TEST REPORT

No. 2008TAR074

for

TCT Mobile Suzhou Limited

GSM/UMTS Data Card

Model Name: LeMans

Marketing Name: One Touch X200

with

Hardware Version: PIO5

Software Version: FL1BE3D0

Issued Date: Dec 13th, 2008

Deutscher Akkreditierungs Rat DAR

No. DAT-P-114/01-01

FC

Registration Number: 733176

Industry Canada / Industrie Canada

IC O.A.T.S registration number: 6629A-1

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:

TMC Beijing, Telecommunication Metrology Center of Ministry of Information Industry

No. 52, Huayuan Bei Road, Haidian District, Beijing, P. R. China 100083.

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1. Test Laboratory

1.1. Testing Location

Company Name:	TMC Beijing, Telecommunication Metrology Center of MII
Address:	No 52, Huayuan beilu, Haidian District, Beijing,P.R.China
Postal Code:	100083
Telephone:	00861062303288
Fax:	00861062304793
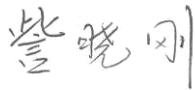
1.2. Testing Environment

Normal Temperature:	15-35℃
Relative Humidity:	20-75%
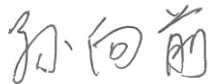
1.3. Project data

Testing Start Date:	Dec 2,2008
Testing End Date:	Dec 10,2008

1.4. Signature

Zi Xiaogang

(Prepared this test report)

Sun Xiangqian

(Reviewed this test report)

Lu Bingsong

Deputy Director of the laboratory

(Approved this test report)

2. Client Information

2.1. Applicant Information

Company Name:	TCT Mobile Suzhou Limited
Address /Post:	4/F, South Building,No.2966, Jinke Road, Zhangjiang High-Tech Park, Pudong, Shanghai, 201203, P.R.China
City:	Shanghai
Postal Code:	201203
Country:	China
Telephone:	+86 (0)21 6146 0697
Fax:	+86 (0)21 6146 0602

2.2. Manufacturer Information

Company Name:	TCT Mobile Suzhou Limited
Address /Post:	4/F, South Building,No.2966, Jinke Road, Zhangjiang High-Tech Park, Pudong, Shanghai, 201203, P.R.China
City:	Shanghai
Postal Code:	201203
Country:	China
Telephone:	+86 (0)21 6146 0697
Fax:	+86 (0)21 6146 0602

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

3.1. About EUT

Description	GSM/UMTS Data Card
Model Name	LeMans
Marketing Name	One Touch X200
Brand name	ALCATEL
FCC ID	RAD095
Frequency	WCDMA BandⅡ;WCDMA BandⅤ
Antenna	Internal
Power supply	Battery or Charger (AC Adaptor)
Output power	19.71 dBm maximum EIRP measured for WCDMA BandⅡ
Extreme vol. Limits	4.75VDC to 5.25VDC (nominal: 5 VDC)
Extreme temp. Tolerance	-30°C to +50°C

Note: Photographs of EUT are shown in ANNEX A of this test report. Components list, please refer to documents of the manufacturer; it is also included in the original test record of Telecommunication Metrology Center of MII of People's Republic of China.

3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version
N02	356525020007213	PIO5	FL1BE3D0

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

3.3. General Description

The Equipment Under Test (EUT) is a model of GSM/UMTS Data Card with integrated antenna.
Manual and specifications of the EUT were provided to fulfil the test.
Samples undergoing test were selected by the Client.

4. Reference Documents

4.1. Reference Documents for testing

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

Reference	Title	Version
FCC Part 24	PERSONAL COMMUNICATIONS SERVICES	V 10.1.06
FCC Part 22	PUBLIC MOBILE SERVICES	V 10.1.06
ANSI/TIA-603-C	Land Mobile FM or PM Communications Equipment Measurement and Performance Standards	2004
ANSI C63.4	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2003

5. <u>LABORATORY ENVIRONMENT</u>

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

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

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

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

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

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

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

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

6. SUMMARY OF TEST RESULTS

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

7. Test Equipments Utilized

NO.	NAME	TYPE	SERIES NUMBER	PRODUCER	CAL DUE DATE
1	Test Receiver	ESS	847151/015	R&S	2009-10-30
2	Test Receiver	ESI40	831564/002	R&S	2009-2-11
3	BiLog Antenna	3142B	9908-1403	EMCO	2009-1-16
4	BiLog Antenna	3142B	9908-1405	EMCO	2009-9-19
5	Signal Generator	SMT06	831285/005	R&S	2008-12-26
6	Signal Generator	SMP04	100070	R&S	2009-4-20
7	LISN	ESH2-Z5	829991/012	R&S	2009-8
8	Spectrum Analyzer	FSU26	200030	R&S	2009-6-18
9	Universal Radio Communication Tester	CMU200	100680	R&S	2009-8-23
10	Dual-Ridge Waveguide Horn Antenna	3115	9906-5827	EMCO	2009-3
11	Dual-Ridge Waveguide Horn Antenna	3116	2663	EMCO	2009-3
12	Dual-Ridge Waveguide Horn Antenna	3116	2661	EMCO	2009-3
13	Climatic chamber	PL-2G	343074	ESPEC	2009-5-15

ANNEX A: EUT photograph

External Photo

Data Card
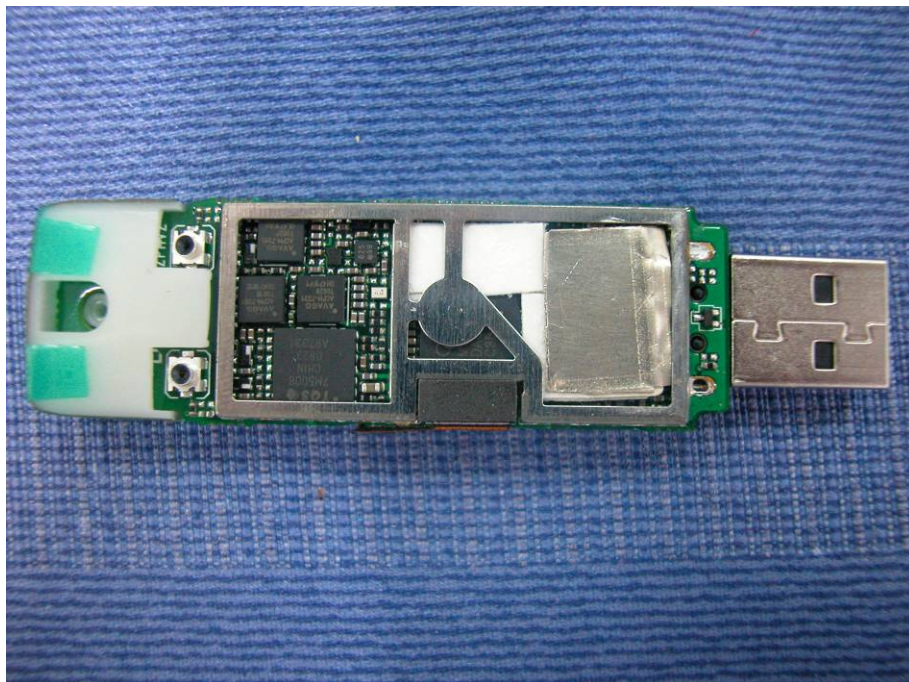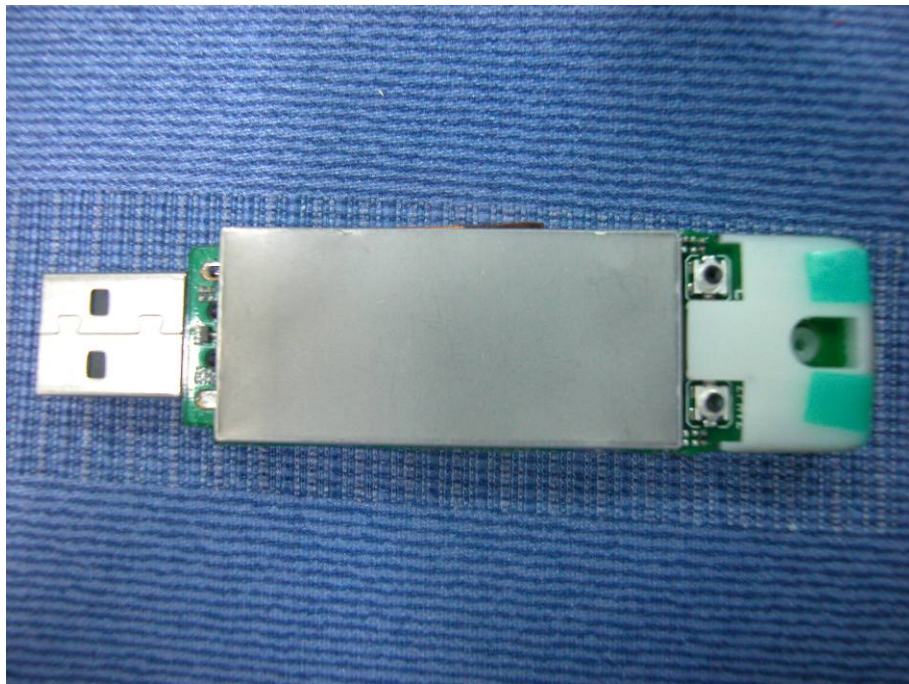

Data Card

Internal Photo
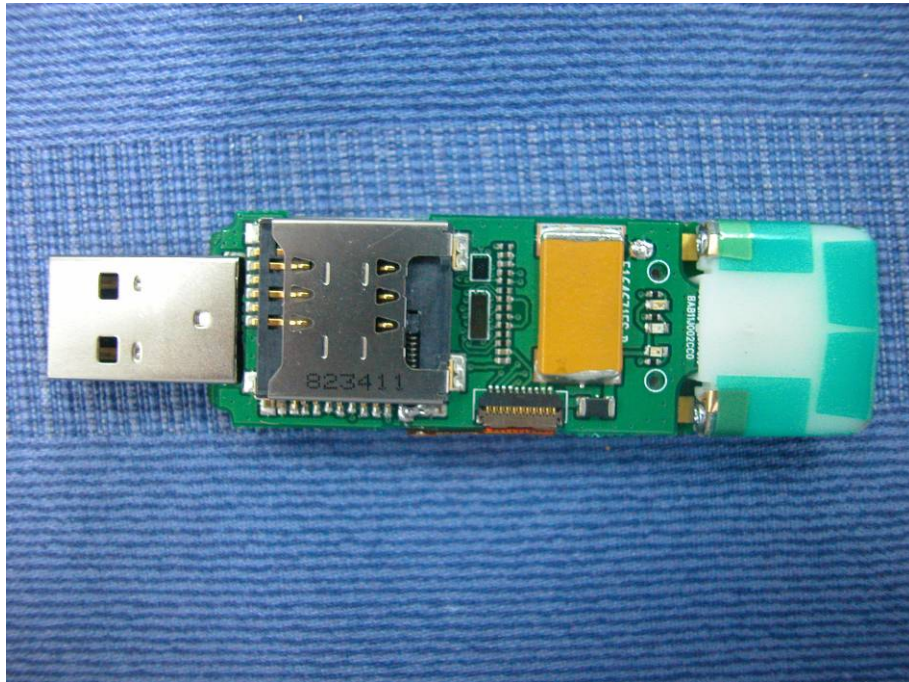
Data Card Disassembly

Data Card Disassembly

Data Card Disassembly
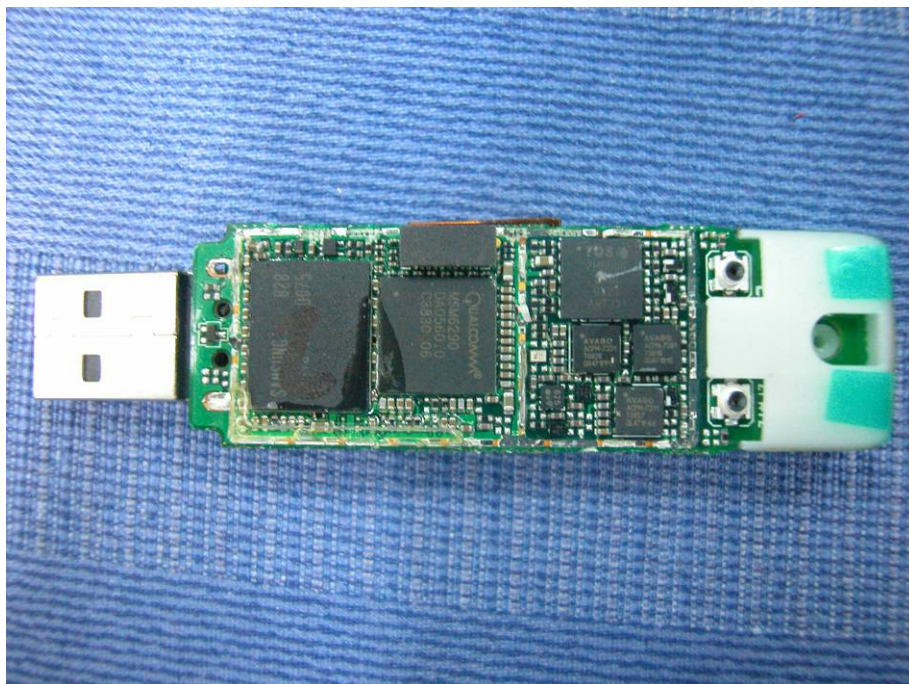
Data Card Disassembly

ANNEX B: MEASUREMENT RESULTS

B.1 OUTPUT POWER   (§22.913(a)/§24.232(b))

B.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.

B.1.2 Conducted

B.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 BandⅡ;826.4MHz, 836.6MHz and 846.6MHz for WCDMA BandⅤ. (bottom, middle and top of operational frequency range).

Limit

According to FCC§2.1046.

WCDMA Band Ⅱ

Measurement result

WCDMA (Band Ⅱ)	CH	Frequency(MHz)	Peak output power(dBm)
	9262	1852.4	21.25
	9400	1880.0	20.85
	9538	1907.6	21.00

WCDMA/HSDPA Band Ⅱ

Measurement result

WCDMA/HSDPA (Band Ⅱ)	CH	Frequency(MHz)	Peak output power(dBm)
	9262	1852.4	20.23
	9400	1880.0	20.14
	9538	1907.6	20.53

WCDMA/HSPA Band Ⅱ

Measurement result

WCDMA/HSPA (Band Ⅱ)	CH	Frequency(MHz)	Peak output power(dBm)
	9262	1852.4	20.68
	9400	1880.0	20.42
	9538	1907.6	20.55

WCDMA Band Ⅴ

Measurement result

WCDMA (Band Ⅴ)	CH	Frequency(MHz)	Peak output power(dBm)
	4132	826.4	21.36
	4183	836.6	21.59
	4233	846.6	21.45

WCDMA/HSDPA Band Ⅴ

Measurement result

WCDMA/HSDPA (Band Ⅴ)	CH	Frequency(MHz)	Peak output power(dBm)
	4132	826.4	20.51
	4183	836.6	20.64
	4233	846.6	20.92

WCDMA/HSPA Band Ⅴ

Measurement result

WCDMA/HSPA (Band Ⅴ)	CH	Frequency(MHz)	Peak output power(dBm)
	4132	826.4	20.44
	4183	836.6	21.10
	4233	846.6	20.30

B.1.3 Radiated

B.1.3.1 Description

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

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

Rule Part 22.913(a) specifies "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."

B.1.3.2 Method of Measurement

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

1. In an anechoic antenna test chamber, a half-wave dipole antenna for the frequency band of interest is placed at the reference centre of the chamber. An RF Signal source for the frequency band of interest is connected to the dipole with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A known (measured) power (Pin) is applied to the input of the dipole, and the power received (Pr) at the chamber's probe antenna is recorded.
2. A "reference path loss" is established as Pin + 2.15 - Pr.
3. The EUT is substituted for the dipole at the reference centre of the chamber and a scan is performed to obtain the radiation pattern.
4. From the radiation pattern, the co-ordinates where the maximum antenna gain occurs are identified.
5. The EUT is then put into pulse mode at its maximum power level .
6. "Gated mode" power measurements are performed with the receiving antenna placed at the coordinates determined in Step 3 to determine the output power as defined in Rule 24.232 (b) and (c). The "reference path loss" from Step1 is added to this result.
7. This value is EIRP since the measurement is calibrated using a half-wave dipole antenna of known gain (2.15 dBi) and known input power (Pin).
8. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP -2.15dBi.

WCDMA Band Ⅱ-EIRP

Measurement result

CH	Frequency(MHz)	Peak EIRP(dBm)	Limit(dBm)
9262	1852.40	19.25	33.00
9400	1880.00	19.48	33.00
9538	1907.60	19.71	33.00

WCDMA/HSDPA Band Ⅱ-EIRP

Measurement result

CH	Frequency(MHz)	Peak EIRP(dBm)	Limit(dBm)
9262	1852.40	19.41	33.00
9400	1880.00	19.48	33.00
9538	1907.60	16.86	33.00

WCDMA/HSPA Band Ⅱ-EIRP

Measurement result

CH	Frequency(MHz)	Peak EIRP(dBm)	Limit(dBm)
9262	1852.40	12.88	33.00
9400	1880.00	11.34	33.00
9538	1907.60	11.86	33.00

WCDMA Band Ⅴ-ERP

Measurement result

CH	Frequency(MHz)	Peak ERP(dBm)	Limit(dBm)
4132	826.40	13.00	38.45
4183	836.60	13.04	38.45
4233	846.60	12.84	38.45

WCDMA/HSDPA Band Ⅴ-ERP

Measurement result

CH	Frequency(MHz)	Peak ERP(dBm)	Limit(dBm)
4132	826.40	10.94	38.45
4183	836.60	10.72	38.45
4233	846.60	11.08	38.45

WCDMA/HSPA Band Ⅴ-ERP

Measurement result

CH	Frequency(MHz)	Peak ERP(dBm)	Limit(dBm)
4132	826.40	8.87	38.45
4183	836.60	9.03	38.45
4233	846.60	8.42	38.45

B.2   EMISSION LIMT   (§2.1051/§24.238)

B.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, which is the transmitted carrier that can be as high as 1910 MHz. The resolution bandwidth is set 1MHz as outlined in Part 24.238. The spectrum was scanned with the mobile station transmitting at carrier frequencies that pertain to low, mid and high channels of the WCDMA BandⅡ ,WCDMA BandⅤ.

The procedure of radiated spurious emissions is as follows:

a) Pre-calibration

With pre-calibration method, the Radiated Spurious Emissions(RSE) is calculated as,

RSE=Rx（dBuV）+CL（dB）+SA（dB）+Gain（dBi）-107（dBuV to dBm）

The SA is calibrated using following setup.
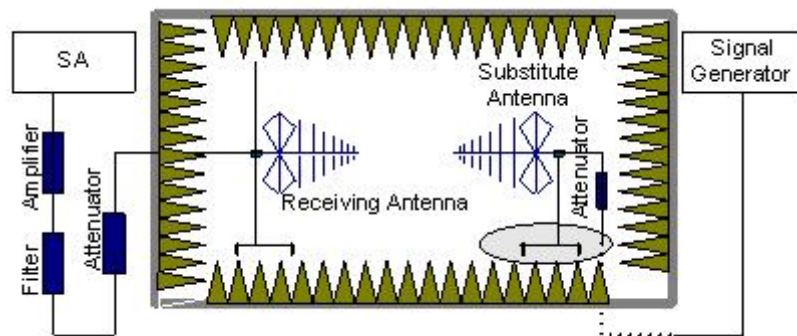
b) EUT test

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 test item 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 test item 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 and 1MHz bandwidth.
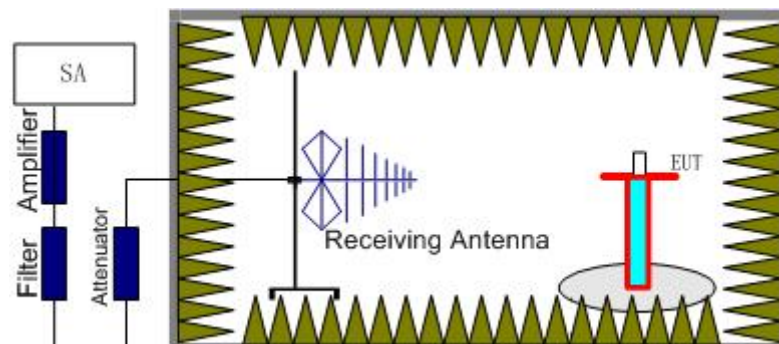
B.2.2 Measurement Limit

Sec. 24.238 Emission Limits.

(a) On any frequency outside a licensee's frequency block (e.g. A, D, B, etc.) within the USPCS spectrum, the power of any emission shall be attenuated below the transmitter power (P, in Watts) by at least 43+10Log(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.

B.2.3 Measurement Results

Radiated emissions measurements were made only at the upper, middle, and lower carrier frequencies of the WCDMA BandⅡ (1852.4 MHz, 1880.0MHz and 1907.6MHz) , 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 BandⅡ, WCDMA BandⅤinto 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.

NOTE: The spurious emissions were done with different settings, using the relevant pre-amplifiers for the relevant frequency ranges. This is the reason that the graphs show different noise levels.

WCDMA BandⅡ

B.2.3.1 RADIATED SPURIOUS EMISSIONS-Channel 9262: 30MHz –2GHz

Radiated spurious emission limit :-13dBm.

NOTE: peak above the limit line is the Carrier frequency @ ch-9262
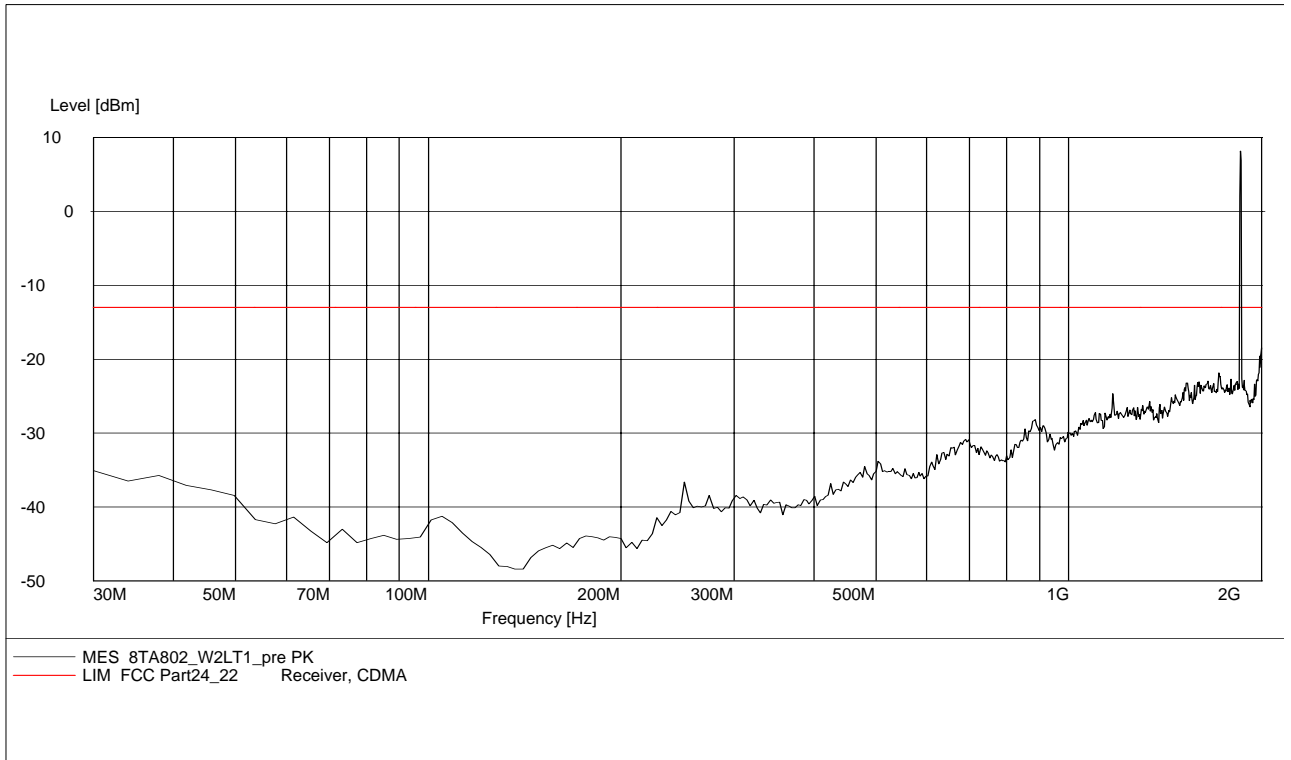
B.2.3.2 RADIATED SPURIOUS EMISSIONS-Channel 9400: 30MHz – 2GHz

Radiated spurious emission limit :-13dBm.

NOTE: peak above the limit line is the Carrier frequency @ ch-9400
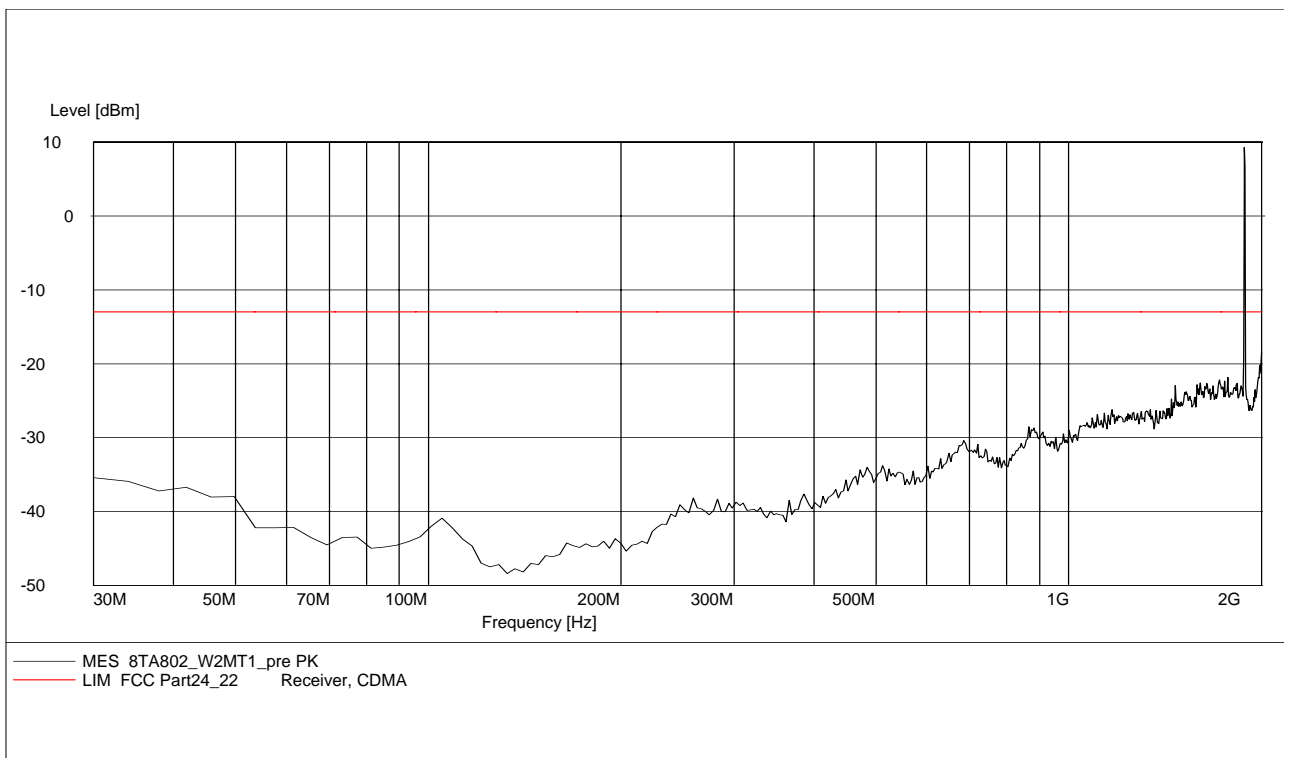
B.2.3.3 RADIATED SPURIOUS EMISSIONS-Channel 9538: 30MHz – 2GHz
Radiated spurious emission limit :-13dBm.
NOTE: peak above the limit line is the Carrier frequency @ ch-9538
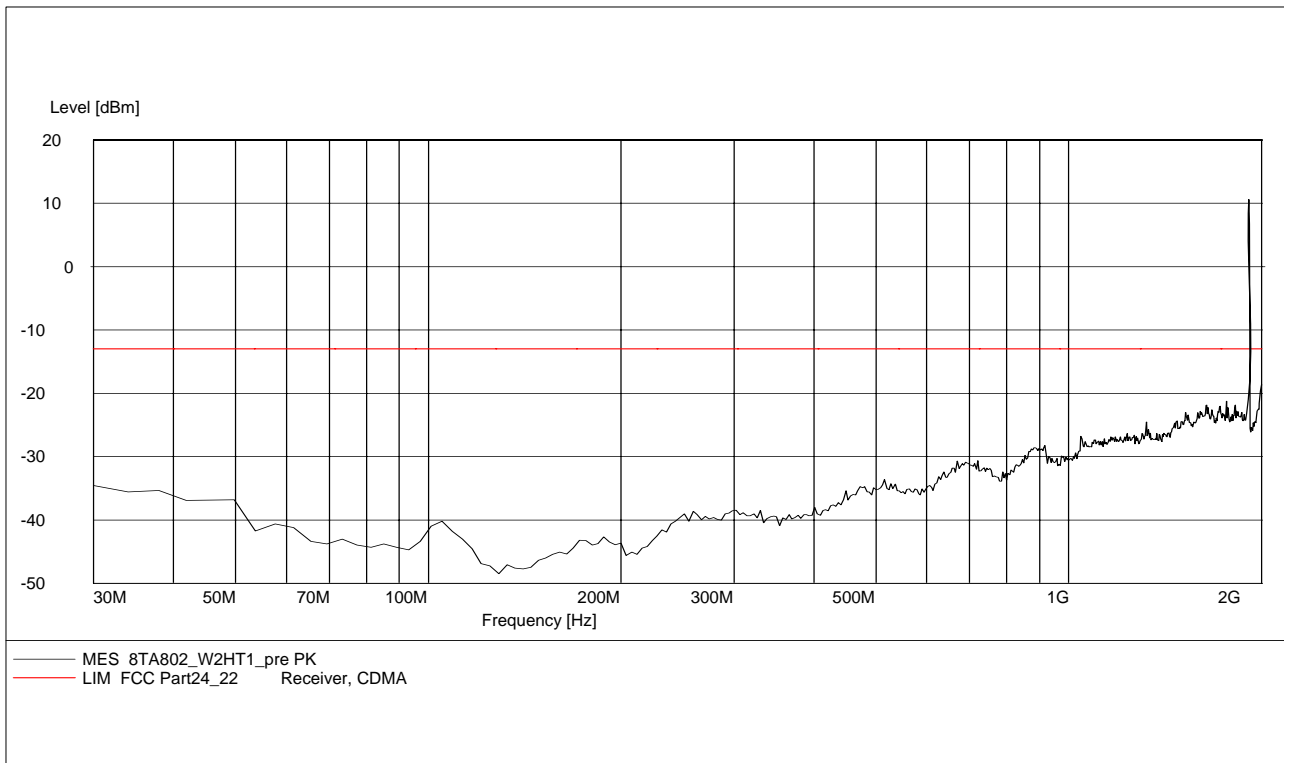
B.2.3.4 RADIATED SPURIOUS EMISSIONS-Channel 9662: 2GHz – 18GHz
Radiated spurious emission limit :-13dBm.

B.2.3.5 RADIATED SPURIOUS EMISSIONS-Channel 9400: 2GHz – 18GHz
Radiated spurious emission limit :-13dBm.

B.2.3.6 RADIATED SPURIOUS EMISSIONS-Channel 9538: 2GHz – 18GHz
Radiated spurious emission limit :-13dBm.

B.2.3.7 Radiated spurious emission (18GHz-20GHz)

Radiated spurious emission limit :-13dBm.

Note: This plot is valid for low, mid & high channels. It is same as the floor noise.

B.2.3.8 RADIATED SPURIOUS EMISSIONS-EUT in Idle Mode: 30MHz – 2GHz

Radiated spurious emission limit :-13dBm.

B.2.3.9 RADIATED SPURIOUS EMISSIONS-EUT in Idle Mode: 2GHz – 18GHz
Radiated spurious emission limit :-13dBm.
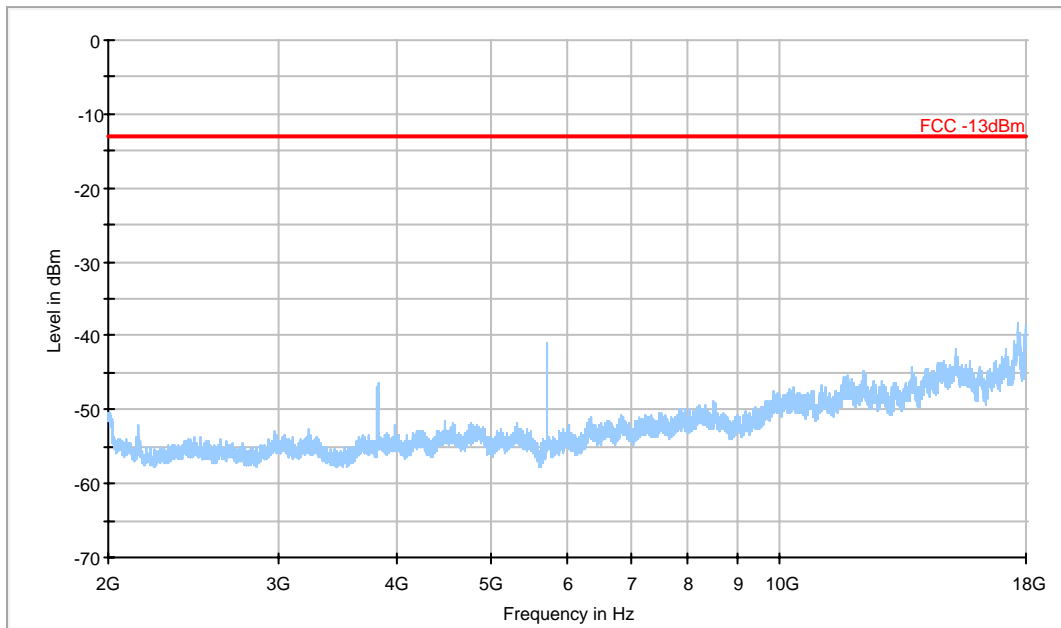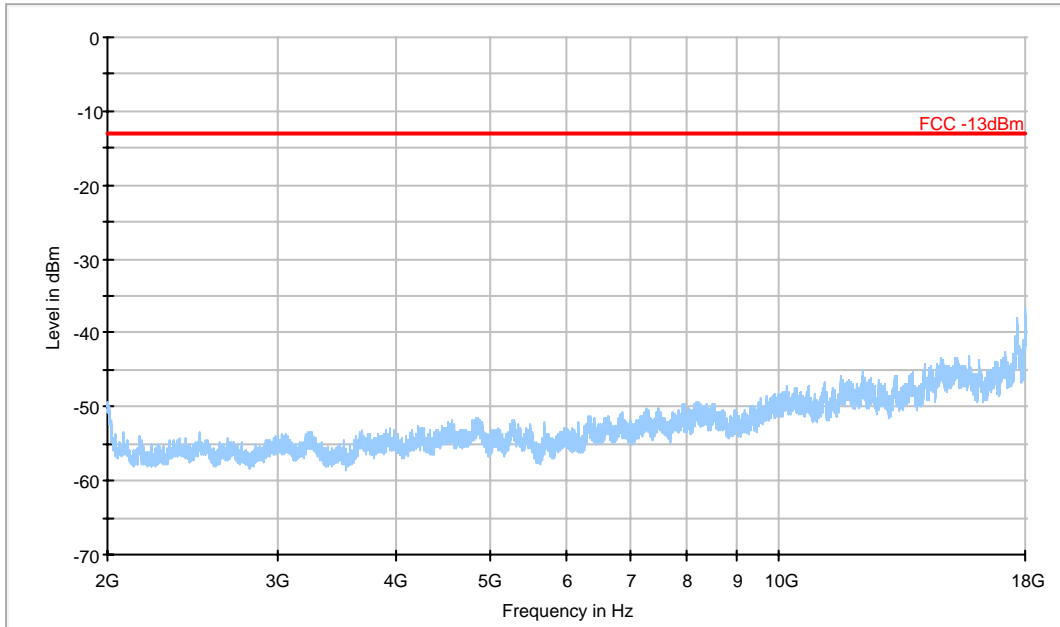
| —— FCC -13dBm | —— Preview Measurement Detector 1 |

B.2.3.10 RADIATED SPURIOUS EMISSIONS-EUT in Idle Mode: 18GHz – 20GHz
Radiated spurious emission limit :-13dBm.
Note: It is same as the floor noise.
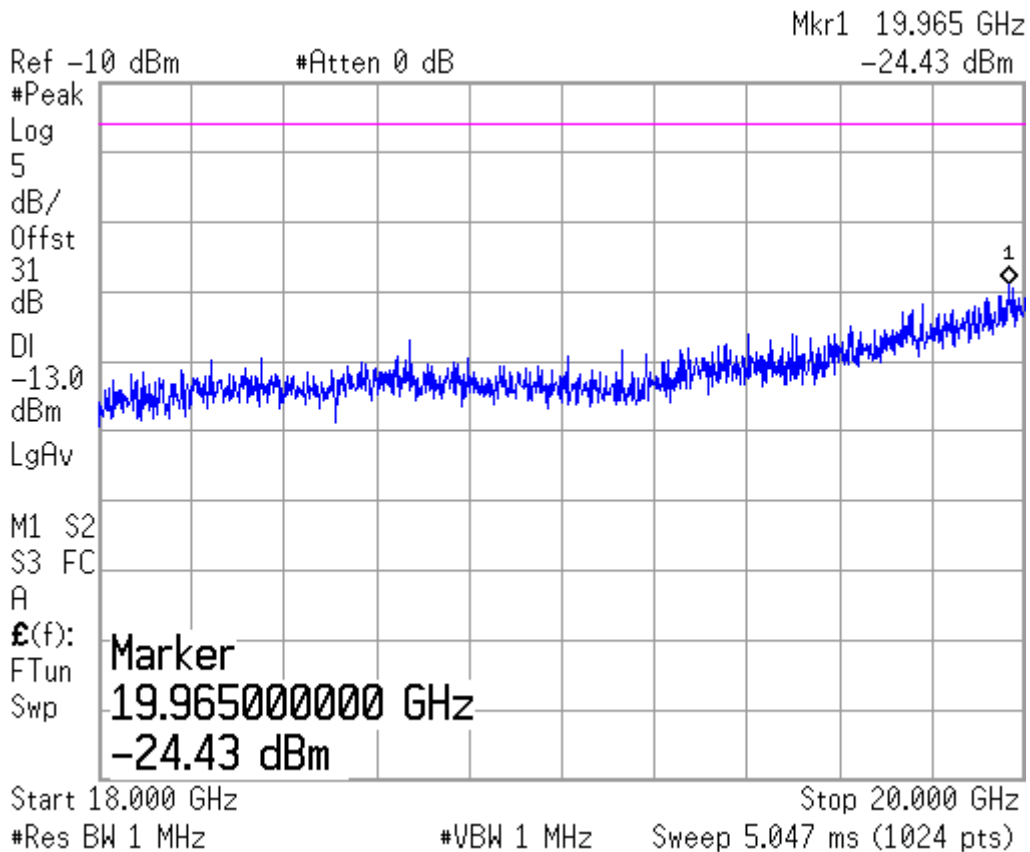
WCDMA Band Ⅴ

B.2.3.11 RADIATED SPURIOUS EMISSIONS-Channel 4132: 30MHz – 1GHz

Radiated spurious emission limit :-13dBm.

NOTE: peak above the limit line is the Carrier frequency @ ch-4132
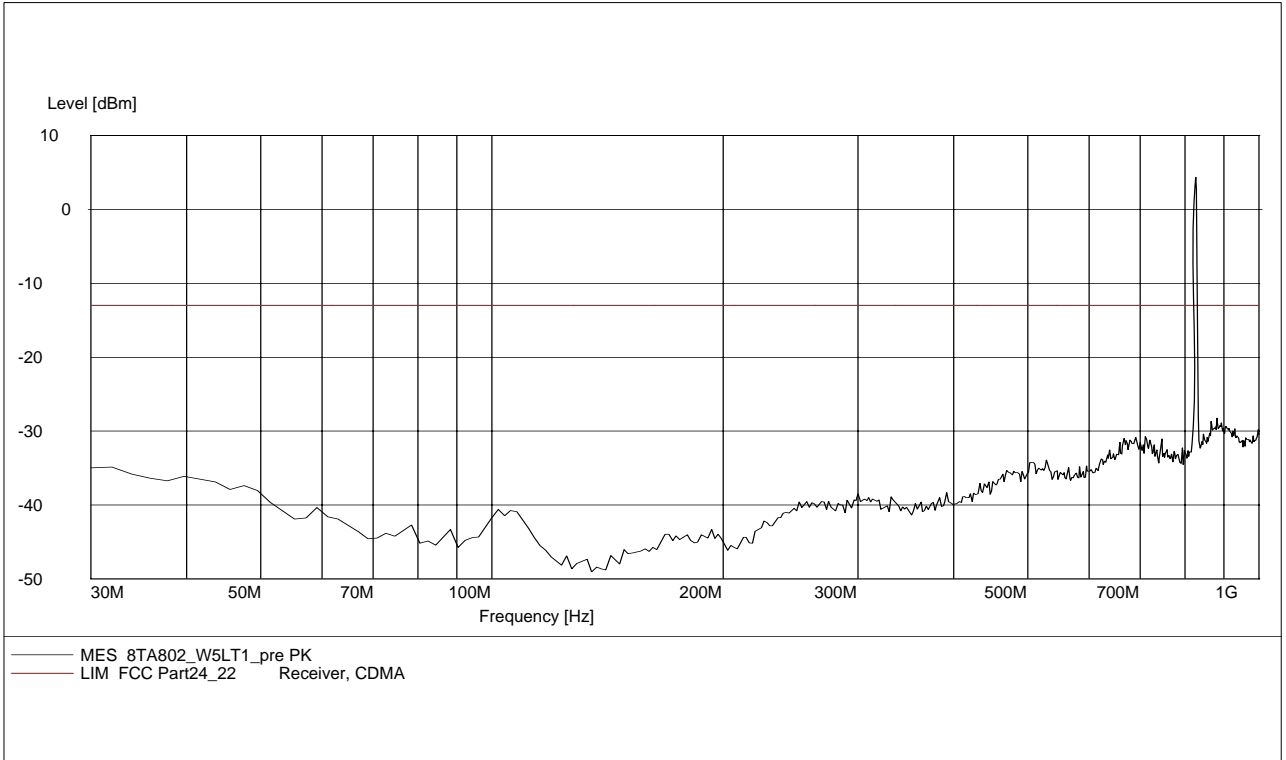
B.2.3.12 RADIATED SPURIOUS EMISSIONS-Channel 4183: 30MHz – 1GHz

Radiated spurious emission limit :-13dBm.

NOTE: peak above the limit line is the Carrier frequency @ ch-4183
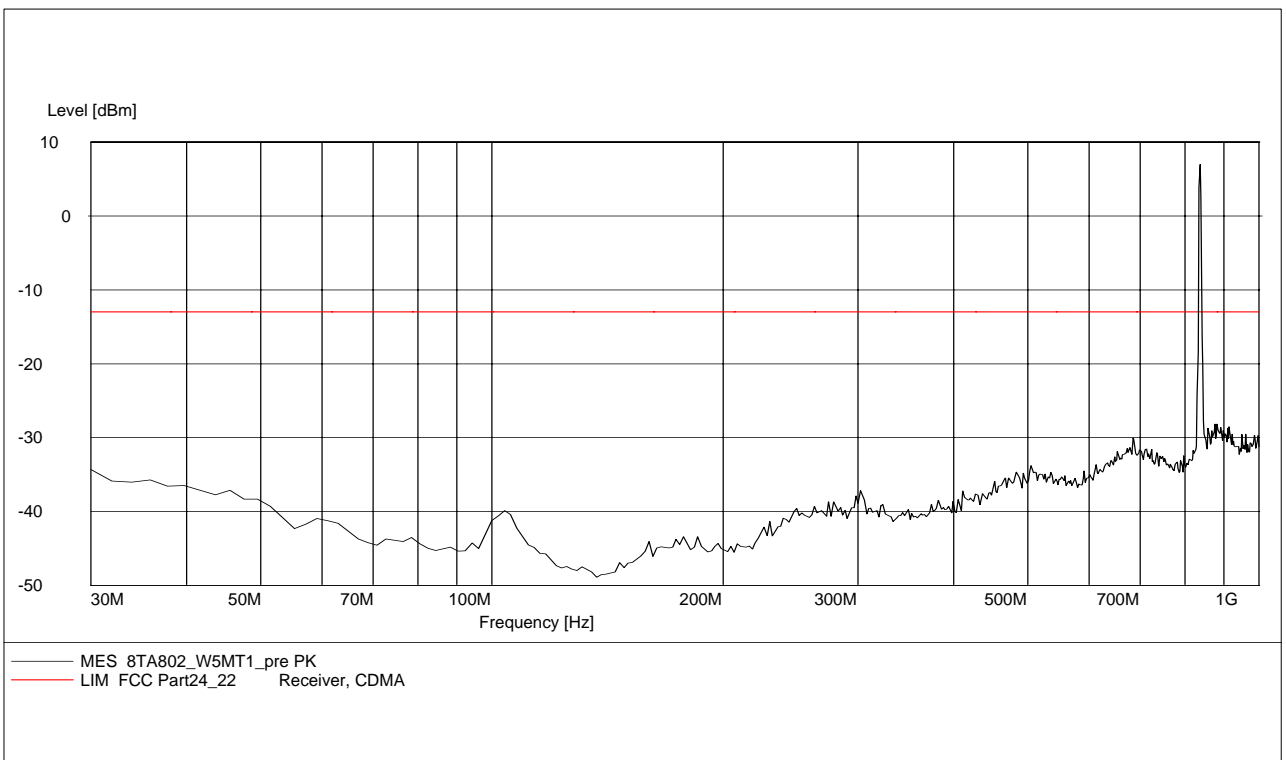
B.2.3.13 RADIATED SPURIOUS EMISSIONS-Channel 4233: 30MHz – 1GHz

Radiated spurious emission limit :-13dBm.

NOTE: peak above the limit line is the Carrier frequency @ ch-4233
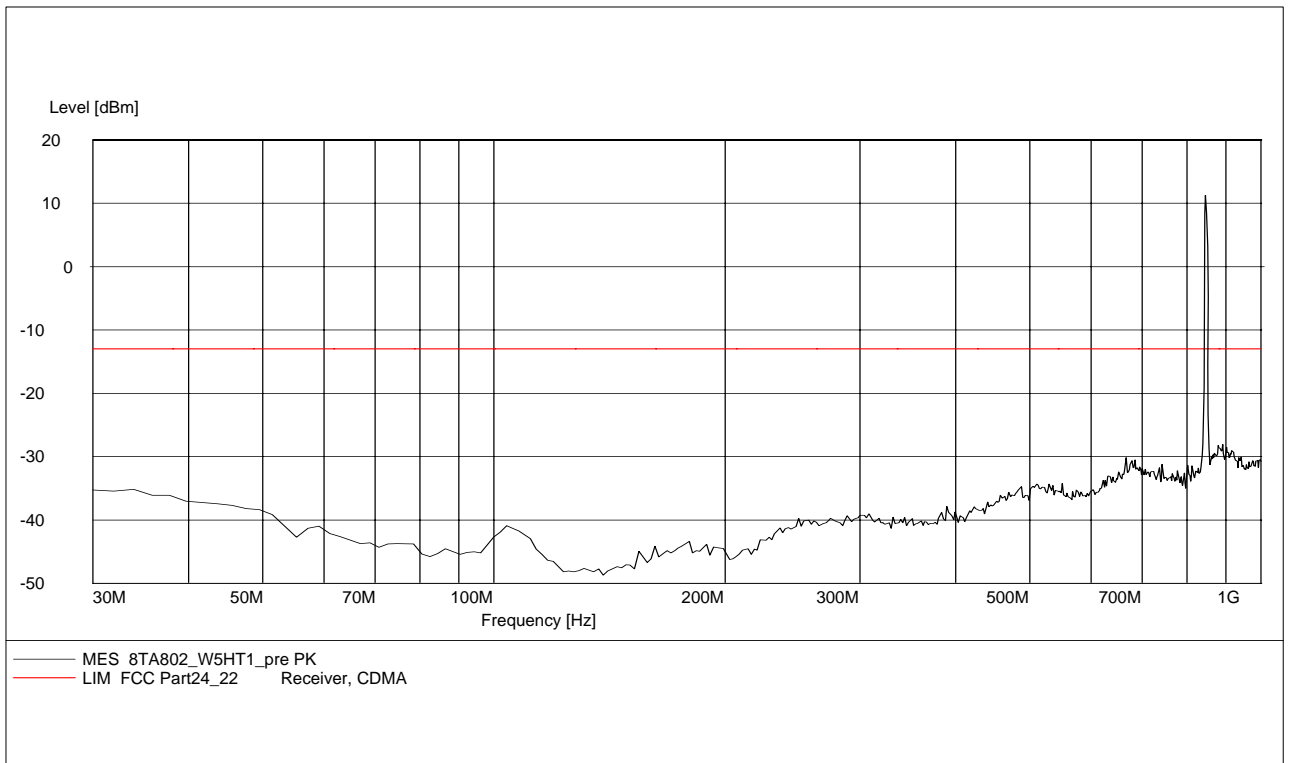
B.2.3.14 RADIATED SPURIOUS EMISSIONS-Channel 4132: 1GHz – 10GHz

Radiated spurious emission limit :-13dBm.
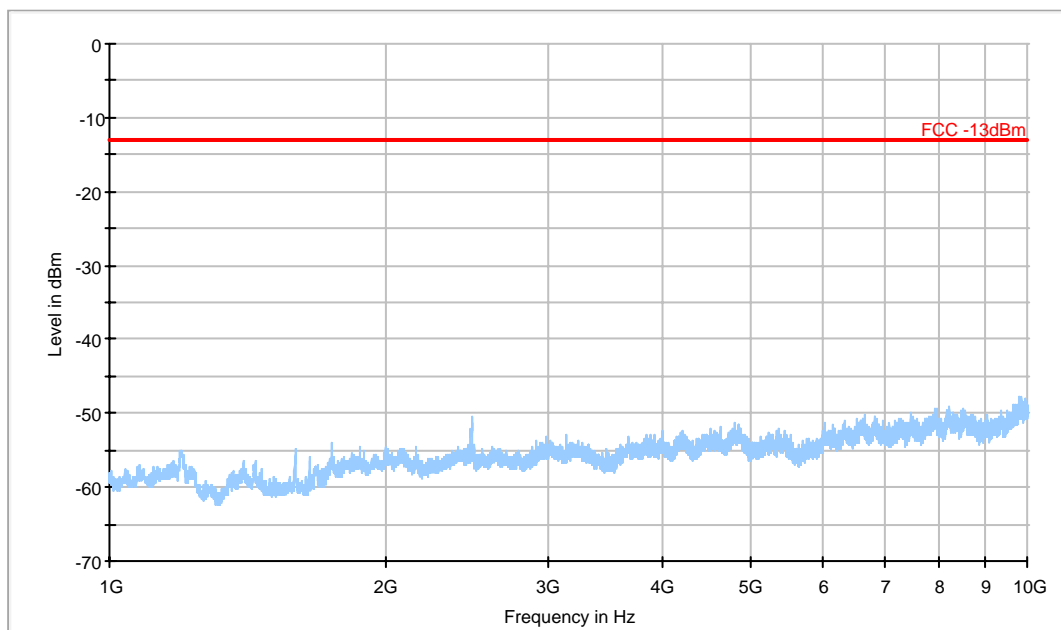
B.2.3.15 RADIATED SPURIOUS EMISSIONS-Channel 4183: 1GHz – 10GHz
Radiated spurious emission limit :-13dBm.

B.2.3.16 RADIATED SPURIOUS EMISSIONS-Channel 4233: 1GHz – 10GHz
Radiated spurious emission limit :-13dBm.

B.2.3.17 RADIATED SPURIOUS EMISSIONS-EUT in Idle Mode: 30MHz – 1GHz
Radiated spurious emission limit :-13dBm.
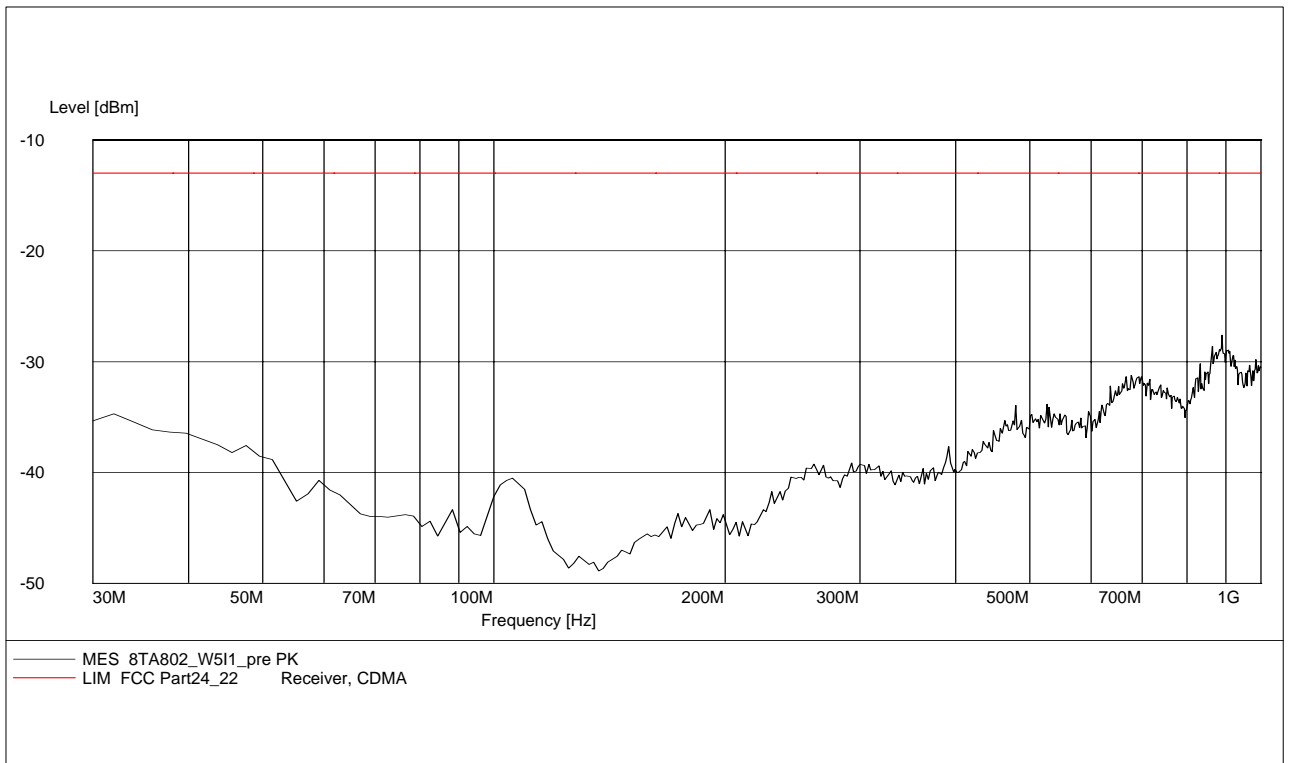
B.2.3.18 RADIATED SPURIOUS EMISSIONS-EUT in Idle Mode: 1GHz – 10GHz
Radiated spurious emission limit :-13dBm.

B.3   FREQUENCY STABILITY   (§2.1055/§24.235)

B.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℃.
3. With the EUT, powered via nominal voltage, connected to the CMU200 and in a simulated call on channel 9400 for WCDMA BandⅡ, channel 4183 for WCDMA BandⅤ measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.
4. Repeat the above measurements at 10℃ increments from -30℃ to +50℃. Allow at least 1 1/2 hours at each temperature, unpowered, before making measurements.
5. Remeasure carrier frequency at room temperature with nominal voltage. Vary supply voltage from minimum voltage to maximum voltage, in 0.1Volt increments remeasuring carrier frequency at each voltage. Pause at nominal voltage for 1 1/2 hours unpowered, to allow any self-heating to stabilize, before continuing.
6. Subject the EUT to overnight soak at +50℃.
7. With the EUT, powered via nominal voltage, connected to the CMU200 and in a simulated call on the centre channel, measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.
8. Repeat the above measurements at 10 C increments from +50℃ to -30℃. Allow at least 1 1/2 hours at each temperature, unpowered, before making measurements.
9. At all temperature levels hold the temperature to +/- 0.5℃ during the measurement procedure.

B.3.2 Measurement Limit

B.3.2.1 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 4.75VDC and 5.25VDC, with a nominal voltage of 5VDC. 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.

B.3.2.2 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.

B.3.3 Measurement results

WCDMA Band Ⅱ
Frequency Error vs Voltage

Voltage(V)	Frequency error(Hz)	Frequency error(ppm)
4.75	34	0.018
5	35	0.018
5.25	37	0.020

Frequency Error vs Temperature

temperature(℃)	Frequency error(Hz)	Frequency error(ppm)
-30	45	0.024
-20	42	0.022
-10	40	0.021
0	38	0.021
10	37	0.020
20	33	0.017
30	35	0.018
40	39	0.021
50	41	0.022

WCDMA Band Ⅴ
Frequency Error vs Voltage

Voltage(V)	Frequency error(Hz)	Frequency error(ppm)
4.75	22	0.026
5	20	0.024
5.25	26	0.031

Frequency Error vs Temperature

temperature(℃)	Frequency error(Hz)	Frequency error(ppm)
-30	42	0.050
-20	39	0.047
-10	37	0.044
0	31	0.037
10	29	0.035
20	24	0.028
30	26	0.031
40	29	0.035
50	33	0.039

B.4 OCCUPIED BANDWIDTH   (§2.1049(h)(i))

B.4.1 Occupied Bandwidth Results

Similar to conducted emissions; occupied bandwidth measurements are only provided for selected frequencies in order to reduce the amount of submitted data. Data were taken at the extreme and mid frequencies of the WCDMA frequency band. The table below lists the measured -20dBc BW (99%). Spectrum analyzer plots are included on the following pages.

WCDMA Band Ⅱ (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)
1852.4	4.199
1880.0	4.199
1907.6	4.183

WCDMA Band Ⅱ
Channel 9262-Occupied Bandwidth (99%)
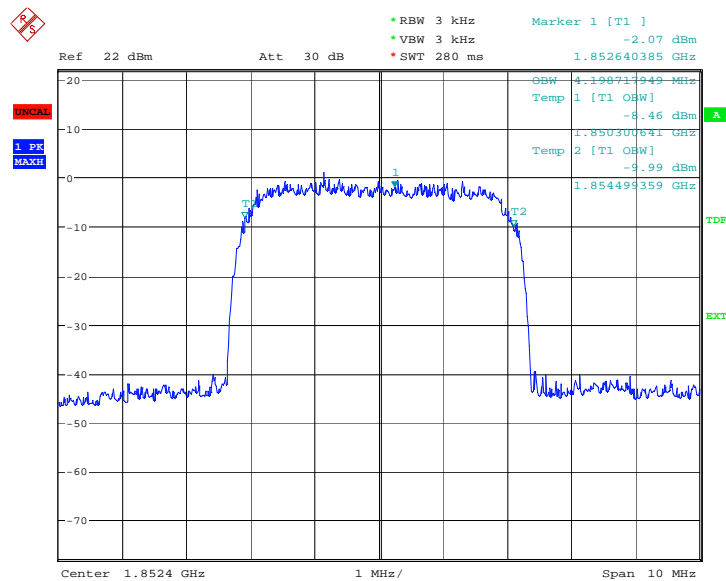
Date: 14.OCT.2008 04:00:01

Channel 9400-Occupied Bandwidth (99%)


```
* RBW 3 kHz          Marker 1 [T1 ]
* VBW 3 kHz                    -1.71 dBm
Ref  22 dBm        Att  30 dB    * SWT 280 ms        1.879998120 GHz
```
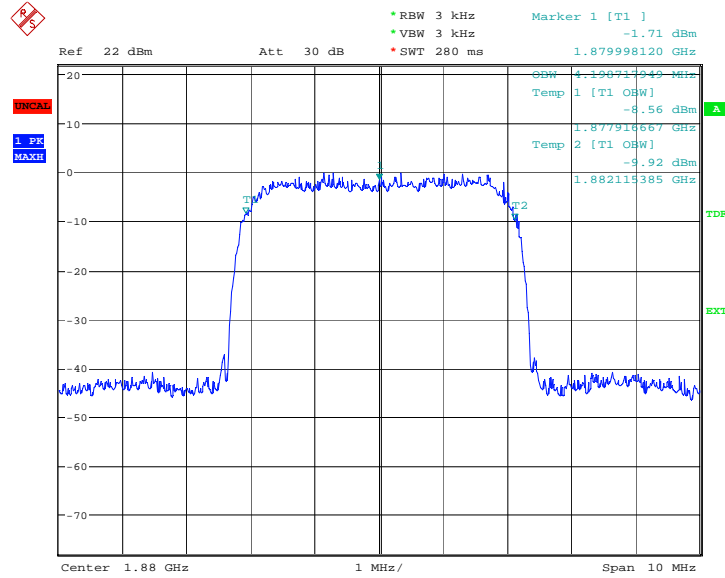
Date: 14.OCT.2008 04:01:55

Channel 9538-Occupied Bandwidth (99%)


```
* RBW 3 kHz          Marker 1 [T1 ]
* VBW 3 kHz                    -38.25 dBm
Ref  22 dBm        Att  30 dB    * SWT 280 ms        1.902600000 GHz
```
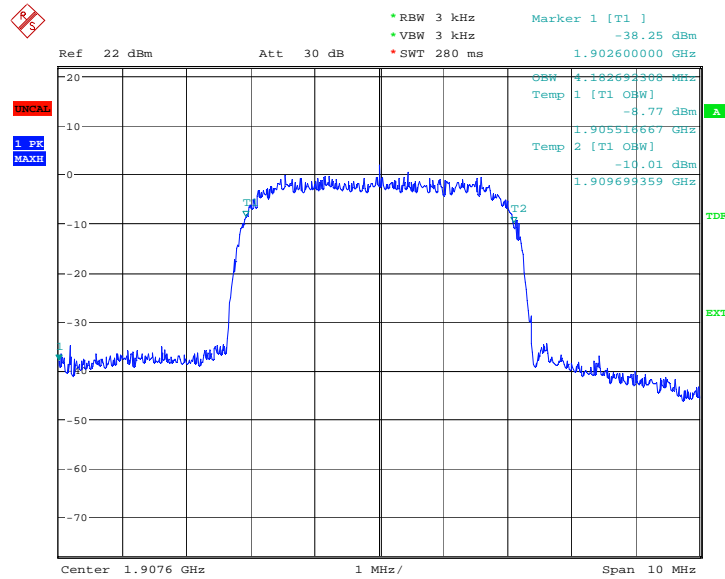
Date: 14.OCT.2008 04:02:56

WCDMA Band Ⅴ

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)
826.4	4.215
836.6	4.215
846.6	4.135

WCDMA Band Ⅴ

Channel 4132-Occupied Bandwidth (99%)
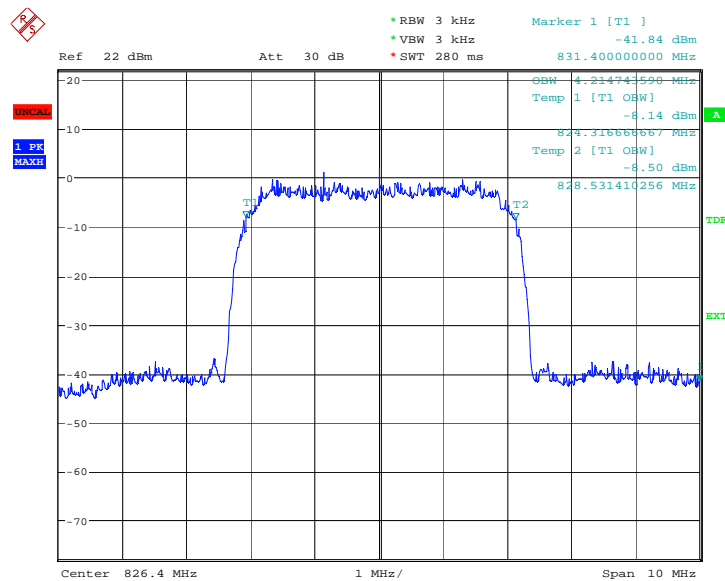
Date: 14.OCT.2008 04:06:07

Channel 4183-Occupied Bandwidth (99%)


```
                                           * RBW  3 kHz        Marker 1 [T1 ]
                                           * VBW  3 kHz                   -40.89 dBm
       Ref  22 dBm          Att  30 dB     * SWT  280 ms        831.600000000 MHz
   20                                              OBW  4.214741590 MHz
                                                   Temp 1 [T1 OBW]
  -10                                                            -7.61 dBm      A
                                                    834.484615385 MHz
                                                   Temp 2 [T1 OBW]
    0                                                            -9.02 dBm
                                                    838.699358974 MHz
  -10                                                                          TDF

  -20

  -30                                                                          EXT

  -40

  -50

  -60

  -70

   Center  836.6 MHz              1 MHz/              Span  10 MHz
```
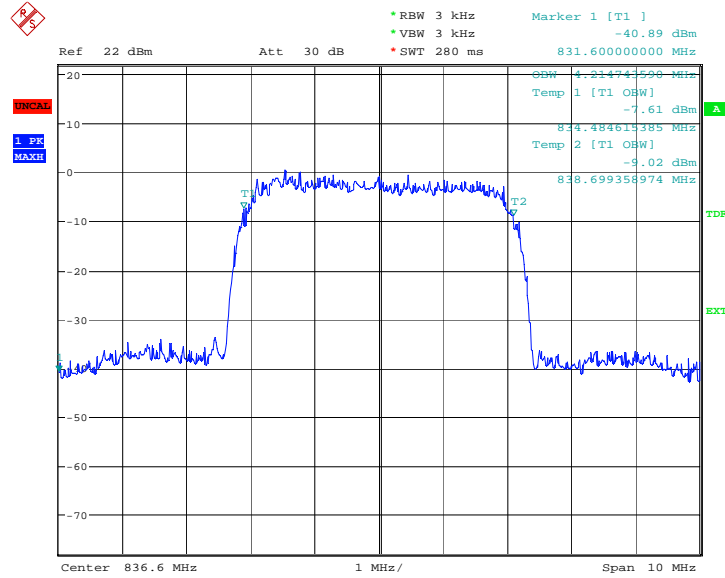
Date: 14.OCT.2008 04:06:55

Channel 4233-Occupied Bandwidth (99%)


```
                                           * RBW  3 kHz        Marker 1 [T1 ]
                                           * VBW  3 kHz                   -41.01 dBm
       Ref  22 dBm          Att  30 dB     * SWT  280 ms        841.600000000 MHz
   20                                              OBW  4.134615385 MHz
                                                   Temp 1 [T1 OBW]
  -10                                                            -10.13 dBm     A
                                                    844.500641026 MHz
                                                   Temp 2 [T1 OBW]
    0                                                            -10.73 dBm
                                                    848.635256410 MHz
  -10                                                                          TDF

  -20

  -30                                                                          EXT

  -40

  -50

  -60

  -70

   Center  846.6 MHz              1 MHz/              Span  10 MHz
```
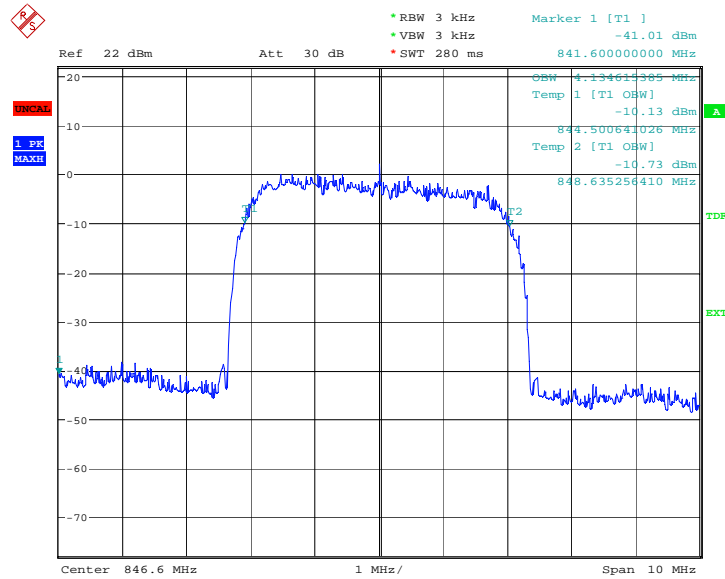
Date: 14.OCT.2008 04:07:28

WCDMA/HSDPA Band Ⅱ (99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)
1852.4	4.215
1880.0	4.183
1907.6	4.183

WCDMA/HSDPA Band Ⅱ

Channel 9262-Occupied Bandwidth (99%)
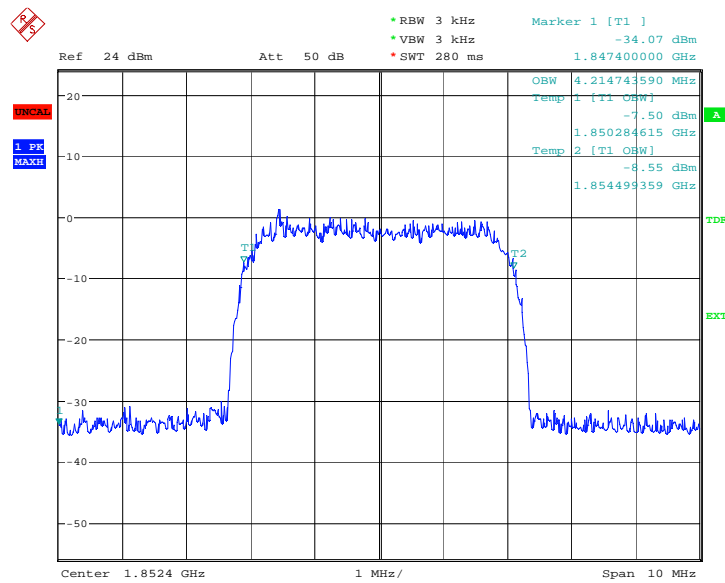
Date: 14.OCT.2008 06:08:42

Channel 9400-Occupied Bandwidth (99%)

```
                                    * RBW  3 kHz        Marker 1 [T1 ]
                                    * VBW  3 kHz                  -44.08 dBm
     Ref   24 dBm        Att   30 dB * SWT  280 ms        1.875000000 GHz
                                              OBW  4.182692308 MHz
  20                                          Temp 1 [T1 OBW]                    A
                                                          -10.36 dBm
                                              1.877900641 GHz
  10                                          Temp 2 [T1 OBW]
                                                          -8.87 dBm
                                              1.882083333 GHz
   0                                                                            TDF

 -10

 -20                                                                            EXT

 -30

 -40

 -50

     Center  1.88 GHz              1 MHz/               Span  10 MHz
```
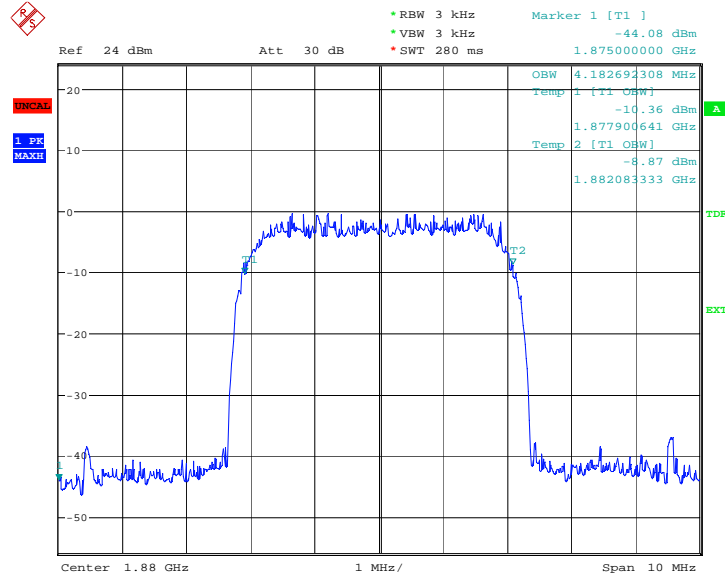
Date: 14.OCT.2008 06:11:29

Channel 9538-Occupied Bandwidth (99%)

```
                                    * RBW  3 kHz        Marker 1 [T1 ]
                                    * VBW  3 kHz                  -39.87 dBm
     Ref   24 dBm        Att   30 dB * SWT  280 ms        1.902600000 GHz
                                              OBW  4.182692308 MHz
  20                                          Temp 1 [T1 OBW]                    A
                                                          -9.20 dBm
                                              1.905516667 GHz
  10                                          Temp 2 [T1 OBW]
                                                          -10.17 dBm
                                              1.909699359 GHz
   0                                                                            TDF

 -10

 -20

 -30                                                                            EXT

 -40

 -50

     Center  1.9076 GHz            1 MHz/               Span  10 MHz
```
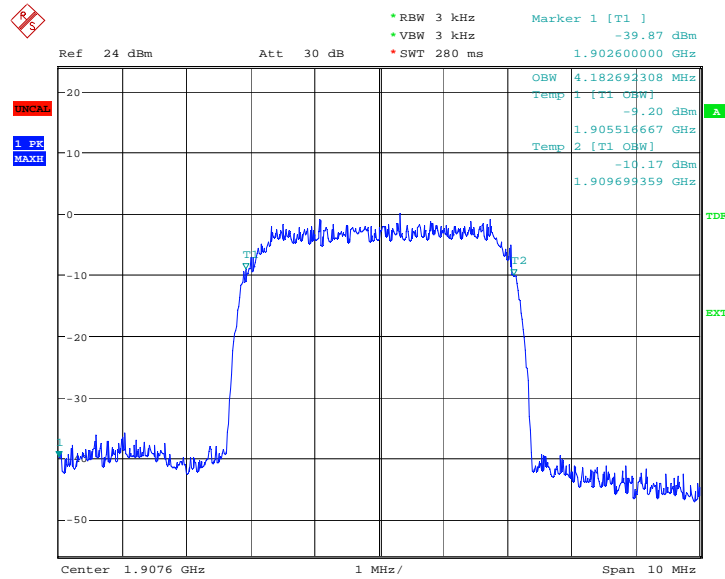
Date: 14.OCT.2008 06:45:24

WCDMA/HSDPA Band Ⅴ

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)
826.4	4.199
836.6	4.199
846.6	4.167

WCDMA/HSDPA Band Ⅴ

Channel 4132-Occupied Bandwidth (99%)
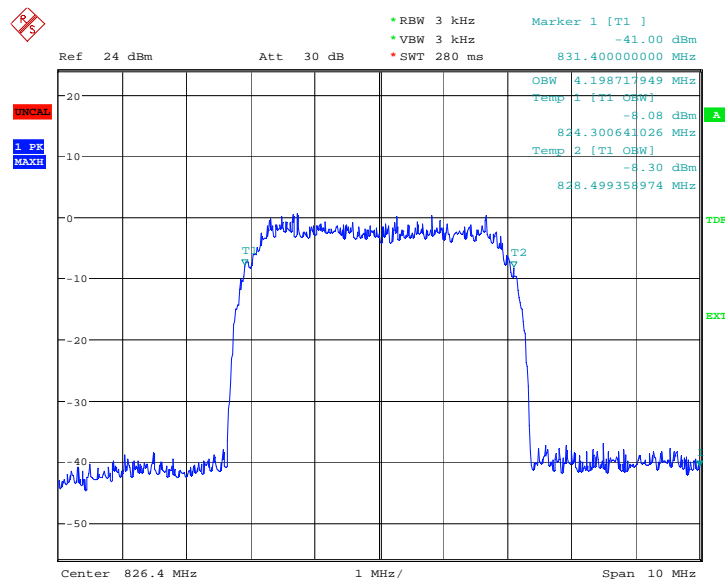
Date: 14.OCT.2008 06:27:28

Channel 4183-Occupied Bandwidth (99%)
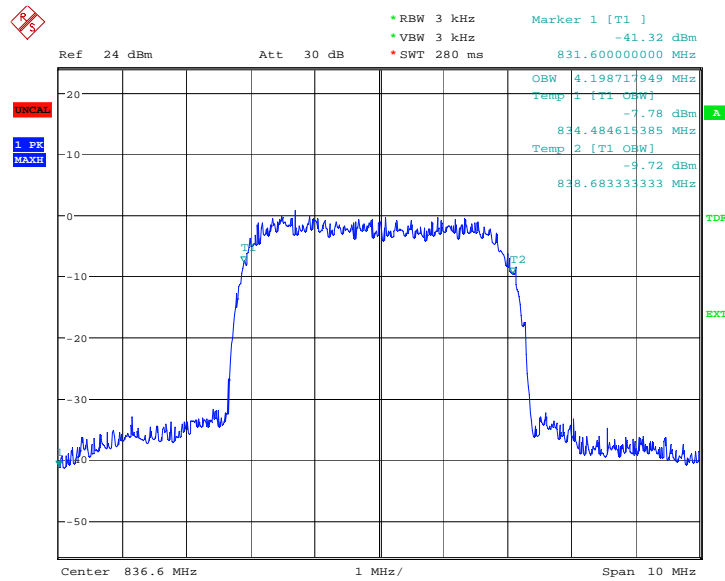
Date: 14.OCT.2008 06:28:16

Channel 4233-Occupied Bandwidth (99%)
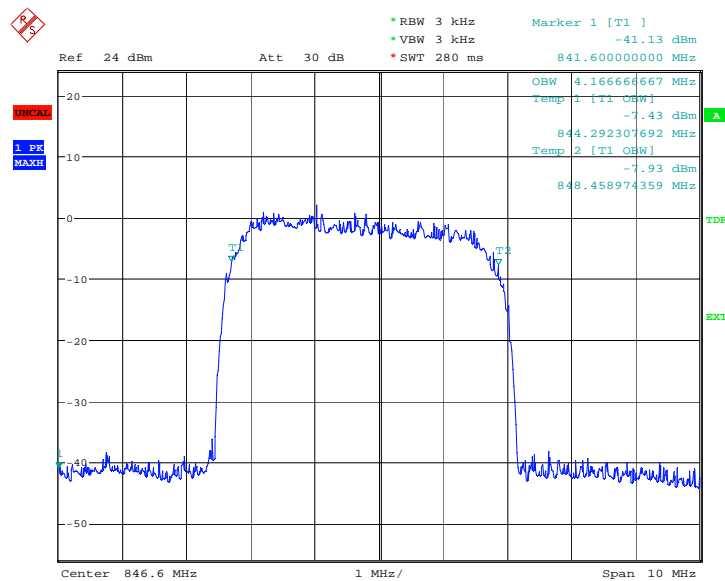
Date: 14.OCT.2008 06:29:49

WCDMA/HSPA BandⅡ(99%)

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)
1852.4	4.183
1880.0	4.199
1907.6	4.199

WCDMA/HSPA Band Ⅱ

Channel 9262-Occupied Bandwidth (99%)
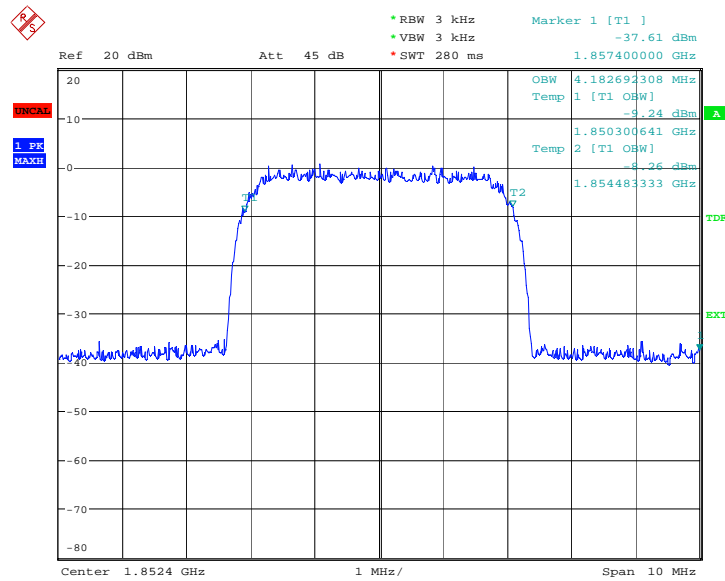
Date: 14.OCT.2008 07:29:24

Channel 9400-Occupied Bandwidth (99%)

```
                                    * RBW  3 kHz      Marker 1 [T1 ]
                                    * VBW  3 kHz              -35.67 dBm
        Ref  25 dBm      Att  50 dB * SWT  280 ms       1.875000000 GHz
                                                   OBW  4.198717949 MHz
  20                                               Temp 1 [T1 OBW]
                                                              -7.79 dBm
  10                                                    1.877900641 GHz
                                                   Temp 2 [T1 OBW]
   0                                                          -7.92 dBm
 -10                                                    1.882099359 GHz
 -20
 -30
 -40
 -50
 -60
 -70

 Center  1.88 GHz            1 MHz/              Span  10 MHz
```
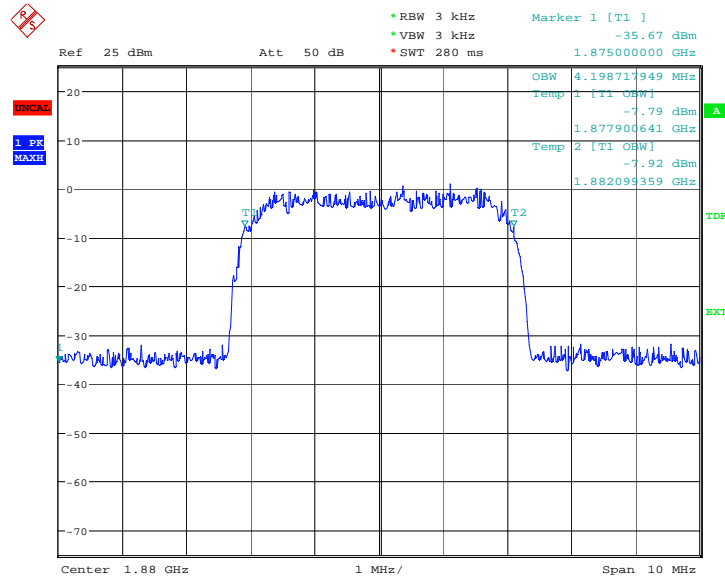
Date: 14.OCT.2008 07:40:21

Channel 9538-Occupied Bandwidth (99%)

```
                                    * RBW  3 kHz      Marker 1 [T1 ]
                                    * VBW  3 kHz              -33.69 dBm
        Ref  25 dBm      Att  50 dB * SWT  280 ms       1.902600000 GHz
                                                   OBW  4.198717949 MHz
  20                                               Temp 1 [T1 OBW]
                                                              -7.27 dBm
  10                                                    1.905516667 GHz
                                                   Temp 2 [T1 OBW]
   0                                                          -7.54 dBm
 -10                                                    1.909715385 GHz
 -20
 -30
 -40
 -50
 -60
 -70

 Center  1.9076 GHz          1 MHz/              Span  10 MHz
```
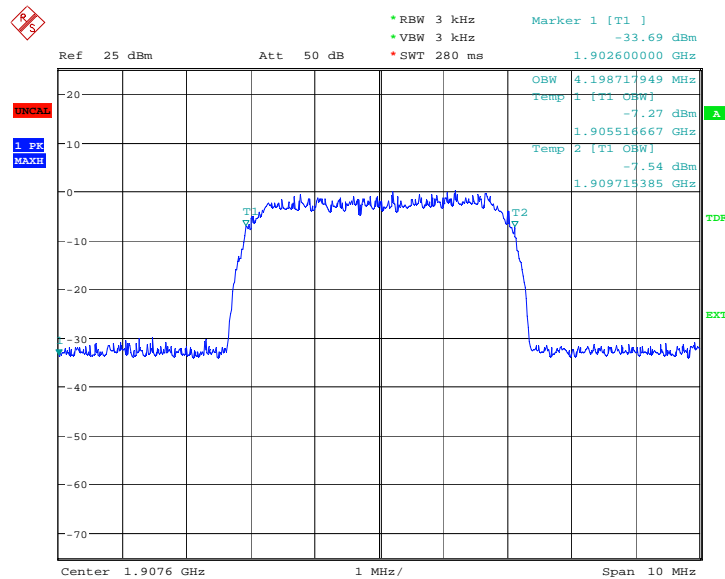
Date: 14.OCT.2008 08:19:21

WCDMA/HSPA Band Ⅴ

Frequency(MHz)	Occupied Bandwidth (99%)(MHz)
826.4	4.215
836.6	4.199
846.6	4.151

WCDMA/HSPA Band Ⅴ

Channel 4132-Occupied Bandwidth (99%)
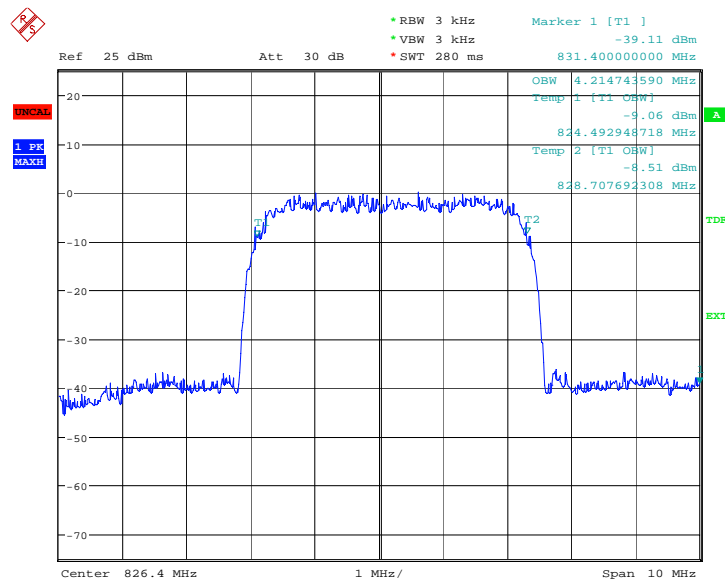
Date: 14.OCT.2008 07:44:30

Channel 4183-Occupied Bandwidth (99%)


```
* RBW 3 kHz          Marker 1 [T1 ]
* VBW 3 kHz                    -34.85 dBm
* SWT 280 ms             837.500000000 MHz
Ref  21 dBm      Att  50 dB
                                 OBW  4.198717949 MHz
20                               Temp 1 [T1 OBW]
UNCAL                                       -9.25 dBm
-10                                  832.868589744 MHz
1 PK                             Temp 2 [T1 OBW]
MAXH                                        -9.63 dBm
0                                    837.067307692 MHz
-10                                                    TDF
-20
-30                                                    EXT
-40
-50
-60
-70
Center 835 MHz          1 MHz/              Span 10 MHz
```
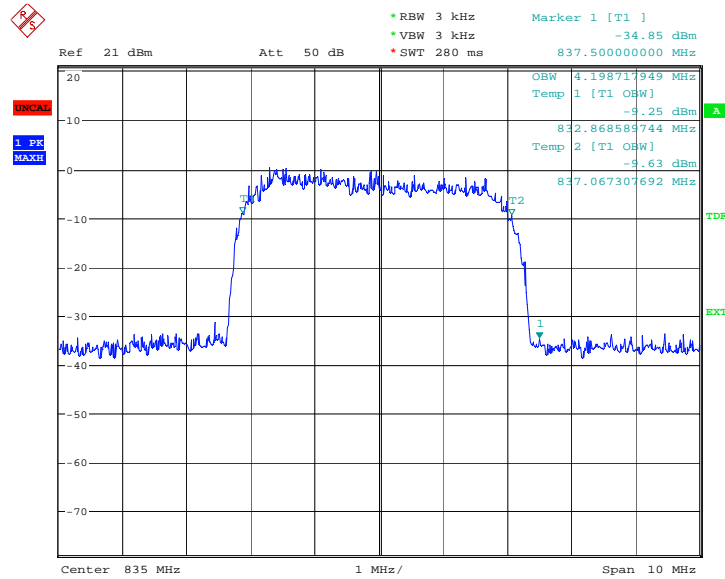
Date: 14.OCT.2008 08:42:54

Channel 4233-Occupied Bandwidth (99%)


```
* RBW 3 kHz          Marker 1 [T1 ]
* VBW 3 kHz                    -36.10 dBm
Ref  25 dBm      Att  50 dB   * SWT 280 ms   849.240384615 MHz
                                 OBW  4.150641026 MHz
-20                              Temp 1 [T1 OBW]
UNCAL                                       -7.89 dBm
-10                                  844.484615385 MHz
1 PK                             Temp 2 [T1 OBW]
MAXH                                        -8.43 dBm
0                                    848.635256410 MHz
-10                                                    TDF
-20
-30                                                    EXT
-40
-50
-60
-70
Center 846.6 MHz        1 MHz/              Span 10 MHz
```
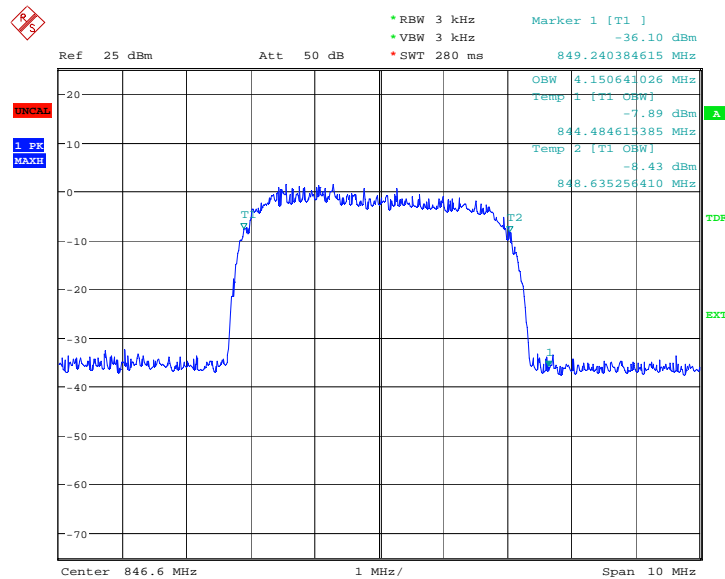
Date: 14.OCT.2008 07:53:18

B.5 EMISSION BANDWIDTH (§22.917(b)/§24.238(b))

B.5.1Emission Bandwidth Results

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

WCDMA BandⅡ(-26dBc)

Frequency(MHz)	Occupied Bandwidth (–26dBc BW)(MHz)
1852.4	4.471
1880.0	4.471
1907.6	4.471

WCDMA BandⅡ
Channel 9262-Occupied Bandwidth (-26dBc BW)
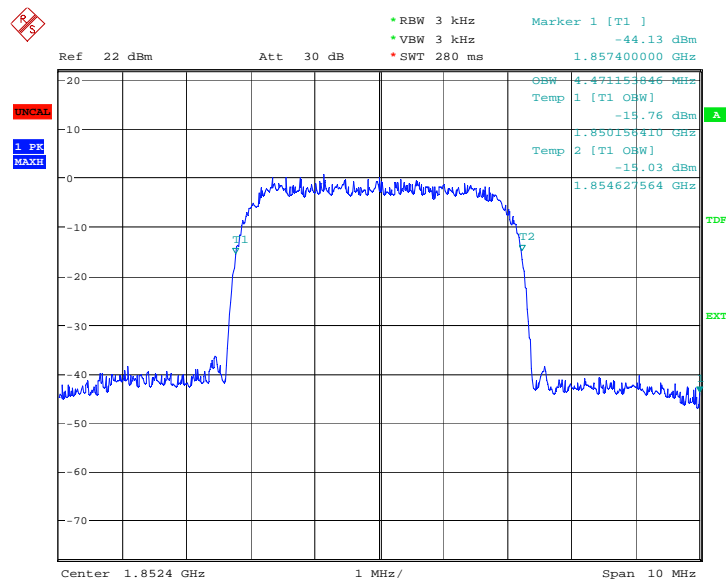
Date: 14.OCT.2008 04:11:38

Channel 9400-Occupied Bandwidth (-26dBc BW)

```
                                            * RBW  3 kHz        Marker 1 [T1 ]
                                            * VBW  3 kHz                -44.37 dBm
        Ref  22 dBm            Att  30 dB   * SWT 280 ms         1.885000000 GHz
   20                                            OBW  4.471153846 MHz
                                                 Temp 1 [T1 OBW]
                                                          -16.22 dBm      A
  -10                                             1.877772436 GHz
                                                 Temp 2 [T1 OBW]
                                                          -16.21 dBm
    0                                             1.882243590 GHz
  -10                                                              TDF
          T1                      T2
  -20
  -30                                                              EXT
  -40
  -50
  -60
  -70

   Center  1.88 GHz              1 MHz/              Span  10 MHz
```

Date: 14.OCT.2008 04:11:02

Channel 9538-Occupied Bandwidth (-26dBc BW)

```
                                            * RBW  3 kHz        Marker 1 [T1 ]
                                            * VBW  3 kHz                -39.89 dBm
        Ref  22 dBm            Att  30 dB   * SWT 280 ms         1.902600000 GHz
   20                                            OBW  4.471153846 MHz
                                                 Temp 1 [T1 OBW]
                                                          -17.28 dBm      A
  -10                                             1.905356410 GHz
                                                 Temp 2 [T1 OBW]
                                                          -14.21 dBm
    0                                             1.909827564 GHz
  -10                                         T2                  TDF
          T1
  -20
  -30                                                             EXT
  -40
  -50
  -60
  -70

   Center  1.9076 GHz            1 MHz/              Span  10 MHz
```

Date: 14.OCT.2008 04:09:52

WCDMA Band Ⅴ

Frequency(MHz)	Occupied Bandwidth (–26dBc BW)(MHz)
826.40	4.503
836.60	4.503
846.60	4.503

WCDMA Band Ⅴ

Channel 4132-Occupied Bandwidth (-26dBc BW)

Date: 14.OCT.2008 04:09:14

Channel 4183-Occupied Bandwidth (-26dBc BW)

```
                                    * RBW  3 kHz        Marker 1 [T1 ]
                                    * VBW  3 kHz                  -40.80 dBm
        Ref  22 dBm      Att  30 dB * SWT  280 ms        841.600000000 MHz
                                                   OBW  4.519230769 MHz
    20                                             Temp 1 [T1 OBW]
                                                              -18.78 dBm    A
    10                                                834.324358974 MHz
UNCAL                                               Temp 2 [T1 OBW]
1 PK                                                          -16.99 dBm
MAXH                                                  838.843589744 MHz
     0                                                                TDF
   -10                            T2
                          T1                                          EXT
   -20
   -30

   -50

   -60

   -70

        Center  836.6 MHz          1 MHz/              Span  10 MHz
```

Date: 14.OCT.2008 04:08:45

Channel 4233-Occupied Bandwidth (-26dBc BW)

```
                                    * RBW  3 kHz        Marker 1 [T1 ]
                                    * VBW  3 kHz                  -42.92 dBm
        Ref  22 dBm      Att  30 dB * SWT  280 ms        841.600000000 MHz
                                                   OBW  4.455128205 MHz
    20                                             Temp 1 [T1 OBW]
                                                              -15.67 dBm    A
    10                                                844.356410256 MHz
UNCAL                                               Temp 2 [T1 OBW]
1 PK                                                          -15.80 dBm
MAXH                                                  848.811538462 MHz
     0                                                                TDF
   -10                            T2
                          T1                                          EXT
   -20
   -30

   -50

   -60

   -70

        Center  846.6 MHz          1 MHz/              Span  10 MHz
```

Date: 14.OCT.2008 04:08:01

WCDMA/HSDPA BandⅡ(-26dBc)

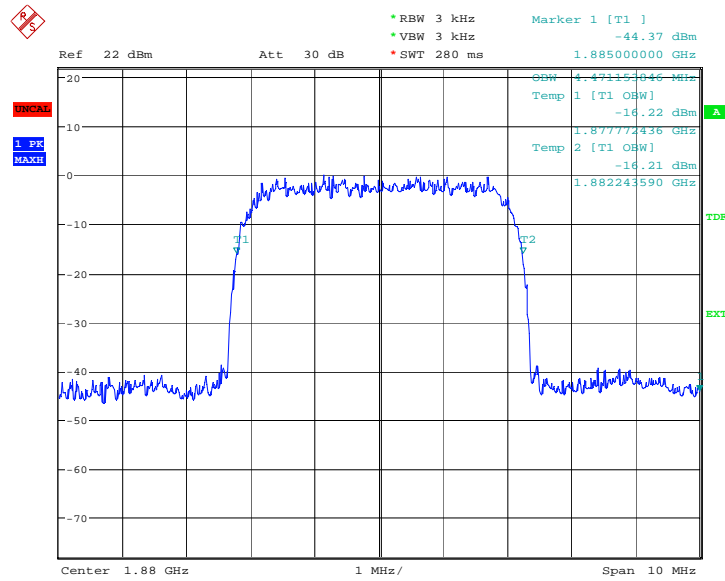| Frequency(MHz)	Occupied Bandwidth (−26dBc BW)(MHz)
1852.4	4.471
1880.0	4.471
1907.6	4.487

WCDMA/HSDPA BandⅡ

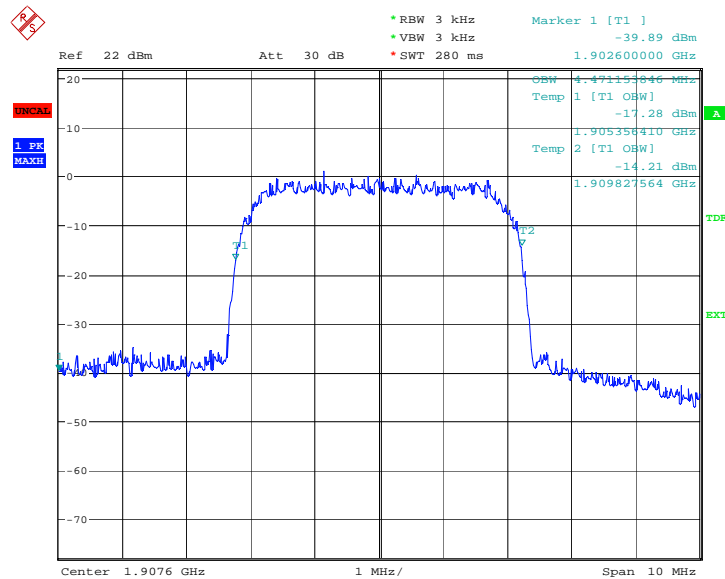**Channel 9262-Occupied Bandwidth (-26dBc BW)**

Date: 14.OCT.2008 06:47:04

Channel 9400-Occupied Bandwidth (-26dBc BW)

Date: 14.OCT.2008 06:46:21
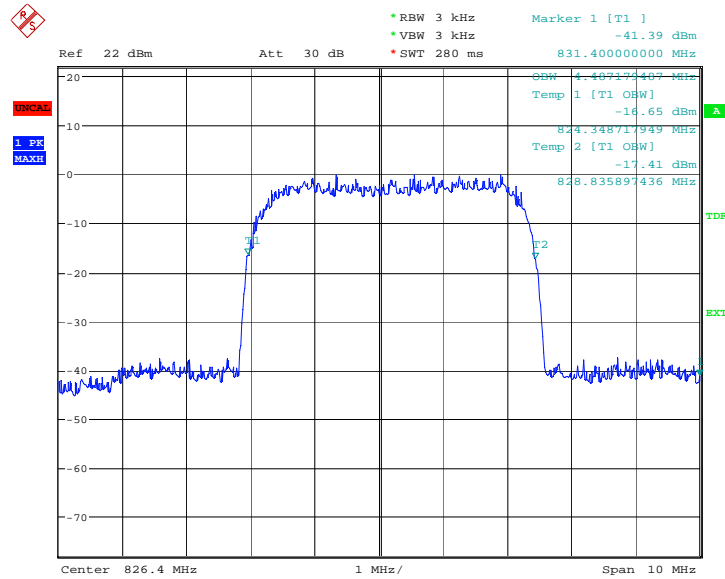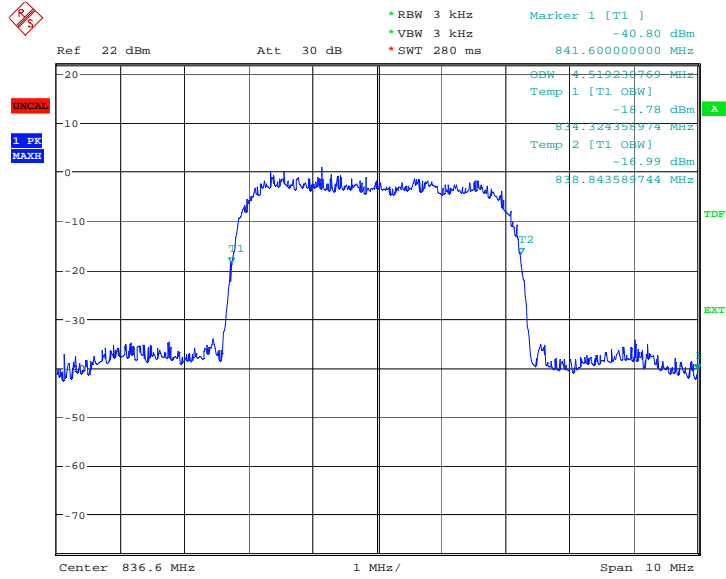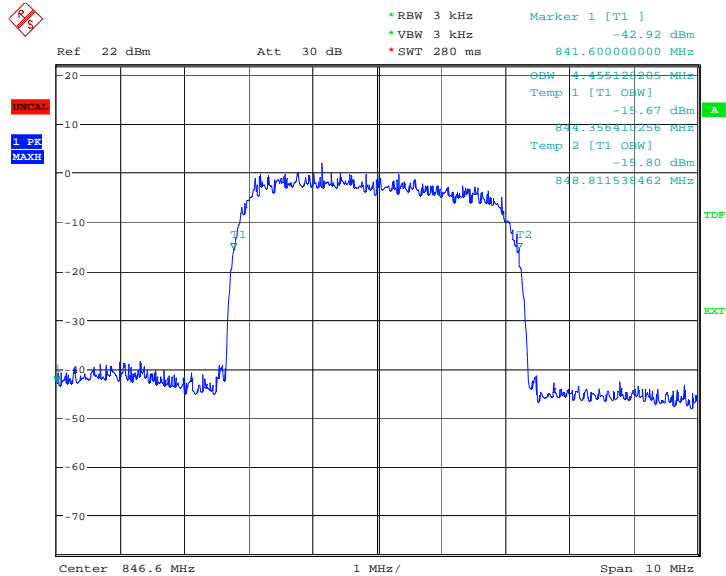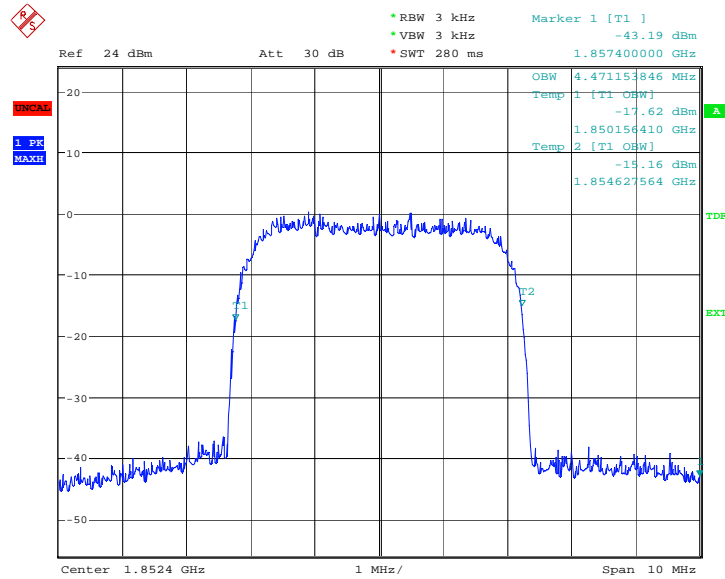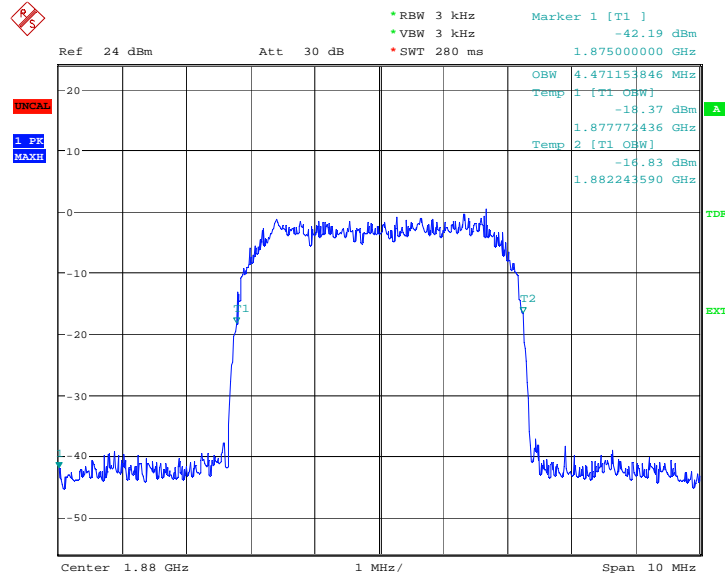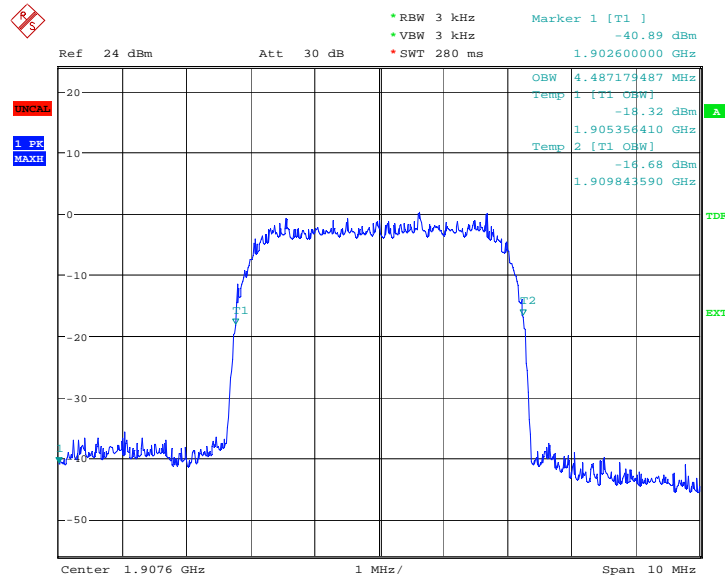
Channel 9538-Occupied Bandwidth (-26dBc BW)

Date: 14.OCT.2008 06:45:02

WCDMA/HSDPA Band Ⅴ

Frequency(MHz)	Occupied Bandwidth (−26dBc BW)(MHz)
826.40	4.519
836.60	4.519
846.60	4.455

WCDMA/HSDPA Band Ⅴ

Channel 4132-Occupied Bandwidth (-26dBc BW)
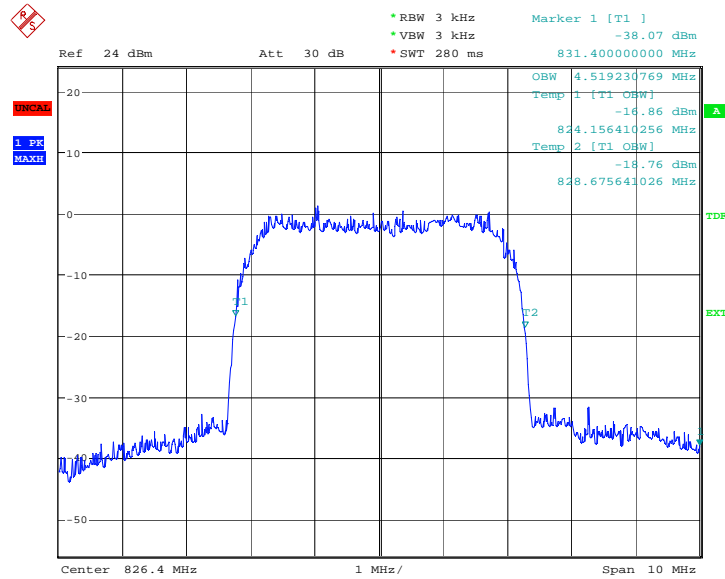
Date: 14.OCT.2008 06:34:54

Channel 4183-Occupied Bandwidth (-26dBc BW)


```
                                          *RBW  3 kHz        Marker 1 [T1 ]
                                          *VBW  3 kHz              -42.67 dBm
            Ref   24 dBm        Att  30 dB *SWT  280 ms       841.600000000 MHz
                                                         OBW  4.519230769 MHz
     20                                                  Temp 1 [T1 OBW]
 UNCAL                                                          -18.99 dBm
                                                              834.324358974 MHz    A
  1 PK                                                    Temp 2 [T1 OBW]
  MAXH 10                                                       -16.20 dBm
                                                              838.843589744 MHz
                                                                                  TDF
     0
   -10
                                                                                  EXT
   -20      T1                                    T2
   -30
   -50
     Center  836.6 MHz              1 MHz/              Span  10 MHz
```
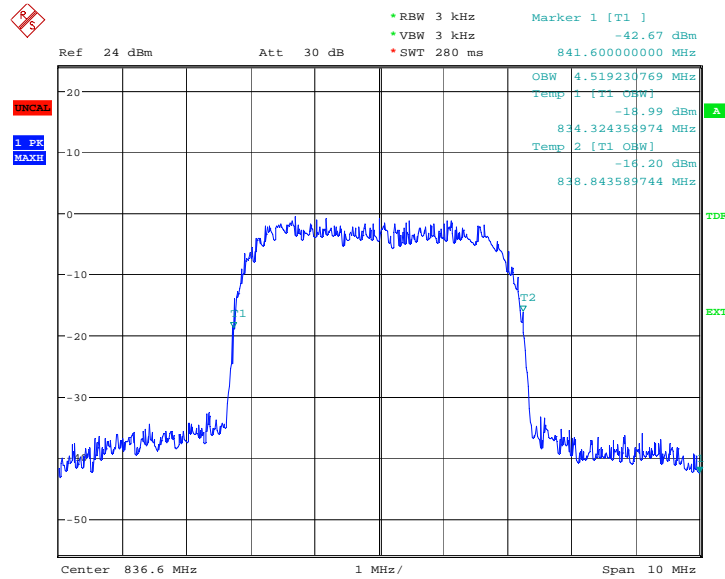
Date: 14.OCT.2008 06:45:54

Channel 4233-Occupied Bandwidth (-26dBc BW)


```
                                          *RBW  3 kHz        Marker 1 [T1 ]
                                          *VBW  3 kHz              -42.93 dBm
            Ref   24 dBm        Att  30 dB *SWT  280 ms       841.600000000 MHz
                                                         OBW  4.455128205 MHz
     20                                                  Temp 1 [T1 OBW]
 UNCAL                                                          -16.32 dBm
                                                              844.164102564 MHz    A
  1 PK                                                    Temp 2 [T1 OBW]
  MAXH 10                                                       -16.90 dBm
                                                              848.619230769 MHz
                                                                                  TDF
     0
   -10
                                                                                  EXT
   -20      T1                                    T2
   -30
   -40
   -50
     Center  846.6 MHz              1 MHz/              Span  10 MHz
```
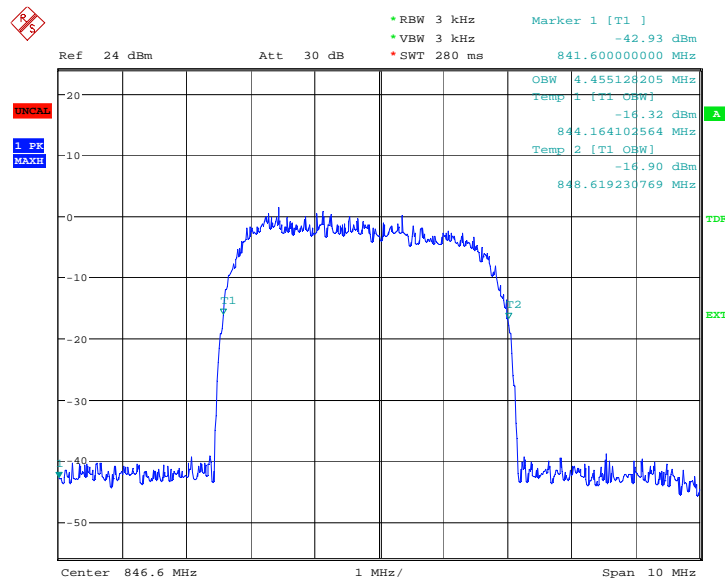
Date: 14.OCT.2008 06:30:25

WCDMA/HSPA Band Ⅱ (-26dBc)

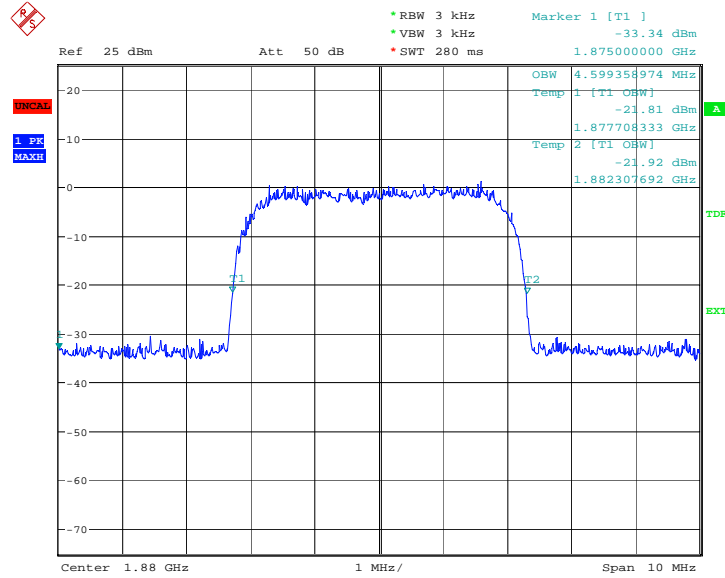| Frequency(MHz)	Occupied Bandwidth (−26dBc BW)(MHz)
1852.4	4.487
1880.0	4.599
1907.6	4.968

WCDMA/HSPA Band Ⅱ

Channel 9262-Occupied Bandwidth (-26dBc BW)
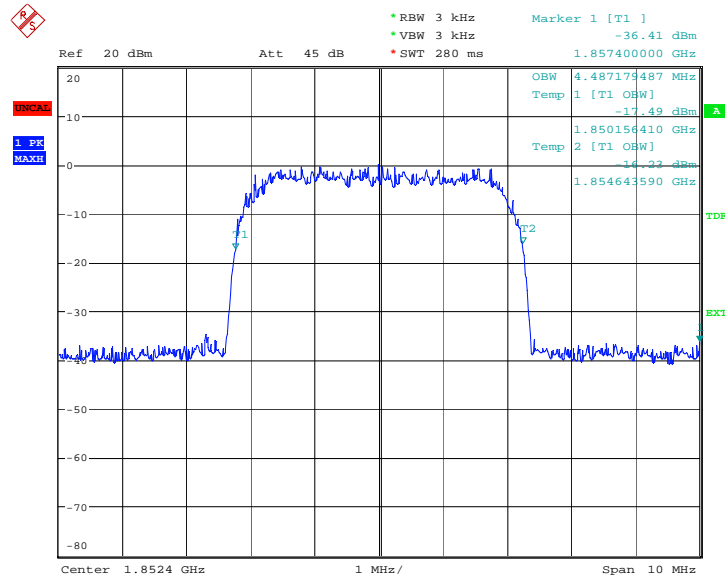
Date: 14.OCT.2008 07:32:58

Channel 9400-Occupied Bandwidth (-26dBc BW)

```
                                      * RBW 3 kHz        Marker 1 [T1 ]
                                      * VBW 3 kHz              -33.34 dBm
   Ref  25 dBm          Att  50 dB    * SWT 280 ms        1.875000000 GHz
                                                  OBW 4.599358974 MHz
     20                                           Temp 1 [T1 OBW]
                                                        -21.81 dBm
                                                  1.877708333 GHz
     10                                           Temp 2 [T1 OBW]
                                                        -21.92 dBm
                                                  1.882307692 GHz
      0
    -10
    -20          T1                      T2
    -30
    -40
    -50
    -60
    -70
   Center  1.88 GHz          1 MHz/          Span  10 MHz
```

Date: 14.OCT.2008 07:40:05

Channel 9538-Occupied Bandwidth (-26dBc BW)

```
                                      * RBW 3 kHz        Marker 1 [T1 ]
                                      * VBW 3 kHz              -33.59 dBm
   Ref  25 dBm          Att  50 dB    * SWT 280 ms        1.902600000 GHz
                                                  OBW 4.967948718 MHz
     20                                           Temp 1 [T1 OBW]
                                                        -34.19 dBm
                                                  1.904971795 GHz
     10                                           Temp 2 [T1 OBW]
                                                        -27.82 dBm
                                                  1.909939744 GHz
      0
    -10
    -20                                   T2
    -30          T1
    -40
    -50
    -60
    -70
   Center  1.9076 GHz          1 MHz/          Span  10 MHz
```
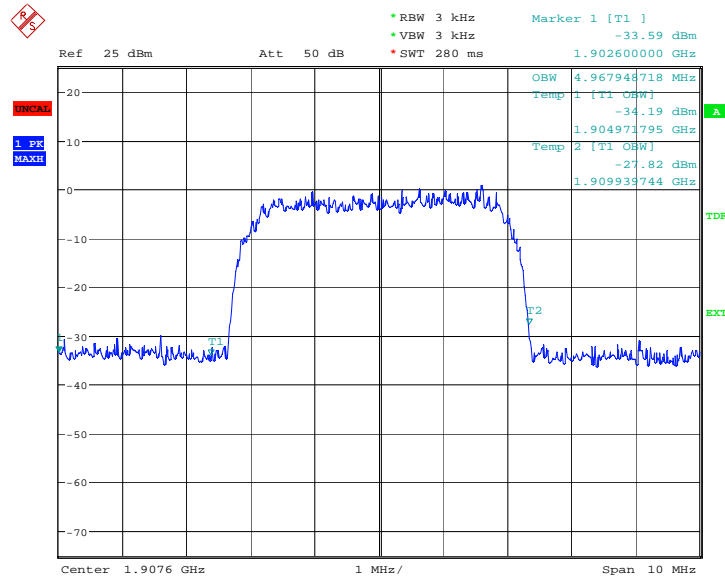
Date: 14.OCT.2008 08:19:58

WCDMA/HSPA Band Ⅴ

Frequency(MHz)	Occupied Bandwidth (−26dBc BW)(MHz)
826.40	4.519
836.60	4.551
846.60	4.503

WCDMA/HSPA Band Ⅴ

Channel 4132-Occupied Bandwidth (-26dBc BW)
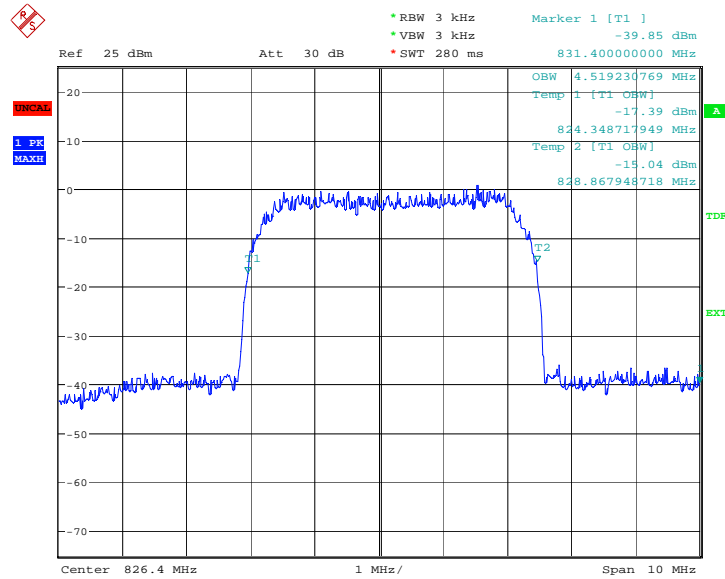
Date: 14.OCT.2008 07:44:49

Channel 4183-Occupied Bandwidth (-26dBc BW)

```
                                    * RBW  3 kHz      Marker 1 [T1 ]
                                    * VBW  3 kHz               -35.01 dBm
         Ref  21 dBm      Att  50 dB  * SWT  280 ms        837.500000000 MHz
                                                   OBW  4.551282051 MHz
    20                                             Temp 1 [T1 OBW]                A
                                                            -19.66 dBm
   -10                                               832.708333333
                                                   Temp 2 [T1 OBW]
                                                            -18.85 dBm
     0                                               837.259615385            TDF
   -10
                  T1                      T2
   -20
                                                                               EXT
   -30                                         1
   -40
   -50
   -60
   -70

    Center  835 MHz          1 MHz/              Span  10 MHz
```
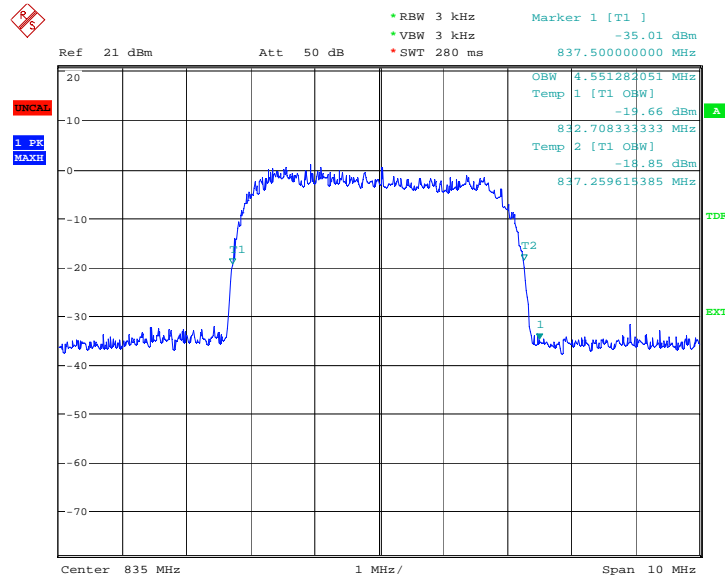
Date: 14.OCT.2008 08:42:37

Channel 4233-Occupied Bandwidth (-26dBc BW)

```
                                    * RBW  3 kHz      Marker 1 [T1 ]
                                    * VBW  3 kHz               -35.97 dBm
         Ref  25 dBm      Att  50 dB  * SWT  280 ms        849.240384615 MHz
                                                   OBW  4.503205128 MHz
    20                                             Temp 1 [T1 OBW]                A
                                                            -17.63 dBm
   -10                                               844.324358974
                                                   Temp 2 [T1 OBW]
                                                            -18.96 dBm
     0                                               848.827564103            TDF
   -10
                  T1                      T2
   -20
                                                                               EXT
   -30                                         1
   -40
   -50
   -60
   -70

    Center  846.6 MHz        1 MHz/              Span  10 MHz
```
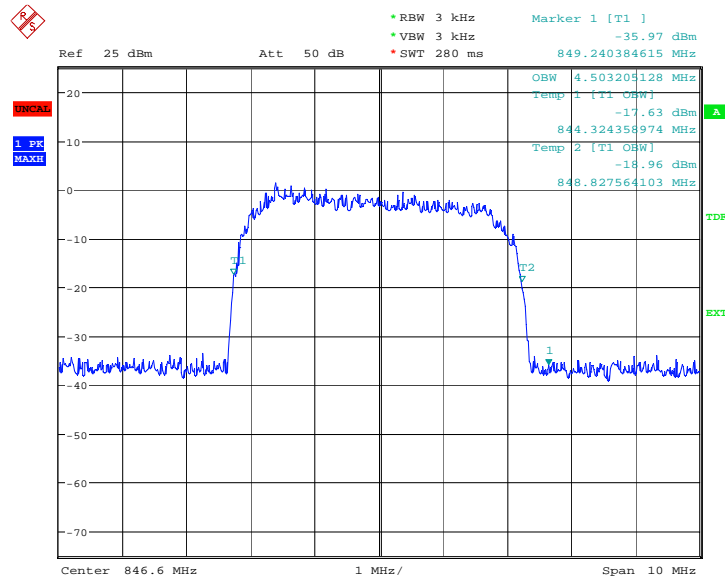
Date: 14.OCT.2008 07:53:33

B.6 BAND EDGE COMPLIANCE　　(§22.917(b)/§24.238(b))

WCDMA Band Ⅱ
LOW BAND EDGE BLOCK-A (WCDMA BandⅡ)-Channel 9262
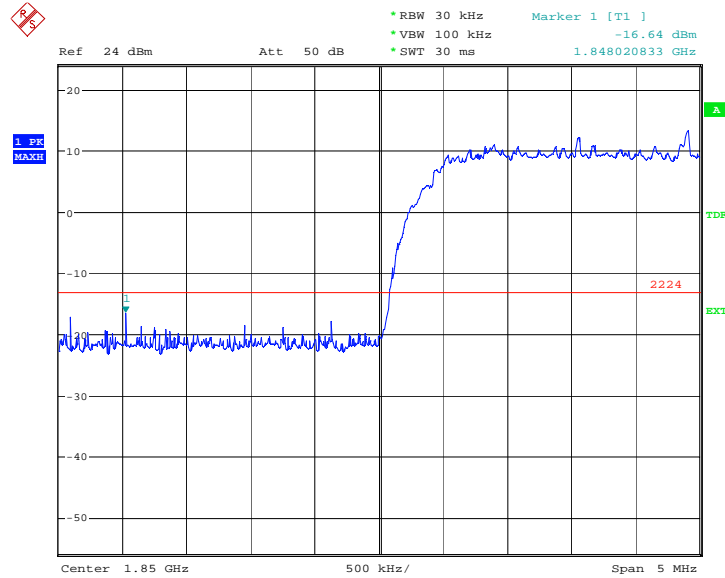
Date: 14.OCT.2008 05:56:03

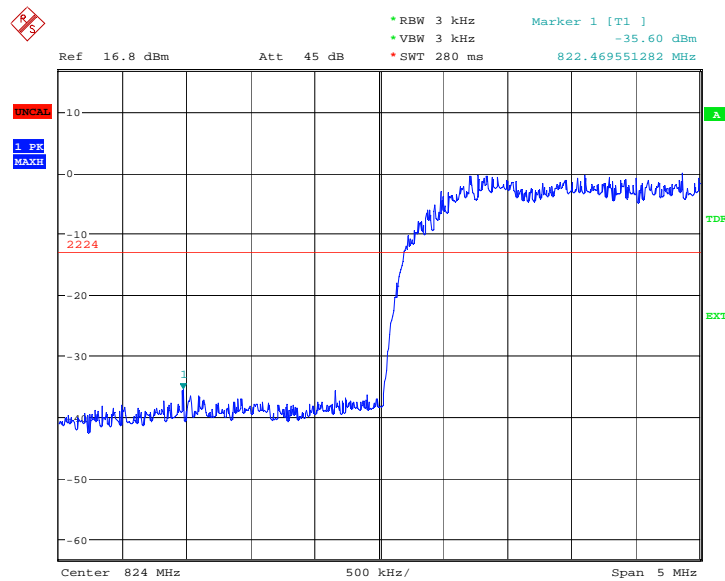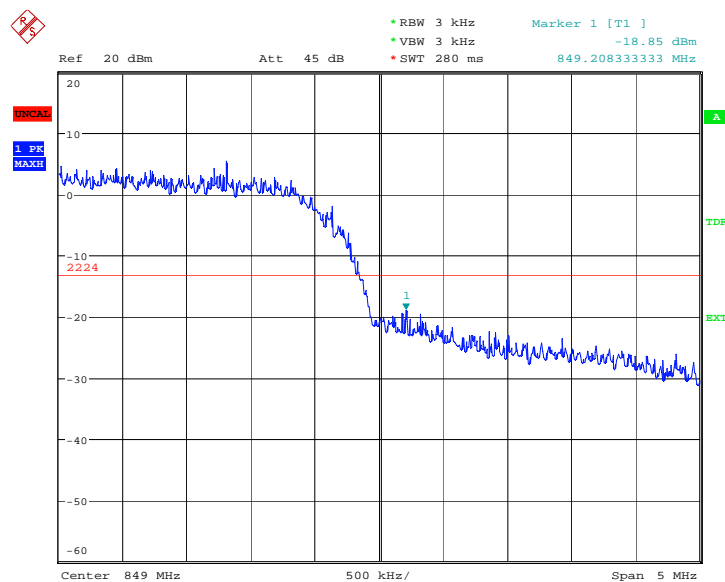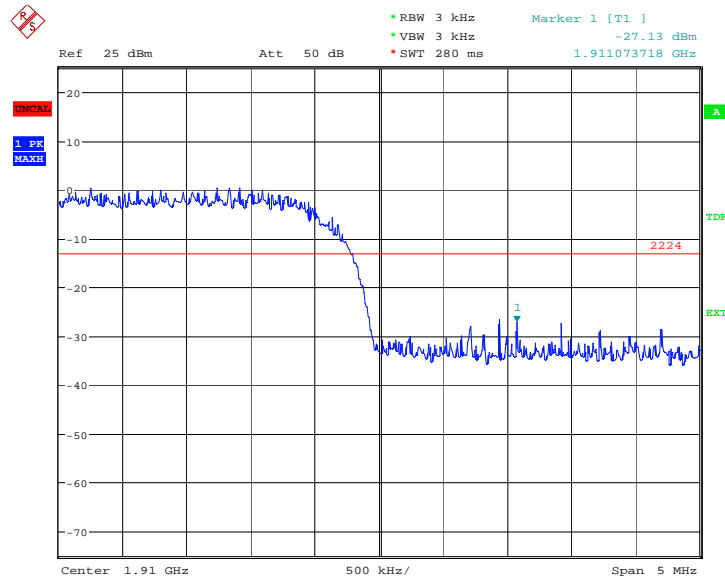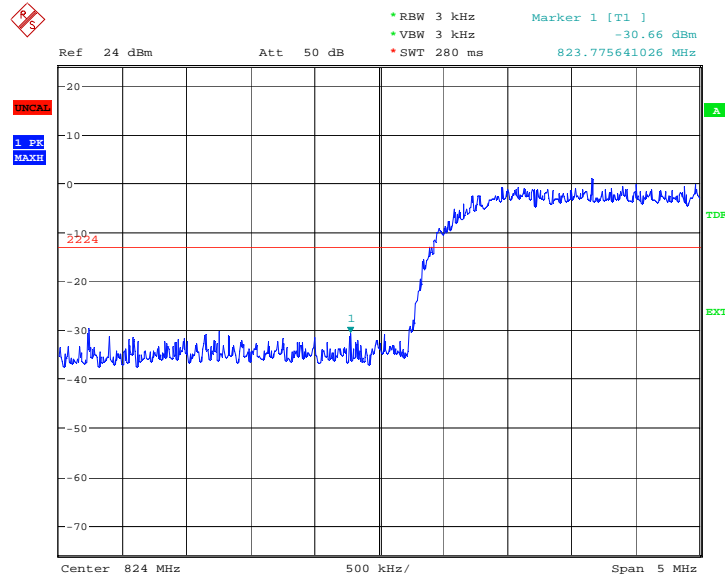**HIGH BAND EDGE BLOCK-C (WCDMA BandⅡ) –Channel 9538**
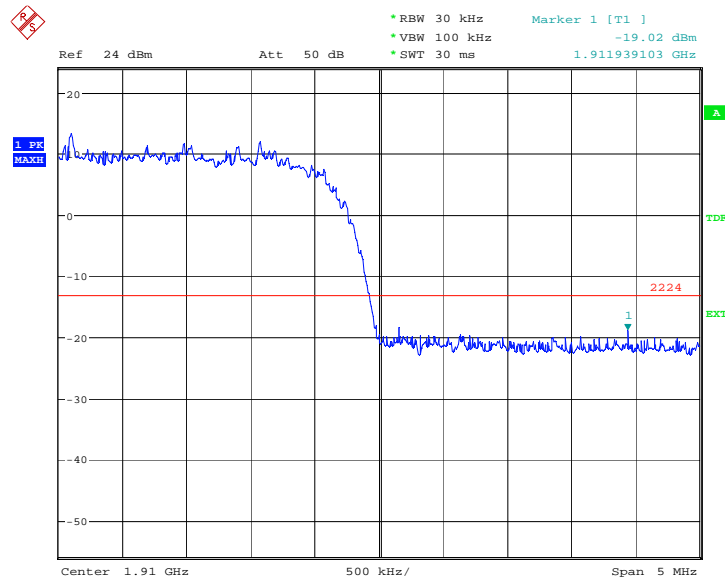
Date: 14.OCT.2008 05:57:06

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

```
* RBW 30 kHz      Marker 1 [T1 ]
* VBW 100 kHz          -20.30 dBm
* SWT 30 ms        822.974358974 MHz
Ref  24 dBm        Att  50 dB
```

Center 824 MHz   500 kHz/   Span 5 MHz
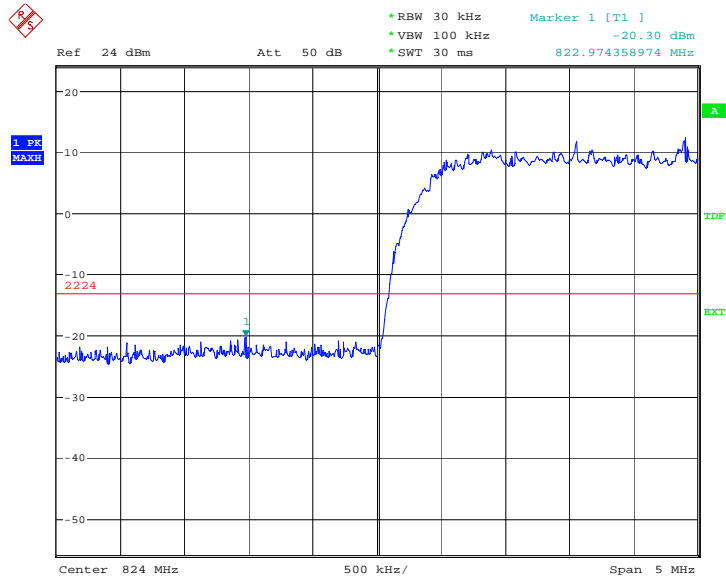
Date: 14.OCT.2008 05:57:42

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

```
* RBW 30 kHz      Marker 1 [T1 ]
* VBW 100 kHz          -19.62 dBm
* SWT 30 ms        850.875000000 MHz
Ref  24 dBm        Att  50 dB
```

Center 849 MHz   500 kHz/   Span 5 MHz
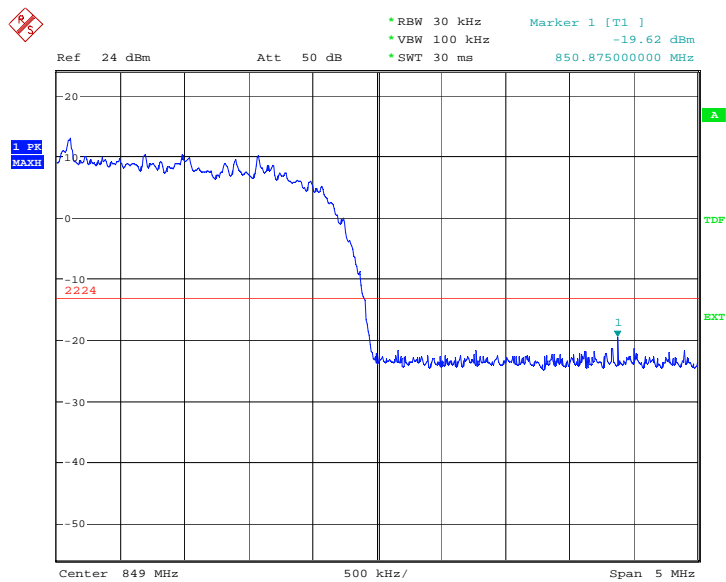
Date: 14.OCT.2008 05:58:56

WCDMA/HSDPA BandⅡ
LOW BAND EDGE BLOCK-A (WCDMA/HSDPA BandⅡ)-Channel 9262
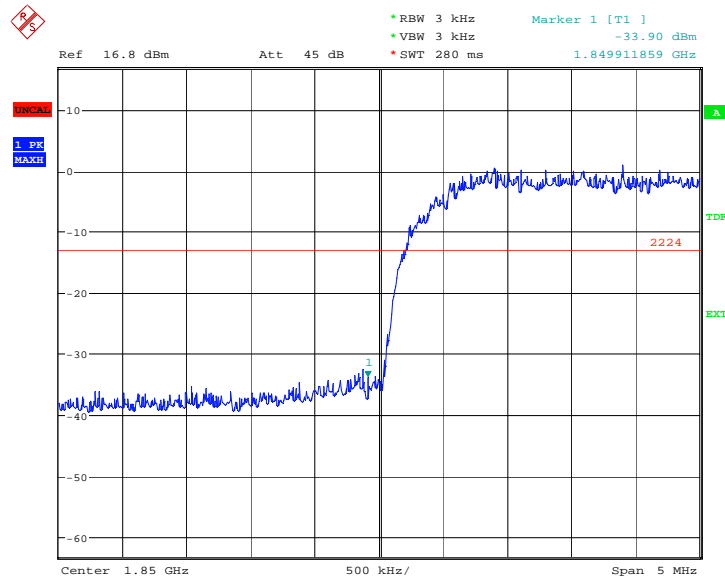
Date: 14.OCT.2008 07:05:40

HIGH BAND EDGE BLOCK-C (WCDMA/HSDPA BandⅡ) –Channel 9538
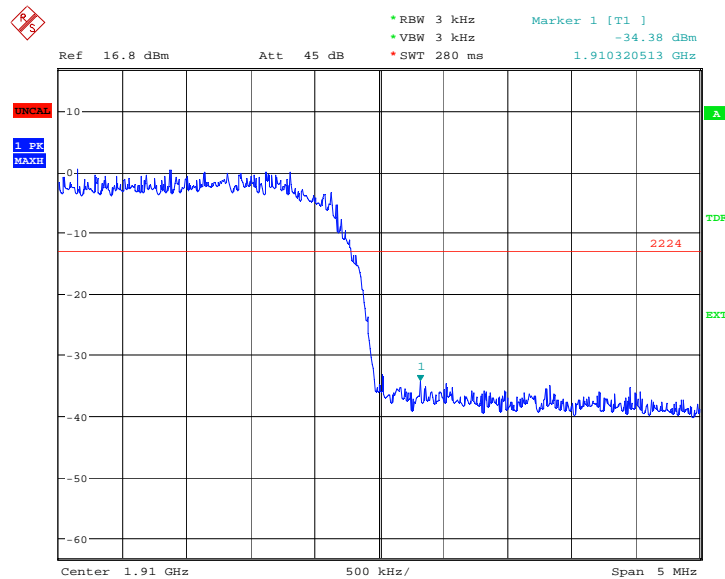
Date: 14.OCT.2008 07:09:36

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

	* RBW 3 kHz	Marker 1 [T1]
	* VBW 3 kHz	-35.60 dBm
Ref 16.8 dBm	Att 45 dB	* SWT 280 ms	822.469551282 MHz

UNCAL

1 PK
MAXH

2224

A

TDF

EXT

Center 824 MHz   500 kHz/   Span 5 MHz

Date: 14.OCT.2008 07:10:12

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

	* RBW 3 kHz	Marker 1 [T1]
	* VBW 3 kHz	-18.85 dBm
Ref 20 dBm	Att 45 dB	* SWT 280 ms	849.208333333 MHz

UNCAL

1 PK
MAXH

2224

A

TDF

EXT

Center 849 MHz   500 kHz/   Span 5 MHz

Date: 14.OCT.2008 07:11:14

WCDMA/HSPA BandⅡ

LOW BAND EDGE BLOCK-A (WCDMA/HSPA BandⅡ)-Channel 9262

	* RBW 3 kHz
	* VBW 3 kHz
Ref 20 dBm Att 45 dB	* SWT 280 ms

Marker 1 [T1]
-34.93 dBm
1.849855769 GHz

UNCAL

1 PK
MAXH

A

TDF
2224

EXT

1

Center 1.85 GHz   500 kHz/   Span 5 MHz
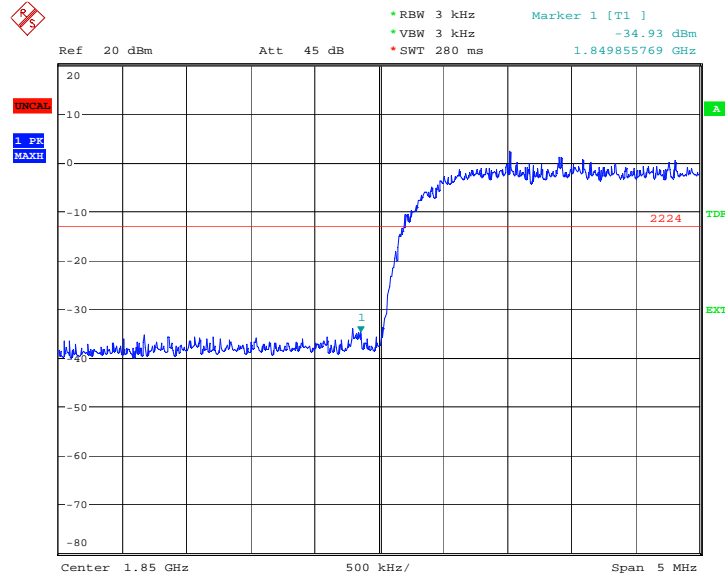
Date: 14.OCT.2008 07:35:05

HIGH BAND EDGE BLOCK-C (WCDMA/HSPA BandⅡ) –Channel 9538

	* RBW 3 kHz
	* VBW 3 kHz
Ref 25 dBm Att 50 dB	* SWT 280 ms

Marker 1 [T1]
-27.13 dBm
1.911073718 GHz

UNCAL

1 PK
MAXH

A

TDF
2224

EXT

1

Center 1.91 GHz   500 kHz/   Span 5 MHz

Date: 14.OCT.2008 08:21:25

WCDMA/HSPA Band Ⅴ

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

Date: 14.OCT.2008 07:46:51

HIGH BAND EDGE BLOCK-C (WCDMA/HSPA Band Ⅴ) –Channel 4233
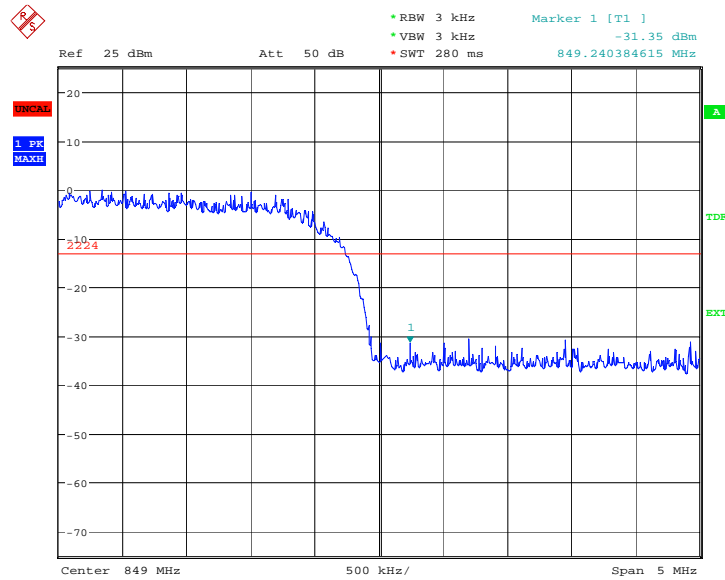
Date: 14.OCT.2008 07:52:08

B.7 CONDUCTED SPURIOUS EMISSION　(§2.1057/§22.917/§24.238)

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

WCDMA Band Ⅱ Transmitter

Channel	Frequency (MHz)
9262	1852.40
9400	1880.00
9538	1907.60

WCDMA Band Ⅴ Transmitter

Channel	Frequency (MHz)
4132	826.40
4183	836.60
4233	846.60

B. 7.2 Measurement Limit

Sec. 24.238 Emission Limits.

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

B. 7.3 Measurement result

WCDMA Band Ⅱ

Harmonic	Tx ch. 9262 Freq. (MHz)	Level (dBm)	Tx ch. 9400 Freq. (MHz)	Level (dBm)	Tx ch. 9538 Freq. (MHz)	Level (dBm)
2	3704.8	nf	3760	nf	3815.2	nf
3	5557.2	nf	5640	nf	5722.8	nf
4	7409.6	nf	7520	nf	7630.4	nf
5	9262	nf	9400	nf	9538	nf
6	11114.4	nf	11280	nf	11445.6	nf
7	12966.8	nf	13160	nf	13353.2	nf
8	14819.2	nf	15040	nf	15260.8	nf
9	16671.6	nf	16920	nf	17168.4	nf
10	18524	nf	18800	nf	19076	nf
nf: Noise floor						

WCDMA Band V

Harmonic	Tx ch. 4132 Freq. (MHz)	Level (dBm)	Tx ch. 4183 Freq. (MHz)	Level (dBm)	Tx ch. 4233 Freq. (MHz)	Level (dBm)
2	1652.8	nf	1673.2	nf	1693.2	nf
3	2479.2	nf	2509.8	nf	2539.8	nf
4	3305.6	nf	3346.4	nf	3386.4	nf
5	4132	nf	4183	nf	4233	nf
6	4958.4	nf	5019.6	nf	5079.6	nf
7	5784.8	nf	5856.2	nf	5926.2	nf
8	6611.2	nf	6692.8	nf	6772.8	nf
9	7437.6	nf	7529.4	nf	7619.4	nf
10	8264	nf	8366	nf	8466	nf
nf: Noise floor						

WCDMA Band Ⅱ

B. 7.3.1 Channel 9262: 30MHz –4GHz

Spurious emission limit –13dBm.

NOTE: peak above the limit line is the carrier frequency.
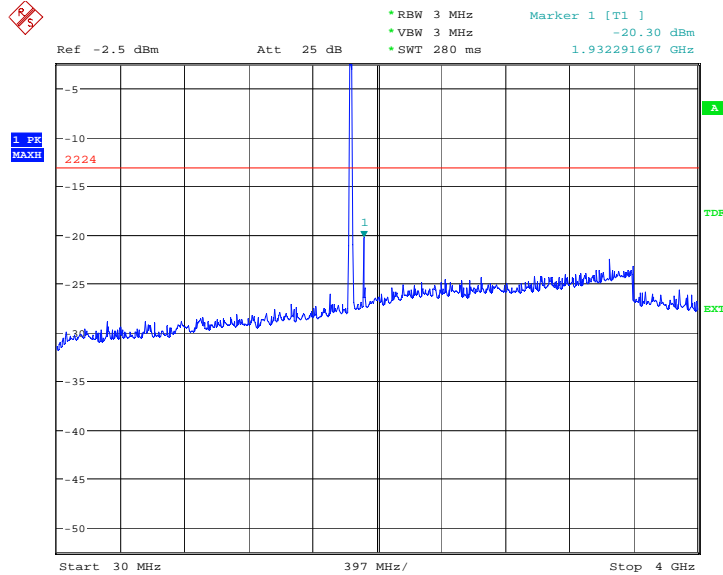
Date: 14.OCT.2008 05:41:12

WCDMA Band Ⅱ

B. 7.3.2 Channel 9262: 4GHz –20GHz

Spurious emission limit –13dBm.
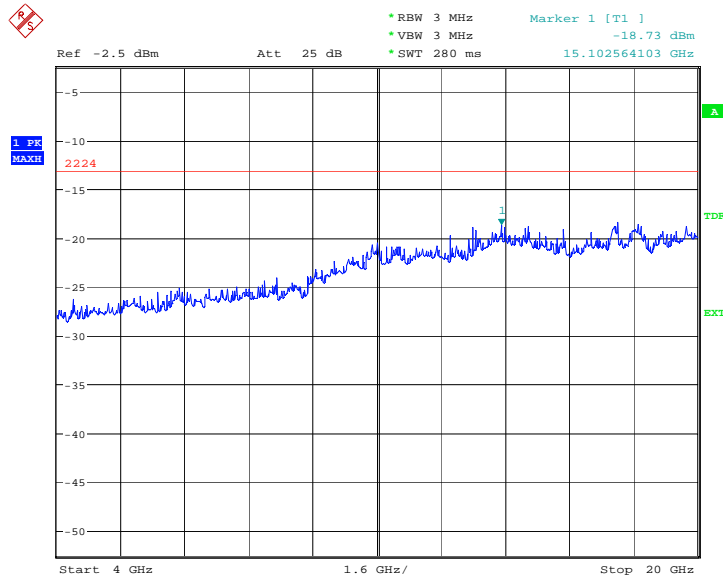
Date: 14.OCT.2008 05:41:31

WCDMA Band Ⅱ

B. 7.3.3 Channel 9400: 30MHz – 4GHz
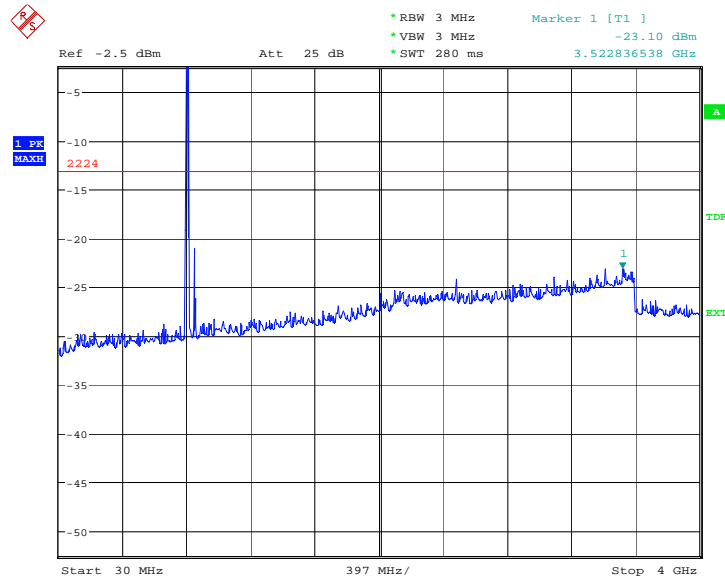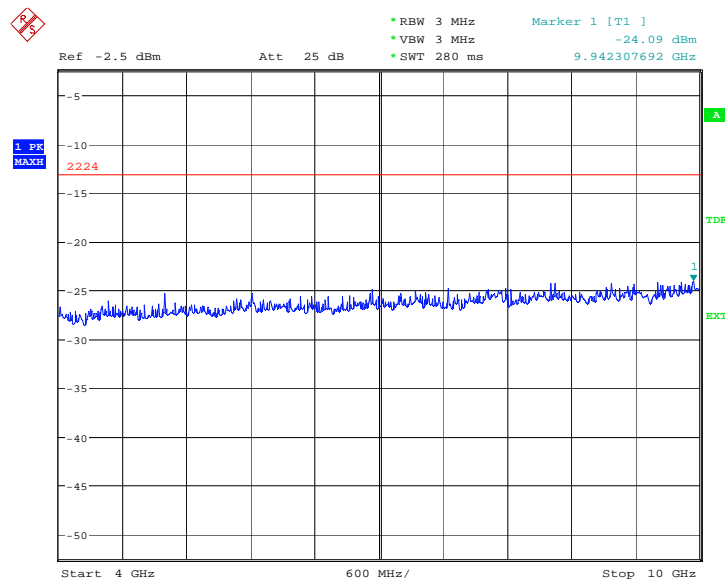
Spurious emission limit –13dBm.

NOTE: peak above the limit line is the carrier frequency.
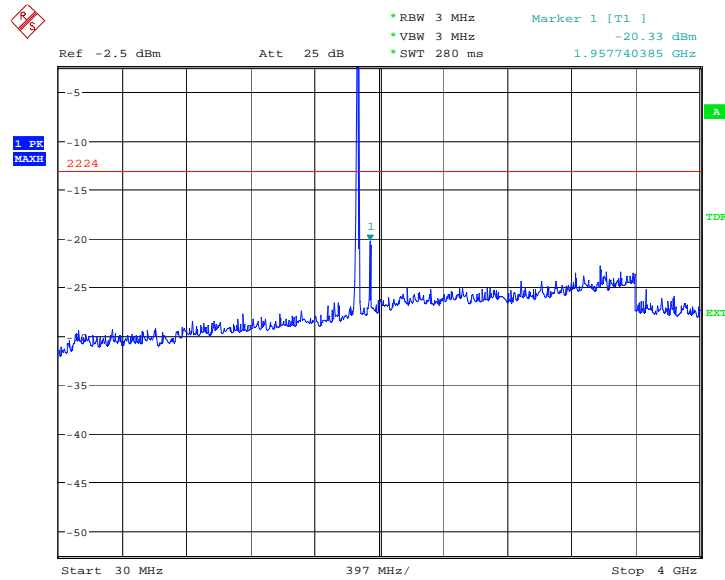
Date: 14.OCT.2008 05:42:38

WCDMA Band Ⅱ

B. 7.3.4 Channel 9400: 4GHz – 20GHz
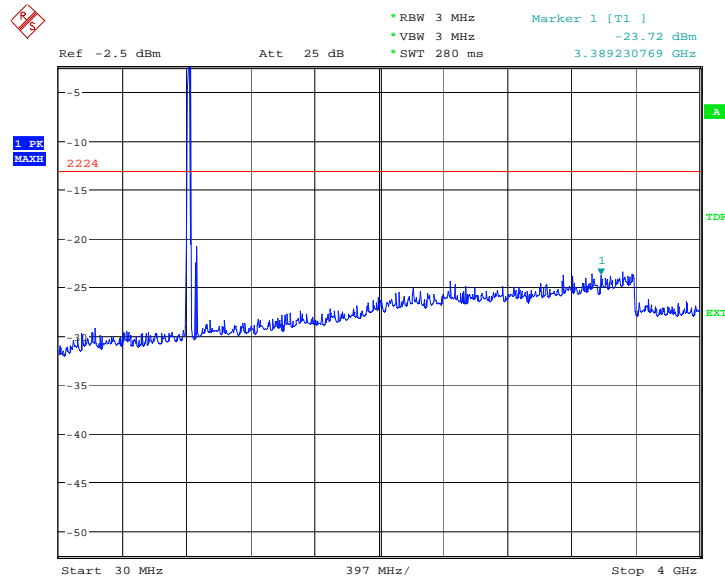
Spurious emission limit –13dBm.
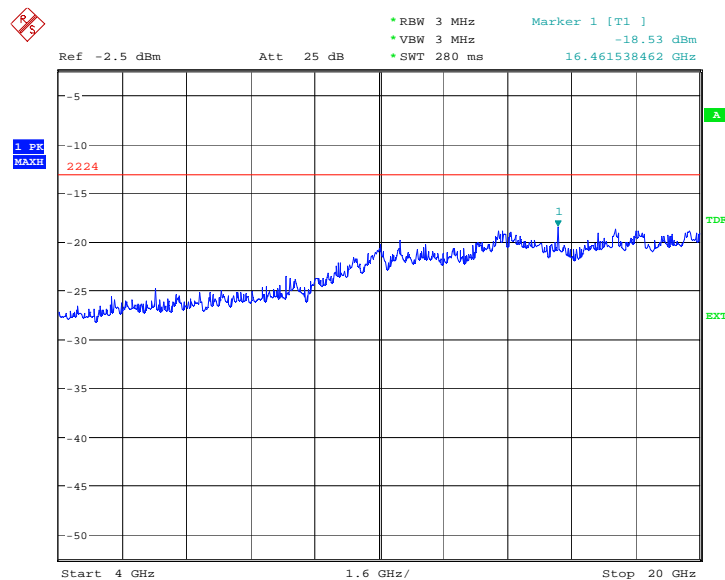
Date: 14.OCT.2008 05:42:12

WCDMA Band Ⅱ

B. 7.3.5 Channel 9538: 30MHz – 4GHz

Spurious emission limit –13dBm.

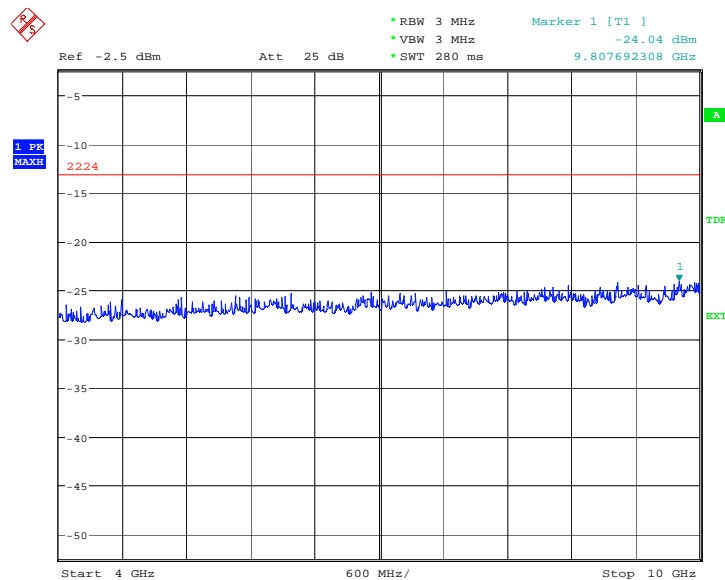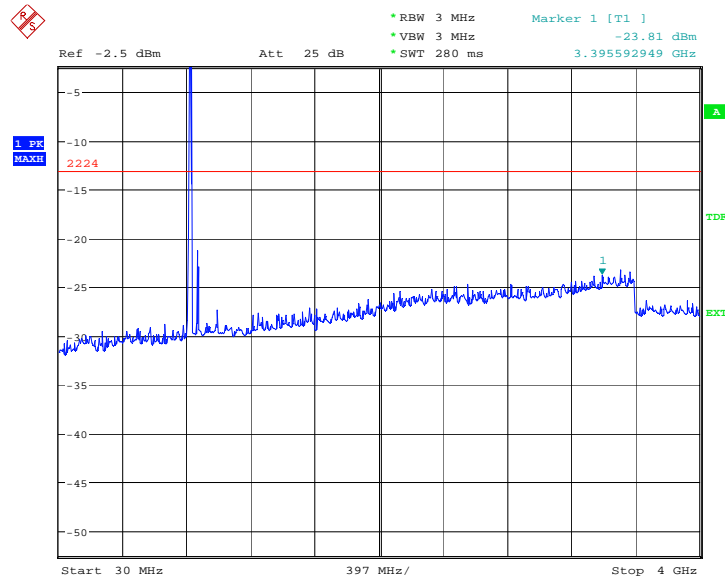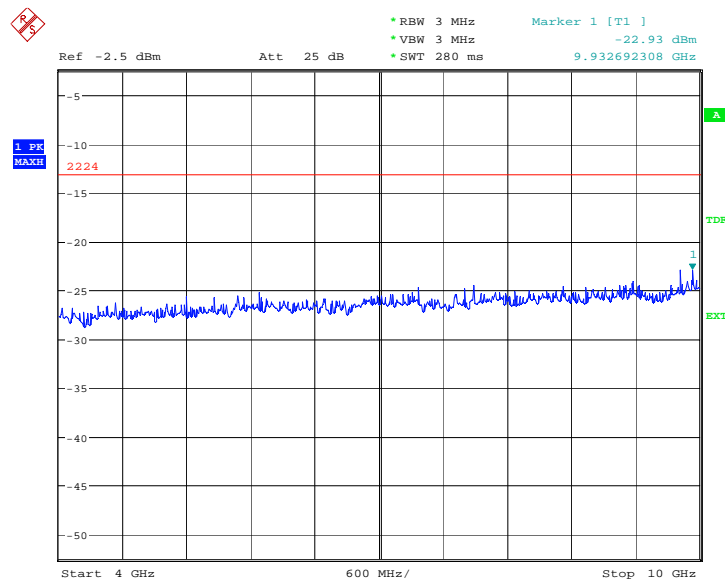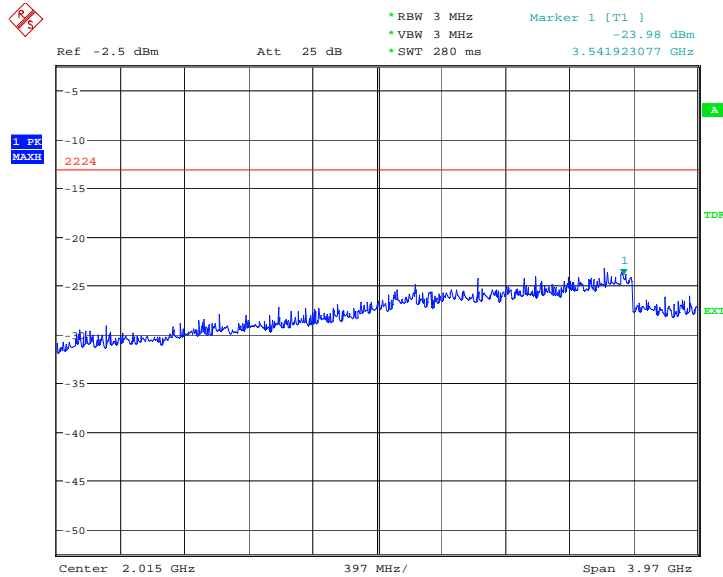**NOTE: peak above the limit line is the carrier frequency.**

```
                                          * RBW  3 MHz      Marker 1 [T1 ]
                                          * VBW  3 MHz            -20.14 dBm
    Ref  -2.5 dBm         Att   25 dB     * SWT  280 ms      1.989551282 GHz

      -5                                                                    A

     -10
1 PK
MAXH 2224
     -15                                                                   TDF

     -20        1

     -25                                                                   EXT

     -30

     -35

     -40

     -45

     -50

    Start 30 MHz            397 MHz/                      Stop  4 GHz
```
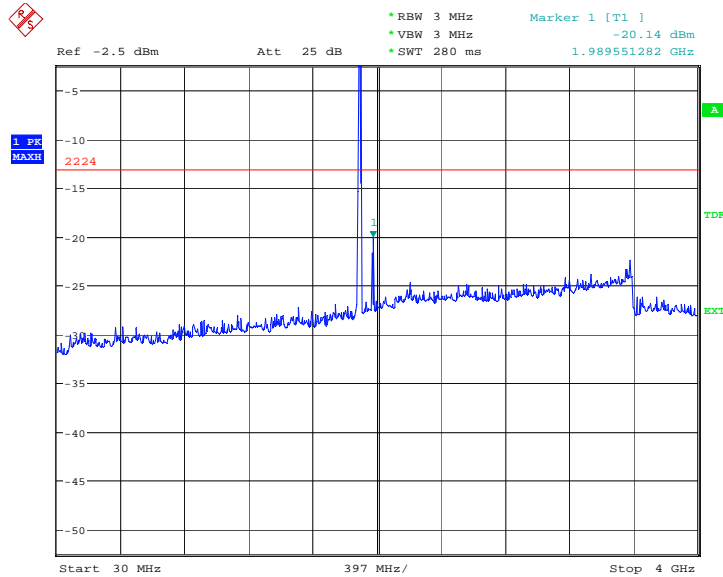
Date: 14.OCT.2008 05:43:02

WCDMA Band Ⅱ

B. 7.3.6 Channel 9538: 4GHz – 20GHz

Spurious emission limit –13dBm.

```
                                          * RBW  3 MHz      Marker 1 [T1 ]
                                          * VBW  3 MHz            -18.59 dBm
    Ref  -2.5 dBm         Att   25 dB     * SWT  280 ms      14.923076923 GHz

      -5                                                                    A

     -10
1 PK
MAXH 2224
     -15                                                                   TDF

     -20                         1

     -25

     -30                                                                   EXT

     -35

     -40

     -45

     -50

    Start 4 GHz             1.6 GHz/                       Stop 20 GHz
```
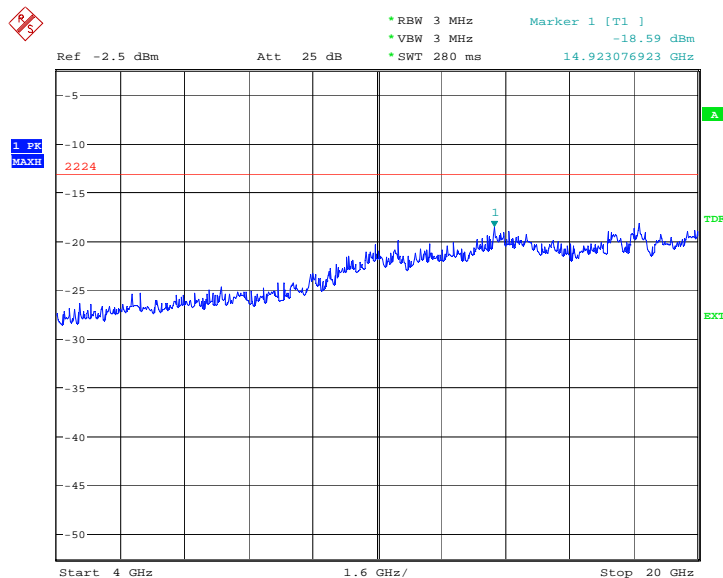
Date: 14.OCT.2008 05:43:27

WCDMA Band Ⅱ

B. 7.3.7 Idle mode: 30MHz – 4GHz

Spurious emission limit -13dBm.

```
                                    * RBW  3 MHz      Marker 1 [T1 ]
                                    * VBW  3 MHz              -19.81 dBm
     Ref  -2.5 dBm        Att  25 dB  * SWT 280 ms    1.989551282 GHz
```

1 PK MAXH	
2224	

Start 30 MHz   397 MHz/   Stop 4 GHz
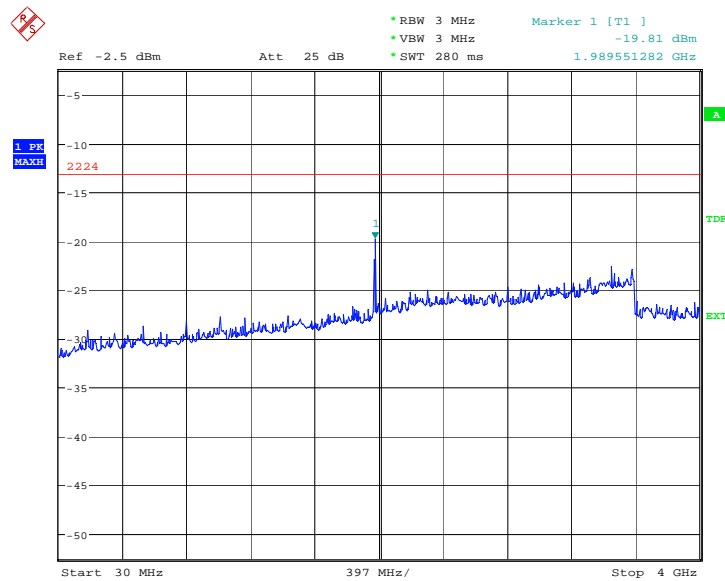
Date: 14.OCT.2008 05:44:13

WCDMA Band Ⅱ

B. 7.3.8 Idle mode: 4GHz – 20GHz

Spurious emission limit -13dBm.

```
                                    * RBW  3 MHz      Marker 1 [T1 ]
                                    * VBW  3 MHz              -18.32 dBm
     Ref  -2.5 dBm        Att  25 dB  * SWT 280 ms    18.384615385 GHz
```

1 PK MAXH	
2224	

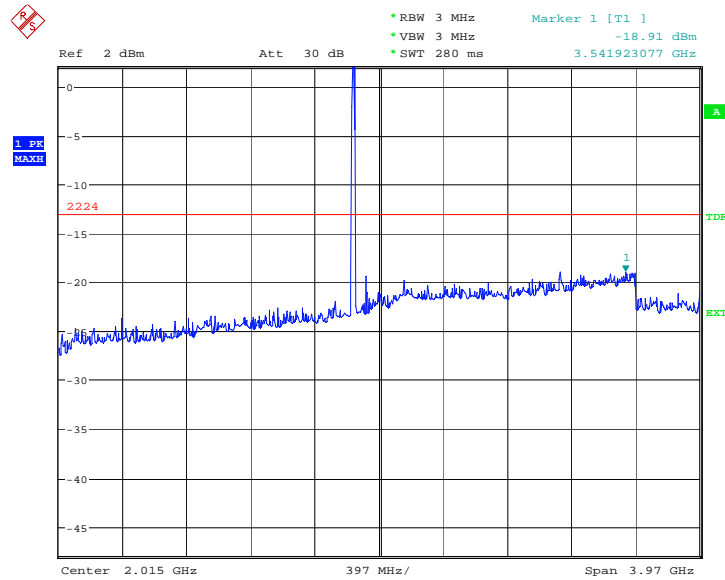Start 4 GHz   1.6 GHz/   Stop 20 GHz
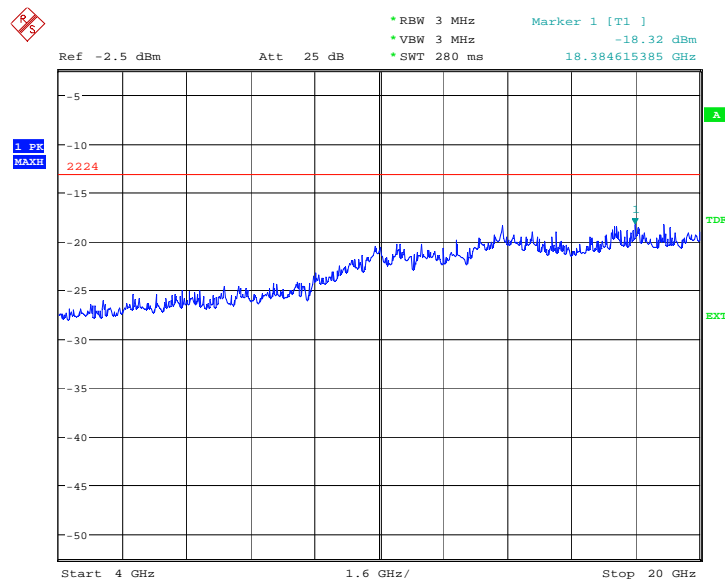
Date: 14.OCT.2008 05:43:53

WCDMA Band Ⅴ

B. 7.3.9 Channel 4132: 30MHz – 4GHz

Spurious emission limit –13dBm.

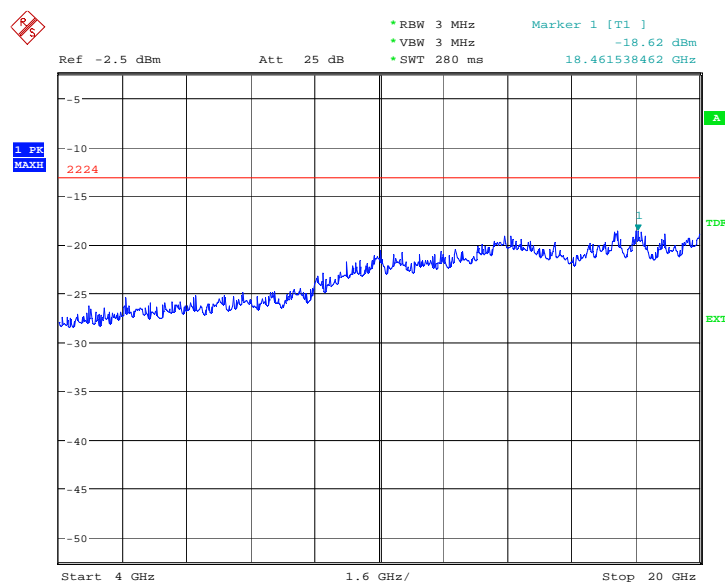**NOTE: peak above the limit line is the carrier frequency.**

Date: 14.OCT.2008 05:39:51

WCDMA Band Ⅴ

B. 7.3.10 Channel 4132: 4GHz – 10GHz
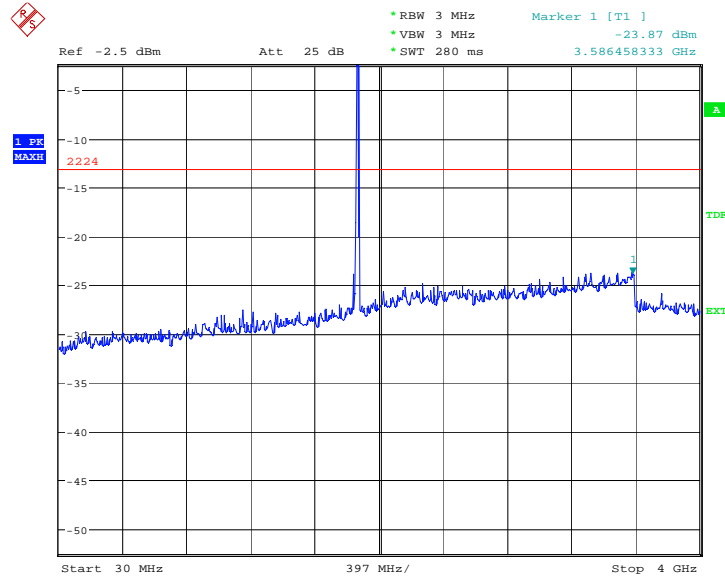
Spurious emission limit –13dBm.

Date: 14.OCT.2008 05:40:14

WCDMA Band Ⅴ

B. 7.3.11 Channel 4183: 30MHz – 4GHz

Spurious emission limit –13dBm.

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

Date: 14.OCT.2008 05:39:16

WCDMA Band Ⅴ

B. 7.3.12 Channel 4183:4GHz – 10GHz

Spurious emission limit –13dBm.

Date: 14.OCT.2008 05:38:40

WCDMA Band Ⅴ

B.7.3.13 Channel 4233: 30MHz – 4GHz

Spurious emission limit –13dBm.

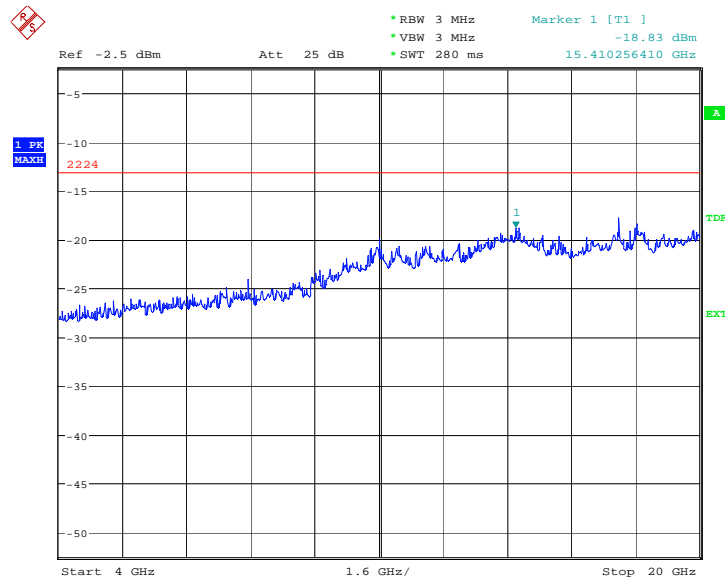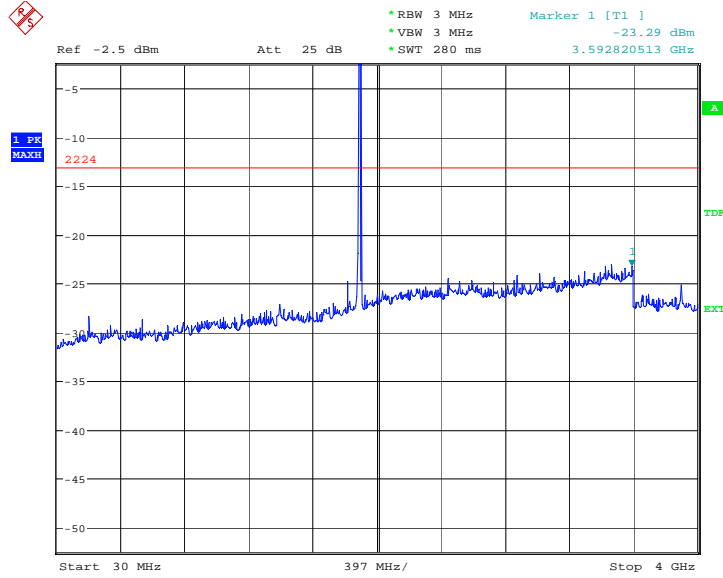**NOTE: peak above the limit line is the carrier frequency.**

Date: 14.OCT.2008 05:37:33

WCDMA Band Ⅴ

B. 7.3.14 Channel 4233: 4GHz – 10GHz

Spurious emission limit –13dBm.

Date: 14.OCT.2008 05:37:57

WCDMA Band Ⅴ

B. 7.3.15 Idle mode: 30MHz – 4GHz

Spurious emission limit -13dBm.

```
                                              * RBW  3 MHz        Marker 1 [T1 ]
                                              * VBW  3 MHz              -23.98 dBm
Ref  -2.5 dBm              Att   25 dB        * SWT  280 ms       3.541923077 GHz
```

Date: 14.OCT.2008 05:45:58

WCDMA Band Ⅴ

B. 7.3.16 Idle mode: 4GHz – 10GHz

Spurious emission limit -13dBm.

```
                                              * RBW  3 MHz        Marker 1 [T1 ]
                                              * VBW  3 MHz              -24.12 dBm
Ref  -2.5 dBm              Att   25 dB        * SWT  280 ms       9.961538462 GHz
```
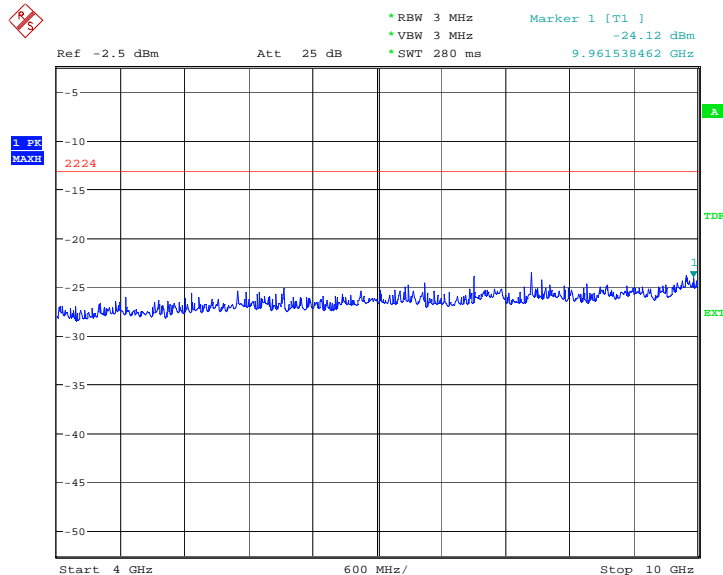
Date: 14.OCT.2008 05:46:17

WCDMA/HSDPA Band Ⅱ

B. 7.3.17 Channel 9262: 30MHz –4GHz

Spurious emission limit –13dBm.

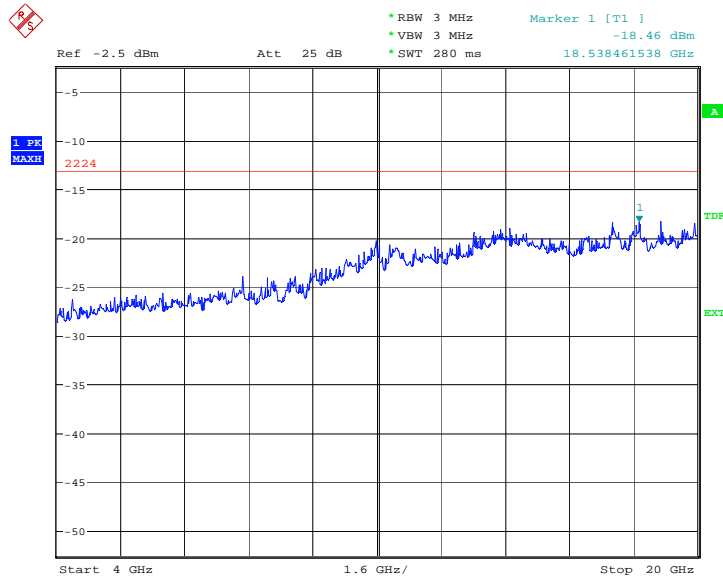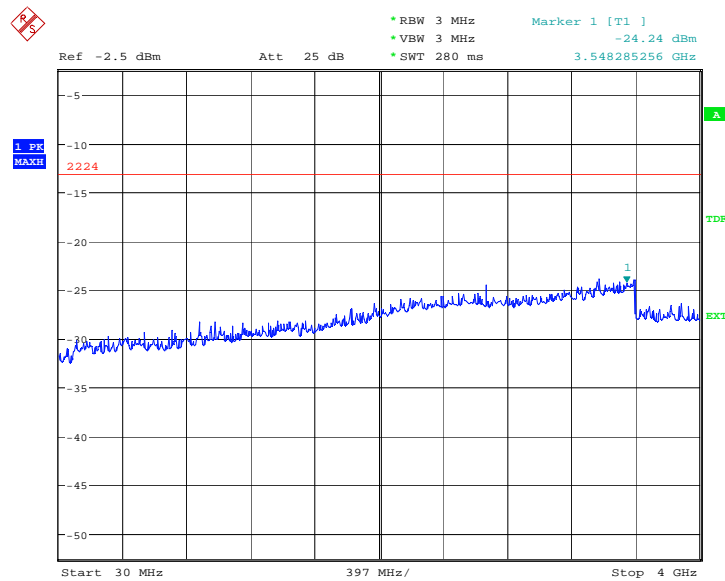**NOTE: peak above the limit line is the carrier frequency.**


```
                                        * RBW  3 MHz        Marker 1 [T1 ]
                                        * VBW  3 MHz                  -18.91 dBm
  Ref  2 dBm              Att  30 dB    * SWT 280 ms         3.541923077 GHz
```

Date: 14.OCT.2008 07:13:33

WCDMA/HSDPA Band Ⅱ

B. 7.3.18 Channel 9262: 4GHz –20GHz

Spurious emission limit –13dBm.


```
                                        * RBW  3 MHz        Marker 1 [T1 ]
                                        * VBW  3 MHz                  -18.62 dBm
  Ref  -2.5 dBm           Att  25 dB    * SWT 280 ms        18.461538462 GHz
```

Date: 14.OCT.2008 07:13:58

WCDMA/HSDPA Band Ⅱ

B. 7.3.19 Channel 9400: 30MHz – 4GHz

Spurious emission limit –13dBm.

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

Date: 14.OCT.2008 07:15:01

WCDMA/HSDPA Band Ⅱ

B. 7.3.20 Channel 9400: 4GHz – 20GHz

Spurious emission limit –13dBm.

Date: 14.OCT.2008 07:14:26

WCDMA/HSDPA Band Ⅱ

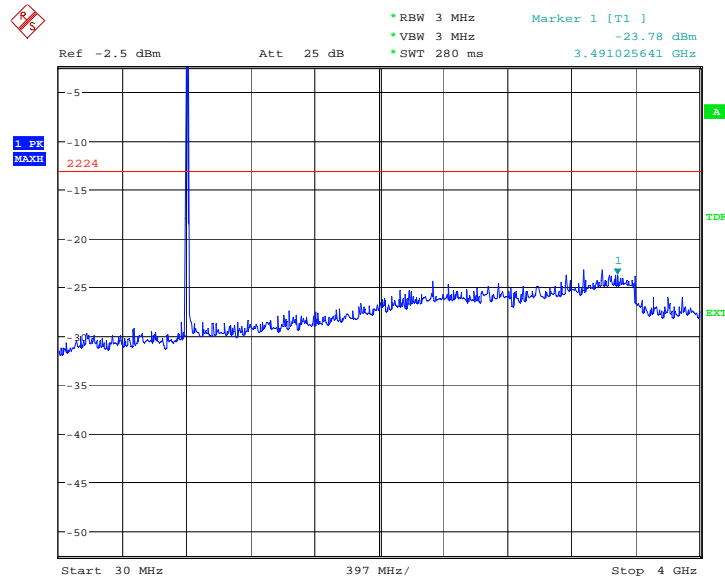**B. 7.3.21 Channel 9538: 30MHz – 4GHz**

Spurious emission limit –13dBm.

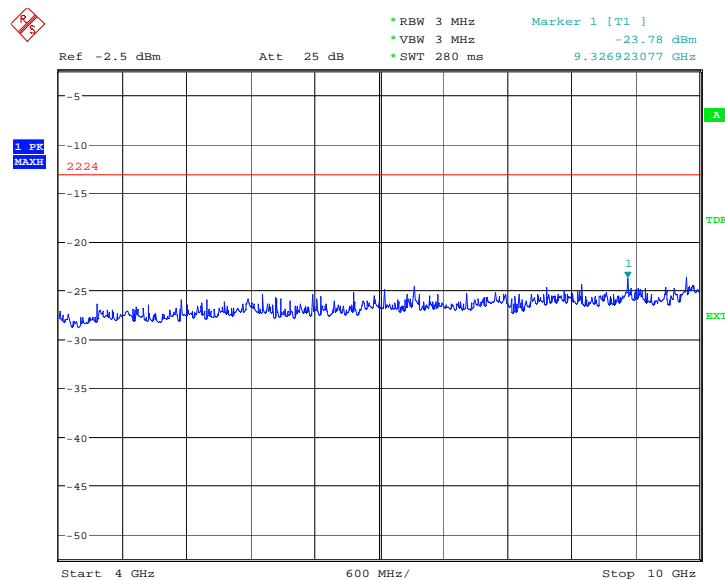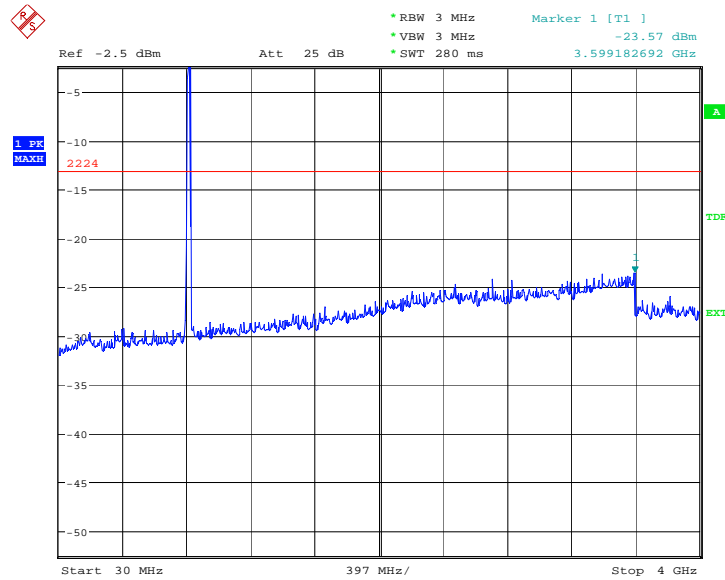**NOTE: peak above the limit line is the carrier frequency.**

Date: 14.OCT.2008 07:18:19

WCDMA/HSDPA Band Ⅱ

B. 7.3.22 Channel 9538: 4GHz – 20GHz

Spurious emission limit –13dBm.

Date: 14.OCT.2008 07:18:36

WCDMA/HSDPA Band Ⅱ

B. 7.3.23 Idle mode: 30MHz – 4GHz

Spurious emission limit -13dBm.

		* RBW 3 MHz	Marker 1 [T1]
		* VBW 3 MHz	-24.24 dBm
Ref -2.5 dBm	Att 25 dB	* SWT 280 ms	3.548285256 GHz

Start 30 MHz   397 MHz/   Stop 4 GHz

Date: 14.OCT.2008 07:19:14

WCDMA/HSDPA Band Ⅱ

B. 7.3.24 Idle mode: 4GHz – 20GHz

Spurious emission limit -13dBm.

		* RBW 3 MHz	Marker 1 [T1]
		* VBW 3 MHz	-18.86 dBm
Ref -2.5 dBm	Att 25 dB	* SWT 280 ms	15.128205128 GHz

Start 4 GHz   1.6 GHz/   Stop 20 GHz
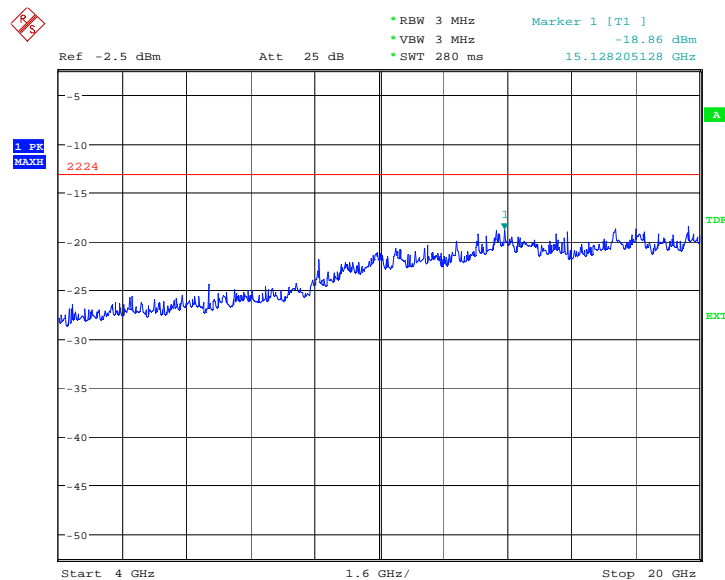
Date: 14.OCT.2008 07:18:54

WCDMA/HSDPA Band Ⅴ

B. 7.3.25 Channel 4132: 30MHz – 4GHz

Spurious emission limit –13dBm.

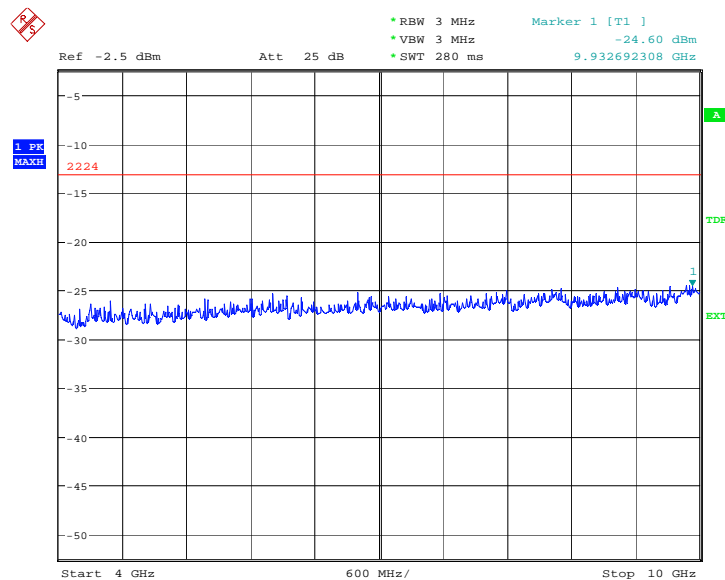**NOTE: peak above the limit line is the carrier frequency.**

Date: 14.OCT.2008 07:15:48

WCDMA/HSDPA Band Ⅴ

B. 7.3.26 Channel 4132: 4GHz – 10GHz
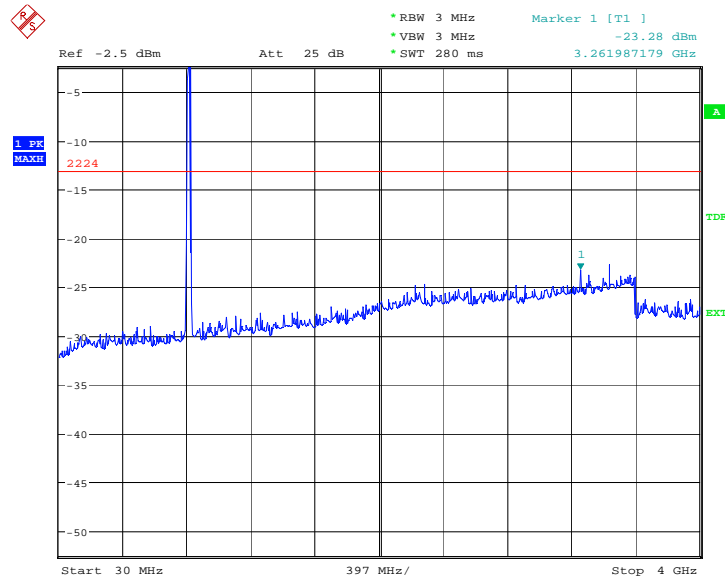
Spurious emission limit –13dBm.

Date: 14.OCT.2008 07:16:03

WCDMA/HSDPA Band Ⅴ

B. 7.3.27 Channel 4183: 30MHz – 4GHz

Spurious emission limit –13dBm.

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

Date: 14.OCT.2008 07:16:43

WCDMA/HSDPA Band Ⅴ

B. 7.3.28 Channel 4183:4GHz – 10GHz

Spurious emission limit –13dBm.

Date: 14.OCT.2008 07:16:25

WCDMA/HSDPA Band Ⅴ

B.7.3.29 Channel 4233: 30MHz – 4GHz

Spurious emission limit –13dBm.

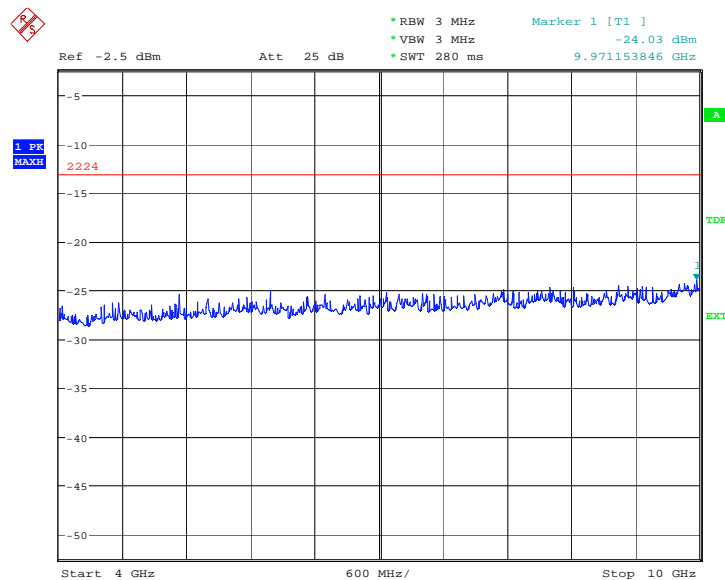**NOTE: peak above the limit line is the carrier frequency.**

Date: 14.OCT.2008 07:17:07

WCDMA/HSDPA Band Ⅴ

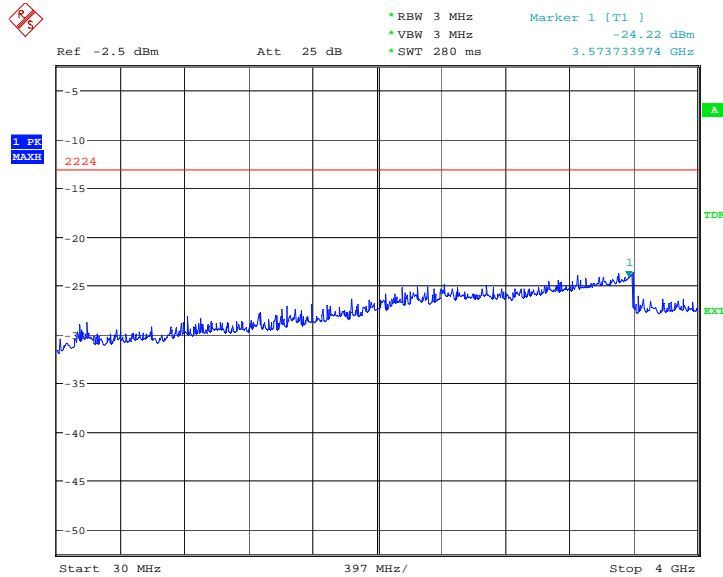### B. 7.3.30 Channel 4233: 4GHz – 10GHz

Spurious emission limit –13dBm.

Date: 14.OCT.2008 07:17:26

WCDMA/HSDPA Band Ⅴ

B. 7.3.31 Idle mode: 30MHz – 4GHz
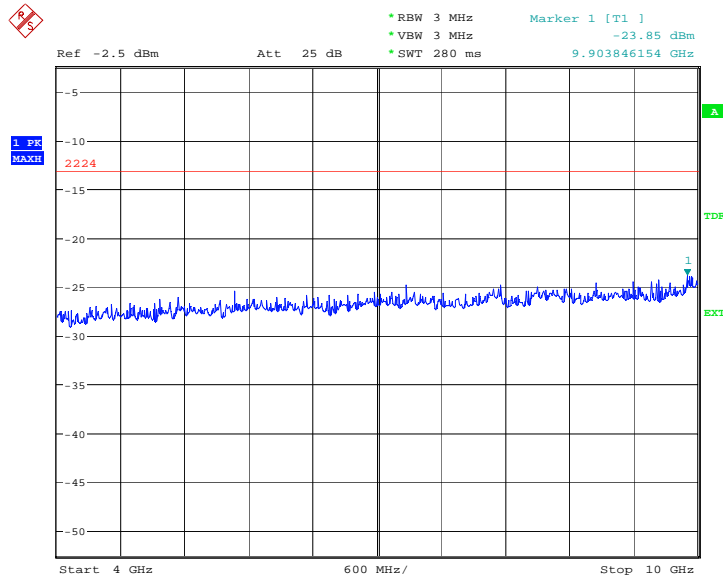
Spurious emission limit -13dBm.

```
                                    *RBW  3 MHz      Marker 1 [T1 ]
                                    *VBW  3 MHz              -24.22 dBm
       Ref  -2.5 dBm    Att  25 dB  *SWT 280 ms      3.573733974 GHz

        -5                                                          A

  1 PK -10
  MAXH
  2224 -15

       -20                                                          TDF

       -25                                                     1
                                                                    EXT
       -30

       -35

       -40

       -45

       -50

       Start 30 MHz          397 MHz/              Stop  4 GHz
```

Date: 14.OCT.2008 07:19:44

WCDMA/HSDPA Band Ⅴ

B. 7.3.32 Idle mode: 4GHz – 10GHz

Spurious emission limit -13dBm.

```
                                    *RBW  3 MHz      Marker 1 [T1 ]
                                    *VBW  3 MHz              -23.85 dBm
       Ref  -2.5 dBm    Att  25 dB  *SWT 280 ms      9.903846154 GHz

        -5                                                          A

  1 PK -10
  MAXH
  2224 -15

       -20                                                          TDF

       -25                                                      1
                                                                    EXT
       -30

       -35

       -40

       -45

       -50

       Start 4 GHz           600 MHz/              Stop  10 GHz
```
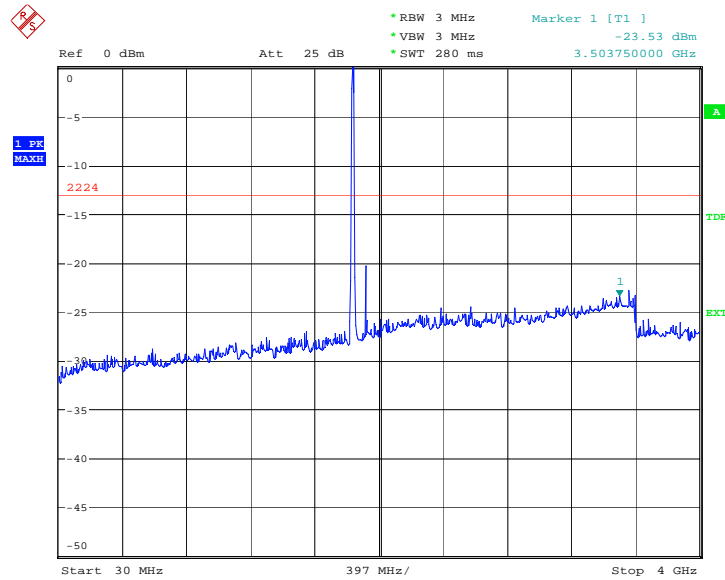
Date: 14.OCT.2008 07:19:58

WCDMA/HSPA Band Ⅱ

B. 7.3.33 Channel 9262: 30MHz –4GHz

Spurious emission limit –13dBm.

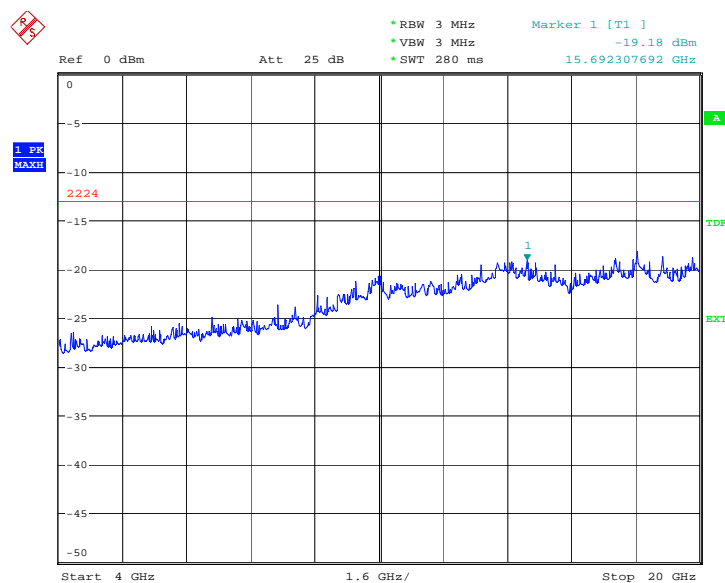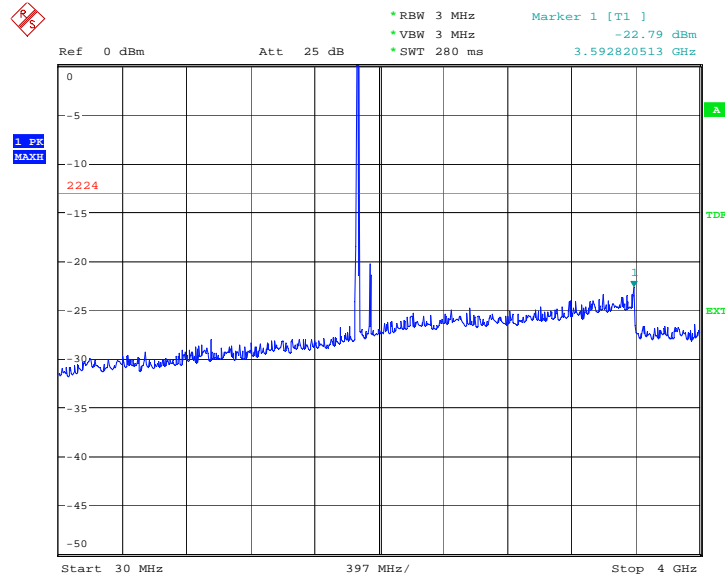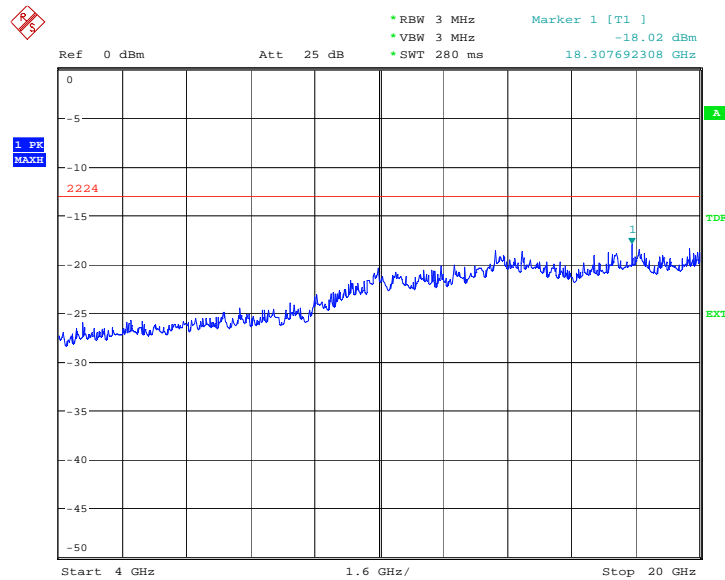**NOTE: peak above the limit line is the carrier frequency.**


```
                                    * RBW  3 MHz        Marker 1 [T1 ]
                                    * VBW  3 MHz                -23.53 dBm
  Ref   0 dBm          Att  25 dB   * SWT  280 ms         3.503750000 GHz
```

Date: 14.OCT.2008 07:36:10

WCDMA/HSPA Band Ⅱ

B. 7.3.34 Channel 9262: 4GHz –20GHz

Spurious emission limit –13dBm.


```
                                    * RBW  3 MHz        Marker 1 [T1 ]
                                    * VBW  3 MHz                -19.18 dBm
  Ref   0 dBm          Att  25 dB   * SWT  280 ms        15.692307692 GHz
```

Date: 14.OCT.2008 07:36:26

WCDMA/HSPA Band Ⅱ

B. 7.3.35 Channel 9400: 30MHz – 4GHz

Spurious emission limit –13dBm.

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

Date: 14.OCT.2008 07:38:01

WCDMA/HSPA Band Ⅱ

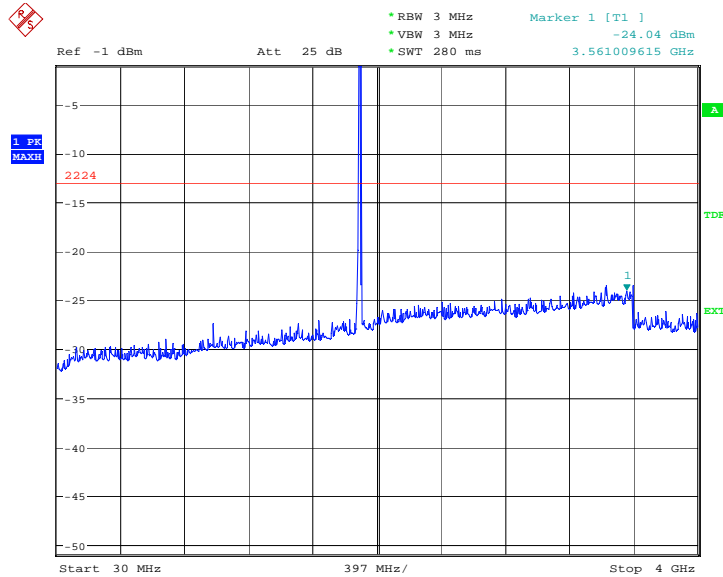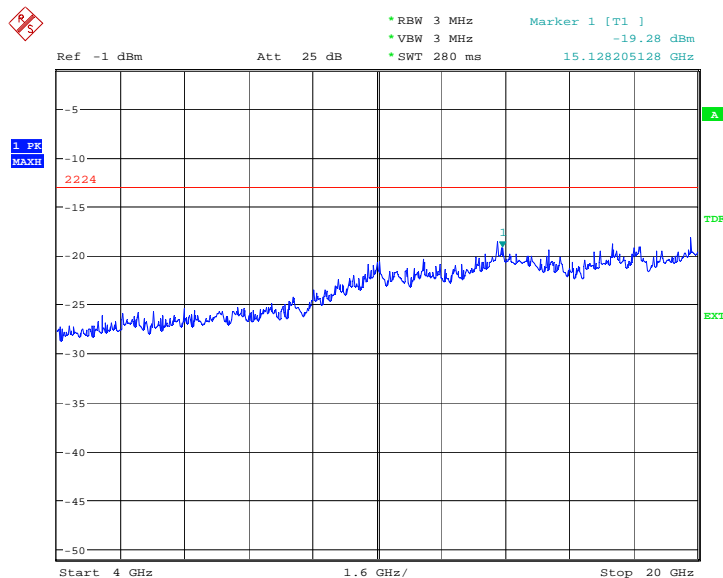**B. 7.3.36 Channel 9400: 4GHz – 20GHz**

Spurious emission limit –13dBm.

Date: 14.OCT.2008 07:37:40

WCDMA/HSPA Band Ⅱ

B. 7.3.37 Channel 9538: 30MHz – 4GHz

Spurious emission limit –13dBm.

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

Date: 14.OCT.2008 08:22:35

WCDMA/HSPA Band Ⅱ

B. 7.3.38 Channel 9538: 4GHz – 20GHz
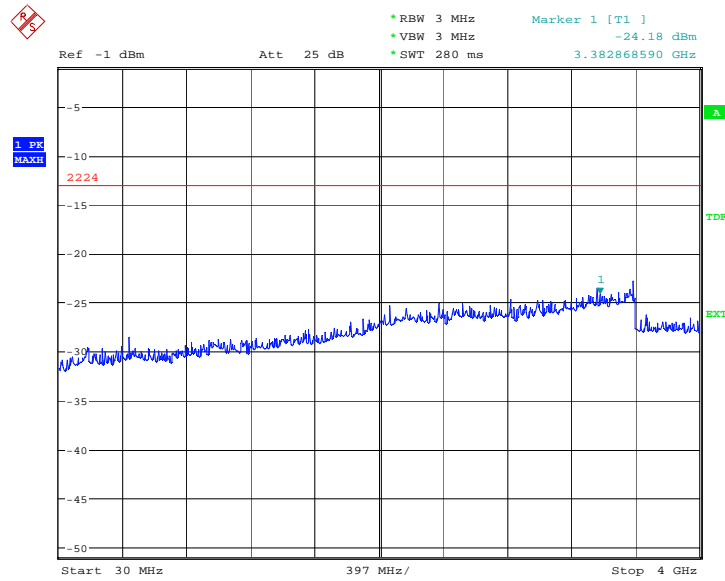
Spurious emission limit –13dBm.

Date: 14.OCT.2008 08:22:51

WCDMA/HSPA Band Ⅱ

B. 7.3.39 Idle mode: 30MHz – 4GHz
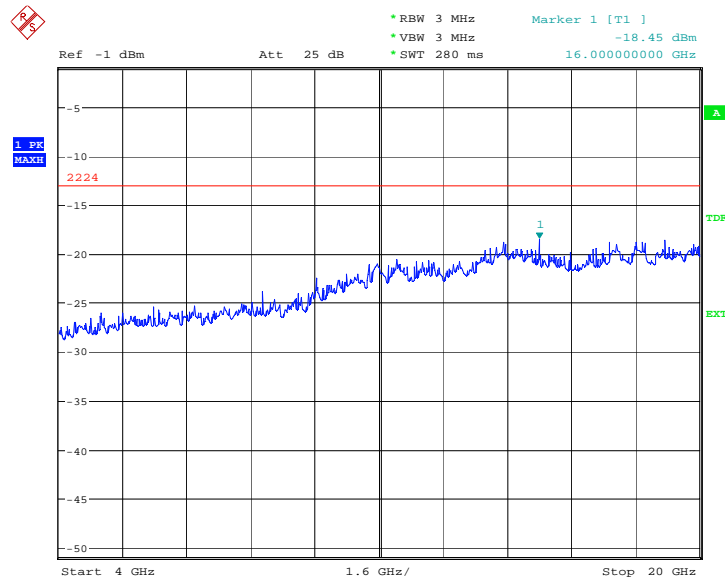
Spurious emission limit -13dBm.

```
R                          * RBW  3 MHz      Marker 1 [T1 ]
S                          * VBW  3 MHz              -24.18 dBm
Ref  -1 dBm      Att  25 dB   * SWT 280 ms     3.382868590 GHz

                                                                A
 -5

1 PK
MAXH    -10
        2224

        -15                                                     TDF

        -20                                          1

        -25                                                     EXT

        -30

        -35

        -40

        -45

        -50
Start  30 MHz              397 MHz/              Stop  4 GHz
```

Date: 14.OCT.2008 08:23:32

WCDMA/HSPA Band Ⅱ

B. 7.3.40 Idle mode: 4GHz – 20GHz

Spurious emission limit -13dBm.

```
R                          * RBW  3 MHz      Marker 1 [T1 ]
S                          * VBW  3 MHz              -18.45 dBm
Ref  -1 dBm      Att  25 dB   * SWT 280 ms     16.000000000 GHz

                                                                A
 -5

1 PK
MAXH    -10
        2224

        -15                                                     TDF

        -20                                          1

        -25                                                     EXT

        -30

        -35

        -40

        -45

        -50
Start  4 GHz               1.6 GHz/              Stop  20 GHz
```
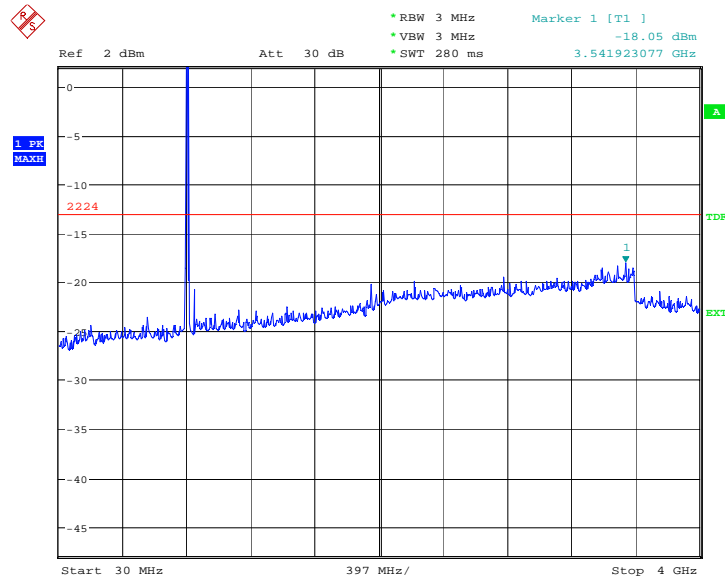
Date: 14.OCT.2008 08:23:15

WCDMA/HSPA Band Ⅴ

B. 7.3.41 Channel 4132: 30MHz – 4GHz

Spurious emission limit –13dBm.

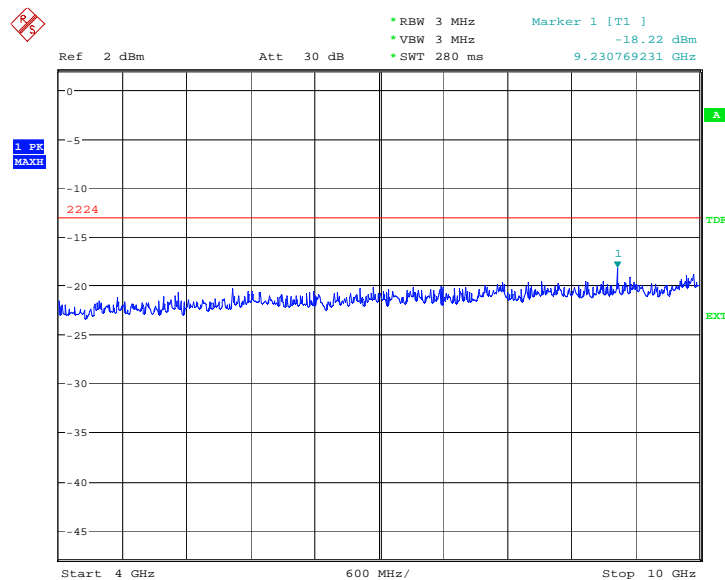**NOTE: peak above the limit line is the carrier frequency.**

Date: 14.OCT.2008 07:47:43

WCDMA/HSPA Band Ⅴ

B. 7.3.42 Channel 4132: 4GHz – 10GHz
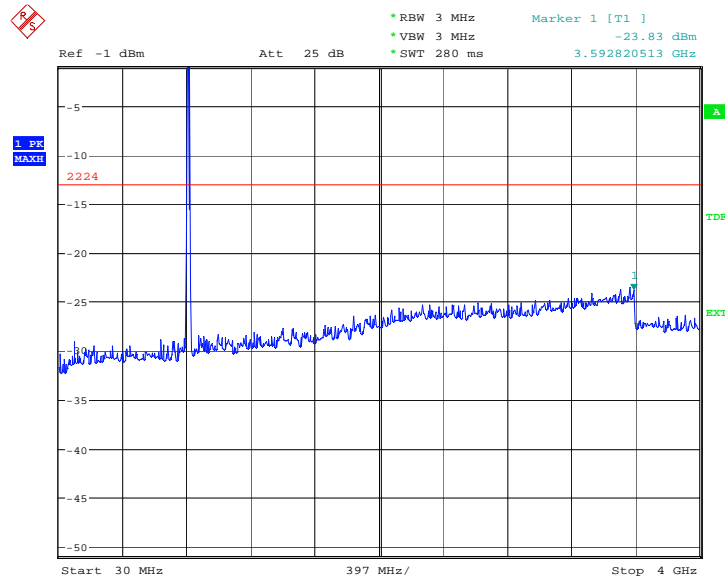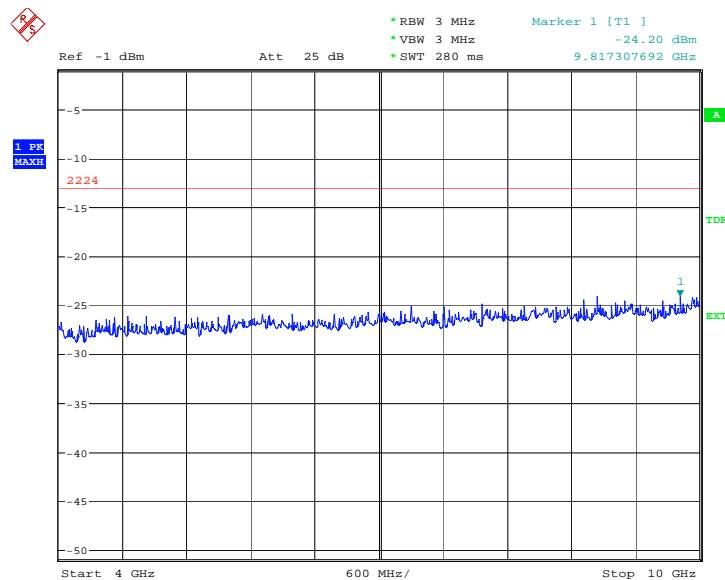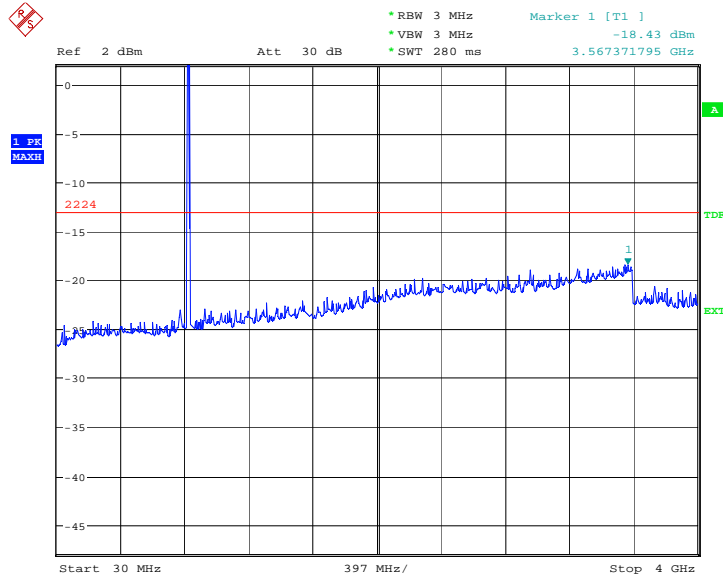
Spurious emission limit –13dBm.

Date: 14.OCT.2008 07:48:12

WCDMA/HSPA Band Ⅴ

B. 7.3.43 Channel 4183: 30MHz – 4GHz

Spurious emission limit –13dBm.

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

		*RBW 3 MHz	Marker 1 [T1]
		*VBW 3 MHz	-23.83 dBm
Ref -1 dBm	Att 25 dB	*SWT 280 ms	3.592820513 GHz

Start 30 MHz   397 MHz/   Stop 4 GHz

Date: 14.OCT.2008 08:41:14

WCDMA/HSPA Band Ⅴ

B. 7.3.44 Channel 4183:4GHz – 10GHz

Spurious emission limit –13dBm.

		*RBW 3 MHz	Marker 1 [T1]
		*VBW 3 MHz	-24.20 dBm
Ref -1 dBm	Att 25 dB	*SWT 280 ms	9.817307692 GHz

Start 4 GHz   600 MHz/   Stop 10 GHz

Date: 14.OCT.2008 08:40:55

WCDMA/HSPA Band Ⅴ

B.7.3.45 Channel 4233: 30MHz – 4GHz

Spurious emission limit –13dBm.

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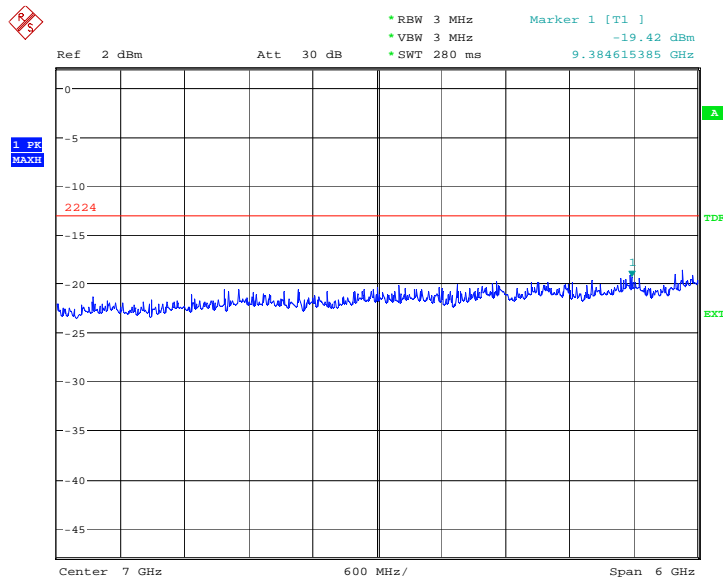

Date: 14.OCT.2008 07:50:46

WCDMA/HSPA Band Ⅴ

B. 7.3.46 Channel 4233: 4GHz – 10GHz
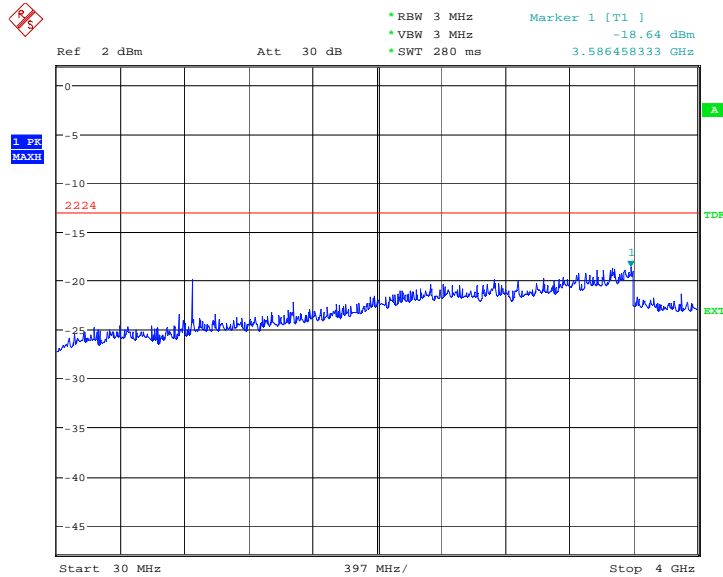
Spurious emission limit –13dBm.

Date: 14.OCT.2008 07:51:05

WCDMA/HSPA Band Ⅴ

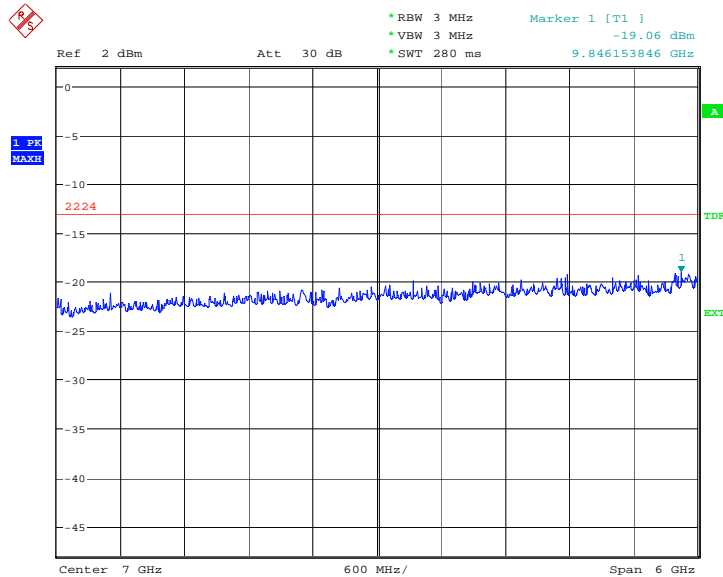## B. 7.3.47 Idle mode: 30MHz – 4GHz

Spurious emission limit -13dBm.

Date: 14.OCT.2008 07:48:59

WCDMA/HSPA Band Ⅴ

B. 7.3.48 Idle mode: 4GHz – 10GHz

Spurious emission limit -13dBm.

Date: 14.OCT.2008 07:48:42

ANNEX C: TEST LAYOUT

Pic C-2 Radiated Spurious Emission

END OF REPORT