

# **TEST REPORT**

No. 2012TAR130

for

### **TCT Mobile Limited**

# HSUPA/HSDPA/UMTS triband / GSM quadband mobile phone

**Model Name: Mojitolite A** 

Marketing Name: ONE TOUCH 991A

FCC ID: RAD254

with

**Hardware Version: PIO02** 

Software Version: vF1I\_US

Issued Date: Apr 11, 2012

### Note:

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

### **Test Laboratory:**

DAR accreditation (DIN EN ISO/IEC 17025): No. DAT-P-114/01-01

FCC 2.948 Listed: No.733176 IC O.A.T.S listed: No.6629A-1

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

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# 1. Test Laboratory

## 1.1. Testing Location

Company Name: TMC Beijing, Telecommunication Metrology Center of MIIT

Address: Shouxiang Science Building, No 51, Xueyuan Road, Haidian District,

Beijing, P.R.China

Postal Code: 100191

Telephone: 00861062304633 Fax: 00861062304793

# 1.2. <u>Testing Environment</u>

Normal Temperature:  $15-35^{\circ}$ C Relative Humidity: 20-75%

1.3. Project data

Testing Start Date: Feb 27, 2012
Testing End Date: Apr 11, 2012

### 1.4. Signature

登晚刚

Zi Xiaogang

(Prepared this test report)

Sun Xiangqian

别何前

(Reviewed this test report)

Lu Bingsong

当城村

**Deputy Director of the laboratory** 

(Approved this test report)



# 2. Client Information

## 2.1. Applicant Information

Company Name: TCT Mobile Limited

Address /Post: 5F, E building, No. 232, Liang Jing Road ZhangJiang High-Tech Park,

Pudong Area Shanghai, P.R. China. 201203

City: Shanghai Country: China

Telephone: 0086-21-61460890 Fax: 0086-21-61460602

# 2.2. Manufacturer Information

Company Name: TCT Mobile Limited

Address /Post: 5F, E building, No. 232, Liang Jing Road ZhangJiang High-Tech Park,

Pudong Area Shanghai, P.R. China. 201203

City: Shanghai Country: China

Telephone: 0086-21-61460890 Fax: 0086-21-61460602



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

## 3.1. About EUT

Description HSUPA/HSDPA/UMTS triband / GSM quadband mobile phone

Model Name Mojitolite A

Marketing Name ONE TOUCH 991A

FCC ID RAD254

Frequency GSM 850MHz; PCS 1900MHz; WCDMA Band II; WCDMA Band V

Antenna Internal

Power supply Battery or Charger (AC Adaptor)

Output power 29.10dBm maximum EIRP measured for WCDMA Band II

Extreme vol. Limits 3.5VDC to 4.2VDC (nominal: 3.7VDC)

Extreme temp. Tolerance -30°C to +50°C

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

# 3.2. Internal Identification of EUT used during the test

EUT II	D* SN or IMEI	HW Version	SW Version
N04	013111000020297	PIO02	vF1I_US
N05	013111000020271	PIO02	vF1I_US

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

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

AE ID*	Description
AE1	Battery
AE2	Battery
AE3	Charger
AE4	Charger
AE5	Charger
AE6	Charger

### AE1

Model CAB32A0000C2

Manufacturer SCUD
Capacitance 1500mAh
Nominal Voltage 3.7V



AE2

Model CAB32A0000C1

Manufacturer BYD
Capacitance 1500mAh
Nominal Voltage 3.7V

AE3

Model CBA3002AG0C1

Manufacturer BYD Length of DC line 120cm

AE4

Model CBA3001AG0C1

Manufacturer BYD Length of DC line 120cm

AE5

Model CBA3001AG0C2

Manufacturer BYD Length of DC line 120cm

AE6

Model CBA3000AG0C1

Manufacturer TENPAO

Length of DC line /

### 3.4. General Description

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

<sup>\*</sup>AE ID: is used to identify the test sample in the lab internally.



# 4. Reference Documents

# 4.1. Reference Documents for testing

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

Reference	Title	Version
FCC Part 24	PERSONAL COMMUNICATIONS SERVICES	V 10.1.09
FCC Part 22	PUBLIC MOBILE SERVICES	V 10.1.09
ANSI/TIA-603-C	Land Mobile FM or PM Communications Equipment	2004
	Measurement and Performance Standards	
ANSI C63.4	Methods of Measurement of Radio-Noise Emissions from	2003
	Low-Voltage Electrical and Electronic Equipment in the	
	Range of 9 kHz to 40 GHz	



# 5. LABORATORY ENVIRONMENT

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

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

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

Temperature	Min. = 15 $^{\circ}$ C, Max. = 35 $^{\circ}$ C
Relative humidity	Min. =30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω

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

Temperature	Min. = 15 $^{\circ}$ C, Max. = 30 $^{\circ}$ C
Relative humidity	Min. = 30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω

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

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



# 6. SUMMARY OF TEST RESULTS

Items	List	Clause in FCC rules	Verdict
1	Output Power	22.913(a)/24.232(c)	Р
2	Emission Limit	2.1051/22.917/24.238	Р
3	CONDUCTED EMISSION	15.107/15.207	Р
4	Frequency Stability	2.1055/24.235	Р
5	Occupied Bandwidth	2.1049(h)(i)	Р
6	Emission Bandwidth	22.917(b)/24.238(b)	Р
7	Band Edge Compliance	22.917(b)/24.238(b)	Р
8	Conducted Spurious Emission	2.1057/22.917/24.238	Р



# 7. Test Equipments Utilized

			OFFICE		
NO.	NAME	TYPE	SERIES NUMBER	PRODUCER	CAL DUE DATE
1	Test Receiver	ESCI	100766	R&S	2012-06-06
2	Test Receiver	ESI40	831564/002	R&S	2012-07-12
3	BiLog Antenna	VULB9163	9163-175	Schwarzbeck	2012-07-05
4	BiLog Antenna	VULB9163	9163-302	Schwarzbeck	2012-07-10
5	Signal Generator	SMB100A	102063	R&S	2012-07-05
7	LISN	ESH2-Z5	829991/012	R&S	2012-07-20
8	Spectrum Analyzer	FSU26	200030	R&S	2012-03-18
9	Spectrum Analyzer	FSU46	100054	R&S	2012-09-14
10	Universal Radio Communication Tester	CMU200	100680	R&S	2012-02-23
11	Universal Radio Communication Tester	CMU200	109914	R&S	2012-07-21
12	Dual-Ridge Waveguide Horn Antenna	3117	00119024	ETS	2012-08-31
13	Dual-Ridge Waveguide Horn Antenna	3117	00119021	ETS	2013-07-09
14	Dual-Ridge Waveguide Horn Antenna	3116	2663	EMCO	2012-07-01
15	Dual-Ridge Waveguide Horn Antenna	3116	2661	EMCO	2012-07-01
16	Climatic chamber	PL-2G	343074	ESPEC	2012-02-15



# **ANNEX A: MEASUREMENT RESULTS**

# <u>A.1 OUTPUT POWER</u> (§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 Rhode & Schwarz Spectrum Analyzer FSU (peak)

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

### Limit

According to FCC§2.1046.

### A.1.2.2 Test Condition

RBW	VBW	Sweep Time	Span
10MHz	10MHz	800ms	50MHz

### **WCDMA Band II**

### Measurement result

	CH	Frequency(MHz)	output power(dBm)
WCDMA	9262	1852.4	22.40
(Band II)	9400	1880.0	22.51
	9538	1907.6	22.49

### **WCDMA Band V**

### **Measurement result**

	CH	Frequency(MHz)	output power(dBm)	
WCDMA	4132	826.4	23.10	
(Band V)	4183	836.6	21.37	
	4233	846.6	22.64	



### A.1.3 Radiated

### A.1.3.1 Description

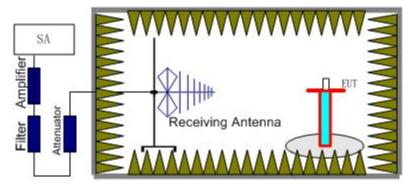
This is the test for the maximum radiated power from the EUT.

Rule Part 24.232(c) specifies, "Mobile/portable stations are limited to 2 watts e.i.r.p. Peak power" and 24.232(c) specifies that "Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage." Rule Part 22.913(a) specifies "The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts."

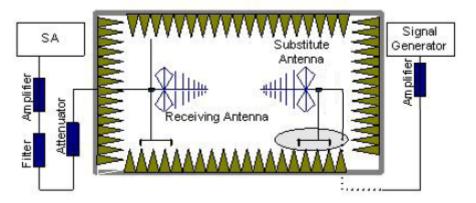
### A.1.3.2 Method of Measurement

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

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



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



In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere



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

- 4. A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna.
  - The cable loss  $(P_{cl})$ , the Substitution Antenna Gain  $(G_a)$  and the Amplifier Gain  $(P_{Ag})$  should be recorded after test.
  - The measurement results are obtained as described below:
  - Power(EIRP)= $P_{Mea}$ +  $P_{Ag}$  +  $P_{cl}$  +  $G_a$
- 5. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power.
- 6. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP -2.15dBi.



### **WCDMA Band II-EIRP**

### Limits

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

### **Measurement result**

Frequency(MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	P <sub>Ag</sub> (dB)	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP(dBm)	Polarization
1852.4	-19.43	6.02	-50.00	-4.55	29.10	Н
1880	-19.16	7.05	-50.00	-4.43	28.22	Н
1907.6	-16.78	8.90	-50.00	-4.31	28.63	Н

Frequency: 1852.4MHz

Peak EIRP(dBm)=  $P_{Mea}(-19.43dBm)$ -  $P_{cl}(6.02dB)$ -  $P_{Ag}(-50.00dB)$ - $G_a$  (-4.55dB) =29.10dBm

ANALYZER SETTINGS: RBW = VBW = 3MHz

### **WCDMA Band V-ERP**

### Limits

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

# **Measurement result**

Fraguesov/MHz)	D (dDm)	D (dD)	D (dD)	G <sub>a</sub> Antenna	Correction	Peak	Polarization
Frequency(MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	P <sub>Ag</sub> (dB)	Gain(dB)	(dBm)	ERP(dBm)	Polarization
826.4	-23.97	2.25	-53.00	0.85	2.15	23.78	Н
836.6	-22.64	2.26	-53.00	0.90	2.15	25.05	Н
846.6	-23.53	2.26	-53.00	0.94	2.15	24.12	V

Frequency: 836.6MHz

 $Peak \; ERP(dBm) = P_{Mea}(-22.64dBm) - P_{cl}(2.26dB) - P_{Ag}(-53.00dB) - G_a \; (0.90dB) - 2.15dBm = 25.05dBm$ 

ANALYZER SETTINGS: RBW = VBW = 3MHz



# A.2 EMISSION LIMT (§2.1051/§22.917§24.238)

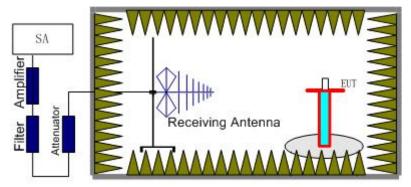
### A.2.1 Measurement Method

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

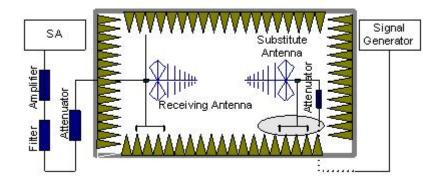
The spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment. The resolution bandwidth is set as outlined in Part 24.238 and Part 24.917. The spectrum is scanned with the mobile station transmitting at carrier frequencies that pertain to low, mid and 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, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power  $(P_{Mea})$  is applied to the input of the



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

4. The Path loss (P<sub>pl</sub>) between the Signal Source with the Substitution Antenna and the Substitution Antenna Gain (G<sub>a</sub>) should be recorded after test.

A amplifier should be connected in for the test.

The Path loss (Ppl) is the summation of the cable loss and the gain of the amplifier.

The measurement results are obtained as described below:

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

- 5. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power.
- 6. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP -2.15dBi.



### A.2.2 Measurement Limit

Part 24.238 and Part 22.917 specify that the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

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

### A.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 and 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.



### A.2.4 Measurement Results Table

Frequency	Channel	Frequency Range	Result
WCDMA Band V	Low	30MHz-10GHz	Pass
	Middle	30MHz-10GHz	Pass
	High	30MHz-10GHz	Pass
WCDMA Band II	Low	30MHz-20GHz	Pass
	Middle	30MHz-20GHz	Pass
	High	30MHz-20GHz	Pass

# A.2.5 Sweep Table

Working Frequency	Subrange (GHz)	RBW	VBW	Sweep time (s)
	0.03~1	100KHz	300KHz	10
	1-2	1 MHz	3 MHz	2
WCDMA Band V	2~5	1 MHz	3 MHz	3
	5~8	1 MHz	3 MHz	3
	8~10	1 MHz	3 MHz	3
	0.03~1	100KHz	300KHz	10
	1-2	1 MHz	3 MHz	2
	2~5	1 MHz	3 MHz	3
WCDMA Band II	5~8	1 MHz	3 MHz	3
WCDIVIA Bariu II	8~11	1 MHz	3 MHz	3
	11~14	1 MHz	3 MHz	3
	14~18	1 MHz	3 MHz	3
	18~20	1 MHz	3 MHz	2



### WCDMA BAND II Mode Channel 9262/1852.4MHz

Fragueray/MII=)	D (dDm)	Path	Antenna	Peak	Limit	Polarization
Frequency(MHz)	P <sub>Mea</sub> (dBm)	Loss	Gain	EIRP(dBm)	(dBm)	
3702.84	-59.15	5.32	-8.14	-56.33	-13.00	Н
5560.00	-61.17	8.74	-10.02	-59.89	-13.00	Н
6877.36	-68.17	7.61	-10.98	-64.80	-13.00	Н
10209.23	-68.60	8.59	-12.44	-64.75	-13.00	V
13713.94	-65.18	11.33	-13.89	-62.62	-13.00	V
17313.03	-63.83	11.81	-12.96	-62.68	-13.00	V

### WCDMA BAND II Mode Channel 9400/1880MHz

[	D (dDres)	Path	Antenna	Peak	Limit	Polarization
Frequency(MHz)	P <sub>Mea</sub> (dBm)	Loss	Gain	EIRP(dBm)	(dBm)	
252.51	-38.76	1.22	-1.76	-38.22	-13.00	V
3761.78	-60.18	5.92	-8.21	-57.89	-13.00	Н
5409.02	-67.61	8.10	-9.95	-65.76	-13.00	V
7088.94	-66.70	8.57	-11.15	-64.12	-13.00	Н
9395.02	-54.80	8.22	-12.60	-50.42	-13.00	V
10214.38	-63.34	8.59	-12.44	-59.49	-13.00	Н

### WCDMA BAND II Mode Channel 9538/1907.6MHz

Fragua nov/MUI=)	D (dDm)	Path	Antenna	Peak	Limit	Polarization
Frequency(MHz)	P <sub>Mea</sub> (dBm)	Loss	Gain	EIRP(dBm)	(dBm)	
3816.15	-60.43	5.62	-8.28	-57.77	-13.00	Н
5025.87	-67.49	6.77	-9.72	-64.54	-13.00	V
8736.26	-68.23	8.10	-12.39	-63.94	-13.00	Н
10219.29	-63.71	8.59	-12.44	-59.86	-13.00	V
12006.29	-62.23	9.67	-12.50	-59.40	-13.00	V
13775.30	-66.54	11.39	-13.91	-64.02	-13.00	Н



### WCDMA BAND V Mode Channel 4132/826.4MHz

Fragueney/MII=)	D (dDm)	Path	Antenna	Correction	Peak	Limit	Polarization
Frequency(MHz)	P <sub>Mea</sub> (dBm)	Loss	Gain	(dBm)	ERP(dBm)	(dBm)	
3309.27	-55.06	5.01	-7.44	2.15	-54.78	-13.00	Н
3830.11	-70.97	5.38	-8.30	2.15	-70.20	-13.00	V
4356.59	-71.95	6.36	-8.71	2.15	-71.75	-13.00	Н
5072.01	-69.08	7.41	-9.74	2.15	-68.90	-13.00	V
8080.43	-70.81	7.60	-11.95	2.15	-68.61	-13.00	Н
8508.64	-67.71	7.85	-12.21	2.15	-65.50	-13.00	Н

## WCDMA BAND V Mode Channel 4183/836.6MHz

		Dath	Antonno	Correction	Dools	Limit	Dolorization
Frequency(MHz)	P <sub>Mea</sub> (dBm)	Path	Antenna	Correction	Peak	Limit	Polarization
1 requeriey(Wir 12)	i Mea(dDiii)	Loss	Gain	(dBm)	ERP(dBm)	(dBm)	
1671.06	-57.59	3.40	-5.35	2.15	-57.79	-13.00	Н
2391.87	-58.64	4.15	-5.08	2.15	-59.86	-13.00	Н
3276.19	-68.50	5.01	-7.36	2.15	-68.30	-13.00	V
4065.52	-68.80	6.26	-8.54	2.15	-68.67	-13.00	V
5338.25	-70.12	7.69	-9.90	2.15	-70.06	-13.00	V
5990.19	-66.89	13.40	-10.20	2.15	-72.24	-13.00	Н

### WCDMA BAND V Mode Channel 4233/846.6MHz

Fraguenov/MHz)	D (dDm)	Path	Antenna	Correction	Peak	Limit	Polarization
Frequency(MHz)	P <sub>Mea</sub> (dBm)	Loss	Gain	(dBm)	ERP(dBm)	(dBm)	
1691.20	-53.31	3.60	-5.26	2.15	-53.80	-13.00	Н
3382.63	-58.43	5.04	-7.62	2.15	-58.00	-13.00	Н
4229.69	-73.12	6.02	-8.64	2.15	-72.65	-13.00	٧
5065.01	-65.20	7.37	-9.74	2.15	-64.98	-13.00	Н
6246.25	-68.28	9.35	-10.40	2.15	-69.38	-13.00	V
8422.72	-64.85	8.31	-12.15	2.15	-63.16	-13.00	Н



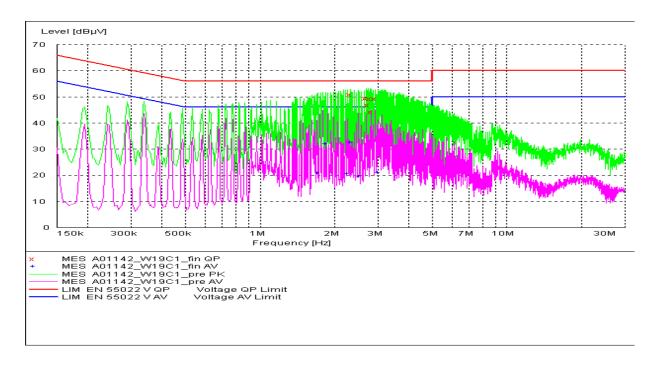
# A.3 CONDUCTED EMISSION (§15.107§15.207)

The measurement procedure in ANSI C63.4-2003 is used. Conducted Emission is measured with travel charger.

### A.3.1 Limit

Frequency of Emission (MHz)	Conducted Limit (dBµV)				
Frequency of Emission (MH2)	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-AE3



### MEASUREMENT RESULT: "A01142\_W19C1\_fin QP"

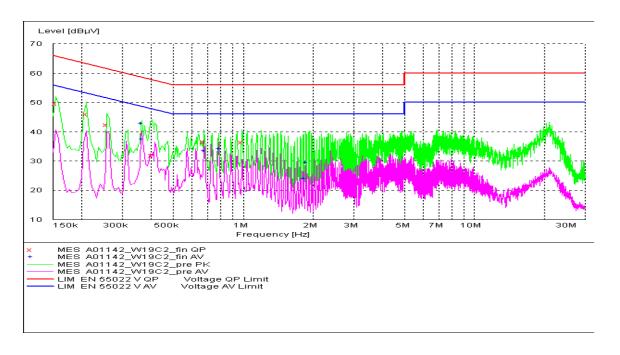
F	requency	Level	Transd	Limit	Margin	Line	PE
	MHz	dΒμV		dB d	lΒμV	dB	
	2.314055	51.00	10.1	56	5.0	L1	GND
	2.688146	49.50	10.1	56	6.5	N	GND
	2.736921	46.80	10.1	56	9.2	L1	GND
	2.781020	49.40	10.1	56	6.6	N	GND
	2.825829	44.20	10.1	56	11.8	L1	GND
	2.923460	49.30	10.1	56	6.7	L1	GND



# MEASUREMENT RESULT: "A01142\_W19C1\_fin AV"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dB	ιV	dB d	lΒμV	dB	
1.707000	20.90	10.1	46	25.1	L1	GND
1.846500	32.00	10.1	46	14.0	L1	GND
2.263751	20.70	10.1	46	25.3	L1	GND
2.314055	32.70	10.1	46	13.3	L1	GND
2.536815	19.60	10.1	46	26.4	L1	GND
3.018427	21.00	10.1	46	25.0	L1	GND





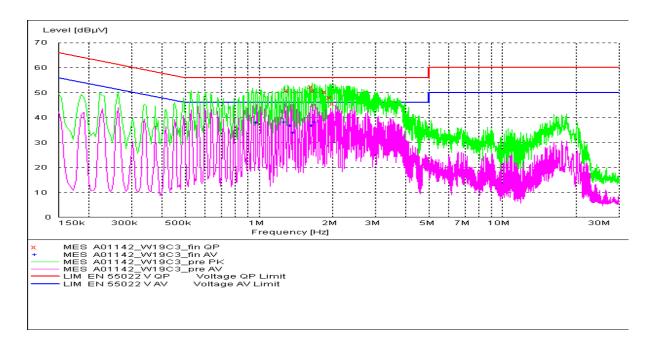
## MEASUREMENT RESULT: "A01142\_W19C2\_fin QP"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dΒμ	ιV	dB o	lΒμV	dB	
0.154500	49.60	10.1	66	16.2	L1	GND
0.208500	46.00	10.1	63	17.3	L1	GND
0.258000	42.40	10.1	62	19.1	N	GND
0.402000	32.00	10.1	58	25.8	L1	GND
0.676500	36.60	10.1	56	19.4	L1	GND
0.987000	36.40	10.1	56	19.6	L1	GND

### MEASUREMENT RESULT: "A01142\_W19C2\_fin AV"

Frequenc	•		Transd	Limit	Margin	Line	PE
N	ИHz	dΒμ	V	dB d	lΒμV	dB	
0.36150	00	42.80	10.1	49	5.9	L1	GND
0.36600	00	37.50	10.1	49	11.0	L1	GND
0.67650	00	33.50	10.1	46	12.5	L1	GND
0.78000	00	34.10	10.1	46	11.9	N	GND
1.81950	00	24.10	10.1	46	21.9	N	GND
1.86900	00	29.40	10.1	46	16.6	L1	GND





### MEASUREMENT RESULT: "A01142\_W19C3\_fin QP"

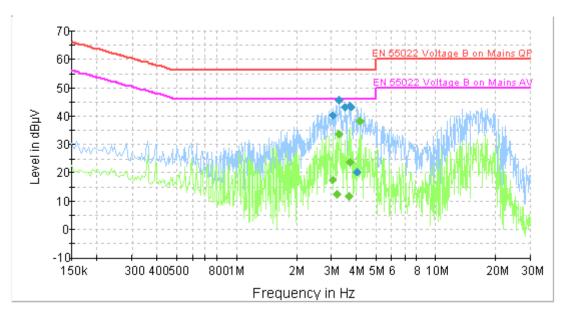
Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dΒμV		dB d	lΒμV	dB	
1.311000	51.00	10.1	56	5.0	L1	GND
1.657500	52.40	10.1	56	3.6	L1	GND
1.684500	50.90	10.1	56	5.1	L1	GND
1.882500	50.30	10.1	56	5.7	N	GND
1.959000	48.10	10.1	56	7.9	N	GND
2.024120	45.60	10.1	56	10.4	N	GND

### MEASUREMENT RESULT: "A01142\_W19C3\_fin AV"

Frequen	•				Margin	Line	PE
I	MHz	dΒμ	ιV	dB d	lΒμV	dB	
0.9780	00	38.00	10.1	46	8.0	N	GND
1.2795	00	38.10	10.1	46	7.9	N	GND
1.3515	00	36.80	10.1	46	9.2	N	GND
1.3875	00	33.90	10.1	46	12.1	N	GND
1.6575	00	36.80	10.1	46	9.2	N	GND
1.6935	00	38.20	10.1	46	7.8	N	GND







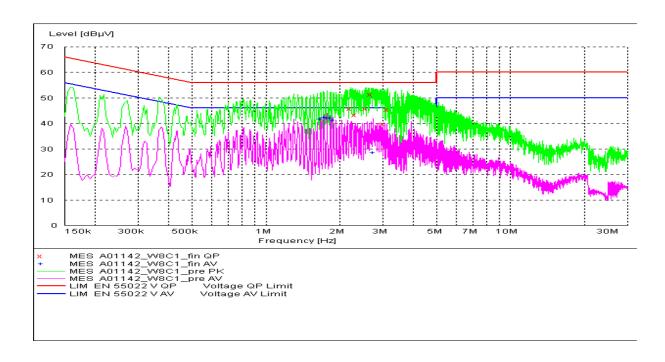
# **Final Result 1**

i iiiai itos	I mai result i											
Frequency	QuasiPeak	PE	Line	Corr.	Margin	Limit						
3.055943	40.2	GND	L1	9.8	15.8	56.0						
3.293337	45.6	GND	L1	9.8	10.4	56.0						
3.531515	43.1	GND	L1	9.8	12.9	56.0						
3.730678	43.6	GND	L1	9.8	12.4	56.0						
3.768078	43.3	GND	L1	9.8	12.7	56.0						
4.040589	20.3	GND	L1	9.8	35.7	56.0						

# **Final Result 2**

Frequency	Average	PE	Line	Corr.	Margin	Limit
3.055943	17.5	GND	N	9.8	28.5	46.0
3.212224	12.3	GND	L1	9.8	33.7	46.0
3.293337	33.7	GND	L1	9.8	12.3	46.0
3.693649	11.8	GND	L1	9.8	34.2	46.0
3.730678	23.9	GND	L1	9.8	22.1	46.0
4.163332	38.3	GND	L1	9.8	7.7	46.0





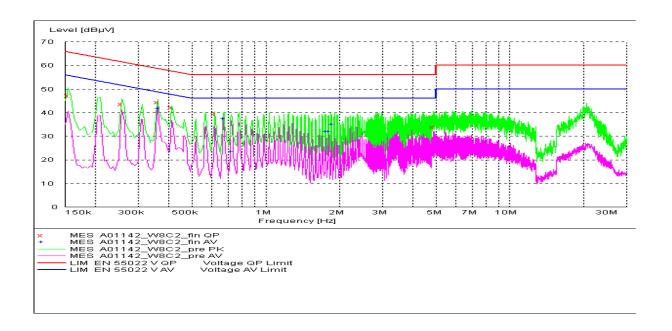
## MEASUREMENT RESULT: "A01142\_W8C1\_fin QP"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dΒμ	ιV	dB d	lΒμV	dB	
2.218970	45.80	10.1	56	10.2	N	GND
2.314055	43.40	10.1	56	12.6	N	GND
2.562285	45.70	10.1	56	10.3	L1	GND
2.688146	51.30	10.1	56	4.7	L1	GND
3.042647	39.80	10.1	56	16.2	L1	GND
3.141486	45.30	10.1	56	10.7	L1	GND

### MEASUREMENT RESULT: "A01142\_W8C1\_fin AV"

Frequer	ncy	Level	Transd	Limit	Margin	Line	PE
	MHz	dΒμ	ιV	dB o	lΒμV	dB	
1.6710	000	41.60	10.1	46	4.4	L1	GND
1.7250	000	42.30	10.1	46	3.7	L1	GND
1.7790	000	42.20	10.1	46	3.8	L1	GND
1.8330	000	42.00	10.1	46	4.0	L1	GND
1.8870	000	41.20	10.1	46	4.8	L1	GND
2.7478	880	28.50	10.1	46	17.5	L1	GND





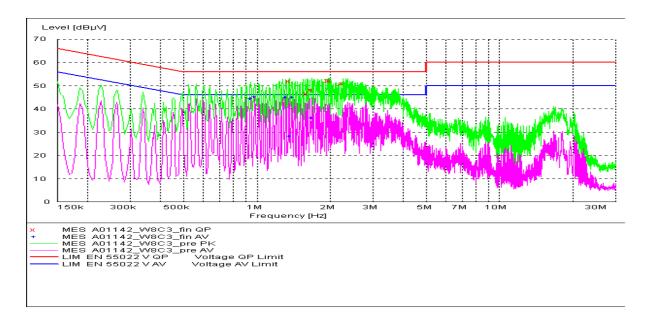
### MEASUREMENT RESULT: "A01142\_W8C2\_fin QP"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dΒμ	ιV	dB d	lΒμV	dB	
0.154500	47.30	10.1	66	18.4	L1	GND
0.258000	43.70	10.1	62	17.8	L1	GND
0.361500	44.40	10.1	59	14.3	L1	GND
0.411000	42.20	10.1	58	15.4	L1	GND
0.618000	39.40	10.1	56	16.6	L1	GND
4.846527	33.80	10.2	56	22.2	L1	GND

### MEASUREMENT RESULT: "A01142\_W8C2\_fin AV"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dB	ιV	dB d	lΒμV	dB	
0.361500	41.90	10.1	49	6.8	L1	GND
0.667500	37.60	10.1	46	8.4	L1	GND
0.721500	23.60	10.1	46	22.4	N	GND
1.756500	32.10	10.1	46	13.9	N	GND
1.806000	32.10	10.1	46	13.9	N	GND
1.855500	35.10	10.1	46	10.9	L1	GND





# MEASUREMENT RESULT: "A01142\_W8C3\_fin QP"

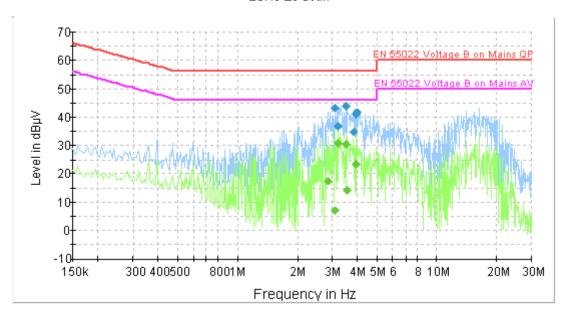
Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dΒμ	ιV	dB d	lΒμV	dB	
1.356000	52.00	10.1	56	4.0	L1	GND
1.612500	46.60	10.1	56	9.4	N	GND
1.680000	48.20	10.1	56	7.8	L1	GND
1.959000	52.10	10.1	56	3.9	L1	GND
1.995000	52.10	10.1	56	3.9	L1	GND
2.259233	51.00	10.1	56	5.0	L1	GND

### MEASUREMENT RESULT: "A01142\_W8C3\_fin AV"

Frequency	Level			Margin	Line	PE
MHz	dΒμ	ιV	dB c	lΒμV	dB	
0.942000	44.30	10.1	46	1.7	L.1	GND
0.978000	45.20	10.1	46	0.8	L1	GND
1.315500	45.00	10.1	46	1.0	L1	GND
1.356000	28.30	10.1	46	17.7	L1	GND
1.392000	44.90	10.1	46	1.1	L1	GND
1.684500	36.20	10.1	46	9.8	L1	GND







# **Final Result 1**

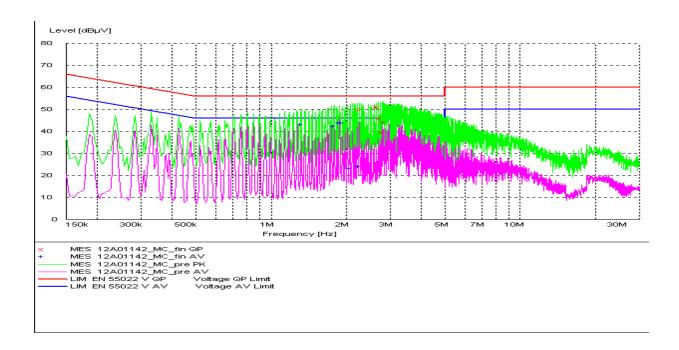
mar Roodit i								
Frequency	QuasiPeak	PE	Line	Corr.	Margin	Limit		
3.102012	43.2	GND	L1	9.8	12.8	56.0		
3.228286	36.9	GND	L1	9.8	19.1	56.0		
3.531515	43.9	GND	L1	9.8	12.1	56.0		
3.824882	34.7	GND	L1	9.8	21.3	56.0		
3.960778	41.2	GND	L1	9.8	14.8	56.0		
4.000485	41.8	GND	L1	9.8	14.2	56.0		

# **Final Result 2**

Frequency	Average	PE	Line	Corr.	Margin	Limit
2.864089	17.4	GND	N	9.8	28.6	46.0
3.102012	7.0	GND	L1	9.8	39.0	46.0
3.212224	30.7	GND	L1	9.8	15.3	46.0
3.531515	30.3	GND	N	9.8	15.7	46.0
3.566918	14.1	GND	L1	9.8	31.9	46.0
3.960778	23.4	GND	N	9.8	22.6	46.0



### MP3



### MEASUREMENT RESULT: "12A01142\_MC\_fin QP"

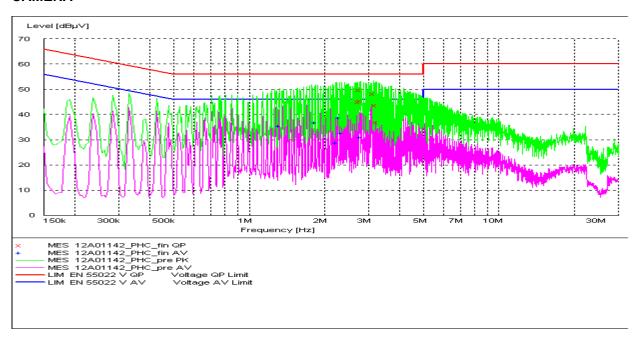
Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dΒμ	ιV	dB d	lΒμV	dB	
2.259233	50.00	10.1	56	6.0	L1	GND
2.640239	51.10	10.1	56	4.9	L1	GND
2.688146	50.70	10.1	56	5.3	L1	GND
2.736921	46.00	10.1	56	10.0	L1	GND
2.803335	39.60	10.1	56	16.4	L1	GND
2.848503	44.10	10.1	56	11.9	L1	GND

# MEASUREMENT RESULT: "12A01142\_MC\_fin AV"

Fr	equency	Level	Transd	Limit	Margin	Line	PE
	MHz	dΒμ	ιV	dB o	lΒμV	dB	
1	.320000	43.20	10.1	46	2.8	L1	GND
1	.792500	42.40	10.1	46	3.6	L1	GND
1	.882500	43.80	10.1	46	2.2	L1	GND
1	.932000	43.90	10.1	46	2.1	L1	GND
2	.073237	23.10	10.1	46	22.9	L1	GND
2	.259233	24.10	10.1	46	21.9	N	GND



### **CAMERA**



### MEASUREMENT RESULT: "12A01142\_PHC\_fin QP"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dΒμ	ιV	dB d	lΒμV	dB	
2.726006	44.90	10.1	56	11.1	L1	GND
2.775469	49.70	10.1	56	6.3	N	GND
2.803335	45.30	10.1	56	10.7	L1	GND
3.154064	48.10	10.1	56	7.9	N	GND
3.198487	43.60	10.1	56	12.4	N	GND
3.243535	36.90	10.1	56	19.1	N	GND

### MEASUREMENT RESULT: "12A01142\_PHC\_fin AV"

Frequency	Level	Transd	Limit	Margin	Line	PE
ME	Iz dB <sub>l</sub>	uV	dB d	lΒμV	dB	
1.320000	35.40	10.1	46	10.6	N	GND
1.837500	36.60	10.1	46	9.4	N	GND
2.241249	28.70	10.1	46	17.3	L1	GND
2.304826	38.70	10.1	46	7.3	N	GND
2.356043	32.60	10.1	46	13.4	N	GND
2.803335	30.90	10.1	46	15.1	L1	GND



## **A.4 FREQUENCY STABILITY** (§2.1055/§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 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. Remeasure carrier frequency at room temperature with nominal voltage. Vary supply voltage from minimum voltage to maximum voltage, in 0.1Volt increments remeasuring carrier frequency at each voltage. Pause at nominal voltage for 1 1/2 hours unpowered, to allow any self-heating to stabilize, before continuing.
- 6. Subject the EUT to overnight soak at +50°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 3.5VDCand 4.2VDC with a nominal voltage of 3.7VDC. Operation above or below these voltage limits is prohibited by transceiver software in order to prevent improper operation as well as to protect components from overstress. These voltages represent a tolerance of -10 % and +12.5 %. For the purposes of measuring frequency stability these voltage limits are to be used.

### A.4.2.2 For equipment powered by primary supply voltage

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



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

### A.4.3 Measurement results

### **WCDMA Band II**

### Frequency Error vs Voltage

Voltage(V)	Frequency error(Hz)	Frequency error(ppm)
3.5	-5	0.027
3.7	-3	0.016
4.2	-4	0.021

### **Frequency Error vs Temperature**

requested in the results of the resu								
temperature(°C)	Frequency error(Hz)	Frequency error(ppm)						
-30	-5	0.027						
-20	-4	0.021						
-10	-4	0.021						
0	-3	0.016						
10	-3	0.016						
20	-3	0.016						
30	-4	0.021						
40	-4	0.021						
50	-5	0.027						

### WCDMA Band V

### Frequency Error vs Voltage

Voltage(V)	Frequency error(Hz)	Frequency error(ppm)
3.5	10	0.034
3.7	8	0.027
4.2	12	0.041

## **Frequency Error vs Temperature**

requeries, and remperature		
temperature(℃)	Frequency error(Hz)	Frequency error(ppm)
-30	12	0.041
-20	10	0.034
-10	10	0.034
0	8	0.027
10	8	0.027
20	8	0.027
30	10	0.034
40	10	0.034
50	12	0.041



# A.5 OCCUPIED BANDWIDTH (§2.1049(h)(i))

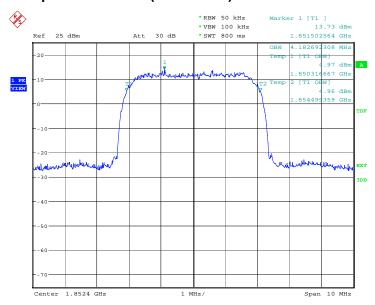
### A.5.1 Occupied Bandwidth Results

Similar to conducted emissions; occupied bandwidth measurements are only provided for selected frequencies in order to reduce the amount of submitted data. Data were taken at the extreme and mid frequencies of WCDMA Band II and WCDMA Band V. The table below lists the measured -20dBc BW. Spectrum analyzer plots are included on the following pages.

### WCDMA Band II(-20dBc)

Frequency(MHz)	Occupied Bandwidth (-20dBc BW)( MHz)
1852.4	4.182
1880.0	4.182
1907.6	4.182

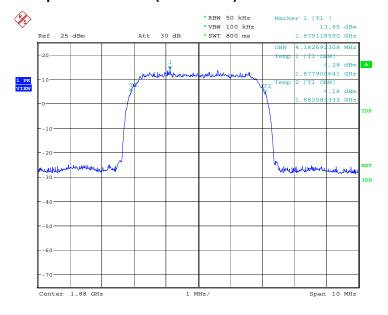
WCDMA Band II Channel 9262-Occupied Bandwidth (-20dBc BW)



Date: 29.FEB.2012 08:36:31

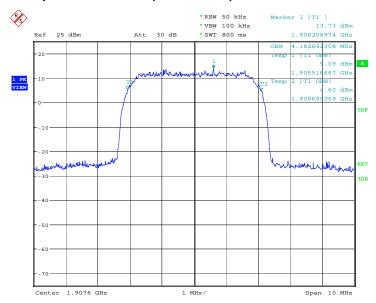


### Channel 9400-Occupied Bandwidth (-20dBc BW)



Date: 29.FEB.2012 08:37:05

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



Date: 29.FEB.2012 08:37:39

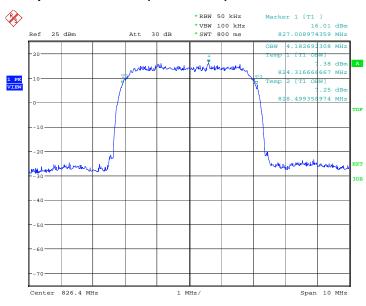


# WCDMA Band V(-20dBc)

Frequency(MHz)	Occupied Bandwidth (-20dBc BW)( MHz)
826.4	4.182
836.6	4.182
846.6	4.182

### **WCDMA Band V**

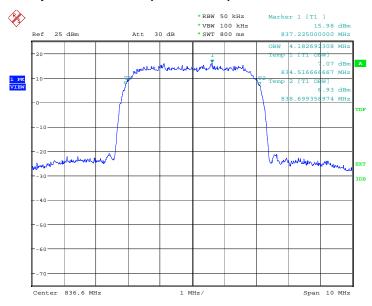
# Channel 4132-Occupied Bandwidth (-20dBc BW)



Date: 29.FEB.2012 08:53:41

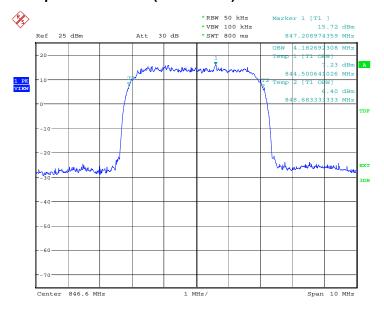


# Channel 4183-Occupied Bandwidth (-20dBc BW)



Date: 29.FEB.2012 08:54:16

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



Date: 29.FEB.2012 08:54:50



# A.6 EMISSION BANDWIDTH (§22.917(b)/§24.238(b))

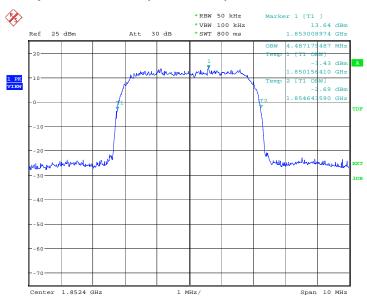
#### A.6.1Emission Bandwidth Results

Similar to conducted emissions; Emission bandwidth measurements are only provided for selected frequencies in order to reduce the amount of submitted data. Data were taken at the extreme and mid frequencies of WCDMA Band II and WCDMA Band V. Table below lists the measured -26dBc BW. Spectrum analyzer plots are included on the following pages.

#### WCDMA Band II(-26dBc)

Frequency(MHz)	Occupied Bandwidth (–26dBc BW)( MHz)
1852.4	4.487
1880.0	4.487
1907.6	4.503

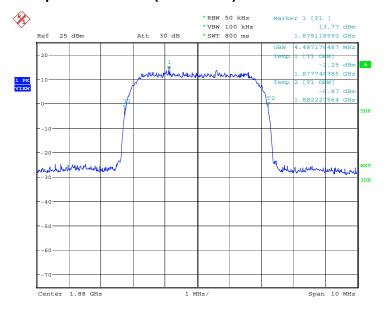
# WCDMA Band II Channel 9262-Occupied Bandwidth (-26dBc BW)



Date: 29.FEB.2012 08:38:15

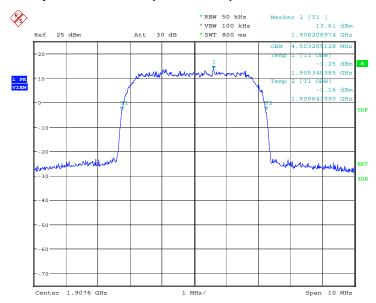


## Channel 9400-Occupied Bandwidth (-26dBc BW)



Date: 29.FEB.2012 08:38:50

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



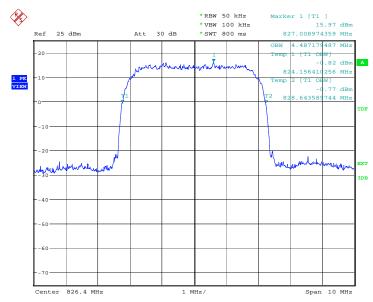
Date: 29.FEB.2012 08:39:24



# WCDMA Band V(-26dBc)

Frequency(MHz)	Occupied Bandwidth (–26dBc BW)( MHz)
826.40	4.487
836.60	4.487
846.60	4.471

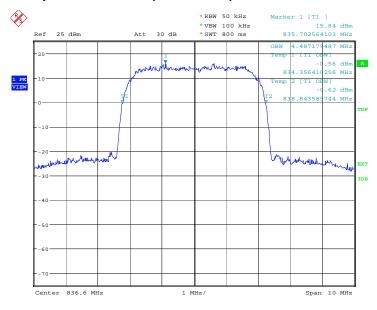
# WCDMA Band V Channel 4132-Occupied Bandwidth (-26dBc BW)



Date: 29.FEB.2012 08:55:26

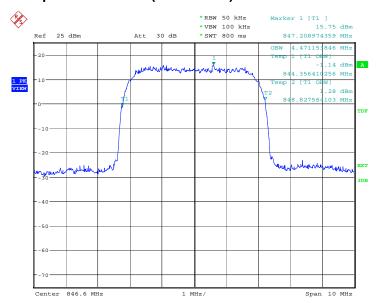


# Channel 4183-Occupied Bandwidth (-26dBc BW)



Date: 29.FEB.2012 08:56:01

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

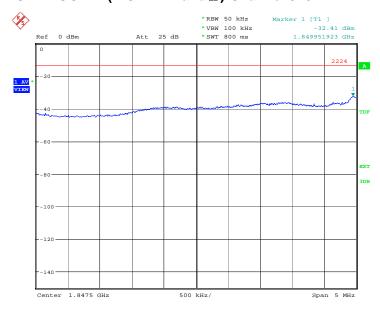


Date: 29.FEB.2012 08:56:35



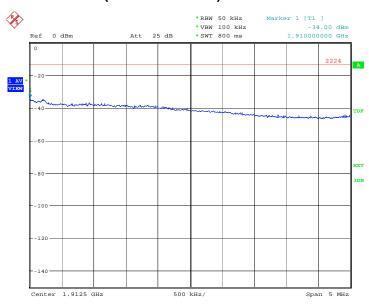
# A.7 BAND EDGE COMPLIANCE (§22.917(b)/§24.238(b))

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



Date: 29.FEB.2012 08:39:36

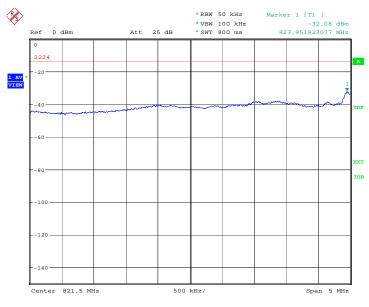
## HIGH BAND EDGE BLOCK-C (WCDMA Band II) -Channel 9538



Date: 29.FEB.2012 08:39:47

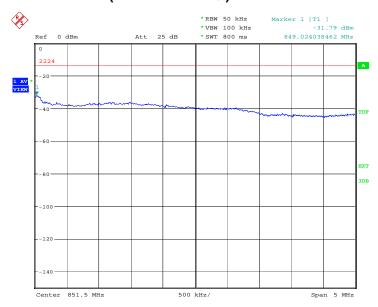


# WCDMA Band V LOW BAND EDGE BLOCK-A (WCDMA Band $\,V$ )-Channel 4132



Date: 29.FEB.2012 08:56:46

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



Date: 29.FEB.2012 08:56:57



# A.8 CONDUCTED SPURIOUS EMISSION (§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 taken from 30 MHz to 20 GHz. For WCDMA Band V, data taken from 30 MHz to 10GHz.
- 2. The sweep time is set automatically by instrument itself. That should be the optimal sweep time for the span and the RBW. If the sweep time is too short, that is sweep is too fast, the sweep result is not accurate; If the sweep time is too long, that is sweep is too low, some frequency components may be lost. The instrument will give a optimal sweep time according the selected span and RBW.
- The procedure to get the conducted spurious emission is as follows:
   The trace mode is set to MaxHold to get the highest signal at each frequency;
   Wait 25 seconds;
   Get the result.
- 4. Determine EUT transmit frequencies: below outlines the band edge frequencies pertinent to conducted emissions testing.

#### 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 24.238 and Part 22.917 specify that the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

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

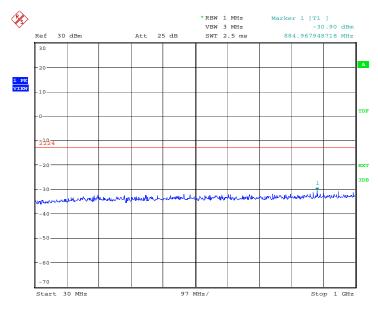


#### A.8.3 Measurement result

#### **WCDMA Band II**

#### A. 8.3.1 Channel 9262: 30MHz -1GHz

Spurious emission limit -13dBm.

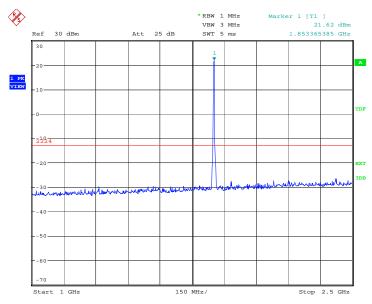


Date: 29.FEB.2012 08:40:18

#### A.8.3.2 Channel 9262: 1GHz -2.5GHz

Spurious emission limit -13dBm.

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

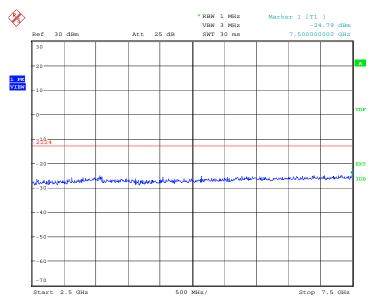


Date: 29.FEB.2012 08:40:46



#### A.8.3.3 Channel 9262: 2.5GHz -7.5GHz

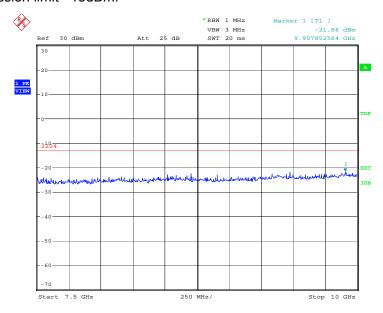
Spurious emission limit -13dBm.



Date: 29.FEB.2012 08:41:14

## A.8.3.4 Channel 9262: 7.5GHz -10GHz

Spurious emission limit -13dBm.

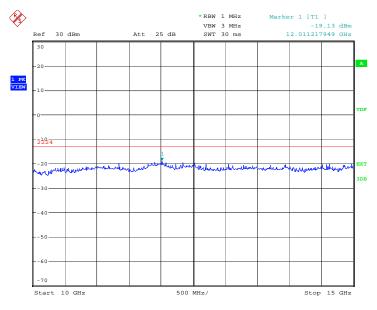


Date: 29.FEB.2012 08:41:42



#### A.8.3.5 Channel 9262: 10GHz -15GHz

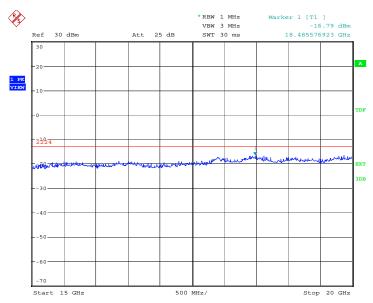
Spurious emission limit -13dBm.



Date: 29.FEB.2012 08:42:11

## A.8.3.6 Channel 9262: 15GHz -20GHz

Spurious emission limit -13dBm.

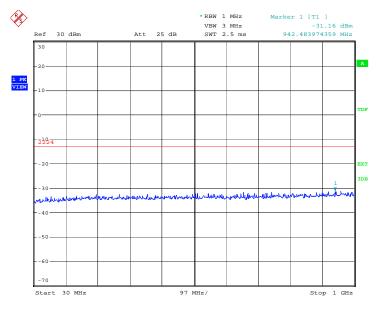


Date: 29.FEB.2012 08:42:39



#### A. 8.3.7 Channel 9400: 30MHz -1GHz

Spurious emission limit -13dBm.

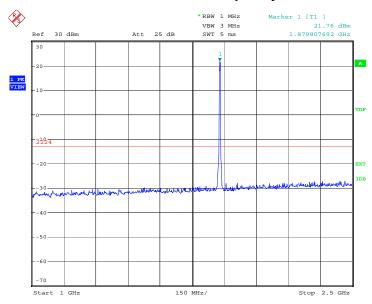


Date: 29.FEB.2012 08:43:10

#### A.8.3.8 Channel 9400: 1GHz -2.5GHz

Spurious emission limit -13dBm.

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

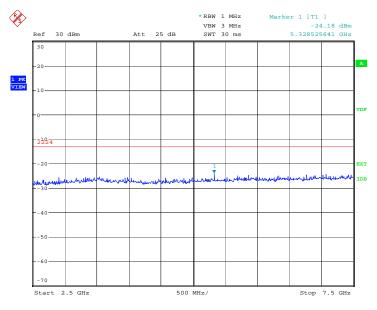


Date: 29.FEB.2012 08:43:38



#### A.8.3.9 Channel 9400: 2.5GHz -7.5GHz

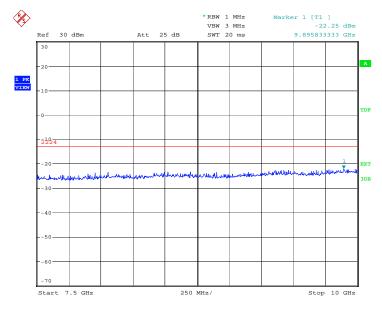
Spurious emission limit -13dBm.



Date: 29.FEB.2012 08:44:06

#### A.8.3.10 Channel 9400: 7.5GHz -10GHz

Spurious emission limit -13dBm.

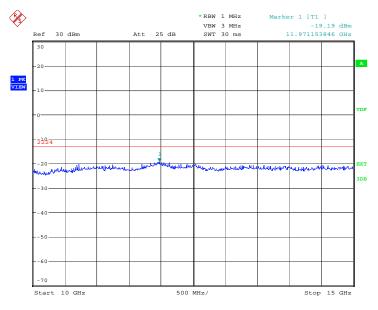


Date: 29.FEB.2012 08:44:35



#### A.8.3.11 Channel 9400: 10GHz -15GHz

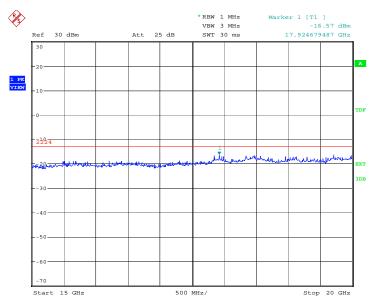
Spurious emission limit -13dBm.



Date: 29.FEB.2012 08:45:03

#### A.8.3.12 Channel 9400: 15GHz -20GHz

Spurious emission limit -13dBm.

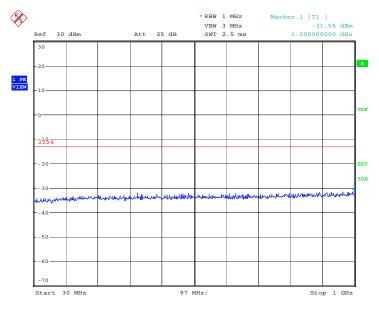


Date: 29.FEB.2012 08:45:31



#### A. 8.3.13 Channel 9538: 30MHz -1GHz

Spurious emission limit -13dBm.

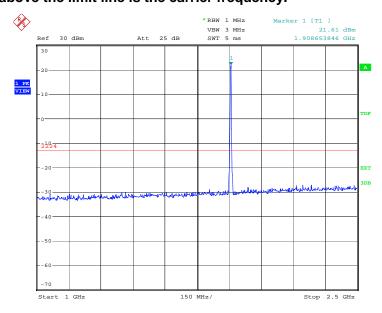


Date: 29.FEB.2012 08:46:02

#### A.8.3.14 Channel 9538: 1GHz -2.5GHz

Spurious emission limit -13dBm.

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

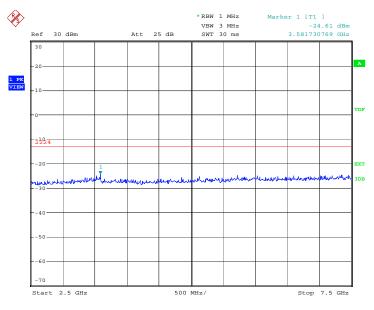


Date: 29.FEB.2012 08:46:31



#### A.8.3.15 Channel 9538: 2.5GHz -7.5GHz

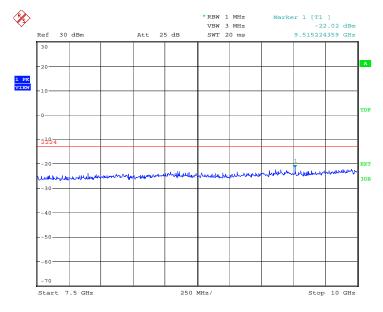
Spurious emission limit -13dBm.



Date: 29.FEB.2012 08:46:59

#### A.8.3.16 Channel 9538: 7.5GHz -10GHz

Spurious emission limit -13dBm.

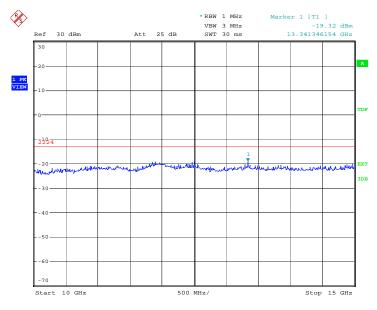


Date: 29.FEB.2012 08:47:27



#### A.8.3.17 Channel 9538: 10GHz -15GHz

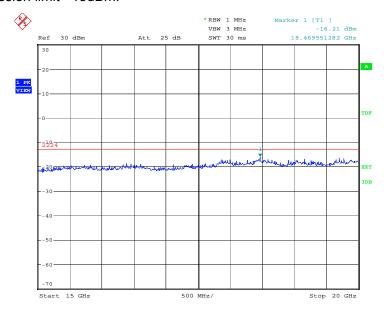
Spurious emission limit -13dBm.



Date: 29.FEB.2012 08:47:55

#### A.8.3.18 Channel 9538: 15GHz -20GHz

Spurious emission limit -13dBm.

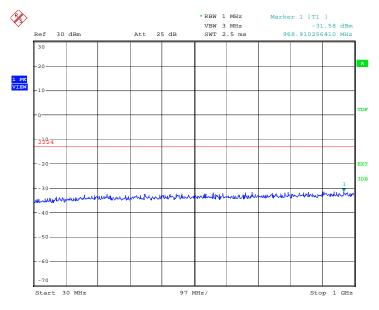


Date: 29.FEB.2012 08:48:24



#### A. 8.3.19 Idle mode: 30MHz -1GHz

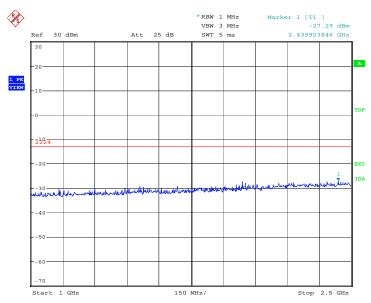
Spurious emission limit -13dBm.



Date: 29.FEB.2012 08:48:53

#### A.8.3.20 Idle mode: 1GHz -2.5GHz

Spurious emission limit -13dBm.

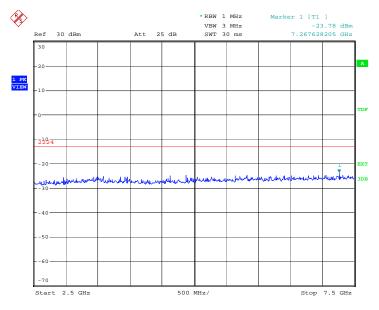


Date: 29.FEB.2012 08:49:21



## A.8.3.21 Idle mode: 2.5GHz -7.5GHz

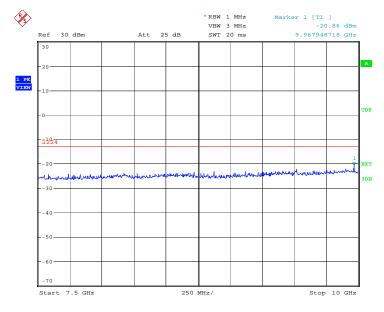
Spurious emission limit -13dBm.



Date: 29.FEB.2012 08:49:49

#### A.8.3.22 Idle mode: 7.5GHz -10GHz

Spurious emission limit -13dBm.

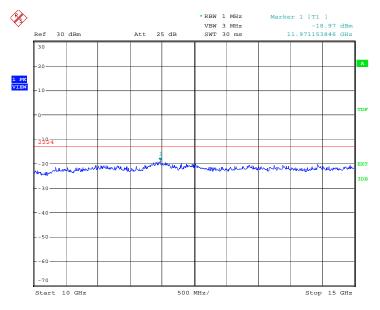


Date: 29.FEB.2012 08:50:17



#### A.8.3.23 Idle mode: 10GHz -15GHz

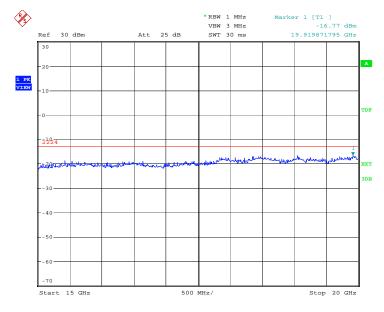
Spurious emission limit -13dBm.



Date: 29.FEB.2012 08:50:46

#### A.8.3.24 Idle mode: 15GHz -20GHz

Spurious emission limit -13dBm.



Date: 29.FEB.2012 08:51:14

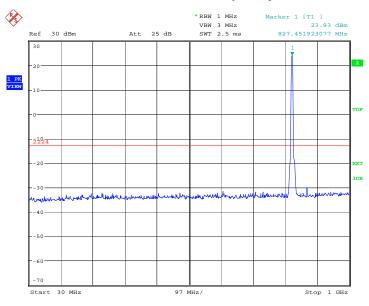


#### WCDMA Band V

#### A. 8.3.25 Channel 4132: 30MHz -1GHz

Spurious emission limit -13dBm.

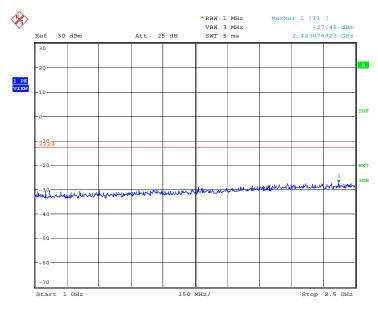
NOTE: peak above the limit line is the carrier frequency.



Date: 29.FEB.2012 08:57:28

## A. 8.3.26 Channel 4132: 1GHz - 2.5GHz

Spurious emission limit -13dBm.



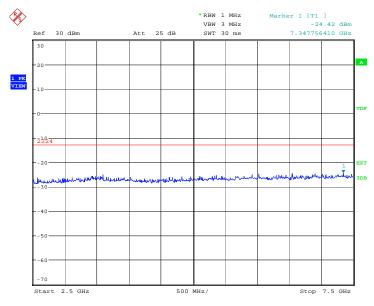
Date: 29.FEB.2012 08:57:56



#### A. 8.3.27 Channel 4132: 2.5GHz -7.5GHz

Spurious emission limit -13dBm.

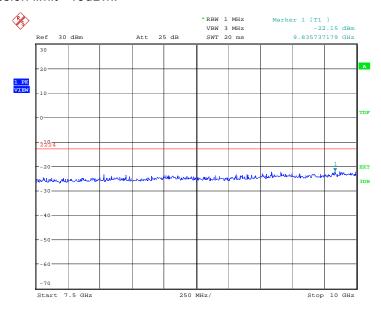
NOTE: peak above the limit line is the carrier frequency.



Date: 29.FEB.2012 08:58:25

#### A. 8.3.28 Channel 4132: 7.5GHz - 10GHz

Spurious emission limit -13dBm.



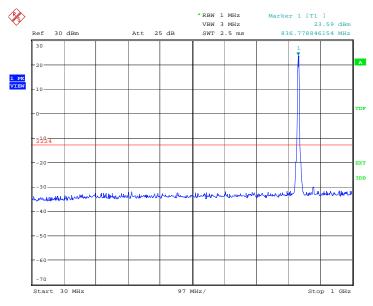
Date: 29.FEB.2012 08:58:53



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

Spurious emission limit -13dBm.

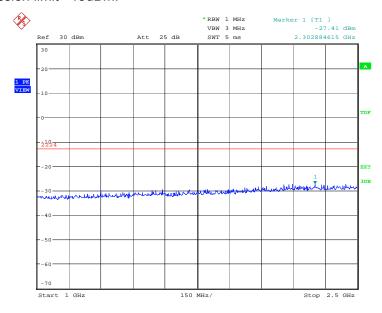
NOTE: peak above the limit line is the carrier frequency.



Date: 29.FEB.2012 08:59:24

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

Spurious emission limit -13dBm.



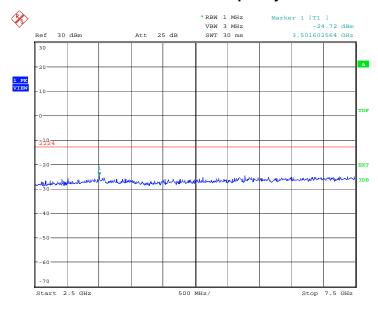
Date: 29.FEB.2012 08:59:52



#### A. 8.3.31 Channel 4183: 2.5GHz -7.5GHz

Spurious emission limit -13dBm.

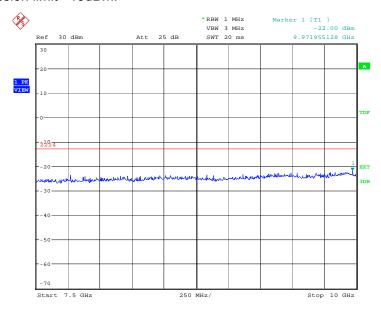
NOTE: peak above the limit line is the carrier frequency.



Date: 29.FEB.2012 09:00:20

#### A. 8.3.32 Channel 4183: 7.5GHz - 10GHz

Spurious emission limit -13dBm.



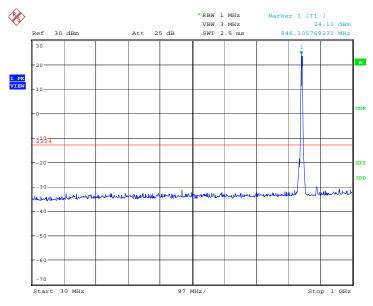
Date: 29.FEB.2012 09:00:48



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

Spurious emission limit -13dBm.

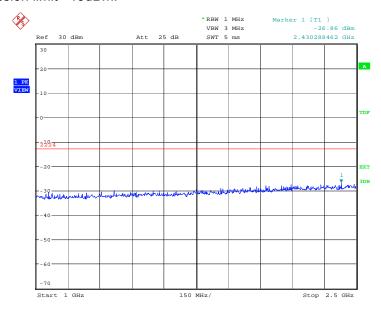
NOTE: peak above the limit line is the carrier frequency.



Date: 29.FEB.2012 09:01:19

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

Spurious emission limit -13dBm.



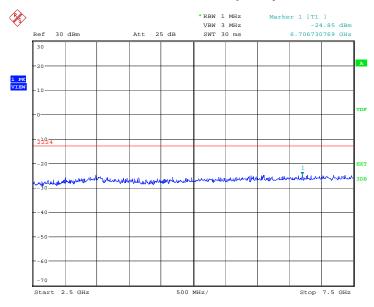
Date: 29.FEB.2012 09:01:48



#### A. 8.3.35 Channel 4233: 2.5GHz -7.5GHz

Spurious emission limit -13dBm.

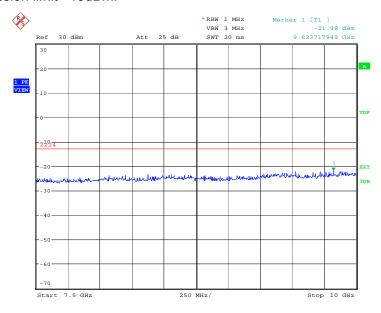
NOTE: peak above the limit line is the carrier frequency.



Date: 29.FEB.2012 09:02:16

#### A. 8.3.36 Channel 4233: 7.5GHz - 10GHz

Spurious emission limit -13dBm.

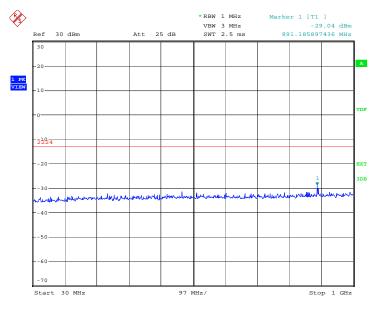


Date: 29.FEB.2012 09:02:44



#### A. 8.3.37 Idle mode: 30MHz - 1GHz

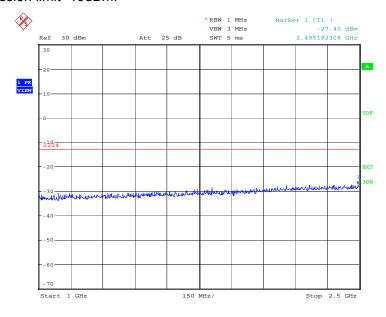
Spurious emission limit -13dBm.



Date: 29.FEB.2012 09:03:13

#### A.8.3.38 Idle mode: 1GHz - 2.5GHz

Spurious emission limit -13dBm.

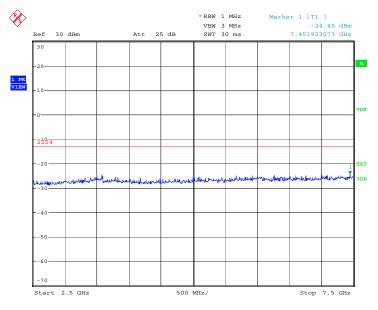


Date: 29.FEB.2012 09:03:41



## A.8.3.39 Idle mode: 2.5GHz - 7.5GHz

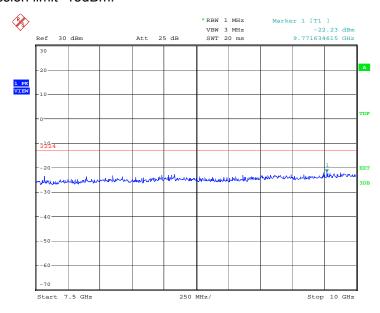
Spurious emission limit -13dBm.



Date: 29.FEB.2012 09:04:09

# A.8.3.40 Idle mode: 7.5GHz - 10GHz

Spurious emission limit -13dBm.



Date: 29.FEB.2012 09:04:38

## \*\*\*END OF REPORT\*\*\*