



TEST REPORT

No. 2009TAR180

for

GOWELL

UMTS Mobile Phone

Type: G328

FCC ID: XZA-GOWELLG328

IC ID: 8757A-GOWELLG328

with

Hardware Version: ws6B

Software Version: T106 T01

Issued Date: 2009-12-07

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: No 52, Huayuan beilu, Haidian District, Beijing,P.R.China
Postal Code: 100083
Telephone: 00861062303288
Fax: 00861062304793

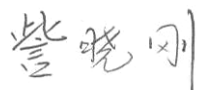
1.2. Testing Environment

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

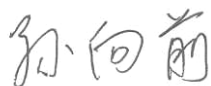
1.3. Project data

Testing Start Date: Oct 30,2009
Testing End Date: Nov 28,2009

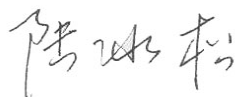
1.4. Signature



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: GOWELL
Address /Post: Room1715,17F,Great China International Exchange Square, No.1
Fuhua Rd, Futian District,Shenzhen,P.R.China
City: Shenzhen
Postal Code: 518048
Country: China
Telephone: 0086 755-82521169
Fax: 0086 755-82804609

2.2. Manufacturer Information

Company Name: GOWELL
Address /Post: Room1715,17F,Great China International Exchange Square, No.1
Fuhua Rd, Futian District,Shenzhen,P.R.China
City: Shenzhen
Postal Code: 518048
Country: China
Telephone: 0086 755-82521169
Fax: 0086 755-82804609

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

3.1. About EUT

Description	UMTS Mobile Phone
Model Name	G328
FCC ID	XZA-GOWELLG328
IC	8757A-GOWELLG328
Frequency	GSM 850MHz; PCS 1900MHz; WCDMA Band IV
Antenna	Internal
Power supply	Battery or Charger(AC Adaptor)
Output power	27.88 dBm maximum ERP measured for GSM850
Extreme vol. Limits	3.6VDC to 4.2VDC (nominal: 3.8VDC)
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 MIIT of People's Republic of China.

3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version
N07	35403030004253	ws6B	T106 T01

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

3.3. Internal Identification of AE used during the test

AE ID*	Description	SN
AE1	Battery	/
AE2	Travel Adapter	/

AE1

Model	Li3710T42P3h553457
Manufacturer	GOWELL
Capacitance	1000mAh
Nominal Voltage	3.7V

AE2

Model	STC-A22O50U8-C
Manufacturer	GOWELL
Length of DC line	120cm

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

3.4. General Description

The Equipment Under Test (EUT) is a model of UMTS Mobile Phone with integrated antenna. It consists of Hand Telephone Set and 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.

3.5. Emission Designator

Frequency Band	Frequency Range	Emission Designator
GSM 850	824.2-848.8MHz	300KGXW
GPRS 850	824.2-848.8MHz	300KGXW
EGPRS 850	824.2-848.8MHz	300KG7W
GSM 1900	1850.2-1909.8MHz	300KGXW
GPRS 1900	1850.2-1909.8MHz	300KGXW
EGPRS 1900	1850.2-1909.8MHz	300KG7W
WCDMA Band IV	1712.4-1752.6MHz	4M50F9W

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 27	MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES	V 10.1.07
RSS132	Cellular Telephones Employing New Technologies Operating in the Bands 824-849 MHz and 869-894 MHz	2005
RSS133	2 GHz Personal Communications Services	2008
ANSI/TIA-603-C	Land Mobile FM or PM Communications Equipment Measurement and Performance Standards	2004
ANSI C63.4	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2003

5. LABORATORY ENVIRONMENT

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

Temperature	Min. = 15 °C, Max. = 30 °C
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 °C, Max. = 35 °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 °C, Max. = 30 °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×3.08 meters×3.53 meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 30 °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	Clause in IC rules	Verdict
1	Output Power	27.50(d)(2)	4.4/6.2	P
2	Emission Limit	2.1051/27.53(g)	4.4/6.2	P
3	Receiver Radiation Emission	2.1053/RSS 133	4.6/6.6	P
4	Conducted Emission	15.107/207	/	P
5	Frequency Stability	2.1055/§27.54	4.3/4.5/6.3	P
6	Occupied Bandwidth	2.1049(h)(i)	4.1.1/5.6	P
7	Emission Bandwidth	27.53(g)	4.1.1/5.6	P
8	Band Edge Compliance	27.53(g)	4.7/4.5/6.3	P
9	Conducted Spurious Emission	2.1057/27.53(g)	4.5/6.5	P

7. Test Equipments Utilized

NO.	NAME	TYPE	SERIES NUMBER	PRODUCER	CAL DUE DATE
1	Test Receiver	ESS	847151/015	R&S	2010-10-30
2	Test Receiver	ESI40	831564/002	R&S	2010-2-11
3	BiLog Antenna	3142B	9908-1403	EMCO	2010-1-16
4	BiLog Antenna	3142B	9908-1405	EMCO	2010-9-19
5	Signal Generator	SMT06	831285/005	R&S	2009-12-26
6	Signal Generator	SMP04	100070	R&S	2010-4-20
7	LISN	ESH2-Z5	829991/012	R&S	2010-8
8	Spectrum Analyzer	FSU26	200030	R&S	2010-6-18
9	Universal Radio Communication Tester	CMU200	100680	R&S	2010-8-23
10	Dual-Ridge Waveguide Horn Antenna	3115	9906-5827	EMCO	2010-3
11	Dual-Ridge Waveguide Horn Antenna	3115	9906-5831	EMCO	2010-3
12	Dual-Ridge Waveguide Horn Antenna	3116	2663	EMCO	2010-3
13	Dual-Ridge Waveguide Horn Antenna	3116	2661	EMCO	2010-3
14	Climatic chamber	PL-2G	343074	ESPEC	2010-5-15

ANNEX A: MEASUREMENT RESULTS

A.1 OUTPUT POWER (27.50(d)(2))

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, 1712.4MHz, 1740.0MHz and 1752.6MHz for WCDMA Band IV. (bottom, middle and top of operational frequency range).

Limit

According to FCC § 2.1046.

WCDMA Band IV

Measurement result

WCDMA (Band IV)	CH	Frequency(MHz)	Peak output power(dBm)	Target (dB)
	1312	1712.4	21.19	21±1
	1450	1740.0	21.26	21±1
	1513	1752.6	20.88	21±1

A.1.3 Radiated

A.1.3.1 Description

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

Rule Part 27.50(d)(2)) specifies "Fixed, mobile, and portable (handheld) stations operating in the 1710–1755MHz band are limited to a peak EIRP of 1 watt. Fixed stations operating in this band are limited to a maximum antenna height of 10 meters above ground, and mobile and portable stations must employ a means for limiting power to the minimum necessary for successful communications ."

A.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 (P_{in}) is applied to the input of the dipole, and the power received (P_r) at the chamber's probe antenna is recorded.
2. The substitution method is used. Substitution values at each frequency are measured before and saved to the test software. A "reference path loss" is established as $A_{Rpl}=P_{in} - P_r$. The A_{Rpl} is the attenuation of "reference path loss", and including the gain of receive antenna, the cable loss and the air loss.

The measurement results are obtained as described below:

$$\text{Power(EIRP)}=P_{Mea}+A_{Rpl}$$

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 continuously transmitting mode at its maximum power level.
6. Power mode 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 (P_{in}).
8. ERP can be calculated from EIRP by subtracting the gain of the dipole, $ERP = EIRP - 2.15\text{dBi}$.
9. The test system should be checked before test by a standard comb signal source. The signal source put on the position, instead of the EUT. The test result should be compared with the test result before. If the test result is similar with the initial one, then the test system can work stably.

WCDMA Band IV-EIRP

Measurement result

Frequency(MHz)	Peak EIRP(dBm)	A _{Rpl} (dBm)	P _{Mea} (dBm)	Polarization
1712.4	14.45	47.28	-32.83	Horizontal
1740.0	15.78	46.98	-31.20	Horizontal
1752.6	14.15	46.95	-32.80	Horizontal

Frequency: 1740MHz

Peak EIRP(dBm)= P_{Mea}(-31.2dBm)+ A_{Rpl} (46.98dBm) = 15.78 dBm

ANALYZER SETTINGS: RBW = VBW = 3MHz

A.2 EMISSION LIMIT (2.1051/27.53(g))

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, which is the transmitted carrier that can be as high as 1752.6MHz. The resolution bandwidth is set 1MHz as outlined in Part 27.53(g). The spectrum was scanned with the mobile station transmitting at carrier frequencies that pertain to low, mid and high channels of the WCDMA Band IV.

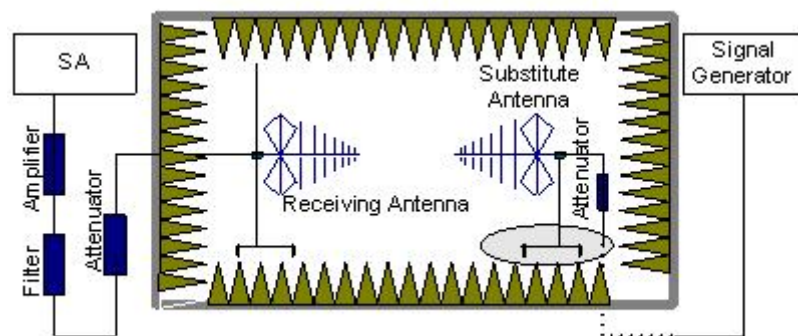
The procedure of radiated spurious emissions is as follows:

a) Pre-calibration

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

$$RSE = R_x \text{ (dBuV)} + CL \text{ (dB)} + SA \text{ (dB)} + \text{Gain (dBi)} - 107 \text{ (dBuV to dBm)}$$

The SA is calibrated using following setup.

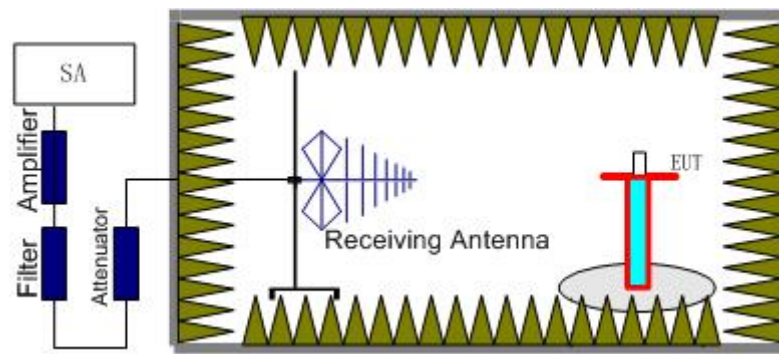


b) System check

The test system should be checked before test by a standard comb signal source. The signal source put on the position, instead of the EUT. The test result should be compared with the test result before. If the test result is similar with the initial one, then the test system can work stably.

c) 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.



A.2.2 Measurement Limit

Sec. 27.53 Emission Limits.

(g) For operations in the 1710–1755MHz and 2110–2155 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10}(P)$ 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 IV (1712.4MHz, 1740.0MHz and 1752.6MHz) . 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 IV 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.

The substitution method is used. Substitution values at each frequency are measured before and saved to the test software. A "reference path loss" is established and the A_{Rpl} is the attenuation of "reference path loss", and including the gain of receive antenna, the gain of the preamplifier, the cable loss and the air loss.

The measurement results are obtained as described below:

$$\text{Power} = P_{\text{Mea}} + A_{\text{Rpl}}$$

WCDMA BAND IV Mode Channel 1312/1712.4MHz

Frequency(MHz)	Power(dBm)	A _{Rpl} (dBm)	P _{Mea} (dBm)	Limit (dBm)	Polarity
2113	-28.8	3.4	-32.2	-13	Horizontal

WCDMA BAND IV Mode Channel 1450/1740.0MHz

Frequency(MHz)	Power(dBm)	A _{Rpl} (dBm)	P _{Mea} (dBm)	Limit (dBm)	Polarity
2140	-30.3	2.2	-32.5	-13	Horizontal

WCDMA BAND IV Mode Channel 1513/1752.6MHz

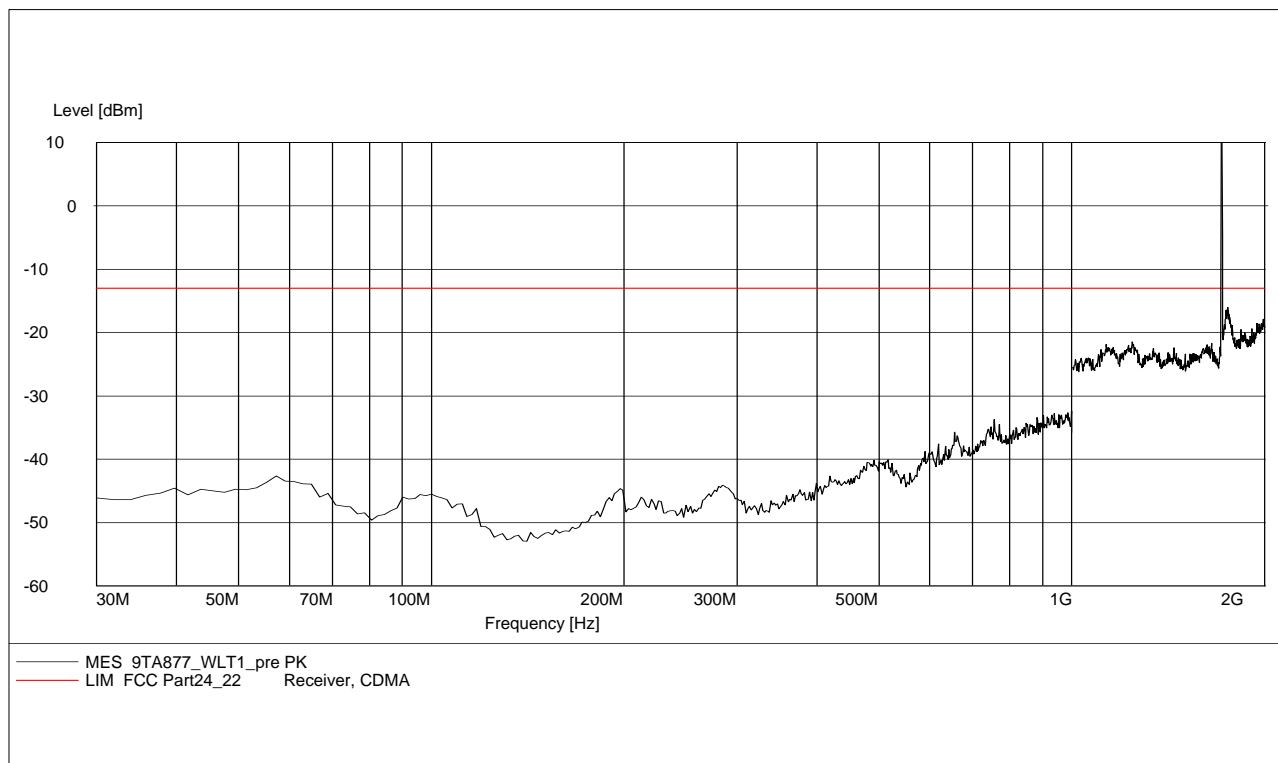
Frequency(MHz)	Power(dBm)	A _{Rpl} (dBm)	P _{Mea} (dBm)	Limit (dBm)	Polarity
2139.5	-30.8	2.2	-33	-13	Horizontal

WCDMA Band IV

A.2.3.1 RADIATED SPURIOUS EMISSIONS-Channel 1312: 30MHz –2GHz

Radiated spurious emission limit :-13dBm.

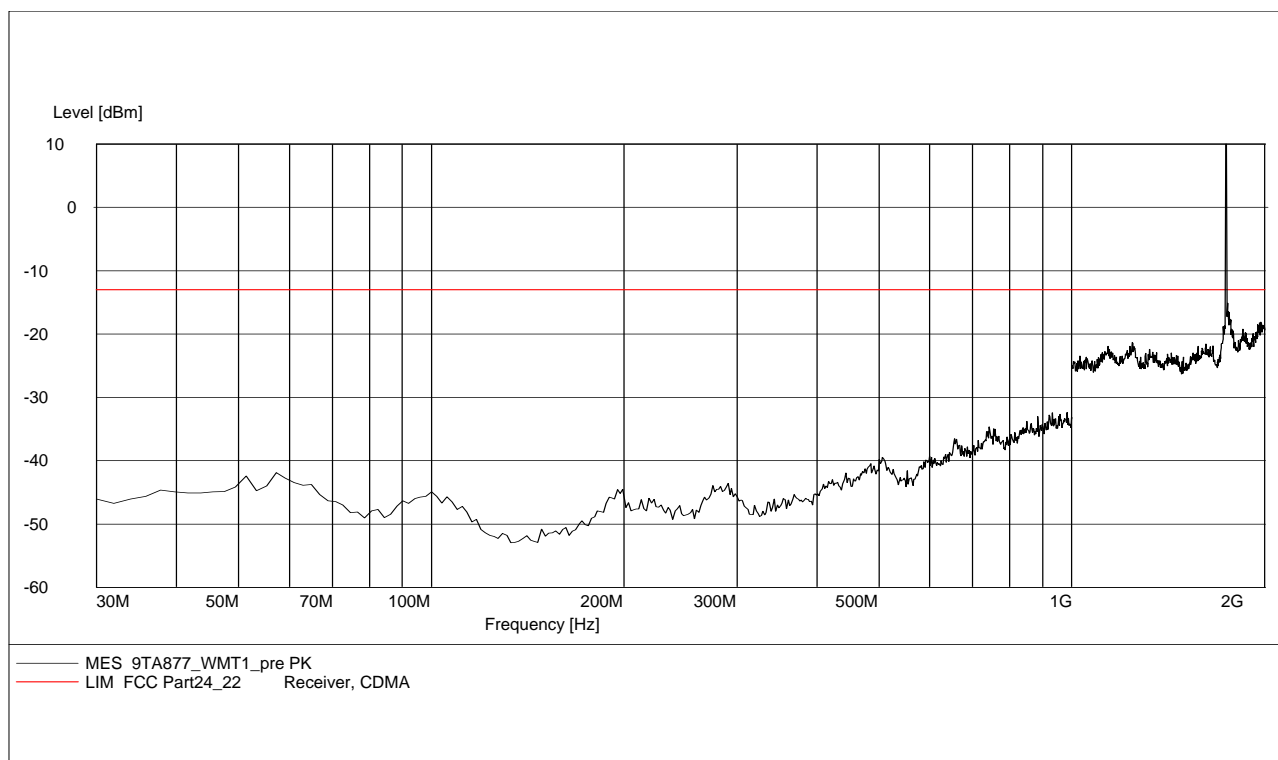
NOTE: peak above the limit line is the Carrier frequency @ ch-1312



A.2.3.2 RADIATED SPURIOUS EMISSIONS-Channel 1450: 30MHz – 2GHz

Radiated spurious emission limit :-13dBm.

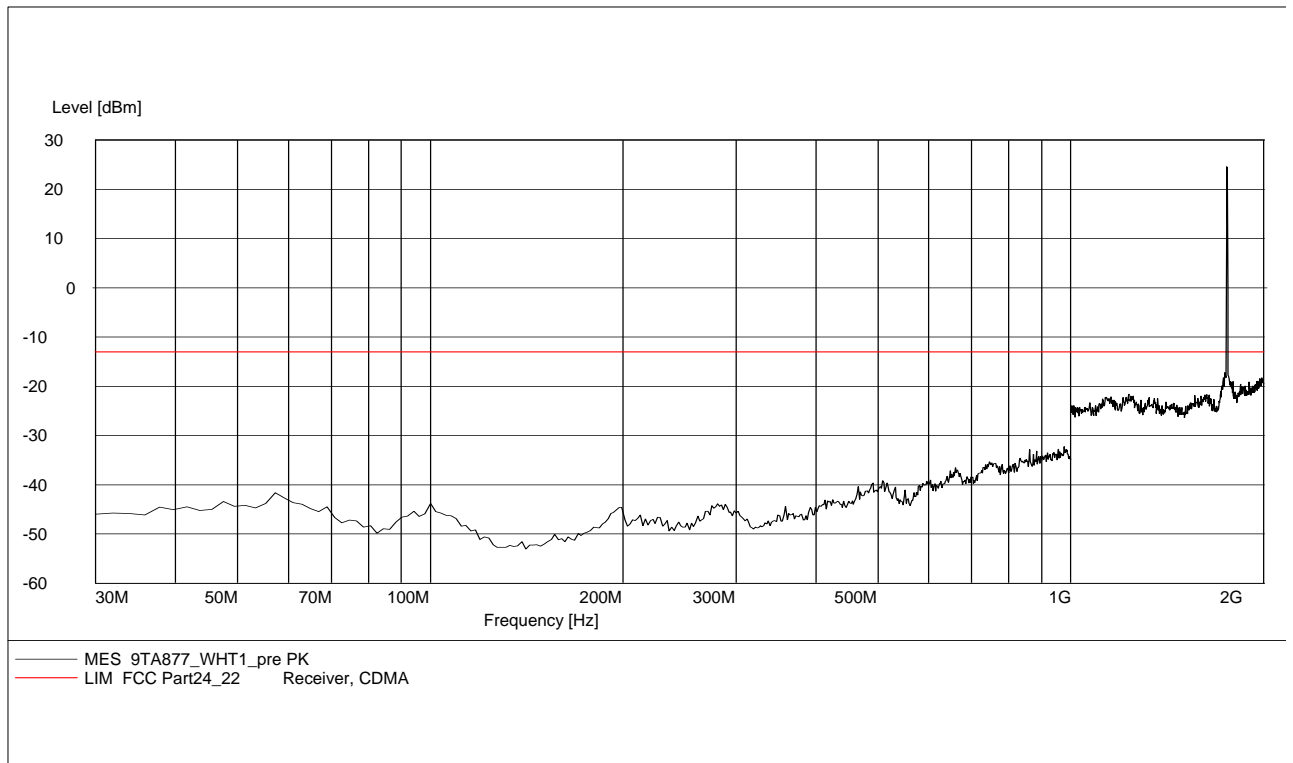
NOTE: peak above the limit line is the Carrier frequency @ ch-1450



A.2.3.3 RADIATED SPURIOUS EMISSIONS-Channel 1513: 30MHz – 2GHz

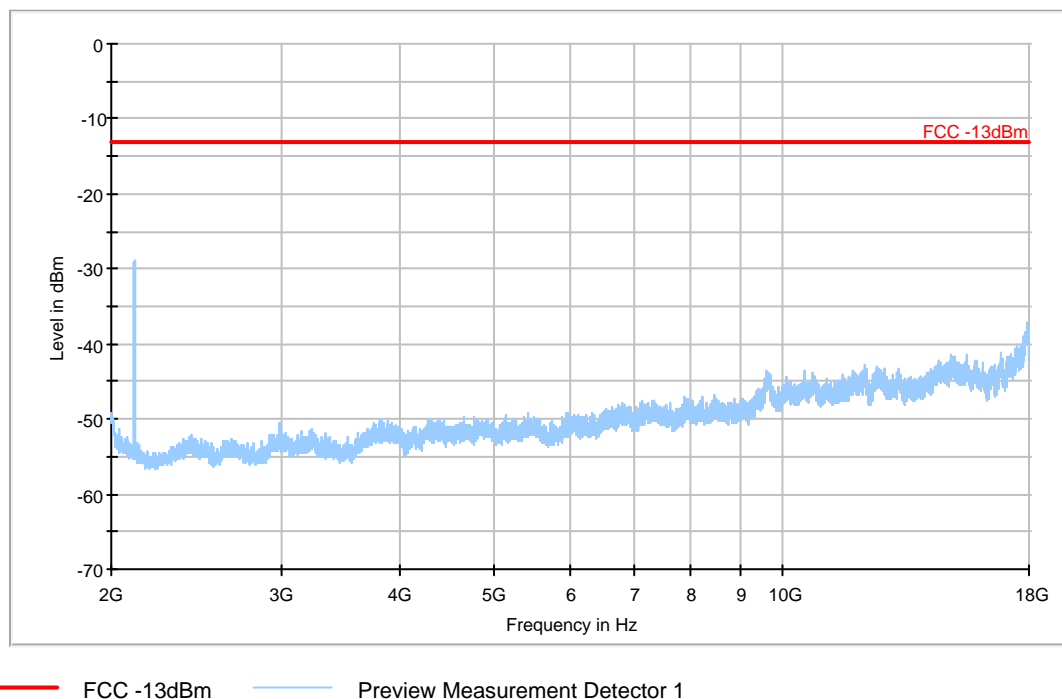
Radiated spurious emission limit :-13dBm.

NOTE: peak above the limit line is the Carrier frequency @ ch-1513



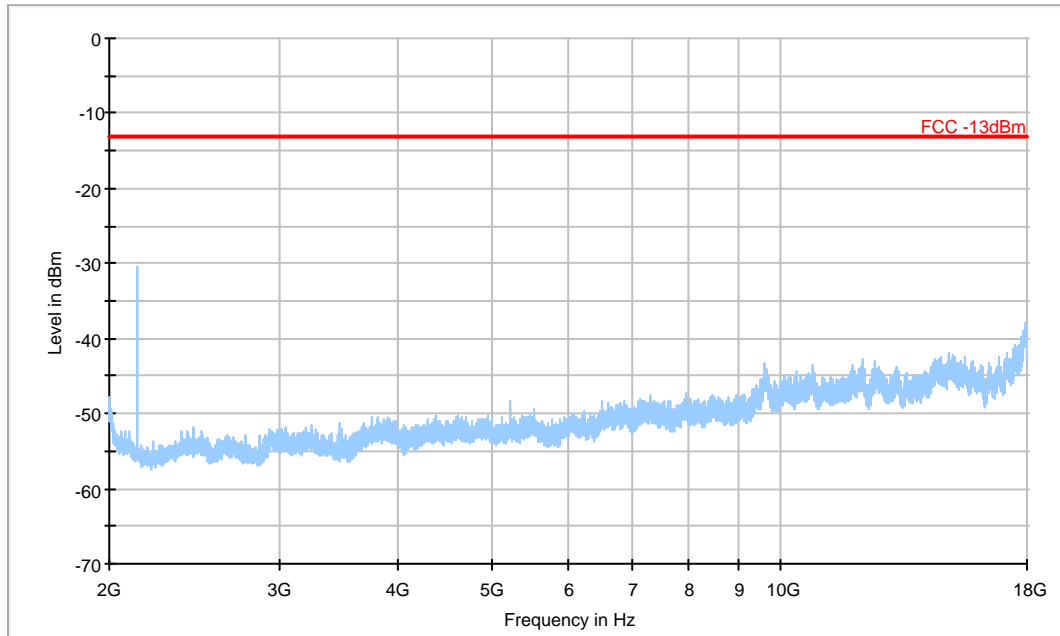
A.2.3.4 RADIATED SPURIOUS EMISSIONS-Channel 1312: 2GHz – 18GHz

Radiated spurious emission limit :-13dBm.



A.2.3.5 RADIATED SPURIOUS EMISSIONS-Channel 1450: 2GHz – 18GHz

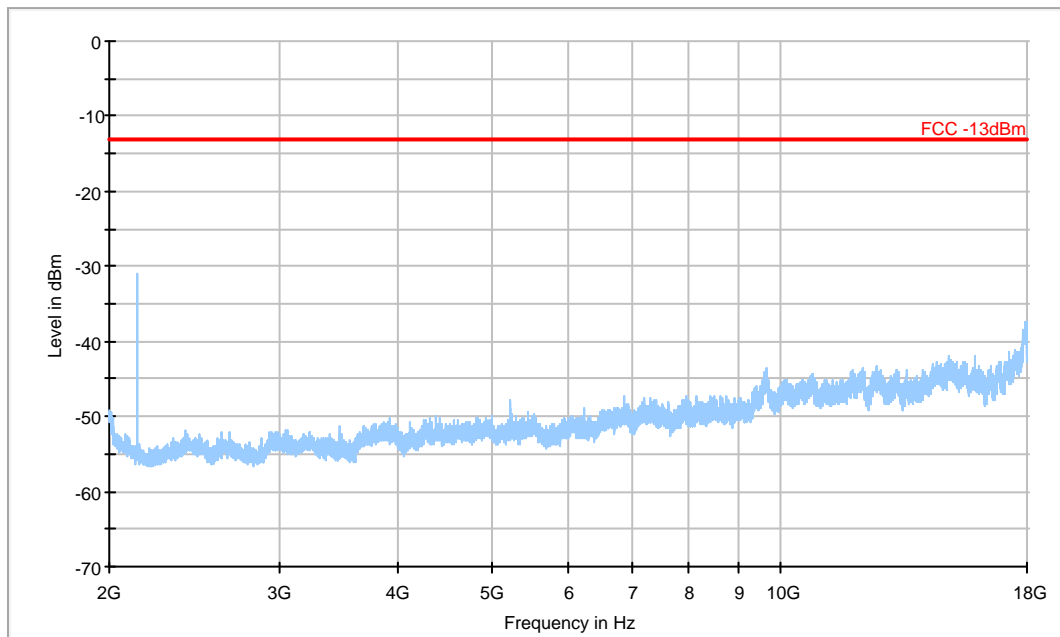
Radiated spurious emission limit :-13dBm.



— FCC -13dBm — Preview Measurement Detector 1

A.2.3.6 RADIATED SPURIOUS EMISSIONS-Channel 1513: 2GHz – 18GHz

Radiated spurious emission limit :-13dBm.

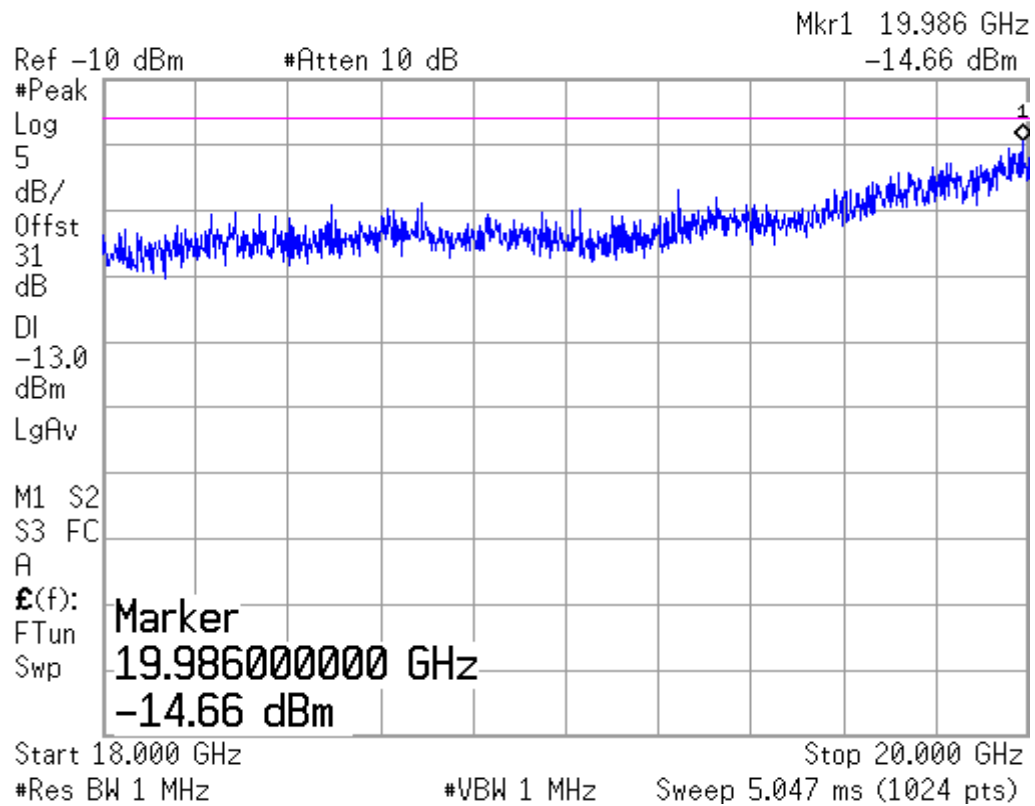


— FCC -13dBm — Preview Measurement Detector 1

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

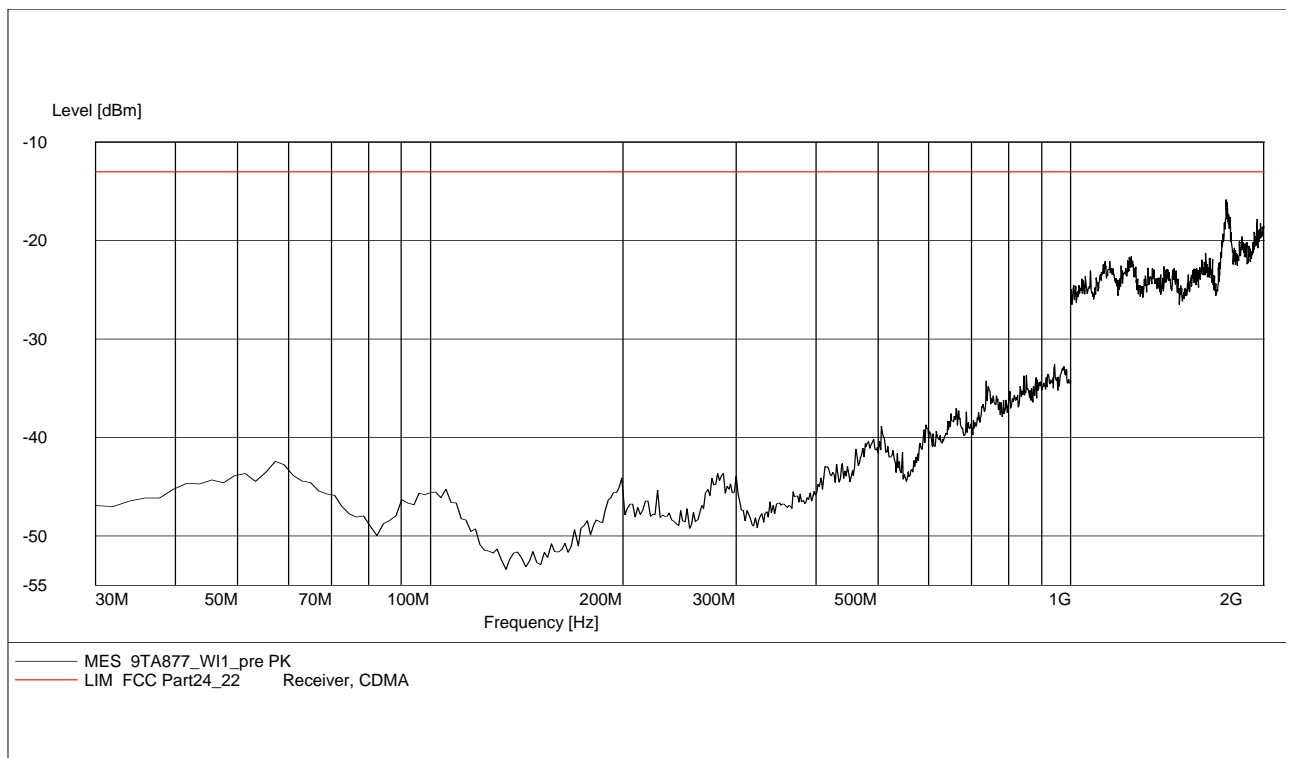
Radiated spurious emission limit :-13dBm.

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



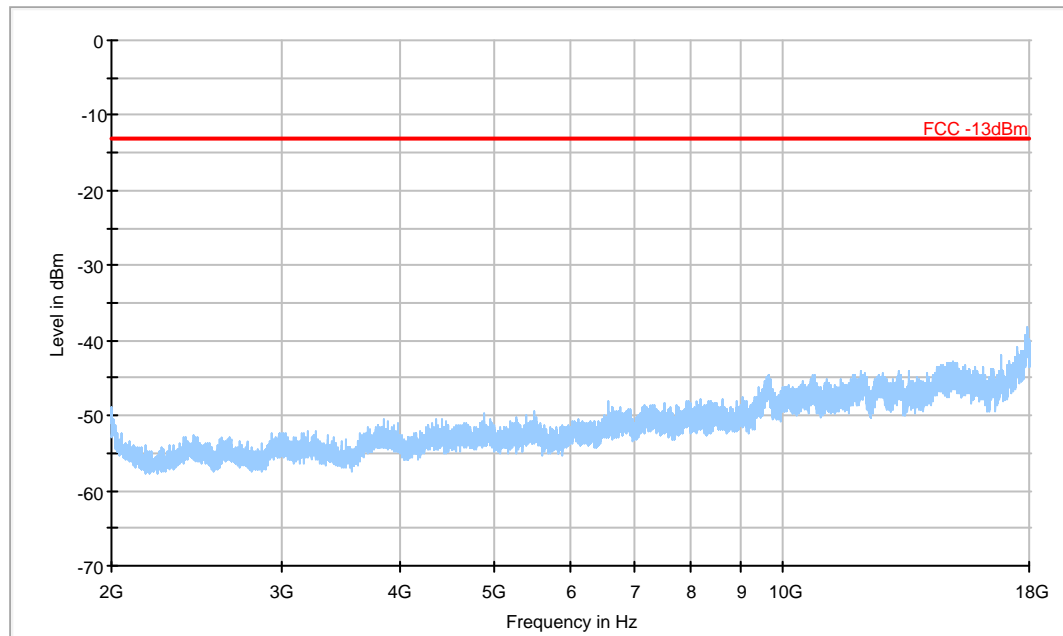
A.2.3.8 RADIATED SPURIOUS EMISSIONS-EUT in Idle Mode: 30MHz – 2GHz

Radiated spurious emission limit :-13dBm.



A.2.3.9 RADIATED SPURIOUS EMISSIONS-EUT in Idle Mode: 2GHz – 18GHz

Radiated spurious emission limit :-13dBm.

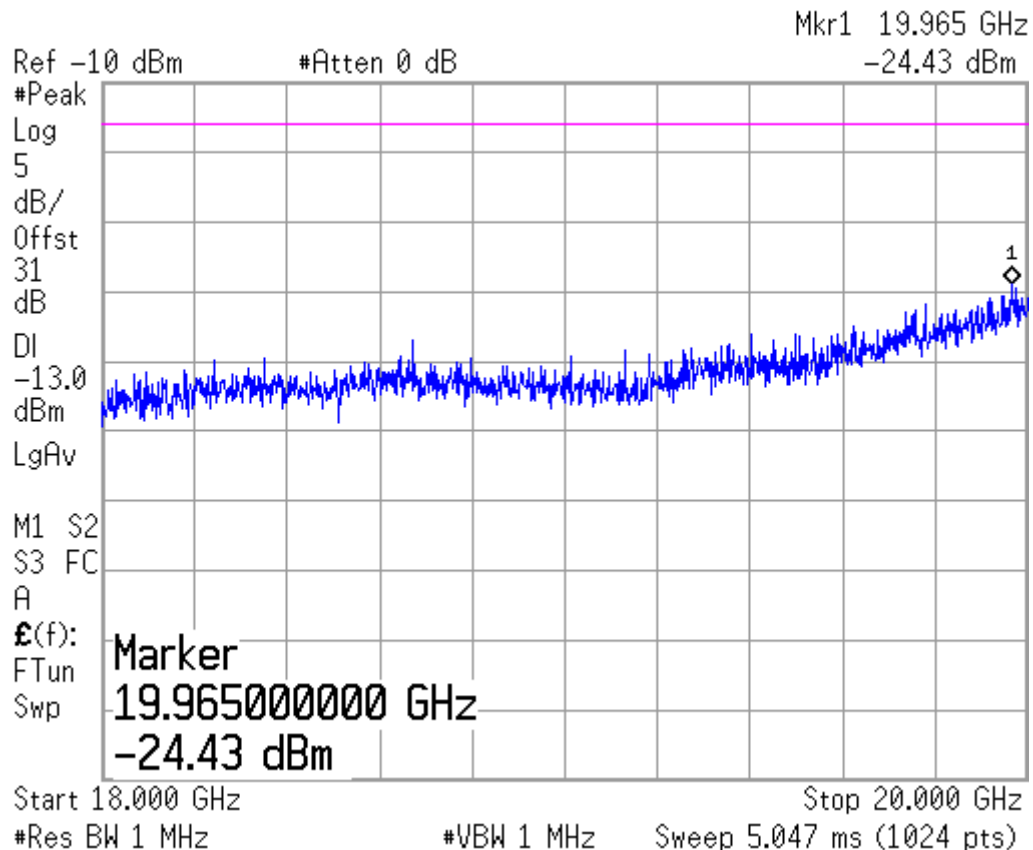


— FCC -13dBm — Preview Measurement Detector 1

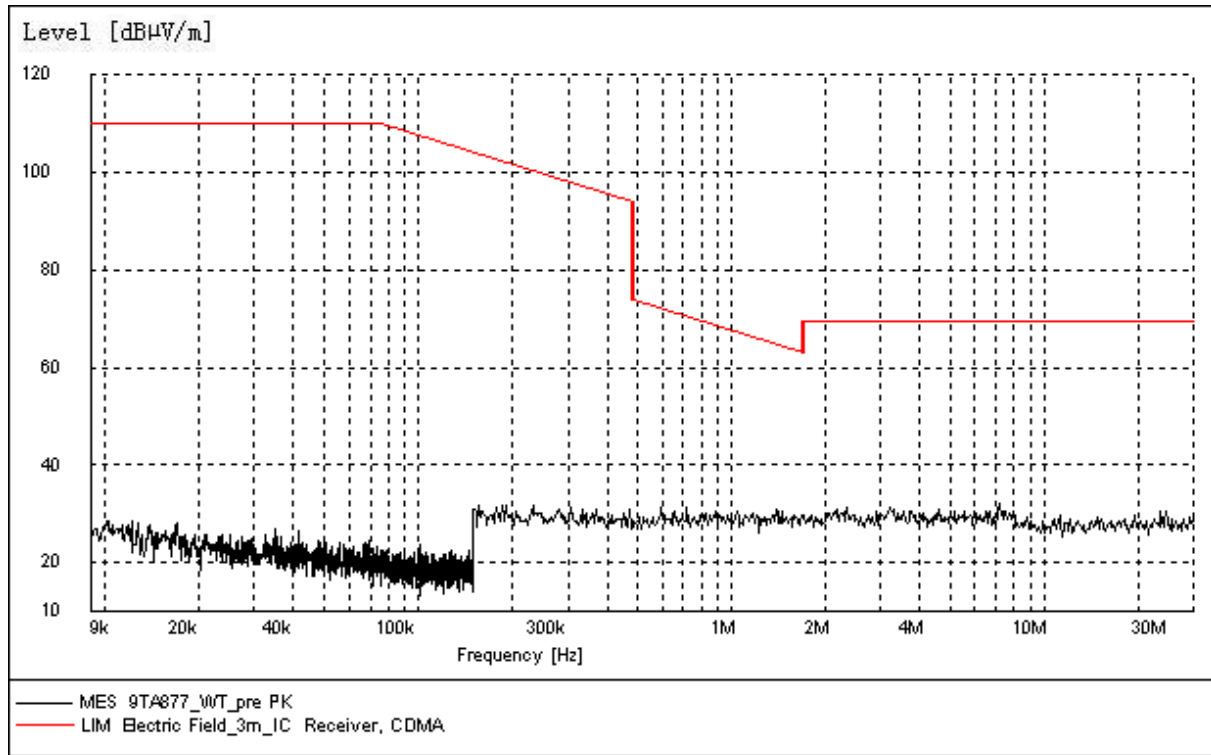
A.2.3.10 RADIATED SPURIOUS EMISSIONS-EUT in Idle Mode: 18GHz – 20GHz

Radiated spurious emission limit :-13dBm.

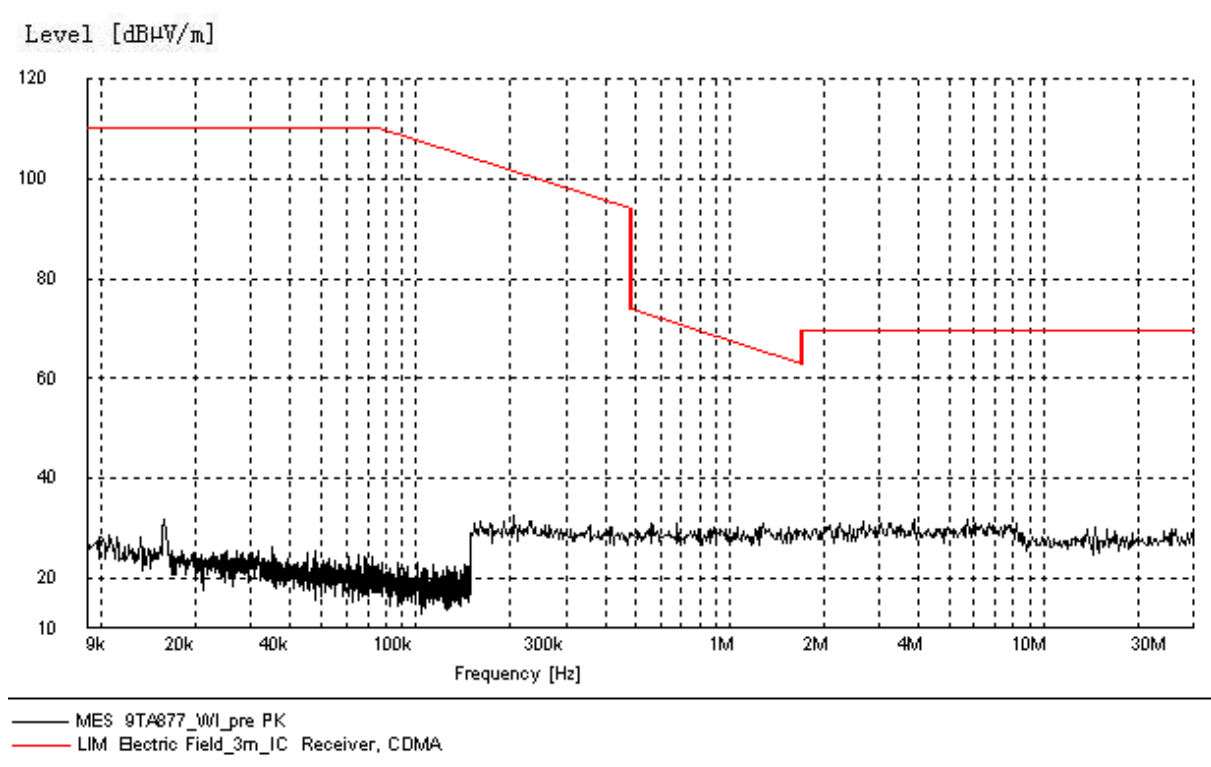
Note: It is same as the floor noise.



A.2.3.11 RADIATED SPURIOUS EMISSIONS-EUT in Traffic Mode: 9KHz – 30MHz(Valid for 3 channels)

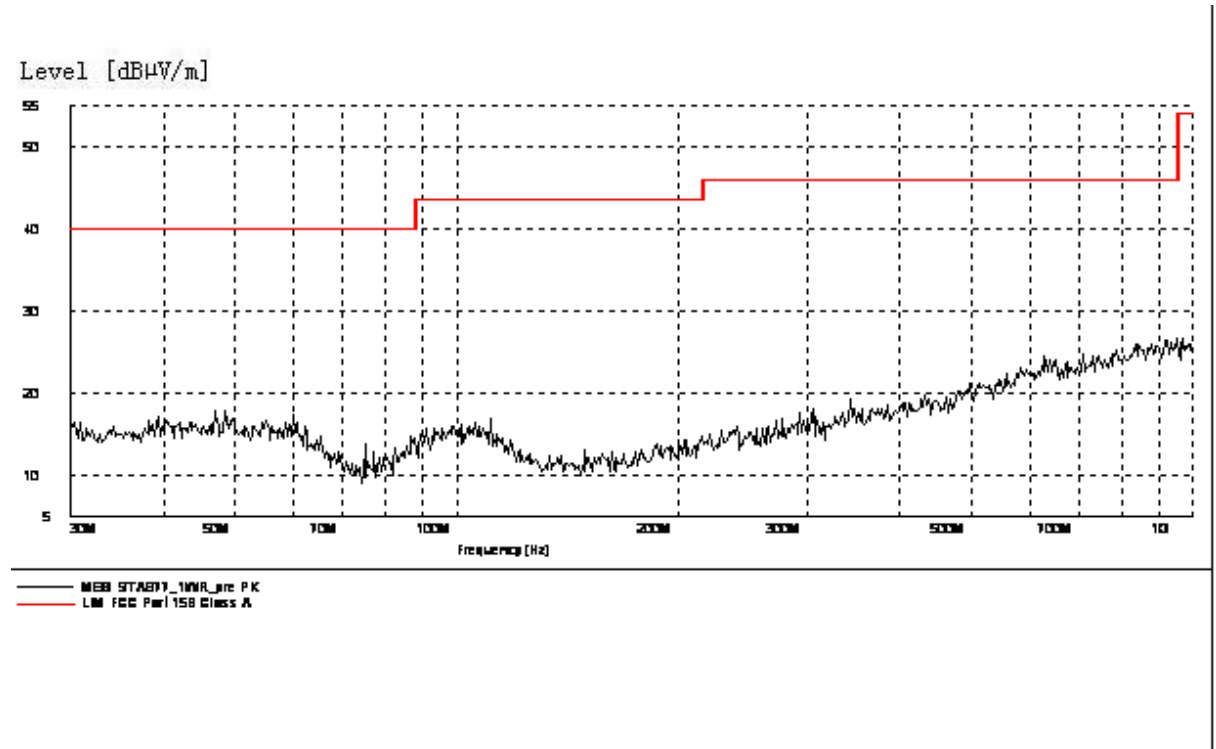


A.2.3.12 RADIATED SPURIOUS EMISSIONS-EUT in Idle Mode: 9KHz – 30MHz(Valid for 3 channels)

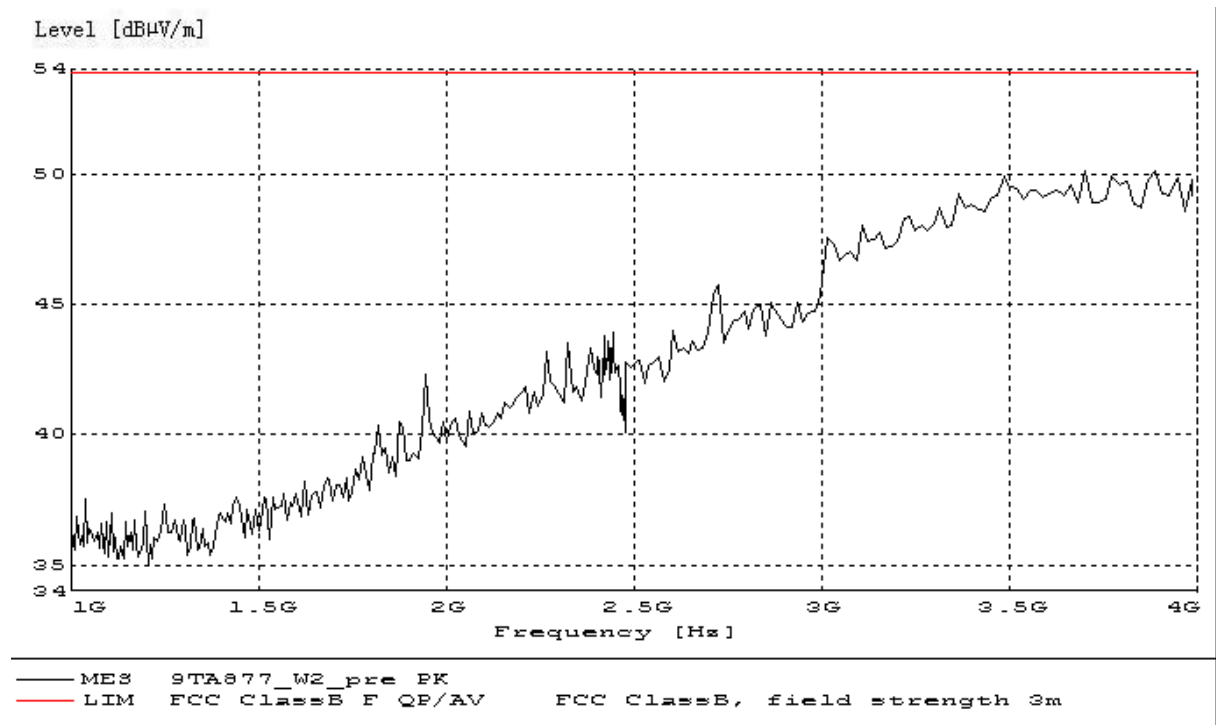


A.3 Receiver Radiation Emission

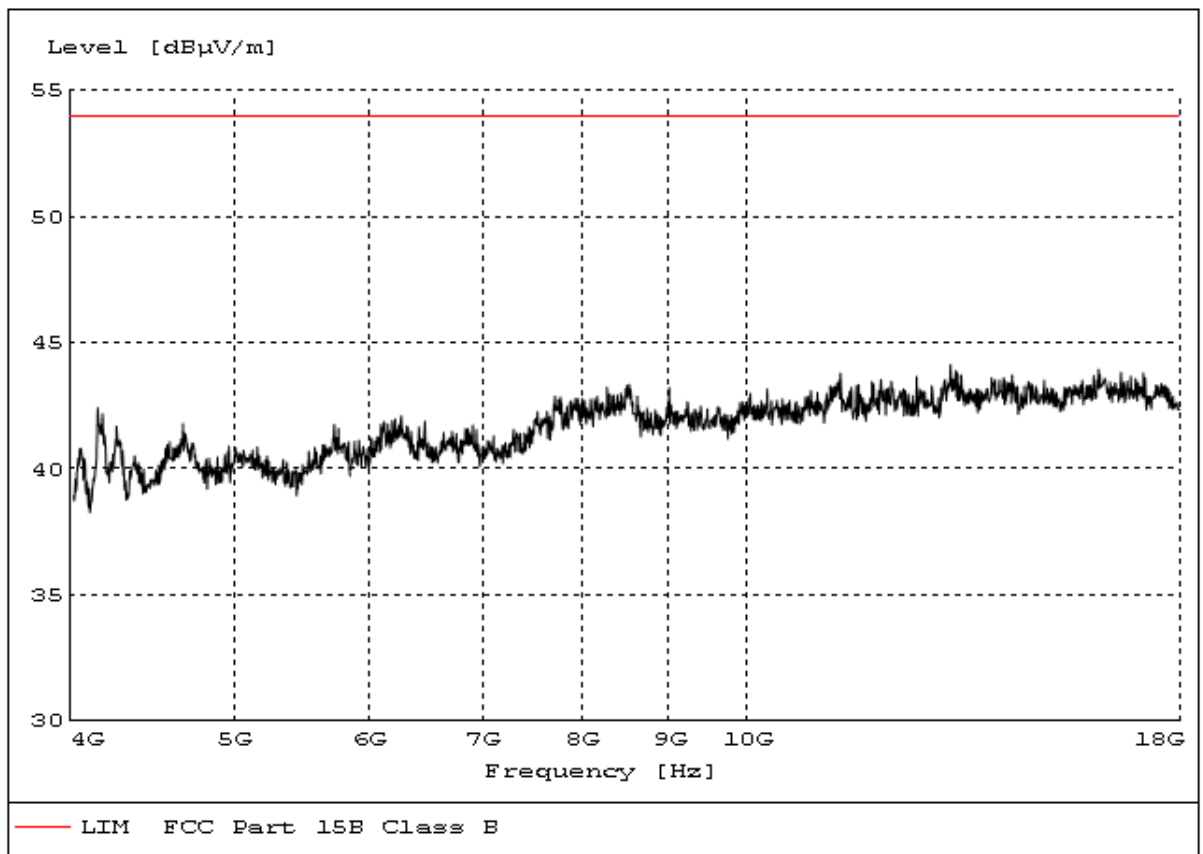
WCDMA Band IV



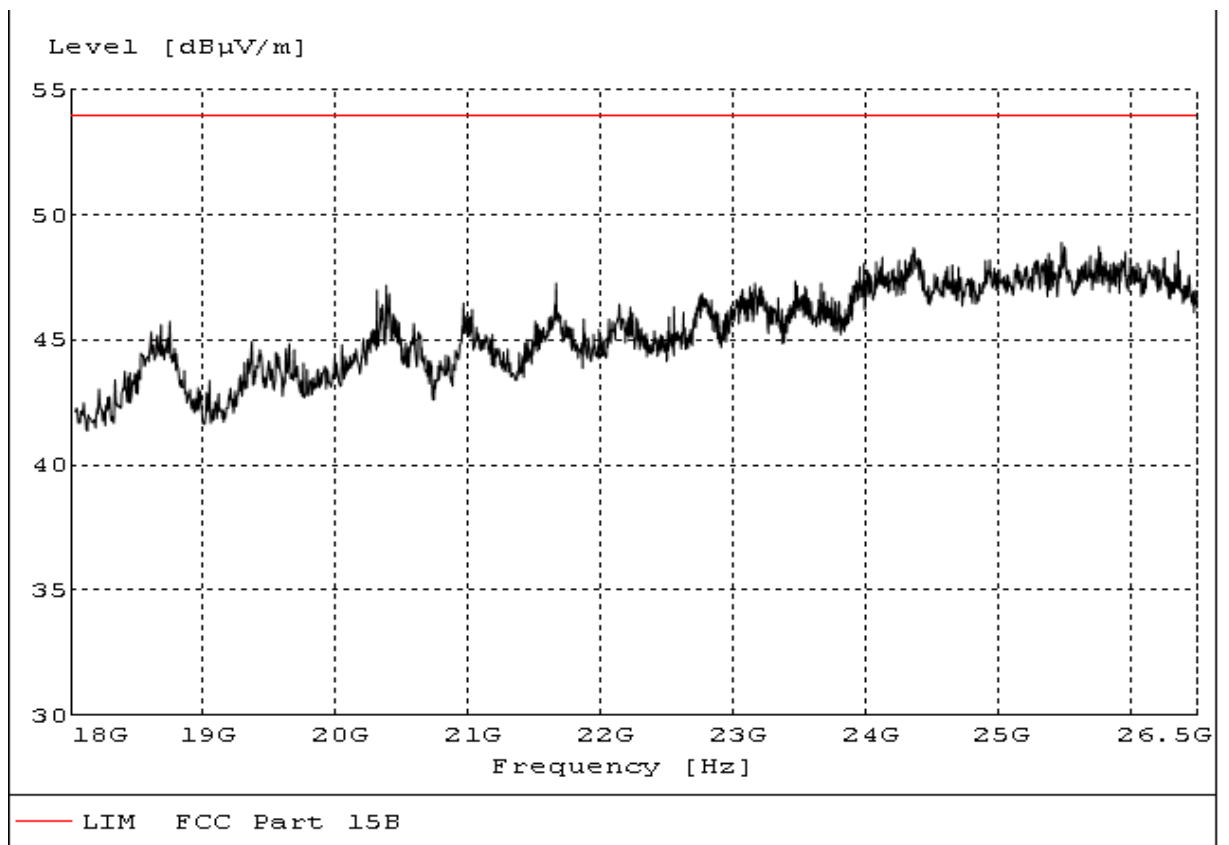
(WCDMA Band IV: 30MHz-1GHz)



(WCDMA Band IV: 1GHz-4GHz)



(WCDMA Band IV: 4GHz-18GHz)



(WCDMA Band IV: 18GHz-26.5GHz)

A.4 CONDUCTED EMISSION (§15.107§15.207)

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

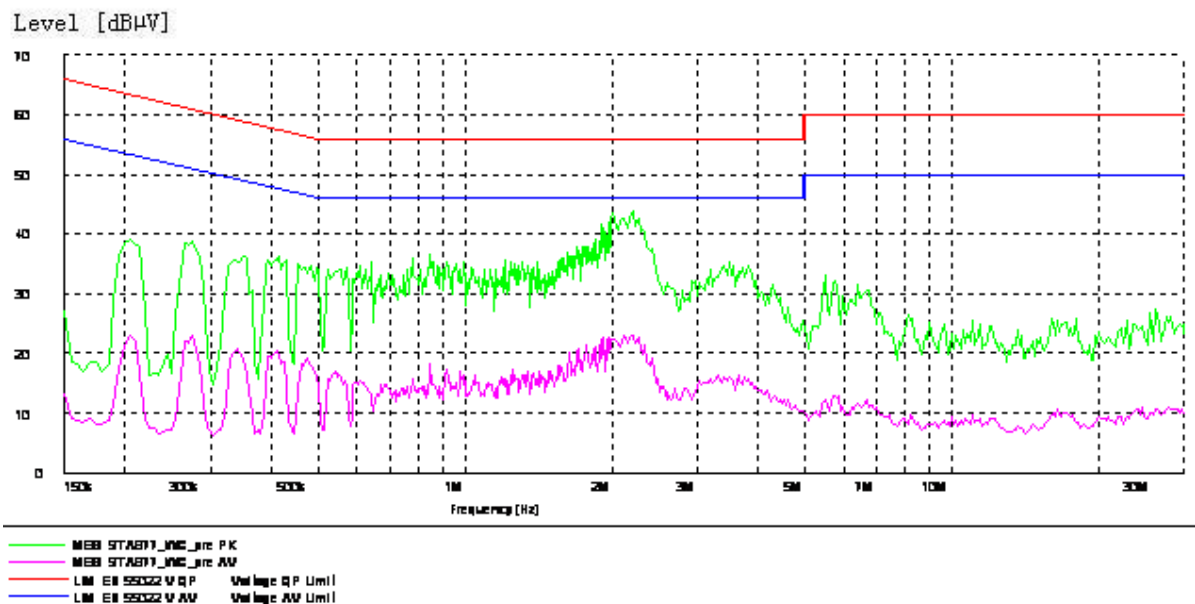
A.4.1 Limit

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

* Decreases with logarithm of the frequency

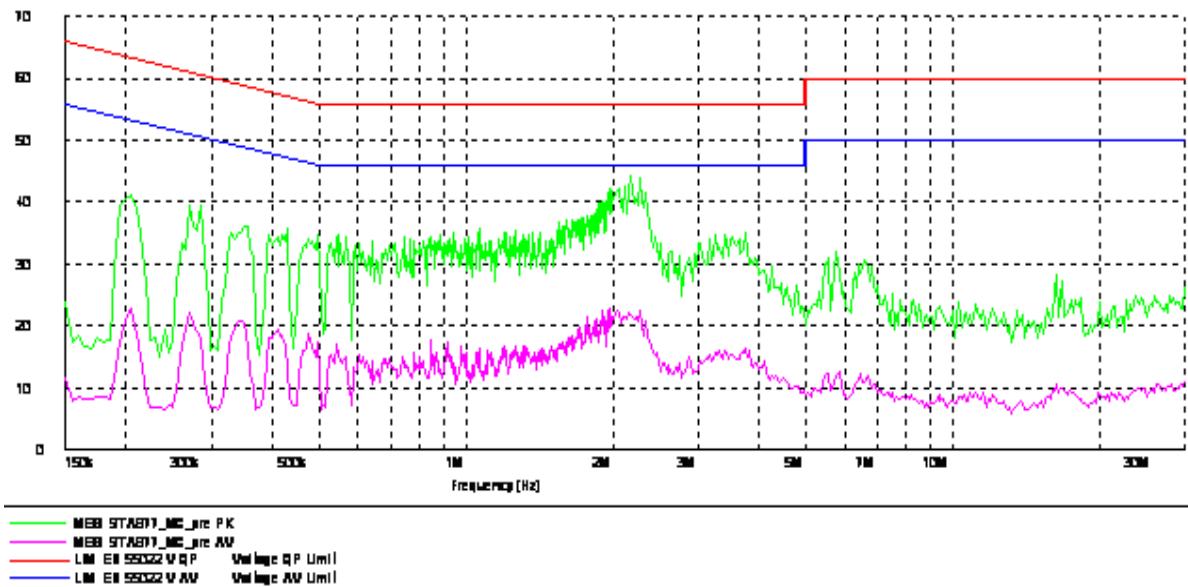
A.4.2 Measurement result

WCDMA Band IV



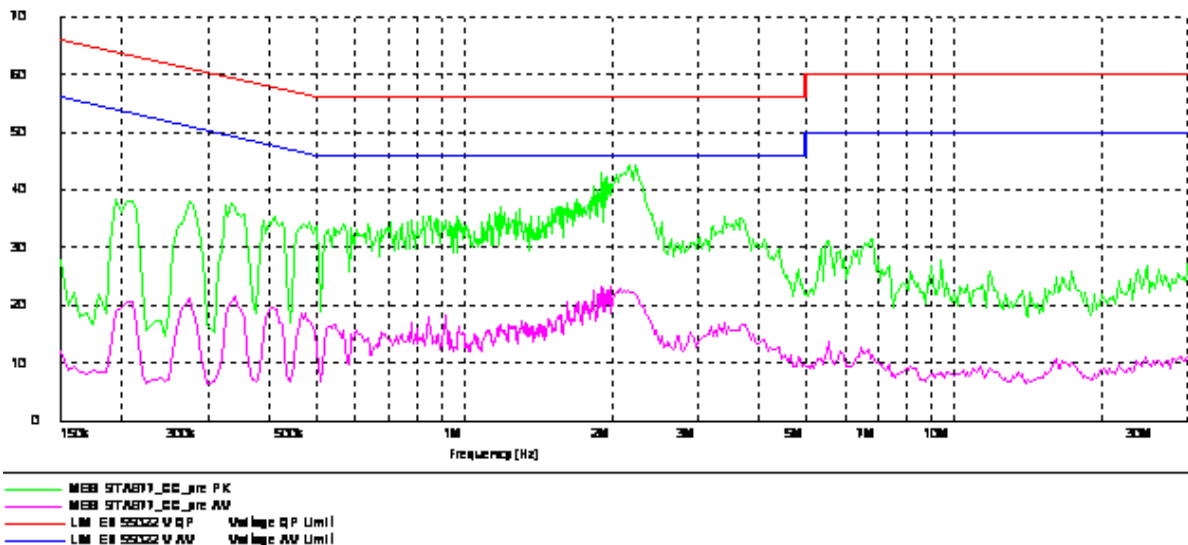
MP3

Level [dBμV]



Camera

Level [dBμV]



A.5 FREQUENCY STABILITY (§2.1055/§27.54)

A.5.1 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 channel 1450 for WCDMA Band IV 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.5.2 Measurement Limit

A.5.2.1 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. 27.54, 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 3.6VDC and 4.2VDC, with a nominal voltage of 3.8VDC. Operation above or below these voltage limits is prohibited by transceiver software in order to prevent improper operation as well as to protect components from overstress. These voltages represent a tolerance of -10 % and +12.5 %. For the purposes of measuring frequency stability these voltage limits are to be used.

A.5.2.2 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. 27.54, 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.5.3 Measurement results

WCDMA Band IV

Frequency Error vs Voltage

Voltage(V)	Frequency error(Hz)	Frequency error(ppm)
3.6	23	0.013
3.8	25	0.014
4.2	28	0.016

Frequency Error vs Temperature

temperature(°C)	Frequency error(Hz)	Frequency error(ppm)
-30	42	0.024
-20	40	0.023
-10	35	0.020
0	32	0.018
10	28	0.016
20	28	0.016
30	30	0.017
40	38	0.022
50	45	0.026

A.6 OCCUPIED BANDWIDTH (§2.1049(h)(i))

A.6.1 Occupied Bandwidth Results

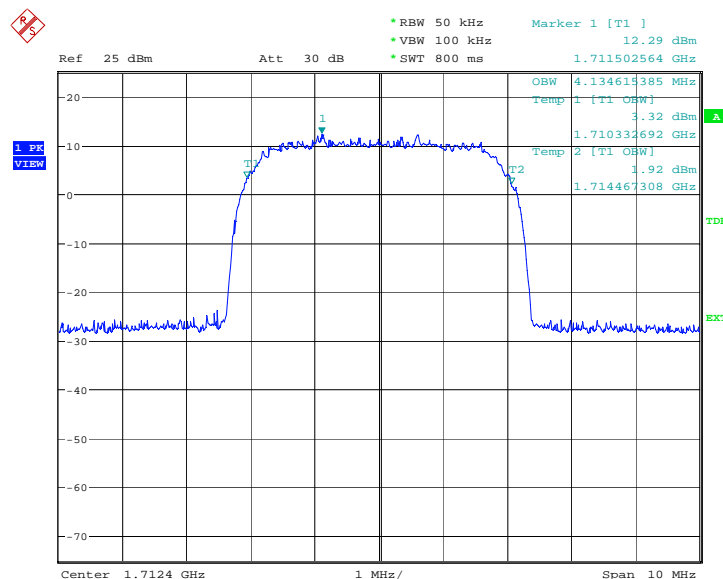
Similar to conducted emissions; occupied bandwidth measurements are only provided for selected frequencies in order to reduce the amount of submitted data. Data were taken at the extreme and mid frequencies of the USPCS frequency band. The table below lists the measured -20dBc BW (99%). Spectrum analyzer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

WCDMA Band IV

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

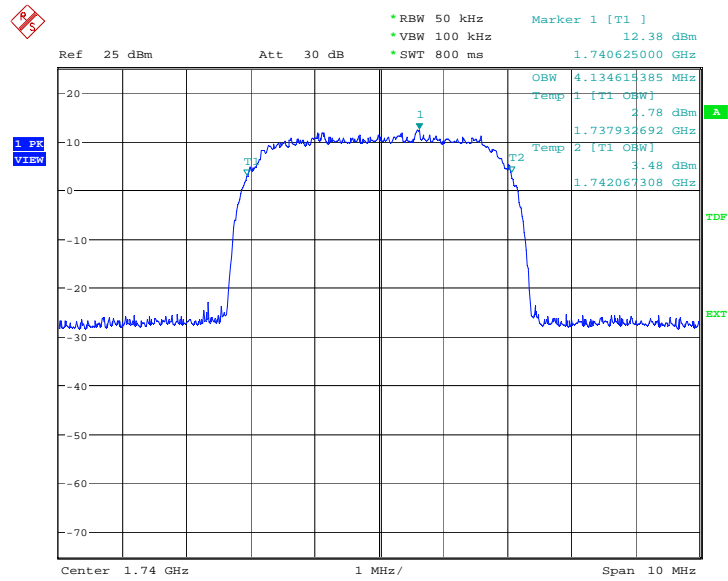
WCDMA Band IV

Channel 1312-Occupied Bandwidth (99%)



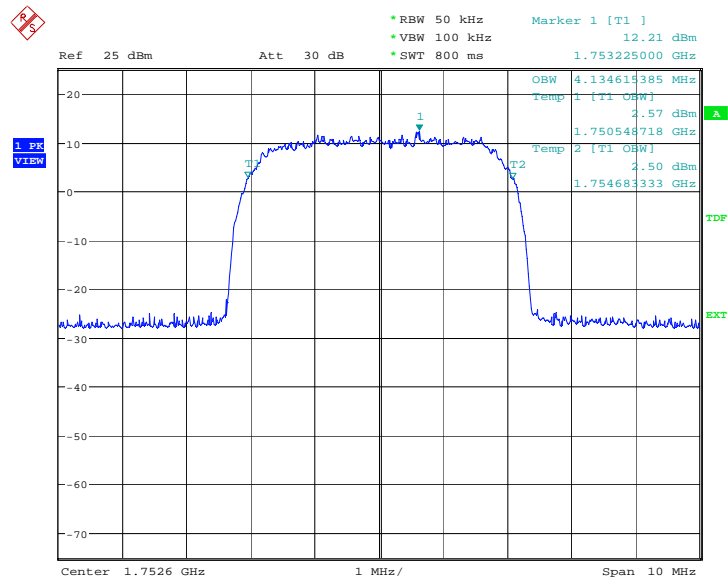
Date: 3.NOV.2009 03:05:24

Channel 1450-Occupied Bandwidth (99%)



Date: 3.NOV.2009 03:05:58

Channel 1513-Occupied Bandwidth (99%)



Date: 3.NOV.2009 03:06:32

A.7 EMISSION BANDWIDTH (§27.53(g))

A.7.1 Emission Bandwidth Results

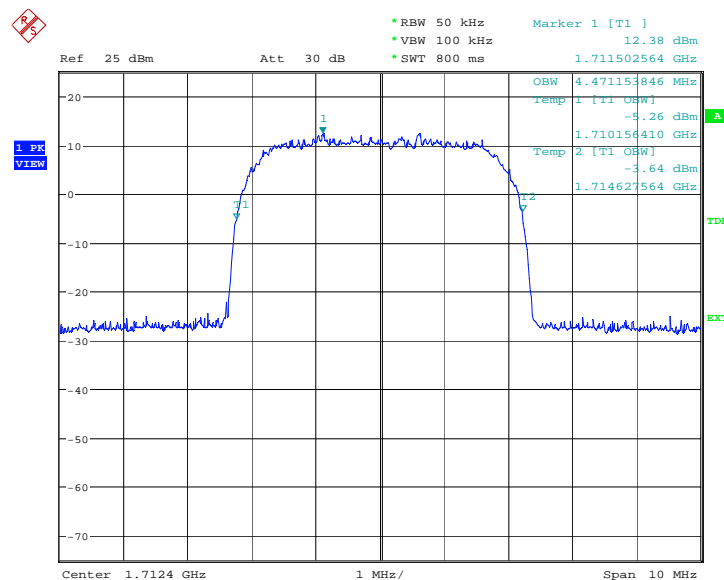
Similar to conducted emissions; Emission bandwidth measurements are only provided for selected frequencies in order to reduce the amount of submitted data. Data were taken at the extreme and mid frequencies of the WCDMA Band IV. Table below lists the measured -26dBc BW. Spectrum analyzer plots are included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

WCDMA Band IV

Frequency(MHz)	Occupied Bandwidth (-26dBc BW)(MHz)
1712.4	4.471
1740.0	4.471
1752.6	4.471

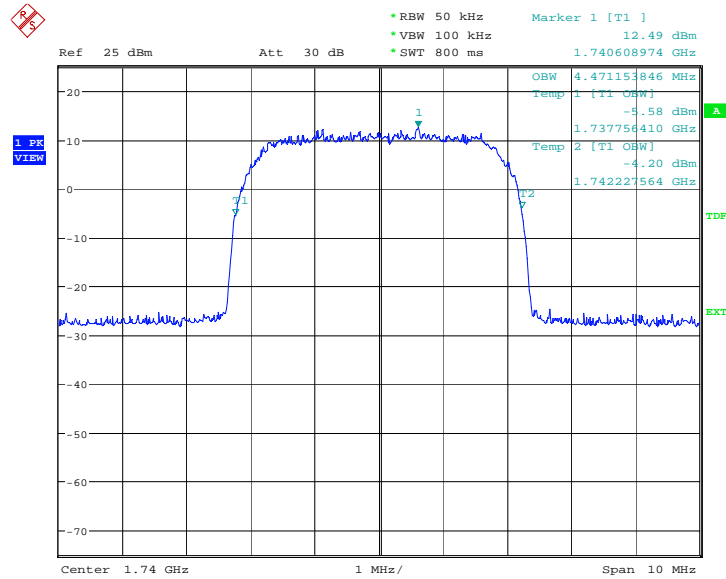
WCDMA Band IV

Channel 1312-Occupied Bandwidth (-26dBc BW)



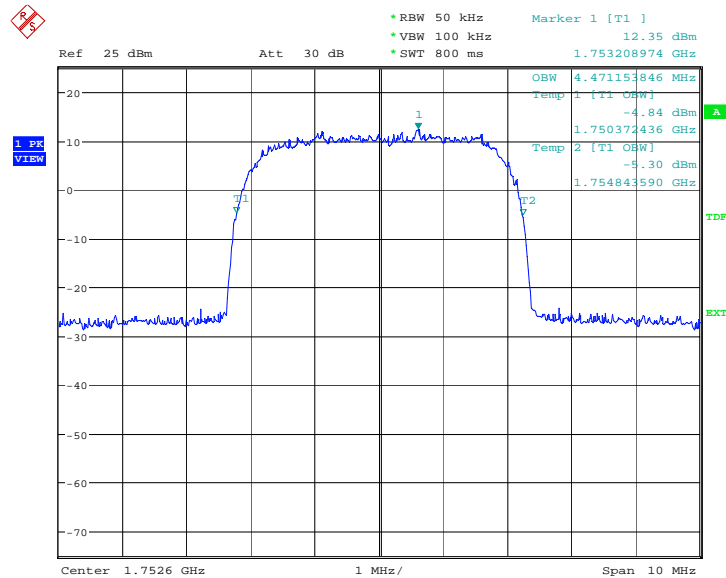
Date: 3.NOV.2009 03:07:08

Channel 1450-Occupied Bandwidth (-26dBc BW)



Date: 3.NOV.2009 03:07:43

Channel 1513-Occupied Bandwidth (-26dBc BW)

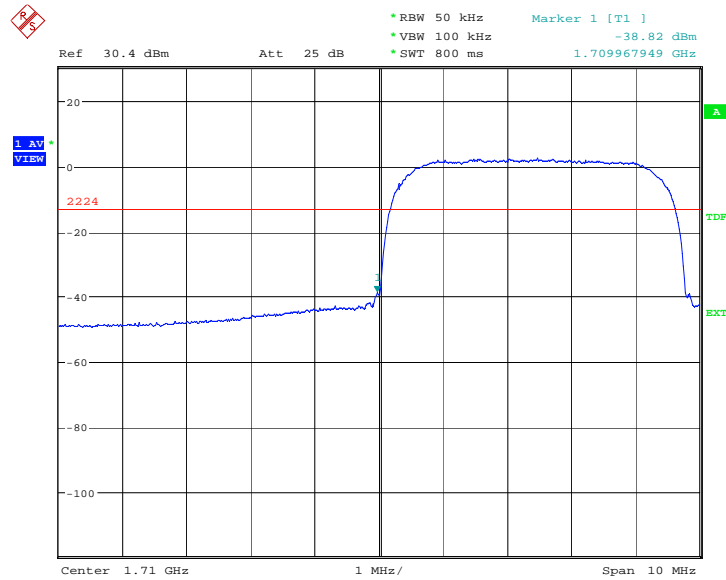


Date: 3.NOV.2009 03:08:17

A.8 BAND EDGE COMPLIANCE (§27.53(g))

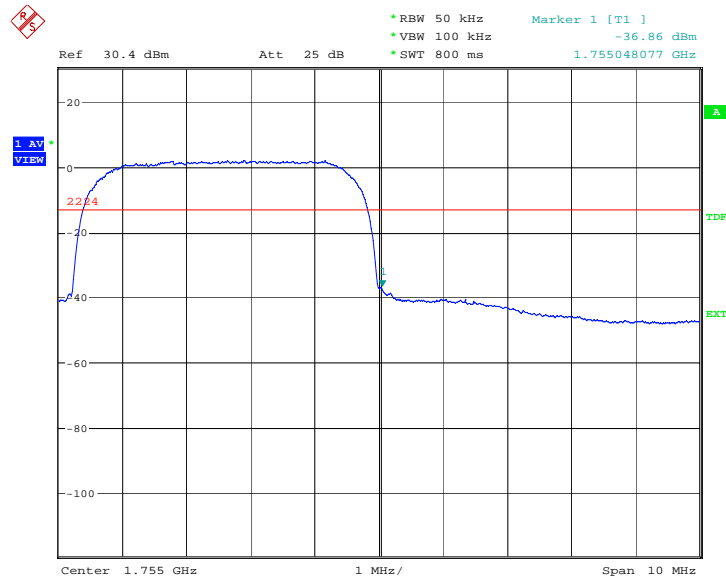
WCDMA Band IV

LOW BAND EDGE BLOCK-A -Channel 1312



Date: 3.NOV.2009 03:15:39

HIGH BAND EDGE BLOCK-C -Channel 1513



Date: 3.NOV.2009 03:16:15

A.9 CONDUCTED SPURIOUS EMISSION (§2.1057/§27.53(g))

A.9.1 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 IV Transmitter

Channel	Frequency (MHz)
1312	1712.4
1450	1740.0
1513	1752.6

A. 9.2 Measurement Limit

Sec. 27.53 Emission Limits.

(g) For operations in the 1710–1755MHz and 2110–2155 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10} (P)$ dB.

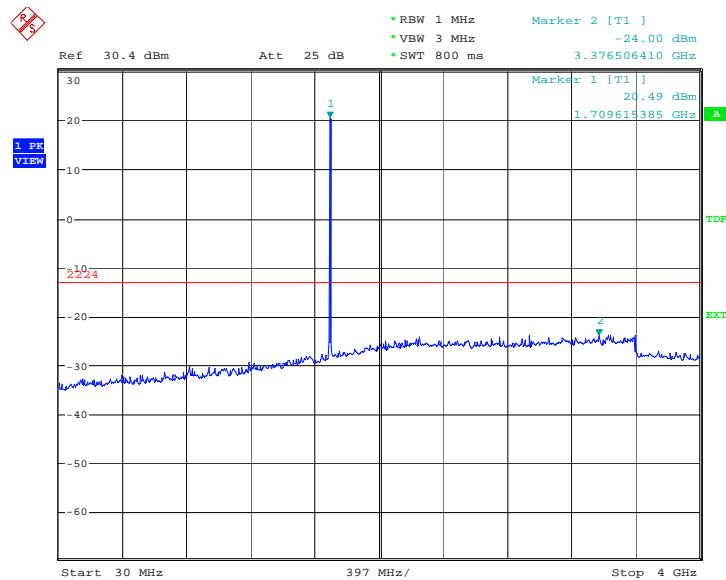
A.9.3 Measurement result

WCDMA Band IV

A. 9.3.9 Channel 1312: 30MHz – 4GHz

Spurious emission limit –13dBm.

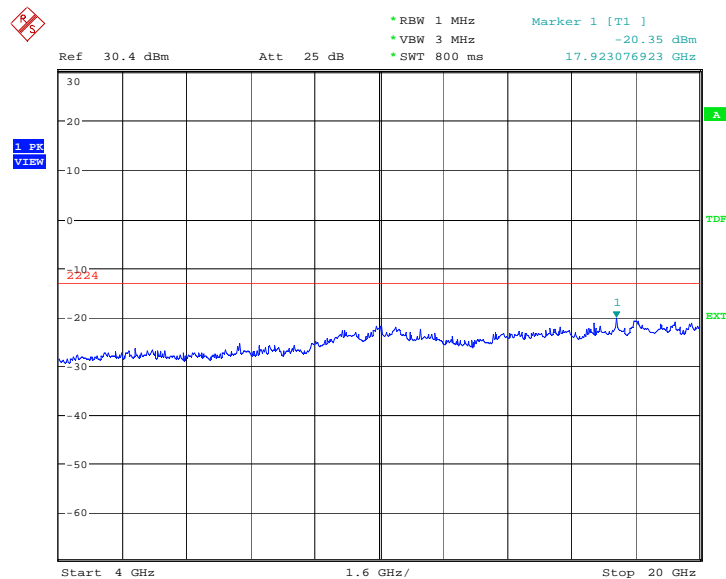
NOTE: peak above the limit line is the carrier frequency.



Date: 3.NOV.2009 03:12:12

A.9.3.10 Channel 1312: 4GHz – 20GHz

Spurious emission limit –13dBm.

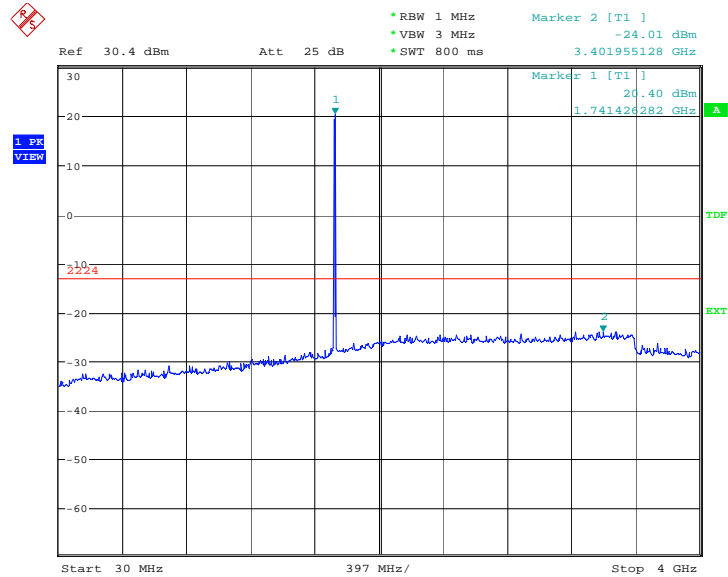


Date: 3.NOV.2009 03:12:45

A. 9.3.11 Channel 1450: 30MHz – 4GHz

Spurious emission limit –13dBm.

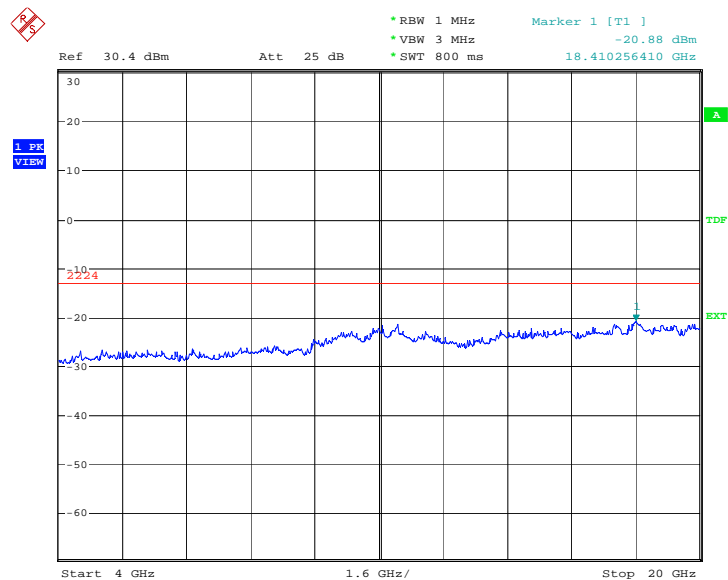
NOTE: peak above the limit line is the carrier frequency.



Date: 3.NOV.2009 03:13:21

A. 9.3.12 Channel 1450:4GHz – 20GHz

Spurious emission limit –13dBm.

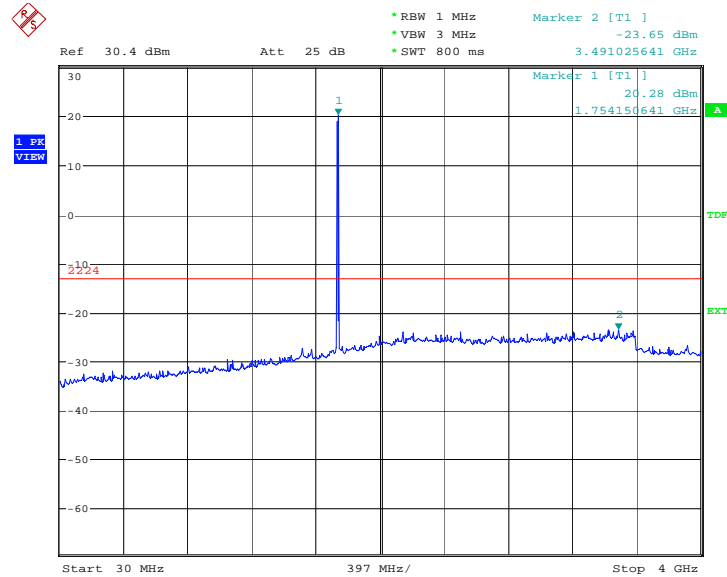


Date: 3.NOV.2009 03:13:54

A.9.3.13 Channel 1513: 30MHz – 4GHz

Spurious emission limit –13dBm.

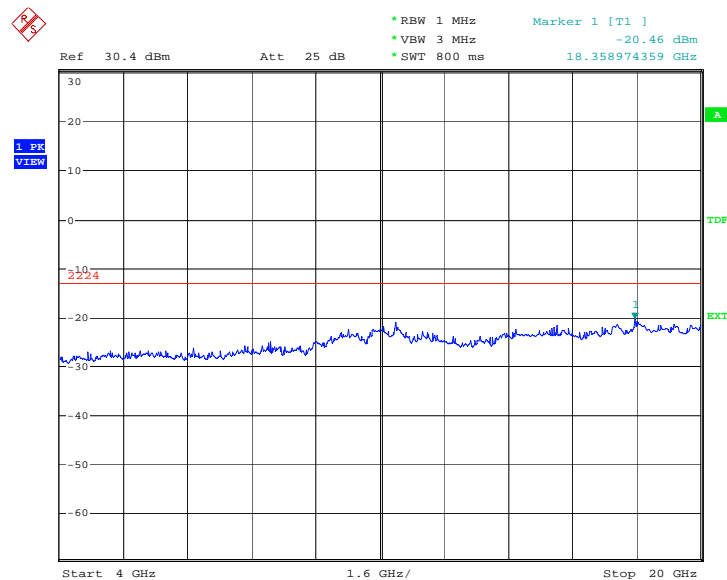
NOTE: peak above the limit line is the carrier frequency.



Date: 3.NOV.2009 03:14:30

A.9.3.14 Channel 1513: 4GHz – 20GHz

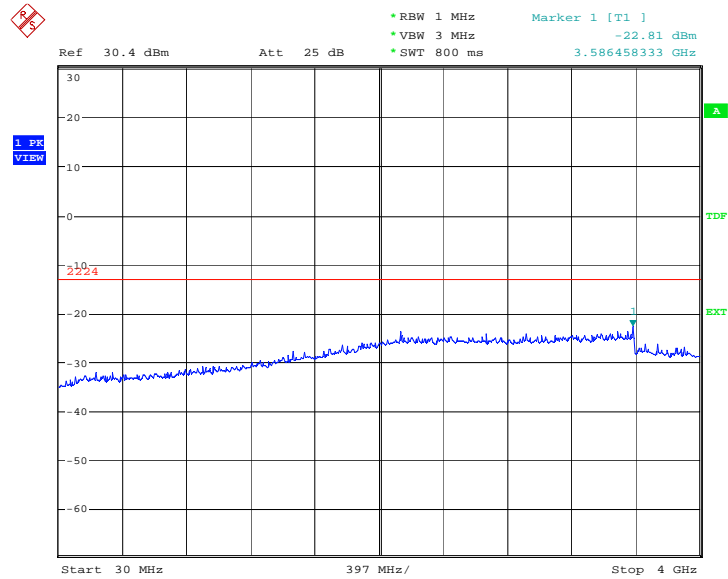
Spurious emission limit –13dBm.



Date: 3.NOV.2009 03:15:03

A. 9.3.15 Idle mode: 30MHz – 4GHz

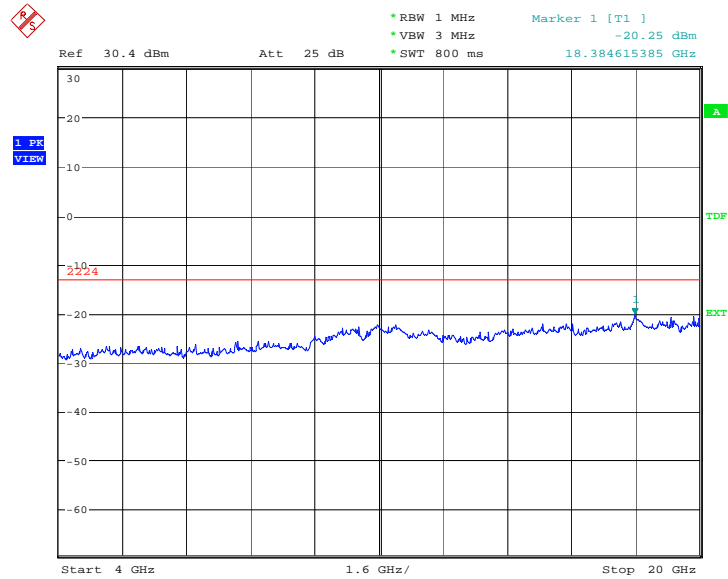
Spurious emission limit -13dBm.



Date: 3.NOV.2009 03:16:48

A.9.3.16 Idle mode: 4GHz – 20GHz

Spurious emission limit -13dBm.



Date: 3.NOV.2009 03:17:21

END OF REPORT