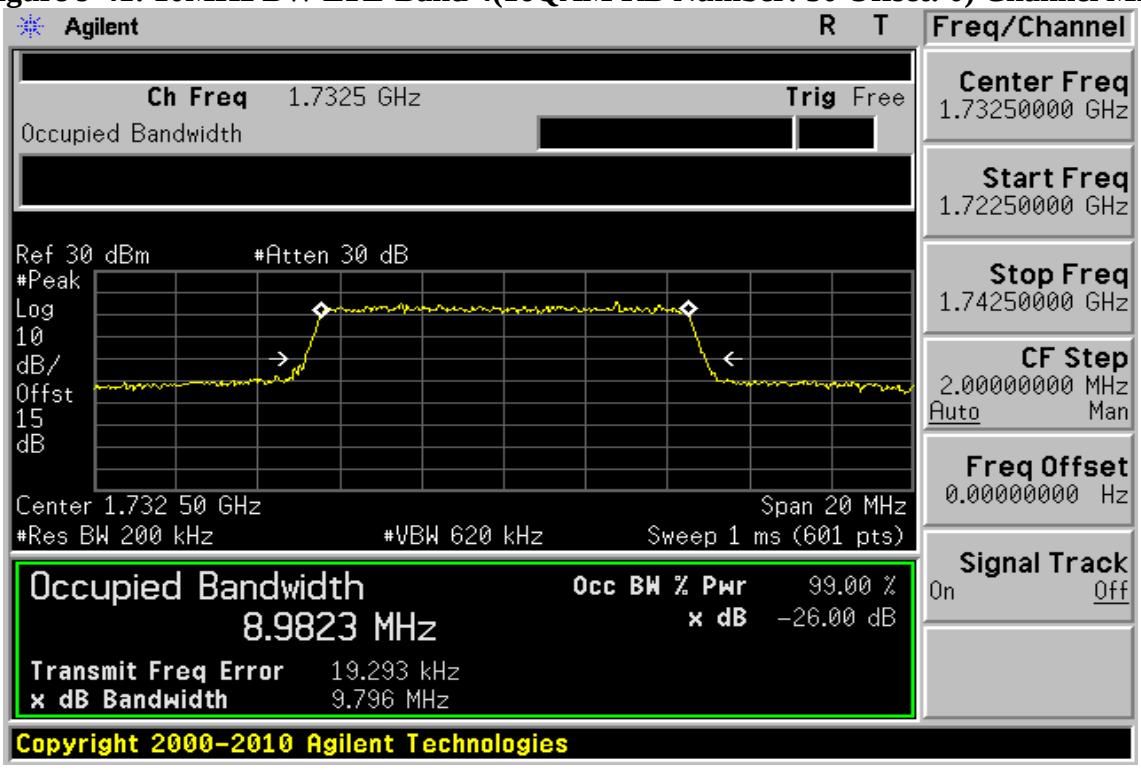


Figure 9-42: 10MHz BW LTE-Band 4(16QAM RB Number: 50 Offset: 0) Channel High

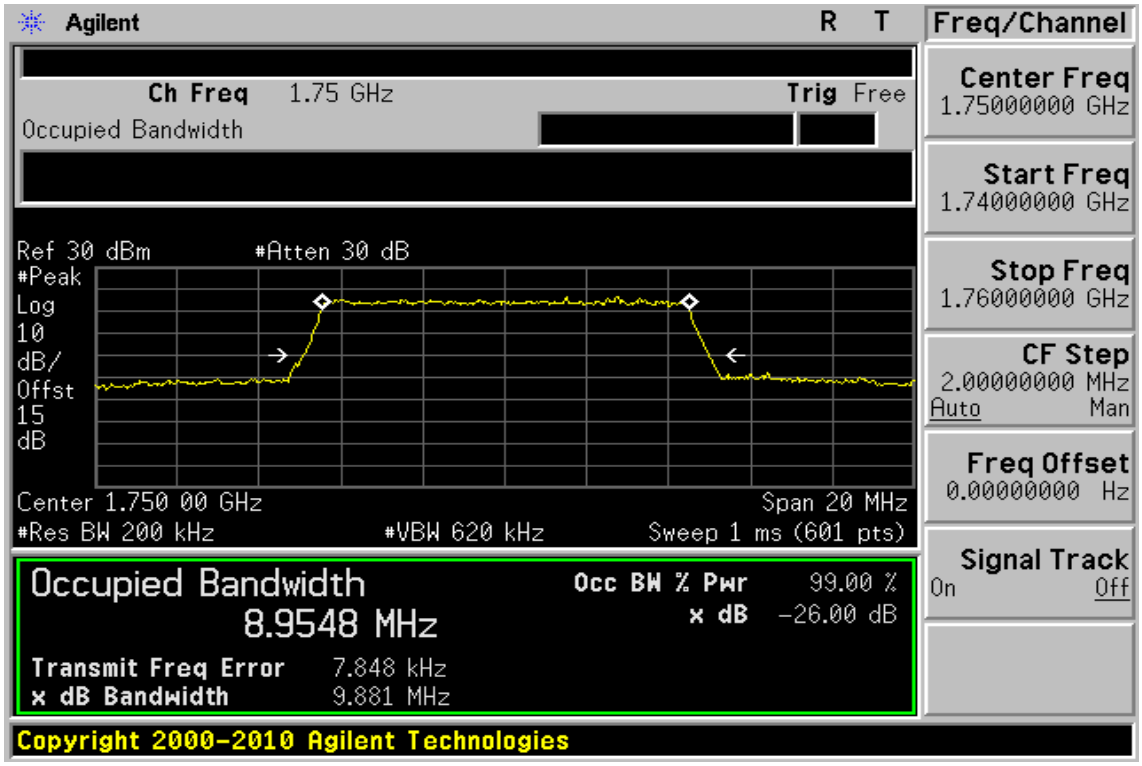


Figure 9-43: 5MHz BW LTE-Band 17(QPSK RB Number: 25 Offset: 0) Channel Low

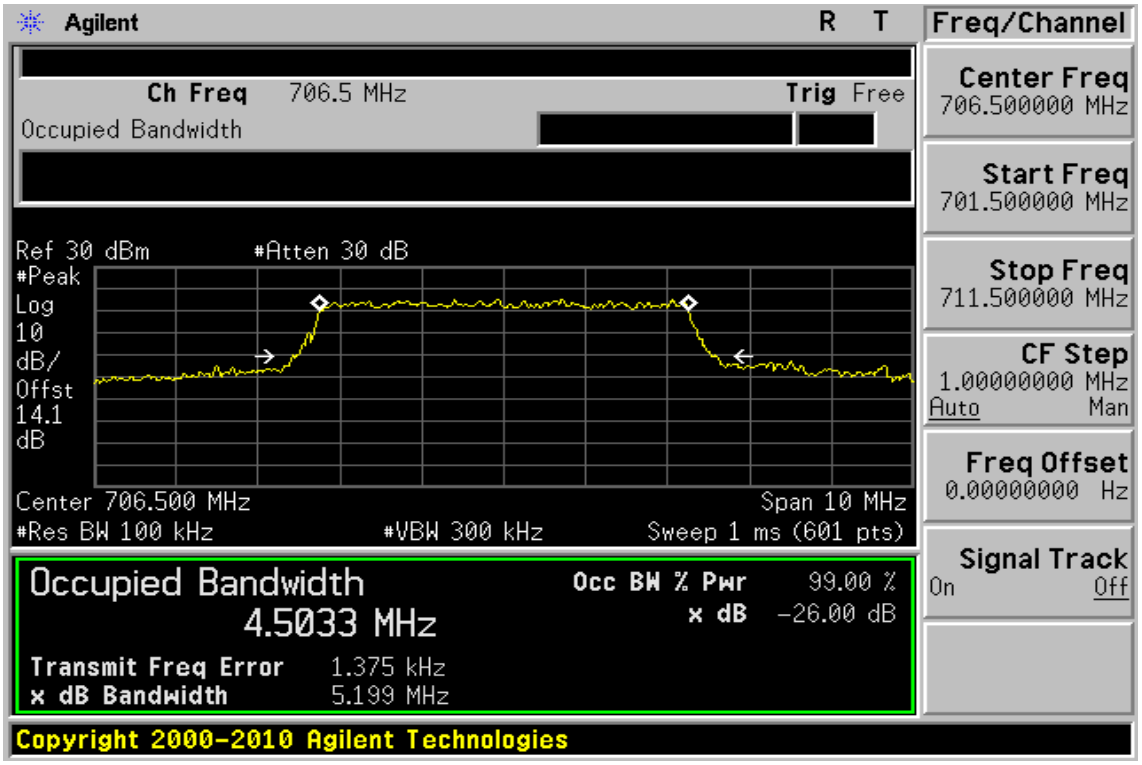


Figure 9-44: 5MHz BW LTE-Band 17(QPSK RB Number: 25 Offset: 0) Channel Mid

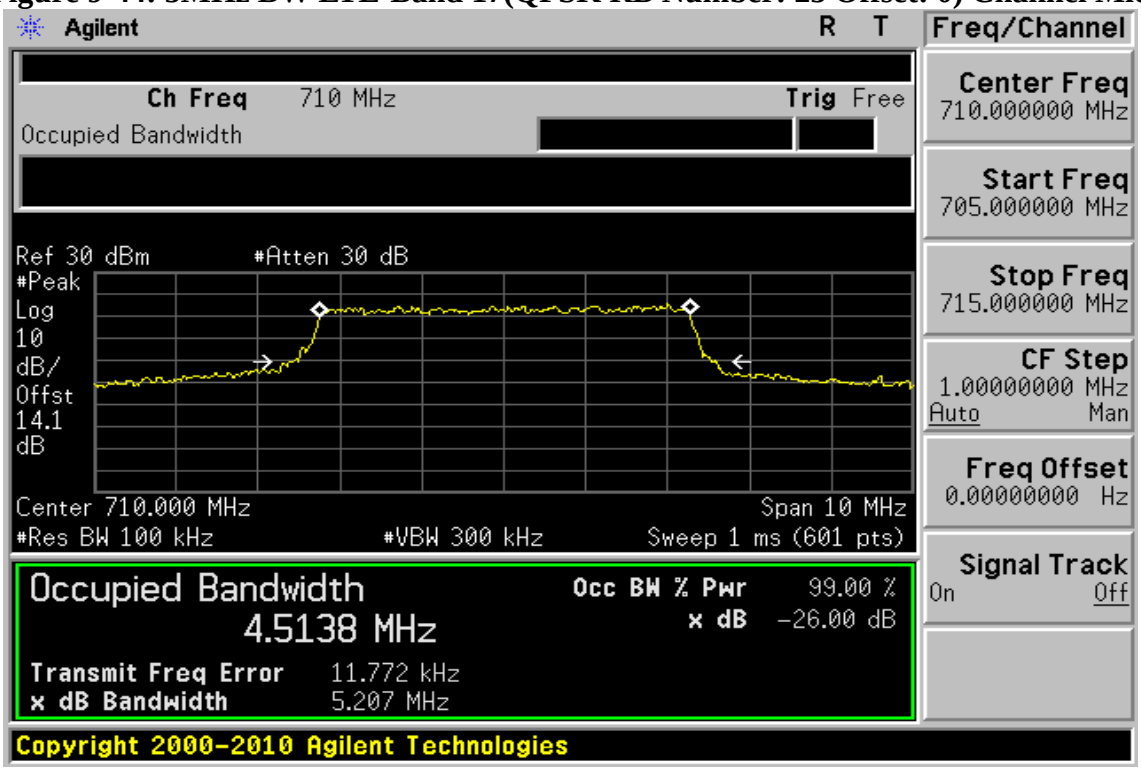


Figure 9-45: 5MHz BW LTE-Band 17(QPSK RB Number: 25 Offset: 0) Channel High

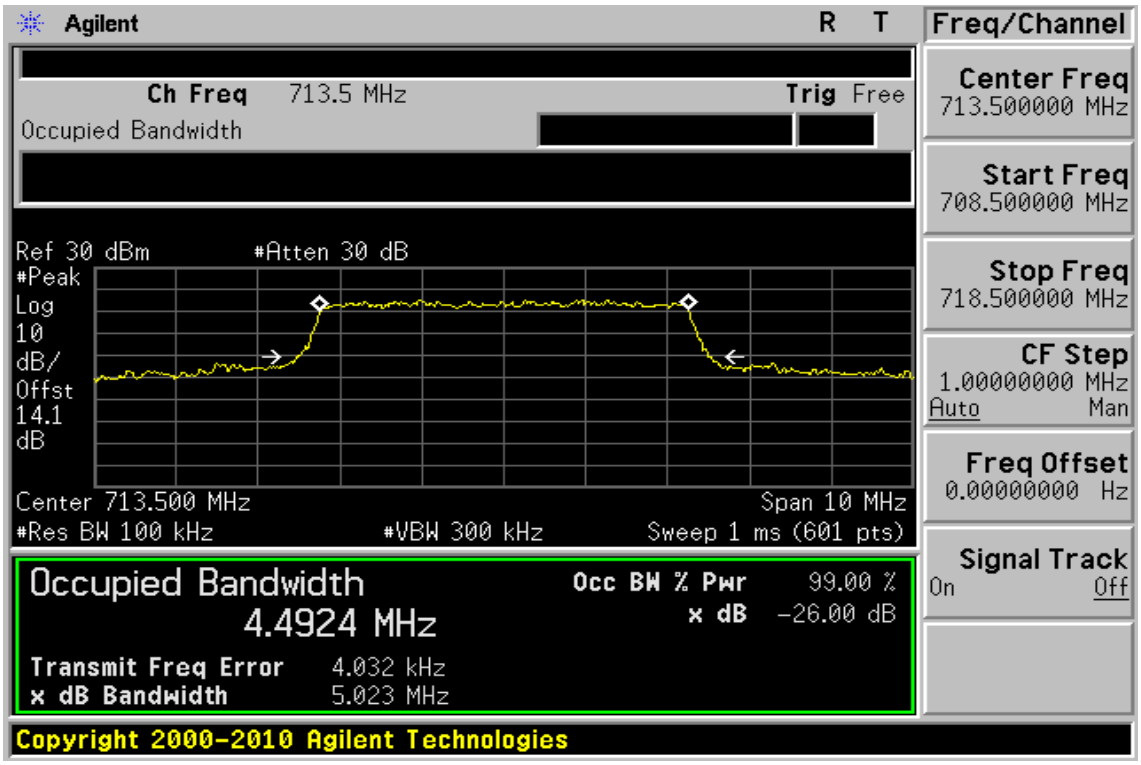


Figure 9-46: 5MHz BW LTE-Band 17(16QAM RB Number: 25 Offset: 0) Channel Low

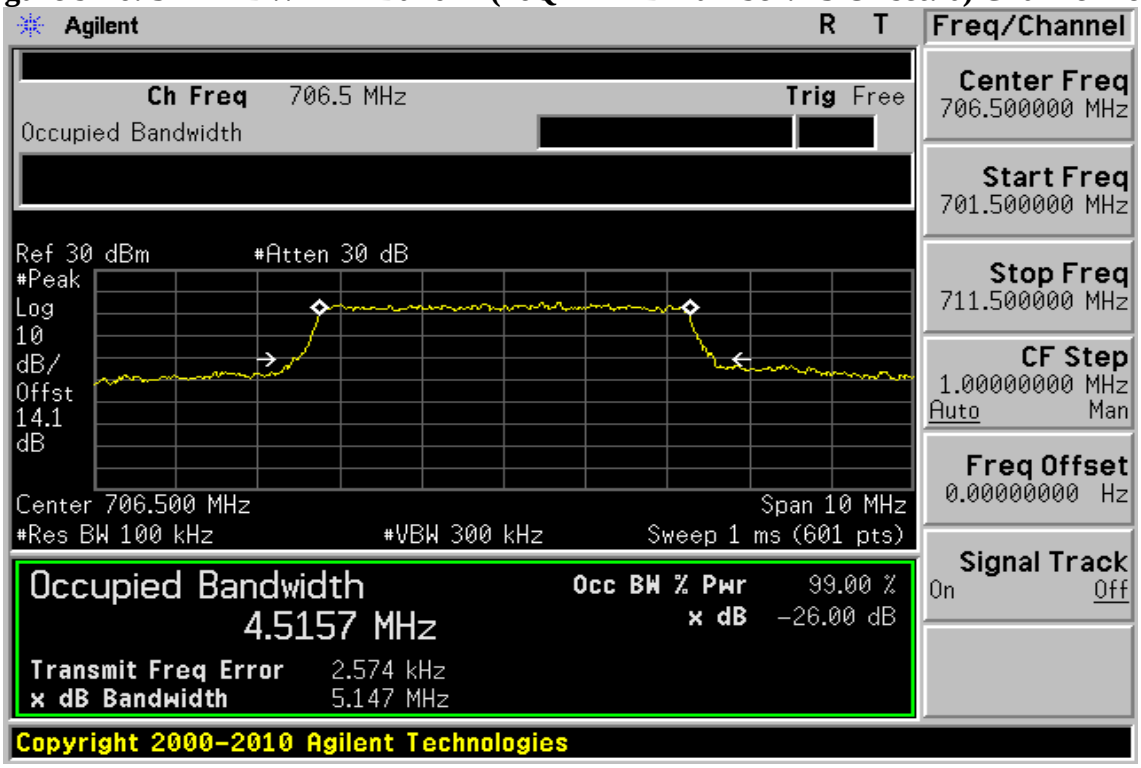


Figure 9-47: 5MHz BW LTE-Band 17(16QAM RB Number: 25 Offset: 0) Channel Mid

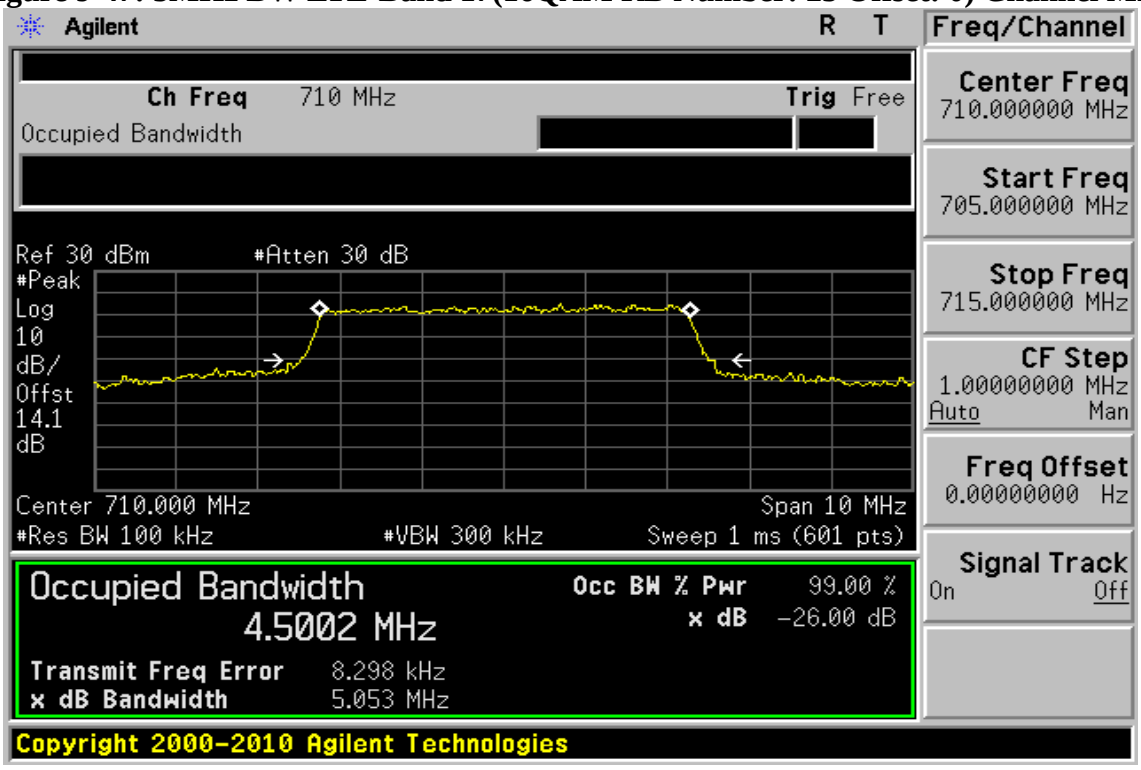


Figure 9-48: 5MHz BW LTE-Band 17(16QAM RB Number: 25 Offset: 0) Channel High

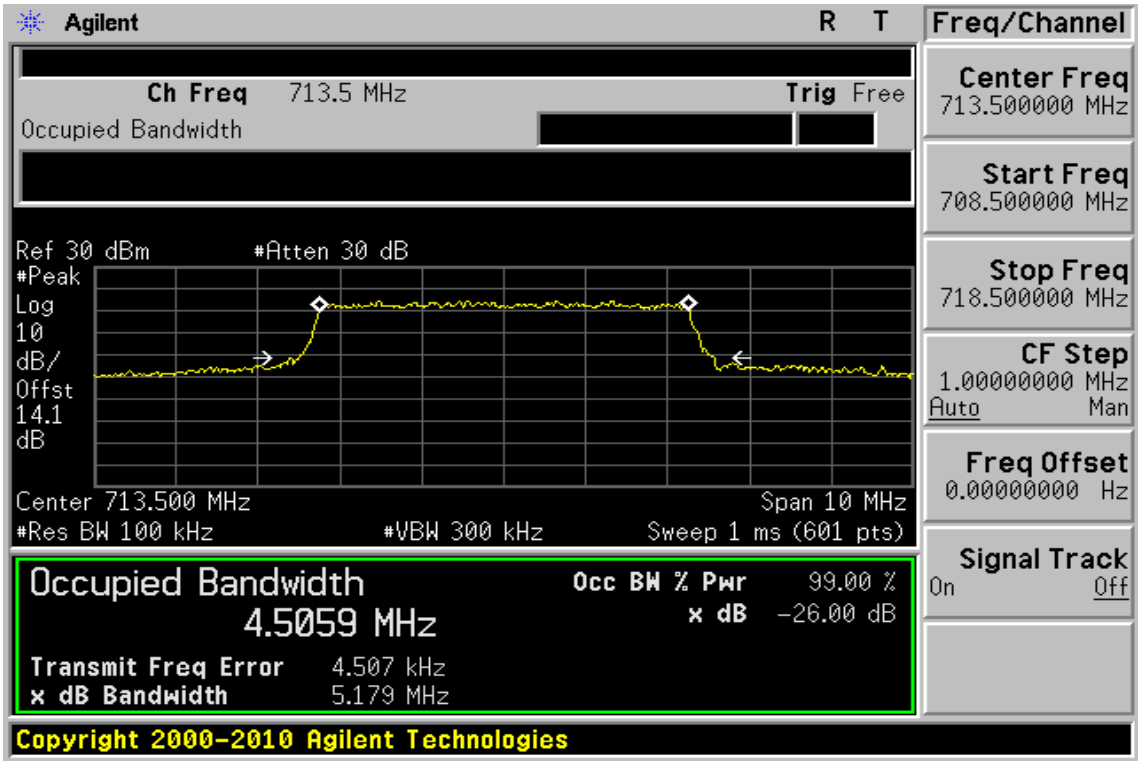


Figure 9-49: 10MHz BW LTE-Band 17(QPSK RB Number: 50 Offset: 0) Channel Low

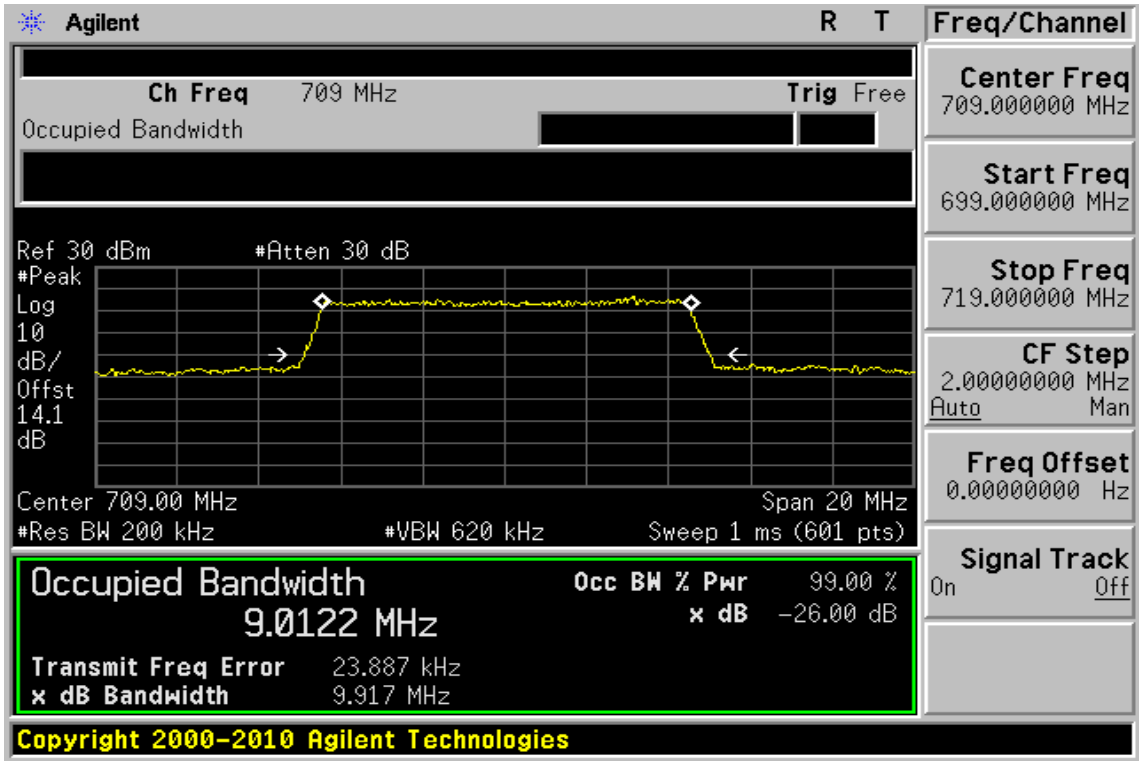


Figure 9-50: 10MHz BW LTE-Band 17(QPSK RB Number: 50 Offset: 0) Channel Mid

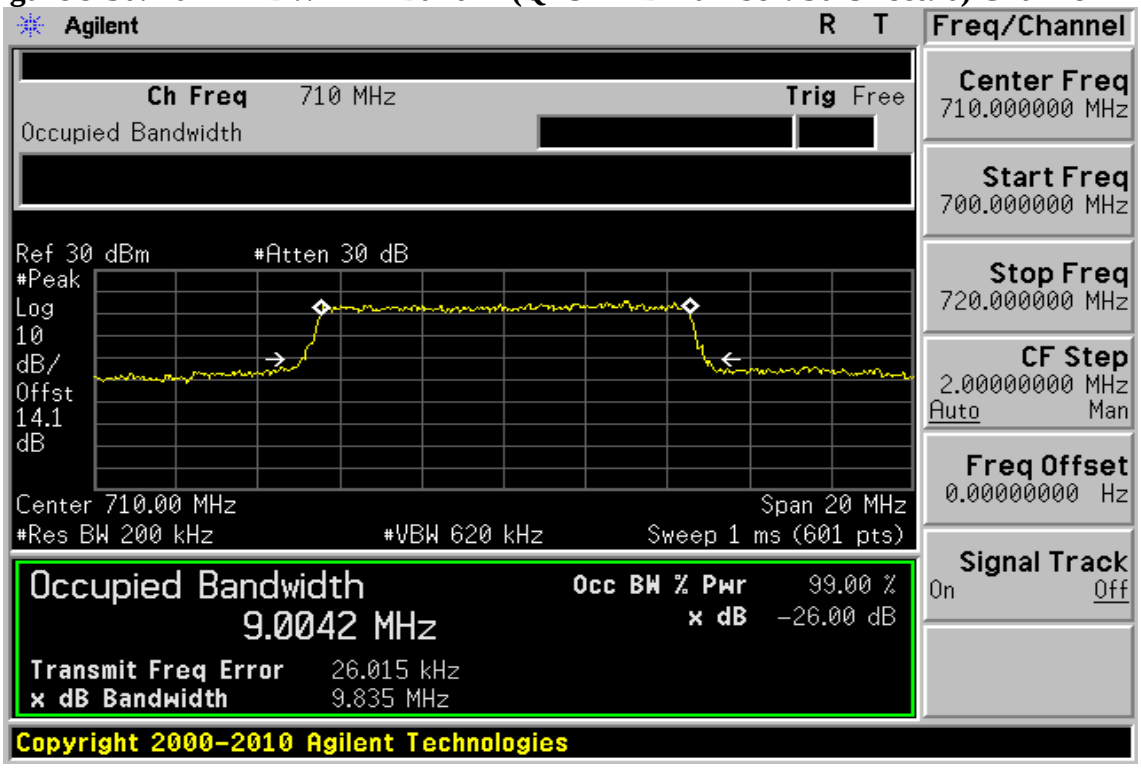


Figure 9-51: 10MHz BW LTE-Band 17(QPSK RB Number: 50 Offset: 0) Channel High

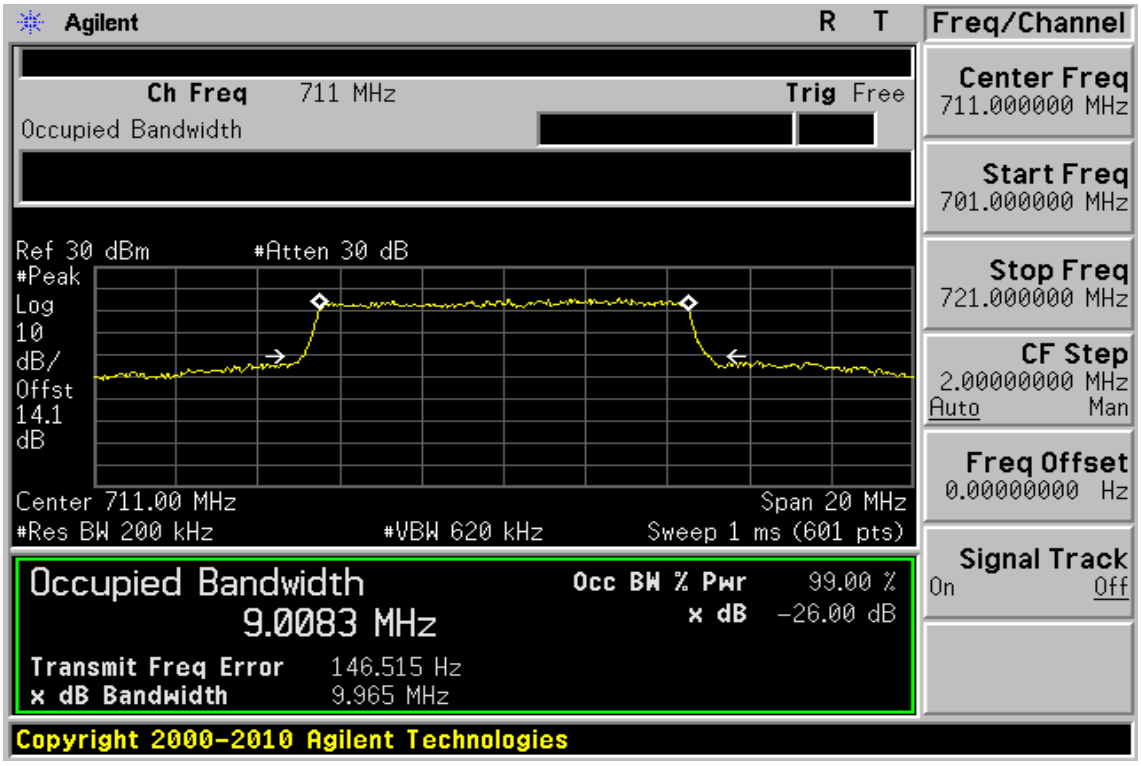


Figure 9-52: 10MHz BW LTE-Band 17(16QAM RB Number: 50 Offset: 0) Channel Low

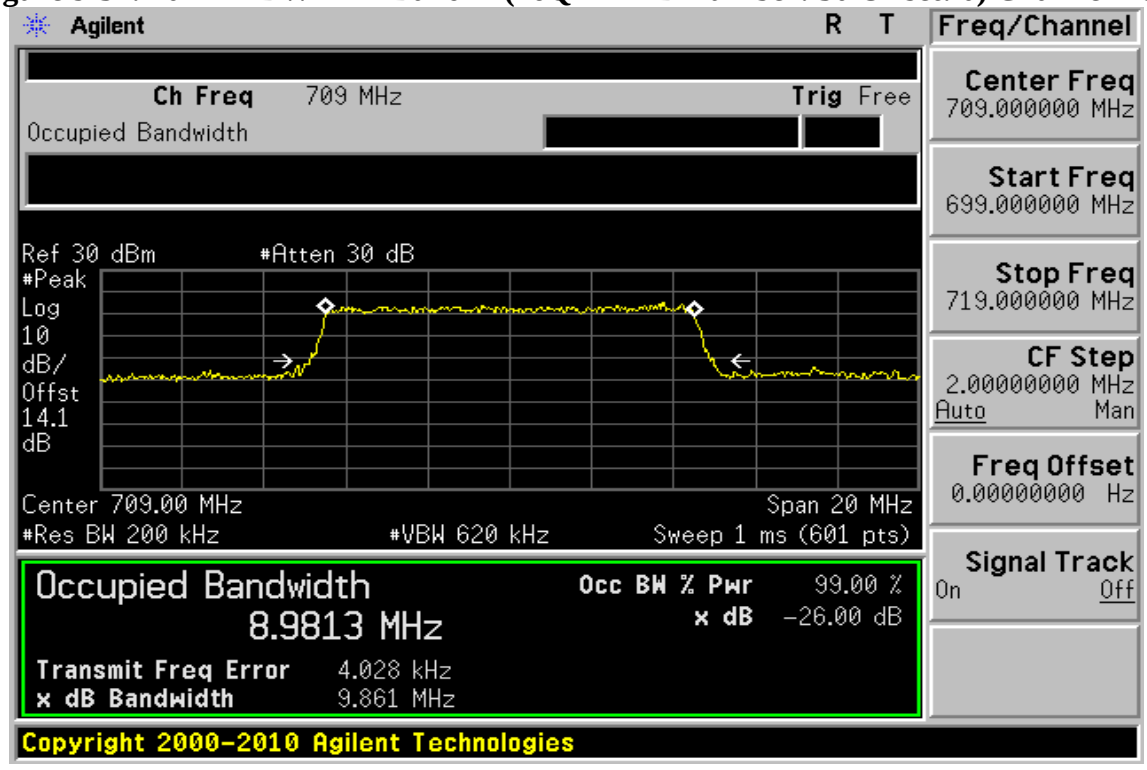


Figure 9-53: 10MHz BW LTE-Band 17(16QAM RB Number: 50 Offset: 0) Channel Mid

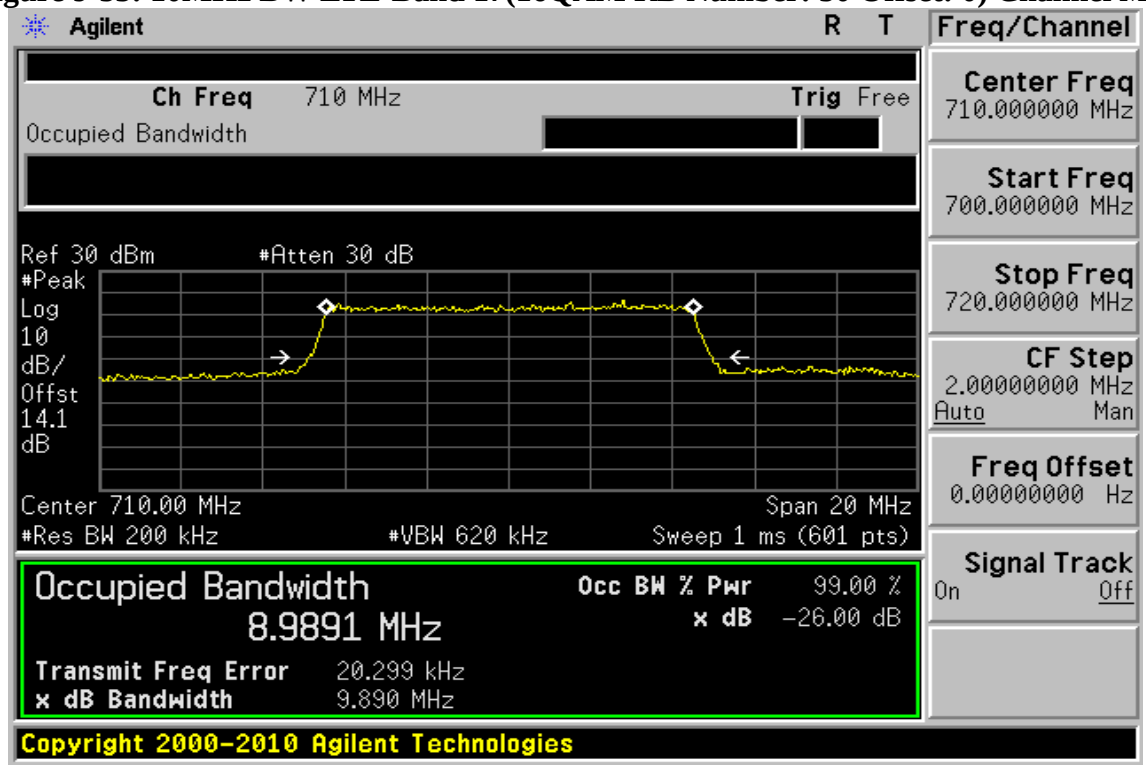
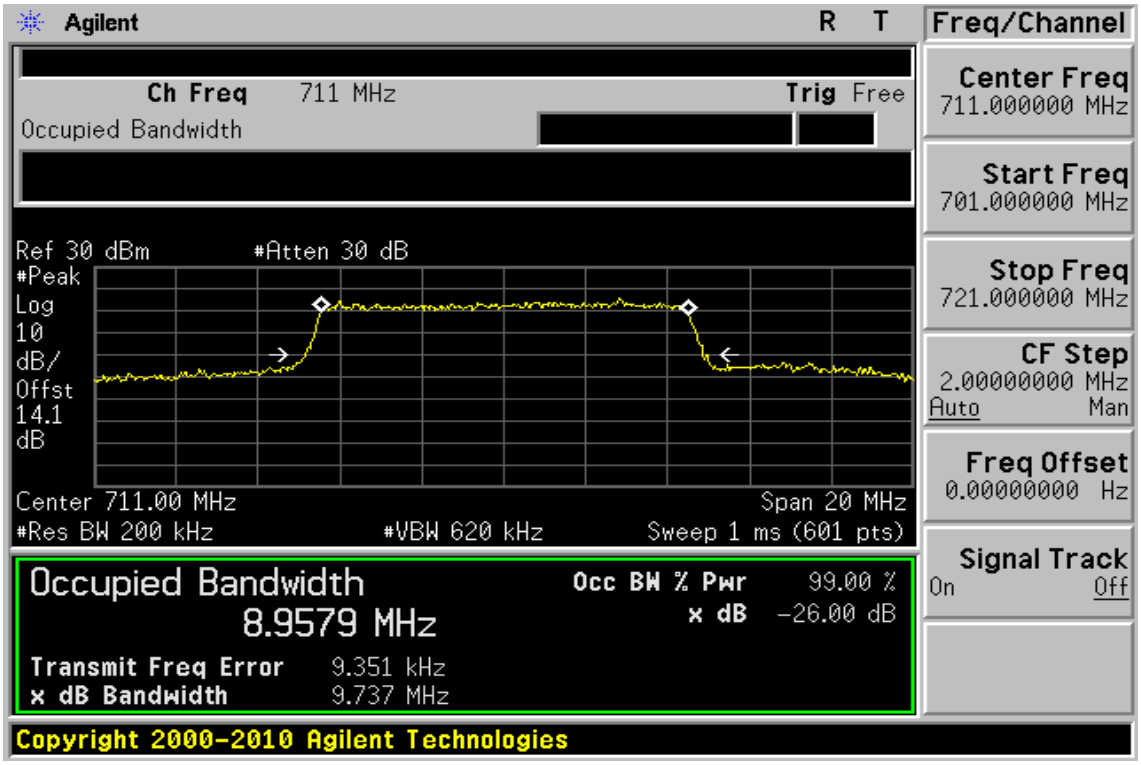


Figure 9-54: 10MHz BW LTE-Band 17(16QAM RB Number: 50 Offset: 0) Channel High



10. OUT OF BAND EMISSION AT ANTENNA TERMINALS

10.1. 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).

4.5.1 Out-of-block Emissions

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

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

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

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

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

6.5.1 Out-of-Block Emissions

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

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

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

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

6.5.2 Out-of-Sub-band Emissions

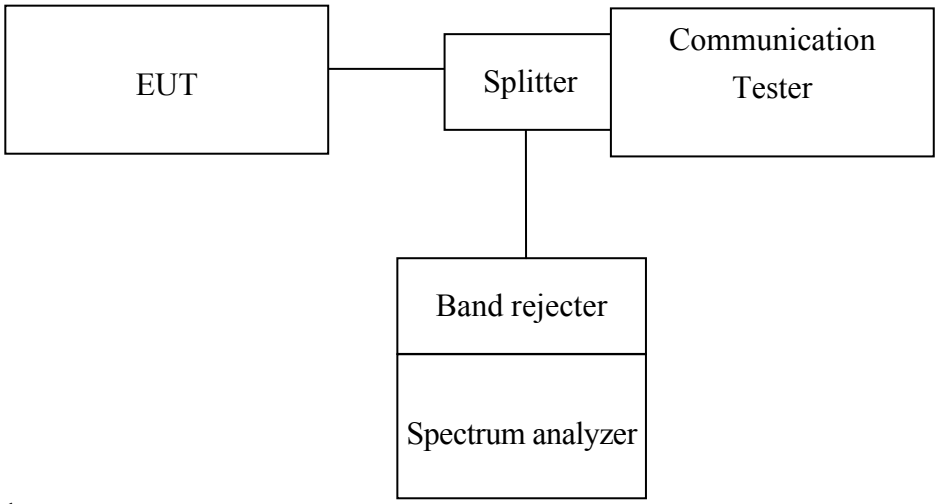
Outside the sub-bands 1850-1910 MHz and 1930-1990 MHz, the attenuation shall be equal to or greater than the out-of-block emission limits in Section 6.5.1.

(i) In the first 1.0 MHz bands immediately outside and adjacent to the equipment's operating frequency block, the emission power per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (in watts) by at least 43 + 10 log10(P), dB.

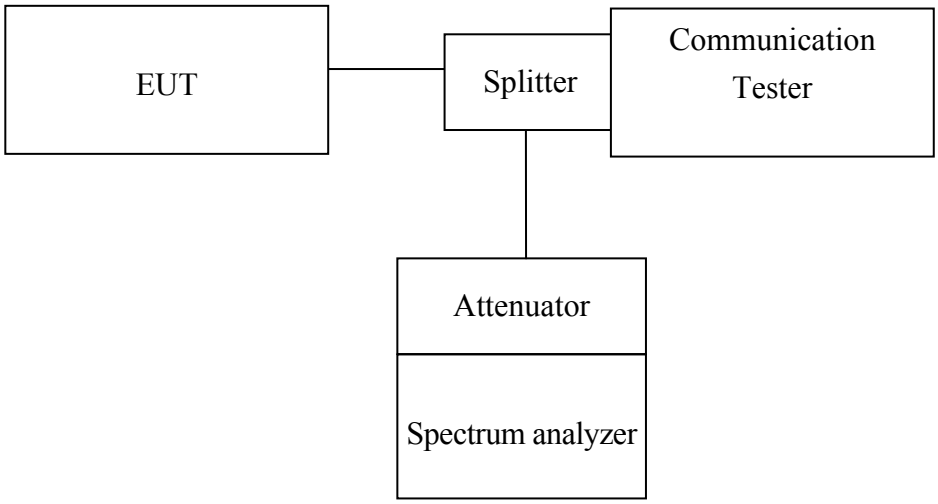
(ii) After the first 1.0 MHz outside the equipment's operating frequency block, the emission power in any 1 MHz bandwidth shall be attenuated below the transmitter output power P (in watts) by at least 43 + 10 log10(P), dB.

10.2. Test SET-UP:

Out of band emission



Band Edge



10.3. Measurement Procedure:

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

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

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

For operations in the 698–746 MHz band, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed. Limit, -13dBm.

Conducted Emission:

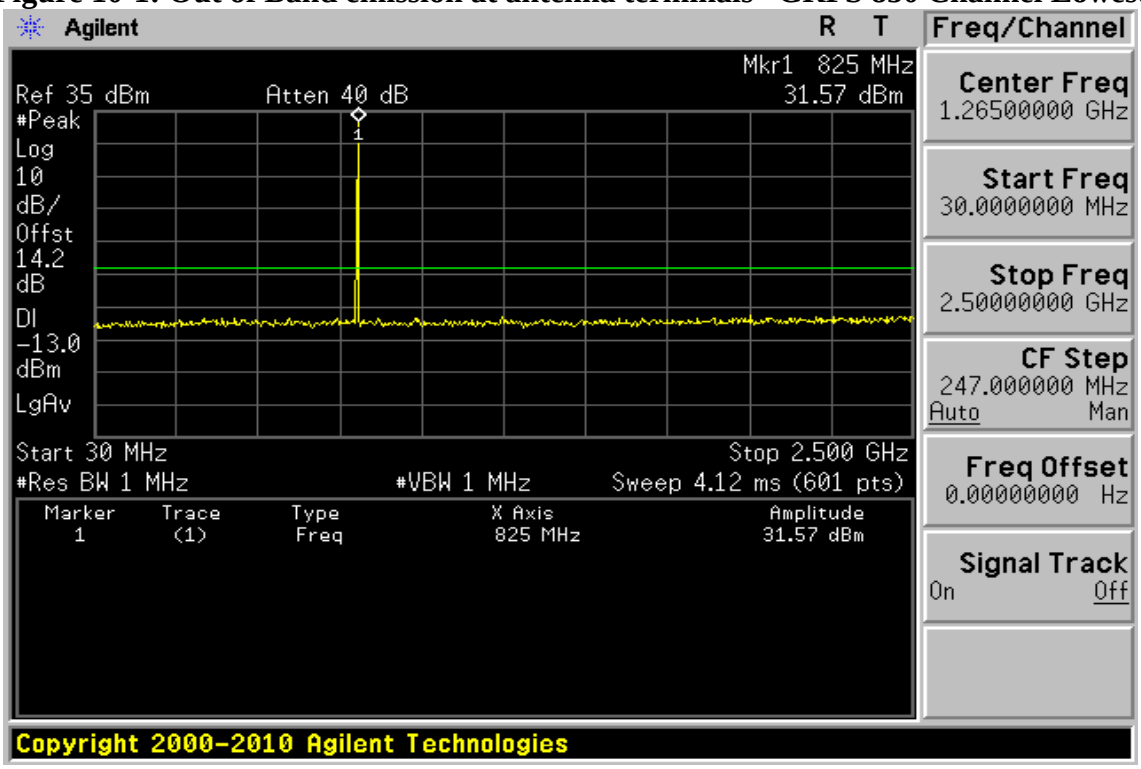
1、 To connect Antenna Port of EUT to Spectrum.
2、 Set RBW = 1MHz & VBW = 1MHz on Spectrum.
3、 Sweep the frequency to determine spurious emission as seen on spectrum from span of 30 to 1G, 1G to 2.5G, 2.5G to 7.5G, 7.5G to 10G ,10G to 15G and 15G to 20GHz
4、 Via Software, combine 6 spans of frequency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

10.4. Measurement Equipment Used:

Refer to section 2.4 in this report

10.5. Measurement Result:

Figure 10-1: Out of Band emission at antenna terminals– GRPS 850 Channel Lowest



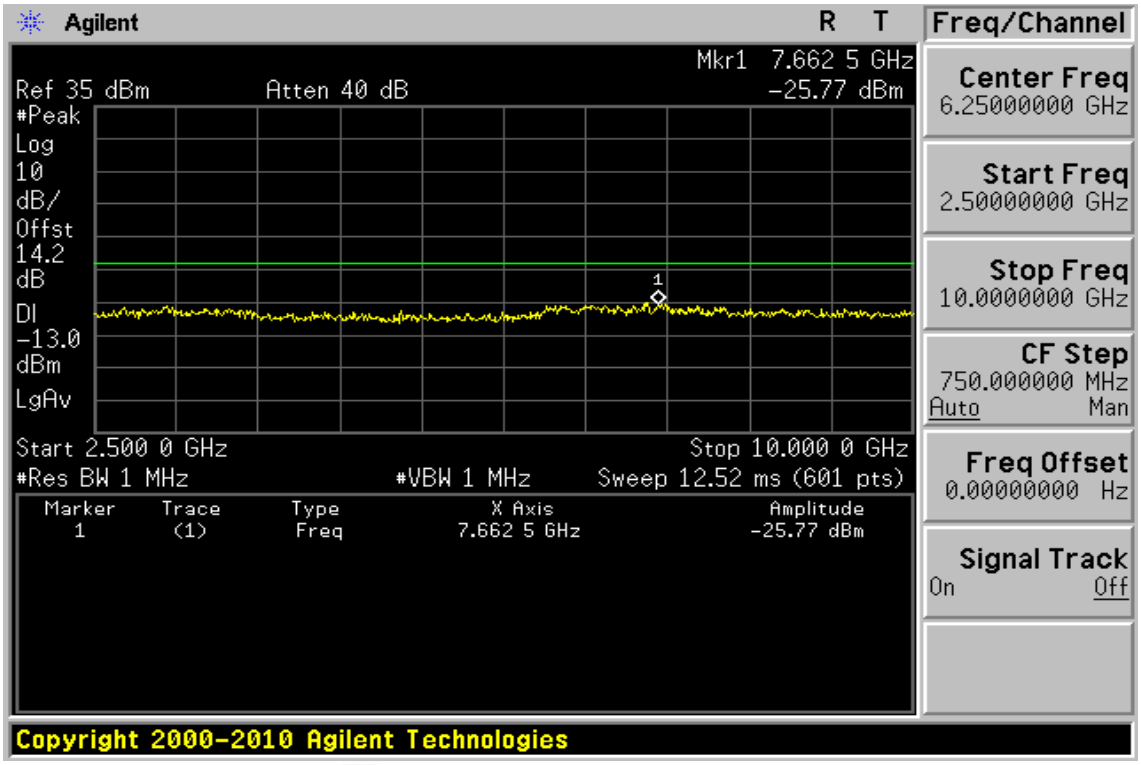
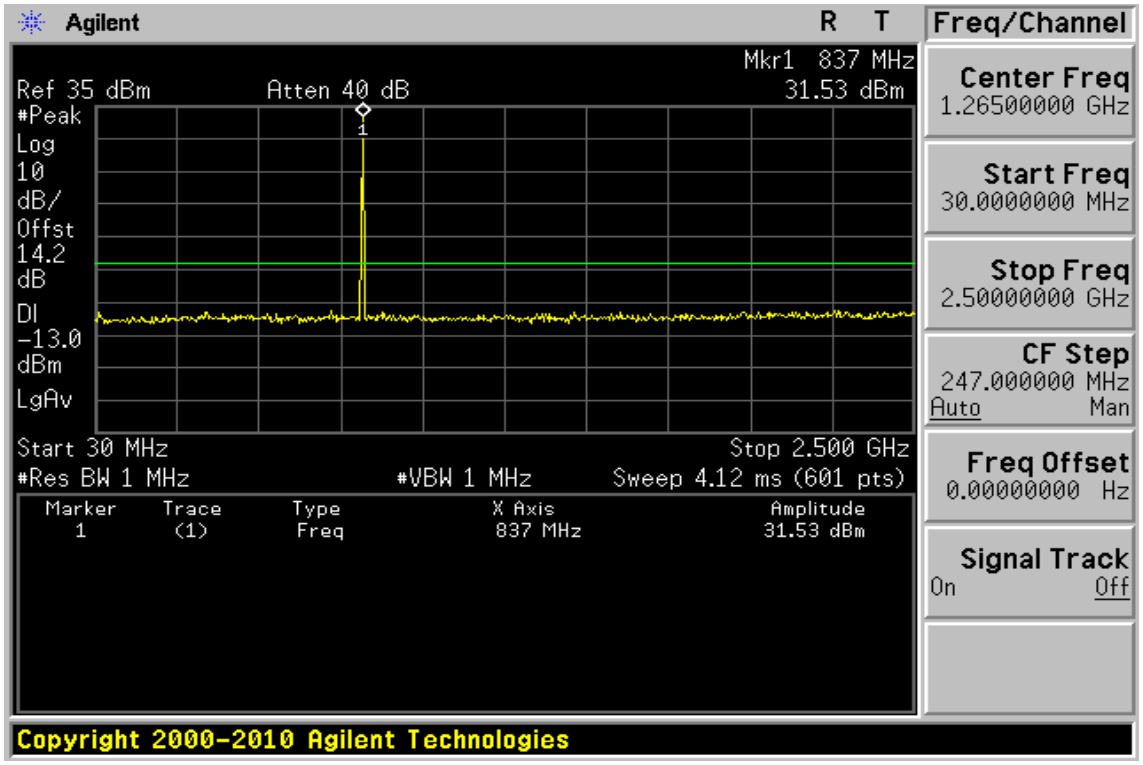


Figure 10-2: Out of Band emission at antenna terminals –GRPS 850 Channel Mid



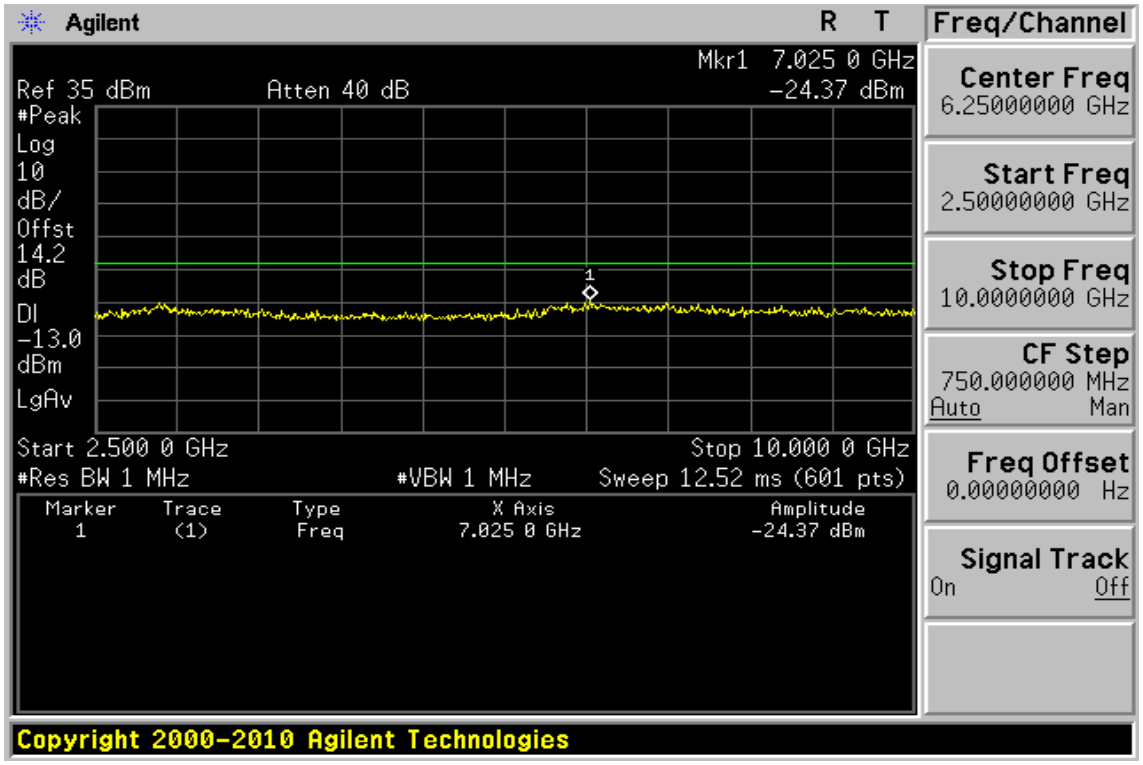
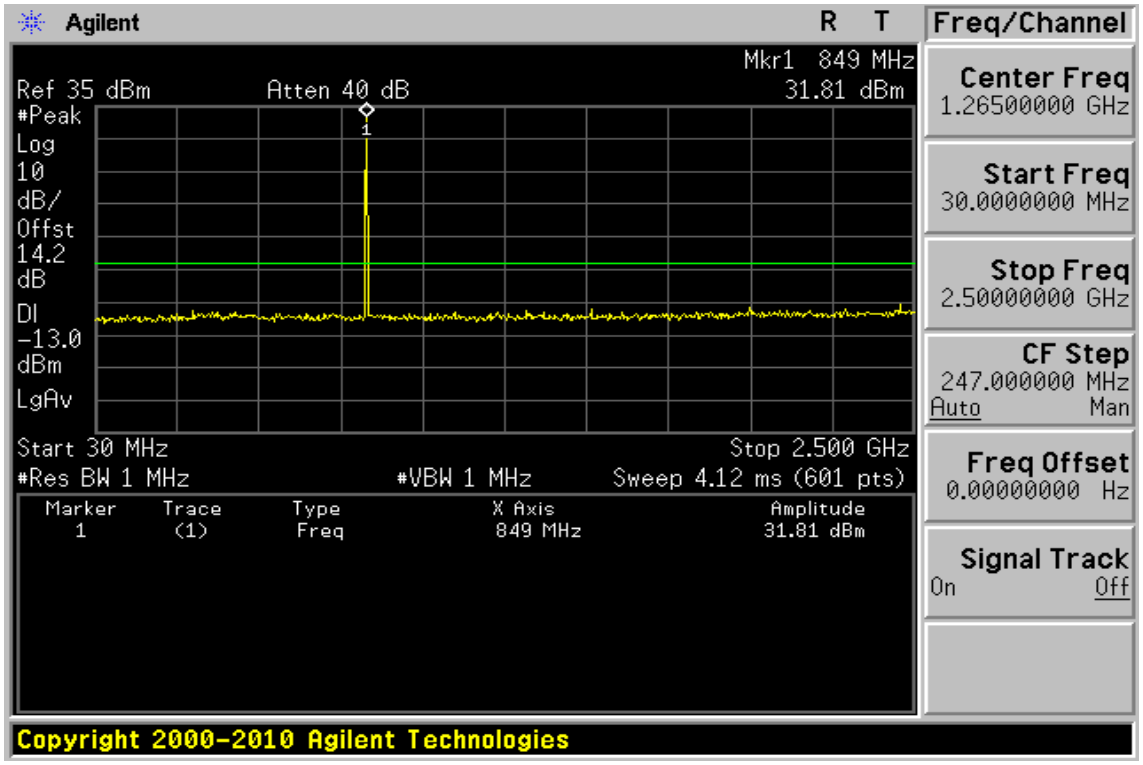


Figure 10-3: Out of Band emission at antenna terminals–GRPS 850 Channel Highest



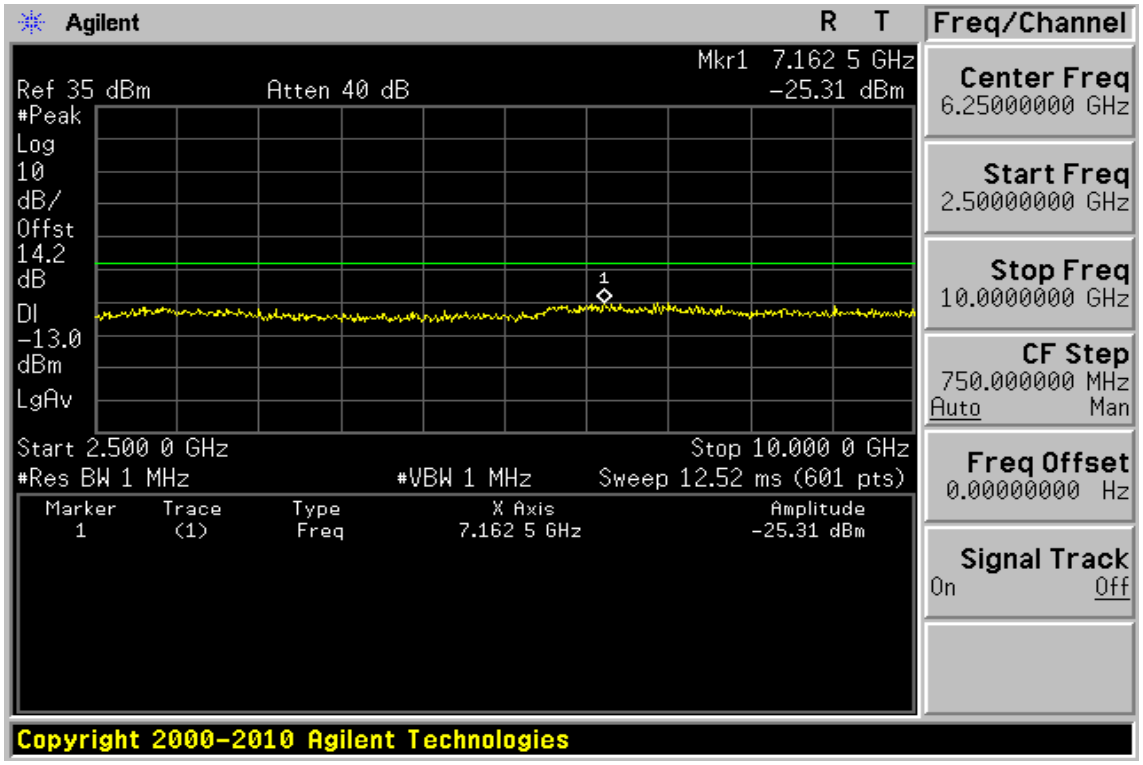


Figure 10-4: Band edge emission at antenna terminals –GRPS 850 Channel Lowest

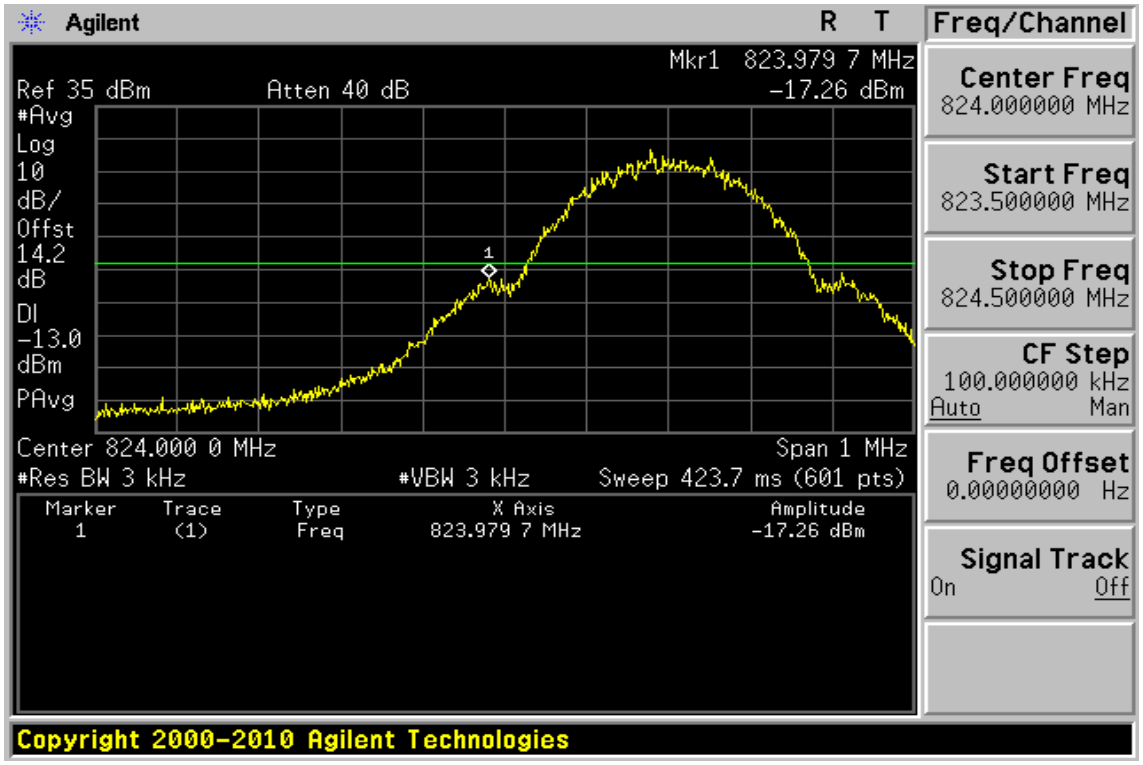


Figure 10-5: Band edge emission at antenna terminals –GRPS 850 Channel Highest

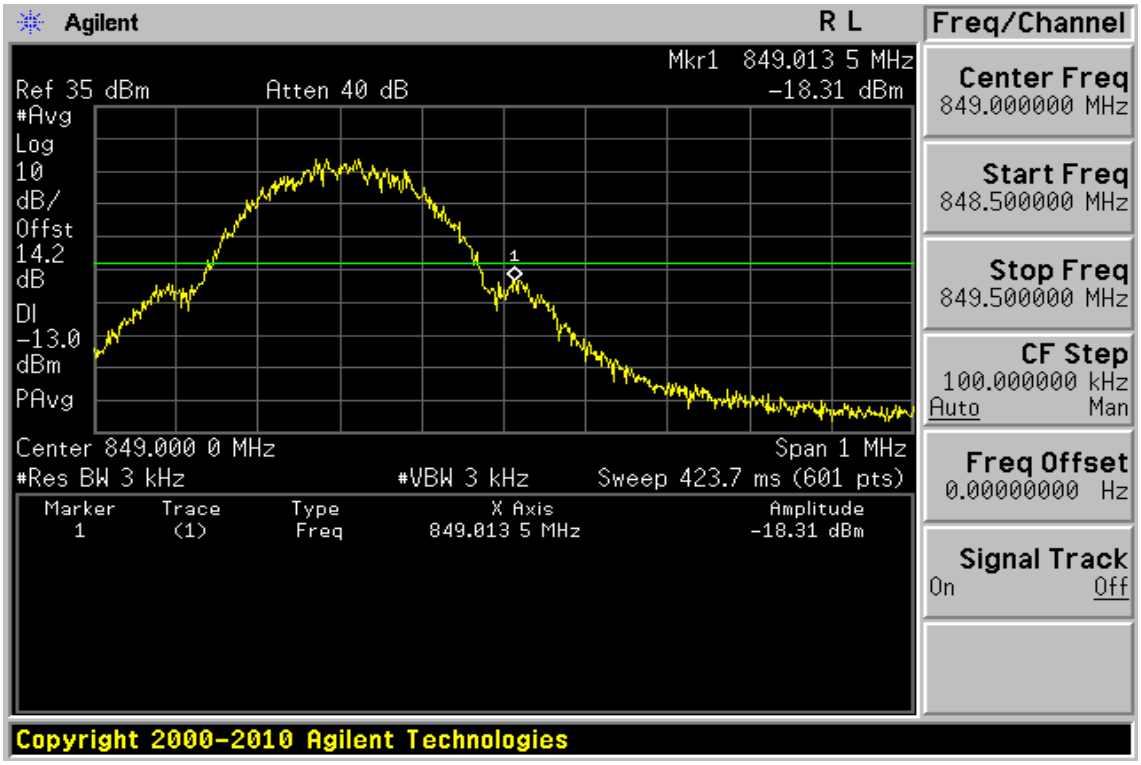
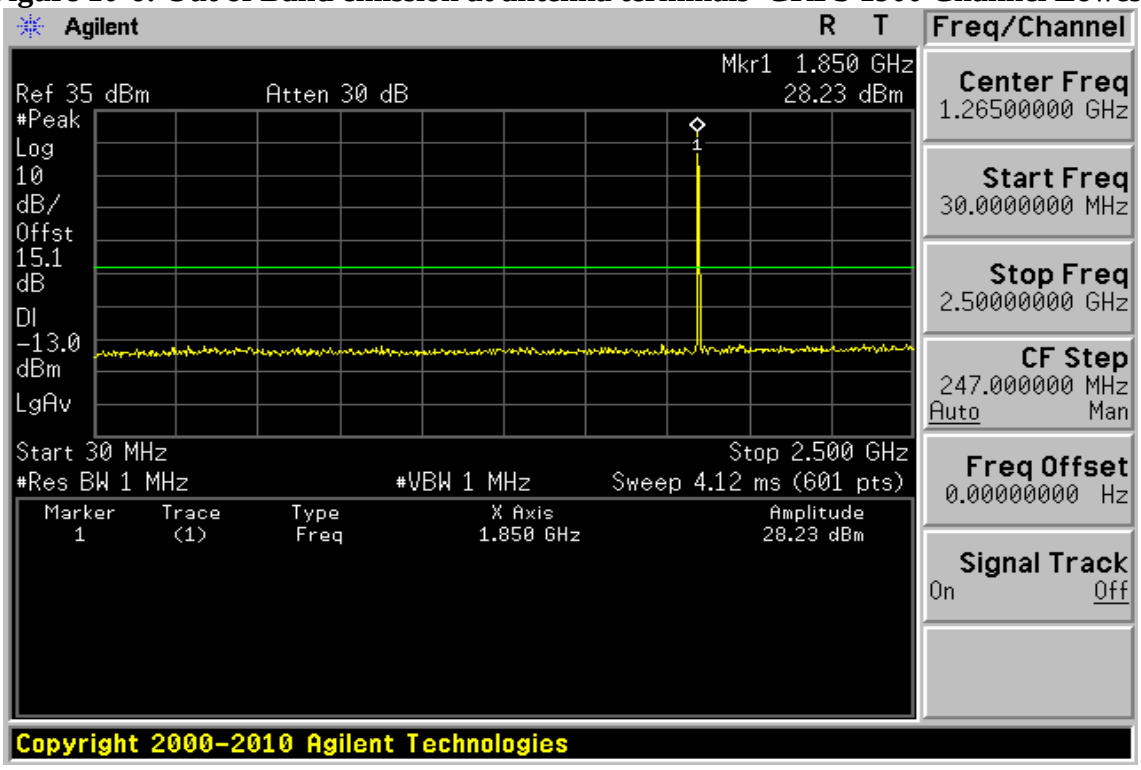


Figure 10-6: Out of Band emission at antenna terminals–GRPS 1900 Channel Lowest



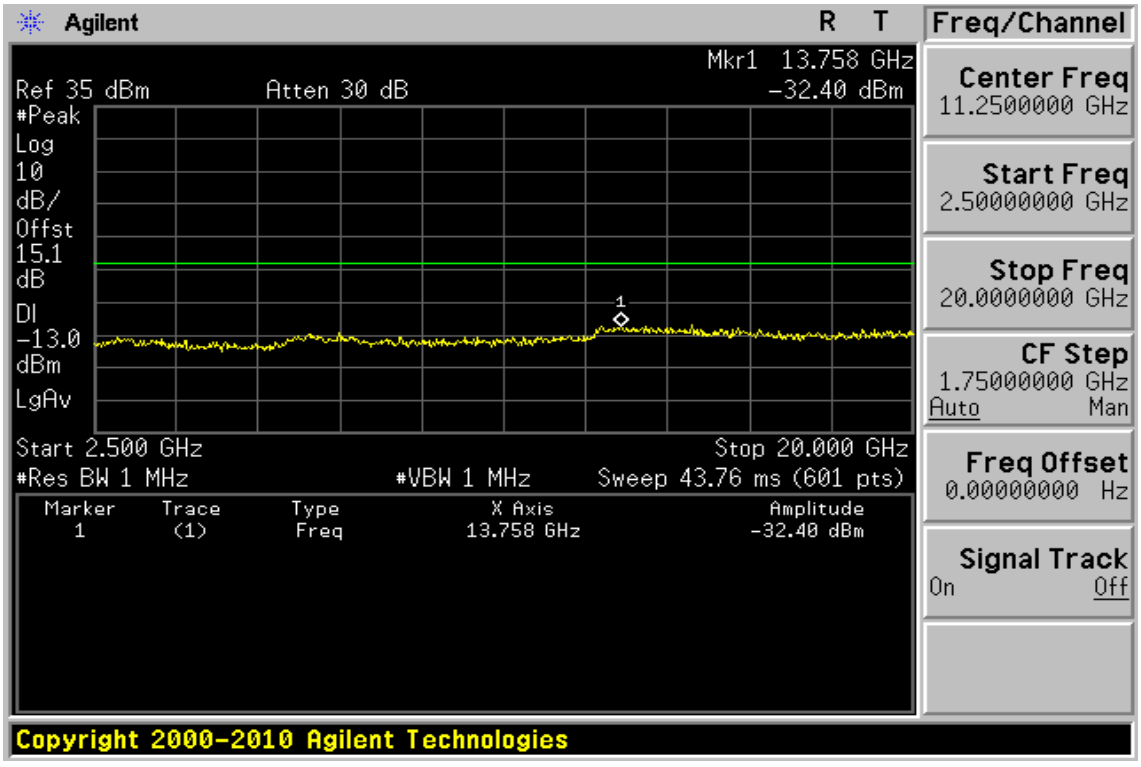
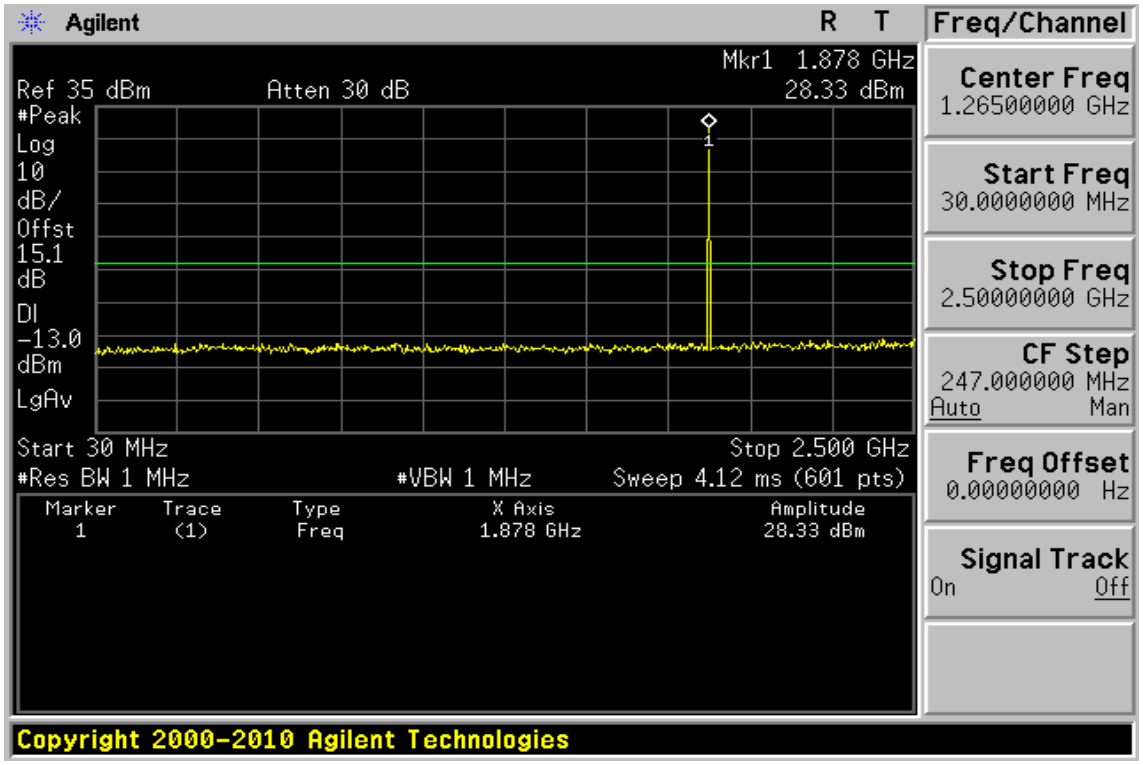


Figure 10-7: Out of Band emission at antenna terminals –GRPS 1900 Channel Mid



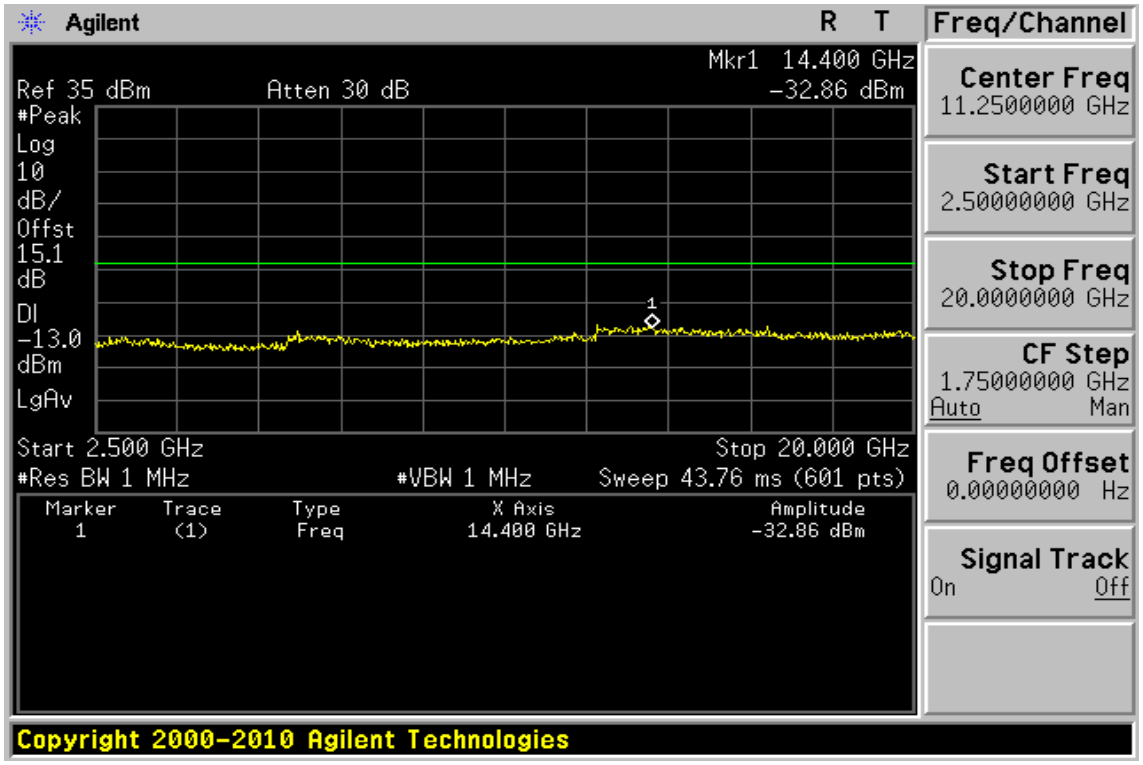
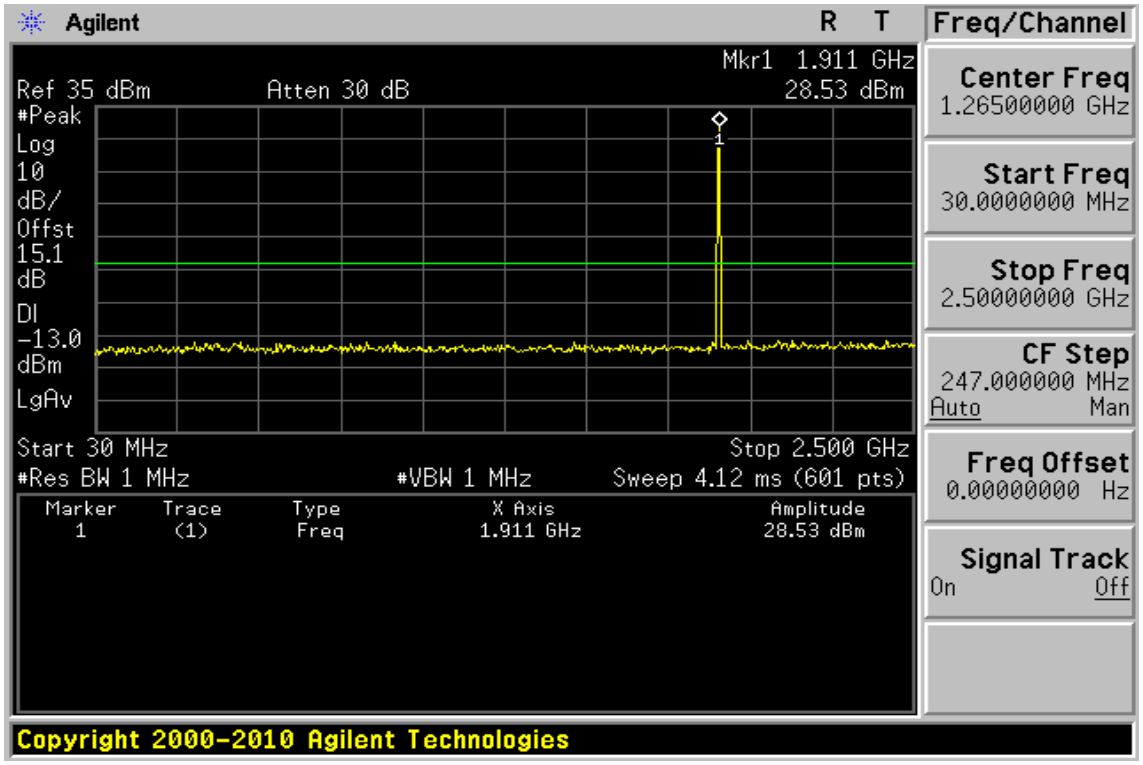


Figure 10-8: Out of Band emission at antenna terminals –GRPS 1900 Channel Highest



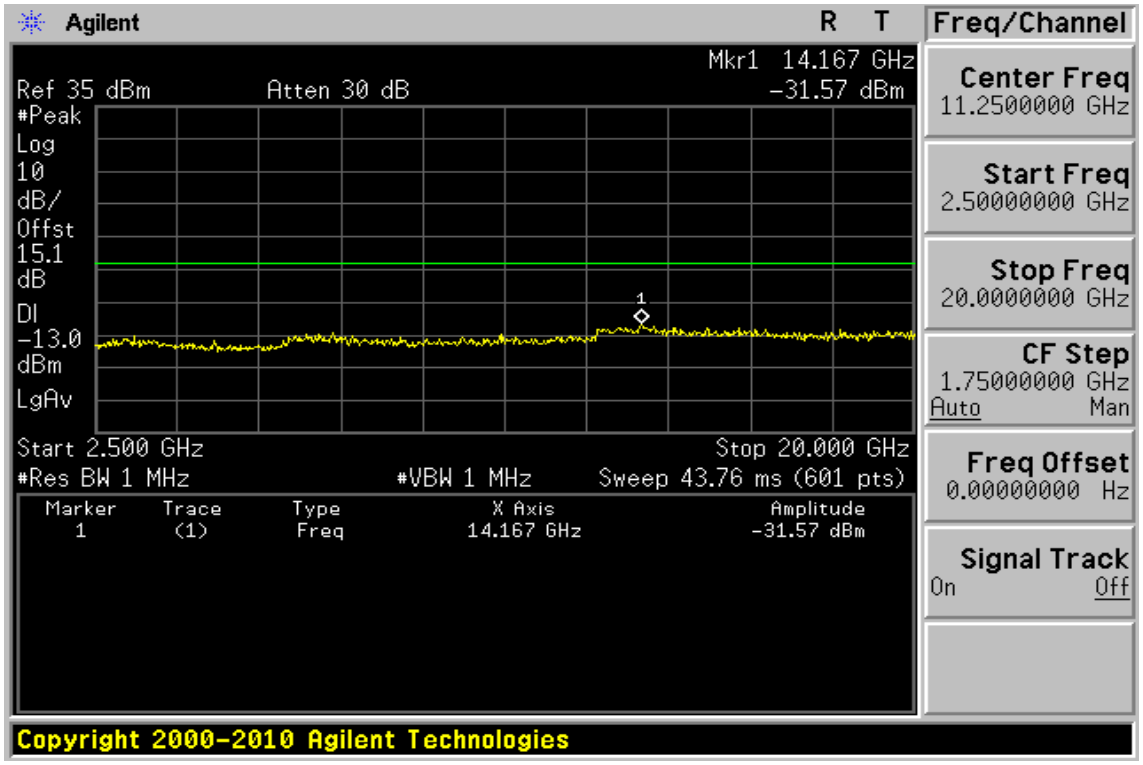


Figure 10-9: Bad edge emission at antenna terminals –GRPS 1900 Channel Lowest

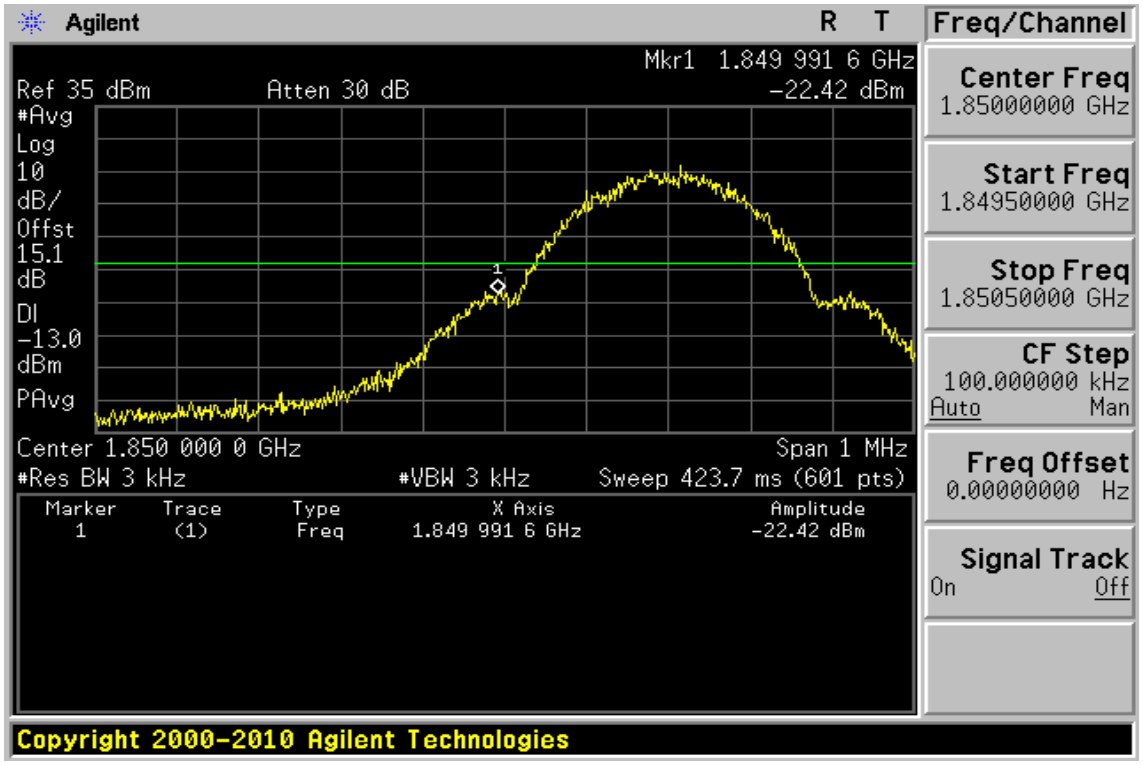


Figure 10-10: Band edge emission at antenna terminals –GRPS 1900 Channel Highest

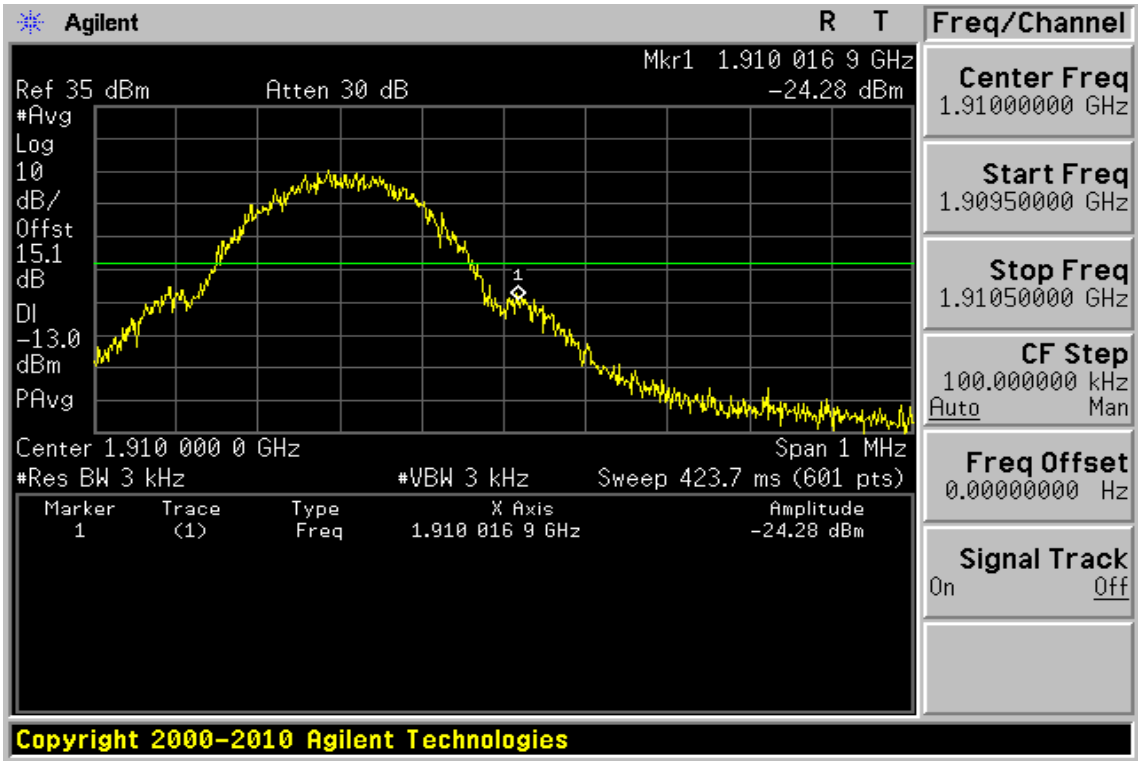
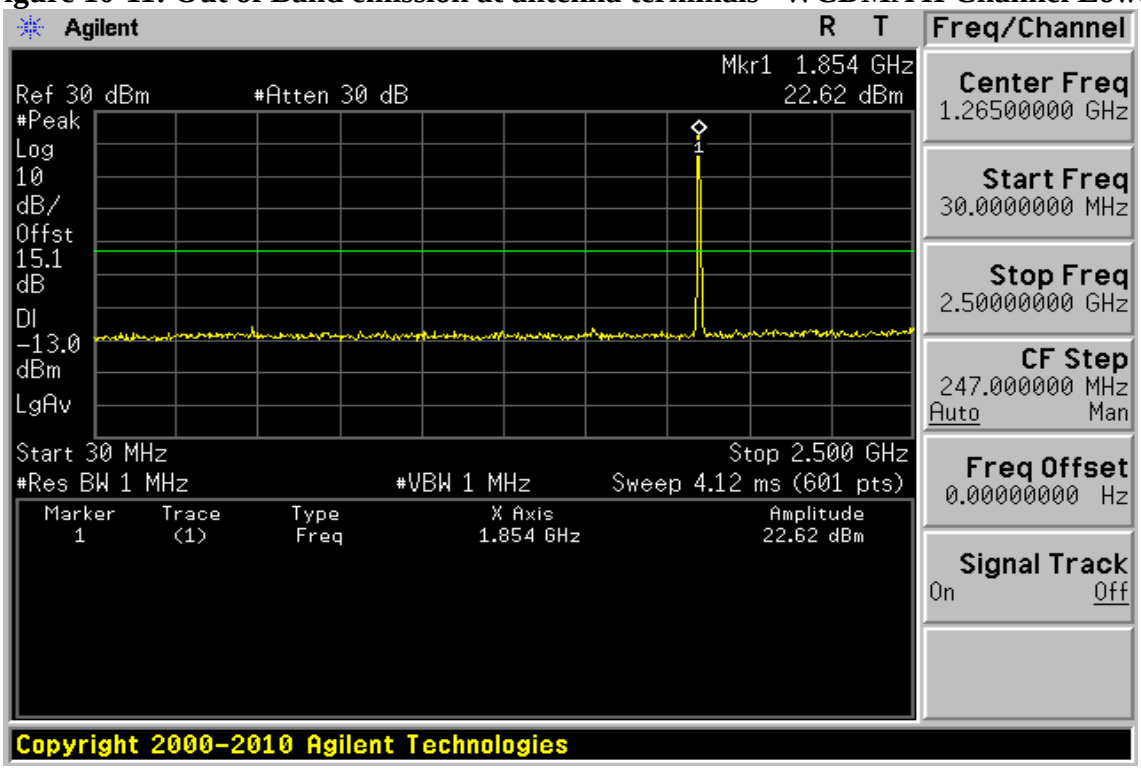


Figure 10-11: Out of Band emission at antenna terminals– WCDMA II Channel Lowest



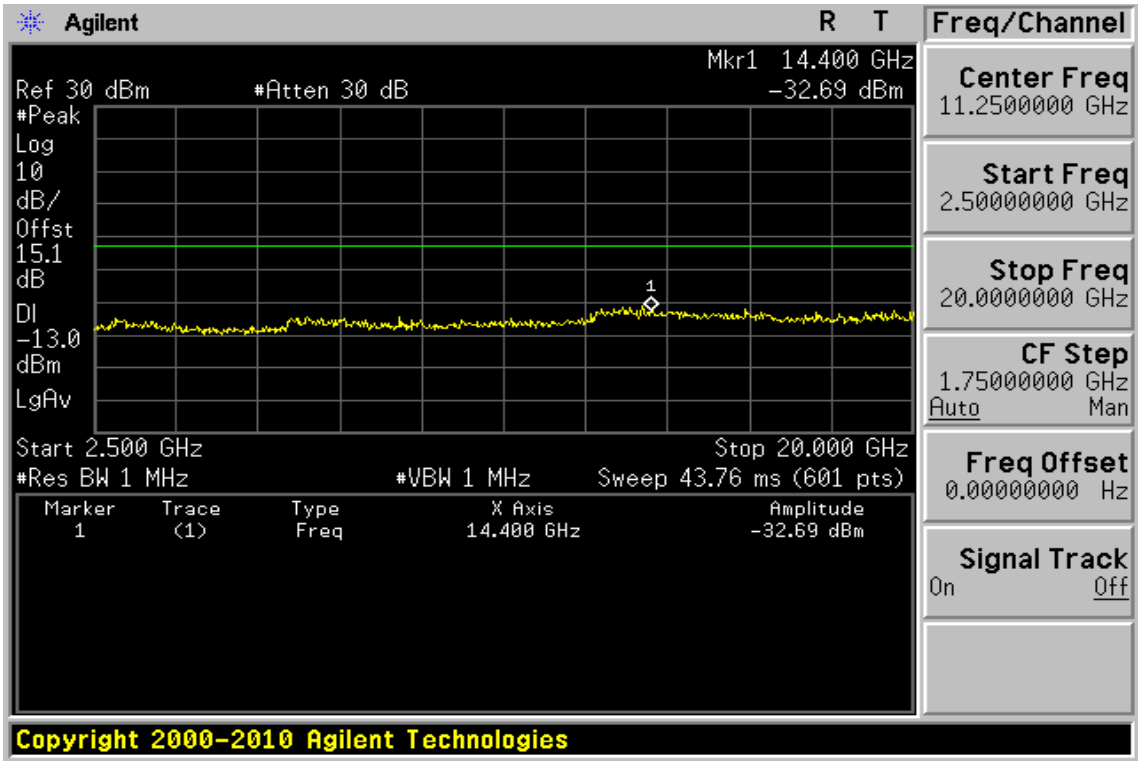
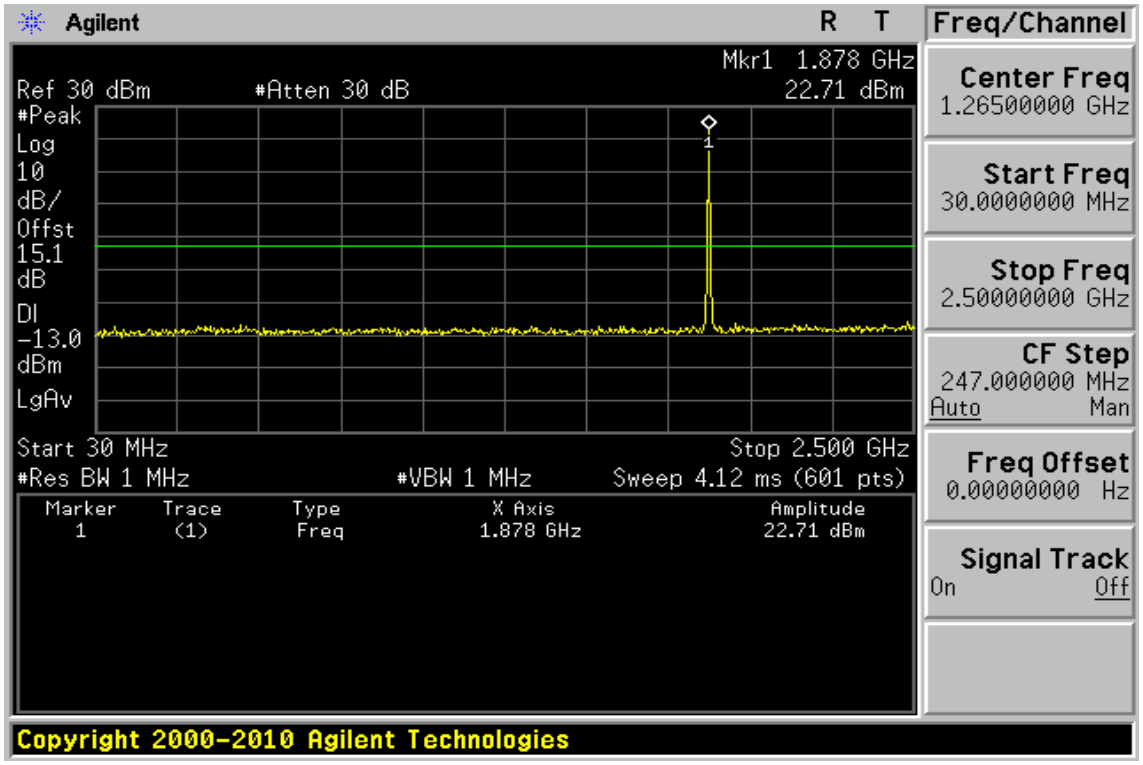


Figure 10-12: Out of Band emission at antenna terminals –WCDMA II Channel Mid



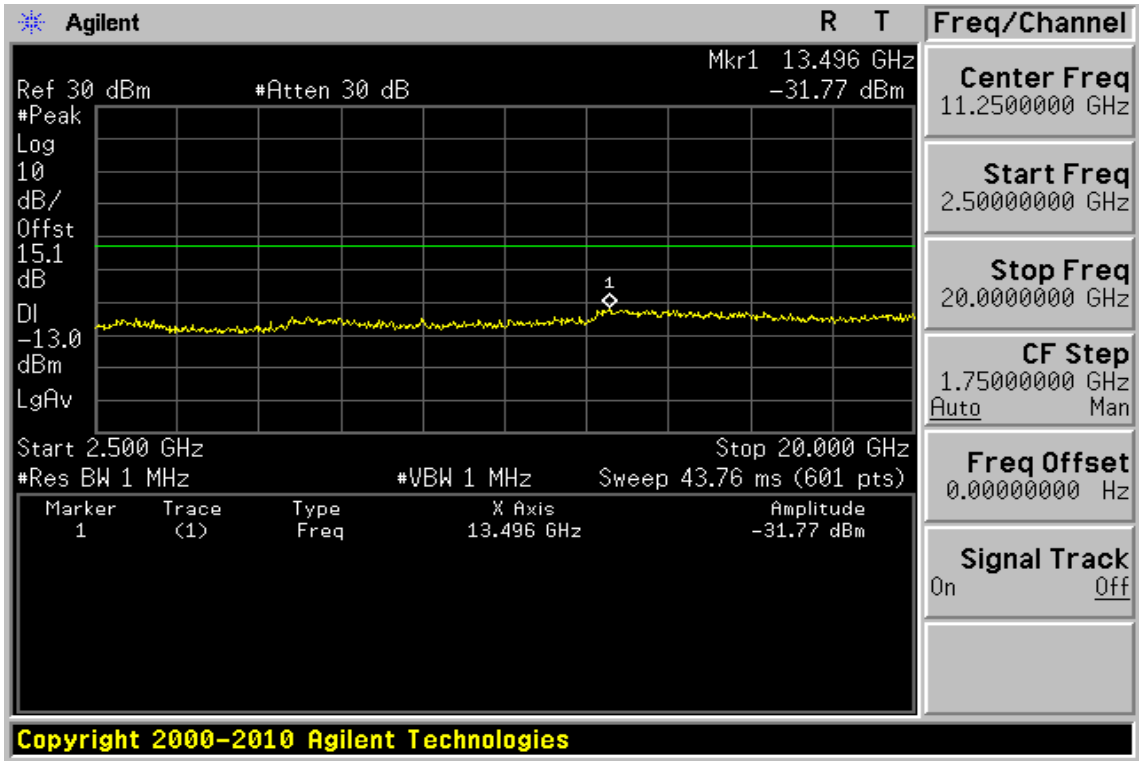
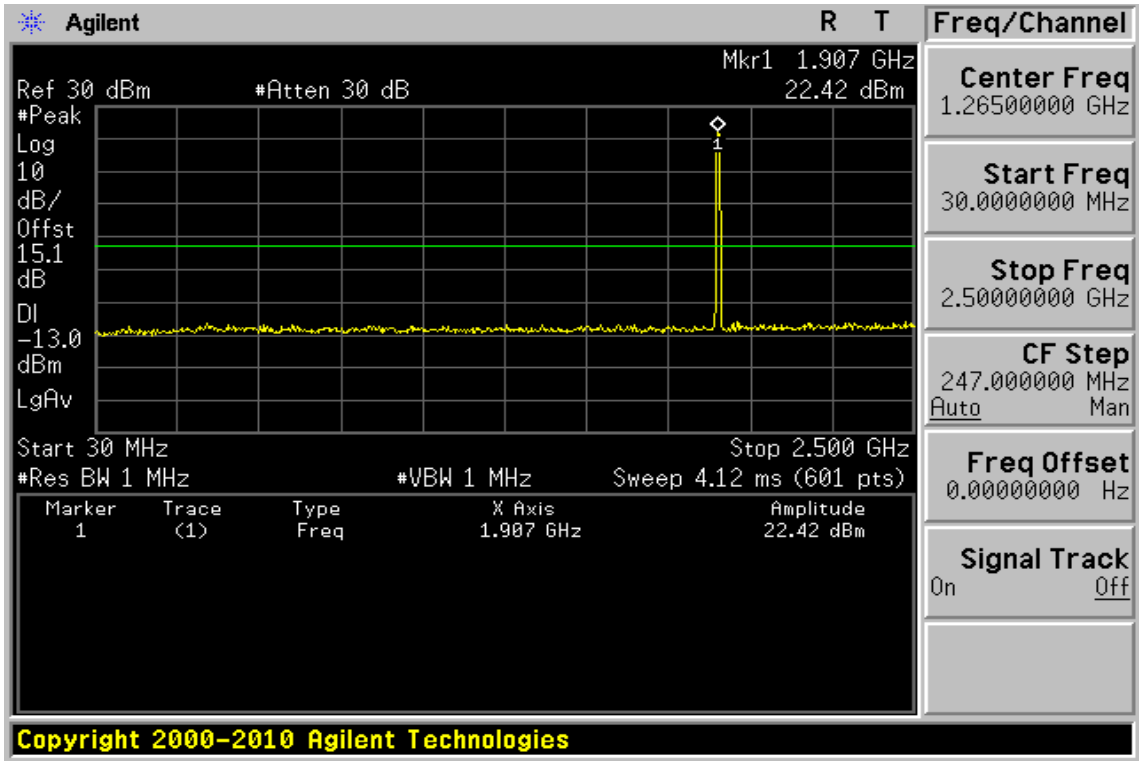


Figure 10-13: Out of Band emission at antenna terminals–WCDMA II Channel Highest



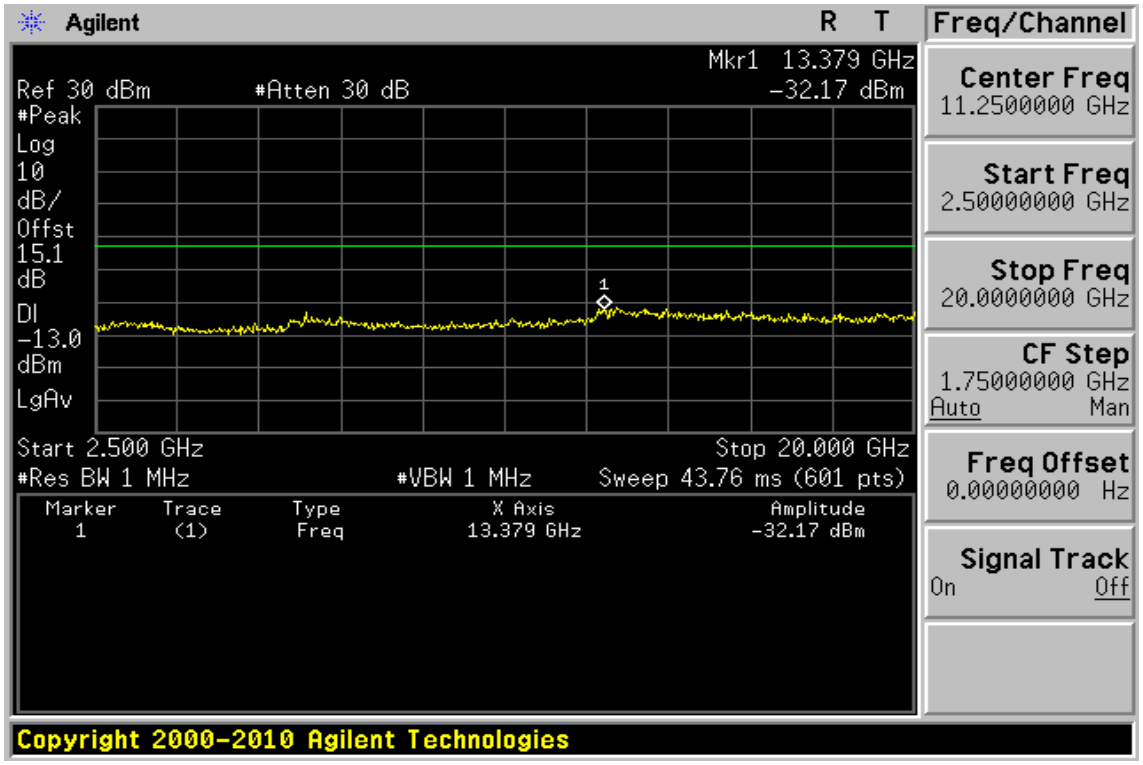


Figure 10-14: Bad edge emission at antenna terminals –WCDMA II Channel Lowest

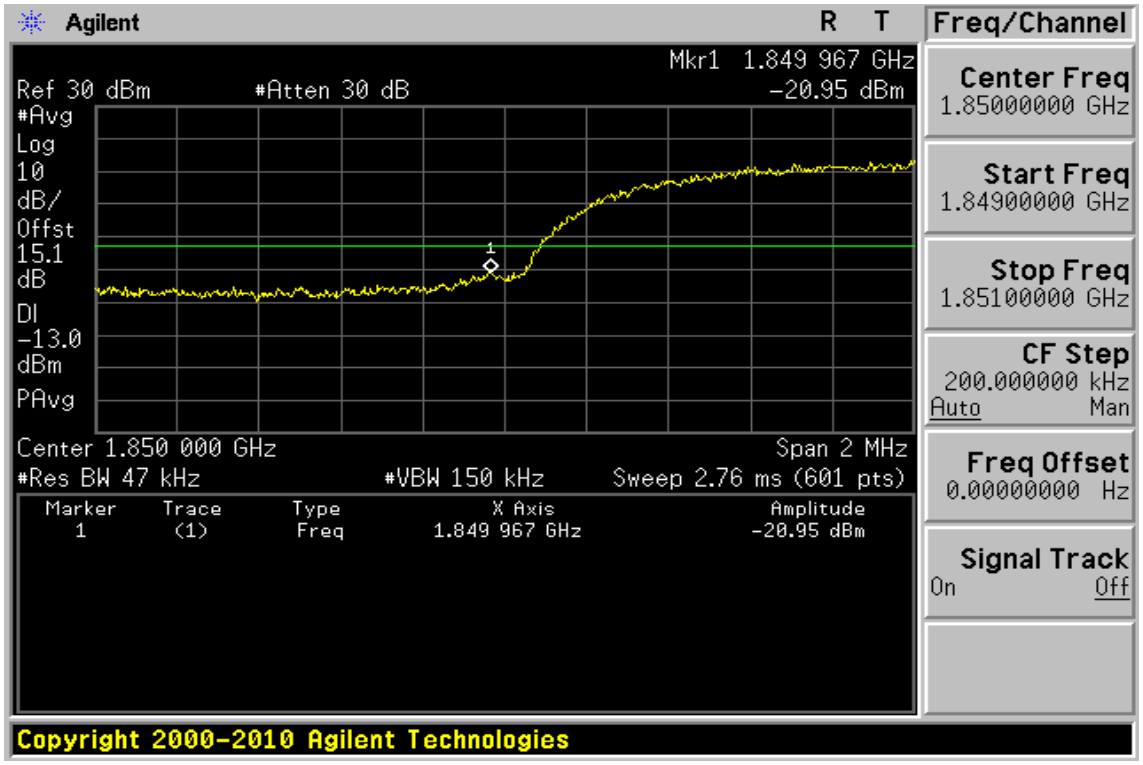


Figure 10-15: Band edge emission at antenna terminals –WCDMA II Channel Highest

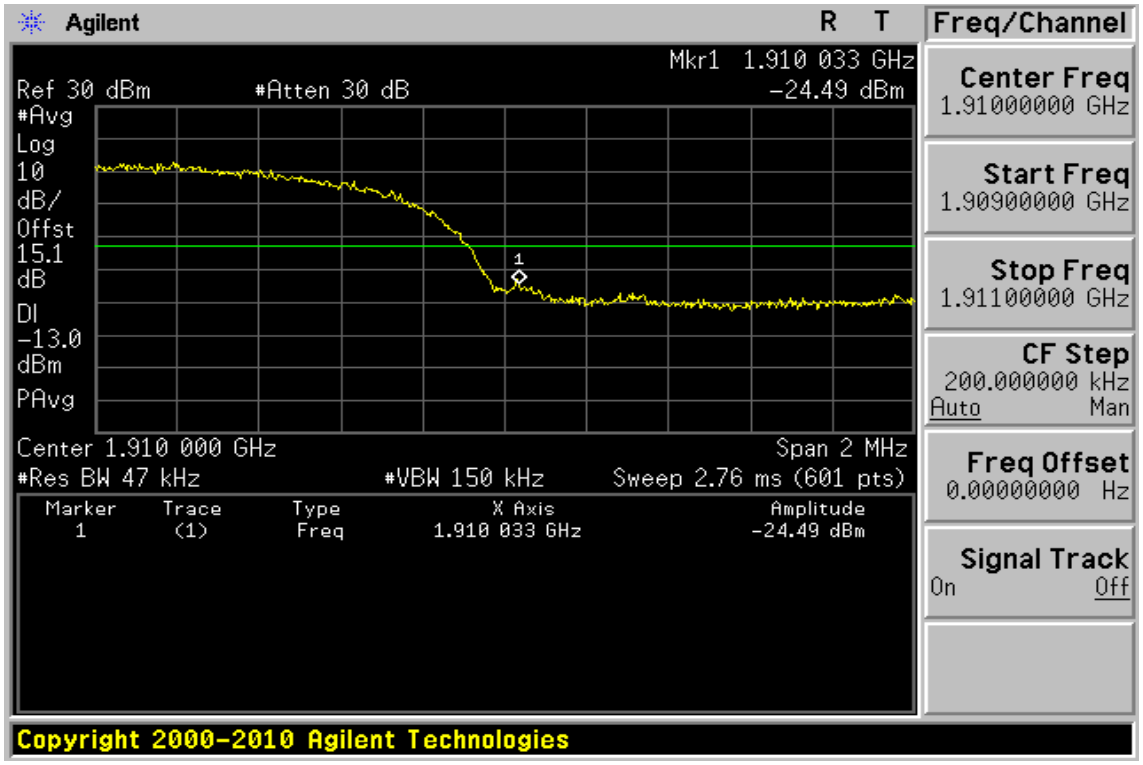
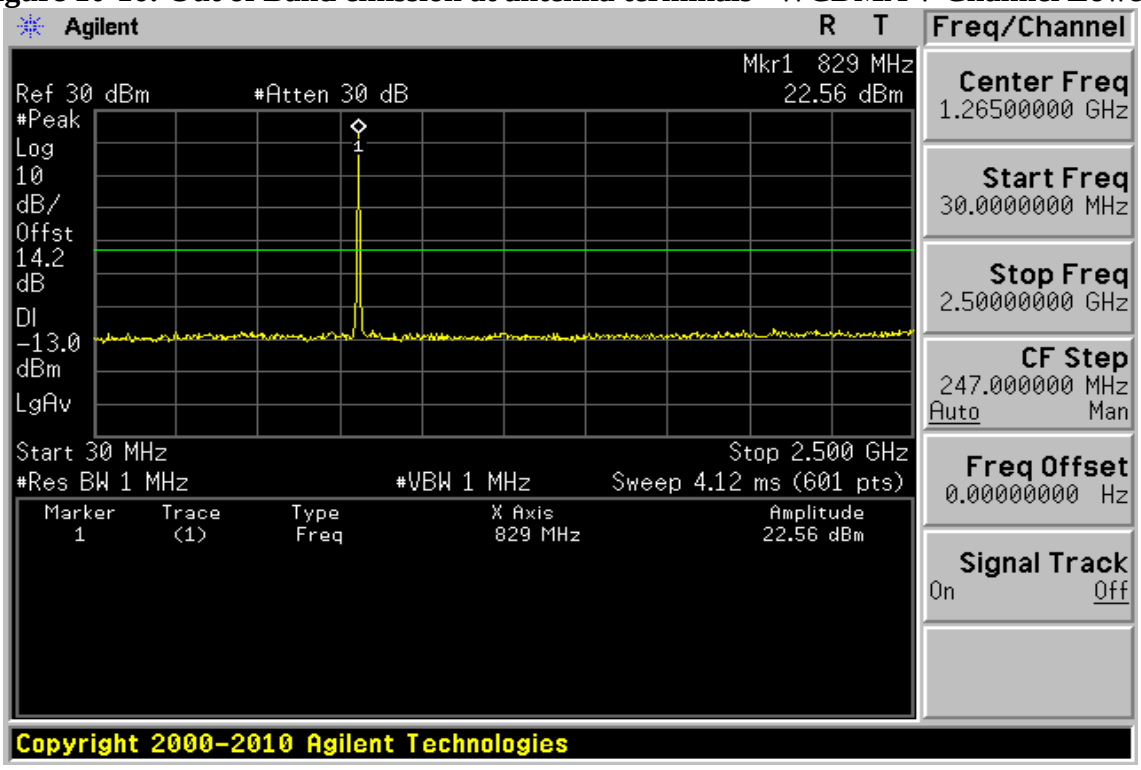


Figure 10-16: Out of Band emission at antenna terminals– WCDMA V Channel Lowest



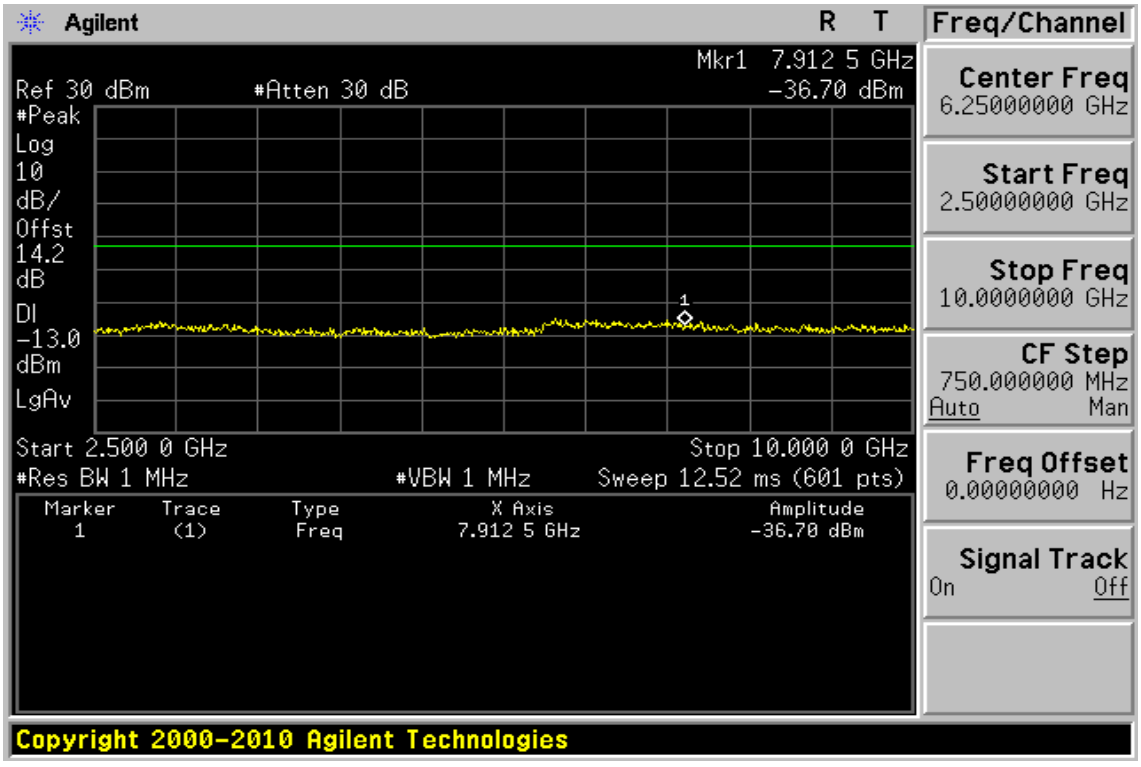
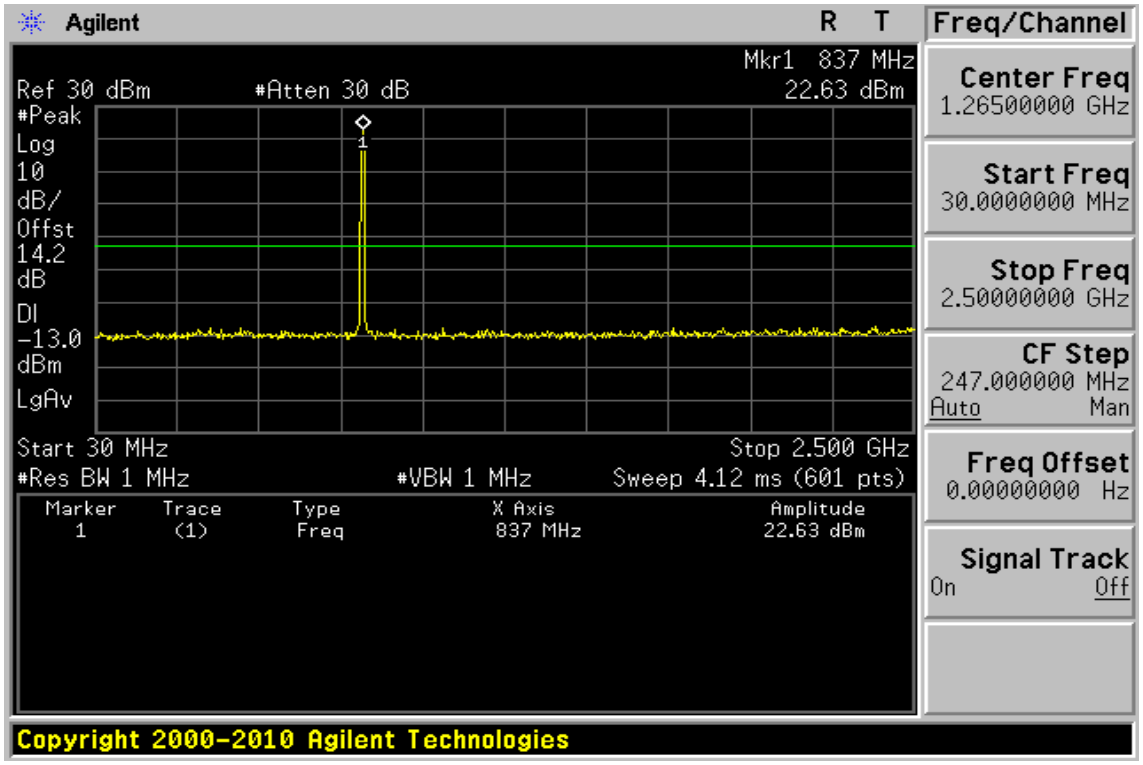


Figure 10-17: Out of Band emission at antenna terminals –WCDMA V Channel Mid



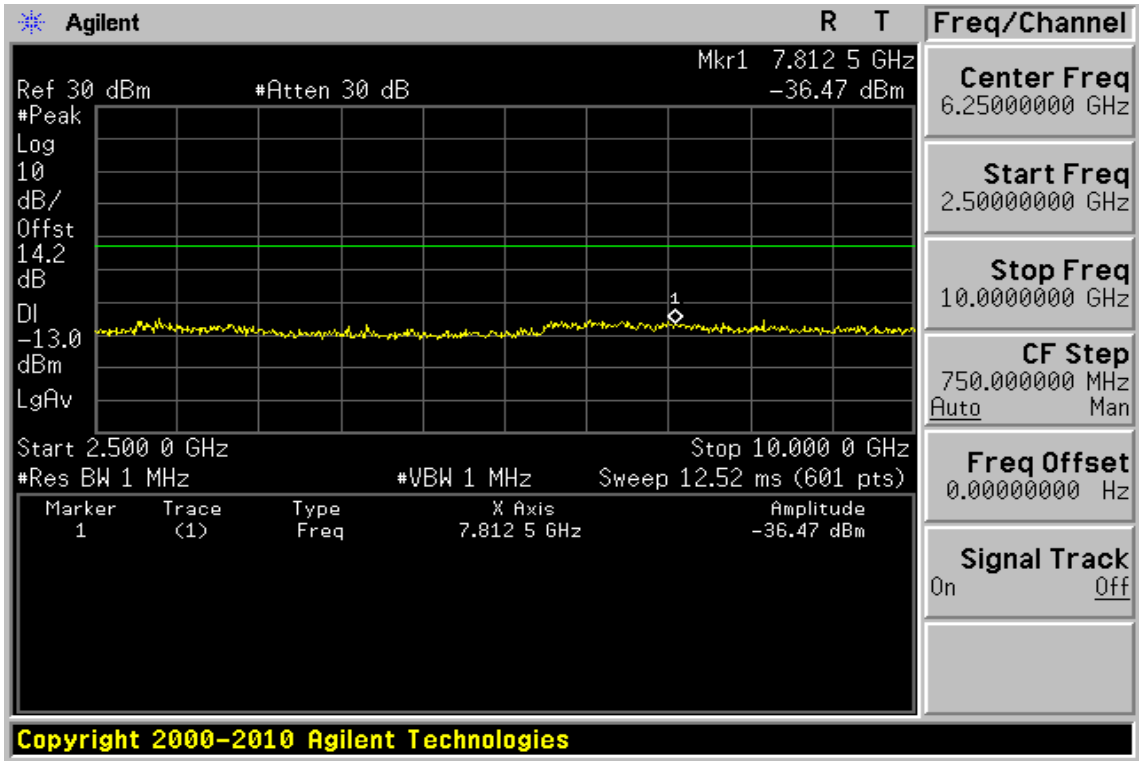
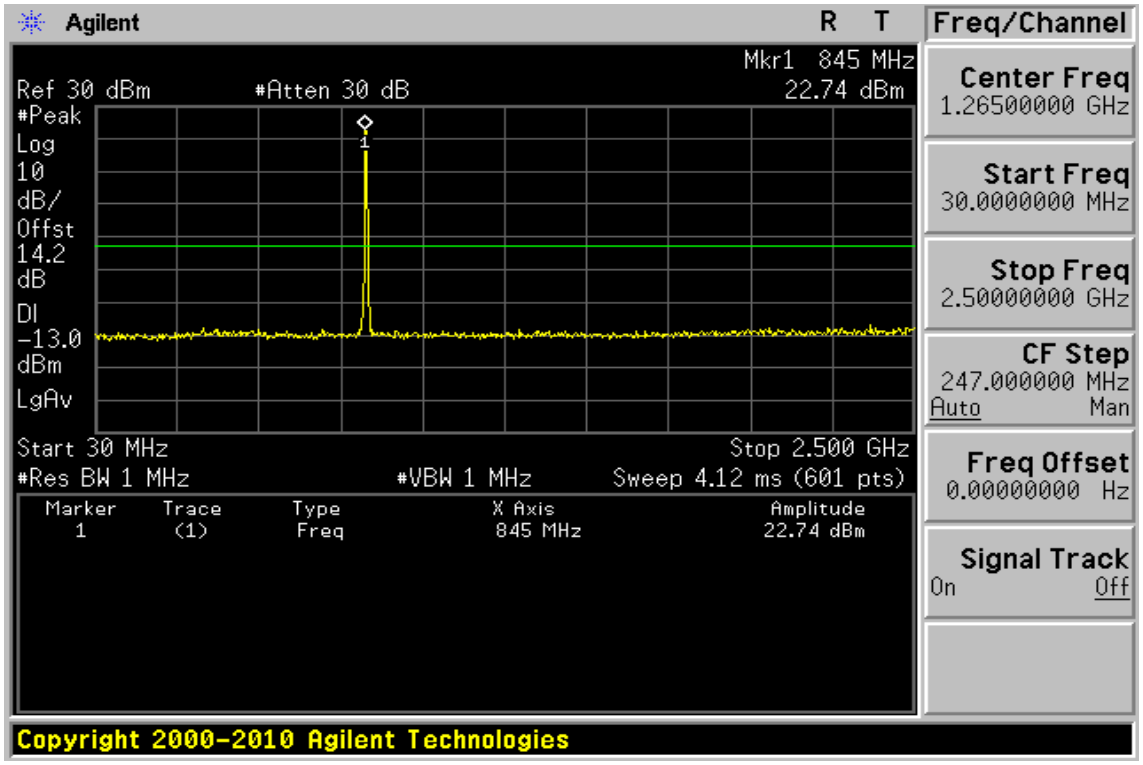


Figure 10-18: Out of Band emission at antenna terminals–WCDMA V Channel Highest



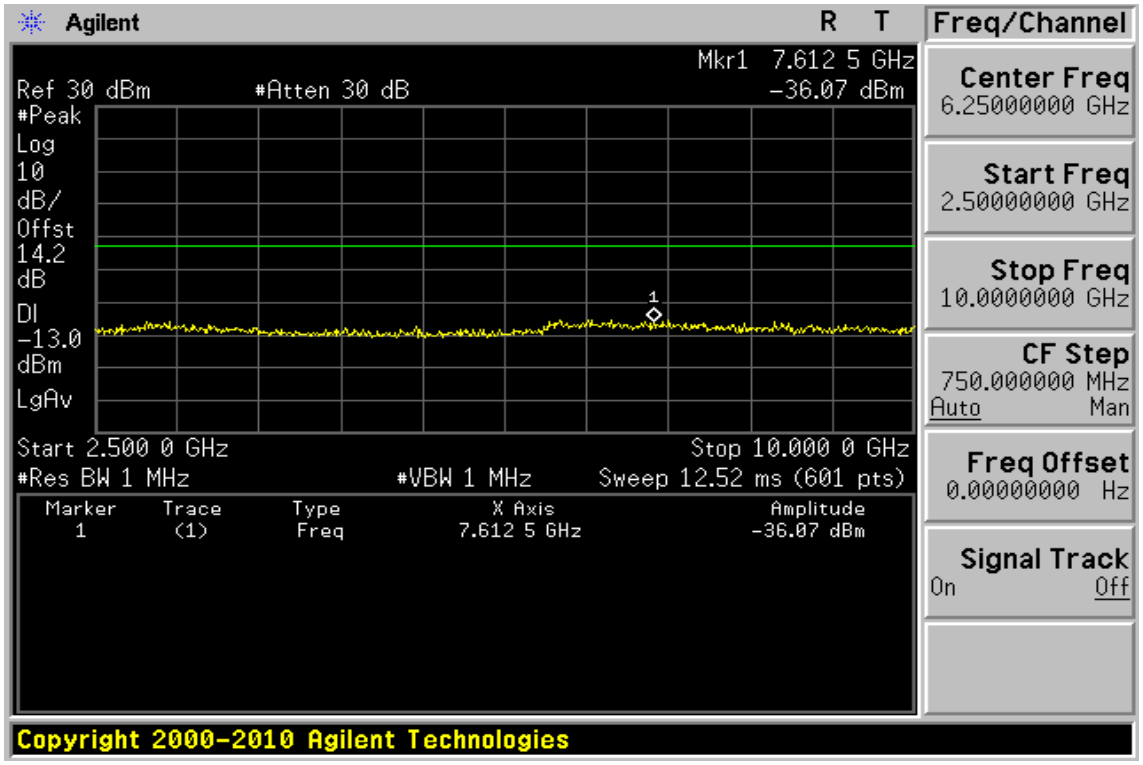


Figure 10-19: Bad edge emission at antenna terminals –WCDMA V Channel Lowest

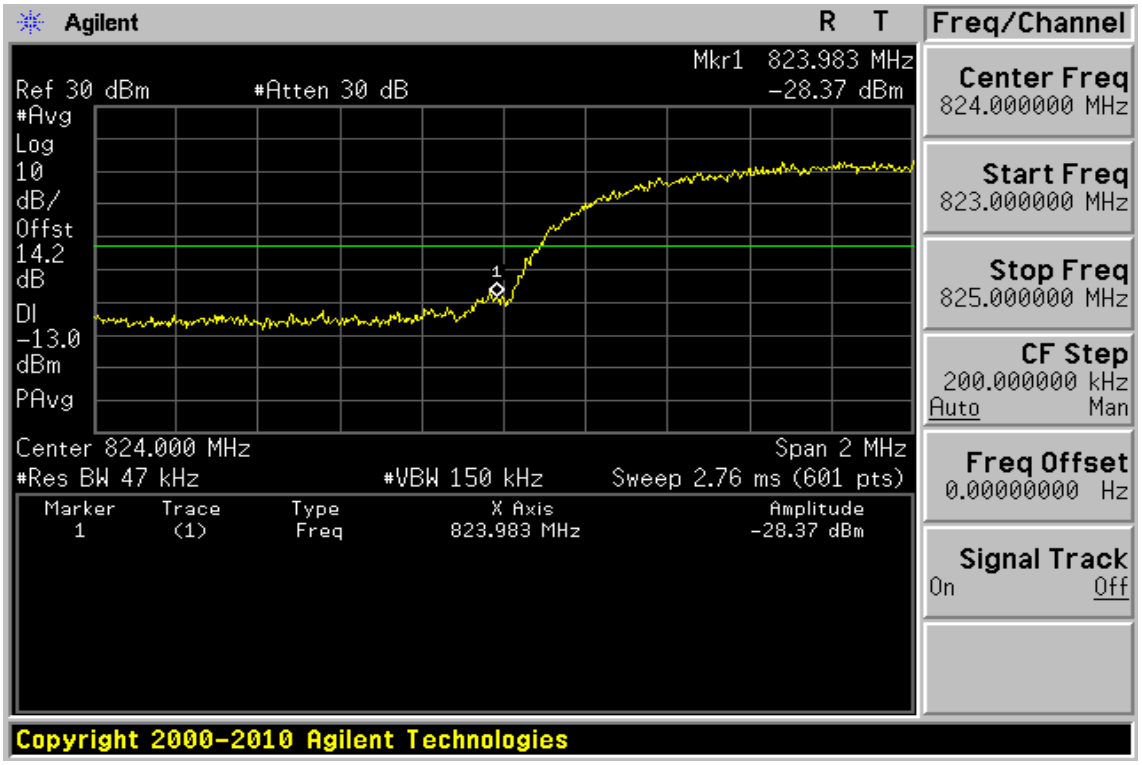


Figure 10-20: Band edge emission at antenna terminals –WCDMA V Channel Highest

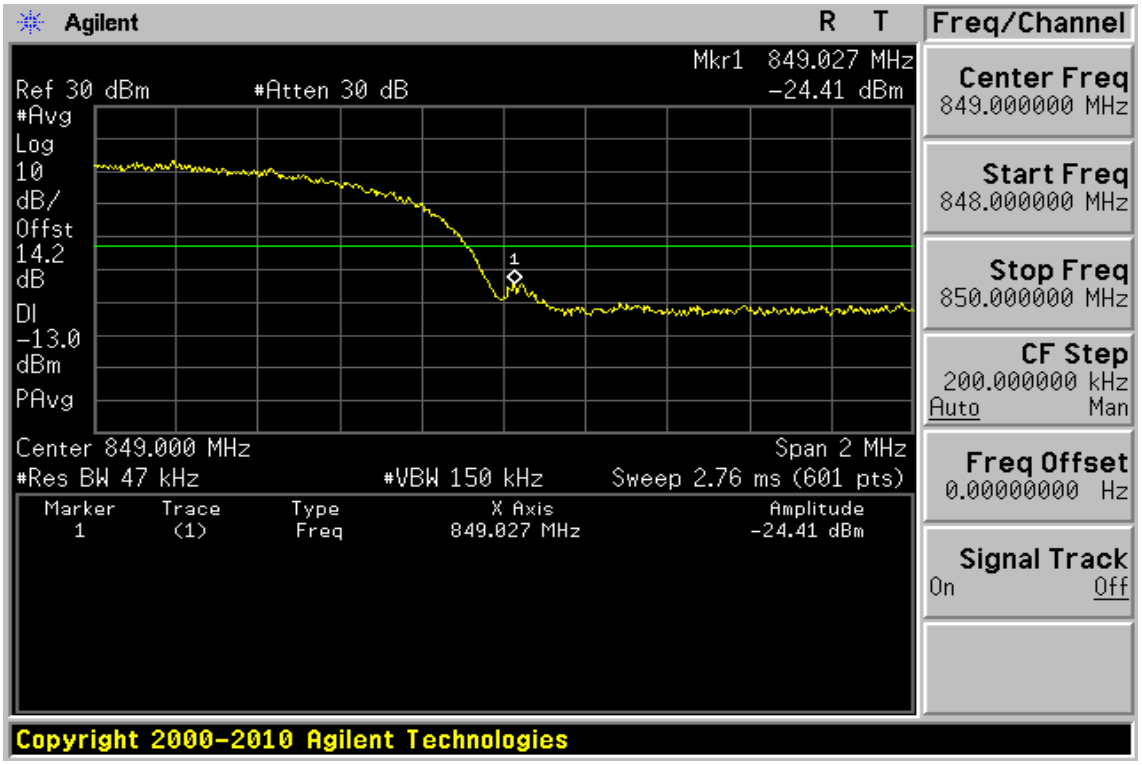
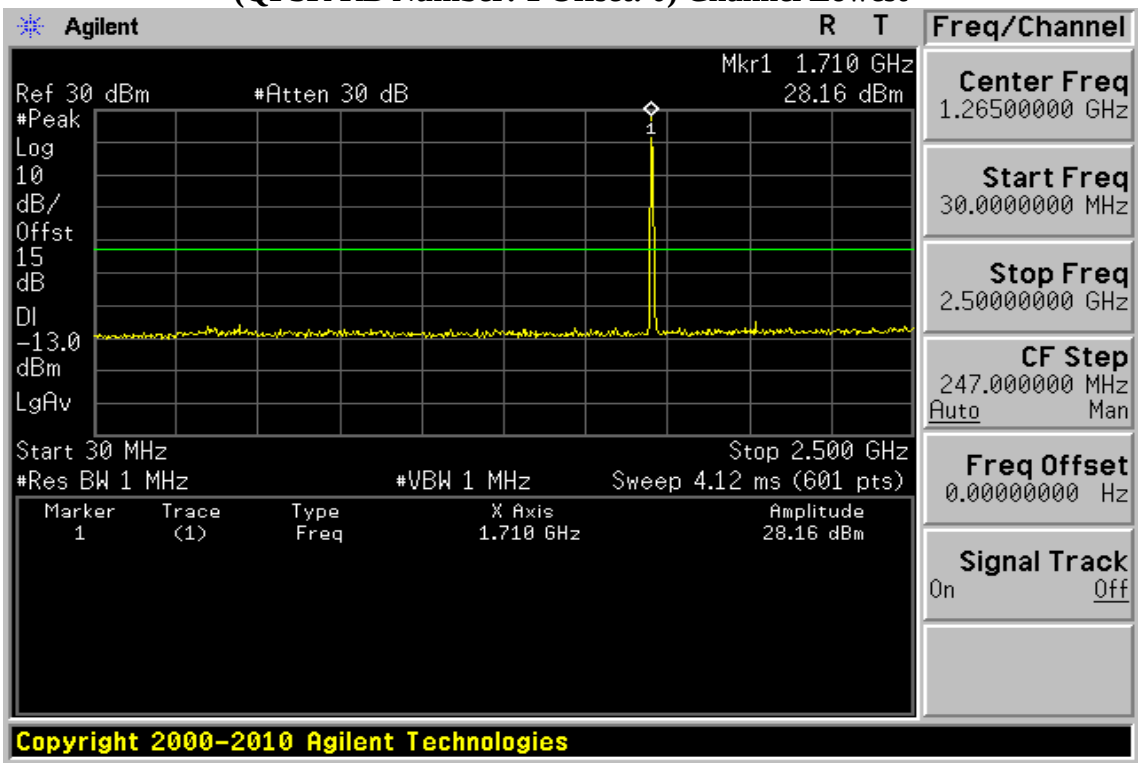


Figure 10-21: Out of Band emission at antenna terminals–5MHz BW LTE-Band 4 (QPSK RB Number: 1 Offset: 0) Channel Lowest



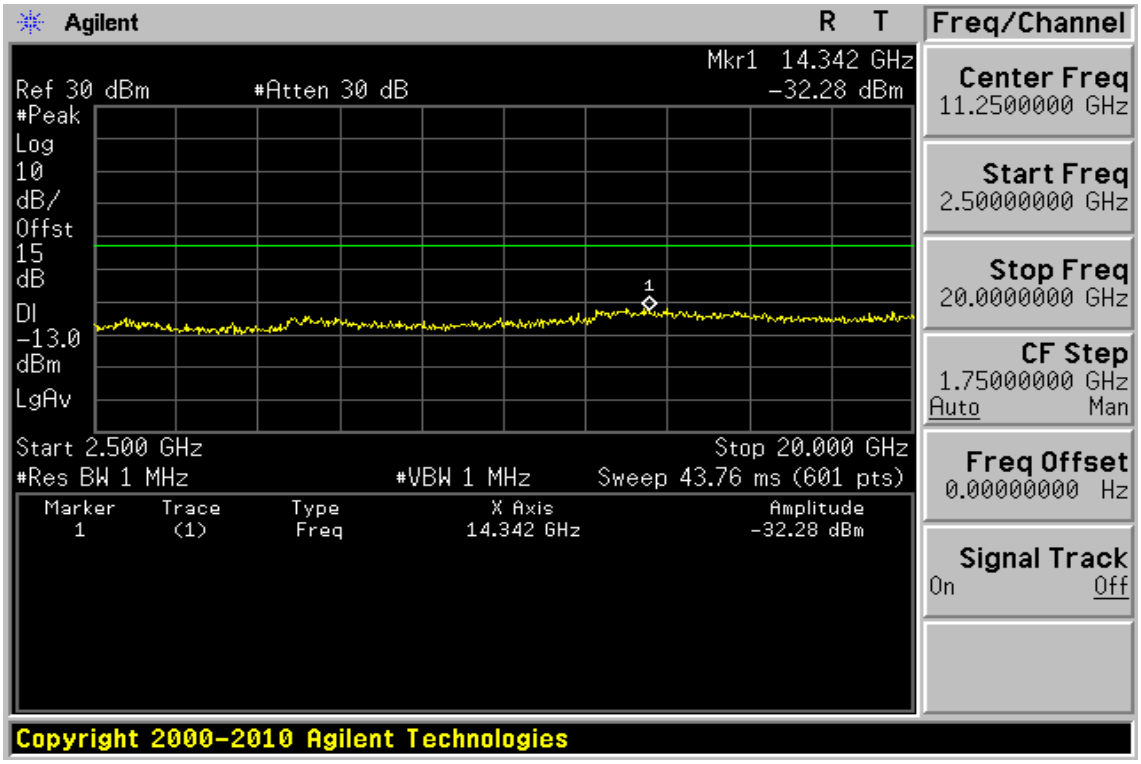
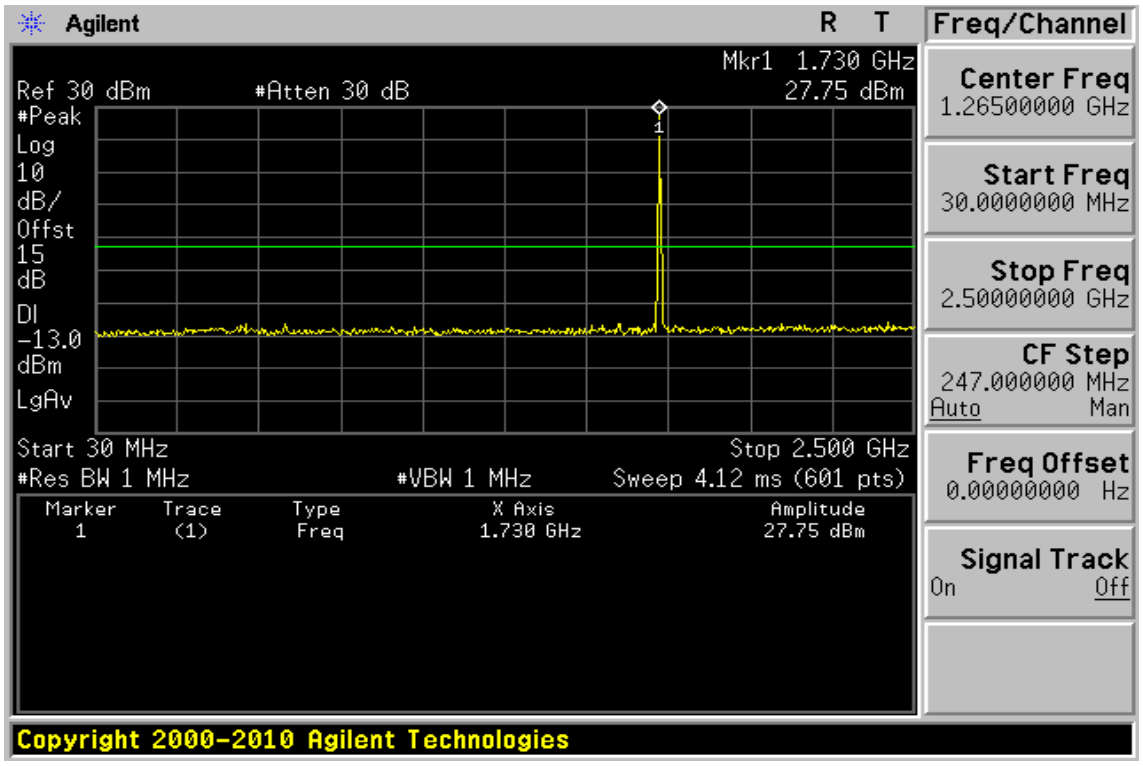


Figure 10-22: Out of Band emission at antenna terminals –5MHz BW LTE-Band 4 (QPSK RB Number: 1 Offset: 0) Channel Mid



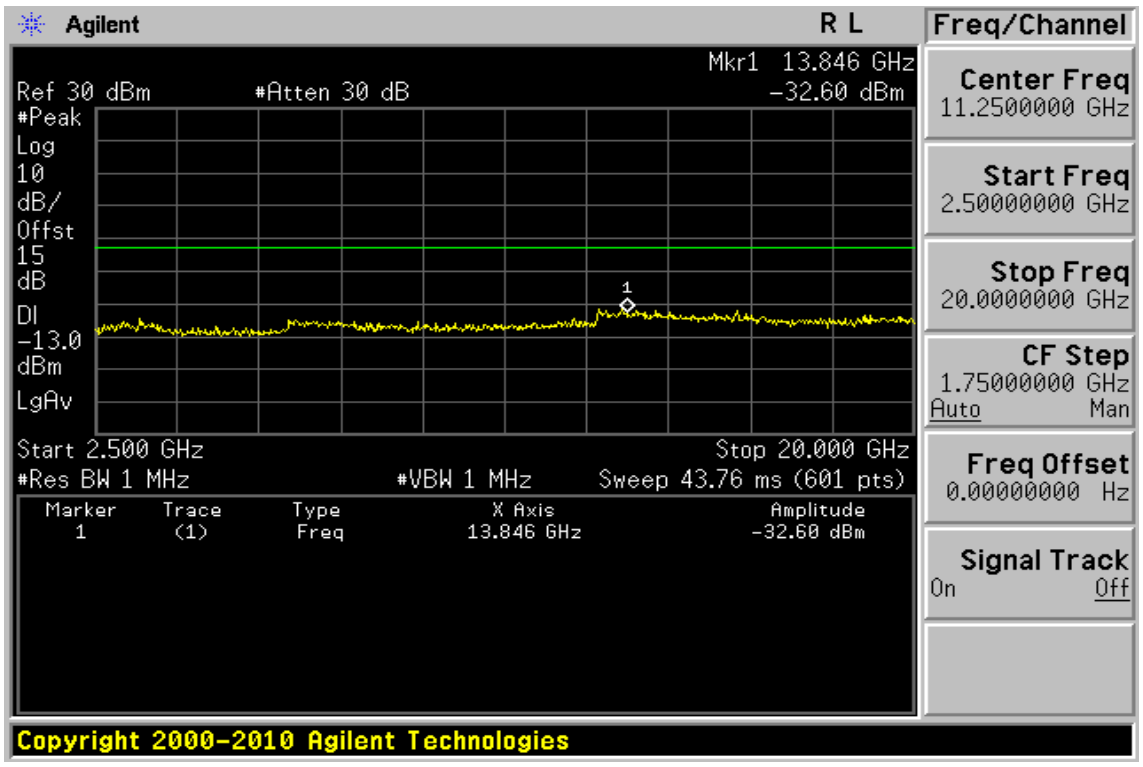
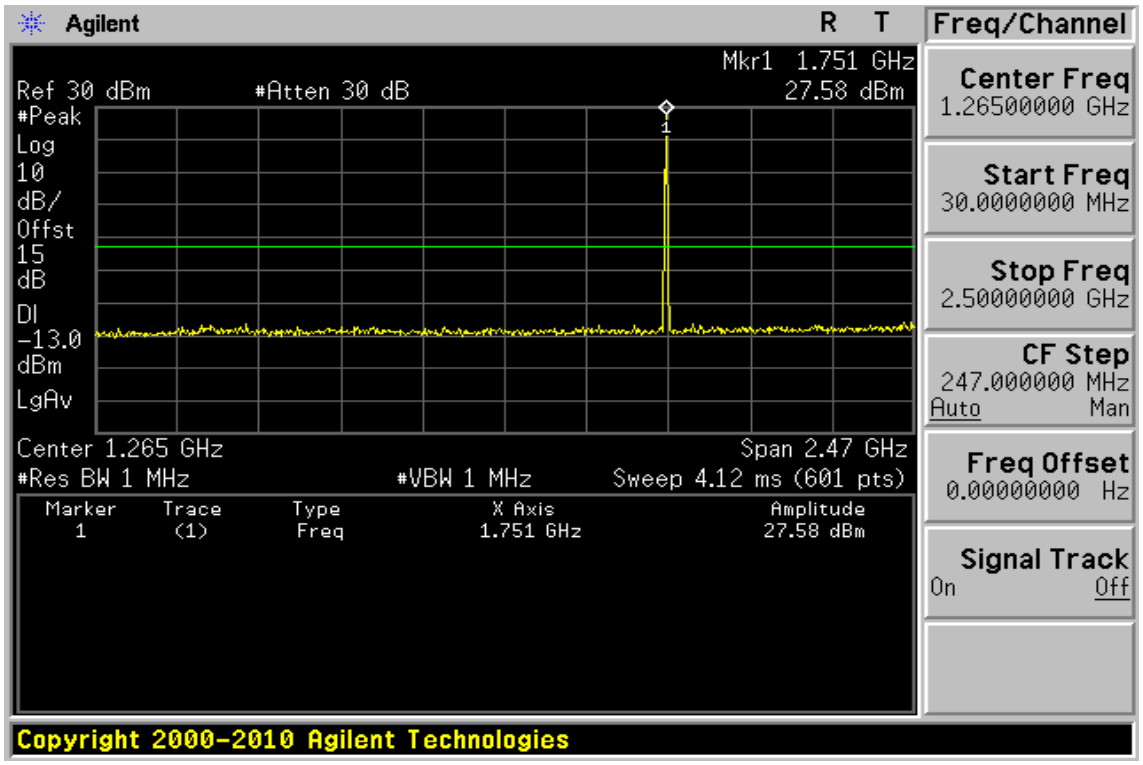


Figure 10-23: Out of Band emission at antenna terminals–5MHz BW LTE-Band 4 (QPSK RB Number: 1 Offset: 0) Channel Highest



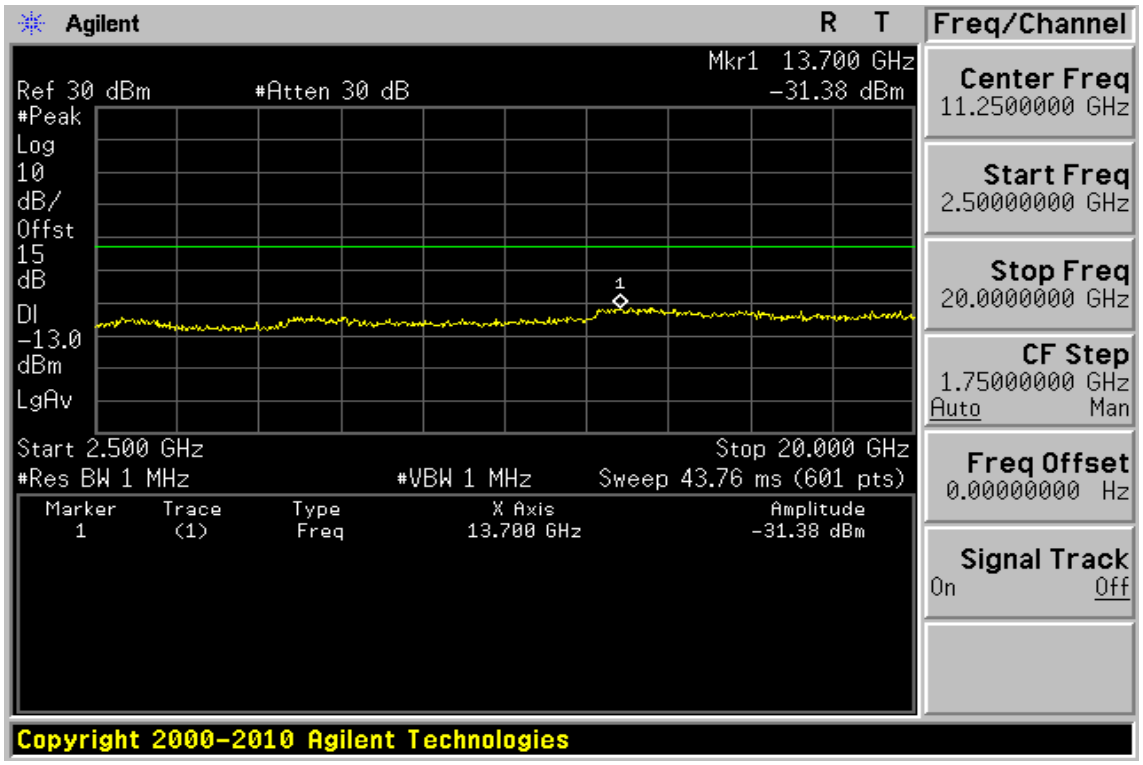


Figure 10-24: Band edge emission at antenna terminals –5MHz BW LTE-Band 4 (QPSK RB Number: 1 Offset: 0) Channel Lowest

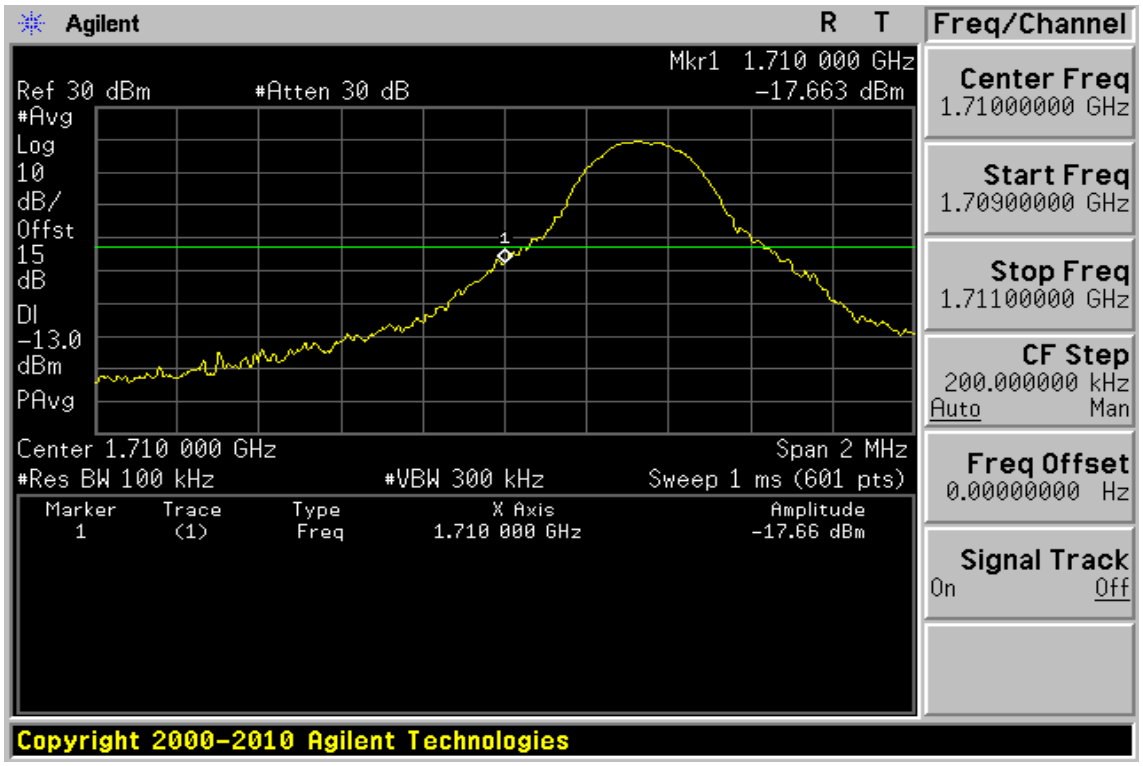


Figure 10-25: Band edge emission at antenna terminals –5MHz BW LTE-Band 4 (QPSK RB Number: 1 Offset: 24) Channel Highest

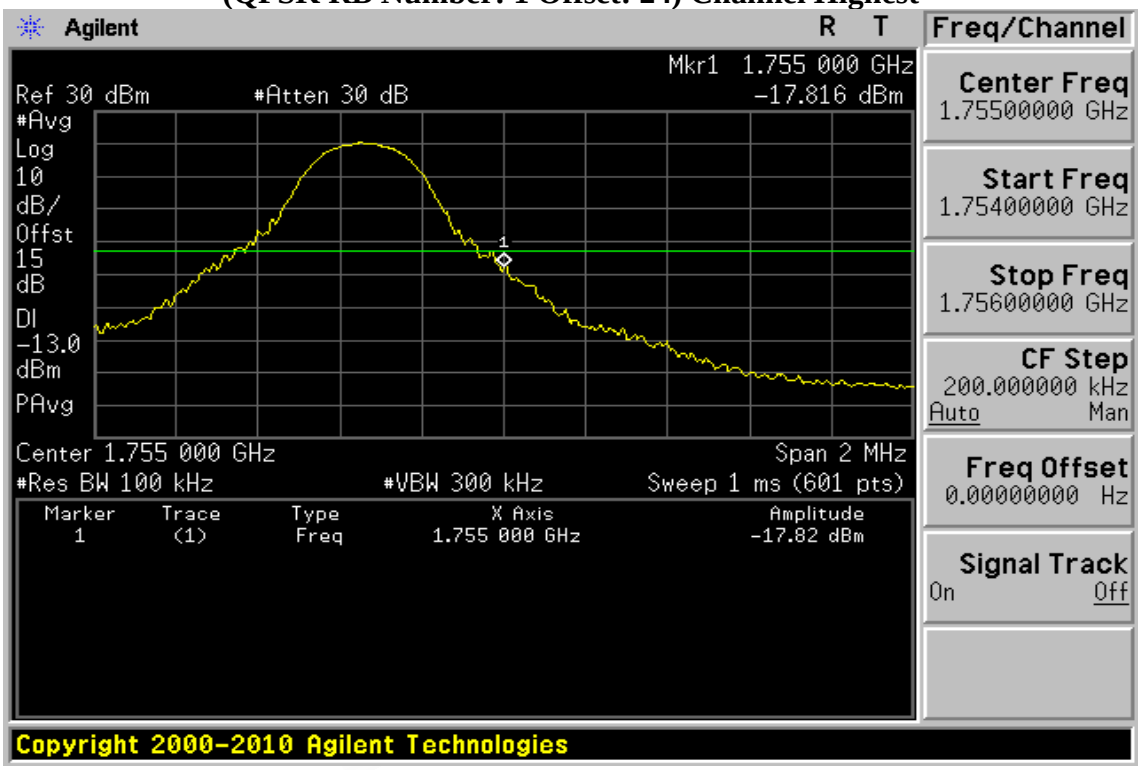
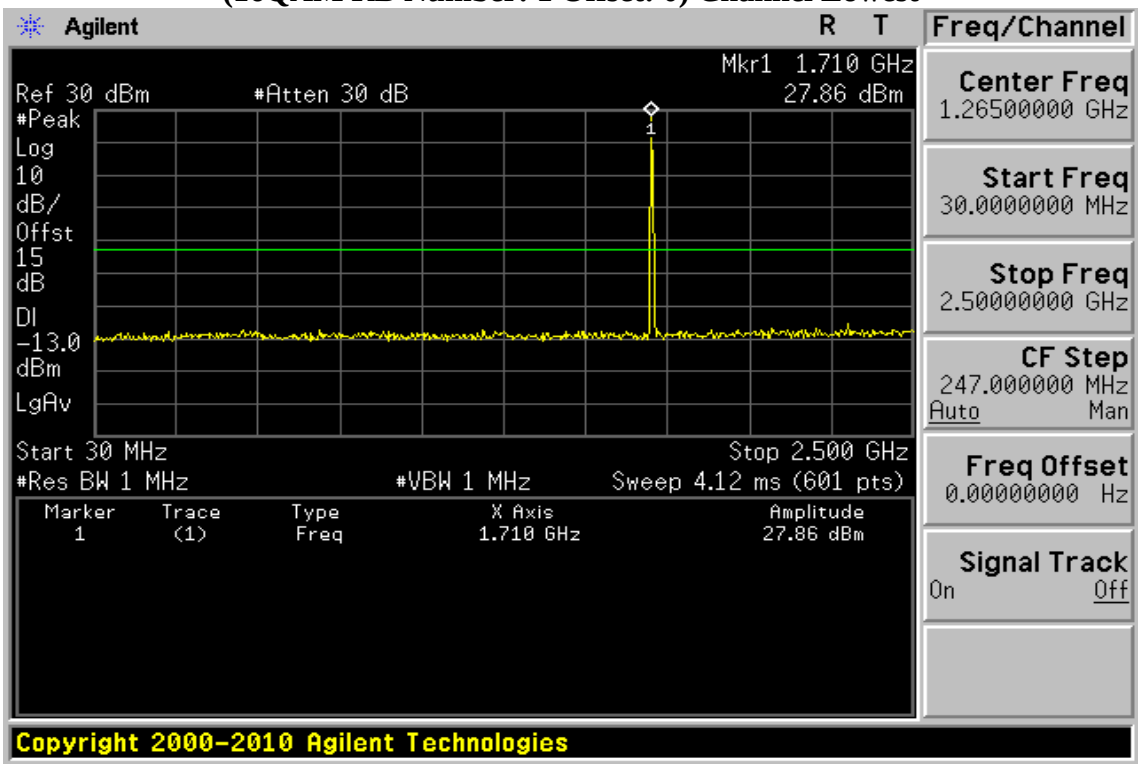


Figure 10-26: Out of Band emission at antenna terminals–5MHz BW LTE-Band 4 (16QAM RB Number: 1 Offset: 0) Channel Lowest



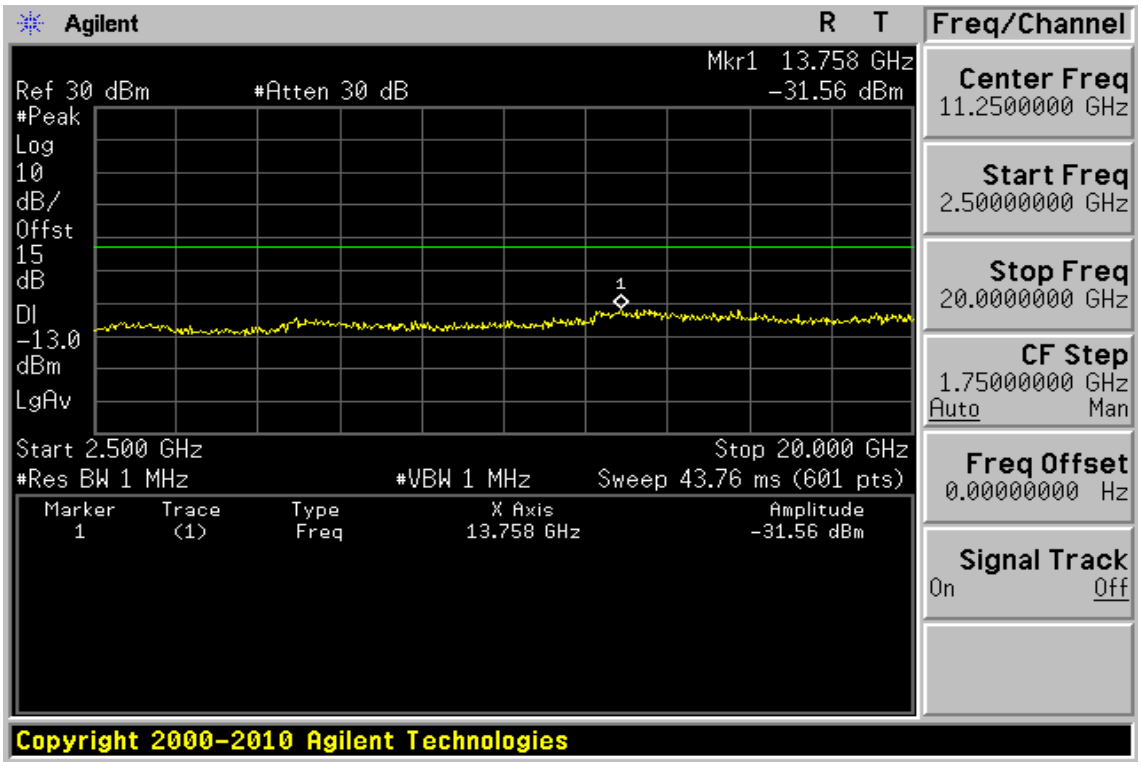
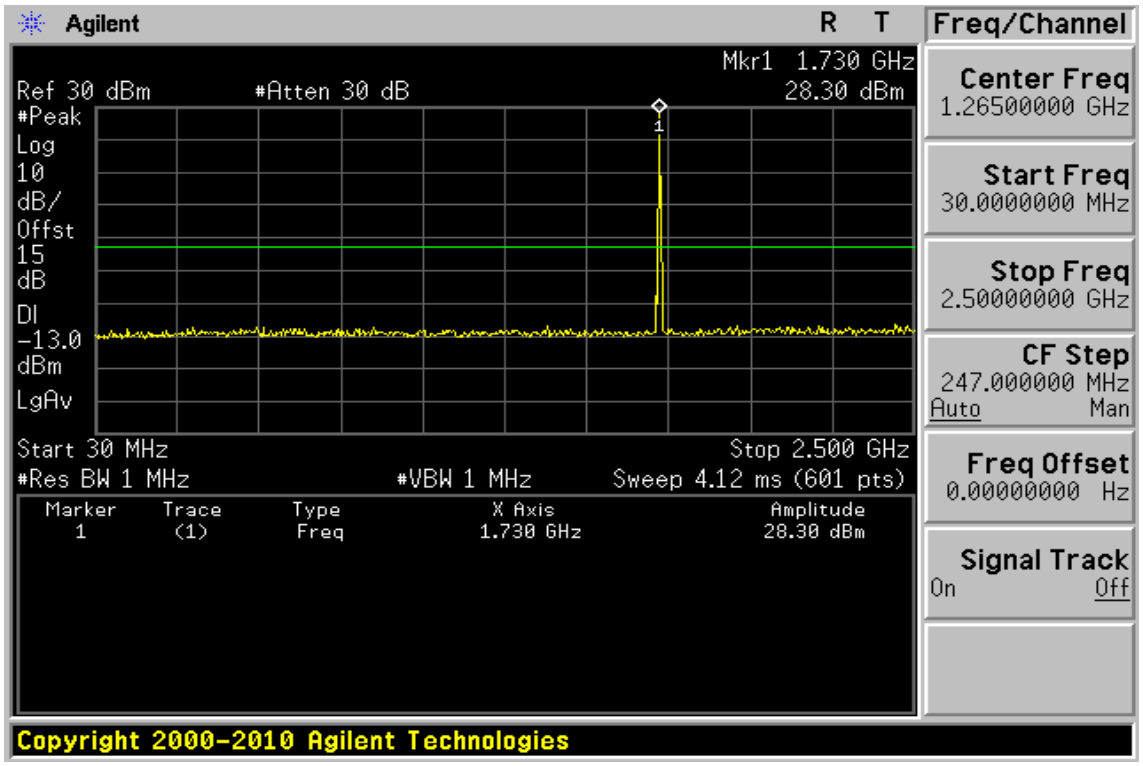


Figure 10-27: Out of Band emission at antenna terminals –5MHz BW LTE-Band 4 (16QAM RB Number: 1 Offset: 0) Channel Mid



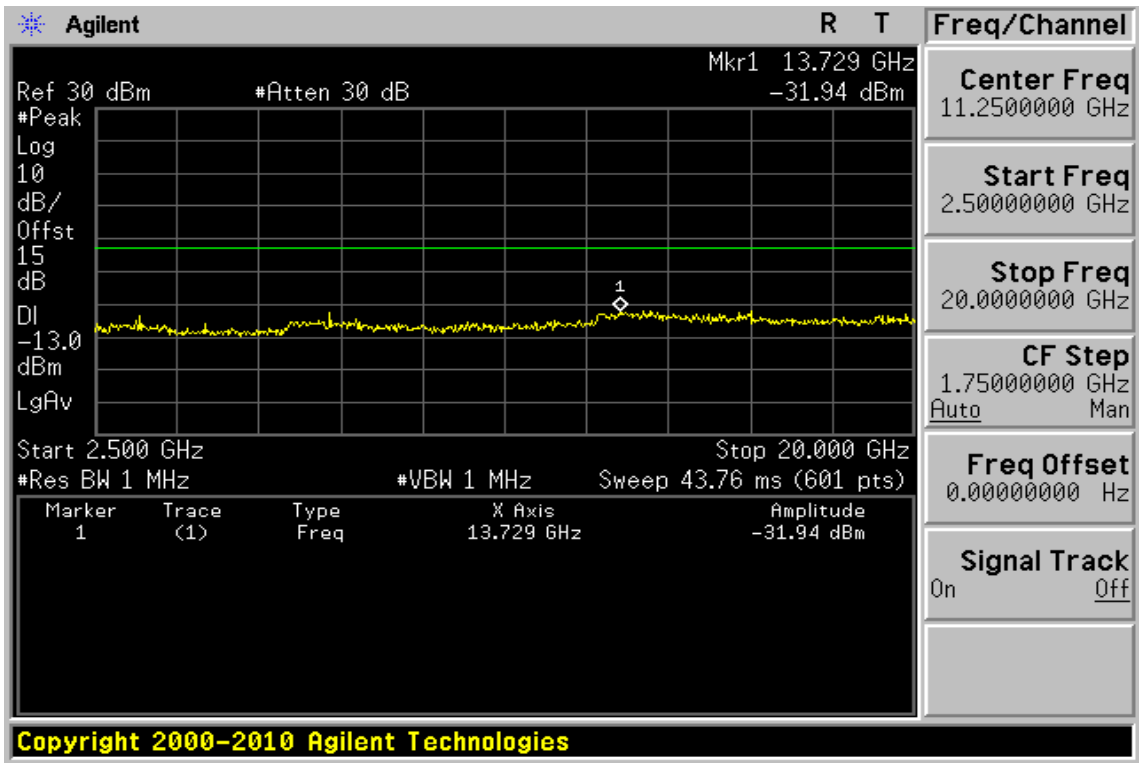
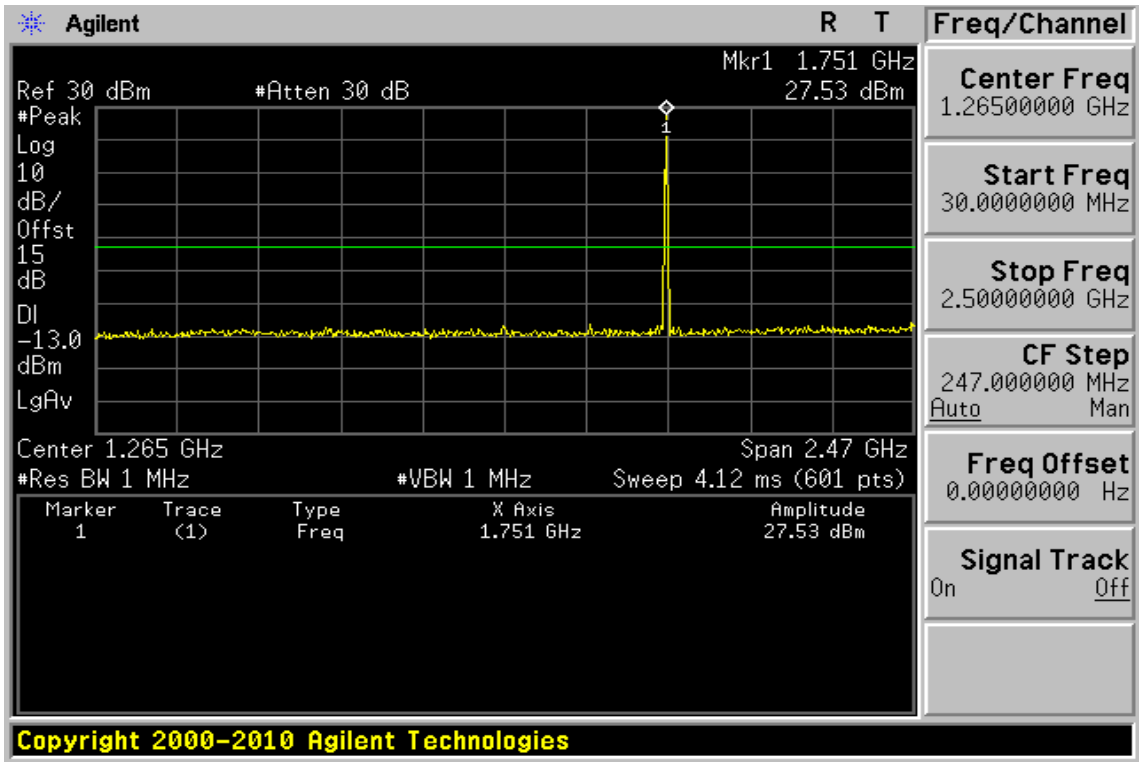


Figure 10-28: Out of Band emission at antenna terminals–5MHz BW LTE-Band 4 (16QAM RB Number: 1 Offset: 0) Channel Highest



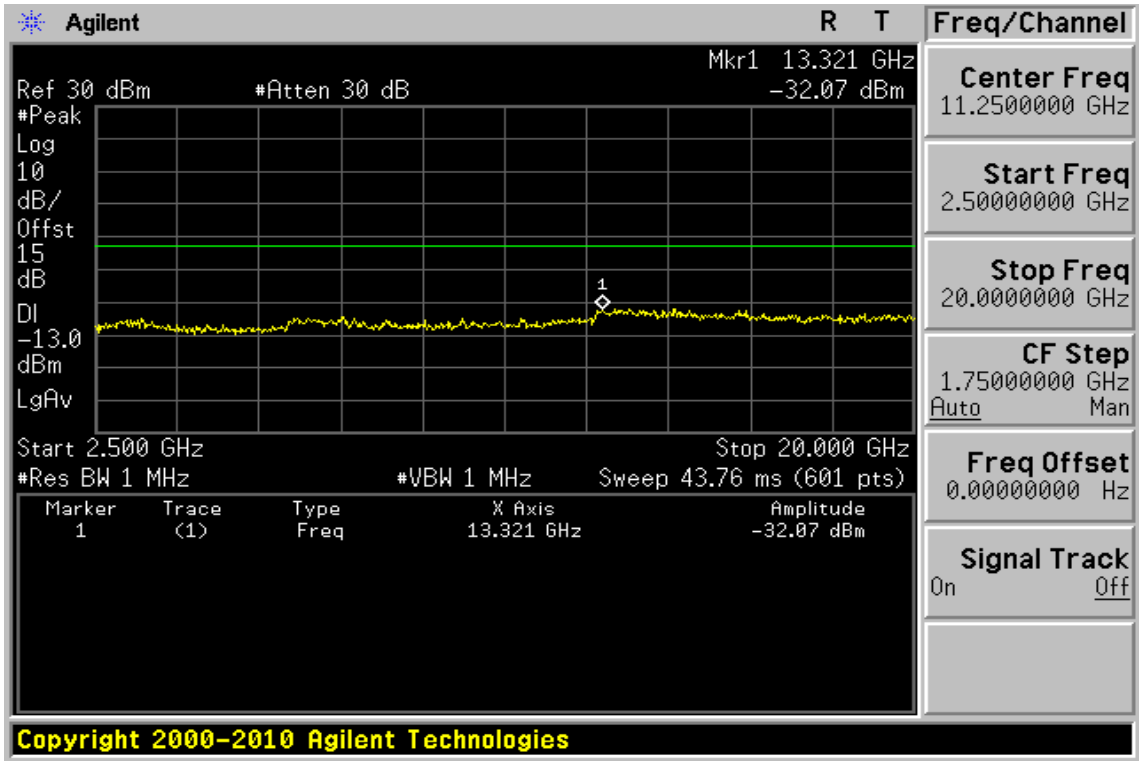


Figure 10-29: Band edge emission at antenna terminals –5MHz BW LTE-Band 4 (16QAM RB Number: 1 Offset: 0) Channel Lowest

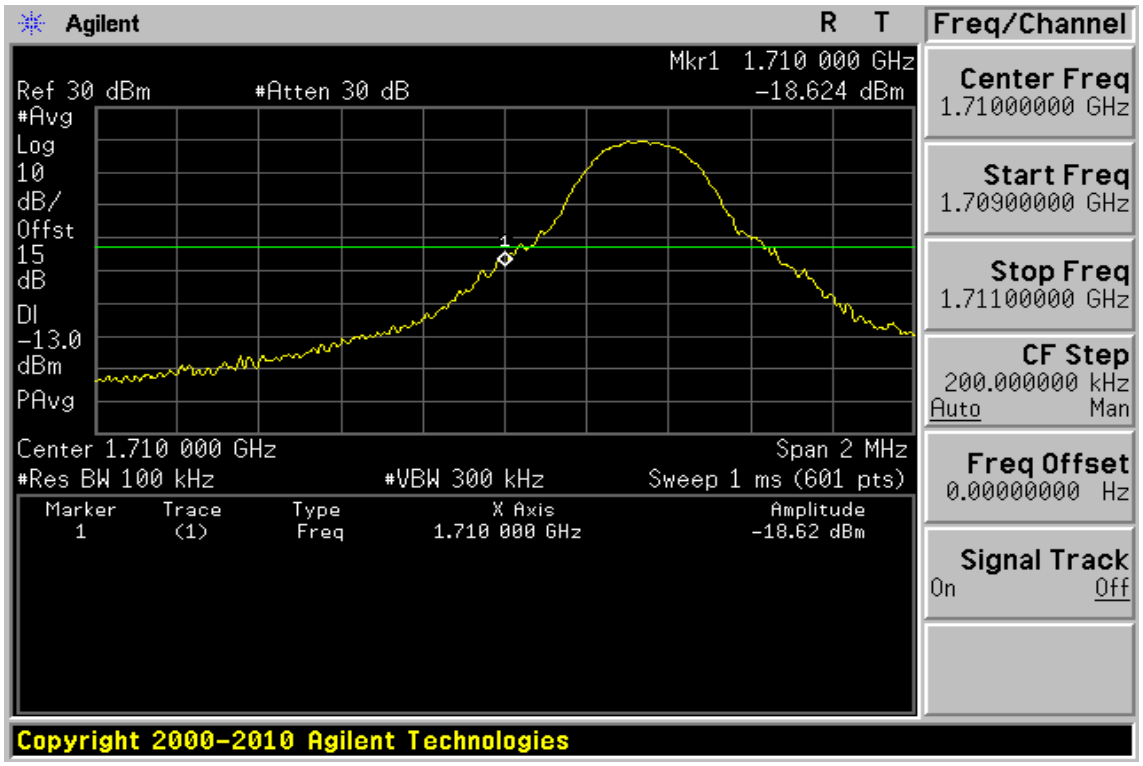


Figure 10-30: Band edge emission at antenna terminals –5MHz BW LTE-Band 4 (16QAM RB Number: 1 Offset: 24) Channel Highest

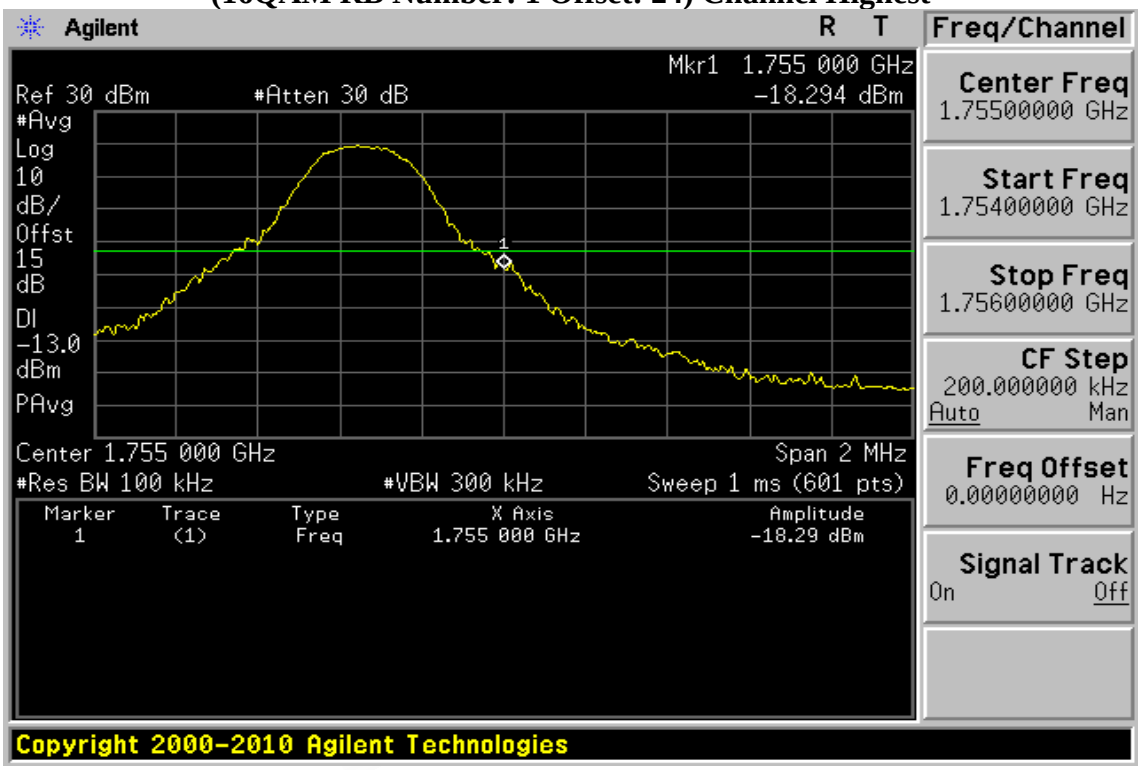
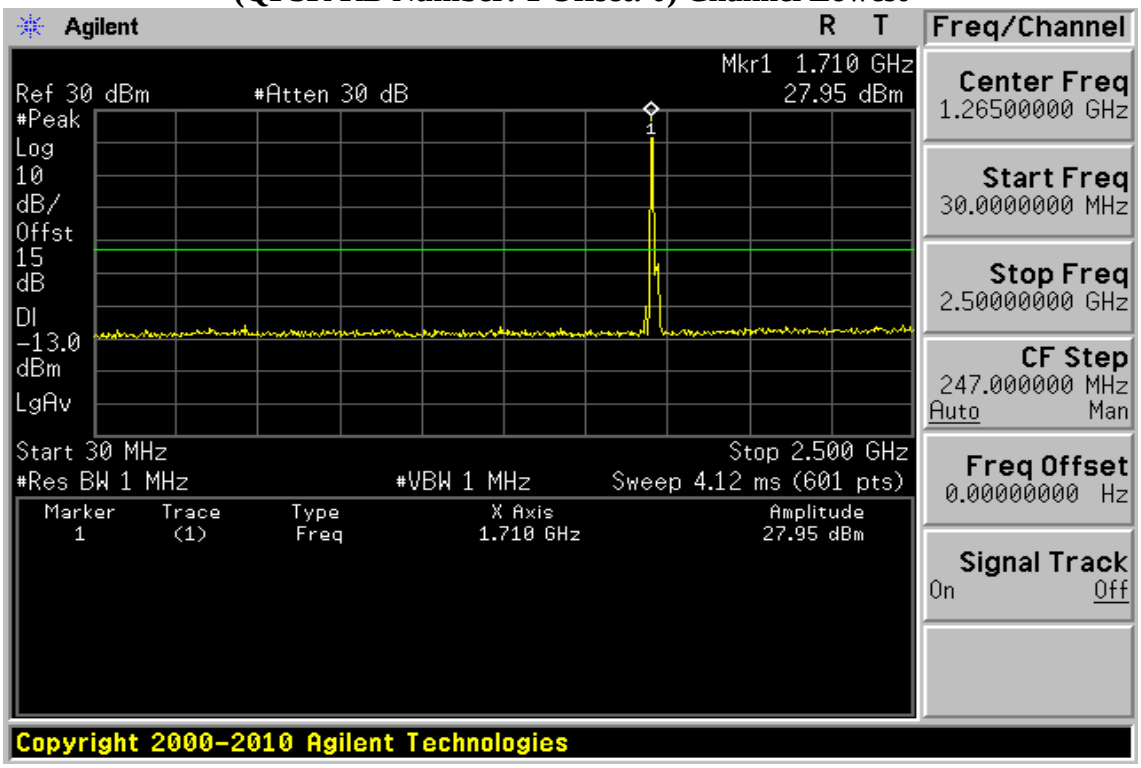


Figure 10-31: Out of Band emission at antenna terminals–10MHz BW LTE-Band 4 (QPSK RB Number: 1 Offset: 0) Channel Lowest



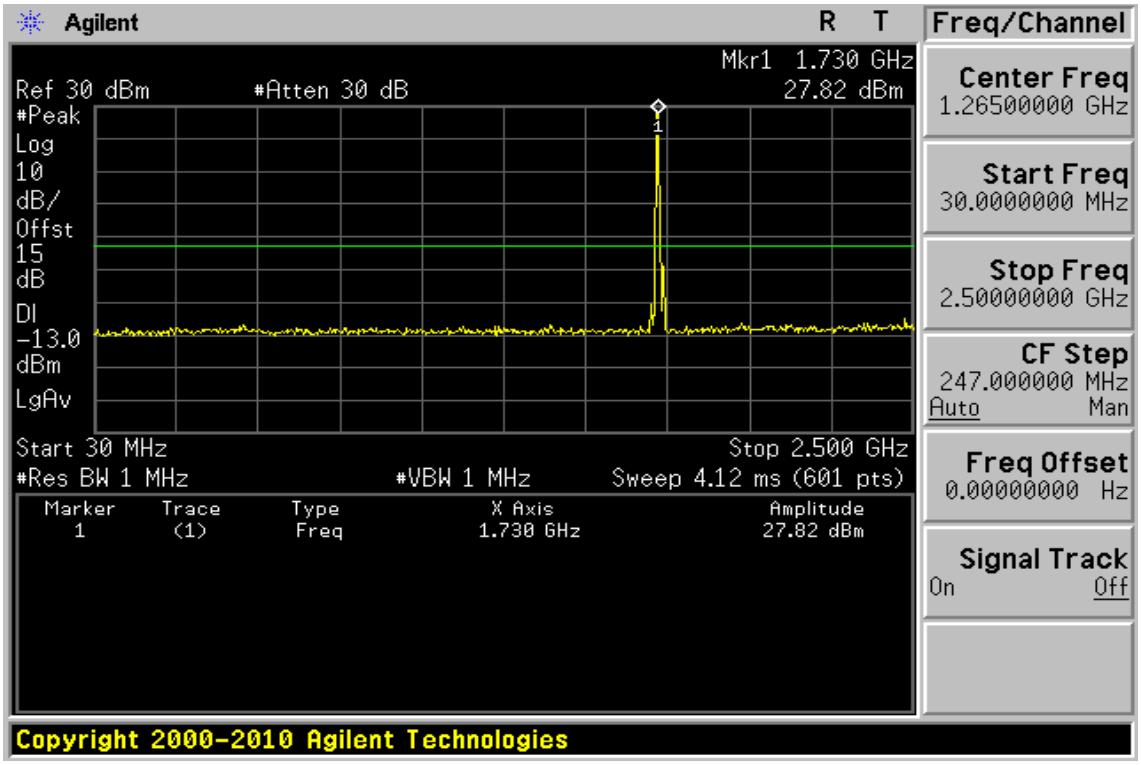
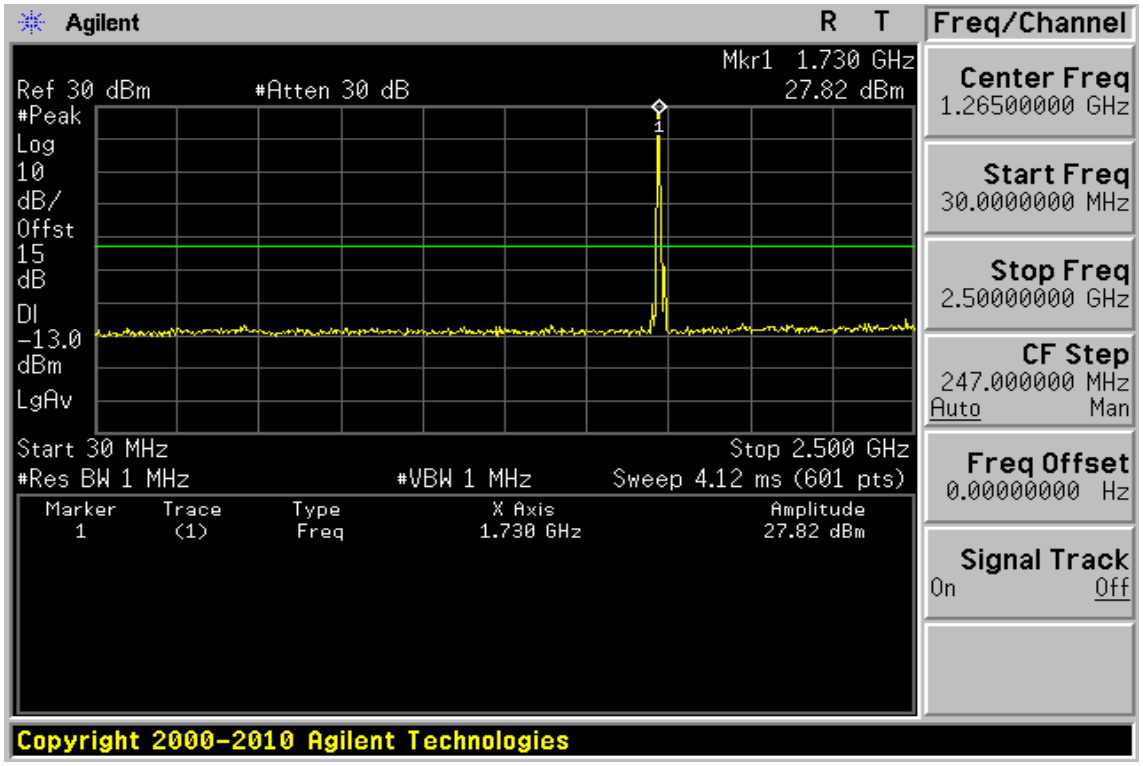


Figure 10-32: Out of Band emission at antenna terminals –10MHz BW LTE-Band 4 (QPSK RB Number: 1 Offset: 0) Channel Mid



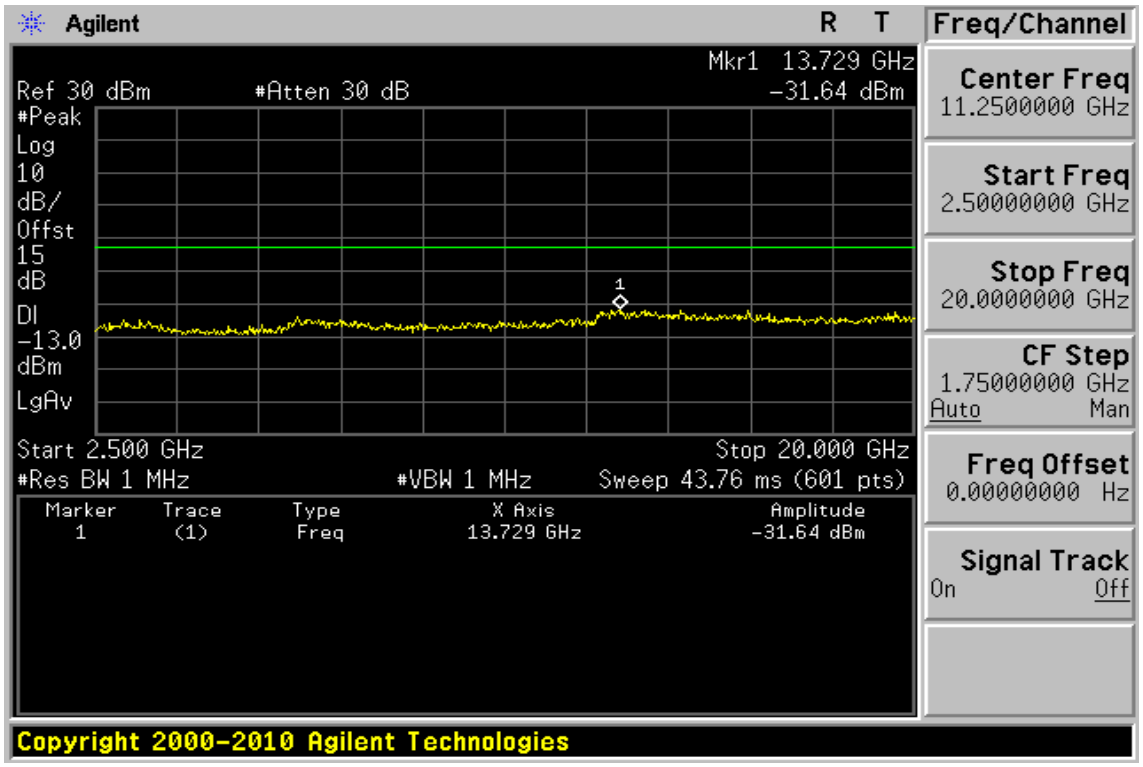
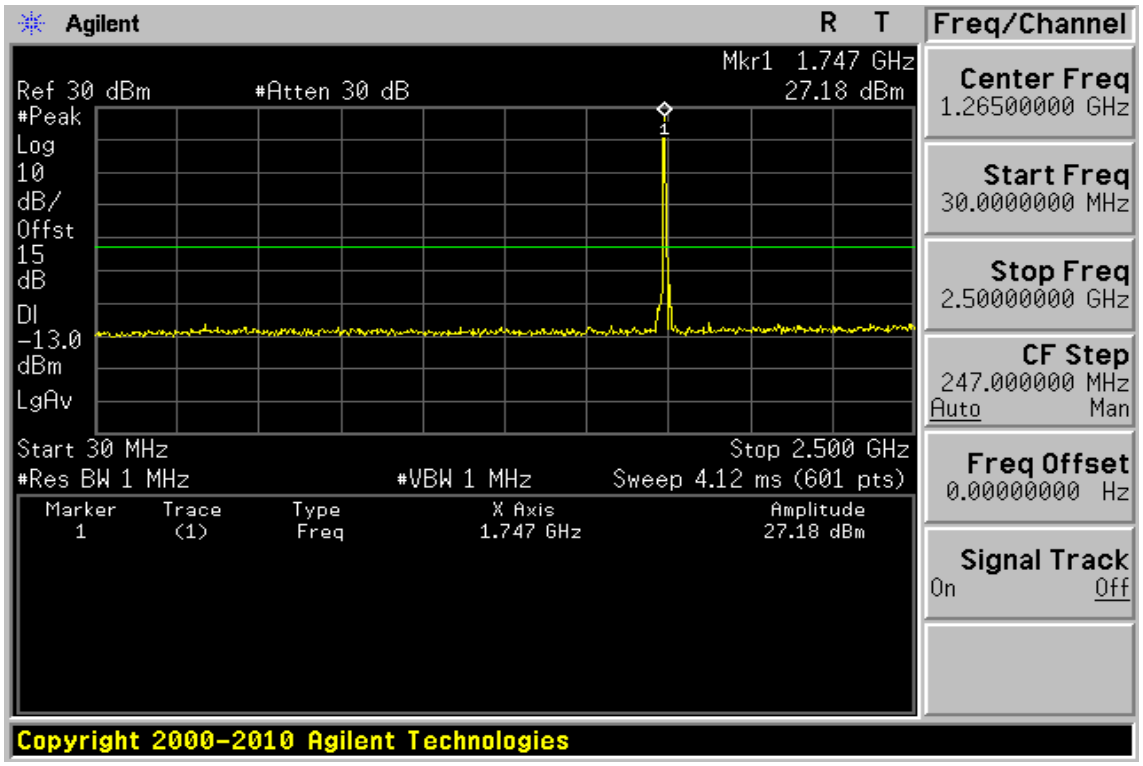


Figure 10-33: Out of Band emission at antenna terminals–10MHz BW LTE-Band 4 (QPSK RB Number: 1 Offset: 0) Channel Highest



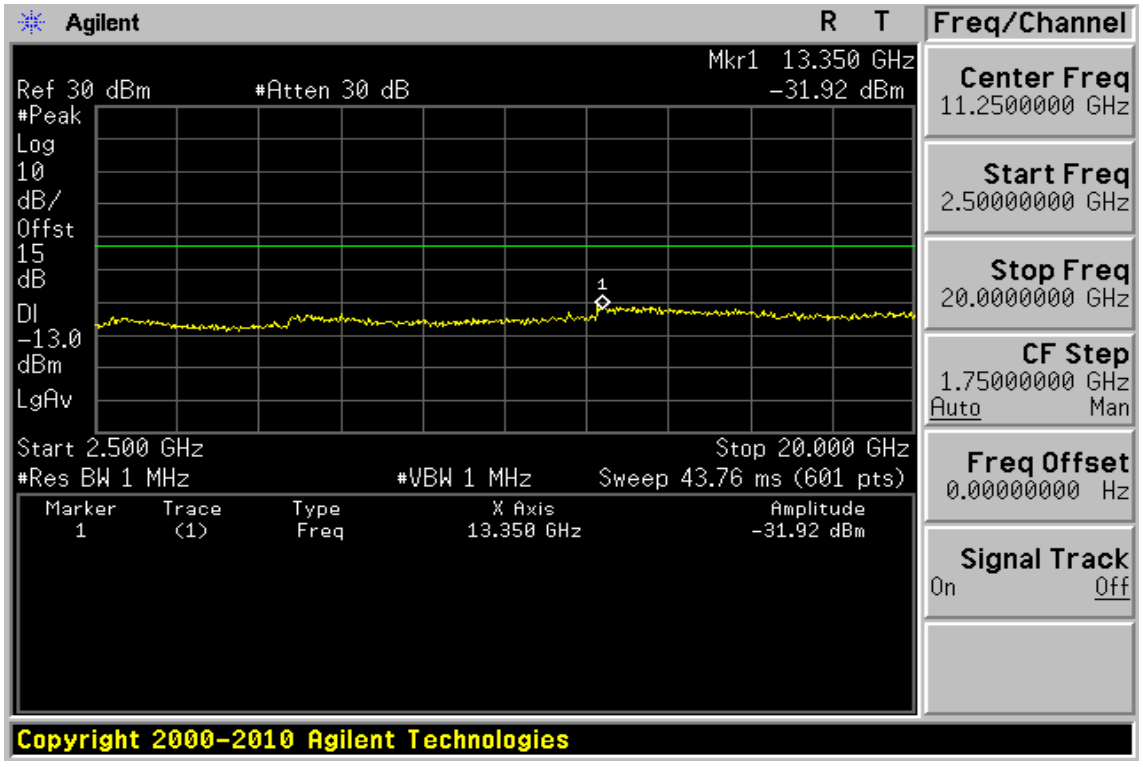


Figure 10-34: Band edge emission at antenna terminals –10MHz BW LTE-Band 4 (QPSK RB Number: 1 Offset: 0) Channel Lowest

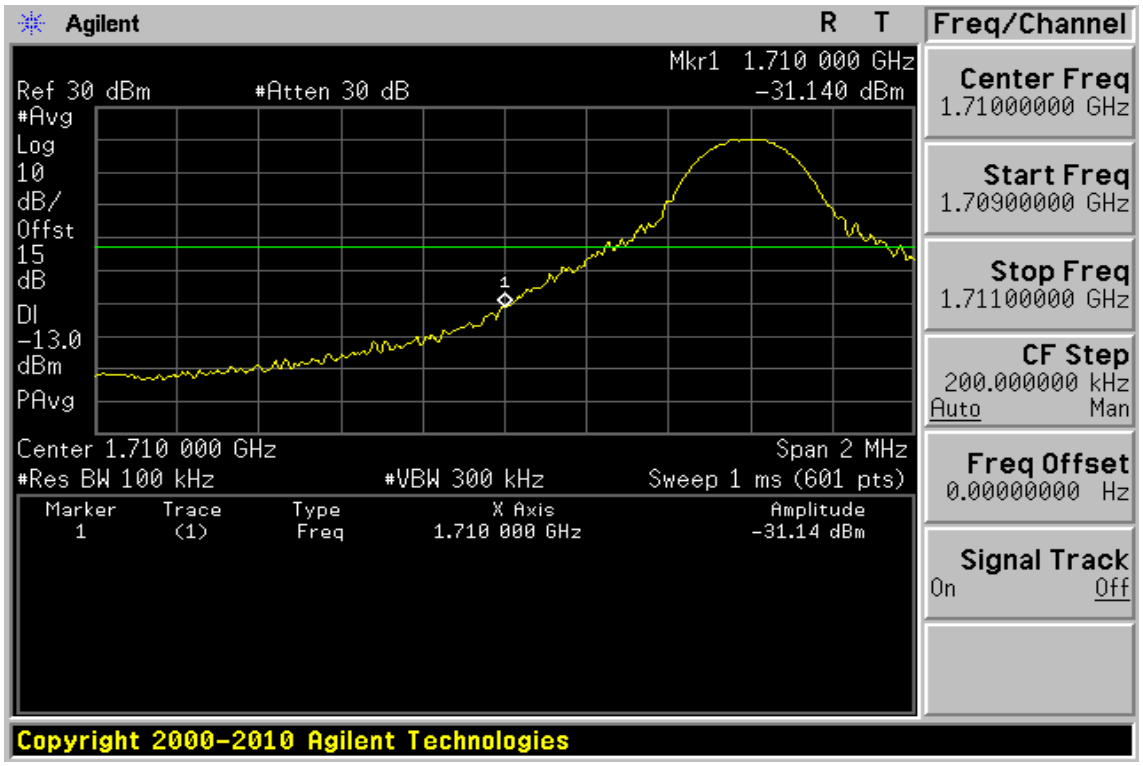


Figure 10-35: Band edge emission at antenna terminals –10MHz BW LTE-Band 4 (QPSK RB Number: 1 Offset:49) Channel Highest

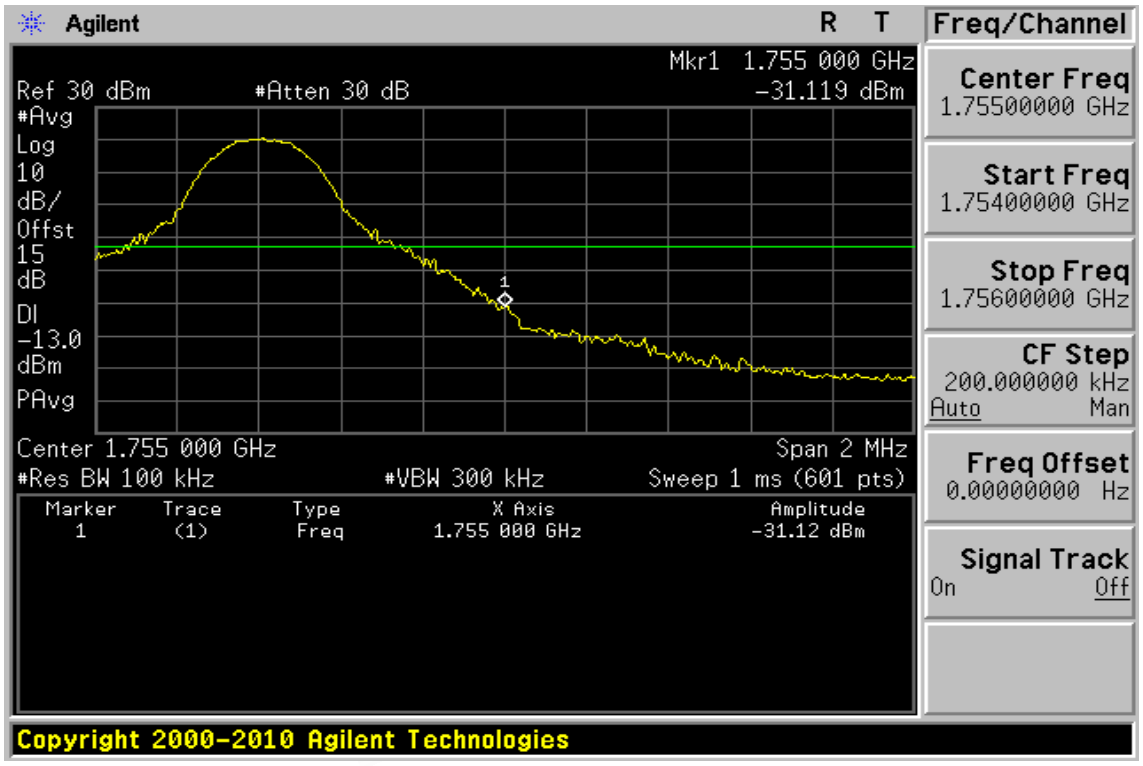
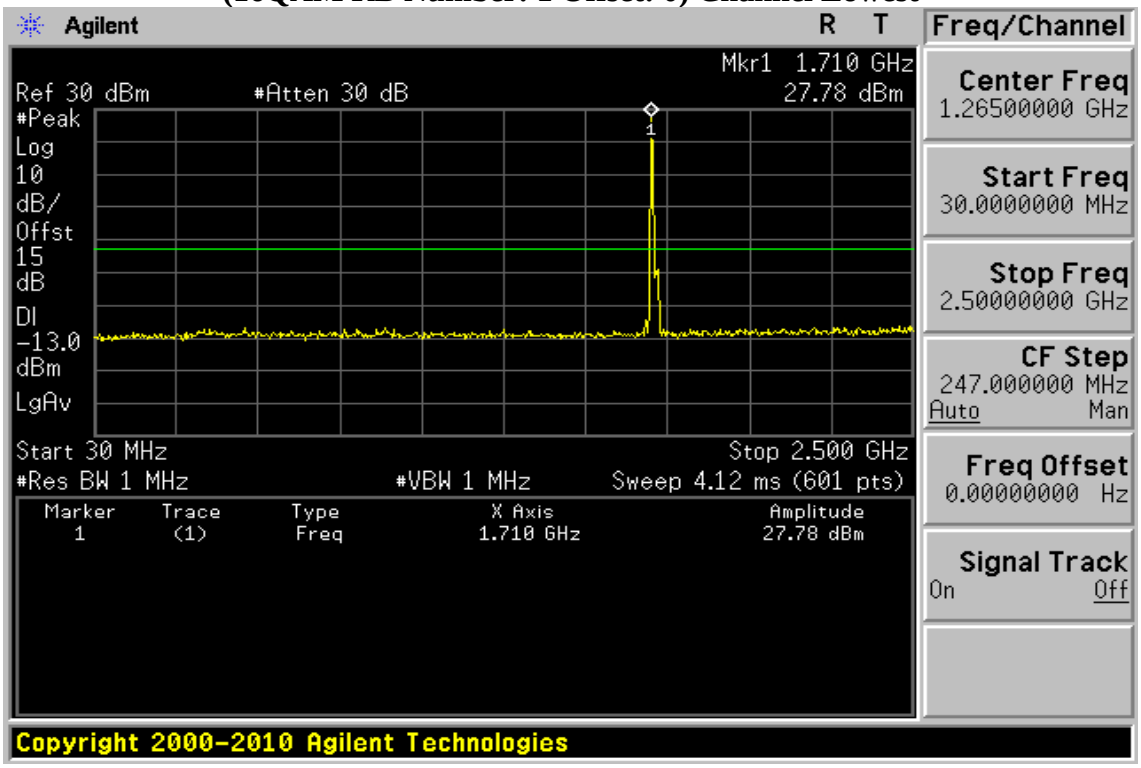


Figure 10-36: Out of Band emission at antenna terminals–10MHz BW LTE-Band 4 (16QAM RB Number: 1 Offset: 0) Channel Lowest



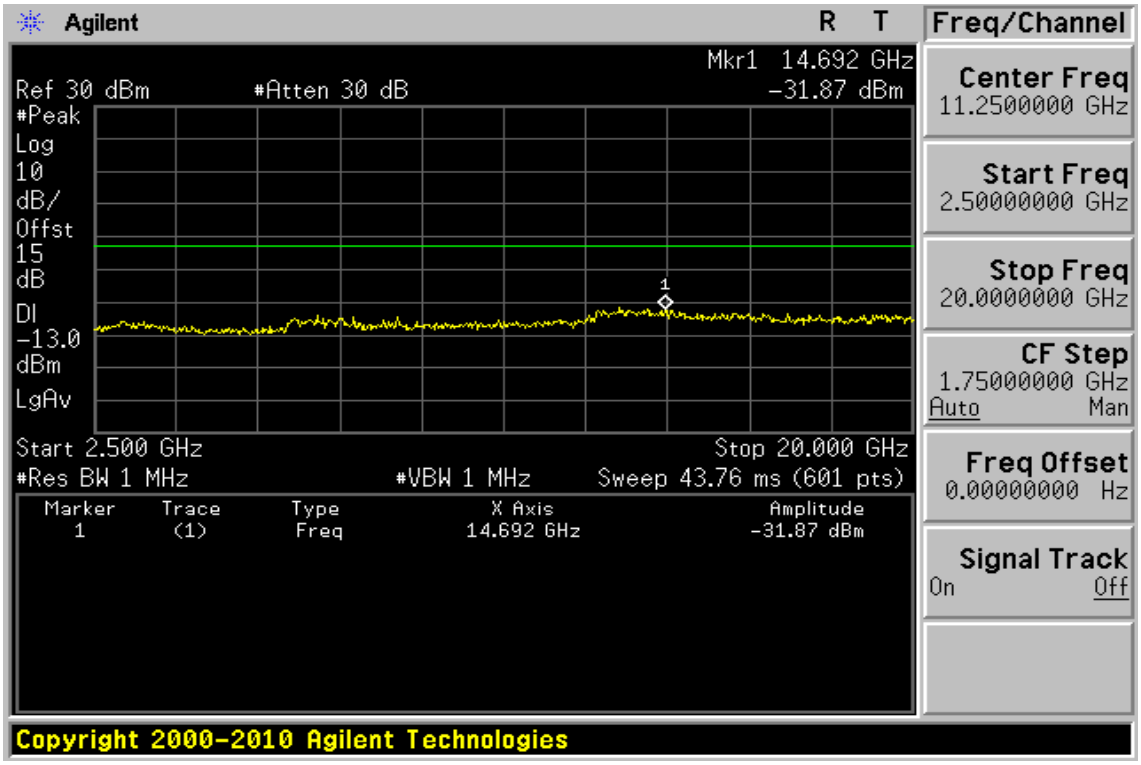
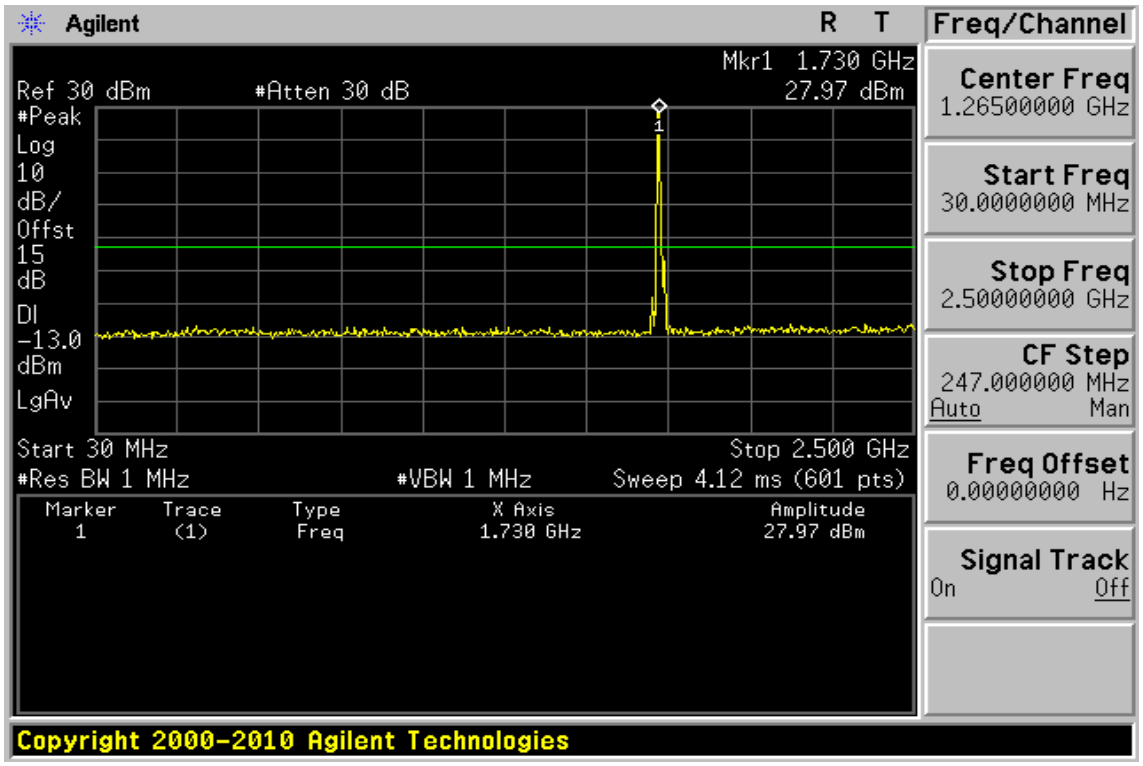


Figure 10-37: Out of Band emission at antenna terminals –10MHz BW LTE-Band 4 (16QAM RB Number: 1 Offset: 0) Channel Mid



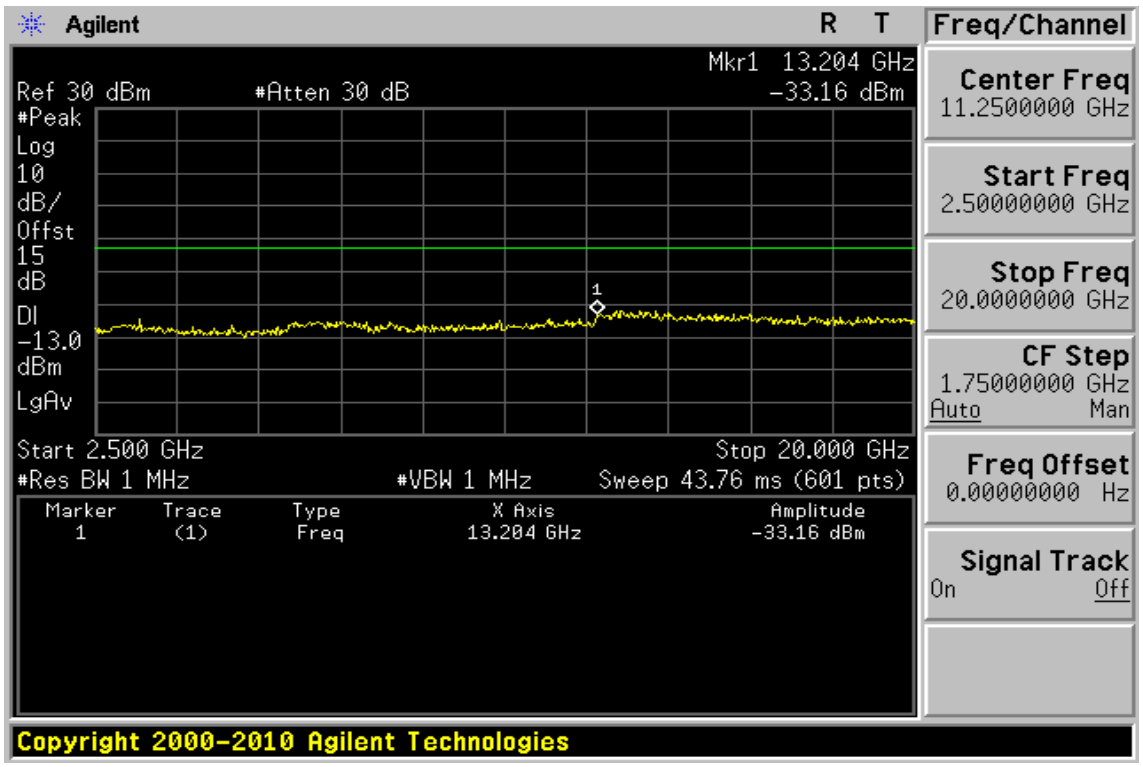
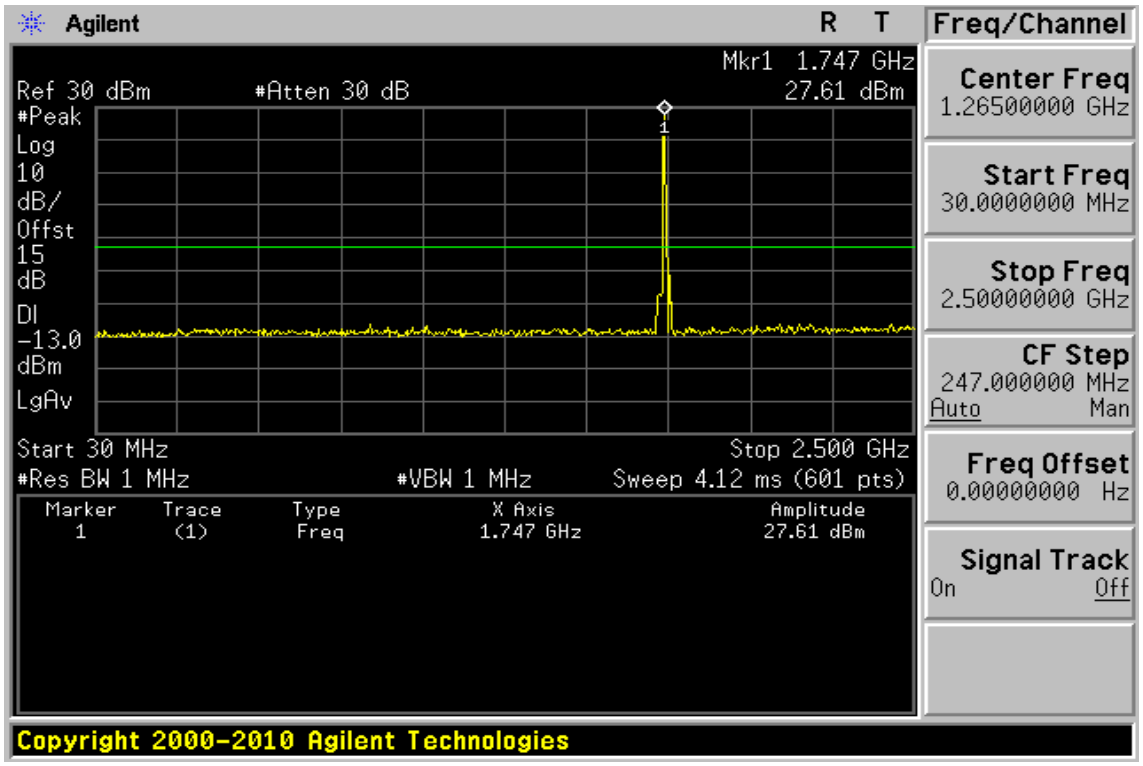


Figure 10-38: Out of Band emission at antenna terminals–10MHz BW LTE-Band 4 (16QAM RB Number: 1 Offset: 0) Channel Highest



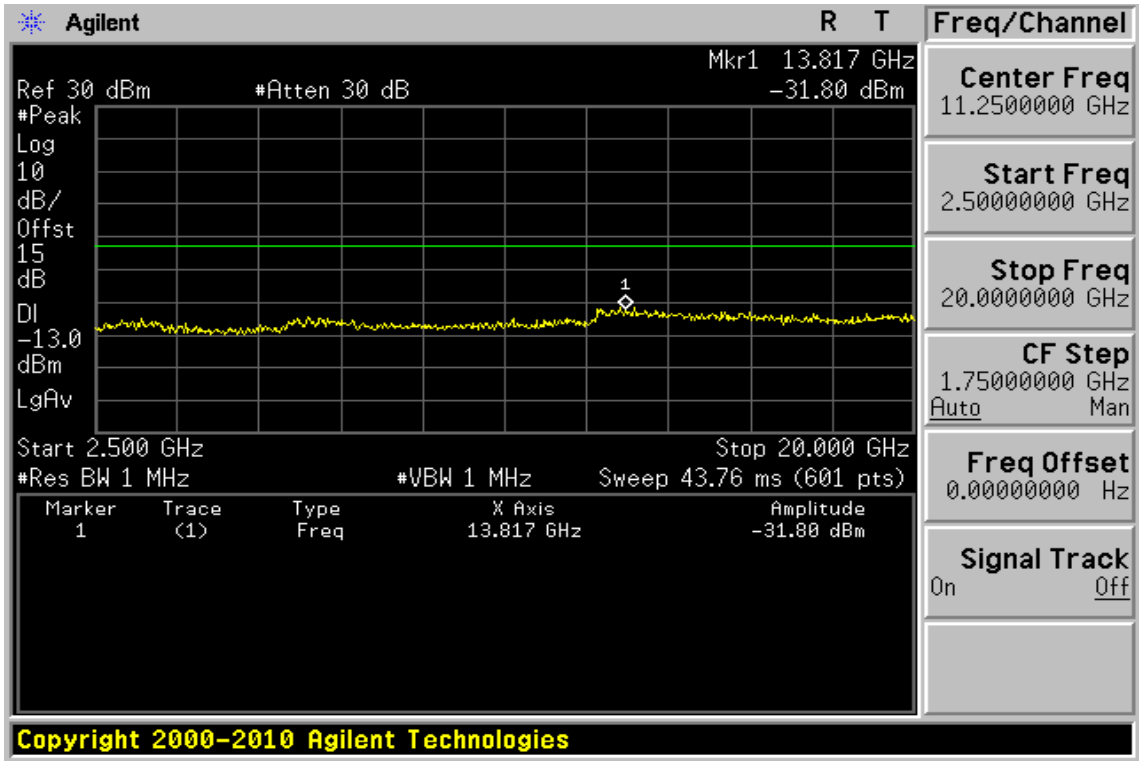


Figure 10-39: Band edge emission at antenna terminals –10MHz BW LTE-Band 4 (16QAM RB Number: 1 Offset: 0) Channel Lowest

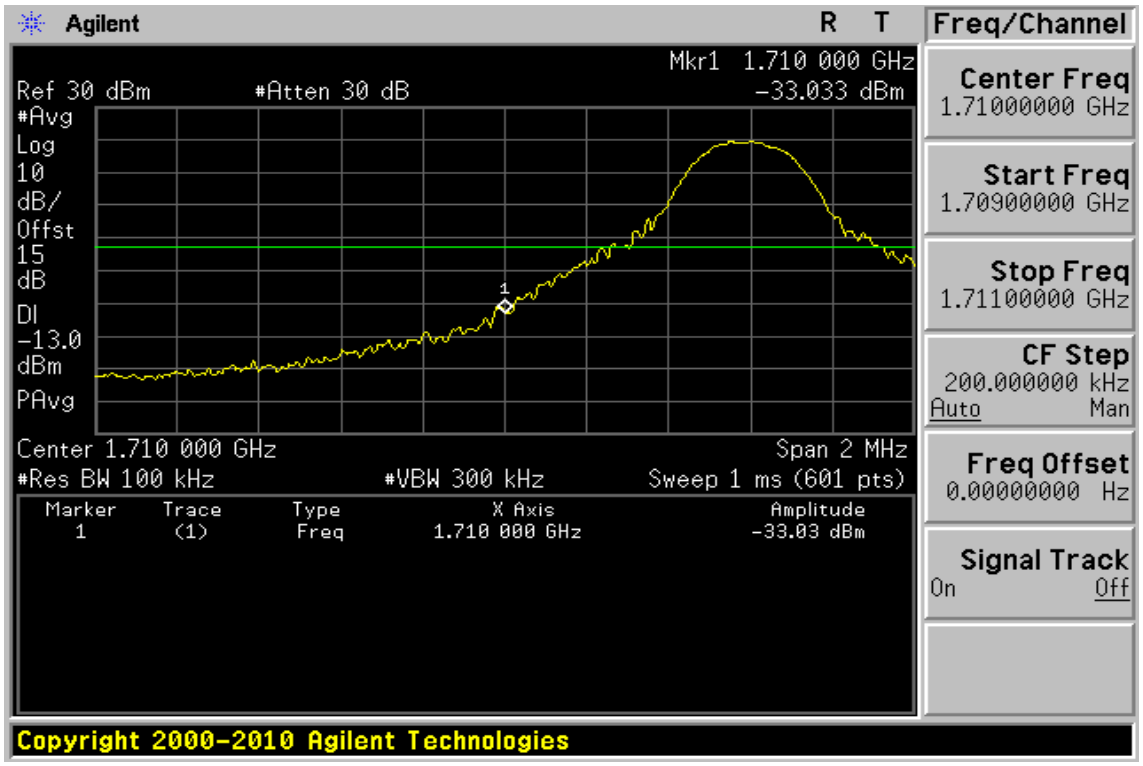


Figure 10-40: Band edge emission at antenna terminals –10MHz BW LTE-Band 4 (16QAM RB Number: 1 Offset: 49) Channel Highest

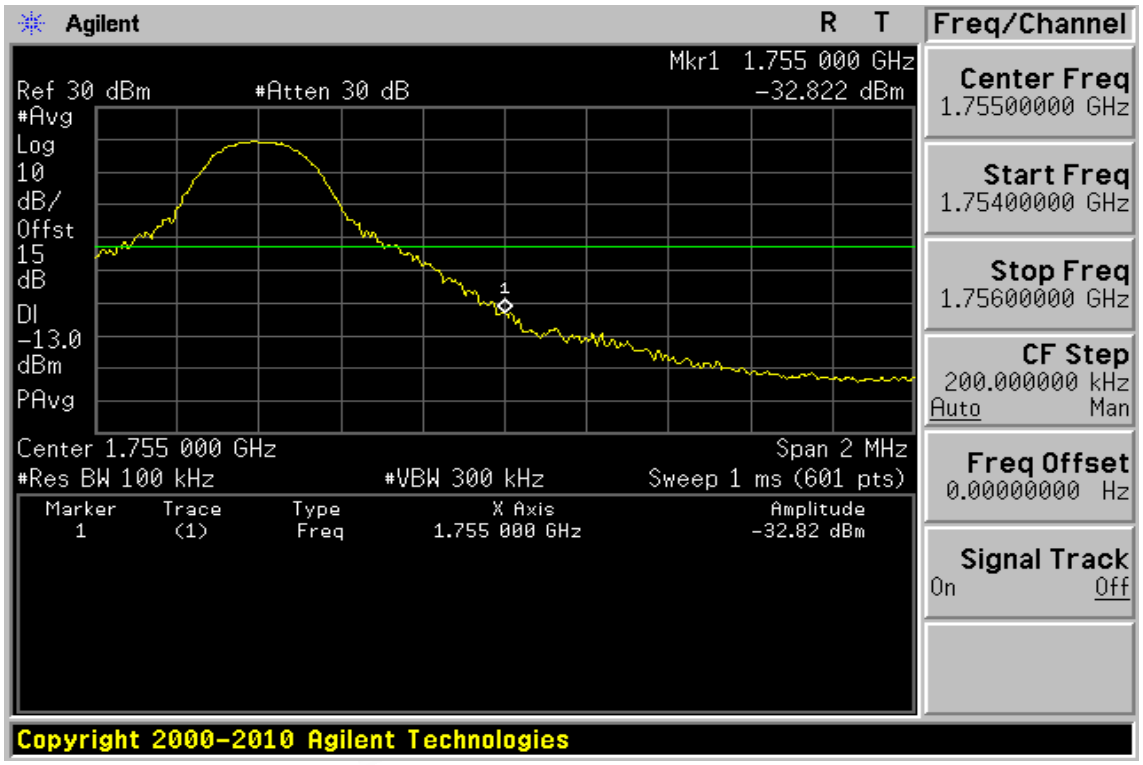
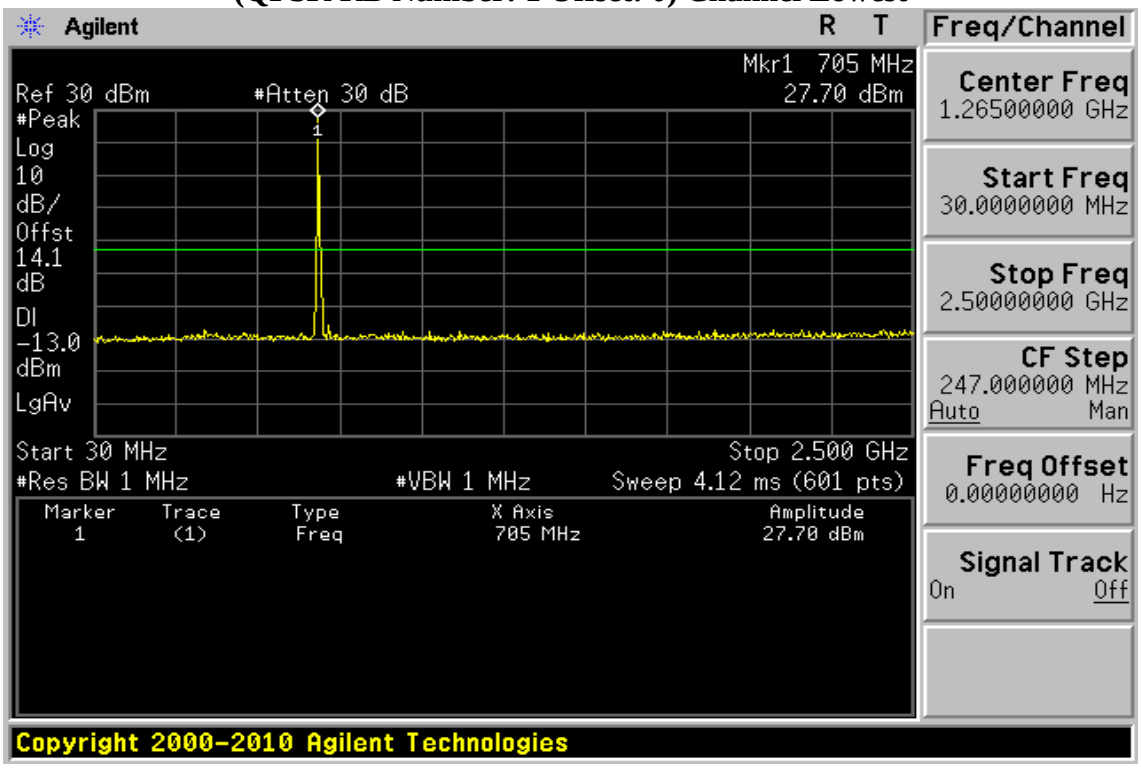


Figure 10-41: Out of Band emission at antenna terminals–5MHz BW LTE-Band 17 (QPSK RB Number: 1 Offset: 0) Channel Lowest



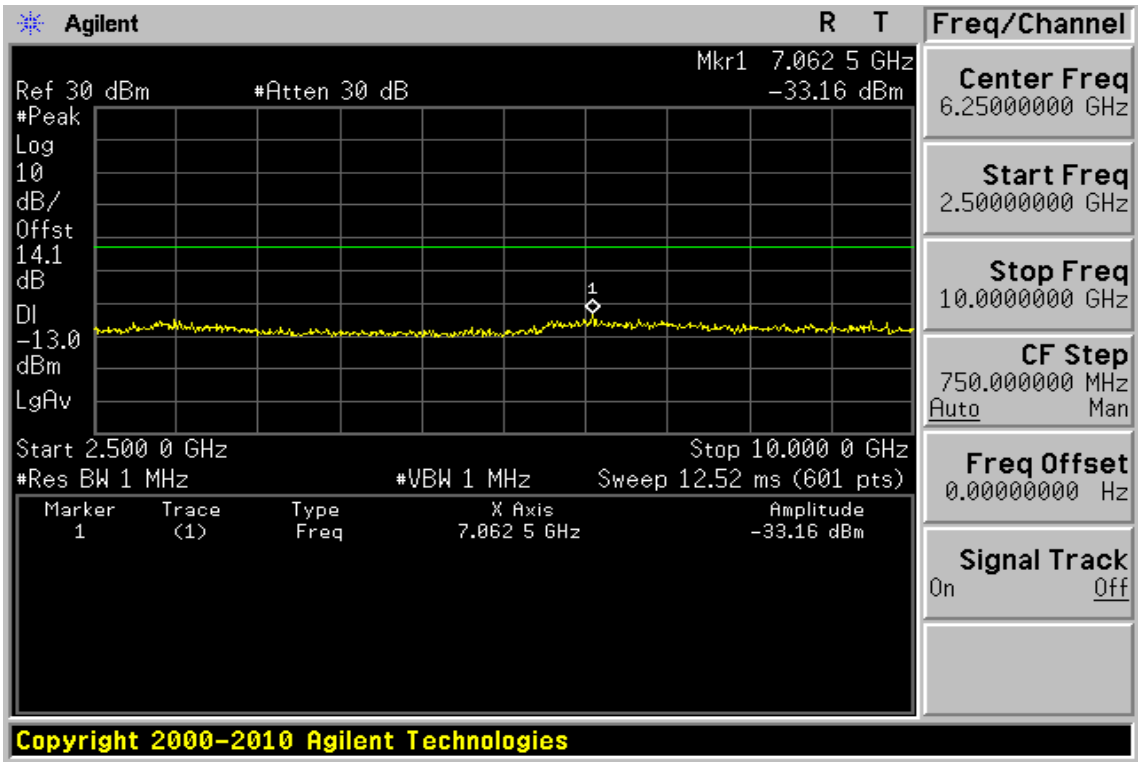
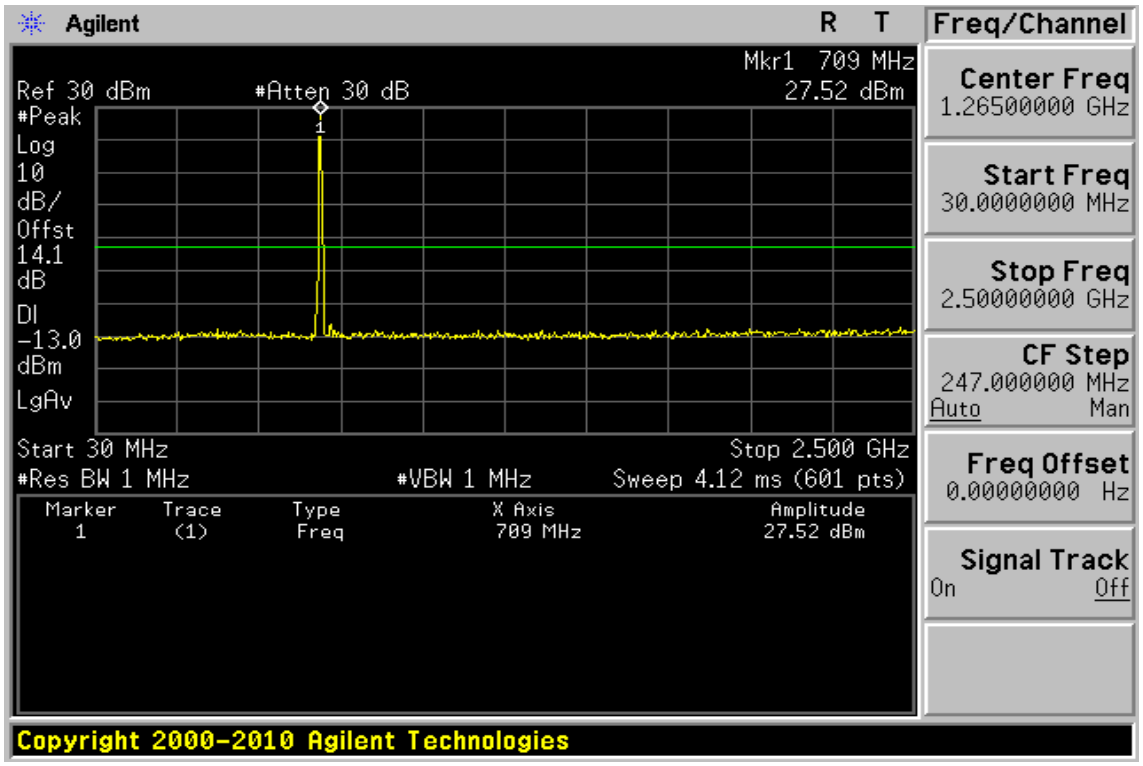


Figure 10-42: Out of Band emission at antenna terminals –5MHz BW LTE-Band 17 (QPSK RB Number: 1 Offset: 0) Channel Mid



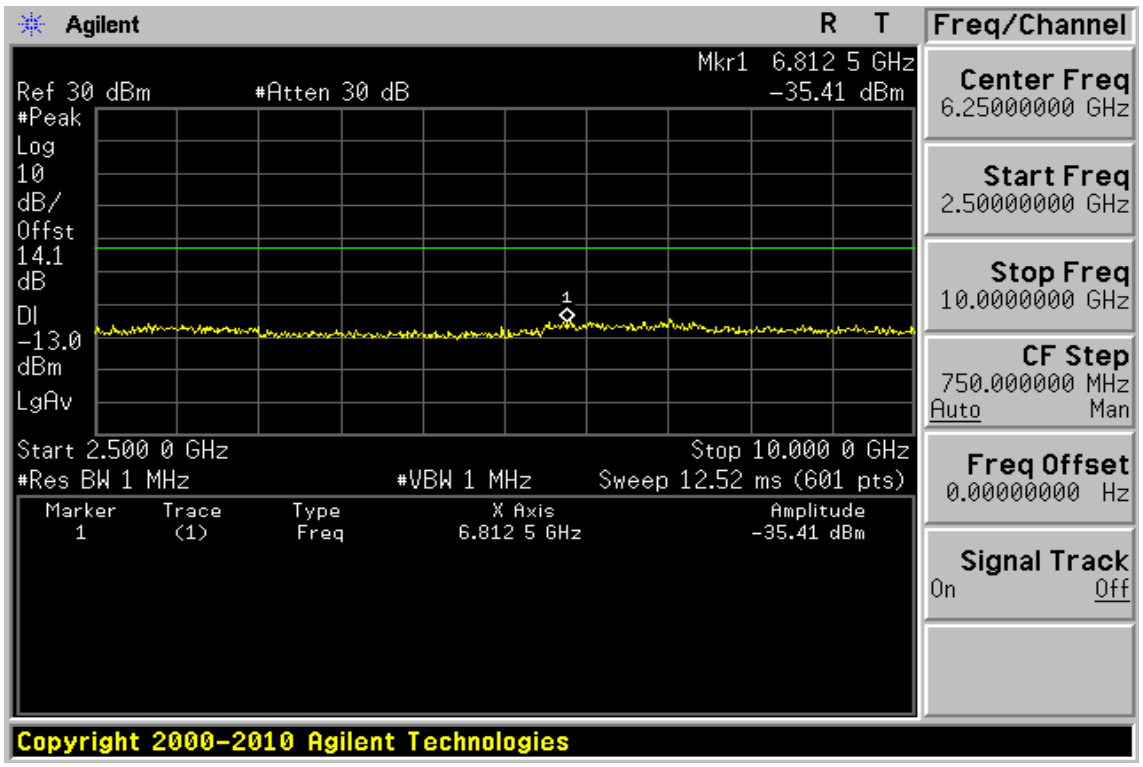
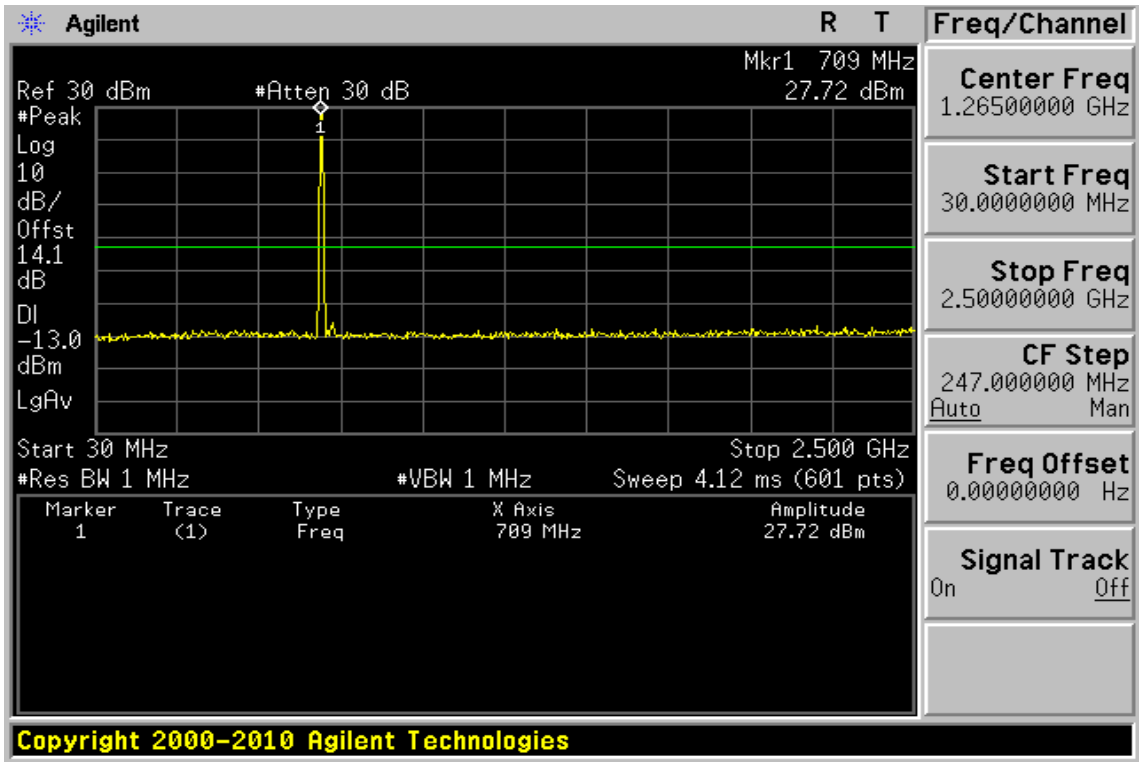


Figure 10-43: Out of Band emission at antenna terminals–5MHz BW LTE-Band 17 (QPSK RB Number: 1 Offset: 0) Channel Highest



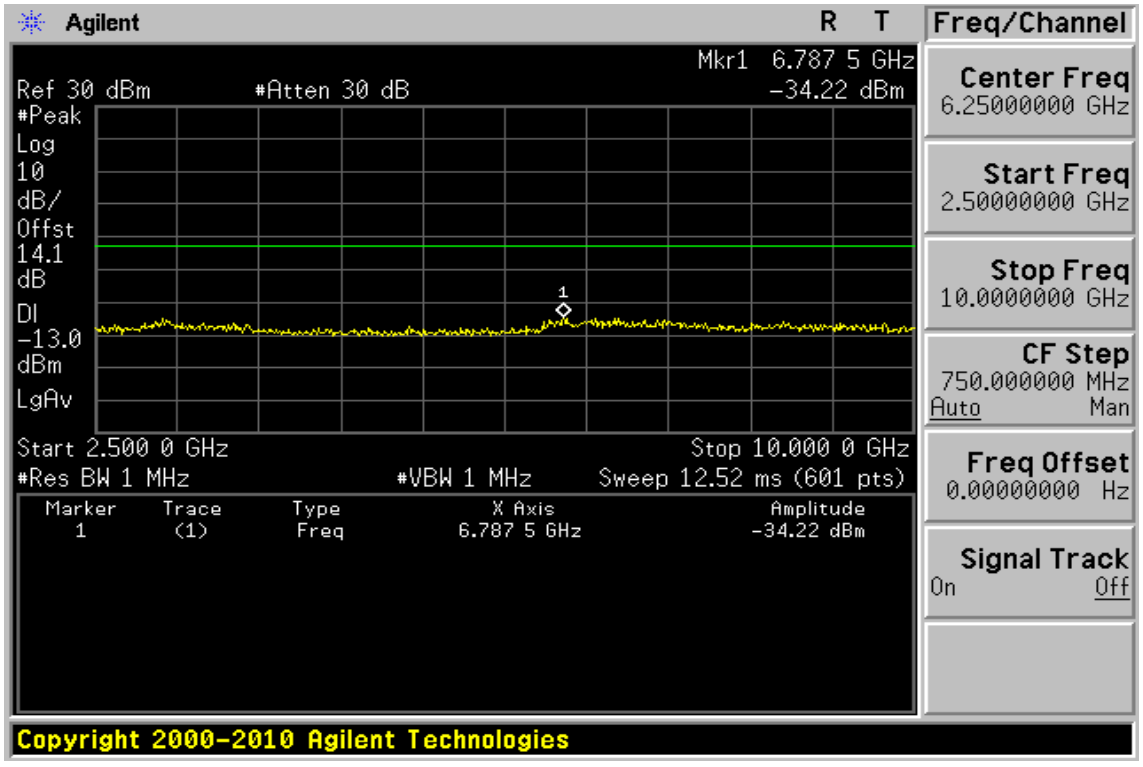


Figure 10-44: Band edge emission at antenna terminals –5MHz BW LTE-Band 17 (QPSK RB Number: 1 Offset: 0) Channel Lowest

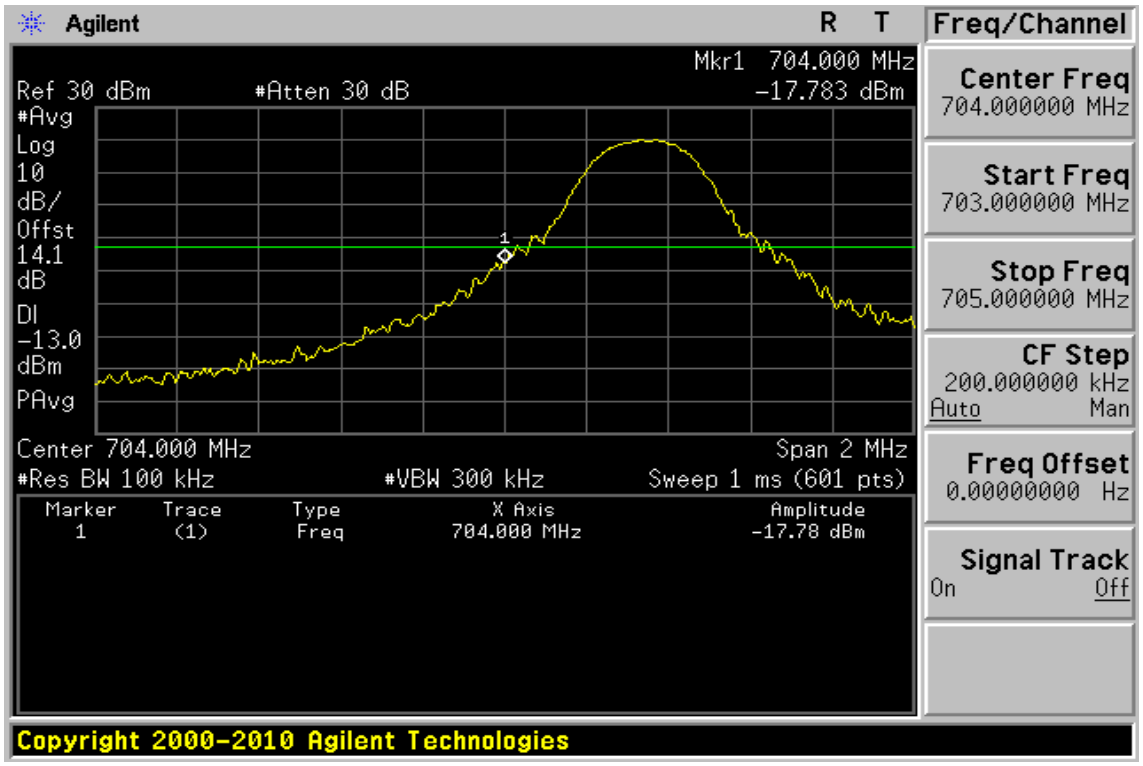


Figure 10-45: Band edge emission at antenna terminals –5MHz BW LTE-Band 17 (QPSK RB Number: 1 Offset: 24) Channel Highest

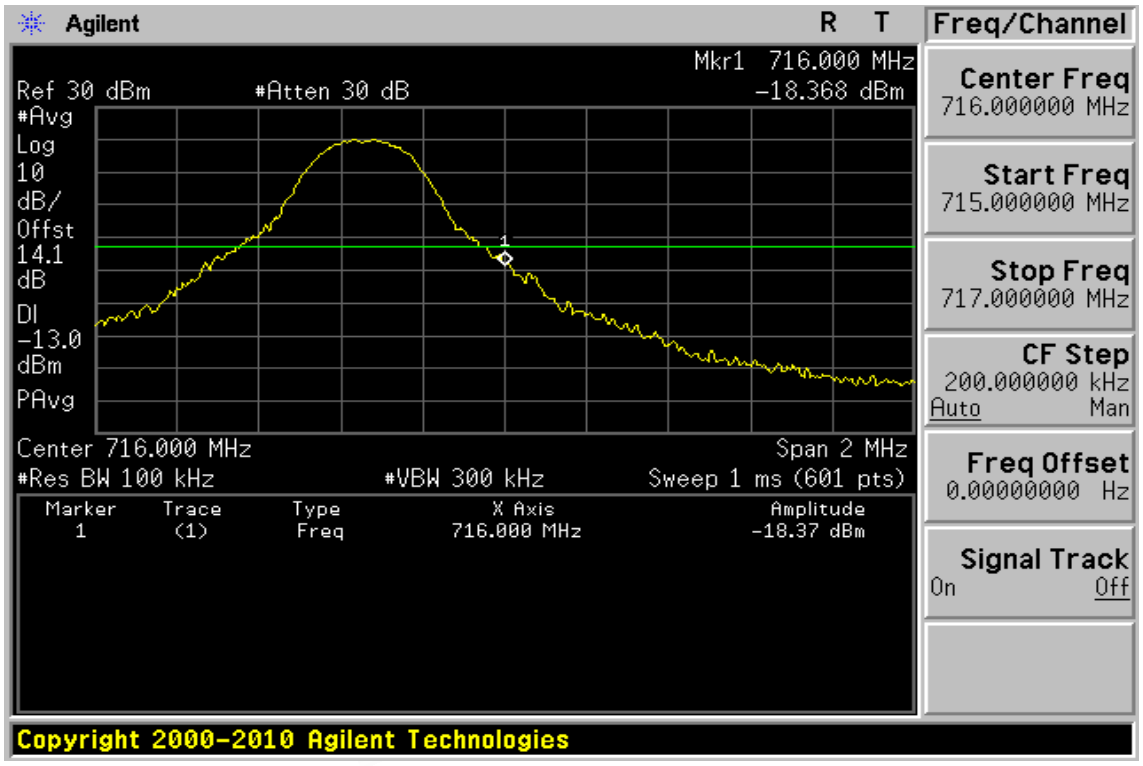
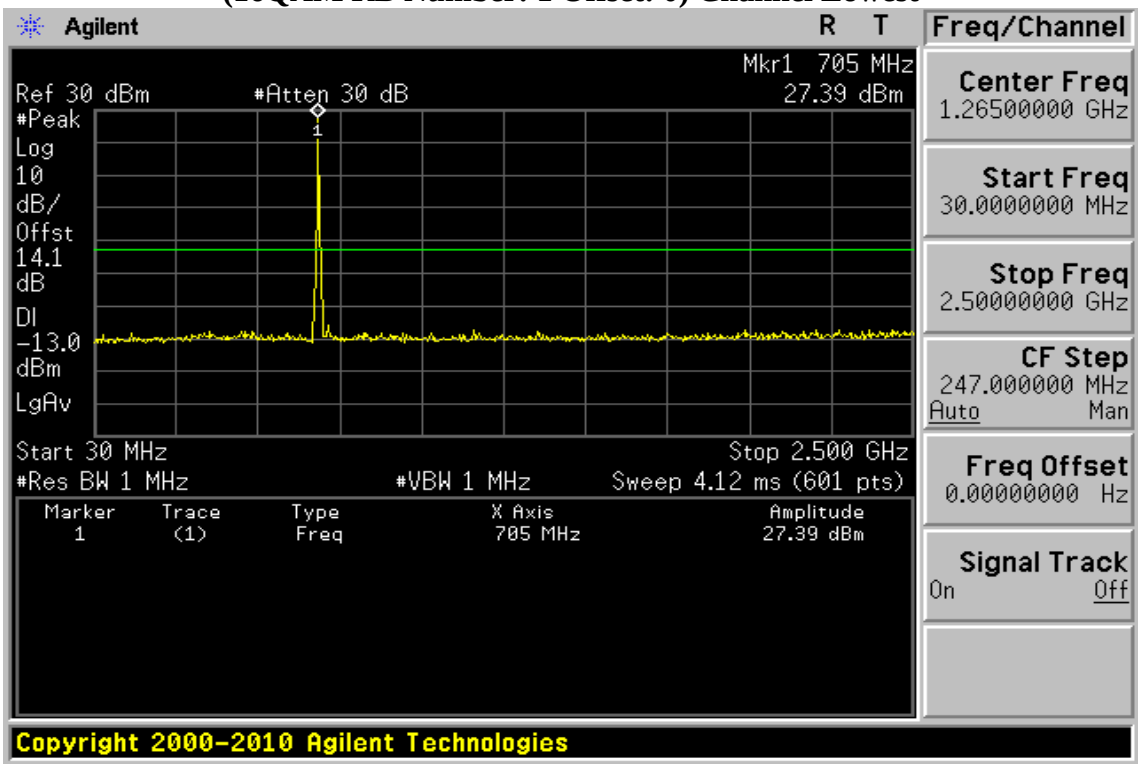


Figure 10-46: Out of Band emission at antenna terminals–5MHz BW LTE-Band 17 (16QAM RB Number: 1 Offset: 0) Channel Lowest



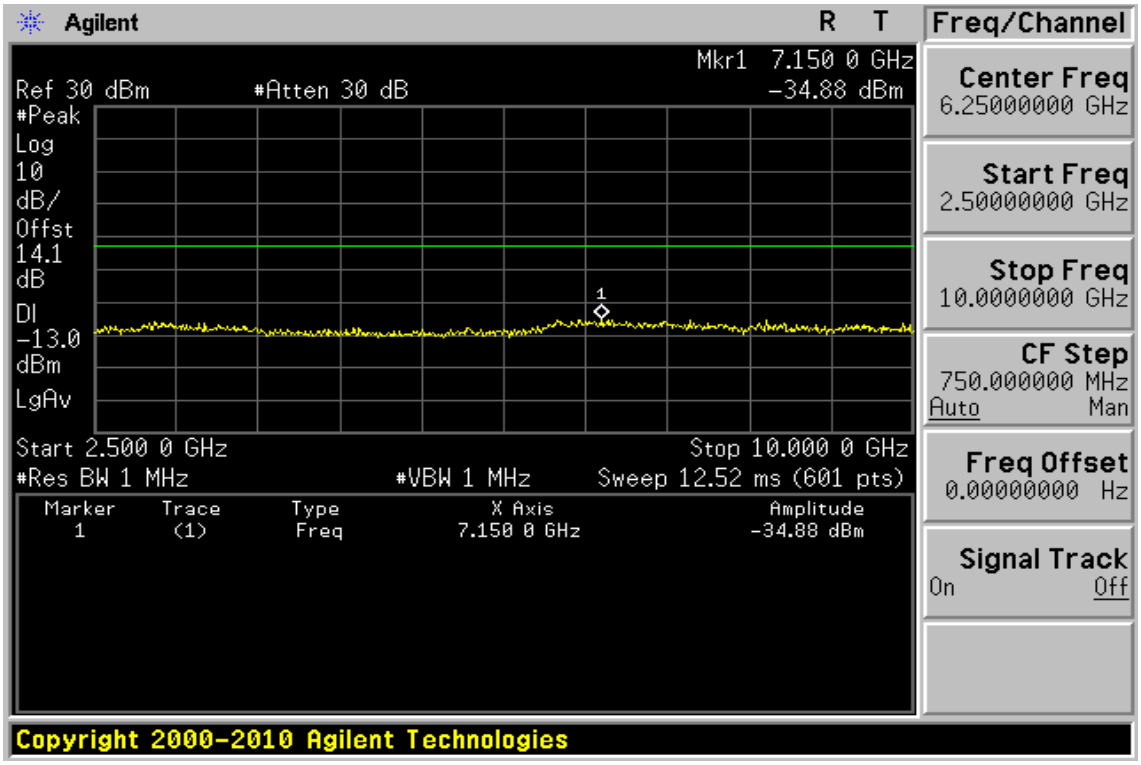
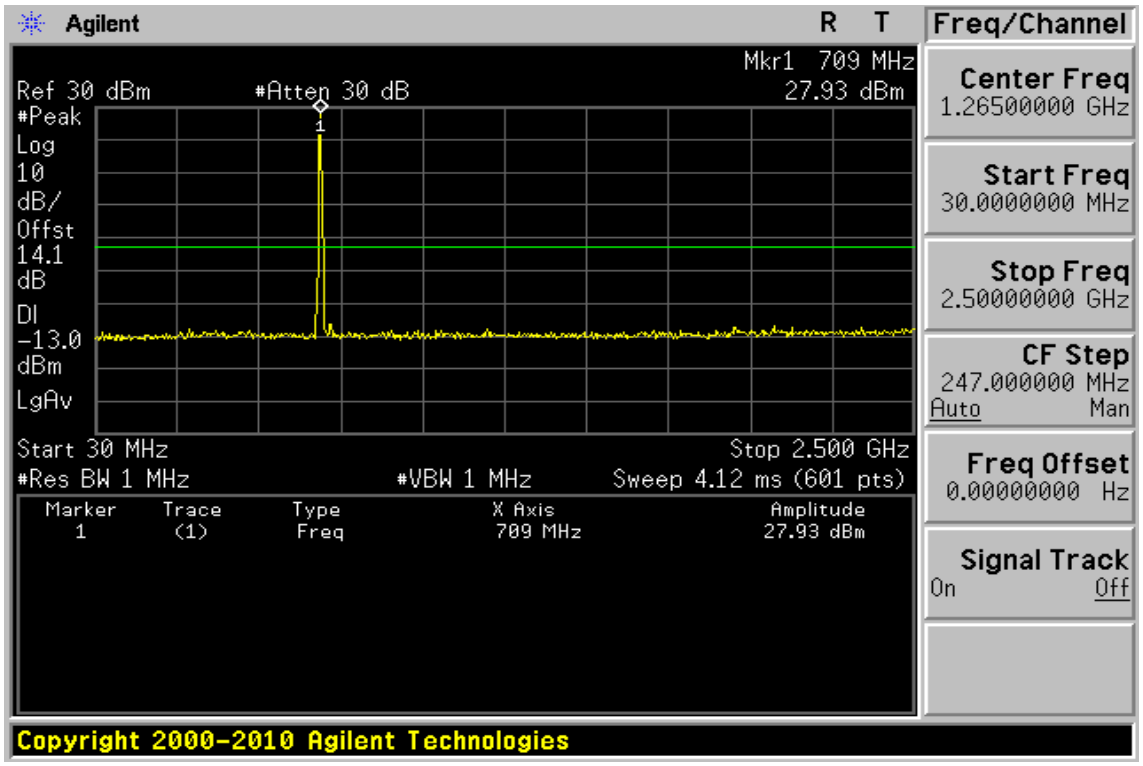


Figure 10-47: Out of Band emission at antenna terminals –5MHz BW LTE-Band 17 (16QAM RB Number: 1 Offset: 0) Channel Mid



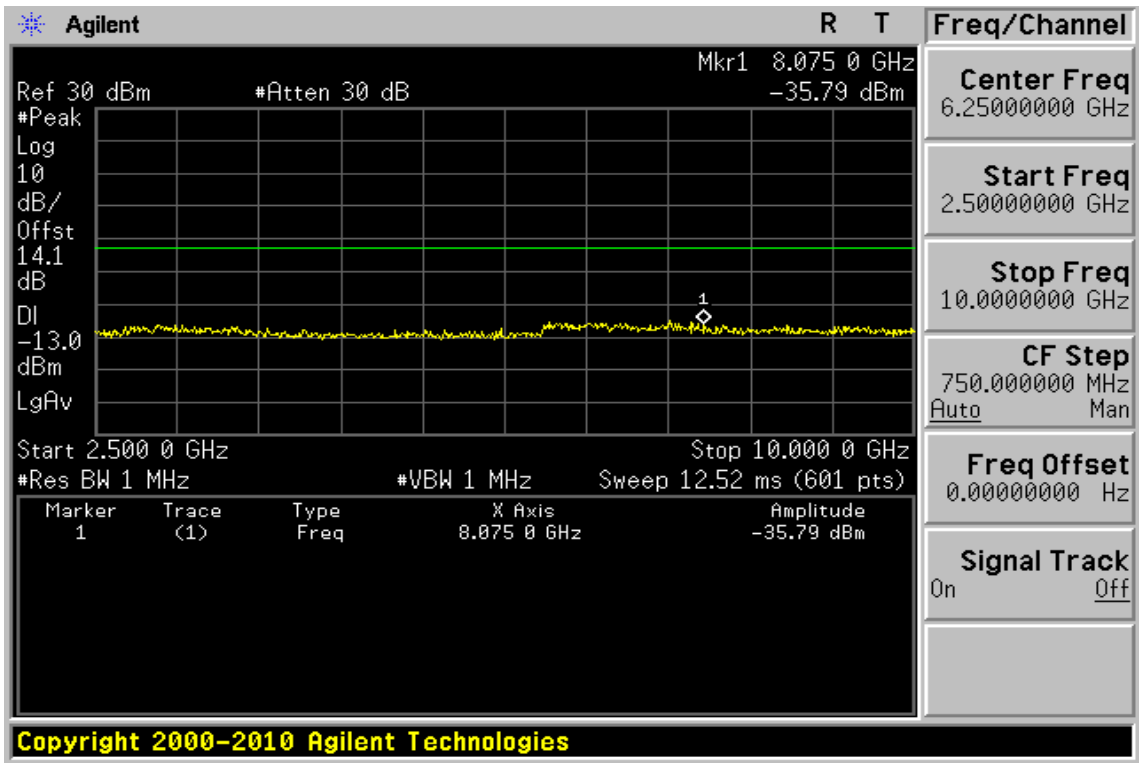
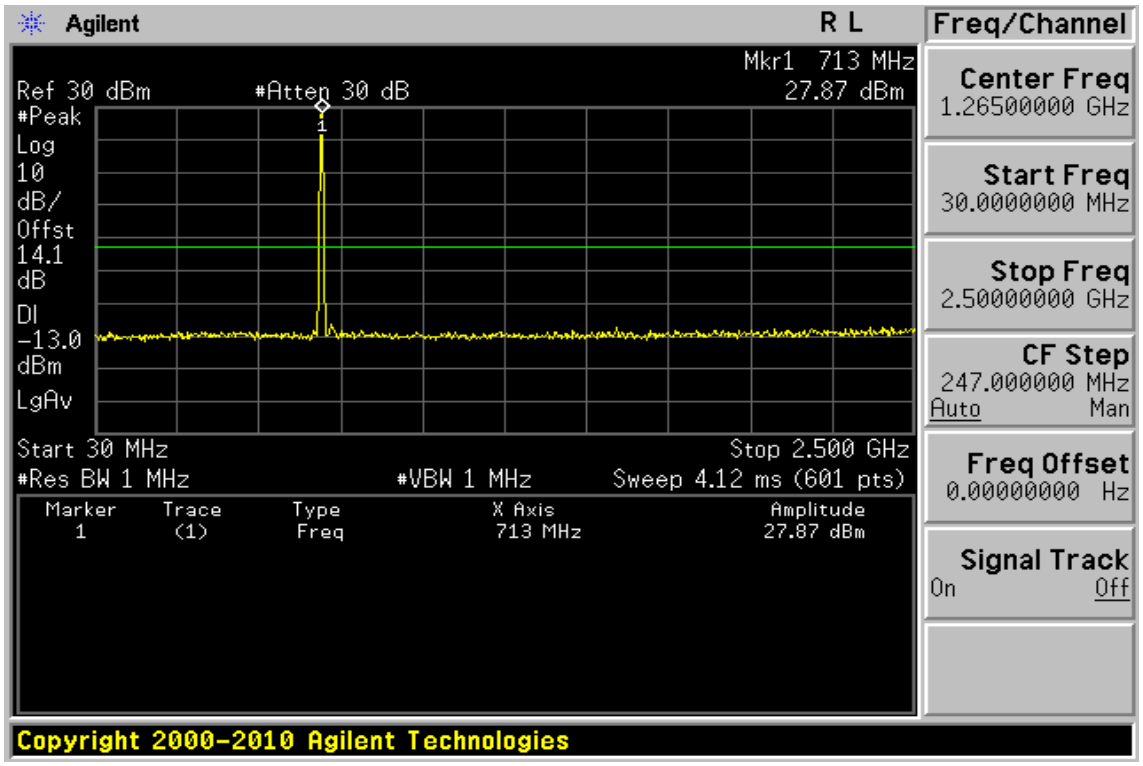


Figure 10-48: Out of Band emission at antenna terminals–5MHz BW LTE-Band 17 (16QAM RB Number: 1 Offset: 0) Channel Highest



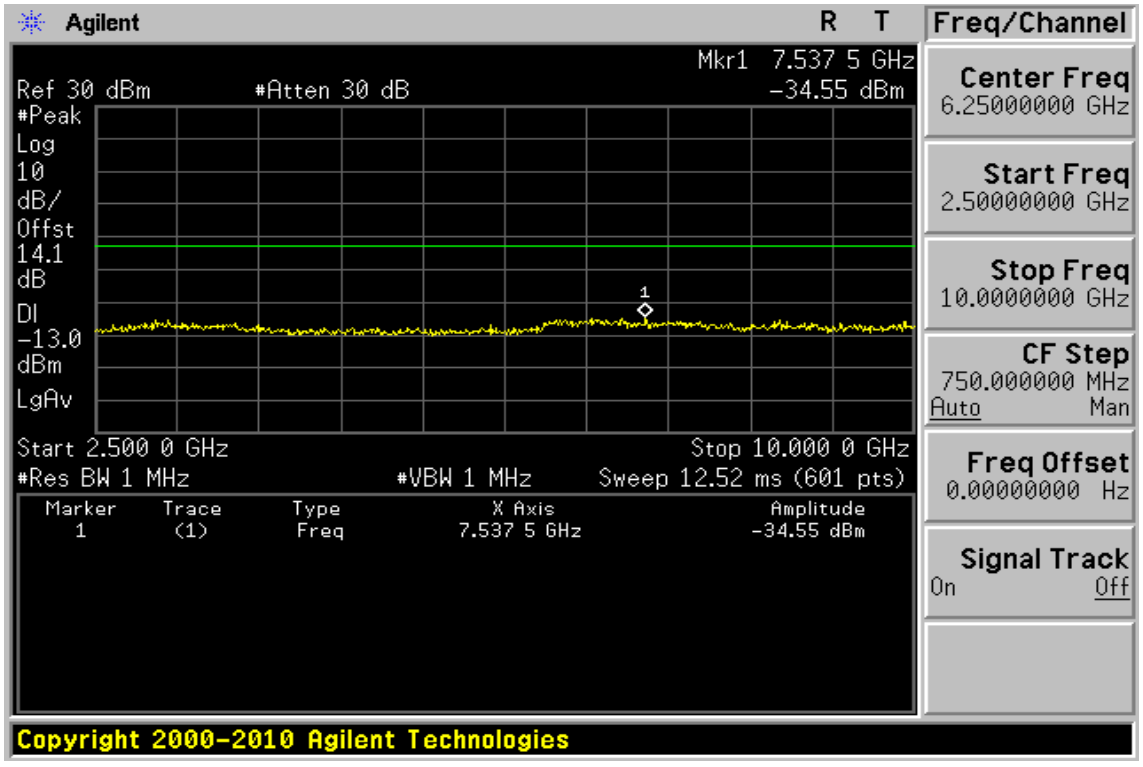


Figure 10-49 Band edge emission at antenna terminals –5MHz BW LTE-Band 17 (16QAM RB Number: 1 Offset: 0) Channel Lowest

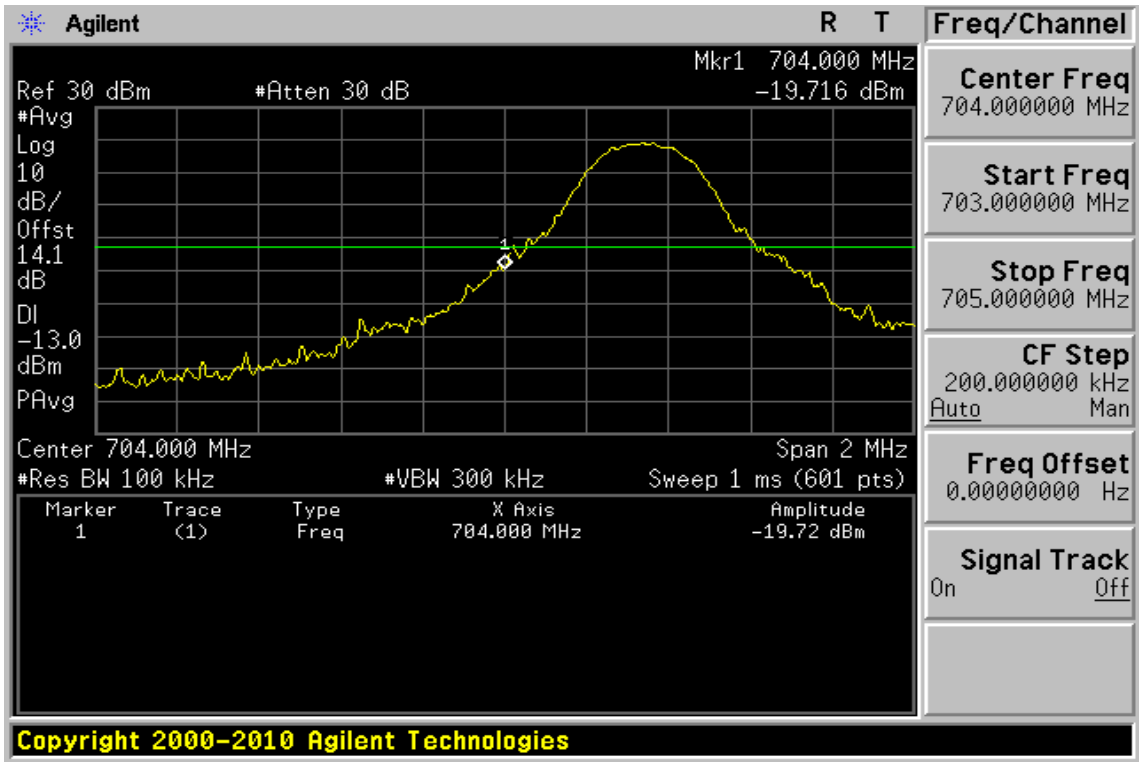


Figure 10-50: Band edge emission at antenna terminals –5MHz BW LTE-Band 17 (16QAM RB Number: 1 Offset: 24) Channel Highest

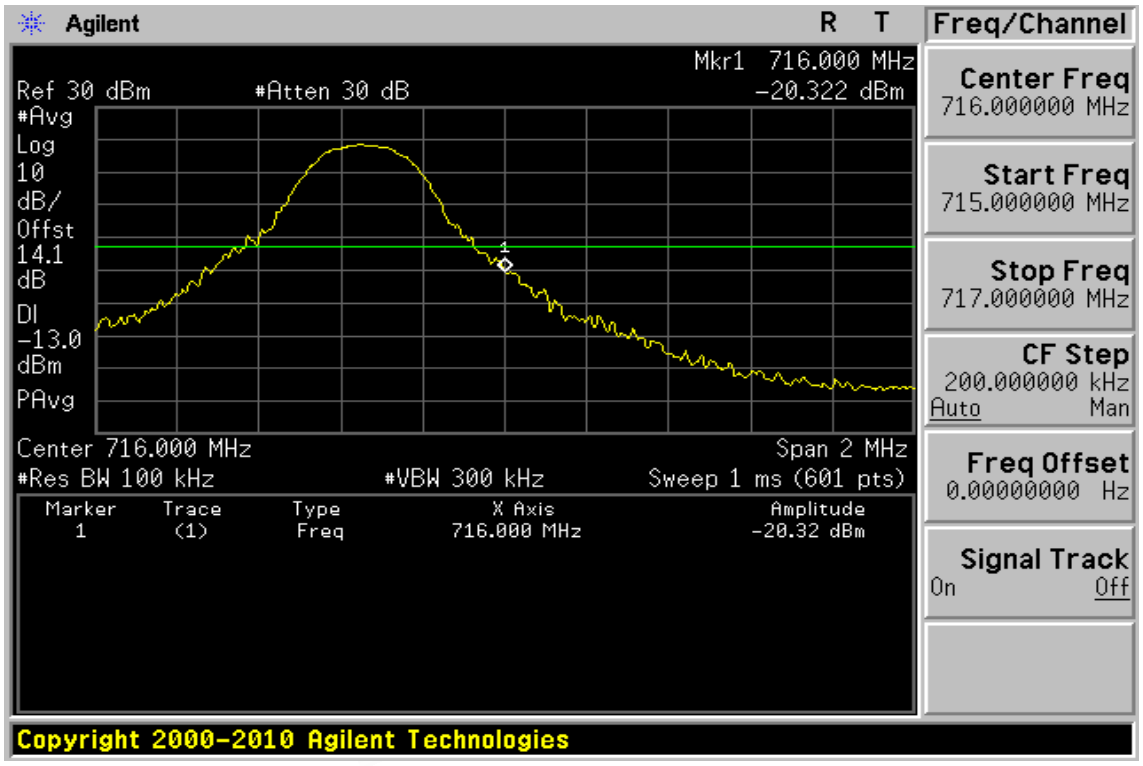
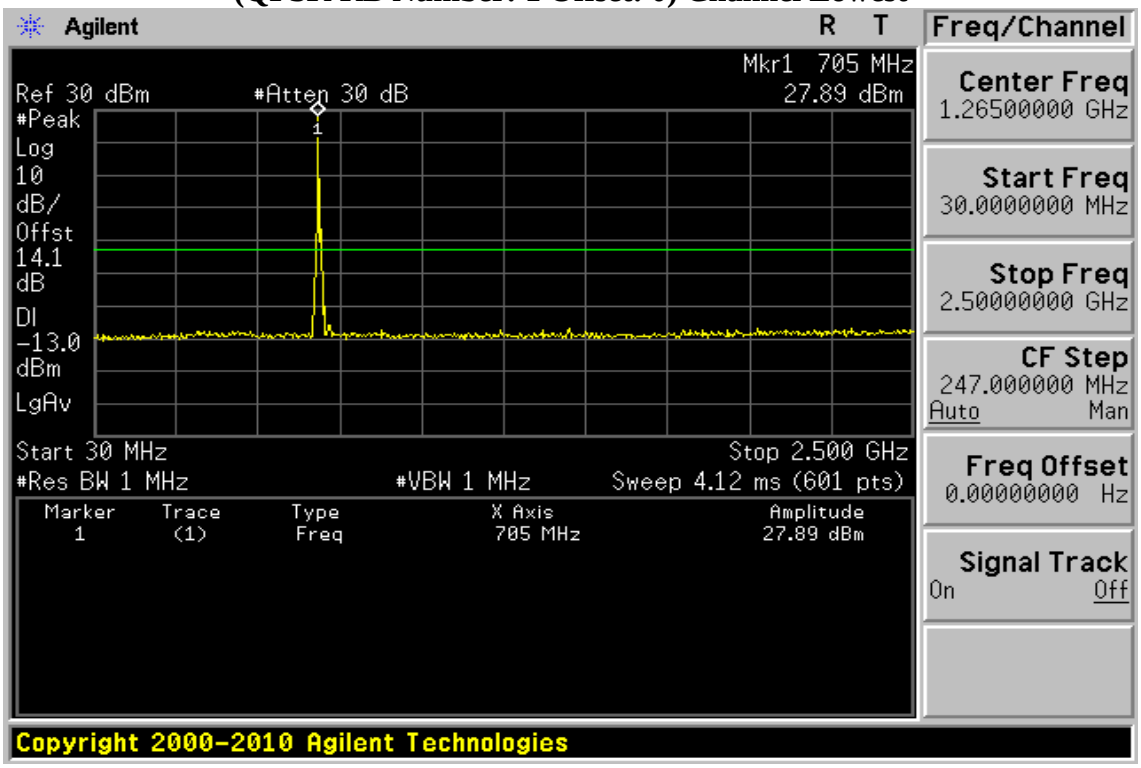


Figure 10-51: Out of Band emission at antenna terminals–10MHz BW LTE-Band 17 (QPSK RB Number: 1 Offset: 0) Channel Lowest



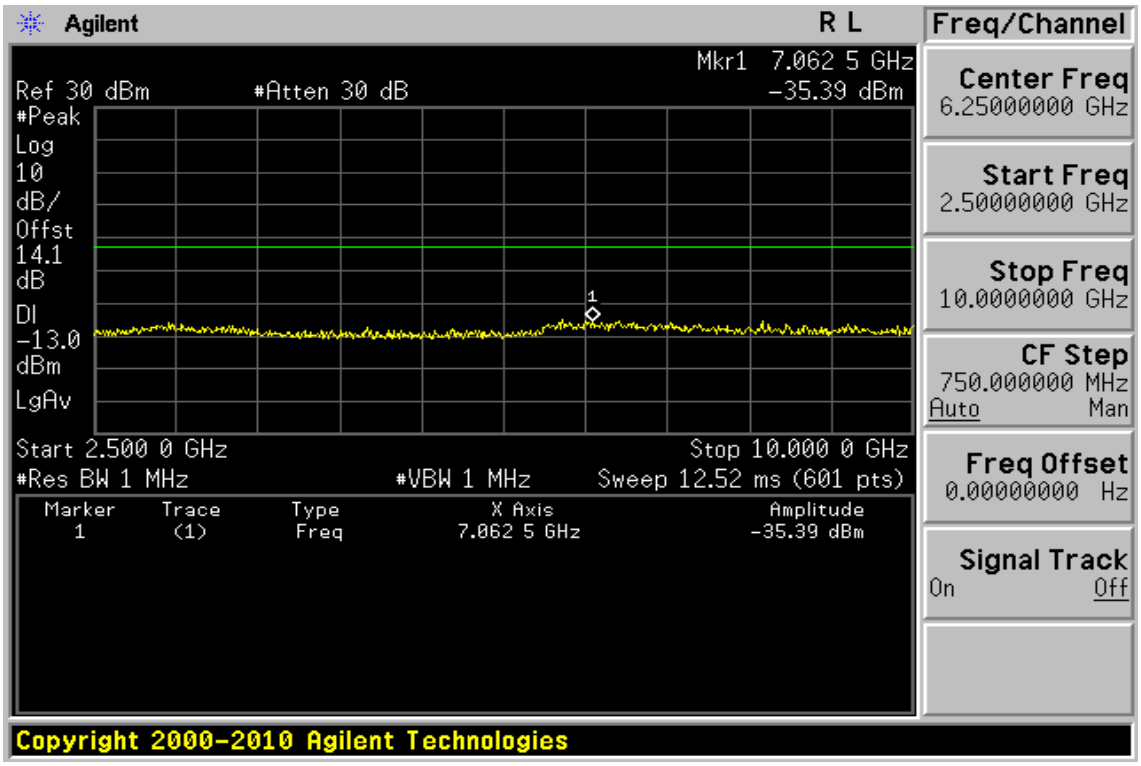
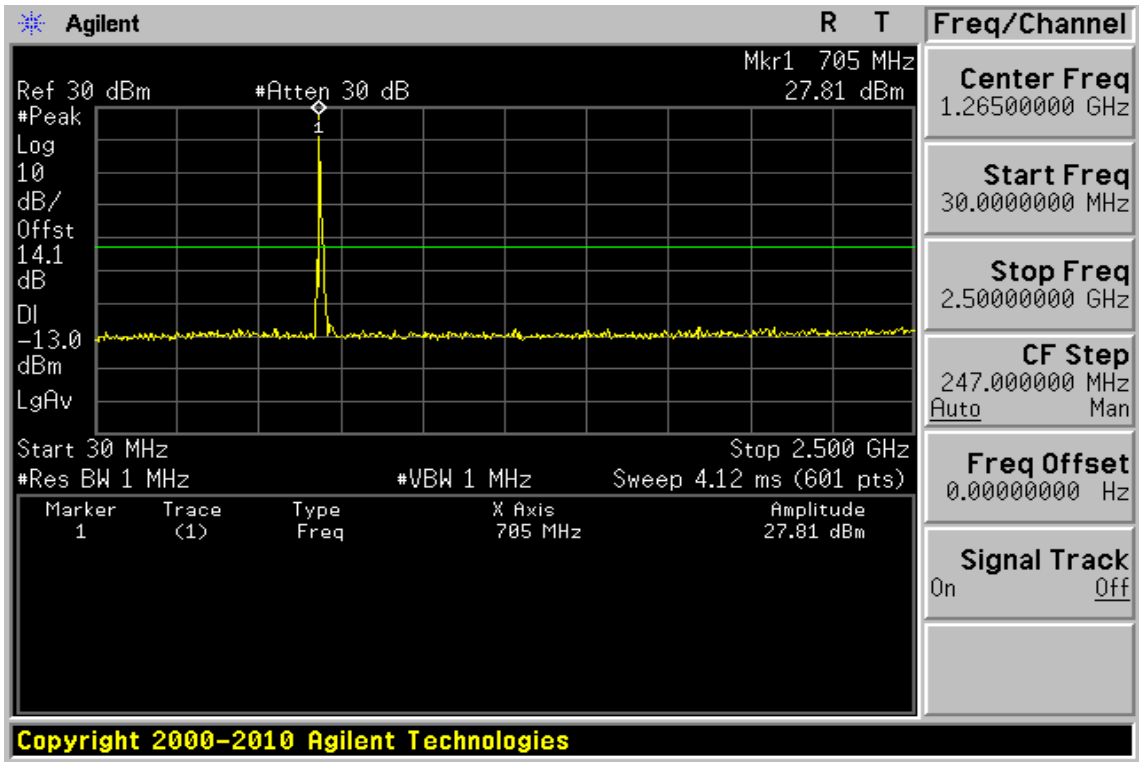


Figure 10-52: Out of Band emission at antenna terminals –10MHz BW LTE-Band 17 (QPSK RB Number: 1 Offset: 0) Channel Mid



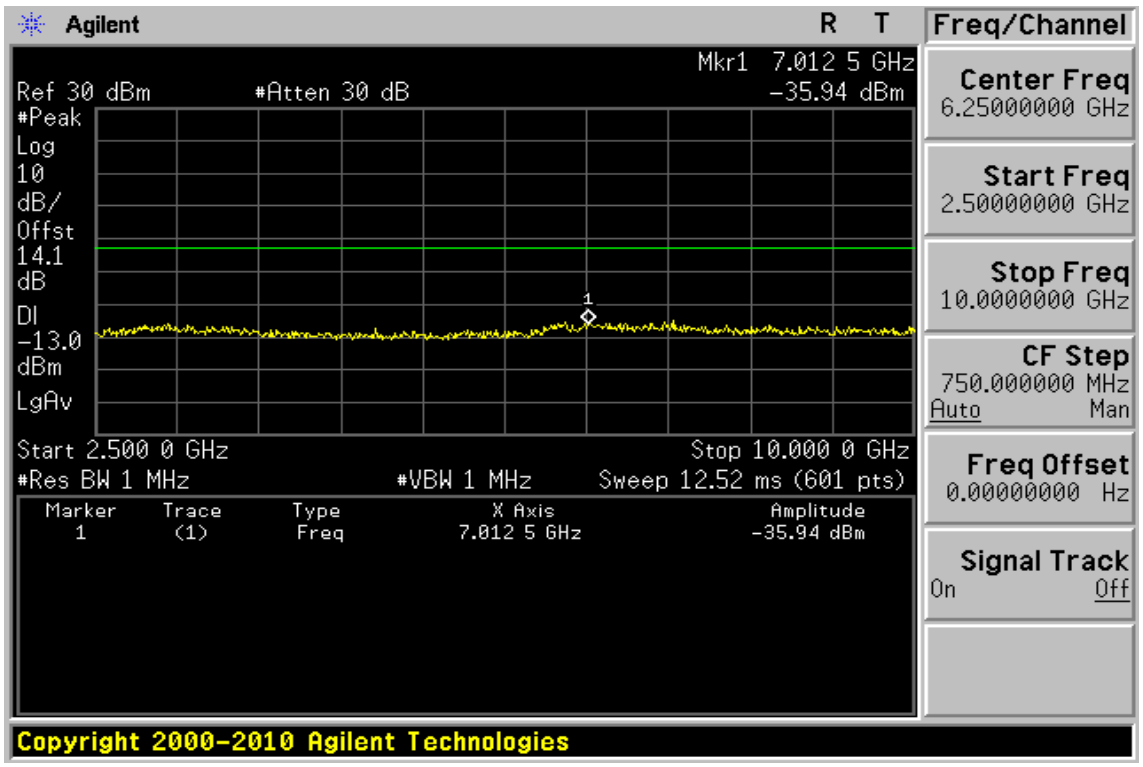
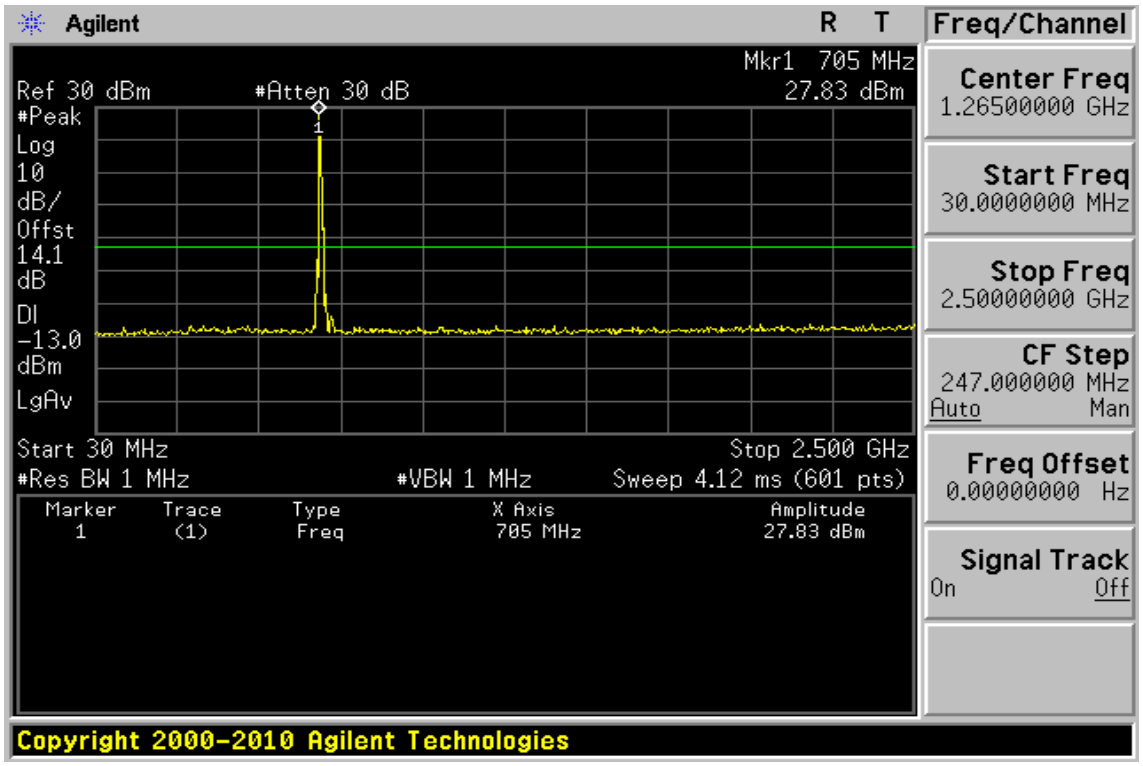


Figure 10-53: Out of Band emission at antenna terminals–10MHz BW LTE-Band 17 (QPSK RB Number: 1 Offset: 0) Channel Highest



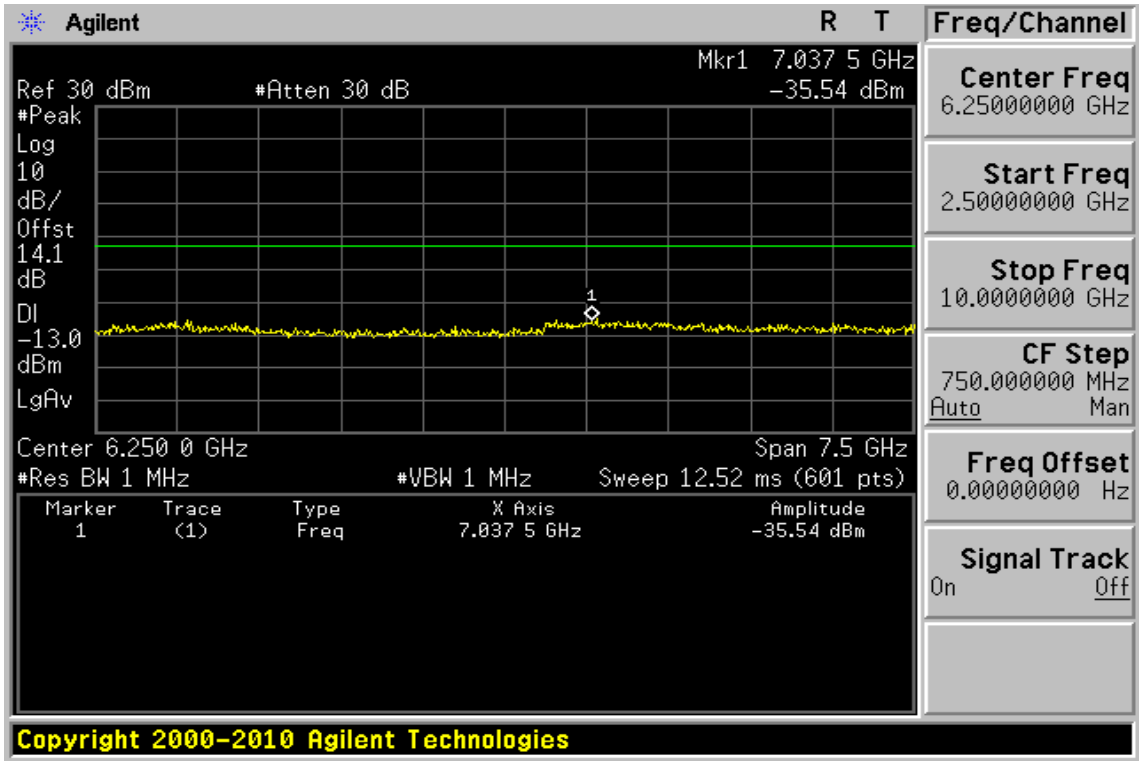


Figure 10-54: Band edge emission at antenna terminals –10MHz BW LTE-Band 17 (QPSK RB Number: 1 Offset: 0) Channel Lowest

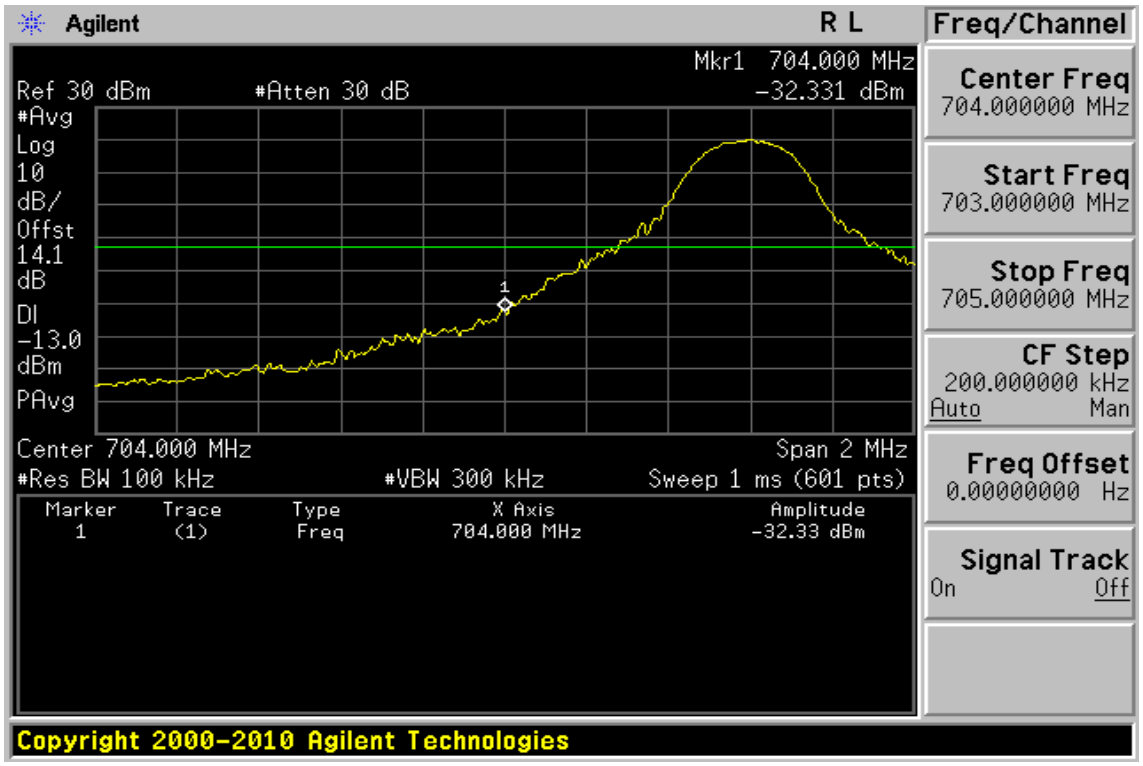


Figure 10-55: Band edge emission at antenna terminals –10MHz BW LTE-Band 17 (QPSK RB Number: 1 Offset: 49) Channel Highest

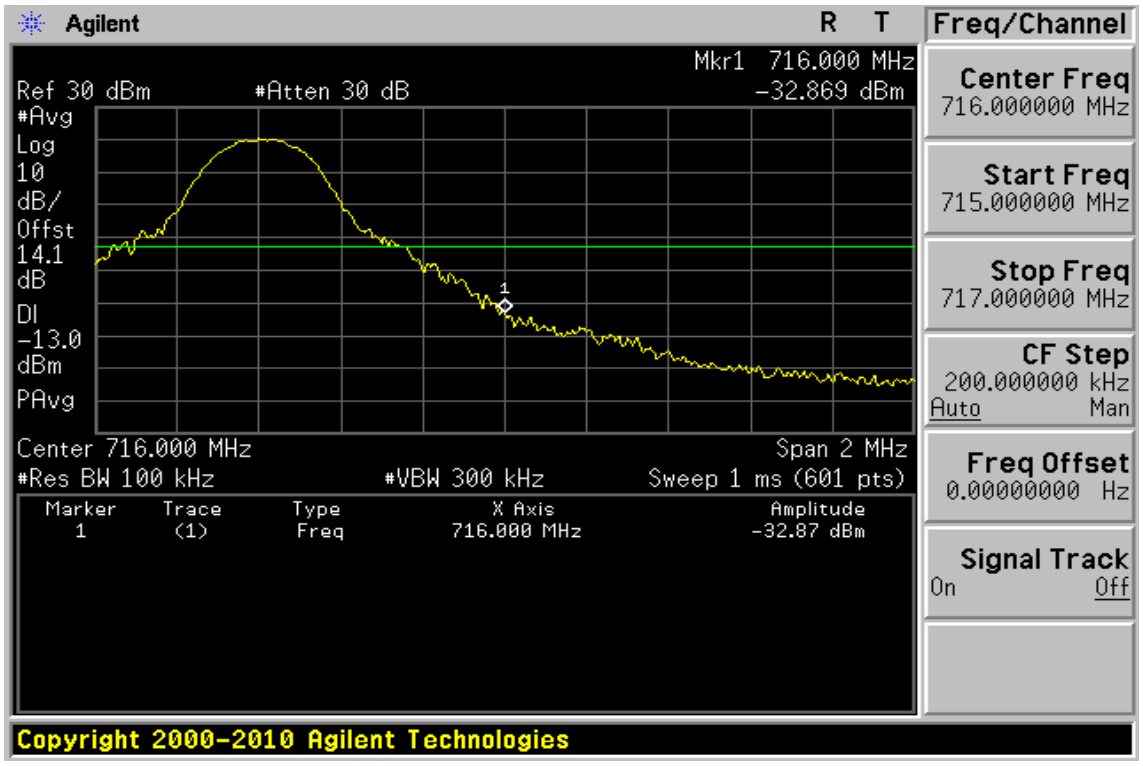
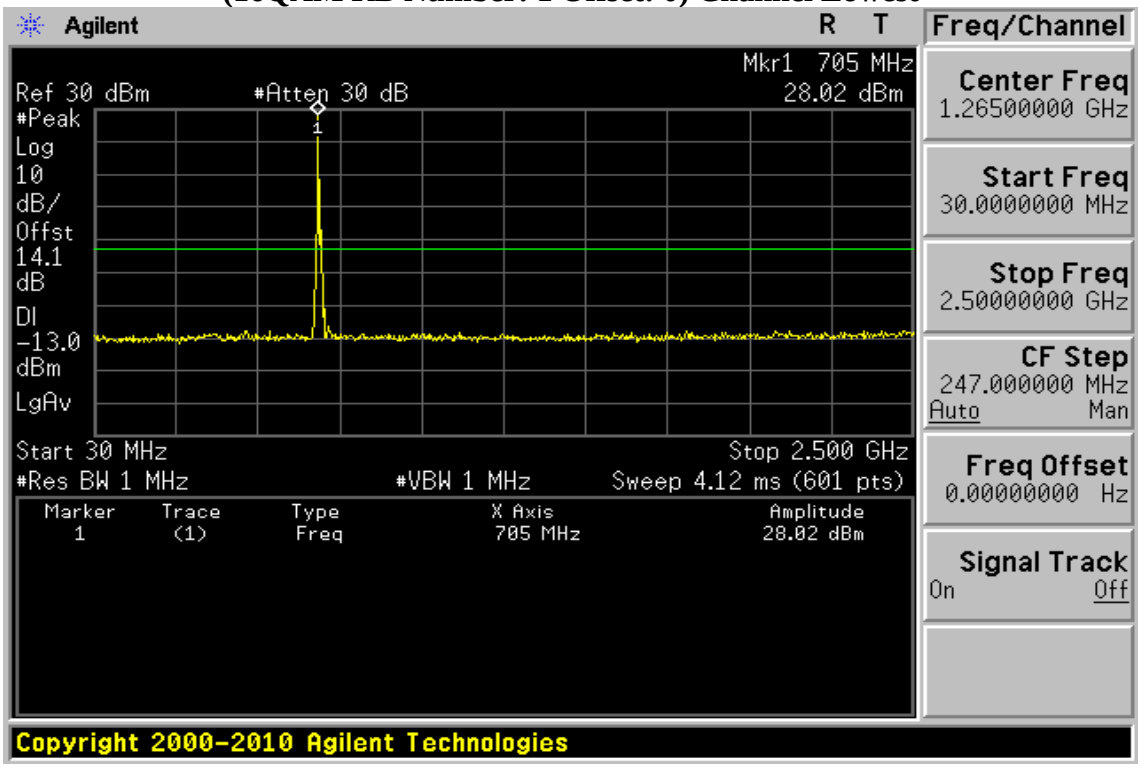


Figure 10-56: Out of Band emission at antenna terminals–10MHz BW LTE-Band 17 (16QAM RB Number: 1 Offset: 0) Channel Lowest



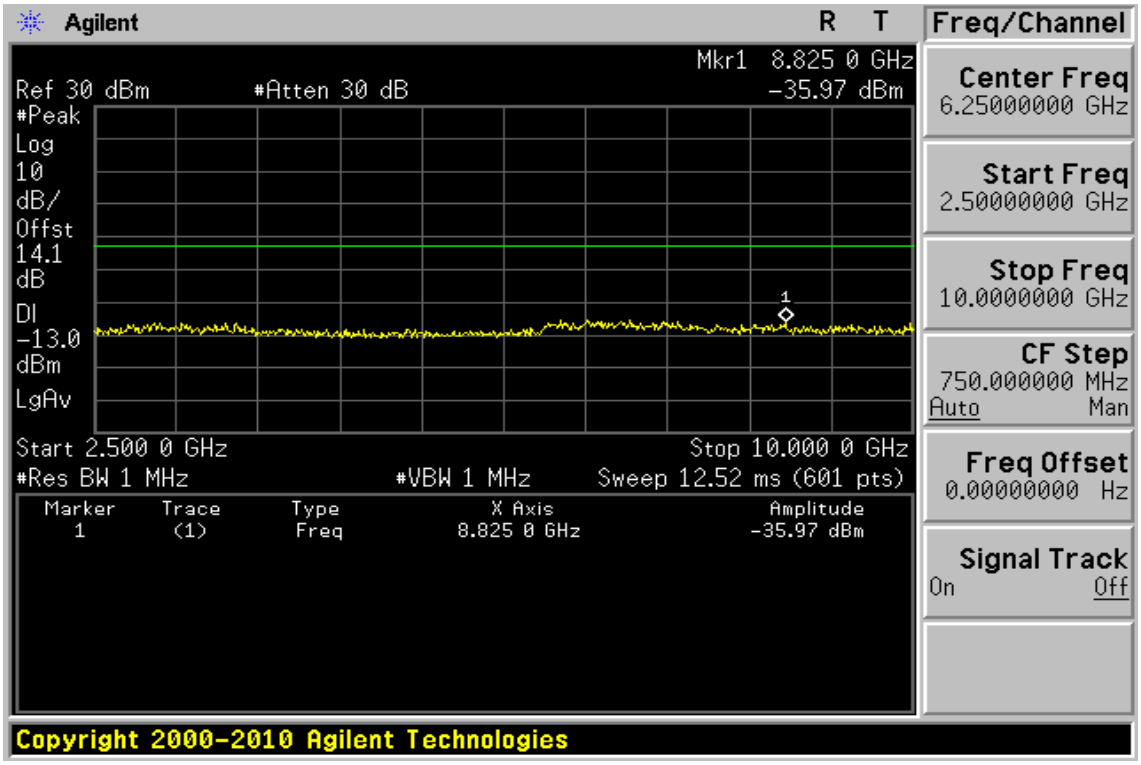
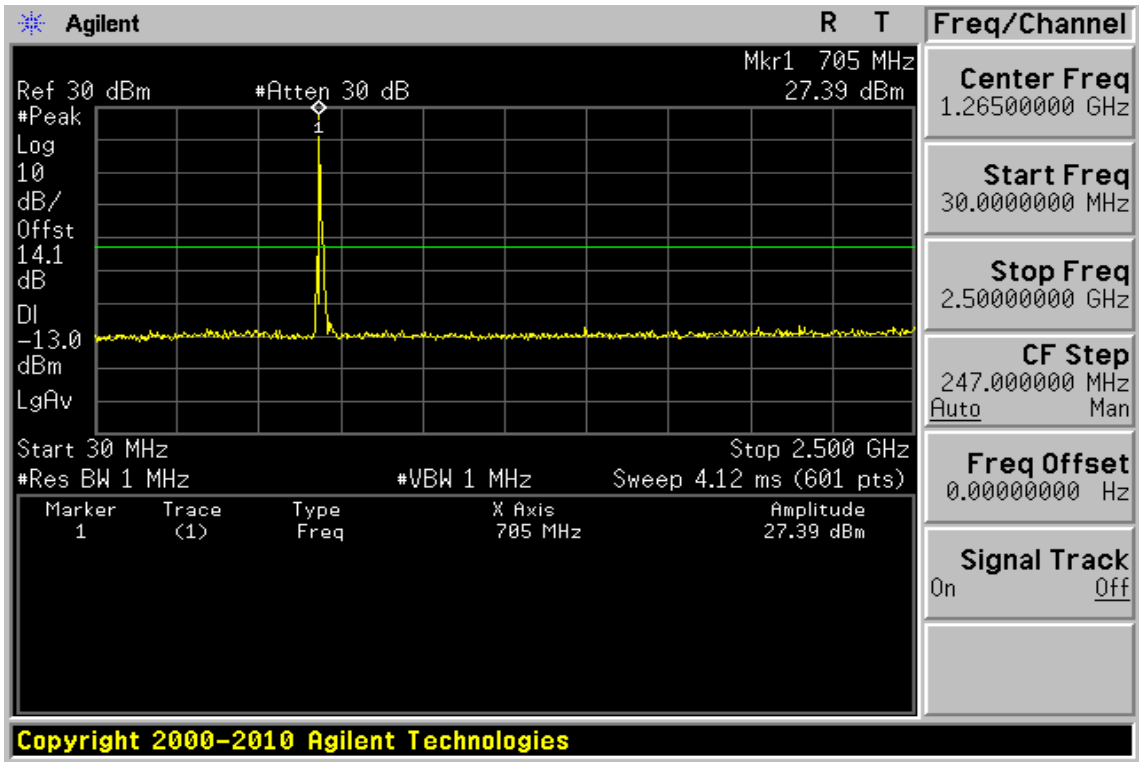


Figure 10-57: Out of Band emission at antenna terminals –10MHz BW LTE-Band 17 (16QAM RB Number: 1 Offset: 0) Channel Mid



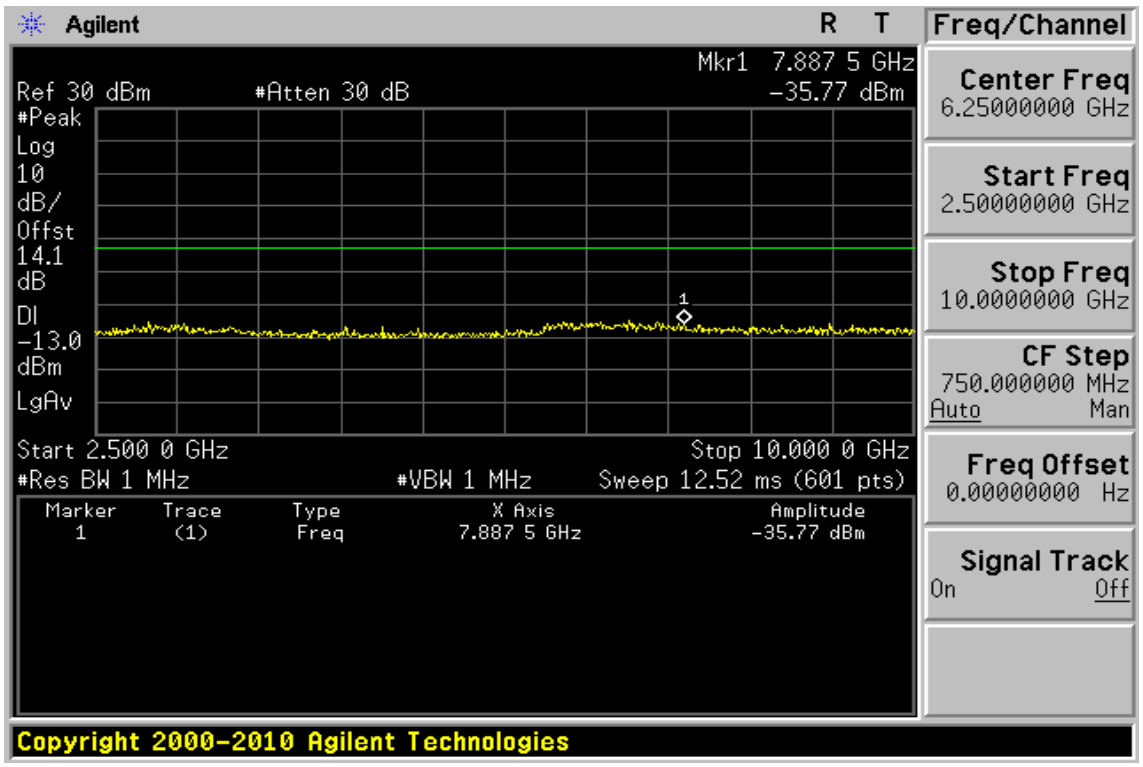
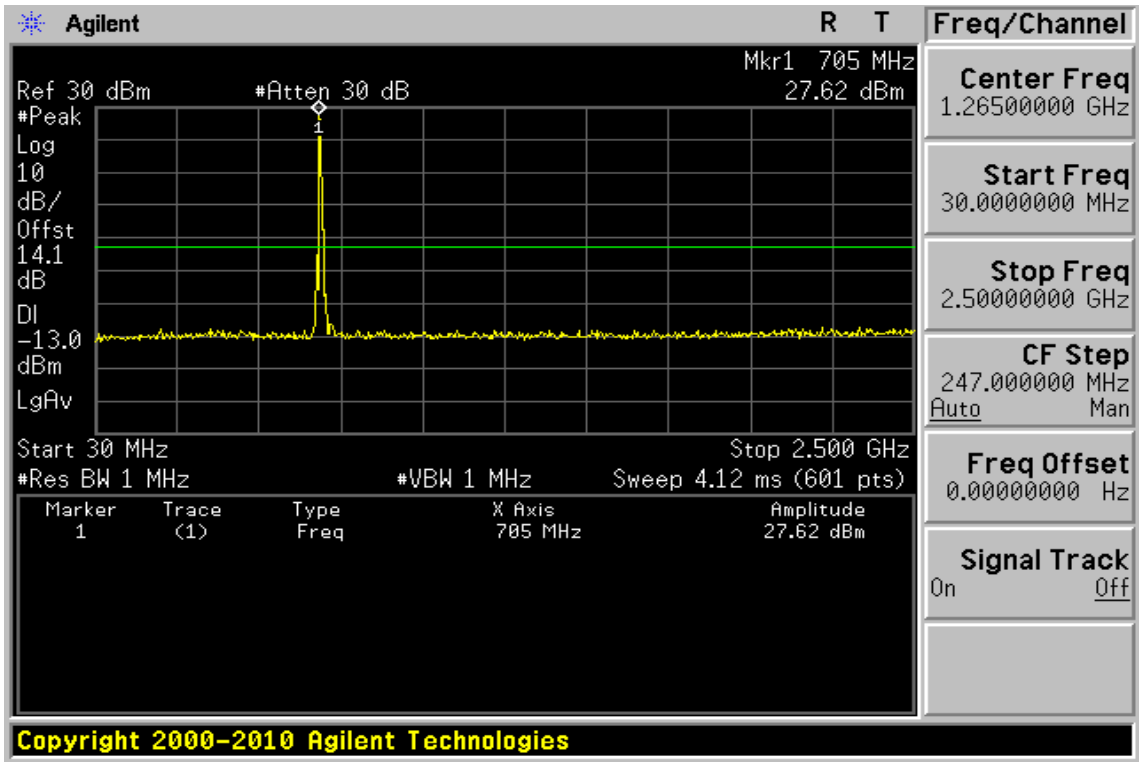


Figure 10-58: Out of Band emission at antenna terminals–10MHz BW LTE-Band 17 (16QAM RB Number: 1 Offset: 0) Channel Highest



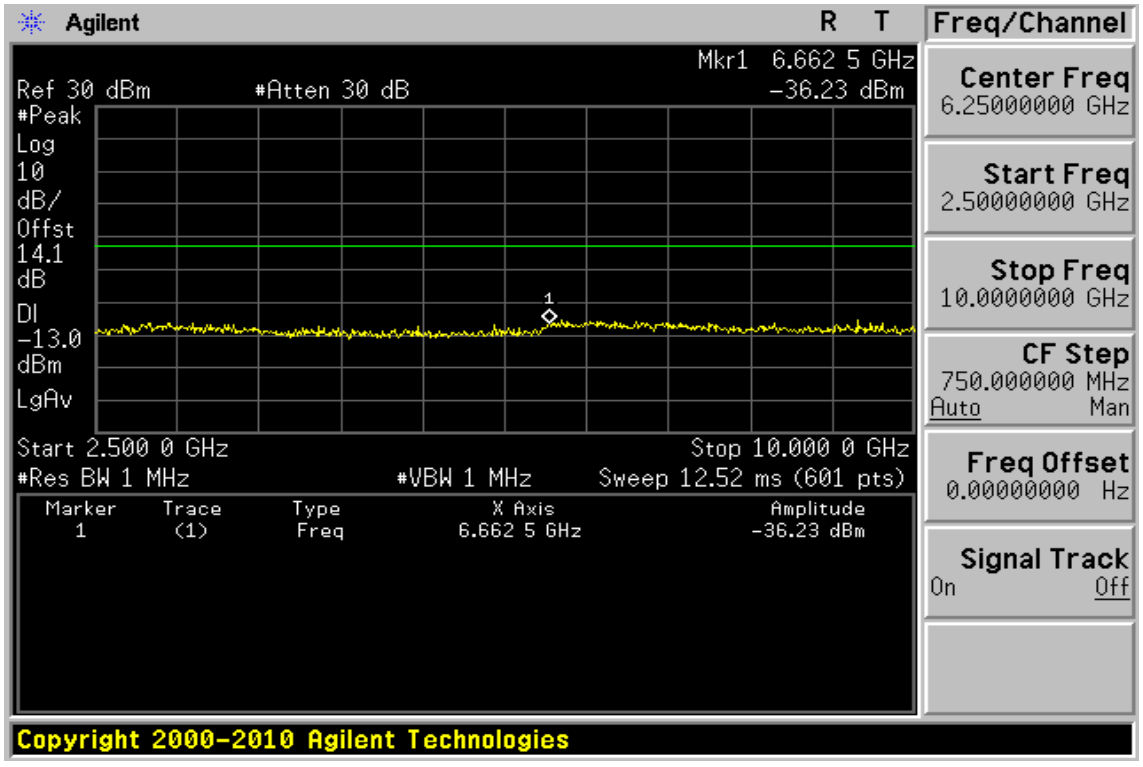


Figure 10-59: Band edge emission at antenna terminals –10MHz BW LTE-Band 17 (16QAM RB Number: 1 Offset: 0) Channel Lowest

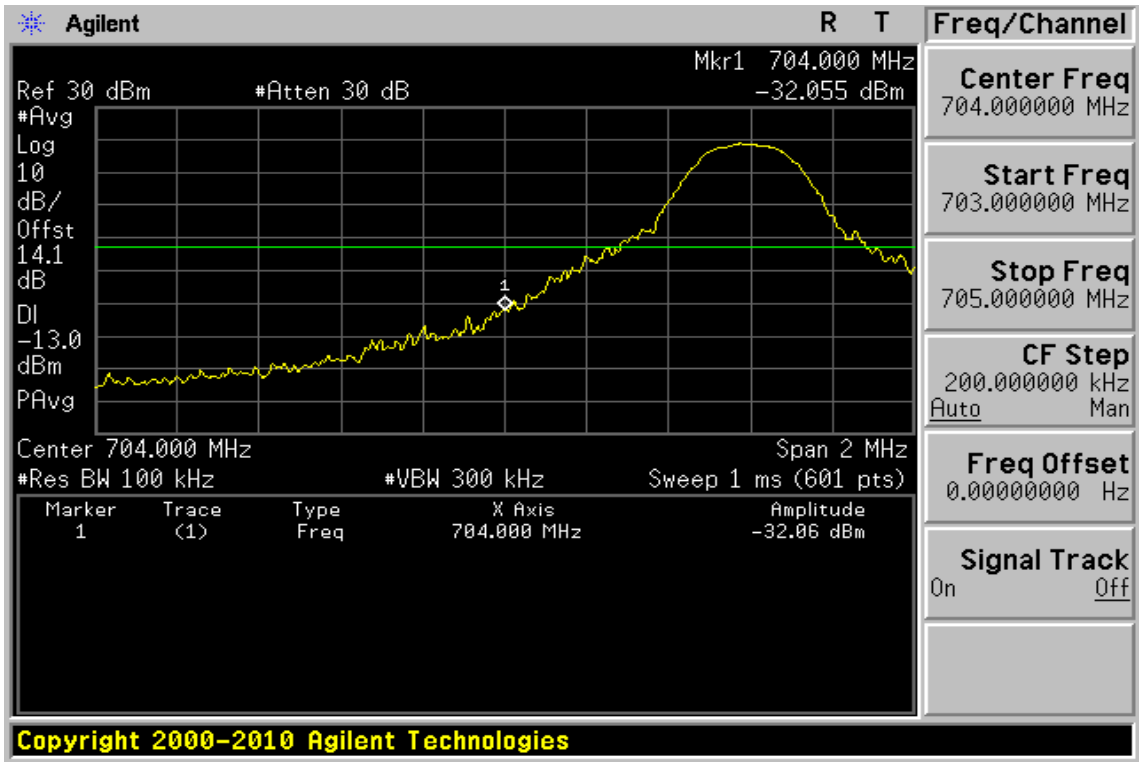
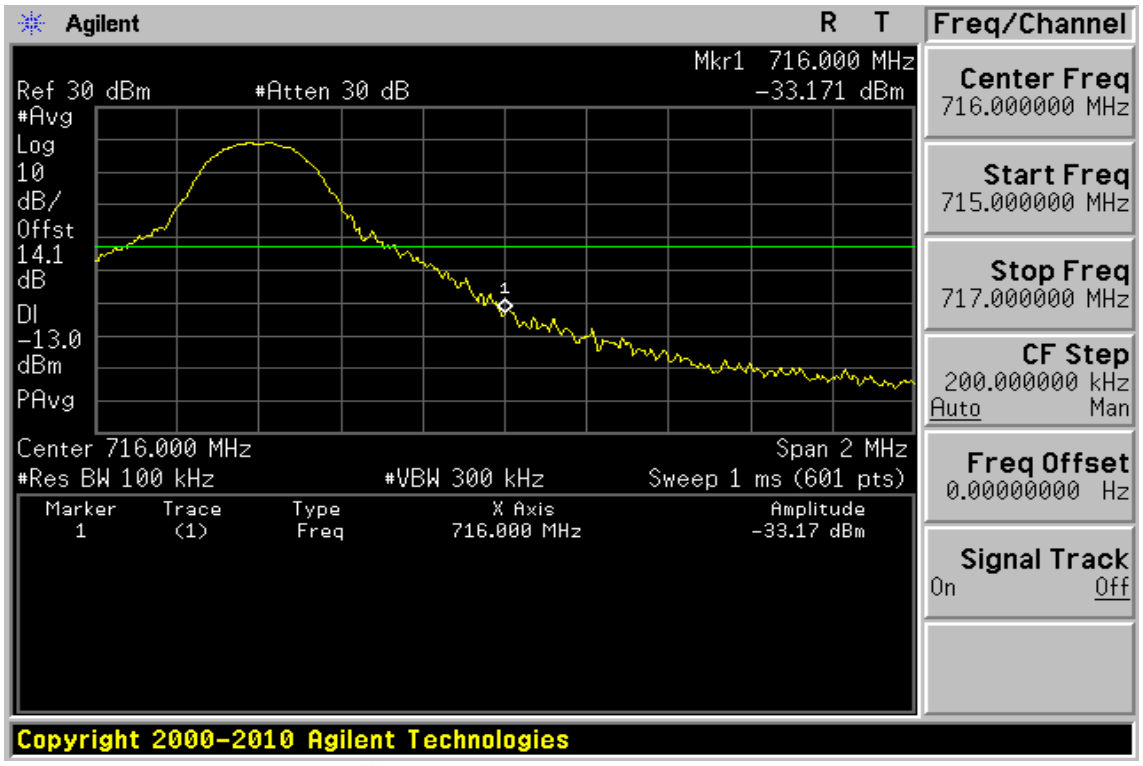


Figure 10-60: Band edge emission at antenna terminals –10MHz BW LTE-Band 17 (16QAM RB Number: 1 Offset: 49) Channel Highest



11. FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

11.1. 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).

4.5.1 Out-of-block Emissions

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

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

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

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

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

6.5.1 Out-of-Block Emissions

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

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

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

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

6.5.2 Out-of-Sub-band Emissions

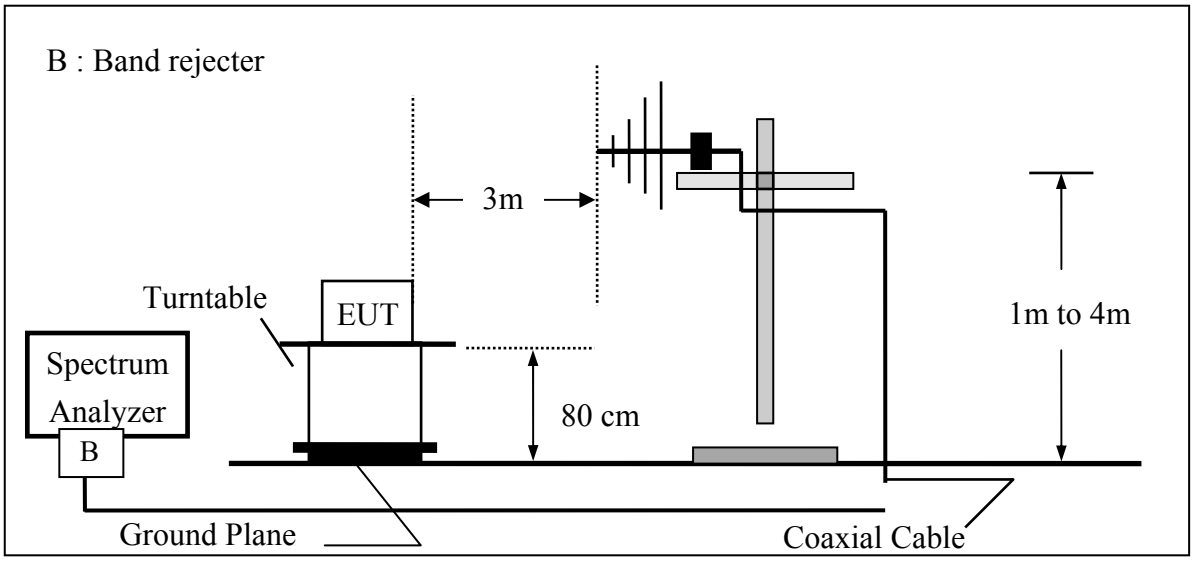
Outside the sub-bands 1850-1910 MHz and 1930-1990 MHz, the attenuation shall be equal to or greater than the out-of-block emission limits in Section 6.5.1.

(i) In the first 1.0 MHz bands immediately outside and adjacent to the equipment's operating frequency block, the emission power per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (in watts) by at least 43 + 10 log10(P), dB.

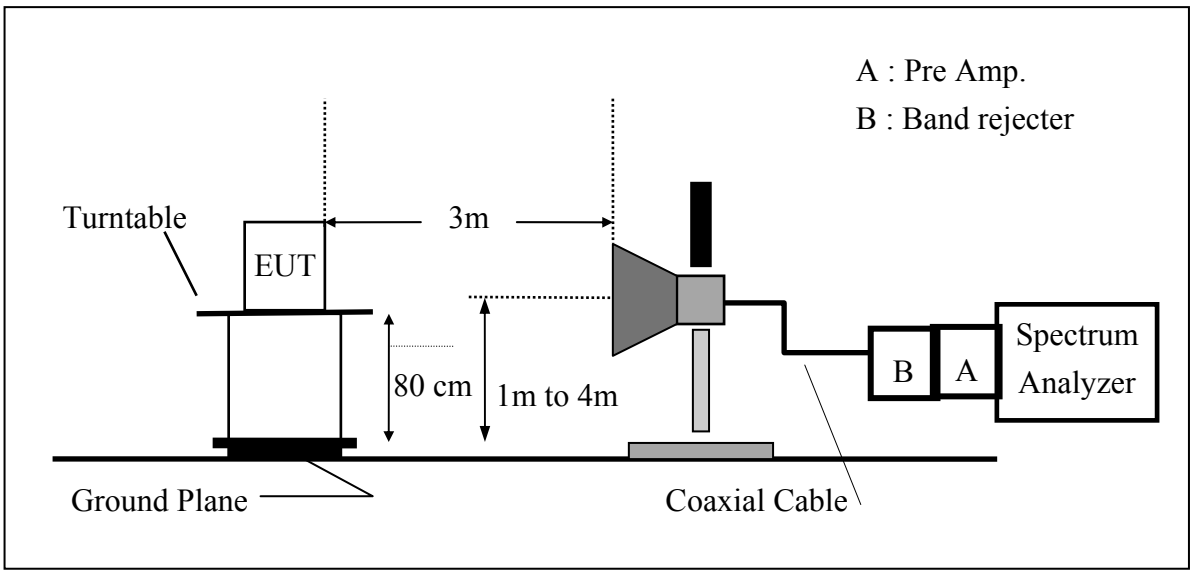
(ii) After the first 1.0 MHz outside the equipment's operating frequency block, the emission power in any 1 MHz bandwidth shall be attenuated below the transmitter output power P (in watts) by at least 43 + 10 log10(P), dB.

11.2. EUT Setup (Block Diagram of Configuration):

Radiated Emission Test Set-Up, Frequency Below 1000MHz



Radiated Emission Test Set-UP Frequency Over 1 GHz



11.3. Measurement Procedure:

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

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

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

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

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

11.4. Measurement Equipment Used:

Refer to section 2.4 in this report

11.5. Measurement Result:

Refer to attach tabular data sheets.

Radiated Spurious Emission Measurement Result: GRPS 850 Mode

Operation Band	:GPRS 850	Test Date	:2012-07-20
ARFCN	:CH 128	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:824.2 MHz	Engineer	:Lion
Operation Mode	:TX LOW		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
135.73	S	-52.37	-48.50	-1.08	-2.79	-13.00	-39.37
175.50	S	-52.45	-51.25	1.74	-2.93	-13.00	-39.45
330.70	S	-56.76	-57.97	4.66	-3.44	-13.00	-43.76
486.87	S	-56.24	-57.19	4.65	-3.70	-13.00	-43.24
603.27	S	-55.44	-55.56	4.04	-3.92	-13.00	-42.44
700.27	S	-62.87	-62.95	4.15	-4.07	-13.00	-49.87
1362.00	S	-45.52	-42.03	1.64	-5.12	-13.00	-32.52
1648.40	H	-27.95	-24.99	2.40	-5.36	-13.00	-14.95
2472.60	H	-57.03	-54.01	3.14	-6.15	-13.00	-44.03
3288.00	H	-58.54	-56.40	4.69	-6.83	-13.00	-45.54
4121.00	H	-54.25	-52.74	5.80	-7.31	-13.00	-41.25
4945.20	H	-55.42	-54.13	6.58	-7.87	-13.00	-42.42
5002.00	S	-47.73	-46.44	6.66	-7.95	-13.00	-34.73
5769.40	H	---					
6593.60	H	---					
7417.80	H	---					
8242.00	H	---					

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.
"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.
"---" : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: GRPS 850 Mode

Operation Band	:GPRS 850	Test Date	:2012-07-20
ARFCN	:CH 128	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:824.2 MHz	Engineer	:Lion
Operation Mode	:TX LOW		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
136.70	S	-50.44	-46.51	-1.14	-2.79	-13.00	-37.44
214.30	S	-52.57	-54.26	4.82	-3.14	-13.00	-39.57
330.70	S	-50.78	-51.99	4.66	-3.44	-13.00	-37.78
427.70	S	-60.14	-61.04	4.57	-3.66	-13.00	-47.14
525.67	S	-59.35	-60.23	4.65	-3.77	-13.00	-46.35
661.47	S	-66.09	-66.07	4.13	-4.14	-13.00	-53.09
1362.00	S	-47.81	-44.33	1.64	-5.12	-13.00	-34.81
1648.40	H	-34.41	-31.73	2.68	-5.36	-13.00	-21.41
2472.60	H	-58.61	-55.98	3.52	-6.15	-13.00	-45.61
3288.00	H	-60.61	-58.46	4.68	-6.83	-13.00	-47.61
4121.00	H	-58.19	-56.40	5.52	-7.31	-13.00	-45.19
4945.20	H	-55.85	-53.99	6.02	-7.87	-13.00	-42.85
5002.00	S	-54.65	-52.74	6.05	-7.95	-13.00	-41.65
5769.40	H	---					
6593.60	H	---					
7417.80	H	---					
8242.00	H	---					

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.
"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.
"---" : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: GRPS 850 Mode

Operation Band	:GPRS 850	Test Date	:2012-07-20
ARFCN	:CH 190	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:836.6 MHz	Engineer	:Lion
Operation Mode	:TX MID		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
96.93	S	-51.78	-48.02	-1.03	-2.72	-13.00	-38.78
214.30	S	-51.49	-53.18	4.82	-3.14	-13.00	-38.49
369.50	S	-60.42	-61.64	4.65	-3.43	-13.00	-47.42
486.87	S	-59.98	-60.93	4.65	-3.70	-13.00	-46.98
525.67	S	-54.87	-55.75	4.65	-3.77	-13.00	-41.87
700.27	S	-62.46	-62.54	4.15	-4.07	-13.00	-49.46
1362.00	S	-45.04	-41.55	1.64	-5.12	-13.00	-32.04
1673.20	H	-26.76	-23.81	2.34	-5.29	-13.00	-13.76
2509.80	H	-48.03	-45.10	3.19	-6.13	-13.00	-35.03
3346.40	H	-45.96	-44.03	4.85	-6.79	-13.00	-32.96
4183.00	H	-53.75	-52.17	5.89	-7.47	-13.00	-40.75
5002.00	S	-46.87	-45.58	6.66	-7.95	-13.00	-33.87
5019.60	H	-55.35	-54.13	6.66	-7.87	-13.00	-42.35
5856.20	H	---					
6692.80	H	---					
7529.40	H	---					
8366.00	H	---					

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.
"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.
"---" : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: GRPS 850 Mode

Operation Band	:GPRS 850	Test Date	:2012-07-20
ARFCN	:CH 190	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:836.6 MHz	Engineer	:Lion
Operation Mode	:TX MID		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
136.70	S	-50.63	-46.71	-1.14	-2.79	-13.00	-37.63
214.30	S	-56.68	-58.36	4.82	-3.14	-13.00	-43.68
330.70	S	-53.38	-54.60	4.66	-3.44	-13.00	-40.38
486.87	S	-59.33	-60.28	4.65	-3.70	-13.00	-46.33
564.47	S	-61.71	-62.25	4.42	-3.87	-13.00	-48.71
739.07	S	-65.80	-65.32	3.66	-4.14	-13.00	-52.80
1362.00	S	-48.40	-44.91	1.64	-5.12	-13.00	-35.40
1673.20	H	-31.20	-28.58	2.66	-5.29	-13.00	-18.20
2509.80	H	-53.36	-50.80	3.56	-6.13	-13.00	-40.36
3346.40	H	-50.12	-48.22	4.80	-6.70	-13.00	-37.12
4183.00	H	-56.08	-54.15	5.54	-7.47	-13.00	-43.08
5002.00	S	-53.81	-51.91	6.05	-7.95	-13.00	-40.81
5019.60	H	-54.72	-52.90	6.05	-7.87	-13.00	-41.72
5856.20	H	---					
6692.80	H	---					
7529.40	H	---					
8366.00	H	---					

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.
"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.
"---" : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: GRPS 850 Mode

Operation Band	:GPRS 850	Test Date	:2012-07-20
ARFCN	:CH 251	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:848.8 MHz	Engineer	:Lion
Operation Mode	:TX HIGH		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
135.73	S	-50.70	-46.84	-1.08	-2.79	-13.00	-37.70
214.30	S	-50.76	-52.44	4.82	-3.14	-13.00	-37.76
330.70	S	-57.74	-58.96	4.66	-3.44	-13.00	-44.74
486.87	S	-56.53	-57.47	4.65	-3.70	-13.00	-43.53
525.67	S	-57.09	-57.97	4.65	-3.77	-13.00	-44.09
700.27	S	-61.91	-62.00	4.15	-4.07	-13.00	-48.91
1362.00	S	-45.20	-41.72	1.64	-5.12	-13.00	-32.20
1697.60	H	-25.67	-22.55	2.28	-5.40	-13.00	-12.67
2546.40	H	-42.39	-39.46	3.30	-6.24	-13.00	-29.39
3395.20	H	-46.09	-44.23	4.98	-6.85	-13.00	-33.09
4244.00	H	-45.24	-43.79	5.97	-7.43	-13.00	-32.24
5002.00	S	-47.15	-45.86	6.66	-7.95	-13.00	-34.15
5092.80	H	-48.42	-47.03	6.66	-8.06	-13.00	-35.42
5941.60	H	---					
6790.40	H	---					
7639.20	H	---					
8488.00	H	---					

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.
"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.
"---" : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: GRPS 850 Mode

Operation Band	:GPRS 850	Test Date	:2012-07-20
ARFCN	:CH 251	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:848.8 MHz	Engineer	:Lion
Operation Mode	:TX HIGH		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
136.70	S	-52.35	-48.43	-1.14	-2.79	-13.00	-39.35
214.30	S	-55.89	-57.58	4.82	-3.14	-13.00	-42.89
330.70	S	-51.00	-52.22	4.66	-3.44	-13.00	-38.00
427.70	S	-60.39	-61.30	4.57	-3.66	-13.00	-47.39
564.47	S	-60.56	-61.10	4.42	-3.87	-13.00	-47.56
740.04	S	-65.71	-65.14	3.65	-4.23	-13.00	-52.71
1362.00	S	-48.65	-45.16	1.64	-5.12	-13.00	-35.65
1697.60	H	-31.97	-29.21	2.65	-5.40	-13.00	-18.97
2546.40	H	-49.82	-47.24	3.66	-6.24	-13.00	-36.82
3395.20	H	-48.93	-47.00	4.92	-6.85	-13.00	-35.93
4244.00	H	-51.49	-49.62	5.56	-7.43	-13.00	-38.49
5002.00	S	-54.02	-52.11	6.05	-7.95	-13.00	-41.02
5092.80	H	-53.05	-51.06	6.07	-8.06	-13.00	-40.05
5941.60	H	---					
6790.40	H	---					
7639.20	H	---					
8488.00	H	---					

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.
"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.
"---" : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: GRPS 1900 Mode

Operation Band	:GPRS 1900	Test Date	:2012-07-23
ARFCN	:CH 512	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1850.2 MHz	Engineer	:Lion
Operation Mode	:TX LOW		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
116.33	S	-48.88	-47.00	0.89	-2.77	-13.00	-35.88
214.30	S	-50.77	-54.61	6.97	-3.14	-13.00	-37.77
369.50	S	-53.59	-56.97	6.80	-3.43	-13.00	-40.59
448.07	S	-54.51	-57.44	6.63	-3.70	-13.00	-41.51
525.67	S	-51.81	-54.83	6.80	-3.77	-13.00	-38.81
700.27	S	-60.26	-62.49	6.30	-4.07	-13.00	-47.26
1090.00	S	-49.03	-46.78	2.33	-4.58	-13.00	-36.03
1360.00	S	-43.28	-41.93	3.77	-5.12	-13.00	-30.28
2180.00	S	-50.02	-48.94	4.76	-5.85	-13.00	-37.02
3700.40	H	-46.33	-46.76	7.40	-6.98	-13.00	-33.33
5000.00	S	-43.97	-44.82	8.81	-7.95	-13.00	-30.97
5550.60	H	---					
7400.80	H	---					
9251.00	H	---					
11101.20	H	---					
12951.40	H	---					
14801.60	H	---					
16651.80	H	---					
18502.00	H	---					

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.
"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.
"---" : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: GRPS 1900 Mode

Operation Band	:GPRS 1900	Test Date	:2012-07-23
ARFCN	:CH 512	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1850.2 MHz	Engineer	:Lion
Operation Mode	:TX LOW		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
136.70	S	-50.93	-49.16	1.01	-2.79	-13.00	-37.93
214.30	S	-48.48	-52.32	6.97	-3.14	-13.00	-35.48
330.70	S	-56.21	-59.58	6.81	-3.44	-13.00	-43.21
486.87	S	-56.78	-59.88	6.80	-3.70	-13.00	-43.78
525.67	S	-57.70	-60.73	6.80	-3.77	-13.00	-44.70
740.04	S	-64.43	-66.00	5.80	-4.23	-13.00	-51.43
1090.00	S	-52.40	-49.97	2.16	-4.58	-13.00	-39.40
1365.00	S	-47.33	-46.02	3.81	-5.12	-13.00	-34.33
2180.00	S	-52.81	-52.14	5.18	-5.85	-13.00	-39.81
3700.40	H	-52.60	-52.53	6.91	-6.98	-13.00	-39.60
5000.00	S	-52.37	-52.61	8.20	-7.95	-13.00	-39.37
5550.60	H	---					
7400.80	H	---					
9251.00	H	---					
11101.20	H	---					
12951.40	H	---					
14801.60	H	---					
16651.80	H	---					
18502.00	H	---					

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: GRPS 1900 Mode

Operation Band	:GPRS 1900	Test Date	:2012-07-23
ARFCN	:CH 661	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1880 MHz	Engineer	:Lion
Operation Mode	:TX MID		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
135.73	S	-46.91	-45.20	1.07	-2.79	-13.00	-33.91
175.50	S	-49.25	-50.21	3.89	-2.93	-13.00	-36.25
369.50	S	-54.22	-57.59	6.80	-3.43	-13.00	-41.22
447.10	S	-55.36	-58.30	6.63	-3.70	-13.00	-42.36
525.67	S	-53.30	-56.32	6.80	-3.77	-13.00	-40.30
700.27	S	-59.34	-61.57	6.30	-4.07	-13.00	-46.34
1090.00	S	-49.21	-46.96	2.33	-4.58	-13.00	-36.21
1360.00	S	-44.30	-42.95	3.77	-5.12	-13.00	-31.30
2180.00	S	-49.31	-48.22	4.76	-5.85	-13.00	-36.31
3760.00	H	-50.76	-51.06	7.42	-7.12	-13.00	-37.76
5000.00	S	-44.43	-45.29	8.81	-7.95	-13.00	-31.43
5640.00	H	---					
7520.00	H	---					
9400.00	H	---					
11280.00	H	---					
13160.00	H	---					
15040.00	H	---					
16920.00	H	---					
18800.00	H	---					

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.
"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.
"---" : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: GRPS 1900 Mode

Operation Band	:GPRS 1900	Test Date	:2012-07-23
ARFCN	:CH 661	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1880 MHz	Engineer	:Lion
Operation Mode	:TX MID		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
136.70	S	-47.66	-45.88	1.01	-2.79	-13.00	-34.66
214.30	S	-54.08	-57.91	6.97	-3.14	-13.00	-41.08
330.70	S	-49.35	-52.72	6.81	-3.44	-13.00	-36.35
448.07	S	-56.94	-59.87	6.63	-3.70	-13.00	-43.94
525.67	S	-58.95	-61.98	6.80	-3.77	-13.00	-45.95
739.07	S	-64.25	-65.92	5.81	-4.14	-13.00	-51.25
1090.00	S	-52.13	-49.70	2.16	-4.58	-13.00	-39.13
1360.00	S	-47.69	-46.34	3.77	-5.12	-13.00	-34.69
2180.00	S	-54.04	-53.38	5.18	-5.85	-13.00	-41.04
3760.00	H	-53.26	-52.99	6.85	-7.12	-13.00	-40.26
5000.00	S	-51.89	-52.13	8.20	-7.95	-13.00	-38.89
5640.00	H	---					
7520.00	H	---					
9400.00	H	---					
11280.00	H	---					
13160.00	H	---					
15040.00	H	---					
16920.00	H	---					
18800.00	H	---					

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: GRPS 1900 Mode

Operation Band	:GPRS 1900	Test Date	:2012-07-23
ARFCN	:CH 810	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1909.8 MHz	Engineer	:Lion
Operation Mode	:TX HIGH		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
136.70	S	-46.94	-45.17	1.01	-2.79	-13.00	-33.94
214.30	S	-48.43	-52.27	6.97	-3.14	-13.00	-35.43
330.70	S	-59.10	-62.47	6.81	-3.44	-13.00	-46.10
448.07	S	-55.08	-58.00	6.63	-3.70	-13.00	-42.08
564.47	S	-54.85	-57.54	6.57	-3.87	-13.00	-41.85
700.27	S	-60.61	-62.84	6.30	-4.07	-13.00	-47.61
1090.00	S	-49.01	-46.76	2.33	-4.58	-13.00	-36.01
1365.00	S	-43.23	-41.92	3.81	-5.12	-13.00	-30.23
2180.00	S	-50.97	-49.88	4.76	-5.85	-13.00	-37.97
3819.60	H	-49.50	-49.82	7.51	-7.20	-13.00	-36.50
5000.00	S	-44.91	-45.77	8.81	-7.95	-13.00	-31.91
5729.40	H	---					
7639.20	H	---					
9549.00	H	---					
11458.80	H	---					
13368.60	H	---					
15278.40	H	---					
17188.20	H	---					
19098.00	H	---					

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: GRPS 1900 Mode

Operation Band	:GPRS 1900	Test Date	:2012-07-23
ARFCN	:CH 810	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1909.8 MHz	Engineer	:Lion
Operation Mode	:TX HIGH		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
136.70	S	-49.52	-47.75	1.01	-2.79	-13.00	-36.52
214.30	S	-48.22	-52.05	6.97	-3.14	-13.00	-35.22
330.70	S	-50.55	-53.92	6.81	-3.44	-13.00	-37.55
408.30	S	-57.12	-60.36	6.86	-3.62	-13.00	-44.12
525.67	S	-59.47	-62.50	6.80	-3.77	-13.00	-46.47
740.04	S	-61.82	-63.39	5.80	-4.23	-13.00	-48.82
1090.00	S	-52.24	-49.82	2.16	-4.58	-13.00	-39.24
1365.00	S	-47.46	-46.15	3.81	-5.12	-13.00	-34.46
2180.00	S	-52.47	-51.80	5.18	-5.85	-13.00	-39.47
3819.60	H	-50.39	-50.25	7.05	-7.20	-13.00	-37.39
5000.00	S	-51.88	-52.12	8.20	-7.95	-13.00	-38.88
5729.40	H	---					
7639.20	H	---					
9549.00	H	---					
11458.80	H	---					
13368.60	H	---					
15278.40	H	---					
17188.20	H	---					
19098.00	H	---					

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: HSDPA II Mode

Operation Band	:HSDPA B2	Test Date	:2012-07-23
ARFCN	:CH 9262	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1852.4 MHz	Engineer	:Lion
Operation Mode	:TX LOW		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
136.70	S	-49.38	-47.60	1.01	-2.79	-13.00	-36.38
214.30	S	-48.86	-52.70	6.97	-3.14	-13.00	-35.86
330.70	S	-59.45	-62.81	6.81	-3.44	-13.00	-46.45
448.07	S	-55.57	-58.50	6.63	-3.70	-13.00	-42.57
525.67	S	-53.89	-56.92	6.80	-3.77	-13.00	-40.89
700.27	S	-61.02	-63.25	6.30	-4.07	-13.00	-48.02
3704.80	H	-54.15	-54.49	7.40	-7.06	-13.00	-41.15
5000.00	S	-44.56	-45.41	8.81	-7.95	-13.00	-31.56
5557.20	H	---					
7409.60	H	---					
9262.00	H	---					
11114.40	H	---					
12966.80	H	---					
14819.20	H	---					
16671.60	H	---					
18524.00	H	---					

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.
"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.
"---" : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: HSDPA II Mode

Operation Band	:HSDPA B2	Test Date	:2012-07-23
ARFCN	:CH 9262	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1852.4 MHz	Engineer	:Lion
Operation Mode	:TX LOW		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
116.33	S	-51.32	-49.44	0.89	-2.77	-13.00	-38.32
214.30	S	-47.27	-51.11	6.97	-3.14	-13.00	-34.27
330.70	S	-49.10	-52.47	6.81	-3.44	-13.00	-36.10
428.67	S	-58.78	-61.83	6.71	-3.66	-13.00	-45.78
564.47	S	-59.07	-61.77	6.57	-3.87	-13.00	-46.07
739.07	S	-64.62	-66.29	5.81	-4.14	-13.00	-51.62
3704.80	H	-57.05	-56.90	6.90	-7.06	-13.00	-44.05
5000.00	S	-51.31	-51.55	8.20	-7.95	-13.00	-38.31
5557.20	H	---					
7409.60	H	---					
9262.00	H	---					
11114.40	H	---					
12966.80	H	---					
14819.20	H	---					
16671.60	H	---					
18524.00	H	---					

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.
"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.
"---" : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: HSDPA II Mode

Operation Band	:HSDPA B2	Test Date	:2012-07-23
ARFCN	:CH 9400	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1880 MHz	Engineer	:Lion
Operation Mode	:TX MID		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
136.70	S	-46.60	-44.83	1.01	-2.79	-13.00	-33.60
214.30	S	-50.54	-54.38	6.97	-3.14	-13.00	-37.54
369.50	S	-55.89	-59.26	6.80	-3.43	-13.00	-42.89
486.87	S	-53.35	-56.45	6.80	-3.70	-13.00	-40.35
525.67	S	-52.22	-55.24	6.80	-3.77	-13.00	-39.22
700.27	S	-59.88	-62.11	6.30	-4.07	-13.00	-46.88
3760.00	H	-54.72	-55.03	7.42	-7.12	-13.00	-41.72
5000.00	S	-44.45	-45.31	8.81	-7.95	-13.00	-31.45
5640.00	H	---					
7520.00	H	---					
9400.00	H	---					
11280.00	H	---					
13160.00	H	---					
15040.00	H	---					
16920.00	H	---					
18800.00	H	---					

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.
"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.
"---" : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: HSDPA II Mode

Operation Band	:HSDPA B2	Test Date	:2012-07-23
ARFCN	:CH 9400	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1880 MHz	Engineer	:Lion
Operation Mode	:TX MID		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
136.70	S	-49.89	-48.12	1.01	-2.79	-13.00	-36.89
214.30	S	-51.47	-55.31	6.97	-3.14	-13.00	-38.47
330.70	S	-50.17	-53.54	6.81	-3.44	-13.00	-37.17
427.70	S	-59.27	-62.32	6.72	-3.66	-13.00	-46.27
564.47	S	-57.41	-60.10	6.57	-3.87	-13.00	-44.41
740.04	S	-63.26	-64.83	5.80	-4.23	-13.00	-50.26
3760.00	H	-55.04	-54.77	6.85	-7.12	-13.00	-42.04
5000.00	S	-51.44	-51.68	8.20	-7.95	-13.00	-38.44
5640.00	H	---					
7520.00	H	---					
9400.00	H	---					
11280.00	H	---					
13160.00	H	---					
15040.00	H	---					
16920.00	H	---					
18800.00	H	---					

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.
"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.
"---" : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: HSDPA II Mode

Operation Band	:HSDPA B2	Test Date	:2012-07-23
ARFCN	:CH 9538	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1907.6 MHz	Engineer	:Lion
Operation Mode	:TX HIGH		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
135.73	S	-47.65	-45.94	1.07	-2.79	-13.00	-34.65
175.50	S	-51.88	-52.83	3.89	-2.93	-13.00	-38.88
330.70	S	-53.88	-57.25	6.81	-3.44	-13.00	-40.88
448.07	S	-55.09	-58.02	6.63	-3.70	-13.00	-42.09
525.67	S	-53.12	-56.15	6.80	-3.77	-13.00	-40.12
700.27	S	-59.39	-61.62	6.30	-4.07	-13.00	-46.39
3815.20	H	-54.13	-54.44	7.50	-7.20	-13.00	-41.13
5000.00	S	-44.58	-45.44	8.81	-7.95	-13.00	-31.58
5722.80	H	---					
7630.40	H	---					
9538.00	H	---					
11445.60	H	---					
13353.20	H	---					
15260.80	H	---					
17168.40	H	---					
19076.00	H	---					

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.
"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.
"---" : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: HSDPA II Mode

Operation Band	:HSDPA B2	Test Date	:2012-07-23
ARFCN	:CH 9538	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1907.6 MHz	Engineer	:Lion
Operation Mode	:TX HIGH		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
136.70	S	-48.70	-46.92	1.01	-2.79	-13.00	-35.70
214.30	S	-48.63	-52.47	6.97	-3.14	-13.00	-35.63
330.70	S	-50.40	-53.77	6.81	-3.44	-13.00	-37.40
448.07	S	-57.32	-60.25	6.63	-3.70	-13.00	-44.32
564.47	S	-60.05	-62.75	6.57	-3.87	-13.00	-47.05
740.04	S	-63.50	-65.08	5.80	-4.23	-13.00	-50.50
3815.20	H	-55.43	-55.27	7.03	-7.20	-13.00	-42.43
5000.00	S	-52.53	-52.77	8.20	-7.95	-13.00	-39.53
5722.80	H	---					
7630.40	H	---					
9538.00	H	---					
11445.60	H	---					
13353.20	H	---					
15260.80	H	---					
17168.40	H	---					
19076.00	H	---					

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.
"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.
"---" : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: HSDPA V Mode

Operation Band	:HSDPA B5	Test Date	:2012-07-20
ARFCN	:CH 4132	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:826.4 MHz	Engineer	:Lion
Operation Mode	:TX LOW		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
116.33	S	-50.48	-46.45	-1.26	-2.77	-13.00	-37.48
214.30	S	-49.34	-51.02	4.82	-3.14	-13.00	-36.34
330.70	S	-59.46	-60.68	4.66	-3.44	-13.00	-46.46
448.07	S	-56.14	-56.92	4.48	-3.70	-13.00	-43.14
603.27	S	-55.05	-55.17	4.04	-3.92	-13.00	-42.05
700.27	S	-62.34	-62.43	4.15	-4.07	-13.00	-49.34
1362.00	S	-45.22	-41.73	1.64	-5.12	-13.00	-32.22
1652.80	H	-48.14	-45.17	2.39	-5.36	-13.00	-35.14
2479.20	H	-60.99	-57.98	3.14	-6.15	-13.00	-47.99
3305.60	H	---					
4132.00	H	---					
4958.40	H	---					
5002.00	S	-46.54	-45.24	6.66	-7.95	-13.00	-33.54
5784.80	H	---					
6611.20	H	---					
7437.60	H	---					
8264.00	H	---					

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: HSDPA V Mode

Operation Band	:HSDPA B5	Test Date	:2012-07-20
ARFCN	:CH 4132	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:826.4 MHz	Engineer	:Lion
Operation Mode	:TX LOW		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
136.70	S	-52.68	-48.75	-1.14	-2.79	-13.00	-39.68
214.30	S	-53.16	-54.84	4.82	-3.14	-13.00	-40.16
330.70	S	-51.26	-52.48	4.66	-3.44	-13.00	-38.26
427.70	S	-60.67	-61.58	4.57	-3.66	-13.00	-47.67
525.67	S	-60.38	-61.26	4.65	-3.77	-13.00	-47.38
739.07	S	-65.84	-65.36	3.66	-4.14	-13.00	-52.84
1362.00	S	-49.06	-45.57	1.64	-5.12	-13.00	-36.06
1652.80	H	-53.45	-50.77	2.67	-5.36	-13.00	-40.45
2479.20	H	-62.28	-59.65	3.52	-6.15	-13.00	-49.28
3305.60	H	---					
4132.00	H	---					
4958.40	H	---					
5002.00	S	-53.99	-52.09	6.05	-7.95	-13.00	-40.99
5784.80	H	---					
6611.20	H	---					
7437.60	H	---					
8264.00	H	---					

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: HSDPA V Mode

Operation Band	:HSDPA B5	Test Date	:2012-07-20
ARFCN	:CH 4183	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:836.6 MHz	Engineer	:Lion
Operation Mode	:TX MID		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
116.33	S	-49.93	-45.91	-1.26	-2.77	-13.00	-36.93
175.50	S	-52.25	-51.06	1.74	-2.93	-13.00	-39.25
330.70	S	-61.21	-62.43	4.66	-3.44	-13.00	-48.21
448.07	S	-55.76	-56.54	4.48	-3.70	-13.00	-42.76
603.27	S	-53.31	-53.43	4.04	-3.92	-13.00	-40.31
700.27	S	-63.00	-63.08	4.15	-4.07	-13.00	-50.00
1362.00	S	-45.09	-41.60	1.64	-5.12	-13.00	-32.09
1673.20	H	-46.56	-43.55	2.33	-5.34	-13.00	-33.56
2509.80	H	-60.30	-57.37	3.19	-6.13	-13.00	-47.30
3346.40	H	---					
4183.00	H	---					
5002.00	S	-47.54	-46.24	6.66	-7.95	-13.00	-34.54
5019.60	H	---					
5856.20	H	---					
6692.80	H	---					
7529.40	H	---					
8366.00	H	---					

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.
"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.
"---" : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: HSDPA V Mode

Operation Band	:HSDPA B5	Test Date	:2012-07-20
ARFCN	:CH 4183	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:836.6 MHz	Engineer	:Lion
Operation Mode	:TX MID		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
136.70	S	-53.68	-49.76	-1.14	-2.79	-13.00	-40.68
214.30	S	-52.93	-54.61	4.82	-3.14	-13.00	-39.93
330.70	S	-53.68	-54.90	4.66	-3.44	-13.00	-40.68
486.87	S	-59.10	-60.05	4.65	-3.70	-13.00	-46.10
525.67	S	-59.81	-60.68	4.65	-3.77	-13.00	-46.81
739.07	S	-65.37	-64.89	3.66	-4.14	-13.00	-52.37
1362.00	S	-48.66	-45.18	1.64	-5.12	-13.00	-35.66
1673.20	H	-50.24	-47.56	2.66	-5.34	-13.00	-37.24
2509.80	H	-61.86	-59.29	3.56	-6.13	-13.00	-48.86
3346.40	H	---					
4183.00	H	---					
5002.00	S	-55.00	-53.10	6.05	-7.95	-13.00	-42.00
5019.60	H	---					
5856.20	H	---					
6692.80	H	---					
7529.40	H	---					
8366.00	H	---					

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.
"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.
"---" : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: HSDPA V Mode

Operation Band	:HSDPA B5	Test Date	:2012-07-20
ARFCN	:CH 4233	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:846.6 MHz	Engineer	:Lion
Operation Mode	:TX HIGH		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
116.33	S	-50.98	-46.95	-1.26	-2.77	-13.00	-37.98
214.30	S	-53.31	-55.00	4.82	-3.14	-13.00	-40.31
330.70	S	-56.55	-57.77	4.66	-3.44	-13.00	-43.55
486.87	S	-58.25	-59.20	4.65	-3.70	-13.00	-45.25
525.67	S	-54.50	-55.38	4.65	-3.77	-13.00	-41.50
700.27	S	-62.66	-62.74	4.15	-4.07	-13.00	-49.66
1362.00	S	-44.98	-41.50	1.64	-5.12	-13.00	-31.98
1693.20	H	-47.94	-44.89	2.29	-5.34	-13.00	-34.94
2539.80	H	-59.35	-56.40	3.28	-6.24	-13.00	-46.35
3386.40	H	---					
4233.00	H	---					
5002.00	S	-47.73	-46.44	6.66	-7.95	-13.00	-34.73
5079.60	H	---					
5926.20	H	---					
6772.80	H	---					
7619.40	H	---					
8466.00	H	---					

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: HSDPA V Mode

Operation Band	:HSDPA B5	Test Date	:2012-07-20
ARFCN	:CH 4233	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:846.6 MHz	Engineer	:Lion
Operation Mode	:TX HIGH		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
136.70	S	-49.52	-45.59	-1.14	-2.79	-13.00	-36.52
214.30	S	-50.91	-52.60	4.82	-3.14	-13.00	-37.91
330.70	S	-53.03	-54.24	4.66	-3.44	-13.00	-40.03
408.30	S	-59.57	-60.66	4.71	-3.62	-13.00	-46.57
564.47	S	-60.01	-60.55	4.42	-3.87	-13.00	-47.01
739.07	S	-66.04	-65.56	3.66	-4.14	-13.00	-53.04
1362.00	S	-48.68	-45.19	1.64	-5.12	-13.00	-35.68
1693.20	H	-54.52	-51.83	2.65	-5.34	-13.00	-41.52
2539.80	H	-61.38	-58.79	3.64	-6.24	-13.00	-48.38
3386.40	H	---					
4233.00	H	---					
5002.00	S	-53.13	-51.22	6.05	-7.95	-13.00	-40.13
5079.60	H	---					
5926.20	H	---					
6772.80	H	---					
7619.40	H	---					
8466.00	H	---					

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.
"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.
"---" : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 5MHz BW LTE-Band 4

Operation Band	:BAND 4	Test Date	:2012-08-09
ARFCN	:CH 19975	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1712.5 MHz	Engineer	:Lion
Operation Mode	:5M 16QAM RB1,24 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
96.93	S	-44.65	-7.00	1.12	-2.72	-13.00	-31.65
136.70	S	-50.35	-6.29	1.01	-2.79	-13.00	-37.35
291.90	S	-48.31	-5.97	6.72	-3.25	-13.00	-35.31
448.07	S	-51.92	-5.25	6.63	-3.70	-13.00	-38.92
564.47	S	-51.43	-1.75	6.57	-3.87	-13.00	-38.43
817.64	S	-60.16	1.40	6.10	-4.22	-13.00	-47.16
3425.00	H	-51.38	15.83	7.22	-6.89	-13.00	-38.38
5137.50	H						
6850.00	H						
8562.50	H						
10275.00	H						
11987.50	H						
13700.00	H						
15412.50	H						
17125.00	H						

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 5MHz BW LTE-Band 4

Operation Band	:BAND 4	Test Date	:2012-08-09
ARFCN	:CH 19975	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1712.5 MHz	Engineer	:Lion
Operation Mode	:5M 16QAM RB1,24 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
96.93	S	-43.35	-8.58	1.12	-2.72	-13.00	-30.35
135.73	S	-49.15	-6.15	1.07	-2.79	-13.00	-36.15
291.90	S	-39.08	-9.92	6.72	-3.25	-13.00	-26.08
330.70	S	-53.69	-8.53	6.81	-3.44	-13.00	-40.69
564.47	S	-55.27	-4.67	6.57	-3.87	-13.00	-42.27
817.64	S	-58.22	0.89	6.10	-4.22	-13.00	-45.22
3425.00	H	-53.51	14.68	7.16	-6.89	-13.00	-40.51
5137.50	H						
6850.00	H						
8562.50	H						
10275.00	H						
11987.50	H						
13700.00	H						
15412.50	H						
17125.00	H						

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 5MHz BW LTE-Band 4

Operation Band	:BAND 4	Test Date	:2012-08-09
ARFCN	:CH 20175	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1732.5 MHz	Engineer	:Lion
Operation Mode	:5M 16QAM RB1,24 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
96.93	S	-45.38	-7.00	1.12	-2.72	-13.00	-32.38
214.30	S	-48.77	-8.11	6.97	-3.14	-13.00	-35.77
291.90	S	-46.91	-5.97	6.72	-3.25	-13.00	-33.91
408.30	S	-54.05	-5.93	6.86	-3.62	-13.00	-41.05
486.87	S	-53.86	-4.96	6.80	-3.70	-13.00	-40.86
525.67	S	-52.26	-3.42	6.80	-3.77	-13.00	-39.26
3465.00	H	-53.32	16.44	7.32	-6.99	-13.00	-40.32
5197.50	H						
6930.00	H						
8662.50	H						
10395.00	H						
12127.50	H						
13860.00	H						
15592.50	H						
17325.00	H						

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 5MHz BW LTE-Band 4

Operation Band	:BAND 4	Test Date	:2012-08-09
ARFCN	:CH 20175	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1732.5 MHz	Engineer	:Lion
Operation Mode	:5M 16QAM RB1,24 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
96.93	S	-39.67	-8.58	1.12	-2.72	-13.00	-26.67
136.70	S	-47.68	-6.15	1.01	-2.79	-13.00	-34.68
156.10	S	-49.21	-4.56	1.37	-2.93	-13.00	-36.21
175.50	S	-49.50	-5.82	3.89	-2.93	-13.00	-36.50
291.90	S	-40.06	-9.92	6.72	-3.25	-13.00	-27.06
330.70	S	-52.08	-8.53	6.81	-3.44	-13.00	-39.08
3465.00	H	-53.27	15.23	7.25	-6.99	-13.00	-40.27
5197.50	H						
6930.00	H						
8662.50	H						
10395.00	H						
12127.50	H						
13860.00	H						
15592.50	H						
17325.00	H						

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 5MHz BW LTE-Band 4

Operation Band	:BAND 4	Test Date	:2012-08-09
ARFCN	:CH 20375	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1752.5 MHz	Engineer	:Lion
Operation Mode	:5M 16QAM RB1,24 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
96.93	S	-46.28	-7.00	1.12	-2.72	-13.00	-33.28
136.70	S	-50.45	-6.29	1.01	-2.79	-13.00	-37.45
175.50	S	-50.28	-2.62	3.89	-2.93	-13.00	-37.28
214.30	S	-47.89	-8.11	6.97	-3.14	-13.00	-34.89
291.90	S	-47.11	-5.97	6.72	-3.25	-13.00	-34.11
564.47	S	-51.43	-1.75	6.57	-3.87	-13.00	-38.43
3505.00	H	-52.48	16.27	7.40	-6.99	-13.00	-39.48
5257.50	H						
7010.00	H						
8762.50	H						
10515.00	H						
12267.50	H						
14020.00	H						
15772.50	H						
17525.00	H						

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 5MHz BW LTE-Band 4

Operation Band	:BAND 4	Test Date	:2012-08-09
ARFCN	:CH 20375	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1752.5 MHz	Engineer	:Lion
Operation Mode	:5M 16QAM RB1,24 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
96.93	S	-38.73	-8.58	1.12	-2.72	-13.00	-25.73
156.10	S	-49.89	-4.56	1.37	-2.93	-13.00	-36.89
175.50	S	-52.51	-5.82	3.89	-2.93	-13.00	-39.51
214.30	S	-53.14	-12.91	6.97	-3.14	-13.00	-40.14
291.90	S	-38.87	-9.92	6.72	-3.25	-13.00	-25.87
642.07	S	-55.92	-3.09	6.26	-3.98	-13.00	-42.92
3505.00	H	-54.27	15.38	7.30	-6.99	-13.00	-41.27
5257.50	H						
7010.00	H						
8762.50	H						
10515.00	H						
12267.50	H						
14020.00	H						
15772.50	H						
17525.00	H						

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

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Radiated Spurious Emission Measurement Result: 5MHz BW LTE-Band 4

Operation Band	:BAND 4	Test Date	:2012-08-09
ARFCN	:CH 19975	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1712.5 MHz	Engineer	:Lion
Operation Mode	:5M 16QAM RB1,0 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
96.93	S	-45.57	-7.00	1.12	-2.72	-13.00	-32.57
136.70	S	-49.57	-6.29	1.01	-2.79	-13.00	-36.57
175.50	S	-49.66	-2.62	3.89	-2.93	-13.00	-36.66
214.30	S	-47.61	-8.11	6.97	-3.14	-13.00	-34.61
291.90	S	-51.10	-5.97	6.72	-3.25	-13.00	-38.10
525.67	S	-51.04	-3.42	6.80	-3.77	-13.00	-38.04
3425.00	H	-52.15	15.83	7.19	-6.89	-13.00	-39.15
5137.50	H						
6850.00	H						
8562.50	H						
10275.00	H						
11987.50	H						
13700.00	H						
15412.50	H						
17125.00	H						

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 5MHz BW LTE-Band 4

Operation Band	:BAND 4	Test Date	:2012-08-09
ARFCN	:CH 19975	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1712.5 MHz	Engineer	:Lion
Operation Mode	:5M 16QAM RB1,0 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
96.93	S	-40.70	-8.58	1.12	-2.72	-13.00	-27.70
136.70	S	-47.81	-6.15	1.01	-2.79	-13.00	-34.81
156.10	S	-50.69	-4.56	1.37	-2.93	-13.00	-37.69
175.50	S	-50.92	-5.82	3.89	-2.93	-13.00	-37.92
253.10	S	-52.23	-11.59	6.75	-3.23	-13.00	-39.23
291.90	S	-37.99	-9.92	6.72	-3.25	-13.00	-24.99
3425.00	H	-53.22	14.68	7.14	-6.89	-13.00	-40.22
5137.50	H						
6850.00	H						
8562.50	H						
10275.00	H						
11987.50	H						
13700.00	H						
15412.50	H						
17125.00	H						

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 5MHz BW LTE-Band 4

Operation Band	:BAND 4	Test Date	:2012-08-09
ARFCN	:CH 20175	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1732.5 MHz	Engineer	:Lion
Operation Mode	:5M 16QAM RB1,0 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
96.93	S	-44.82	-7.00	1.12	-2.72	-13.00	-31.82
136.70	S	-48.47	-6.29	1.01	-2.79	-13.00	-35.47
175.50	S	-49.30	-2.62	3.89	-2.93	-13.00	-36.30
214.30	S	-46.53	-8.11	6.97	-3.14	-13.00	-33.53
291.90	S	-47.81	-5.97	6.72	-3.25	-13.00	-34.81
564.47	S	-51.46	-1.75	6.57	-3.87	-13.00	-38.46
3465.00	H	-48.75	16.44	7.30	-6.99	-13.00	-35.75
5197.50	H						
6930.00	H						
8662.50	H						
10395.00	H						
12127.50	H						
13860.00	H						
15592.50	H						
17325.00	H						

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 5MHz BW LTE-Band 4

Operation Band	:BAND 4	Test Date	:2012-08-09
ARFCN	:CH 20175	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1732.5 MHz	Engineer	:Lion
Operation Mode	:5M 16QAM RB1,0 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
96.93	S	-39.40	-8.58	1.12	-2.72	-13.00	-26.40
136.70	S	-49.88	-6.15	1.01	-2.79	-13.00	-36.88
156.10	S	-50.93	-4.56	1.37	-2.93	-13.00	-37.93
175.50	S	-52.29	-5.82	3.89	-2.93	-13.00	-39.29
214.30	S	-53.46	-12.91	6.97	-3.14	-13.00	-40.46
291.90	S	-37.24	-9.92	6.72	-3.25	-13.00	-24.24
3465.00	H	-50.70	15.23	7.23	-6.99	-13.00	-37.70
5197.50	H						
6930.00	H						
8662.50	H						
10395.00	H						
12127.50	H						
13860.00	H						
15592.50	H						
17325.00	H						

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 5MHz BW LTE-Band 4

Operation Band	:BAND 4	Test Date	:2012-08-09
ARFCN	:CH 20375	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1752.5 MHz	Engineer	:Lion
Operation Mode	:5M 16QAM RB1,0 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
96.93	S	-48.05	-7.00	1.12	-2.72	-13.00	-35.05
135.73	S	-50.99	-6.29	1.07	-2.79	-13.00	-37.99
175.50	S	-49.67	-2.62	3.89	-2.93	-13.00	-36.67
214.30	S	-51.70	-8.11	6.97	-3.14	-13.00	-38.70
291.90	S	-46.85	-5.97	6.72	-3.25	-13.00	-33.85
525.67	S	-52.96	-3.42	6.80	-3.77	-13.00	-39.96
3505.00	H	-52.57	16.27	7.40	-7.01	-13.00	-39.57
5257.50	H						
7010.00	H						
8762.50	H						
10515.00	H						
12267.50	H						
14020.00	H						
15772.50	H						
17525.00	H						

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 5MHz BW LTE-Band 4

Operation Band	:BAND 4	Test Date	:2012-08-09
ARFCN	:CH 20375	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1752.5 MHz	Engineer	:Lion
Operation Mode	:5M 16QAM RB1,0 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
96.93	S	-40.83	-8.58	1.12	-2.72	-13.00	-27.83
136.70	S	-47.44	-6.15	1.01	-2.79	-13.00	-34.44
156.10	S	-50.27	-4.56	1.37	-2.93	-13.00	-37.27
175.50	S	-52.20	-5.82	3.89	-2.93	-13.00	-39.20
291.90	S	-42.12	-9.92	6.72	-3.25	-13.00	-29.12
388.90	S	-52.74	-5.98	6.86	-3.56	-13.00	-39.74
3505.00	H	-52.22	15.38	7.32	-7.01	-13.00	-39.22
5257.50	H						
7010.00	H						
8762.50	H						
10515.00	H						
12267.50	H						
14020.00	H						
15772.50	H						
17525.00	H						

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 10MHz BW LTE-Band 4

Operation Band	:BAND 4	Test Date	:2012-08-09
ARFCN	:CH 20000	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1715 MHz	Engineer	:Lion
Operation Mode	:10M 16QAM RB1,49 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
96.93	S	-45.68	-7.00	1.12	-2.72	-13.00	-32.68
175.50	S	-47.91	-2.62	3.89	-2.93	-13.00	-34.91
214.30	S	-48.56	-8.11	6.97	-3.14	-13.00	-35.56
291.90	S	-45.67	-5.97	6.72	-3.25	-13.00	-32.67
525.67	S	-50.08	-3.42	6.80	-3.77	-13.00	-37.08
564.47	S	-50.85	-1.75	6.57	-3.87	-13.00	-37.85
3430.00	H	-51.38	15.86	7.24	-6.90	-13.00	-38.38
5145.00	H						
6860.00	H						
8575.00	H						
10290.00	H						
12005.00	H						
13720.00	H						
15435.00	H						
17150.00	H						

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 10MHz BW LTE-Band 4

Operation Band	:BAND 4	Test Date	:2012-08-09
ARFCN	:CH 20000	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1715 MHz	Engineer	:Lion
Operation Mode	:10M 16QAM RB1,49 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
96.93	S	-41.14	-8.58	1.12	-2.72	-13.00	-28.14
136.70	S	-49.28	-6.15	1.01	-2.79	-13.00	-36.28
156.10	S	-50.38	-4.56	1.37	-2.93	-13.00	-37.38
175.50	S	-49.09	-5.82	3.89	-2.93	-13.00	-36.09
291.90	S	-41.37	-9.92	6.72	-3.25	-13.00	-28.37
330.70	S	-52.66	-8.53	6.81	-3.44	-13.00	-39.66
3430.00	H	-53.35	14.64	7.18	-6.90	-13.00	-40.35
5145.00	H						
6860.00	H						
8575.00	H						
10290.00	H						
12005.00	H						
13720.00	H						
15435.00	H						
17150.00	H						

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 10MHz BW LTE-Band 4

Operation Band	:BAND 4	Test Date	:2012-08-09
ARFCN	:CH 20175	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1732.5 MHz	Engineer	:Lion
Operation Mode	:10M 16QAM RB1,49 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
96.93	S	-46.50	-7.00	1.12	-2.72	-13.00	-33.50
136.70	S	-52.76	-6.29	1.01	-2.79	-13.00	-39.76
214.30	S	-48.00	-8.11	6.97	-3.14	-13.00	-35.00
291.90	S	-46.61	-5.97	6.72	-3.25	-13.00	-33.61
486.87	S	-51.77	-4.96	6.80	-3.70	-13.00	-38.77
564.47	S	-52.01	-1.75	6.57	-3.87	-13.00	-39.01
3465.00	H	-52.29	16.44	7.34	-6.92	-13.00	-39.29
5197.50	H						
6930.00	H						
8662.50	H						
10395.00	H						
12127.50	H						
13860.00	H						
15592.50	H						
17325.00	H						

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 10MHz BW LTE-Band 4

Operation Band	:BAND 4	Test Date	:2012-08-09
ARFCN	:CH 20175	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1732.5 MHz	Engineer	:Lion
Operation Mode	:10M 16QAM RB1,49 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
96.93	S	-41.60	-8.58	1.12	-2.72	-13.00	-28.60
136.70	S	-47.17	-6.15	1.01	-2.79	-13.00	-34.17
156.10	S	-50.10	-4.56	1.37	-2.93	-13.00	-37.10
175.50	S	-48.73	-5.82	3.89	-2.93	-13.00	-35.73
214.30	S	-51.85	-12.91	6.97	-3.14	-13.00	-38.85
291.90	S	-36.72	-9.92	6.72	-3.25	-13.00	-23.72
3465.00	H	-54.83	15.23	7.27	-6.92	-13.00	-41.83
5197.50	H						
6930.00	H						
8662.50	H						
10395.00	H						
12127.50	H						
13860.00	H						
15592.50	H						
17325.00	H						

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 10MHz BW LTE-Band 4

Operation Band	:BAND 4	Test Date	:2012-08-09
ARFCN	:CH 20350	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1750 MHz	Engineer	:Lion
Operation Mode	:10M 16QAM RB1,49 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
96.93	S	-46.16	-7.00	1.12	-2.72	-13.00	-33.16
136.70	S	-53.77	-6.29	1.01	-2.79	-13.00	-40.77
175.50	S	-51.14	-2.62	3.89	-2.93	-13.00	-38.14
214.30	S	-46.98	-8.11	6.97	-3.14	-13.00	-33.98
291.90	S	-47.07	-5.97	6.72	-3.25	-13.00	-34.07
564.47	S	-52.94	-1.75	6.57	-3.87	-13.00	-39.94
3500.00	H	-51.81	16.27	7.40	-6.99	-13.00	-38.81
5250.00	H						
7000.00	H						
8750.00	H						
10500.00	H						
12250.00	H						
14000.00	H						
15750.00	H						
17500.00	H						

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 10MHz BW LTE-Band 4

Operation Band	:BAND 4	Test Date	:2012-08-09
ARFCN	:CH 20350	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1750 MHz	Engineer	:Lion
Operation Mode	:10M 16QAM RB1,49 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
96.93	S	-40.81	-8.58	1.12	-2.72	-13.00	-27.81
136.70	S	-50.17	-6.15	1.01	-2.79	-13.00	-37.17
156.10	S	-50.89	-4.56	1.37	-2.93	-13.00	-37.89
175.50	S	-50.84	-5.82	3.89	-2.93	-13.00	-37.84
291.90	S	-37.88	-9.92	6.72	-3.25	-13.00	-24.88
369.50	S	-52.98	-6.50	6.80	-3.43	-13.00	-39.98
3500.00	H	-54.20	15.38	7.30	-6.99	-13.00	-41.20
5250.00	H						
7000.00	H						
8750.00	H						
10500.00	H						
12250.00	H						
14000.00	H						
15750.00	H						
17500.00	H						

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 10MHz BW LTE-Band 4

Operation Band	:BAND 4	Test Date	:2012-08-09
ARFCN	:CH 20000	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1715 MHz	Engineer	:Lion
Operation Mode	:10M 16QAM RB1,0 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
96.93	S	-45.91	-7.00	1.12	-2.72	-13.00	-32.91
136.70	S	-49.86	-6.29	1.01	-2.79	-13.00	-36.86
175.50	S	-51.35	-2.62	3.89	-2.93	-13.00	-38.35
214.30	S	-47.53	-8.11	6.97	-3.14	-13.00	-34.53
291.90	S	-46.58	-5.97	6.72	-3.25	-13.00	-33.58
564.47	S	-52.32	-1.75	6.57	-3.87	-13.00	-39.32
3430.00	H	-53.65	15.83	7.19	-6.89	-13.00	-40.65
5145.00	H						
6860.00	H						
8575.00	H						
10290.00	H						
12005.00	H						
13720.00	H						
15435.00	H						
17150.00	H						

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 10MHz BW LTE-Band 4

Operation Band	:BAND 4	Test Date	:2012-08-09
ARFCN	:CH 20000	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1715 MHz	Engineer	:Lion
Operation Mode	:10M 16QAM RB1,0 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
96.93	S	-40.53	-8.58	1.12	-2.72	-13.00	-27.53
136.70	S	-49.89	-6.15	1.01	-2.79	-13.00	-36.89
156.10	S	-50.42	-4.56	1.37	-2.93	-13.00	-37.42
175.50	S	-50.05	-5.82	3.89	-2.93	-13.00	-37.05
291.90	S	-39.24	-9.92	6.72	-3.25	-13.00	-26.24
525.67	S	-56.07	-5.01	6.80	-3.77	-13.00	-43.07
3430.00	H	-55.17	14.68	7.14	-6.89	-13.00	-42.17
5145.00	H						
6860.00	H						
8575.00	H						
10290.00	H						
12005.00	H						
13720.00	H						
15435.00	H						
17150.00	H						

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.

“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 10MHz BW LTE-Band 4

Operation Band	:BAND 4	Test Date	:2012-08-09
ARFCN	:CH 20175	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1732.5 MHz	Engineer	:Lion
Operation Mode	:10M 16QAM RB1,0 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
96.93	S	-46.13	-7.00	1.12	-2.72	-13.00	-33.13
136.70	S	-48.64	-6.29	1.01	-2.79	-13.00	-35.64
175.50	S	-51.09	-2.62	3.89	-2.93	-13.00	-38.09
214.30	S	-50.51	-8.11	6.97	-3.14	-13.00	-37.51
291.90	S	-45.37	-5.97	6.72	-3.25	-13.00	-32.37
564.47	S	-50.80	-1.75	6.57	-3.87	-13.00	-37.80
3465.00	H	-51.97	15.86	7.28	-6.99	-13.00	-38.97
5197.50	H						
6930.00	H						
8662.50	H						
10395.00	H						
12127.50	H						
13860.00	H						
15592.50	H						
17325.00	H						

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 10MHz BW LTE-Band 4

Operation Band	:BAND 4	Test Date	:2012-08-09
ARFCN	:CH 20175	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1732.5 MHz	Engineer	:Lion
Operation Mode	:10M 16QAM RB1,0 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
96.93	S	-38.55	-8.58	1.12	-2.72	-13.00	-25.55
136.70	S	-46.34	-6.15	1.01	-2.79	-13.00	-33.34
156.10	S	-48.87	-4.56	1.37	-2.93	-13.00	-35.87
175.50	S	-51.24	-5.82	3.89	-2.93	-13.00	-38.24
291.90	S	-38.34	-9.92	6.72	-3.25	-13.00	-25.34
388.90	S	-54.30	-5.98	6.86	-3.56	-13.00	-41.30
3465.00	H	-55.20	14.64	7.22	-6.99	-13.00	-42.20
5197.50	H						
6930.00	H						
8662.50	H						
10395.00	H						
12127.50	H						
13860.00	H						
15592.50	H						
17325.00	H						

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 10MHz BW LTE-Band 4

Operation Band	:BAND 4	Test Date	:2012-08-09
ARFCN	:CH 20350	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1750 MHz	Engineer	:Lion
Operation Mode	:10M 16QAM RB1,0 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
96.93	S	-46.05	-7.00	1.12	-2.72	-13.00	-33.05
136.70	S	-51.95	-6.29	1.01	-2.79	-13.00	-38.95
175.50	S	-48.06	-2.62	3.89	-2.93	-13.00	-35.06
214.30	S	-48.98	-8.11	6.97	-3.14	-13.00	-35.98
291.90	S	-45.51	-5.97	6.72	-3.25	-13.00	-32.51
525.67	S	-51.63	-3.42	6.80	-3.77	-13.00	-38.63
3500.00	H	-51.50	16.70	7.38	-7.01	-13.00	-38.50
5250.00	H						
7000.00	H						
8750.00	H						
10500.00	H						
12250.00	H						
14000.00	H						
15750.00	H						
17500.00	H						

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 10MHz BW LTE-Band 4

Operation Band	:BAND 4	Test Date	:2012-08-09
ARFCN	:CH 20350	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:1750 MHz	Engineer	:Lion
Operation Mode	:10M 16QAM RB1,0 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	EIRP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBi	dB	dBm	dB
96.93	S	-39.69	-8.58	1.12	-2.72	-13.00	-26.69
136.70	S	-48.41	-6.15	1.01	-2.79	-13.00	-35.41
156.10	S	-50.57	-4.56	1.37	-2.93	-13.00	-37.57
175.50	S	-51.96	-5.82	3.89	-2.93	-13.00	-38.96
214.30	S	-51.88	-12.91	6.97	-3.14	-13.00	-38.88
291.90	S	-38.11	-9.92	6.72	-3.25	-13.00	-25.11
3500.00	H	-52.03	15.53	7.30	-7.01	-13.00	-39.03
5250.00	H						
7000.00	H						
8750.00	H						
10500.00	H						
12250.00	H						
14000.00	H						
15750.00	H						
17500.00	H						

EIRP(dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 5MHz BW LTE-Band 17

Operation Band	:BAND 17	Test Date	:2012-08-09
ARFCN	:CH 23755	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:706.5 MHz	Engineer	:Lion
Operation Mode	:5M 16QAM RB1,24 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
96.93	S	-49.15	-7.00	-1.03	-2.72	-13.00	-36.15
136.70	S	-52.39	-6.29	-1.14	-2.79	-13.00	-39.39
175.50	S	-49.91	-2.62	1.74	-2.93	-13.00	-36.91
214.30	S	-52.53	-8.11	4.82	-3.14	-13.00	-39.53
291.90	S	-52.13	-5.97	4.57	-3.25	-13.00	-39.13
525.67	S	-53.28	-3.42	4.65	-3.77	-13.00	-40.28
1413.00	H	-63.93	12.48	2.08	-5.14	-13.00	-50.93
2119.50	H						
2826.00	H						
3532.50	H						
4239.00	H						
4945.50	H						
5652.00	H						
6358.50	H						
7065.00	H						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 5MHz BW LTE-Band 17

Operation Band	:BAND 17	Test Date	:2012-08-09
ARFCN	:CH 23755	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:706.5 MHz	Engineer	:Lion
Operation Mode	:5M 16QAM RB1,24 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
96.93	S	-42.14	-8.58	-1.03	-2.72	-13.00	-29.14
135.73	S	-50.58	-6.15	-1.08	-2.79	-13.00	-37.58
156.10	S	-51.27	-4.56	-0.78	-2.93	-13.00	-38.27
175.50	S	-53.62	-5.82	1.74	-2.93	-13.00	-40.62
291.90	S	-41.46	-9.92	4.57	-3.25	-13.00	-28.46
330.70	S	-53.66	-8.53	4.66	-3.44	-13.00	-40.66
1413.00	H	-64.67	10.57	2.08	-5.14	-13.00	-51.67
2119.50	H						
2826.00	H						
3532.50	H						
4239.00	H						
4945.50	H						
5652.00	H						
6358.50	H						
7065.00	H						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 5MHz BW LTE-Band 17

Operation Band	:BAND 17	Test Date	:2012-08-09
ARFCN	:CH 23790	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:710 MHz	Engineer	:Lion
Operation Mode	:5M 16QAM RB1,24 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
96.93	S	-48.99	-7.00	-1.03	-2.72	-13.00	-35.99
136.70	S	-54.27	-6.29	-1.14	-2.79	-13.00	-41.27
175.50	S	-52.25	-2.62	1.74	-2.93	-13.00	-39.25
214.30	S	-51.17	-8.11	4.82	-3.14	-13.00	-38.17
291.90	S	-48.39	-5.97	4.57	-3.25	-13.00	-35.39
525.67	S	-52.87	-3.42	4.65	-3.77	-13.00	-39.87
1420.00	H	-63.04	10.58	2.12	-5.14	-13.00	-50.04
2130.00	H						
2840.00	H						
3550.00	H						
4260.00	H						
4970.00	H						
5680.00	H						
6390.00	H						
7100.00	H						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 5MHz BW LTE-Band 17

Operation Band	:BAND 17	Test Date	:2012-08-09
ARFCN	:CH 23790	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:710 MHz	Engineer	:Lion
Operation Mode	:5M 16QAM RB1,24 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
96.93	S	-43.72	-8.58	-1.03	-2.72	-13.00	-30.72
136.70	S	-49.07	-6.15	-1.14	-2.79	-13.00	-36.07
156.10	S	-53.15	-4.56	-0.78	-2.93	-13.00	-40.15
175.50	S	-51.37	-5.82	1.74	-2.93	-13.00	-38.37
253.10	S	-54.69	-11.59	4.60	-3.23	-13.00	-41.69
291.90	S	-41.93	-9.92	4.57	-3.25	-13.00	-28.93
1420.00	H	-64.60	9.08	2.12	-5.14	-13.00	-51.60
2130.00	H						
2840.00	H						
3550.00	H						
4260.00	H						
4970.00	H						
5680.00	H						
6390.00	H						
7100.00	H						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 5MHz BW LTE-Band 17

Operation Band	:BAND 17	Test Date	:2012-08-09
ARFCN	:CH 23825	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:713.5 MHz	Engineer	:Lion
Operation Mode	:5M 16QAM RB1,24 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
96.93	S	-48.98	-7.00	-1.03	-2.72	-13.00	-35.98
135.73	S	-53.84	-6.29	-1.08	-2.79	-13.00	-40.84
175.50	S	-52.77	-2.62	1.74	-2.93	-13.00	-39.77
214.30	S	-50.74	-8.11	4.82	-3.14	-13.00	-37.74
291.90	S	-48.50	-5.97	4.57	-3.25	-13.00	-35.50
564.47	S	-53.40	-1.75	4.42	-3.87	-13.00	-40.40
1427.00	H	-64.43	10.58	2.17	-5.09	-13.00	-51.43
2140.50	H						
2854.00	H						
3567.50	H						
4281.00	H						
4994.50	H						
5708.00	H						
6421.50	H						
7135.00	H						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 5MHz BW LTE-Band 17

Operation Band	:BAND 17	Test Date	:2012-08-09
ARFCN	:CH 23825	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:713.5 MHz	Engineer	:Lion
Operation Mode	:5M 16QAM RB1,24 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
96.93	S	-45.89	-8.58	-1.03	-2.72	-13.00	-32.89
136.70	S	-52.39	-6.15	-1.14	-2.79	-13.00	-39.39
156.10	S	-53.40	-4.56	-0.78	-2.93	-13.00	-40.40
214.30	S	-54.38	-12.91	4.82	-3.14	-13.00	-41.38
291.90	S	-41.01	-9.92	4.57	-3.25	-13.00	-28.01
330.70	S	-55.60	-8.53	4.66	-3.44	-13.00	-42.60
1427.00	H	-65.54	9.08	2.17	-5.09	-13.00	-52.54
2140.50	H						
2854.00	H						
3567.50	H						
4281.00	H						
4994.50	H						
5708.00	H						
6421.50	H						
7135.00	H						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 5MHz BW LTE-Band 17

Operation Band	:BAND 17	Test Date	:2012-08-09
ARFCN	:CH 23755	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:706.5 MHz	Engineer	:Lion
Operation Mode	:5M 16QAM RB1,0 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
96.93	S	-49.55	-7.00	-1.03	-2.72	-13.00	-36.55
136.70	S	-53.81	-6.29	-1.14	-2.79	-13.00	-40.81
175.50	S	-51.58	-2.62	1.74	-2.93	-13.00	-38.58
214.30	S	-53.18	-8.11	4.82	-3.14	-13.00	-40.18
291.90	S	-52.57	-5.97	4.57	-3.25	-13.00	-39.57
564.47	S	-55.09	-1.75	4.42	-3.87	-13.00	-42.09
1413.00	H	-63.21	12.48	2.08	-5.14	-13.00	-50.21
2119.50	H						
2826.00	H						
3532.50	H						
4239.00	H						
4945.50	H						
5652.00	H						
6358.50	H						
7065.00	H						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 5MHz BW LTE-Band 17

Operation Band	:BAND 17	Test Date	:2012-08-09
ARFCN	:CH 23755	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:706.5 MHz	Engineer	:Lion
Operation Mode	:5M 16QAM RB1,0 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
96.93	S	-44.85	-8.58	-1.03	-2.72	-13.00	-31.85
136.70	S	-53.93	-6.15	-1.14	-2.79	-13.00	-40.93
156.10	S	-53.43	-4.56	-0.78	-2.93	-13.00	-40.43
175.50	S	-51.12	-5.82	1.74	-2.93	-13.00	-38.12
291.90	S	-42.27	-9.92	4.57	-3.25	-13.00	-29.27
369.50	S	-54.99	-6.50	4.65	-3.43	-13.00	-41.99
1413.00	H	-65.36	10.57	2.08	-5.14	-13.00	-52.36
2119.50	H						
2826.00	H						
3532.50	H						
4239.00	H						
4945.50	H						
5652.00	H						
6358.50	H						
7065.00	H						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 5MHz BW LTE-Band 17

Operation Band	:BAND 17	Test Date	:2012-08-09
ARFCN	:CH 23790	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:710 MHz	Engineer	:Lion
Operation Mode	:5M 16QAM RB1,0 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
96.93	S	-49.09	-7.00	-1.03	-2.72	-13.00	-36.09
136.70	S	-52.34	-6.29	-1.14	-2.79	-13.00	-39.34
175.50	S	-52.70	-2.62	1.74	-2.93	-13.00	-39.70
214.30	S	-51.67	-8.11	4.82	-3.14	-13.00	-38.67
291.90	S	-48.53	-5.97	4.57	-3.25	-13.00	-35.53
525.67	S	-53.37	-3.42	4.65	-3.77	-13.00	-40.37
1420.00	H	-64.02	10.58	2.12	-5.14	-13.00	-51.02
2130.00	H						
2840.00	H						
3550.00	H						
4260.00	H						
4970.00	H						
5680.00	H						
6390.00	H						
7100.00	H						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 5MHz BW LTE-Band 17

Operation Band	:BAND 17	Test Date	:2012-08-09
ARFCN	:CH 23790	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:710 MHz	Engineer	:Lion
Operation Mode	:5M 16QAM RB1,0 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
96.93	S	-42.62	-8.58	-1.03	-2.72	-13.00	-29.62
136.70	S	-51.74	-6.15	-1.14	-2.79	-13.00	-38.74
156.10	S	-51.91	-4.56	-0.78	-2.93	-13.00	-38.91
175.50	S	-53.13	-5.82	1.74	-2.93	-13.00	-40.13
291.90	S	-38.90	-9.92	4.57	-3.25	-13.00	-25.90
330.70	S	-54.09	-8.53	4.66	-3.44	-13.00	-41.09
1420.00	H	-65.22	9.08	2.12	-5.14	-13.00	-52.22
2130.00	H						
2840.00	H						
3550.00	H						
4260.00	H						
4970.00	H						
5680.00	H						
6390.00	H						
7100.00	H						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 5MHz BW LTE-Band 17

Operation Band	:BAND 17	Test Date	:2012-08-09
ARFCN	:CH 23825	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:713.5 MHz	Engineer	:Lion
Operation Mode	:5M 16QAM RB1,0 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
96.93	S	-50.78	-7.00	-1.03	-2.72	-13.00	-37.78
136.70	S	-51.94	-6.29	-1.14	-2.79	-13.00	-38.94
175.50	S	-50.32	-2.62	1.74	-2.93	-13.00	-37.32
214.30	S	-50.85	-8.11	4.82	-3.14	-13.00	-37.85
291.90	S	-49.29	-5.97	4.57	-3.25	-13.00	-36.29
369.50	S	-57.65	-6.19	4.65	-3.43	-13.00	-44.65
1427.00	H	-63.64	10.58	2.17	-5.09	-13.00	-50.64
2140.50	H						
2854.00	H						
3567.50	H						
4281.00	H						
4994.50	H						
5708.00	H						
6421.50	H						
7135.00	H						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 5MHz BW LTE-Band 17

Operation Band	:BAND 17	Test Date	:2012-08-09
ARFCN	:CH 23825	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:713.5 MHz	Engineer	:Lion
Operation Mode	:5M 16QAM RB1,0 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
96.93	S	-44.20	-8.58	-1.03	-2.72	-13.00	-31.20
135.73	S	-51.73	-6.15	-1.08	-2.79	-13.00	-38.73
175.50	S	-50.93	-5.82	1.74	-2.93	-13.00	-37.93
214.30	S	-54.75	-12.91	4.82	-3.14	-13.00	-41.75
291.90	S	-39.63	-9.92	4.57	-3.25	-13.00	-26.63
369.50	S	-55.16	-6.50	4.65	-3.43	-13.00	-42.16
1427.00	H	-65.79	9.08	2.17	-5.09	-13.00	-52.79
2140.50	H						
2854.00	H						
3567.50	H						
4281.00	H						
4994.50	H						
5708.00	H						
6421.50	H						
7135.00	H						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 10MHz BW LTE-Band 17

Operation Band	:BAND 17	Test Date	:2012-08-09
ARFCN	:CH 23780	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:709 MHz	Engineer	:Lion
Operation Mode	:10M QPSK RB1,49 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
96.93	S	-48.85	-7.00	-1.03	-2.72	-13.00	-35.85
136.70	S	-52.78	-6.29	-1.14	-2.79	-13.00	-39.78
175.50	S	-54.81	-2.62	1.74	-2.93	-13.00	-41.81
214.30	S	-52.79	-8.11	4.82	-3.14	-13.00	-39.79
291.90	S	-48.33	-5.97	4.57	-3.25	-13.00	-35.33
486.87	S	-55.31	-4.96	4.65	-3.70	-13.00	-42.31
1418.00	H	-62.45	10.58	2.12	-5.14	-13.00	-49.45
2127.00	H						
2836.00	H						
3545.00	H						
4254.00	H						
4963.00	H						
5672.00	H						
6381.00	H						
7090.00	H						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 10MHz BW LTE-Band 17

Operation Band	:BAND 17	Test Date	:2012-08-09
ARFCN	:CH 23780	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:709 MHz	Engineer	:Lion
Operation Mode	:10M QPSK RB1,49 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
96.93	S	-43.08	-8.58	-1.03	-2.72	-13.00	-30.08
136.70	S	-52.57	-6.15	-1.14	-2.79	-13.00	-39.57
156.10	S	-52.68	-4.56	-0.78	-2.93	-13.00	-39.68
291.90	S	-39.68	-9.92	4.57	-3.25	-13.00	-26.68
330.70	S	-55.00	-8.53	4.66	-3.44	-13.00	-42.00
564.47	S	-57.62	-4.67	4.42	-3.87	-13.00	-44.62
1418.00	H	-64.73	10.57	2.04	-5.14	-13.00	-51.73
2127.00	H						
2836.00	H						
3545.00	H						
4254.00	H						
4963.00	H						
5672.00	H						
6381.00	H						
7090.00	H						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 10MHz BW LTE-Band 17

Operation Band	:BAND 17	Test Date	:2012-08-09
ARFCN	:CH 23790	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:710 MHz	Engineer	:Lion
Operation Mode	:10M QPSK RB1,49 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
96.93	S	-50.84	-7.00	-1.03	-2.72	-13.00	-37.84
135.73	S	-53.44	-6.29	-1.08	-2.79	-13.00	-40.44
175.50	S	-51.34	-2.62	1.74	-2.93	-13.00	-38.34
214.30	S	-51.24	-8.11	4.82	-3.14	-13.00	-38.24
291.90	S	-47.49	-5.97	4.57	-3.25	-13.00	-34.49
486.87	S	-54.31	-4.96	4.65	-3.70	-13.00	-41.31
1420.00	H	-63.12	10.58	2.12	-5.14	-13.00	-50.12
2130.00	H						
2840.00	H						
3550.00	H						
4260.00	H						
4970.00	H						
5680.00	H						
6390.00	H						
7100.00	H						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 10MHz BW LTE-Band 17

Operation Band	:BAND 17	Test Date	:2012-08-09
ARFCN	:CH 23790	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:710 MHz	Engineer	:Lion
Operation Mode	:10M QPSK RB1,49 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
96.93	S	-44.61	-8.58	-1.03	-2.72	-13.00	-31.61
135.73	S	-52.66	-6.15	-1.08	-2.79	-13.00	-39.66
156.10	S	-53.24	-4.56	-0.78	-2.93	-13.00	-40.24
175.50	S	-51.13	-5.82	1.74	-2.93	-13.00	-38.13
291.90	S	-44.37	-9.92	4.57	-3.25	-13.00	-31.37
525.67	S	-56.99	-5.01	4.65	-3.77	-13.00	-43.99
1420.00	H	-63.65	9.08	2.12	-5.14	-13.00	-50.65
2130.00	H						
2840.00	H						
3550.00	H						
4260.00	H						
4970.00	H						
5680.00	H						
6390.00	H						
7100.00	H						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 10MHz BW LTE-Band 17

Operation Band	:BAND 17	Test Date	:2012-08-09
ARFCN	:CH 23800	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:711 MHz	Engineer	:Lion
Operation Mode	:10M QPSK RB1,49 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
96.93	S	-50.55	-7.00	-1.03	-2.72	-13.00	-37.55
136.70	S	-53.10	-6.29	-1.14	-2.79	-13.00	-40.10
175.50	S	-51.02	-2.62	1.74	-2.93	-13.00	-38.02
214.30	S	-51.34	-8.11	4.82	-3.14	-13.00	-38.34
291.90	S	-47.84	-5.97	4.57	-3.25	-13.00	-34.84
564.47	S	-53.94	-1.75	4.42	-3.87	-13.00	-40.94
1422.00	H	-63.66	10.58	2.12	-5.14	-13.00	-50.66
2133.00	H						
2844.00	H						
3555.00	H						
4266.00	H						
4977.00	H						
5688.00	H						
6399.00	H						
7110.00	H						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.
"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.
"---" : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 10MHz BW LTE-Band 17

Operation Band	:BAND 17	Test Date	:2012-08-09
ARFCN	:CH 23780	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:709 MHz	Engineer	:Lion
Operation Mode	:10M 16QAM RB1,0 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
96.93	S	-48.01	-7.00	-1.03	-2.72	-13.00	-35.01
136.70	S	-53.62	-6.29	-1.14	-2.79	-13.00	-40.62
175.50	S	-49.61	-2.62	1.74	-2.93	-13.00	-36.61
214.30	S	-51.50	-8.11	4.82	-3.14	-13.00	-38.50
291.90	S	-49.22	-5.97	4.57	-3.25	-13.00	-36.22
525.67	S	-53.19	-3.42	4.65	-3.77	-13.00	-40.19
1418.00	H	-62.92	10.58	2.12	-5.14	-13.00	-49.92
2127.00	H						
2836.00	H						
3545.00	H						
4254.00	H						
4963.00	H						
5672.00	H						
6381.00	H						
7090.00	H						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 10MHz BW LTE-Band 17

Operation Band	:BAND 17	Test Date	:2012-08-09
ARFCN	:CH 23780	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:709 MHz	Engineer	:Lion
Operation Mode	:10M 16QAM RB1,0 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
96.93	S	-43.99	-8.58	-1.03	-2.72	-13.00	-30.99
136.70	S	-52.81	-6.15	-1.14	-2.79	-13.00	-39.81
156.10	S	-52.71	-4.56	-0.78	-2.93	-13.00	-39.71
175.50	S	-53.03	-5.82	1.74	-2.93	-13.00	-40.03
291.90	S	-43.06	-9.92	4.57	-3.25	-13.00	-30.06
388.90	S	-55.48	-5.98	4.71	-3.56	-13.00	-42.48
1418.00	H	-64.94	9.08	2.12	-5.14	-13.00	-51.94
2127.00	H						
2836.00	H						
3545.00	H						
4254.00	H						
4963.00	H						
5672.00	H						
6381.00	H						
7090.00	H						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 10MHz BW LTE-Band 17

Operation Band	:BAND 17	Test Date	:2012-08-09
ARFCN	:CH 23790	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:710 MHz	Engineer	:Lion
Operation Mode	:10M 16QAM RB1,0 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
96.93	S	-47.54	-7.00	-1.03	-2.72	-13.00	-34.54
175.50	S	-53.63	-2.62	1.74	-2.93	-13.00	-40.63
214.30	S	-50.98	-8.11	4.82	-3.14	-13.00	-37.98
291.90	S	-48.50	-5.97	4.57	-3.25	-13.00	-35.50
447.10	S	-54.75	-5.25	4.48	-3.70	-13.00	-41.75
525.67	S	-55.08	-3.42	4.65	-3.77	-13.00	-42.08
1420.00	H	-63.48	10.58	2.12	-5.14	-13.00	-50.48
2130.00	H						
2840.00	H						
3550.00	H						
4260.00	H						
4970.00	H						
5680.00	H						
6390.00	H						
7100.00	H						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 10MHz BW LTE-Band 17

Operation Band	:BAND 17	Test Date	:2012-08-09
ARFCN	:CH 23790	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:710 MHz	Engineer	:Lion
Operation Mode	:10M 16QAM RB1,0 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
96.93	S	-42.42	-8.58	-1.03	-2.72	-13.00	-29.42
136.70	S	-48.24	-6.15	-1.14	-2.79	-13.00	-35.24
156.10	S	-52.00	-4.56	-0.78	-2.93	-13.00	-39.00
291.90	S	-42.94	-9.92	4.57	-3.25	-13.00	-29.94
388.90	S	-55.81	-5.98	4.71	-3.56	-13.00	-42.81
525.67	S	-56.04	-5.01	4.65	-3.77	-13.00	-43.04
1420.00	H	-65.55	9.08	2.12	-5.14	-13.00	-52.55
2130.00	H						
2840.00	H						
3550.00	H						
4260.00	H						
4970.00	H						
5680.00	H						
6390.00	H						
7100.00	H						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 10MHz BW LTE-Band 17

Operation Band	:BAND 17	Test Date	:2012-08-09
ARFCN	:CH 23800	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:711 MHz	Engineer	:Lion
Operation Mode	:10M 16QAM RB1,0 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:VERTICAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
96.93	S	-50.09	-7.00	-1.03	-2.72	-13.00	-37.09
136.70	S	-51.92	-6.29	-1.14	-2.79	-13.00	-38.92
175.50	S	-49.26	-2.62	1.74	-2.93	-13.00	-36.26
291.90	S	-47.05	-5.97	4.57	-3.25	-13.00	-34.05
486.87	S	-54.39	-4.96	4.65	-3.70	-13.00	-41.39
525.67	S	-51.61	-3.42	4.65	-3.77	-13.00	-38.61
1422.00	H	-64.47	10.58	2.12	-5.14	-13.00	-51.47
2133.00	H						
2844.00	H						
3555.00	H						
4266.00	H						
4977.00	H						
5688.00	H						
6399.00	H						
7110.00	H						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 10MHz BW LTE-Band 17

Operation Band	:BAND 17	Test Date	:2012-08-09
ARFCN	:CH 23800	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:711 MHz	Engineer	:Lion
Operation Mode	:10M 16QAM RB1,0 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
96.93	S	-43.91	-8.58	-1.03	-2.72	-13.00	-30.91
136.70	S	-50.24	-6.15	-1.14	-2.79	-13.00	-37.24
156.10	S	-53.12	-4.56	-0.78	-2.93	-13.00	-40.12
175.50	S	-50.86	-5.82	1.74	-2.93	-13.00	-37.86
214.30	S	-53.67	-12.91	4.82	-3.14	-13.00	-40.67
291.90	S	-41.08	-9.92	4.57	-3.25	-13.00	-28.08
1422.00	H	-64.91	9.08	2.12	-5.14	-13.00	-51.91
2133.00	H						
2844.00	H						
3555.00	H						
4266.00	H						
4977.00	H						
5688.00	H						
6399.00	H						
7110.00	H						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : “F” : denotes Fundamental Frequency. ; “H” : denotes Harmonic Frequency.
“E” : denotes Band Edge Frequency. ; “S” : denotes Spurious Frequency.
“---“ : denotes Noise Floor.

Radiated Spurious Emission Measurement Result: 10MHz BW LTE-Band 17

Operation Band	:BAND 17	Test Date	:2012-08-09
ARFCN	:CH 23800	Temp./Humi.	:27.1 deg_C / 63 RH
Fundamental Frequency	:711 MHz	Engineer	:Lion
Operation Mode	:10M QPSK RB1,49 TX		
EUT Pol.	:E2 PLAN	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Note	ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	F/H/E/S	dBm	dBm	dBd	dB	dBm	dB
96.93	S	-44.46	-8.58	-1.03	-2.72	-13.00	-31.46
135.73	S	-50.59	-6.15	-1.08	-2.79	-13.00	-37.59
175.50	S	-50.78	-5.82	1.74	-2.93	-13.00	-37.78
253.10	S	-55.56	-11.59	4.60	-3.23	-13.00	-42.56
291.90	S	-40.59	-9.92	4.57	-3.25	-13.00	-27.59
330.70	S	-54.63	-8.53	4.66	-3.44	-13.00	-41.63
1422.00	H	-63.92	9.08	2.12	-5.14	-13.00	-50.92
2133.00	H						
2844.00	H						
3555.00	H						
4266.00	H						
4977.00	H						
5688.00	H						
6399.00	H						
7110.00	H						

ERP(dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.
"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.
"---" : denotes Noise Floor.

12. FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT

12.1. Standard Applicable:

According to FCC §2.1055(a) (1)

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

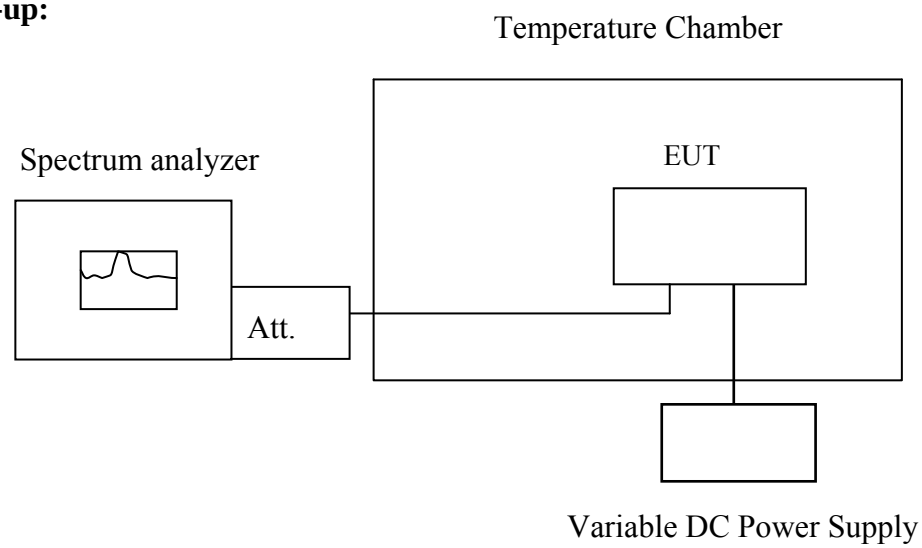
+/-2.5ppm for 1900MHz band

+/-2.5ppm for 1700MHz band

+/-2.5ppm for 700MHz band

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

12.2. Test Set-up:



Note : Measurement setup for testing on Antenna connector

12.3. 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 obLionn 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.

12.4. Measurement Equipment Used:

Refer to section 2.4 in this report

12.5. Measurement Result:

Reference Frequency: GPRS 850 Mid Channel 836.6 MHz @ 25℃				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
19	-30	836.599995	17.00	2091
19	-20	836.599998	14.00	2091
19	-10	836.600001	11.00	2091
19	0	836.600002	10.00	2091
19	10	836.600005	7.00	2091
19	20	836.600012	0.00	2091
19	30	836.600016	-4.00	2091
19	40	836.600019	-7.00	2091
19	50	836.600025	-13.00	2091

Reference Frequency: GPRS 1900 Mid Channel 1880 MHz @ 25℃				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
19	-30	1880.000001	23.00	4700
19	-20	1880.000005	19.00	4700
19	-10	1880.000010	14.00	4700
19	0	1880.000018	6.00	4700
19	10	1880.000020	4.00	4700
19	20	1880.000024	0.00	4700
19	30	1880.000028	-4.00	4700
19	40	1880.000031	-7.00	4700
19	50	1880.000038	-14.00	4700

Reference Frequency: WCDMA II Mid Channel 1880 (ARFCN9400) MHz @ 20℃				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
19	-30	1879.999990	13.00	4700
19	-20	1879.999992	11.00	4700
19	-10	1879.999995	8.00	4700
19	0	1879.999998	5.00	4700
19	10	1880.000000	3.00	4700
19	20	1880.000003	0.00	4700
19	30	1880.000005	-2.00	4700
19	40	1880.000010	-7.00	4700
19	50	1880.000015	-12.00	4700

Reference Frequency: WCDMA V Mid Channel 836.6 (ARFCN4183) MHz @ 20℃				
Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
19	-30	836.599988	11.00	2091
19	-20	836.599991	8.00	2091
19	-10	836.599992	7.00	2091
19	0	836.599995	4.00	2091
19	10	836.599996	3.00	2091
19	20	836.599999	0.00	2091
19	30	836.600001	-2.00	2091
19	40	836.600003	-4.00	2091
19	50	836.600006	-7.00	2091

Reference Frequency: LTE B4 Mid Channel 1732.5 MHz 5M QPSK CH 20175				
Limit: +/- 2.5 ppm = Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
19	-30	1732.500005	-6.00	4331
19	-20	1732.500004	-5.00	4331
19	-10	1732.500002	-3.00	4331
19	0	1732.499999	0.00	4331
19	10	1732.499998	1.00	4331
19	20	1732.499999	0.00	4331
19	30	1732.500002	-3.00	4331
19	40	1732.500002	-3.00	4331
19	50	1732.500006	-7.00	4331

Reference Frequency: LTE B4 Mid Channel 1732.5 MHz 5M 16QAM CH 20175				
Limit: +/- 2.5 ppm = Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
19	-30	1732.499995	5.00	4331
19	-10	1732.499996	4.00	4331
19	-10	1732.499998	2.00	4331
19	0	1732.500002	-2.00	4331
19	10	1732.500000	0.00	4331
19	20	1732.500000	0.00	4331
19	30	1732.499998	2.00	4331
19	40	1732.499999	1.00	4331
19	50	1732.500007	-7.00	4331

Reference Frequency: LTE B4 Mid Channel 1732.5 MHz 10M QPSK CH 20175				
Limit: +/- 2.5 ppm = Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
19	-30	1732.500006	-4.00	4331
19	-20	1732.500004	-2.00	4331
19	-10	1732.500003	-1.00	4331
19	0	1732.500001	1.00	4331
19	10	1732.500001	1.00	4331
19	20	1732.500002	0.00	4331
19	30	1732.500002	0.00	4331
19	40	1732.500002	0.00	4331
19	50	1732.500005	-3.00	4331

Reference Frequency: LTE B4 Mid Channel 1732.5 MHz 10M 16QAM CH 20175				
Limit: +/- 2.5 ppm = Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
19	-30	1732.500005	-3.00	4331
19	-20	1732.500003	-1.00	4331
19	-10	1732.500003	-1.00	4331
19	0	1732.500001	1.00	4331
19	10	1732.500002	0.00	4331
19	20	1732.500002	0.00	4331
19	30	1732.500002	0.00	4331
19	40	1732.500005	-3.00	4331
19	50	1732.500007	-5.00	4331

Reference Frequency: LTE B17 Mid Channel 710 MHz @ 5M QPSK CH 23790				
Limit: +/- 2.5 ppm = Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
19	-30	710.000006	-6.00	1775
19	-20	710.000003	-3.00	1775
19	-10	710.000003	-3.00	1775
19	0	710.000002	-2.00	1775
19	10	710.000002	-2.00	1775
19	20	710.000000	0.00	1775
19	30	710.000002	-2.00	1775
19	40	710.000004	-4.00	1775
19	50	710.000005	-5.00	1775

Reference Frequency: LTE B17 Mid Channel 710 MHz 5M 16QAM CH 23790				
Limit: +/- 2.5 ppm = Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
19	-30	709.999995	4.00	1775
19	-10	709.999996	3.00	1775
19	-10	709.999997	2.00	1775
19	0	709.999996	3.00	1775
19	10	709.999998	1.00	1775
19	20	709.999999	0.00	1775
19	30	710.000001	-2.00	1775
19	40	710.000002	-3.00	1775
19	50	710.000001	-2.00	1775

Reference Frequency: LTE B17 Mid Channel 710 MHz 10M QPSK CH 23790				
Limit: +/- 2.5 ppm = Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
19	-30	710.000008	-6.00	1775
19	-20	710.000005	-3.00	1775
19	-10	710.000002	0.00	1775
19	0	710.000000	2.00	1775
19	10	710.000001	1.00	1775
19	20	710.000002	0.00	1775
19	30	710.000002	0.00	1775
19	40	710.000003	-1.00	1775
19	50	710.000004	-2.00	1775

Reference Frequency: LTE B17 Mid Channel 710 MHz 10M 16QAM CH 23790				
Limit: +/- 2.5 ppm = Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
19	-30	709.999995	5.00	1775
19	-20	709.999997	3.00	1775
19	-10	709.999999	1.00	1775
19	0	710.000001	-1.00	1775
19	10	710.000001	-1.00	1775
19	20	710.000000	0.00	1775
19	30	709.999999	1.00	1775
19	40	709.999999	1.00	1775
19	50	710.000003	-3.00	1775

13. FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT

13.1. Standard Applicable:

According to FCC §2.1055(a) (1)

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

+/-2.5ppm for 1900MHz band

+/-2.5ppm for 1700MHz band

+/-2.5ppm for 700MHz band

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

13.2. Test Set-up:

Refer to section 10.2 in this report

13.3. Measurement Procedure:

Set chamber temperature to 25℃. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obLionn 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.

13.4. Measurement Equipment Used:

Refer to section 2.4 in this report

13.5. Measurement Result:

Reference Frequency: GPRS 850 Mid Channel 836.6 MHz @ 25℃				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
36.0	25.00	836.600024	-12.00	2091.00
19.0	25.00	836.600012	0.00	2091.00
6.0	25.00	836.600001	11.00	2091.00
5.9 (End Point)	25.00	836.599995	17.00	2091.00

Reference Frequency: GPRS 1900 Mid Channel 1880 MHz @ 25℃				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
36.0	25	1880.000048	-24.00	4700
19.0	25	1880.000024	0.00	4700
6.0	25	1879.999998	26.00	4700
5.9 (End Point)	25	1879.999988	36.00	4700

Reference Frequency: WCDMA II Mid Channel 1880 (ARFCN9400) MHz				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
36.0	25	1880.000004	-1.00	4700
19.0	25	1880.000003	0.00	4700
6.0	25	1879.999999	4.00	4700
5.9 (End Point)	25	1879.999998	5.00	4700

Reference Frequency: WCDMA V Mid Channel 836.6 (ARFCN4183) MHz				
Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
36.0	25.00	836.600002	-3.00	2091.00
19.0	25.00	836.599999	0.00	2091.00
6.0	25.00	836.599998	1.00	2091.00
5.9 (End Point)	25.00	836.599997	2.00	2091.00

Reference Frequency: LTE B4 Mid Channel 1732.5 MHz @ 25℃ 5M QPSK CH 20175				
Limit: +/- 2.5 ppm = Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
36	25.00	1732.500003	-4.00	4331
19	25.00	1732.499999	0.00	4331
6.0	25.00	1732.499996	3.00	4331
5.9 (End Point)	25.00	1732.499993	6.00	4331

Reference Frequency: LTE B4 Mid Channel 1732.5 MHz @ 25℃ 5M 16QAM CH 20175				
Limit: +/- 2.5 ppm = Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
36	25.00	1732.500006	-6.00	4331
19	25.00	1732.500000	0.00	4331
6.0	25.00	1732.499997	3.00	4331
5.9 (End Point)	25.00	1732.499995	5.00	4331

Reference Frequency: LTE B4 Mid Channel 1732.5 MHz @ 25℃ 10M QPSK CH 20175				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
36	25.00	1732.500005	-3.00	4331
19	25.00	1732.500002	0.00	4331
6.0	25.00	1732.500001	1.00	4331
5.9 (End Point)	25.00	1732.499999	3.00	4331

Reference Frequency: LTE B4 Mid Channel 1732.5 MHz @ 25℃ 10M 16QAM CH 20175				
Limit: +/- 2.5 ppm = Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
36	25	1732.500005	-4.00	4331
19	25	1732.500001	0.00	4331
6.0	25	1732.500000	1.00	4331
5.9 (End Point)	25	1732.499996	5.00	4331

Reference Frequency: LTE B17 Mid Channel 710 MHz @ 25℃ 5M QPSK CH 23790				
Limit: +/- 2.5 ppm = Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
36	25.00	710.000003	-3.00	1775
19	25.00	710.000000	0.00	1775
6.0	25.00	709.999998	2.00	1775
5.9 (End Point)	25.00	709.999993	7.00	1775

Reference Frequency: LTE B17 Mid Channel 710 MHz @ 25℃ 5M 16QAM CH 23790				
Limit: +/- 2.5 ppm = Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
36	25.00	710.000004	-5.00	1775
19	25.00	709.999999	0.00	1775
6.0	25.00	709.999996	3.00	1775
5.9 (End Point)	25.00	709.999991	8.00	1775

Reference Frequency: LTE B17 Mid Channel 710 MHz @ 25℃ 10M QPSK CH 23790				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
36	25.00	710.000005	-3.00	1775
19	25.00	710.000002	0.00	1775
6.0	25.00	710.000001	1.00	1775
5.9 (End Point)	25.00	709.999998	4.00	1775

Reference Frequency: LTE B17 Mid Channel 710 MHz @ 25℃ 10M 16QAM CH 23790				
Limit: +/- 2.5 ppm = Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
36	25	710.000006	-6.00	1775
19	25	710.000000	0.00	1775
6.0	25	710.000000	0.00	1775
5.9 (End Point)	25	709.999999	1.00	1775

14. Maximum Permissible Exposure (MPE)

Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended to comply with Section Part 22, subpart H and Part 24, subpart E of the FCC CFR 47 Rules. And RSS-102 issue 4 For 47 CFR 1.1310 Radio frequency Radiation Exposure requirement.

Special Accessories

Not available for this EUT intended for grant.

Equipment Modifications

Not available for this EUT intended for grant.

Limitation

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Averaging Time (minute)
Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*($180/f^2$)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	F/1500	30
1500-15000	/	/	1.0	30

F = frequency in MHz

* = Plane-wave equipment power density

Frequency Range (MHz)	Electric Field (V/m rms)	Magnetic Field (A/m rms)	Power Density (W/m^2)	Averaging Time (minutes)
0.003-1	280	2.19	-	6
1-10	$280/f$	$2.19/f$	-	6
10-30	28	$2.19/f$	-	6
30-300	28	0.073	2^*	6
300-1500	$1.585\ f^{0.5}$	$0.0042\ f^{0.5}$	$f/150$	6
1500-15000	61.4	0.163	10	6
15000-150000	61.4	0.163	10	$616000/f^{1.2}$
150000-300000	$0.158\ f^{0.5}$	$4.21 \times 10^{-4}\ f^{0.5}$	$6.67 \times 10^{-5}\ f$	$616000/f^{1.2}$

Note: f is frequency in MHz.

* Power density limit is applicable at frequencies greater than 100 MHz.

Maximum Permissible Exposure (MPE) Evaluation

In this application we seek approval to the VTC6110-ATT4. Based on the FCC OET Bulletin 65 Supplement C and 47 CFR §2.1091, we have concluded that the MC55i module will comply with the FCC rules on RF exposure for mobile devices in cellular band and PCS band. The following analysis will demonstrate such compliance. The analysis will be done in two US bands.

Operation in cellular band (824 – 849 MHz)

The ERP of VTC6110-ATT4 in cellular band is 22.16dBm max at GSM/GPRS mode. The resulted power density at a distance of 20 cm can be deducted as follows:

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
GPRS 850	824.20	1013	H	V	20.13	3.96	-4.22	19.87	38.45
				H	22.42	3.96	-4.22	**22.16**	38.45
	836.60	384	H	V	19.18	4.00	-4.24	18.94	38.45
				H	21.99	4.00	-4.24	21.75	38.45
	848.80	777	H	V	20.03	4.03	-4.33	19.73	38.45
				H	20.37	4.03	-4.33	20.07	38.45

ERP = 22.16 dBm = 164.43 mW

Power Density = ERP*Duty Cycle/($4\pi R^2$)

$=164.43*0.25/(4*\pi*20^2) = 0.0082$ mW/cm^2

where Duty Cycle is 0.25 for GPRS operation (class 10) and R is 20 cm.

The MPE limit for General Population/Uncontrolled Exposure is shown in the FCC OET Bulletin 65 Supplement C and can be calculated as follows:

MPE limit = 824/1500 = 0.55 mW/cm^2

As we can see the resulted power density is below the MPE limit, therefore VTC6110-ATT4 in cellular band is compliant with the FCC rules on RF exposure.

Operation in PCS band (1850 – 1910 MHz)

The EIRP of VTC6110-ATT4 in PCS band is 26.69 dBm. max. The resulted EIRP can be expressed as follows:

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
GPRS 1900	1850.20	512	H	V	28.01	4.17	-5.49	**26.69**	33.00
				H	21.24	4.51	-5.49	20.26	33.00
	1880.00	661	H	V	25.79	4.13	-5.56	24.36	33.00
				H	19.93	4.44	-5.56	18.80	33.00
	1909.80	810	H	V	26.41	4.10	-5.56	24.95	33.00
				H	18.25	4.36	-5.56	17.06	33.00

EIRP = 26.69 dBm = 466.65 mW

Power Density = EIRP*Duty Cycle/($4\pi R^2$)

=466.65*0.25/($4*\pi*20^2$) = 0.0232 mW/cm^2

where Duty Cycle is 0.25 for GPRS operation (class 10) and R is 20 cm.

The MPE limit for General Population/Uncontrolled Exposure is shown in the FCC OET Bulletin 65 Supplement C and can be calculated as follows:

MPE limit = 1.0 mW/cm^2

As we can see the resulted power density is below the MPE limit, therefore VTC6110-ATT4 in PCS band is compliant with the FCC rules on RF exposure.

The EIRP of VTC6110-ATT4 in cellular band is 23.34dBm max at HSDPA Band 2mode. The resulted power density at a distance of 20 cm can be deducted as follows:

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
HSDPA II	1852.40	9262	E2	V	24.65	4.17	-5.49	**23.34**	33.00
				H	17.81	4.51	-5.49	16.83	33.00
	1880.00	9400	E2	V	23.83	4.14	-5.56	22.41	33.00
				H	17.60	4.44	-5.56	16.47	33.00
	1907.60	9538	E2	V	23.90	4.10	-5.62	22.38	33.00
				H	14.95	4.37	-5.62	13.70	33.00

EIRP = 23.34dBm = 215.77 mW

Power Density = EIRP*Duty Cycle/($4\pi R^2$)

$=215.77*1/(4*\pi*20^2) = 0.0429$ mW/cm^2

Where Duty Cycle is 1 for HSDPA Band 2 operation and R is 20 cm.

The MPE limit for General Population/Uncontrolled Exposure is shown in the FCC OET Bulletin 65 Supplement C and can be calculated as follows:

MPE limit = 1.0 mW/cm^2

As we can see the resulted power density is below the MPE limit, therefore VTC6110-ATT4 in cellular band is compliant with the FCC rules on RF exposure.

Operation in cellular band (826.40– 846.60 MHz)

The ERP of VTC6110-ATT4 in cellular band is 16.04dBm max at HSDPA Band 5 mode. The resulted power density at a distance of 20 cm can be deducted as follows:

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
HSDPA V	826.40	4132	E2	V	14.16	3.97	-4.22	13.91	38.45
				H	16.30	3.97	-4.22	**16.04**	38.45
	836.60	4183	E2	V	12.88	4.00	-4.24	12.64	38.45
				H	15.94	4.00	-4.24	15.70	38.45
	846.60	4233	E2	V	14.10	4.02	-4.24	13.89	38.45
				H	13.89	4.02	-4.24	13.67	38.45

ERP = 16.04dBm = 40.17 mW

Power Density = EIRP*Duty Cycle/($4\pi R^2$)

=40.17*1/($4*\pi*20^2$) = 0.00799 mW/cm^2

where Duty Cycle is 1 for HSDPA Band 5 operation and R is 20 cm.

The MPE limit for General Population/Uncontrolled Exposure is shown in the FCC OET Bulletin 65 Supplement C and can be calculated as follows:

MPE limit =826.40/1500=0.55093mW/cm^2

As we can see the resulted power density is below the MPE limit, therefore VTC6110-ATT4 in cellular band is compliant with the FCC rules on RF exposure.

Operation in LTE band (1712.5 – 1752.5 MHz)

The EIRP of VTC6110-ATT4 in **LTE band 4 5MHz /QPSK/RB 1** is 20.69dBm max at LTE mode. The resulted power density at a distance of 20 cm can be deducted as follows:

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
5MHz BW LTE-Band 4 (QPSK RB 1 Offset 24)	1712.5	19975	E2	V	18.83	4.39	-5.40	17.82	30.00
				H	16.68	4.79	-5.40	16.07	30.00
	1732.5	20175	E2	V	18.94	4.35	-5.42	17.86	30.00
				H	17.97	4.78	-5.42	17.33	30.00
	1752.5	20375	E2	V	21.82	4.31	-5.44	**20.69**	30.00
				H	18.21	4.76	-5.44	17.53	30.00

EIRP = 20.69dBm = 117.22mW

Power Density = ERP*Duty Cycle/($4\pi R^2$)

=117.22*1/($4*\pi*20^2$) = 0.02332 mW/cm^2

where Duty Cycle is 1 for LTE band 4 5MHz /QPSK/RB 1 operation and R is 20 cm.

The MPE limit for General Population/Uncontrolled Exposure is shown in the FCC OET Bulletin 65 Supplement C and can be calculated as follows:

MPE limit = 1.0 mW/cm^2

As we can see the resulted power density is below the MPE limit, therefore VTC6110-ATT4 in cellular band is compliant with the FCC rules on RF exposure.

Operation in LTE band (1712.5 – 1752.5 MHz)

The EIRP of VTC6110-ATT4 in **LTE band 4 5MHz /16QAM/RB 1** band is 24.82dBm. max. The resulted power density at a distance of 20 cm can be deducted as follows:

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
5MHz BW LTE-Band 4 (16QAM RB 1 Offset 24))	1712.5	19975	E2	V	25.33	4.39	-5.40	24.32	30.00
				H	23.15	4.79	-5.40	22.54	30.00
	1732.5	20175	E2	V	25.90	4.35	-5.42	**24.82**	30.00
				H	22.62	4.78	-5.42	21.98	30.00
	1752.5	20375	E2	V	23.46	4.31	-5.44	22.33	30.00
				H	22.30	4.76	-5.44	21.63	30.00

EIRP = 23.34 dBm = 303.39 mW

Power Density = EIRP*Duty Cycle/($4\pi R^2$)

=303.39*1/($4*\pi*20^2$) = 0.0604mW/cm^2

where Duty Cycle is 1 for LTE band 4 5MHz /16QAM/RB 1 operation and R is 20 cm.

The MPE limit for General Population/Uncontrolled Exposure is shown in the FCC OET Bulletin 65 Supplement C and can be calculated as follows:

MPE limit = 1.0 mW/cm^2

As we can see the resulted power density is below the MPE limit, therefore VTC6110-ATT4 in PCS band is compliant with the FCC rules on RF exposure.

Operation in LTE band (1715 – 1750 MHz)

The EIRP of VTC6110-ATT4 **LTE band 14 10MHz /QPSK/RB 1** band is 21.05 dBm. max. The resulted power density at a distance of 20 cm can be deducted as follows:

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
10MHz BW LTE-Band 4 (QPSK RB 1 Offset 49)	1715	20000	E2	V	18.81	4.38	-5.40	17.79	30.00
				H	17.14	4.79	-5.40	16.53	30.00
	1732.5	20175	E2	V	19.06	4.34	-5.42	17.98	30.00
				H	17.61	4.78	-5.42	16.96	30.00
	1750	20350	E2	V	22.18	4.31	-5.44	**21.05**	30.00
				H	21.47	4.76	-5.44	20.79	30.00

EIRP = 21.05dBm = 127.35mW

Power Density = ERP*Duty Cycle/($4\pi R^2$)

$=127.35*1/(4*\pi*20^2) = 0.02534$ mW/cm^2

where Duty Cycle is 1 for LTE band 14 10MHz /QPSK/RB 1 operation and R is 20 cm.

The MPE limit for General Population/Uncontrolled Exposure is shown in the FCC OET Bulletin 65 Supplement C and can be calculated as follows:

MPE limit = 1.0 mW/cm^2

As we can see the resulted power density is below the MPE limit, therefore VTC6110-ATT4 in LTE band is compliant with the FCC rules on RF exposure.

Operation in LTE band (1715 – 1750 MHz)

The EIRP of VTC6110-ATT4 in **LTE band 4 10MHz /16QAM/RB 1** is 23.95 dBm max at LTE mode. The resulted power density at a distance of 20 cm can be deducted as follows:

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
10MHz BW LTE-Band 4 (16QAM RB 1 Offset 49)	1715	20000	E2	V	24.97	4.38	-5.40	**23.95**	30.00
				H	22.39	4.79	-5.40	21.78	30.00
	1732.5	20175	E2	V	24.69	4.34	-5.42	23.61	30.00
				H	21.41	4.78	-5.42	20.76	30.00
	1750	20350	E2	V	23.10	4.31	-5.44	21.97	30.00
				H	22.49	4.76	-5.44	21.81	30.00

EIRP = 23.95dBm = 248.31mW

Power Density = ERP*Duty Cycle/($4\pi R^2$)

=248.31*1/($4*\pi*20^2$) = 0.0494 mW/cm^2

where Duty Cycle is 1 for LTE band 4 10MHz /16QAM/RB 1 operation and R is 20 cm.

The MPE limit for General Population/Uncontrolled Exposure is shown in the FCC OET Bulletin 65 Supplement C and can be calculated as follows:

MPE limit =1.0 mW/cm^2

As we can see the resulted power density is below the MPE limit, therefore VTC6110-ATT4 in LTE band is compliant with the FCC rules on RF exposure.

Operation in LTE band (706.5 – 713.5 MHz)

The ERP of VTC6110-ATT4 in **LTE band 17 5MHz /QPSK/RB 1** is 15.36dBm max at LTE mode. The resulted power density at a distance of 20 cm can be deducted as follows:

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
5MHz BW LTE-Band 17 (QPSK RB 1 Offset 24)	706.5	23755	E2	V	13.87	4.10	-3.98	13.98	34.70
				H	13.40	4.10	-3.98	13.52	34.70
	710	23790	E2	V	15.08	4.05	-3.98	15.15	34.70
				H	13.81	4.05	-3.98	13.88	34.70
	713.5	23825	E2	V	15.34	4.01	-3.98	**15.36**	34.70
				H	14.15	4.01	-3.98	14.18	34.70

ERP = 15.36dBm = 34.36mW

Power Density = ERP*Duty Cycle/($4\pi R^2$)

$=34.36*1/(4*\pi*20^2) = 0.00684$ mW/cm^2

where Duty Cycle is 1 for LTE band 17 5MHz /QPSK/RB 1 operation and R is 20 cm.

The MPE limit for General Population/Uncontrolled Exposure is shown in the FCC OET Bulletin 65 Supplement C and can be calculated as follows:

MPE limit =706.5/1500=0.471 mW/cm^2

As we can see the resulted power density is below the MPE limit, therefore VTC6110-ATT4 in LTE band is compliant with the FCC rules on RF exposure.

Operation in LTE band (706.5 – 713.5 MHz)

The ERP of VTC6110-ATT4 in **LTE band 17 5MHz /16QAM/RB 1** is 15.86dBm max at LTE mode. The resulted power density at a distance of 20 cm can be deducted as follows:

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
5MHz BW LTE-Band 17 (16 QAM RB 1 Offset 24)	706.5	23755	E2	V	15.80	4.05	-3.98	**15.86**	34.70
				H	14.40	4.04	-3.98	14.45	34.70
	710	23790	E2	V	15.77	4.00	-3.98	15.79	34.70
				H	14.77	4.00	-3.98	14.78	34.70
	713.5	23825	E2	V	15.14	3.95	-3.98	15.11	34.70
				H	14.33	3.95	-3.98	14.30	34.70

ERP = 15.86dBm = 38.55mW

Power Density = ERP*Duty Cycle/($4\pi R^2$)

$=38.55*1/(4*\pi*20^2) = 0.00767$ mW/cm^2

where Duty Cycle is 1 for LTE band 17 5MHz /16QAM/RB 1 operation and R is 20 cm.

The MPE limit for General Population/Uncontrolled Exposure is shown in the FCC OET Bulletin 65 Supplement C and can be calculated as follows:

MPE limit =706.5/1500=0.471mW/cm^2

As we can see the resulted power density is below the MPE limit, therefore VTC6110-ATT4 in LTE band is compliant with the FCC rules on RF exposure.

Operation in LTE band (709 – 711 MHz)

The ERP of VTC6110-ATT4 in **LTE band 17 10MHz /QPSK/RB 1** is 16.30dBm max at LTE mode. The resulted power density at a distance of 20 cm can be deducted as follows:

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
10MHz BW LTE-Band 17 (16 QPSK RB 1 Offset 49)	709	23780	E2	V	15.14	3.98	-3.98	15.14	34.70
				H	14.06	3.98	-3.98	14.06	34.70
	710	23790	E2	V	16.31	3.97	-3.98	**16.30**	34.70
				H	14.20	3.97	-3.98	14.19	34.70
	711	23800	E2	V	15.25	3.95	-3.98	15.22	34.70
				H	14.39	3.96	-3.98	14.37	34.70

ERP = 16.30dBm = 42.66mW

Power Density = ERP*Duty Cycle/($4\pi R^2$)

$=42.66*1/(4*\pi*20^2) = 0.00849$ mW/cm^2

where Duty Cycle is 1 for LTE band 17 10MHz /QPSK/RB 1 operation and R is 20 cm.

The MPE limit for General Population/Uncontrolled Exposure is shown in the FCC OET Bulletin 65 Supplement C and can be calculated as follows:

MPE limit =709/1500=0.473 mW/cm^2

As we can see the resulted power density is below the MPE limit, therefore VTC6110-ATT4 in cellular band is compliant with the FCC rules on RF exposure.

Operation in LTE band (709 – 711 MHz)

The ERP of VTC6110-ATT4 in **LTE band 17 10MHz /16QAM/RB 1** is 16.17dBm max at LTE mode. The resulted power density at a distance of 20 cm can be deducted as follows:

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
10MHz BW LTE-Band 17 (16 QPSK RB 1 Offset 49)	709	23780	E2	V	16.17	3.98	-3.98	**16.17**	34.70
				H	15.07	3.98	-3.98	15.07	34.70
	710	23790	E2	V	15.78	3.97	-3.98	15.77	34.70
				H	14.31	3.97	-3.98	14.30	34.70
	711	23800	E2	V	15.80	3.96	-3.98	15.77	34.70
				H	14.40	3.96	-3.98	14.38	34.70

ERP = 16.17dBm = 41.40mW

Power Density = ERP*Duty Cycle/($4\pi R^2$)

$=41.40*1/(4*\pi*20^2) = 0.00824$ mW/cm^2

where Duty Cycle is 1 for LTE band 17 10MHz /16QAM/RB 1 operation and R is 20 cm.

The MPE limit for General Population/Uncontrolled Exposure is shown in the FCC OET Bulletin 65 Supplement C and can be calculated as follows:

MPE limit =709/1500=0.473 mW/cm^2

As we can see the resulted power density is below the MPE limit, therefore VTC6110-ATT4 in cellular band is compliant with the FCC rules on RF exposure.

Operation if simultaneous transmission is applicable

As per KDB 447498, if transmitter of usage in mobile exposure conditions allows simultaneous transmission, then the summation effect on collocation MPE must be considered and combinational table of calculation in determination for simultaneous transmission of MPE compliance are needed to be presented as required by FCC.

** Please note that the table of calculation only present the combination that yield the worst-case scenario.*

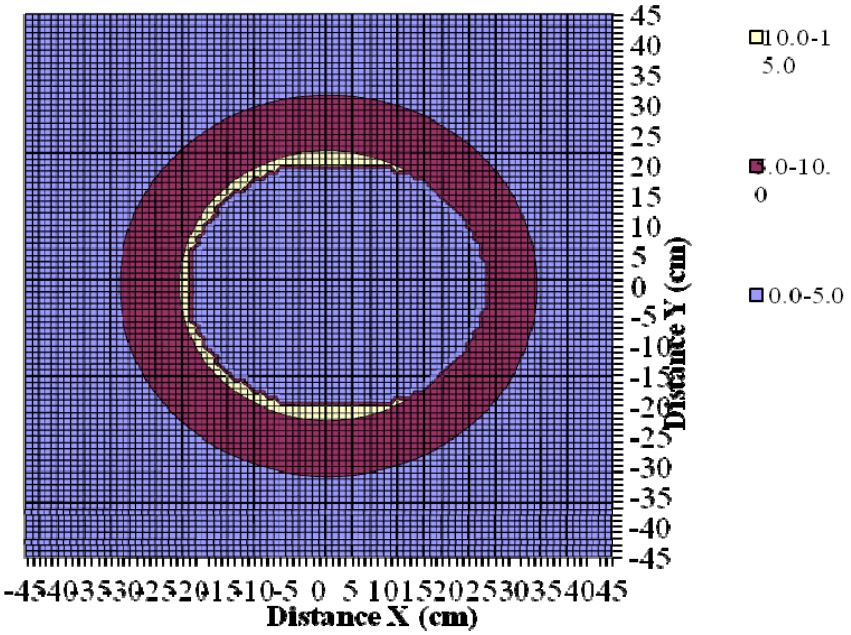
Please refer to the internal photo for the indication of inter-distance of transmitting antenna, while incorporating it to calculate the compliance of collocated MPE that determines the compliance collocated impact on RF exposure compliance.
Conclusion of the analysis on collocated MPE: By inspection of percent MPE contour plot, the boundary with respect to operating transmitting antenna is cycle type, and thus, the incorporation of multiple transmitting that incur collocated MPE at far-field remains compliant with RF exposure

GPRS850 + IEEE 802.11b

Antenna No.		Total	1	2
Tx Status			On	On
Frequency	MHz		824.2	2412
MPE Limit	mW/cm^2		0.55	1.00
Max % MPE	%	12.5	9.4	3.1
Power	(W)	0.214	0.164	0.050
Antenna Gain	dBi		2.00	5.00
EIRP	(W)	0.42	0.260	0.158
X	(cm)		0.0	5.6
Y	(cm)		0.0	0.0
Sector			FALSE	FALSE
Arc			FALSE	FALSE
θ_1	degs	input	-120	-120
θ_2			60	60
θ_1		actual	-120	-120
θ_2			60	60

% MPE Contour

Note: The 0% contour surrounding

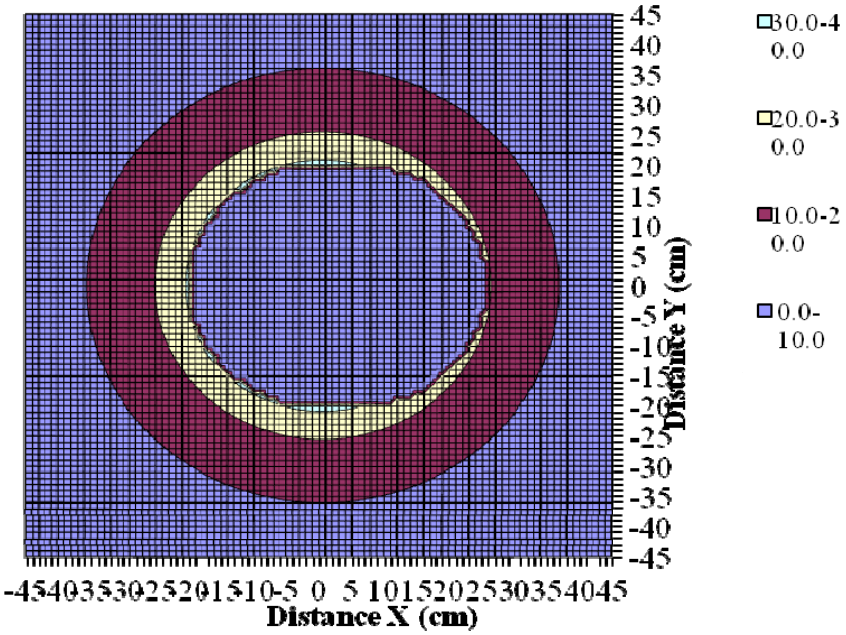


GPRS1900 + IEEE 802.11b

Antenna No.		Total	1	2
Tx Status			On	On
Frequency	MHz		1850.2	2412
MPE Limit	mW/cm^2		1.00	1.00
Max % MPE	%	32.3	29.4	3.1
Power	(W)	0.517	0.467	0.050
Antenna Gain	dBi		5.00	5.00
EIRP	(W)	1.63	1.477	0.158
X	(cm)		0.0	5.6
Y	(cm)		0.0	0.0
Sector			FALSE	FALSE
Arc			FALSE	FALSE
θ_1	degs	input	-120	-120
θ_2			60	60
θ_1		actual	-120	-120
θ_2			60	60

% MPE Contour

Note: The 0% contour surrounding

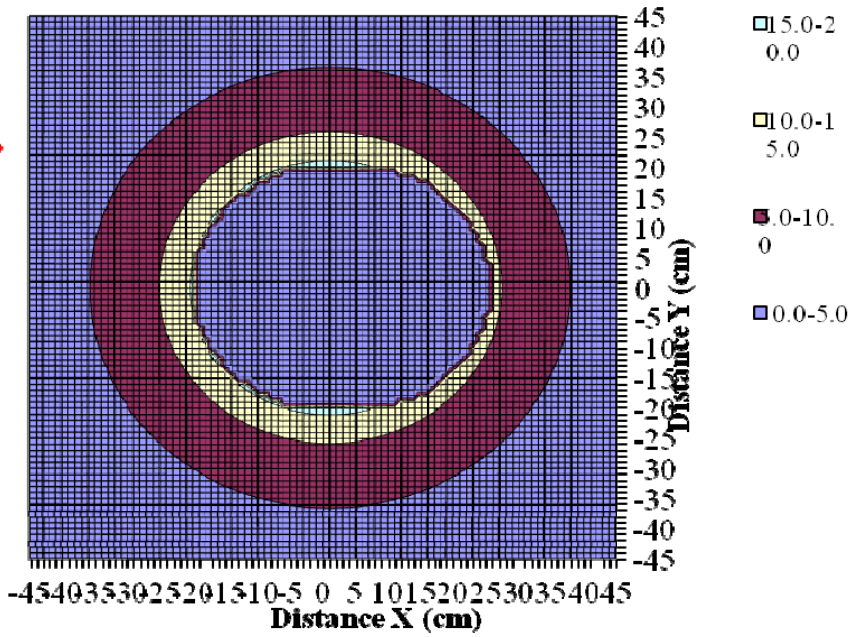


HSDPA II + IEEE 802.11b

Antenna No.		Total	1	2
Tx Status			On	On
Frequency	MHz		1852.4	2412
MPE Limit	mW/cm^2		1.00	1.00
Max % MPE	%	16.5	13.6	3.1
Power	(W)	0.266	0.216	0.050
Antenna Gain	dBi		5.00	5.00
EIRP	(W)	0.84	0.683	0.158
X	(cm)		0.0	5.6
Y	(cm)		0.0	0.0
Sector			FALSE	FALSE
Arc			FALSE	FALSE
θ_1	degs	input	-120	-120
θ_2			60	60
θ_1		actual	-120	-120
θ_2			60	60

% MPE Contour

Note: The 0% contour surrounding

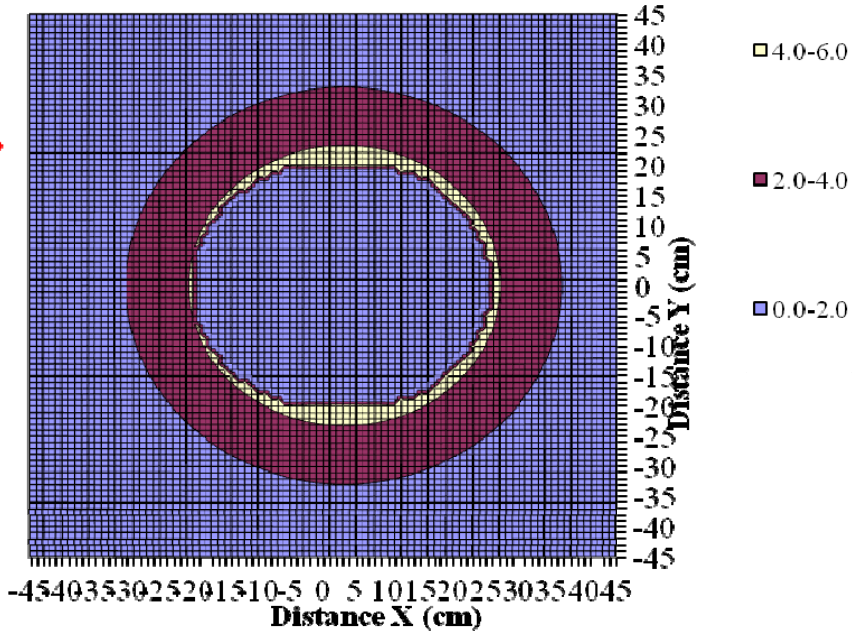


HSDPA V + IEEE 802.11b

Antenna No.		Total	1	2
Tx Status			On	On
Frequency	MHz		826.4	2412
MPE Limit	mW/cm^2		0.55	1.00
Max % MPE	%	5.3	2.3	3.1
Power	(W)	0.090	0.040	0.050
Antenna Gain	dBi		2.00	5.00
EIRP	(W)	0.22	0.063	0.158
X	(cm)		0.0	5.6
Y	(cm)		0.0	0.0
Sector			FALSE	FALSE
Arc			FALSE	FALSE
θ_1	degs	input	-120	-120
θ_2			60	60
θ_1		actual	-120	-120
θ_2			60	60

% MPE Contour

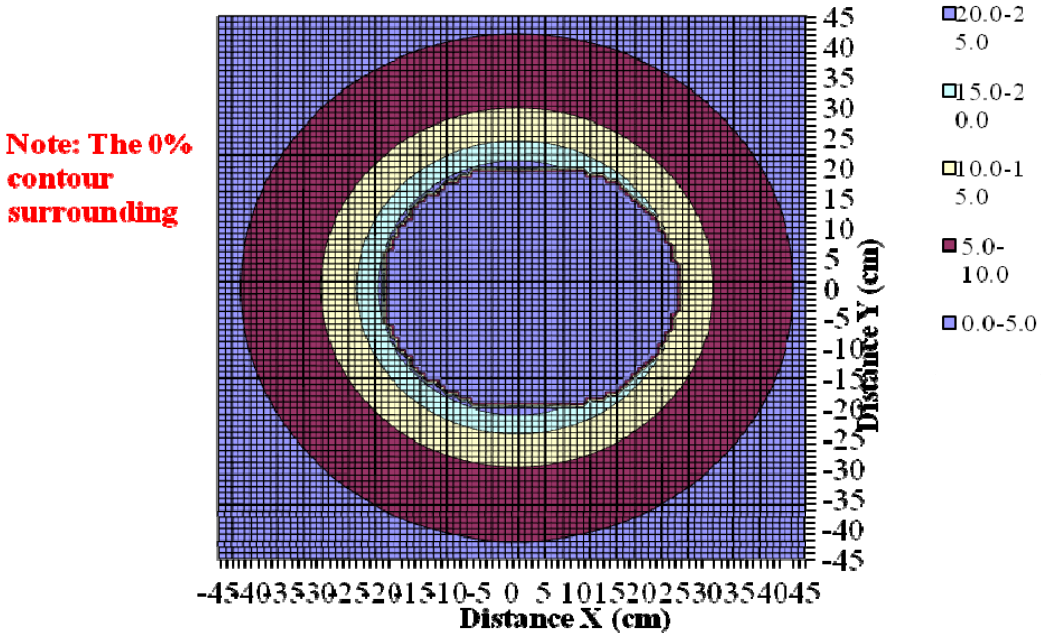
Note: The 0% contour surrounding



LTE Band 4 5MHz (16QAM RB 1 / Offset 24) + IEEE 802.11b

Antenna No.		Total	1	2
Tx Status			On	On
Frequency	MHz		1732.5	2412
MPE Limit	mW/cm^2		1.00	1.00
Max % MPE	%	22.0	19.1	3.1
Power	(W)	0.353	0.303	0.050
Antenna Gain	dBi		5.00	5.00
EIRP	(W)	1.12	0.958	0.158
X	(cm)		0.0	5.6
Y	(cm)		0.0	0.0
Sector			FALSE	FALSE
Arc			FALSE	FALSE
θ_1	degs	input	-120	-120
θ_2			60	60
θ_1		actual	-120	-120
θ_2			60	60

% MPE Contour



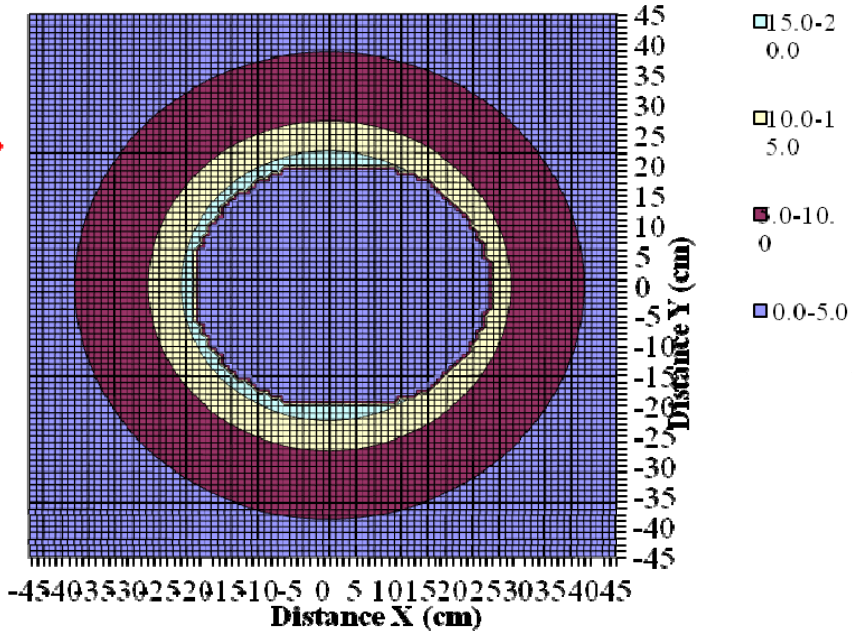
Note: The 0% contour surrounding

LTE Band 4 10MHz (16QAM RB 1 / Offset 49) + IEEE 802.11b

Antenna No.		Total	1	2
Tx Status			On	On
Frequency	MHz		1715	2412
MPE Limit	mW/cm^2		1.00	1.00
Max % MPE	%	18.6	15.6	3.1
Power	(W)	0.298	0.248	0.050
Antenna Gain	dBi		5.00	5.00
EIRP	(W)	0.94	0.784	0.158
X	(cm)		0.0	5.6
Y	(cm)		0.0	0.0
Sector			FALSE	FALSE
Arc			FALSE	FALSE
θ_1	degs	input	-120	-120
θ_2			60	60
θ_1		actual	-120	-120
θ_2			60	60

% MPE Contour

Note: The 0% contour surrounding

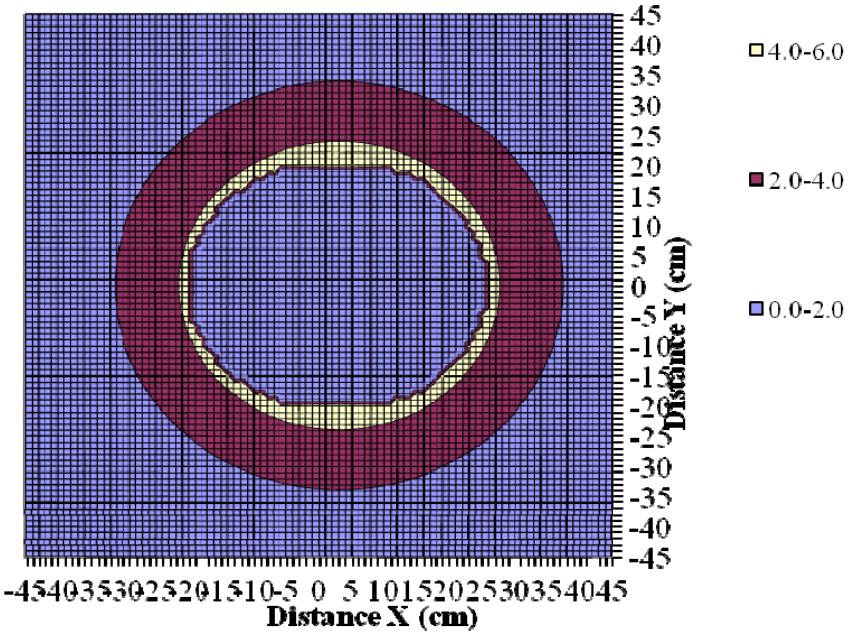


LTE Band 17 5MHz (16QAM RB 1 / Offset 24) + IEEE 802.11b

Antenna No.		Total	1	2
Tx Status			On	On
Frequency	MHz		706.5	2412
MPE Limit	mW/cm^2		0.47	1.00
Max % MPE	%	5.6	2.6	3.1
Power	(W)	0.089	0.039	0.050
Antenna Gain	dBi		2.00	5.00
EIRP	(W)	0.22	0.062	0.158
X	(cm)		0.0	5.6
Y	(cm)		0.0	0.0
Sector			FALSE	FALSE
Arc			FALSE	FALSE
θ_1	degs	input	-120	-120
θ_2			60	60
θ_1		actual	-120	-120
θ_2			60	60

% MPE Contour

Note: The 0% contour surrounding

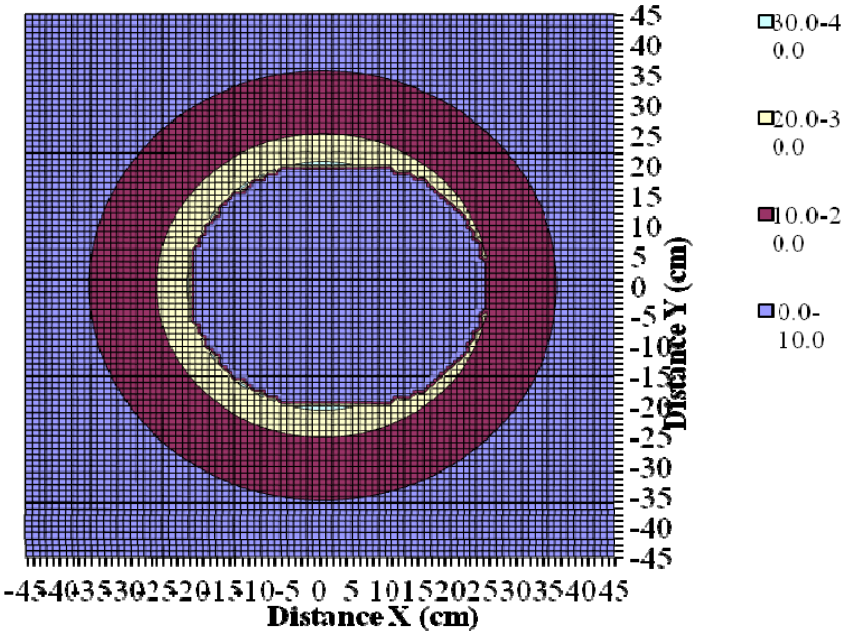


LTE Band 17 10MHz (QPSK RB 1 / Offset 49) + IEEE 802.11b

Antenna No.		Total	1	2
Tx Status			On	On
Frequency	MHz		710	2412
MPE Limit	mW/cm^2		0.47	1.00
Max % MPE	%	31.6	28.6	3.1
Power	(W)	0.480	0.430	0.050
Antenna Gain	dBi		2.00	5.00
EIRP	(W)	0.84	0.682	0.158
X	(cm)		0.0	5.6
Y	(cm)		0.0	0.0
Sector			FALSE	FALSE
Arc			FALSE	FALSE
θ_1	degs	input	-120	-120
θ_2			60	60
θ_1		actual	-120	-120
θ_2			60	60

% MPE Contour

Note: The 0% contour surrounding



~ End of Report ~