TEST REPORT

No2012TAR382

for

TCT Mobile Limited

CDMA2000 Triple bands mobile phone

Model Name: Aeneas Duralife

Marketing Name：ONE TOUCH 988

FCC ID: RAD284

with

Hardware Version: V02

Software Version: vK29

Issued Date: Aug 22, 2012

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of TMC Beijing.

Test Laboratory:

DAR accreditation (DIN EN ISO/IEC 17025): No. DGA-PL-114/01-02

FCC 2.948 Listed: No.733176

IC O.A.T.S listed: No.6629A-1

TMC Beijing, Telecommunication Metrology Center of Ministry of Industry and Information Technology

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CONTENTS

1. Test Laboratory

1.1. Testing Location

Company Name: TMC Beijing, Telecommunication Metrology Center of MIIT
Address: 3/F Shou Xiang Technology Building, No.51 Xueyuan Road, Hai Dian District, Beijing, P. R. China
Postal Code: 100191
Telephone: 00861062304633
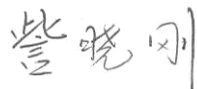Fax: 00861062304793

1.2. Testing Environment

Normal Temperature: 15-35℃
Relative Humidity: 20-75%

1.3. Project data

Testing Start Date: Jul 12, 2012
Testing End Date: Aug 22, 2012

1.4. Signature

Zi Xiaogang
(Prepared this test report)

Sun Xiangqian
(Reviewed this test report)

Lu Bingsong
Deputy Director of the laboratory
(Approved this test report)

2. Client Information

2.1. Applicant Information

Company Name:	TCT Mobile Limited
Address /Post:	5F, E building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area Shanghai, P.R. China. 201203
City:	Shanghai
Country:	China
Telephone:	0086-21-61460890
Fax:	0086-21-61460602

2.2. Manufacturer Information

Company Name:	TCT Mobile Limited
Address /Post:	5F, E building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area Shanghai, P.R. China. 201203
City:	Shanghai
Country:	China
Telephone:	0086-21-61460890
Fax:	0086-21-61460602

3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

Description	CDMA2000 Triple bands mobile phone
Model Name	Aeneas Duralife
Marketing Name	ONE TOUCH 988
FCC ID	RAD284
Frequency	CDMA800; CDMA1700; CDMA1900
Antenna	Internal
Power supply	Battery or Charger (AC Adaptor)
Output power	25.21 dBm maximum EIRP measured for CDMA1700
Extreme vol. Limits	3.5VDC to 4.2VDC (nominal: 3.9VDC)
Extreme temp. Tolerance	-30°C to +50°C

Note:Components list, please refer to documents of the manufacturer; it is also included in the original test record of Telecommunication Metrology Center of MIIT of People's Republic of China.

3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version
N32	A100000869C67A	V02	vK29
N25	A100000869C318	V02	vK29

*EUT ID: is used to identify the test sample in the lab internally.

3.3. Internal Identification of AE used during the test

AE ID*	Description
AE1	Battery
AE2	Battery
AE3	Charger

AE1
Model	CAB60BA000C1
Manufacturer	SCUD
Capacitance	1400mAh
Nominal Voltage	3.9V

AE2
Nominal Voltage	CAB60B0000C2
Model	BAK
Manufacturer	1400mAh
Nominal Voltage	3.9V

AE3
Model	CBA3000AG0C1

Manufacturer	Tenpao
Length of DC line	100cm

*AE ID: is used to identify the test sample in the lab internally..

3.4. General Description

The Equipment Under Test (EUT) is a model of CDMA2000 Triple bands mobile phone with integrated antenna. It consists of normal options: lithium battery, charger. Manual and specifications of the EUT were provided to fulfil the test. Samples undergoing test were selected by the Client.

4. Reference Documents

4.1. Reference Documents for testing

The following documents listed in this section are referred for testing.

Reference	Title	Version
FCC Part 24	PERSONAL COMMUNICATIONS SERVICES	V 10.1.09
FCC Part 22	PUBLIC MOBILE SERVICES	V 10.1.09
ANSI/TIA-603-C	Land Mobile FM or PM Communications Equipment Measurement and Performance Standards	2004
ANSI C63.4	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2009
FCC Part22 24 27	KDB Publication 971168	2010.11

5. LABORATORY ENVIRONMENT

Semi-anechoic chamber (23 meters×17meters×10meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 ℃, Max. = 30 ℃
Relative humidity	Min. = 30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω
Normalised site attenuation (NSA)	< ±3.2 dB, 10 m distance, from 30 to 1000 MHz
Uniformity of field strength	Between 0 and 6 dB, from 80 to 2000 MHz

Control room did not exceed following limits along the EMC testing:

Temperature	Min. = 15 ℃, Max. = 35 ℃
Relative humidity	Min. =30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω

Conducted chamber did not exceed following limits along the EMC testing:

Temperature	Min. = 15 ℃, Max. = 30 ℃
Relative humidity	Min. = 30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω

Fully-anechoic chamber (6.8 meters×3.08 meters×3.53 meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 ℃, Max. = 30 ℃
Relative humidity	Min. = 30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω
Uniformity of field strength	Between 0 and 6 dB, from 80 to 2000 MHz

6. SUMMARY OF TEST RESULTS

Items	List	Clause in FCC rules	Verdict
1	Output Power	22.913(a)/24.232(b)/27.50(d)(2)	P
2	Emission Limit	2.1051/22.917/24.238/27.53(g)	P
3	Conducted Emission	15.107/207	P
4	Frequency Stability	2.1055/24.235/ 27.54	P
5	Occupied Bandwidth	2.1049(h)(i)	P
6	Emission Bandwidth	22.917(b)/24.238(b)	P
7	Band Edge Compliance	22.917(b)/24.238(b)/ 27.53(g)	P
8	Conducted Spurious Emission	2.1057/22.917/24.238/ 27.53(g)	P

7. Test Equipments Utilized

NO.	NAME	TYPE	SERIES NUMBER	PRODUCER	CAL DUE DATE
1	Test Receiver	ESCI	100344	R&S	2013-03-28
2	Test Receiver	ESU26	100376	R&S	2012-11-08
3	BiLog Antenna	VULB 9163	514	Schwarzbeck	2014-11-10
4	BiLog Antenna	3117	00139065	ETS-Lindgren	2014-07-31
5	Signal Generator	SMB100A	102063	R&S	2013-04-05
6	LISN	ESH2-Z5	829991/012	R&S	2013-04-16
7	Universal Radio Communication Tester	CMU200	102228	R&S	2013-07-06
8	Universal Radio Communication Tester	E5515C	MY48361083	Agilent	2013-03-16
9	Spectrum Analyzer	E4440A	MY48250642	Agilent	2013-03-04
10	EMI Antenna	9117	177	Schwarzbeck	2013-06-28
11	EMI Antenna	VULB 9163	482	Schwarzbeck	2014-02-17
12	EMI Antenna	3117	00119024	ETS-Lindgren	2014-02-02
13	EMI Antenna	3117	00058889	ETS-Lindgren	2014-02-02
14	Signal Generator	N5183A	MY49060052	Agilent	2013-03-19
15	Climatic chamber	PL-2G	343074	ESPEC	2013-05-12

ANNEX A: MEASUREMENT RESULTS

A.1 OUTPUT POWER

A.1.1 Summary

During the process of testing, the EUT was controlled via Rhode & Schwarz Digital Radio Communication tester (CMU-200) to ensure max power transmission and proper modulation.

This result contains peak output power and EIRP measurements for the EUT. In all cases, output power is within the specified limits.

A.1.2 Conducted

A.1.2.1 Method of Measurements

The EUT was set up for the max output power with pseudo random data modulation.

The power was measured with Rhode & Schwarz Spectrum Analyzer FSU (peak)

These measurements were done at 3 frequencies of each band (bottom, middle and top of operational frequency range).

CDMA 800

Measurement result

Channel	Frequency(MHz)	Channel power(dBm)
1013	824.70	**25.24**
384	836.52	25.23
777	848.31	25.16

CDMA 1700

Measurement result

Channel	Frequency(MHz)	Channel power(dBm)
25	1711.25	**23.30**
450	1732.5	23.22
875	1753.75	23.19

CDMA 1900

Measurement result

Channel	Frequency(MHz)	Channel power(dBm)
25	1851.25	23.06
600	1880.00	23.07
1175	1908.75	**23.07**

A.1.3 Radiated

A.1.3.1 Description

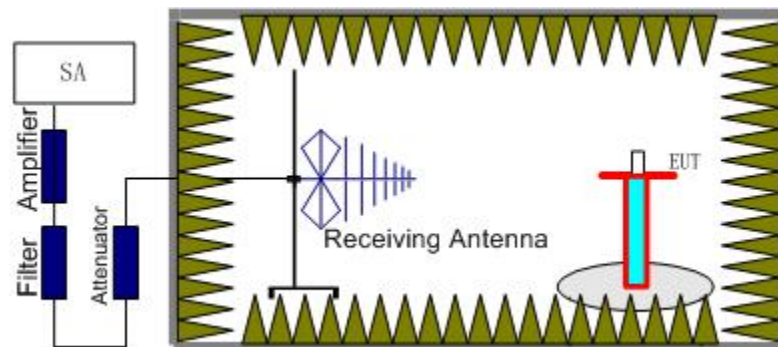This is the test for the maximum radiated power from the EUT.

Rule Part 24.232(b) specifies, "Mobile/portable stations are limited to 2 watts e.i.r.p. Peak power" and 24.232(c) specifies that "Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage." Rule Part 22.913(a) specifies " The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts." Rule Part 27.50(d)(2) specifies, "Fixed, mobile, and portable (handheld) stations operating in the 1710–1755 MHz band are limited to a peak EIRP of 1 watt."
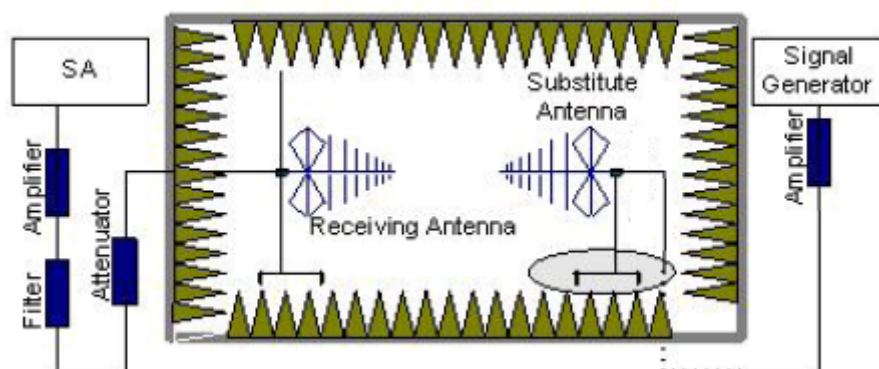
A.1.3.2 Method of Measurement

The measurements procedures in TIA-603C-2004 are used.

1. EUT was placed on a 1.5 meter high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1.5m. The test setup refers to figure below. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all transmit frequencies in three channels (High, Middle, Low) were measured with peak detector.

2. The EUT is then put into continuously transmitting mode at its maximum power level during the test. And the maximum value of the receiver should be recorded as (Pr).
3. The EUT shall be replaced by a substitution antenna. The test setup refers to figure below.

In the chamber, an substitution antenna for the frequency band of interest is placed at the

reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (P_{Mea}) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (P_r). The power of signal source (P_{Mea}) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.

4. A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna.
   The cable loss (P_{cl}) ,the Substitution Antenna Gain (G_a) and the Amplifier Gain (P_{Ag}) should be recorded after test.
   The measurement results are obtained as described below:
   Power(EIRP)=P_{Mea}- P_{Ag} - P_{cl} - G_a

5. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power.

6. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP -2.15dBi.

CDMA 800 -ERP

Limits

	Burst Peak ERP (dBm)
CDMA800	≤38.45dBm (7W)

Measurement result

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)	P_{Ag}(dB)	G_a Antenna Gain(dB)	Correction (dBm)	ERP(dBm)	Polarization
824.70	-22.73	2.26	-53.00	0.84	2.15	**25.02**	V
836.52	-22.85	2.26	-53.00	0.90	2.15	24.84	V
848.31	-24.23	2.28	-53.00	0.95	2.15	23.39	V

Frequency**:** 824.70MHz

Peak ERP(dBm)= P_{Mea}(-22.73dBm)- P_{cl}(2.26dB)-P_{Ag}(-53.00dB)-G_a (0.84dB)-2.15dBm=25.02dBm

ANALYZER SETTINGS: RBW = VBW = 3MHz

CDMA 1700 -EIRP

Limits

	Burst Peak ERP (dBm)
CDMA1700	≤30dBm (1W)

Measurement result

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)	P_{Ag}(dB)	G_a Antenna Gain(dB)	EIRP(dBm)	Polarization
1711.25	-28.39	3.59	-50.00	-5.17	23.19	H
1732.5	-26.65	4.06	-50.00	-5.08	24.37	V
1753.75	-25.89	3.88	-50.00	-4.98	**25.21**	H

Frequency**:** 1753.75 MHz

Peak EIRP(dBm)= P_{Mea}(-25.89dBm)- P_{cl}(3.88dB)- P_{Ag}(-50.00dB)-G_a (-4.98dB) =25.21dBm

ANALYZER SETTINGS: RBW = VBW = 3MHz

CDMA 1900 -EIRP
Limits

	Burst Peak ERP (dBm)
CDMA1900	≤33dBm (2W)

Measurement result

Frequency(MHz)	P_{Mea}(dBm)	P_{cl}(dB)	P_{Ag}(dB)	G_a Antenna Gain(dB)	EIRP(dBm)	Polarization
1851.25	-24.70	5.97	-50.00	-4.56	**23.89**	H
1880	-24.20	7.05	-50.00	-4.43	23.18	H
1908.75	-22.97	9.01	-50.00	-4.30	22.32	H

Frequency**:** 1851.25MHz

Peak EIRP(dBm)= P_{Mea}(-24.70dBm)- P_{cl}(5.97dB)- P_{Ag}(-50.00dB)-G_a (-4.56dB) =23.89dBm

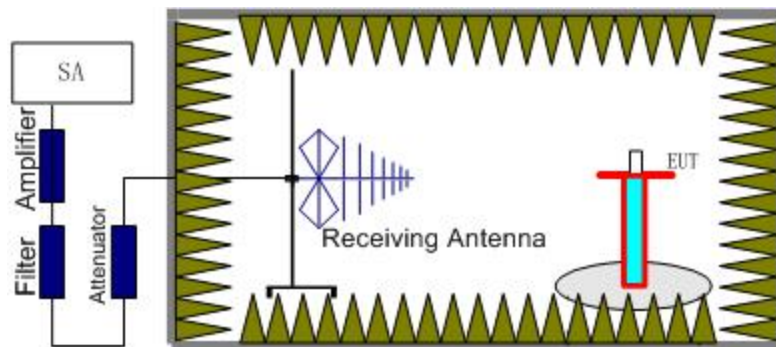**ANALYZER SETTINGS: RBW = VBW = 3MHz**

A.2   EMISSION LIMT

A.2.1 Measurement Method

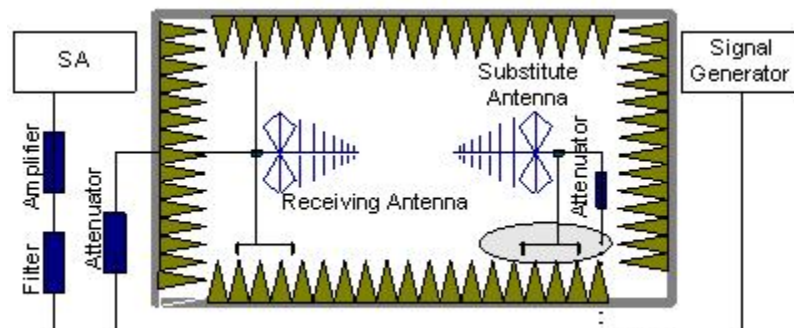he measurements procedures in TIA-603C-2004 are used.

The spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment. The resolution bandwidth is set as outlined in Part 24.238, Part 22.917 and Part 27.53. The spectrum was scanned with the mobile station transmitting at carrier frequencies that pertain to low, mid and high channels of CDMA800, CDMA1700 and CDMA1900.

The procedure of radiated spurious emissions is as follows:

1. EUT was placed on a 1.5 meter high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1.5m. The test setup refers to figure below. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all non-harmonic and harmonics of the transmit frequency through the 10th harmonic were measured with peak detector.

2. The EUT is then put into continuously transmitting mode at its maximum power level during the test. And the maximum value of the receiver should be recorded as (Pr).
3. The EUT shall be replaced by a substitution antenna. The test setup refers to figure below.

In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (P_{Mea}) is applied to the input of the

substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (P_r). The power of signal source (P_{Mea}) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.

4. The Path loss (P_{pl}) between the Signal Source with the Substitution Antenna and the Substitution Antenna Gain (G_a) should be recorded after test.

   A amplifier should be connected in for the test.

   The Path loss (P_{pl}) is the summation of the cable loss and the gain of the amplifier.

   The measurement results are obtained as described below:

   Power(EIRP)=P_{Mea}- P_{pl} - G_a

5. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power.

6. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP -2.15dBi.

A.2.2 Measurement Limit

Part 24.238 , Part 22.917 and Part 27.53 specify that the power of any emission 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.

The specification that emissions shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB, translates in the relevant power range (1 to 0.001 W) to -13 dBm. At 1 W the specified minimum attenuation becomes 43 dB and relative to a 30 dBm (1 W) carrier becomes a limit of -13 dBm. At 0.001 W (0 dBm) the minimum attenuation is 13 dB, which again yields a limit of -13 dBm. In this way a translation of the specification from relative to absolute terms is carried out.

A.2.3 Measurement Results

Radiated emissions measurements were made only at the upper, middle, and lower carrier frequencies of CDMA800, CDMA1700 and CDMA1900 . It was decided that measurements at these three carrier frequencies would be sufficient to demonstrate compliance with emissions limits because it was seen that all the significant spurs occur well outside the band and no radiation was seen from a carrier in one block of the CDMA800, CDMA1700 and CDMA1900 into any of the other blocks. The equipment must still, however, meet emissions requirements with the carrier at all frequencies over which it is capable of operating and it is the manufacturer's responsibility to verify this.

A.2.4 Measurement Results Table

Frequency	Channel	Frequency Range	Result
CDMA800	Low	30MHz-10GHz	Pass
	Middle	30MHz-10GHz	Pass
	High	30MHz-10GHz	Pass
CDMA1700	Low	30MHz-20GHz	Pass
	Middle	30MHz-20GHz	Pass
	High	30MHz-20GHz	Pass
CDMA1900	Low	30MHz-20GHz	Pass
	Middle	30MHz-20GHz	Pass
	High	30MHz-20GHz	Pass

A.2.5 Sweep Table

Working Frequency	Subrange (GHz)	RBW	VBW	Sweep time (s)
CDMA800	0.03~1	100KHz	300KHz	10
	1-2	1 MHz	3 MHz	2
	2~5	1 MHz	3 MHz	3
	5~8	1 MHz	3 MHz	3
	8~10	1 MHz	3 MHz	3
CDMA1700	0.03~1	100KHz	300KHz	10
	1-2	1 MHz	3 MHz	2
	2~5	1 MHz	3 MHz	3
	5~8	1 MHz	3 MHz	3
	8~11	1 MHz	3 MHz	3
	11~14	1 MHz	3 MHz	3
	14~18	1 MHz	3 MHz	3
	18~20	1 MHz	3 MHz	2
CDMA1900	0.03~1	100KHz	300KHz	10
	1-2	1 MHz	3 MHz	2
	2~5	1 MHz	3 MHz	3
	5~8	1 MHz	3 MHz	3
	8~11	1 MHz	3 MHz	3
	11~14	1 MHz	3 MHz	3
	14~18	1 MHz	3 MHz	3
	18~20	1 MHz	3 MHz	2

CDMA 800 Channel 1013/824.7MHz

Frequency(MHz)	P$_{Mea}$(dBm)	Path Loss	Antenna Gain	Correction (dBm)	Peak ERP(dBm)	Limit （dBm）	Polarization
1649.82	-51.87	3.58	-5.44	2.15	-52.16	-13.00	V
3425.58	-69.80	4.95	-7.72	2.15	-69.18	-13.00	H
4843.94	-69.34	6.81	-9.42	2.15	-68.88	-13.00	H
6153.15	-69.21	10.80	-10.32	2.15	-71.84	-13.00	V
7656.98	-65.47	8.05	-11.56	2.15	-64.11	-13.00	V
8648.97	-67.35	7.73	-12.32	2.15	-64.91	-13.00	V

CDMA 800 Channel 384/836.52MHz

Frequency(MHz)	P$_{Mea}$(dBm)	Path Loss	Antenna Gain	Correction (dBm)	Peak ERP(dBm)	Limit （dBm）	Polarization
3413.04	-69.79	5.00	-7.69	2.15	-69.25	-13.00	H
4265.34	-71.48	6.06	-8.66	2.15	-71.03	-13.00	V
5702.92	-69.03	10.15	-10.08	2.15	-71.25	-13.00	H
6349.03	-68.98	8.59	-10.48	2.15	-69.24	-13.00	V
7266.30	-68.58	9.35	-11.26	2.15	-68.82	-13.00	V
8481.00	-67.96	7.77	-12.19	2.15	-65.69	-13.00	V

CDMA 800 Channel 777/848.31MHz

Frequency(MHz)	P$_{Mea}$(dBm)	Path Loss	Antenna Gain	Correction (dBm)	Peak ERP(dBm)	Limit （dBm）	Polarization
1696.86	-43.70	3.62	-5.23	2.15	-44.24	-13.00	V
2384.58	-57.25	4.10	-5.05	2.15	-58.45	-13.00	V
3802.44	-68.84	5.87	-8.26	2.15	-68.60	-13.00	V
4788.73	-71.82	6.80	-9.32	2.15	-71.45	-13.00	V
6443.90	-67.52	7.94	-10.56	2.15	-67.05	-13.00	H
7971.80	-68.36	7.58	-11.87	2.15	-66.22	-13.00	H

CDMA 1700 Channel 25/1711.25MHz

Frequency(MHz)	P_Mea(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
3849.07	-68.33	6.07	-8.32	-66.08	-13.00	H
5138.94	-69.64	7.05	-9.78	-66.91	-13.00	H
8623.18	-67.59	7.89	-12.30	-63.18	-13.00	V
10379.15	-61.01	8.68	-12.48	-57.21	-13.00	V
13179.66	-59.91	10.27	-13.48	-56.70	-13.00	H
16256.30	-58.98	11.46	-12.69	-57.75	-13.00	V

CDMA 1700 Channel 450/1732.5MHz

Frequency(MHz)	P_Mea(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
3450.41	-65.95	5.55	-7.78	-63.72	-13.00	V
5143.83	-69.26	7.13	-9.79	-66.60	-13.00	V
8526.70	-69.34	7.69	-12.22	-64.81	-13.00	H
11338.60	-61.38	9.25	-12.40	-58.23	-13.00	H
13688.67	-64.08	11.27	-13.88	-61.47	-13.00	H
16647.47	-57.49	11.27	-12.40	-56.36	-13.00	H

CDMA 1700 Channel 875/1753.75MHz

Frequency(MHz)	P_Mea(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
3858.49	-65.09	5.97	-8.33	-62.73	-13.00	H
5117.83	-74.23	7.18	-9.77	-71.64	-13.00	V
8605.40	-65.91	8.02	-12.28	-61.65	-13.00	H
10343.62	-61.59	8.65	-12.47	-57.77	-13.00	V
12305.83	-61.87	9.54	-12.62	-58.79	-13.00	V
14539.15	-60.22	12.15	-13.59	-58.78	-13.00	V

CDMA 1900 Channel 25/1851.25MHz

Frequency(MHz)	P$_{Mea}$(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
3851.08	-70.87	6.08	-8.32	-68.63	-13.00	V
5440.61	-67.23	7.98	-9.96	-65.25	-13.00	H
7343.25	-66.12	9.08	-11.31	-63.89	-13.00	H
10139.54	-59.27	8.50	-12.43	-55.34	-13.00	H
12117.33	-61.19	9.63	-12.55	-58.27	-13.00	V
15057.34	-61.15	11.32	-13.49	-58.98	-13.00	V

CDMA 1900 Channel 600/1880.00MHz

Frequency(MHz)	P$_{Mea}$(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
4417.33	-69.42	6.15	-8.75	-66.82	-13.00	H
6427.26	-65.43	8.03	-10.54	-62.92	-13.00	V
10697.54	-63.09	8.78	-12.46	-59.41	-13.00	H
13176.35	-64.89	10.27	-13.48	-61.68	-13.00	H
14501.05	-60.79	12.10	-13.60	-59.29	-13.00	H
15812.19	-60.33	10.88	-13.15	-58.06	-13.00	V

CDMA 1900 Channel 1175/1908.75MHz

Frequency(MHz)	P$_{Mea}$(dBm)	Path Loss	Antenna Gain	Peak EIRP(dBm)	Limit （dBm）	Polarization
4013.69	-69.80	5.88	-8.51	-67.17	-13.00	V
5118.19	-69.18	7.17	-9.77	-66.58	-13.00	V
8873.90	-66.56	8.02	-12.50	-62.08	-13.00	V
12630.67	-61.52	9.90	-12.86	-58.56	-13.00	H
13896.71	-64.57	11.66	-13.96	-62.27	-13.00	V
16653.05	-57.24	11.26	-12.40	-56.10	-13.00	H

A.3 CONDUCTED EMISSION

The measurement procedure in ANSI C63.4-1003 is used. Conducted Emission is measured with travel charger.

A.3.1 Limit

Frequency of Emission (MHz)	Conducted Limit (dBμV)	
	Quasi -Peak	Average
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 – 30	60	50
* Decreases with logarithm of the frequency		

A.3.2 Measurement result
CDMA800-AE3
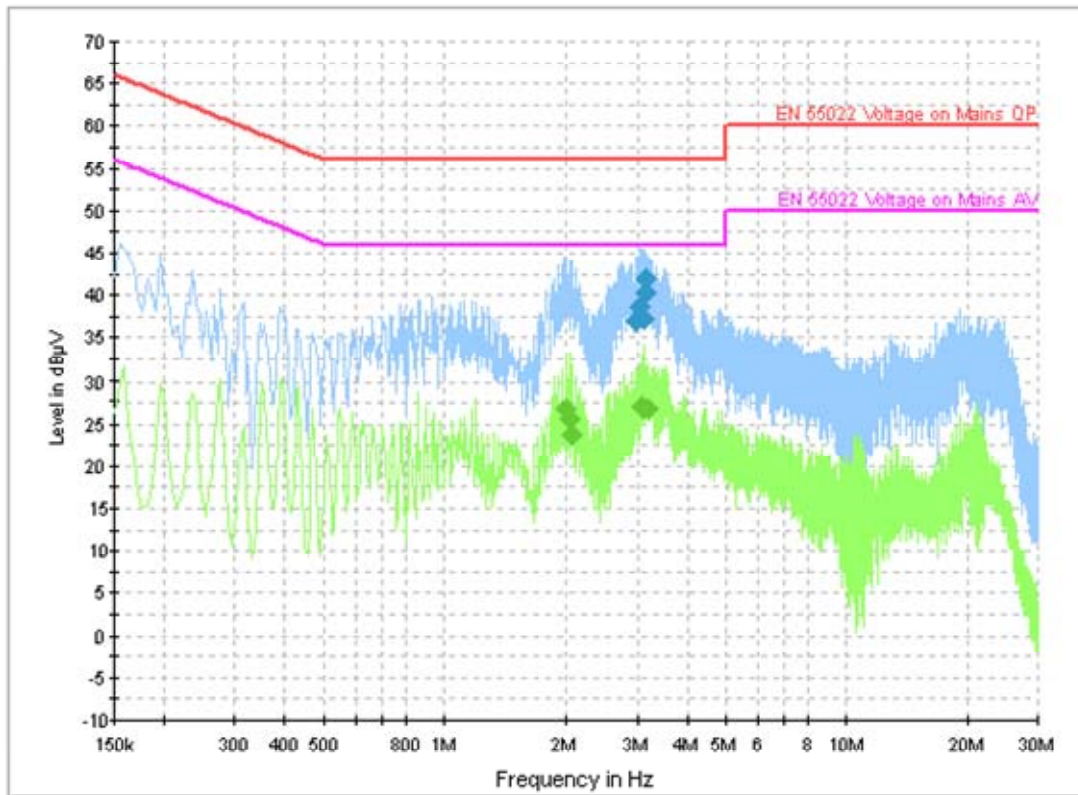
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
2.976000	37.0	GND	L1	10.0	19.0	56.0
3.048000	38.7	GND	L1	10.0	17.3	56.0
3.079500	37.4	GND	L1	10.0	18.6	56.0
3.120000	37.1	GND	L1	10.0	18.9	56.0
3.138000	40.3	GND	L1	10.0	15.7	56.0
3.147000	42.0	GND	L1	10.0	14.0	56.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
1.986000	26.9	GND	L1	10.0	19.1	46.0
2.026500	25.6	GND	L1	10.0	20.4	46.0
2.067000	23.8	GND	L1	10.0	22.2	46.0
3.079500	27.1	GND	L1	10.0	18.9	46.0
3.120000	26.9	GND	L1	10.0	19.1	46.0
3.201000	26.8	GND	L1	10.0	19.2	46.0

CDMA1700-AE3
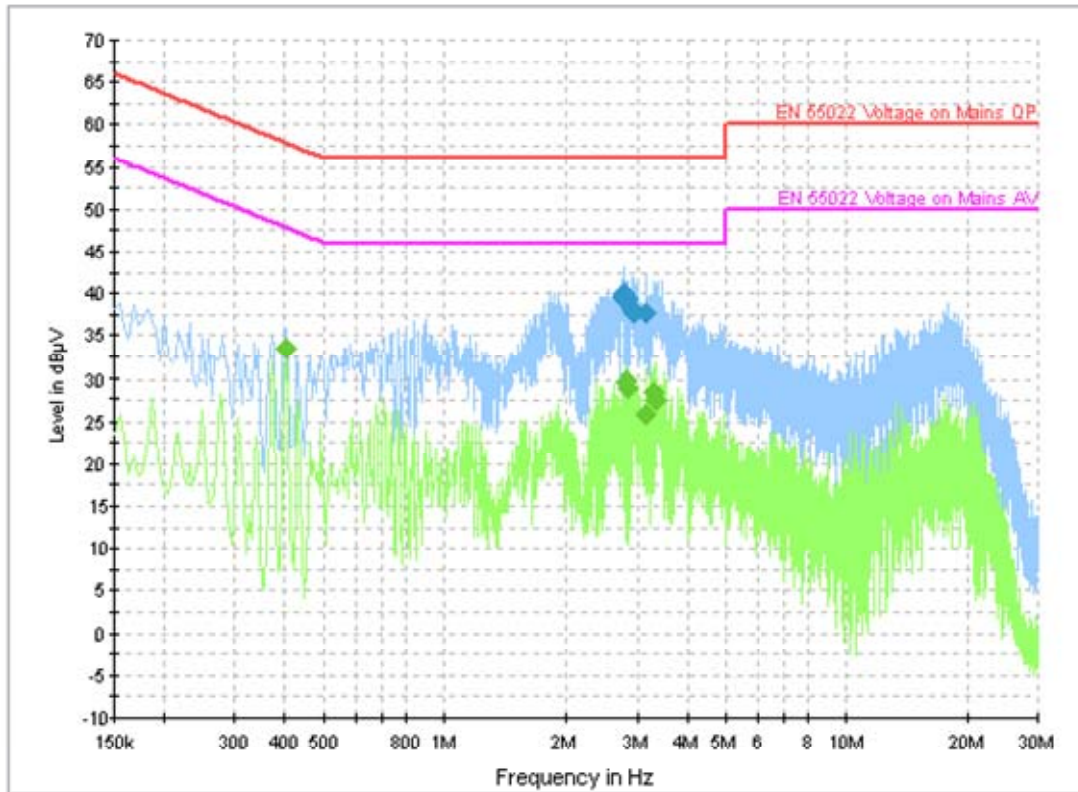
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
2.751000	39.5	GND	L1	10.0	16.5	56.0
2.782500	40.0	GND	L1	10.0	16.0	56.0
2.845500	39.4	GND	L1	10.0	16.6	56.0
2.913000	38.1	GND	L1	10.0	17.9	56.0
2.944500	37.7	GND	L1	10.0	18.3	56.0
3.147000	37.6	GND	L1	10.0	18.4	56.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.402000	33.4	GND	N	10.0	14.4	47.8
2.814000	29.7	GND	L1	10.0	16.3	46.0
2.845500	28.8	GND	L1	10.0	17.2	46.0
3.147000	26.0	GND	L1	10.0	20.0	46.0
3.304500	28.5	GND	L1	10.0	17.5	46.0
3.340500	27.5	GND	L1	10.0	18.5	46.0

CDMA1900-AE3
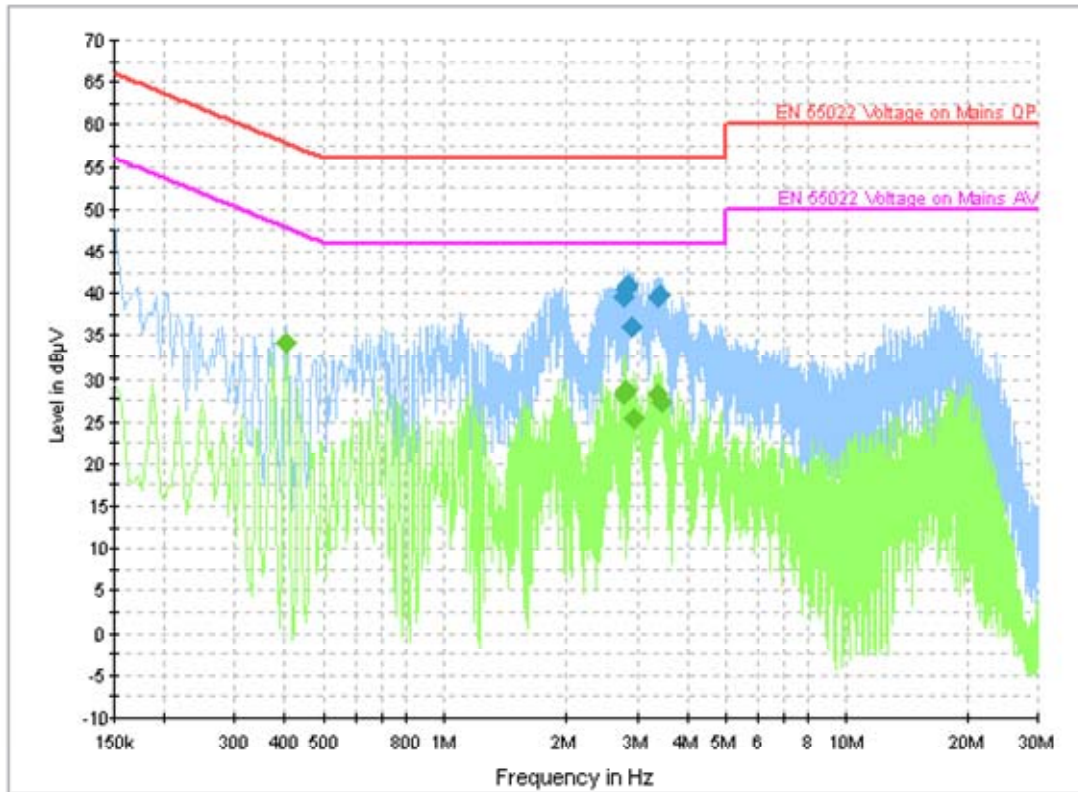
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
2.787000	39.5	GND	L1	10.0	16.5	56.0
2.818500	40.5	GND	L1	10.0	15.5	56.0
2.850000	41.0	GND	L1	10.0	15.0	56.0
2.926500	36.0	GND	L1	10.0	20.0	56.0
3.376500	39.7	GND	L1	10.0	16.3	56.0
3.408000	39.7	GND	L1	10.0	16.3	56.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.402000	34.0	GND	N	10.0	13.8	47.8
2.787000	28.2	GND	L1	10.0	17.8	46.0
2.818500	28.7	GND	L1	10.0	17.3	46.0
2.949000	25.5	GND	L1	10.0	20.5	46.0
3.376500	28.1	GND	L1	10.0	17.9	46.0
3.439500	27.3	GND	L1	10.0	18.7	46.0

MP3
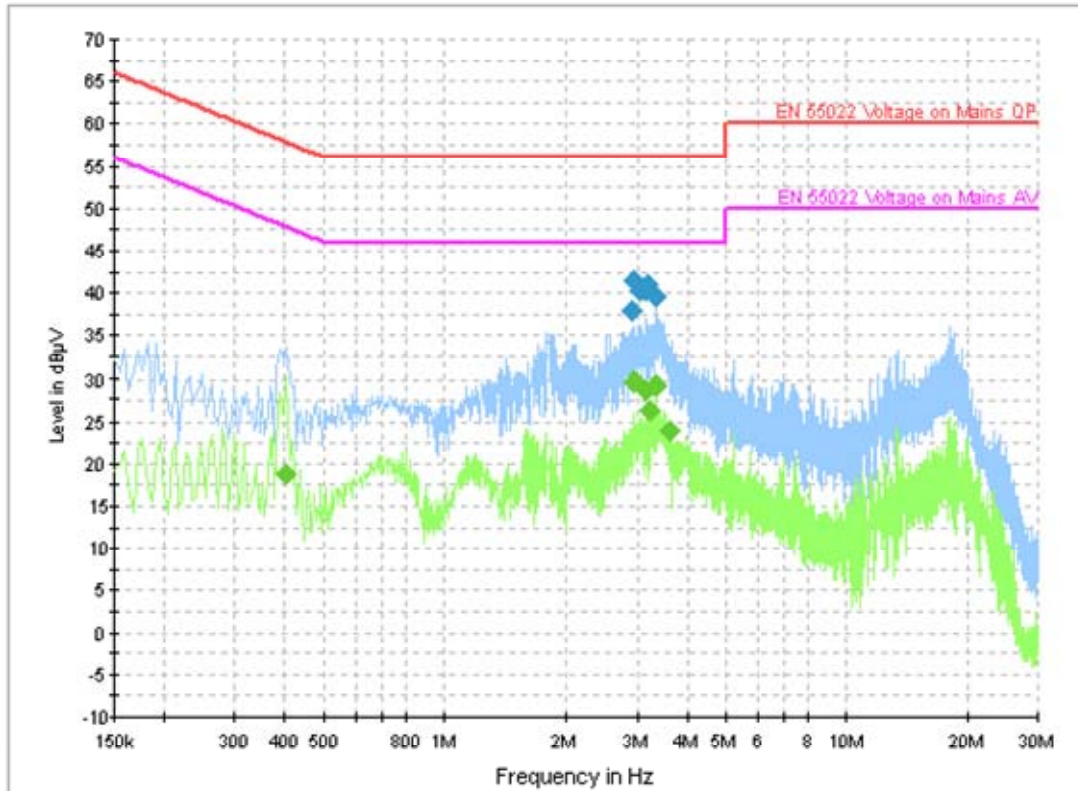
s

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
2.899500	37.9	GND	L1	10.0	18.1	56.0
2.953500	41.5	GND	L1	10.0	14.5	56.0
3.043500	40.3	GND	L1	10.0	15.7	56.0
3.138000	40.2	GND	L1	10.0	15.8	56.0
3.187500	41.1	GND	L1	10.0	14.9	56.0
3.340500	39.5	GND	L1	10.0	16.5	56.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.402000	18.7	GND	N	10.0	29.1	47.8
2.953500	29.7	GND	L1	10.0	16.3	46.0
3.138000	28.6	GND	L1	10.0	17.4	46.0
3.210000	26.3	GND	L1	10.0	19.7	46.0
3.340500	29.2	GND	L1	10.0	16.8	46.0
3.637500	23.9	GND	L1	10.0	22.1	46.0

CAMERA
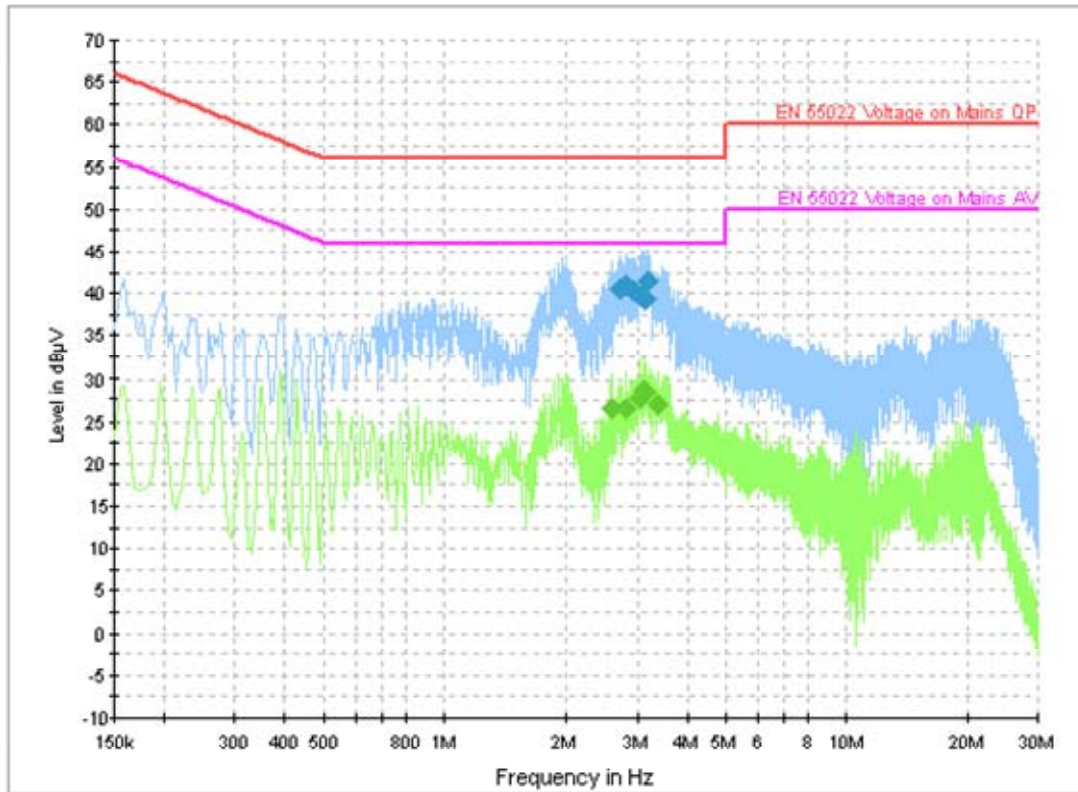
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
2.719500	40.5	GND	L1	10.0	15.5	56.0
2.809500	41.0	GND	L1	10.0	15.0	56.0
2.953500	40.3	GND	L1	10.0	15.7	56.0
3.066000	39.6	GND	L1	10.0	16.4	56.0
3.147000	39.4	GND	L1	10.0	16.6	56.0
3.205500	41.3	GND	L1	10.0	14.7	56.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
2.602500	26.5	GND	L1	10.0	19.5	46.0
2.800500	26.5	GND	L1	10.0	19.5	46.0
3.034500	27.8	GND	L1	10.0	18.2	46.0
3.106500	28.8	GND	L1	10.0	17.2	46.0
3.147000	28.4	GND	L1	10.0	17.6	46.0
3.381000	27.0	GND	L1	10.0	19.0	46.0

A.4   FREQUENCY STABILITY

A.4.1 Method of Measurement

In order to measure the carrier frequency under the condition of AFC lock, it is necessary to make measurements with the EUT in a "call mode". This is accomplished with the use of R&S CMU200 DIGITAL RADIO COMMUNICATION TESTER.

1. Measure the carrier frequency at room temperature.
2. Subject the EUT to overnight soak at -30℃.
3. With the EUT, powered via nominal voltage, connected to the CMU200 and in a simulated call on mid channel of CDMA 800 and CDMA1900, measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.
4. Repeat the above measurements at 10℃ increments from -30℃ to +50℃. Allow at least 1 1/2 hours at each temperature, unpowered, before making measurements.
5. Remeasure carrier frequency at room temperature with nominal voltage. Vary supply voltage from minimum voltage to maximum voltage, in 0.1Volt increments remeasuring carrier frequency at each voltage. Pause at nominal voltage for 1 1/2 hours unpowered, to allow any self-heating to stabilize, before continuing.
6. Subject the EUT to overnight soak at +50℃.
7. With the EUT, powered via nominal voltage, connected to the CMU200 and in a simulated call on the centre channel, measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.
8. Repeat the above measurements at 10 C increments from +50℃ to -30℃. Allow at least 1 1/2 hours at each temperature, unpowered, before making measurements.
9. At all temperature levels hold the temperature to +/- 0.5℃ during the measurement procedure.

A.4.2 Measurement Limit

A.4.2.1 For Hand carried battery powered equipment

According to the JTC standard the frequency stability of the carrier shall be accurate to within 0.1 ppm of the received frequency from the base station. This accuracy is sufficient to meet Sec. 24.235, Frequency Stability. The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.   As this transceiver is considered "Hand carried, battery powered equipment" Section 2.1055(d)(2) applies. This requires that the lower voltage for frequency stability testing be specified by the manufacturer. This transceiver is specified to operate with an input voltage of between 3.5VDC and 4.2VDC, with a nominal voltage of 3.9VDC. Operation above or below these voltage limits is prohibited by transceiver software in order to prevent improper operation as well as to protect components from overstress. These voltages represent a tolerance of -10 % and +12.5 %. For the purposes of measuring frequency stability these voltage limits are to be used.

A.4.2.2 For equipment powered by primary supply voltage

According to the JTC standard the frequency stability of the carrier shall be accurate to within 0.1 ppm of the received frequency from the base station. This accuracy is sufficient to meet Sec. 24.235, Frequency Stability. The frequency stability shall be sufficient to ensure that the

fundamental emission stays within the authorized frequency block. For this EUT section 2.1055(d)(1) applies. This requires varying primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment.

A.4.3 Measurement results

CDMA 800
Frequency Error vs Voltage

Voltage(V)	Frequency error(Hz)	Frequency error(ppm)
3.5	-5	0.006
3.9	-3	0.003
4.2	-4	0.005

Frequency Error vs Temperature

temperature(℃)	Frequency error(Hz)	Frequency error(ppm)
-30	-6	0.007
-20	-6	0.007
-10	-5	0.006
0	-4	0.005
10	-3	0.003
20	-3	0.003
30	-4	0.005
40	-5	0.006
50	-5	0.006

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CDMA 1700

Frequency Error vs Voltage

Voltage(V)	Frequency error(Hz)	Frequency error(ppm)
3.5	-6	0.003
3.9	-3	0.001
4.2	-5	0.002

Frequency Error vs Temperature

temperature(℃)	Frequency error(Hz)	Frequency error(ppm)
-30	-8	0.005
-20	-6	0.003
-10	-6	0.003
0	-5	0.002
10	-4	0.002
20	-3	0.001
30	-4	0.002
40	-5	0.002
50	-7	0.004

CDMA 1900

Frequency Error vs Voltage

Voltage(V)	Frequency error(Hz)	Frequency error(ppm)
3.5	6	0.003
3.9	4	0.002
4.2	5	0.002

Frequency Error vs Temperature

temperature(℃)	Frequency error(Hz)	Frequency error(ppm)
-30	9	0.005
-20	7	0.004
-10	5	0.002
0	5	0.002
10	5	0.002
20	4	0.002
30	5	0.002
40	5	0.002
50	7	0.004

A.5   OCCUPIED BANDWIDTH

A.5.1 Occupied Bandwidth Results

Similar to conducted emissions; occupied bandwidth measurements are only provided for selected frequencies in order to reduce the amount of submitted data. Data were taken at the extreme and mid frequencies of the CDMA frequency band. The table below lists the measured 99% BW. Spectrum analyzer plots are included on the following pages.

CDMA 800 (99% BW)

Channel	Occupied Bandwidth (99% BW)(MHz)
1013	1.282
384	1.274
777	1.274

ANALYZER SETTINGS: RBW=20 kHz, VBW=50 kHz

CDMA 800
Channel 1013-Occupied Bandwidth (99% BW)
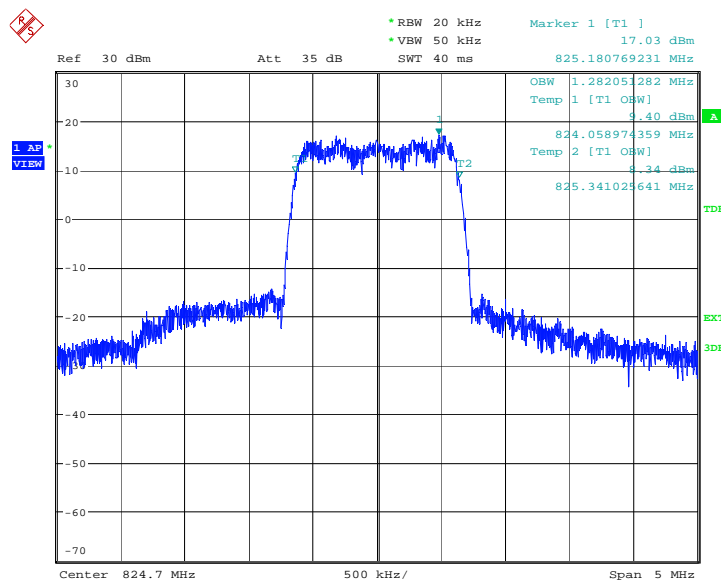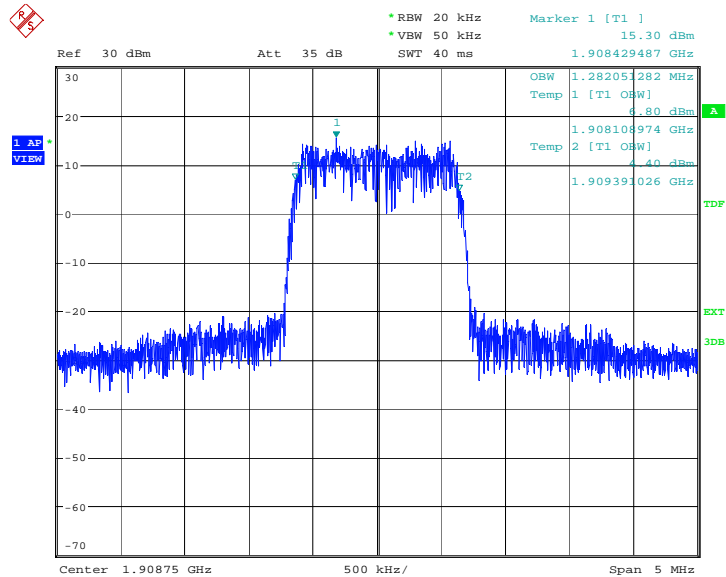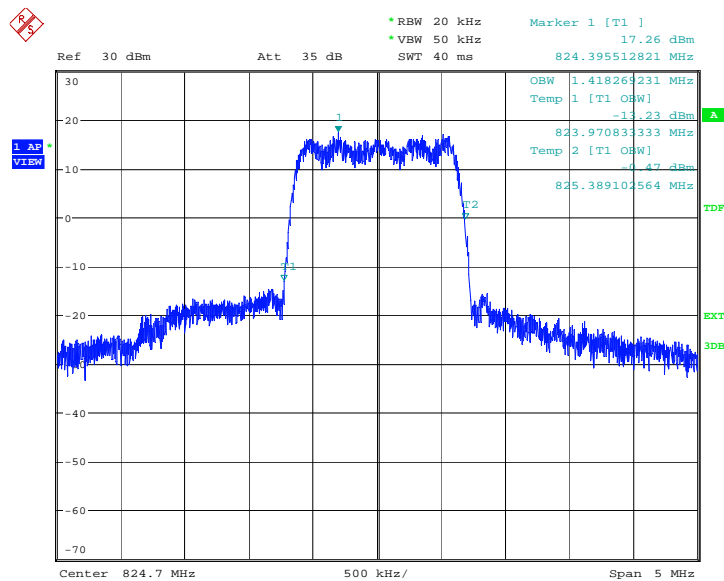

Date: 3.AUG.2012 07:10:42

Channel 384-Occupied Bandwidth (99% BW)
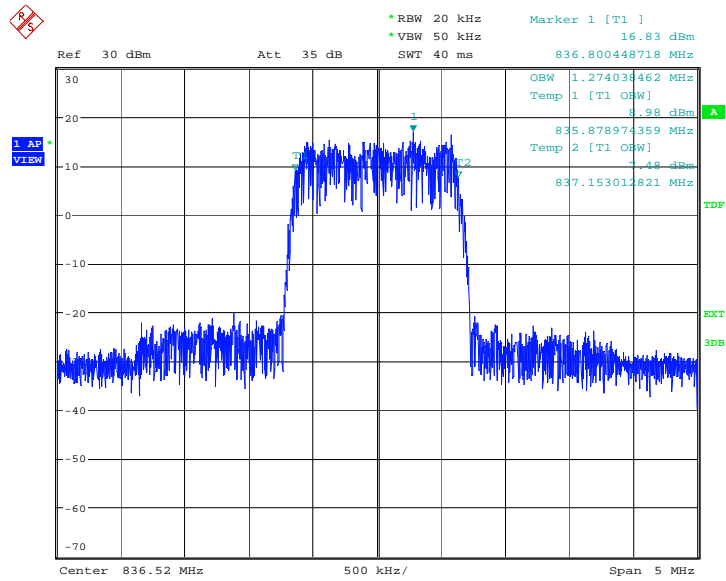
Date: 3.AUG.2012 06:57:20

Channel 777-Occupied Bandwidth (99% BW)
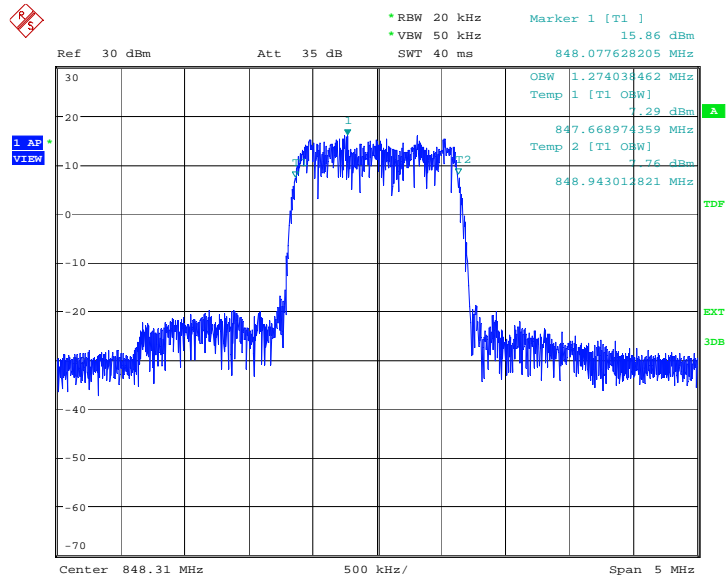
Date: 3.AUG.2012 07:15:49

CDMA 1700 (99% BW)

Channel	Occupied Bandwidth (99% BW)(MHz)
25	1.282
450	1.282
875	1.282

ANALYZER SETTINGS: RBW=20 kHz, VBW=50 kHz

CDMA 1700

Channel 25-Occupied Bandwidth (99% BW)
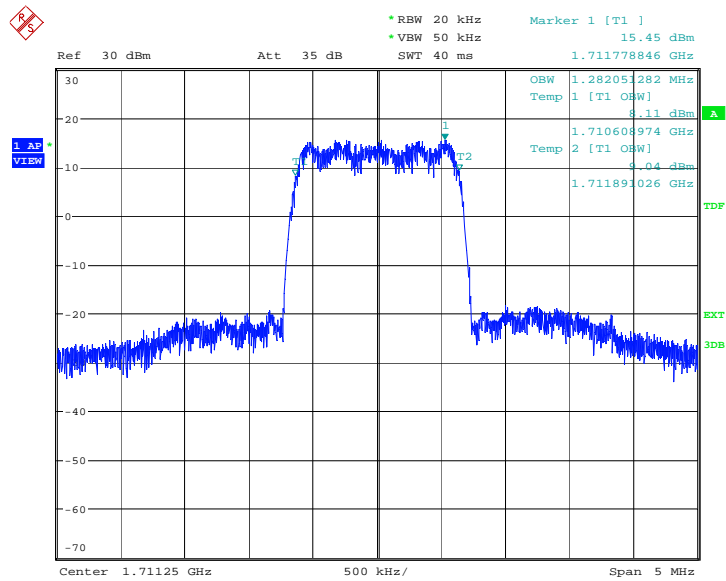
Date: 3.AUG.2012 07:51:00

Channel 450-Occupied Bandwidth (99% BW)


```
* RBW 20 kHz          Marker 1 [T1 ]
* VBW 50 kHz                16.06 dBm
Ref 30 dBm      Att 35 dB    SWT 40 ms     1.731963141 GHz

30
                                            OBW  1.282051282 MHz
                                            Temp 1 [T1 OBW]
-20                                                 8.45 dBm   A
1 AP                                                1.731858974 GHz
VIEW                                         Temp 2 [T1 OBW]
-10                                                 8.96 dBm
                                                    1.733141026 GHz
0
                                                                TDF
-10

-20                                                             EXT
                                                                3DB
-40

-50

-60

-70
Center  1.7325 GHz        500 kHz/              Span  5 MHz
```
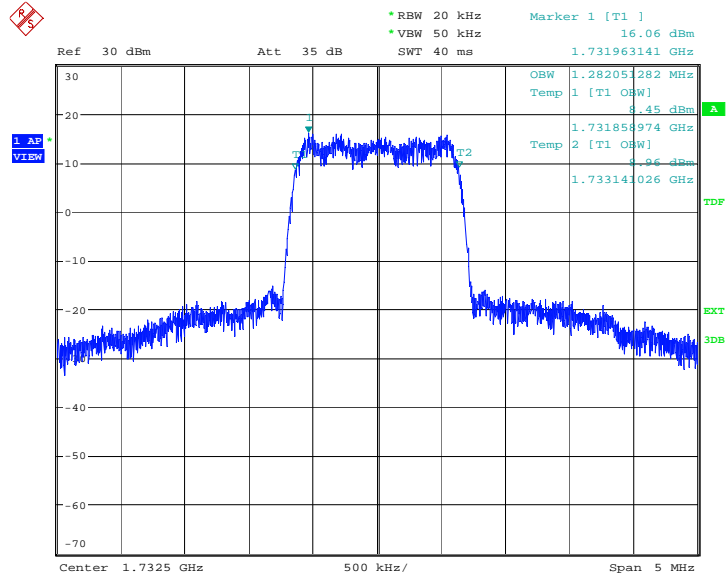
Date: 3.AUG.2012 07:32:41

Channel 875-Occupied Bandwidth (99% BW)


```
* RBW 20 kHz          Marker 1 [T1 ]
* VBW 50 kHz                15.98 dBm
Ref 30 dBm      Att 35 dB    SWT 40 ms     1.753437500 GHz

30
                                            OBW  1.282051282 MHz
                                            Temp 1 [T1 OBW]
-20                                                 8.01 dBm   A
1 AP                                                1.753108974 GHz
VIEW                                         Temp 2 [T1 OBW]
-10                                                 8.32 dBm
                                                    1.754391026 GHz
0
                                                                TDF
-10

-20                                                             EXT
                                                                3DB
-40

-50

-60

-70
Center  1.75375 GHz       500 kHz/              Span  5 MHz
```
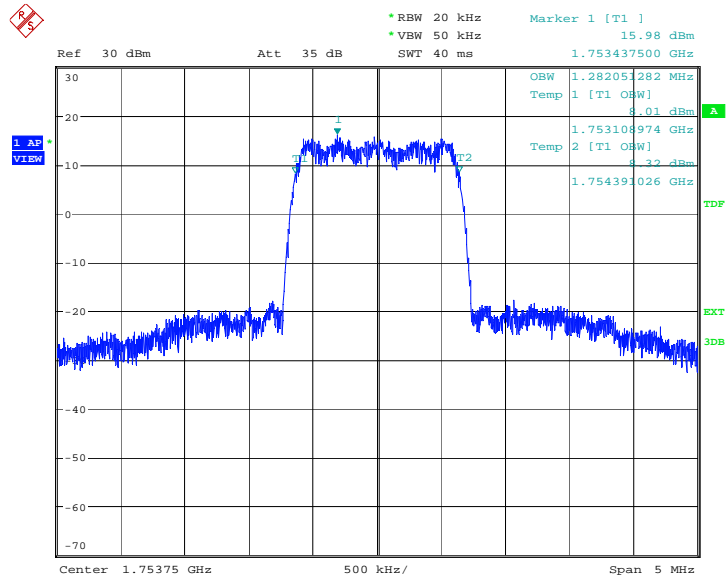
Date: 3.AUG.2012 07:56:07

CDMA 1900 (99% BW)

Channel	Occupied Bandwidth (99% BW)(MHz)
25	1.282
600	1.282
1175	1.282

ANALYZER SETTINGS: RBW=20 kHz, VBW=50 kHz

CDMA 1900

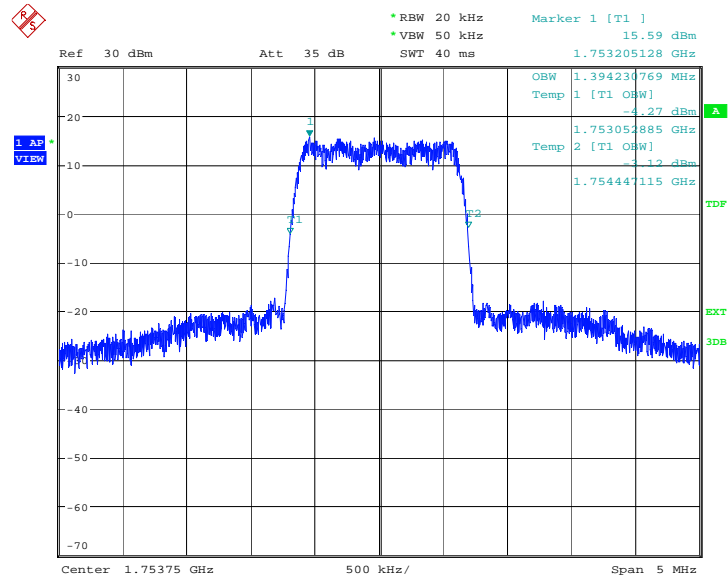**Channel 25-Occupied Bandwidth (99% BW)**
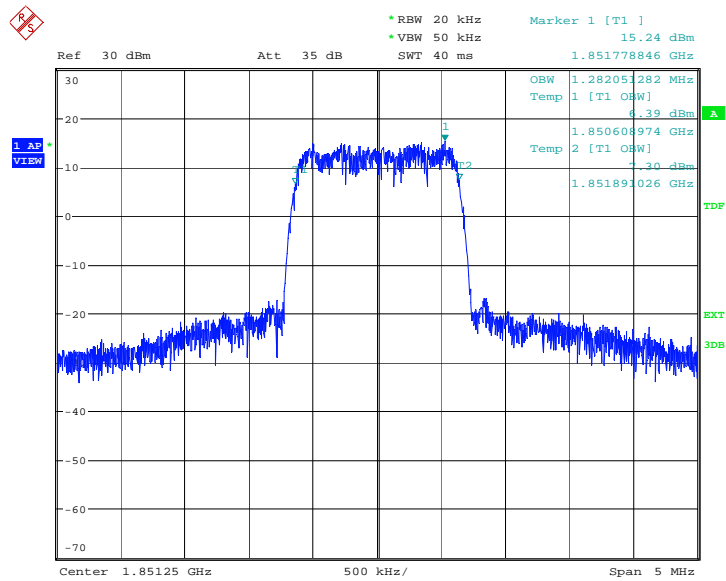
Date: 3.AUG.2012 08:14:32

Channel 600-Occupied Bandwidth (99% BW)
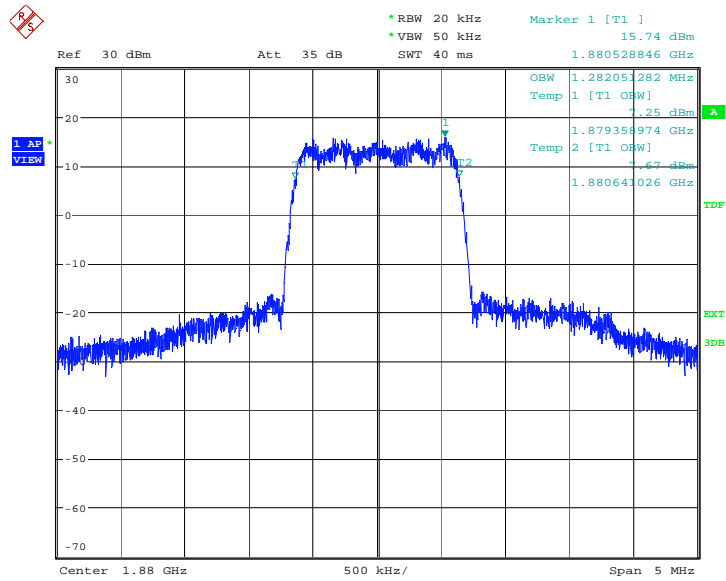
Date: 3.AUG.2012 08:09:40

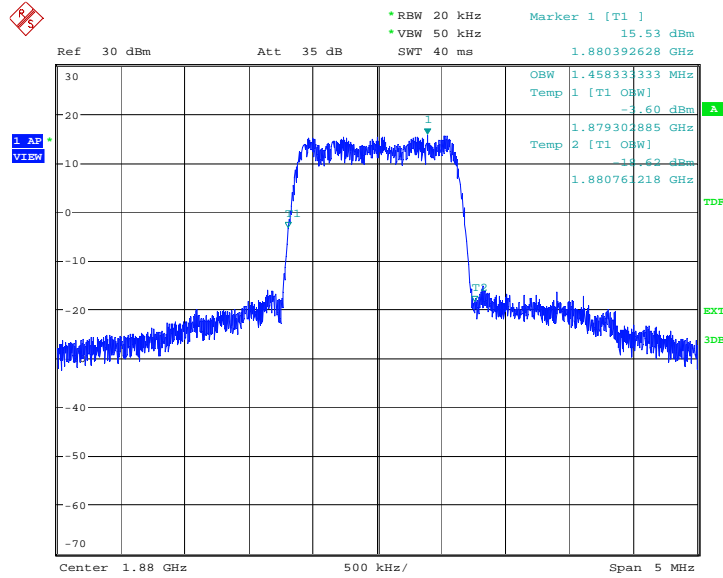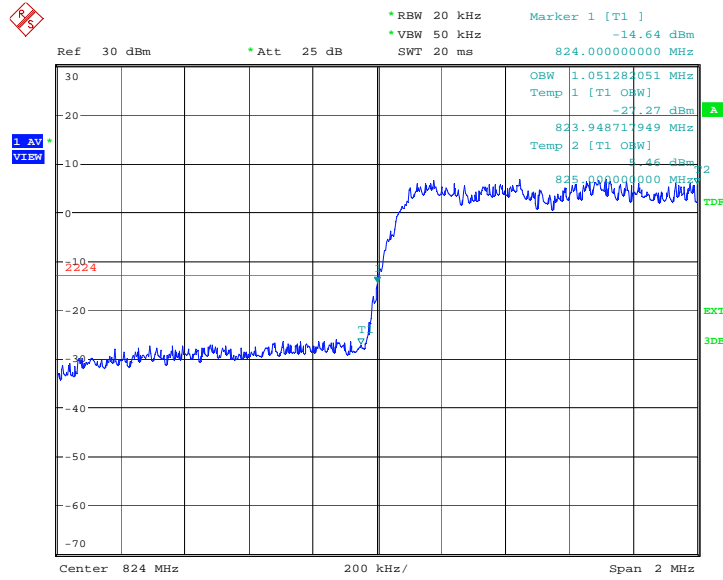## Channel 1175-Occupied Bandwidth (99% BW)

Date: 3.AUG.2012 08:20:23

A.6   EMISSION BANDWIDTH

A.6.1Emission Bandwidth Results

Similar to conducted emissions; Emission bandwidth measurements are only provided for selected frequencies in order to reduce the amount of submitted data. Data were taken at the extreme and mid frequencies of the CDMA frequency band. Table below lists the measured 100% BW. Spectrum analyzer plots are included on the following pages.

CDMA 800 (100% BW)

Channel	Occupied Bandwidth (100% BW)(MHz)
1013	1.418
384	1.394
777	1.394

ANALYZER SETTINGS: RBW=20 kHz, VBW=50 kHz

CDMA 800

Channel 1013-Occupied Bandwidth (100% BW)

Date: 3.AUG.2012 07:11:21

Channel 384-Occupied Bandwidth (100% BW)
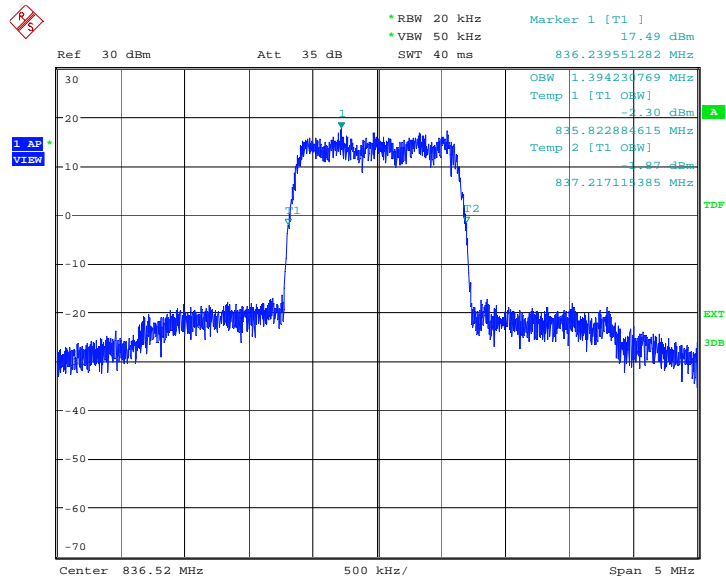
Date: 3.AUG.2012 06:57:59

Channel 777-Occupied Bandwidth (100% BW)
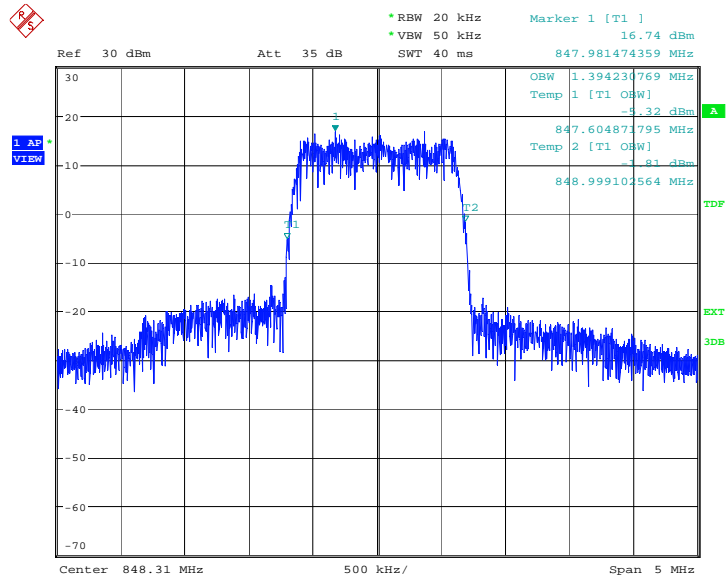
Date: 3.AUG.2012 07:16:28

CDMA 1700 (100% BW)

Channel	Occupied Bandwidth (100% BW)(MHz)
25	1.386
450	1.410
875	1.394

ANALYZER SETTINGS: RBW=20 kHz, VBW=50 kHz

CDMA 1700

Channel 25-Occupied Bandwidth (100% BW)
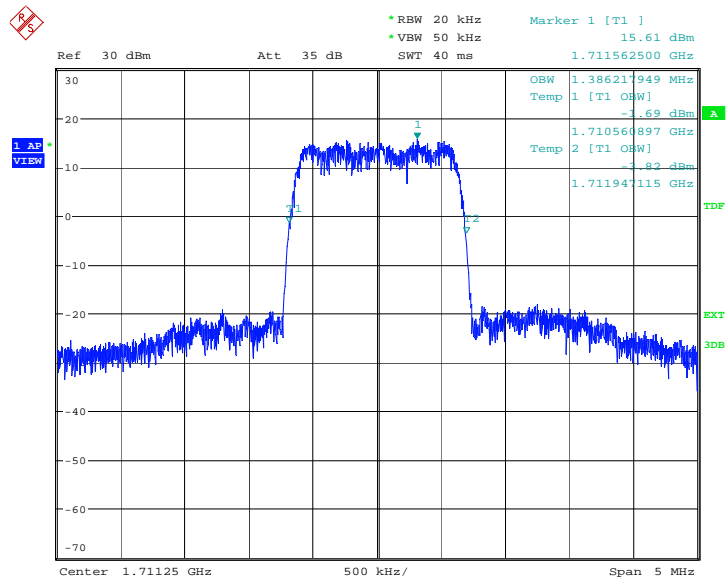
Date: 3.AUG.2012 07:51:39

Channel 450-Occupied Bandwidth (100% BW)
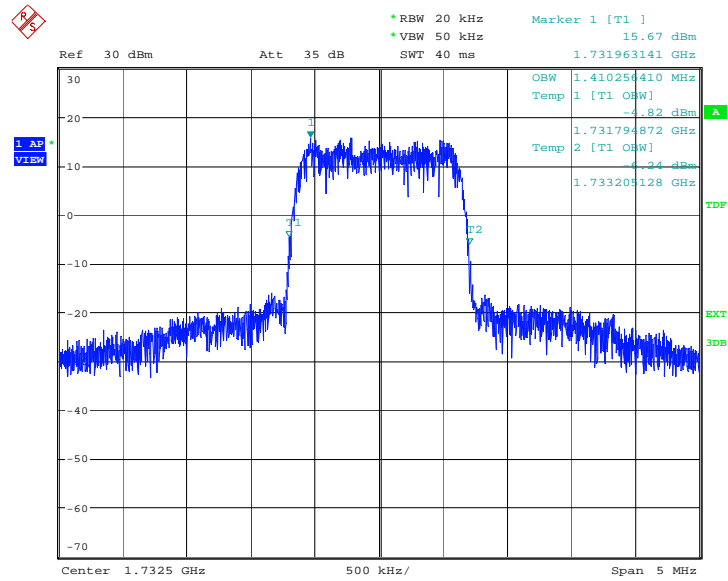
Date: 3.AUG.2012 07:33:19

Channel 875-Occupied Bandwidth (100% BW)

Date: 3.AUG.2012 07:56:45

CDMA 1900 (100% BW)

Channel	Occupied Bandwidth (100% BW)(MHz)
25	1.394
600	1.458
1175	1.386

 ANALYZER SETTINGS: RBW=20 kHz, VBW=50 kHz

CDMA 1900

Channel 25-Occupied Bandwidth (100% BW)
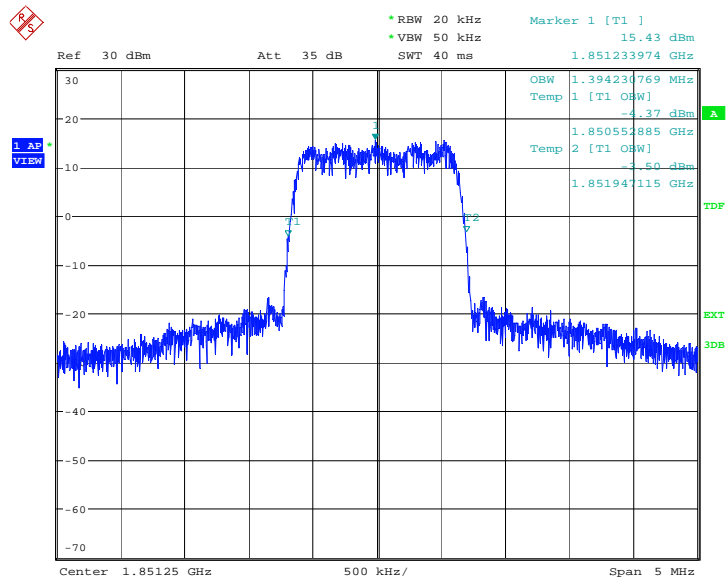
Date: 3.AUG.2012 08:15:11

Channel 600-Occupied Bandwidth (100% BW)

Date: 3.AUG.2012 08:10:18

Channel 1175-Occupied Bandwidth (100% BW)
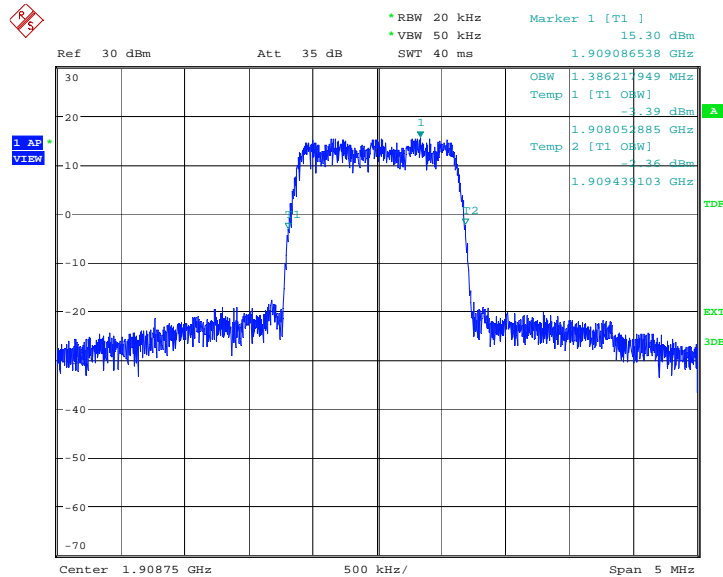
Date: 3.AUG.2012 08:21:02

A.7   BAND EDGE COMPLIANCE

CDMA 800
BAND EDGE BLOCK-Channel 1013


```
                                              *RBW  20 kHz      Marker 1 [T1 ]
                                              *VBW  50 kHz                -14.64 dBm
          Ref  30 dBm          *Att  25 dB    SWT  20 ms        824.000000000 MHz
                                                         OBW  1.051282051 MHz
                                                         Temp 1 [T1 OBW]
                                                                   -27.27 dBm    A
                                                         823.948717949 MHz
                                                         Temp 2 [T1 OBW]
                                                                    5.46 dBm
                                                         825.000000000 MHz  TDF
                                                                            EXT
                                                                            3DB
          Center 824 MHz             200 kHz/              Span 2 MHz
```

Date: 3.AUG.2012 07:11:28

HIGH BAND EDGE BLOCK-Channel 777


```
                                              *RBW  20 kHz      Marker 1 [T1 ]
                                              *VBW  50 kHz                -14.39 dBm
          Ref  30 dBm          *Att  25 dB    SWT  20 ms        849.000000000 MHz
                                                         OBW  1.000000000 MHz
                                                         Temp 1 [T1 OBW]
                                                                    4.09 dBm    A
                                                         848.000000000 MHz
                                                         Temp 2 [T1 OBW]
                                                                   -14.39 dBm
                                                         849.000000000 MHz  TDF
                                                                            EXT
                                                                            3DB
          Center 849 MHz             200 kHz/              Span 2 MHz
```
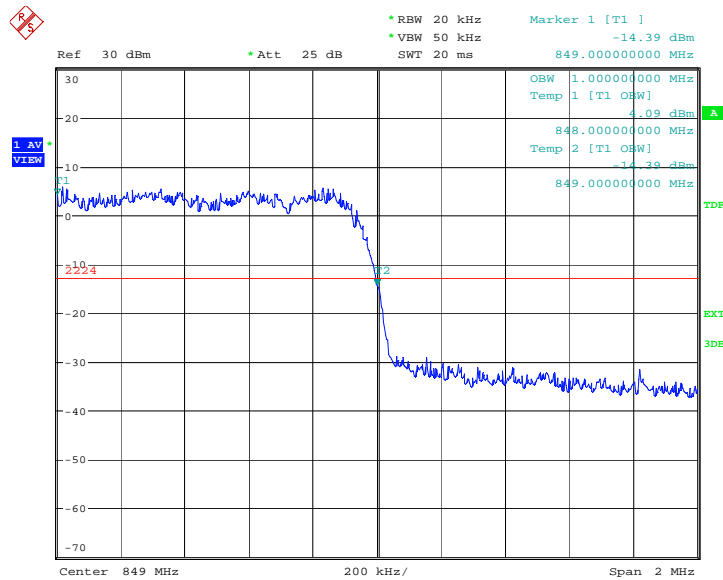
Date: 3.AUG.2012 07:16:35

CDMA 1700
BAND EDGE BLOCK-Channel 25
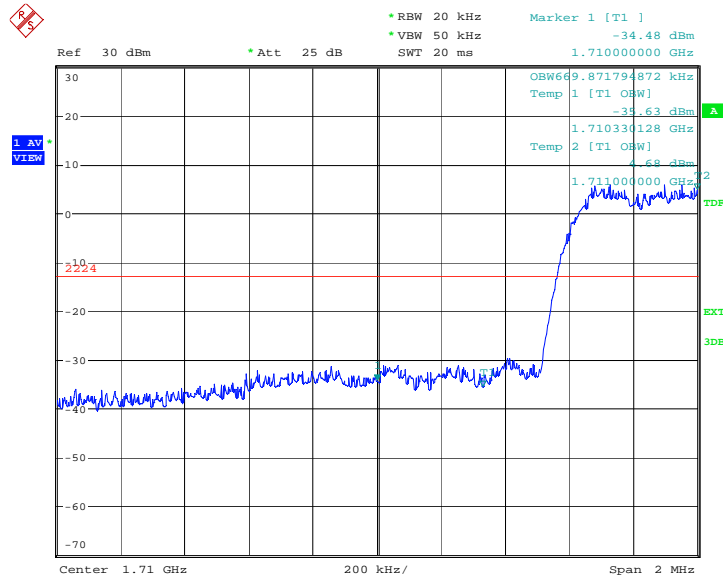
Date: 3.AUG.2012 07:51:46

HIGH BAND EDGE BLOCK-Channel 875
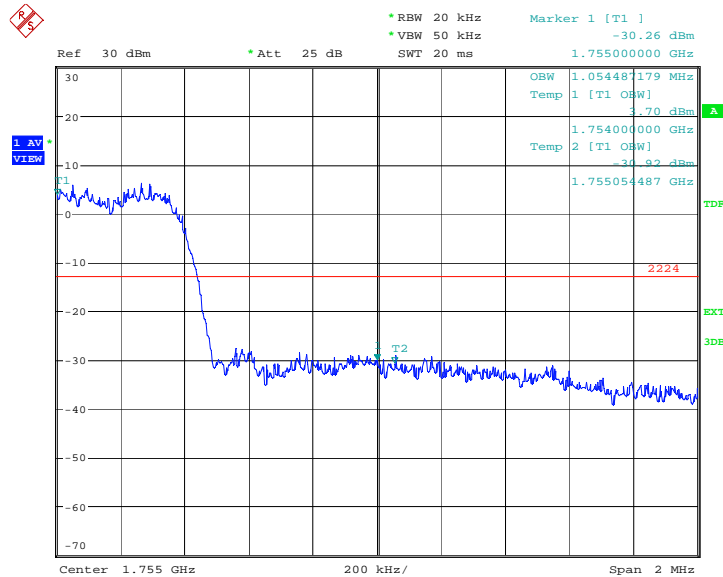
Date: 3.AUG.2012 07:56:52

CDMA 1900
BAND EDGE BLOCK-Channel 25
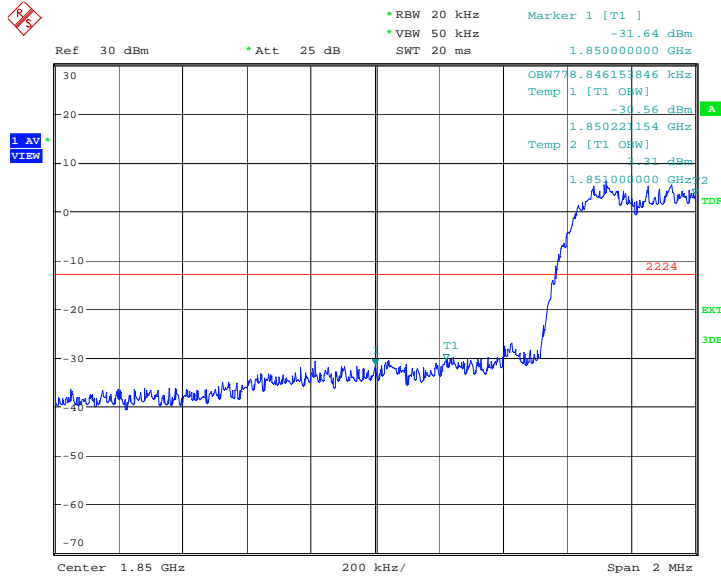
Date: 3.AUG.2012 08:15:18

HIGH BAND EDGE BLOCK-Channel 1175
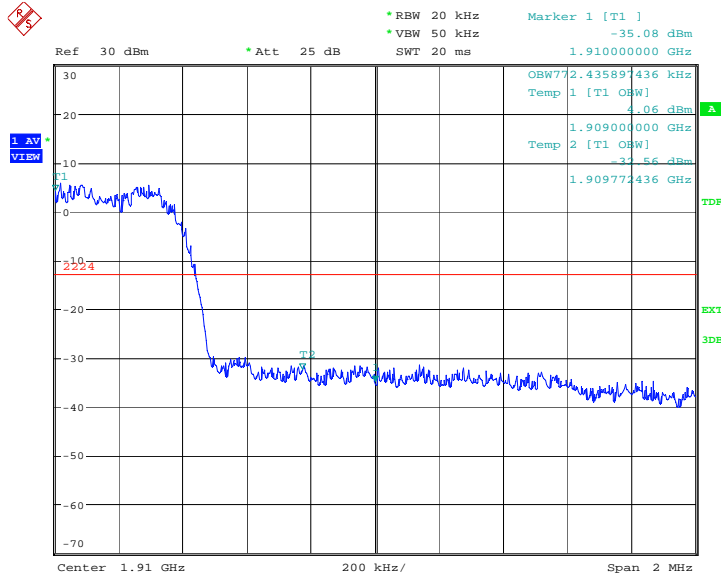
Date: 3.AUG.2012 08:21:09

A.8   CONDUCTED SPURIOUS EMISSION

A.8.1 Measurement Method

The following steps outline the procedure used to measure the conducted emissions from the EUT.

1. Determine frequency range for measurements: From CFR 2.1057 the spectrum should be investigated from the lowest radio frequency generated in the equipment up to at least the 10th harmonic of the carrier frequency. For the equipment of CDMA1700 and CDMA1900, , data taken from 30 MHz to 20 GHz. For CDMA800, data taken from 30 MHz to 10GHz.

2. The sweep time is set automatically by instrument itself. That should be the optimal sweep time for the span and the RBW. If the sweep time is too short, that is sweep is too fast, the sweep result is not accurate; If the sweep time is too long, that is sweep is too low, some frequency components may be lost. The instrument will give a optimal sweep time according the selected span and RBW.

3. The procedure to get the conducted spurious emission is as follows:

    The trace mode is set to MaxHold to get the highest signal at each frequency;

    Wait 25 seconds;

    Get the result.

4. Determine EUT transmit frequencies: below outlines the band edge frequencies pertinent to conducted emissions testing.

    CDMA 800 Transmitter

Channel	Frequency (MHz)
1013	824.70
384	836.52
777	848.31

    CDMA 1700 Transmitter

Channel	Frequency (MHz)
25	1711.25
450	1732.50
875	1753.75

    CDMA 1900 Transmitter

Channel	Frequency (MHz)
25	1851.25
600	1880.00
1175	1908.75

A. 8.2 Measurement Limit

Part 24.238 and Part 22.917 specify that the power of any emission 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.

The specification that emissions shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB, translates in the relevant power range (1 to 0.001 W) to -13 dBm. At 1 W the specified minimum attenuation becomes 43 dB and relative to a 30 dBm (1 W) carrier becomes a

limit of -13 dBm. At 0.001 W (0 dBm) the minimum attenuation is 13 dB, which again yields a limit of -13 dBm. In this way a translation of the specification from relative to absolute terms is carried out.

A.8.3 Measurement result

CDMA 1900

A. 8.3.1 Channel 25: 30MHz –1GHz

Spurious emission limit –13dBm.

```
                                    *RBW  1 MHz        Marker 1 [T1 ]
                                     VBW  3 MHz              -26.08 dBm
         Ref   25 dBm    *Att  20 dB SWT  2.5 ms     984.455128205 MHz

          20                                                            A

  1 PK     10
  VIEW
           0                                                            TDF

          -10
        2224
          -20                                                         1  EXT

          -30                                                            3DB

          -40

          -50

          -60

          -70

         Start  30 MHz          97 MHz/            Stop  1 GHz
```
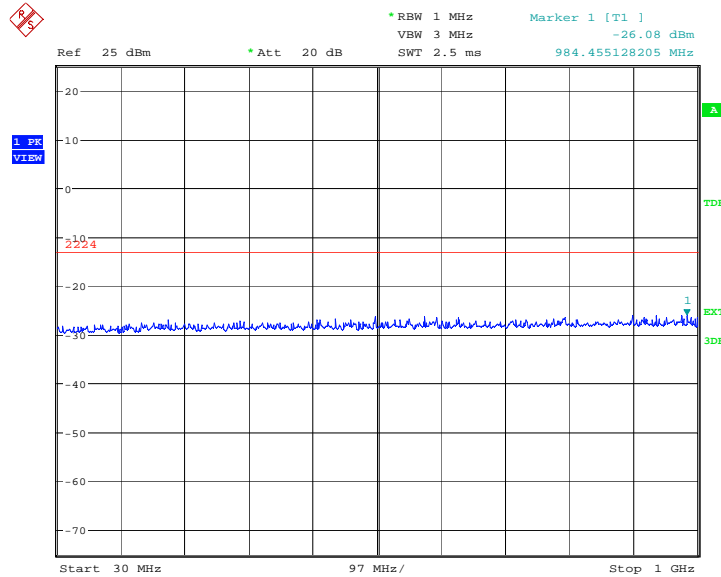
Date: 10.AUG.2012 02:02:43

**A.8.3.2 Channel 25: 1GHz –2.5GHz**

Spurious emission limit –13dBm.

**NOTE: peak above the limit line is the carrier frequency.**

```
                                    *RBW  1 MHz        Marker 1 [T1 ]
                                     VBW  3 MHz               25.91 dBm
         Ref   25 dBm    *Att  20 dB SWT  5 ms        1.850961538 GHz

          20                                                            A

  1 PK     10
  VIEW
           0                                                            TDF

          -10
        2224
          -20                                                            EXT

          -30                                                            3DB

          -40

          -50

          -60

          -70

         Start  1 GHz           150 MHz/           Stop  2.5 GHz
```
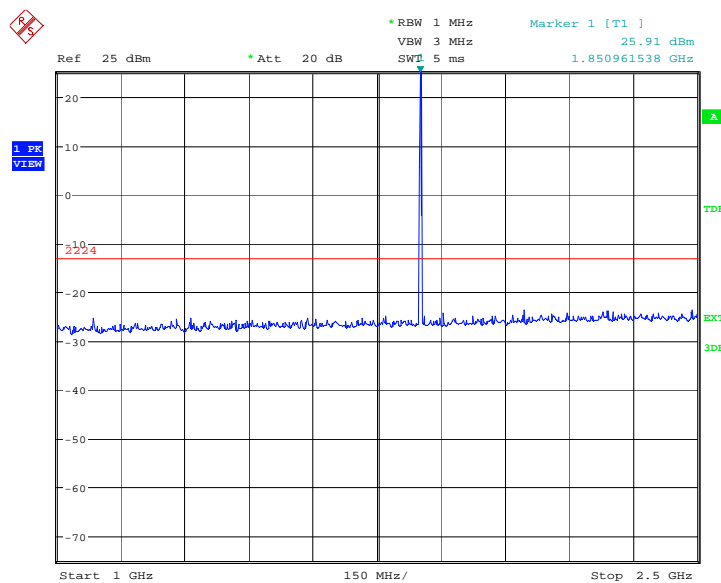
Date: 10.AUG.2012 02:03:10

A.8.3.3 Channel 25: 2.5GHz –7.5GHz

Spurious emission limit –13dBm.


```
                                              * RBW  1 MHz      Marker 1 [T1 ]
                                                VBW  3 MHz              -21.76 dBm
         Ref   25 dBm           * Att  20 dB     SWT  30 ms         6.706730769 GHz
```
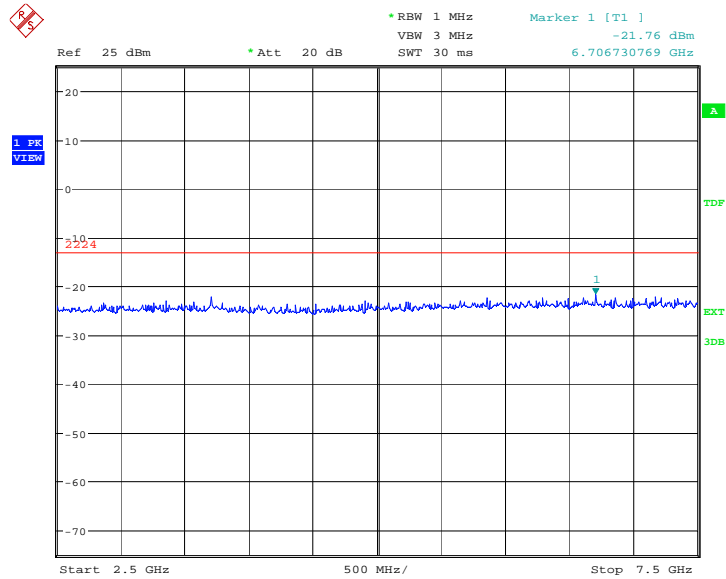
Date: 10.AUG.2012 02:03:37

A.8.3.4 Channel 25: 7.5GHz –10GHz

Spurious emission limit –13dBm.


```
                                              * RBW  1 MHz      Marker 1 [T1 ]
                                                VBW  3 MHz              -20.40 dBm
         Ref   25 dBm           * Att  20 dB     SWT  20 ms         9.326923077 GHz
```
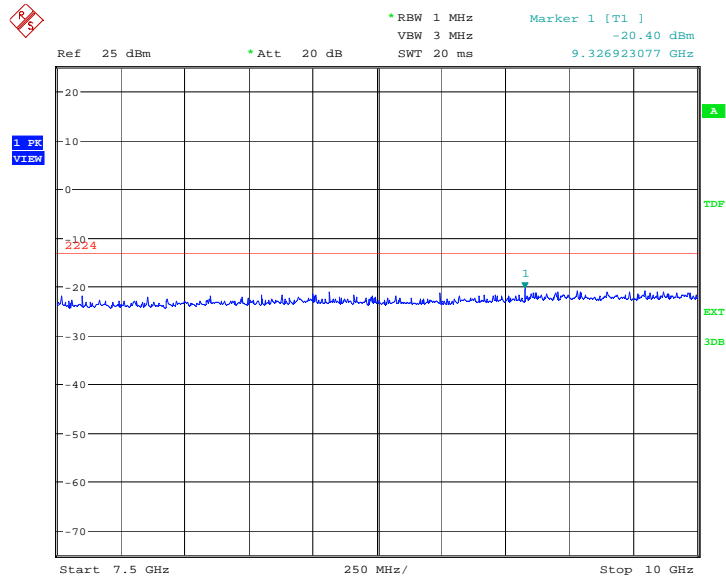
Date: 10.AUG.2012 02:04:04

A.8.3.5 Channel 25: 10GHz –15GHz

Spurious emission limit –13dBm.
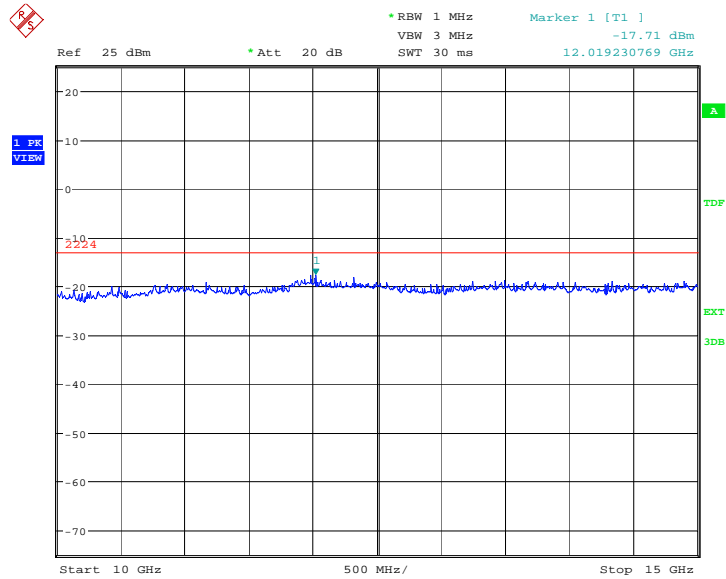
Date: 10.AUG.2012 02:04:31

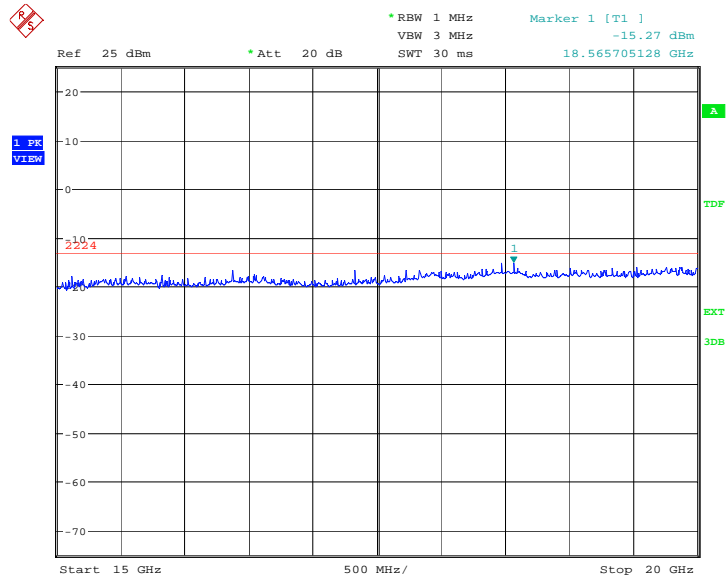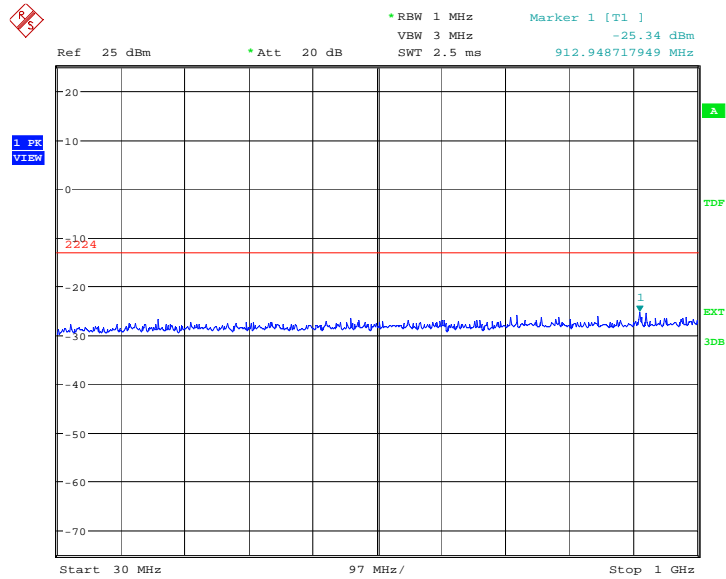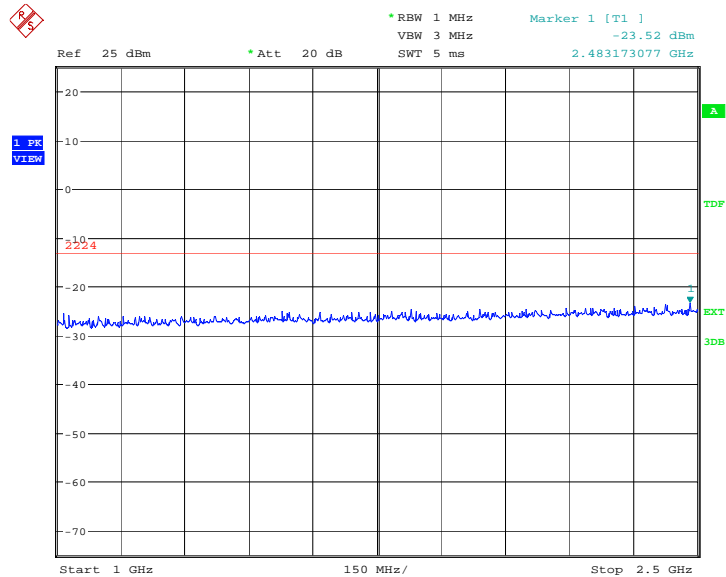### A.8.3.6 Channel 25: 15GHz –20GHz

Spurious emission limit –13dBm.
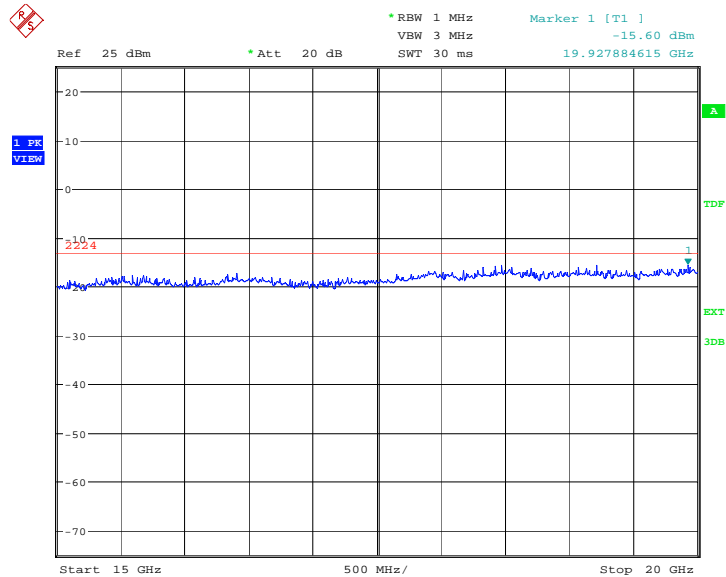
Date: 10.AUG.2012 02:04:58

A. 8.3.7 Channel 600: 30MHz –1GHz
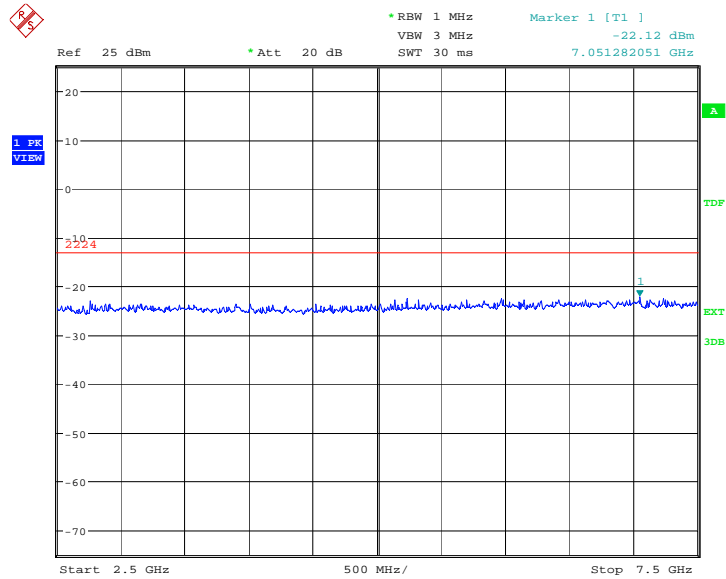
Spurious emission limit –13dBm.
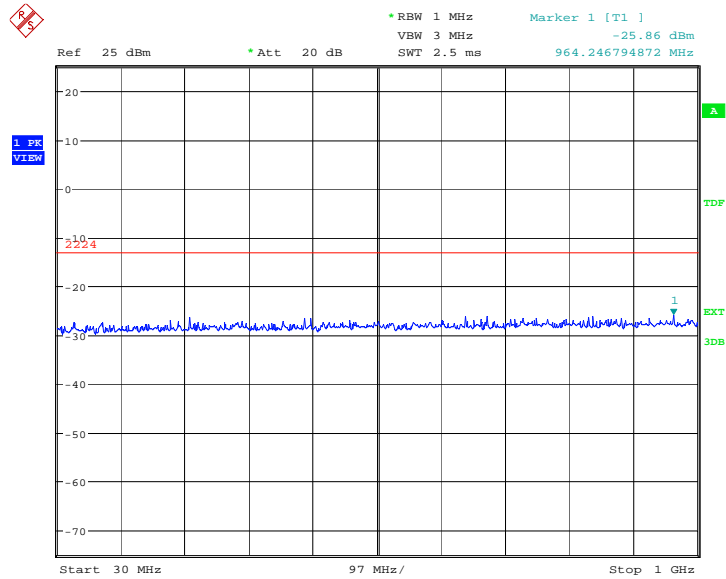
Date: 10.AUG.2012 02:09:29

A.8.3.8 Channel 600: 1GHz –2.5GHz

Spurious emission limit –13dBm.

NOTE: peak above the limit line is the carrier frequency.
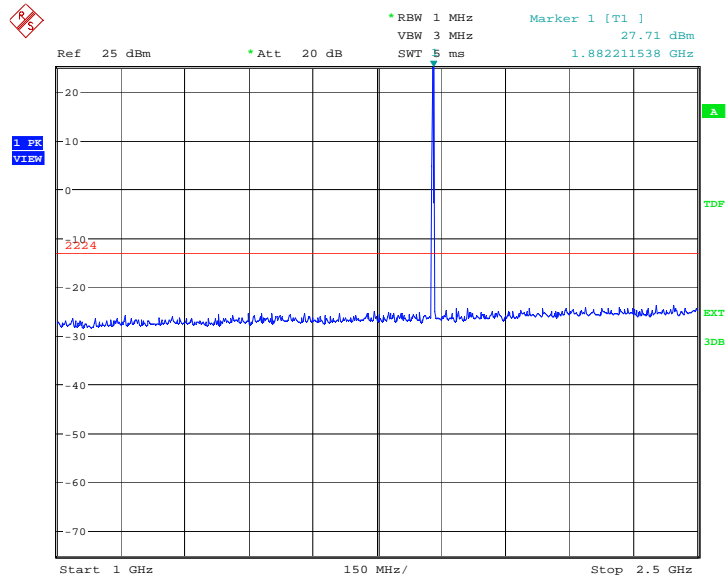
Date: 10.AUG.2012 02:09:55

A.8.3.9 Channel 600: 2.5GHz –7.5GHz

Spurious emission limit –13dBm.
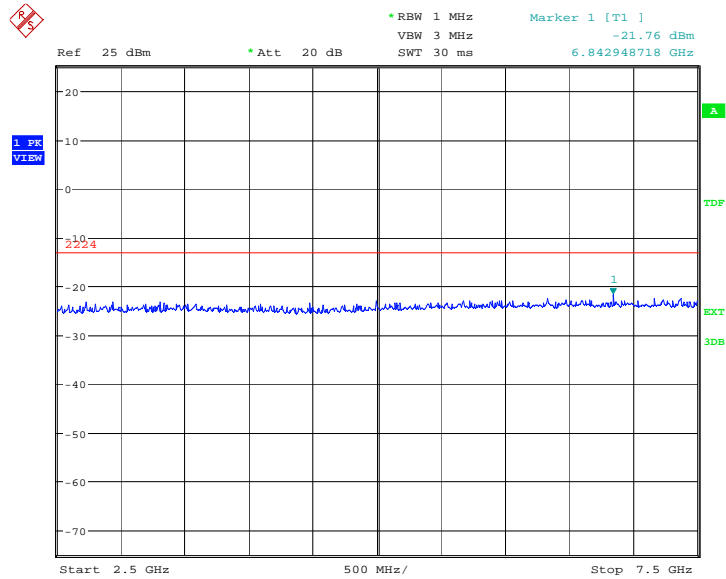
Date: 10.AUG.2012 02:10:22

A.8.3.10 Channel 600: 7.5GHz –10GHz

Spurious emission limit –13dBm.
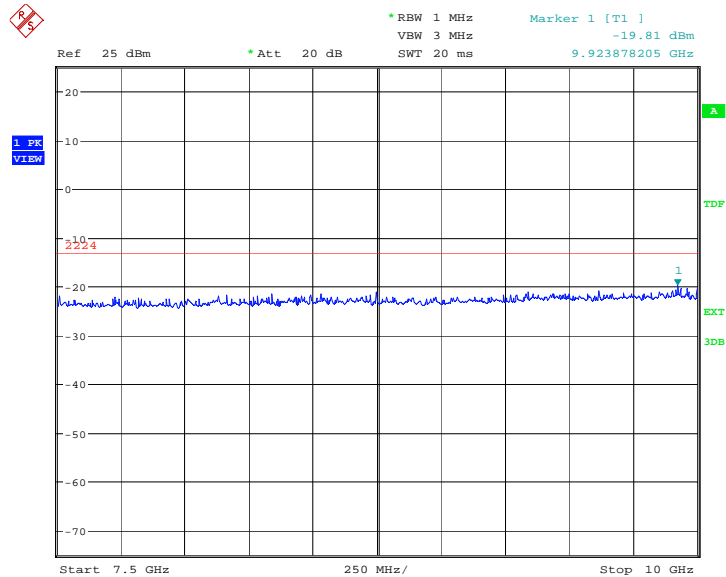
Date: 10.AUG.2012 02:10:49

### A.8.3.11 Channel 600: 10GHz –15GHz

Spurious emission limit –13dBm.

```
                                   *RBW 1 MHz      Marker 1 [T1 ]
                                    VBW 3 MHz          -17.92 dBm
     Ref   25 dBm      *Att  20 dB  SWT 30 ms      12.403846154 GHz
```



```
Start 10 GHz          500 MHz/              Stop 15 GHz
```
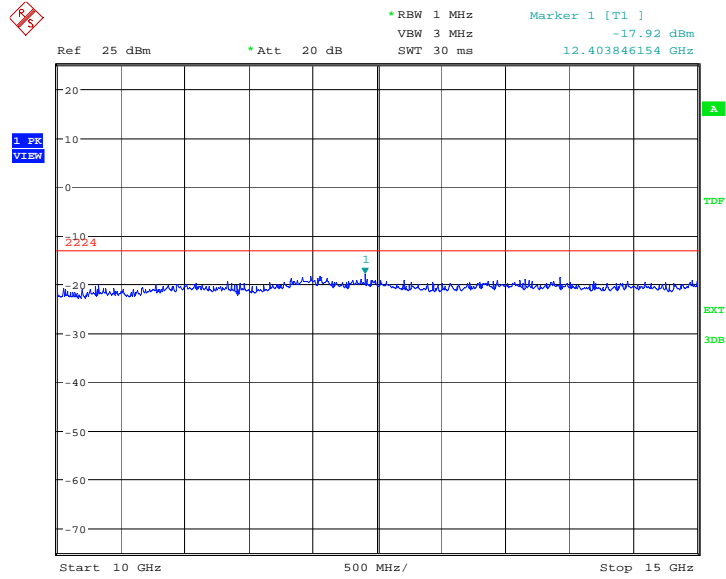
Date: 10.AUG.2012 02:11:16

A.8.3.12 Channel 600: 15GHz –20GHz

Spurious emission limit –13dBm.

```
                                   *RBW 1 MHz      Marker 1 [T1 ]
                                    VBW 3 MHz          -15.80 dBm
     Ref   25 dBm      *Att  20 dB  SWT 30 ms      18.565705128 GHz
```



```
Start 15 GHz          500 MHz/              Stop 20 GHz
```
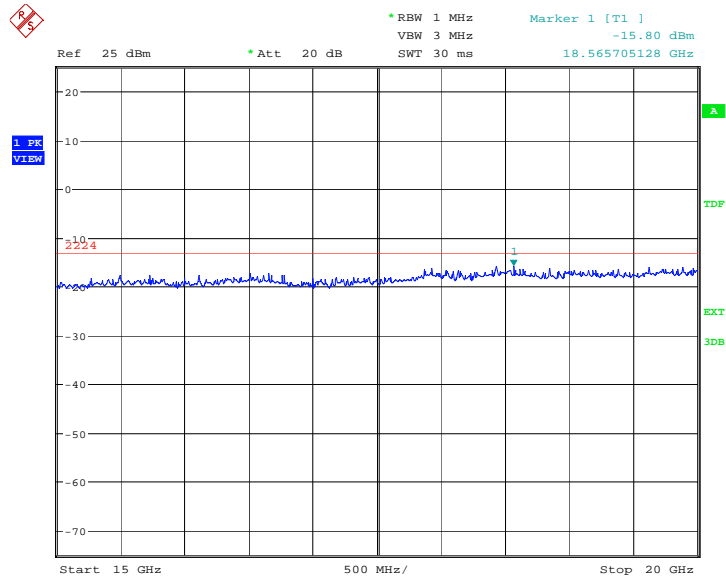
Date: 10.AUG.2012 02:11:43

A. 8.3.13 Channel 1175: 30MHz –1GHz

Spurious emission limit –13dBm.
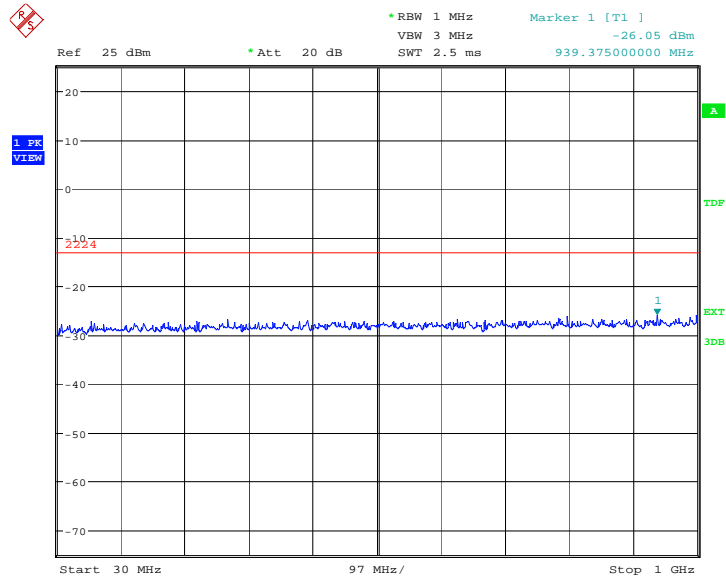
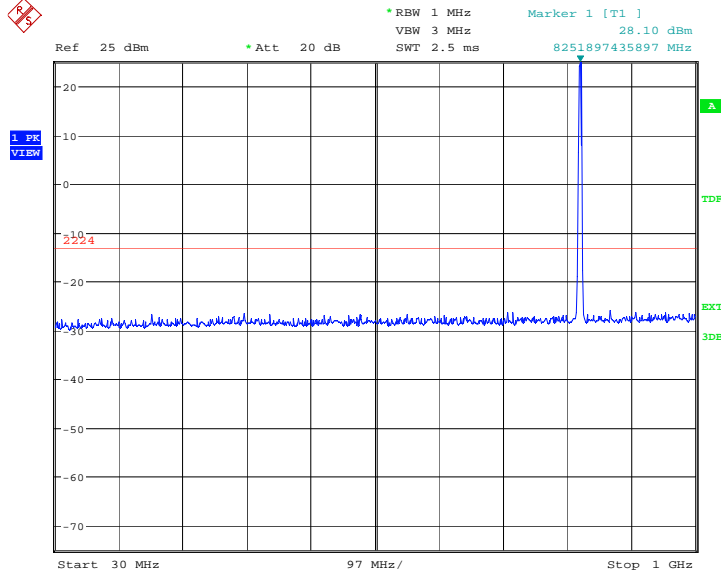
Date: 10.AUG.2012 02:06:19

A.8.3.14 Channel 1175: 1GHz –2.5GHz

Spurious emission limit –13dBm.

NOTE: peak above the limit line is the carrier frequency.
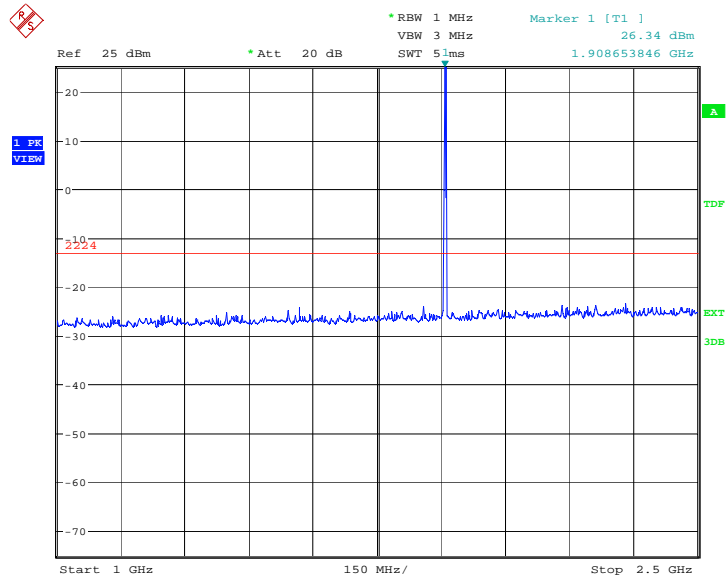
Date: 10.AUG.2012 02:06:46

A.8.3.15 Channel 1175: 2.5GHz –7.5GHz

Spurious emission limit –13dBm.
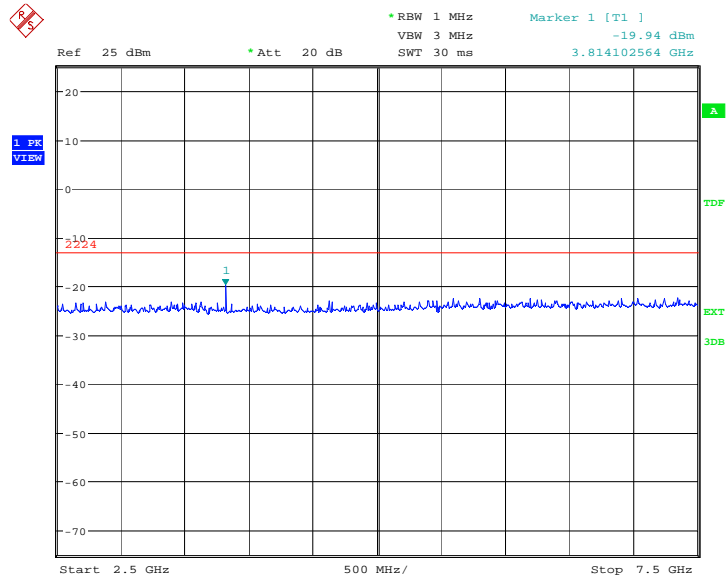
Date: 10.AUG.2012 02:07:12

A.8.3.16 Channel 1175: 7.5GHz –10GHz

Spurious emission limit –13dBm.
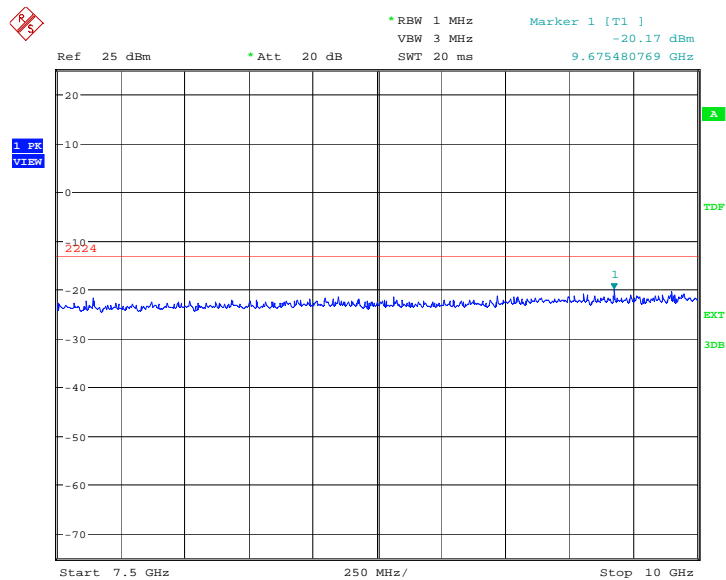
Date: 10.AUG.2012 02:07:39

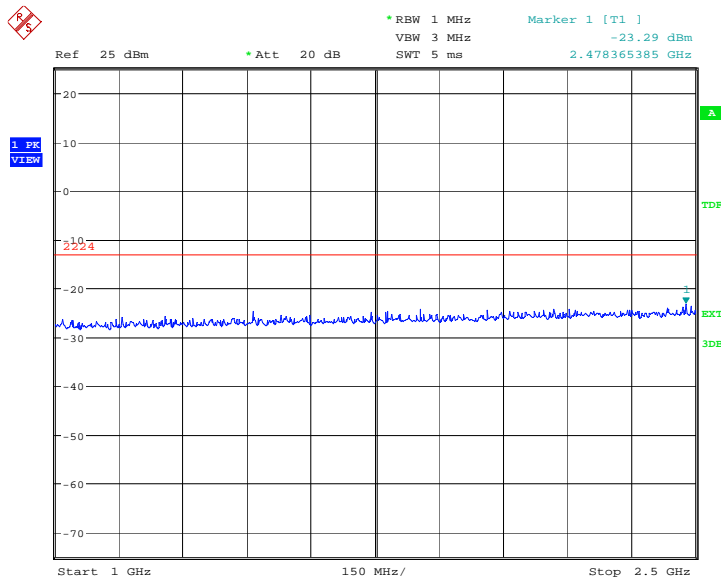### A.8.3.17 Channel 1175: 10GHz –15GHz
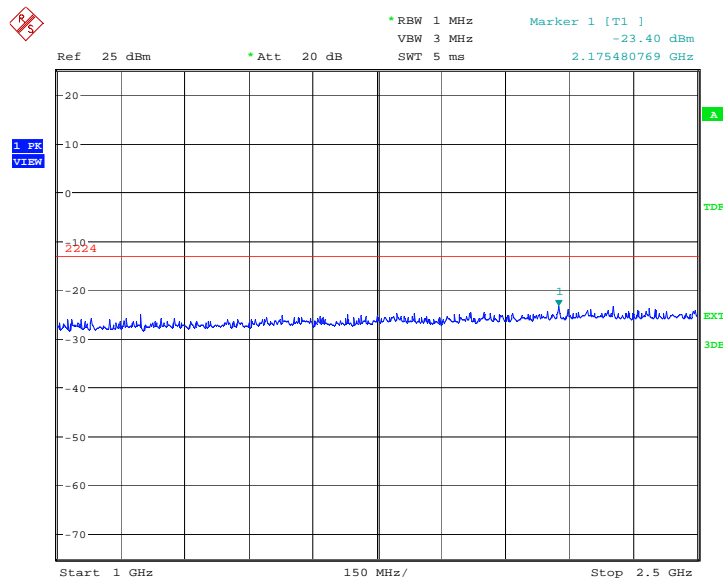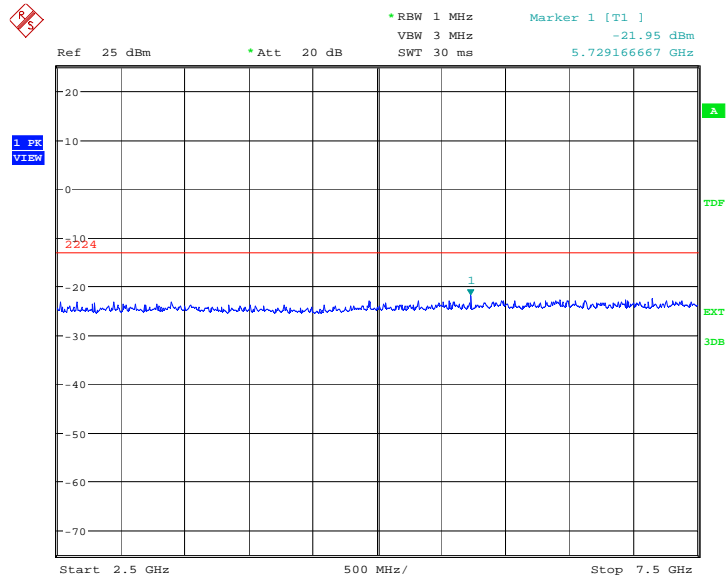
Spurious emission limit –13dBm.

```
                          * RBW 1 MHz        Marker 1 [T1 ]
                            VBW 3 MHz                  -18.35 dBm
  Ref  25 dBm    * Att  20 dB   SWT 30 ms      12.011217949 GHz

    20
                                                               A

1 PK
VIEW 10

     0                                                        TDF

   -10
  2224
   -20                                                         EXT

   -30                                                         3DB

   -40

   -50

   -60

   -70

  Start 10 GHz        500 MHz/              Stop 15 GHz
```
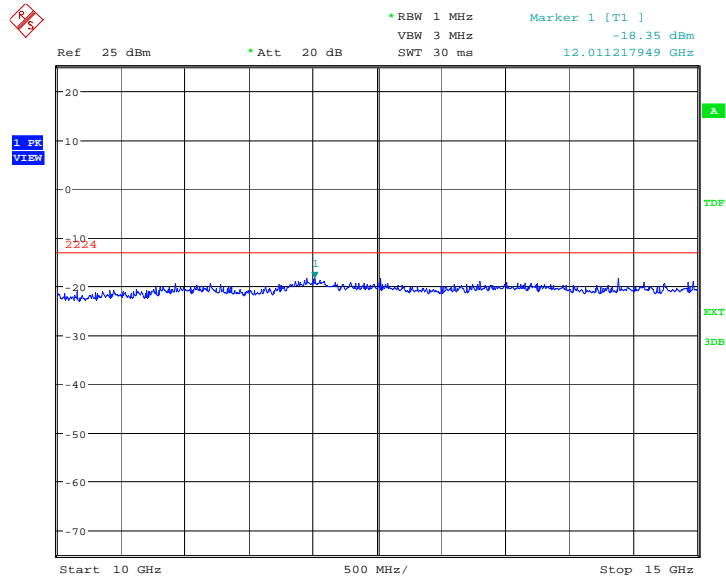
Date: 10.AUG.2012 02:08:06

A.8.3.18 Channel 1175: 15GHz –20GHz

Spurious emission limit –13dBm.

```
                          * RBW 1 MHz        Marker 1 [T1 ]
                            VBW 3 MHz                  -15.27 dBm
  Ref  25 dBm    * Att  20 dB   SWT 30 ms      18.565705128 GHz

    20
                                                               A

1 PK
VIEW 10

     0                                                        TDF

   -10
  2224
   -20                                                         EXT

   -30                                                         3DB

   -40

   -50

   -60

   -70

  Start 15 GHz        500 MHz/              Stop 20 GHz
```

Date: 10.AUG.2012 02:08:33

A. 8.3.19 Idle mode: 30MHz –1GHz

Spurious emission limit –13dBm.

Date: 10.AUG.2012 02:15:45

A.8.3.20 Idle mode: 1GHz –2.5GHz

Spurious emission limit –13dBm.

Date: 10.AUG.2012 02:16:12

A.8.3.21 Idle mode: 2.5GHz –7.5GHz

Spurious emission limit –13dBm.

Date: 10.AUG.2012 02:16:39

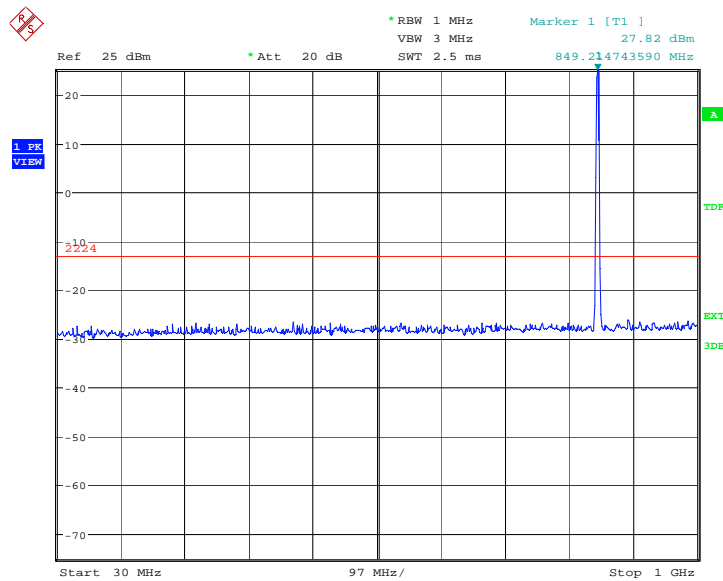### A.8.3.22 Idle mode: 7.5GHz –10GHz

Spurious emission limit –13dBm.
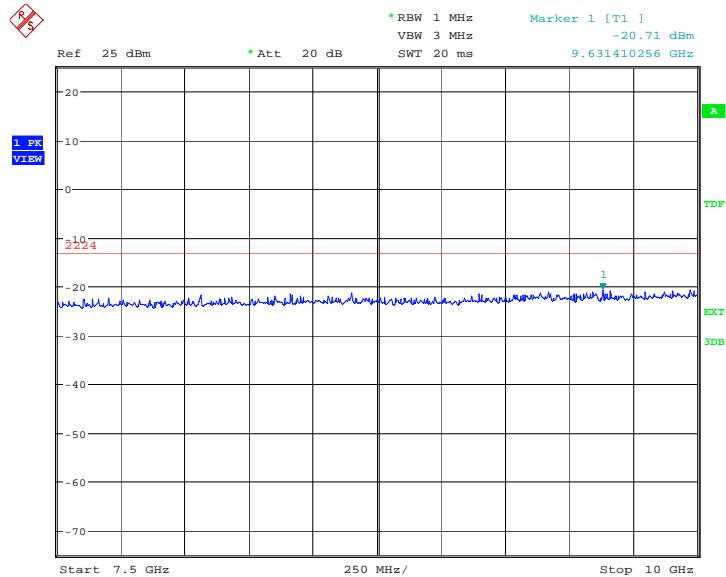
Date: 10.AUG.2012 02:17:06

A.8.3.23 Idle mode: 10GHz –15GHz

Spurious emission limit –13dBm.
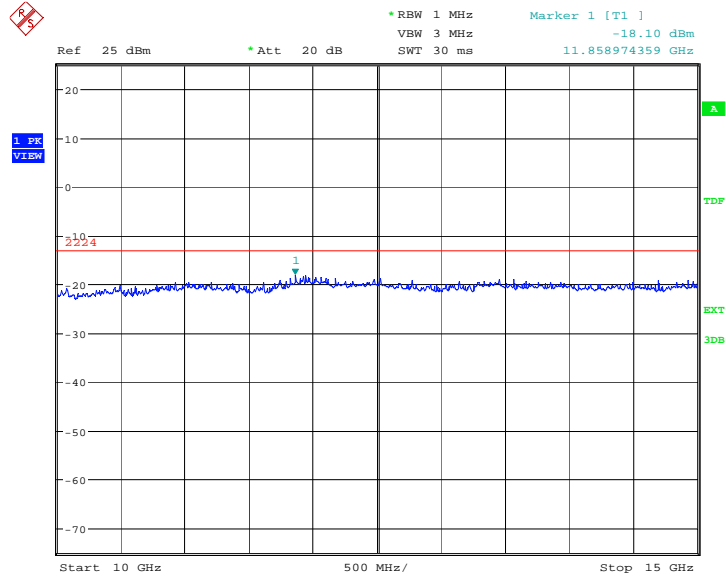
Date: 10.AUG.2012 02:17:33

A.8.3.24 Idle mode: 15GHz –20GHz

Spurious emission limit –13dBm.
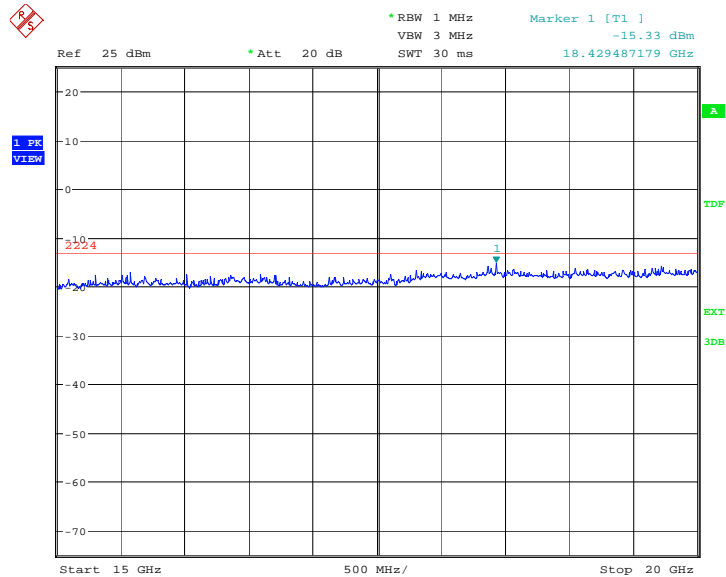
Date: 10.AUG.2012 02:17:59

CDMA 800

A. 8.3.25 Channel 1013: 30MHz –1GHz

Spurious emission limit –13dBm.

NOTE: peak above the limit line is the carrier frequency.

```
                                    * RBW  1 MHz      Marker 1 [T1 ]
                                      VBW  3 MHz              28.10 dBm
         Ref   25 dBm    * Att  20 dB  SWT  2.5 ms     8251897435897 MHz

        20                                                                      A
1 PK
VIEW    10

         0                                                                      TDF

        -10
2224
        -20                                                                     EXT
                                                                                3DB
        -30

        -40

        -50

        -60

        -70

        Start 30 MHz              97 MHz/                Stop  1 GHz
```

Date: 10.AUG.2012 01:46:08

A. 8.3.26 Channel 1013: 1GHz – 2.5GHz

Spurious emission limit –13dBm.

```
                                    * RBW  1 MHz      Marker 1 [T1 ]
                                      VBW  3 MHz             -23.29 dBm
         Ref   25 dBm    * Att  20 dB  SWT  5 ms       2.478365385 GHz

        20                                                                      A
1 PK
VIEW    10

         0                                                                      TDF

        -10
2224
        -20                                                                 1
                                                                                EXT
        -30                                                                     3DB

        -40

        -50

        -60

        -70

        Start  1 GHz              150 MHz/               Stop  2.5 GHz
```

Date: 10.AUG.2012 01:46:34

A. 8.3.27 Channel 1013: 2.5GHz –7.5GHz

Spurious emission limit –13dBm.

NOTE: peak above the limit line is the carrier frequency.
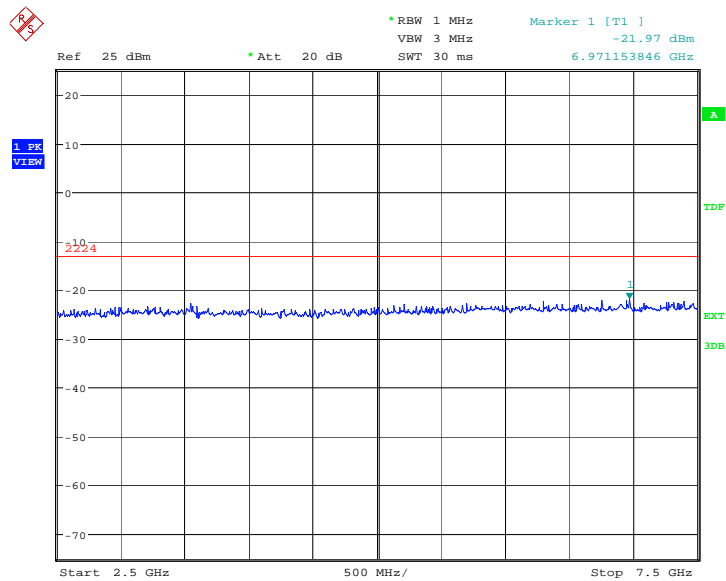
Date: 10.AUG.2012 01:47:01

A. 8.3.28 Channel 1013: 7.5GHz – 10GHz

Spurious emission limit –13dBm.
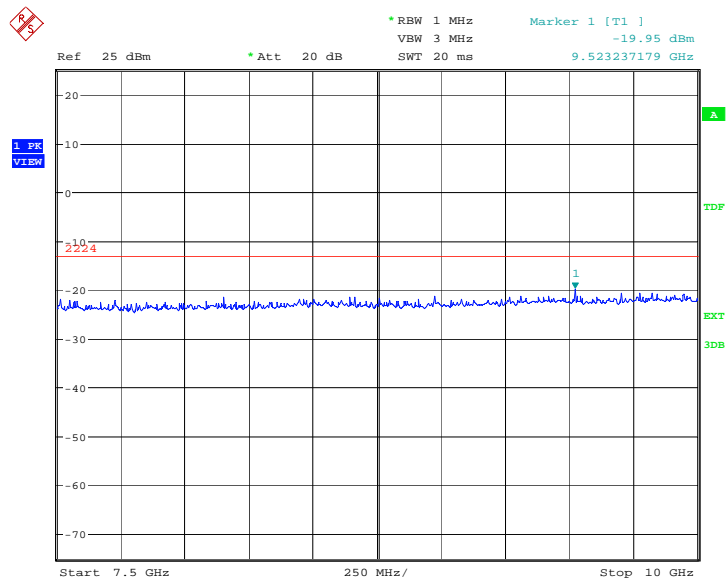
Date: 10.AUG.2012 01:47:28

## A. 8.3.29 Channel 384: 30MHz –1GHz

Spurious emission limit –13dBm.

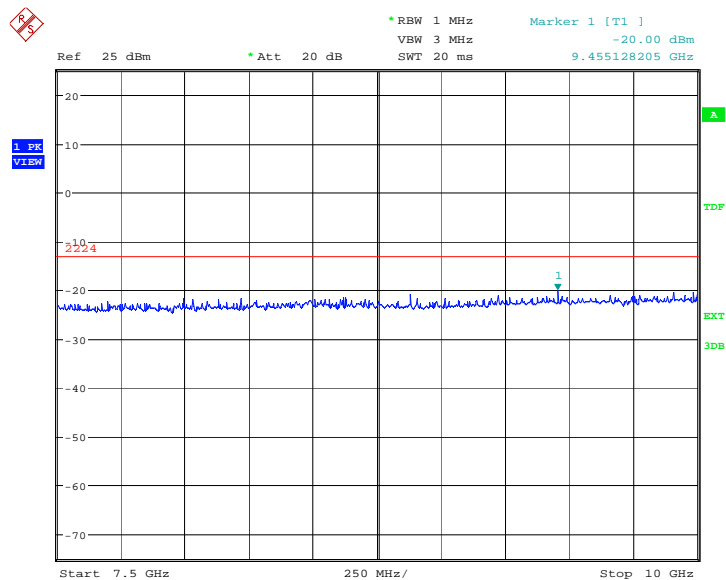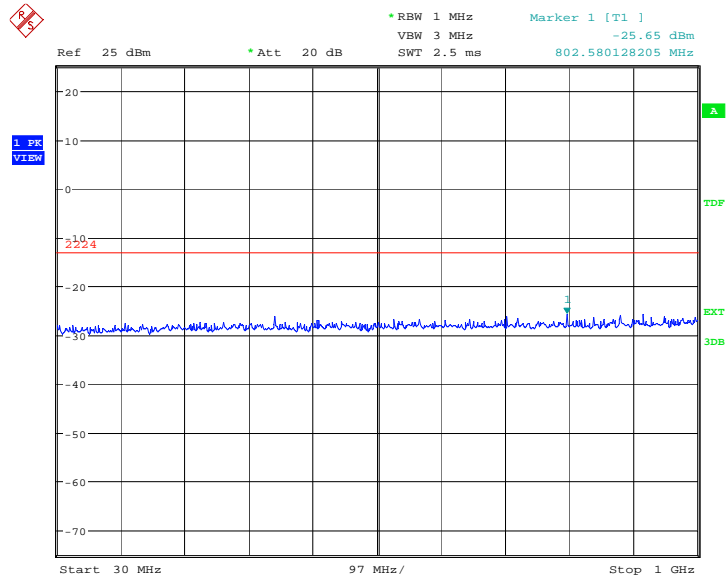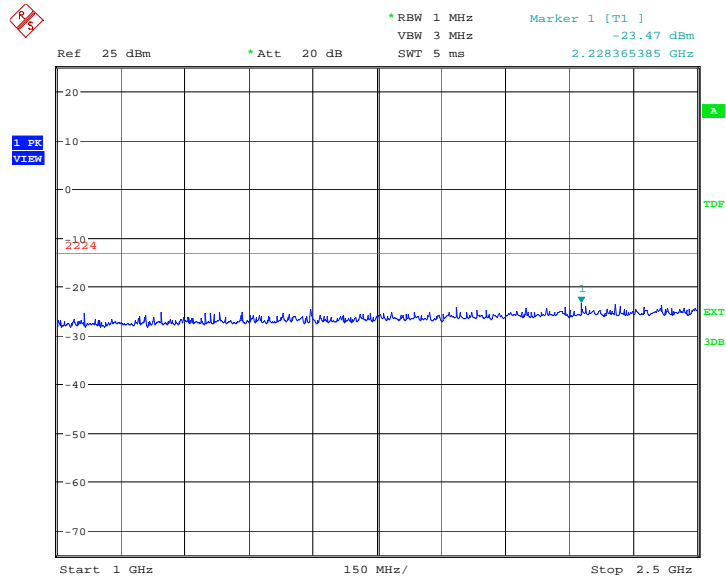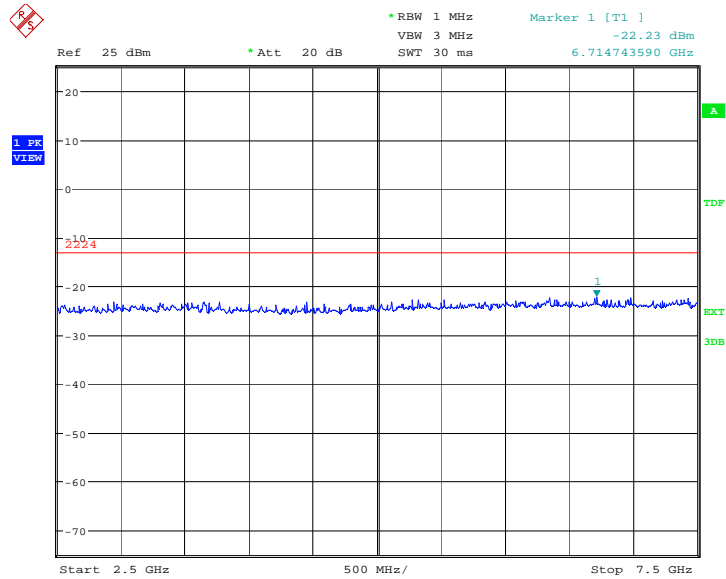**NOTE: peak above the limit line is the carrier frequency.**
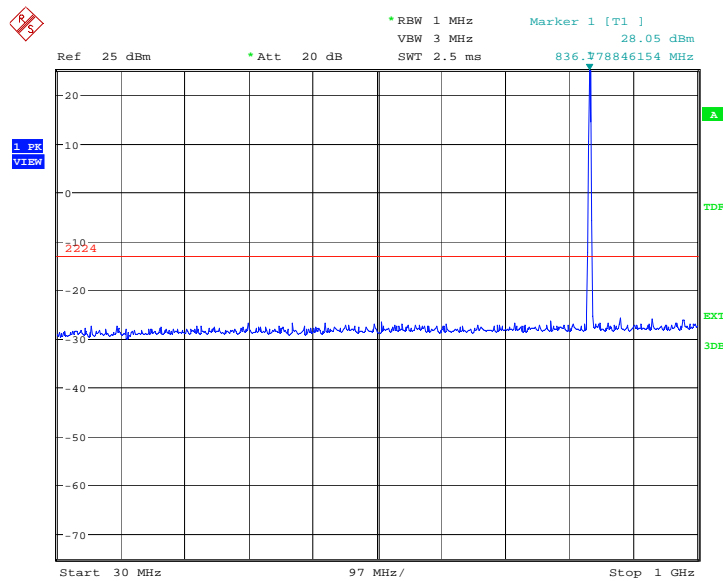
Date: 10.AUG.2012 01:52:22

A.8.3.30 Channel 384: 1GHz – 2.5GHz

Spurious emission limit –13dBm.

Date: 10.AUG.2012 01:52:49

A. 8.3.31 Channel 384: 2.5GHz –7.5GHz

Spurious emission limit –13dBm.

Date: 10.AUG.2012 01:53:16

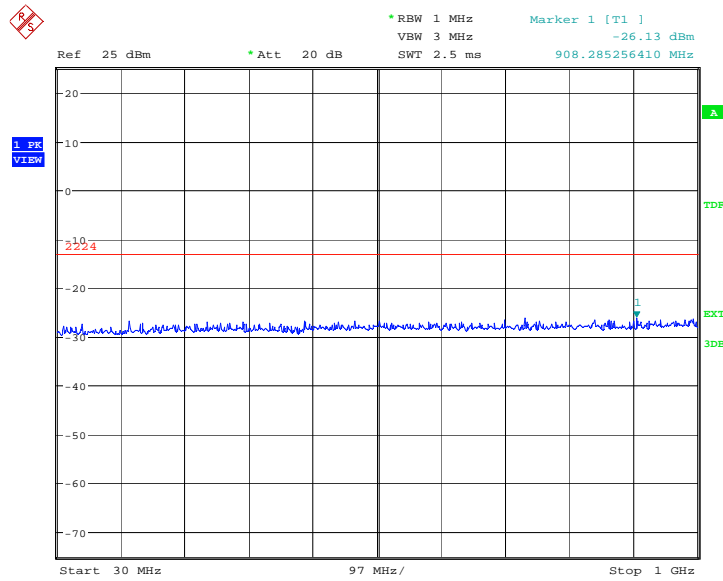### A. 8.3.32 Channel 384: 7.5GHz – 10GHz

Spurious emission limit –13dBm.
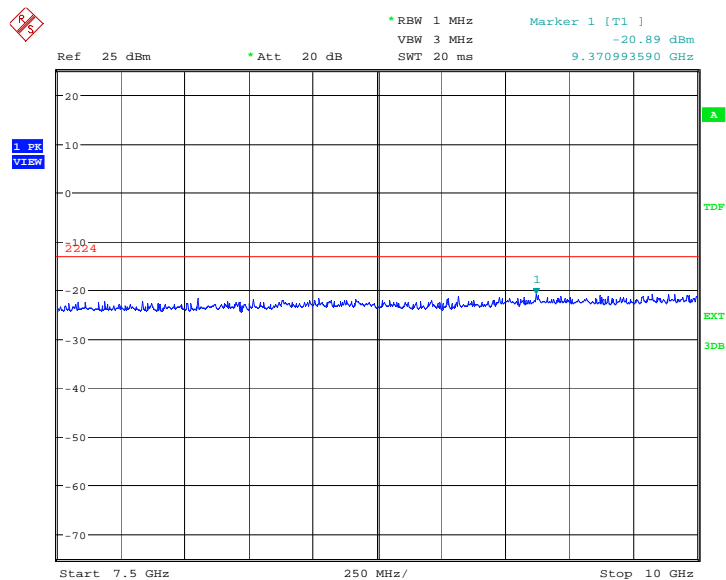
Date: 10.AUG.2012 01:53:43

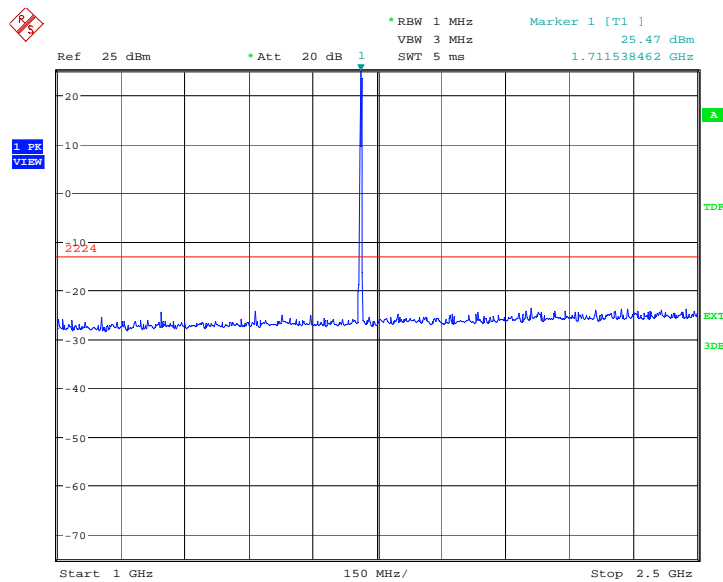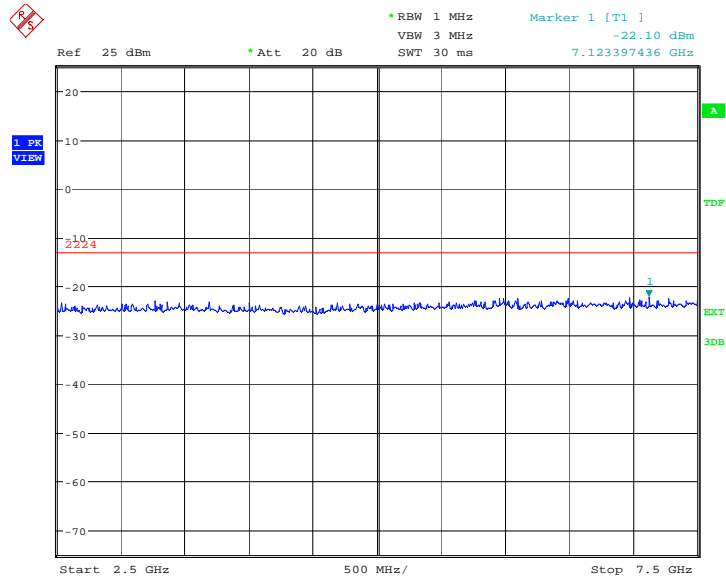### A. 8.3.33 Channel 777: 30MHz –1GHz

Spurious emission limit –13dBm.

NOTE: peak above the limit line is the carrier frequency.

Date: 10.AUG.2012 01:48:48

A. 8.3.34 Channel 777: 1GHz – 2.5GHz

Spurious emission limit –13dBm.
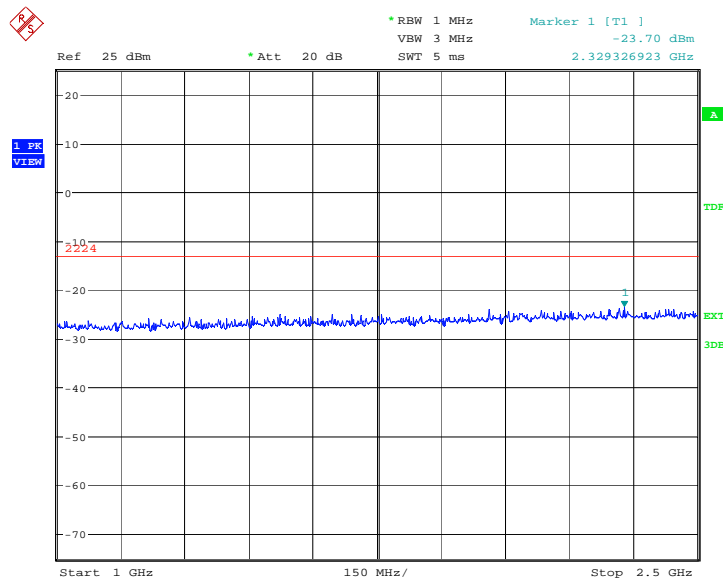
Date: 10.AUG.2012 01:49:14

A. 8.3.35 Channel 777: 2.5GHz –7.5GHz

Spurious emission limit –13dBm.
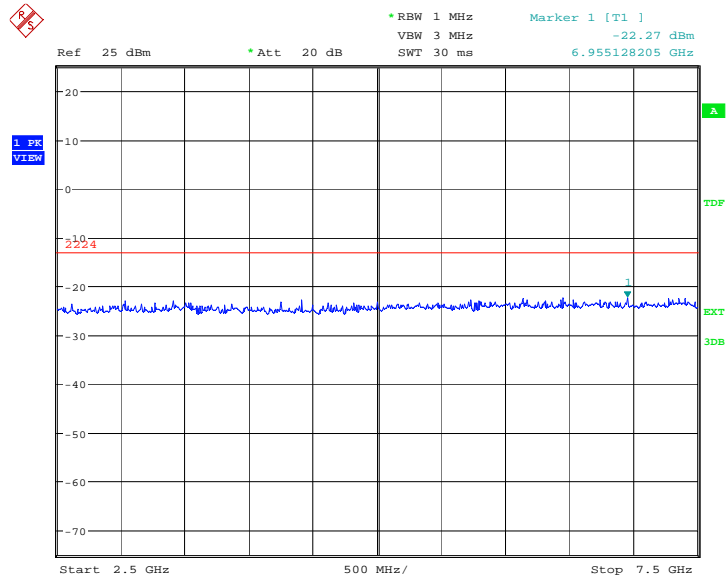
Date: 10.AUG.2012 01:49:41

A. 8.3.36 Channel 777: 7.5GHz – 10GHz

Spurious emission limit –13dBm.

Date: 10.AUG.2012 01:50:08

A. 8.3.37 Idle mode: 30MHz – 1GHz

Spurious emission limit -13dBm.

Date: 10.AUG.2012 01:56:42

A.8.3.38 Idle mode: 1GHz – 2.5GHz

Spurious emission limit -13dBm.

Date: 10.AUG.2012 01:57:09

A.8.3.39 Idle mode: 2.5GHz – 7.5GHz

Spurious emission limit -13dBm.

Date: 10.AUG.2012 01:57:36

A.8.3.40 Idle mode: 7.5GHz – 10GHz

Spurious emission limit -13dBm.
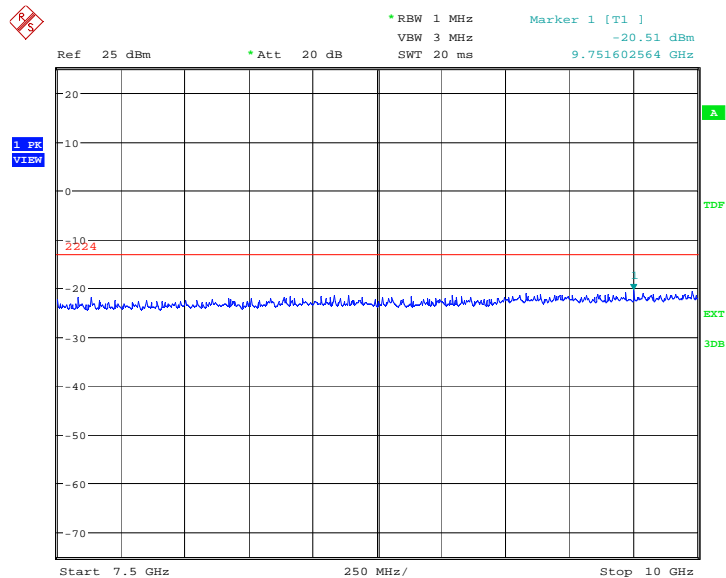
Date: 10.AUG.2012 01:58:03

CDMA 1700

A. 8.3.41 Channel 25: 30MHz –1GHz

Spurious emission limit –13dBm.

A. 8.3.42 Channel 25: 1GHz – 2.5GHz

Spurious emission limit –13dBm.

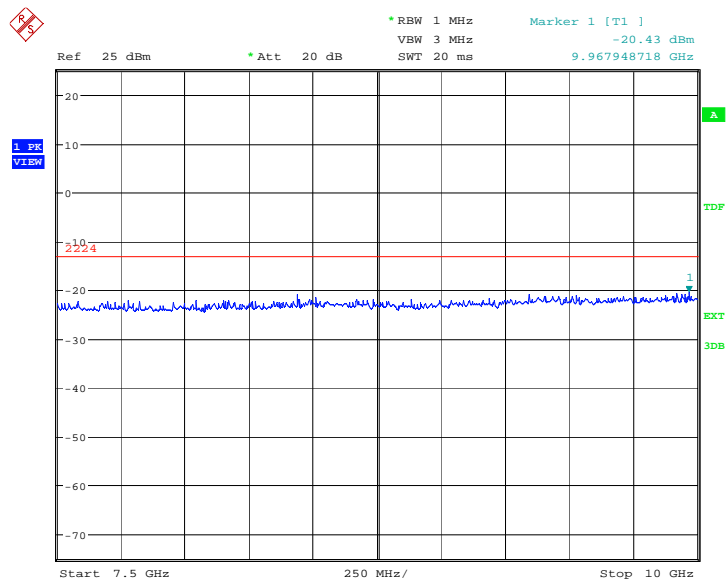**NOTE: peak above the limit line is the carrier frequency.**

A. 8.3.43 Channel 25: 2.5GHz –7.5GHz

Spurious emission limit –13dBm.

Date: 10.AUG.2012 01:11:55

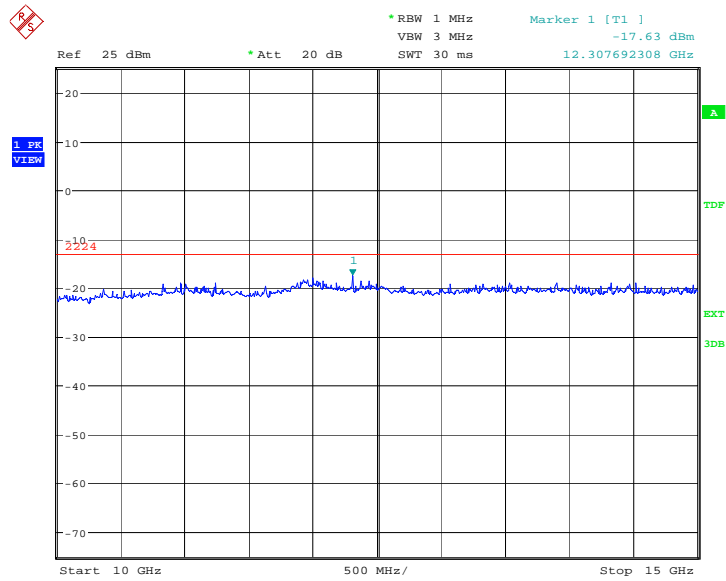### A. 8.3.44 Channel 25: 7.5GHz – 10GHz

Spurious emission limit –13dBm.

Date: 10.AUG.2012 01:12:22

A. 8.3.45 Channel 25: 10GHz –15GHz
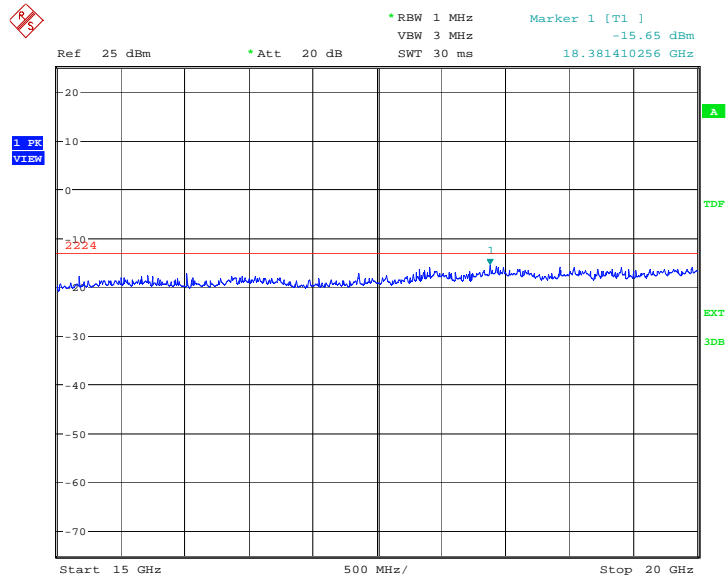
Spurious emission limit –13dBm.

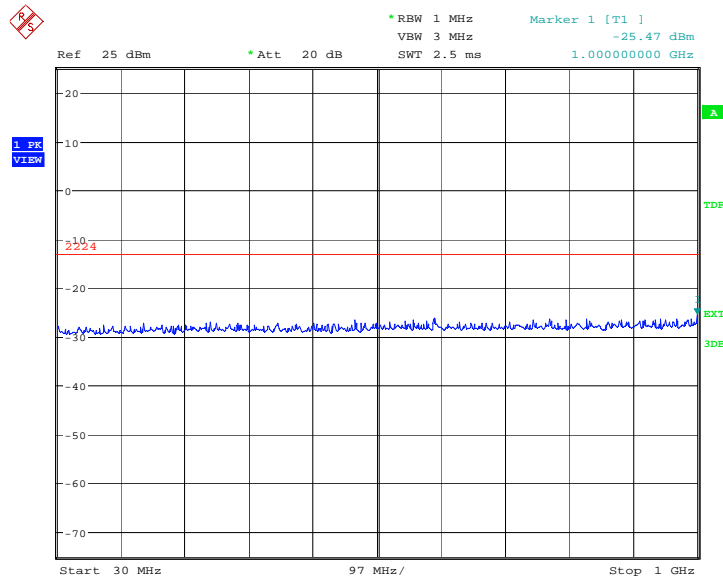Date: 10.AUG.2012 01:42:24

A. 8.3.46 Channel 25: 15GHz – 20GHz

Spurious emission limit –13dBm.

Date: 10.AUG.2012 01:42:51

A. 8.3.47 Channel 450: 30MHz –1GHz
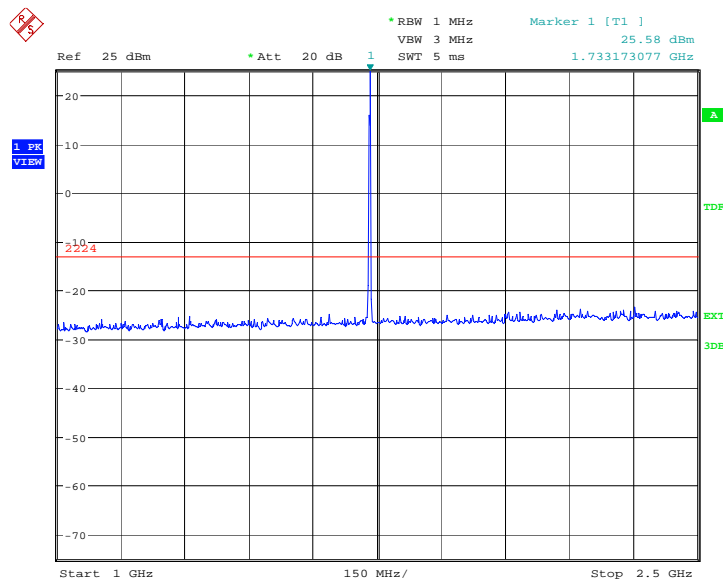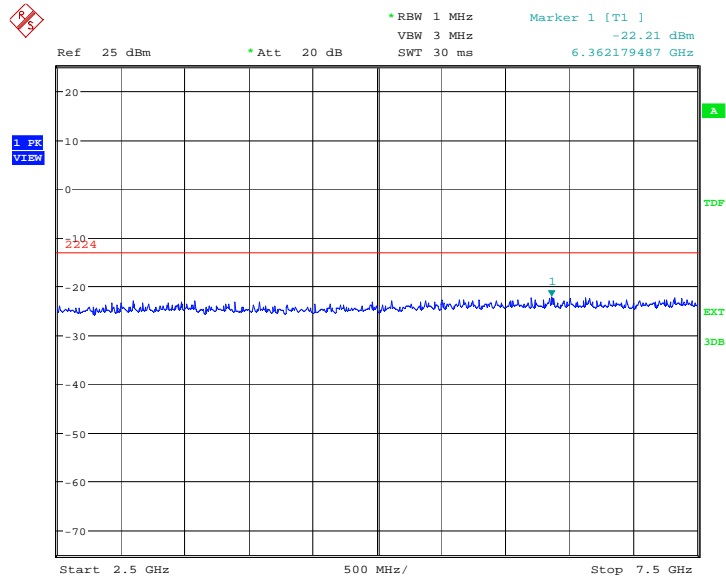
Spurious emission limit –13dBm.


```
                                    * RBW  1 MHz      Marker 1 [T1 ]
                                      VBW  3 MHz              -25.47 dBm
   Ref   25 dBm       * Att  20 dB    SWT  2.5 ms     1.000000000 GHz
```

Date: 10.AUG.2012 01:14:24

A. 8.3.48 Channel 450: 1GHz – 2.5GHz

Spurious emission limit –13dBm.

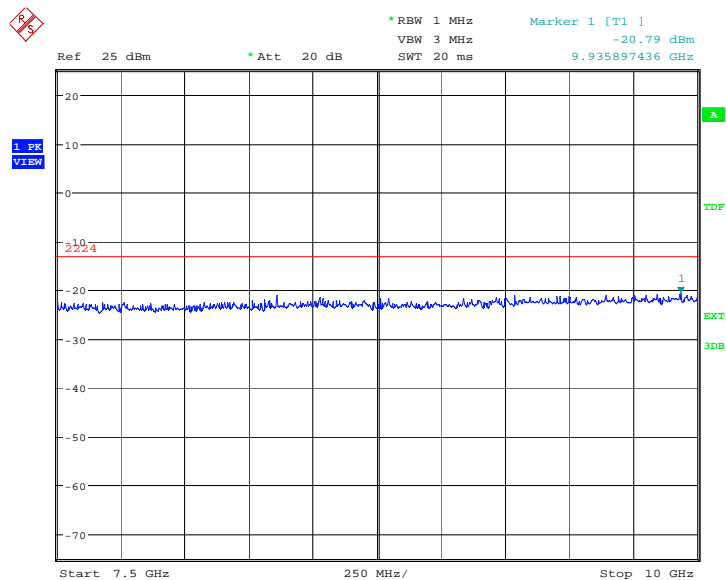**NOTE: peak above the limit line is the carrier frequency.**


```
                                    * RBW  1 MHz      Marker 1 [T1 ]
                                      VBW  3 MHz              25.58 dBm
   Ref   25 dBm       * Att  20 dB  1  SWT  5 ms      1.733173077 GHz
```

Date: 10.AUG.2012 01:14:51

A. 8.3.49 Channel 450: 2.5GHz –7.5GHz

Spurious emission limit –13dBm.

```
                              * RBW  1 MHz      Marker 1 [T1 ]
                                VBW  3 MHz                -22.21 dBm
      Ref   25 dBm    * Att  20 dB    SWT  30 ms      6.362179487 GHz

          20                                                              A
  1 PK     10
  VIEW
           0                                                              TDF
        -10
        2224
         -20                                                   1
                                                                         EXT
         -30                                                             3DB

         -40

         -50

         -60

         -70
      Start  2.5 GHz          500 MHz/            Stop  7.5 GHz
```

Date: 10.AUG.2012 01:15:18

A. 8.3.50 Channel 450: 7.5GHz – 10GHz

Spurious emission limit –13dBm.

```
                              * RBW  1 MHz      Marker 1 [T1 ]
                                VBW  3 MHz                -20.79 dBm
      Ref   25 dBm    * Att  20 dB    SWT  20 ms      9.935897436 GHz

          20                                                              A
  1 PK     10
  VIEW
           0                                                              TDF
        -10
        2224
         -20                                                        1
                                                                         EXT
         -30                                                             3DB

         -40

         -50

         -60

         -70
      Start  7.5 GHz          250 MHz/            Stop  10 GHz
```

Date: 10.AUG.2012 01:15:44

A. 8.3.51 Channel 450: 10GHz –15GHz

Spurious emission limit –13dBm.

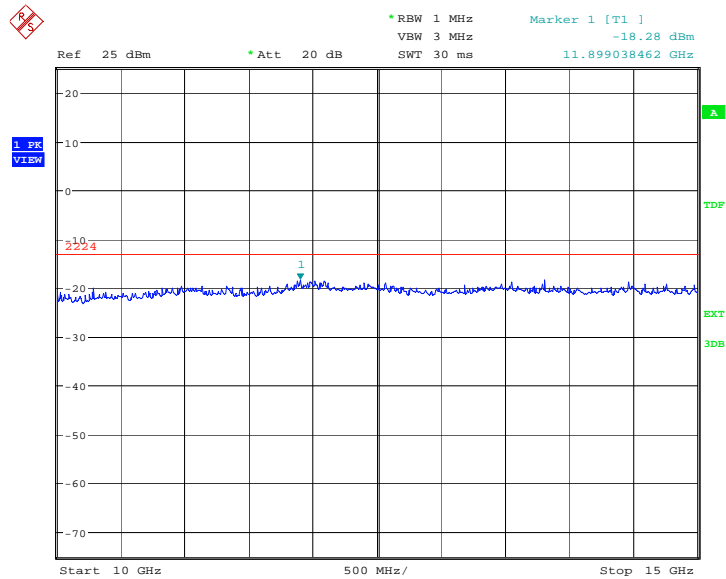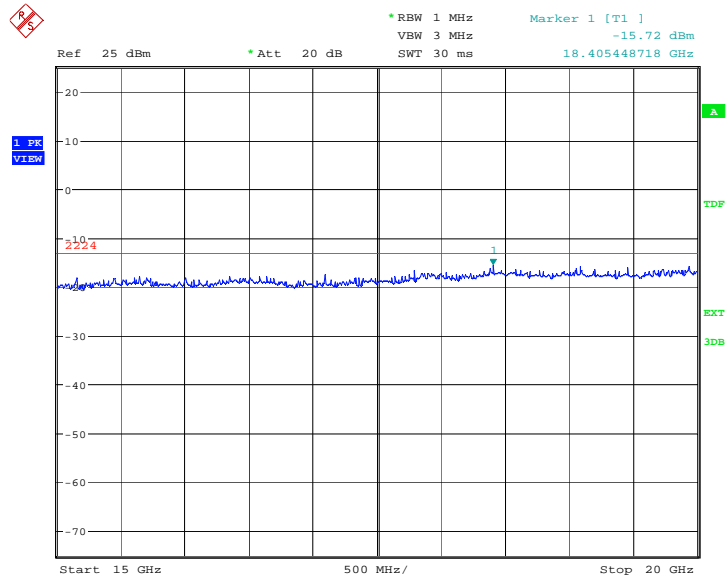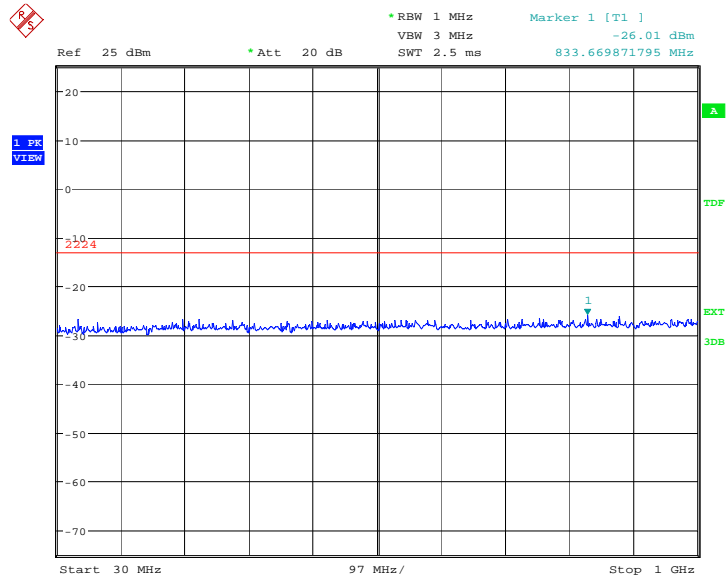
Date: 10.AUG.2012 01:16:11

A. 8.3.52 Channel 450: 15GHz – 20GHz

Spurious emission limit –13dBm.
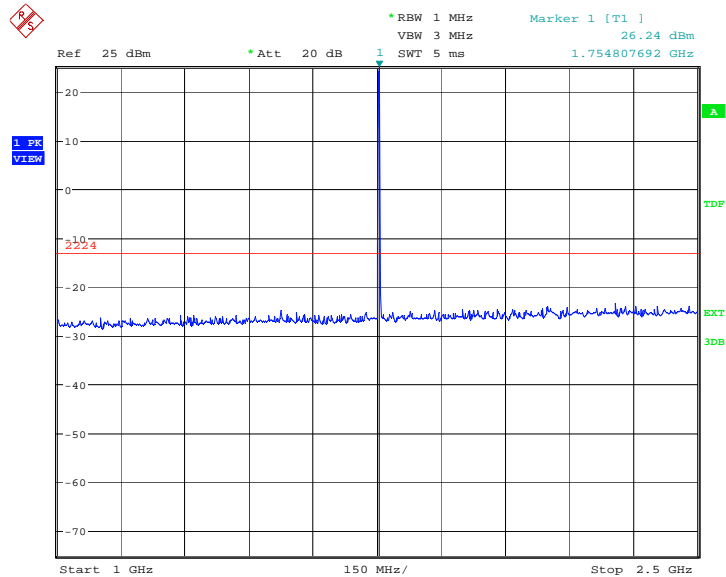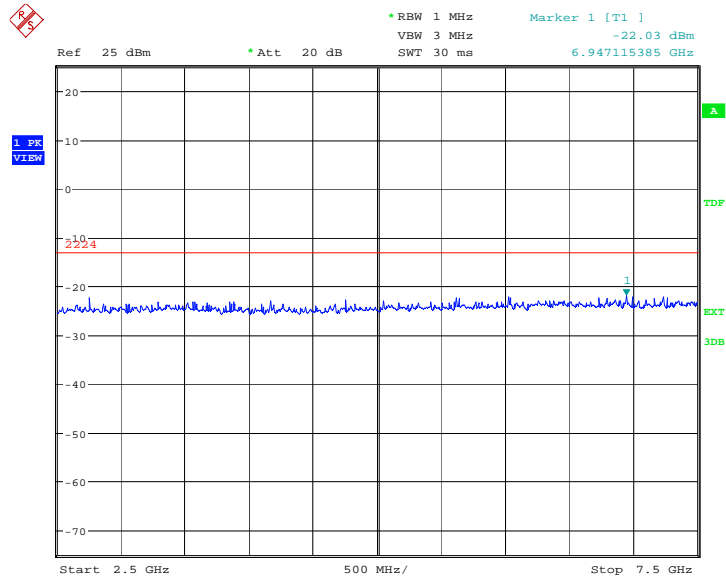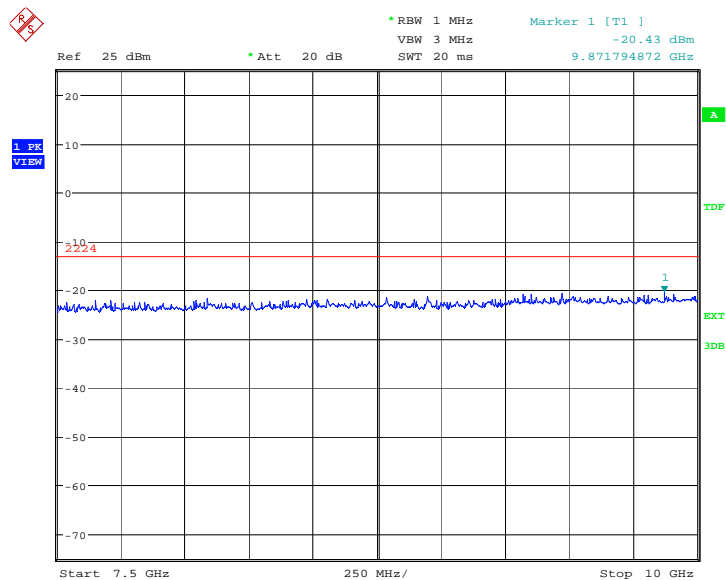

Date: 10.AUG.2012 01:16:38

A. 8.3.53 Channel 875: 30MHz –1GHz

Spurious emission limit –13dBm.

```
                              * RBW 1 MHz        Marker 1 [T1 ]
                                VBW 3 MHz                 -26.01 dBm
     Ref   25 dBm      * Att  20 dB    SWT 2.5 ms    833.669871795 MHz
                                                                    A
 1 PK
 VIEW                                                               TDF

                                                                    EXT
                                                                    3DB




     Start 30 MHz             97 MHz/              Stop  1 GHz
```

Date: 10.AUG.2012 01:40:37

A. 8.3.54 Channel 875: 1GHz – 2.5GHz

Spurious emission limit –13dBm.

NOTE: peak above the limit line is the carrier frequency.

```
                              * RBW 1 MHz        Marker 1 [T1 ]
                                VBW 3 MHz                  26.24 dBm
     Ref   25 dBm      * Att  20 dB  1 SWT 5 ms     1.754807692 GHz
                                                                    A
 1 PK
 VIEW                                                               TDF

                                                                    EXT
                                                                    3DB




     Start 1 GHz              150 MHz/             Stop  2.5 GHz
```

Date: 10.AUG.2012 01:41:04

A. 8.3.55 Channel 875: 2.5GHz –7.5GHz

Spurious emission limit –13dBm.

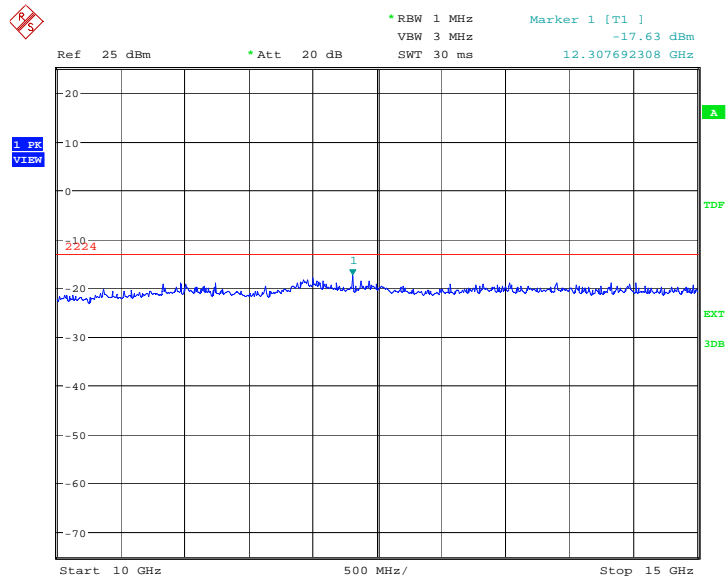Date: 10.AUG.2012 01:41:31

A. 8.3.56 Channel 875: 7.5GHz – 10GHz

Spurious emission limit –13dBm.

Date: 10.AUG.2012 01:41:57

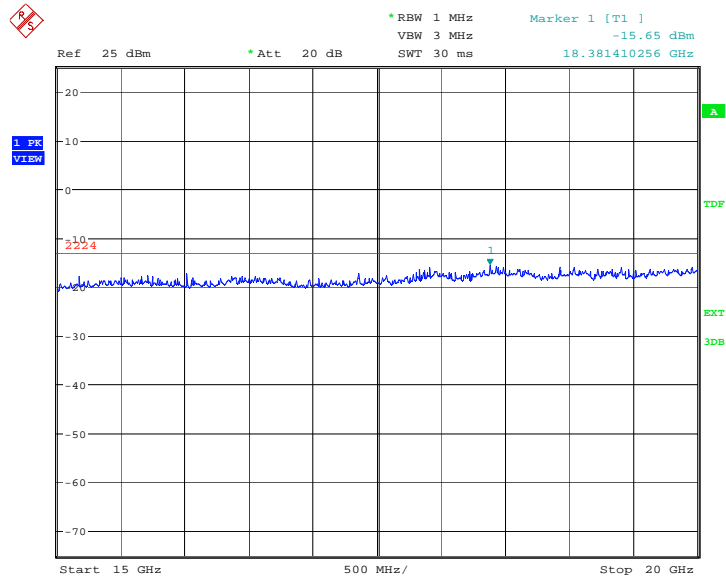### A. 8.3.57 Channel 875: 10GHz –15GHz

Spurious emission limit –13dBm.

Date: 10.AUG.2012 01:42:24

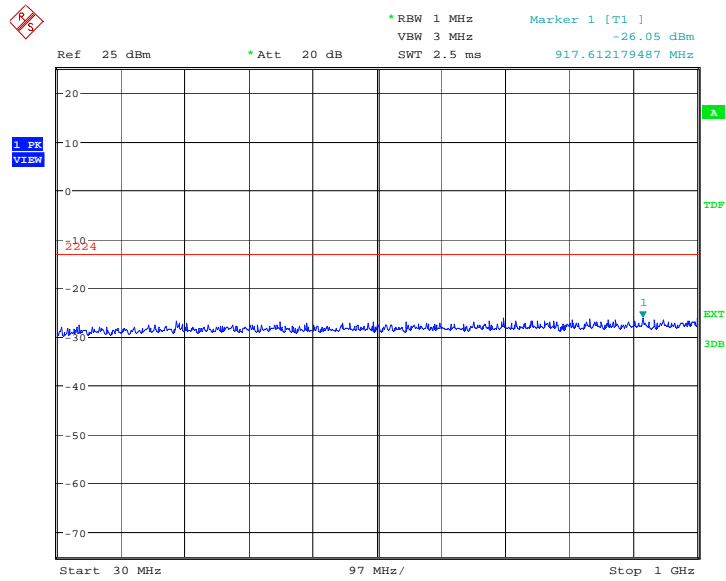### A. 8.3.58 Channel 875: 15GHz – 20GHz

Spurious emission limit –13dBm.

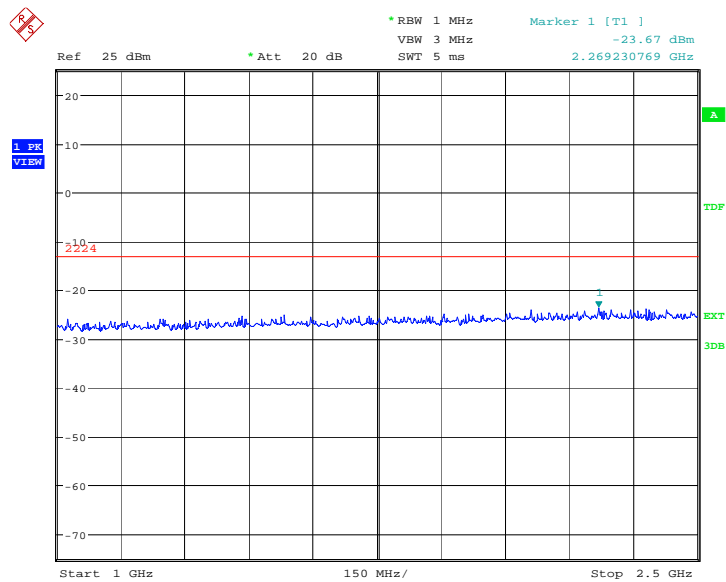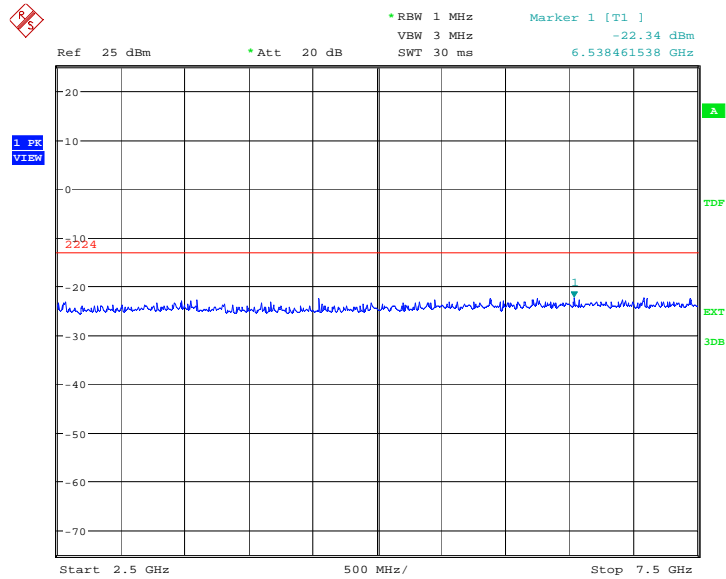
Date: 10.AUG.2012 01:42:51

A. 8.3.59 Idle mode: 30MHz – 1GHz

Spurious emission limit -13dBm.

Date: 10.AUG.2012 01:35:14

A.8.3.60 Idle mode: 1GHz – 2.5GHz
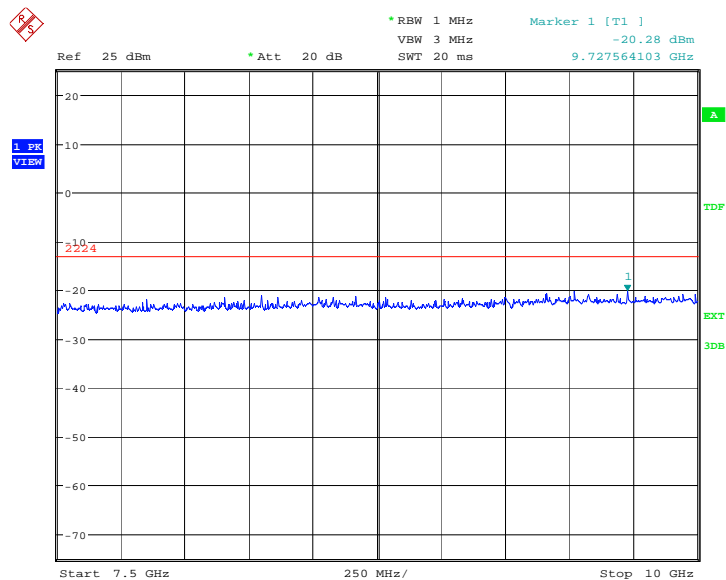
Spurious emission limit -13dBm.

Date: 10.AUG.2012 01:35:41

A.8.3.61 Idle mode: 2.5GHz – 7.5GHz
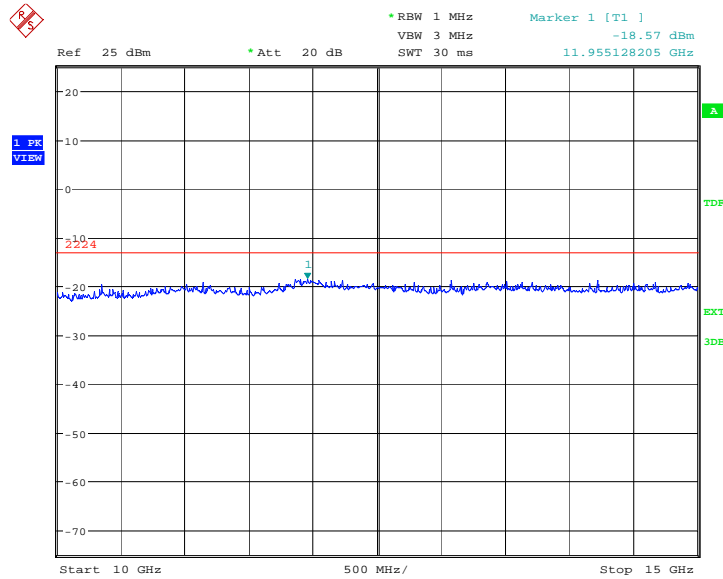
Spurious emission limit -13dBm.

Date: 10.AUG.2012 01:36:08

A.8.3.62 Idle mode: 7.5GHz – 10GHz
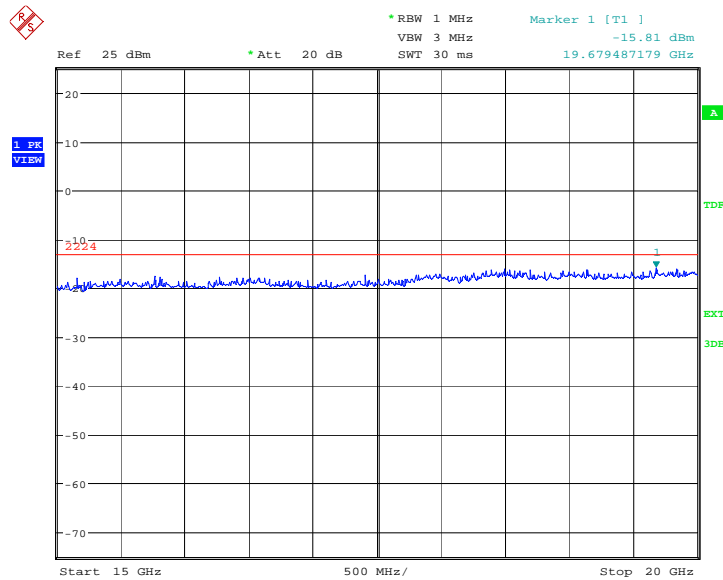
Spurious emission limit -13dBm.

Date: 10.AUG.2012 01:36:35

A.8.3.63 Idle mode: 10GHz – 15GHz

Spurious emission limit -13dBm.

Date: 10.AUG.2012 01:37:01

A.8.3.64 Idle mode: 15GHz – 20GHz

Spurious emission limit -13dBm.

Date: 10.AUG.2012 01:37:28

END OF REPORT