



# TEST REPORT

No. 2013TAR319

for

**Sony Mobile Communications AB**

**GSM/WCDMA/CDMA2000/LTE FDD Mobile Phone**

**Type: PM-0400-BV**

**FCC ID: PY7PM-0400**

with

**Hardware Version: A**

**Software Version: 10.2.F.1.33**

**Issued Date: May. 09<sup>th</sup>, 2013**

**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:**

***DAkks accreditation (DIN EN ISO/IEC 17025): No. D-PL-12123-01-01***

***FCC 2.948 Listed: No.733176***

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

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## 1. Test Laboratory

### 1.1. Testing Location

Company Name: TMC Beijing, Telecommunication Metrology Center of MIIT  
Address: No 52, Huayuan Bei Road, Haidian District, Beijing, P.R.China  
Postal Code: 100191  
Telephone: +86-10-62304633-2678  
Fax: +86-10-62304633-2504

### 1.2. Testing Environment

Normal Temperature: 15-35°C  
Relative Humidity: 20-75%  
Air pressure 980 - 1040 hPa

The climatic requirements above are general exclude the special requirements for dedicated test environments listed in section 5 and some specific test cases in other parts of this report.

### 1.3. Project data

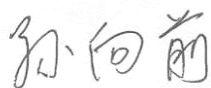
Receipt of Sample Mar 15<sup>th</sup>, 2013  
Testing Start Date: Mar 26<sup>th</sup>, 2013  
Testing End Date: Mar 28<sup>th</sup>, 2013

### 1.4. Signature



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**Qu Pengfei**  
**(Prepared this test report)**



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**Sun Xiangqian**  
**(Reviewed this test report)**



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**Song Chongwen**  
**(Approved this test report)**

## **2. Client Information**

### **2.1. Applicant Information**

Company Name: Sony Mobile Communications (China) Co. Ltd  
Address /Post: Sony Mobile R&D Center, No. 16, Guangshun South Street,  
Chaoyang District  
City: Beijing  
Postal Code: 100102  
Country: China  
Contact Person: Ma, Gang  
Telephone: +86-10-58656312  
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### **2.2. Manufacturer Information**

Company Name: Sony Mobile Communications AB  
Address /Post: Nya Vattentornet, 22188 Lund, Sweden  
City: Lund  
Postal Code: 22188  
Country: Sweden  
Contact Person: Nordlof, Anders  
Telephone: +46-10-802 3919  
Fax: +46-10-800 2441

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

#### **3.1. About EUT**

Description	GSM 850/900/1800/1900, GPRS, EDGE, WCDMA FDD Band 1/2/5, HSDPA, HSUPA, LTE FDD Band 1/11/18 CDMA2000 Band Class0/6 Bluetooth EDR & BLE, WLAN ( 802.11 a/b/g/n), FM, NFC, GPS receiver mobile phone
Type	PM-0400-BV
FCC ID	PY7PM-0400
Frequency range	GSM 850: 824.2 MHz - 848.8 MHz PCS 1900: 1850.2 MHz -1909.8 MHz WCDMA 850:824 MHz - 849 MHz WCDMA 1900:1850 MHz -1910 MHz LTE Band 1: 1920MHz-1980MHz LTE Band 11: 1710MHz-1755MHz LTE Band 18: 1710MHz-1755MHz CDMA2000 Band Class 0: 824MHz-849MHz CDMA2000 Band Class 6: 1920MHz-1980MHz
Antenna	Internal
Power supply	Battery or charger (travel adaptor / vehicle adaptor )
Output power	33.15 dBm maximum ERP measured for GSM850 32.49 dBm maximum EIRP measured for PCS1900 23.84 dBm maximum ERP measured for WCDMA 850 23.85 dBm maximum EIRP measured for WCDMA 1900
Extreme vol. Limits	3.5VDC to 4.1VDC (nominal: 4.1VDC)
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**

<b>EUT ID*</b>	<b>SN</b>	<b>IMEI</b>	<b>HW Version</b>	<b>SW Version</b>
#23850	CB5123BN1T	004402450924265	A	10.2.F.1.33
#23852	CB5123SGR6	004402450925213	A	10.2.F.1.33

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

#### **3.3. Internal Identification of AE used during the test**

<b>AE ID*</b>	<b>Description</b>	<b>SN</b>	<b>Revision</b>
#22975	Travel Charger	8512W19100304	1
#23812	USB Cable	123107D1000A4AE	1

AE5	Battery	000132	1C
#22975			
Commercial name		EP880	
Type		AC-0400-EU	
Manufacturer		Salcomp	
#23812			
Commercial name		EC801	
Type		AI-0401	
Manufacturer		Sony Mobile	
Length of cable		96.5cm	
AE5			
Model		AB-0300	
Manufacturer		Sony Mobile	
Capacitance		2300mAh	
Nominal Voltage		3.7V	

\*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 GSM/WCDMA/CDMA2000/LTE FDD Mobile Phone with integrated antenna.

The EUT supports GSM 850/900/1800/1900MHz bands, WCDMA FDD bands 1/2/5, LTE FDD bands 1/11/18 and CDMA2000 band class0/6. It also supports GPRS service with multi-slots class 12 and EGPRS service with multi-slots class 12 too. The HSDPA and HSUPA features are also supported.

It has MP3, camera, FM radio, USB memory, GPS receiver, NFC, Mobile High-Definition Link (MHL), Bluetooth (EDR and Bluetooth 4.0), WLAN (802.11 a/b/g/n) and Wi-Fi hotspot functions.

It includes normal option: travel charger, Portable Hands-Free and USB cable.

Manual and specifications of the EUT were provided to fulfil the test.

Samples undergoing test were selected by the client.

### 3.5. EUT set-ups

EUT Set-up No.	Combination of EUT and AE	Remarks
Set. 1	#23850 + #22975+ #23812	Tests with travel charger
Set. 2	#23850	ERP/EIRP/RSE tests
Set. 3	#23852	Conducted RF tests

## 4. Reference Documents

### 4.1. Reference Documents for testing

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

<b>Reference</b>	<b>Title</b>	<b>Version</b>
FCC Part 24	PERSONAL COMMUNICATIONS SERVICES	10-1-11 Edition
FCC Part 22	PUBLIC MOBILE SERVICES	10-1-11 Edition
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	2003

## 5. LABORATORY ENVIRONMENT

**Control room/ conducted chamber** did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. = 20 %, Max. = 80 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 2 MΩ
Ground system resistance	< 0.5 Ω

**Fully-anechoic chamber 2** (8.6 meters X 6.1 meters X 3.85 meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. = 35 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 2 MΩ
Ground system resistance	< 1 Ω
Site voltage standing-wave ratio ( $S_{VSWR}$ )	Between 0 and 6 dB, from 1GHz to 18GHz
Uniformity of field strength	Between 0 and 6 dB, from 80 to 4000 MHz

**Semi-anechoic chamber 2 / Fully-anechoic chamber 3** (10 meters X 6.7 meters X 6.15 meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. = 35 %, Max. = 60 %
Shielding effectiveness	> 100 dB
Electrical insulation	> 2 MΩ
Ground system resistance	< 0.5 Ω
Normalised site attenuation (NSA)	< ±3.5 dB, 3 m distance
Site voltage standing-wave ratio ( $S_{VSWR}$ )	Between 0 and 6 dB, from 1GHz to 18GHz
Uniformity of field strength	Between 0 and 6 dB, from 80 to 3000 MHz



## 6. SUMMARY OF TEST RESULTS

### 6.1. Summary of test results

**Abbreviations used in this clause:**

P	Pass
NA	Not applicable
F	Fail

#### WCDMA Band V

Items	Test Name	Clause in FCC rules	Section in this report	Verdict
1	Output Power	22.913(a)	A.1	P
2	Emission Limit	22.917, 2.1051	A.2	P
3	Conducted Emission	15.107/207	A.3	P
4	Frequency Stability	22.235, 2.1055	A.4	P
5	Occupied Bandwidth	2.1049(h)(i)	A.5	P
6	Emission Bandwidth	22.917(b)	A.6	P
7	Band Edge Compliance	22.917(b)	A.7	P
8	Conducted Spurious Emission	22.917, 2.1057	A.8	P

#### WCDMA Band II

Items	Test Name	Clause in FCC rules	Section in this report	Verdict
1	Output Power	24.232(b)	A.1	P
2	Emission Limit	24.238, 2.1051	A.2	P
3	Conducted Emission	15.107/207	A.3	P
4	Frequency Stability	24.235, 2.1055	A.4	P
5	Occupied Bandwidth	2.1049(h)(i)	A.5	P
6	Emission Bandwidth	24.238(a)	A.6	P
7	Band Edge Compliance	24.238(a)	A.7	P
8	Conducted Spurious Emission	24.238, 2.1057	A.8	P

### 6.2. Statements

The test cases listed in section 6.1 of this report for the EUT specified in section 3 were performed by TMC according to the standards or reference documents in section 4.1

The EUT met all applicable requirements of the standards or reference documents in section 4.1.

This report only deals with the WCDMA functions among the features described in section 3.

## 7. Test Equipments Utilized

NO.	Description	TYPE	SERIES NUMBER	MANUFACTURE	CAL DUE DATE
1	Test Receiver	ESCI	100344	R&S	2014-03-28
3	Test Receiver	ESU26	100376	R&S	2013-11-07
4	EMI Antenna	VULB 9163	514	Schwarzbeck	2014-11-10
5	EMI Antenna	3117	00139065	ETS-Lindgren	2014-07-31
6	LISN	ESH2-Z5	829991/012	R&S	2013-04-16
7	Universal Radio Communication Tester	CMU200	102228	R&S	2013-07-07
8	Universal Radio Communication Tester	E5515C	MY48361083	Agilent	2013-03-16
9	Spectrum Analyzer	E4440A	MY48250642	Agilent	2014-03-04
10	EMI Antenna	9117	177	Schwarzbeck	2014-06-29
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	2014-03-19
15	Climatic chamber	PL-2G	343074	ESPEC	2013-05-12

## **ANNEX A: MEASUREMENT RESULTS**

### **A.1 OUTPUT POWER**

#### **Reference**

FCC: CFR Part 22.913(a), 24.232(b)

#### **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 Universal Radio Communication Tester(CMU200).

These measurements were done at 3 frequencies (bottom, middle and top of operational frequency range) for each band: 1852.4 MHz, 1880.0 MHz and 1907.6 MHz for WCDMA Band II; 826.4 MHz, 836.6 MHz and 846.6 MHz for WCDMA Band V

##### **A.1.2.2 Measurement result**

###### **WCDMA Band II**

	Channel number	Frequency(MHz)	output power(dBm)
WCDMA (Band II)	9262	1852.4	<b>22.88</b>
	9400	1880.0	22.81
	9538	1907.6	22.79

###### **WCDMA Band V**

	Channel number	Frequency(MHz)	output power(dBm)
WCDMA (Band V)	4132	826.4	24.44
	4183	836.6	24.38
	4233	846.6	<b>24.46</b>

### A.1.3 Radiated

#### A.1.3.1 Description

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

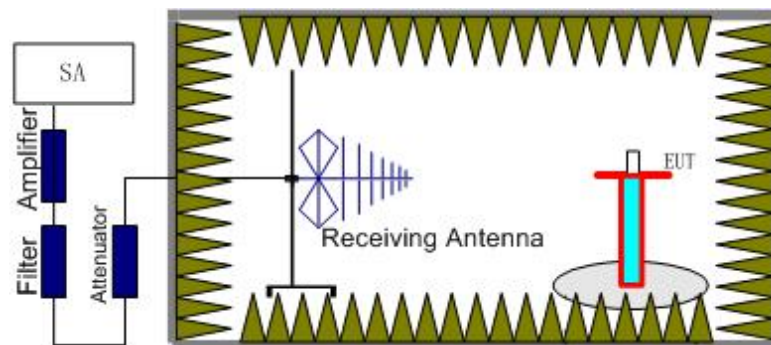
Rule Part 22.913(a) specifies "Maximum ERP. The effective radiated power (ERP) of base transmitters and cellular repeaters must not exceed 500 Watts. The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts."

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."

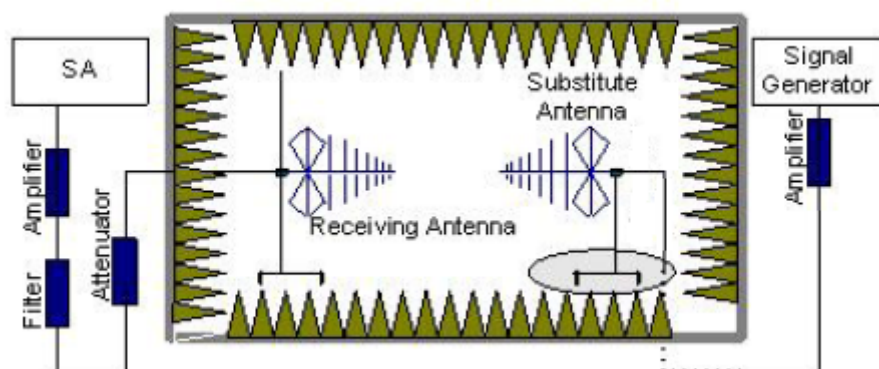
#### A.1.3.2 Method of Measurement

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 RMS 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, a 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. Adjust the level of the signal generator output until the value of the receiver reaches 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. An amplifier should be connected to the Signal Source output port. And the cable should be connected 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 -2.15.

For test layout photo, please refer to Pic.1 in Annex B.

### WCDMA Band II- EIRP

#### Limits

##### Power:

	Burst Peak EIRP (dBm)
WCDMA Band II	≤33dBm (2W)

##### PAR(peak to average ratio)

	PAR (dB)
WCDMA Band II	≤13dB

### Measurement result

#### Power:

Frequency (MHz)	$P_{Mea}$ (dBm)	$P_{cl}$ (dB)	$P_{Ag}$ (dB)	$G_a$ (dBi)	Peak EIRP(dBm)	Polarization
1852.40	-30.11	3.18	-50.00	-4.55	21.26	Horizontal
1880.00	-28.25	3.11	-50.00	-4.43	23.07	Horizontal
1907.60	-27.28	3.18	-50.00	-4.31	<b>23.85</b>	Horizontal

Sample calculation: 1852.40MHz

$$\text{Peak EIRP (dBm)} = P_{Mea}(-27.28 \text{ dBm}) - G_a(-4.31 \text{ dBi}) - P_{Ag}(-50.00 \text{ dB}) - P_{cl}(3.18 \text{ dB})$$

$$= 23.85 \text{ dBm}$$

#### ANALYZER SETTINGS: RBW = VBW = 5MHz

#### PAR

WCDMA II	Frequency(MHz)	PAR(dB)
	1880.0	3.88

Note: Expanded measurement uncertainty for WCDMA Band II is  $U = 1.07 \text{ dB}$ ,  $k=2$ .

**WCDMA Band V- ERP**

**Limits**

**Power:**

	Burst Peak ERP (dBm)
WCDMA Band V	≤38.45dBm

**PAR(peak to average ratio)**

	PAR (dB)
WCDMA Band V	≤13dB

**Measurement result**

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	P <sub>Ag</sub> (dB)	G <sub>a</sub> (dBi)	Correction (dB)	Peak ERP(dBm)	Polarization
826.40	-24.28	2.07	-53.00	0.85	2.15	23.65	Horizontal
836.60	-24.03	2.08	-53.00	0.90	2.15	<b>23.84</b>	Vertical
846.60	-24.94	2.09	-53.00	0.94	2.15	22.88	Vertical

Sample calculation: 836.6 MHz

$$\begin{aligned} \text{Peak ERP(dBm)} &= P_{\text{Mea}}(-24.03 \text{ dBm}) - G_a (0.90 \text{ dBi}) - P_{\text{Ag}} (-53.00 \text{ dB}) - P_{\text{cl}} (2.08 \text{ dB}) - 2.15 \text{ dB} \\ &= 23.84 \text{ dBm} \end{aligned}$$

**ANALYZER SETTINGS: RBW = VBW = 5MHz**

**WCDMA Band V PAR**

WCDMA V	Frequency(MHz)	PAR(dB)
	836.6	3.56

Note: Expanded measurement uncertainty for WCDMA Band V is  $U = 0.96\text{dB}$ ,  $k=2$ .

## A.2 EMISSION LIMIT

### Reference

FCC: CFR 2.1051, Part 22.917(a), 24.238(a),

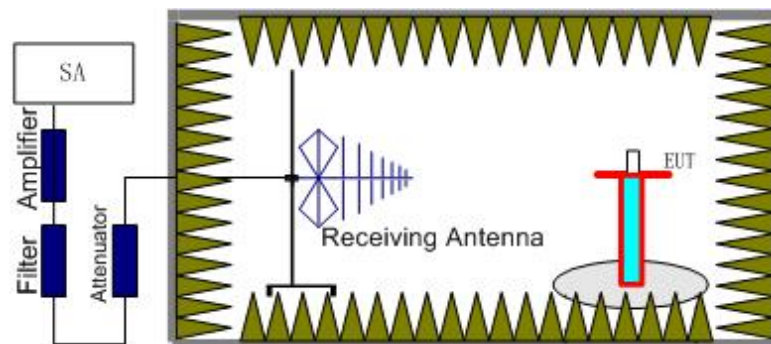
### A.2.1 Measurement Method

The measurements procedures in TIA-603C-2004 are used. This measurement is carried out in fully-anechoic chamber 3.

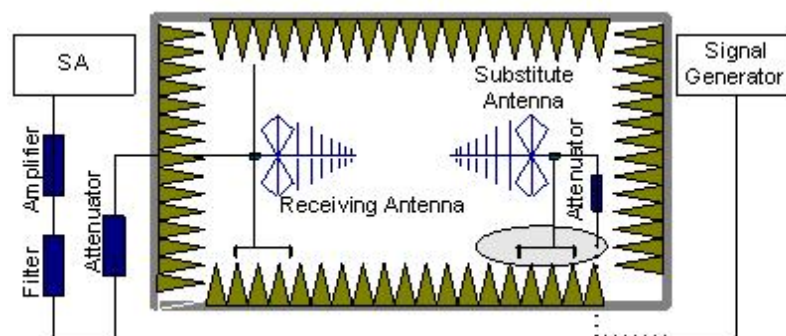
The spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment, which is the transmitted carrier that can be as high as 1910 MHz. The resolution bandwidth is set 1MHz as outlined in Part 24.238 and Part 22.917. The spectrum was scanned with the mobile station transmitting at carrier frequencies that pertain to low, mid and high channels of WCDMA Band II and WCDMA Band V.

### 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, a 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. Adjust the level of the signal generator output until the value of the receiver reaches 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.

An 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:

$$\text{Power (EIRP)} = P_{Mea} + P_{pl} + G_a$$

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,  $ERP = EIRP - 2.15dB$ .

### A.2.2 Measurement Limit

Part 22.917(a) and 24.238(a) all 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 the WCDMA Band II (1852.4 MHz, 1880.0MHz and 1907.6MHz) and WCDMA Band V (826.4MHz, 836.6MHz and 846.6MHz). 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 WCDMA Band II or WCDMA Band V 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.



**WCDMA BAND II, Channel 9262/1852.4MHz**

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>pl</sub> (dB)	G <sub>a</sub> (dBi)	Peak EIRP (dBm)	Limit (dBm)	Polarity
3602.24	-62.35	4.38	-8.02	-58.71	-13.00	Vertical
5073.45	-68.86	5.20	-9.74	-64.32	-13.00	Horizontal
7187.90	-60.84	6.42	-11.21	-56.05	-13.00	Vertical
10134.40	-66.59	7.95	-12.43	-62.11	-13.00	Horizontal
12532.06	-62.51	8.92	-12.74	-58.69	-13.00	Horizontal
14376.22	-63.77	9.42	-13.70	-59.49	-13.00	Horizontal

**WCDMA BAND II, Channel 9400/1880MHz**

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>pl</sub> (dB)	G <sub>a</sub> (dBi)	Peak EIRP (dBm)	Limit (dBm)	Polarity
3472.28	-66.85	4.24	-7.83	-63.26	-13.00	Horizontal
5417.35	-67.10	5.40	-9.95	-62.55	-13.00	Horizontal
6243.29	-71.82	5.83	-10.39	-67.26	-13.00	Horizontal
7352.98	-61.45	6.48	-11.31	-56.62	-13.00	Vertical
10119.63	-59.79	8.08	-12.42	-55.45	-13.00	Vertical
12457.32	-64.11	8.74	-12.68	-60.17	-13.00	Horizontal

**WCDMA BAND II, Channel 9538/1907.6MHz**

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>pl</sub> (dB)	G <sub>a</sub> (dBi)	Peak EIRP (dBm)	Limit (dBm)	Polarity
3308.90	-62.50	4.16	-7.44	-59.22	-13.00	Vertical
4104.97	-62.43	4.68	-8.56	-58.55	-13.00	Vertical
6278.78	-68.14	5.86	-10.42	-63.58	-13.00	Horizontal
8858.08	-60.13	7.33	-12.49	-54.97	-13.00	Vertical
10242.92	-57.90	7.50	-12.45	-52.95	-13.00	Vertical
12520.15	-56.41	8.89	-12.72	-52.58	-13.00	Vertical

**WCDMA BAND V, Channel 4132/826.4MHz**

Frequency (MHz)	P <sub>Mea</sub> (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP(dBm)	Limit (dBm)	Polarization
1655.24	-45.95	2.93	-5.42	2.15	-45.61	-13.00	Horizontal
3407.51	-67.82	4.19	-7.68	2.15	-66.48	-13.00	Horizontal
4137.66	-54.03	4.67	-8.58	2.15	-52.27	-13.00	Horizontal
5827.83	-60.74	5.75	-10.13	2.15	-58.51	-13.00	Vertical
7147.61	-61.24	6.38	-11.19	2.15	-58.58	-13.00	Vertical
9078.51	-60.56	7.50	-12.60	2.15	-57.61	-13.00	Vertical

**WCDMA BAND V, Channel 4183/836.6MHz**

Frequency (MHz)	P <sub>Mea</sub> (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP(dBm)	Limit (dBm)	Polarization
1670.64	-44.02	2.98	-5.35	2.15	-43.80	-13.00	Horizontal
4266.07	-68.03	4.79	-8.66	2.15	-66.31	-13.00	Horizontal
5493.99	-67.58	5.42	-10.00	2.15	-65.15	-13.00	Horizontal
6383.09	-67.48	5.82	-10.51	2.15	-64.94	-13.00	Horizontal
7158.07	-60.11	6.36	-11.19	2.15	-57.43	-13.00	Vertical
8638.04	-59.59	7.41	-12.31	2.15	-56.84	-13.00	Vertical

**WCDMA BAND V, Channel 4233/846.6MHz**

Frequency (MHz)	P <sub>Mea</sub> (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP(dBm)	Limit (dBm)	Polarization
1695.90	-45.34	2.95	-5.24	2.15	-45.20	-13.00	Horizontal
3313.96	-65.28	4.15	-7.45	2.15	-64.13	-13.00	Vertical
4229.08	-52.87	4.68	-8.64	2.15	-51.06	-13.00	Horizontal
5489.56	-61.07	5.41	-9.99	2.15	-58.64	-13.00	Vertical
6882.69	-65.55	6.07	-10.98	2.15	-62.79	-13.00	Horizontal
9037.66	-68.07	7.47	-12.60	2.15	-65.09	-13.00	Horizontal

Note: Expanded measurement uncertainty for this test item is  $U = 4.21\text{dB}$ ,  $k=2$ .

### **A.3 CONDUCTED EMISSION**

#### **Reference**

FCC: CFR Part 15.107/207

The measurement procedure in ANSI C63.4-2003 is used. Conducted Emission is measured with travel charger. For test layout photo, please refer to Pic.2 in Annex B.

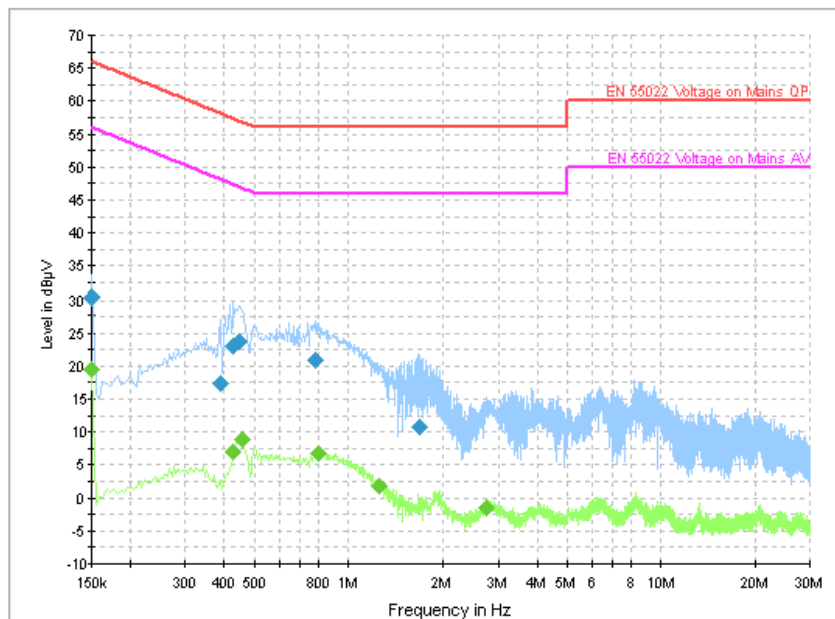
#### **A.3.1 Limit**

Frequency of Emission (MHz)	Conducted Limit (dB $\mu$ V)	
	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**

##### **WCDMA Band II**



IF bandwidth 9 kHz

Note: The graphic result above is the maximum of the measurements for both phase line and neutral line.

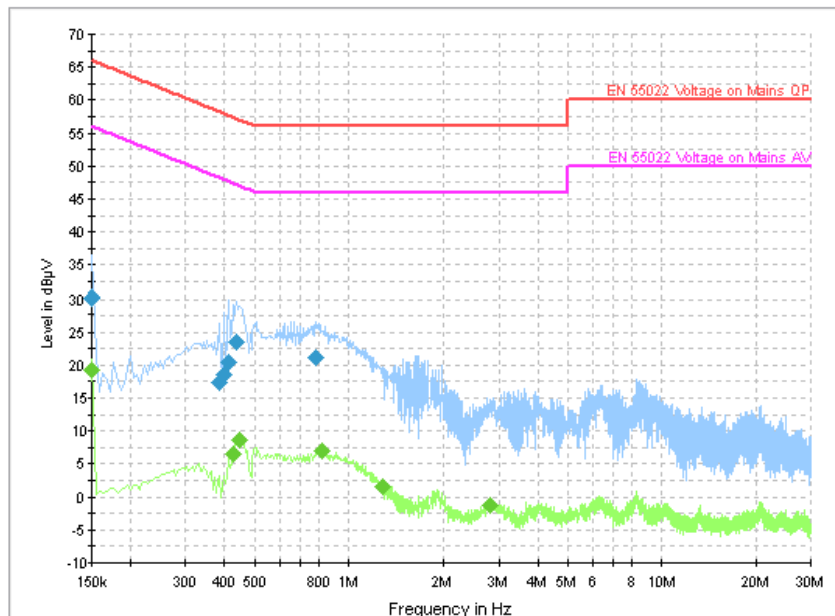
**Final Result 1**

Frequency (MHz)	QuasiPeak (dB $\mu$ V)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V)
0.150000	30.3	GND	L1	10.0	35.7	66.0
0.388500	17.4	GND	L1	10.0	40.7	58.1
0.429000	22.9	GND	L1	10.0	34.3	57.3
0.447000	23.7	GND	L1	10.0	33.2	56.9
0.784500	21.0	GND	L1	10.0	35.0	56.0
1.675500	10.7	GND	L1	10.0	45.3	56.0

**Final Result 2**

Frequency (MHz)	Average (dB $\mu$ V)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V)
0.150000	19.4	GND	L1	10.0	36.6	56.0
0.429000	7.1	GND	L1	10.0	40.2	47.3
0.456000	8.8	GND	L1	10.0	38.0	46.8
0.802500	6.9	GND	L1	10.0	39.1	46.0
1.261500	1.9	GND	L1	10.0	44.1	46.0
2.755500	-1.6	GND	L1	10.0	47.6	46.0

**WCDMA Band V**



IF bandwidth 9 kHz

Note: The graphic result above is the maximum of the measurements for both phase line and neutral line.

**Final Result 1**

Frequency (MHz)	QuasiPeak (dB $\mu$ V)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V)
0.150000	30.2	GND	L1	10.0	35.8	66.0
0.384000	17.3	GND	L1	10.0	40.9	58.2
0.397500	18.6	GND	L1	10.0	39.3	57.9
0.411000	20.4	GND	L1	10.0	37.2	57.6
0.438000	23.6	GND	L1	10.0	33.5	57.1
0.784500	21.1	GND	L1	10.0	34.9	56.0

**Final Result 2**

Frequency (MHz)	Average (dB $\mu$ V)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V)
0.150000	19.4	GND	L1	10.0	36.6	56.0
0.424500	6.4	GND	L1	10.0	40.9	47.4
0.447000	8.7	GND	L1	10.0	38.2	46.9
0.820500	7.0	GND	L1	10.0	39.0	46.0
1.293000	1.5	GND	L1	10.0	44.5	46.0
2.809500	-1.2	GND	L1	10.0	47.2	46.0

## **A.4 FREQUENCY STABILITY**

### **Reference**

FCC: CFR Part 2.1055, 22.235, 24.235

#### **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°C.
3. With the EUT, powered via nominal voltage, connected to the CMU200 and in a simulated call on mid channel of WCDMA Band II, WCDMA IV and WCDMA Band V, 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°C increments from -30°C to +50°C. Allow at least 1 1/2 hours at each temperature, unpowered, before making measurements.
5. Re-measure carrier frequency at room temperature with nominal voltage. Vary supply voltage from minimum voltage to maximum voltage, in 0.1Volt increments re-measuring 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°C.
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°C to -30°C. 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°C 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 4.1VDC, with a nominal voltage of 4.1VDC. 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. 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 section

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 100 percent of the nominal value for other than hand carried battery equipment.

**A.4.3 Measurement results**

**WCDMA Band II**

**Room Temperature:** 24 °C

**Frequency Error vs Voltage**

Voltage(V)	Frequency error(Hz)	Frequency error(ppm)
3.5	-25	0.013
4.1	-9	0.005

Note:High voltage and normal voltage are both 4.1V.

**Frequency Error vs Temperature**

temperature(°C)	Frequency error(Hz)	Frequency error(ppm)
50	-11	0.006
40	-10	0.005
30	-10	0.006
20	-11	0.006
10	-8	0.004
0	-10	0.005
- 10	-10	0.005
- 20	-8	0.004
- 30	-7	0.004

Expanded measurement uncertainty for this test item is 10 Hz, k=2

**WCDMA Band V**

**Room Temperature: 24°C**

**Frequency Error vs Voltage**

Voltage(V)	Frequency error(Hz)	Frequency error(ppm)
3.5	-3	0.004
3.7	4	0.005
4.1	4	0.005

**Frequency Error vs Temperature**

temperature(°C)	Frequency error(Hz)	Frequency error(ppm)
50	5	0.006
40	-6	0.008
30	4	0.005
20	4	0.005
10	-16	0.019
0	3	0.003
- 10	5	0.006
- 20	2	0.002
- 30	4	0.004

Expanded measurement uncertainty for this test item is 10 Hz, k=2



## A.5 OCCUPIED BANDWIDTH

### Reference

FCC: CFR Part 2.1049(h)(i)

### A.5.1 Occupied Bandwidth Results

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 WCDMA Band II and WCDMA Band V. The table below lists the measured -20dBc BW (99%). Spectrum analyzer plots are included on the following pages.

### Measurement Parameters:

RBW = 50 kHz, VBW = 100 kHz

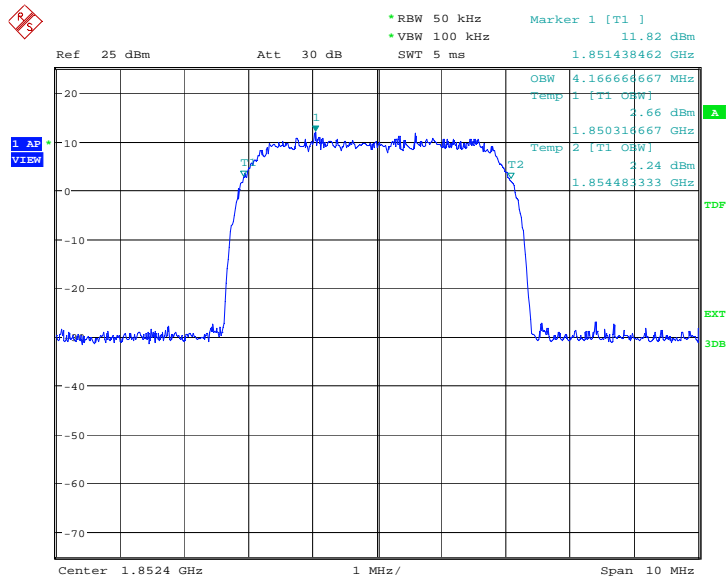
### WCDMA Band II (-20dBc)

Frequency(MHz)	Occupied Bandwidth (-20dBc BW)( MHz)
1852.4	4.167
1880.0	4.167
1907.6	4.183

Expanded measurement uncertainty for this test item is 1.1 kHz, k=2

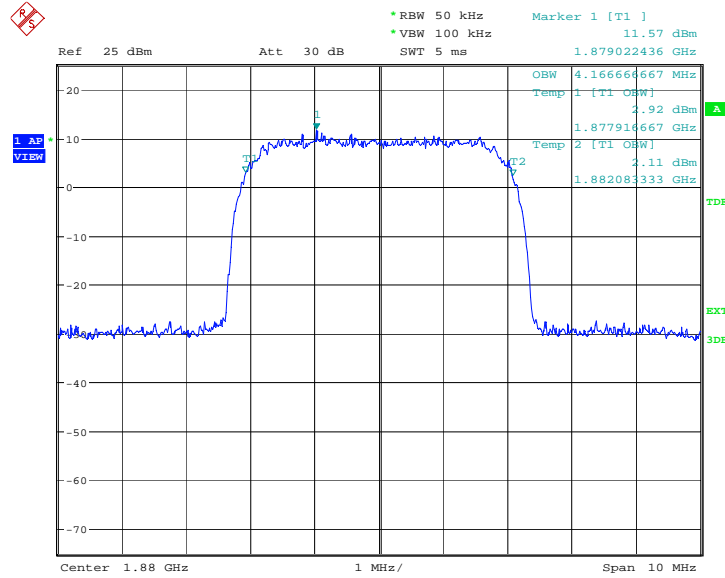
### WCDMA Band II

### Channel 9262-Occupied Bandwidth (-20dBc BW)



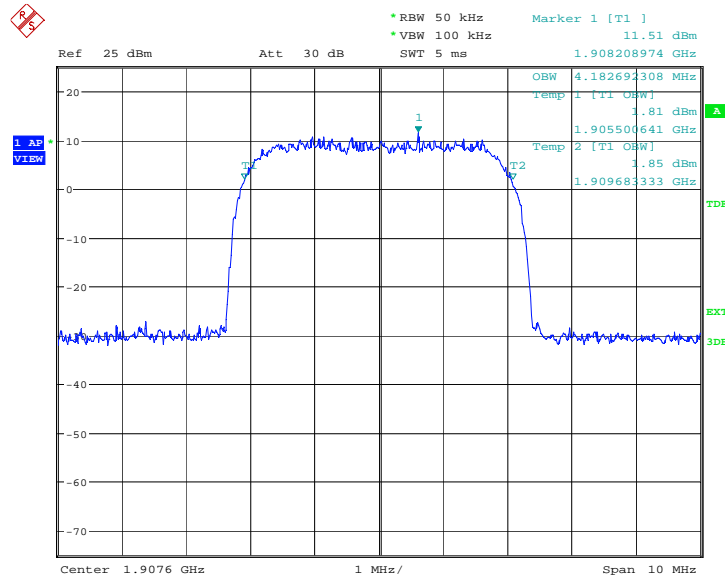
Date: 28.MAR.2013 00:34:53

### Channel 9400-Occupied Bandwidth (-20dBc BW)



Date: 28.MAR.2013 00:35:27

### Channel 9538-Occupied Bandwidth (-20dBc BW)



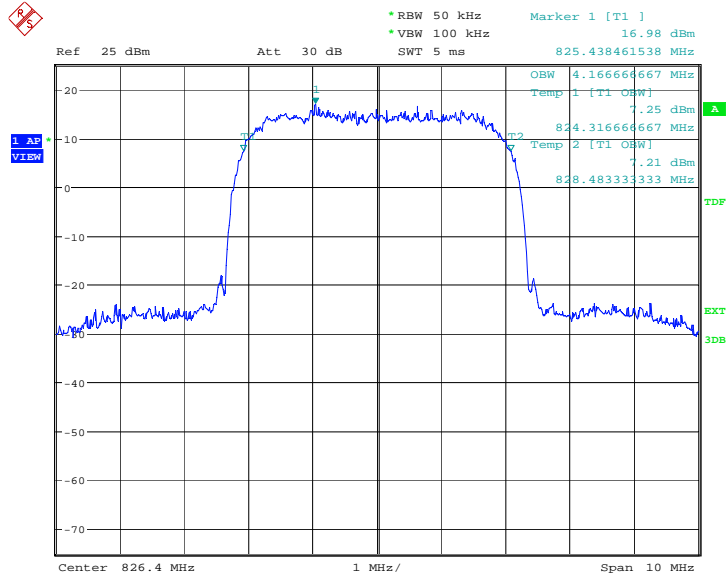
Date: 28.MAR.2013 00:36:02

**WCDMA Band V(-20dBc)**

Frequency(MHz)	Occupied Bandwidth (-20dBc BW)( MHz)
826.4	4.167
836.6	4.151
846.6	4.151

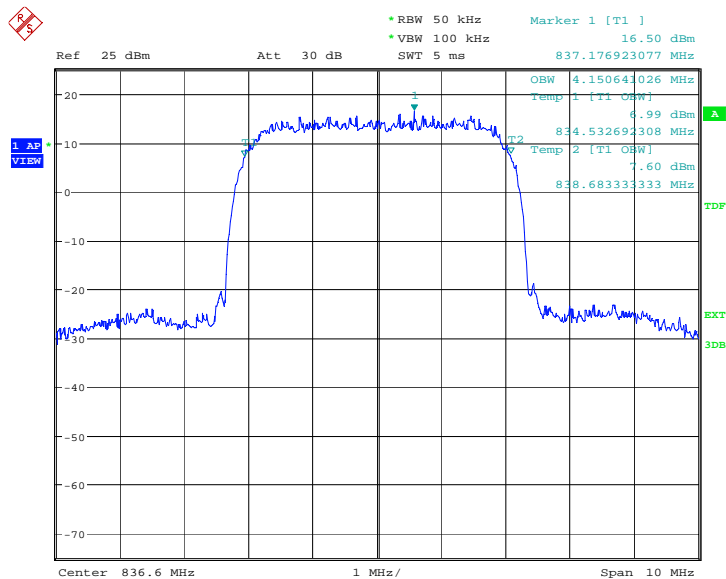
**WCDMA Band V**

**Channel 4132-Occupied Bandwidth (-20dBc BW)**



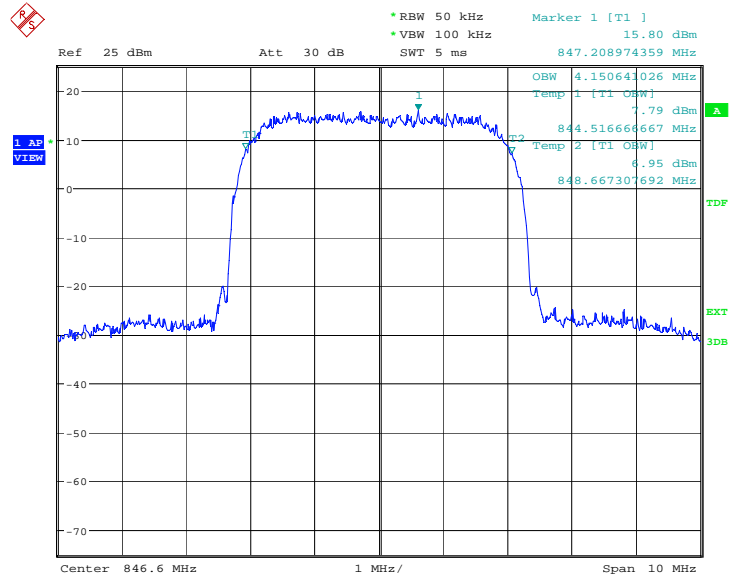
Date: 28.MAR.2013 01:28:10

**Channel 4183-Occupied Bandwidth (-20dBc BW)**



Date: 28.MAR.2013 01:28:45

### Channel 4233-Occupied Bandwidth (-20dBc BW)



Date: 28.MAR.2013 01:29:19

## A.6 EMISSION BANDWIDTH

### Reference

FCC: CFR Part 22.917(b), 24.238(a)

### A.6.1 Emission Bandwidth Results

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 WCDMA Band II and WCDMA Band V. Table below lists the measured -26dBc BW. Spectrum analyzer plots are included on the following pages.

### Measurement Parameters:

RBW = 50 kHz, VBW = 100 kHz

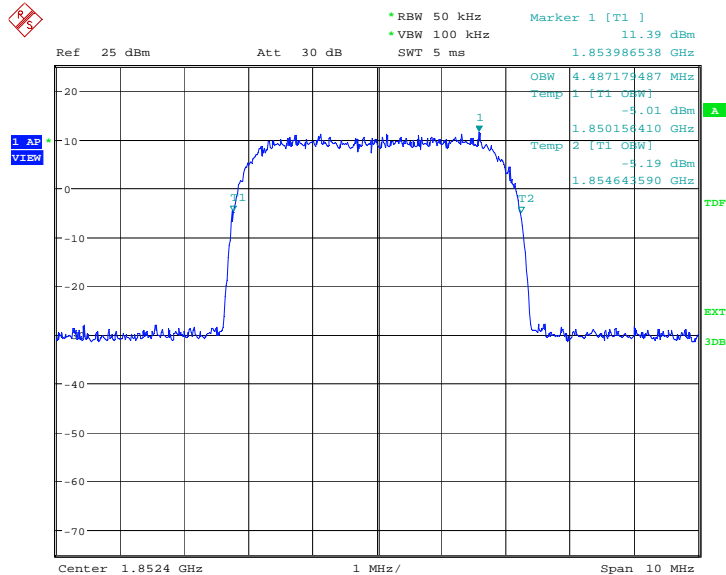
### WCDMA Band II (-26dBc)

Frequency(MHz)	Occupied Bandwidth (-26dBc BW)( MHz)
1852.4	4.487
1880.0	4.487
1907.6	4.487

Expanded measurement uncertainty for this test item is 1.1 kHz, k=2

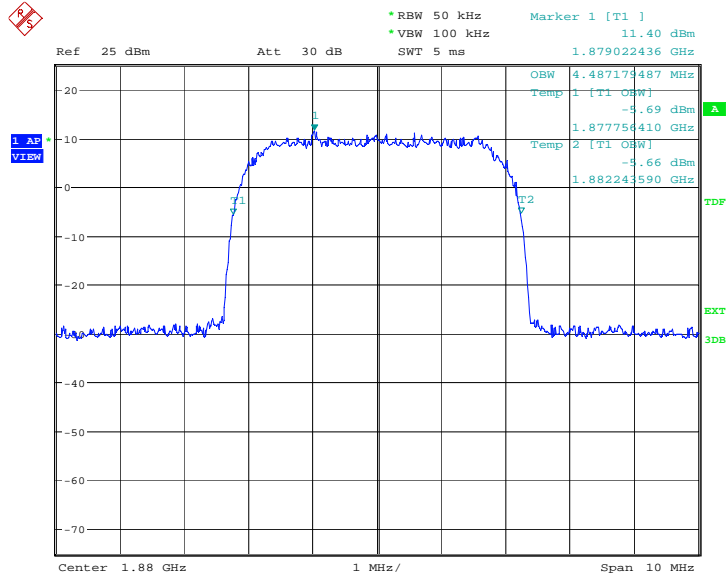
### WCDMA Band II

### Channel 9262-Occupied Bandwidth (-26dBc BW)



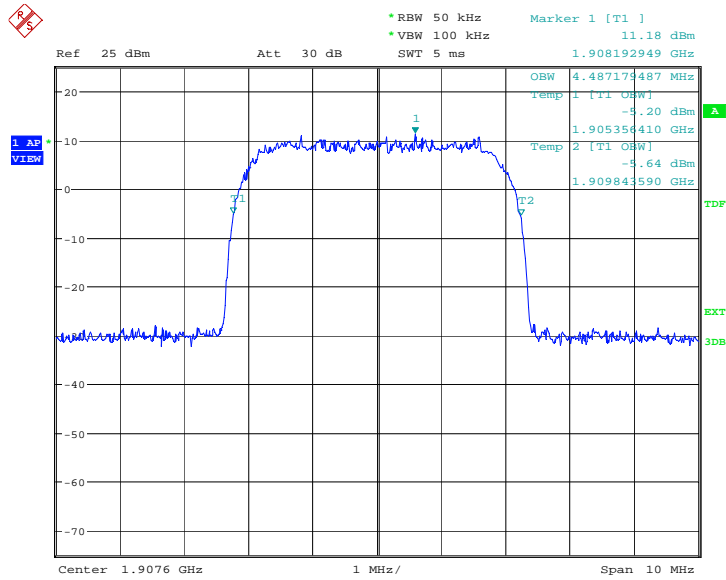
Date: 28.MAR.2013 00:36:38

### Channel 9400-Occupied Bandwidth (-26dBc BW)



Date: 28.MAR.2013 00:37:13

### Channel 9538-Occupied Bandwidth (-26dBc BW)



Date: 28.MAR.2013 00:37:47

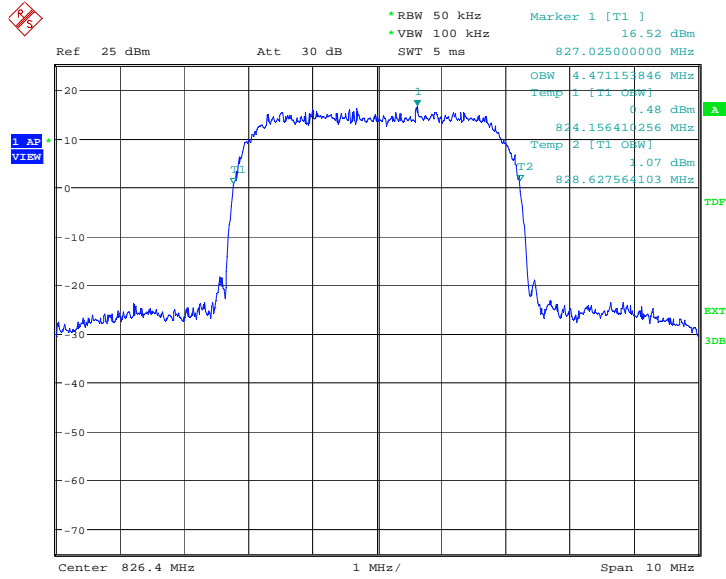
**WCDMA Band V (-26dBc)**

Frequency(MHz)	Occupied Bandwidth (-26dBc BW)( MHz)
826.40	4.471
836.60	4.471
846.60	4.455

Expanded measurement uncertainty for this test item is 1.1 kHz, k=2

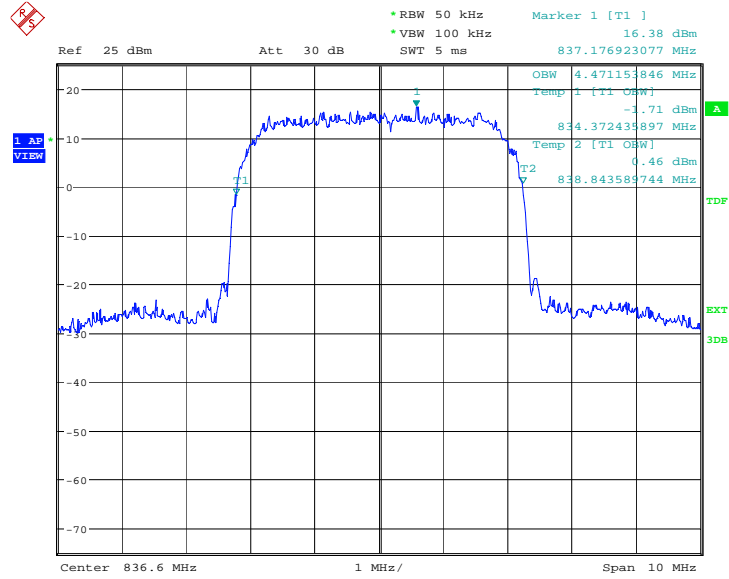
**WCDMA Band V**

**Channel 4132-Occupied Bandwidth (-26dBc BW)**



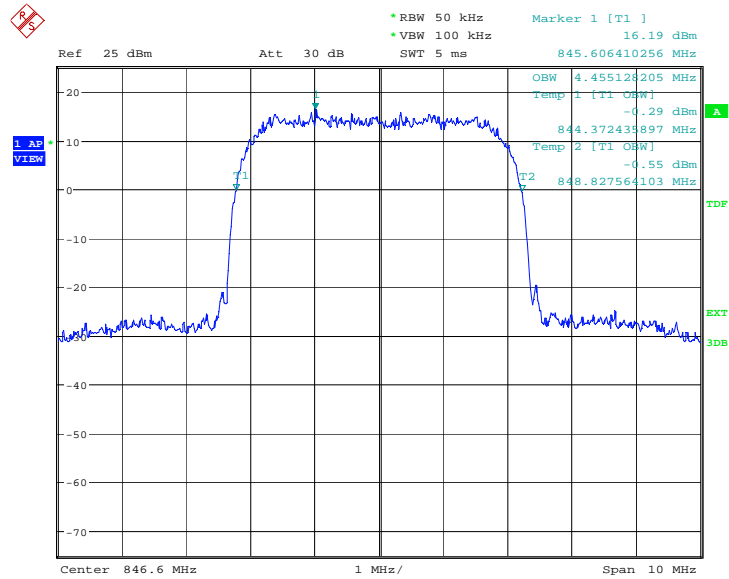
Date: 28.MAR.2013 01:29:56

### Channel 4183-Occupied Bandwidth (-26dBc BW)



Date: 28.MAR.2013 01:30:30

### Channel 4233-Occupied Bandwidth (-26dBc BW)



Date: 28.MAR.2013 01:31:05



## A.7 BAND EDGE COMPLIANCE

### Reference

FCC: CFR Part 22.917(b), 24.238(a)

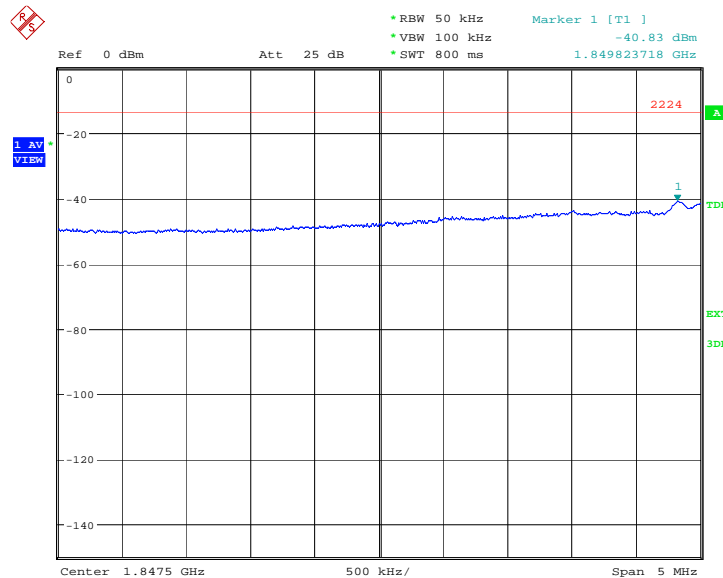
#### A.7.1 Measurement limit

On any frequency outside frequency band of the US Cellular/PCS/AWS spectrum, the power of any emission shall be attenuated below the transmitter power (P, in Watts) by at least  $43+10\text{Log}(P)$  dB. For all power levels +30 dBm to 0 dBm, this becomes a constant specification limit of -13 dBm.

#### A.7.2 Measurement result

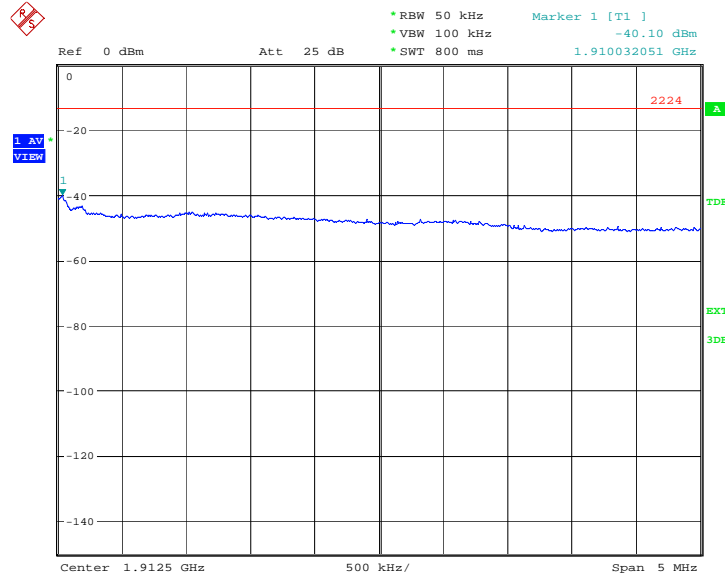
### WCDMA Band II

#### LOW BAND EDGE BLOCK-A (WCDMA Band II)-Channel 9262



Date: 28.MAR.2013 00:38:04

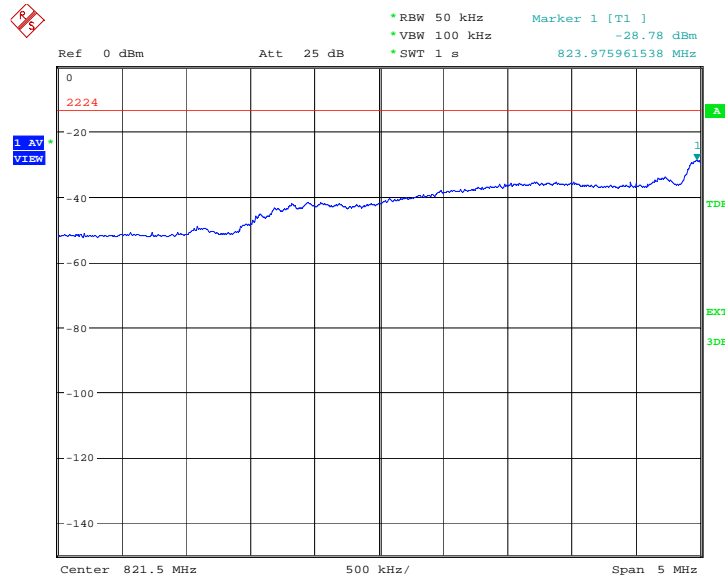
### HIGH BAND EDGE BLOCK-C (WCDMA Band II) –Channel 9538



Date: 28.MAR.2013 00:38:20

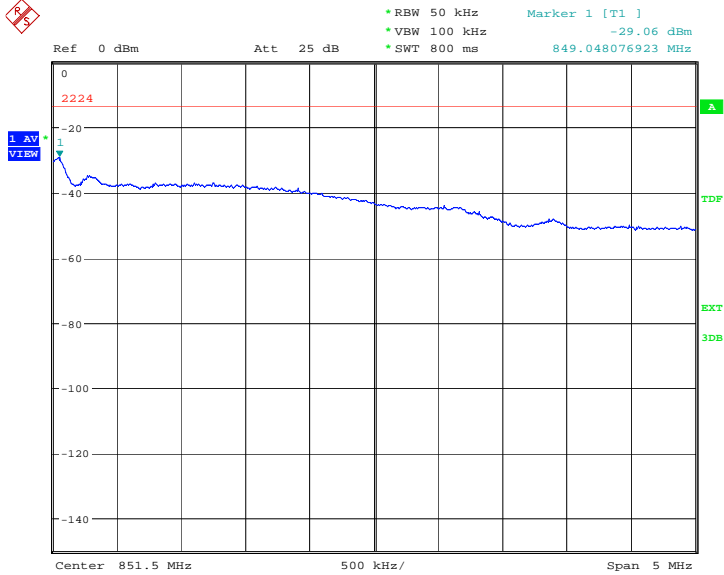
### WCDMA Band V

### LOW BAND EDGE BLOCK-A (WCDMA Band V)-Channel 4132



Date: 28.MAR.2013 01:31:21

### HIGH BAND EDGE BLOCK-C (WCDMA Band V) –Channel 4233



Date: 28.MAR.2013 01:31:37

## **A.8 CONDUCTED SPURIOUS EMISSION**

### **Reference**

FCC: CFR Part 2.1057, 22.917, 24.238

### **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 WCDMA Band II, this equates to a frequency range of 30 MHz to 19.1 GHz, data are taken from 30 MHz to 20 GHz. For WCDMA Band V, data are taken from 30 MHz to 10 GHz.
2. Determine EUT transmit frequencies: below outlines the band edge frequencies pertinent to conducted emissions testing.

#### **WCDMA Band II Transmitter**

Channel	Frequency (MHz)
9262	1852.40
9400	1880.00
9538	1907.60

#### **WCDMA Band V Transmitter**

Channel	Frequency (MHz)
4132	826.40
4183	836.60
4233	846.60

### **A. 8.2 Measurement Limit**

Part 22.917 and Part 24.238 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.

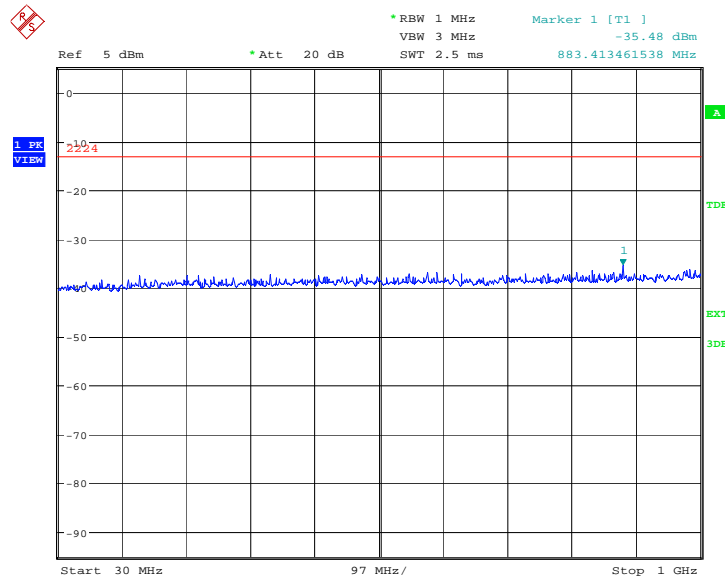
### **A. 8.3 Measurement result**

**Measurement Uncertainty: 0.3dB**

**WCDMA Band II**

**A.8.3.1 Channel 9262: 30MHz –1GHz**

Spurious emission limit –13dBm.

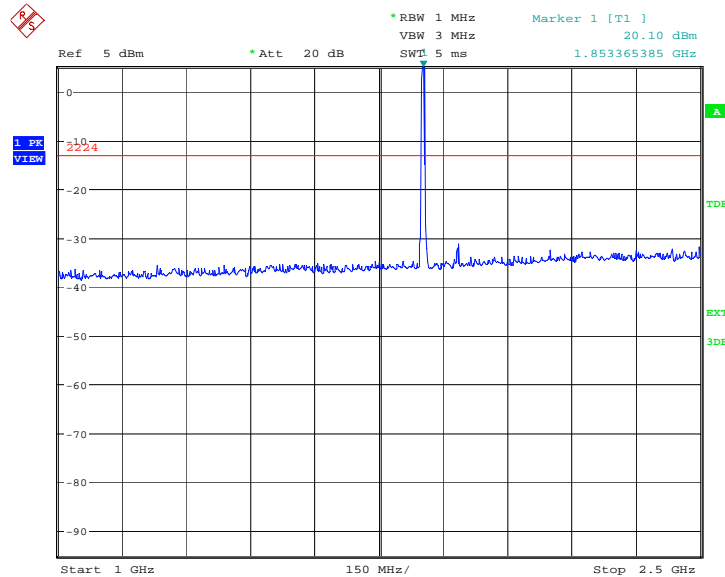


Date: 28.MAR.2013 00:40:37

**A.8.3.2 Channel 9262: 1GHz –2.5GHz**

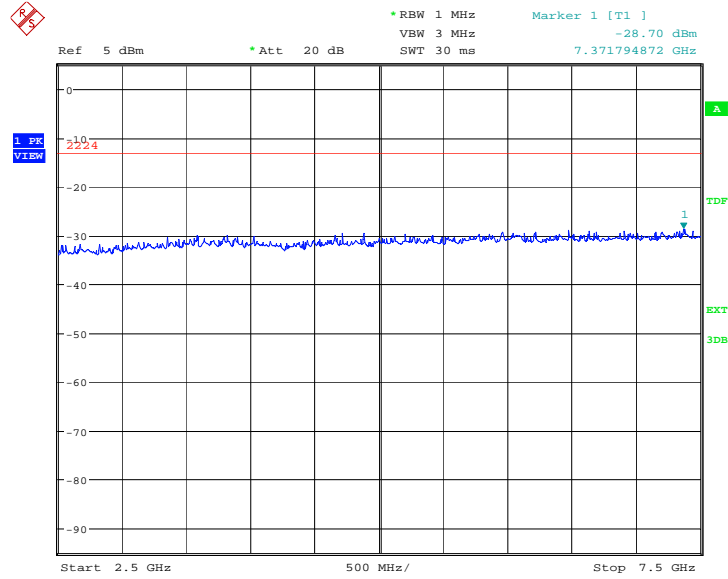
Spurious emission limit –13dBm.

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



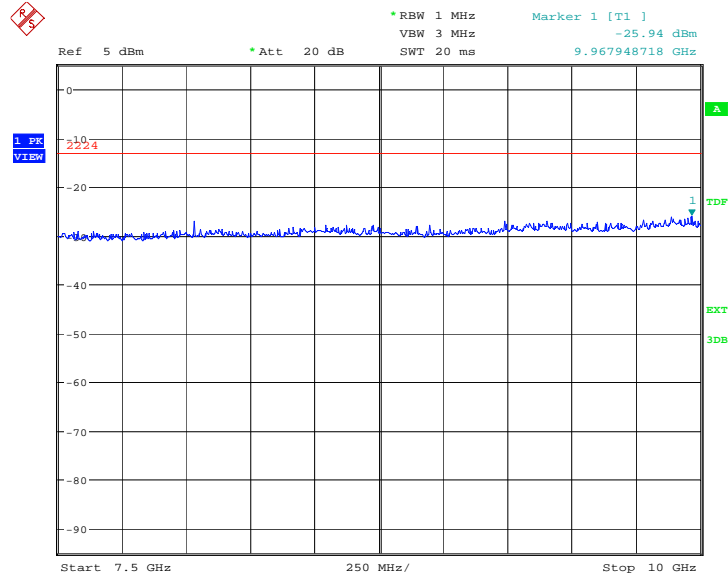
Date: 28.MAR.2013 00:41:05

**A.8.3.3 Channel 9262: 2.5GHz –7.5GHz**  
Spurious emission limit –13dBm.



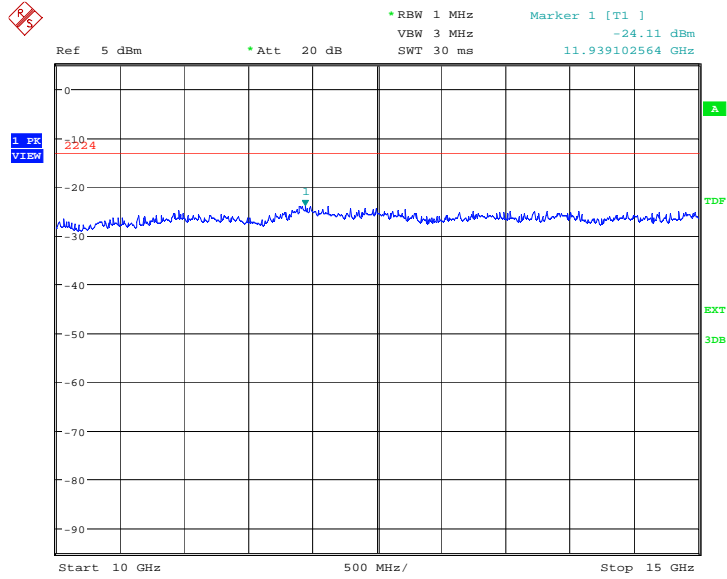
Date: 28.MAR.2013 00:41:33

**A.8.3.4 Channel 9262: 7.5GHz –10GHz**  
Spurious emission limit –13dBm.



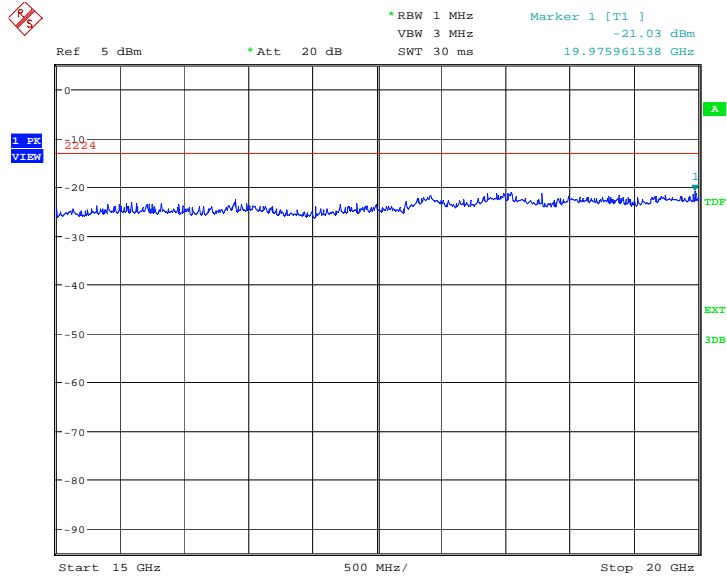
Date: 28.MAR.2013 00:42:01

**A.8.3.5 Channel 9262: 10GHz –15GHz**  
Spurious emission limit –13dBm.



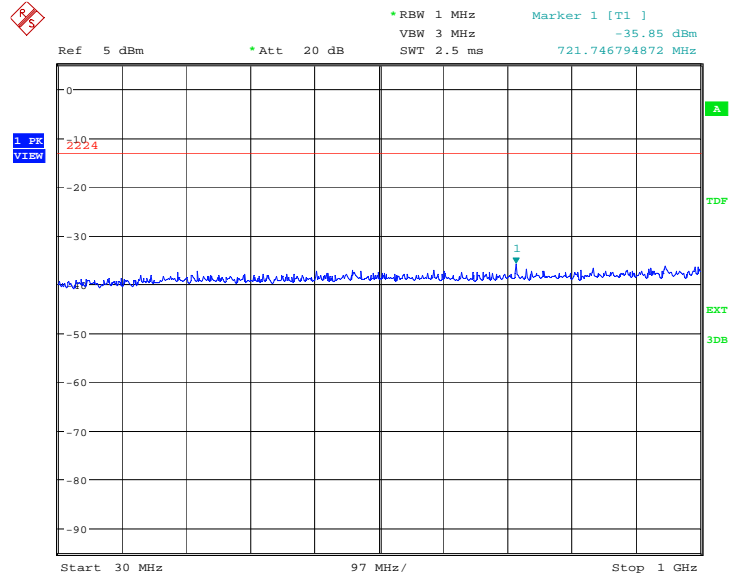
Date: 28.MAR.2013 00:42:30

**A.8.3.6 Channel 9262: 15GHz –20GHz**  
Spurious emission limit –13dBm.



Date: 28.MAR.2013 00:42:58

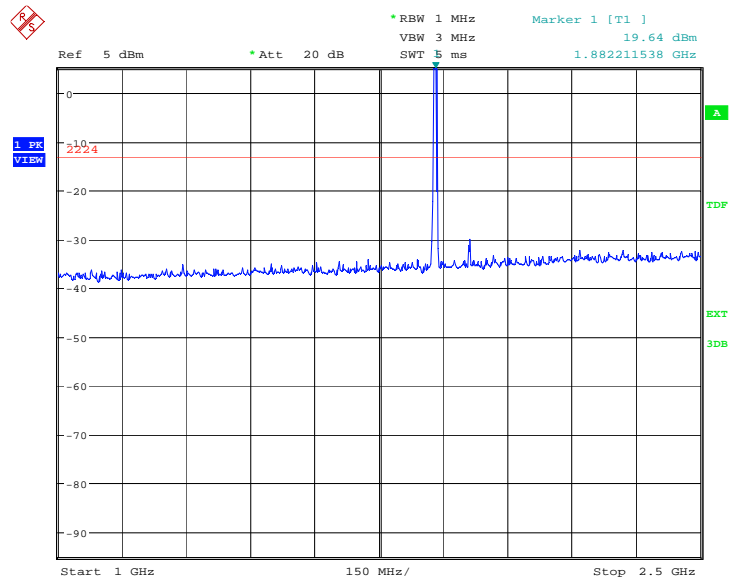
**A. 8.3.7 Channel 9400: 30MHz –1GHz**  
Spurious emission limit –13dBm.



Date: 28.MAR.2013 00:43:29

**A.8.3.8 Channel 9400: 1GHz –2.5GHz**  
Spurious emission limit –13dBm.

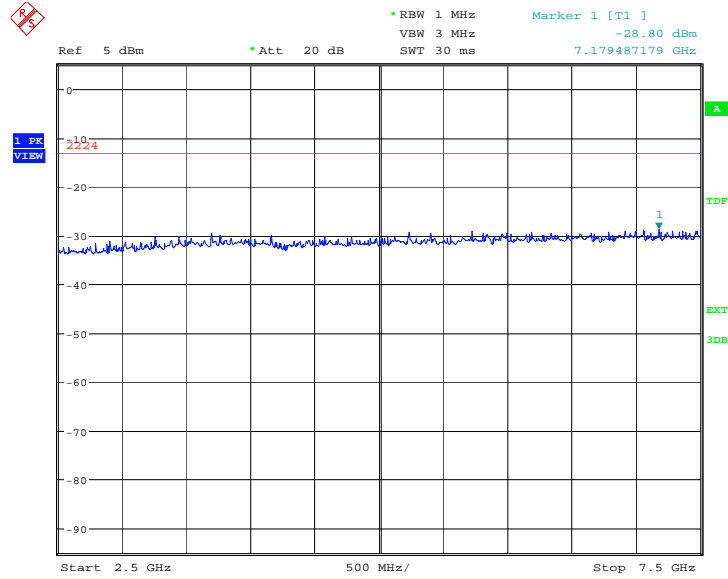
**NOTE: peak above the limit line is the carrier frequency.**



Date: 28.MAR.2013 00:43:57

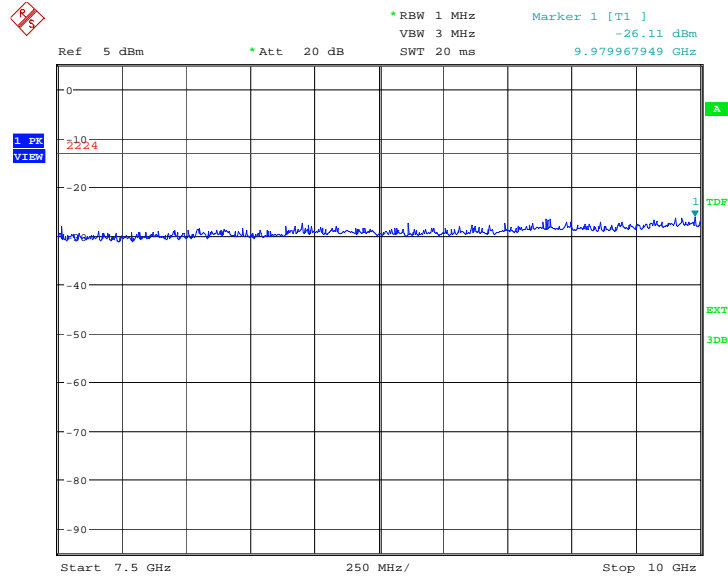


**A.8.3.9 Channel 9400: 2.5GHz –7.5GHz**  
Spurious emission limit –13dBm.



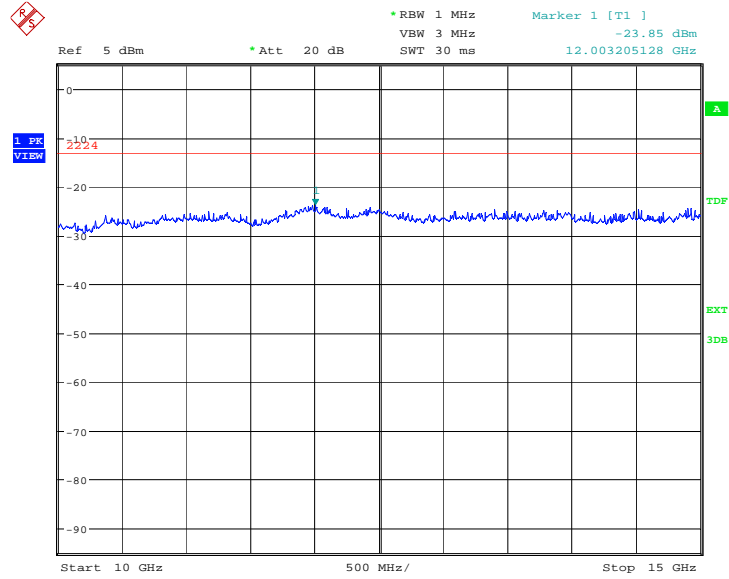
Date: 28.MAR.2013 00:44:25

**A.8.3.10 Channel 9400: 7.5GHz –10GHz**  
Spurious emission limit –13dBm.



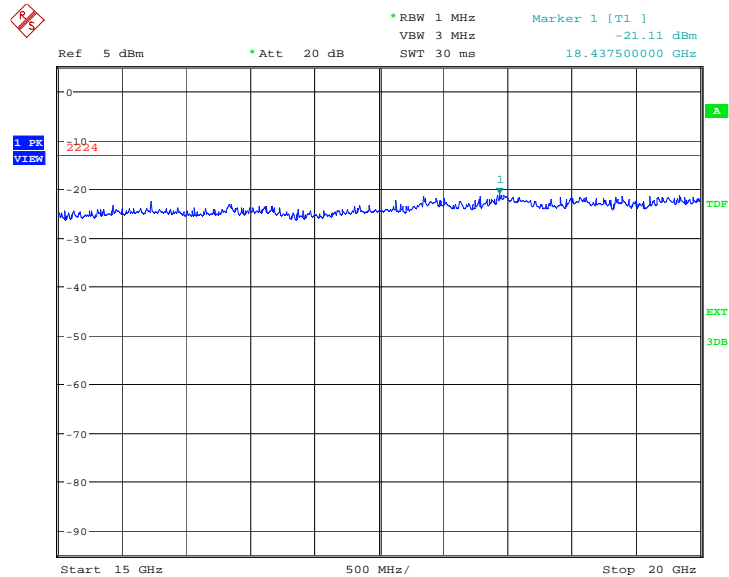
Date: 28.MAR.2013 00:44:53

**A.8.3.11 Channel 9400: 10GHz –15GHz**  
Spurious emission limit –13dBm.



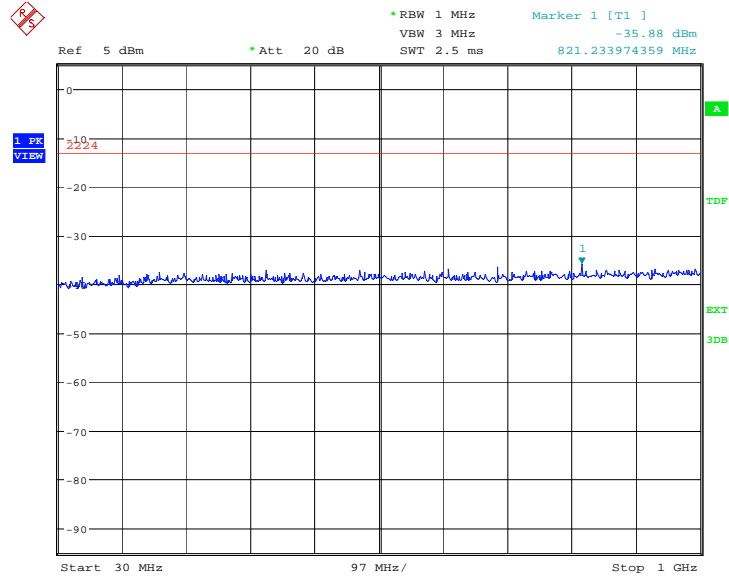
Date: 28.MAR.2013 00:45:21

**A.8.3.12 Channel 9400: 15GHz –20GHz**  
Spurious emission limit –13dBm.



Date: 28.MAR.2013 00:45:50

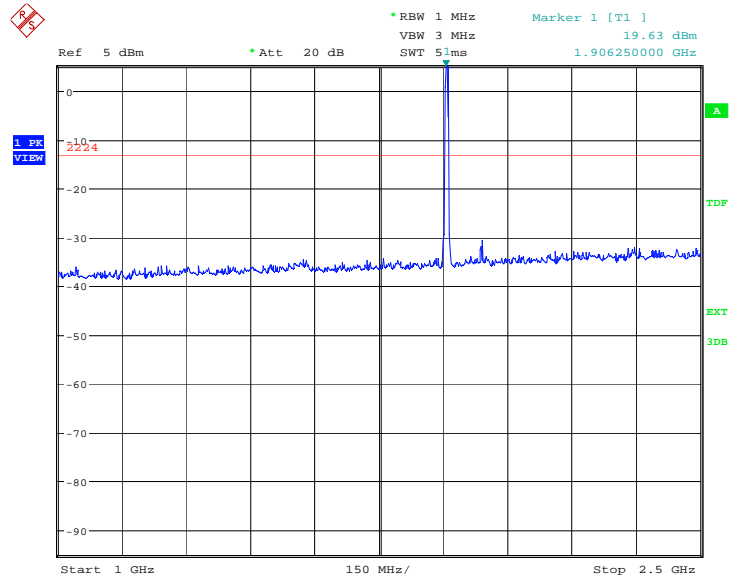
**A. 8.3.13 Channel 9538: 30MHz –1GHz**  
Spurious emission limit –13dBm.



Date: 28.MAR.2013 00:46:21

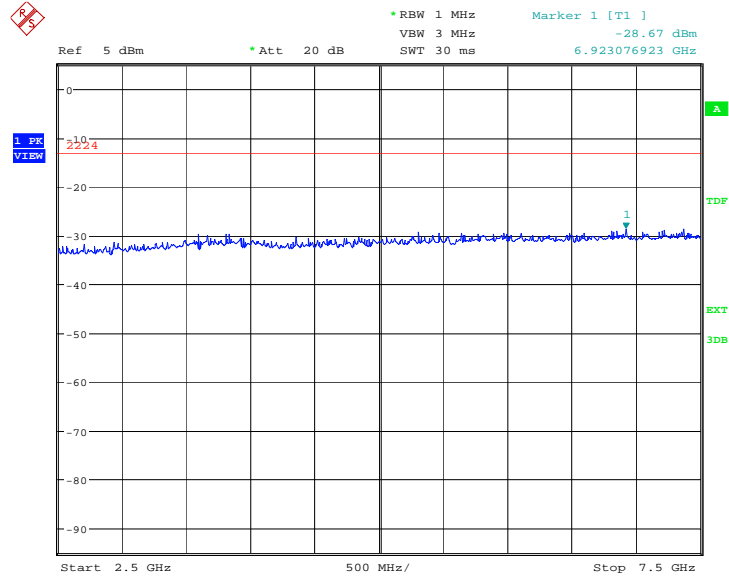
**A.8.3.14 Channel 9538: 1GHz –2.5GHz**  
Spurious emission limit –13dBm.

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



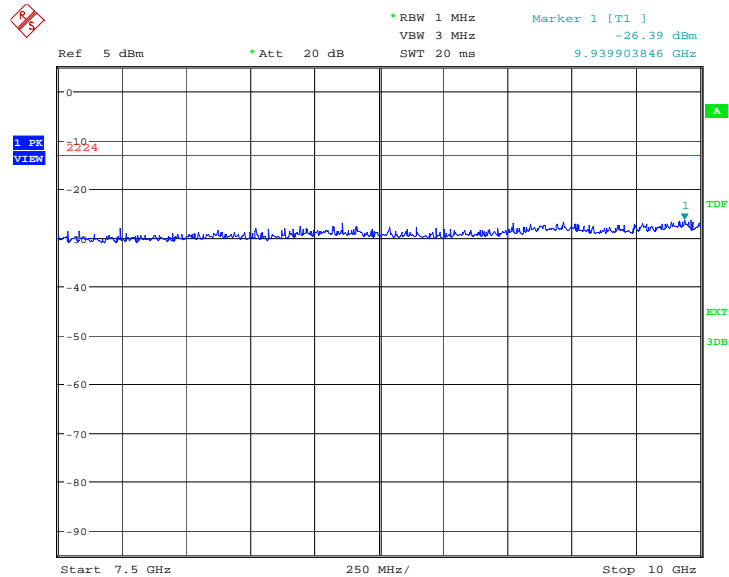
Date: 28.MAR.2013 00:46:49

**A.8.3.15 Channel 9538: 2.5GHz –7.5GHz**  
Spurious emission limit –13dBm.



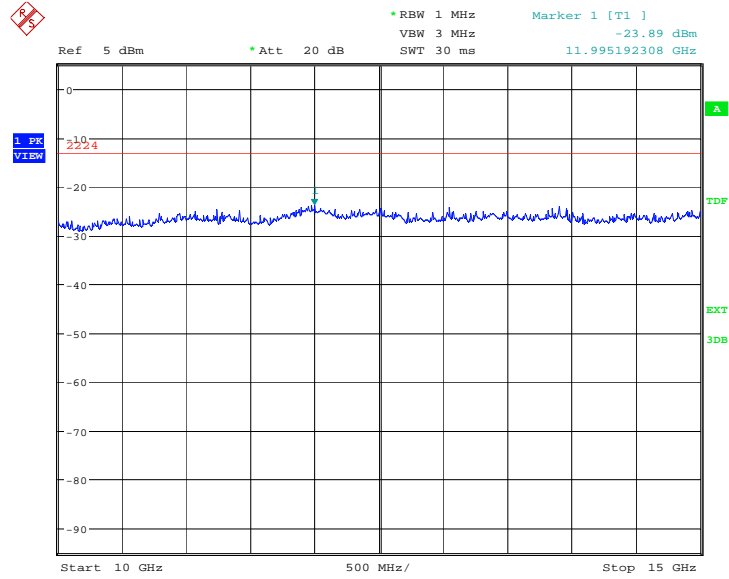
Date: 28.MAR.2013 00:47:17

**A.8.3.16 Channel 9538: 7.5GHz –10GHz**  
Spurious emission limit –13dBm.



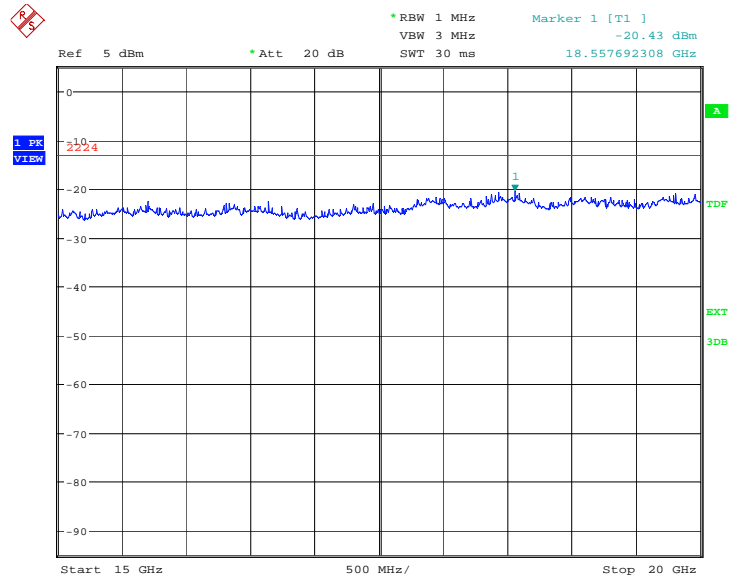
Date: 28.MAR.2013 00:47:45

**A.8.3.17 Channel 9538: 10GHz –15GHz**  
Spurious emission limit –13dBm.



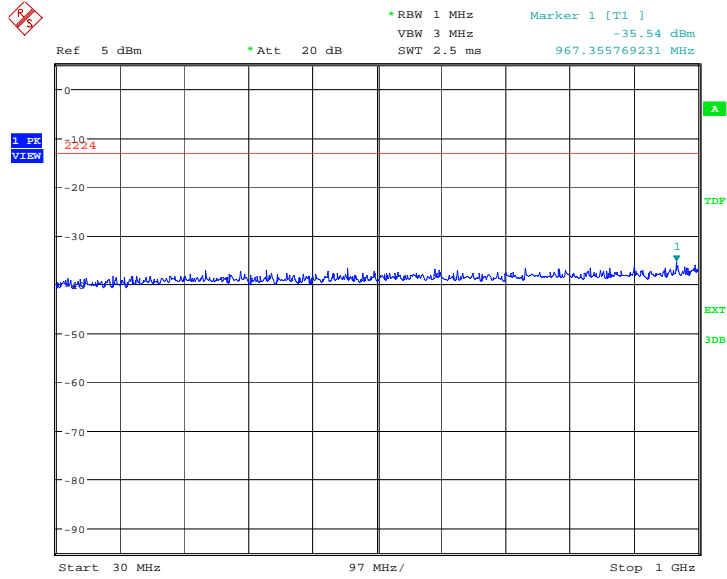
Date: 28.MAR.2013 00:48:13

**A.8.3.18 Channel 9538: 15GHz –20GHz**  
Spurious emission limit –13dBm.



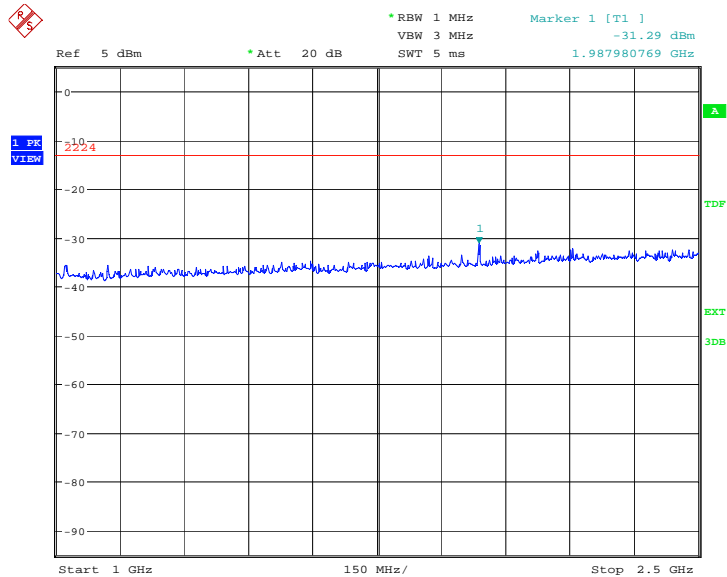
Date: 28.MAR.2013 00:48:42

**A. 8.3.19 Idle mode: 30MHz –1GHz**  
Spurious emission limit –13dBm.



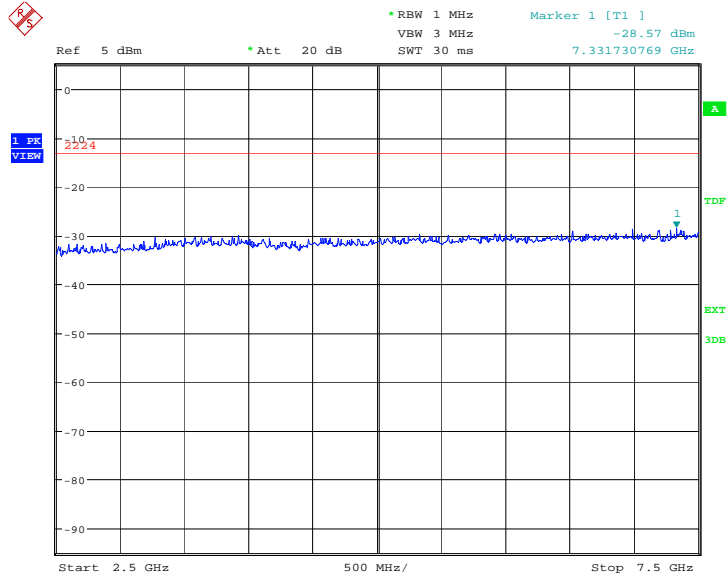
Date: 28.MAR.2013 00:49:11

**A.8.3.20 Idle mode: 1GHz –2.5GHz**  
Spurious emission limit –13dBm.



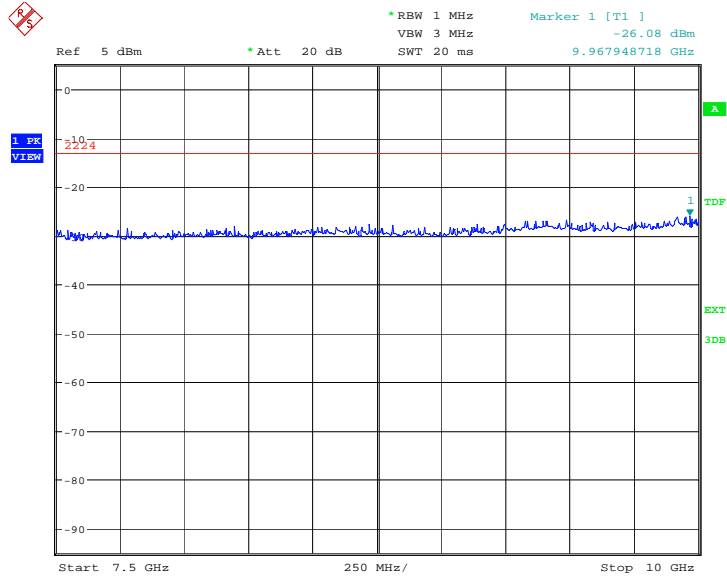
Date: 28.MAR.2013 00:49:39

**A.8.3.21 Idle mode: 2.5GHz –7.5GHz**  
Spurious emission limit –13dBm.



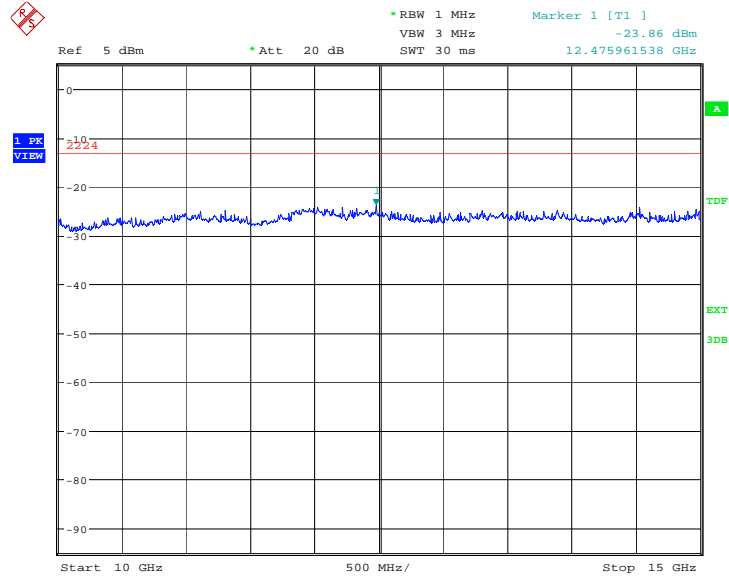
Date: 28.MAR.2013 00:50:07

**A.8.3.22 Idle mode: 7.5GHz –10GHz**  
Spurious emission limit –13dBm.



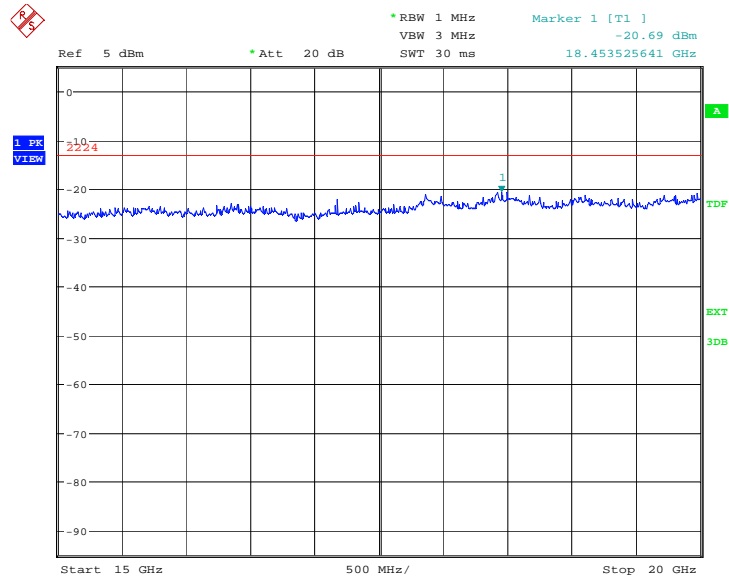
Date: 28.MAR.2013 00:50:35

**A.8.3.23 Idle mode: 10GHz –15GHz**  
Spurious emission limit –13dBm.



Date: 28.MAR.2013 00:51:03

**A.8.3.24 Idle mode: 15GHz –20GHz**  
Spurious emission limit –13dBm.



Date: 28.MAR.2013 00:51:32

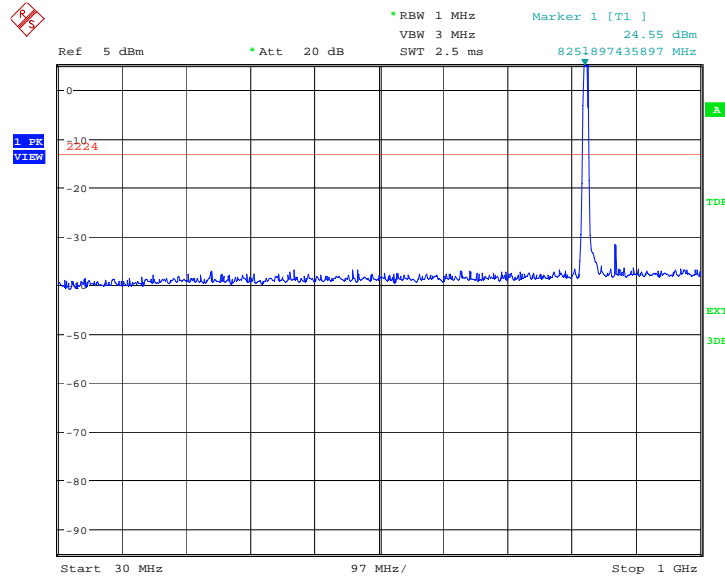


**WCDMA Band V**

**A.8.3.25 Channel 4132: 30MHz –1GHz**

Spurious emission limit –13dBm.

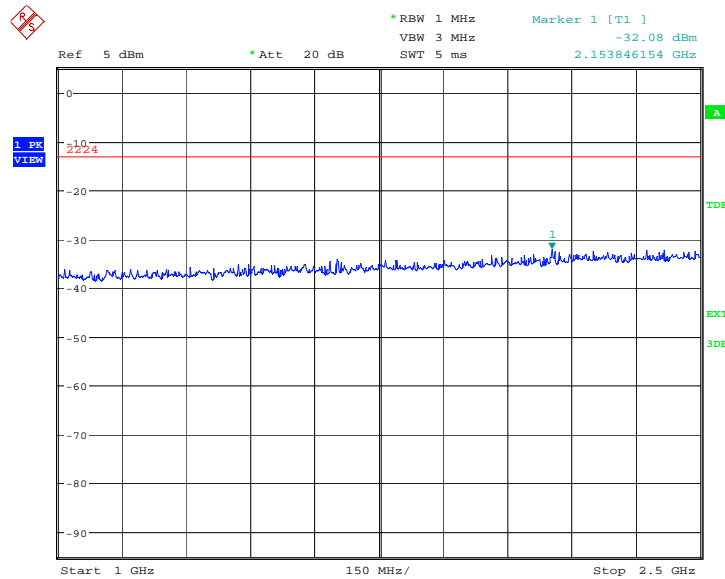
**NOTE: peak above the limit line is the carrier frequency.**



Date: 28.MAR.2013 01:33:54

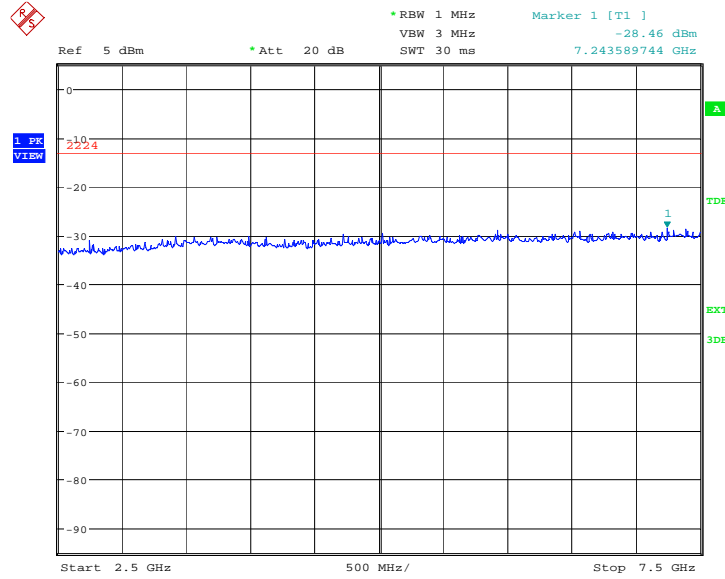
**A.8.3.26 Channel 4132: 1GHz – 2.5GHz**

Spurious emission limit –13dBm.



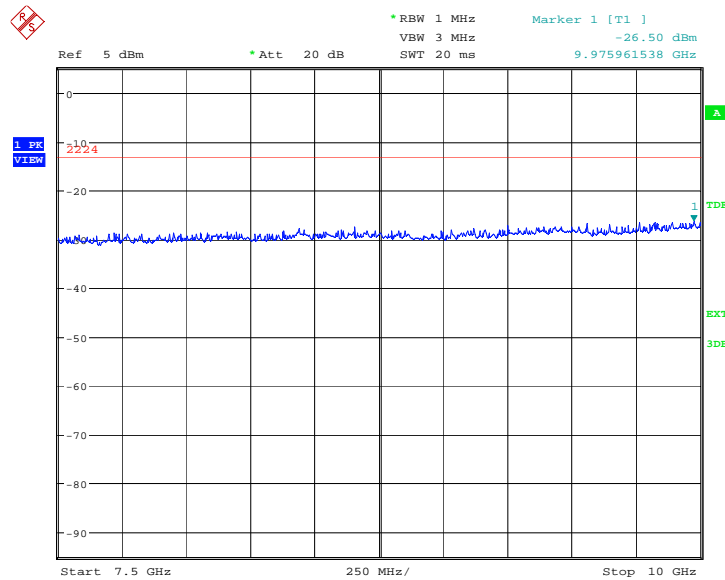
Date: 28.MAR.2013 01:34:22

**A.8.3.27 Channel 4132: 2.5GHz –7.5GHz**  
Spurious emission limit –13dBm.



Date: 28.MAR.2013 01:34:51

**A.8.3.28 Channel 4132: 7.5GHz – 10GHz**  
Spurious emission limit –13dBm.

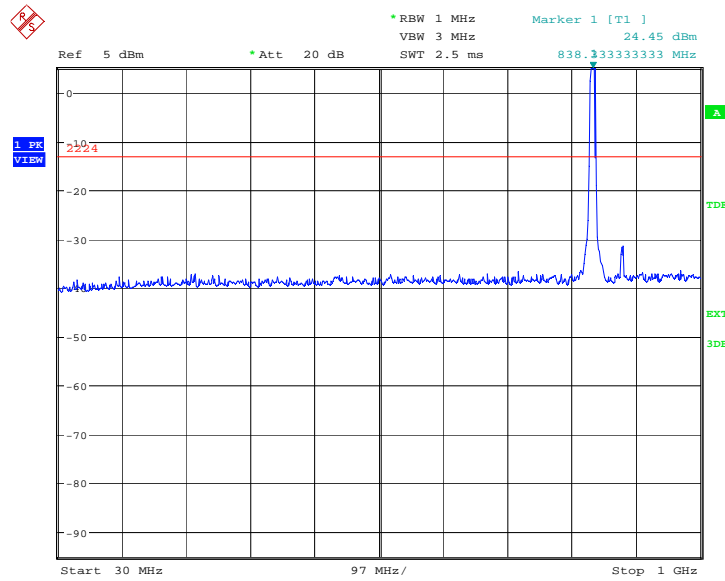


Date: 28.MAR.2013 01:35:19

### A.8.3.29 Channel 4183: 30MHz –1GHz

Spurious emission limit –13dBm.

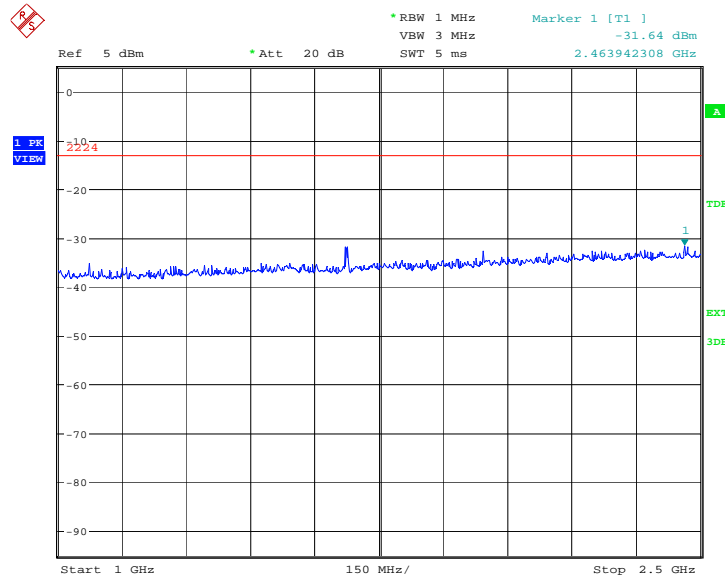
**NOTE: peak above the limit line is the carrier frequency.**



Date: 28.MAR.2013 01:35:50

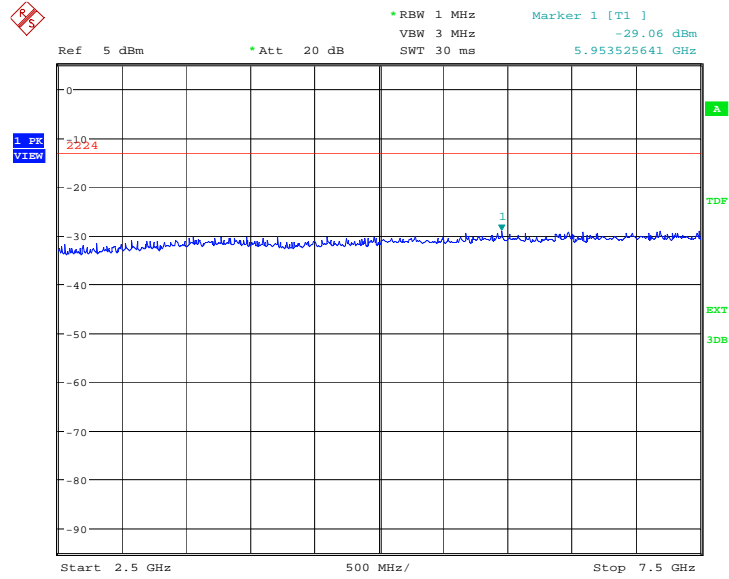
### A.8.3.30 Channel 4183: 1GHz – 2.5GHz

Spurious emission limit –13dBm.



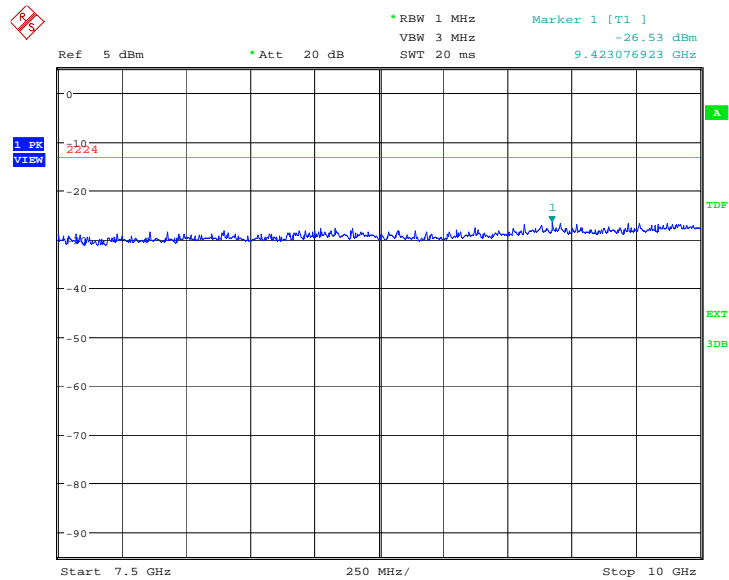
Date: 28.MAR.2013 01:36:18

**A.8.3.31 Channel 4183: 2.5GHz –7.5GHz**  
Spurious emission limit –13dBm.



Date: 28.MAR.2013 01:36:46

**A.8.3.32 Channel 4183: 7.5GHz – 10GHz**  
Spurious emission limit –13dBm.

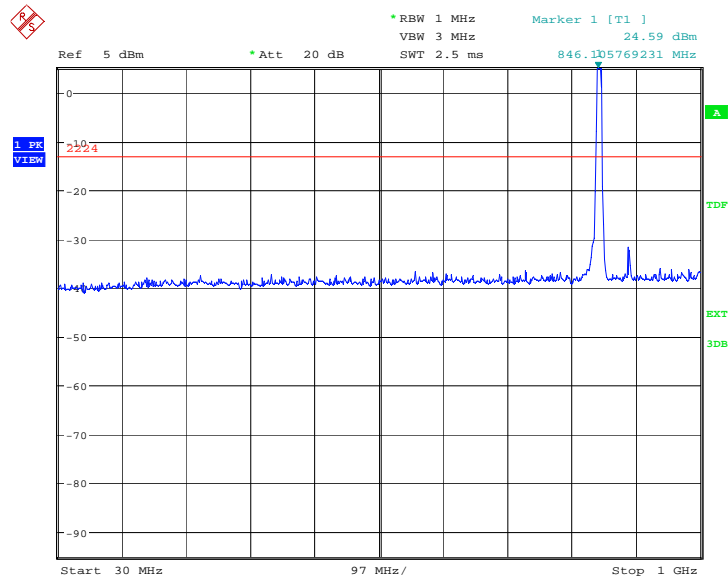


Date: 28.MAR.2013 01:37:14

### A.8.3.33 Channel 4233: 30MHz –1GHz

Spurious emission limit –13dBm.

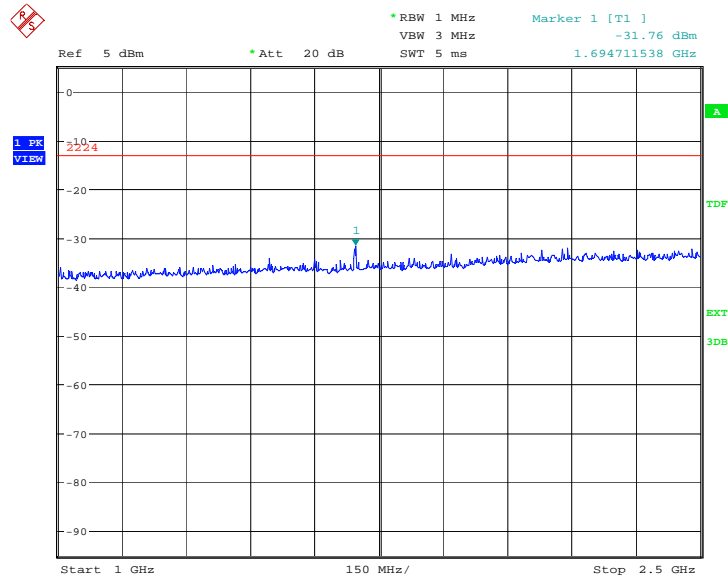
**NOTE: peak above the limit line is the carrier frequency.**



Date: 28.MAR.2013 01:37:45

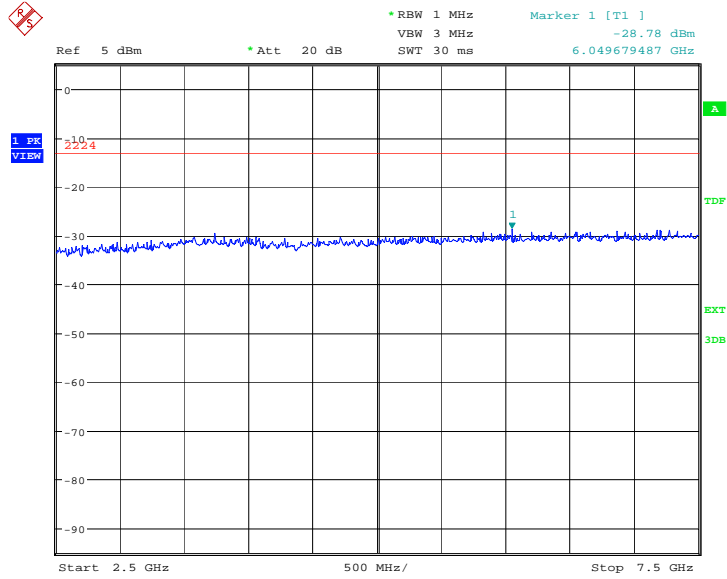
### A.8.3.34 Channel 4233: 1GHz – 2.5GHz

Spurious emission limit –13dBm.



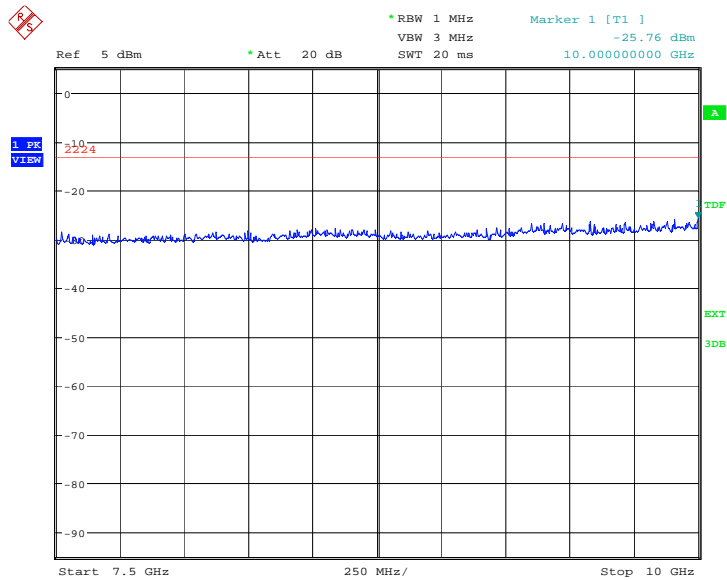
Date: 28.MAR.2013 01:38:13

**A.8.3.35 Channel 4233: 2.5GHz –7.5GHz**  
Spurious emission limit –13dBm.



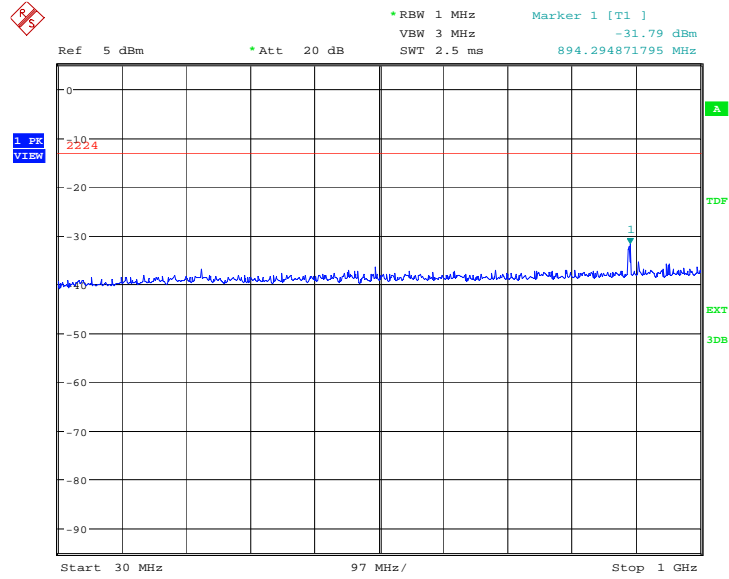
Date: 28.MAR.2013 01:38:42

**A.8.3.36 Channel 4233: 7.5GHz – 10GHz**  
Spurious emission limit –13dBm.



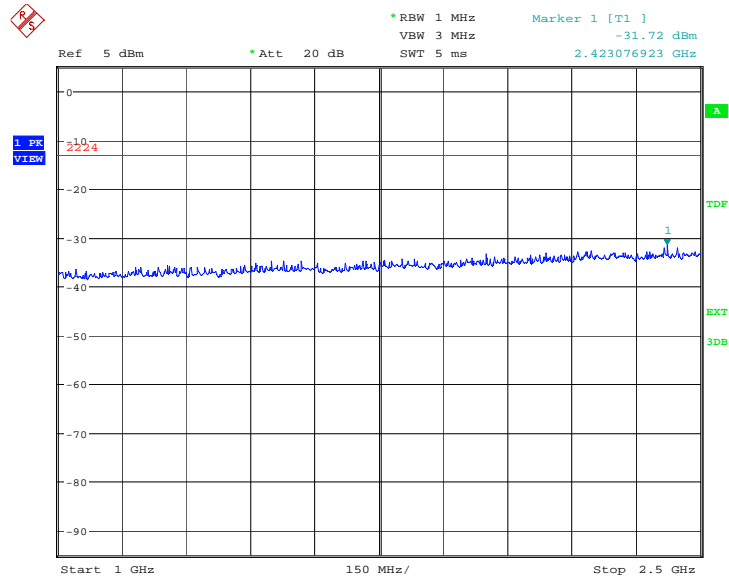
Date: 28.MAR.2013 01:39:10

**A.8.3.37 Idle mode: 30MHz – 1GHz**  
Spurious emission limit -13dBm.



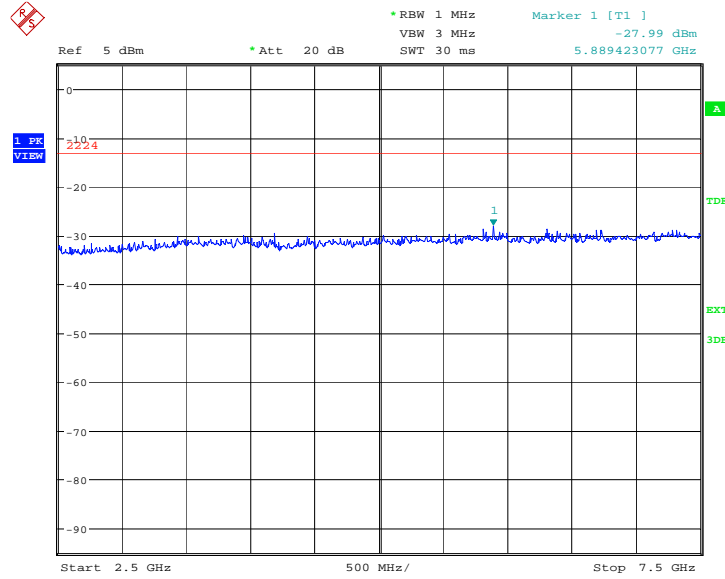
Date: 28.MAR.2013 01:39:39

**A.8.3.38 Idle mode: 1GHz – 2.5GHz**  
Spurious emission limit -13dBm.



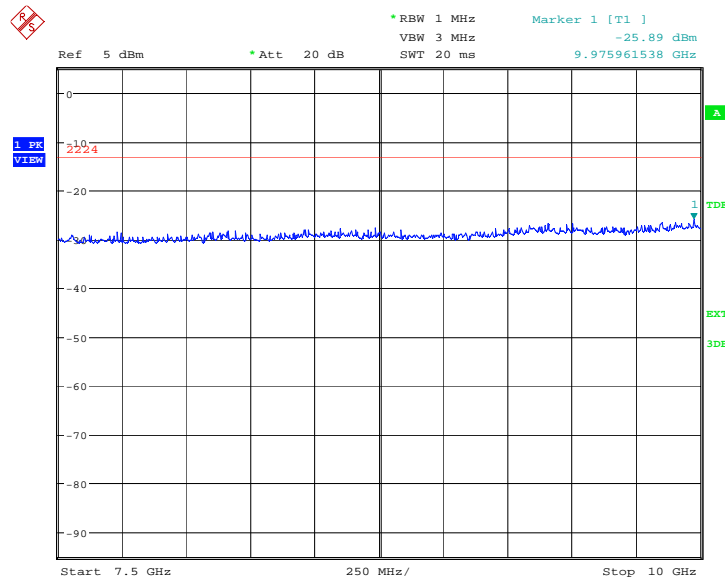
Date: 28.MAR.2013 01:40:07

**A.8.3.39 Idle mode: 2.5GHz – 7.5GHz**  
Spurious emission limit -13dBm.



Date: 28.MAR.2013 01:40:35

**A.8.3.40 Idle mode: 7.5GHz – 10GHz**  
Spurious emission limit -13dBm.



Date: 28.MAR.2013 01:41:03