

FCC PART 22H
MEASUREMENT AND TEST REPORT

For

Global Horwey Corp. Ltd.

2847 Eaglecrest PL .Walnut, CA 91789, USA

FCC ID: ZBA8543709200C

Report Type: Original Report	Product Type: Cell Phone Signal Booster
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Report Number: <u>RDG11022101-22H</u>	
Report Date: <u>2011-04-20</u>	
Reviewed By: <u>EMC Engineer</u> <i>Merry Zhao</i>	
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Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. This report **must not** be used by the customer to claim product certification, approval, or endorsement by NVLAP*, NIST, or any agency of the Federal Government.

* This report contains data that are not covered by the NVLAP accreditation and are marked with an asterisk "★" (Rev.2)

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *Global Horwey Corp. Ltd.* 's product, model number: *PS-170(FCC ID: ZBA8543709200C)* or the "EUT" as referred to in this report is a *Cell Phone Signal Booster* , which measures approximately: 19.9 cm (L) x 12.0 cm (W) x 3.0 cm (H), rated input voltage: DC 5V from adaptor.

Frequency Range:

824-849 MHz (Uplink), 869-894 MHz (Downlink)

Output Power:

20 dBm (Uplink), 20 dBm (Downlink)

** All measurement and test data in this report was gathered from production sample serial number: 201010200897 (Assigned by BACL, Shenzhen). The EUT was received on 2011-02-21.*

Objective

This type approval report is prepared on behalf of *Global Horwey Corp. Ltd.* in accordance with Part 2, Subpart J, Part 22 Subpart H of the Federal Communication Commissions rules.

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

Related Submittal(s)/Grant(s)

N/A

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 22 Subpart H - Public Mobile Services

Applicable Standards: TIA/EIA 603-C, ANSI C63.4-2009.

All radiated and conducted emissions measurements were performed at Bay Area Compliance Laboratories Corp. 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 test 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 a National Institute of Standards and Technology (NIST) accredited laboratory, under the 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 modifications were made to the EUT.

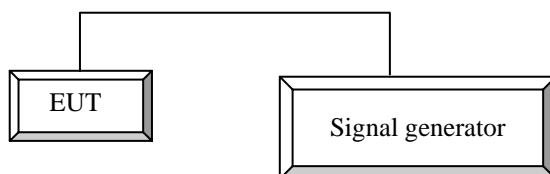
Local Support Equipment List and Details

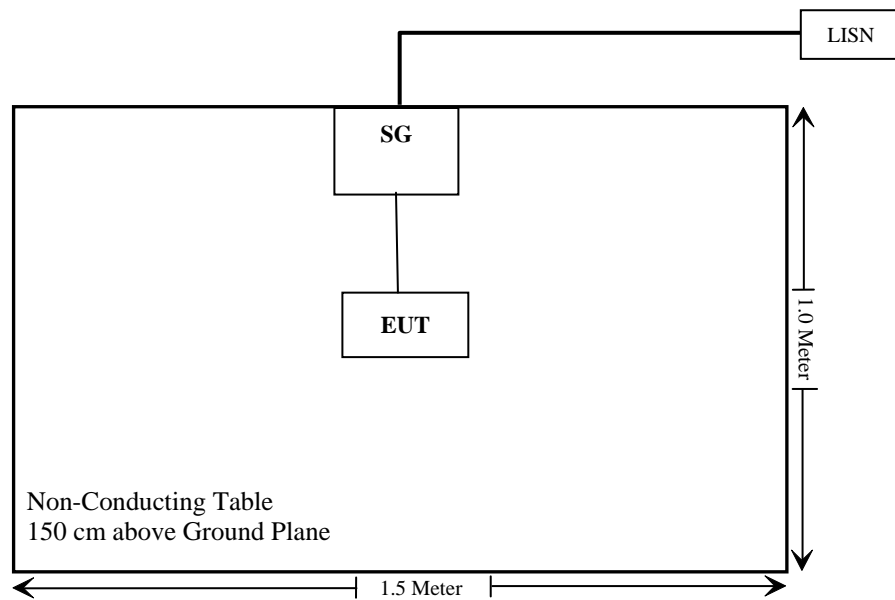
Manufacturer	Description	Model	Serial Number	FCC ID
HP	Signal Generator	E4432B	US38441663	-

External I/O Cable

Cable Description	Length (m)	From/Port	To
Shielded Detachable RF Cable	1.0	Signal Generator	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
§2.1046; §22.913 (a)	RF Output Power	Compliance
§2.1047	Modulation Characteristics	N/A
§2.1049; §22.905 §22.917	99% & -26 dB Occupied Bandwidth	Compliance
§2.1051, §22.917 (a)	Spurious Emissions at Antenna Terminal	Compliance
§2.1053, §22.917 (a)	Field Strength of Spurious Radiation	Compliance
§22.917 (a)	Out of band emission, Band Edge	Compliance
§2.1055, §22.355	Frequency stability vs. temperature Frequency stability vs. voltage	N/A

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

Applicable Standard

According to FCC §1.1307 (b)(1) and §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

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

MPE Predication

Predication of MPE limit at a given distance

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

Where:

S = power density (in appropriate units, e.g. mW/cm²)

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)

Mode	Frequency (MHz)	Antenna Gain		Conducted Power		Evaluation Distance (cm)	Power Density (mW/cm ²)	MPE Limit (mW/cm ²)
		(dBi)	(numeric)	(dBm)	(mW)			
Cellular Band (GSM)								
Uplink	824.20	9	7.9	19.12	83.18	20	0.131	0.5495
Downlink	881.60	9	7.9	19.60	91.20	20	0.143	0.5877
Cellular Band (CDMA)								
Uplink	824.70	9	7.9	18.77	75.33	20	0.118	0.5498
Downlink	881.52	9	7.9	19.45	88.10	20	0.139	0.5877

Result: The device meets FCC MPE limit at 20 cm distance.

FCC §2.1047 - MODULATION CHARACTERISTIC

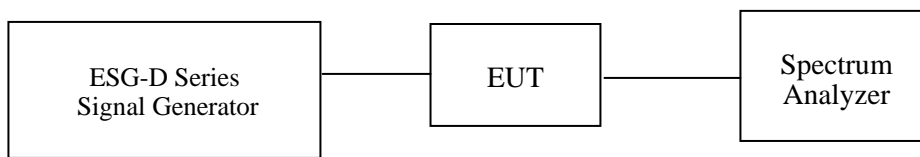
According to FCC §2.1047(d), Part 22H there is no specific requirement for digital modulation, therefore modulation characteristic is not presented.

FCC § 2.1046, § 22.913 (a) - RF OUTPUT POWER**Applicable Standard**

According to FCC §2.1046 and §22.913 (a), the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

Test Procedure*Conducted method:*

The RF output of the transmitter was connected to the wireless test set and the spectrum analyzer through sufficient attenuation.

*Radiated method:*

TIA 603-C section 2.2.17

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100224	2010-11-24	2011-11-23
HP	ESG-D Series Signal Generator	E4432B	US38441663	2010-06-11	2011-06-10

*** 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 Alvin Huang on 2011-02-28 and 2011-04-19.

Conducted Power:

Downlink:

Mode	Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)
GSM	Low	869.20	18.44	38.45
	Middle	881.60	19.60	38.45
	High	893.80	19.32	38.45

Uplink:

Mode	Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)
GSM	Low	824.20	19.12	38.45
	Middle	836.60	18.68	38.45
	High	848.80	16.80	38.45

Downlink:

Mode	Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)
CDMA	Low	869.70	18.42	38.45
	Middle	881.52	19.45	38.45
	High	893.31	18.75	38.45

Uplink:

Mode	Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)
CDMA	Low	824.70	18.77	38.45
	Middle	836.52	18.19	38.45
	High	848.31	17.13	38.45

FCC §2.1049, §22.917 & §22.905 - OCCUPIED BANDWIDTH

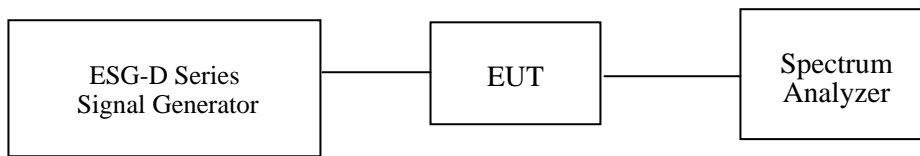
Applicable Standards

FCC §2.1049, §22.917 and §22.905.

Test Procedure

The RF output of the transmitter was connected to the simulator and the spectrum analyzer through sufficient attenuation.

The resolution bandwidth of the spectrum analyzer was set at 30 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	2010-11-24	2011-11-23
HP	ESG-D Series Signal Generator	E4432B	US38441663	2010-06-11	2011-06-10

*** 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 Alvin Huang on 2011-02-28 to 2011-04-19.

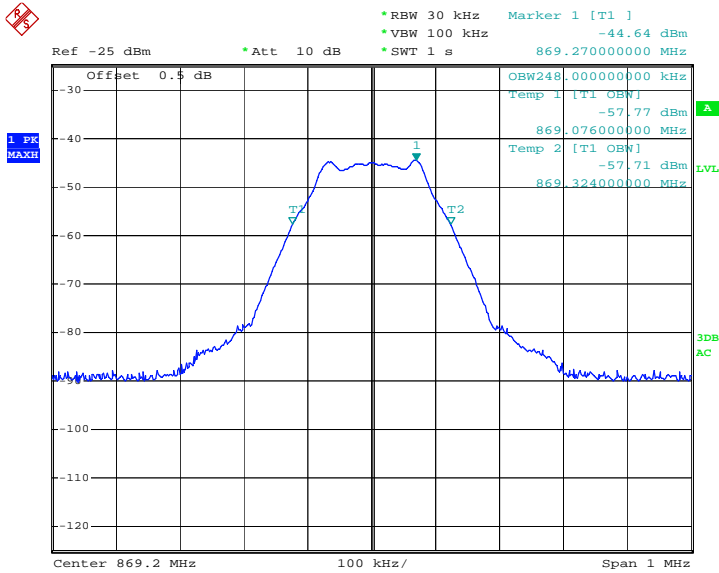
Please refer to the following plots.

GSM, Downlink:

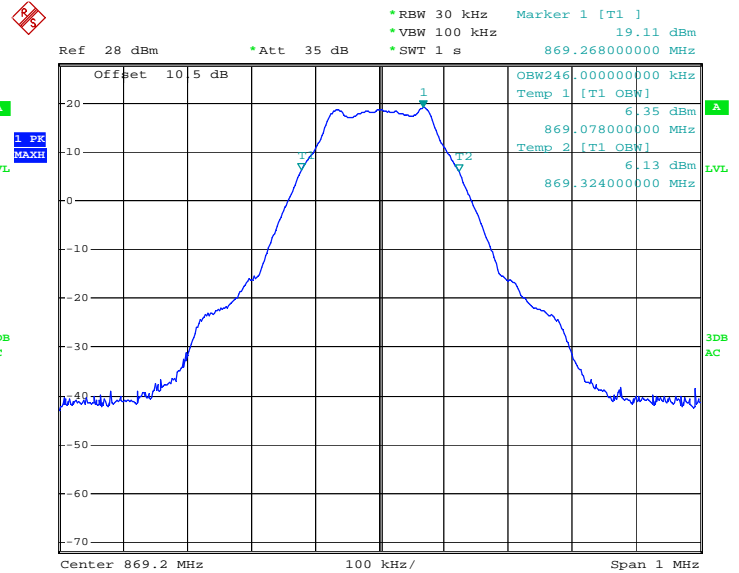
Channel	Frequency (MHz)	26 dB Occupied Bandwidth (kHz)	99% Occupied Bandwidth (kHz)
Low	869.20	332	246
Mid	881.60	332	248
High	893.80	332	248

GSM, Uplink:

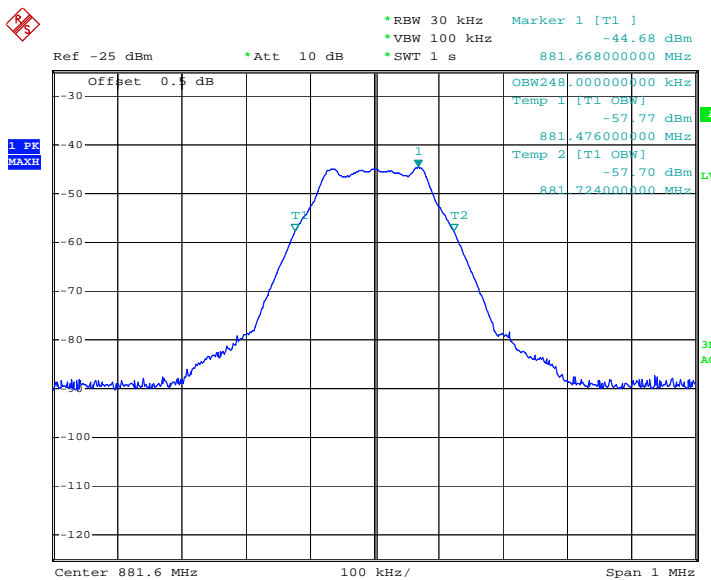
Channel	Frequency (MHz)	26 dB Occupied Bandwidth (kHz)	99% Occupied Bandwidth (kHz)
Low	824.20	332	248
Mid	836.60	330	246
High	848.80	332	246

GSM, Downlink:**99% Occupied Bandwidth:****Input, Low Channel**

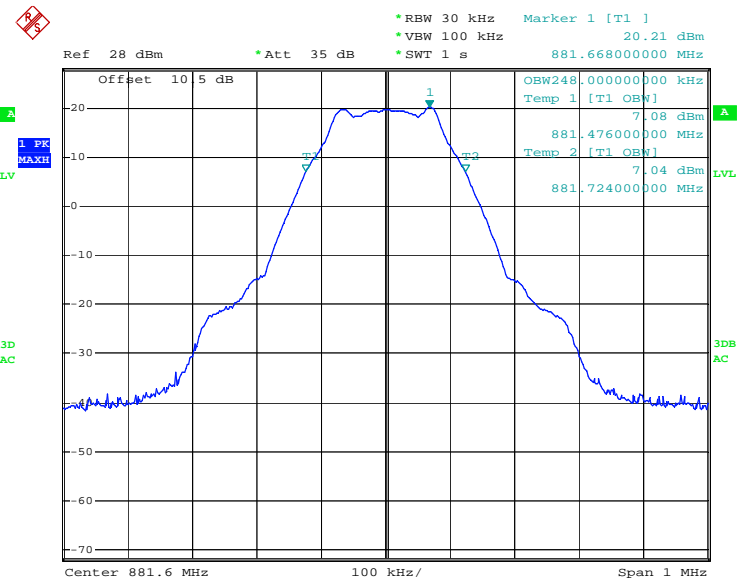
Date: 19.APR.2011 11:41:17

Output, Low Channel

Date: 19.APR.2011 11:31:07

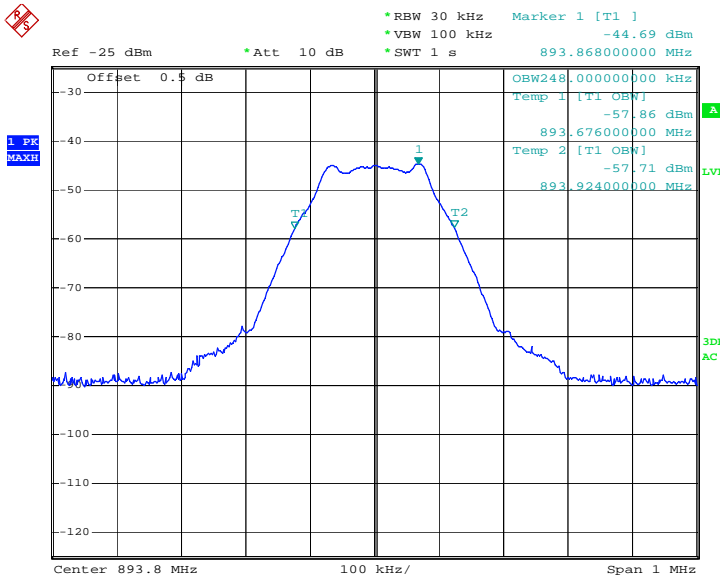
Input, Middle Channel

Date: 19.APR.2011 11:40:45

Output, Middle Channel

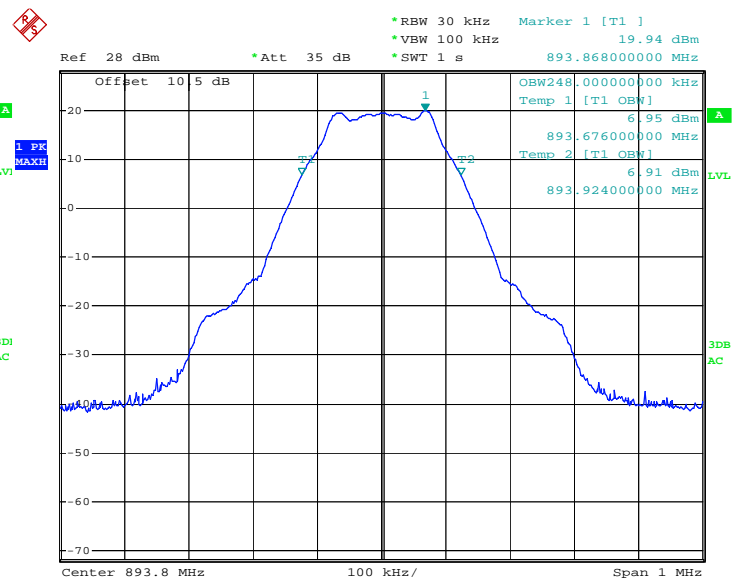
Date: 19.APR.2011 11:35:35

Input, High Channel



Date: 19.APR.2011 11:43:03

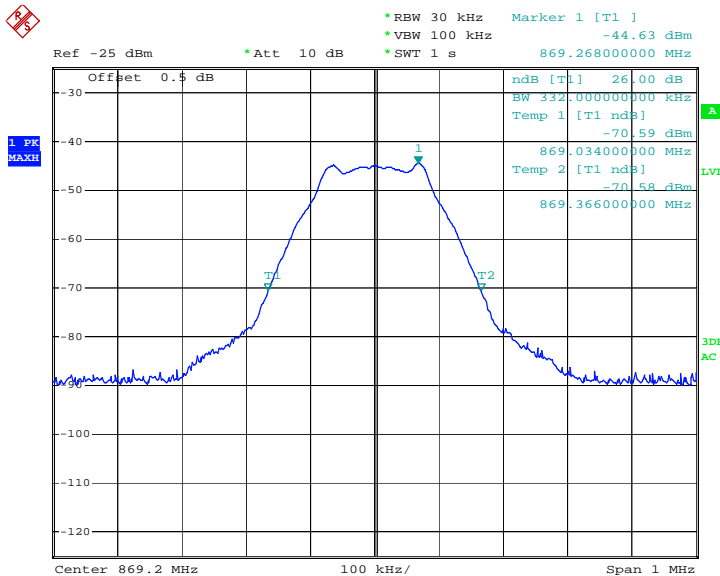
Output, High Channel



Date: 19.APR.2011 11:33:46

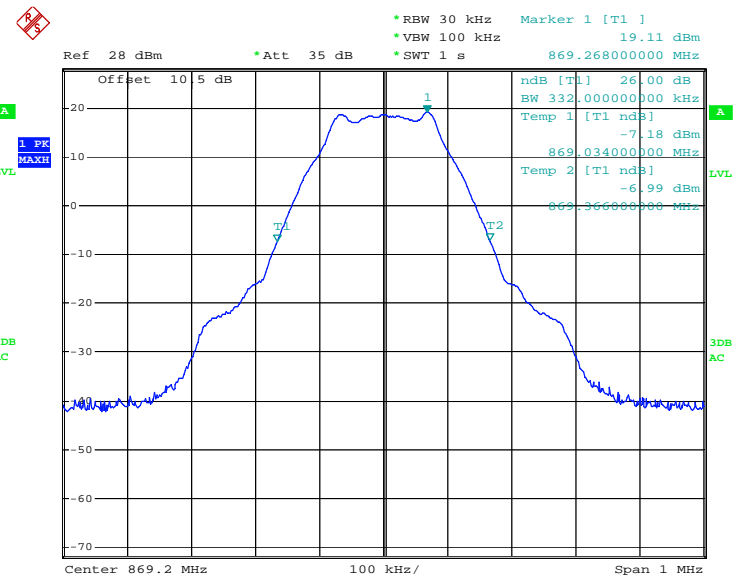
26 dB Bandwidth:

Input, Low Channel



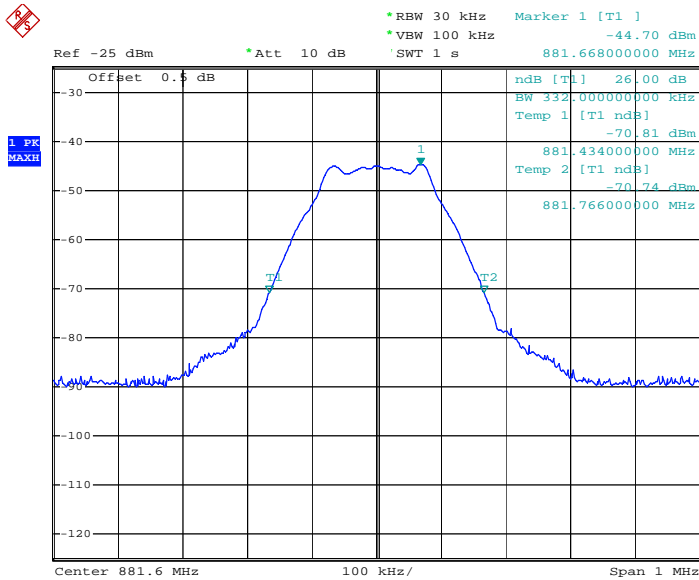
Date: 19.APR.2011 11:41:57

Output, Low Channel



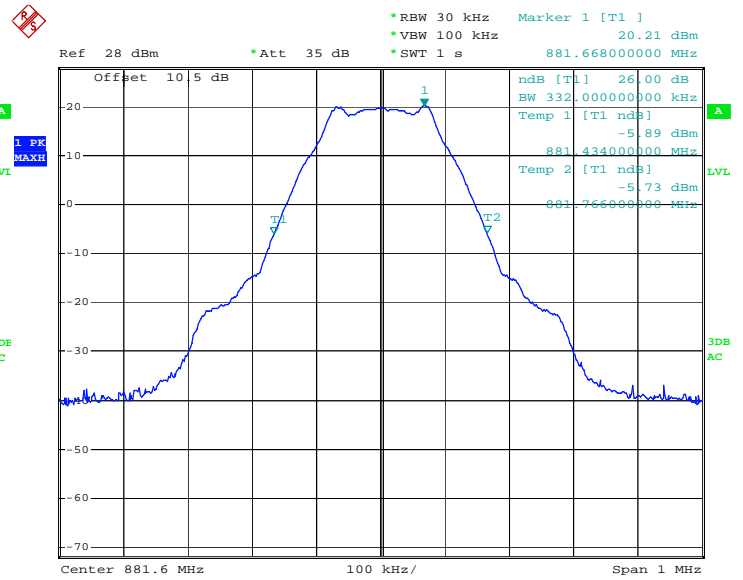
Date: 19.APR.2011 11:30:48

Input, Middle Channel



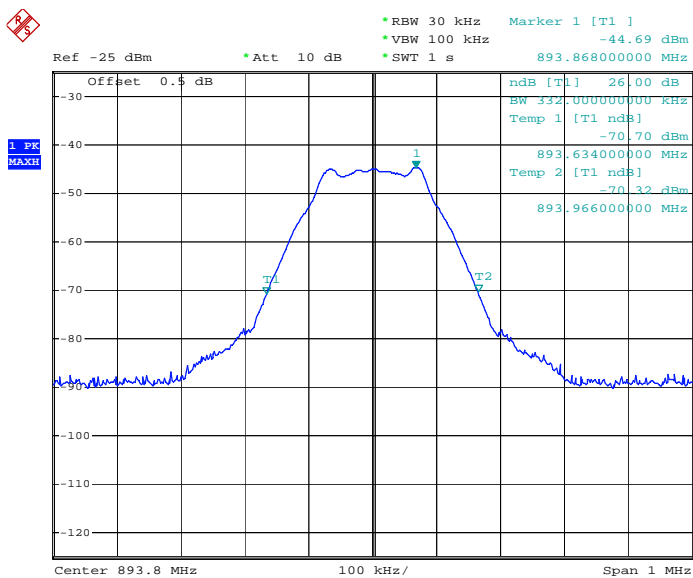
Date: 19.APR.2011 11:40:19

Output, Middle Channel



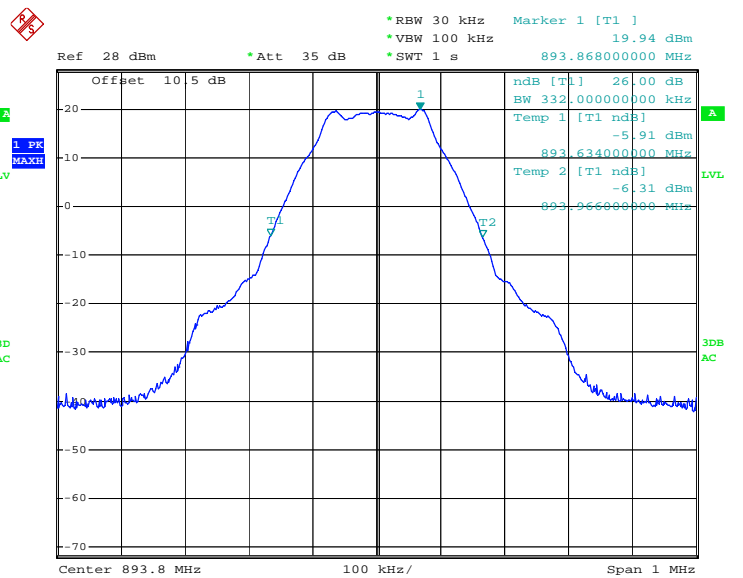
Date: 19.APR.2011 11:36:20

Input, High Channel

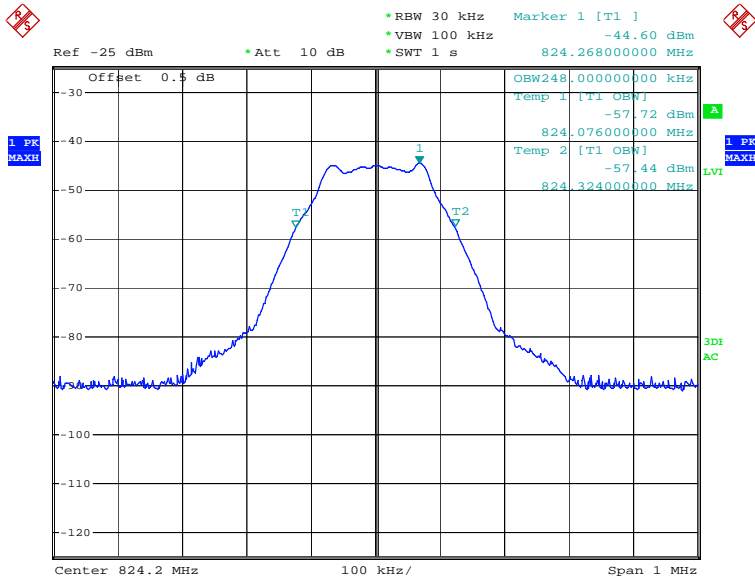


Date: 19.APR.2011 11:42:39

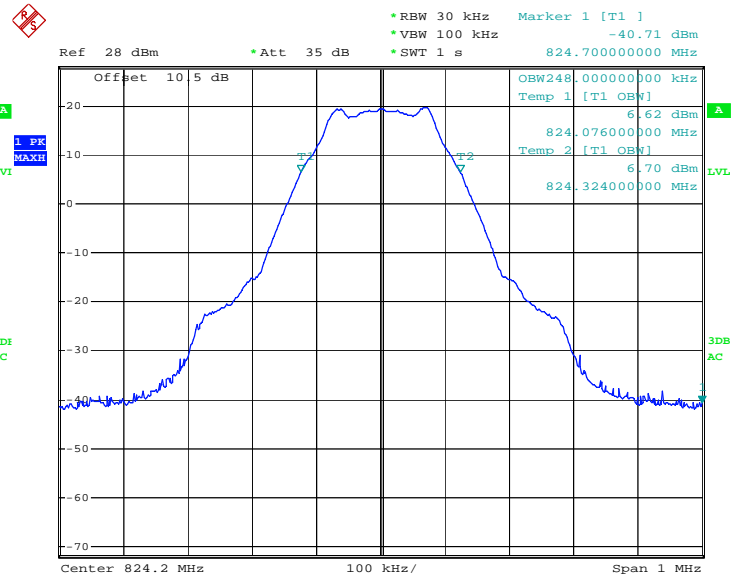
Output, High Channel



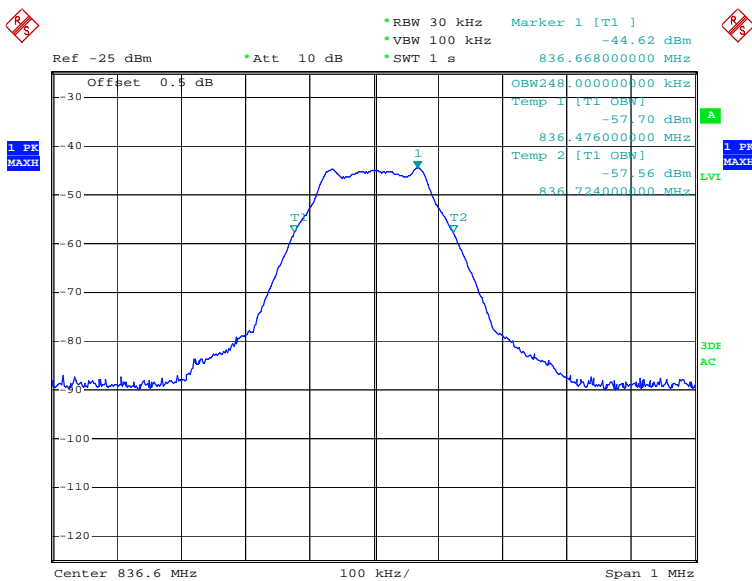
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GSM, Uplink:**99% Occupied Bandwidth:****Input, Low Channel**

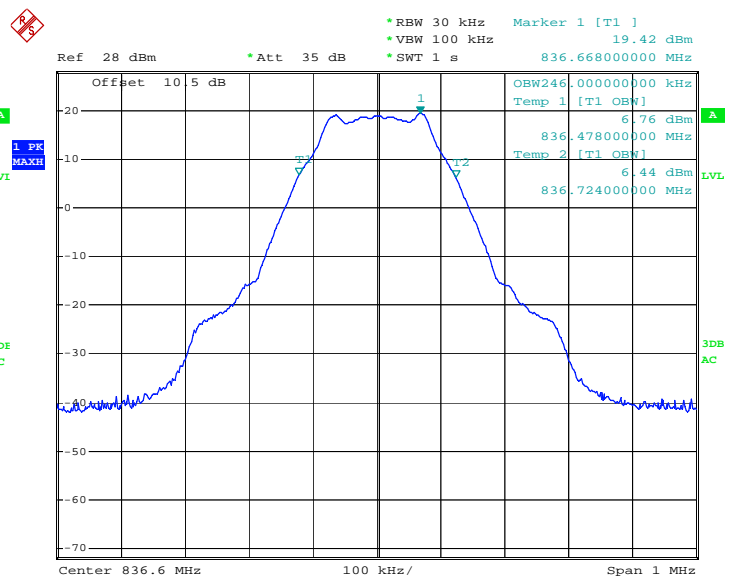
Date: 19.APR.2011 11:22:54

Output, Low Channel

Date: 19.APR.2011 11:08:43

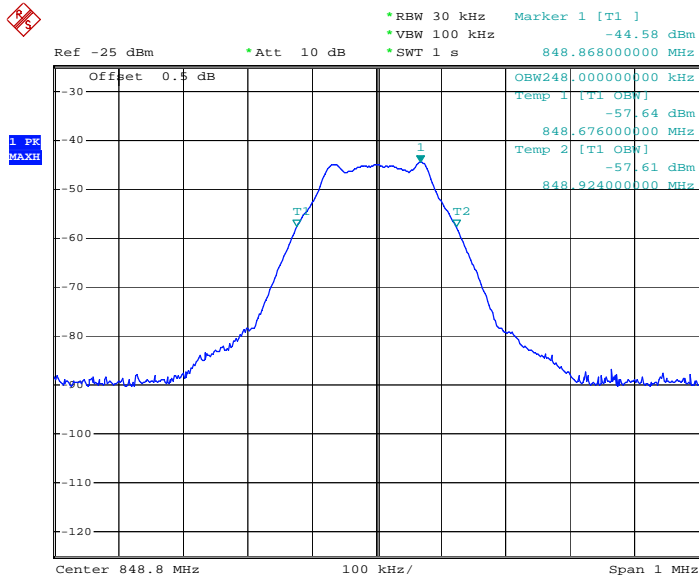
Input, Middle Channel

Date: 19.APR.2011 11:21:53

Output, Middle Channel

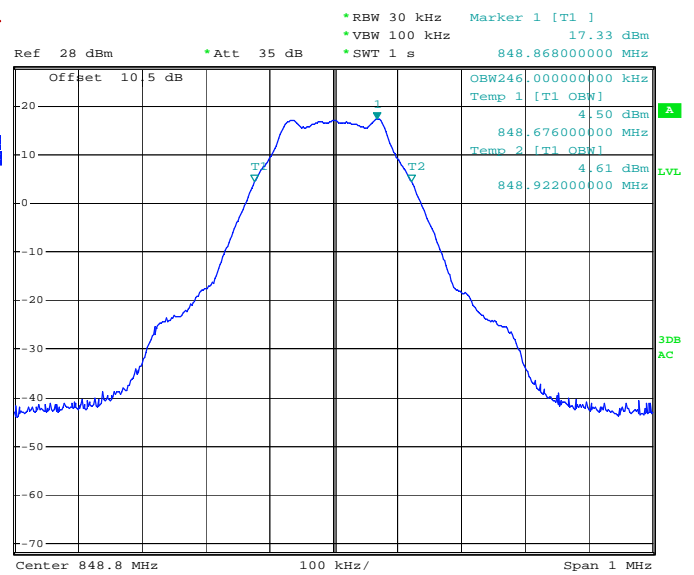
Date: 19.APR.2011 11:10:27

Input, High Channel



Date: 19.APR.2011 11:20:29

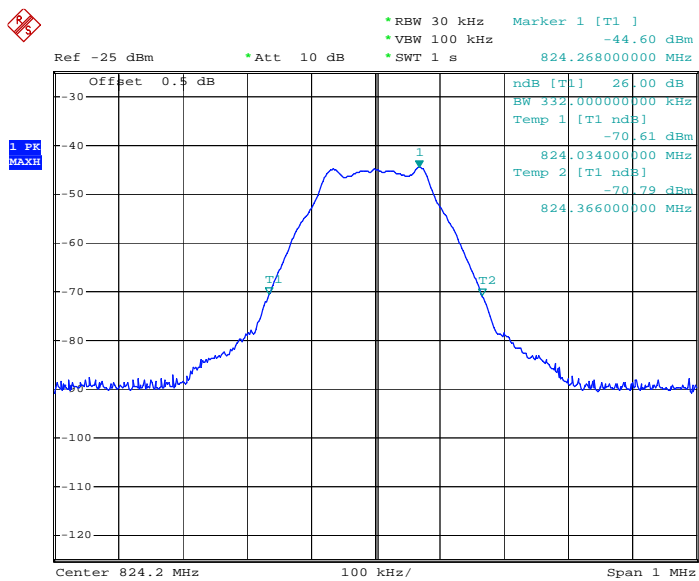
Output, High Channel



Date: 19.APR.2011 11:08:13

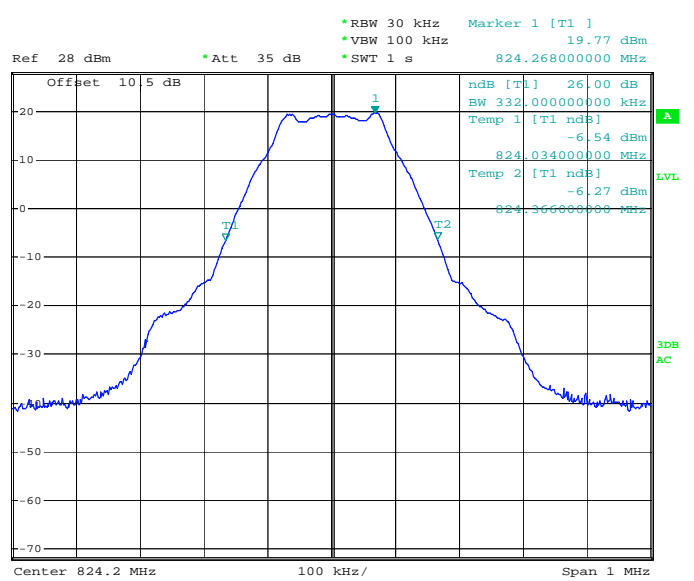
26 dB Bandwidth:

Input, Low Channel



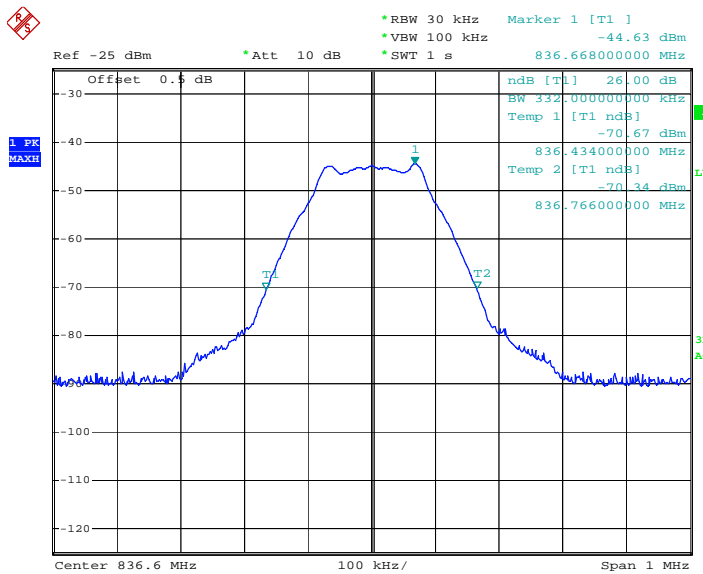
Date: 19.APR.2011 11:22:40

Output, Low Channel



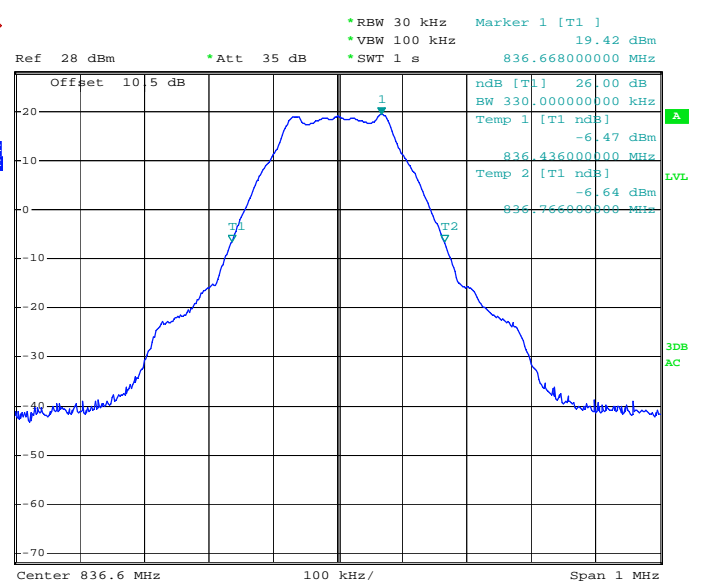
Date: 19.APR.2011 11:09:34

Input, Middle Channel



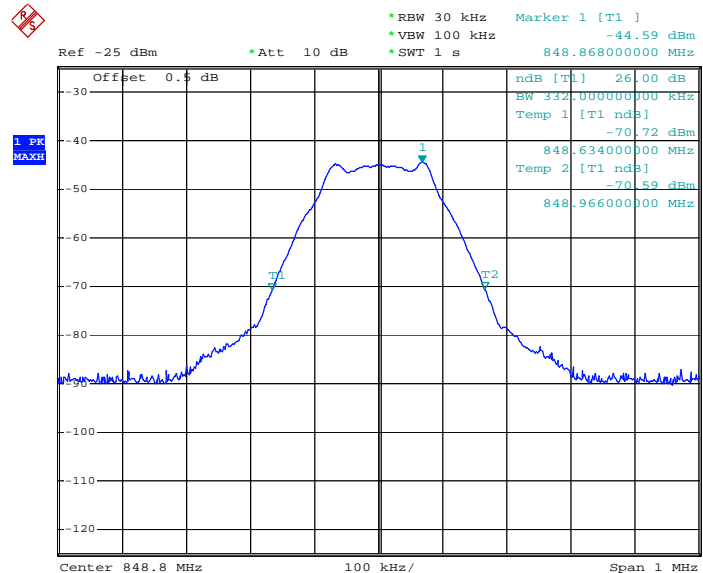
Date: 19.APR.2011 11:22:12

Output, Middle Channel



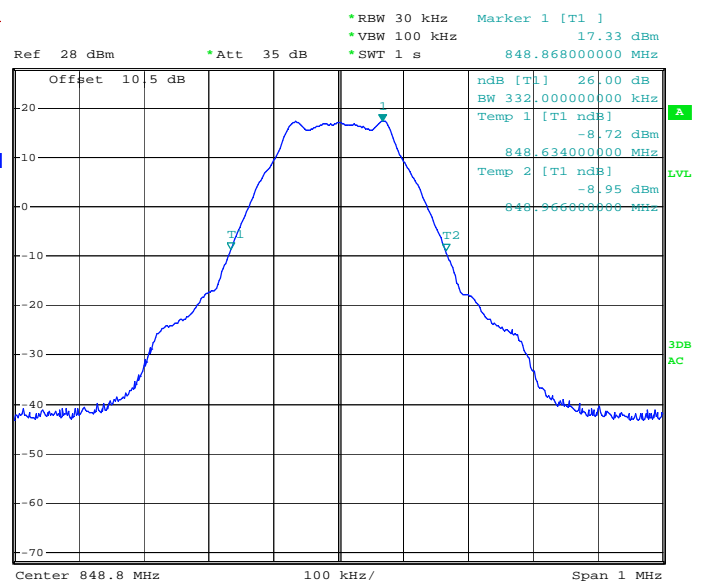
Date: 19.APR.2011 11:09:58

Input, High Channel



Date: 19.APR.2011 11:20:07

Output, High Channel



Date: 19.APR.2011 11:07:54

CDMA, Downlink:

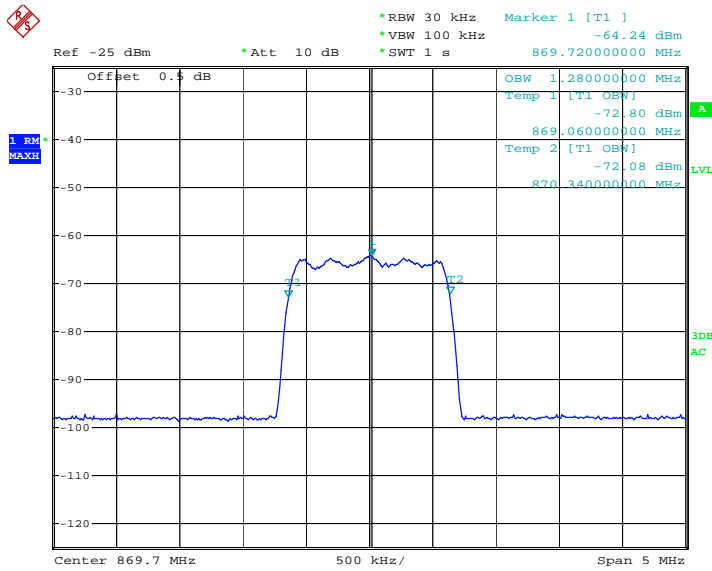
Channel	Frequency (MHz)	26 dB Occupied Bandwidth (kHz)	99% Occupied Bandwidth (kHz)
Low	869.70	1410	1260
Mid	881.52	1420	1260
High	893.31	1410	1260

CDMA, Uplink:

Channel	Frequency (MHz)	26 dB Occupied Bandwidth (kHz)	99% Occupied Bandwidth (kHz)
Low	824.70	1420	1260
Mid	836.52	1420	1260
High	848.31	1420	1260

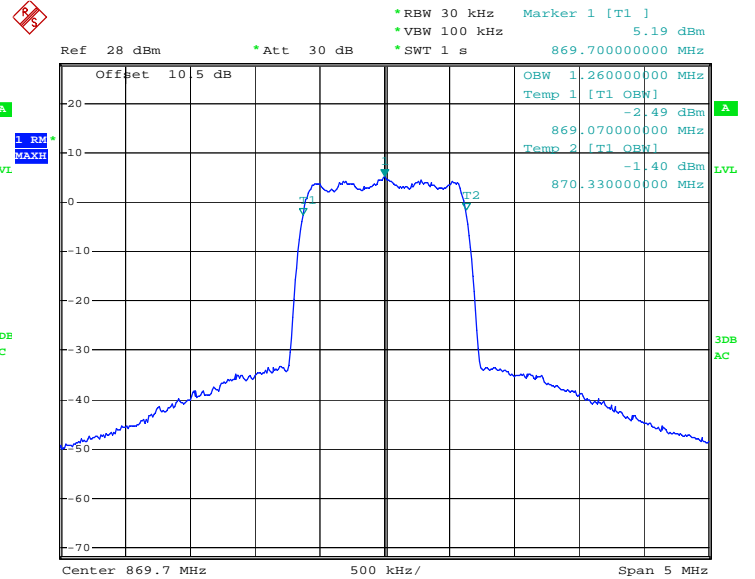
CDMA, Downlink:**99% Occupied Bandwidth:**

Input, Low Channel



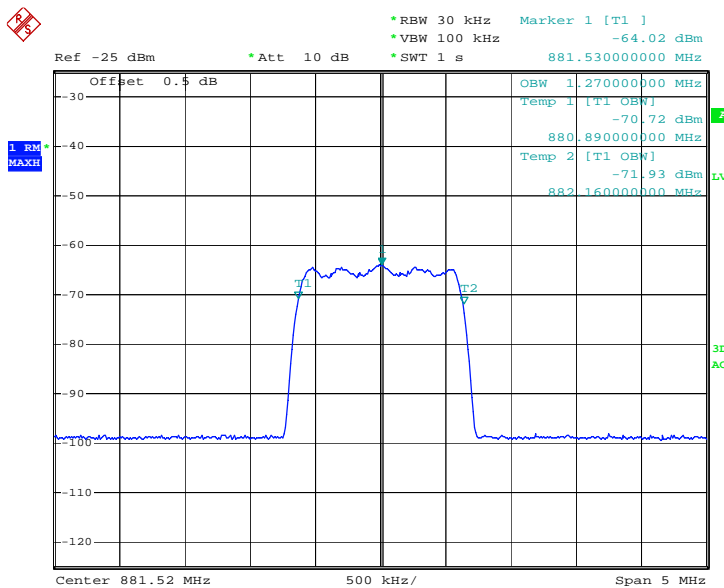
Date: 15.MAR.2011 19:39:29

Output, Low Channel



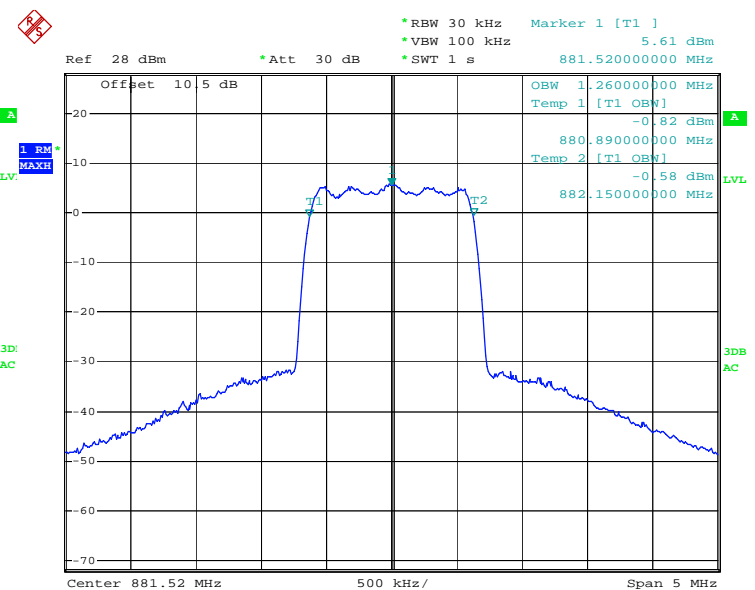
Date: 28.FEB.2011 21:23:43

Input, Middle Channel



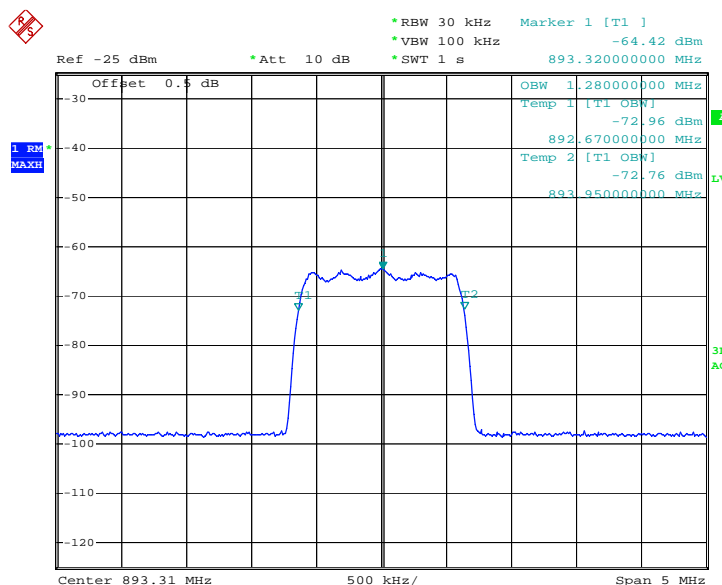
Date: 28.FEB.2011 21:29:32

Output, Middle Channel



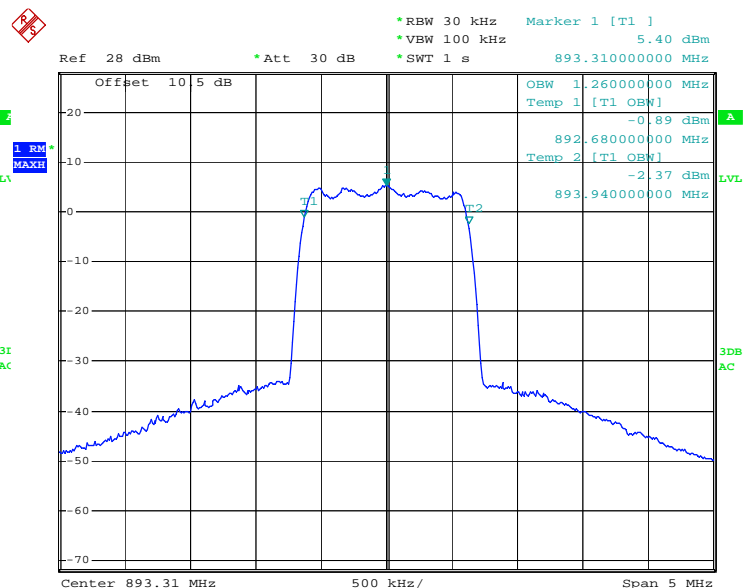
Date: 28.FEB.2011 21:22:31

Input, High Channel



Date: 15.MAR.2011 19:43:51

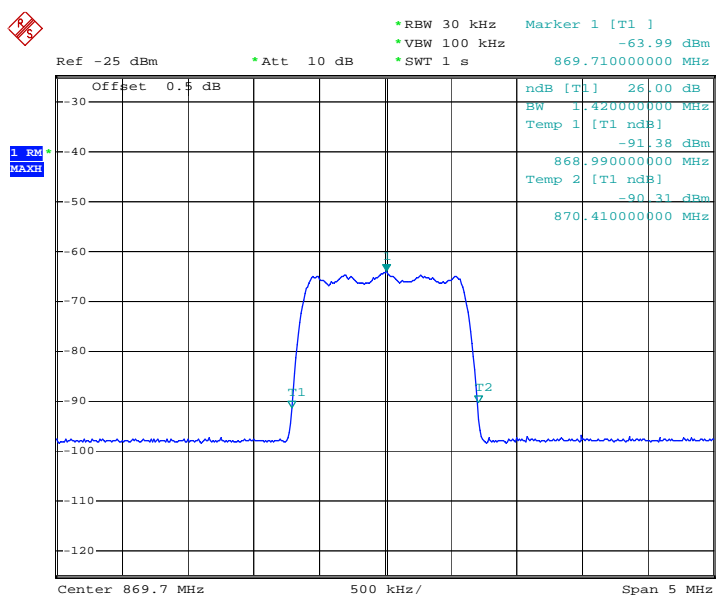
Output, High Channel



Date: 28.FEB.2011 21:22:05

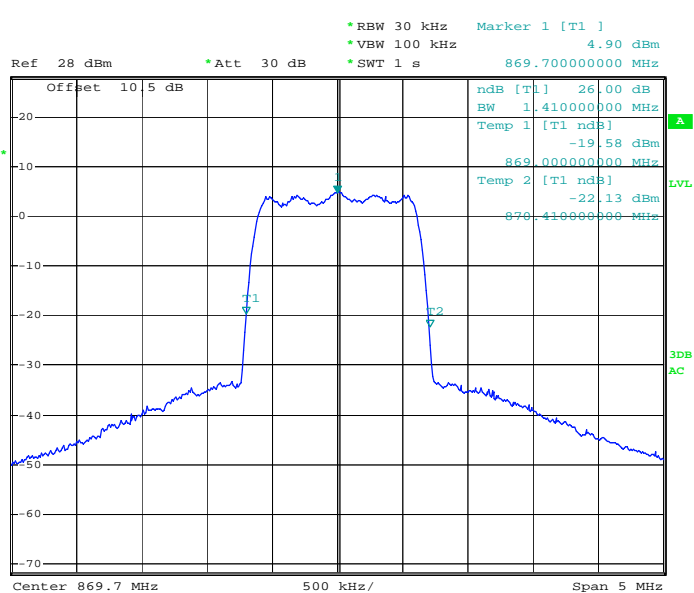
26 dB Bandwidth:

Input, Low Channel



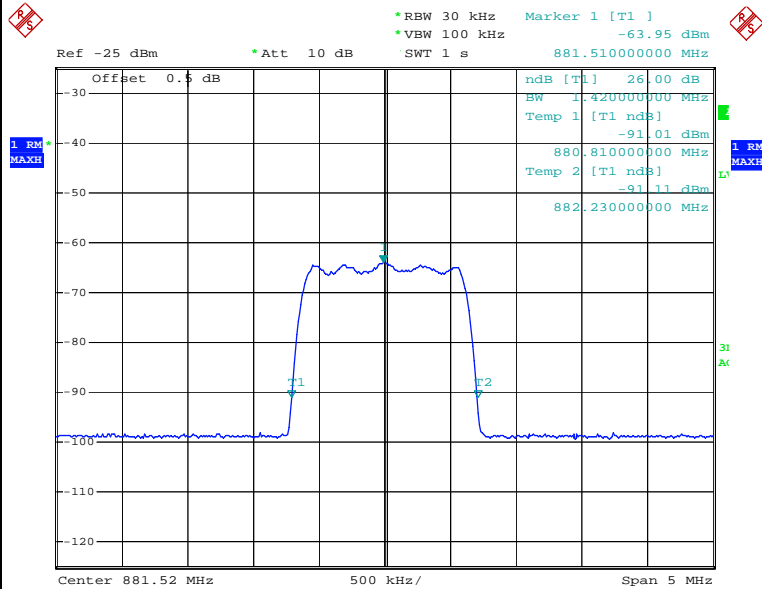
Date: 15.MAR.2011 19:40:28

Output, Low Channel



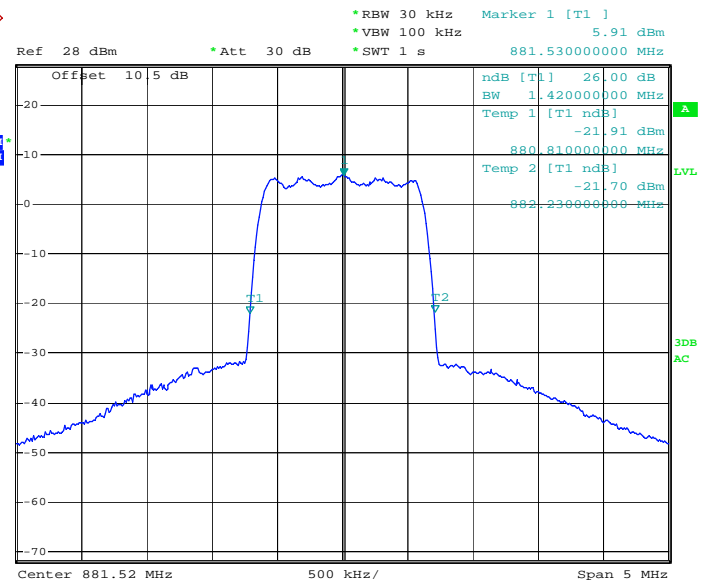
Date: 28.FEB.2011 21:23:24

Input, Middle Channel



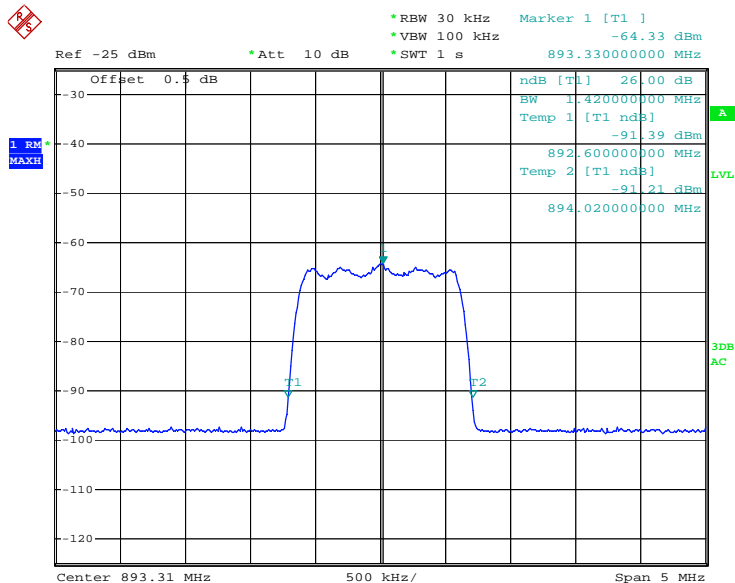
Date: 28.FEB.2011 21:29:11

Output, Middle Channel



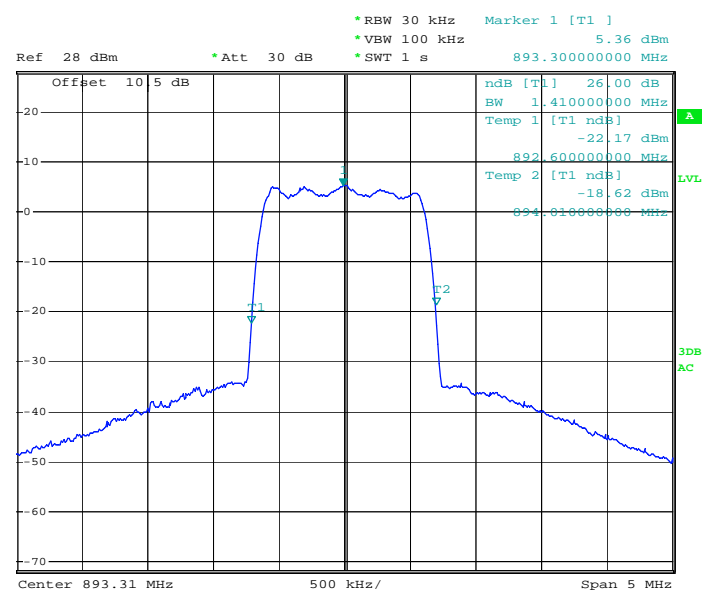
Date: 28.FEB.2011 21:22:49

Input, High Channel



Date: 15.MAR.2011 19:44:07

Output, High Channel

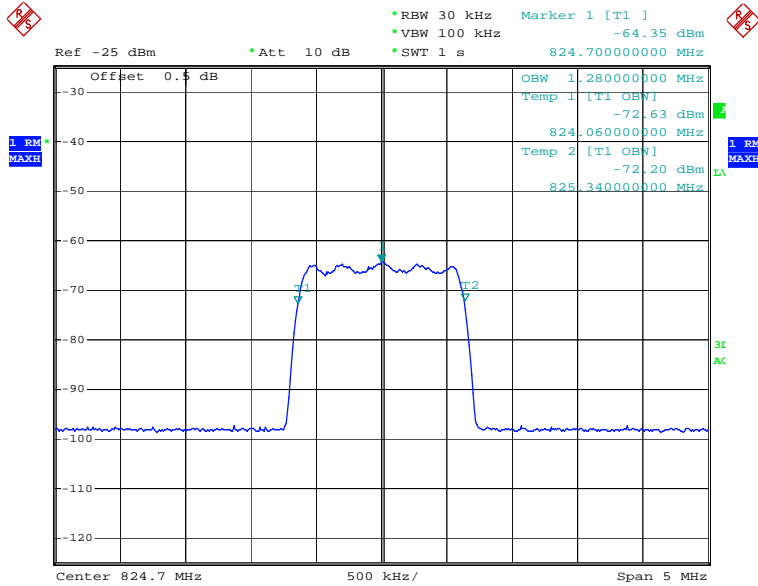


Date: 28.FEB.2011 21:21:41

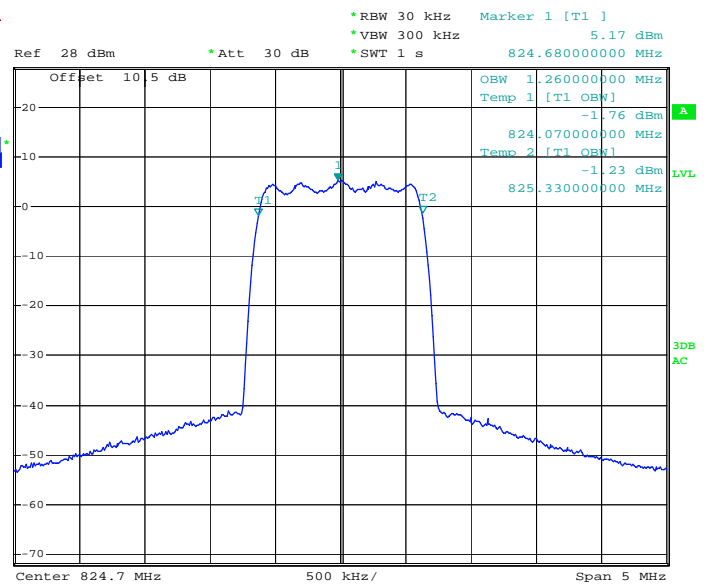
CDMA, Uplink:

99% Occupied Bandwidth:

Input, Low Channel



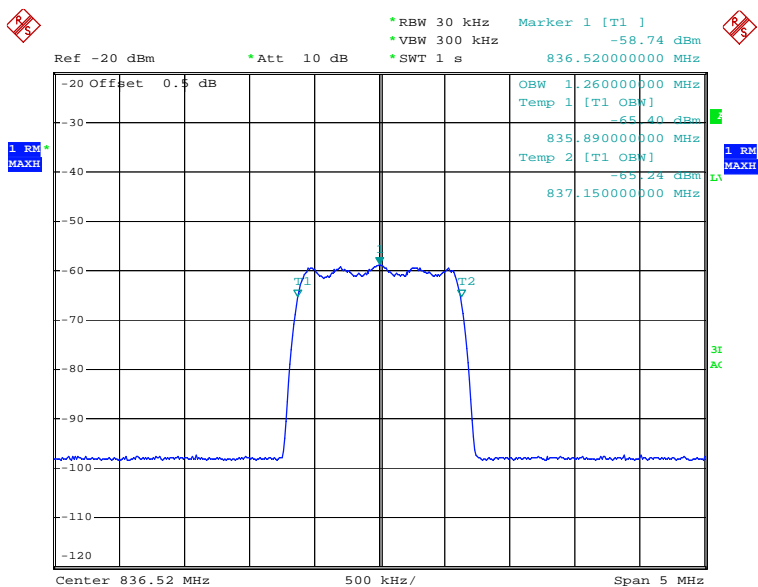
Output, Low Channel



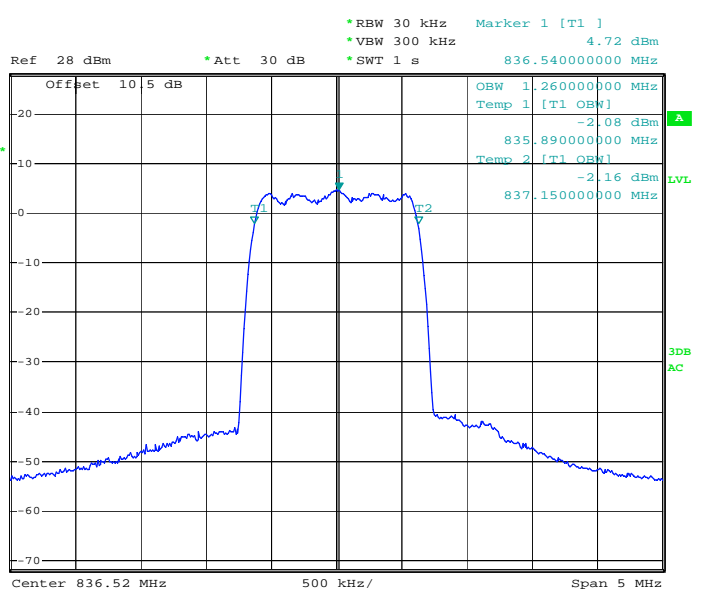
Date: 15.MAR.2011 19:38:48

Date: 28.FEB.2011 21:39:59

Input, Middle Channel



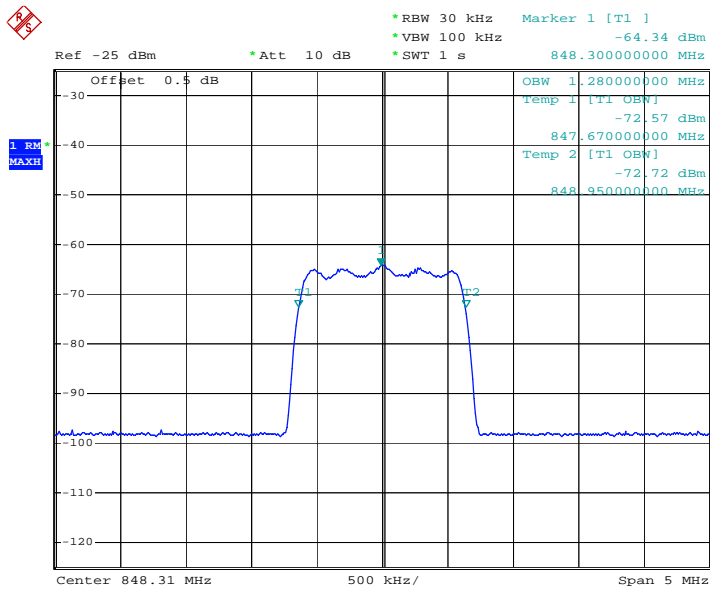
Output, Middle Channel



Date: 28.FEB.2011 21:42:28

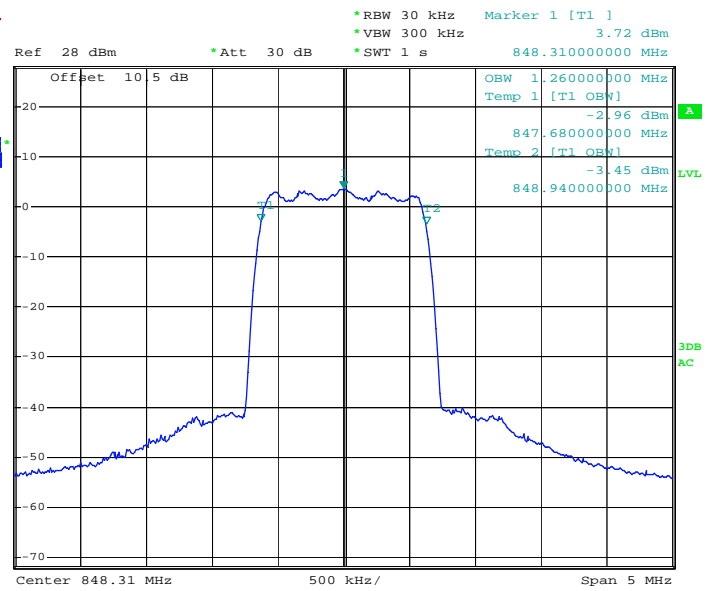
Date: 28.FEB.2011 21:40:28

Input, High Channel



Date: 15.MAR.2011 19:43:14

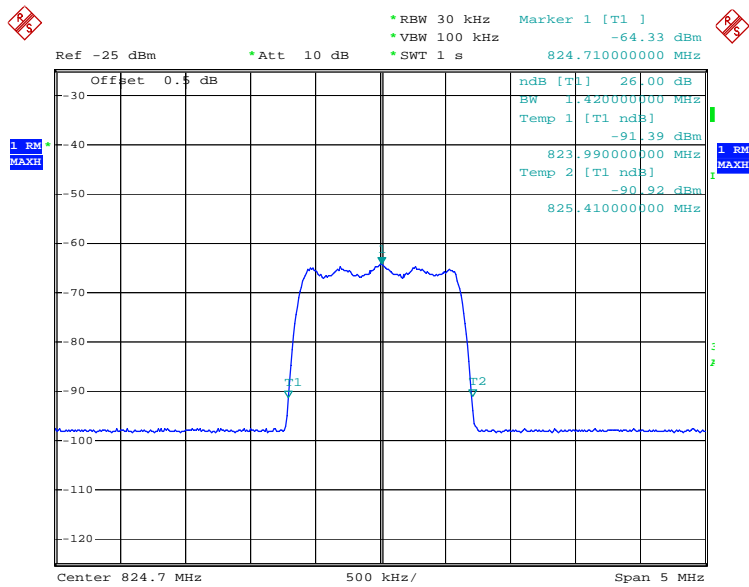
Output, High Channel



Date: 28.FEB.2011 21:38:08

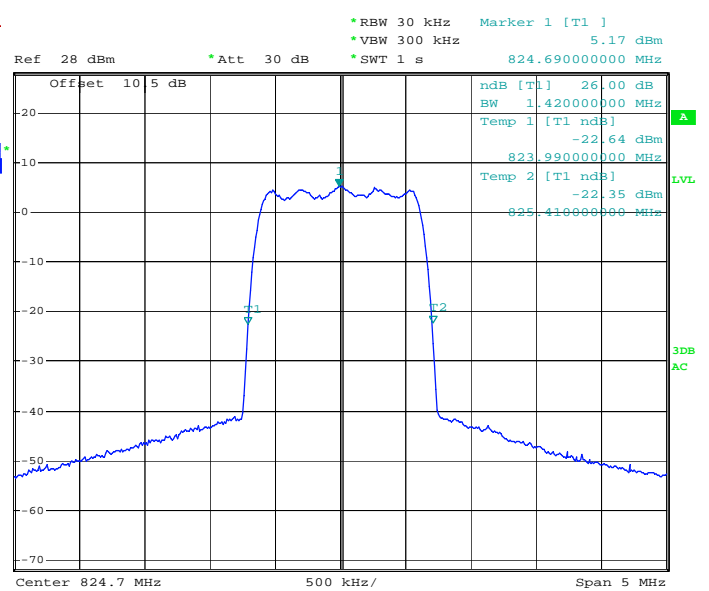
26 dB Bandwidth:

Input, Low Channel



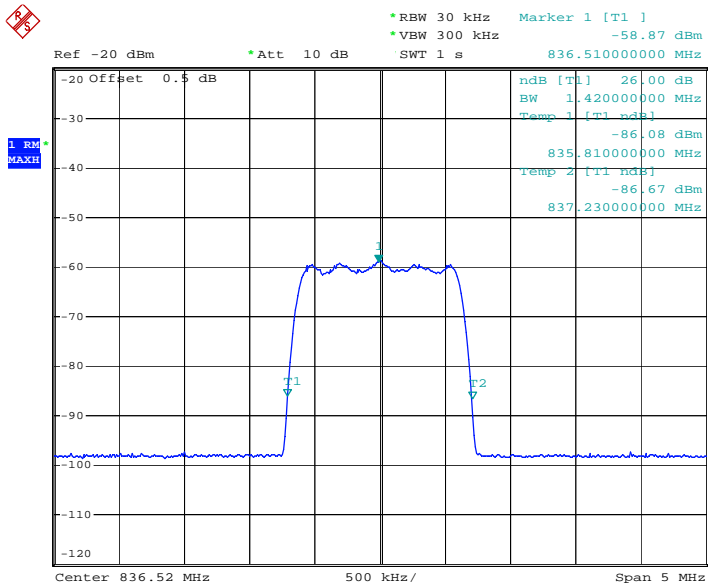
Date: 15.MAR.2011 19:38:11

Output, Low Channel



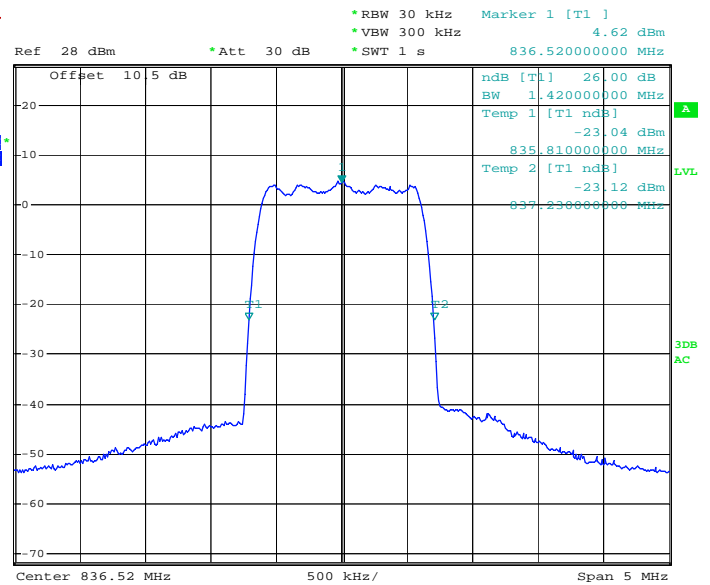
Date: 28.FEB.2011 21:39:41

Input, Middle Channel



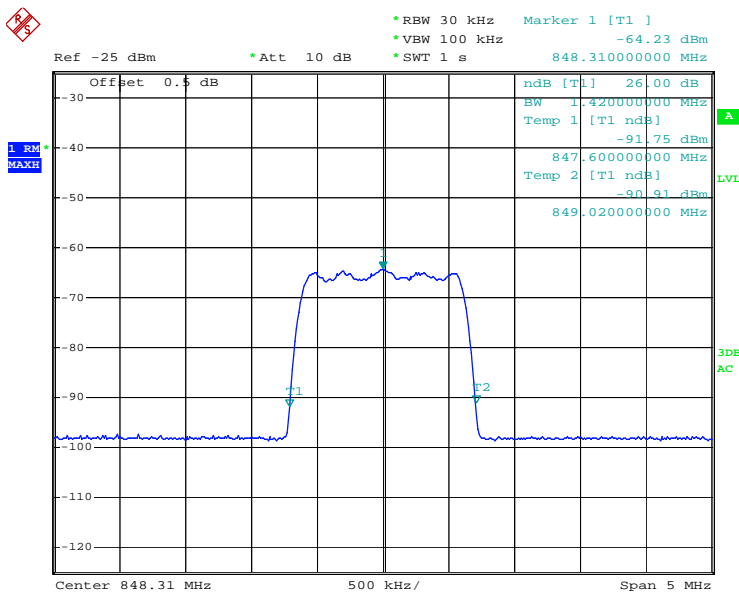
Date: 28.FEB.2011 21:42:03

Output, Middle Channel



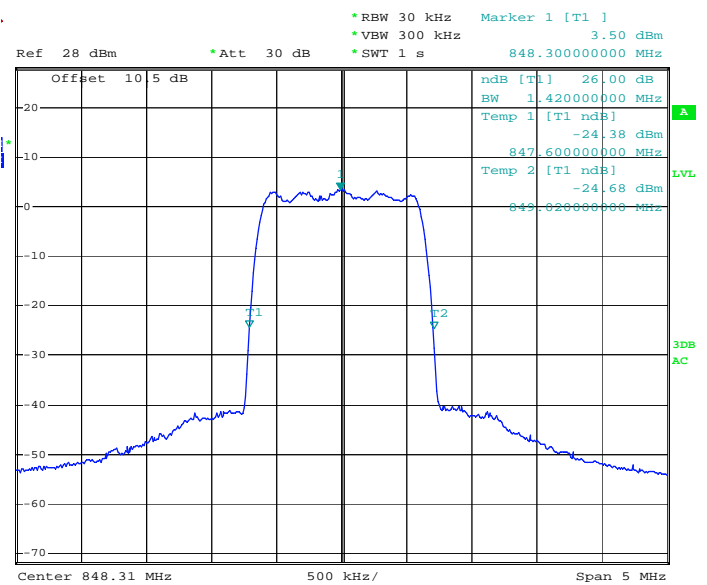
Date: 28.FEB.2011 21:40:46

Input, High Channel



Date: 15.MAR.2011 19:42:55

Output, High Channel



e: 28.FEB.2011 21:37:49

FCC §2.1051, §22.917(a) - SPURIOUS EMISSIONS AT ANTENNA TERMINALS

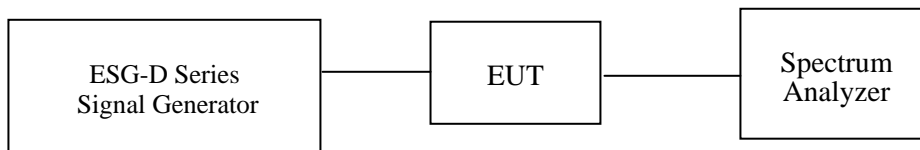
Applicable Standards

FCC §2.1051 and §22.917(a).

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 transceiver was connected to a spectrum analyzer and simulator through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 100 kHz. Sufficient scans were taken to show any out of band emissions up to 10th harmonic.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	Spectrum Analyzer	8593A	2919A00242	2010-07-08	2011-07-07
Rohde & Schwarz	EMI Test Receiver	ESCI	100224	2010-11-24	2011-11-23
HP	ESG-D Series Signal Generator	E4432B	US38441663	2010-06-11	2011-06-10

* **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.

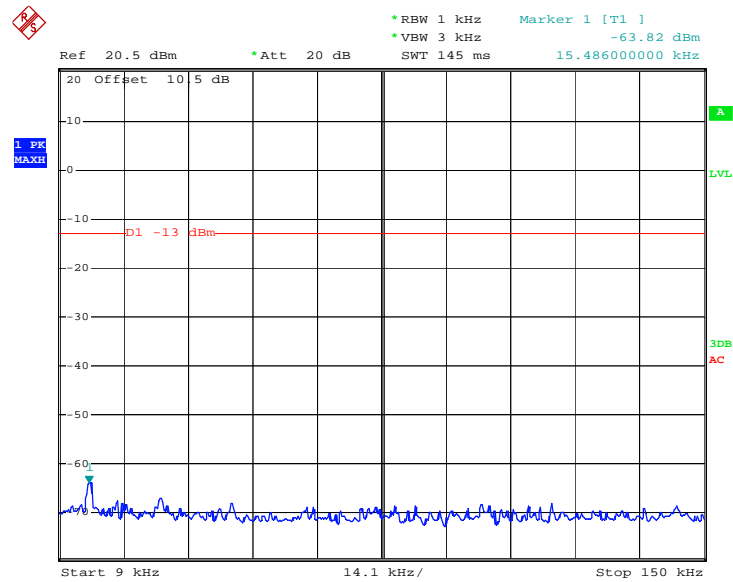
Test Data

Environmental Conditions

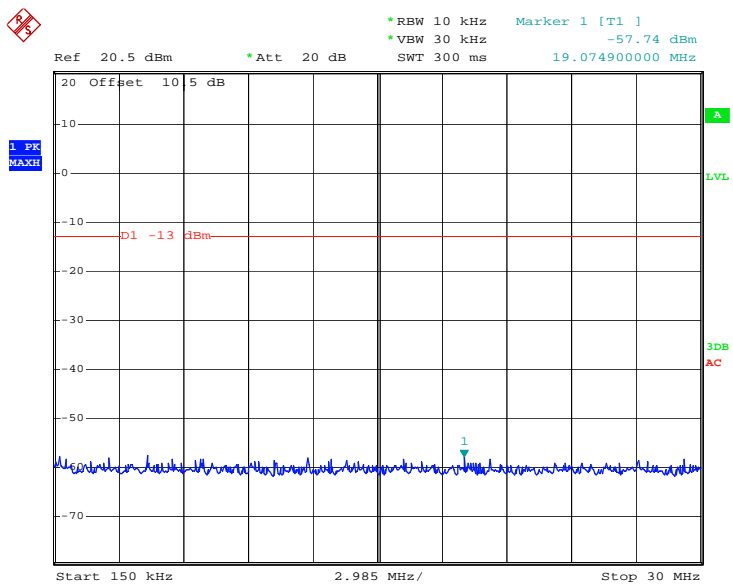
Temperature:	25 °C
Relative Humidity:	56 %
ATM Pressure:	100.0kPa

The testing was performed by Alvin Huang on 2011-02-28 and 2011-04-19.

Please refer to the following plots.

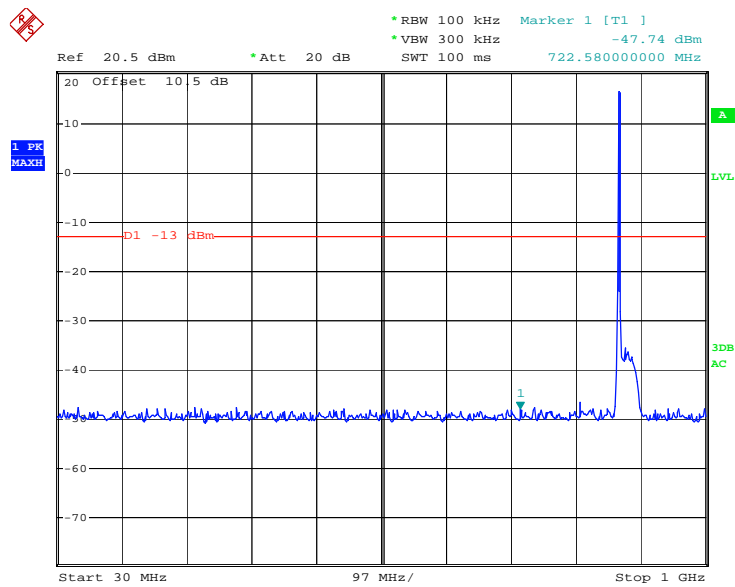
Downlink:**9-150 kHz – Low Channel**

Date: 28.FEB.2011 21:52:17

150 kHz – 30 MHz - Low Channel

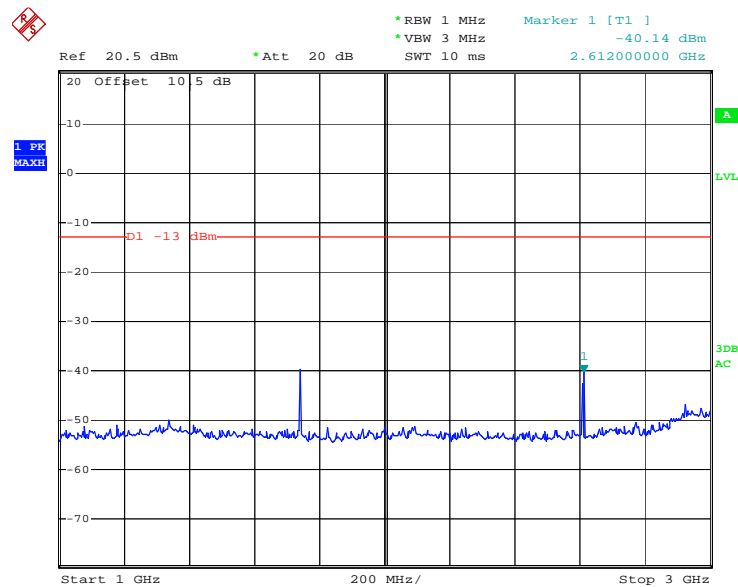
Date: 28.FEB.2011 21:52:45

30 – 1000 MHz - Low Channel



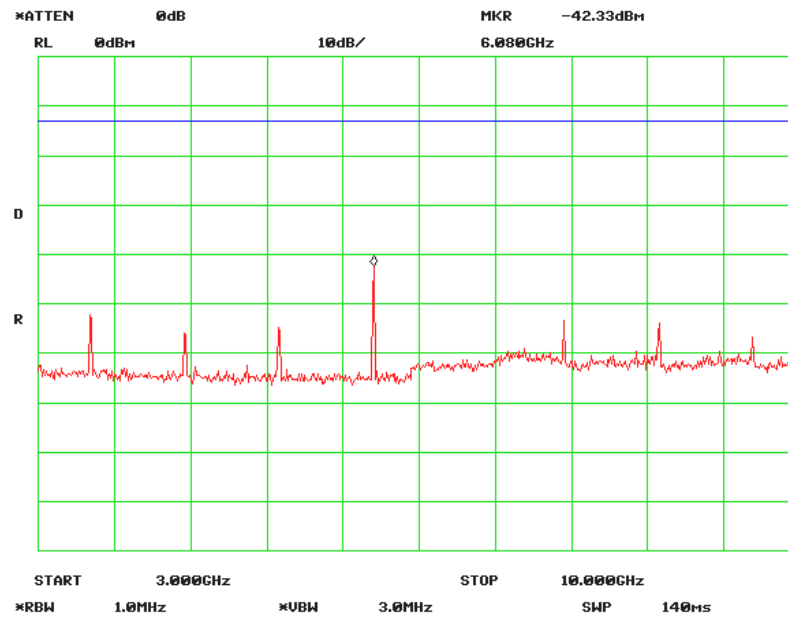
Date: 28.FEB.2011 21:53:14

1 – 3 GHz - Low Channel

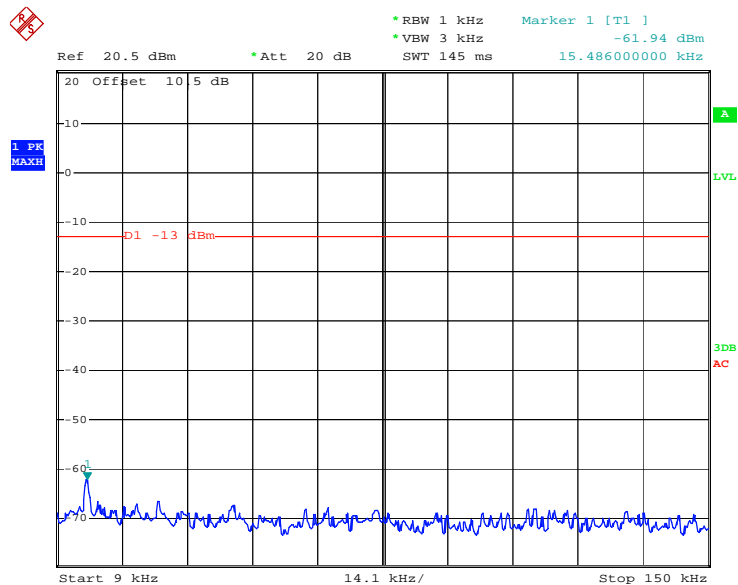


Date: 28.FEB.2011 21:53:38

3 – 10 GHz - Low Channel



9-150 kHz - Middle Channel



Date: 28.FEB.2011 21:55:16

* RBW 10 kHz
 * VBW 30 kHz
 SWT 300 ms

Marker 1 [T1]
 -56.99 dBm
 2.23950000 MHz

Ref 20.5 dBm
 * Att 20 dB

20 Offset 10.5 dB

1 PK
 MAX

D1 -13 dBm

1

3DB
 AC

Start 150 kHz
 2.985 MHz/
 Stop 30 MHz

Date: 28.FEB.2011 21:54:57

Ref 20.5 dBm *Att 20 dB RBW 100 kHz VBW 300 kHz SWT 100 ms Marker 1 [T1] -48.61 dBm 633.340000000 MHz

20 Offset 10 5 dB

1 PK MARKER

D1 -13 dBm

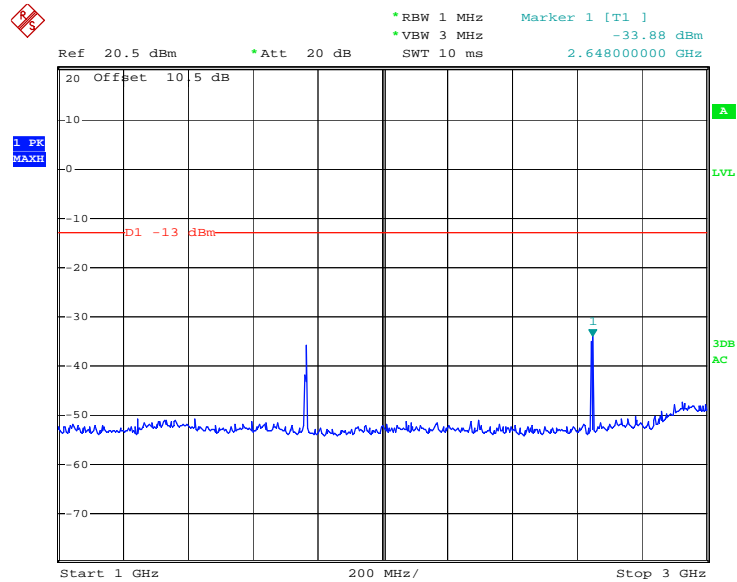
1

3dB AC

Start 30 MHz 97 MHz/ Stop 1 GHz

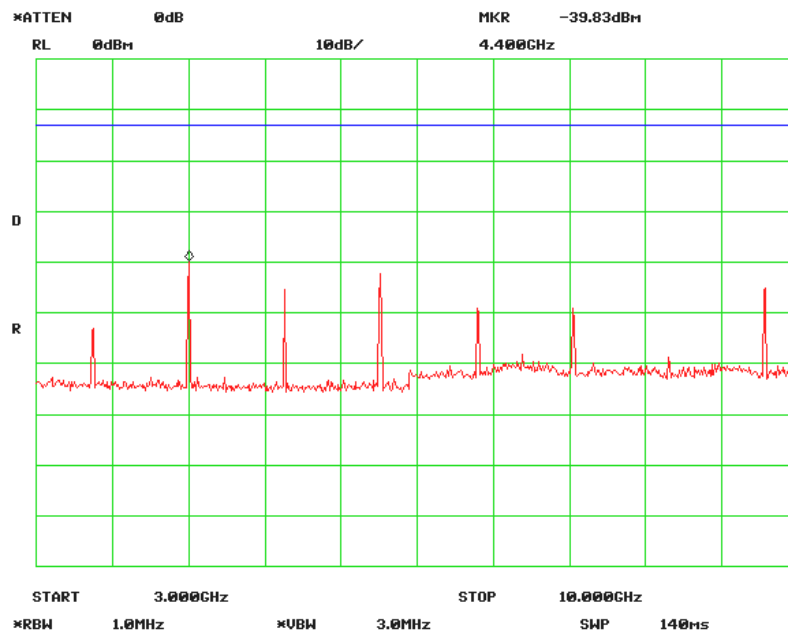
Date: 28.FEB.2011 21:54:36

1-3 GHz - Middle Channel



Date: 28.FEB.2011 21:54:12

3-10 GHz - Middle Channel



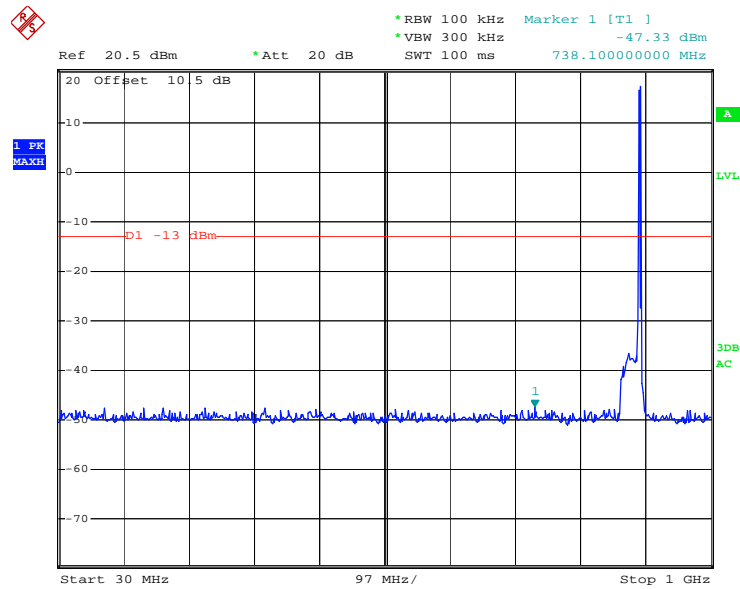
The screenshot shows a spectrum analyzer interface. At the top, a red square icon with 'F' and 'dB' is visible. The main display area shows a blue trace representing the spectrum, with a noise floor around -60 dBm. A red horizontal line is drawn across the plot at -13 dBm, labeled 'D1 -13 dBm'. The y-axis is labeled from 20 to -70 dBm. The x-axis is labeled with frequency values: Start 9 kHz, 14.1 kHz/, and Stop 150 kHz. On the right side, there are labels for 'A', 'LVL', '3DB', and 'AC'. At the bottom, there are labels for 'Ref 20.5 dBm', 'Att 20 dB', 'SWT 145 ms', and 'Marker 1 [T1] -63.07 dBm 15.20400000 kHz'.

Date: 28.FEB.2011 21:55:40

[illegible]

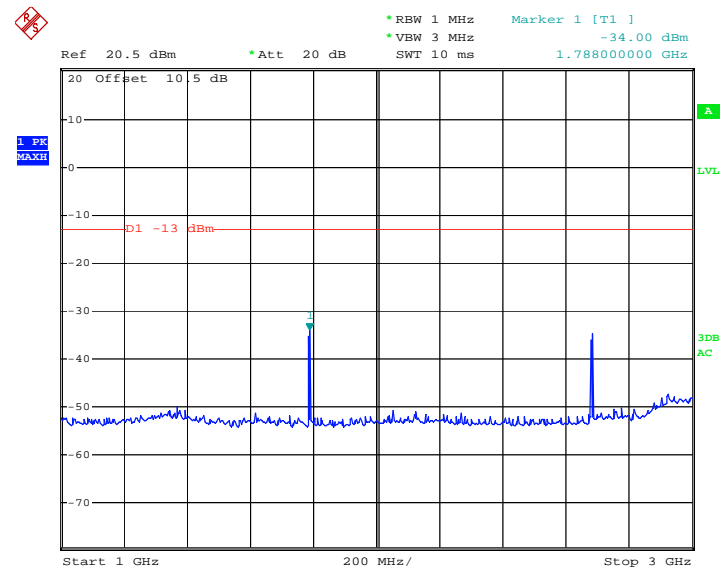
Date: 28.FEB.2011 21:56:04

30 – 1000 MHz - High Channel



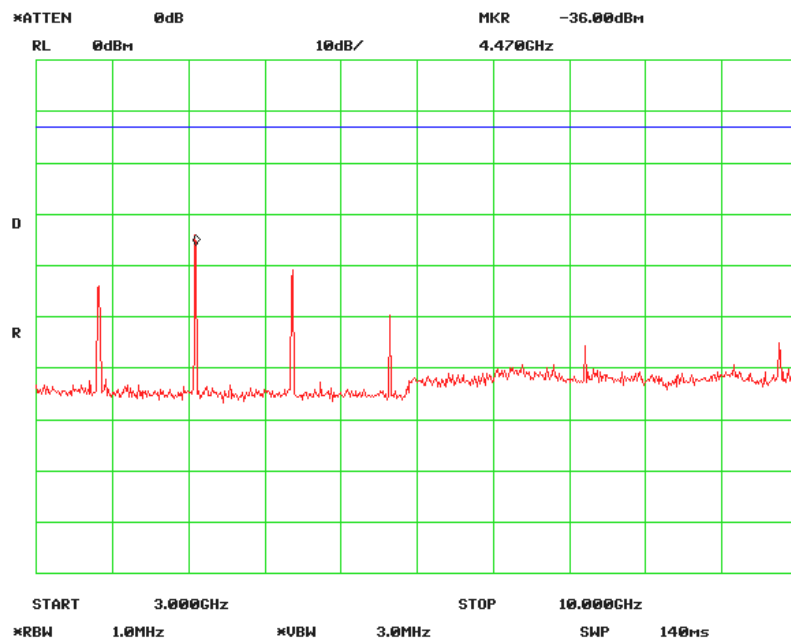
Date: 28.FEB.2011 21:56:28

1 – 3 GHz - High Channel

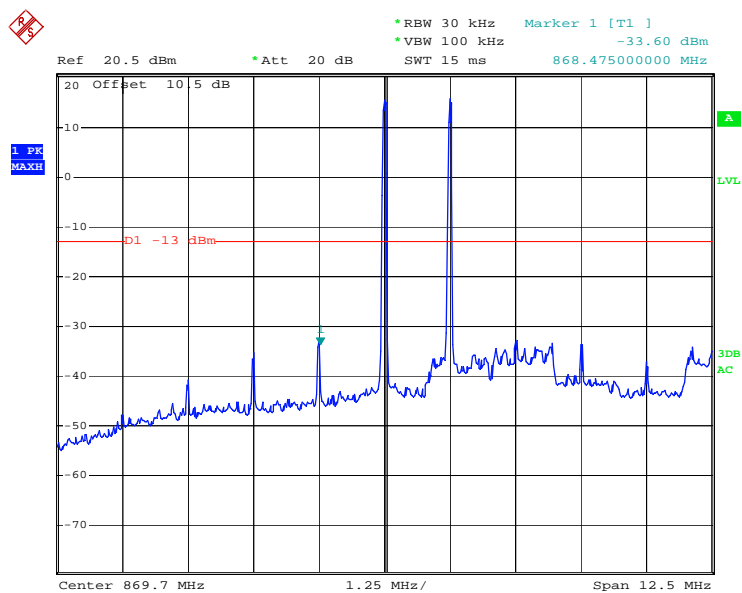


Date: 28.FEB.2011 21:56:53

3-10 GHz - High Channel

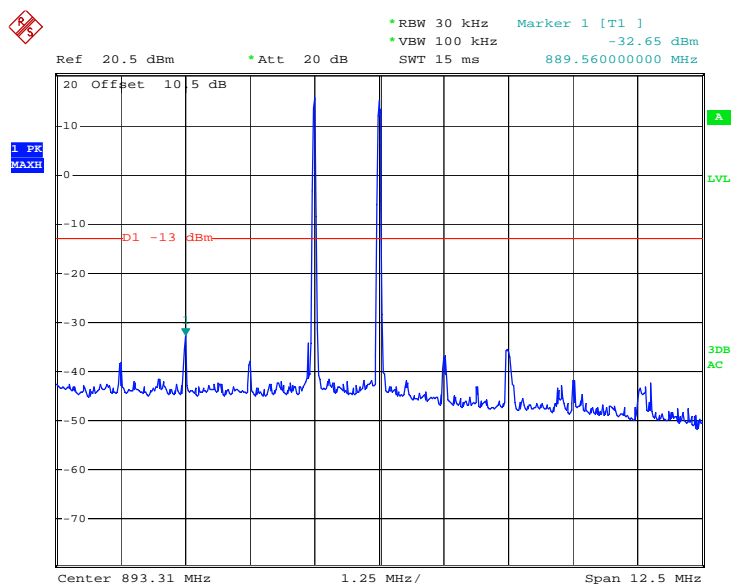


CDMA: Two tone Inter modulation (Low Band edge)



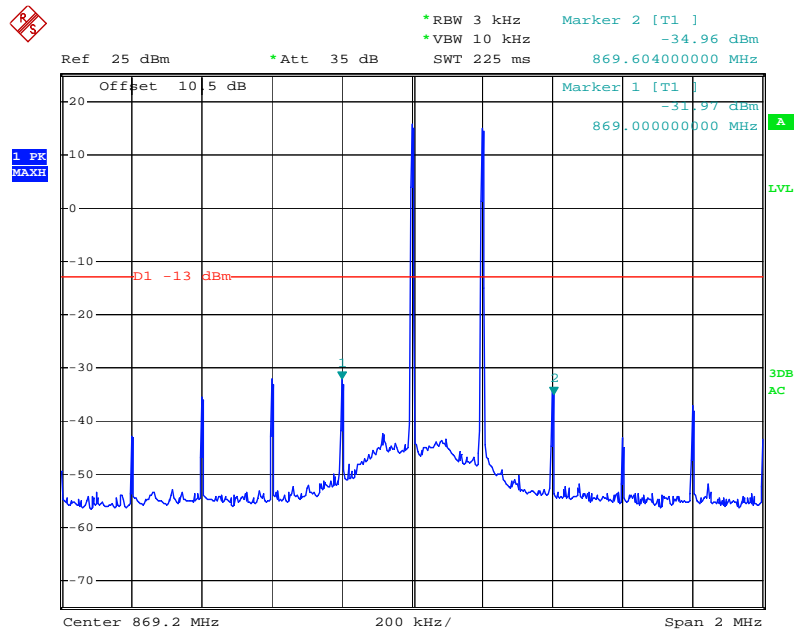
Date: 28.FEB.2011 22:10:27

CDMA: Two tone Inter modulation (High Band edge)



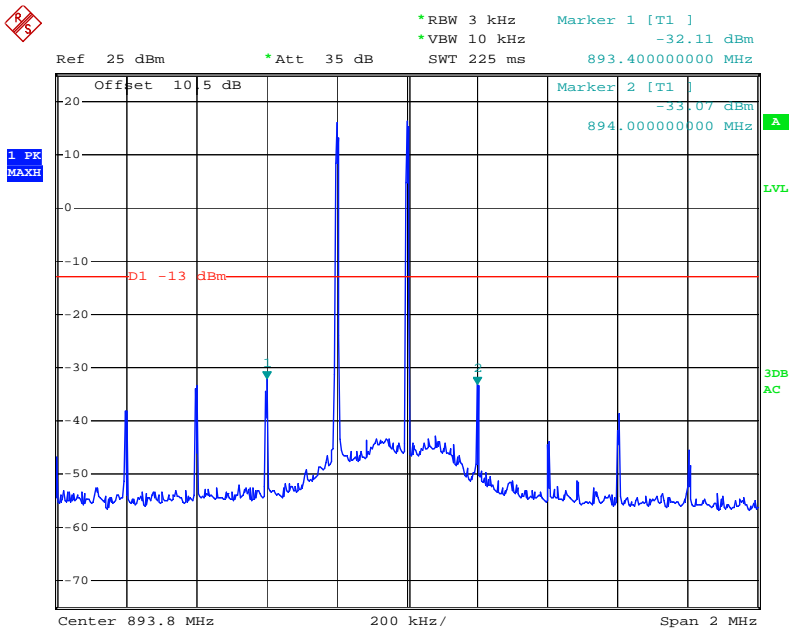
Date: 28.FEB.2011 22:12:10

GSM: Two tone Inter modulation (Low Band edge)



Date: 19.APR.2011 12:02:30

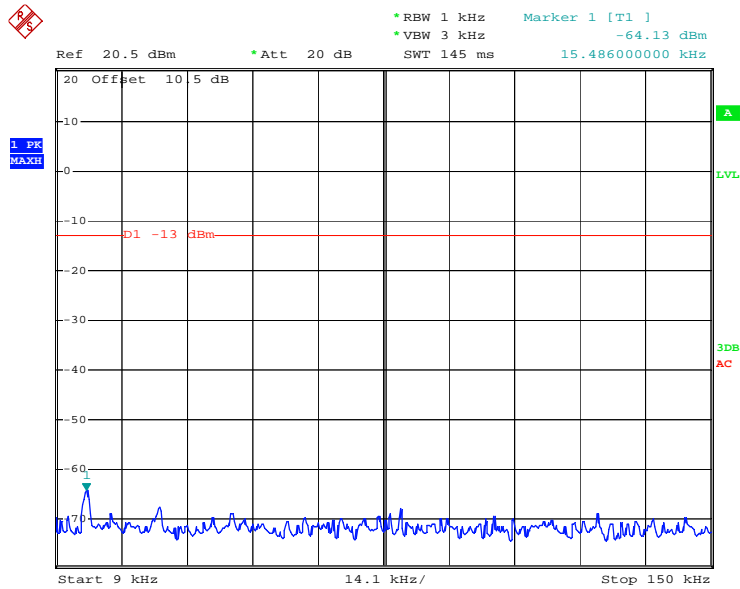
GSM: Two tone Inter modulation (High Band edge)



Date: 19.APR.2011 12:03:30

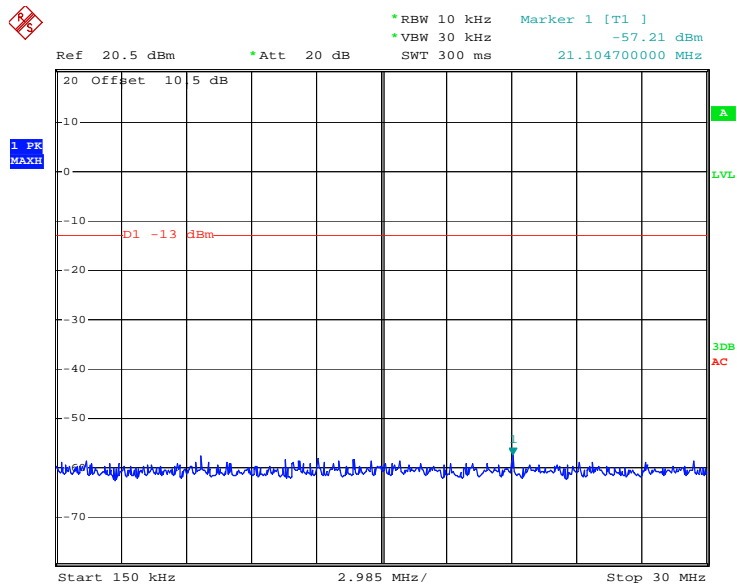
Uplink:

9-150 kHz – Low Channel



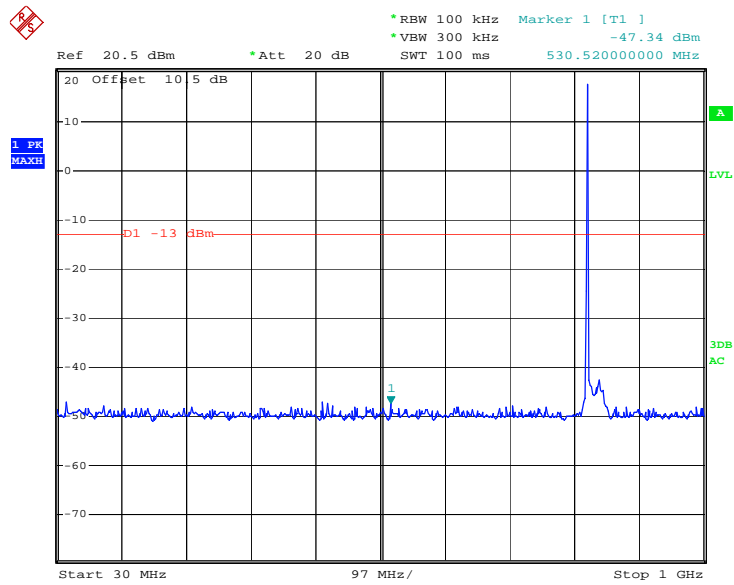
Date: 28.FEB.2011 21:48:06

150 kHz – 30 MHz - Low Channel



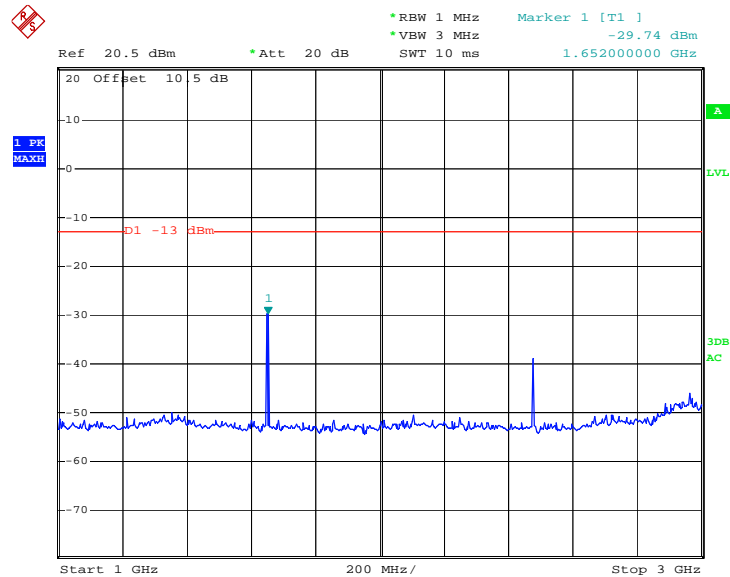
Date: 28.FEB.2011 21:48:30

30 – 1000 MHz - Low Channel



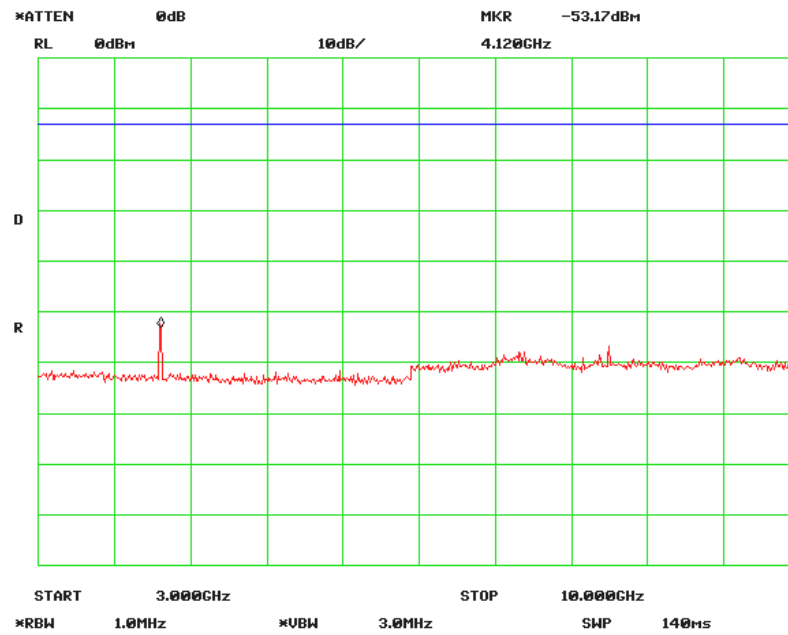
Date: 28.FEB.2011 21:48:57

1 – 3 GHz - Low Channel

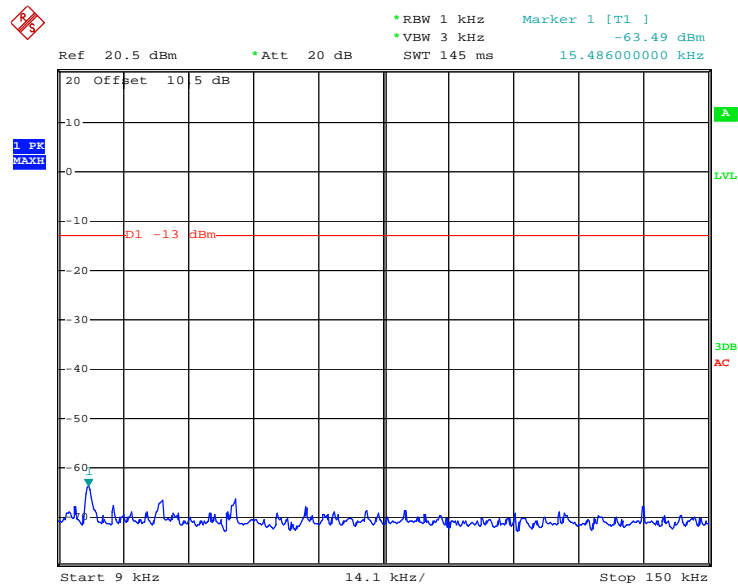


Date: 28.FEB.2011 21:47:41

3-10 GHz - Low Channel

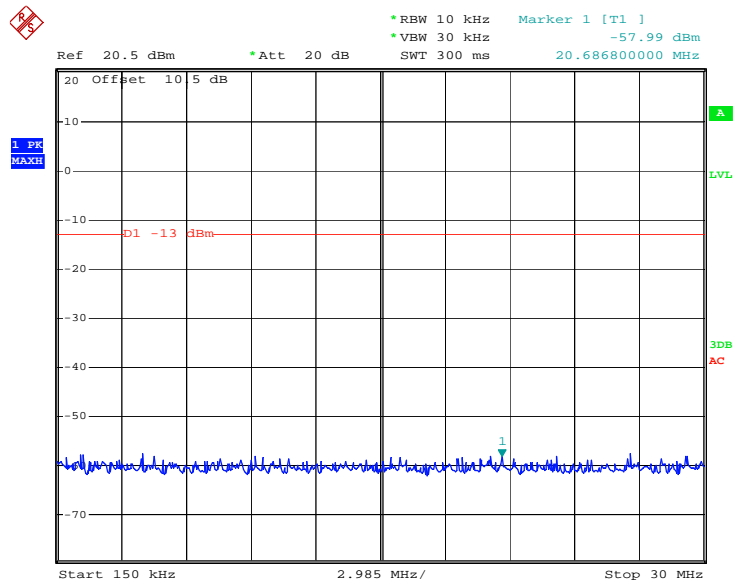


9-150 kHz - Middle Channel



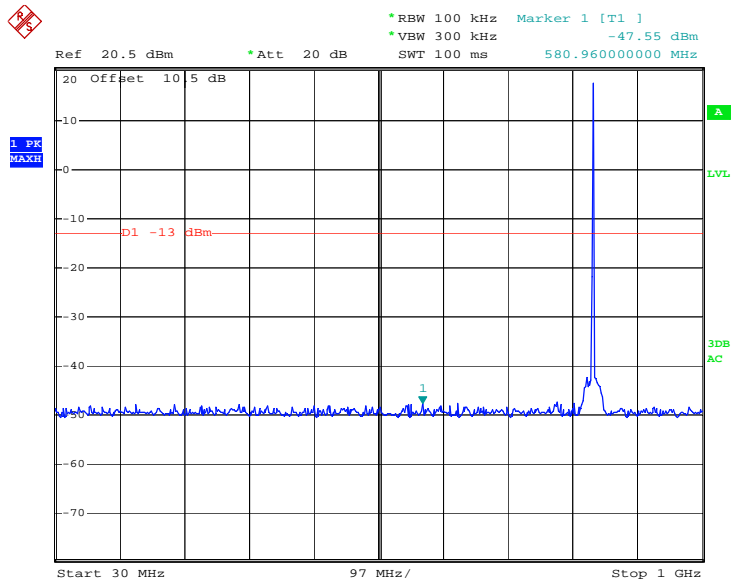
Date: 28.FEB.2011 21:45:39

150 kHz – 30 MHz - Middle Channel



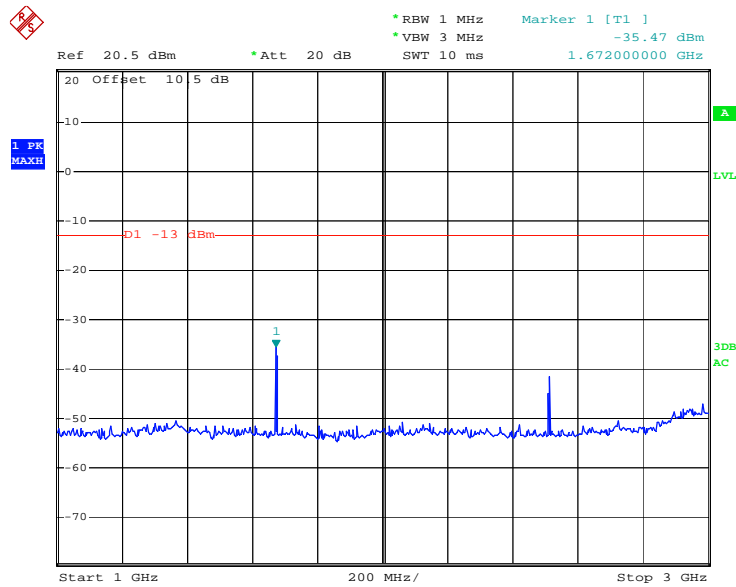
Date: 28.FEB.2011 21:46:04

30 – 1000 MHz - Middle Channel



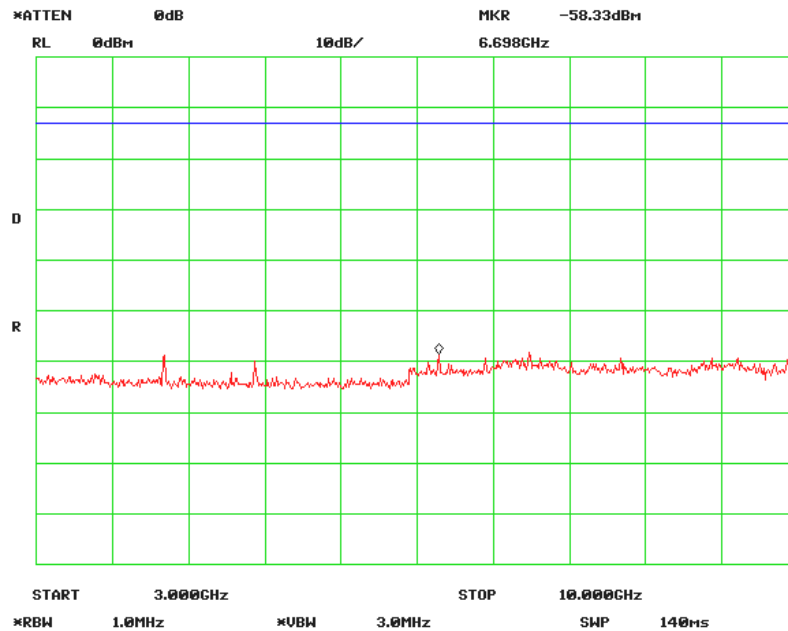
Date: 28.FEB.2011 21:46:39

1-3 GHz - Middle Channel

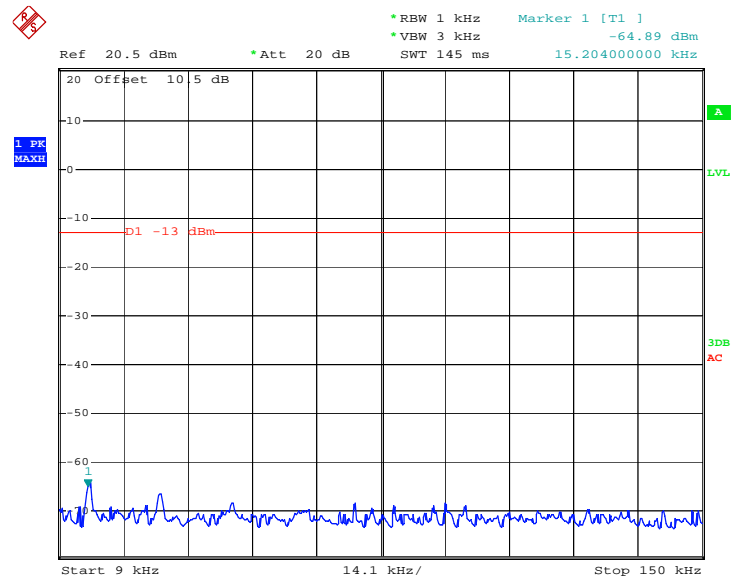


Date: 28.FEB.2011 21:47:02

3-10 GHz - Middle Channel

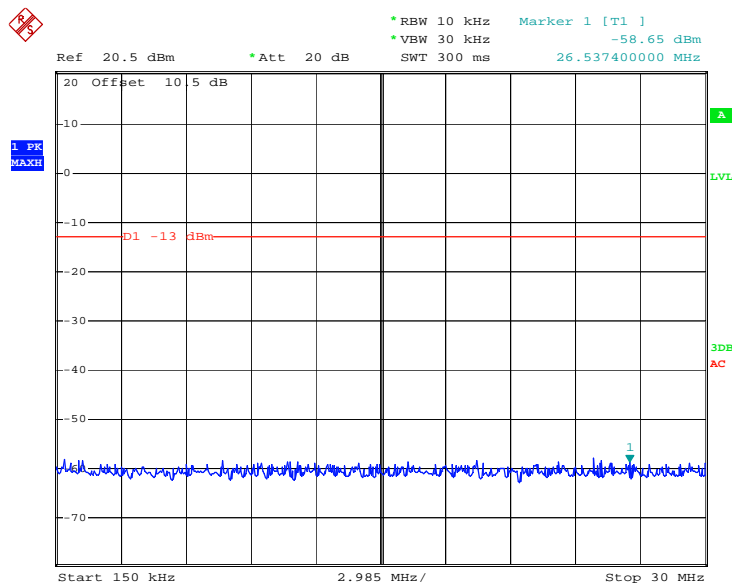


9-150 kHz – High Channel



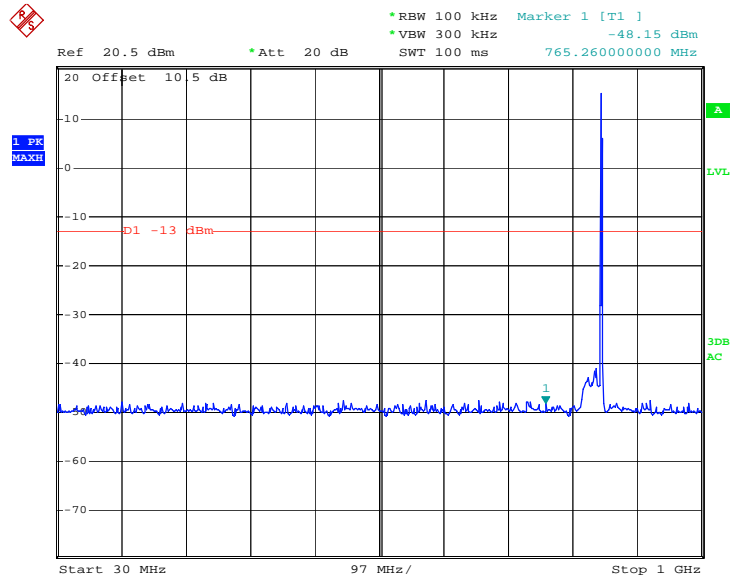
Date: 28.FEB.2011 21:50:14

150 kHz – 30 MHz - High Channel



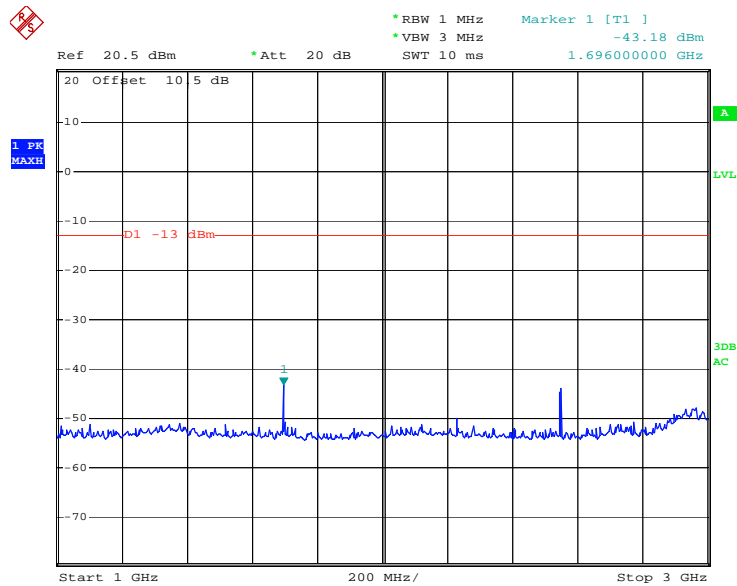
Date: 28.FEB.2011 21:50:36

30 – 1000 MHz - High Channel



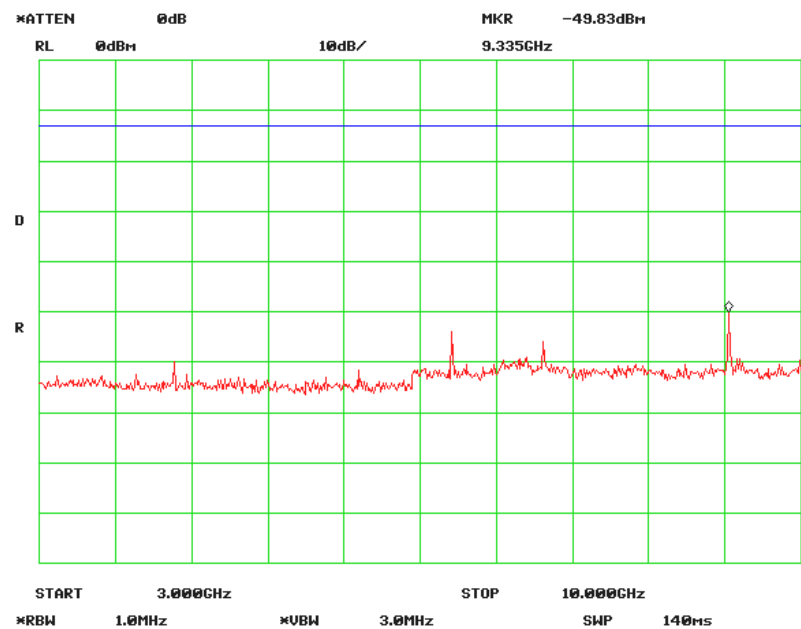
Date: 28.FEB.2011 21:49:28

1 – 3 GHz - High Channel

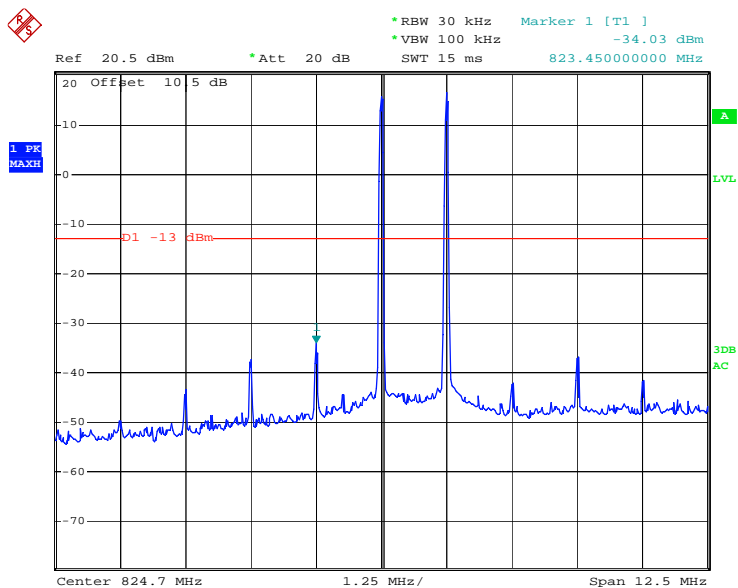


Date: 28.FEB.2011 21:49:46

3-10 GHz - High Channel

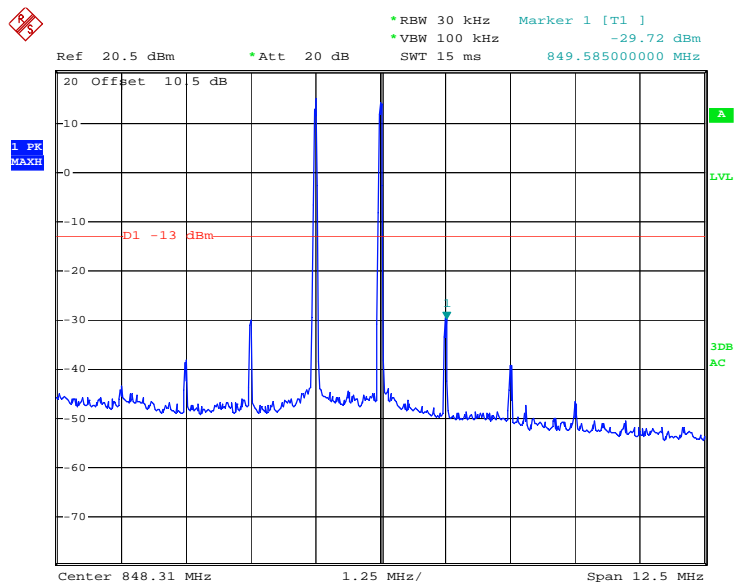


CDMA: Two tone Inter modulation (Low Band edge)



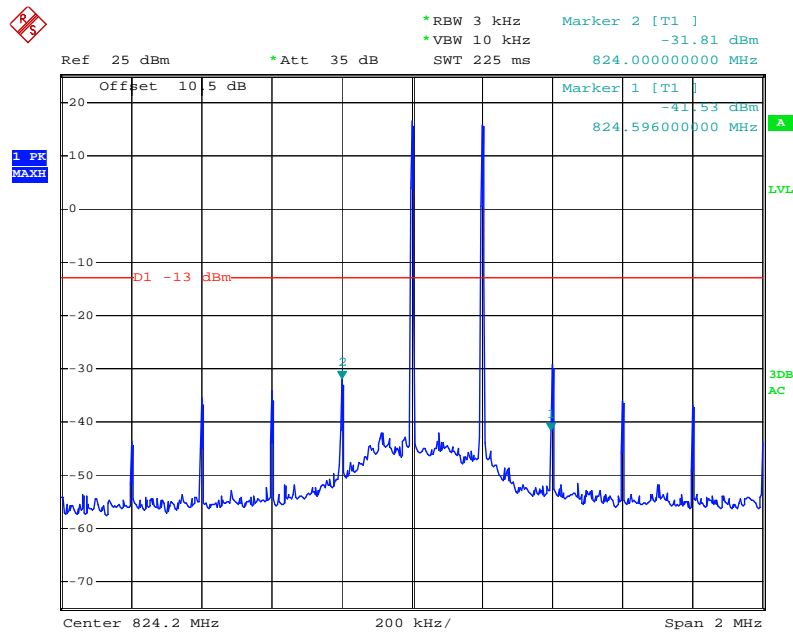
Date: 28.FEB.2011 22:14:17

CDMA: Two tone Inter modulation (High Band edge)



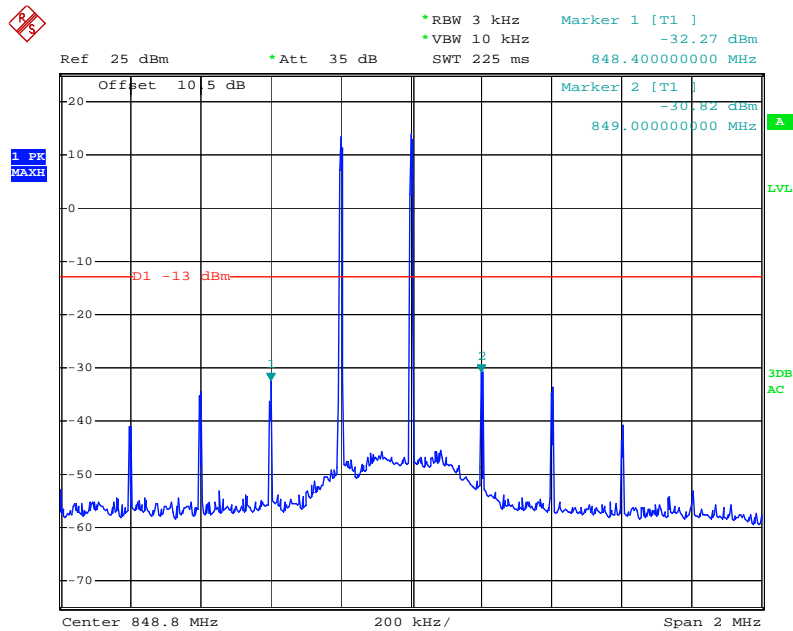
Date: 28.FEB.2011 22:15:04

GSM: Two tone Inter modulation (Low Band edge)



Date: 19.APR.2011 12:05:06

GSM: Two tone Inter modulation (High Band edge)



Date: 19.APR.2011 12:06:22

FCC §2.1053 & §22.917 - SPURIOUS RADIATED EMISSIONS

Applicable Standards

FCC §2.1053, §22.917.

Test Procedure

The transmitter 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 = $10 \lg(\text{TXpwr in Watts}/0.001)$ – the absolute level

Spurious attenuation limit in dB = $43 + 10 \text{Log}_{10}(\text{power out in Watts})$

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sunol Sciences	Horn Antenna	DRH-118	A052604	2010-05-05	2011-05-04
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2010-03-11	2011-03-11
HP	Spectrum Analyzer	8593A	2919A00242	2010-07-08	2011-07-07
HP	Amplifier	2VA-213+	T-E27H	2010-03-08	2011-03-07
HP	Signal Generator	HP8657A	2849U00982	2010-10-28	2011-10-27
HP	Amplifier	HP8447D	2944A09795	2010-08-02	2011-08-02
HP	Synthesized Sweeper	8341B	2624A00116	2010-11-07	2011-11-06
COM POWER	Dipole Antenna	AD-100	041000	2010-09-25	2011-09-25
A.H. System	Horn Antenna	SAS-200/571	135	2010-05-17	2011-05-17
HP	ESG-D Series Signal Generator	E4432B	US38441663	2010-06-11	2011-06-10

*** 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 Alvin Huang on 2011-03-03.

Test mode: Transmitting

Indicated		Table Angle Degree	Test Antenna		Substituted				Absolute Level (dBm)	Limit (dBm)	Margin (dB)
Frequency (MHz)	S.A. Reading (dBμV)		Height (m)	Polar (H/V)	Frequency (MHz)	Level (dBm)	Ant. Gain (dBi)	Cable Loss (dB)			
30 MHz-10 GHz Middle Channel (Downlink)											
1763.04	60.74	0	1.8	V	1763.04	-38.7	6.2	1.0	-33.5	-13	20.5
1763.04	59.75	127	1.2	H	1763.04	-39.8	6.2	1.0	-34.6	-13	21.6
30 MHz-10 GHz Middle Channel (Uplink)											
1673.02	61.02	254	2.1	H	1673.02	-37.6	6.3	0.9	-32.2	-13	19.2
1673.02	59.75	137	1.9	V	1673.02	-39.7	6.3	0.9	-34.3	-13	21.3

FCC §22.917(a) - BAND EDGES

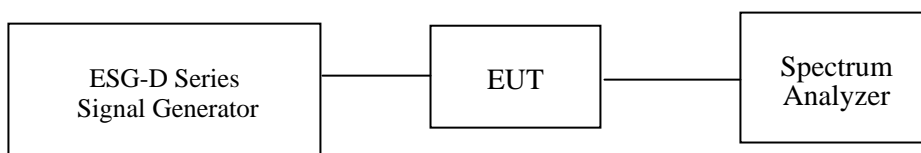
Applicable Standards

According to FCC §22.917(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

Test Procedure

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

The center of the spectrum analyzer 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	EMI Test Receiver	ESCI	100224	2010-11-24	2011-11-23
HP	ESG-D Series Signal Generator	E4432B	US38441663	2010-06-11	2011-06-10

*** 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 Alvin Huang on 2011-02-28 to 2011-04-19.

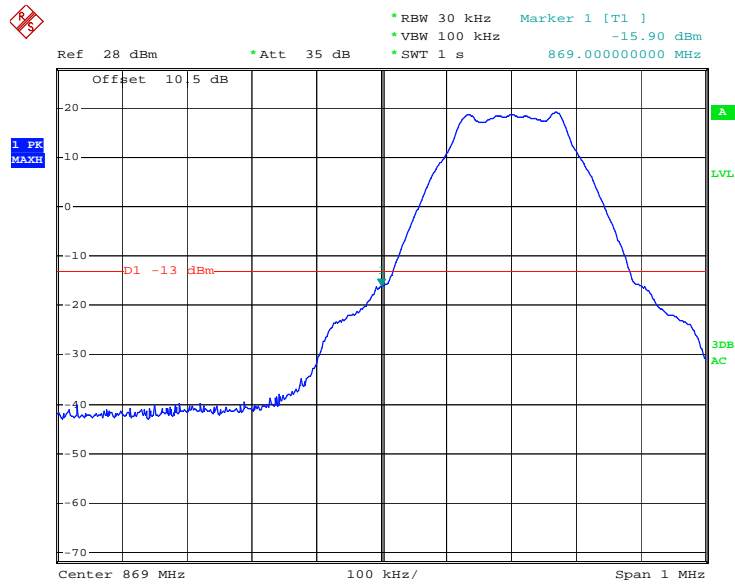
Please refer to the following tables and plots.

GSM, Downlink:

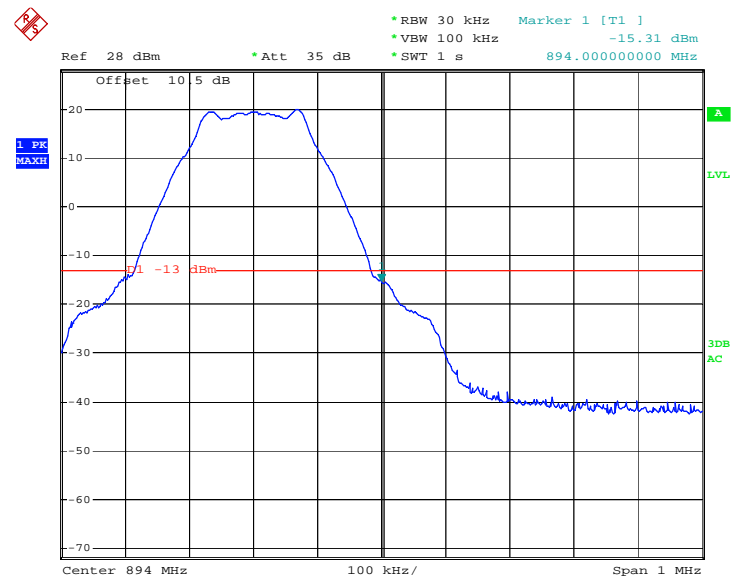
Frequency (MHz)	Emission (dBm)	Limit (dBm)
869	-15.90	-13
894	-15.31	-13

GSM, Uplink:

Frequency (MHz)	Emission (dBm)	Limit (dBm)
824	-15.20	-13
849	-18.21	-13

GSM, Downlink:**Cellular Band, Lowest Channel**

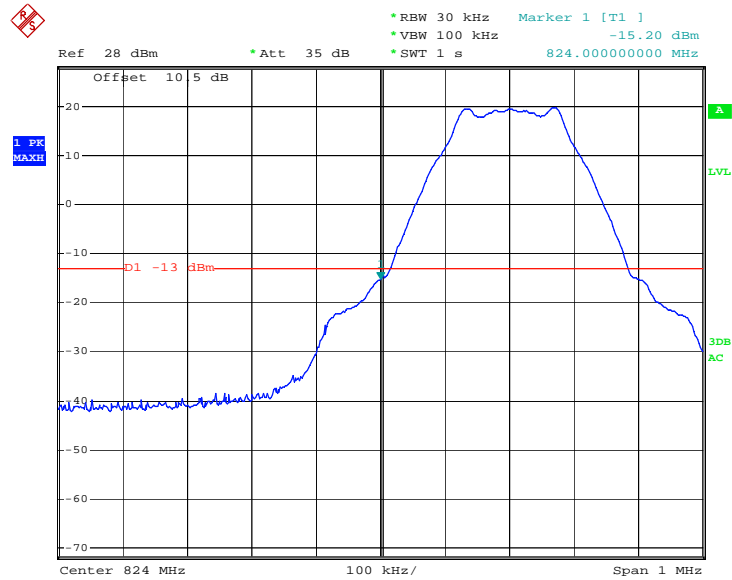
Date: 19.APR.2011 11:31:53

Cellular Band, Highest Channel

Date: 19.APR.2011 11:32:44

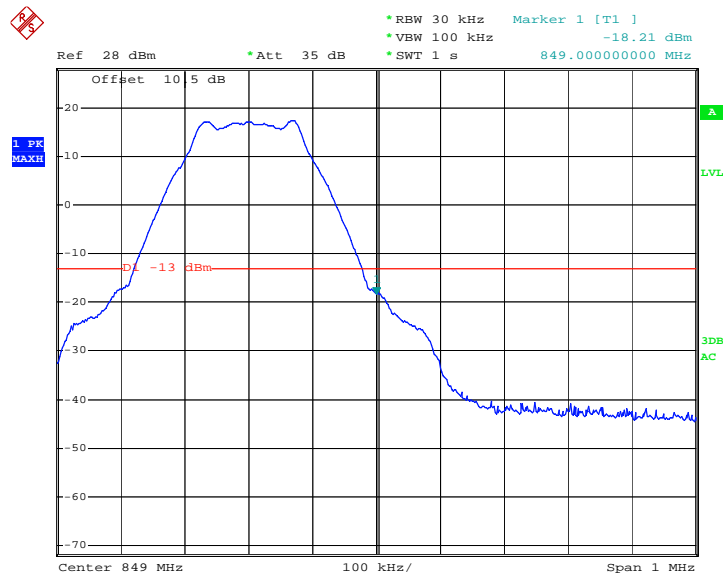
GSM, Uplink:

Cellular Band, Lowest Channel



Date: 19.APR.2011 11:12:21

Cellular Band, Highest Channel



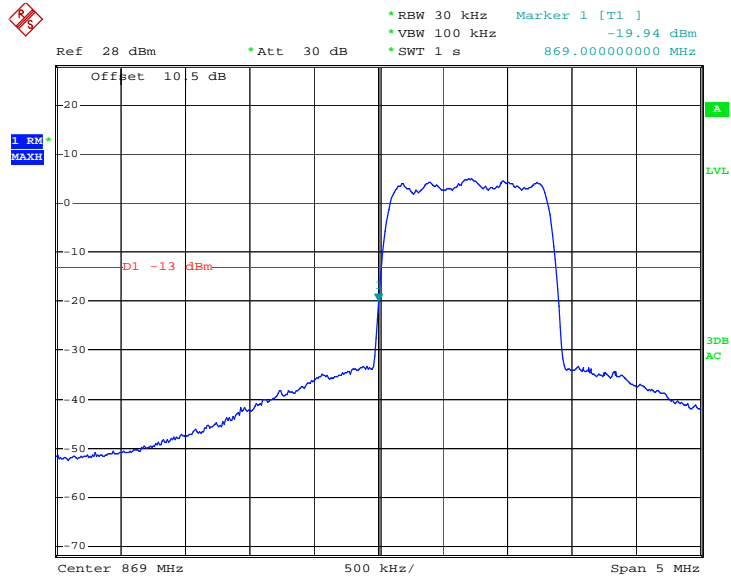
Date: 19.APR.2011 11:12:58

CDMA, Downlink:

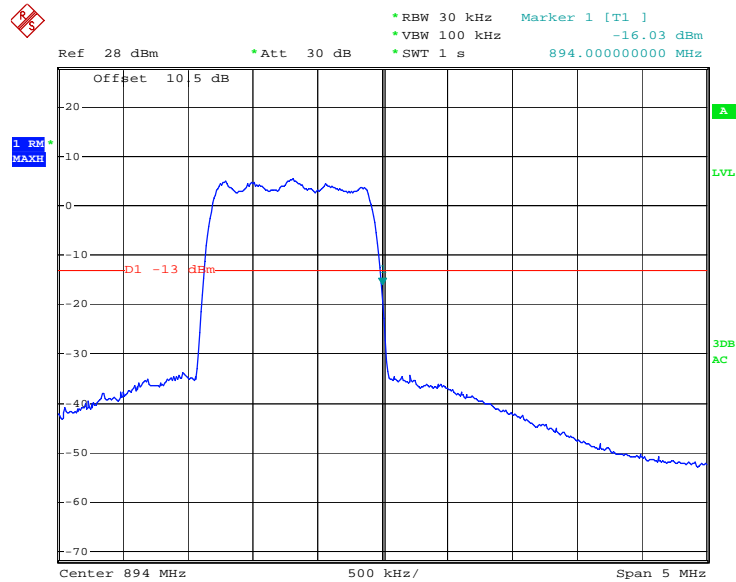
Frequency (MHz)	Emission (dBm)	Limit (dBm)
869	-19.94	-13
894	-16.03	-13

CDMA, Uplink:

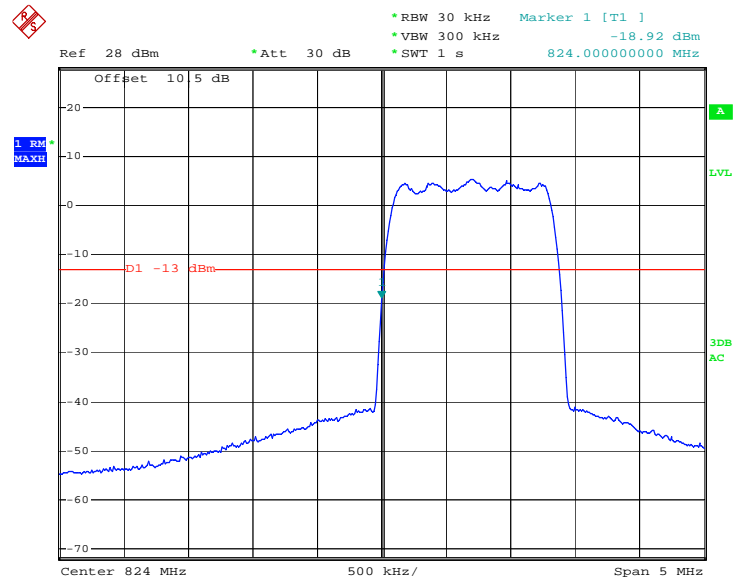
Frequency (MHz)	Emission (dBm)	Limit (dBm)
824	-18.92	-13
849	-17.41	-13

CDMA, Downlink:**Cellular Band, Lowest Channel**

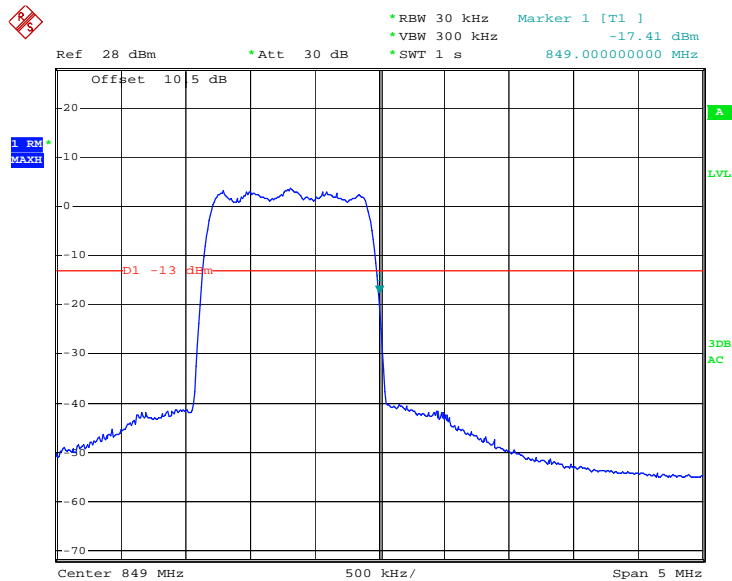
Date: 28.FEB.2011 21:25:40

Cellular Band, Highest Channel

Date: 28.FEB.2011 21:26:30

CDMA, Uplink:**Cellular Band, Lowest Channel**

Date: 28.FEB.2011 21:39:15

Cellular Band, Highest Channel

Date: 28.FEB.2011 21:38:39

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