



EMC TEST REPORT

No. I15Z40514-EMC12

for

Sony Mobile Communications Inc.

GSM/WCDMA/LTE device

FCC ID: PY7-PM0796

with

Hardware Version: A

Software Version: 28.0.A.0.684

Issued Date: 2015-05-19

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 CTTL Beijing.

Test Laboratory:

FCC 2.948 Listed: No. 525429

IC O.A.T.S listed: No. 12389A-1

CTTL, Telecommunication Technology Labs, Academy of Telecommunication Research, MIIT

No. 52, Huayuan North Road, Haidian District, Beijing, P. R. China 100191.

Tel:+86(0)10-62304633-2512, Fax:+86(0)10-62304633-2504

Email: ctl_terminals@catr.cn, website: www.chinattl.com



REPORT HISTORY

Report Number	Revision	Description	Issue Date
I15Z40514-EMC12	Rev.0	1st edition	2015-04-24
I15Z40514-EMC12	Rev.1	2st edition	2015-05-19

CONTENTS

1. TEST LABORATORY	4
1.1. TESTING LOCATION	4
1.2. TESTING ENVIRONMENT	4
1.3. PROJECT DATA	4
1.4. SIGNATURE	4
2. CLIENT INFORMATION	5
2.1. APPLICANT INFORMATION.....	5
2.2. MANUFACTURER INFORMATION.....	5
3. EQUIPMENT UNDER TEST (EUT) AND ANCILLARY EQUIPMENT (AE)	6
3.1. ABOUT EUT.....	6
3.2. INTERNAL IDENTIFICATION OF EUT USED DURING THE TEST	6
3.3. INTERNAL IDENTIFICATION OF AE USED DURING THE TEST.....	6
3.4. GENERAL DESCRIPTION	7
3.5. EUT SET-UPS	7
4. REFERENCE DOCUMENTS.....	8
4.1. REFERENCE DOCUMENTS FOR TESTING.....	8
5. LABORATORY ENVIRONMENT.....	9
6. SUMMARY OF TEST RESULTS.....	10
6.1. SUMMARY OF TEST RESULTS	10
6.2. STATEMENTS.....	11
7. TEST EQUIPMENTS UTILIZED.....	12
ANNEX A: MEASUREMENT RESULTS	13
A.1 OUTPUT POWER	13
A.2 EMISSION LIMIT	17
A.3 FREQUENCY STABILITY	22
A.4 OCCUPIED BANDWIDTH.....	25
A.5 EMISSION BANDWIDTH	32
A.6 BAND EDGE COMPLIANCE.....	38
A.7 CONDUCTED SPURIOUS EMISSION	42

1. Test Laboratory

1.1. Testing Location

Location 2: CTTL(Shouxiang)

Address: No. 51 Shouxiang Science Building, Xueyuan Road,
Haidian District, Beijing, P. R. China 100191

1.2. Testing Environment

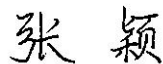
Normal Temperature: 15-35℃
Relative Humidity: 20-75%
Air pressure 980 - 1040 hPa

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 2015-03-20
Testing Start Date: 2015-03-27
Testing End Date: 2015-04-22

1.4. Signature



Zhang Ying
(Prepared this test report)



Qu Pengfei
(Reviewed this test report)



Liu Baodian
(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
Fax: +86-10-58659049

2.2. Manufacturer Information

Company Name: Sony Mobile Communications Inc.
Address /Post: 1-8-15 Konan, Minato-ku, Tokyo, 108-0075, Japan
City: Tokyo
Postal Code: 108-0075
Country: Japan

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

3.1. About EUT

Description	GSM, GPRS, EDGE, WCDMA, HSDPA, HSUPA, LTE Bluetooth (EDR and BLE), ANT+, WLAN (802.11 a/ac/b/g/n), NFC, FM, GPS device
FCC ID	PY7-PM0796
Antenna	Internal
Power supply	Battery (charged by travel adapter or vehicle charger)
Extreme vol. Limits	3.6VDC to 4.2VDC (nominal: 3.8VDC)
Extreme temp. Tolerance	-10°C to +55°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	IMEI	HW Version	SW Version
EUT9	CB5A24YCVK	004402148060381	A	28.0.A.0.684
EUT11	/	004402148060001	A	28.0.A.0.684

*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	SN	Revision
AE21	Embedded Battery	/	/

AE21

Model name	1288-9125
Manufacturer	Sony Mobile
Minimum Capacitance	2930 mAh
Nominal Voltage	3.8 V

*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/LTE Device with integrated antenna and embedded battery.

The EUT supports GSM, WCDMA and LTE. It supports GPRS service with multi-slots class 33 and EGPRS service with multi-slots class 33. The HSDPA (Cat 24) and HSUPA (Cat 6) features are also supported.

It has MP3, camera, USB memory, FM radio, GPS receiver, NFC, Bluetooth (EDR, BLE), ANT+, WLAN (802.11 a/ac/b/g/n) and Wi-Fi hotspot functions.

It consists of normal options: embedded battery.

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.4	EUT9 + AE21	ERP/EIRP/RSE tests
Set.20	AE11	Conducted RF tests



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 22	PUBLIC MOBILE SERVICES	10-1-13 Edition
FCC Part 24	PERSONAL COMMUNICATIONS SERVICES	10-1-13 Edition
FCC Part 27	MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES	10-1-13 Edition
ANSI/TIA-603-C	Land Mobile FM or PM Communications Equipment Measurement and Performance Standards	2004
KDB 971168 D01	Measurement Guidance for Certification of Licensed Digital Transmitters	v02r01

5. LABORATORY ENVIRONMENT

Semi-anechoic chamber SAC-1 (23 meters×17meters×10meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. = 15 %, Max. = 75 %
Shielding effectiveness	0.014MHz - 1MHz, >60dB; 1MHz - 1000MHz, >90dB.
Electrical insulation	> 2 MΩ
Ground system resistance	< 4Ω
Normalised site attenuation (NSA)	< ± 4 dB, 3m/10m distance, from 30 to 1000 MHz
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

Fully-anechoic chamber FAC-3 (9 meters×6.5 meters×4 meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. = 15 %, Max. = 75 %
Shielding effectiveness	0.014MHz - 1MHz, >60dB; 1MHz - 1000MHz, >90dB.
Electrical insulation	> 2 MΩ
Ground system resistance	< 4 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

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

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. = 20 %, Max. = 75 %
Shielding effectiveness	0.014MHz - 1MHz, >60dB; 1MHz - 1000MHz, >90dB.
Electrical insulation	> 2 MΩ
Ground system resistance	< 4 Ω

6. SUMMARY OF TEST RESULTS

6.1. Summary of test results

Abbreviations used in this clause:		
Verdict Column	P	Pass
	F	Fail
	NA	Not applicable
	NM	Not measured
Location Column	1/2/3/4	The test is performed in test location 1, 2, 3 or 4 which are described in section 1.1 of this report

WCDMA Band II

Items	Test Name	Clause in FCC rules	Section in this report	Verdict	Test Location
1	Output Power	24.232(c)	5.4	A.1	2
2	Emission Limit	24.238(a), 2.1051	5.5	A.2	2
3	Frequency Stability	24.235, 2.1055	5.3	A.3	2
4	Occupied Bandwidth	2.1049(h)(i)	5.5	A.4	2
5	Emission Bandwidth	24.238(a)	5.5	A.5	2
6	Band Edge Compliance	24.238(a)	5.5	A.6	2
7	Conducted Spurious Emission	24.238(a), 2.1057	5.5	A.7	2

WCDMA Band IV

Items	Test Name	Clause in FCC rules	Section in this report	Verdict	Test Location
1	Output Power	27.50(d)(4)	5.4	A.1	2
2	Emission Limit	27.53(h), 2.1051	5.5	A.2	2
3	Frequency Stability	27.54, 2.1055	5.3	A.3	2
4	Occupied Bandwidth	2.1049(h)(i)	5.5	A.4	2
5	Emission Bandwidth	27.53(h)	5.5	A.5	2
6	Band Edge Compliance	27.53(h)	5.5	A.6	2
7	Conducted Spurious Emission	27.53(h), 2.1057	5.5	A.7	2

WCDMA Band V

Items	Test Name	Clause in FCC rules	Section in this report	Verdict	Test Location
1	Output Power	22.913(a)	5.4	A.1	2
2	Emission Limit	22.917, 2.1051	5.5	A.2	2
3	Frequency Stability	22.355, 2.1055	5.3	A.3	2
4	Occupied Bandwidth	2.1049(h)(i)	5.5	A.4	2
5	Emission Bandwidth	22.917(b)	5.5	A.5	2
6	Band Edge Compliance	22.917(b)	5.5	A.6	2
7	Conducted Spurious Emission	22.917, 2.1057	5.5	A.7	2

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.	NAME	TYPE	SERIES NUMBER	PRODUCER	CAL. DUE DATE	CAL. INTERVAL
1.	EMI Antenna	VULB 9163	9163-235	Schwarzbeck	2017-10-29	3 Years
2.	EMI Antenna	3117	00119024	ETS-Lindgren	2017-01-20	3 Years
3.	EMI Antenna	9117	167	Schwarzbeck	2016-04-01	3 Years
4.	EMI Antenna	3117	00058889	ETS-Lindgren	2017-12-15	3 Years
5.	Signal Generator	N5183A	MY49060052	Agilent	2016-03-02	1 Year
6.	Power Amplifier	5S1G4	0341863	AR	/	1 Year
7.	Universal Radio Communication Tester	E5515C	MY48363198	Agilent	2015-07-06	1 Year
8.	Spectrum Analyzer	E4440A	MY48250642	Agilent	2016-03-02	1 Year
9.	Climatic chamber	SH-641	92014694	ESPEC	2015-11-27	1 Year
10.	Universal Radio Communication Tester	CMW500	101675	2015-07-13	2015-07-13	1 Year

ANNEX A: MEASUREMENT RESULTS

A.1 OUTPUT POWER

Reference

FCC: CFR Part 22.913(a), 24.232(b), 27.50(d)(4).

A.1.1 Summary

During the process of testing, the EUT was controlled via Rhode & Schwarz Digital Radio Communication tester (CMU200) to ensure max power transmission and proper modulation.

This result contains peak output power and ERP/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 spectrum analyzer's peak detector.

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; 1712.4MHz, 1740.0 MHz and 1752.6 MHz for WCDMA Band IV; 826.4 MHz, 836.6 MHz and 846.6 MHz for WCDMA Band V.

A.1.2.2 Measurement result

WCDMA Band II

WCDMA (Band II)	Channel number	Frequency(MHz)	output power(dBm)
	9262	1852.4	24.11
	9400	1880.0	24.27
	9538	1907.6	23.40

WCDMA Band IV

WCDMA (Band IV)	Channel number	Frequency(MHz)	output power(dBm)
	4132	826.4	24.26
	4183	836.6	23.85
	4233	846.6	24.23

WCDMA Band V

WCDMA (Band V)	Channel number	Frequency(MHz)	output power(dBm)
	4132	826.4	24.09
	4183	836.6	24.26
	4233	846.6	23.88

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."

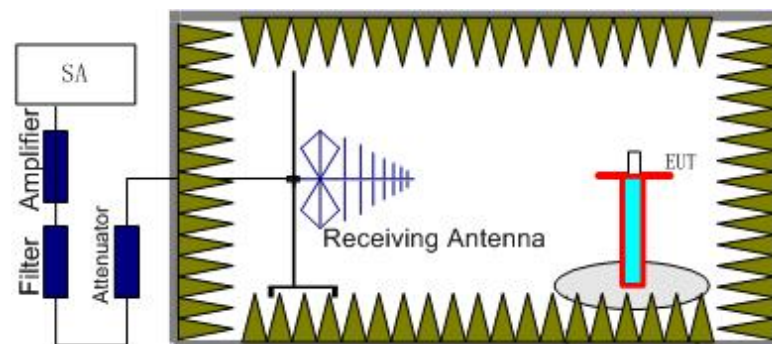
Rule Part 24.232(b) specifies, "Mobile/portable stations are limited to 2 watts e.i.r.p. Peak power" and 24.232(c) specifies that "Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage."

Rule Part 27.50(d) specifies "Fixed, mobile, and portable (handheld) stations operating in the 1710–1755 MHz band are limited to 1 watt EIRP".

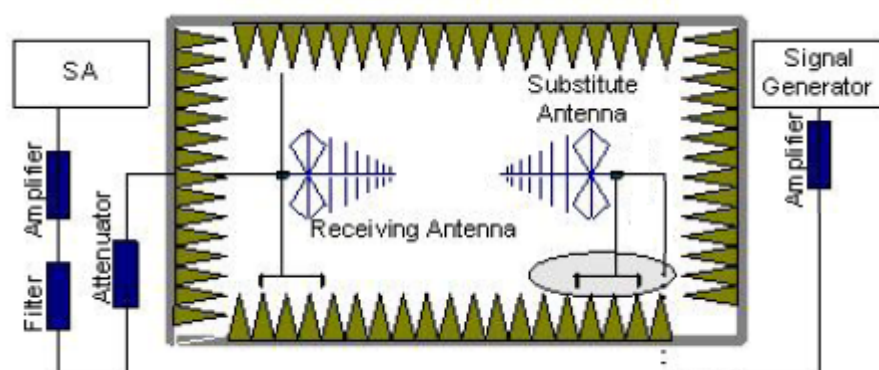
A.1.3.2 Method of Measurement

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, 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 (Unit 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

Band	Peak EIRP (dBm)
WCDMA Band II	$\leq 33\text{dBm}$ (2W)

Measurement result

Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	P_{Ag} (dB)	G_a (dBi)	Peak EIRP(dBm)	Polarization
1852.40	-27.16	2.84	-43.75	-4.87	18.62	Horizontal
1880.00	-25.26	2.85	-43.75	-4.82	20.46	Horizontal
1907.60	-24.82	2.88	-43.77	-4.77	20.84	Vertical

Sample calculation: 1907.60MHz

$$\begin{aligned} \text{Peak EIRP (dBm)} &= P_{Mea}(-24.82\text{dBm}) - G_a(-4.77\text{dBi}) - P_{Ag}(-43.77\text{ dB}) - P_{cl}(2.88\text{dB}) \\ &= 20.84\text{ dBm} \end{aligned}$$

ANALYZER SETTINGS: RBW = VBW = 5MHz

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

WCDMA Band IV- EIRP

Limits

Band	Peak EIRP (dBm)
WCDMA Band IV	≤30dBm (1W)

Measurement result

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	P _{Ag} (dB)	G _a (dBi)	Peak EIRP(dBm)	Polarization
1712.40	-26.66	3.66	-44.10	-5.12	18.90	Vertical
1740.00	-25.61	4.36	-44.15	-5.07	19.25	Vertical
1752.60	-24.44	3.85	-44.14	-5.05	20.90	Vertical

Sample calculation: 1712.40MHz

$$\begin{aligned} \text{Peak EIRP (dBm)} &= P_{\text{Mea}}(-24.44\text{dBm}) - G_a(-5.05\text{dBi}) - P_{\text{Ag}}(-44.14\text{ dB}) - P_{\text{cl}}(3.85\text{dB}) \\ &= 20.90\text{ dBm} \end{aligned}$$

ANALYZER SETTINGS: RBW = VBW = 5MHz

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

WCDMA Band V- ERP

Limits

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

Measurement result

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	P _{Ag} (dB)	G _a (dBi)	Correction (dB)	Peak ERP(dBm)	Polarization
826.40	-23.27	2.25	-45.76	-0.93	2.15	19.02	Horizontal
836.60	-22.93	2.26	-45.66	-0.82	2.15	19.14	Vertical
846.60	-22.33	2.26	-45.56	-0.81	2.15	19.63	Vertical

Sample calculation: 846.6MHz

$$\begin{aligned} \text{Peak ERP (dBm)} &= P_{\text{Mea}}(-22.33\text{dBm}) - G_a(-0.81\text{dBi}) - P_{\text{Ag}}(-45.56\text{dB}) - P_{\text{cl}}(2.26\text{dB}) - 2.15 \\ &= 19.63\text{ dBm} \end{aligned}$$

ANALYZER SETTINGS: RBW = VBW = 5MHz

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), 27.53(h).

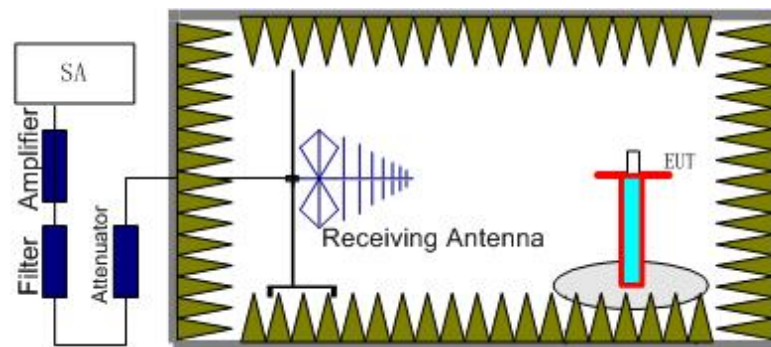
A.2.1 Measurement Method

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

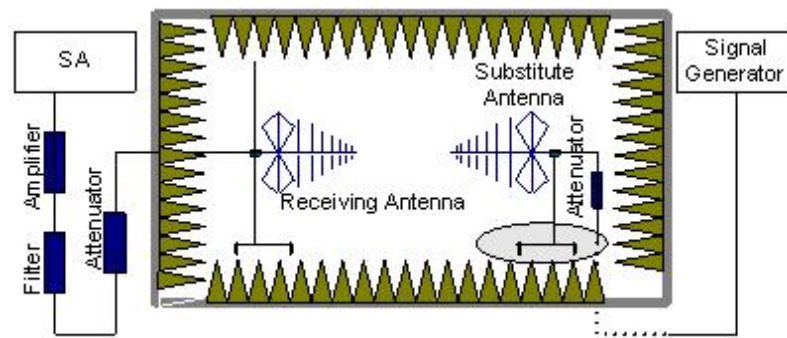
The spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment, which is the transmitted carrier that can be as high as 1910 MHz. The resolution bandwidth is set 1MHz as outlined in Part 22.917, Part 24.238 and Part 27.53(h). The spectrum was scanned with the mobile station transmitting at carrier frequencies that pertain to low, mid and high channels of WCDMA Band II, WCDMA Band IV 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, 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. 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 (unit: dBi) and known input power.
6. ERP can be calculated from EIRP by subtracting the gain of the dipole, $ERP = EIRP - 2.15\text{dB}$.

A.2.2 Measurement Limit

Part 22.917(a), 24.238(a) and 27.53(h) 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), WCDMA Band IV(1712.4MHz, 1740.0 MHz and 1752.6 MHz) 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, WCDMA Band IV 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 _{Mea} (dBm)	P _{pl} (dB)	G _a (dBi)	Peak EIRP (dBm)	Limit (dBm)	Polarity
3711.58	-59.78	5.36	-8.50	-56.64	-13.00	Vertical
6139.45	-56.08	6.88	-10.64	-52.32	-13.00	Vertical
8091.04	-57.30	7.40	-12.67	-52.03	-13.00	Vertical
9957.22	-55.26	8.55	-12.94	-50.87	-13.00	Horizontal
12629.75	-52.73	9.51	-13.28	-48.96	-13.00	Vertical
15953.27	-46.47	10.97	-13.70	-43.74	-13.00	Horizontal

WCDMA BAND II, Channel 9400/1880MHz

Frequency (MHz)	P _{Mea} (dBm)	P _{pl} (dB)	G _a (dBi)	Peak EIRP (dBm)	Limit (dBm)	Polarity
3782.20	-60.24	5.01	-8.60	-56.65	-13.00	Horizontal
4640.57	-56.61	6.05	-9.54	-53.12	-13.00	Vertical
7375.92	-57.30	6.99	-12.05	-52.24	-13.00	Vertical
9025.92	-55.62	8.06	-13.12	-50.56	-13.00	Vertical
10617.30	-55.00	8.48	-13.12	-50.36	-13.00	Vertical
14844.08	-48.81	10.42	-14.12	-45.11	-13.00	Vertical

WCDMA BAND II, Channel 9538/1907.6MHz

Frequency (MHz)	P _{Mea} (dBm)	P _{pl} (dB)	G _a (dBi)	Peak EIRP (dBm)	Limit (dBm)	Polarity
3276.82	-60.64	5.16	-7.66	-58.14	-13.00	Vertical
4630.08	-58.53	5.99	-9.53	-54.99	-13.00	Horizontal
6823.40	-57.49	7.13	-11.39	-53.23	-13.00	Horizontal
9750.27	-56.41	8.29	-13.15	-51.55	-13.00	Horizontal
12411.31	-52.09	9.42	-13.16	-48.35	-13.00	Horizontal
13615.03	-49.51	10.19	-14.27	-45.43	-13.00	Horizontal

WCDMA BAND IV, Channel 1312/1712.4MHz

Frequency (MHz)	P _{Mea} (dBm)	P _{pl} (dB)	G _a (dBi)	Peak EIRP (dBm)	Limit (dBm)	Polarity
3300.30	-58.66	5.38	-7.72	-56.32	-13.00	Vertical
5361.03	-58.72	6.65	-10.41	-54.96	-13.00	Horizontal
7709.55	-56.49	7.29	-12.37	-51.41	-13.00	Horizontal
9531.56	-56.78	8.31	-13.37	-51.72	-13.00	Vertical
11686.52	-53.81	8.79	-13.06	-49.54	-13.00	Vertical
13573.84	-49.53	9.91	-14.24	-45.20	-13.00	Horizontal

WCDMA BAND IV, Channel 1450/1740.0MHz

Frequency (MHz)	P _{Mea} (dBm)	P _{pl} (dB)	G _a (dBi)	Peak EIRP (dBm)	Limit (dBm)	Polarity
3564.65	-59.41	5.47	-8.29	-56.59	-13.00	Vertical
5519.52	-59.27	6.66	-10.60	-55.33	-13.00	Horizontal
8330.00	-56.68	7.97	-12.86	-51.79	-13.00	Vertical
9918.55	-56.82	8.15	-12.98	-51.99	-13.00	Horizontal
14439.93	-48.57	10.24	-14.41	-44.40	-13.00	Vertical
16819.70	-43.03	11.45	-13.73	-40.75	-13.00	Vertical

WCDMA BAND IV, Channel 1513/1752.6MHz

Frequency (MHz)	P _{Mea} (dBm)	P _{pl} (dB)	G _a (dBi)	Peak EIRP (dBm)	Limit (dBm)	Polarity
3616.83	-56.78	5.55	-8.36	-53.97	-13.00	Vertical
5540.88	-59.75	6.65	-10.59	-55.81	-13.00	Horizontal
8606.89	-56.20	7.71	-13.02	-50.89	-13.00	Horizontal
11576.07	-52.08	9.05	-13.08	-48.05	-13.00	Vertical
14163.31	-47.90	10.70	-14.47	-44.13	-13.00	Vertical
15907.47	-47.69	10.99	-13.70	-44.98	-13.00	Vertical

WCDMA BAND V, Channel 4132/826.4MHz

Frequency (MHz)	P _{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP(dBm)	Limit (dBm)	Polarization
3390.53	-58.67	5.43	-7.94	2.15	-58.31	-13.00	Vertical
4077.03	-59.36	5.59	-8.98	2.15	-58.12	-13.00	Vertical
4688.25	-59.33	6.10	-9.59	2.15	-57.99	-13.00	Horizontal
5596.07	-58.11	6.72	-10.58	2.15	-56.40	-13.00	Vertical
6304.05	-57.17	7.01	-10.80	2.15	-55.53	-13.00	Vertical
6891.33	-56.88	6.83	-11.47	2.15	-54.39	-13.00	Vertical

WCDMA BAND V, Channel 4183/836.6MHz

Frequency (MHz)	P _{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP(dBm)	Limit (dBm)	Polarization
3129.69	-58.69	5.25	-7.31	2.15	-58.78	-13.00	Vertical
3723.56	-58.16	5.33	-8.51	2.15	-57.13	-13.00	Vertical
4487.27	-57.56	5.95	-9.39	2.15	-56.27	-13.00	Vertical
5078.90	-58.76	6.41	-10.01	2.15	-57.31	-13.00	Horizontal
5971.24	-57.54	7.00	-10.51	2.15	-56.18	-13.00	Vertical
7114.82	-58.97	7.42	-11.74	2.15	-56.80	-13.00	Vertical

WCDMA BAND V, Channel 4233/846.6MHz

Frequency (MHz)	P _{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP(dBm)	Limit (dBm)	Polarization
3050.32	-57.92	5.00	-7.12	2.15	-57.95	-13.00	Vertical
3490.93	-59.87	5.41	-8.18	2.15	-59.25	-13.00	Horizontal
4089.91	-59.30	5.67	-8.99	2.15	-58.13	-13.00	Vertical
5564.85	-59.68	6.58	-10.59	2.15	-57.82	-13.00	Horizontal
6256.71	-57.77	6.78	-10.76	2.15	-55.94	-13.00	Horizontal
7666.29	-56.84	7.54	-12.33	2.15	-54.20	-13.00	Vertical

Note: Expanded measurement uncertainty for this test item is $U = 4.2$ dB, $k = 2$.

A.3 FREQUENCY STABILITY

Reference

FCC: CFR Part 2.1055, 22.355, 24.235, 27.54.

A.3.1 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 Band 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 1.5 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 1.5 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 1.5 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.3.2 Measurement Limit

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. 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 3.6VDC and 4.2VDC, with a nominal voltage of 3.8VDC. 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 from -5.4% to 10.8%. For the purposes of measuring frequency stability these voltage limits are to be used.

A.3.3 Measurement results

WCDMA Band II

Room Temperature: 24 °C

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)	Frequency error (ppm)
3.6	-12	0.006
4.2	12	0.007
3.8	13	0.007

Frequency Error vs Temperature

Temperature (°C)	Frequency error (Hz)	Frequency error (ppm)
50°	-11	0.006
40°	-31	0.016
30°	-15	0.008
20°	-14	0.007
10°	-14	0.008
0°	13	0.007
- 10°	-8	0.004
- 20°	-10	0.005
- 30°	13	0.007

WCDMA Band IV

Room Temperature: 24°C

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)	Frequency error (ppm)
3.6	-10	0.006
4.2	-17	0.010
3.8	15	0.008

Frequency Error vs Temperature

Temperature (°C)	Frequency error (Hz)	Frequency error (ppm)
50°	14	0.008
40°	-11	0.006
30°	8	0.005
20°	-19	0.011
10°	10	0.006
0°	17	0.010
- 10°	10	0.006
- 20°	-9	0.005
- 30°	-16	0.009

WCDMA Band V**Room Temperature: 24°C****Frequency Error vs Voltage**

Voltage (V)	Frequency error (Hz)	Frequency error (ppm)
3.6	-12	0.014
4.2	9	0.011
3.8	11	0.013

Frequency Error vs Temperature

Temperature (°C)	Frequency error (Hz)	Frequency error (ppm)
50°	9	0.010
40°	7	0.008
30°	-9	0.011
20°	14	0.017
10°	-7	0.009
0°	-14	0.017
- 10°	-12	0.015
- 20°	-11	0.014
- 30°	-12	0.014

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

A.4 OCCUPIED BANDWIDTH

Reference

FCC: CFR Part 2.1049(h)(i)

A.4.1 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 the US Cellular/PCS frequency bands. The table below lists the measured 99% BW. Spectrum analyzer plots are included on the following pages.

The measurement method is from KDB 971168 v02r01 4.2:

- a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be set wide enough to capture all modulation products including the emission skirts (i.e., two to five times the OBW).
- b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.
- c) Set the reference level of the instrument as required to keep the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope must be at least $10\log(\text{OBW} / \text{RBW})$ below the reference level.
- d) Set the detection mode to peak, and the trace mode to max hold.
- e) Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

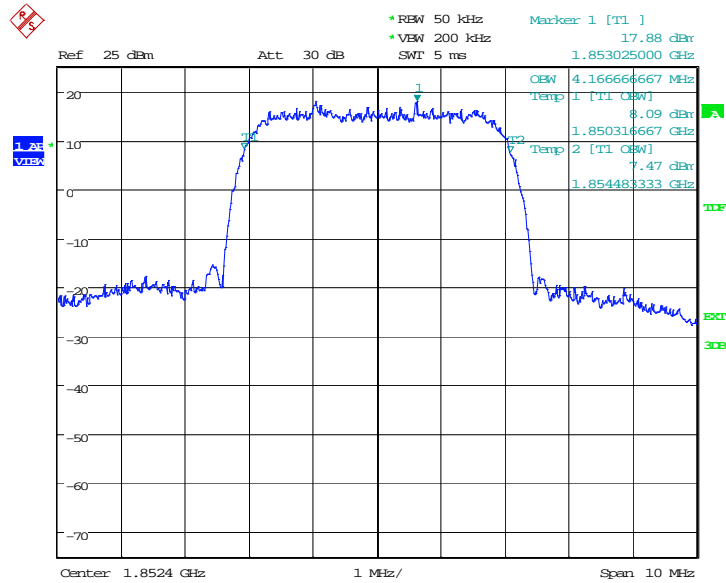
WCDMA Band II (99% BW) per FCC rules

Frequency(MHz)	Occupied Bandwidth (99% BW)(MHz)
1852.4	4.167
1880.0	4.167
1907.6	4.151

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

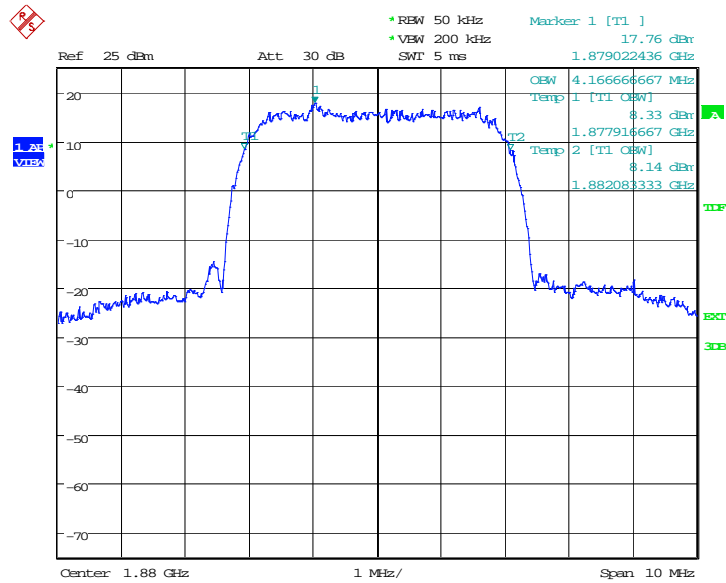
WCDMA Band II

Channel 9262-Occupied Bandwidth (99% BW)



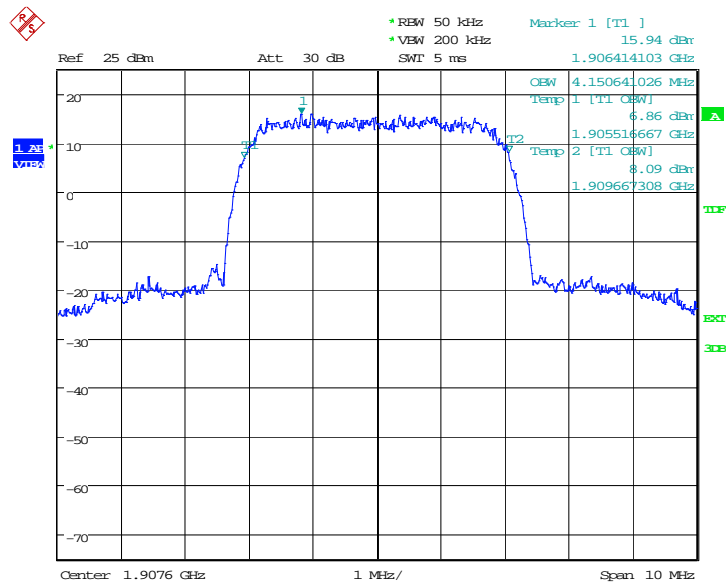
Date: 31.MAR.2015 16:48:32

Channel 9400-Occupied Bandwidth (99% BW)



Date: 31.MAR.2015 16:49:07

Channel 9538-Occupied Bandwidth (99% BW)



Date: 31.MAR.2015 16:49:41

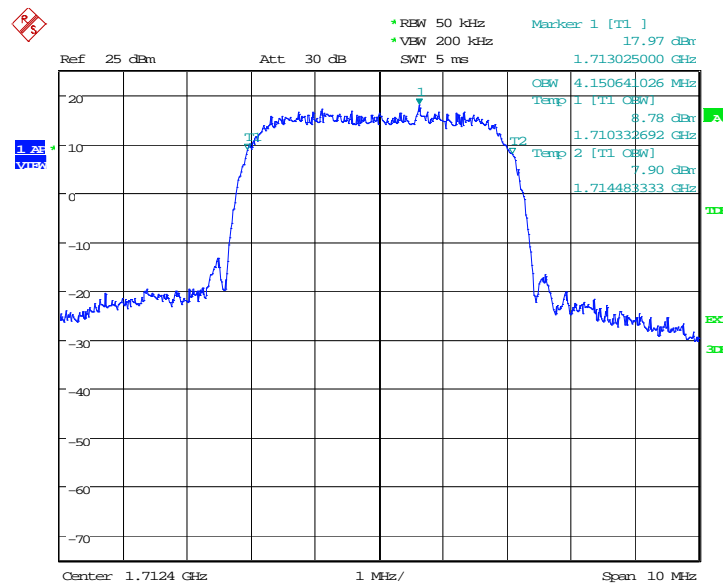
WCDMA Band IV (99% BW) per FCC rules

Frequency(MHz)	Occupied Bandwidth (99% BW)(MHz)
1712.4	4.151
1740.0	4.135
1752.6	4.151

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

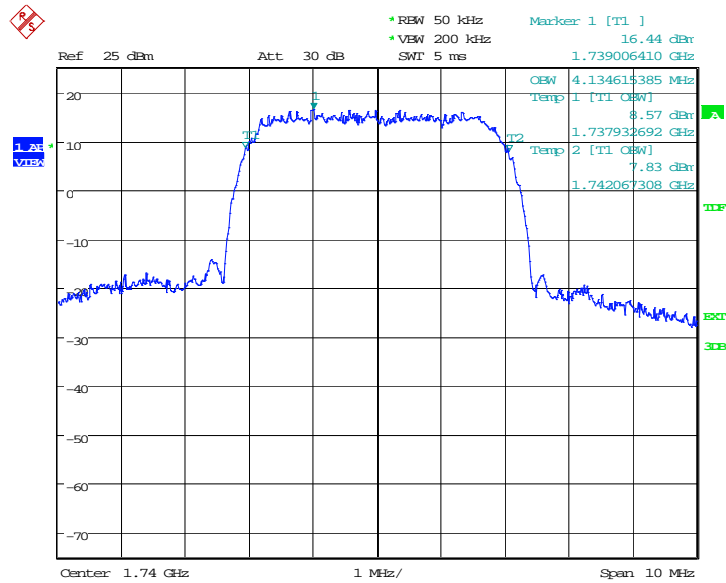
WCDMA Band IV

Channel 1312-Occupied Bandwidth (99% BW)



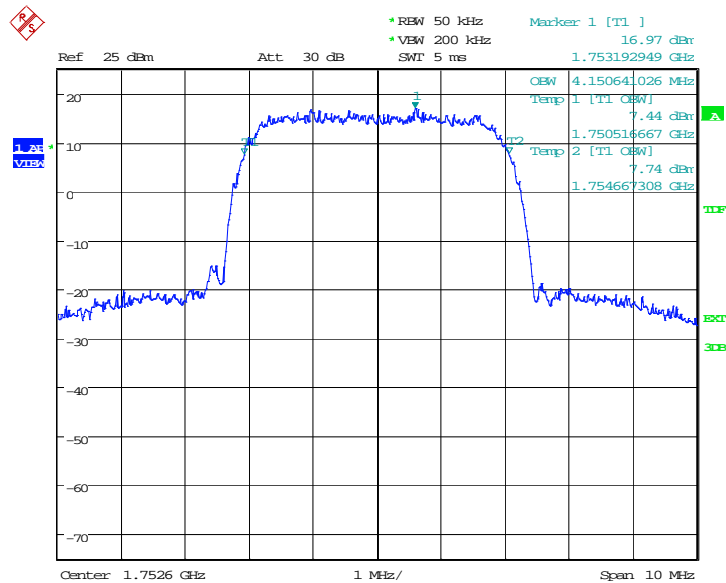
Date: 31.MAR.2015 17:14:23

Channel 1450-Occupied Bandwidth (99% BW)



Date: 31.MAR.2015 17:14:57

Channel 1513-Occupied Bandwidth (99% BW)



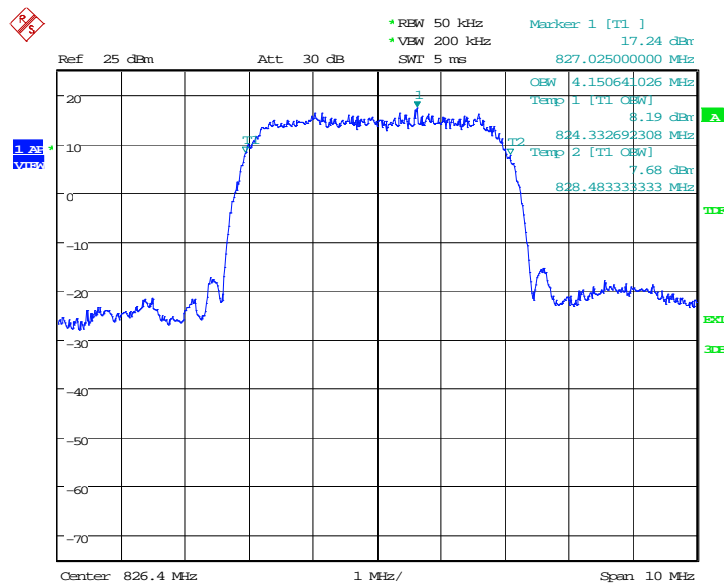
Date: 31.MAR.2015 17:15:32

WCDMA Band V (99% BW) per FCC rules

Frequency(MHz)	Occupied Bandwidth (99% BW)(MHz)
826.4	4.151
836.6	4.135
846.6	4.151

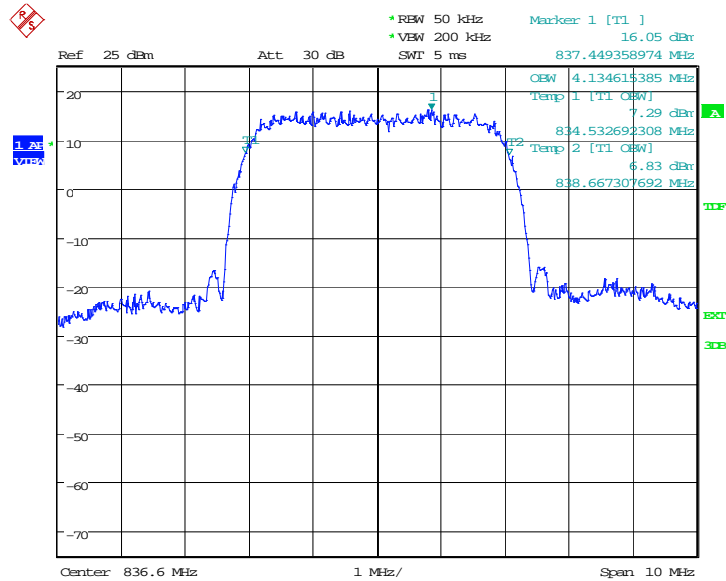
WCDMA Band V

Channel 4132-Occupied Bandwidth (99% BW)



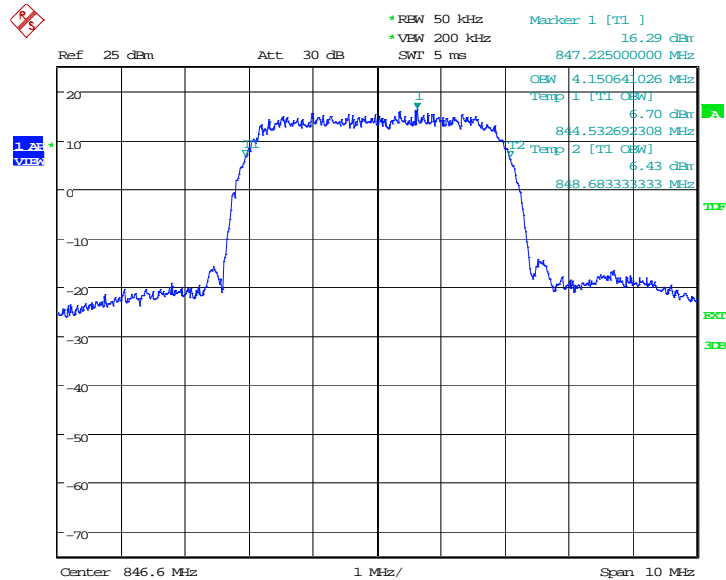
Date: 31.MAR.2015 17:37:21

Channel 4183-Occupied Bandwidth (99% BW)



Date: 31.MAR.2015 17:37:56

Channel 4233-Occupied Bandwidth (99% BW)



Date: 31.MAR.2015 17:38:30

A.5 EMISSION BANDWIDTH

Reference

FCC: CFR Part 22.917(b), 24.238(a), 27.53(h).

A.5.1 Emission Bandwidth Results

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

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. Table below lists the measured 100% BW. Spectrum analyzer plots are included on the following pages.

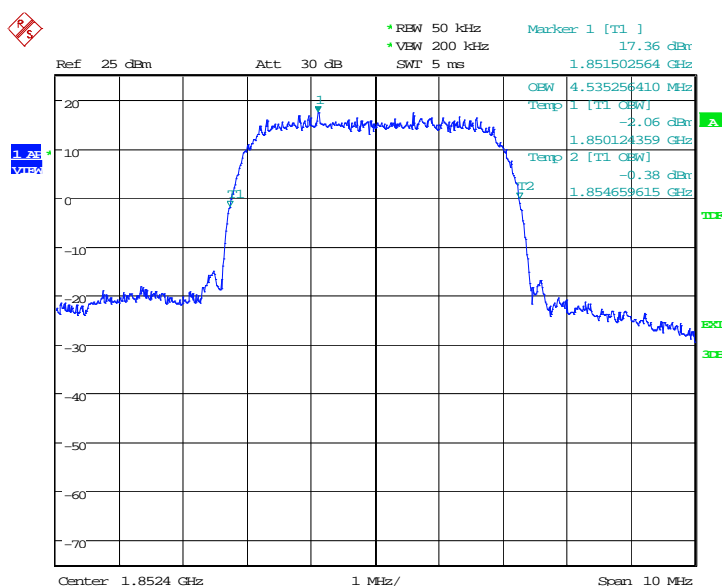
WCDMA Band II (100% BW)

Frequency(MHz)	Emission Bandwidth (100% BW)(MHz)
1852.4	4.535
1880.0	4.535
1907.6	4.567

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

WCDMA Band II

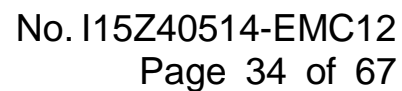
Channel 9262-Emission Bandwidth (100% BW)



Date: 31.MAR.2015 16:50:17

Date: 31.MAR.2015 16:50:52

Date: 31.MAR.2015 16:51:27



Frequency(MHz)	Emission Bandwidth (100% BW)(MHz)
1712.4	4.503
1740.0	4.551
1752.6	4.535

*REW 50 kHz
 *VIEW 200 kHz
 SWI 5 ms

Marker: 1 [T1]
 18.13 dBm
 1.713008974 GHz

Ref 25 dBm
 Att 30 dB

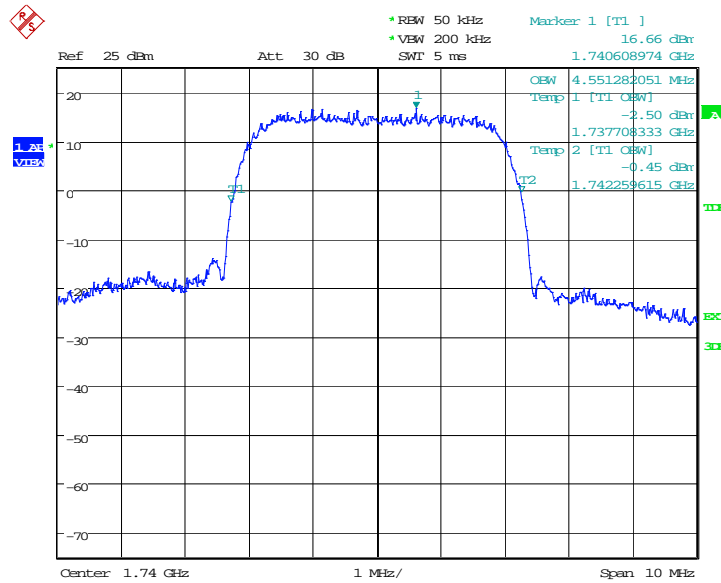
OEW 4.503205128 MHz
 Temp 1 [T1 OEW]
 -1.56 dBm
 1.710140385 GHz
 Temp 2 [T1 OEW]
 -1.21 dBm
 1.714643590 GHz

T1
 T2

Center 1.7124 GHz
 1 MHz/
 Span 10 MHz

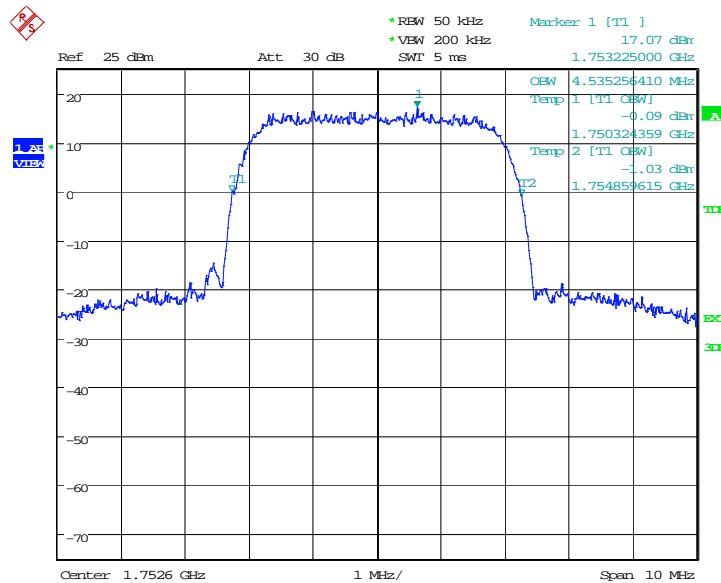
Date: 31.MAR.2015 17:16:08

Channel 1450-Emission Bandwidth (100% BW)



Date: 31.MAR.2015 17:16:43

Channel 1513-Emission Bandwidth (100% BW)



Date: 31.MAR.2015 17:17:17

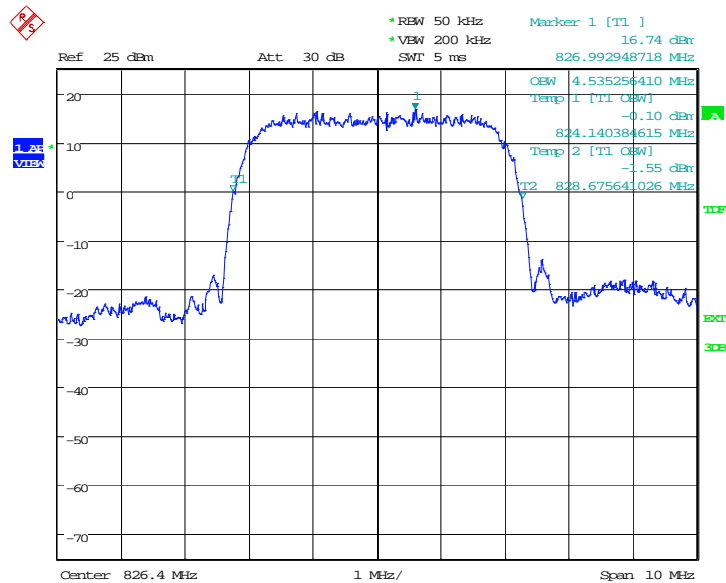
WCDMA Band V (100% BW)

Frequency(MHz)	Emission Bandwidth (100% BW)(MHz)
826.40	4.535
836.60	4.519
846.60	4.551

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

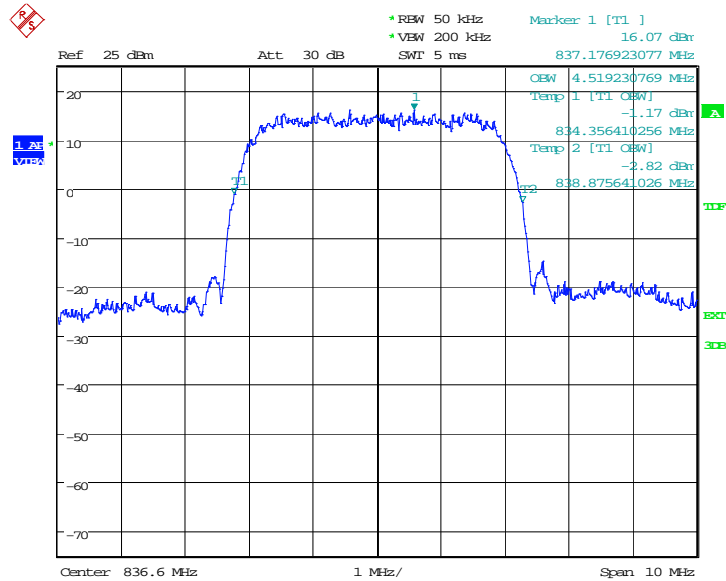
WCDMA Band V

Channel 4132-Emission Bandwidth (100% BW)



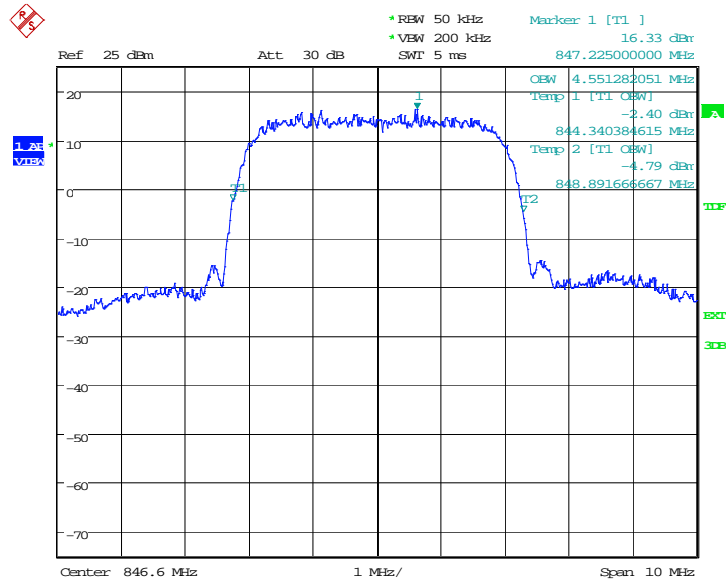
Date: 31.MAR.2015 17:39:06

Channel 4183-Emission Bandwidth (100% BW)



Date: 31.MAR.2015 17:39:41

Channel 4233-Emission Bandwidth (100% BW)



Date: 31.MAR.2015 17:40:15

A.6 BAND EDGE COMPLIANCE

Reference

FCC: CFR Part 22.917(b), 24.238(a), 27.53(h).

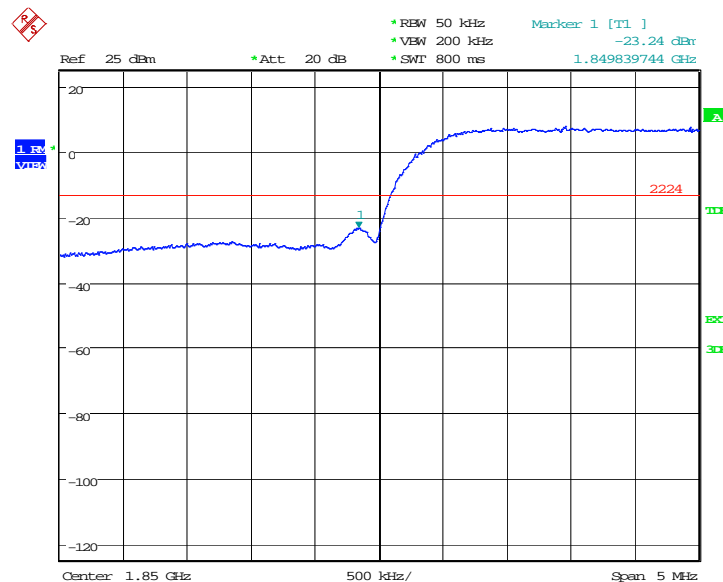
A.6.1 Measurement limit

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

A.6.2 Measurement result

WCDMA Band II

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

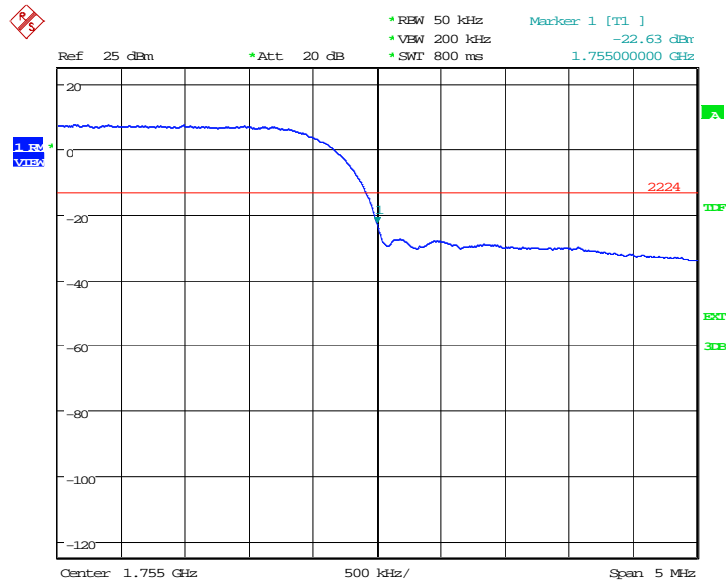


Date: 31.MAR.2015 16:51:38

Date: 31.MAR.2015 16:53:44

Date: 31.MAR.2015 17:17:29

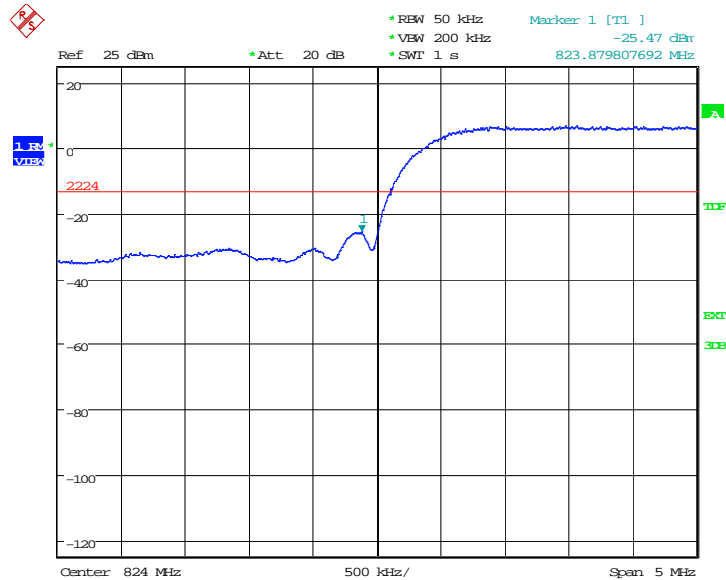
HIGH BAND EDGE BLOCK-C (WCDMA Band IV) –Channel 1513



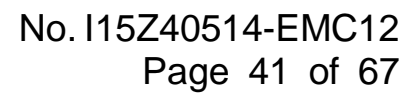
Date: 31.MAR.2015 17:19:35

WCDMA Band V

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



Date: 31.MAR.2015 17:40:27



©Copyright. All rights reserved by CTTL.

A.7 CONDUCTED SPURIOUS EMISSION

Reference

FCC: CFR Part 2.1057, 22.917, 24.238(a), 27.53(h).

A.7.1 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 mobile station equipment tested, this equates to a frequency range of 13 MHz to 9 GHz, data taken from 10 MHz to 25 GHz.
2. Determine EUT transmit frequencies: below outlines the band edge frequencies pertinent to conducted emissions testing.
3. According to KDB 971168 v02r01 6.0, the applicable rule part specifies the reference bandwidth for measuring unwanted emission levels (typically, 100 kHz if the authorized frequency band/block is at or below 1 GHz and 1 MHz if the authorized frequency band/block is above 1 GHz)

WCDMA Band II Transmitter

Channel	Frequency (MHz)
9262	1852.40
9400	1880.00
9538	1907.60

WCDMA Band IV Transmitter

Channel	Frequency (MHz)
1312	1712.40
1450	1740.00
1513	1752.60

WCDMA Band V Transmitter

Channel	Frequency (MHz)
4132	826.40
4183	836.60
4233	846.60

A.7.2 Measurement Limit

Part 22.917, Part 24.238 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

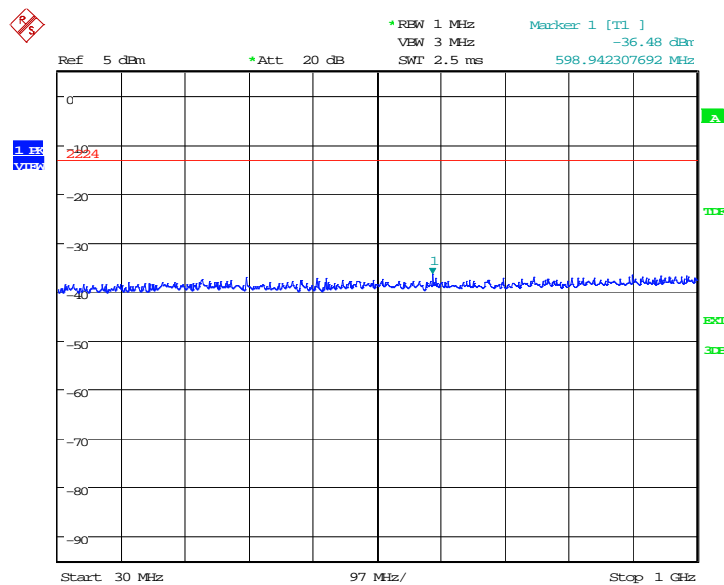
+ 10 log (P) dB, translates in the relevant power range (1 to 0.001 W) to -13 dBm. At 1 W the specified minimum attenuation becomes 43 dB and relative to a 30 dBm (1 W) carrier becomes a limit of -13 dBm. At 0.001 W (0 dBm) the minimum attenuation is 13 dB, which again yields a limit of -13 dBm. In this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

A.7.3 Measurement result

WCDMA Band II

A.7.3.1 Channel 9262: 30MHz –1GHz

Spurious emission limit –13dBm.

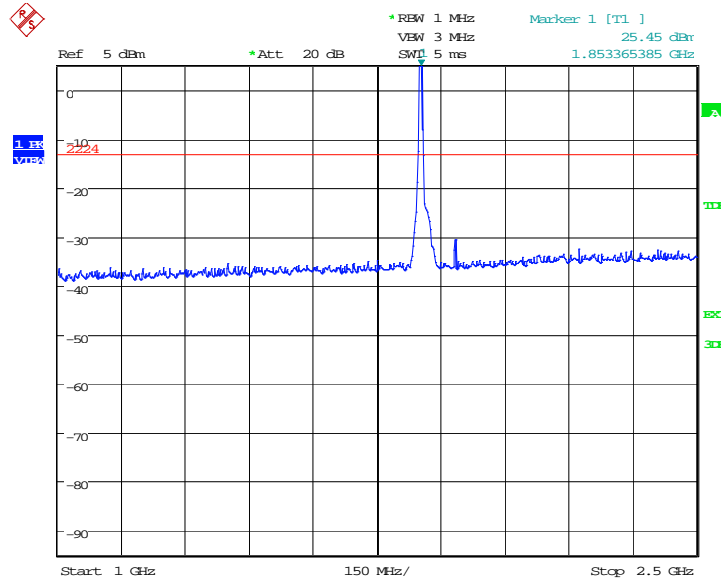


Date: 17.APR.2015 15:24:15

A.7.3.2 Channel 9262: 1GHz –2.5GHz

Spurious emission limit –13dBm.

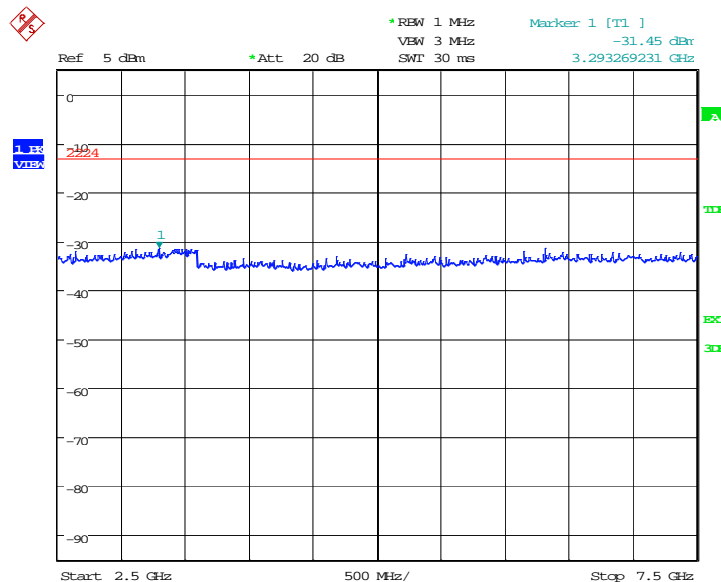
NOTE: peak above the limit line is the carrier frequency.



Date: 17.APR.2015 15:24:43

A.7.3.3 Channel 9262: 2.5GHz –7.5GHz

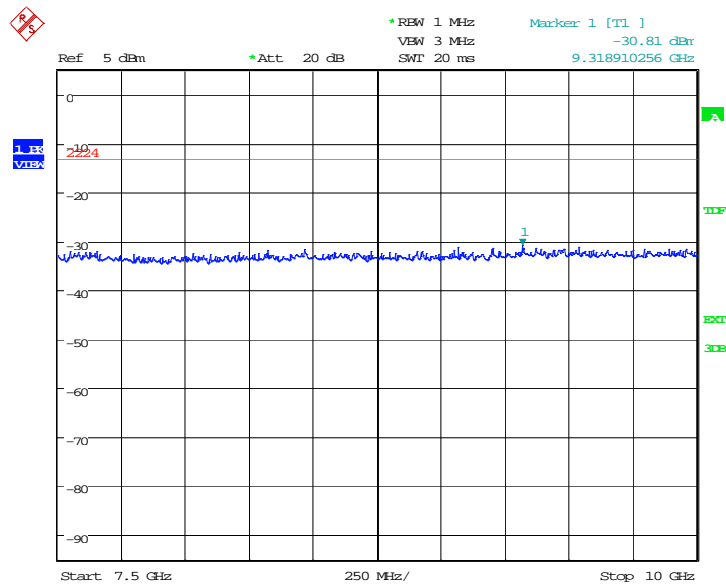
Spurious emission limit –13dBm.



Date: 17.APR.2015 15:25:11

A.7.3.4 Channel 9262: 7.5GHz –10GHz

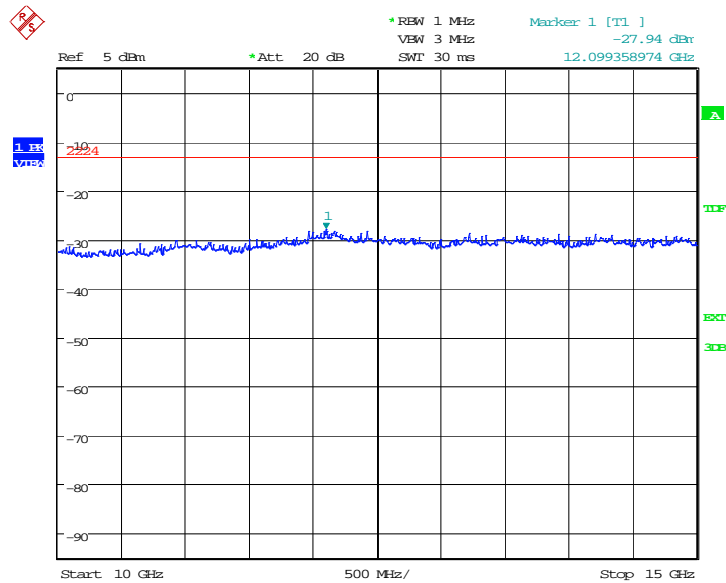
Spurious emission limit –13dBm.



Date: 17.APR.2015 15:25:39

A.7.3.5 Channel 9262: 10GHz –15GHz

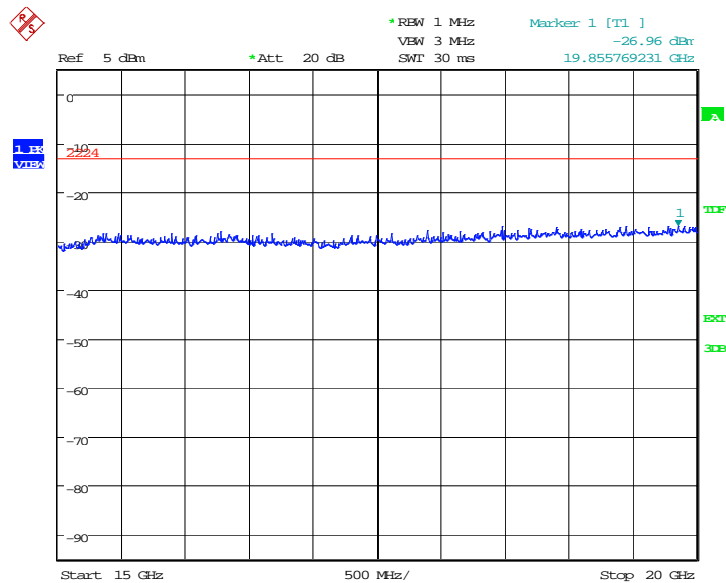
Spurious emission limit –13dBm.



Date: 17.APR.2015 15:26:07

A.7.3.6 Channel 9262: 15GHz –20GHz

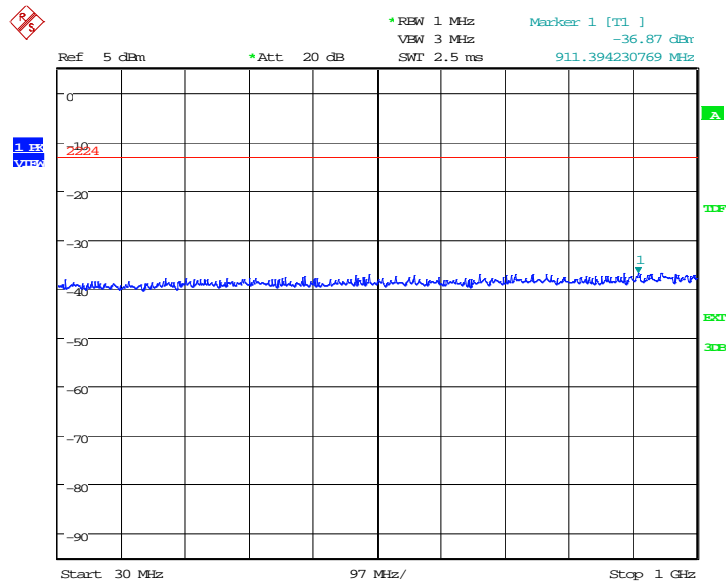
Spurious emission limit –13dBm.



Date: 17.APR.2015 15:26:35

A.7.3.7 Channel 9400: 30MHz –1GHz

Spurious emission limit –13dBm.

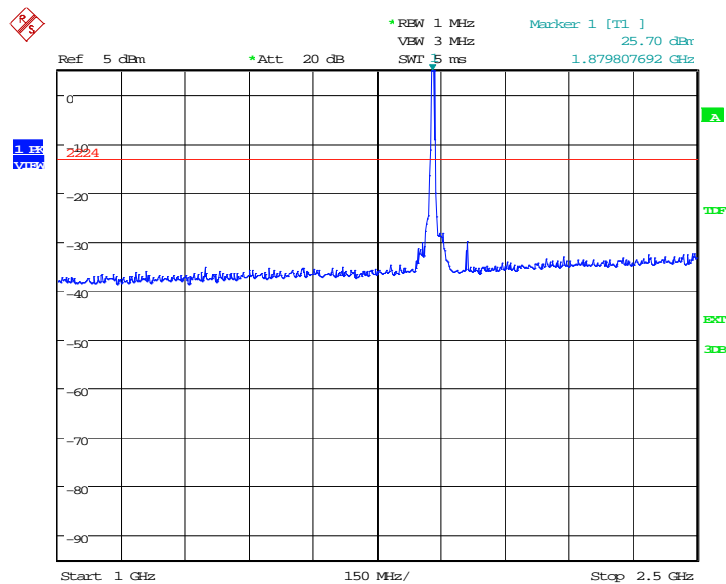


Date: 17.APR.2015 15:27:06

A.7.3.8 Channel 9400: 1GHz –2.5GHz

Spurious emission limit –13dBm.

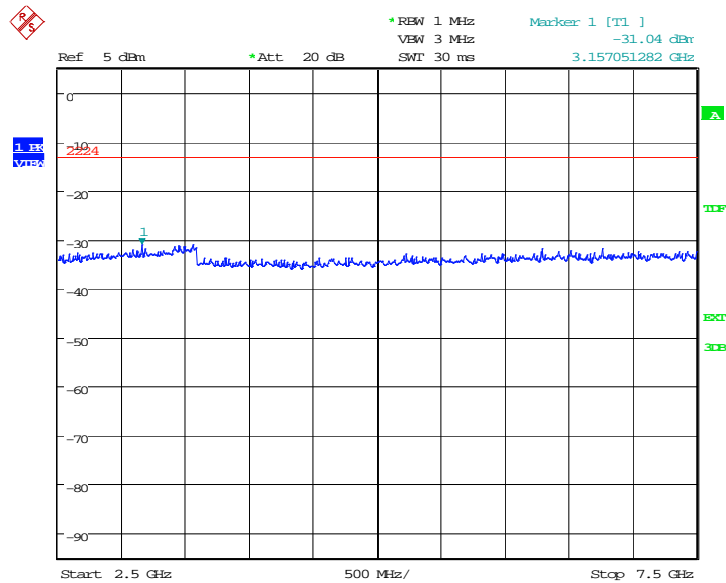
NOTE: peak above the limit line is the carrier frequency.



Date: 17.APR.2015 15:27:35

A.7.3.9 Channel 9400: 2.5GHz –7.5GHz

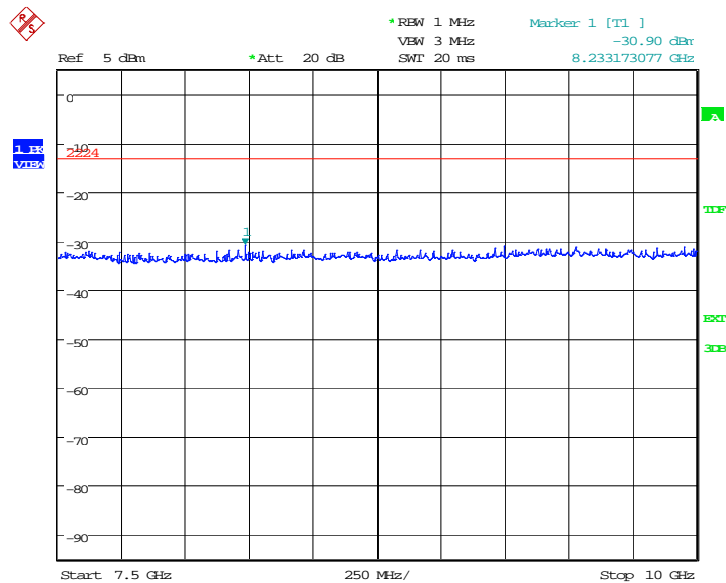
Spurious emission limit –13dBm.



Date: 17.APR.2015 15:28:03

A.7.3.10 Channel 9400: 7.5GHz –10GHz

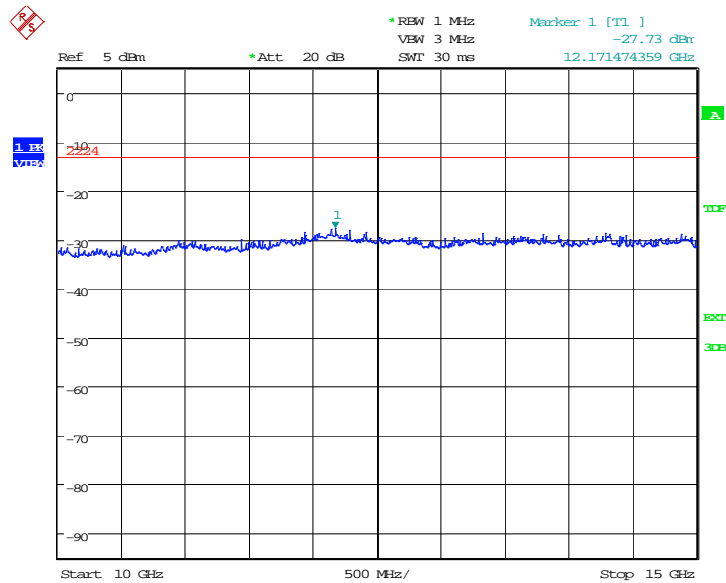
Spurious emission limit –13dBm.



Date: 17.APR.2015 15:28:31

A.7.3.11 Channel 9400: 10GHz –15GHz

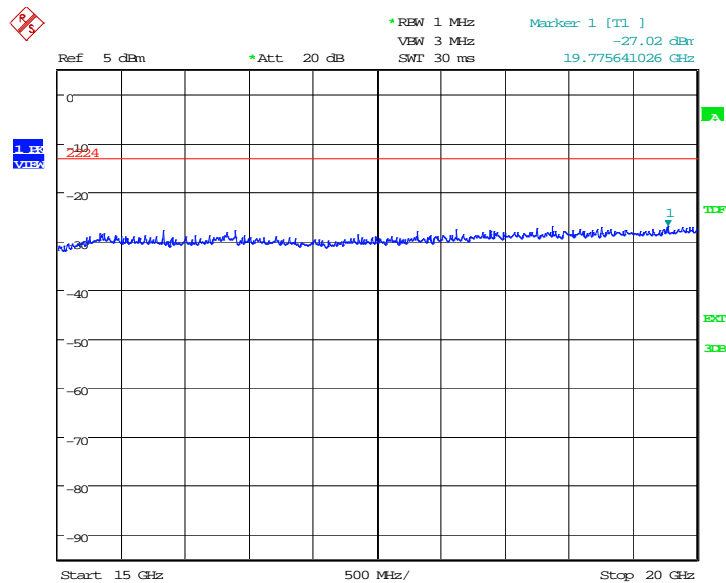
Spurious emission limit –13dBm.



Date: 17.APR.2015 15:28:59

A.7.3.12 Channel 9400: 15GHz –20GHz

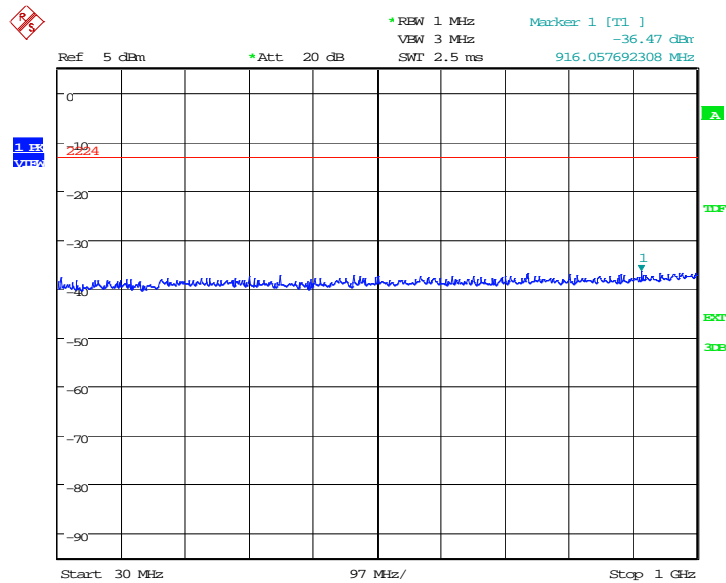
Spurious emission limit –13dBm.



Date: 17.APR.2015 15:29:27

A.7.3.13 Channel 9538: 30MHz –1GHz

Spurious emission limit –13dBm.

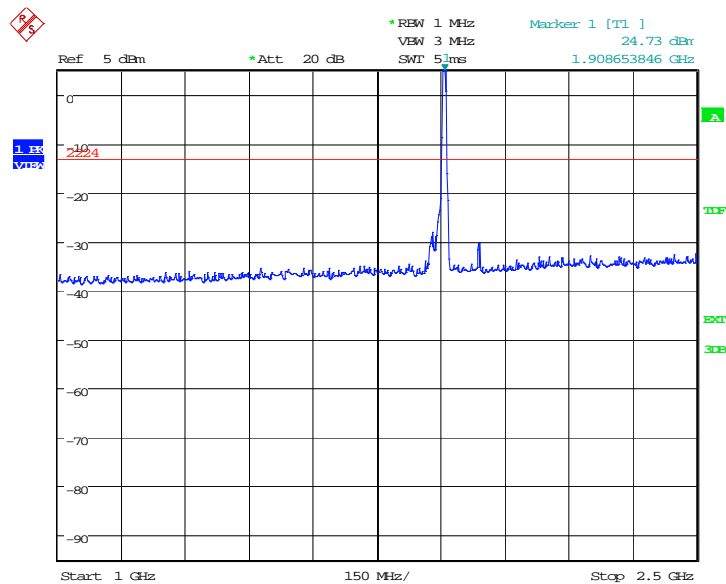


Date: 17.APR.2015 15:29:59

A.7.3.14 Channel 9538: 1GHz –2.5GHz

Spurious emission limit –13dBm.

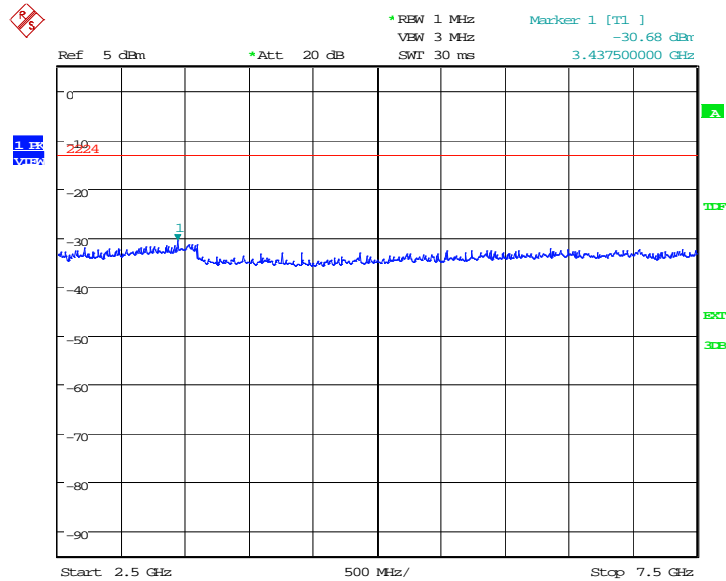
NOTE: peak above the limit line is the carrier frequency.



Date: 17.APR.2015 15:30:27

A.7.3.15 Channel 9538: 2.5GHz –7.5GHz

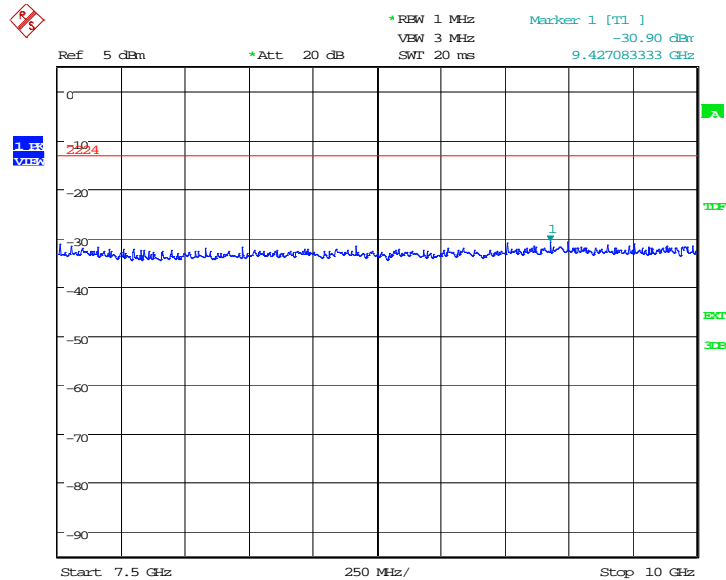
Spurious emission limit –13dBm.



Date: 17.APR.2015 15:30:55

A.7.3.16 Channel 9538: 7.5GHz –10GHz

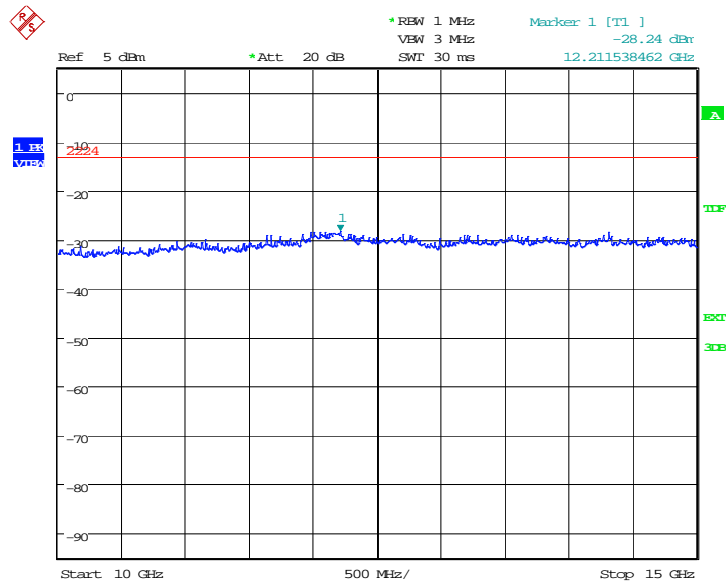
Spurious emission limit –13dBm.



Date: 17.APR.2015 15:31:23

A.7.3.17 Channel 9538: 10GHz –15GHz

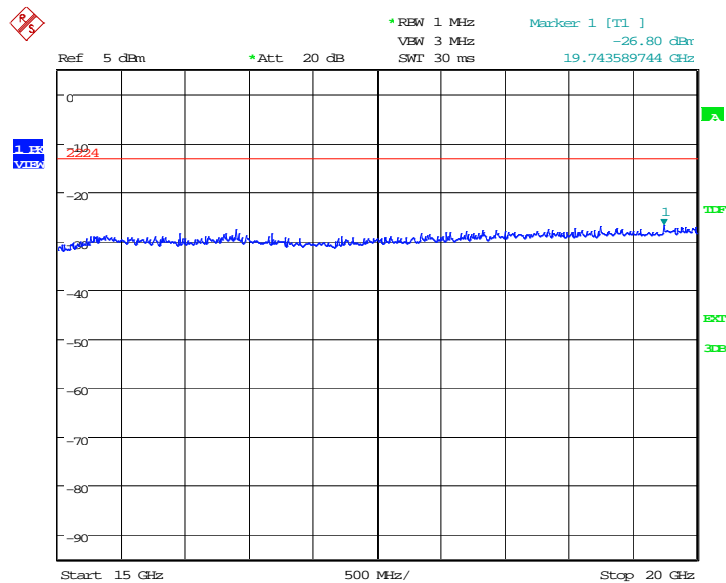
Spurious emission limit –13dBm.



Date: 17.APR.2015 15:31:51

A.7.3.18 Channel 9538: 15GHz –20GHz

Spurious emission limit –13dBm.

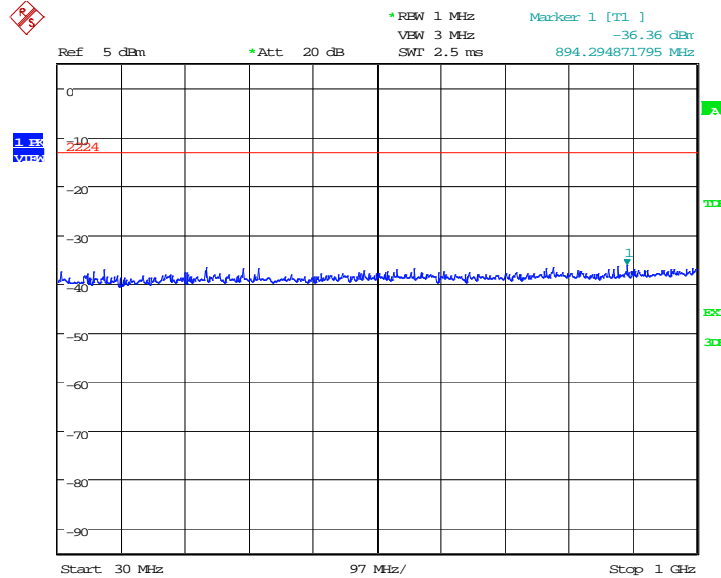


Date: 17.APR.2015 15:32:19

WCDMA Band IV

A.7.3.19 Channel 1312: 30MHz –1GHz

Spurious emission limit –13dBm.

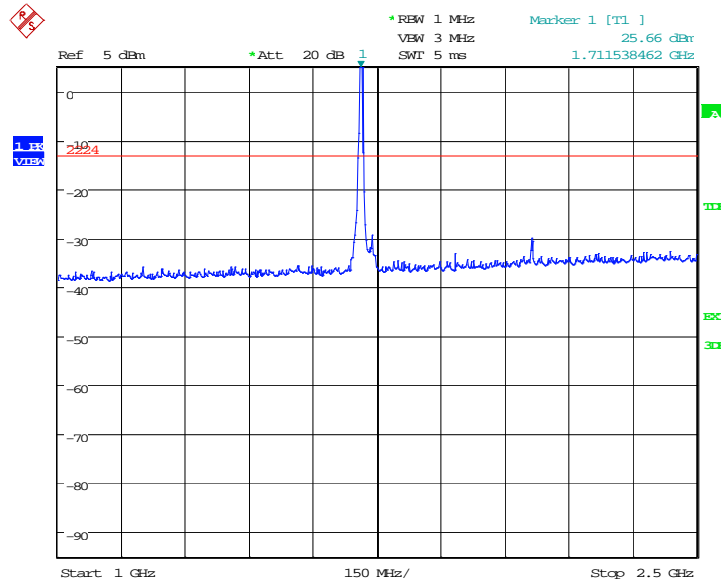


Date: 17.APR.2015 15:35:54

A.7.3.20 Channel 1312: 1GHz –2.5GHz

Spurious emission limit –13dBm.

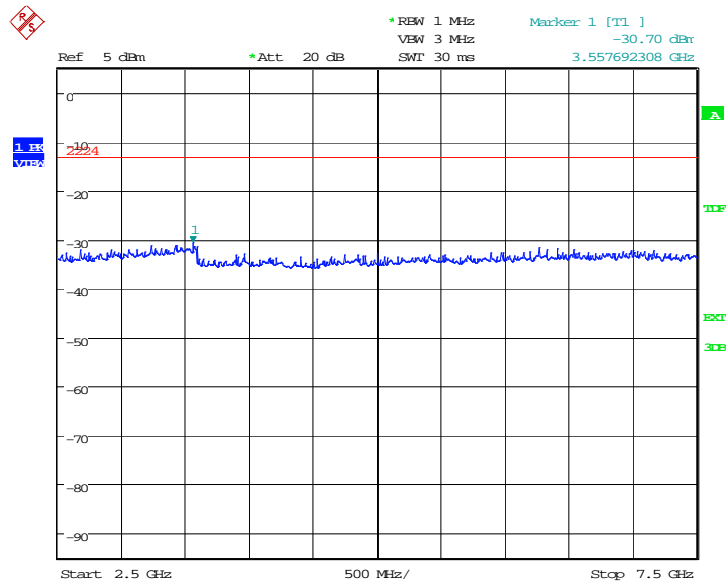
NOTE: peak above the limit line is the carrier frequency.



Date: 17.APR.2015 15:36:22

A.7.3.21 Channel 1312: 2.5GHz –7.5GHz

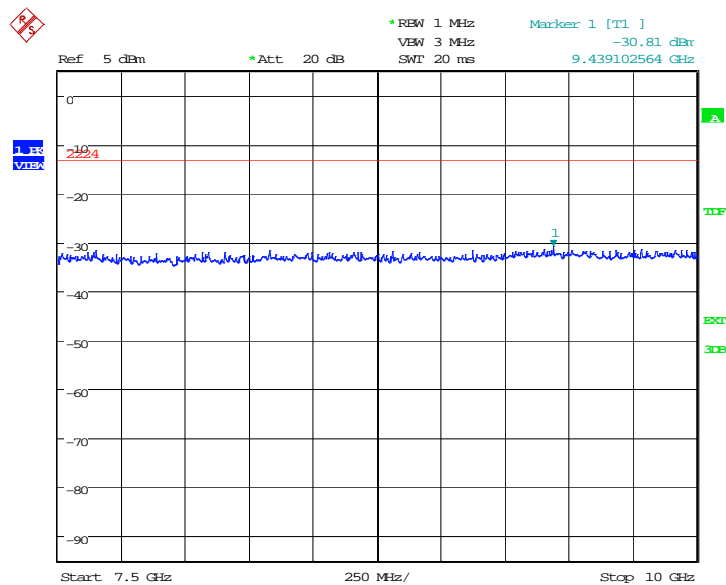
Spurious emission limit –13dBm.



Date: 17.APR.2015 15:36:50

A.7.3.22 Channel 1312: 7.5GHz –10GHz

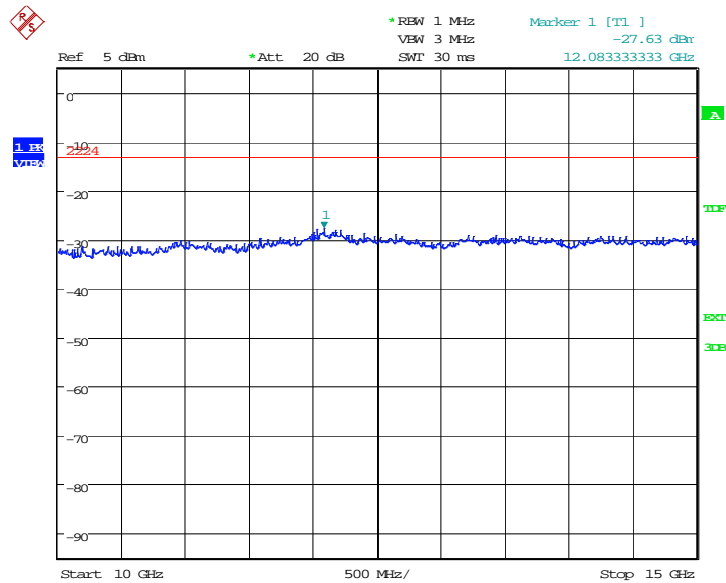
Spurious emission limit –13dBm.



Date: 17.APR.2015 15:37:19

A.7.3.23 Channel 1312: 10GHz –15GHz

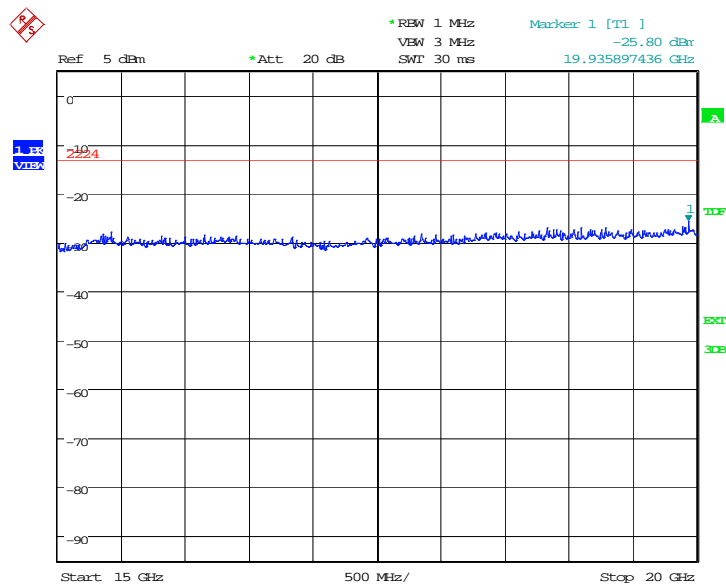
Spurious emission limit –13dBm.



Date: 17.APR.2015 15:37:47

A.7.3.24 Channel 1312: 15GHz –20GHz

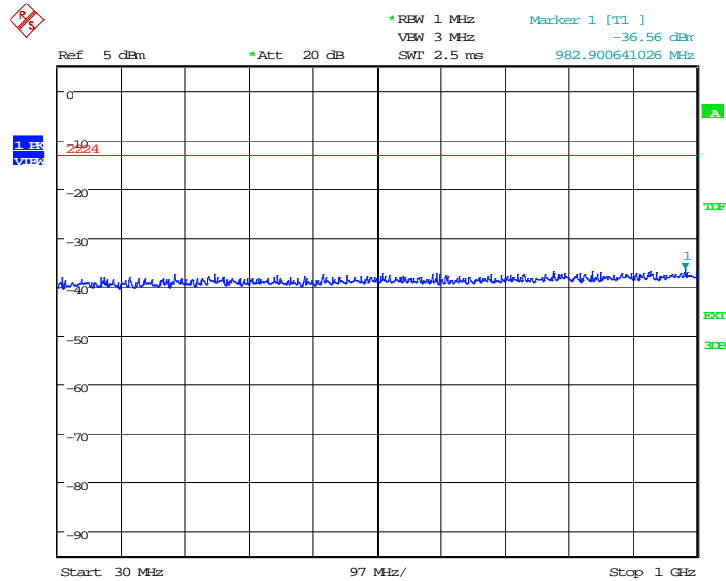
Spurious emission limit –13dBm.



Date: 17.APR.2015 15:38:15

A.7.3.25 Channel 1450: 30MHz –1GHz

Spurious emission limit –13dBm.

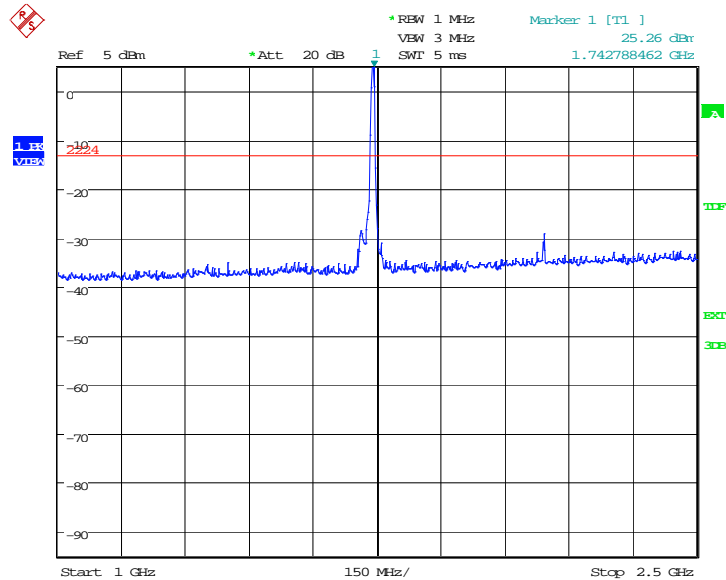


Date: 17.APR.2015 15:38:46

A.7.3.26 Channel 1450: 1GHz –2.5GHz

Spurious emission limit –13dBm.

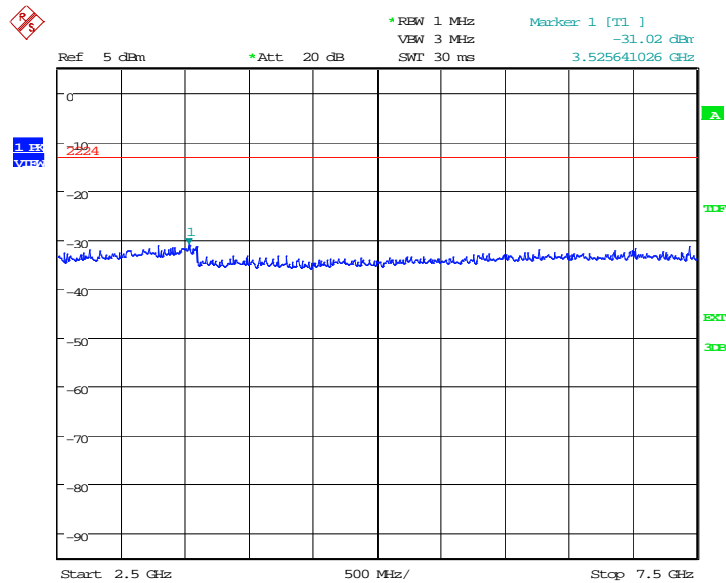
NOTE: peak above the limit line is the carrier frequency.



Date: 17.APR.2015 15:39:14

A.7.3.27 Channel 1450: 2.5GHz –7.5GHz

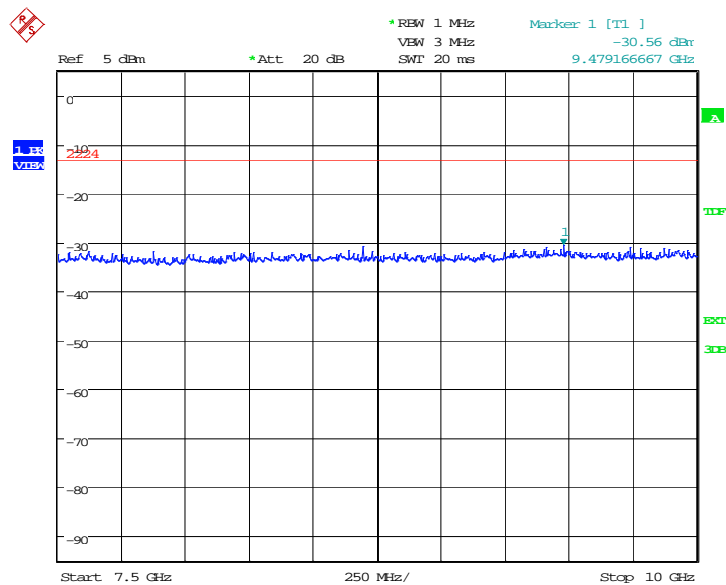
Spurious emission limit –13dBm.



Date: 17.APR.2015 15:39:42

A.7.3.28 Channel 1450: 7.5GHz –10GHz

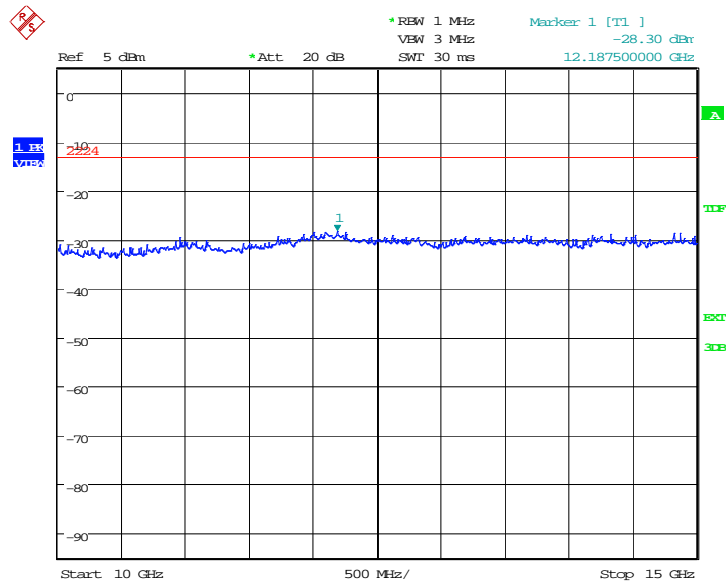
Spurious emission limit –13dBm.



Date: 17.APR.2015 15:40:10

A.7.3.29 Channel 1450: 10GHz –15GHz

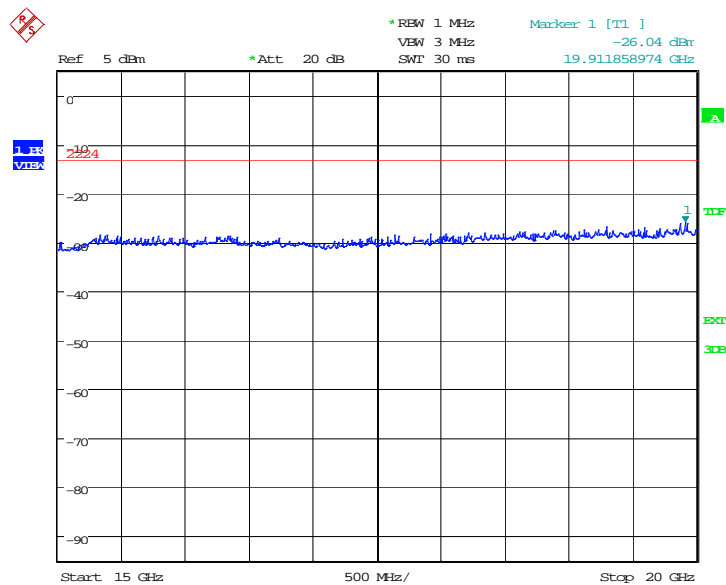
Spurious emission limit –13dBm.



Date: 17.APR.2015 15:40:39

A.7.3.30 Channel 1450: 15GHz –20GHz

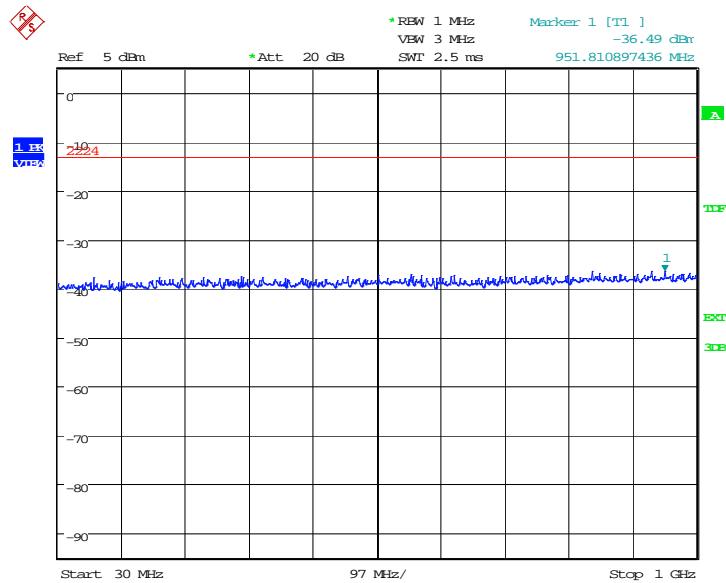
Spurious emission limit –13dBm.



Date: 17.APR.2015 15:41:07

A.7.3.31 Channel 1513: 30MHz –1GHz

Spurious emission limit –13dBm.

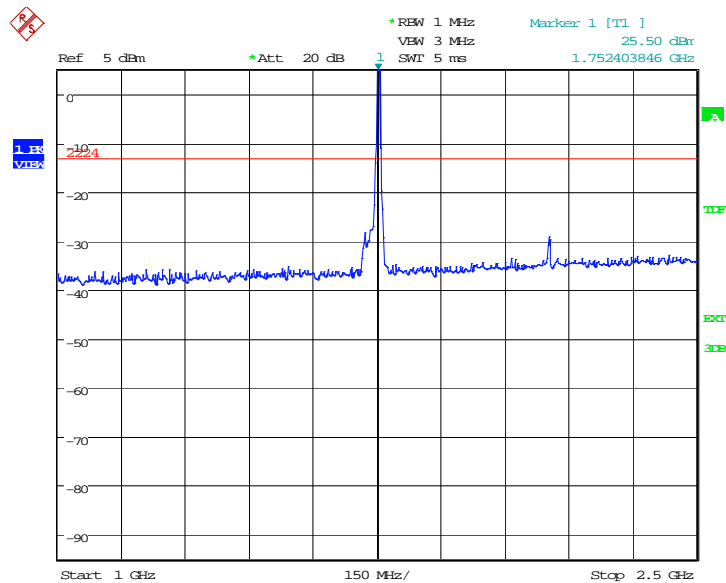


Date: 17.APR.2015 15:41:38

A.7.3.32 Channel 1513: 1GHz –2.5GHz

Spurious emission limit –13dBm.

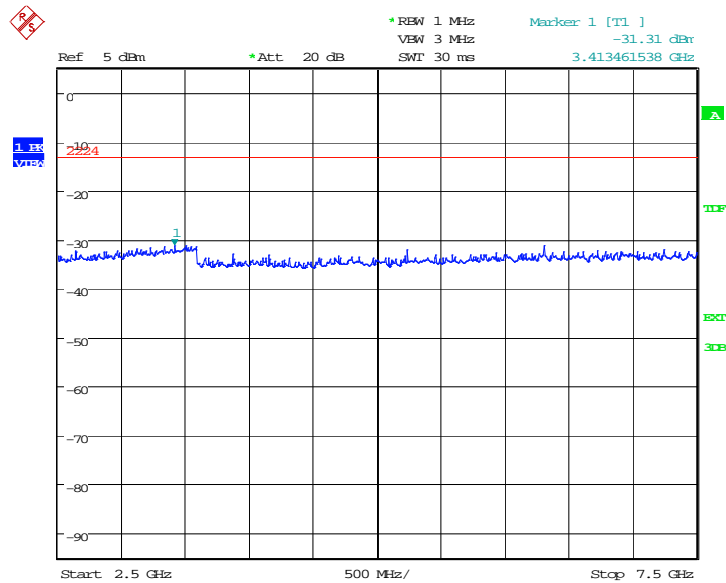
NOTE: peak above the limit line is the carrier frequency.



Date: 17.APR.2015 15:42:06

A.7.3.33 Channel 1513: 2.5GHz –7.5GHz

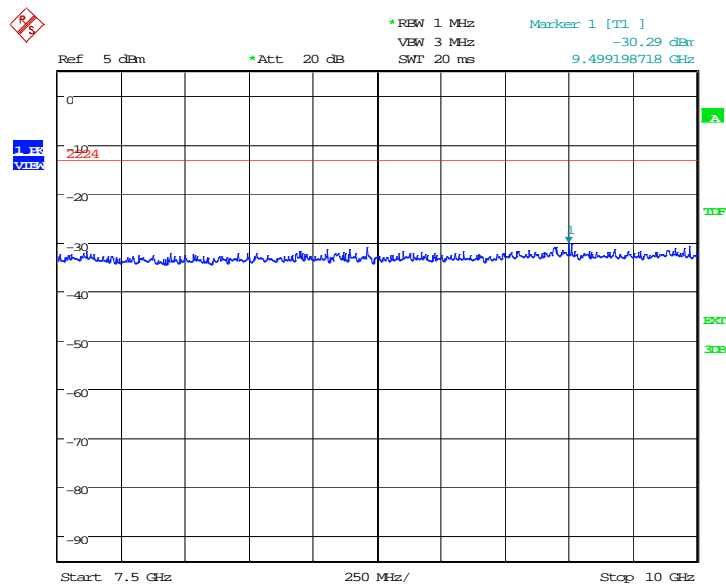
Spurious emission limit –13dBm.



Date: 17.APR.2015 15:42:34

A.7.3.34 Channel 1513: 7.5GHz –10GHz

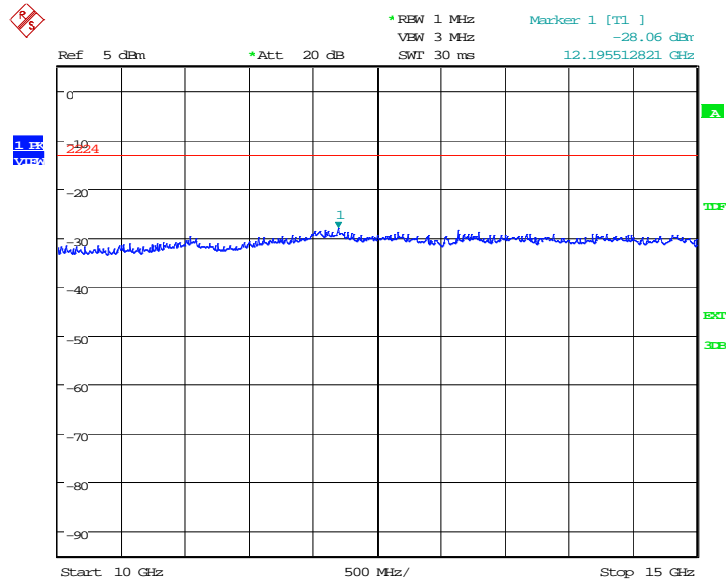
Spurious emission limit –13dBm.



Date: 17.APR.2015 15:43:02

A.7.3.35 Channel 1513: 10GHz –15GHz

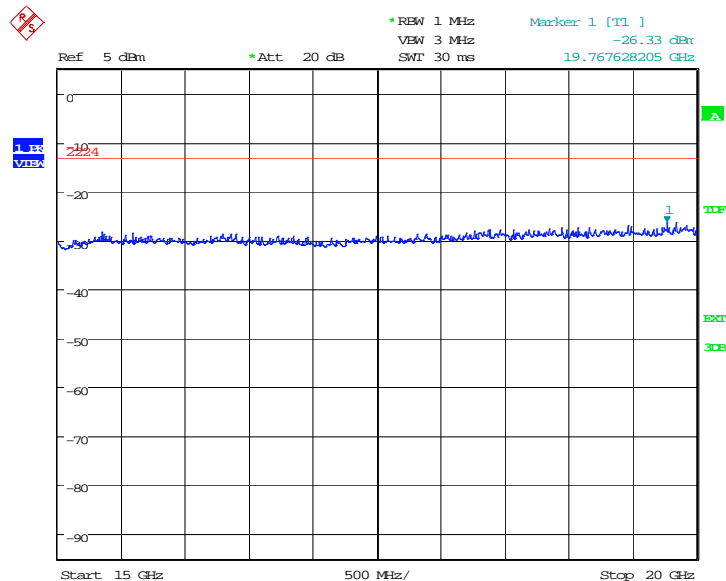
Spurious emission limit –13dBm.



Date: 17.APR.2015 15:43:31

A.7.3.36 Channel 1513: 15GHz –20GHz

Spurious emission limit –13dBm.



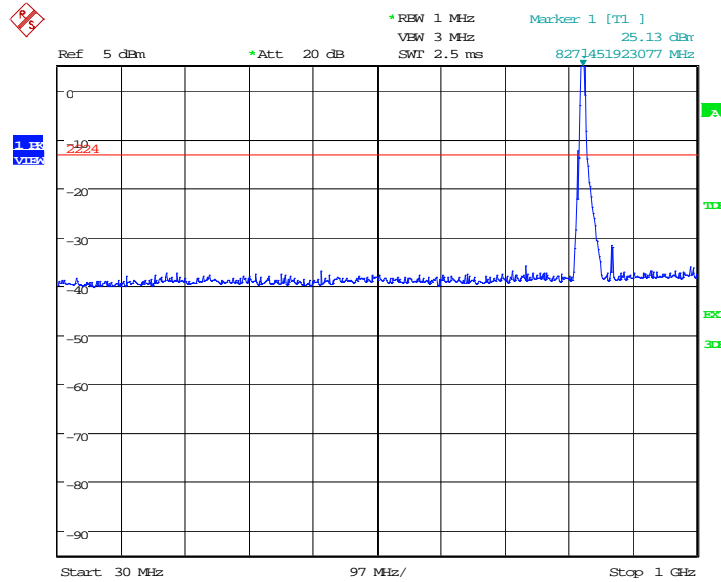
Date: 17.APR.2015 15:43:59

WCDMA Band V

A.7.3.37 Channel 4132: 30MHz –1GHz

Spurious emission limit –13dBm.

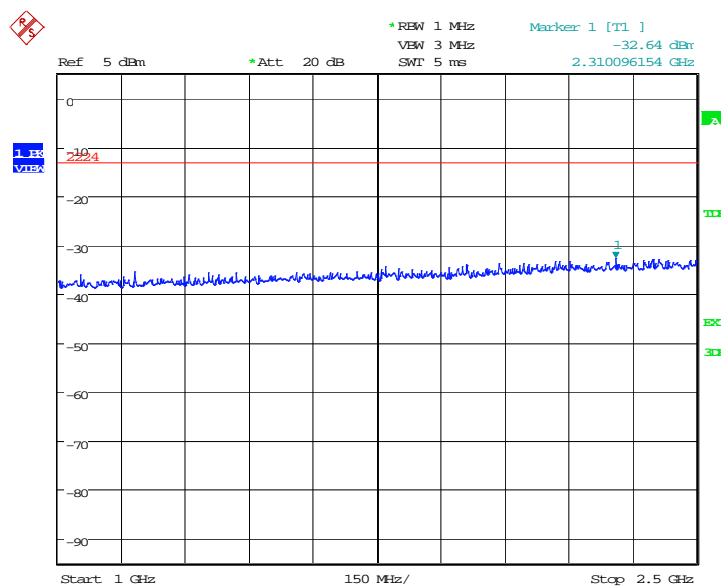
NOTE: peak above the limit line is the carrier frequency.



Date: 17.APR.2015 15:48:40

A.7.3.38 Channel 4132: 1GHz – 2.5GHz

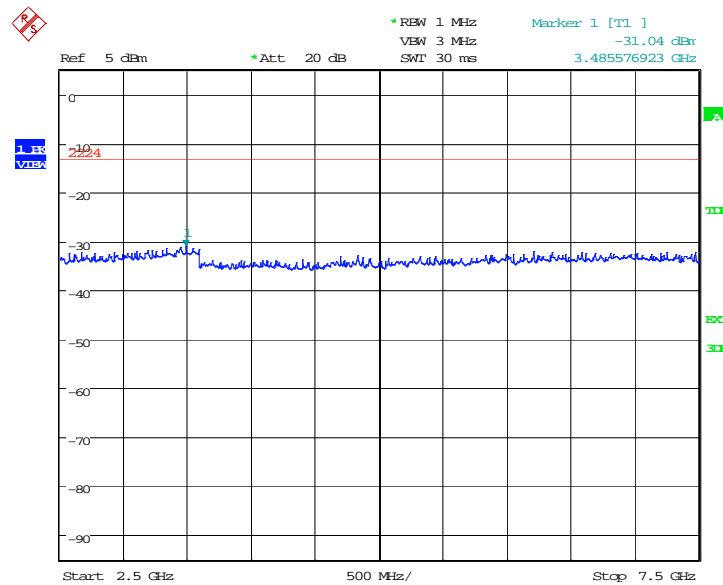
Spurious emission limit –13dBm.



Date: 17.APR.2015 15:49:08

A.7.3.39 Channel 4132: 2.5GHz –7.5GHz

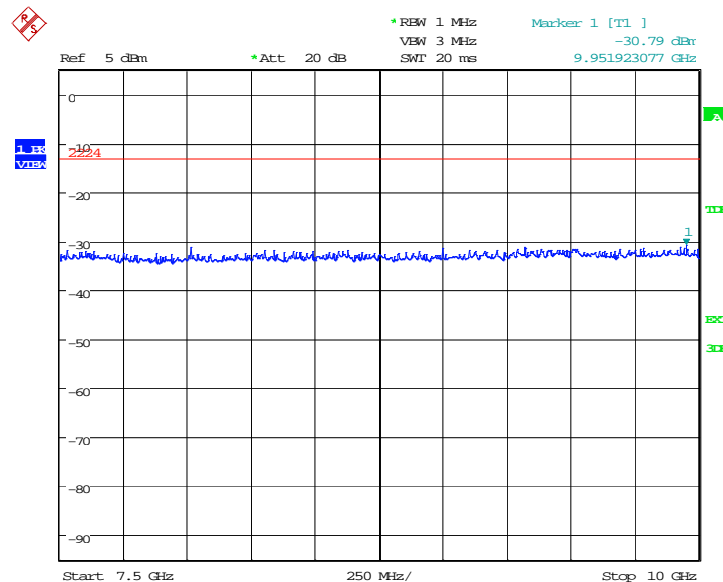
Spurious emission limit –13dBm.



Date: 17.APR.2015 15:49:36

A.7.3.40 Channel 4132: 7.5GHz – 10GHz

Spurious emission limit –13dBm.

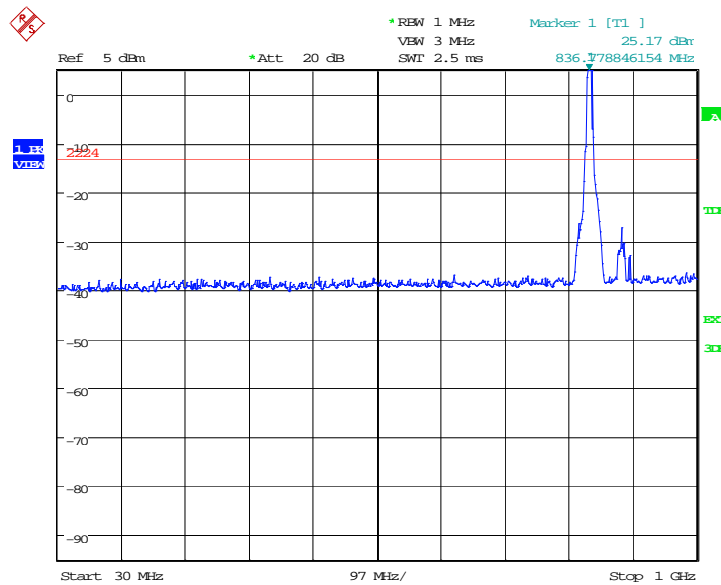


Date: 17.APR.2015 15:50:04

A.7.3.41 Channel 4183: 30MHz –1GHz

Spurious emission limit –13dBm.

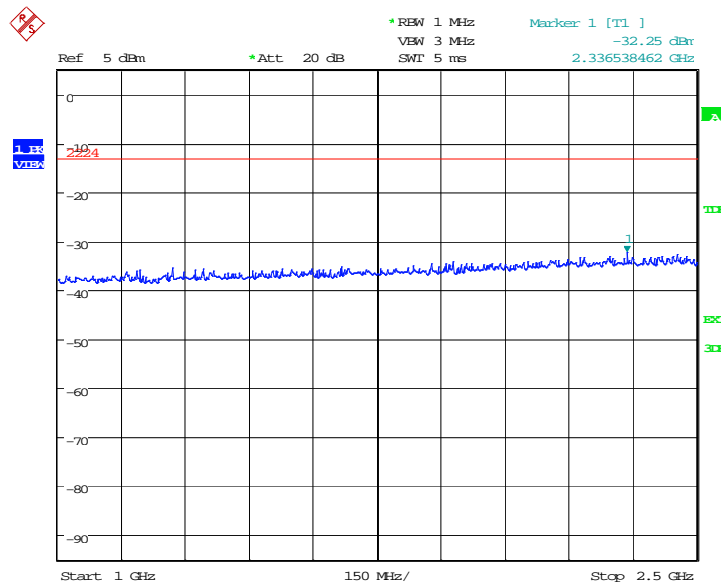
NOTE: peak above the limit line is the carrier frequency.



Date: 17.APR.2015 15:50:35

A.7.3.42 Channel 4183: 1GHz – 2.5GHz

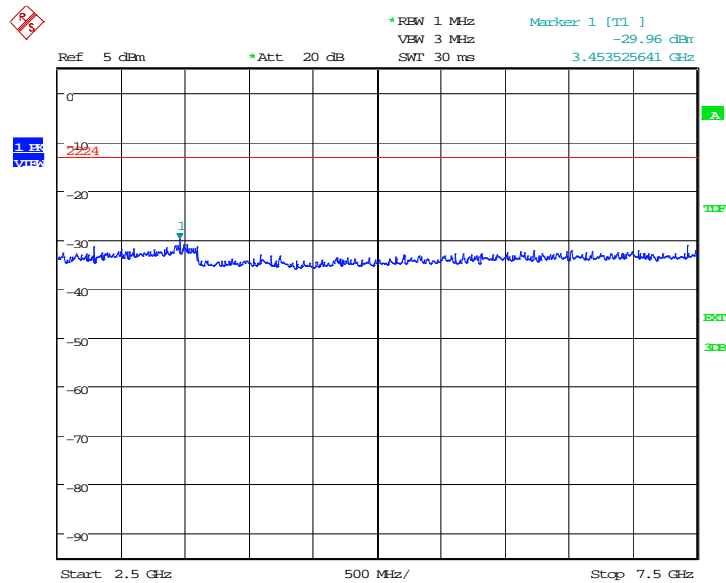
Spurious emission limit –13dBm.



Date: 17.APR.2015 15:51:03

A.7.3.43 Channel 4183: 2.5GHz – 7.5GHz

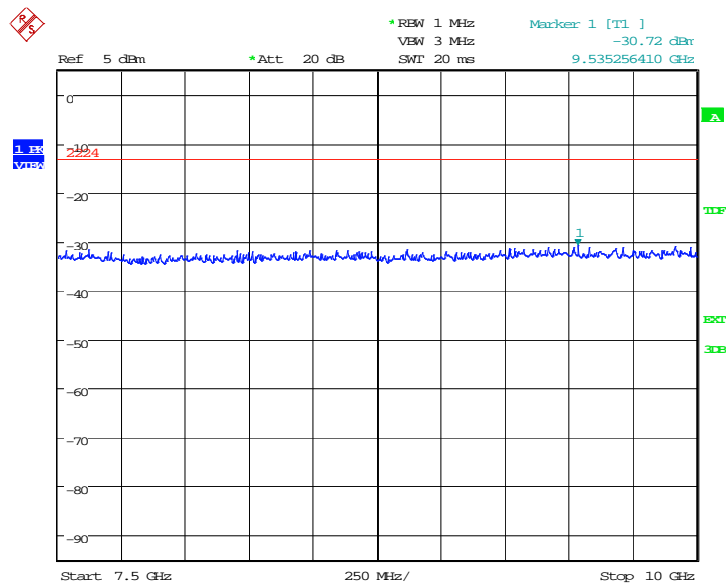
Spurious emission limit –13dBm.



Date: 17.APR.2015 15:51:31

A.7.3.44 Channel 4183: 7.5GHz – 10GHz

Spurious emission limit –13dBm.

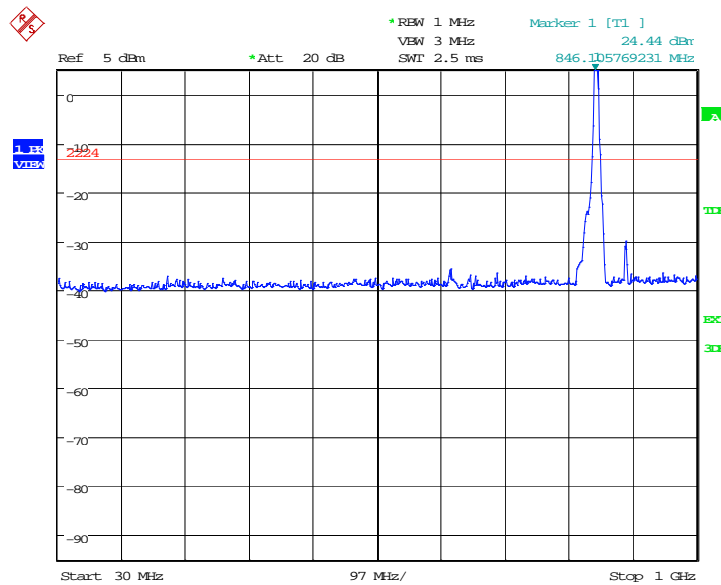


Date: 17.APR.2015 15:52:00

A.7.3.45 Channel 4233: 30MHz –1GHz

Spurious emission limit –13dBm.

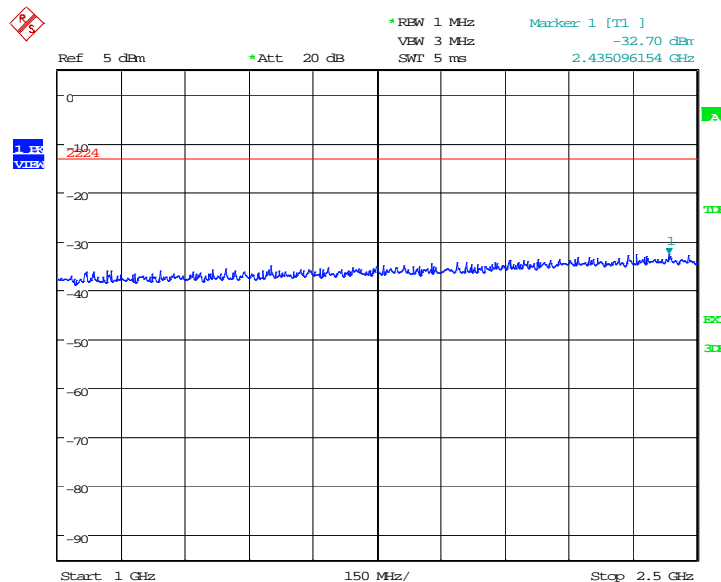
NOTE: peak above the limit line is the carrier frequency.



Date: 17.APR.2015 15:52:31

A.7.3.46 Channel 4233: 1GHz – 2.5GHz

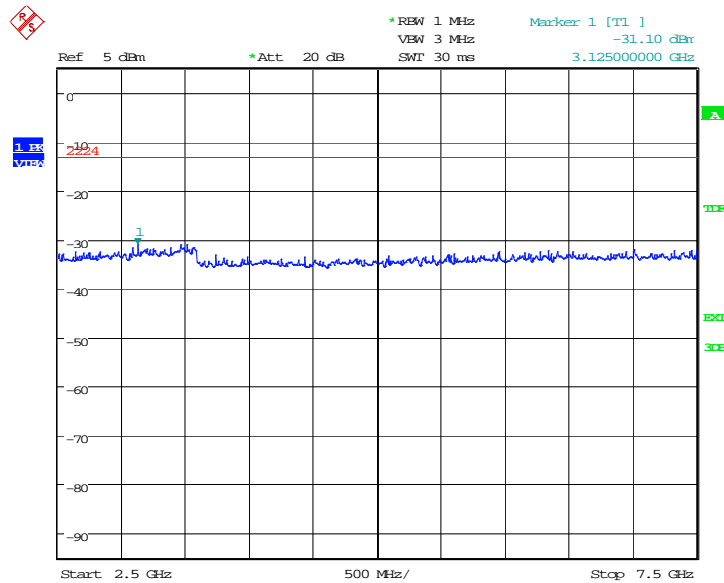
Spurious emission limit –13dBm.



Date: 17.APR.2015 15:52:59

A.7.3.47 Channel 4233: 2.5GHz – 7.5GHz

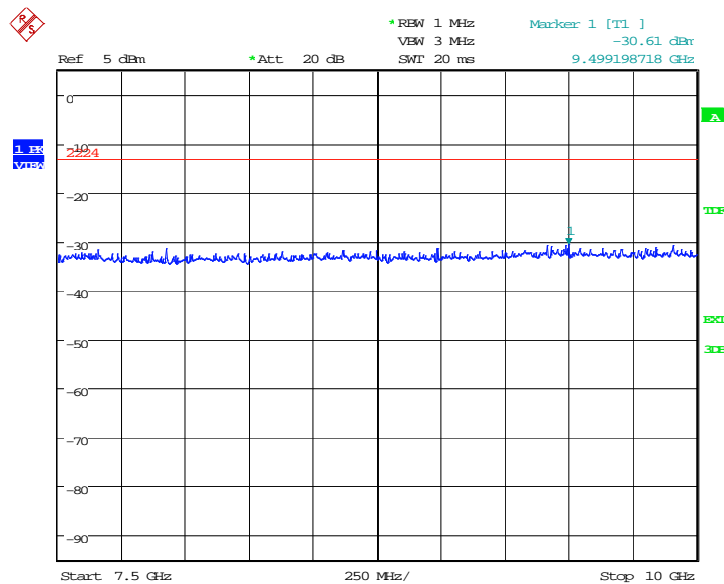
Spurious emission limit –13dBm.



Date: 17.APR.2015 15:53:27

A.7.3.48 Channel 4233: 7.5GHz – 10GHz

Spurious emission limit –13dBm.



Date: 17.APR.2015 15:53:55

END OF REPORT

©Copyright. All rights reserved by CTTL.