Lab Code: 200707-0

FCC PART 27

MEASUREMENT AND TEST REPORT

For

JDTECK INC

107 South Hoagland Blvd, Kissimmee FL

FCC ID: SQX-JD60-9-AWS-LC

Report Type:	**Product Type:**
Original Report	Wireless Cellular Repeater

Test Engineer:	Felix Li
Report Number:	RSZ111102007-00
Report Date:	2012-02-01
Reviewed By:	Merry Zhao EMC Engineer
Prepared By:	Bay Area Compliance Laboratories Corp. (Shenzhen) 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China Tel: +86-755-33320018 Fax: +86-755-33320008 www.baclcorp.com.cn

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GENERAL INFORMATION

Product Description for Equipment Under Test (EUT)

The *JDTECK INC*'s product, model number: *JD60-9-AWS-LC (FCC ID: SQX-JD60-9-AWS-LC)* or the ("EUT") as referred to in this report is a *Wireless Cellular Repeater*, which was measured approximately: 45.0 cm (L) x 26.0 cm (W) x 5.5 cm (H), rated input voltage: DC 12V from adapter.

Adapter Information: AC/DC ADAPTER
Model: GM-120600
Input: 100-240V 50/60Hz
Output: DC 12 V 6.0A

Frequency Range: 1710-1755 MHz (Uplink), 2110-2155 MHz (Downlink)

Transmitter Output Power:

WCDMA: 20±1dBm (Uplink)； 29±1 dBm (Downlink)

CDMA : 20±1 dBm (Uplink)； 29±1 dBm (Downlink)

** All measurement and test data in this report was gathered from production sample serial number: 1110121 (Assigned by BACL, Shenzhen). The EUT was received on 2011-10-02.*

Objective

This report is prepared on behalf of *JDTECK INC* in accordance with Part 2, Part 27 of the Federal Communication Commissions rules.

The objective is to determine the compliance of EUT with FCC rules for output power, modulation characteristic, occupied bandwidth, spurious emission at antenna terminal, spurious radiated emission, frequency stability, and band edge.

Related Submittal(s)/Grant(s)

No Related Submittal.

Test Methodology

All tests and measurements indicated in this document were performed in accordance with the Code of Federal Regulations Title 47 Part 2, Sub-part J as well as the following parts:

Part 27 – Miscellaneous wireless communications services

Applicable Standards: TIA-1037, TIA/EIA 603-C.

All radiated and conducted emissions measurements were performed at Bay Area Compliance Laboratories Corp. (Shenzhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect radiated and conducted emission measurement data is located in the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China.

Test site at Bay Area Compliance Laboratories Corp. (Shenzhen) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on December 06, 2010. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2009.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, Bay Area Compliance Laboratories Corp. (Shenzhen) is an ISO/IEC 17025 guide accredited laboratory, and is accredited by National Voluntary Laboratory Accredited Program (Lab Code 200707-0).

The current scope of accreditations can be found at http://ts.nist.gov/Standards/scopes/2007070.htm

SYSTEM TEST CONFIGURATION

Justification

The EUT was configured for testing according to TIA/EIA-603-C.

The final qualification test was performed with the EUT operating at normal mode.

Equipment Modifications

No modification was made to the EUT.

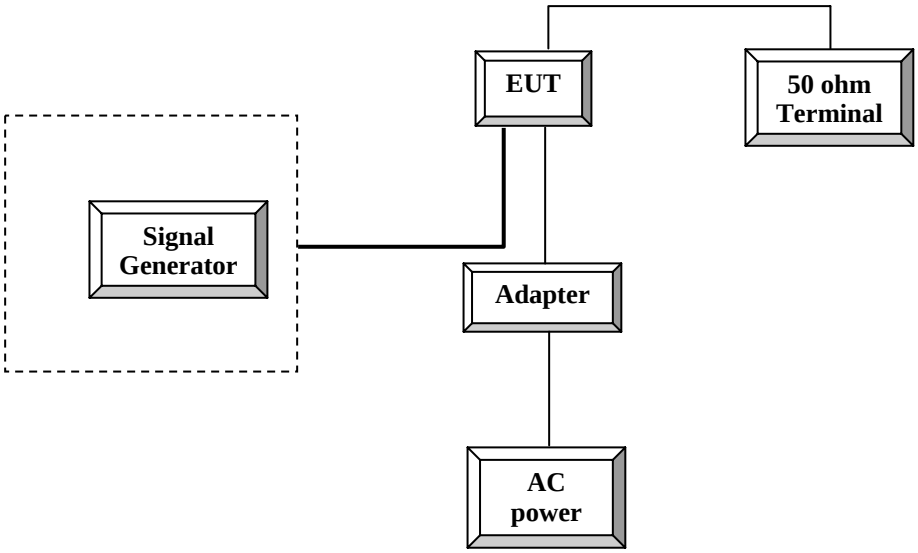
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
R&S	Universal Radio Communication Tester (Signal Generator)	CMU200	109038
Agilent	ESG-D Series Signal Generator	E4432B	GB40051703

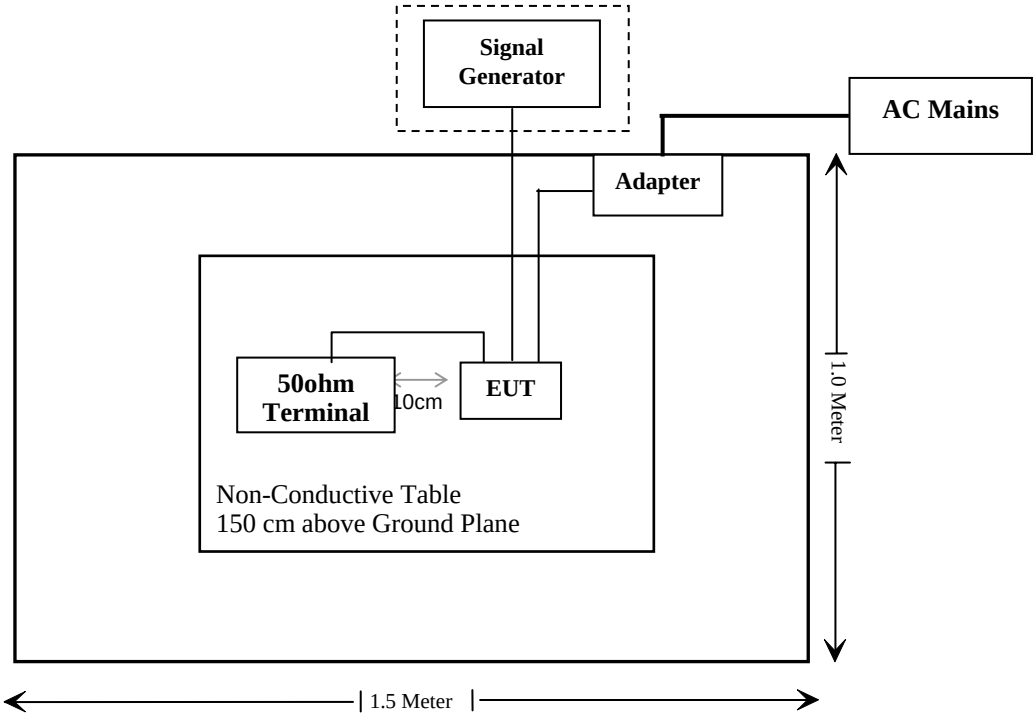
External I/O Cable

Cable Description	Length (m)	From Port	To
Unshielded Detachable Power Cable	1.70	AC power	Adapter
Unshielded Detachable Power Cable	1.30	Adapter	EUT
Coaxial Cable	1.20	Signal Generator	EUT
Coaxial Cable	1.20	RF Terminal	EUT

Configuration of Test Setup



Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§1.1307 (b)(1), §2.1091	Maximum Permissible exposure (MPE)	Compliance
§ 2.1047	Modulation Characteristics	Not Applicable
§2.1046; § 27.50(d)	RF Output Power	Compliance
§ 2.1049; §27.53(h)	99% & 26 dB Occupied Bandwidth	Compliance
§ 2.1051; § 27.53(h)	Spurious Emissions at Antenna Terminal	Compliance
§ 2.1053; § 27.53(h)	Spurious Radiation Emission	Compliance
§ 27.53(h)	Band Edge	Compliance
§ 2.1055; § 27.54	Frequency stability vs. temperature Frequency stability vs. voltage	Not Applicable *

Note: * the device is a repeater.

FCC §1.1307 (b) (1) & §2.1091- MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to subpart 1.1307 (b)(1), 2.1091 systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to RF energy level in excess of the communication guidelines.

Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (V/m)**	**Magnetic Field Strength (A/m)**	**Power Density (mw/cm^2)**	**Averaging Time (Minutes)**
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
1500-100,000	/	/	1.0	30

f = frequency in MHz
* = Plane-wave equivalent power density

Test Data

Predication of MPE limit at a given distance

$$S = PG/4\pi R^2$$

Where:

S = power density (in appropriate units, e.g. mW/cm^2)
P = power input to the antenna (in appropriate units, e.g., mW).
G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally ***numeric*** gain.
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

WCDMA:

Mode	**Frequency (MHz)**	**Antenna Gain**		**Conducted Power**		**Evaluation Distance (cm)**	**Power Density (mW/cm^2)**	**MPE Limit (mW/cm^2)**
		(dBi)	**(numeric)**	**(dBm)**	**(mW)**			
Uplink	1732.4	9.5	8.91	19.47	88.51	20	0.157	1.000
Downlink	2132.4	3.0	2.00	28.42	695.02	20	0.276	1.000

CDMA

Mode	**Frequency (MHz)**	**Antenna Gain**		**Conducted Power**		**Evaluation Distance (cm)**	**Power Density (mW/cm^2)**	**MPE Limit (mW/cm^2)**
		(dBi)	**(numeric)**	**(dBm)**	**(mW)**			
Uplink	1732.5	9.5	8.91	20.45	110.91	20	0.197	1.000
Downlink	2132.5	3.0	2.00	28.49	706.32	20	0.281	1.000

Result: compliant

FCC §2.1047 - MODULATION CHARACTERISTIC

According to FCC § 2.1047(d), Part 27 C there is no specific requirement for digital modulation, therefore modulation characteristic is not presented.

FCC § 2.1046, § 27.50 (d) – RF OUTPUT POWER

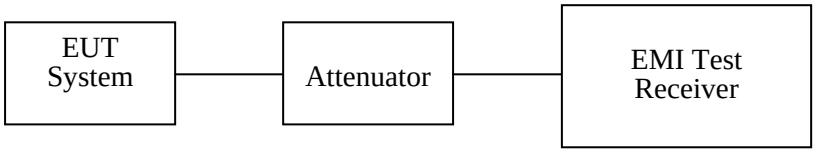
Applicable Standard

According to FCC §2.1046 and §27.50(d),

Test Procedure

Conducted method:

The RF output port of the EUT system was connected to the wireless test set and the EMI test receiver through sufficient attenuation.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Signal Analyzer	FSIQ 26	609358	2011-07-08	2012-07-07
Rohde & Schwarz	EMI Test Receiver	ESCI	100224	2011-11-11	2012-11-10
Agilent	PSA Series Spectrum Analyzer	E4443A	MY45300749	2011-10-28	2012-10-27
Agilent	ESG-D Series Signal Generator	E4432B	GB40051703	2011-10-28	2012-10-27

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Data

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	56 %
ATM Pressure:	100.0kPa

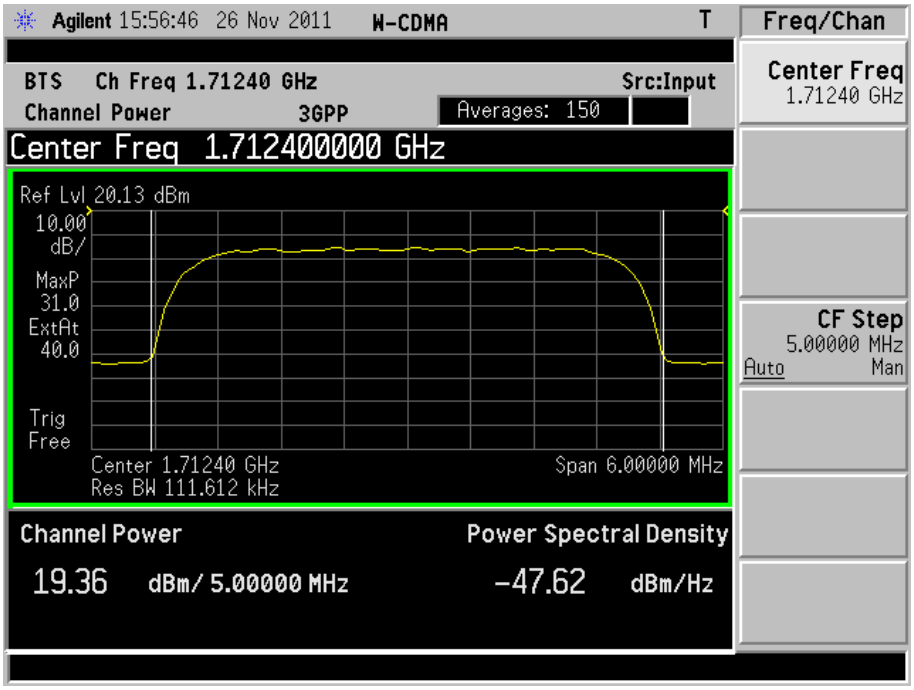
The testing was performed by Felix Li from 2011-11-26 to 2012-01-19.

WCDMA foe AWS Band:

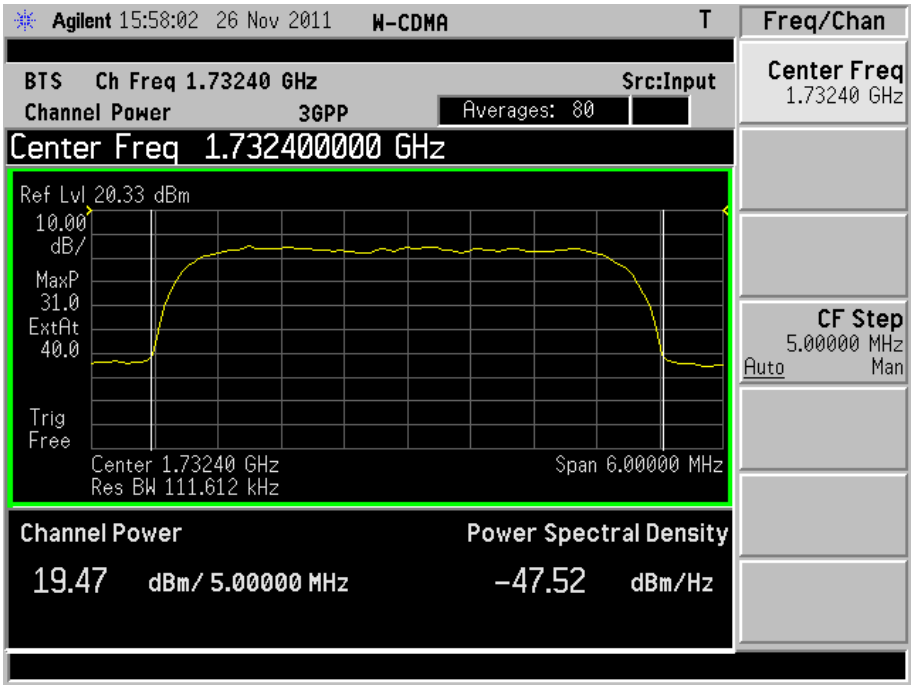
Mode	Channel	Channel Frequency (MHz)	Output Power (dBm)	Result
Uplink (1710-1755)MHz	Low	1712.4	19.36	Compliance
	Mid	1732.4	19.47	Compliance
	High	1752.6	19.12	Compliance
Downlink (2110-2155)MHz	Low	2112.4	28.10	Compliance
	Mid	2132.4	28.42	Compliance
	High	2152.6	28.28	Compliance

Uplink mode:

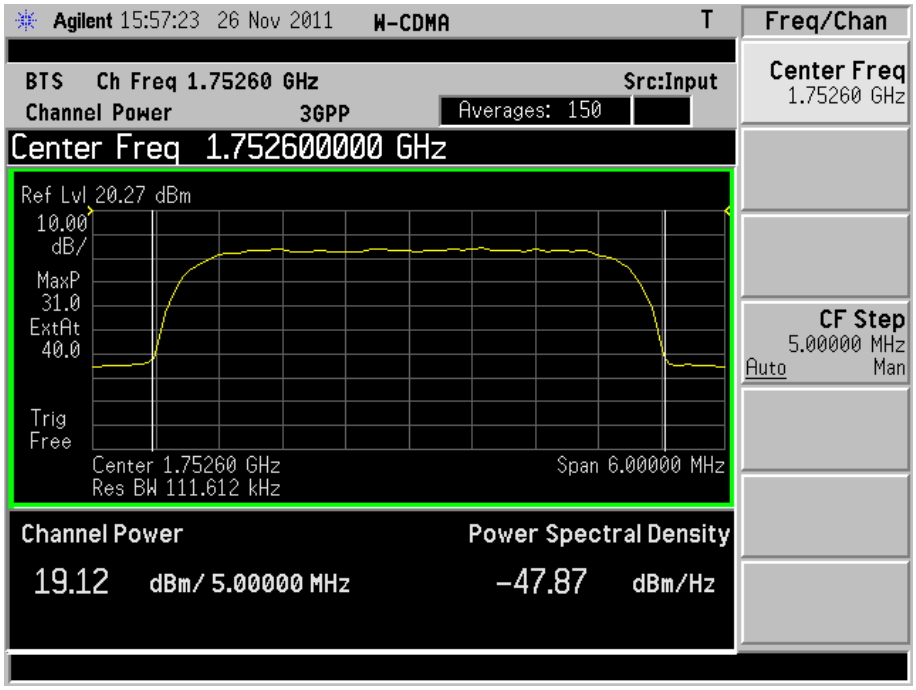
Low Channel



Middle Channel

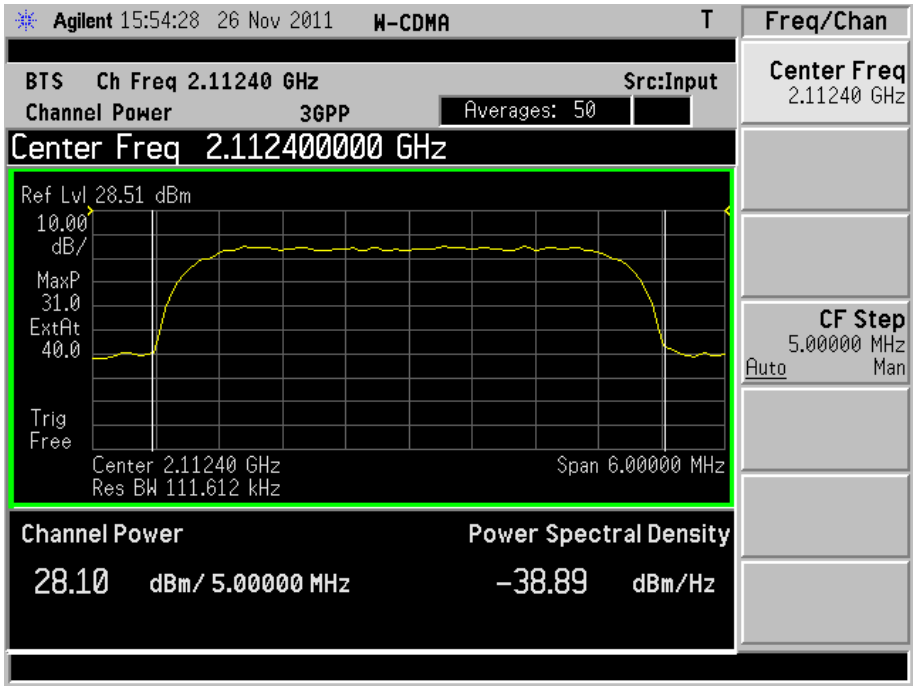


High Channel

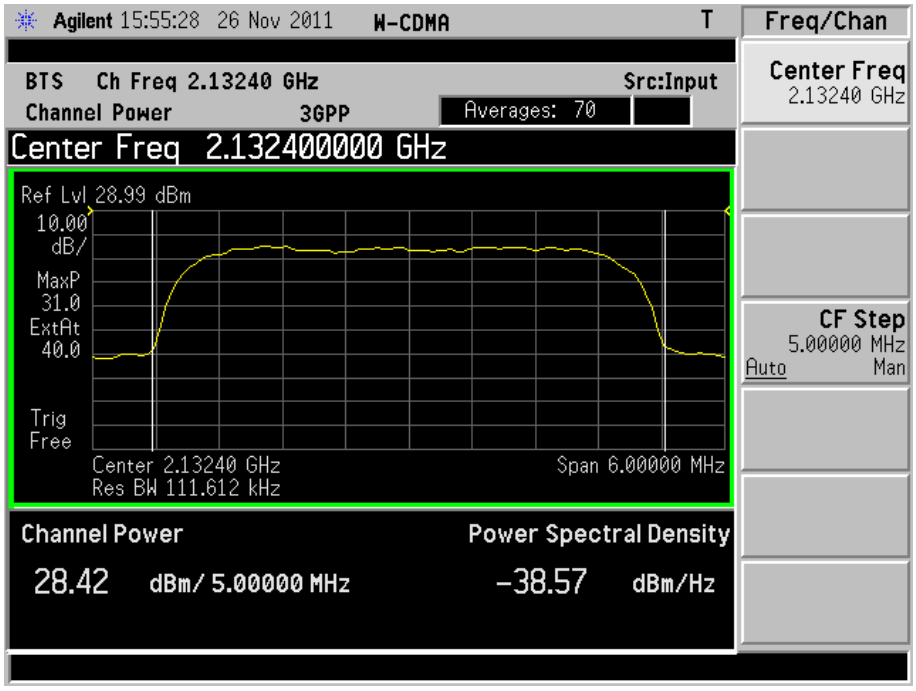


Downlink mode:

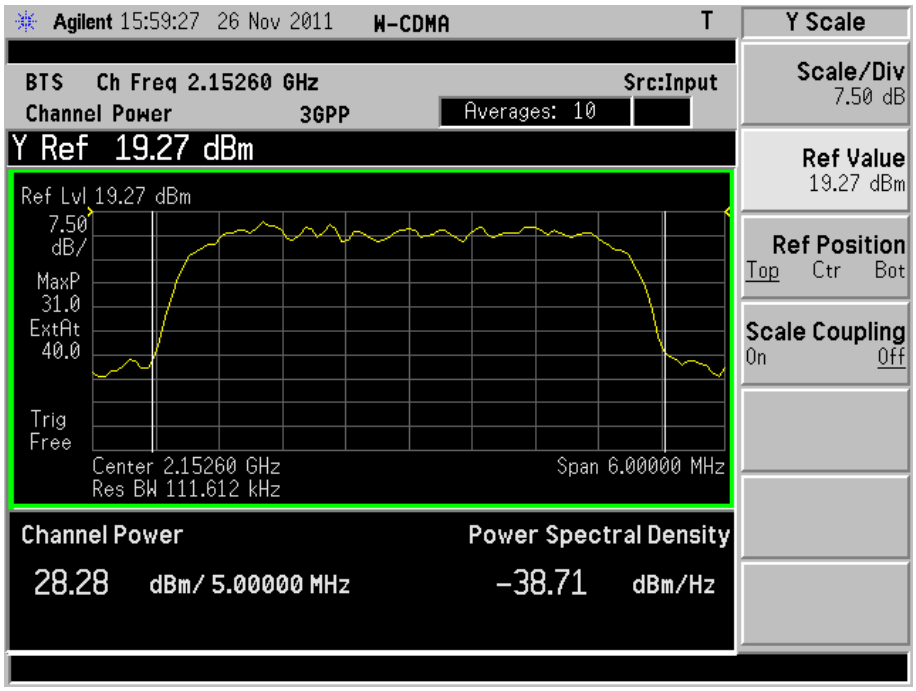
Low Channel



Middle Channel



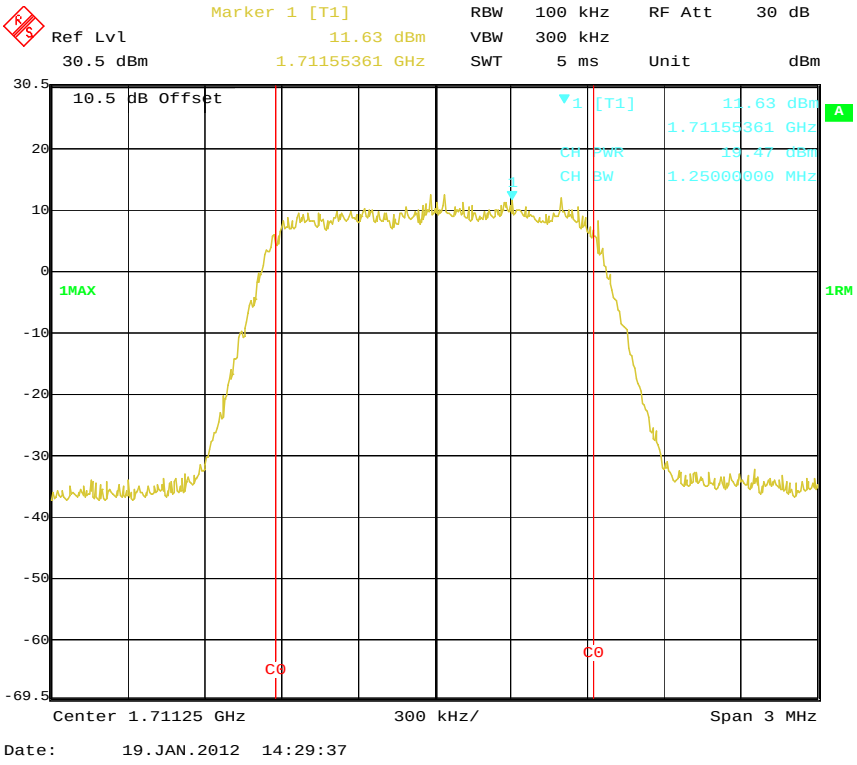
High Channel



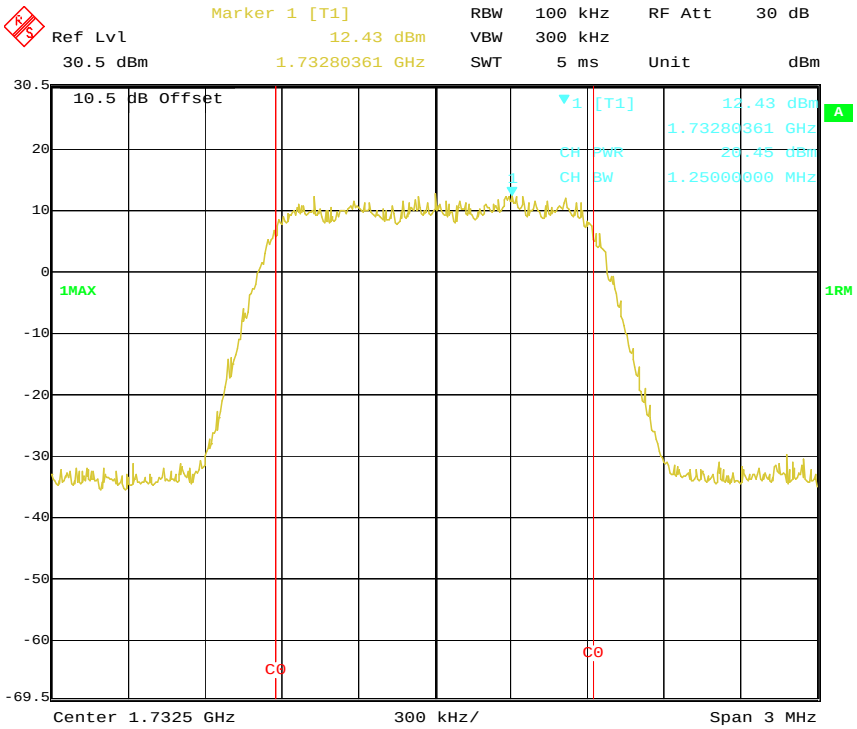
CDMA for AWS band:

Mode	Channel	Channel Frequency (MHz)	Output Power (dBm)	Result
Uplink (1710-1755)MHz	Low	1711.25	19.47	Compliance
	Mid	1732.50	20.45	Compliance
	High	1753.75	19.97	Compliance
Downlink (2110-2155)MHz	Low	2111.25	28.25	Compliance
	Mid	2132.25	28.49	Compliance
	High	2153.75	28.33	Compliance

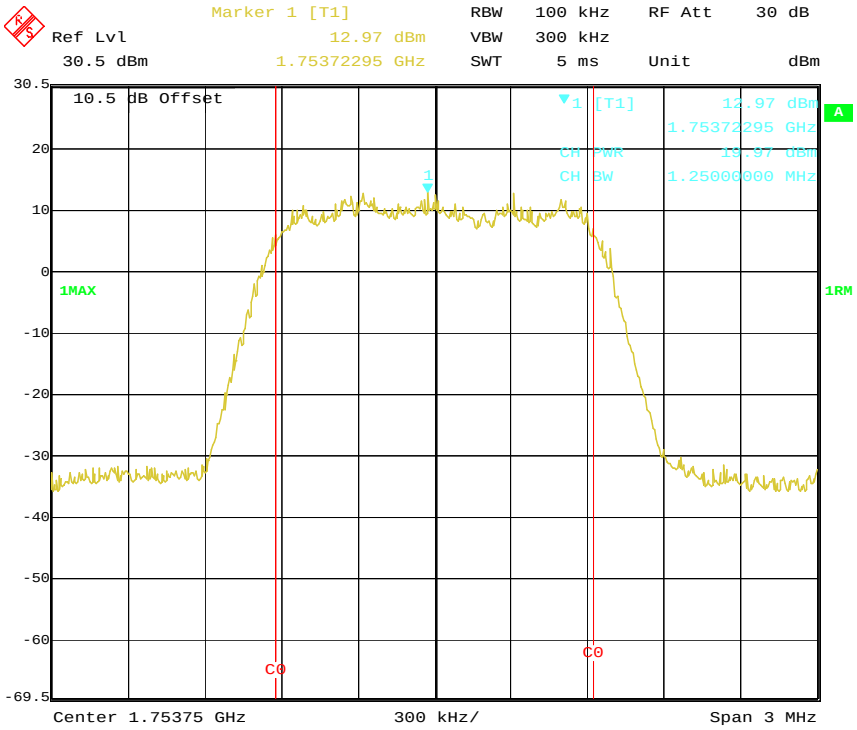
Uplink mode:



Middle Channel

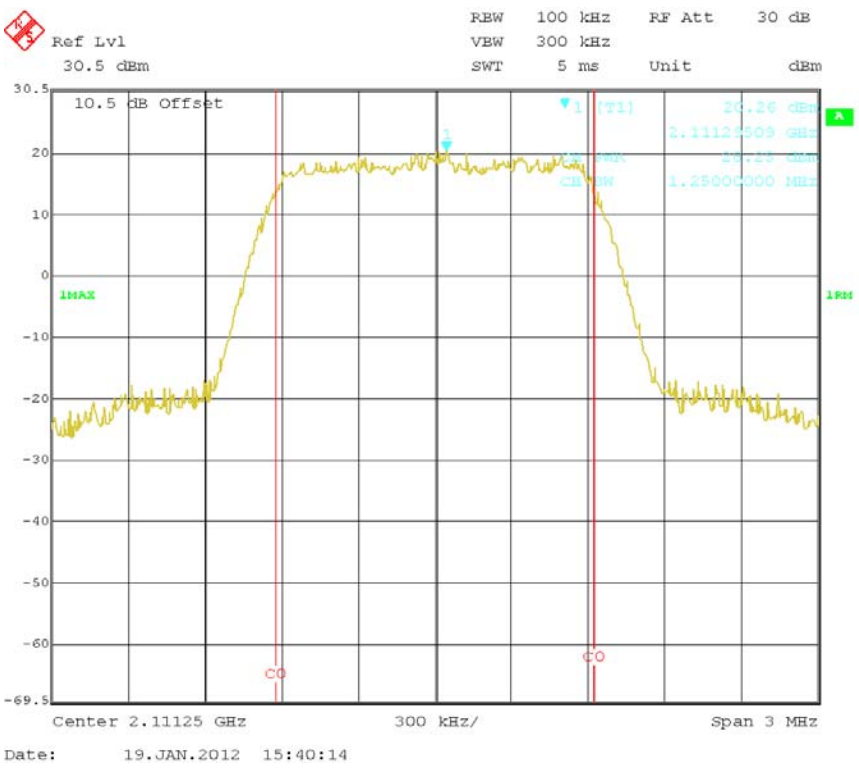


High Channel

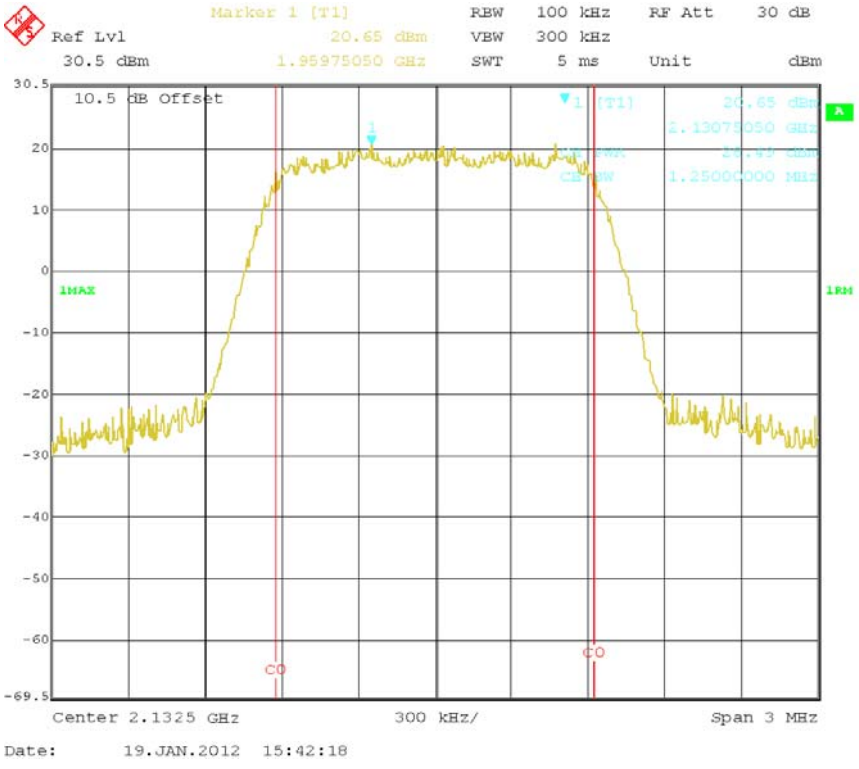


Downlink mode:

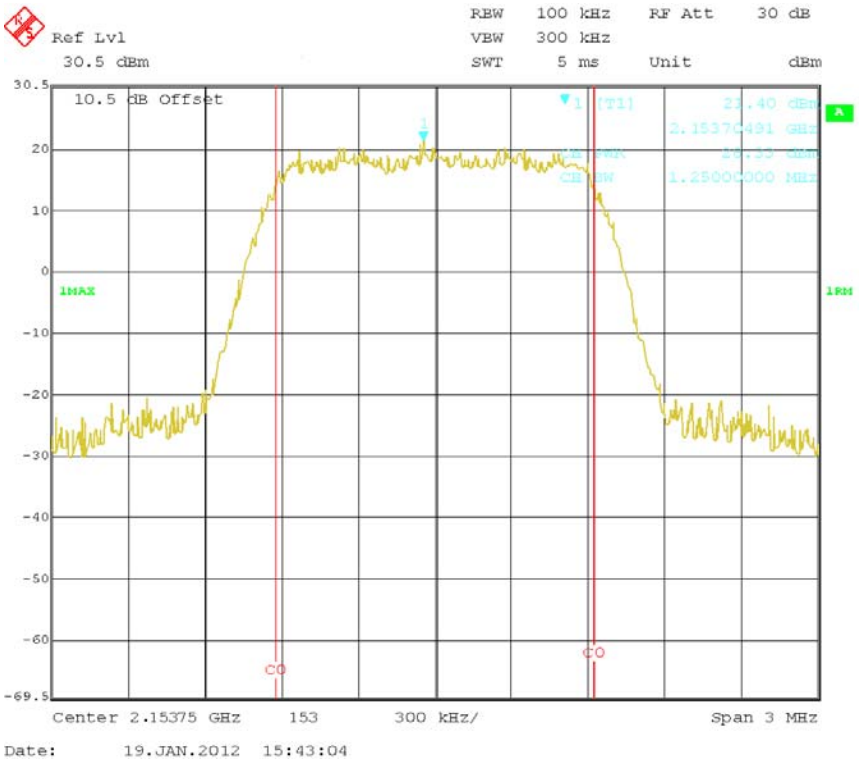
Low Channel



Middle Channel



High Channel



FCC §2.1049&§27.53(h) - 99% & 26 dB BANDWIDTH

Applicable Standard

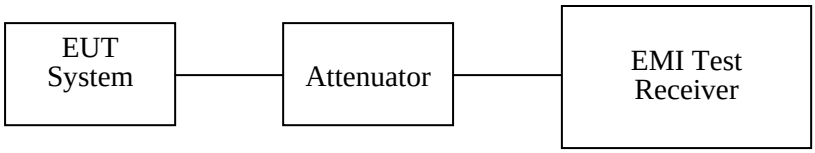
FCC§2.1049 & §27.53(h)

The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

Test Procedure

The RF output of the EUT system was connected to the simulator and the EMI test receiver through sufficient attenuation.

The resolution bandwidth of the EMI test receiver was set at 100 kHz (Cellular /PCS) and the 26 dB & 99% bandwidth was recorded.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100224	2011-11-11	2012-11-10
Agilent	PSA Series Spectrum Analyzer	E4443A	MY45300749	2011-10-28	2012-10-27
Rohde & Schwarz	Signal Analyzer	FSIQ 26	609358	2011-07-08	2012-07-07
Agilent	ESG-D Series Signal Generator	E4432B	GB40051703	2011-10-28	2012-10-27

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Data

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	56%
ATM Pressure:	100.0kPa

The testing was performed by Felix Li from 2011-11-26 to 2012-01-19.

WCDMA:

Input signal:

Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
Uplink (1710-1755)MHz	Mid	1732.4	4.1548	4.650
Downlink (2110-2155)MHz	Mid	2132.4	4.1446	4.677

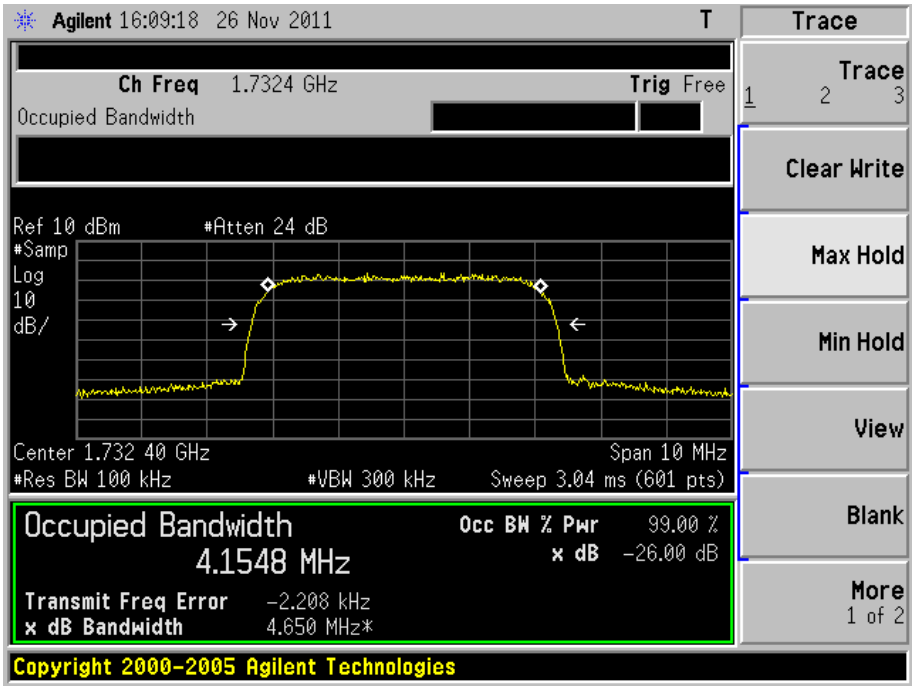
Output signal:

Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
Uplink (1710-1755) MHz	Mid	1732.4	4.1577	4.675
Downlink (2110-2155)MHz	Mid	2132.4	4.1529	4.681

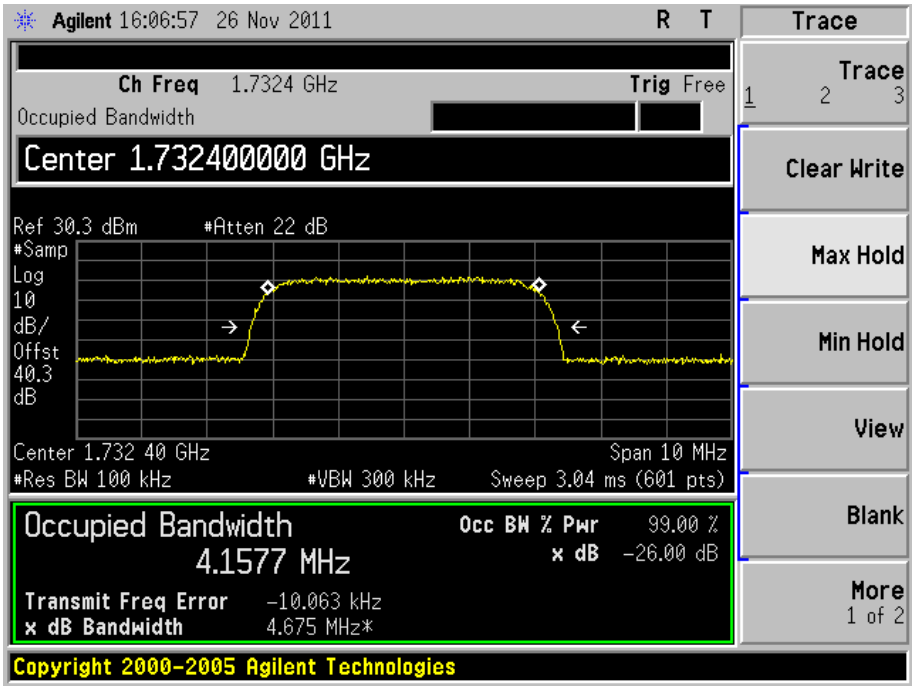
Please refer to the following plots.

Uplink mode:

Middle Channel- Input Signal

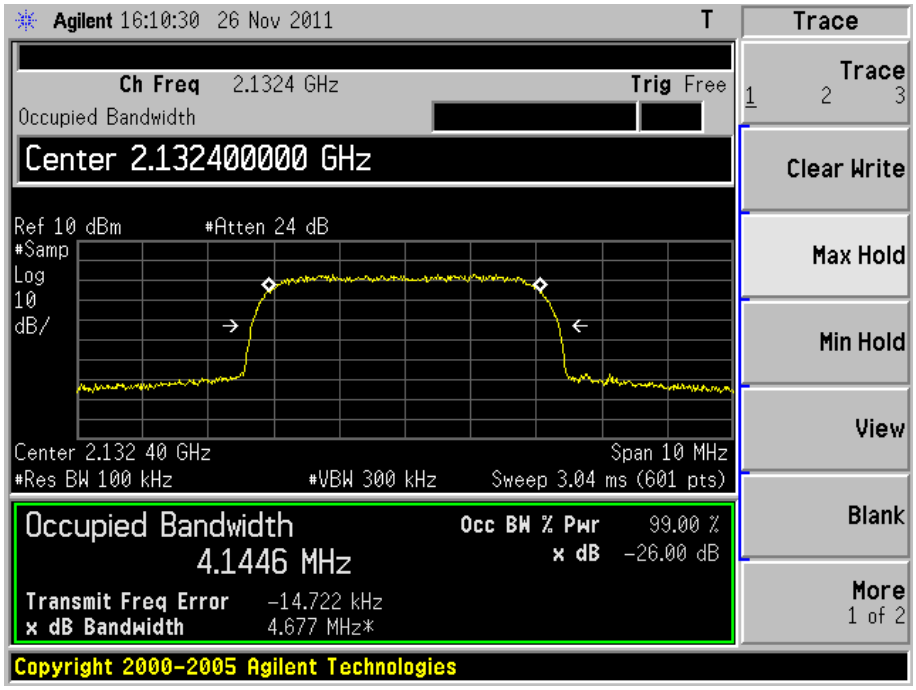


Middle Channel- Output Signal

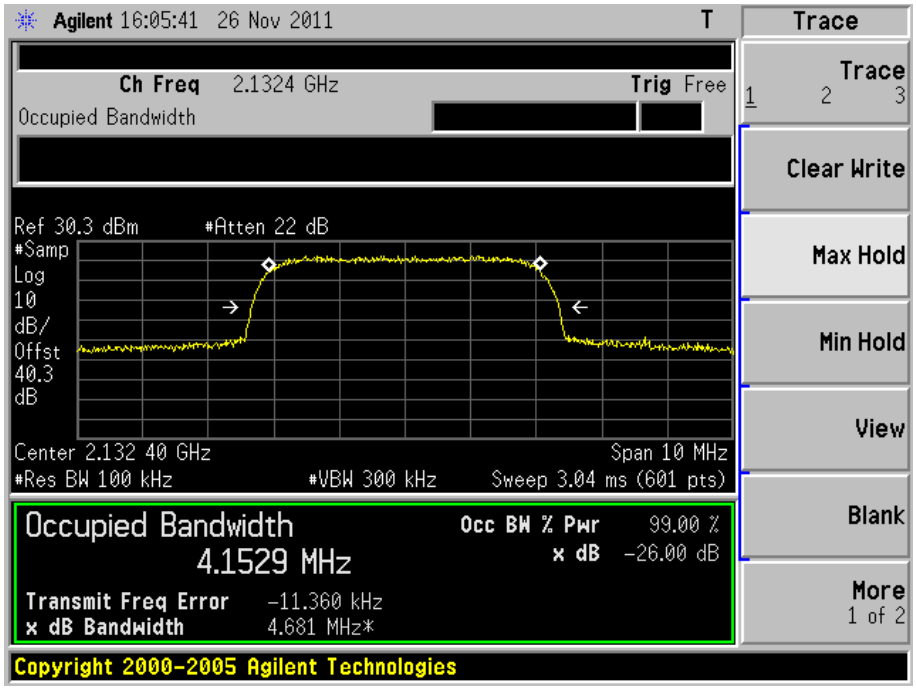


Downlink mode:

Middle Channel- Input Signal



Middle Channel- Output Signal



CDMA

Input signal:

Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
Uplink (1710-1755)MHz	Mid	1732.5	1.269	1.431
Downlink (2110-2155)MHz	Mid	2132.4	1.269	1.431

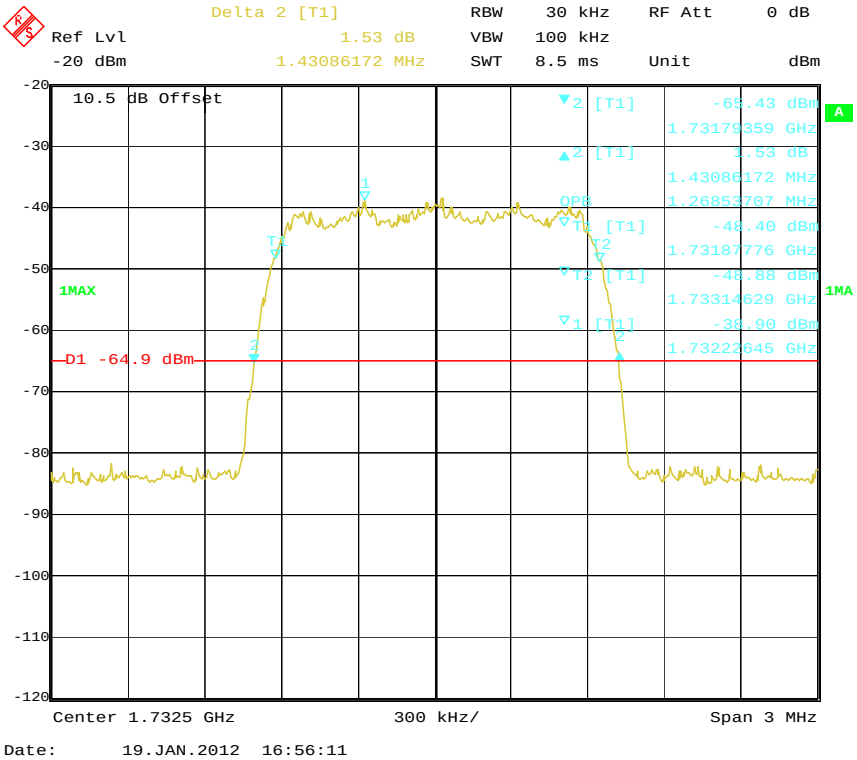
Output signal:

Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
Uplink (1710-1755) MHz	Mid	1732.5	1.269	1.437
Downlink (2110-2155)MHz	Mid	2132.5	1.275	1.431

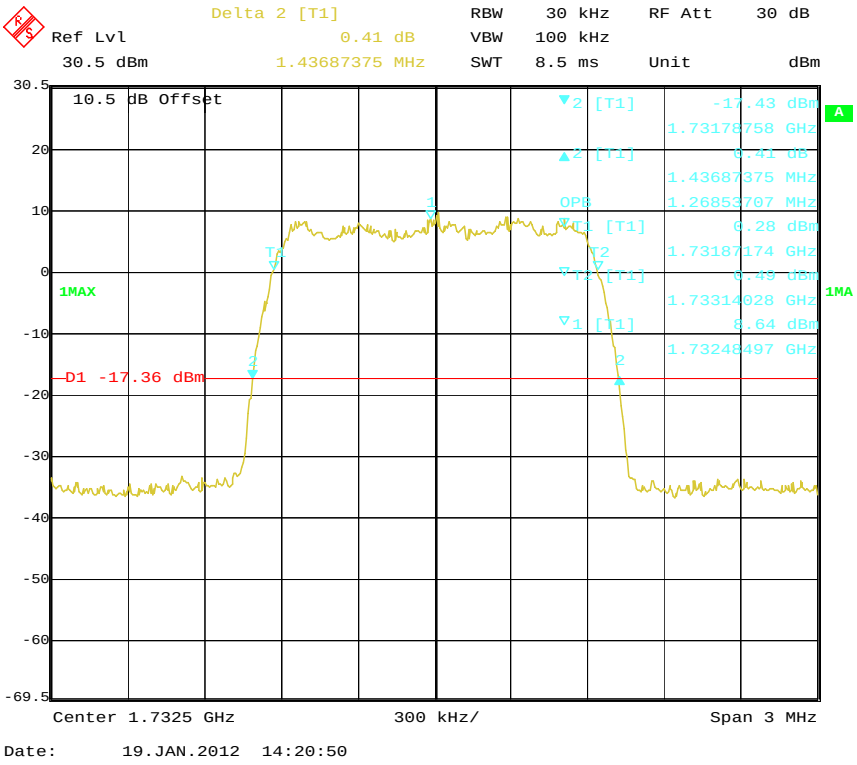
Please refer to the following plots.

Uplink mode:

Middle Channel- Input Signal

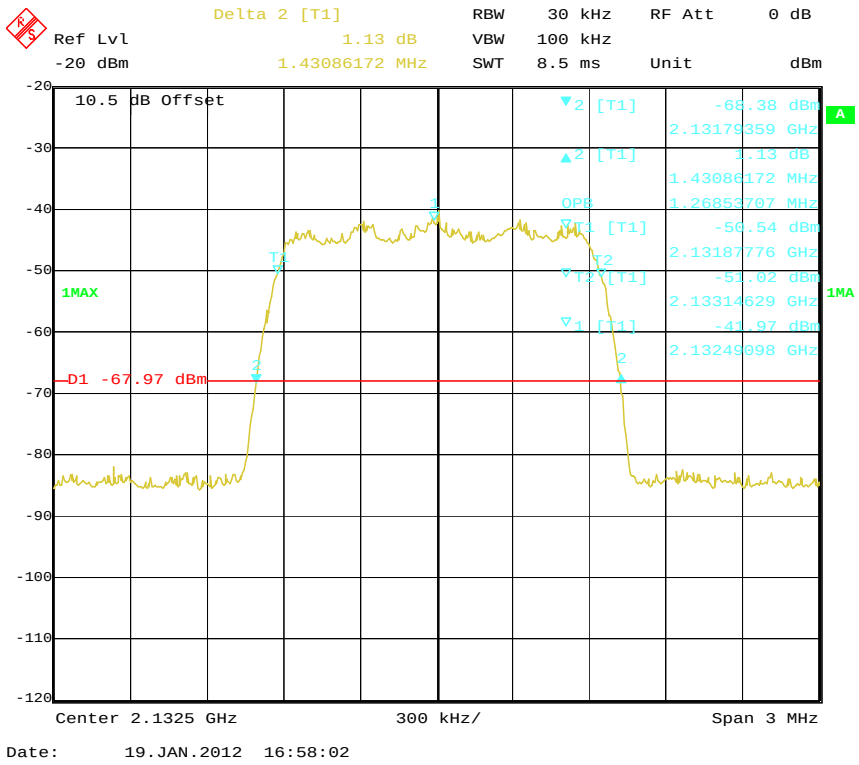


Middle Channel- Output Signal

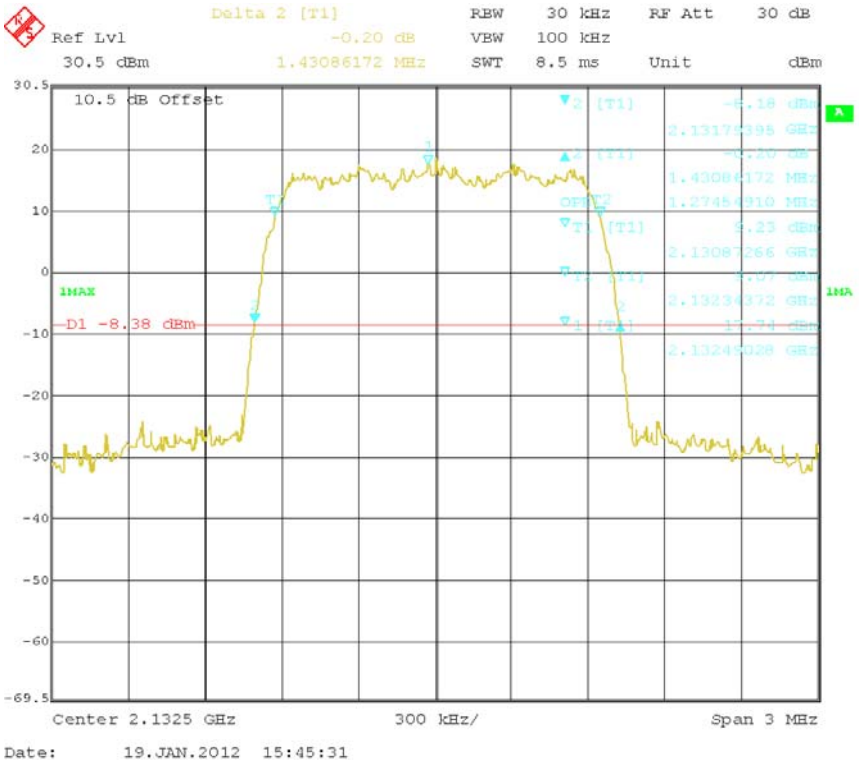


Downlink mode:

Middle Channel- Input Signal



Middle Channel- Output Signal



FCC §2.1051, §27.53(h) - SPURIOUS EMISSIONS AT ANTENNA TERMINALS

Applicable Standards

FCC §2.1051, §27.53(h).

h) For operations in the 1710–1755 MHz and 2110–2155 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 + 10 log10(P) dB.

(1) Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

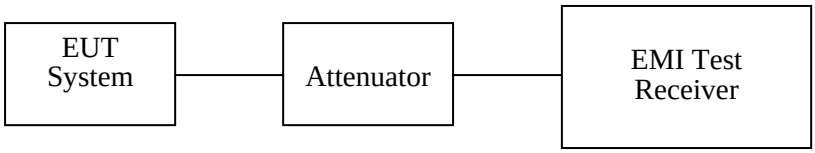
(2) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the licensee's frequency block edges, both upper and lower, as the design permits.

(3) The measurements of emission power can be expressed in peak or average values, provided they are expressed in the same parameters as the transmitter power.

The spectrum was to be investigated to the tenth harmonics of the highest fundamental frequency as specified in § 2.1051.

Test Procedure

The RF output of the EUT system was connected to a spectrum analyzer and simulator through appropriate attenuation. The resolution bandwidth of the EMI test receiver was set at as following table. Sufficient scans were taken to show any out of band emissions up to 10^{th} harmonic.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Signal Analyzer	FSIQ 26	609358	2011-07-08	2012-07-07
Rohde & Schwarz	EMI Test Receiver	ESCI	100224	2011-10-28	2012-10-27
Agilent	PSA Series Spectrum Analyzer	E4443A	MY45300749	2011-10-28	2012-10-27
Agilent	ESG-D Series Signal Generator	E4432B	GB40051703	2011-10-28	2012-10-27

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Data

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	56 %
ATM Pressure:	100.0kPa

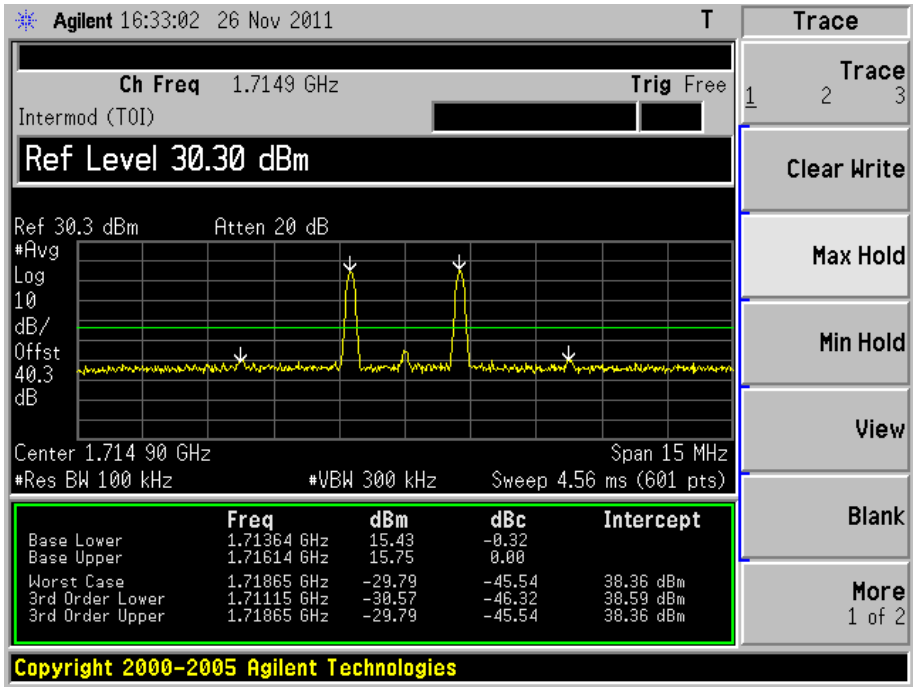
The testing was performed by Felix Li from 2011-11-26 to 2012-01-19.

Please refer to the following plots.

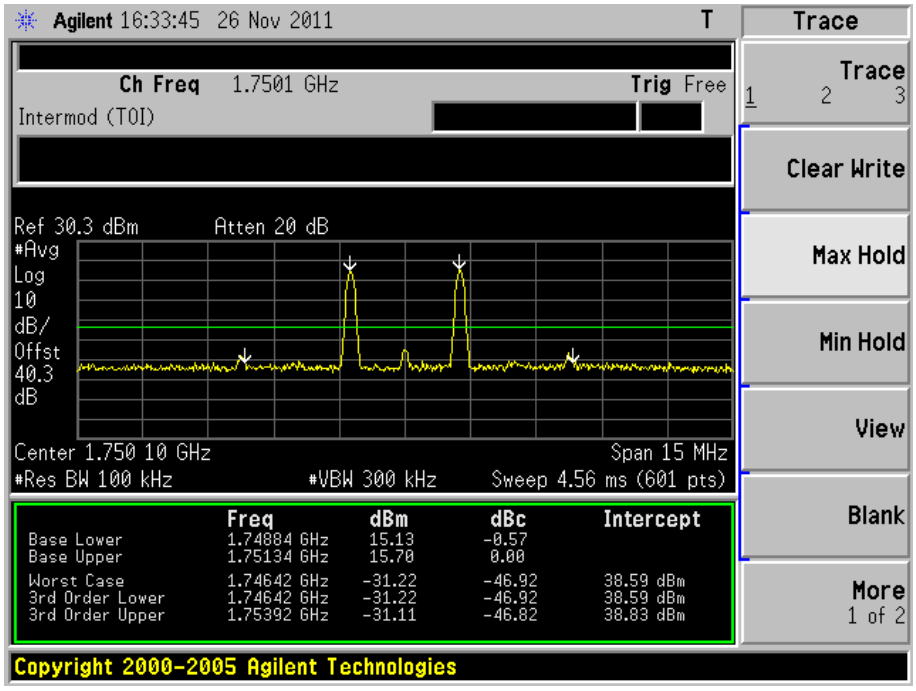
WCDMA

Uplink mode:

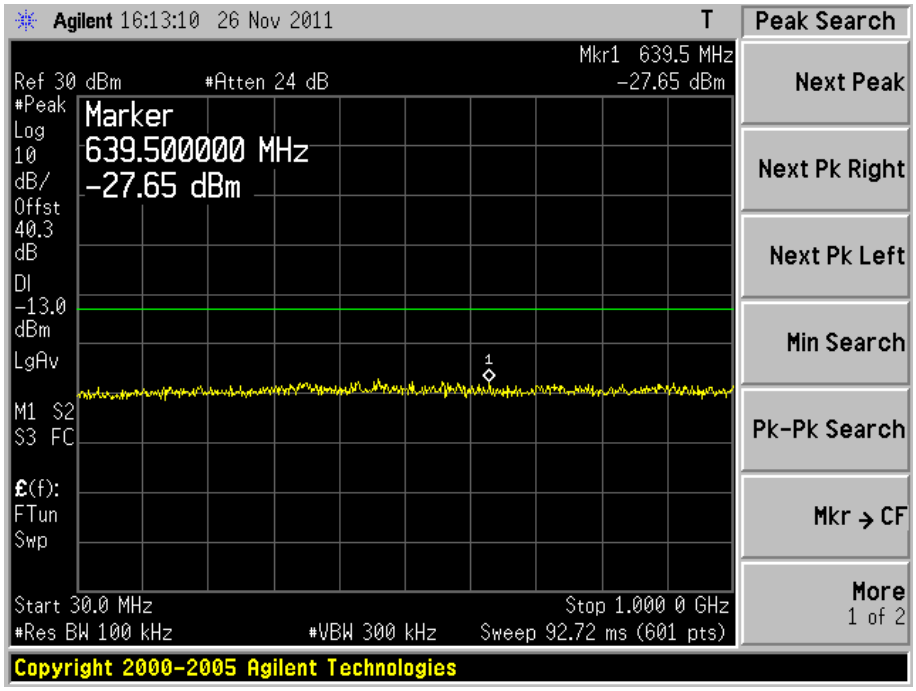
Inter-modulation, Low-band edge

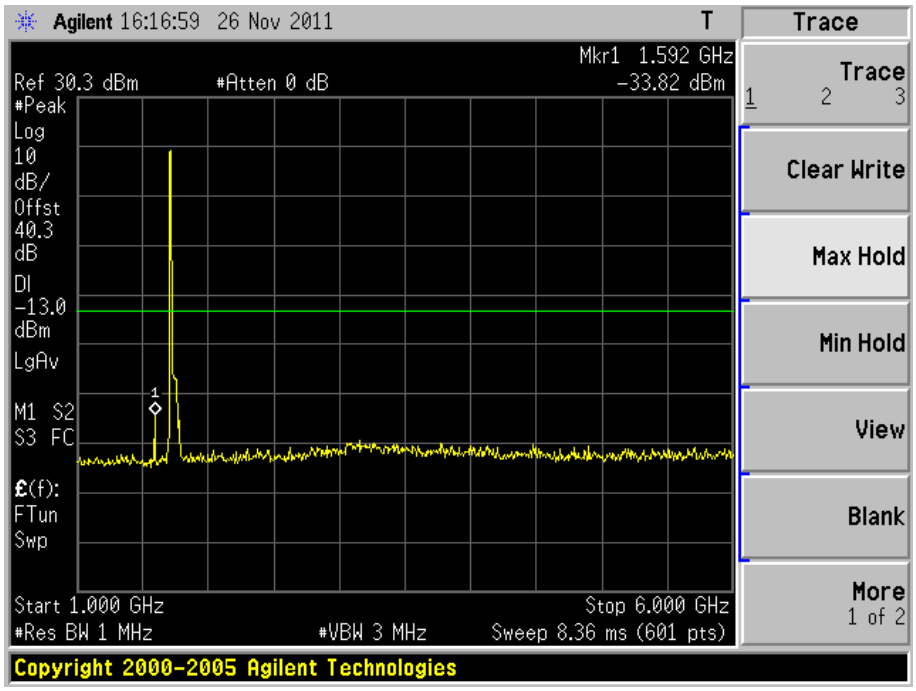


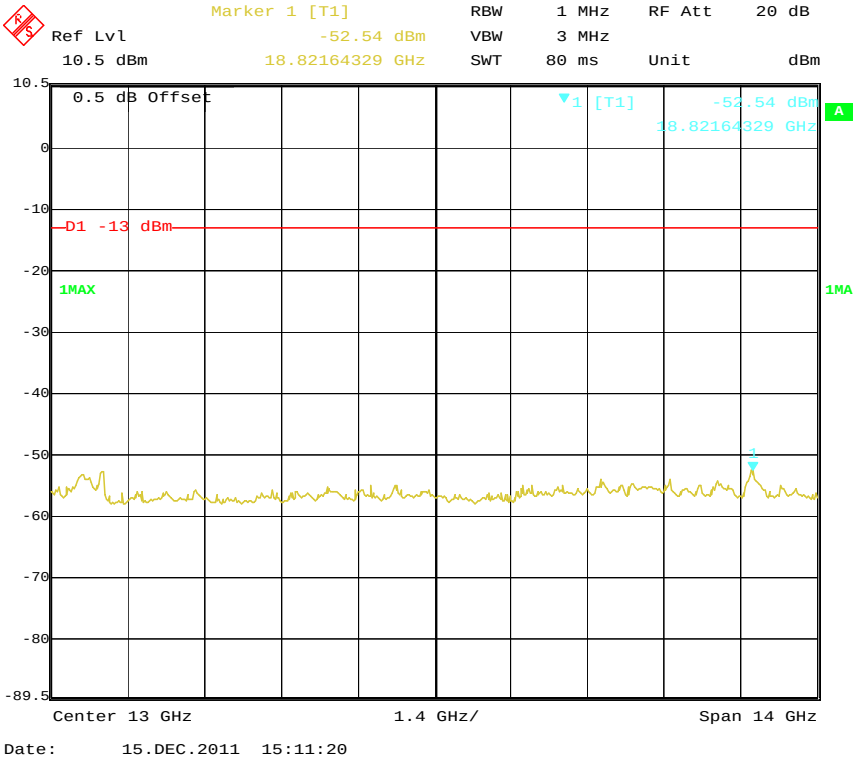
Inter-modulation, High-band edge



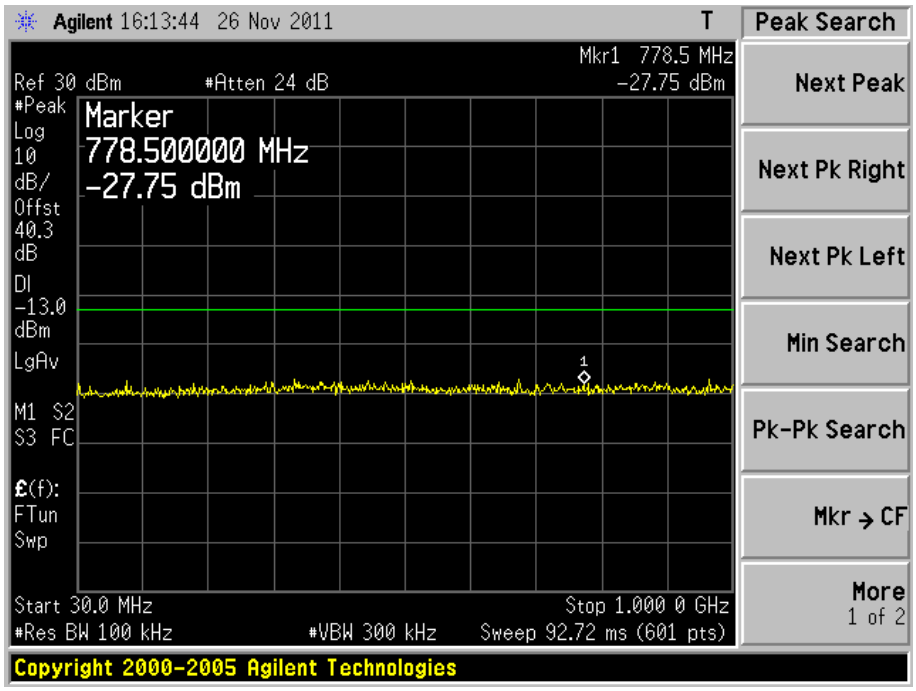
Conducted Spurious Emission at Antenna Terminals -Low Channel

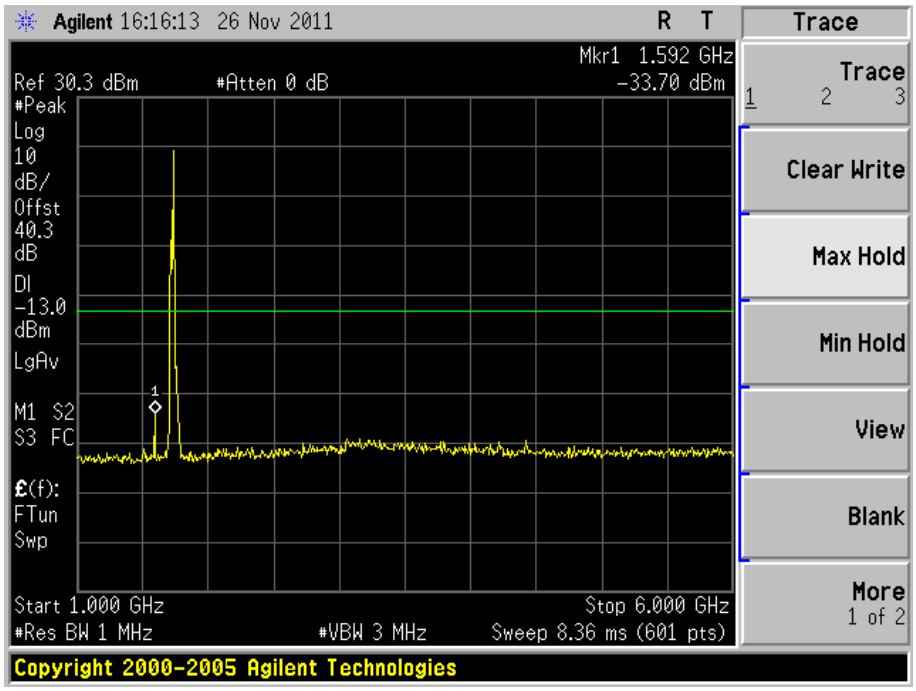


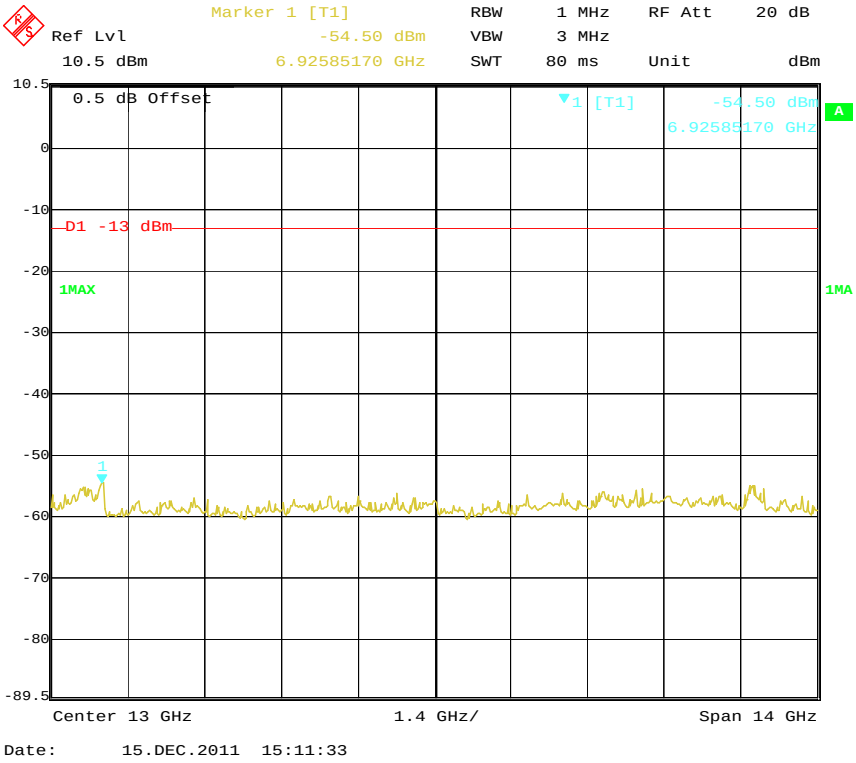

Agilent 16:16:59 26 Nov 2011
T
Trace
Mkr1 1.592 GHz
Ref 30.3 dBm
#Atten 0 dB
-33.82 dBm
#Peak
Log
10
dB/
Offst
40.3
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Start 1.000 GHz
Stop 6.000 GHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 8.36 ms (601 pts)
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
Copyright 2000-2005 Agilent Technologies


Marker 1 [T1]
RBW 1 MHz
RF Att 20 dB
Ref Lvl
-52.54 dBm
VBW 3 MHz
10.5 dBm
18.82164329 GHz
SWT 80 ms
Unit dBm
0.5 dB Offset
1 [T1] -52.54 dBm
18.82164329 GHz
D1 -13 dBm
1MAX
1MA
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5
Center 13 GHz
1.4 GHz/
Span 14 GHz
Date: 15.DEC.2011 15:11:20

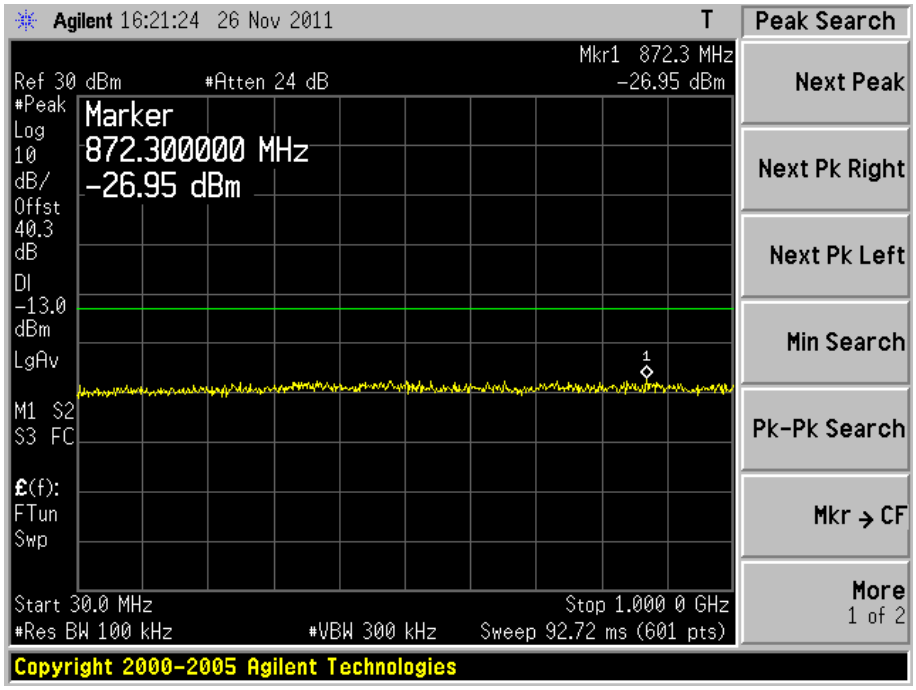
Conducted Spurious Emission at Antenna Terminals -Middle Channel

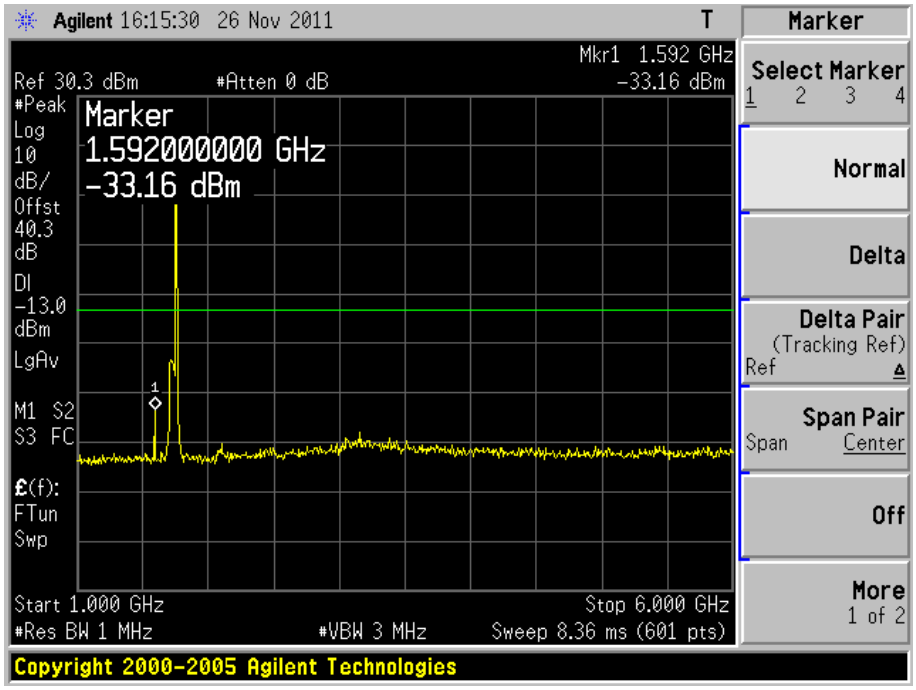


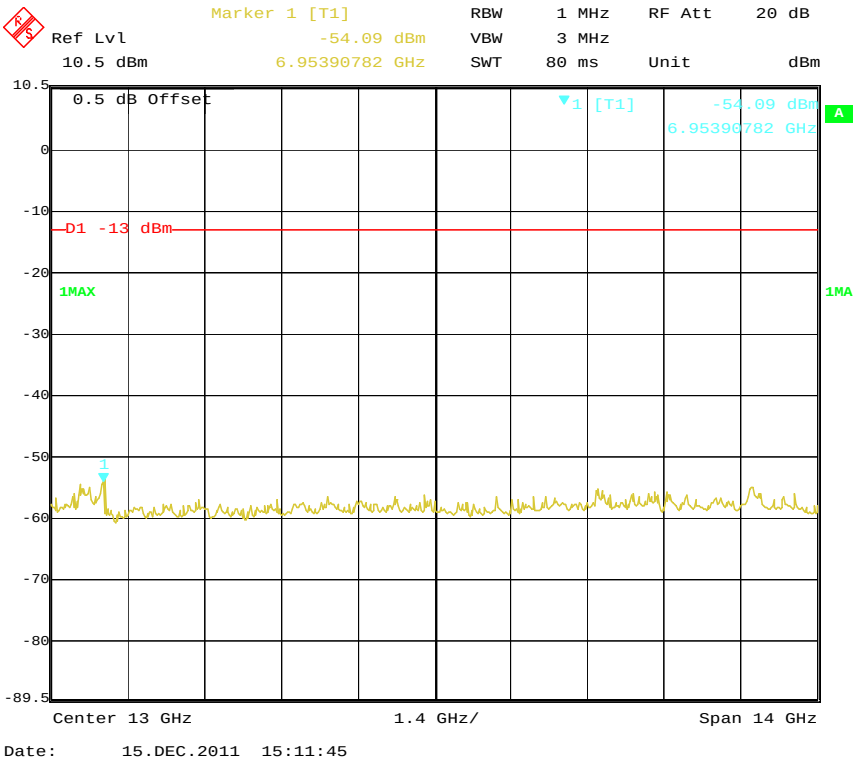




Conducted Spurious Emission at Antenna Terminals -High Channel

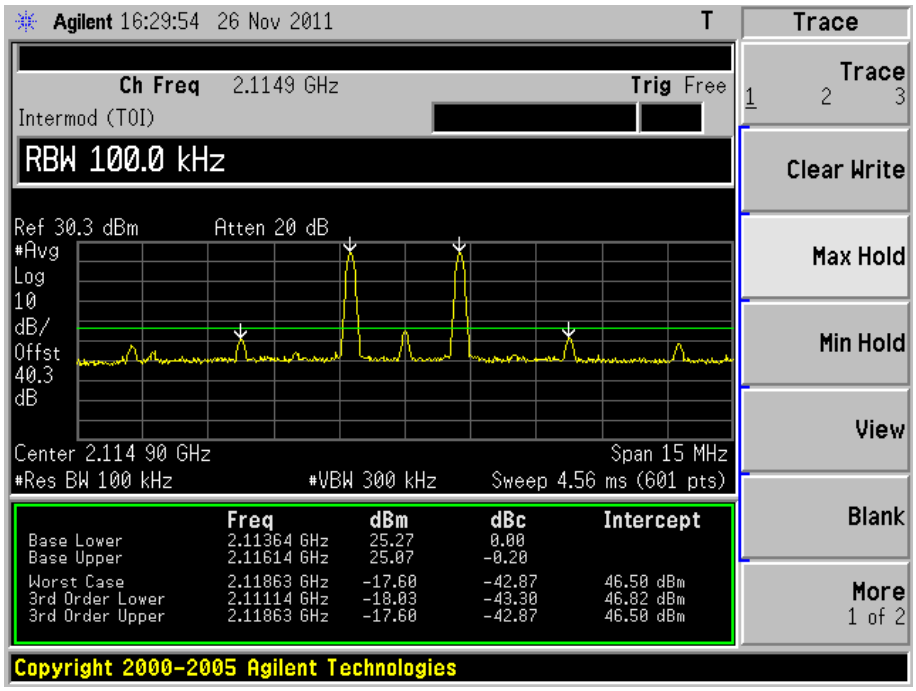



Agilent 16:15:30 26 Nov 2011
T
Marker
Mkr1 1.592 GHz
-33.16 dBm
Ref 30.3 dBm
#Atten 0 dB
#Peak
Log
10
dB/
Offst
40.3
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Marker
1.592000000 GHz
-33.16 dBm
Start 1.000 GHz
#Res BW 1 MHz
#VBW 3 MHz
Stop 6.000 GHz
Sweep 8.36 ms (601 pts)
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
Copyright 2000-2005 Agilent Technologies

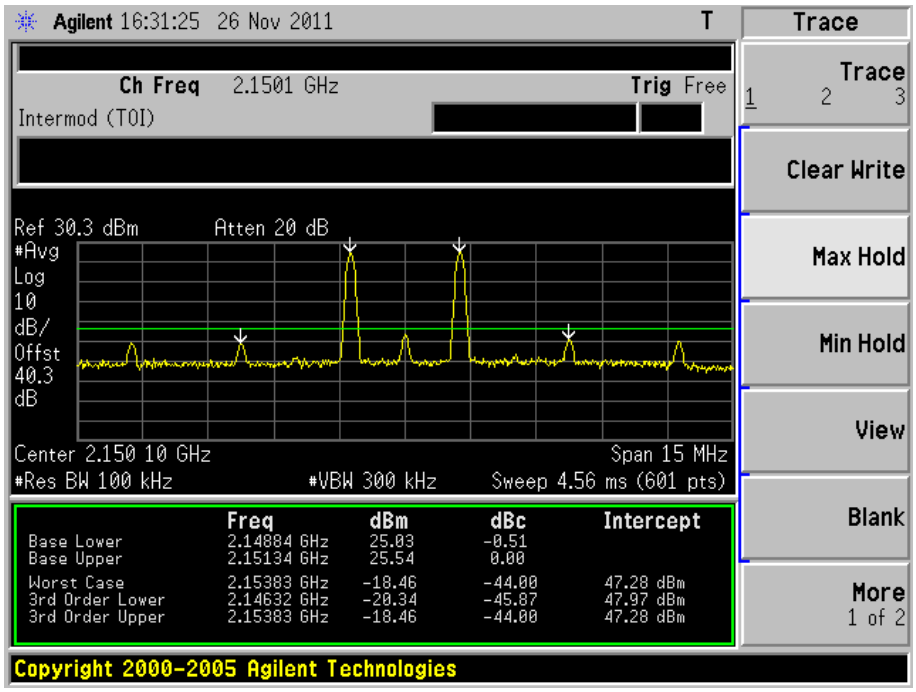

Marker 1 [T1]
RBW 1 MHz
RF Att 20 dB
Ref Lvl
10.5 dBm
-54.09 dBm
6.95390782 GHz
VBW 3 MHz
SWT 80 ms
Unit dBm
0.5 dB Offset
1 [T1]
-54.09 dBm
6.95390782 GHz
D1 -13 dBm
1MAX
1MA
A
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5
Center 13 GHz
1.4 GHz/
Span 14 GHz
Date: 15.DEC.2011 15:11:45

Downlink mode:

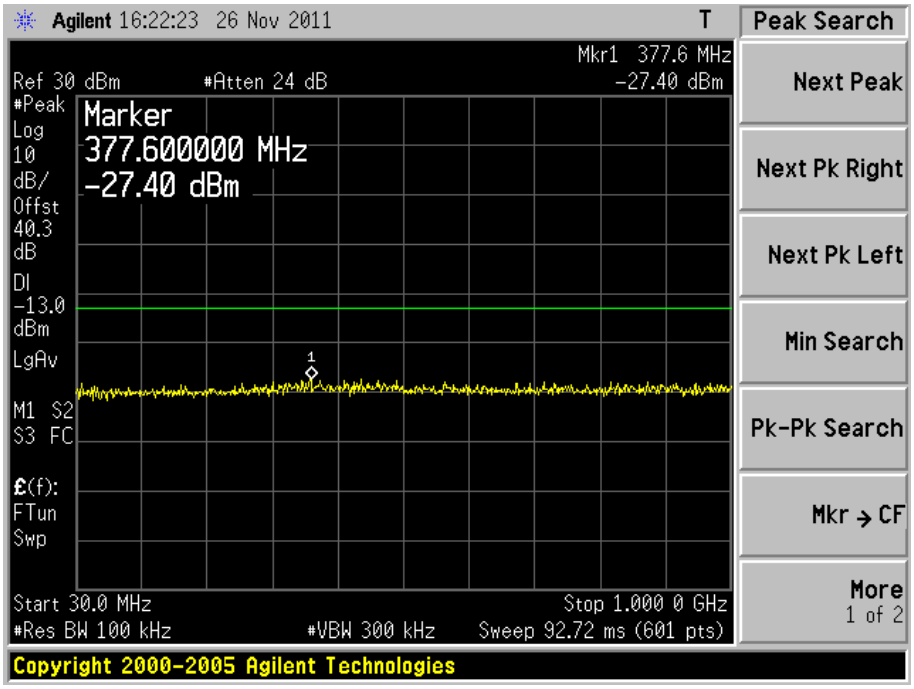
Inter-modulation, Low channel

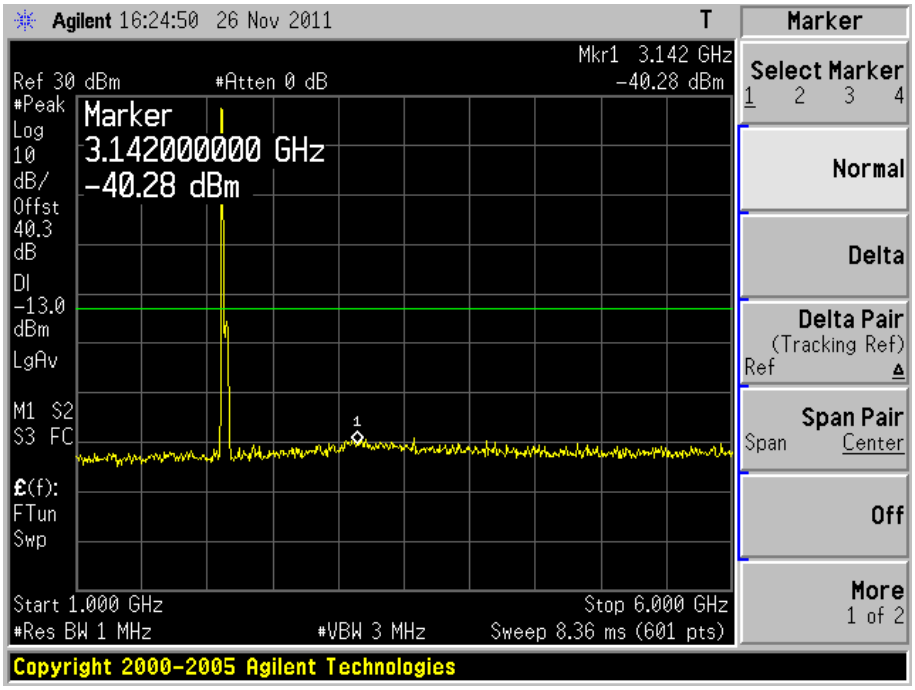


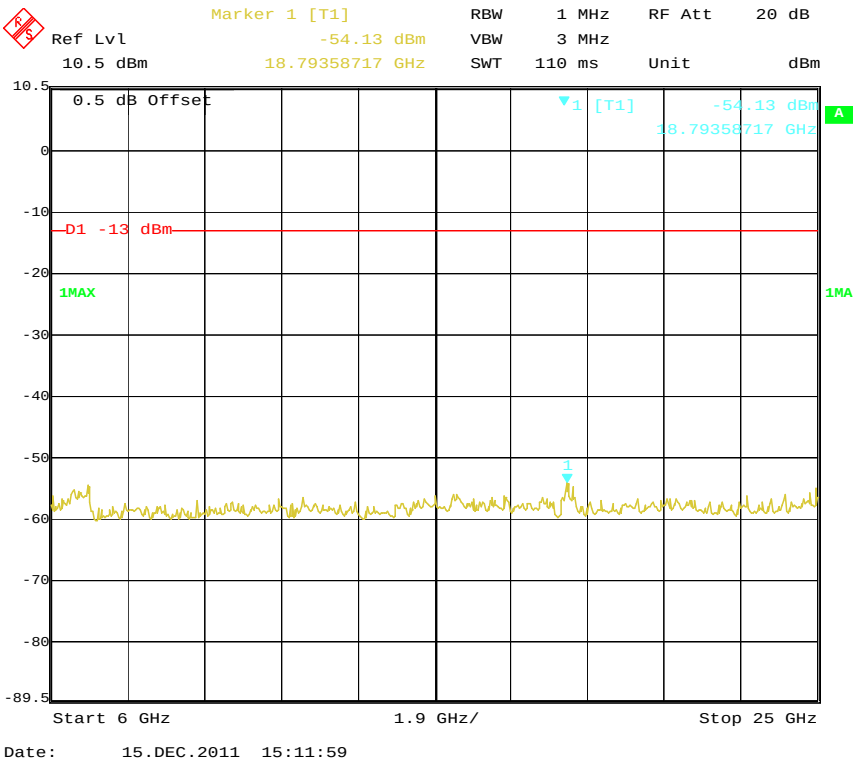
Inter-modulation, High channel



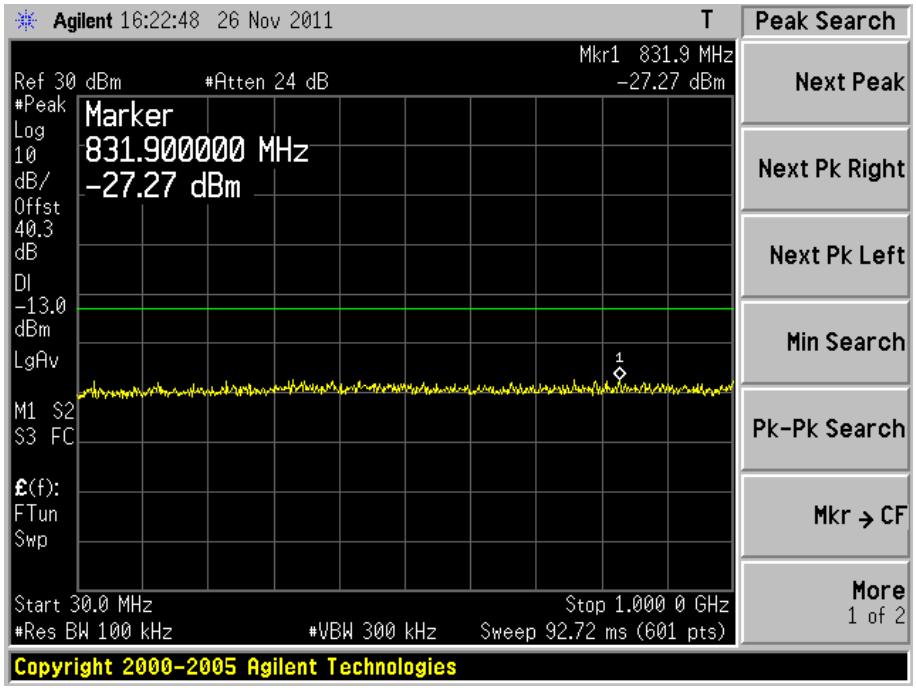
Conducted Spurious Emission at Antenna Terminals -Low Channel

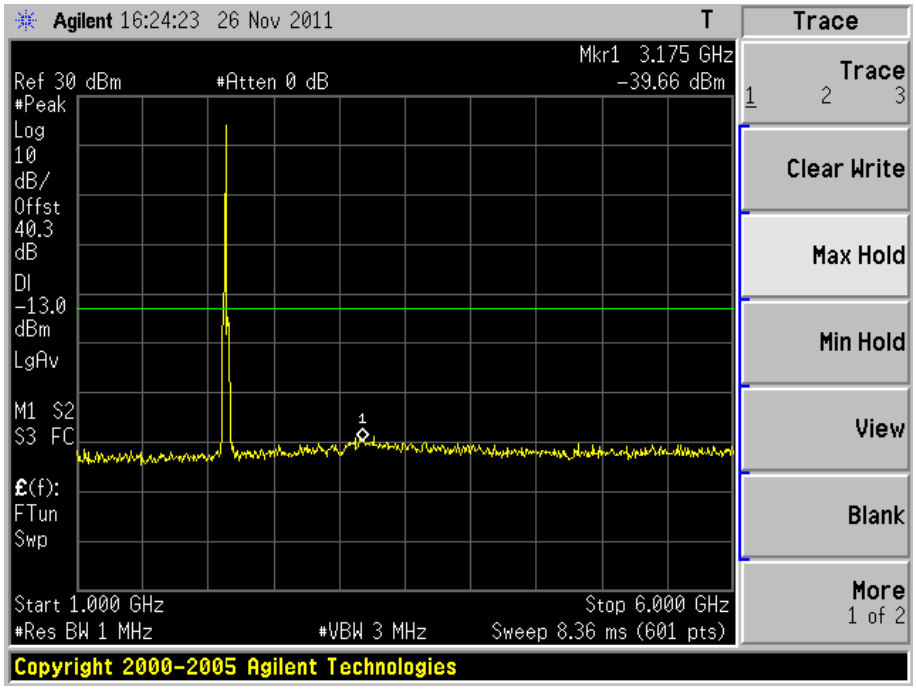


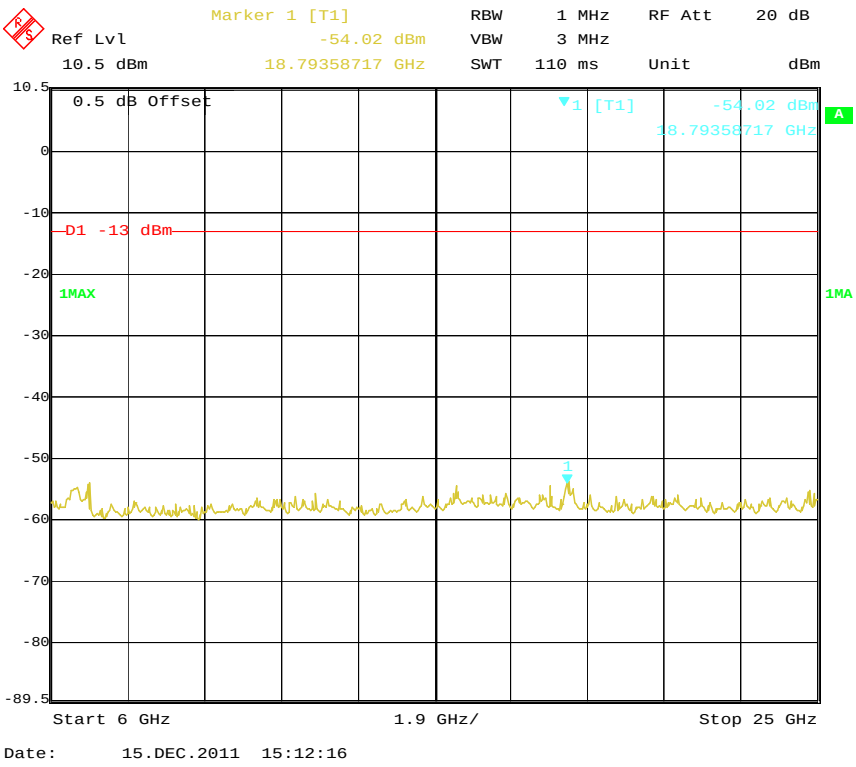




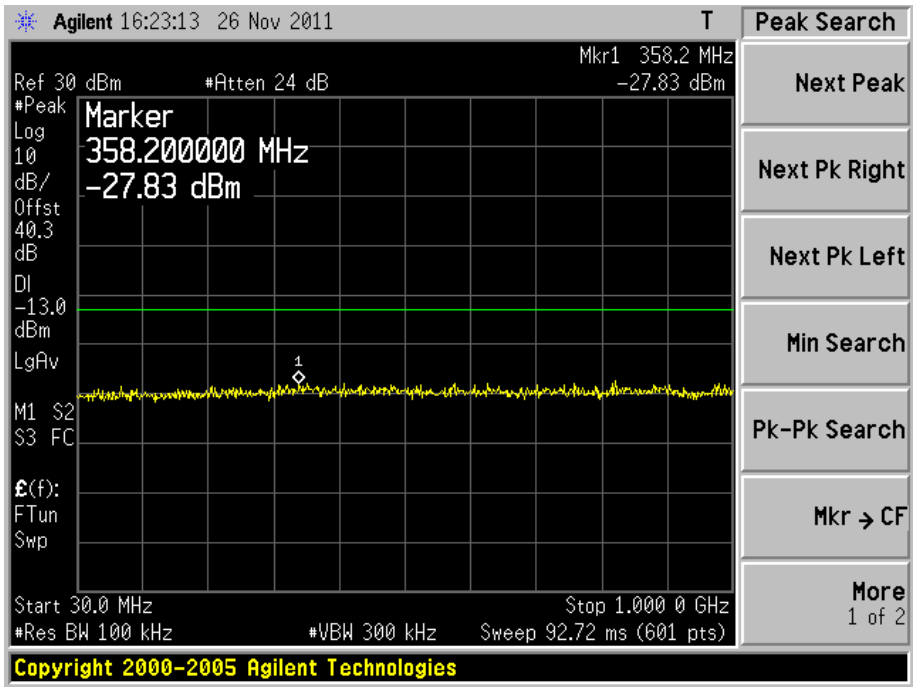
Conducted Spurious Emission at Antenna Terminals -Middle Channel

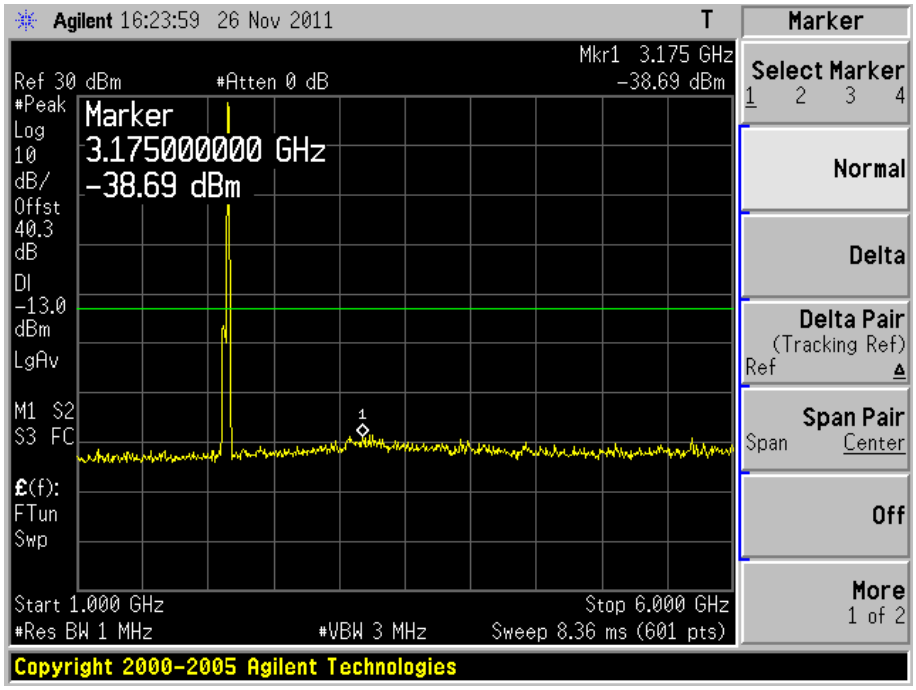


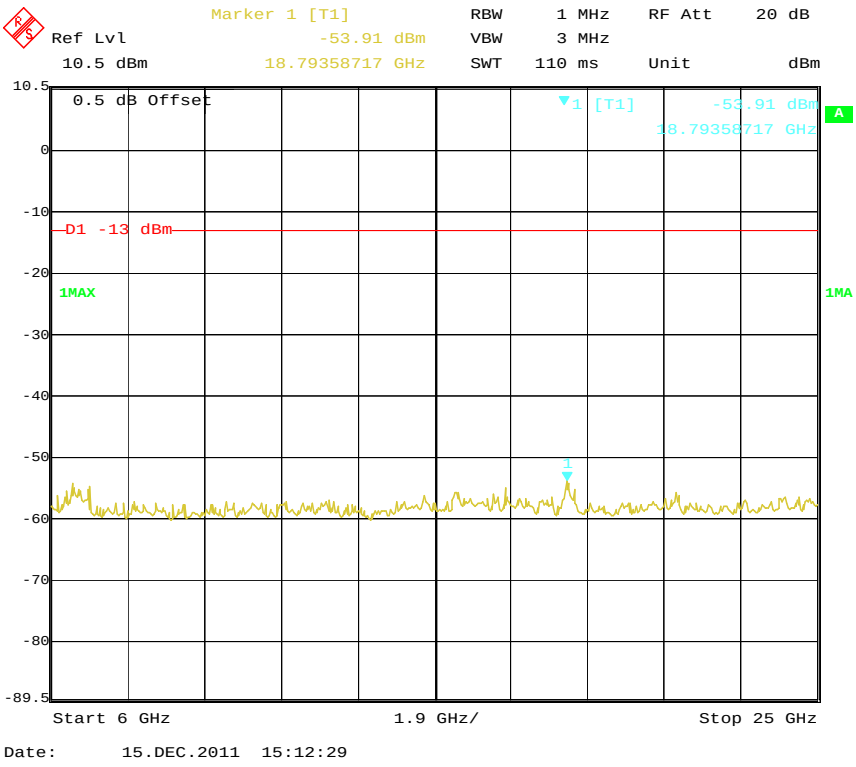

Agilent 16:24:23 26 Nov 2011
T
Trace
Mkr1 3.175 GHz
Ref 30 dBm
#Atten 0 dB
-39.66 dBm
#Peak
Log
10
dB/
Offst
40.3
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
Start 1.000 GHz
Stop 6.000 GHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 8.36 ms (601 pts)
Copyright 2000-2005 Agilent Technologies


Marker 1 [T1]
RBW 1 MHz
RF Att 20 dB
Ref Lvl
-54.02 dBm
VBW 3 MHz
10.5 dBm
18.79358717 GHz
SWT 110 ms
Unit dBm
10.5
0.5 dB Offset
1 [T1]
-54.02 dBm
18.79358717 GHz
A
0
-10
D1 -13 dBm
-20
1MAX
1MA
-30
-40
-50
-60
-70
-80
-89.5
Start 6 GHz
1.9 GHz/
Stop 25 GHz
Date: 15.DEC.2011 15:12:16

Conducted Spurious Emission at Antenna Terminals -High Channel



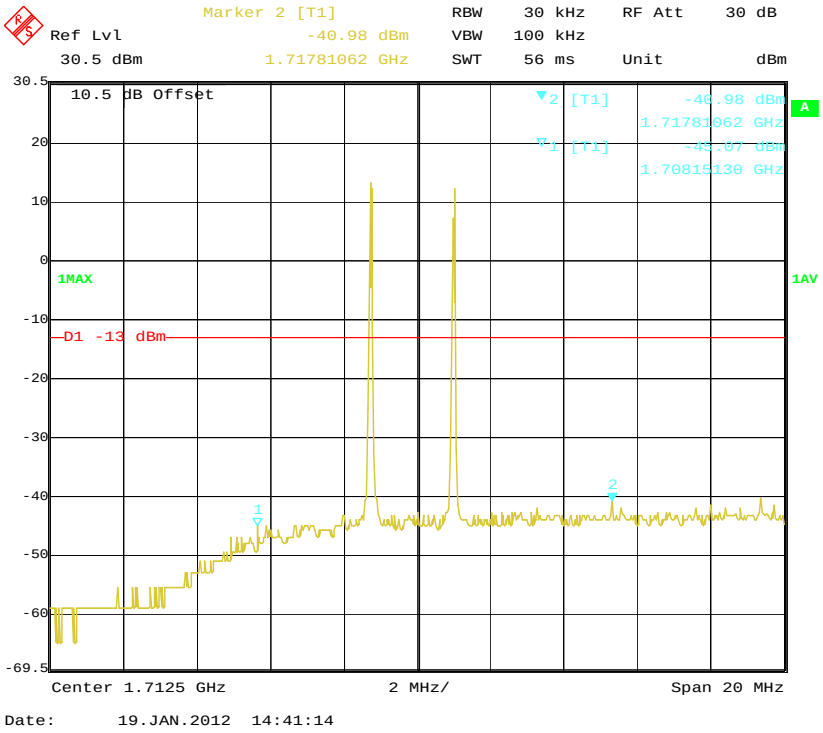



Marker 1 [T1]
RBW 1 MHz
RF Att 20 dB
Ref Lvl -53.91 dBm
VBW 3 MHz
10.5 dBm 18.79358717 GHz
SWT 110 ms
Unit dBm
0.5 dB Offset
1 [T1] -53.91 dBm
18.79358717 GHz
A
D1 -13 dBm
1MAX
1MA
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5
Start 6 GHz
1.9 GHz/
Stop 25 GHz
Date: 15.DEC.2011 15:12:29

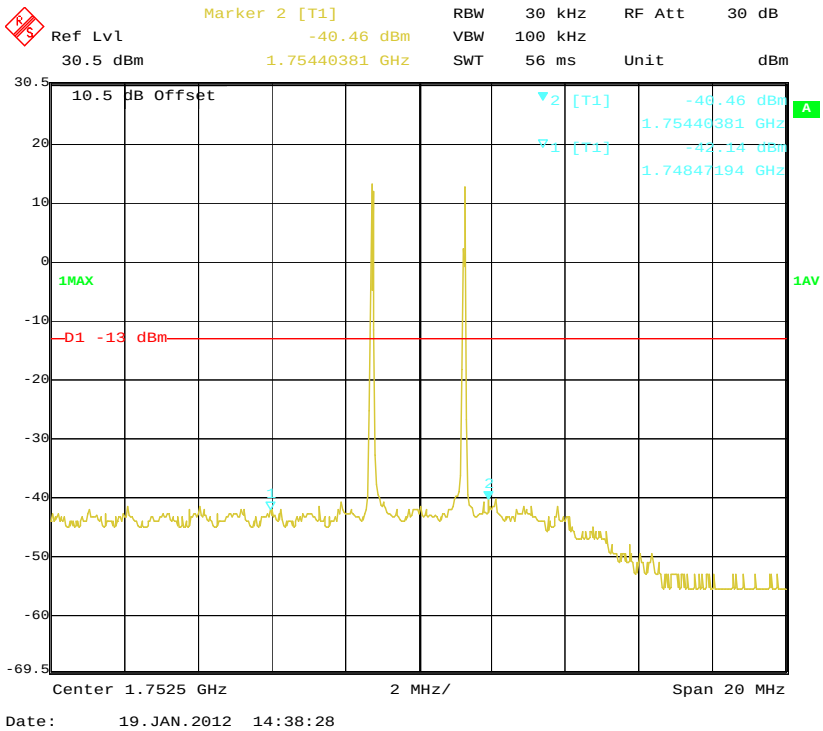
CDMA

Uplink mode:

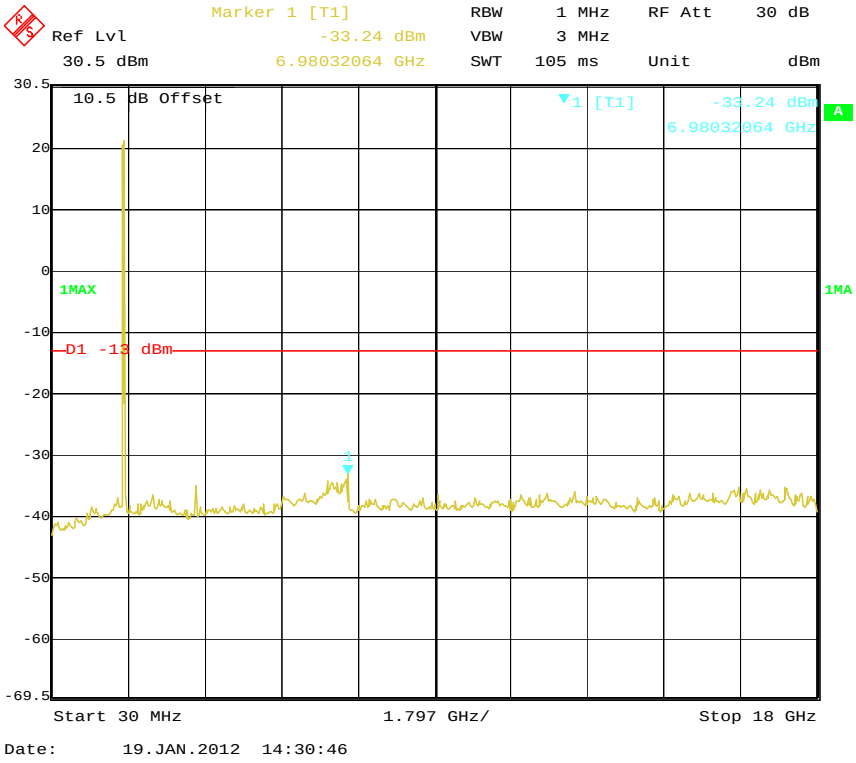
Inter-modulation, Low-band edge



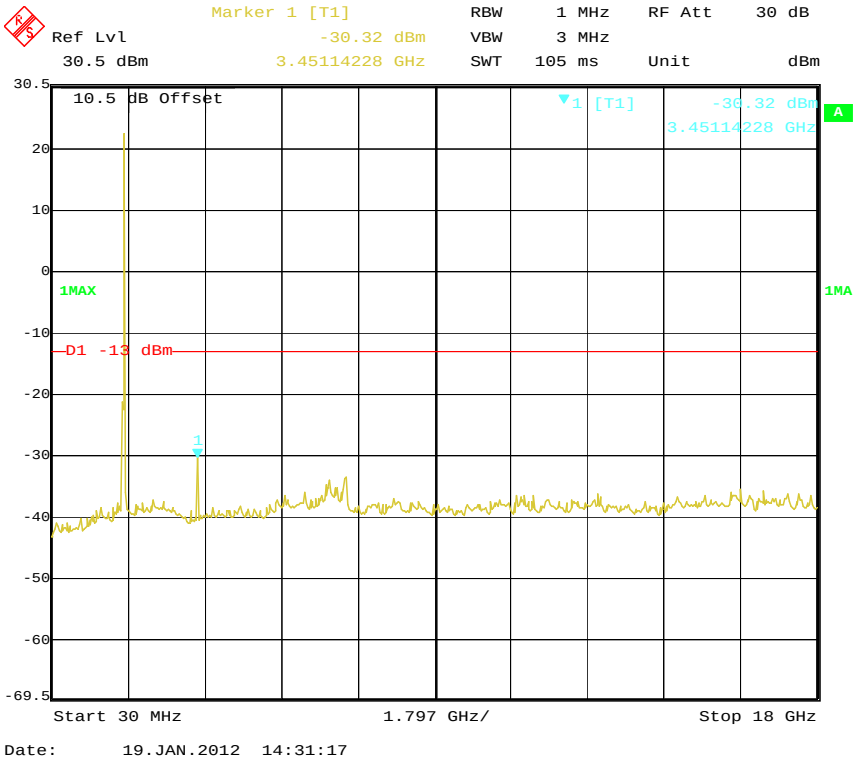
Inter-modulation, High-band edge



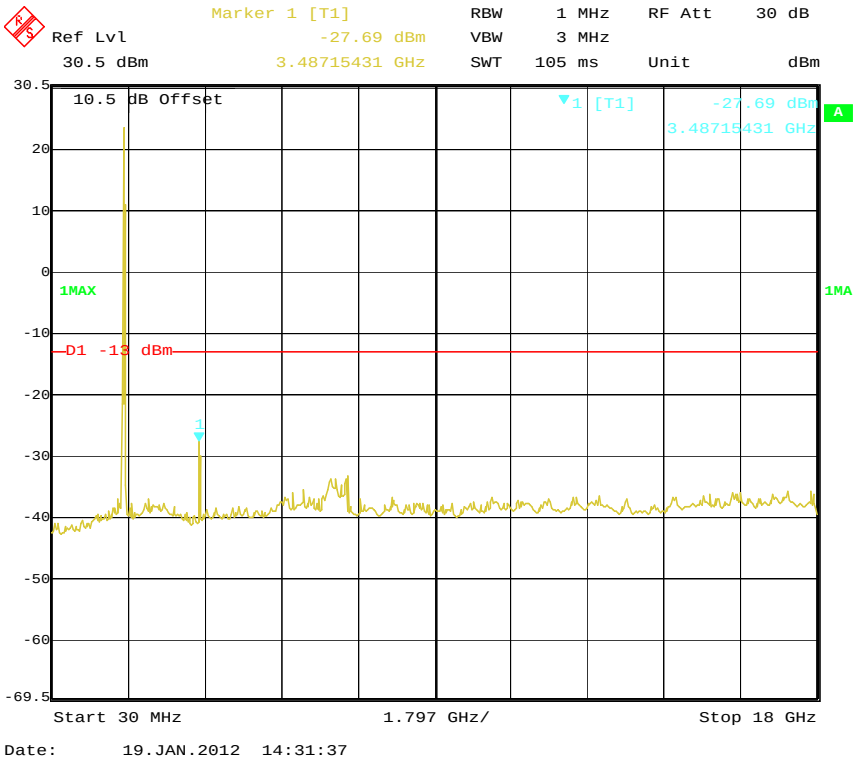
Conducted Spurious Emission at Antenna Terminals -Low Channel



Conducted Spurious Emission at Antenna Terminals -Middle Channel

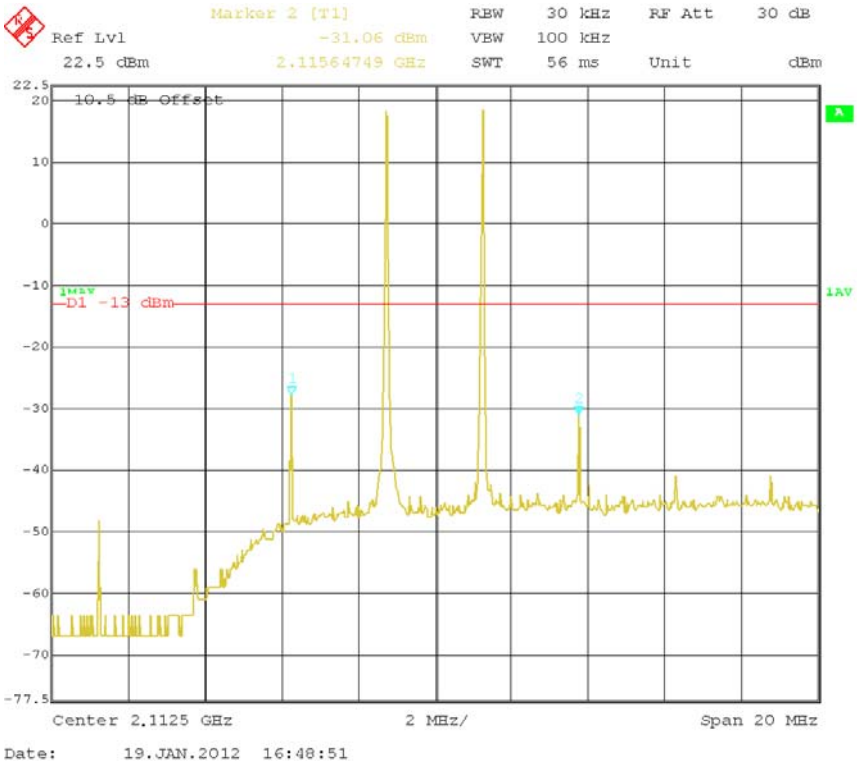


Conducted Spurious Emission at Antenna Terminals -High Channel

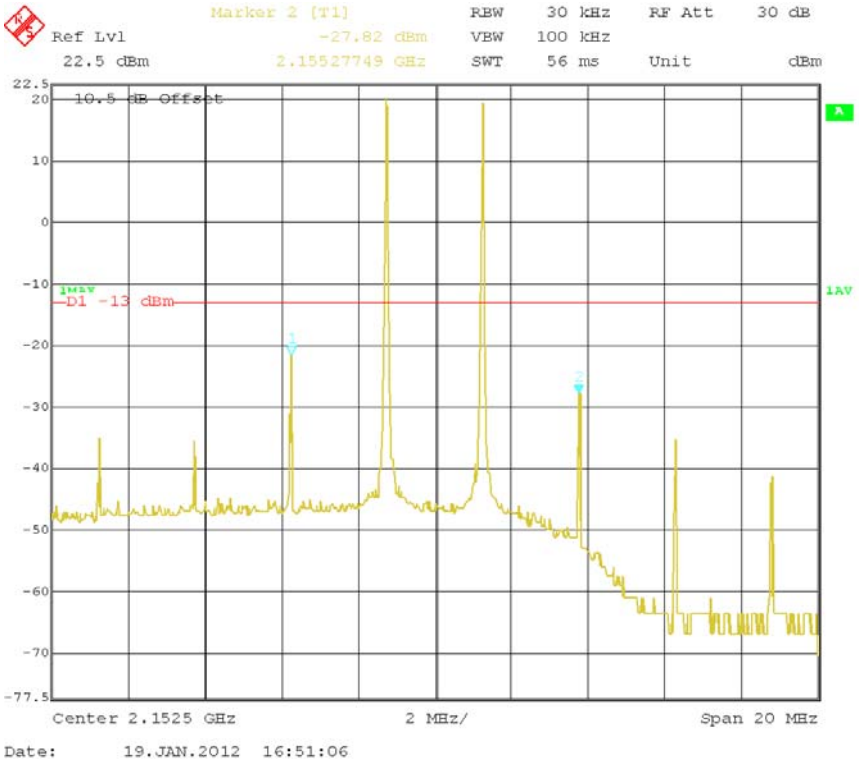


Downlink mode:

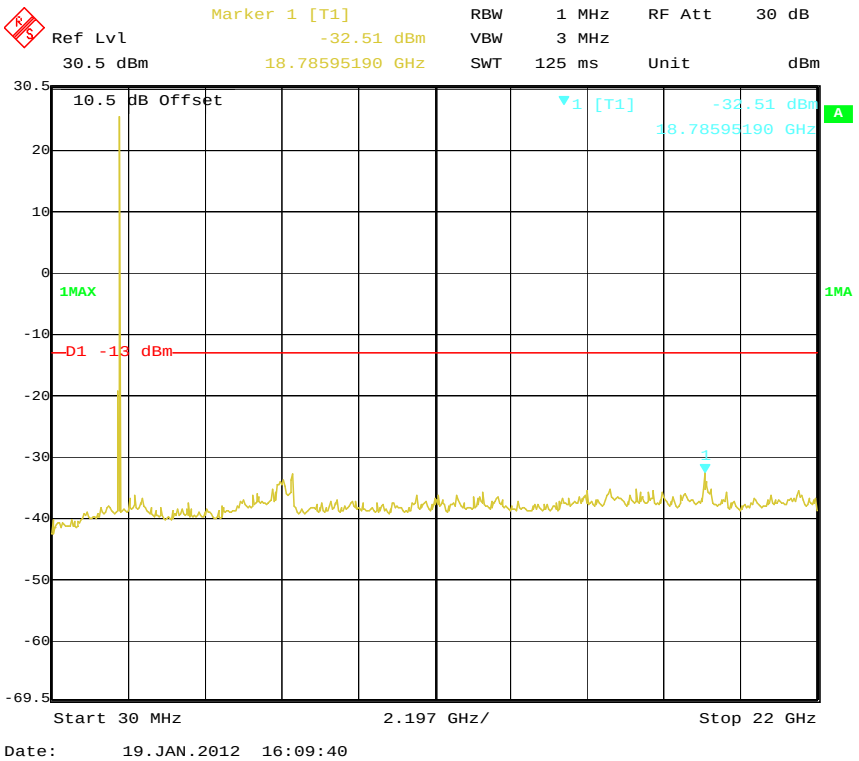
Inter-modulation, Low-band edge



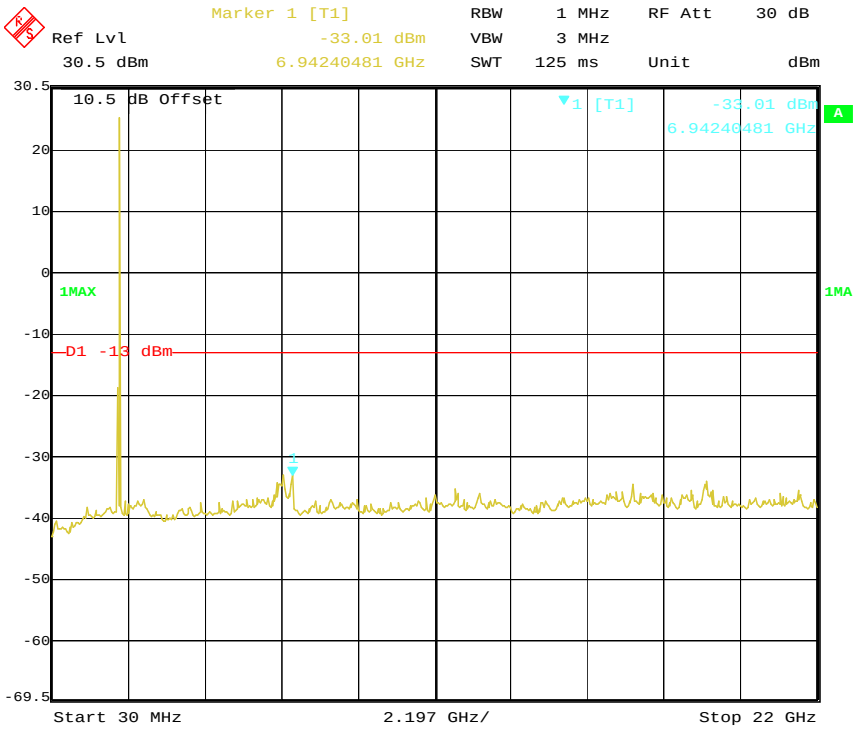
Inter-modulation, High-band edge



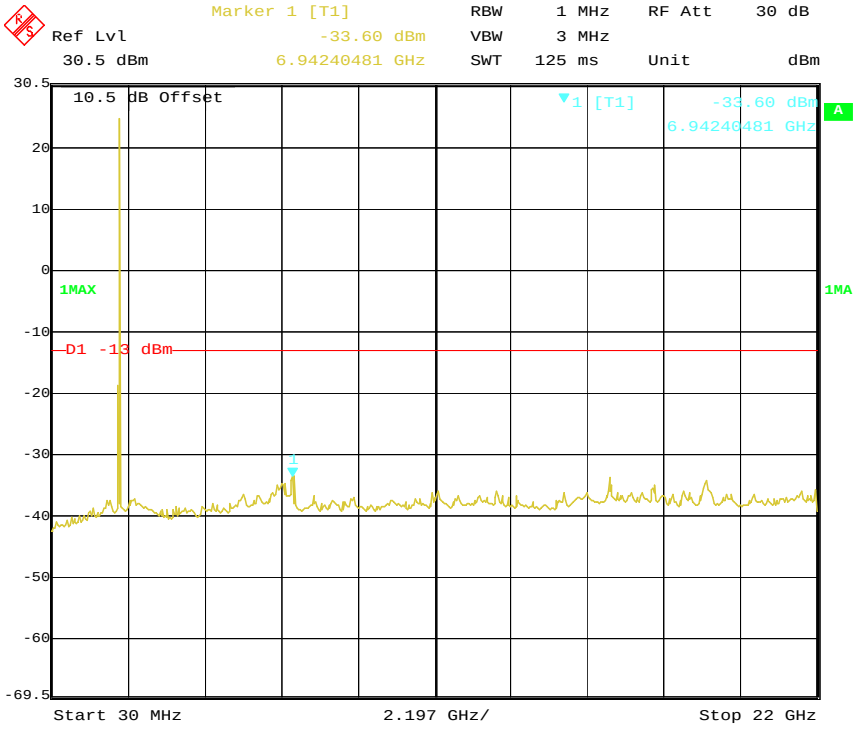
Conducted Spurious Emission at Antenna Terminals -Low Channel



Conducted Spurious Emission at Antenna Terminals -Middle Channel



Conducted Spurious Emission at Antenna Terminals -High Channel



FCC §2.1053&§27.53(h) - SPURIOUS RADIATED EMISSIONS

Applicable Standard

FCC § 2.1053 & §27.53(h)

Test Procedure

The EUT system was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.

The frequency range up to tenth harmonic of the fundamental frequency was investigated.

Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

Spurious emissions in dB = 10 lg (TXpwr in Watts/0.001) – the absolute level

Spurious attenuation limit in dB = 43 + 10 Log_{10} (power out in Watts)

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sunol Sciences	Horn Antenna	DRH-118	A052604	2011-05-05	2012-05-04
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2011-07-05	2012-07-04
Rohde & Schwarz	Signal Analyzer	FSIQ 26	609358	2011-07-08	2012-07-07
Mini-Circuits	Amplifier	ZVA-213+	T-E27H	2011-03-08	2012-03-07
HP	Signal Generator	HP8657A	2849U00982	2011-10-28	2012-10-27
HP	Amplifier	HP8447D	2944A09795	2011-08-02	2012-08-02
HP	Synthesized Sweeper	8341B	2624A00116	2011-11-07	2012-11-06
COM POWER	Dipole Antenna	AD-100	041000	2011-09-25	2012-09-25
A.H. System	Horn Antenna	SAS-100/571	135	2011-05-17	2012-05-17
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	109038	2011-10-28	2012-10-27

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Data

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	56 %
ATM Pressure:	100.0kPa

The testing was performed by Felix Li on 2011-11-29.

Test Mode: CDMA mode Uplink Middle Channel (worse case)

Indicated		Table Angle Degree	Test Antenna		Substituted				Absolute Level (dBm)	Limit (dBm)	Margin (dB)
Frequency (MHz)	S.A. Reading (dBµV/m)		Height (m)	Polar (H/V)	Frequency (MHz)	Level (dBm)	Ant. Gain (dB)	Cable Loss (dB)			
5424.84	50.11	51	1	H	5424.84	-43.0	8.2	1.74	-36.55	-13	23.55
5424.84	48.27	43	1	V	5424.84	-43.3	8.2	1.74	-36.85	-13	23.85
3464.8	34.87	205	1.7	H	3464.8	-59.4	6.7	1.39	-54.12	-13	41.12
3464.8	32.34	241	1.5	V	3464.8	-60.7	6.7	1.39	-55.40	-13	42.40
32.18	52.36	244	1.0	V	32.18	-42.9	0	0.1	-43.0	-13	30.00
103.18	45.26	133	1.8	V	103.18	-50.0	0	0.1	-50.1	-13	37.10
32.18	44.14	235	1.6	H	32.18	-51.1	0	0.1	-51.2	-13	38.20
103.18	43.34	117	1.6	H	103.18	-51.9	0	0.1	-52.0	-13	39.00

Test Mode: CDMA mode Downlink Middle Channel (worse case)

Indicated		Table Angle Degree	Test Antenna		Substituted				Absolute Level (dBm)	Limit (dBm)	Margin (dB)
Frequency (MHz)	S.A. Reading (dBµV/m)		Height (m)	Polar (H/V)	Frequency (MHz)	Level (dBm)	Ant. Gain (dB)	Cable Loss (dB)			
5832.46	50.02	80	1	H	5832.46	-44.1	8.4	1.78	-37.47	-13	24.47
5832.46	47.43	70	1.4	V	5832.46	-45.1	8.4	1.78	-38.46	-13	25.46
4264.8	31.81	105	1.5	V	4264.8	-63.1	7.6	1.57	-57.08	-13	44.08
4264.8	32.56	262	1.7	H	4264.8	-64.3	7.6	1.57	-58.34	-13	45.34
30.97	52.05	32	1.5	V	30.97	-43.2	0	0.1	-43.3	-13	30.30
105.18	43.38	152	1.6	V	105.18	-51.9	0	0.1	-52.0	-13	39.00
105.18	42.35	355	1.6	H	105.18	-52.9	0	0.1	-53.0	-13	40.00
30.97	41.02	162	1.8	H	30.97	-54.2	0	0.1	-54.3	-13	41.30

FCC §27.53(h) - BAND EDGES

Applicable Standard

According to § 27.53(h), For operations in the 1710–1755 MHz and 2110–2155 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 + 10 log10(P) dB.

(1) Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

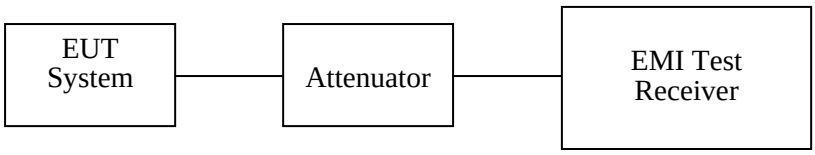
(2) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the licensee's frequency block edges, both upper and lower, as the design permits.

(3) The measurements of emission power can be expressed in peak or average values, provided they are expressed in the same parameters as the transmitter power.

Test Procedure

The RF output of the EUT system was connected to the input of the EMI test receiver through sufficient attenuation.

The center of the EMI test receiver was set to block edge frequency, RBW set to 10 kHz.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Signal Analyzer	FSIQ 26	609358	2011-07-08	2012-07-07
Rohde & Schwarz	EMI Test Receiver	ESCI	100224	2011-11-11	2012-11-10
Agilent	PSA Series Spectrum Analyzer	E4443A	MY45300749	2011-10-28	2012-10-27
Agilent	ESG-D Series Signal Generator	E4432B	GB40051703	2011-10-28	2012-10-27

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Data

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	56 %
ATM Pressure:	100.0kPa

The testing was performed by Felix Li from 2011-11-26 to 2012-01-19.

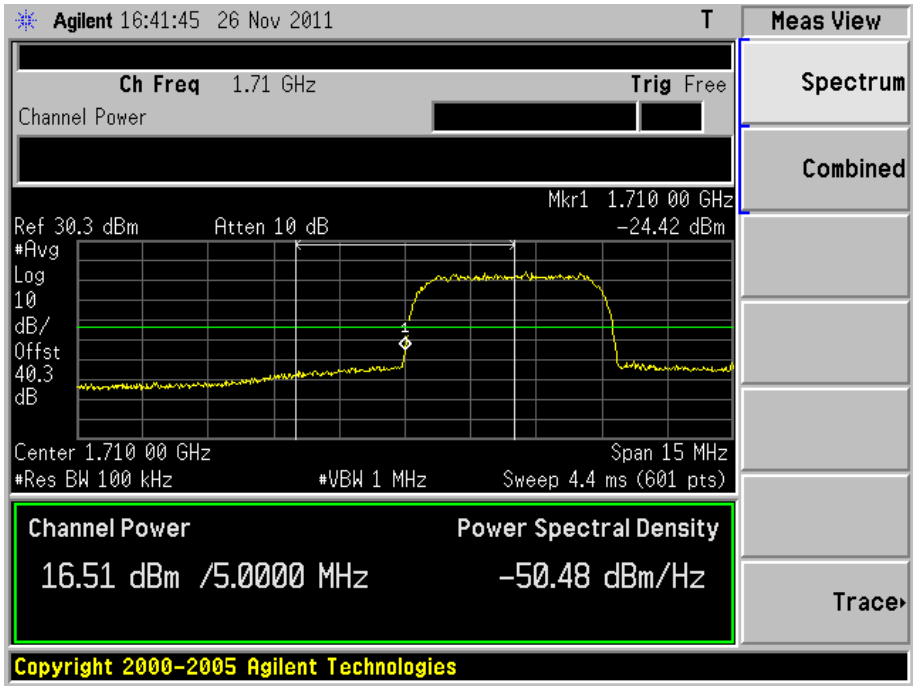
Please refer to the following tables and plots.

WCDMA:

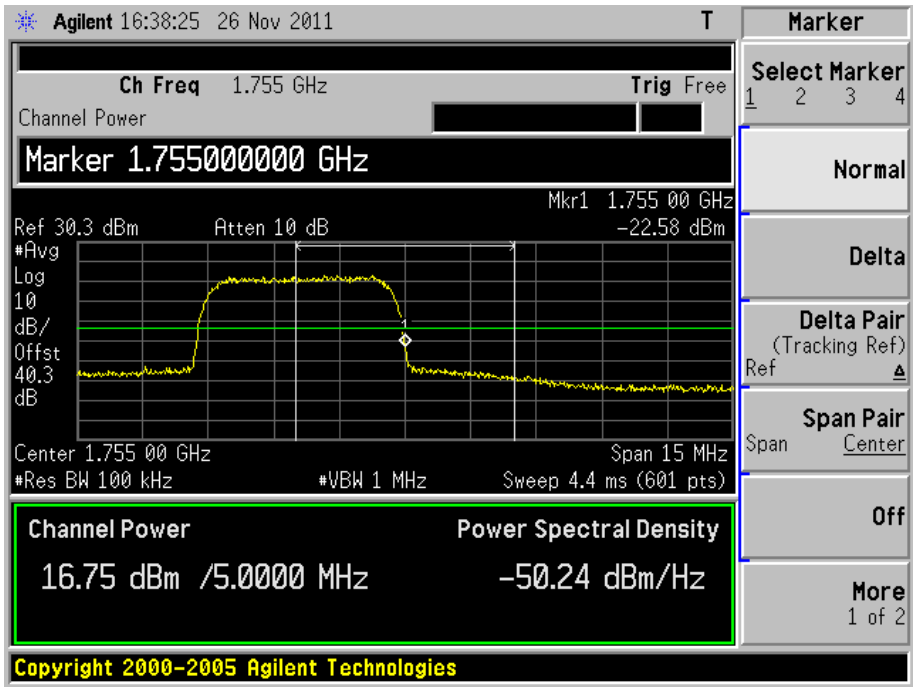
Mode	Channel	Frequency (MHz)	Emission (dBm)	Limit (dBm)
Uplink (1710-1755)MHz	Lowest	1710	-24.42	-13
	Highest	1755	-22.58	-13
Downlink (2110-2155)MHz	Lowest	2110	-17.83	-13
	Highest	2155	-16.33	-13

Test Plots:

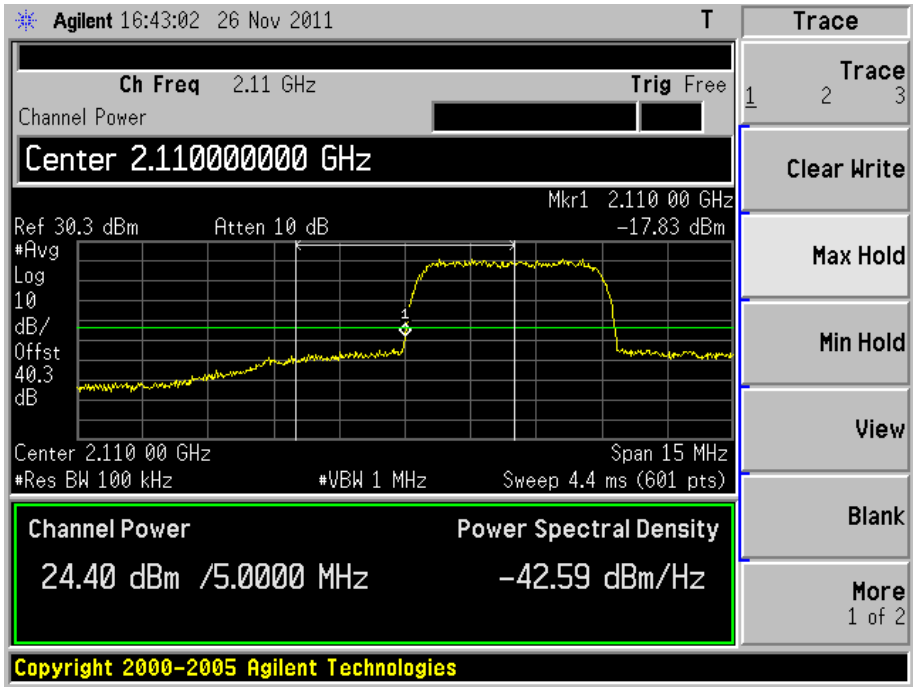
Uplink mode, Left Bandage



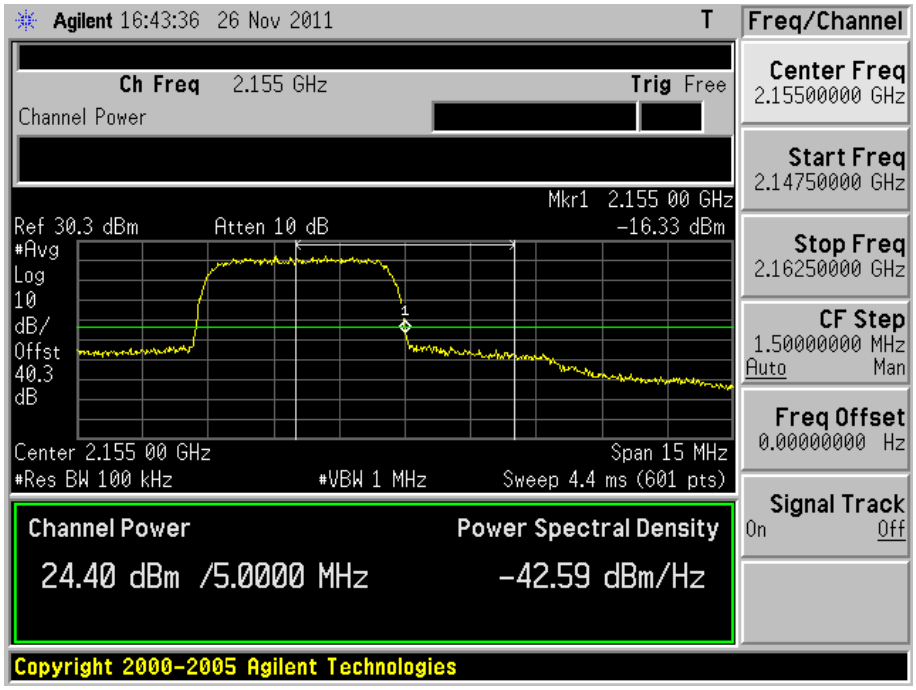
Uplink mode, Right Bandage



Downlink mode, Left Bandage



Downlink mode, Right Bandage

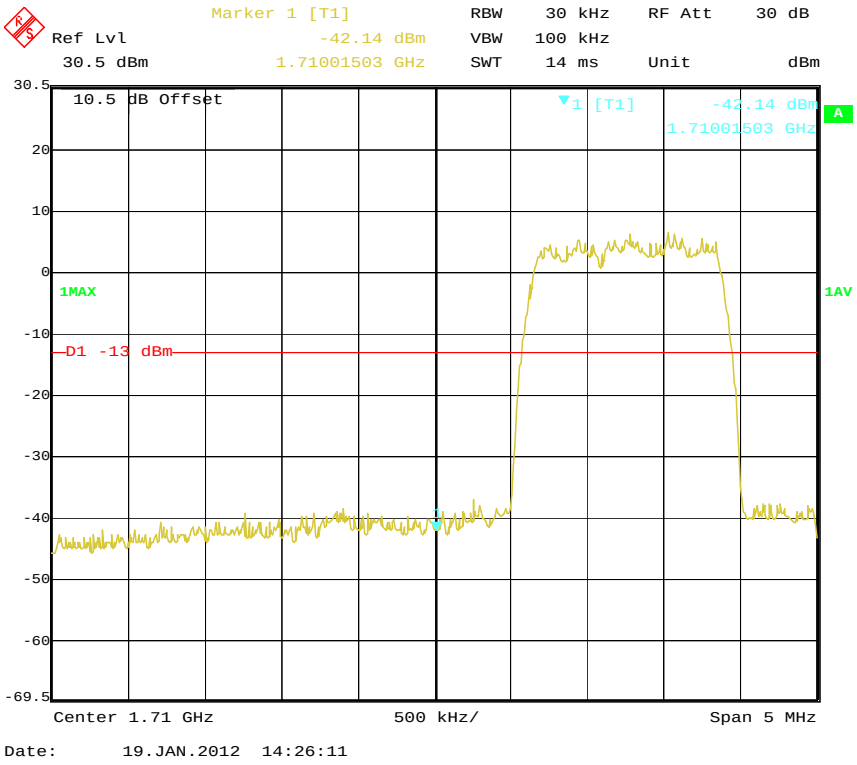


CDMA:

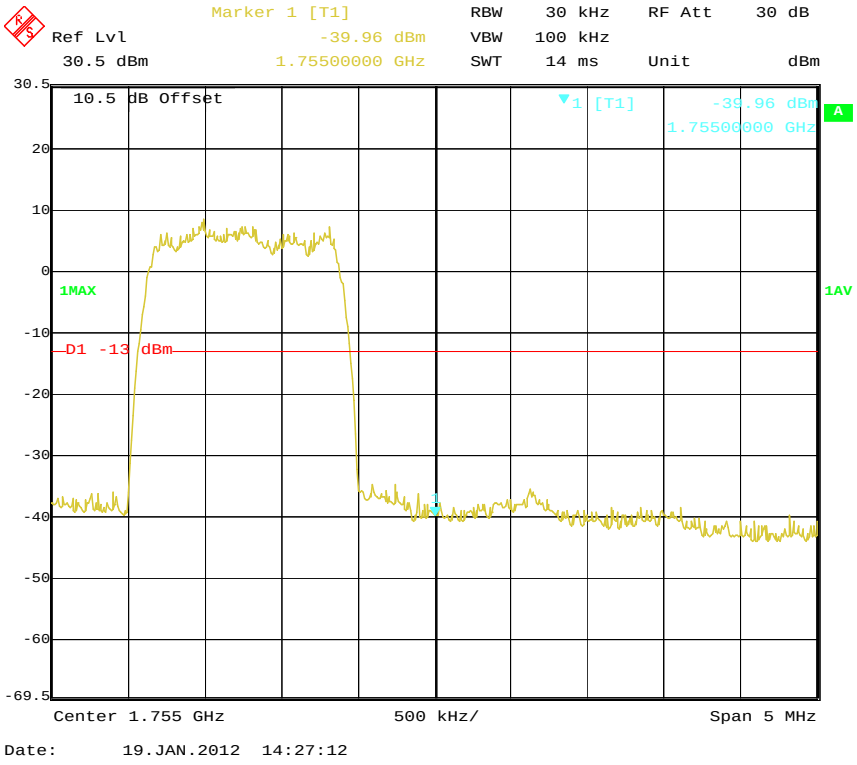
Mode	Channel	Frequency (MHz)	Emission (dBm)	Limit (dBm)
Uplink (1710-1755)MHz	Lowest	1710.00	-42.14	-13
	Highest	1755.00	-39.96	-13
Downlink (2110-2155)MHz	Lowest	2109.79	-36.12	-13
	Highest	2155.00	-36.77	-13

Test Plots:

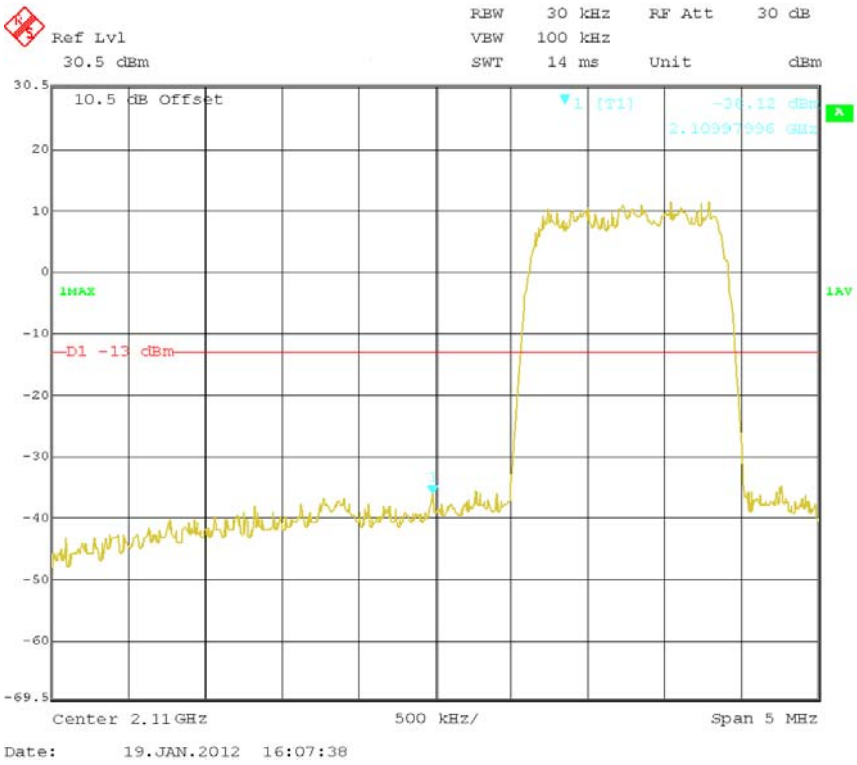
Uplink mode, Left Bandage



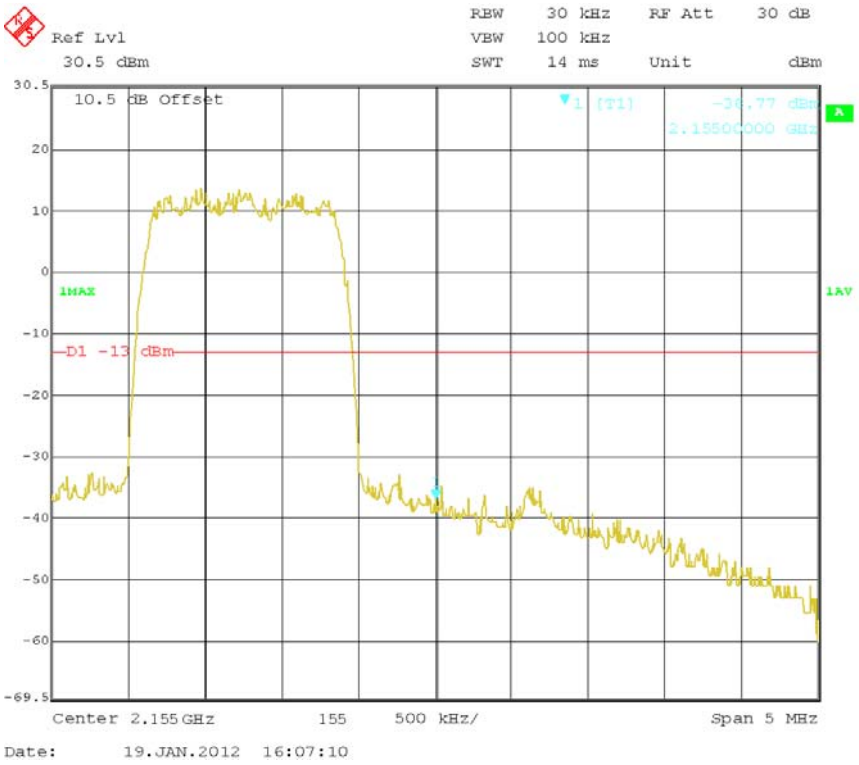
Uplink mode, Right Bandage



Downlink mode, Left Bandage



Downlink mode, Right Bandage



******* END OF REPORT *******