DAT-P-162/04-00

# TEST REPORT

## REPORT NUMBER: I07GE6474-FCC-EMC2

**ON**

| | |
|---|---|
| **Type of Equipment:** | **GSM/GPRS/EDGE/WCDMA/HSDPA Data Card** |
| **Type of Designation:** | **WM62** |
| **Manufacturer:** | **Longcheer Technology (Shanghai) Co., Ltd.** |

**ACCORDING TO**

**FCC CFR Part 2, FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS; e-CFR, March 23, 2006**

**PART 22, PUBLIC MOBILE SERVICES (Oct 1, 02 Edition)**

**PART 24, PERSONAL COMMUNICATIONS SERVICES (Oct 1, 97 Edition)**

**China Telecommunication Technology Labs.**

*Month date, year*
*Jan, 8, 2008*

*Signature*

He Guili
Director

| | |
|---|---|
| **FCC ID:** | VV6WM62 |
| **Report Date:** | 2008-1-8 |

| | |
|---|---|
| **Test Firm Name:** | China Telecommunication Technology Labs |
| **Registration Number:** | 840587 |

Statement

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported tests were carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Parts 2, 22, and 24. The sample tested was found to comply with the requirements defined in the applied rules.

# CONTENTS

# 1 General Information

## 1.1 Notes

All reported tests were carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Parts 2, 22 and 24.

The test results of this test report relate exclusively to the item(s) tested as specified in section 2.

The following deviation from, additions to, or exclusions from the test specifications have been made. See Annex C.

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## 1.2 Testers

| | |
|---|---|
| Name: | Li Dongjin |
| Position: | Engineer |
| Department: | Department of EMC test |
| Signature: | |

| | |
|---|---|
| Name: | Li Guoqing |
| Position: | Engineer |
| Department: | Department of EMC test |
| Signature: | |

| | |
|---|---|
| Name: | Yuan Yuan |
| Position: | Engineer |
| Department: | Department of EMC test |
| Signature: | |

| | |
|---|---|
| Name: | Lv Ke |
| Position: | Engineer |
| Department: | Department of EMC test |
| Signature: | |

Editor of this test report:

| | |
|---|---|
| Name: | Li Guoqing |
| Position: | Engineer |
| Department: | Department of EMC test |
| Date: | 2008-1-8 |
| Signature: | 李国庆 |

Technical responsibility for area of testing:

| | |
|---|---|
| Name: | Zou Dongyi |
| Position: | Manager |
| Department: | Department of EMC test |
| Date: | 2008-1-8 |
| Signature: | 邹东义 |

## 1.3 Testing Laboratory information

1.3.1 Location

| | |
|---|---|
| Name: | China Telecommunication Technology Labs. |
| Address: | No. 11, Yue Tan Nan Jie, Xi Cheng District<br>BEIJING<br>P. R. CHINA, 100083 |
| Tel: | +86 10 68094053 |
| Fax: | +86 10 68011404 |
| Email: | emc@chinattl.com |

1.3.2 Details of accreditation status

| | |
|---|---|
| Accredited by: | German Accreditation Body Technology (DATech) e.V. |
| Registration number: | DATech Registration No. DAT-P-162/04-00 |
| Accredited by: | China National Accreditation Service for Conformity Assessment (CNAS) |
| Registration number: | CNAS Registration No. CNAS L0570 |
| Standard: | ISO/IEC 17025 |

1.3.3 Test location, where different from section 1.3.1

| | |
|---|---|
| Name: | ------ |
| Street: | ------ |
| City: | ------ |
| Country: | ------ |
| Telephone: | ------ |
| Fax: | ------ |
| Postcode: | ------ |

## 1.4 Details of applicant or manufacturer

1.4.1 Applicant

| | |
|---|---|
| Name: | Longcheer Technology (Shanghai) Co., Ltd. |
| Address: | Building 1, No.401, Caobao Rd, Xuhui District, Shanghai |
| Country: | P. R. China |
| Telephone: | +86-21-64088898 |
| Fax: | +86-21-54970816 |
| Contact: | Hu Zhengfang |
| Telephone: | +86-21-64088898, Ext: 3156 |
| Email: | huzhengfang@longcheertel.com |

1.4.2 Manufacturer (if different from applicant in section 1.4.1)

| | |
|---|---|
| Name: | -- |
| Address: | -- |
| City: | -- |
| Country: | -- |

1.4.3 Manufactory (if different from applicant in section 1.4.1)

| | |
|---|---|
| Name: | EASTERN COMMUNICATIONS CO., LTD |
| Address: | No. 398 Wensan Road, Hangzhou |
| City: | Hangzhou |
| Country: | China |

# 2 Test Item

## 2.1 General Information

Manufacturer: Longcheer Technology (Shanghai) Co., Ltd.

Name: GSM/GPRS/EDGE/WCDMA/HSDPA Data Card

Model Number: WM62

Serial Number: --

Production Status: Production

Receipt date of test item: 2007-09-07

## 2.2 Outline of EUT

EUT is a GSM/GPRS/EDGE/WCDMA/HSDPA Data Card.

## 2.3 Modifications Incorporated in EUT

The EUT has not been modified from what is described by the brand name and unique type identification stated above.

## 2.4 Equipment Configuration

Equipment configuration list:

| Item | Generic Description | Manufacturer | Type | Serial No. | Remarks |
|---|---|---|---|---|---|
| A | Data card | Longcheer Technology (Shanghai) Co., Ltd. | WM62 | -- | None |

Cables:

| Item | Cable Type | Manufacturer | Length | Shield | Quantity | Remarks |
|---|---|---|---|---|---|---|
| 1 | USB cable | Unknown | 1.0 m | No | 1 | None |

## 2.5 Other Information

(a)GPRS modulation is GMSK.
EDGE modulation is 8PSK.
WCDMA modulation is QPSK.
HSDPA modulation is QPSK.

(b) Emission Designator of GPRS: 250KGXW.
Emission Designator of EDGE: 248KG7W
Emission Designator of WCDMA: 4M40F9W
Emission Designator of HSDPA: 4M70F9W

# 3 Summary of Test Results

A brief summary of the tests carried out is shown as following.

| **GPRS mode:** | | |
|---|---|---|
| Specification Clause | Name of Test | Result |
| 2.1051, 24.238, 2.1053,22.917 | Radiated Spurious Emission | Pass |
| 2.1046,24.232 | Radiated RF Power Output | Pass |
| 22.913(a) | Effective Radiated Power (ERP) | Pass |
| 2.1049,22.917(b), 24.238(b) | Occupied Bandwidth | *Note 1 |
| 2.1055,22.355, 24.235 | Frequency Stability over Temperature Variation | Pass |
| 2.1055,22.355, 24.235 | Frequency Stability over Voltage Variation | Pass |
| 2.1046,22.913(a), 24.232(c) | Conducted RF Power Output | Pass |
| 2.1051,22.917,24.238 | Conducted spurious emissions | Pass |
| Note 1: No applicable performance criteria. | | |

| **EDGE mode:** | | |
|---|---|---|
| 2.1051, 24.238, 2.1053,22.917 | Radiated Spurious Emission | Pass |
| 2.1046,24.232 | Radiated RF Power Output | Pass |
| 22.913(a) | Effective Radiated Power (ERP) | Pass |
| 2.1049,22.917(b), 24.238(b) | Occupied Bandwidth | *Note 2 |
| 2.1055,22.355, 24.235 | Frequency Stability over Temperature Variation | Pass |
| 2.1055,22.355, 24.235 | Frequency Stability over Voltage Variation | Pass |
| 2.1046,22.913(a), 24.232(c) | Conducted RF Power Output | Pass |
| 2.1051,22.917,24.238 | Conducted spurious emissions | Pass |
| Note 2: No applicable performance criteria. | | |

| WCDMA mode: | | |
|---|---|---|
| 2.1051, 24.238, 2.1053,22.917 | Radiated Spurious Emission | Pass |
| 2.1046,24.232 | Radiated RF Power Output | Pass |
| 22.913(a) | Effective Radiated Power (ERP) | Pass |
| 2.1049,22.917(b), 24.238(b) | Occupied Bandwidth | *Note 3 |
| 2.1055,22.355, 24.235 | Frequency Stability over Temperature Variation | Pass |
| 2.1055,22.355, 24.235 | Frequency Stability over Voltage Variation | Pass |
| 2.1046,22.913(a), 24.232(c) | Conducted RF Power Output | Pass |
| 2.1051,22.917,24.238 | Conducted spurious emissions | Pass |
| Note 3: No applicable performance criteria. | | |

| HSDPA mode: | | |
|---|---|---|
| 2.1051, 24.238, 2.1053,22.917 | Radiated Spurious Emission | Pass |
| 2.1046,24.232 | Radiated RF Power Output | Pass |
| 22.913(a) | Effective Radiated Power (ERP) | Pass |
| 2.1049,22.917(b), 24.238(b) | Occupied Bandwidth | *Note 4 |
| 2.1055,22.355, 24.235 | Frequency Stability over Temperature Variation | Pass |
| 2.1055,22.355, 24.235 | Frequency Stability over Voltage Variation | Pass |
| 2.1046,22.913(a), 24.232(c) | Conducted RF Power Output | Pass |
| 2.1051,22.917,24.238 | Conducted spurious emissions | Pass |
| Note 4: No applicable performance criteria. | | |

# 4 Test Results of mode

## 4.1 Radiated Spurious Emission

| | |
|---|---|
| **Specifications:** | 2.1051, 24.238, 2.1053, 22.917 |
| **Date of Tests** | 2007.09.14, 2007.12.27, 2008.1.8 |
| **Test conditions:** | Ambient Temperature:15℃-35℃<br>Relative Humidity:30%-60%<br>Air pressure: 86-106kPa |
| **Operation Mode** | TX on, channel 190 and 661 for GPRS and EDGE mode,<br>And Channel 4175 and 9400 for WCDMA and HSDPA mode |
| **Test Results:** | Pass |

**Test equipment Used:**

| Asset Number | Description | Manufacturer | Model Number | Serial Number | Cal Due | State |
|---|---|---|---|---|---|---|
| 7805 | EMI Test Receiver | R/S | ESI26 | 100211 | 2009-01-03 | Normal |
| 7330 | Ultra Broadband Antenna | R/S | HL562 | 100013 | 2008-07-24 | Normal |
| 7330 | Double-Ridged Horn Antenna | R/S | HF906 | 100037 | 2008-01-14 | Normal |
| 713 | Fully-Anechoic Chamber | ETS | 11.8m×6.5m×6.3m | -- | 2010-11-17 | Normal |
| 023 | Wireless Communications Test Set | Agilent | 8960(E5515C) | GB41450323 | 2008-06-13 | Normal |
| 4295 | Notebook | Lenovo | T60 | 2007I23 | -- | Normal |
| 111835 | Wireless Communications Test Set | R&S | CMU200 | 1100000802 | -- | Normal |

**Limit Level Construction:**
According to Part 24.238 (a), i.e., Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB, so the limit level is:
P(dBm) – (43 + 10 log(P)) dB= -13dBm

| **Limits for Radiated spurious emissions(UE)** | |
|---|---|
| **Frequency range** | **Limit Level /Resolution Bandwidth** |
| 30 MHz to 20000 MHz | -13dBm/1MHz |

**Test Setup:**

The EUT was placed in an anechoic chamber, see figure SP. The Wireless Communications Test Set was used to set the TX channel and power level and modulate the TX signal with different bit patterns. The test was done using an automated test system, where all test equipments were controlled by a computer.

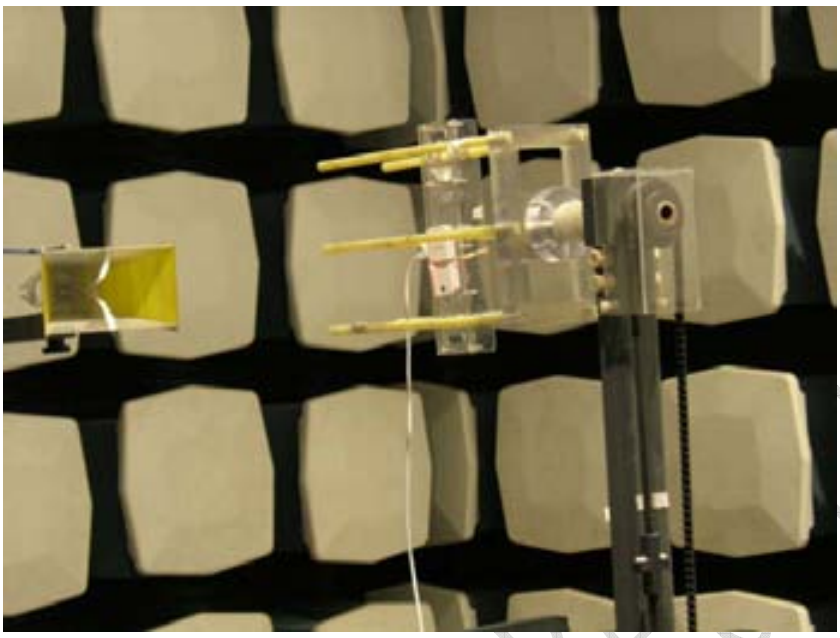


Figure SP

**Test Method:**

The measurement was performed accordance with section 2.2.12 of ANSI/TIA-603-B-2002: *Land Mobile FM or PM Communications Equipment Measurement and Performance Standards*.

1 The maximum spurious emissions were searched by turning the azimuth of the turntable, shifting the polarization of the measuring antenna and changing the pose of the EUT.

2 Levels of EUT's transmitter harmonics and suspicious signals were recorded.

3 The recorded levels were corrected in the automated test system with the correction factors given by a substitution calibration made before the measurement. The calibration was made separately for vertical and horizontal polarization and the system uses different correction factors depending on the measuring antenna polarization.

4 The corrected values of radiated spurious emissions indicated as EIRP are reported.

**Note:**

1 The investigated ARFCNs are 190 (836.6 MHz) and 661 (1880.0 MHz) for GPRS and EDGE mode, and the investigated UARFCNs are 4175 (835 MHz) and 9400 (1880 MHz) for WCDMA and HSDPA mode.

2 The investigated frequency range is 30 MHz ~ 18 GHz, including out of band emission and band-edge emission measurements.

**Test Results for GPRS mode:**

| Out of band emission | | | |
|---|---|---|---|
| Frequency [MHz] | SPU emission [dBm] | EUT pose [H/V] | Antenna Polarization [H/V] |
| 1673.2 | -55.3 | V | H |
| 1673.2 | -56.8 | V | V |
| 2509.8 | -57.1 | V | H |
| 3346.4 | -51.9 | H | H |
| 4183.0 | -56.2 | H | H |
| 4183.0 | -57.3 | V | V |
| 3760 | -54.3 | H | H |
| 5640 | -47.4 | V | H |
| 5640 | -47.1 | H | H |
| 5640 | -49.8 | V | V |
| 9400 | -38.0 | V | H |
| 9400 | --34.2 | H | H |
| 9400 | -36.8 | V | V |
| 13160 | -27.7 | V | H |
| 13160 | -28.6 | H | H |
| 13160 | -32.4 | V | V |
| 13160 | -27.8 | T | V |

| Band-edge emission | | |
|---|---|---|
| EUT Channel | Frequency [MHz] | Level [dBm] |
| 128 Left band edge | 824.00160321 | -13.32 |
| 251 Right band edge | 849.00240481 | -16.05 |
| 512 Left band edge | 1850.000160 | -16.67 |
| 810 Right band edge | 1910.00240 | 16.00 |

**Test Results for EDGE mode:**

| Out of band emission | | | |
|---|---|---|---|
| Frequency [MHz] | SPU emission [dBm] | EUT pose [H/V] | Antenna Polarization [H/V] |
| 1676 | —50.59 | V | V |
| 2487 | -55.29 | V | V |
| 8370 | -37.46 | V | V |
| 9192 | -36.61 | V | V |
| 1666 | -51.80 | H | V |
| 2487 | -39.36 | H | V |
| 10868 | -34.68 | H | V |
| 11723 | -37.32 | H | V |
| 1666 | -55.88 | V | H |

| | | | |
|---|---|---|---|
| 7516 | -43.17 | V | H |
| 8370 | -39.92 | V | H |
| 9192 | -41.48 | V | H |
| 10868 | -34.19 | V | H |
| 16291 | -28.45 | V | H |
| 9384 | -27.70 | V | V |
| 17755 | -31.50 | H | V |
| 9384 | -26.54 | V | H |

| Band-edge emission | | |
|---|---|---|
| EUT Channel | Frequency [MHz] | Level [dBm] |
| 128 Left band edge | 824.00160321 | -13.03 |
| 251 Right band edge | 249.00240481 | -15.71 |
| 512 Left band edge | 1850.000160 | -14.00 |
| 810 Right band edge | 1910.000641 | -13.47 |

**Test Results for WCDMA mode:**

| Out of band emission | | | |
|---|---|---|---|
| Frequency [MHz] | SPU emission [dBm] | EUT pose [H/V] | Antenna Polarization [H/V] |
| 1699 | -43.7 | V | V |
| 13160 | -38.0 | V | H |

| Band-edge emission | | |
|---|---|---|
| EUT Channel | Frequency [MHz] | Level [dBm] |
| 4132 Left band edge | 823.9859719 | -15.24 |
| 4233 Right band edge | 849.04609218 | -13.56 |
| 9662 Left band edge | 1850.01202 | -14.45 |
| 9938 Right band edge | 1910.01002 | -16.15 |

**Test Results for HSDPA mode:**

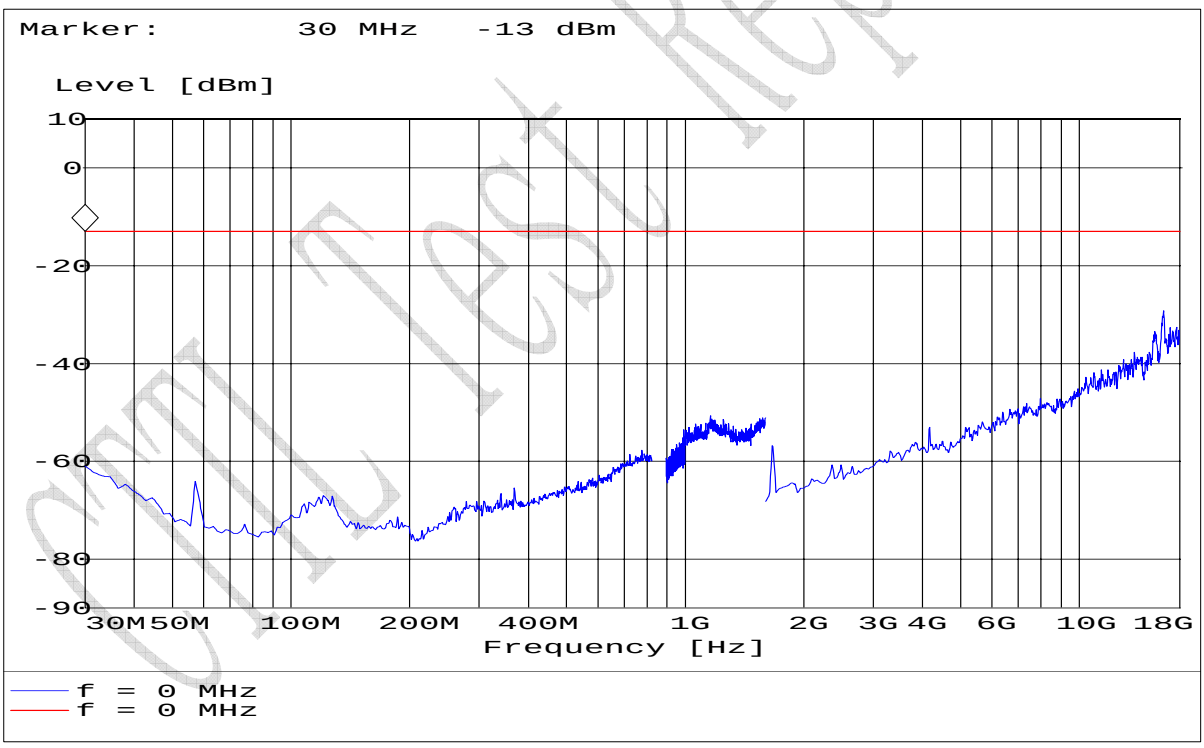
| Out of band emission | | | |
|---|---|---|---|
| Frequency [MHz] | SPU emission [dBm] | EUT pose [H/V] | Antenna Polarization [H/V] |
| 1666 | -58.82 | V | V |
| 2487 | -57.29 | V | V |
| 16390 | -27.58 | V | V |
| 1666 | -61.49 | H | V |
| 2487 | -53.06 | H | V |
| 16291 | -28.25 | H | V |
| 1666 | -58.13 | V | H |
| 2487 | -54.10 | V | H |

| | | | |
|---|---|---|---|
| 16324 | -27.61 | V | H |
| 1666 | -59.59 | H | H |
| 2487 | -54.82 | H | H |
| 16324 | -29.77 | H | H |
| 3742 | -50.88 | H | V |
| 3742 | -51.22 | H | H |

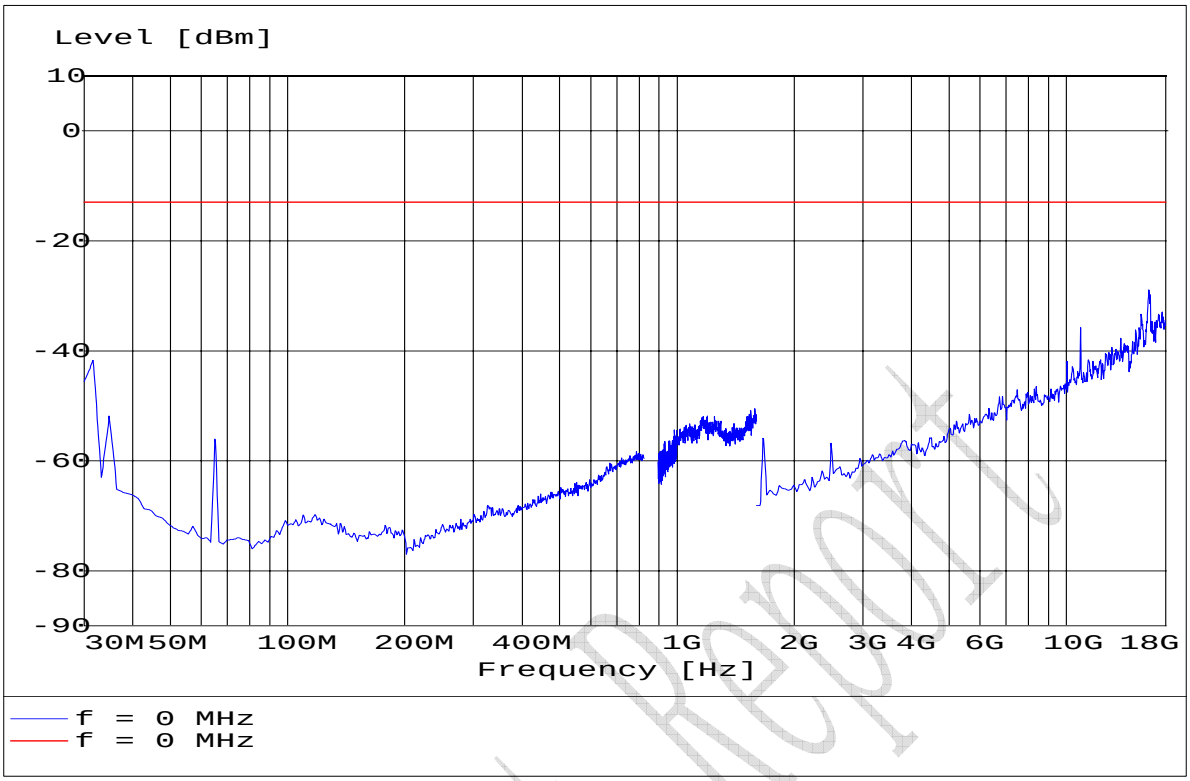
| Band-edge emission | | |
|---|---|---|
| EUT Channel | Frequency [MHz] | Level [dBm] |
| 4132 Left band edge | 824.03006012 | -17.52 |
| 4233 Right band edge | 848.98597194 | -18.18 |
| 9662 Left band edge | 1850.01002 | -14.75 |
| 9938 Right band edge | 1910.02605 | -15.75 |

**Graphical results:**

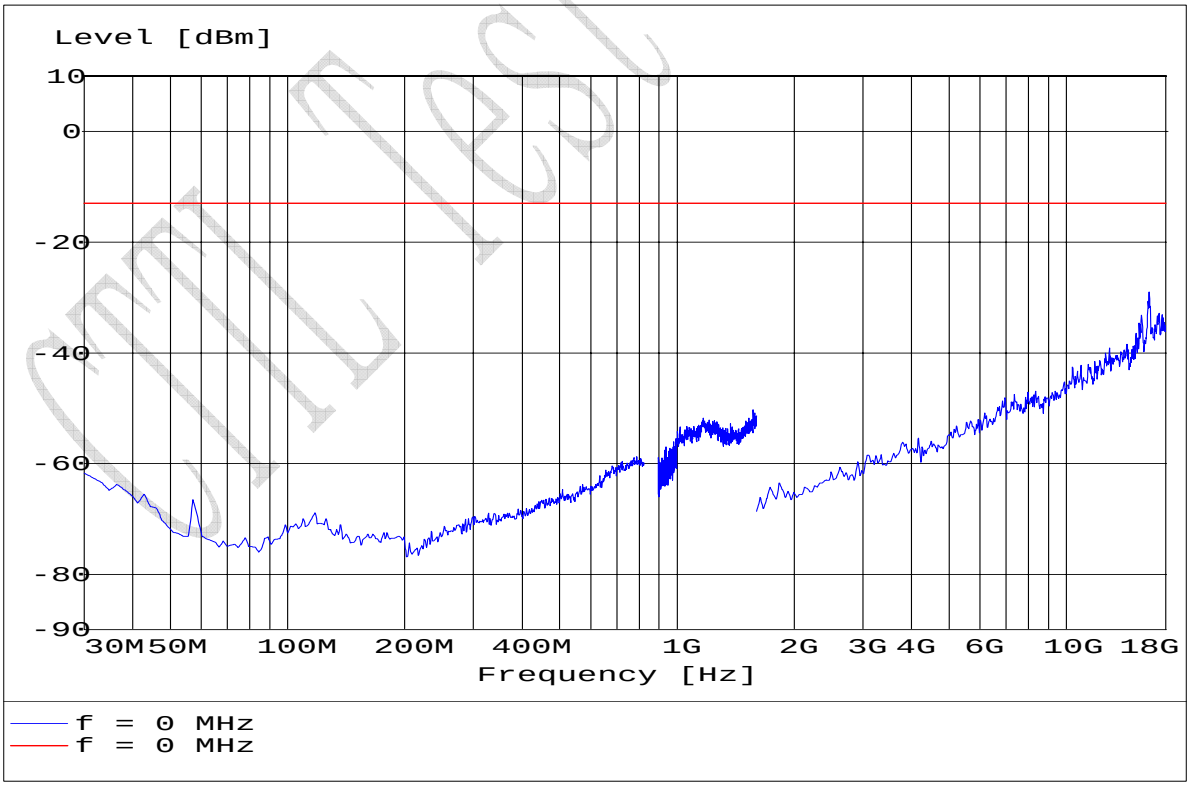
**Graphical results of GPRS mode:**



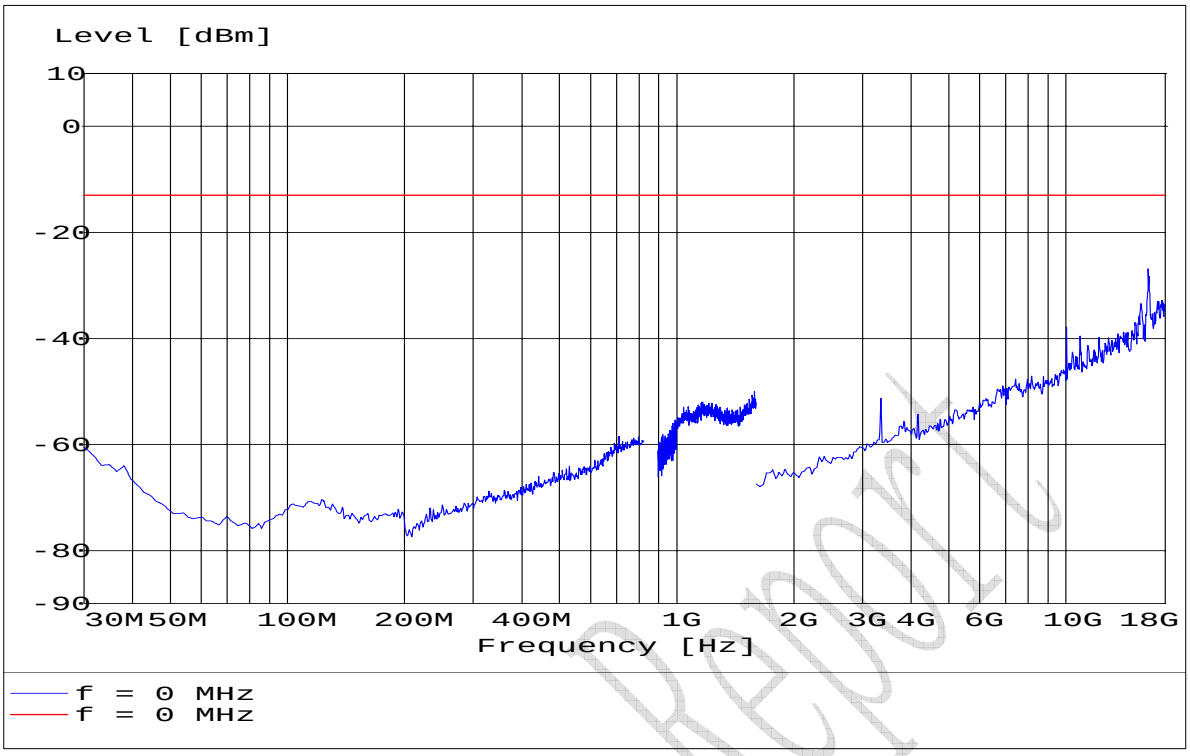

**S190VF for GPRS mode**



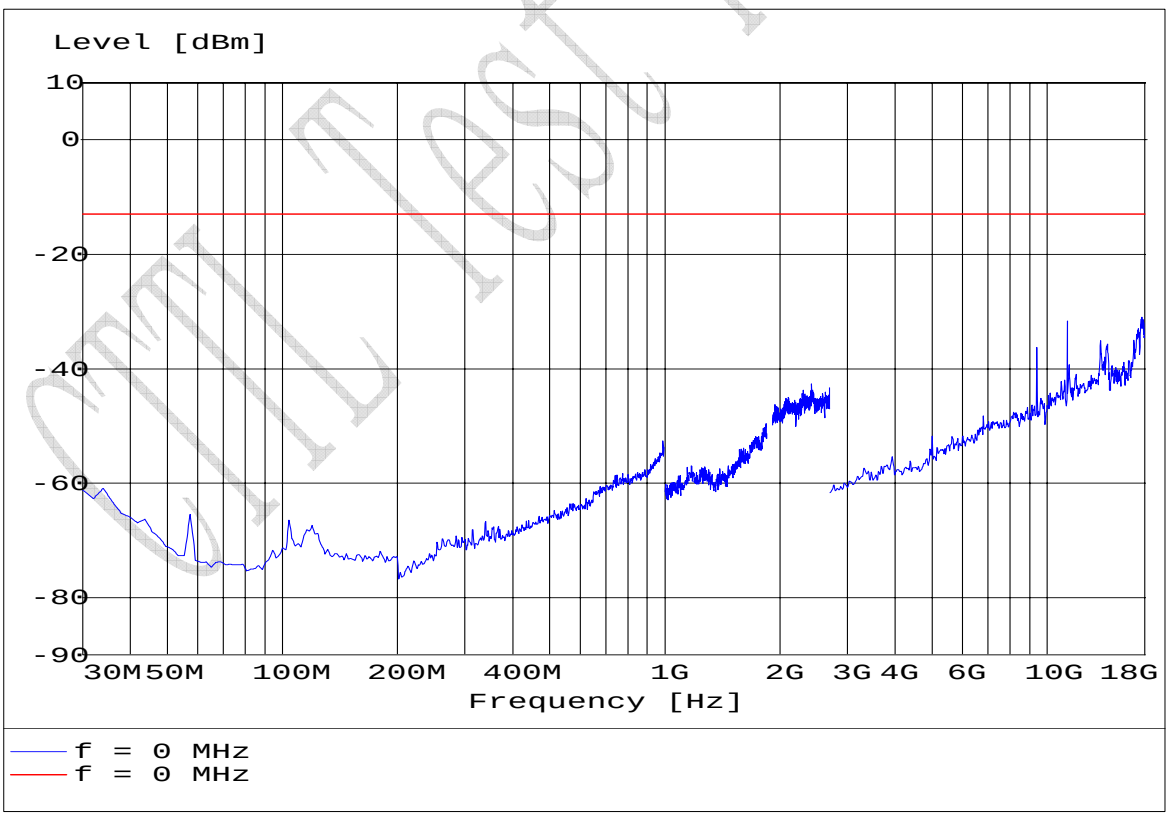

**S190HF for GPRS mode**



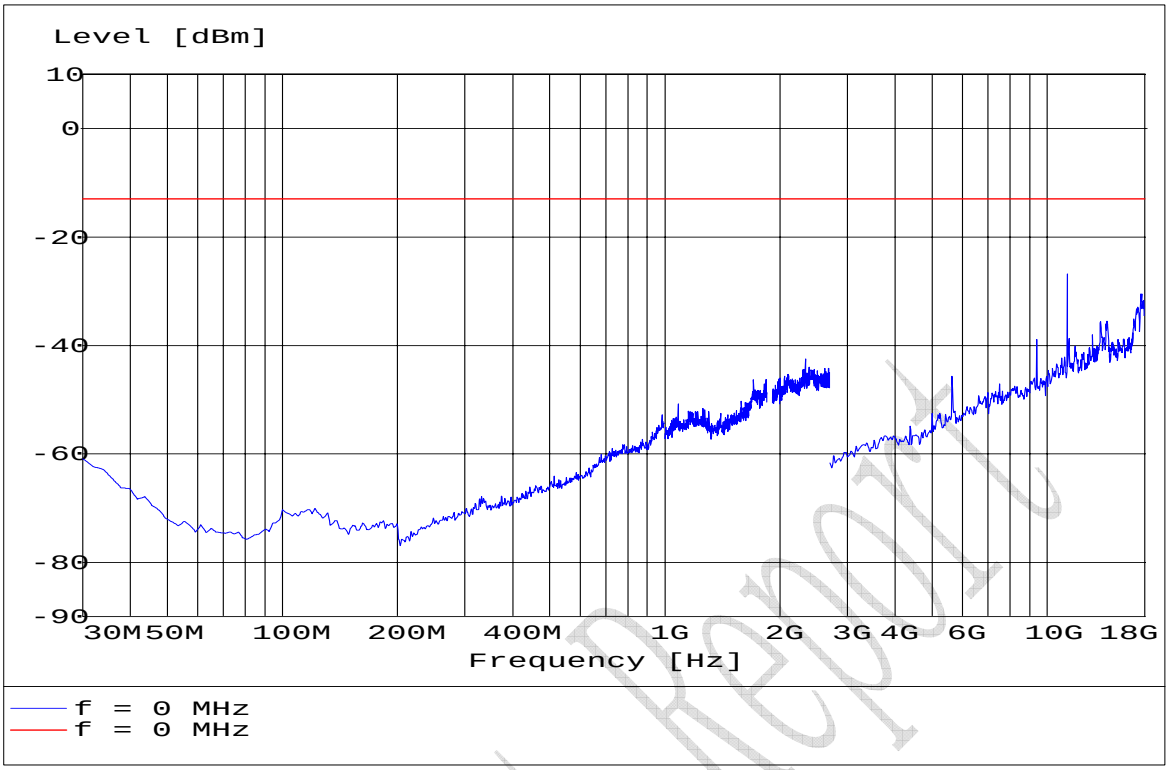

**S190VT for GPRS mode**



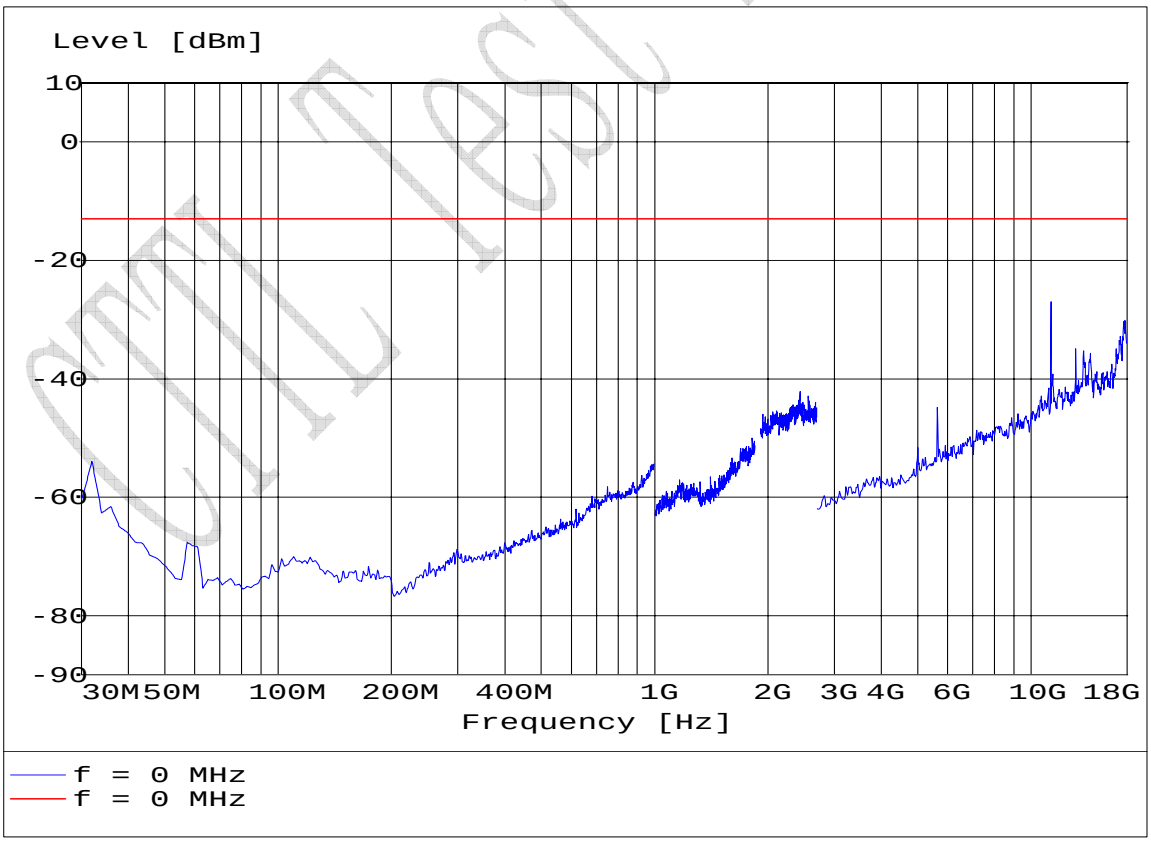

**S190HT for GPRS mode**



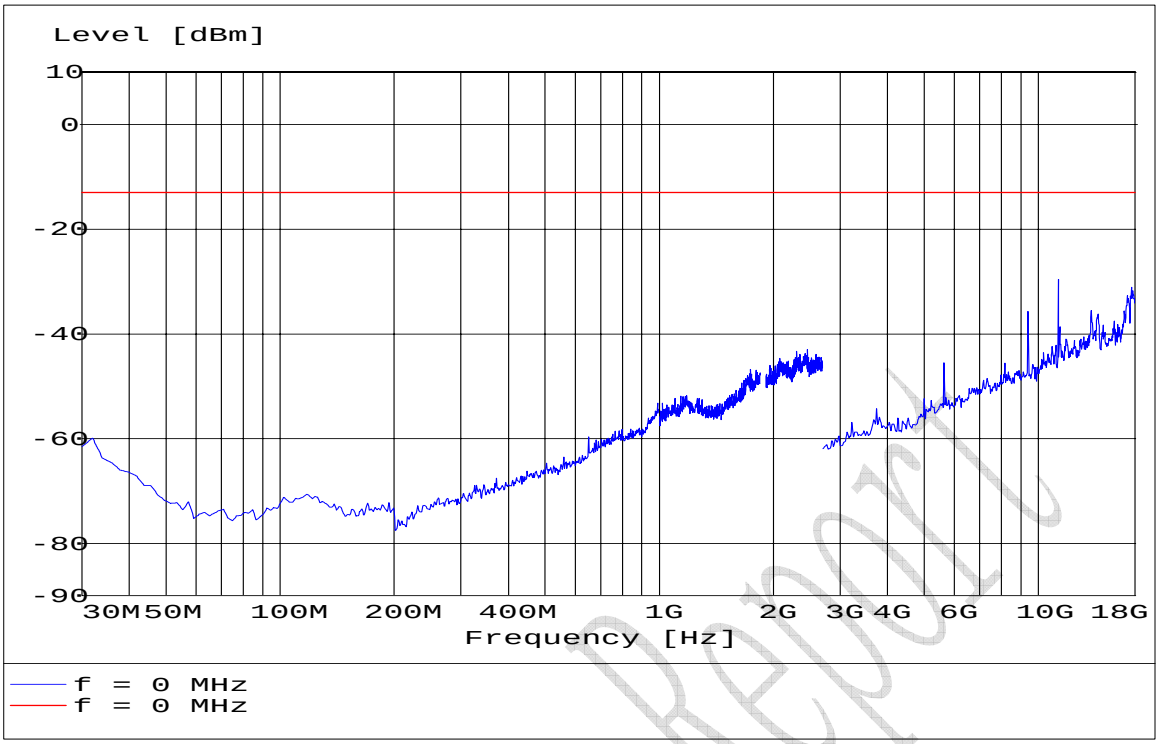

**S661VF for GPRS mode**




**S661HF for GPRS mode**

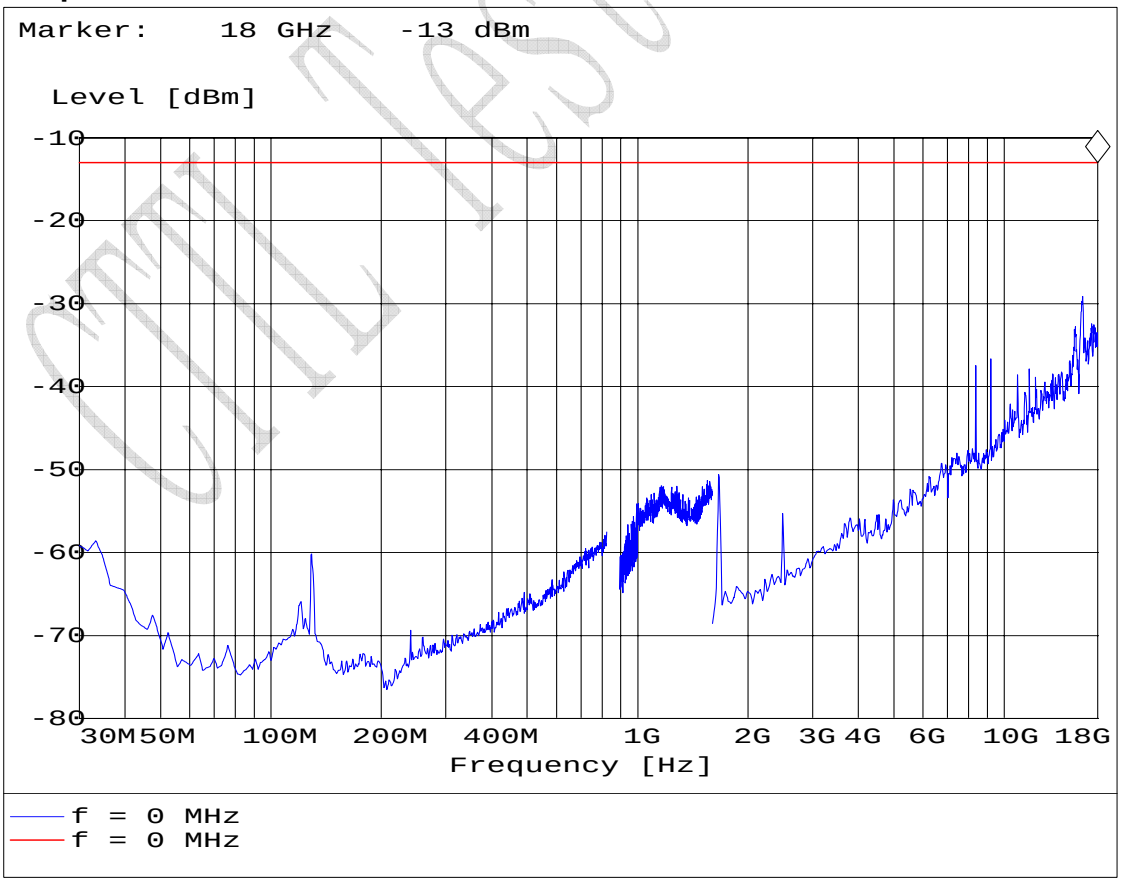



**S661VT for GPRS mode**

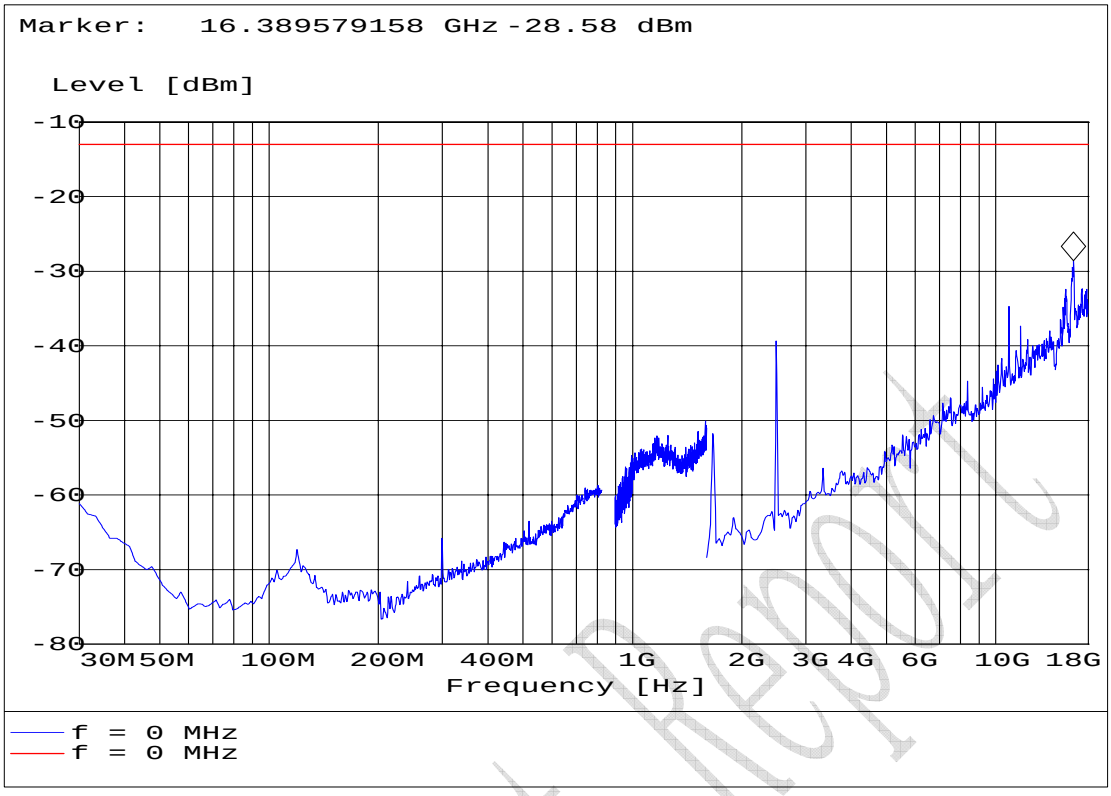



**S661HT for GPRS mode**

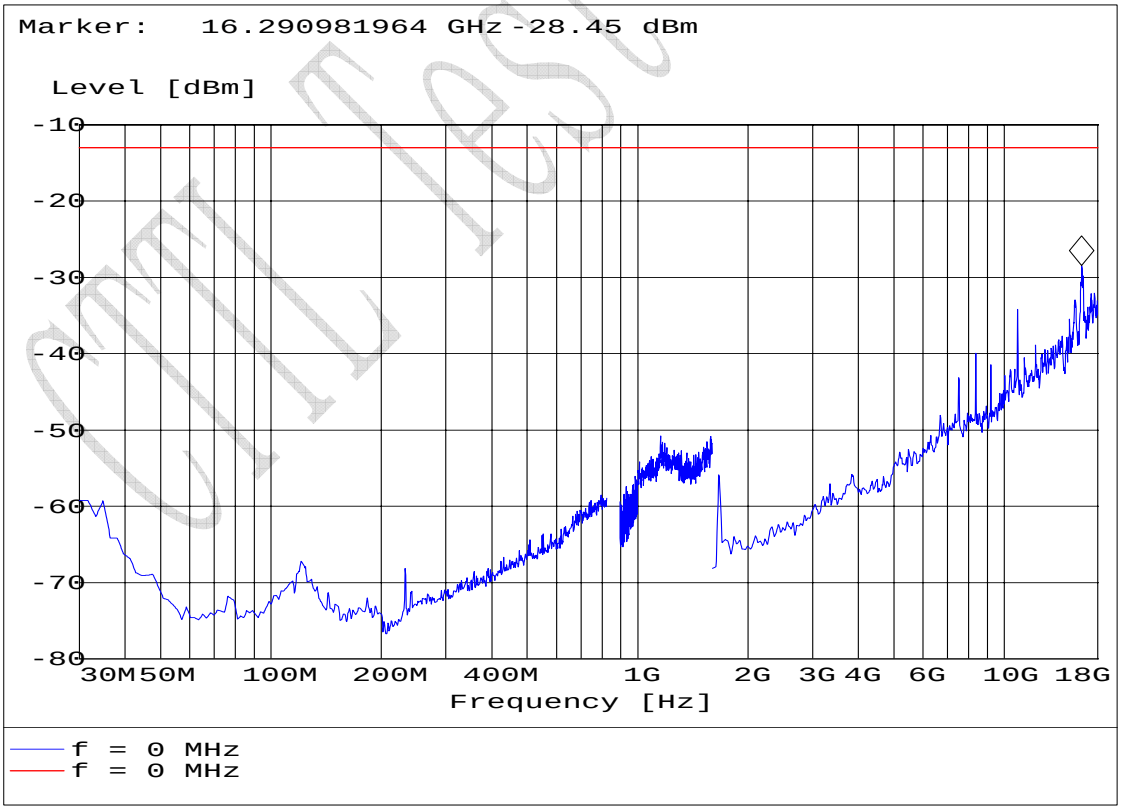
**Graphical results of EDGE mode:**



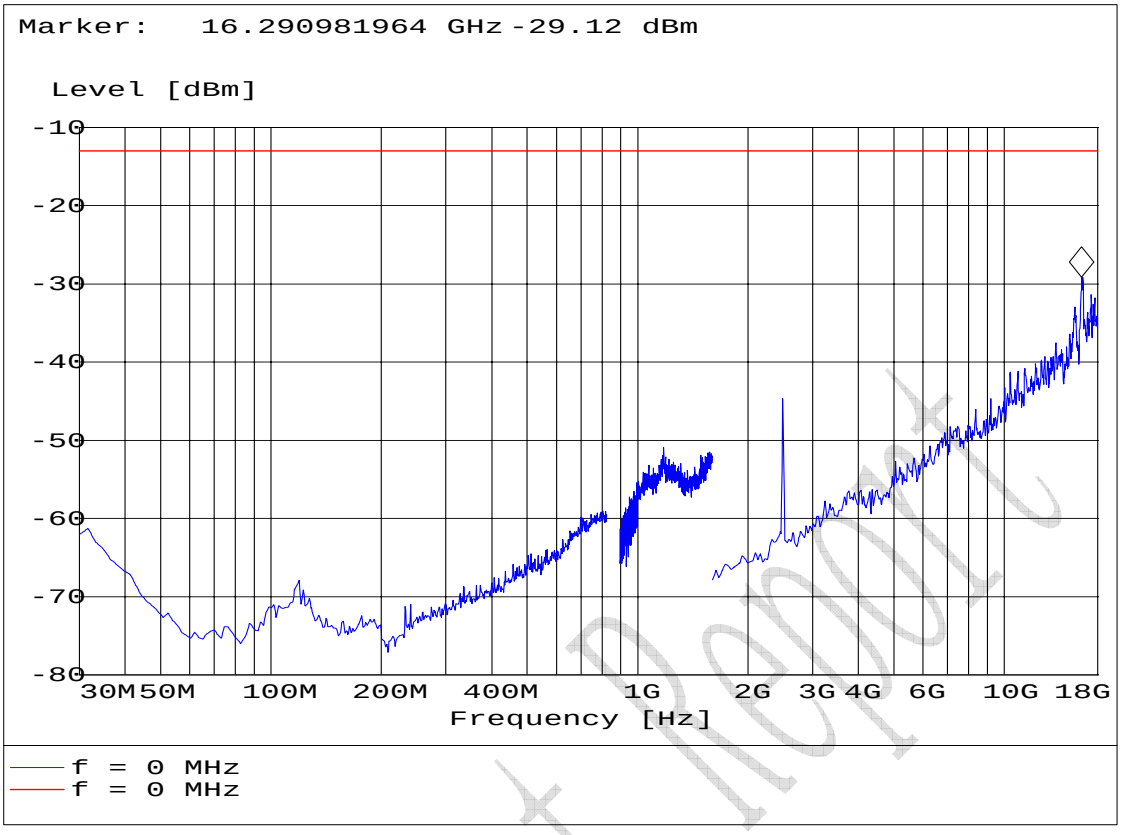

**S190VF for EDGE mode**



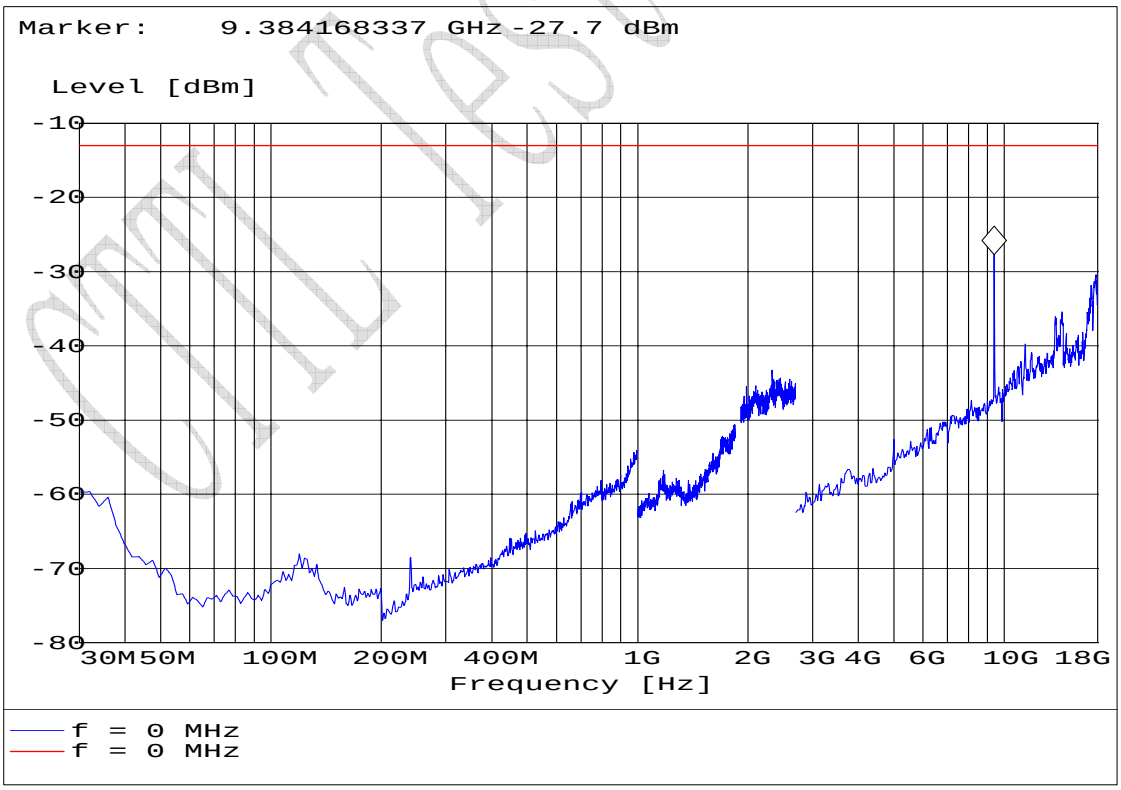

**S190HF for EDGE mode**



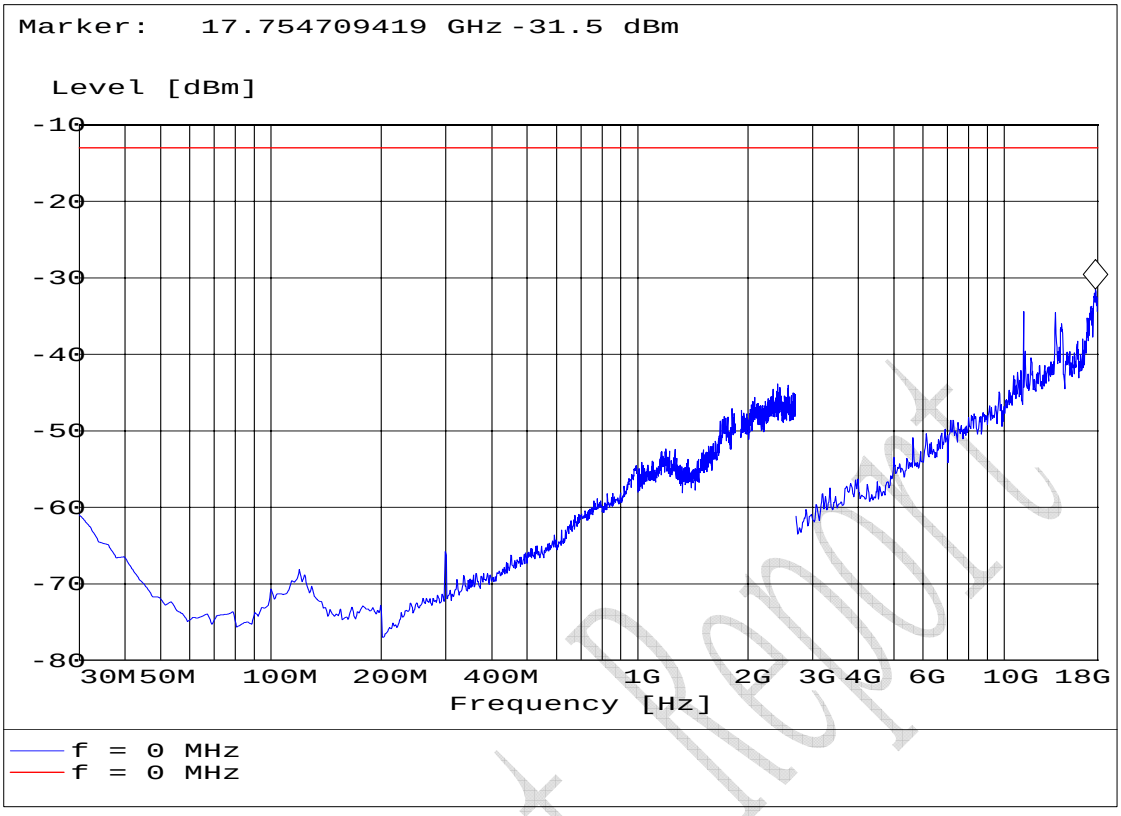

**S190VT for EDGE mode**



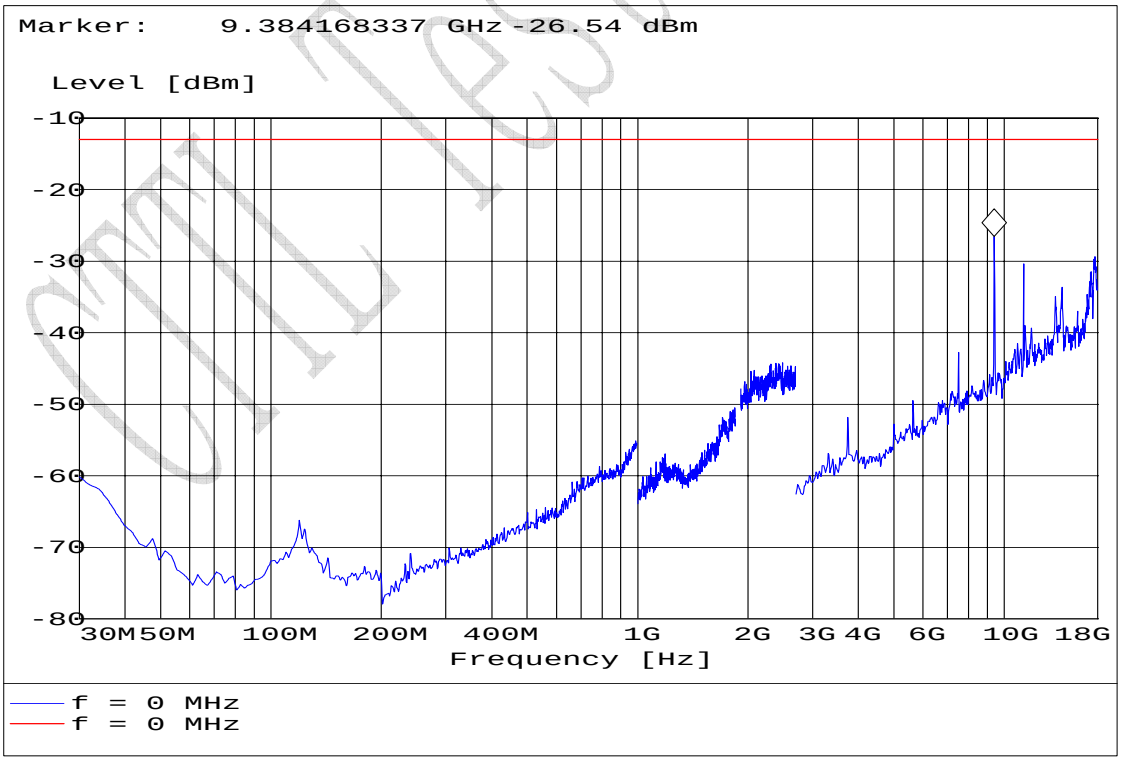

**S190HT for EDGE mode**



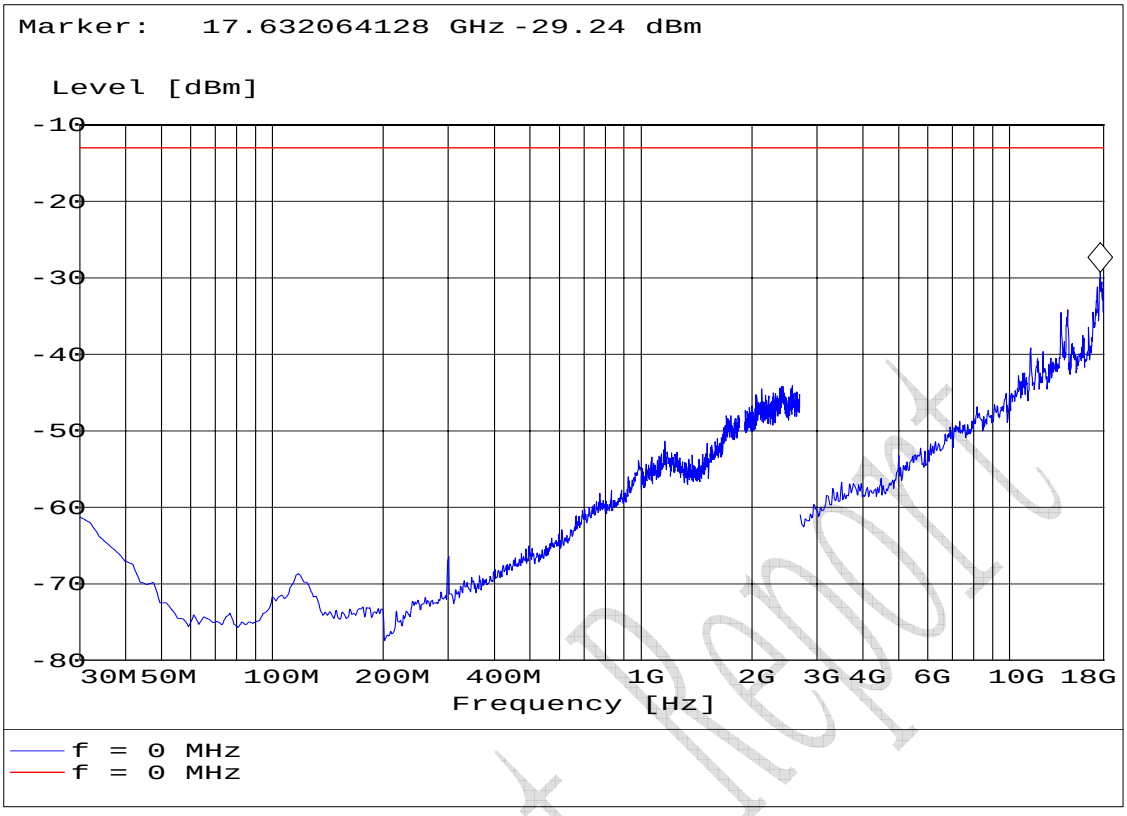

**S661VF for EDGE mode**




**S661HF for EDGE mode**

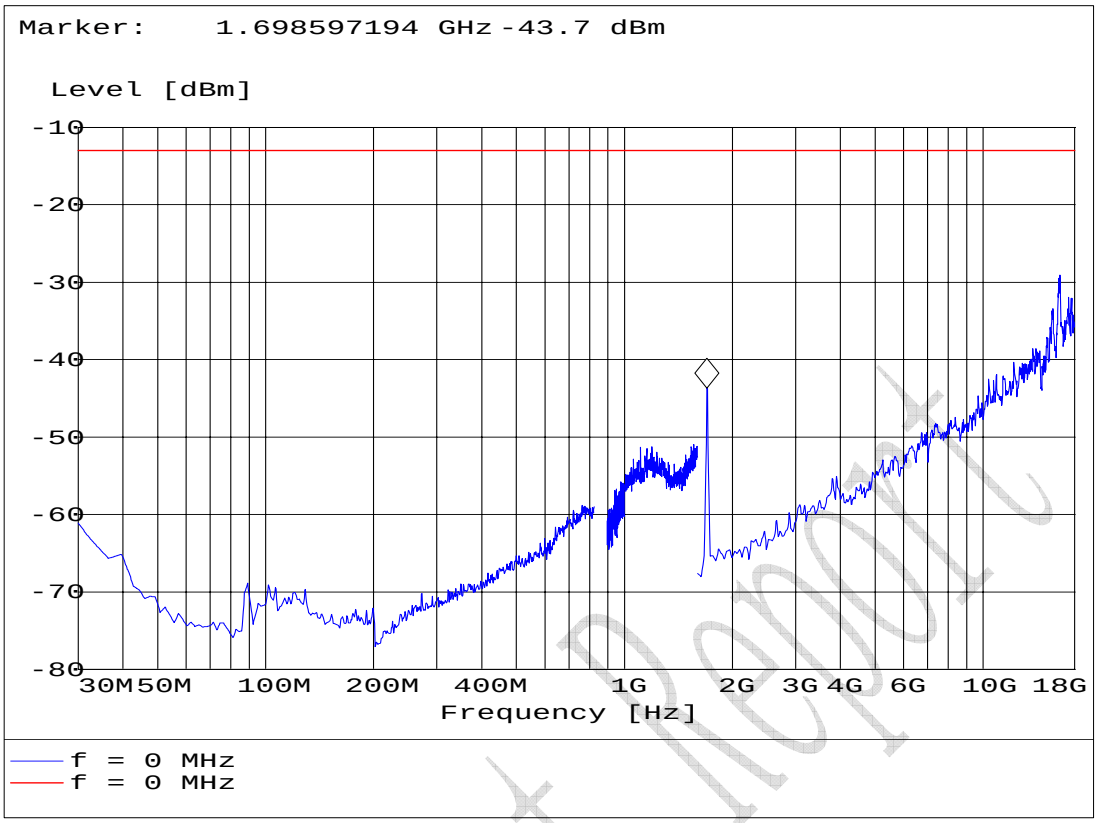



**S661VT for EDGE mode**

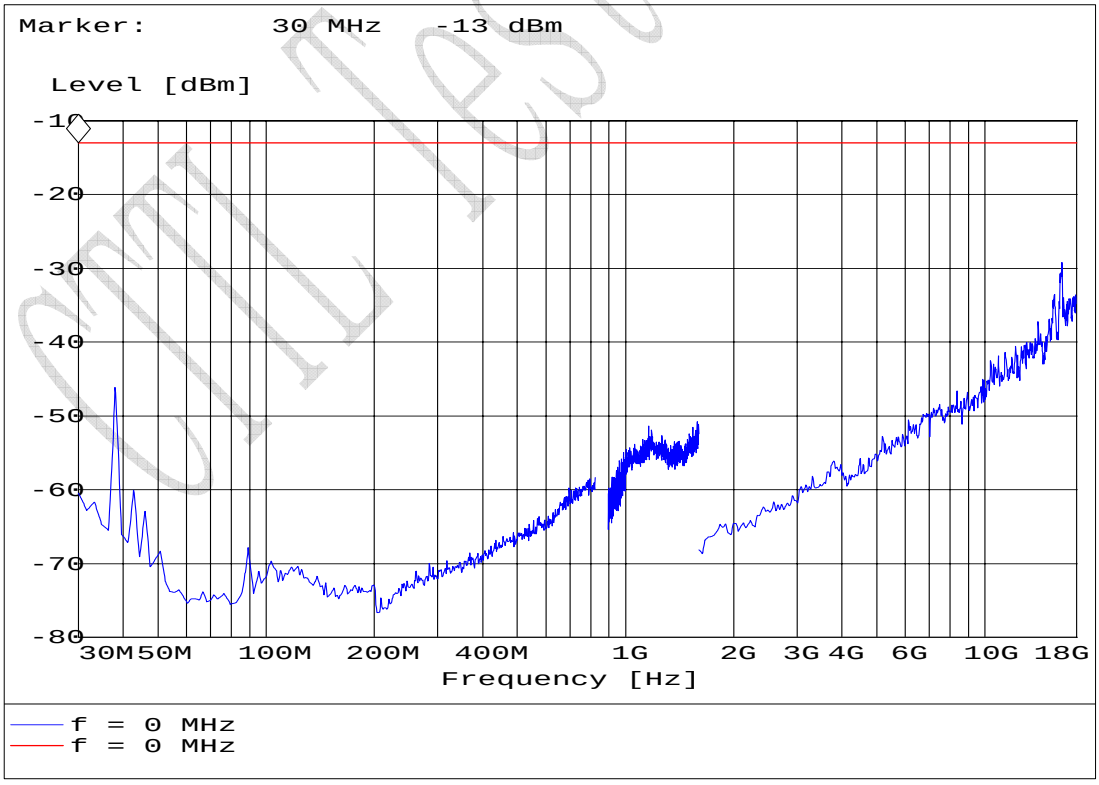



**S661HT for EDGE mode**

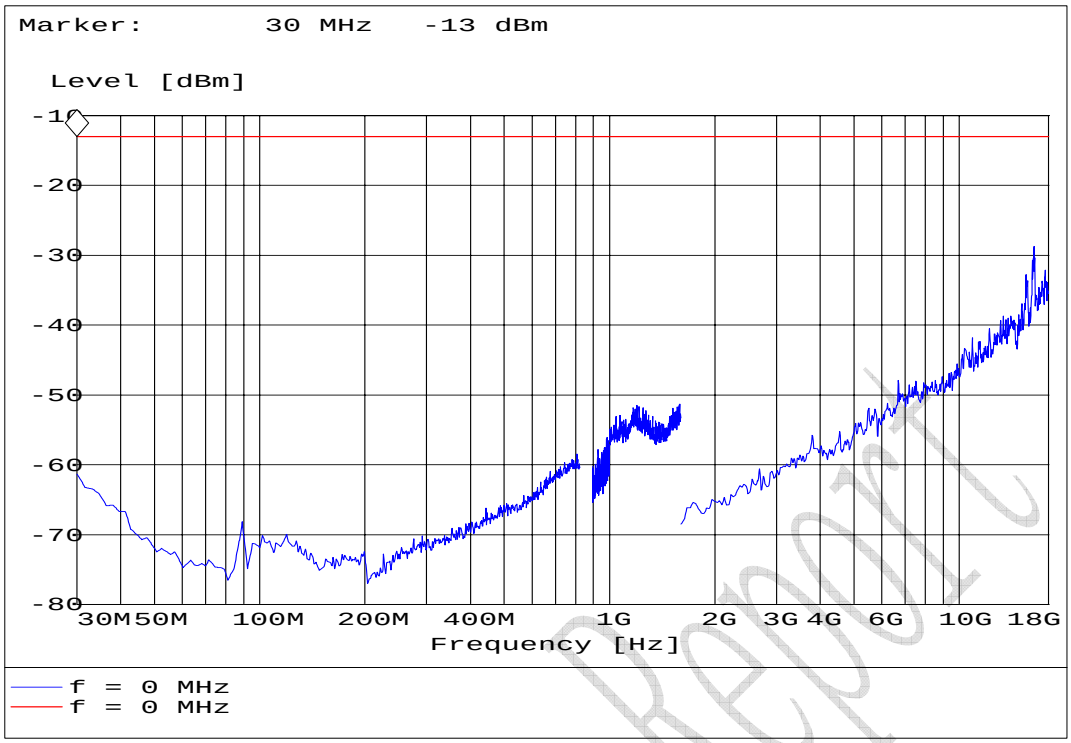
**Graphical results of WCDMA mode:**



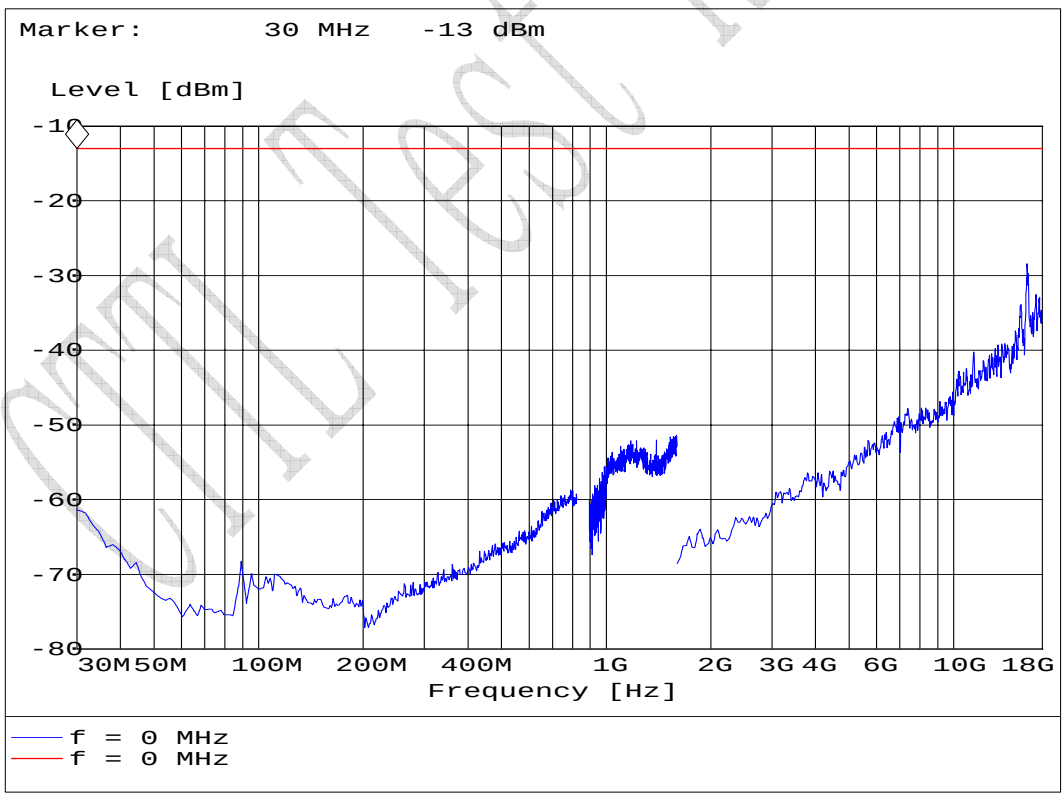

**S4175VF for WCDMA mode**



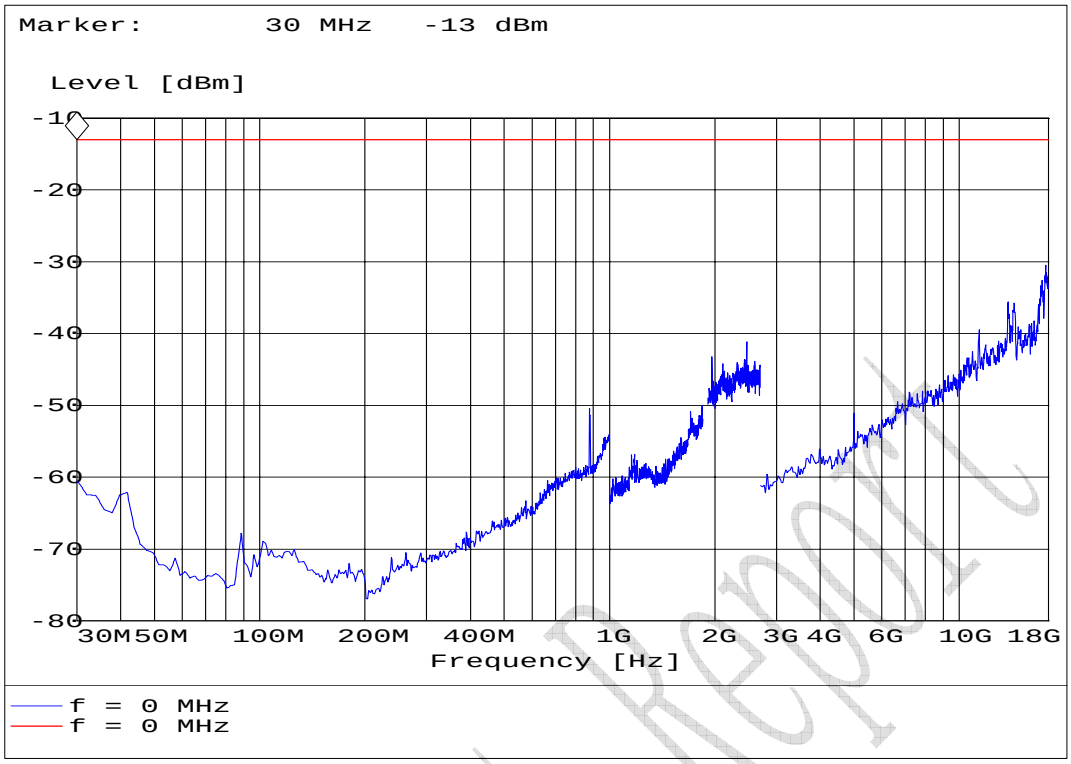

**S4175HF for WCDMA mode**



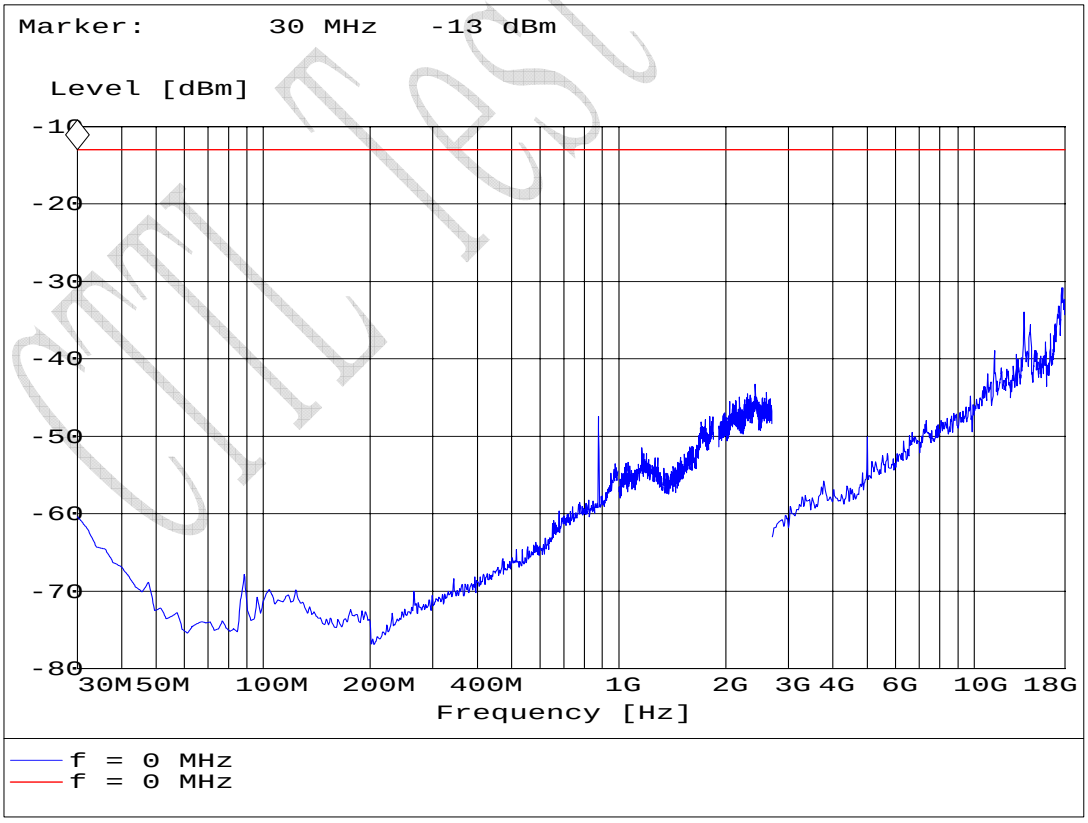

**S4175VT for WCDMA mode**




**S4175HT for WCDMA mode**

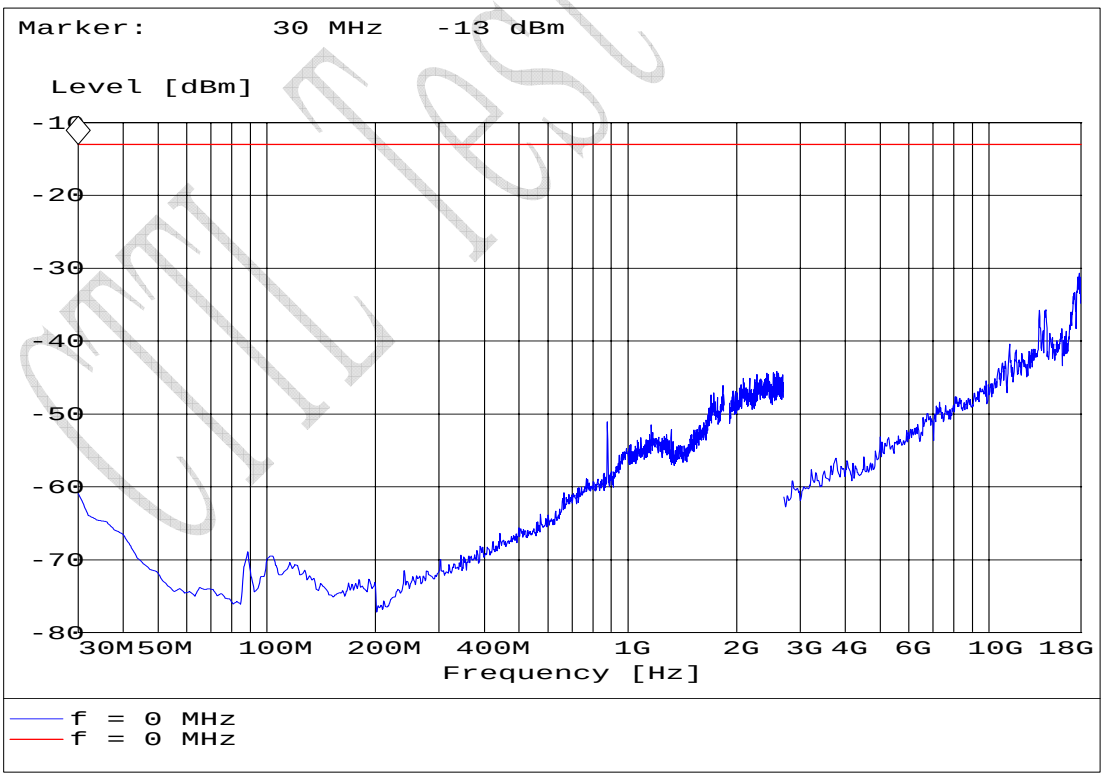



**S9400VF for WCDMA mode**



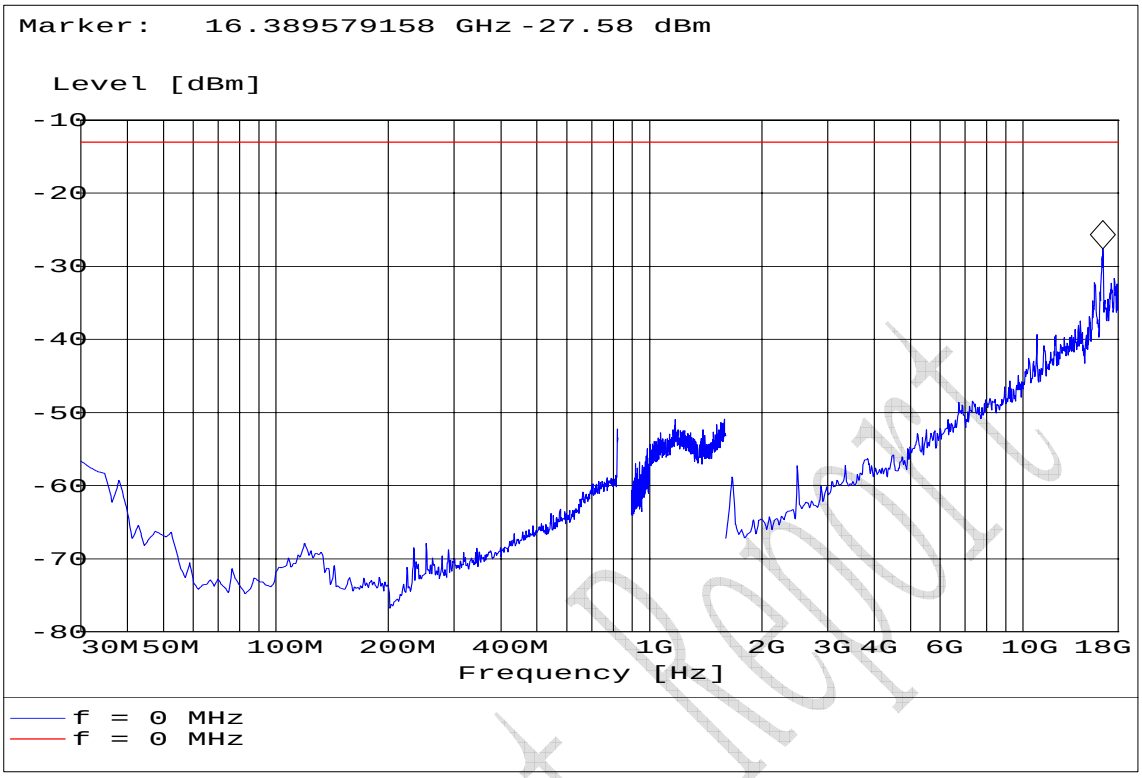

**S9400HF for WCDMA mode**


**S9400VT for WCDMA mode**

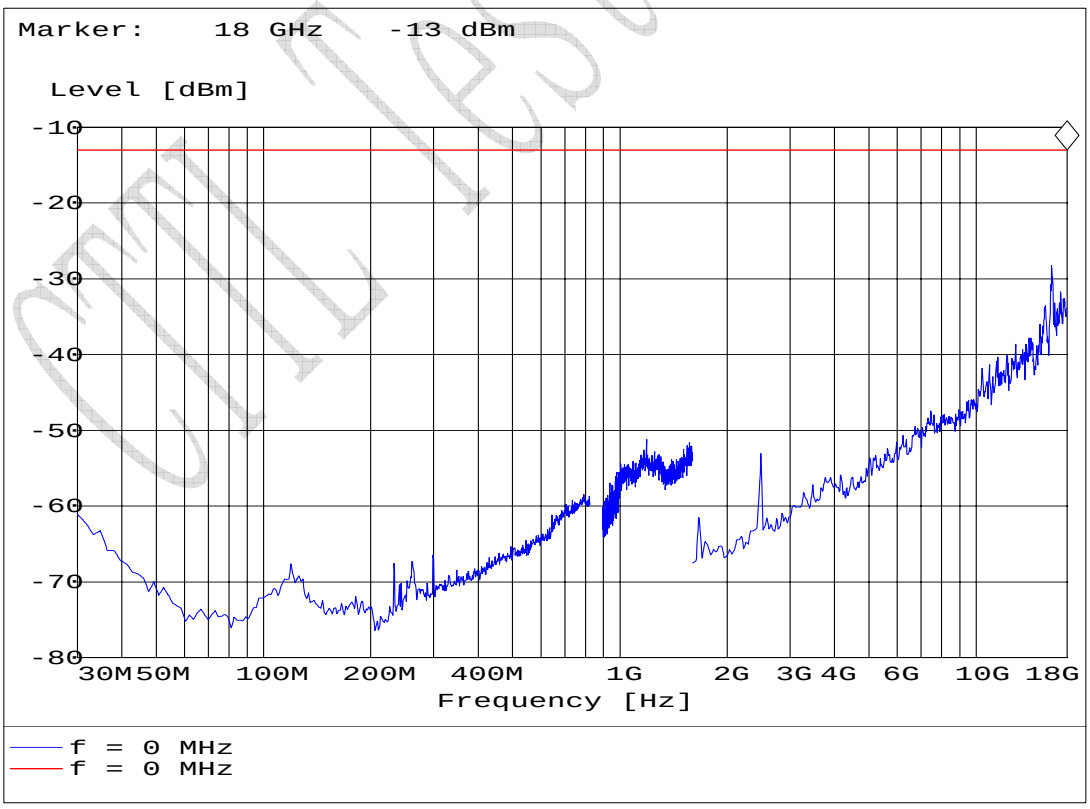



**S9400HT for WCDMA mode**

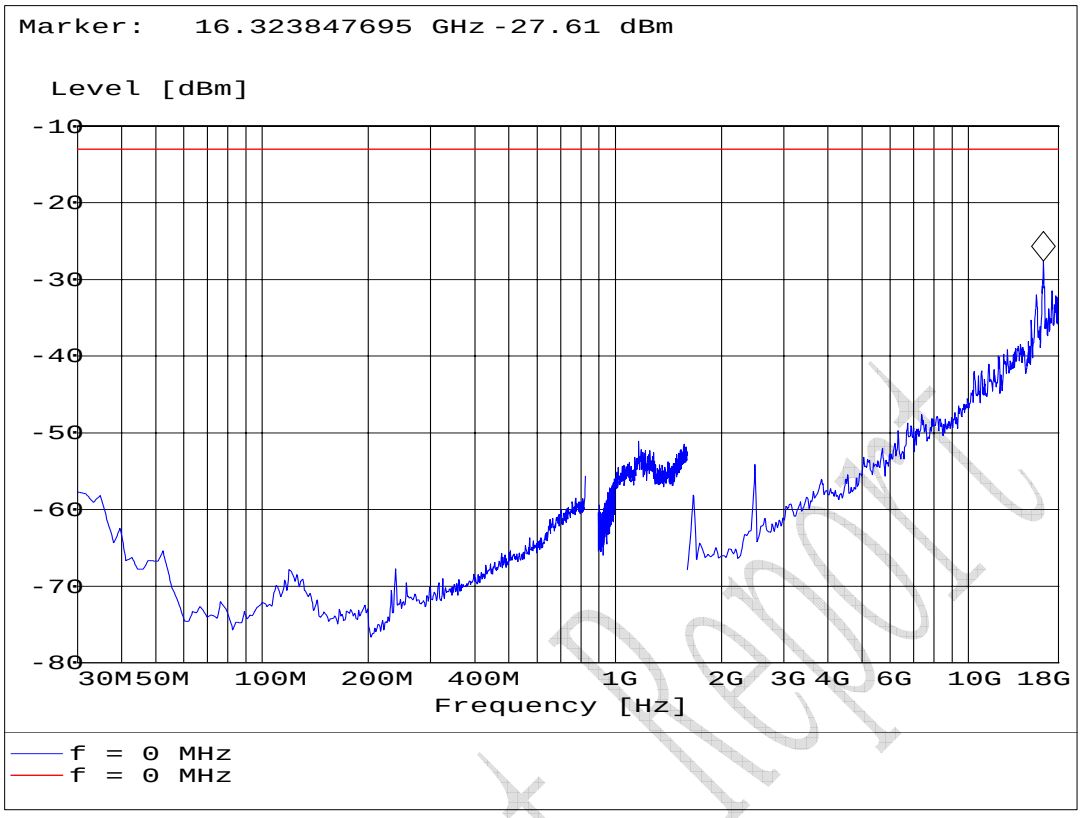
## Graphical results of HSDPA mode:



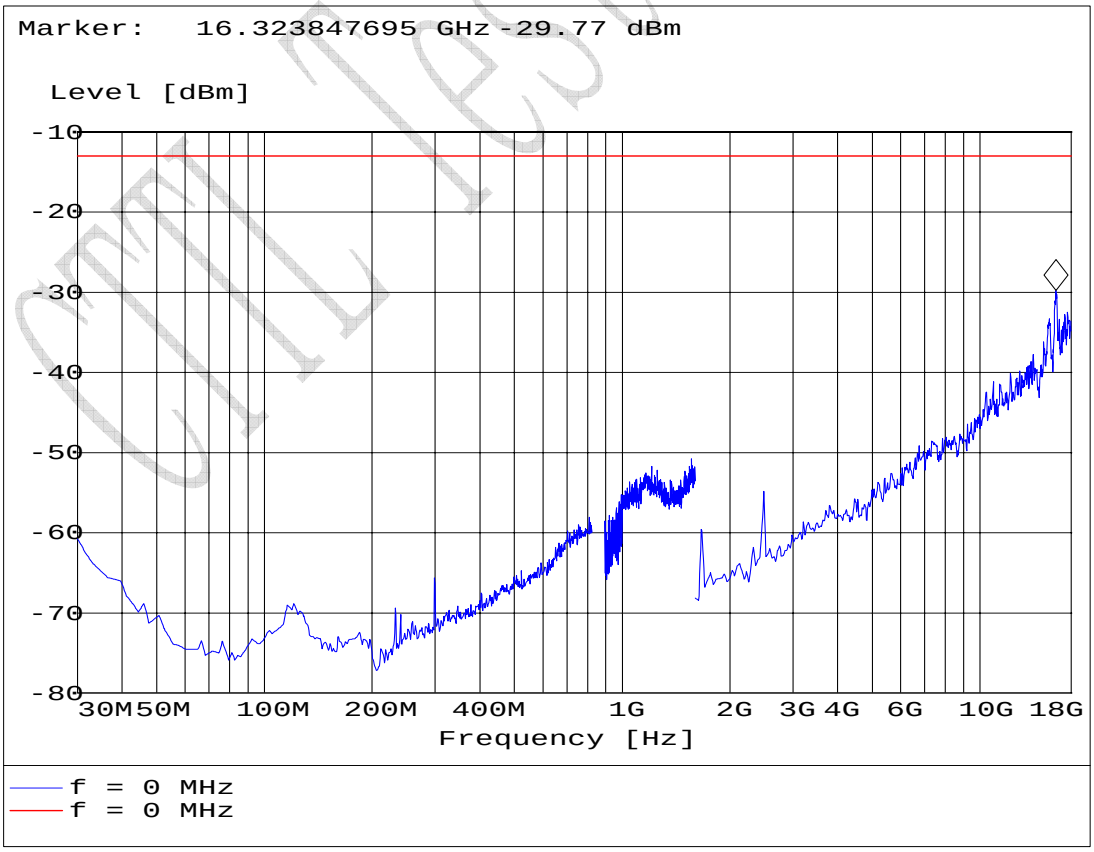

**S4175VF for HSDPA mode**



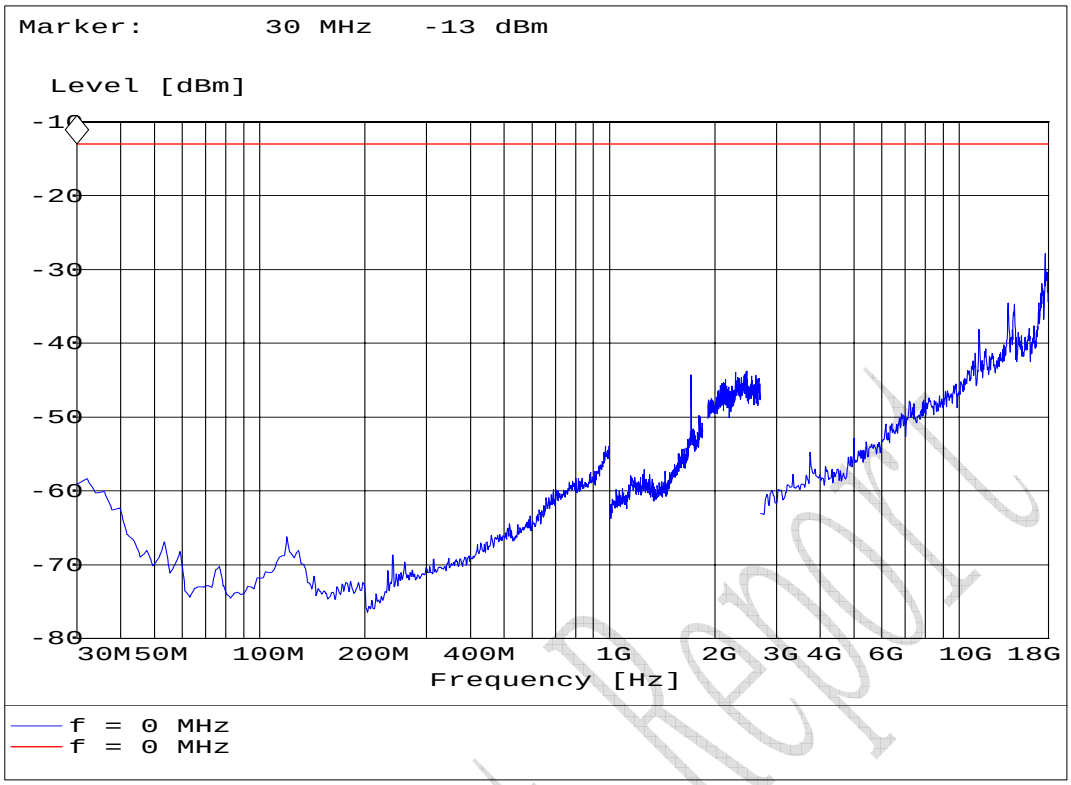

**S4175HF for HSDPA mode**



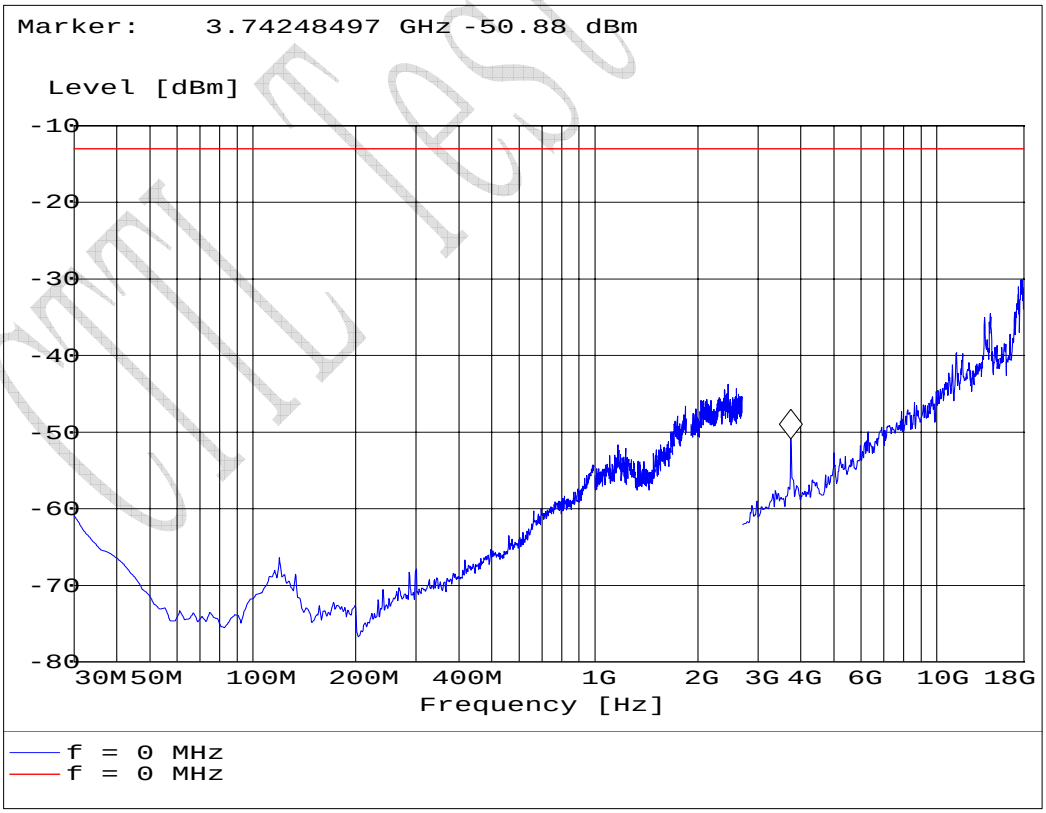

**S4175VT for HSDPA mode**



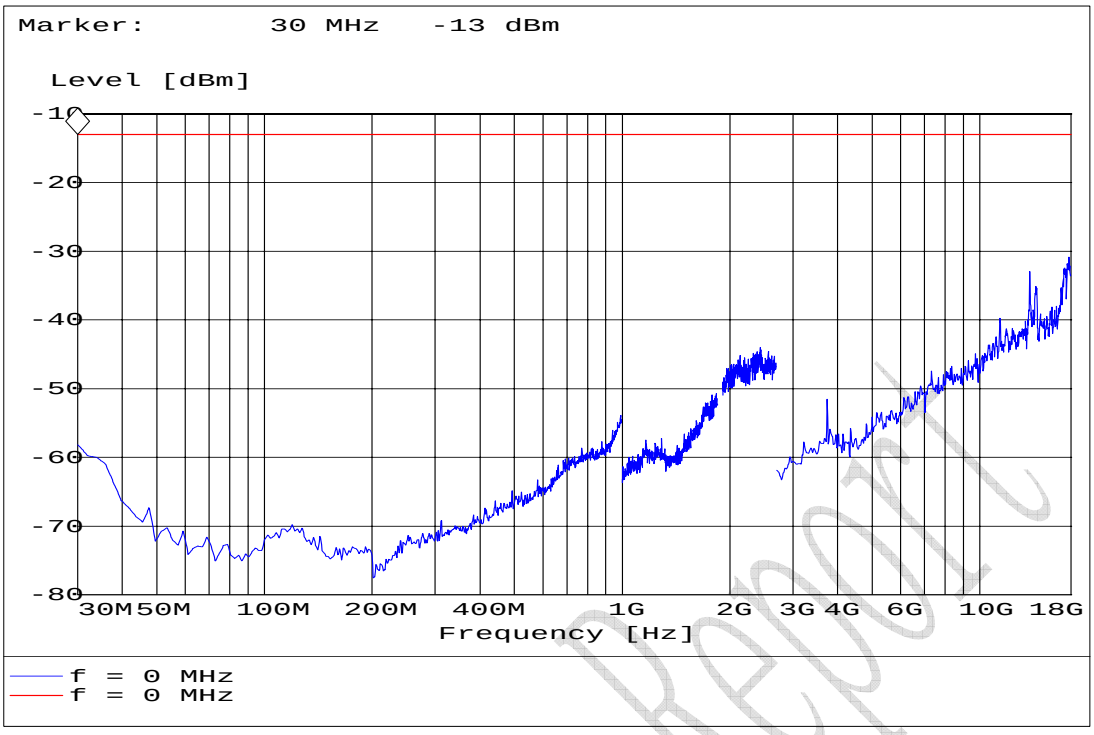

**S4175HT for HSDPA mode**



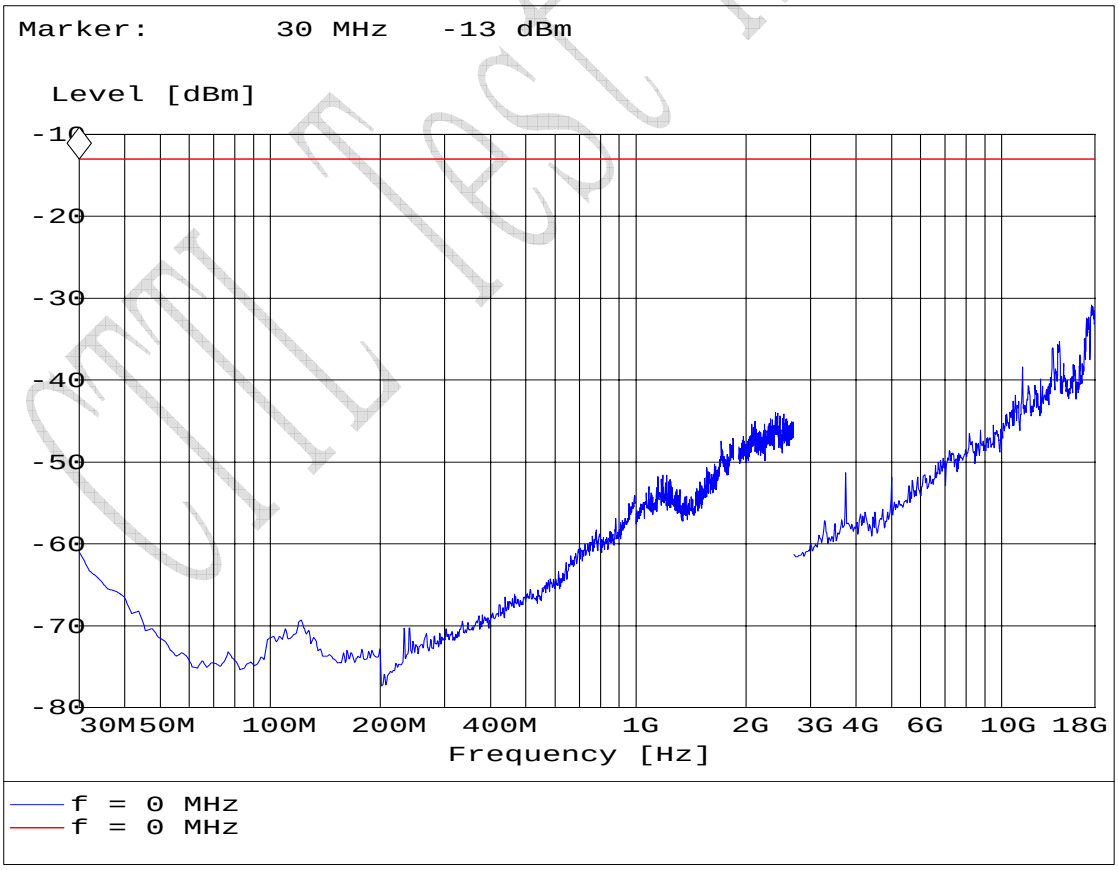

**S9400VF for HSDPA mode**




**S9400HF for HSDPA mode**




**S9400VT for HSDPA mode**




**S9400HT for HSDPA mode**

## 4.2 Radiated RF Power Output and ERP

| | |
|---|---|
| **Specifications:** | 2.1046,24.232,22.913(a) |
| **Date of Tests** | 2007.10.24, 2007.12.26, 2007.12.27 |
| **Test conditions:** | Ambient Temperature:15℃-35℃<br>Relative Humidity:30%-60%<br>Air pressure: 86-106kPa |
| **Operation Mode** | TX on, channel 128, 190, 251, 512, 661 and 810 for GPRS and EDGE mode, and Channel 4133, 4175, 4232, 9263, 9400 and 9537 for WCDMA and HSDPA mode |
| **Test Results:** | Pass |

**Test equipment Used:**

| Asset Number | Description | Manufacturer | Model Number | Serial Number | Cal Due | State |
|---|---|---|---|---|---|---|
| 7805 | EMI Test Receiver | R/S | ESI26 | 100211 | 2008-01-04 | Normal |
| 7330 | Ultra Broadband Antenna | R/S | HL562 | 100013 | 2008-07-24 | Normal |
| 7330 | Double-Ridged Horn Antenna | R/S | HF906 | 100037 | 2008-01-14 | Normal |
| 713 | Fully-Anechoic Chamber | ETS | 11.8m×6.5m×6.3m | -- | 2010-11-17 | Normal |
| 023 | Wireless Communications Test Set | Agilent | 8960(E5515C) | GB41450323 | 2008-06-13 | Normal |
| 4295 | Notebook | Lenovo | T60 | 2007I23 | -- | Normal |
| 111835 | Wireless Communications Test Set | R&S | CMU200 | 1100000802 | -- | Normal |

**Limit Level Construction:**

(a) Radiated RF Power Output

According to Part 24.232(b), i.e., Mobile/portable stations are limited to 2 watts EIRP peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications, so the limit level is 2 W or 33 dBm.

(b) ERP

According to Part 22.913(a), the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

| **Limits for Radiated RF Power Output** | |
|---|---|
| **Frequency range** | **Limit Level (EIRP)/Resolution Bandwidth** |
| TX channel | 33dBm/1MHz |
| **Limits for ERP** | |
| **Frequency range** | **Limit Level (ERP)** |
| TX channel | 7W |

## Test Setup:

The EUT was set in an anechoic chamber, which is connected to the Wireless Communications Test Set located outside the chamber over the air. The test was done using an automated test system, where all test equipments were controlled by a computer.

## Test Method

The measurement was performed accordance with section 2.2.17 of ANSI/TIA-603-B-2002: *Land Mobile FM or PM Communications Equipment Measurement and Performance Standards*.

1 The maximum power was searched by turning the azimuth of the turntable, shifting the polarization of the measuring antenna and changing the pose of the EUT.

2 The measured levels are EIRP values corrected in the automated test system with the correction factors given by a substitution calibration made before the measurement. The calibration is made separately for vertical and horizontal polarization and the system uses different correction factors depending on the measuring antenna polarization.

3 The corrected maximum levels were reported for EIRP values, and ERP values can be calculated from EIRP values.

## Note:

1 For GPRS 850 and EDGE 850 band, the ARFCN 128 (824.2 MHz), 190 (836.6 MHz) and 251 (848.8 MHz) are investigated, which are the lowest, middle and highest channel. For GPRS 1900 and EDGE 1900 band, the ARFCN 512 (1850.2 MHz), 661 (1880.0 MHz) and 810 (1909.8 MHz) are investigated. For WCDMA and HSDPA FDD V, the UARFCN 4133 (826.6 MHz), 4175 (835 MHz) and 4232 (846.4 MHz) are investigated. For WCDMA and HSDPA FDD II, the UARFCN 9263 (1852.6 MHz), 9400 (1880 MHz) and 9537 (1907.4 MHz) were investigated.

2 ERP dBm = EIRP dBm – 2.15dB.

## ERP Value for GPRS 850 band mode:

| ARFCN | Frequency [MHz] | ERP [dBm] |
|---|---|---|
| 128 | 824.248497 | 27.72 |
| 190 | 836.553106 | 29.25 |
| 251 | 848.376754 | 27.37 |

## EIRP Value for GPRS 1900 band mode:

| ARFCN | Frequency [MHz] | EIRP [dBm] |
|---|---|---|
| 512 | 1850.100200 | 29.33 |
| 661 | 1879.919840 | 29.08 |
| 810 | 1909.739479 | 28.62 |

## ERP Value for EDGE 850 band mode:

| ARFCN | Frequency [MHz] | ERP [dBm] |
|---|---|---|
| 128 | 824.240 | 27.72 |
| 190 | 836.670 | 27.95 |
| 251 | 848.697 | 27.60 |

## EIRP Value for EDGE 1900 band mode:

| ARFCN | Frequency [MHz] | EIRP [dBm] |
|---|---|---|
| 512 | 1850.100 | 30.37 |
| 661 | 1880.008 | 31.35 |
| 810 | 1909.890 | 30.38 |

## ERP Value for WCDMA FDD V band:

| ARFCN | Frequency [MHz] | ERP [dBm] |
|---|---|---|
| 4133 | 826.933868 | 15.57 |
| 4175 | 835.651303 | 17.65 |
| 4232 | 845.871743 | 19.21 |

## EIRP Value for WCDMA FDD II band:

| ARFCN | Frequency [MHz] | EIRP [dBm] |
|---|---|---|
| 9263 | 1853.146293 | 15.38 |
| 9400 | 1879.118236 | 14.6 |
| 9537 | 1907.655311 | 13.74 |

## ERP Value for HSDPA FDD V band:

| ARFCN | Frequency [MHz] | ERP [dBm] |
|---|---|---|
| 4133 | 826.050 | 23.28 |
| 4175 | 835.070 | 21.95 |
| 4232 | 846.090 | 23.78 |

## EIRP Value for HSDPA FDD II band:

| ARFCN | Frequency [MHz] | EIRP [dBm] |
|---|---|---|
| 9263 | 1852.600 | 30.44 |
| 9400 | 1879.400 | 31.11 |
| 9537 | 1906.850 | 31.56 |

## 4.3 Occupied bandwidth

| | |
|---|---|
| **Specifications:** | 2.1049,22.917(b),24.238(b) |
| **Date of Test** | 2007.10.10, 2007.10.23, 2007.12.27, 2007.12.28, 2008.1.8 |
| **Test conditions:** | Ambient Temperature:15℃-35℃<br>Relative Humidity:30%-60%<br>Air pressure: 86-106kPa |
| **Operation Mode** | TX on, channel 128, 190, 251, 512, 661 and 810 for GPRS and EDGE mode, and Channel 4133, 4175, 4232, 9263, 9400 and 9537 for WCDMA and HSDPA mode |
| **Test Results:** | -- |

**Test equipment Used:**

| Asset Number | Description | Manufacturer | Model Number | Serial Number | Cal Due | State |
|---|---|---|---|---|---|---|
| 7805 | EMI Test Receiver | R/S | ESI26 | 100211 | 2009-01-03 | Normal |
| 7330 | Ultra Broadband Antenna | R/S | HL562 | 100013 | 2008-07-24 | Normal |
| 7330 | Double-Ridged Horn Antenna | R/S | HF906 | 100037 | 2008-01-14 | Normal |
| 713 | Fully-Anechoic Chamber | ETS | 11.8m×6.5m×6.3m | -- | 2010-11-17 | Normal |
| 023 | Wireless Communications Test Set | Agilent | 8960(E5515C) | GB41450323 | 2008-06-13 | Normal |
| 4295 | Notebook | Lenovo | T60 | 2007I23 | -- | Normal |
| 111835 | Wireless Communications Test Set | R&S | CMU200 | 1100000802 | -- | Normal |

### Test Setup

The situation under which maximum EIRP values were found in the measurement of the radiated RF power output was used to determine the 99% occupied bandwidth. The Wireless Communications Test Set was used to set the TX channel, power level and modulation.

### Test Method

The 99% occupied bandwidth was calculated form the spectrum analyzer. Markers in the spectrum analyzer were then placed between the calculated frequencies to show the calculated 99% power band.

### Note:

1 For GPRS 850 and EDGE 850 band, the ARFCN 128 (824.2 MHz), 190 (836.6 MHz) and 251 (848.8 MHz) are investigated, which are the lowest, middle and highest channel. For GPRS 1900 and EDGE 1900 band, the ARFCN 512 (1850.2

MHz), 661 (1880.0 MHz) and 810 (1909.8 MHz) are investigated. For WCDMA and HSDPA FDD V, the UARFCN 4133 (826.6 MHz), 4175 (835 MHz) and 4232 (846.4 MHz) are investigated. For WCDMA and HSDPA FDD II, the UARFCN 9263 (1852.6 MHz), 9400 (1880 MHz) and 9537 (1907.4 MHz) were investigated.

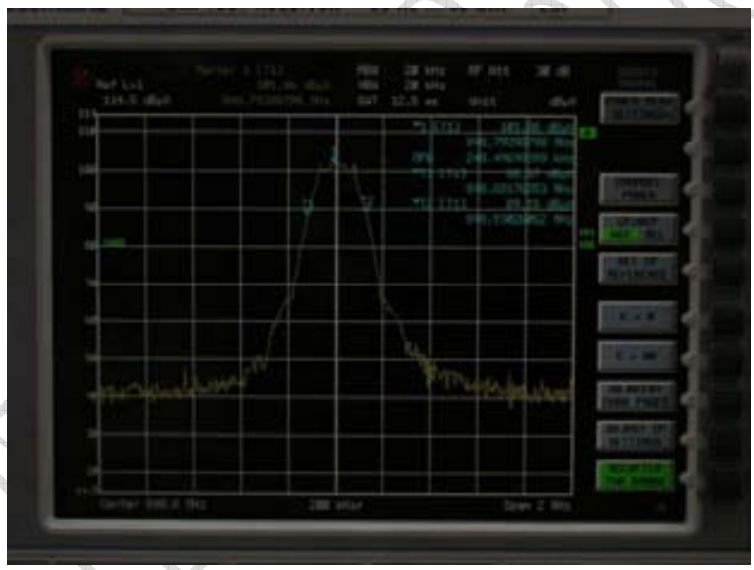
## Results data of GPRS mode:

| EUT channel | 99% occupied bandwidth [kHz] |
|---|---|
| 128 | 248 |
| 190 | 244 |
| 251 | 248 |
| 512 | 246 |
| 661 | 244 |
| 810 | 248 |

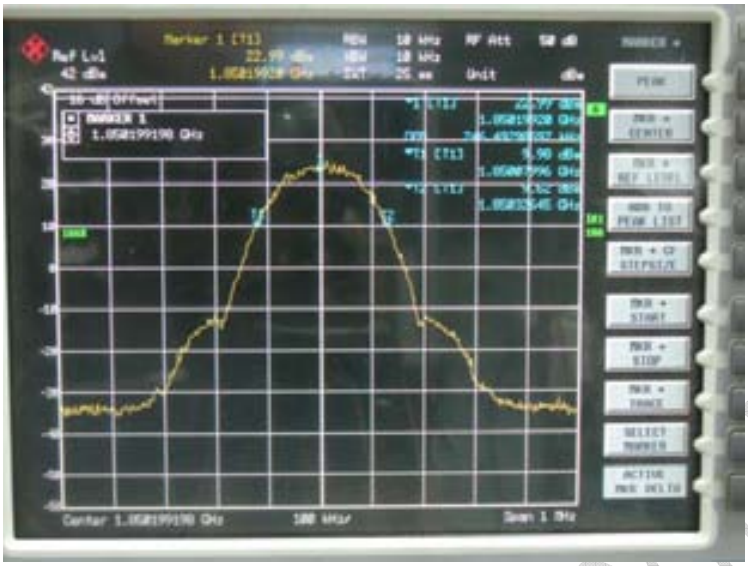
Graphical results for GPRS mode:

Channel 128

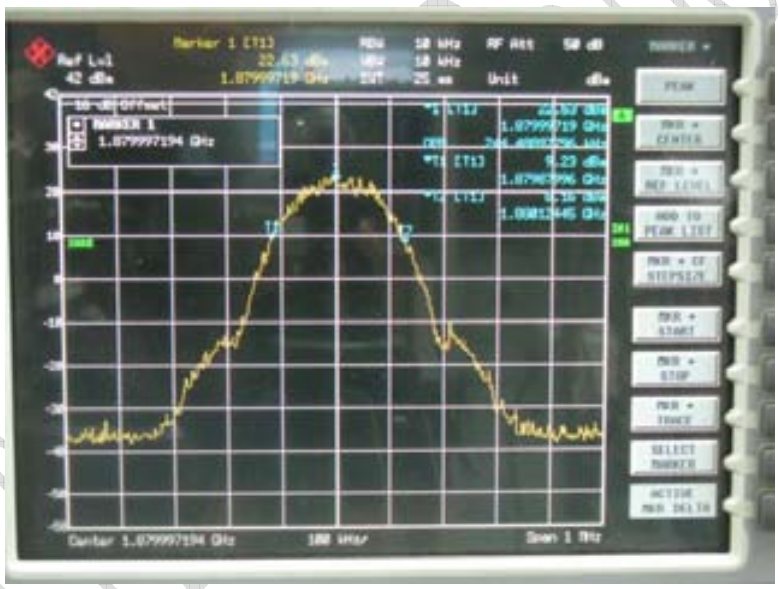
Channel 190



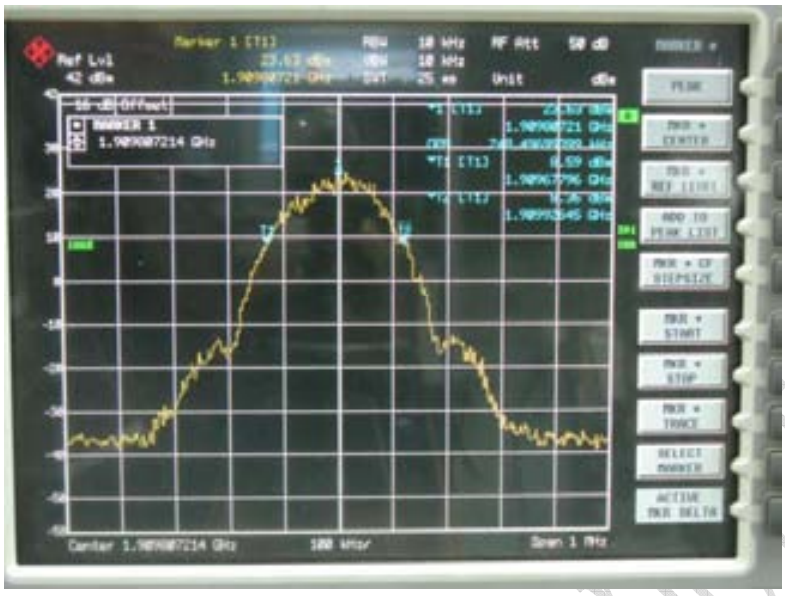
Channel 251



Channel 512



Channel 661

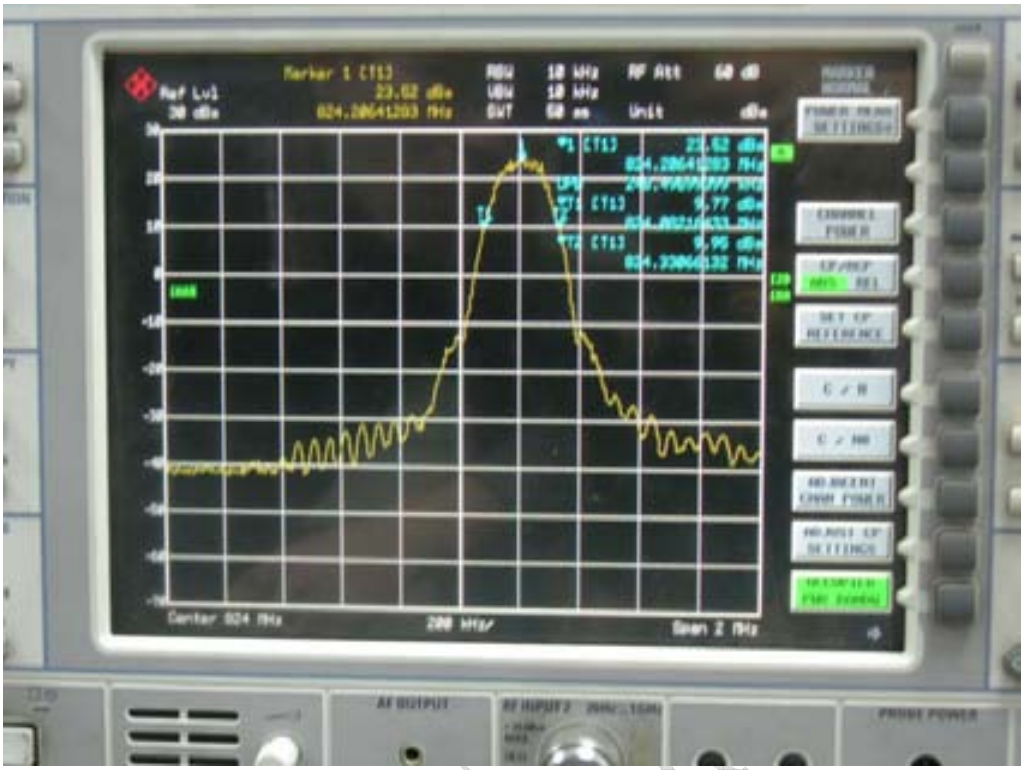


Channel 810

## Results data of EDGE mode:

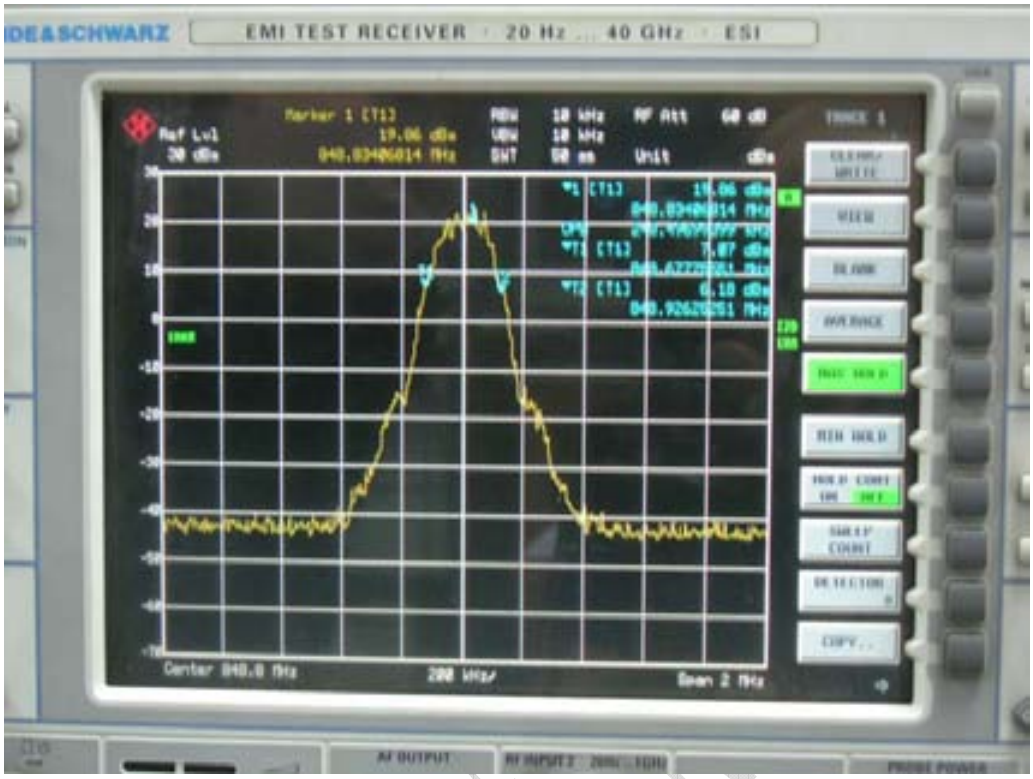
| EUT channel | 99% occupied bandwidth [kHz] |
|---|---|
| 128 | 244 |
| 190 | 244 |
| 251 | 244 |
| 512 | 248 |
| 661 | 244 |
| 810 | 248 |

Graphical results for EDGE mode:

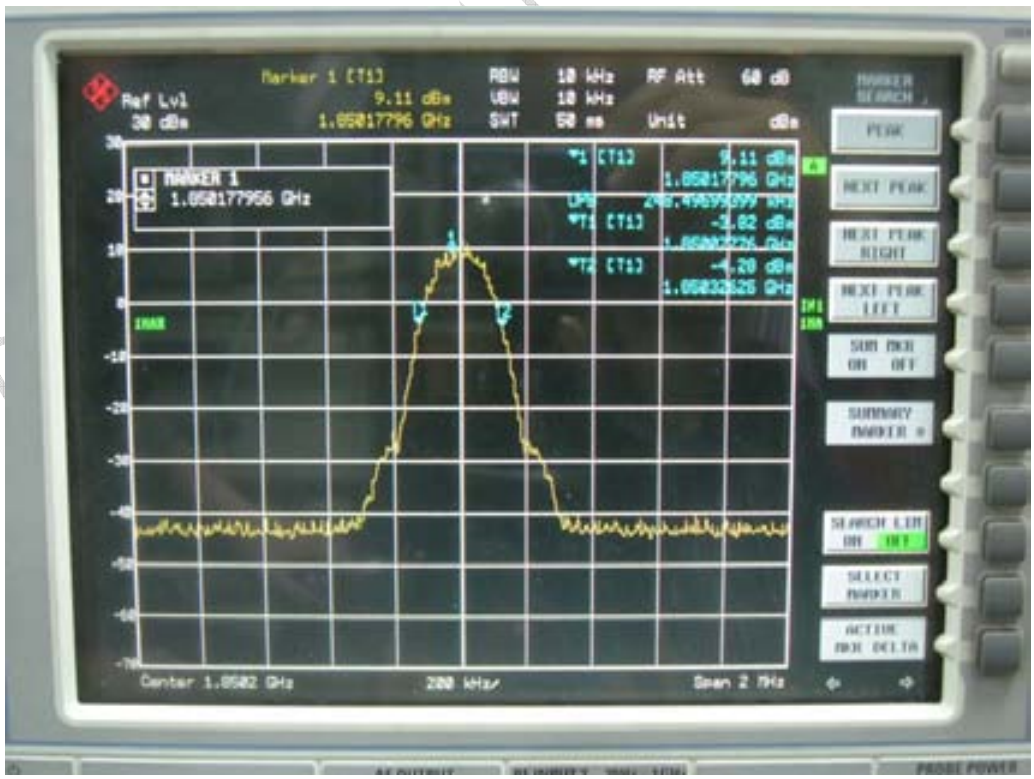


Channel 128

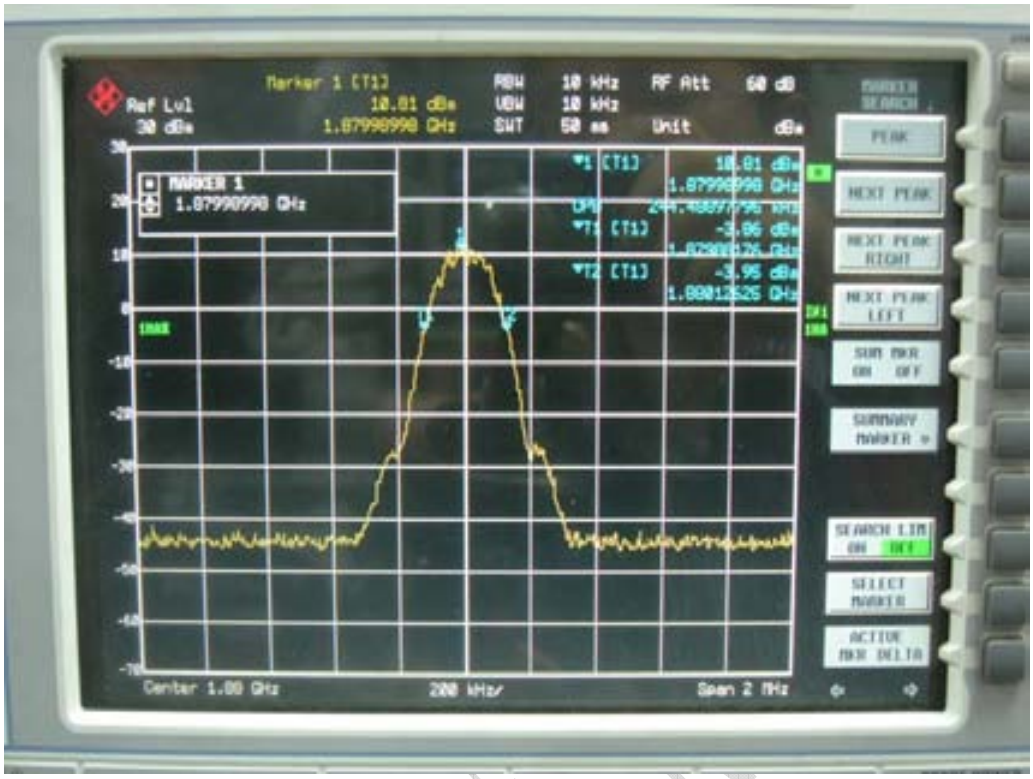

Channel 190



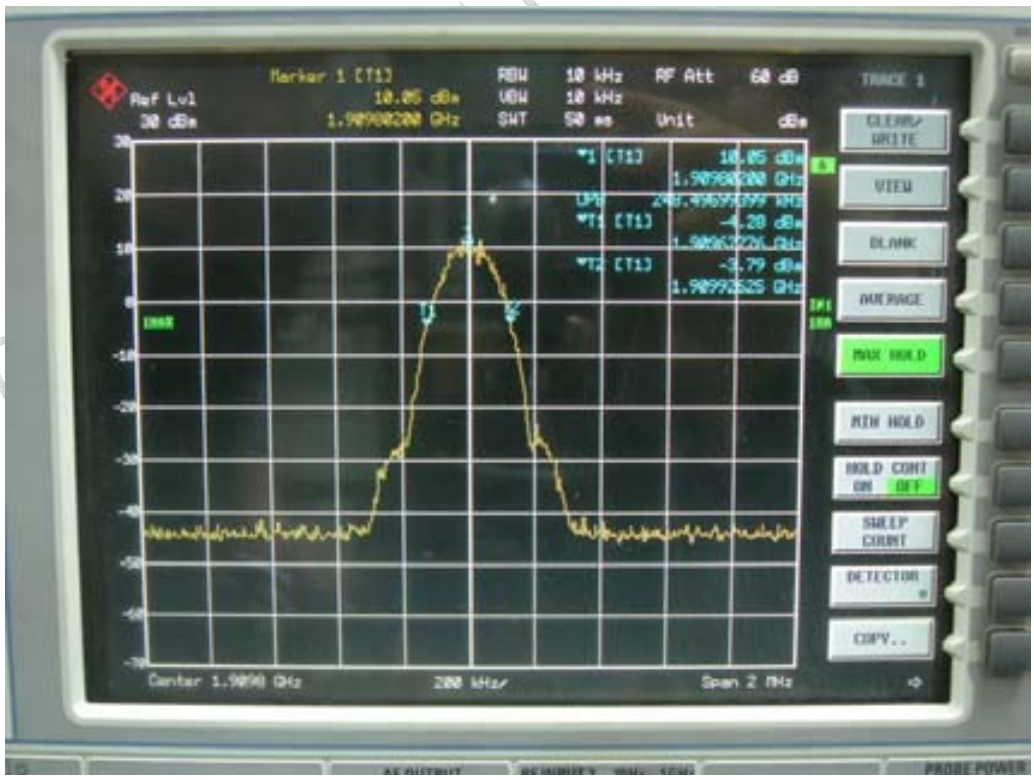

Channel 251




Channel 512




Channel 661




Channel 810

## Results data of WCDMA mode:

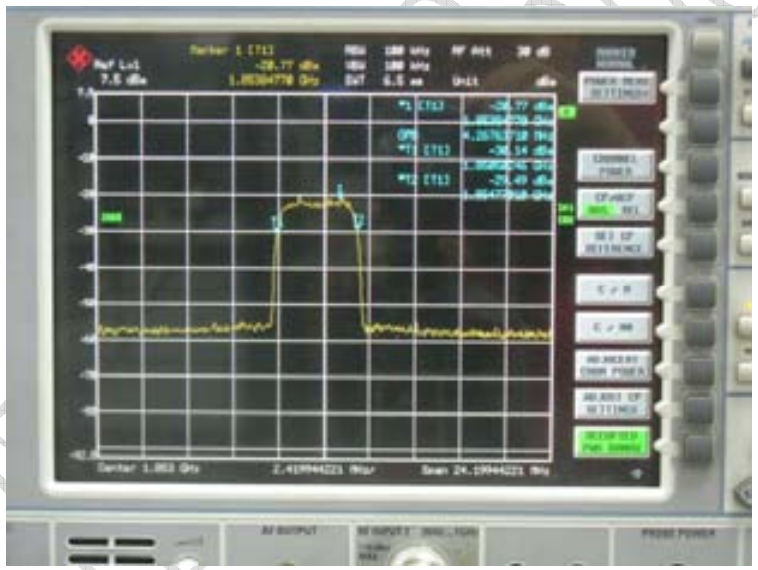
| EUT channel | 99% occupied bandwidth [MHz] |
|---|---|
| 4133 | 4.168 |
| 4175 | 4.168 |
| 4232 | 4.248 |
| 9263 | 4.268 |
| 9400 | 4.409 |
| 9537 | 4.168 |

Graphical results for WCDMA mode:

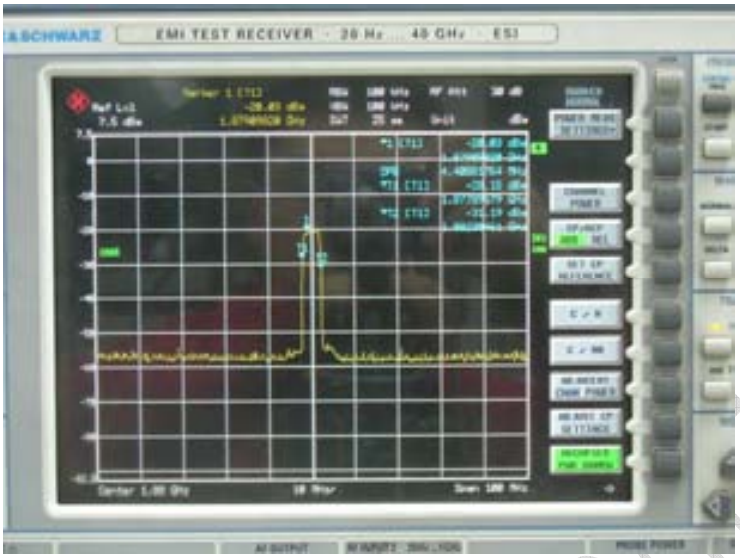
Channel 4133

Channel 4175


Channel 4232



Channel 9263




Channel 9400

Channel 9537

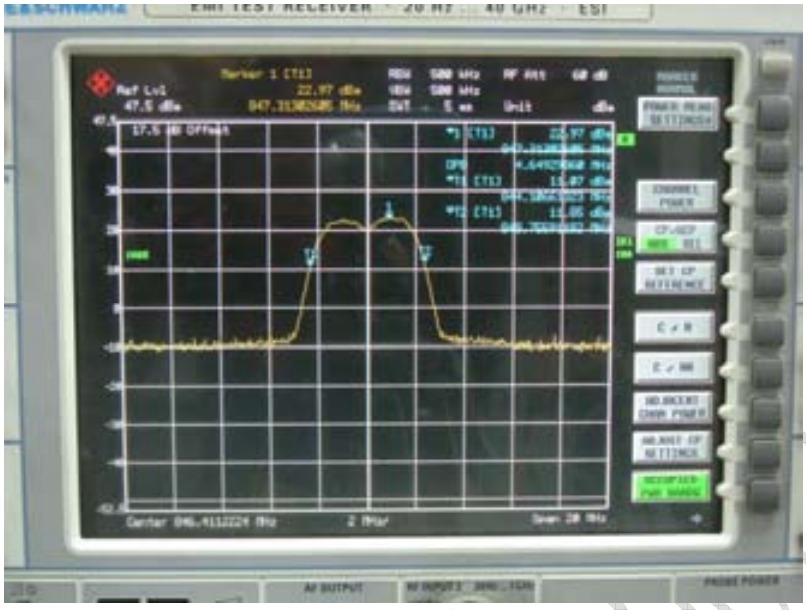
## Results data of HSDPA mode:

| EUT channel | 99% occupied bandwidth [MHz] |
|---|---|
| 4133 | 4.609 |
| 4175 | 4.649 |
| 4232 | 4.649 |
| 9263 | 4.569 |
| 9400 | 4.609 |
| 9537 | 4.569 |

Graphical results for HSDPA mode:

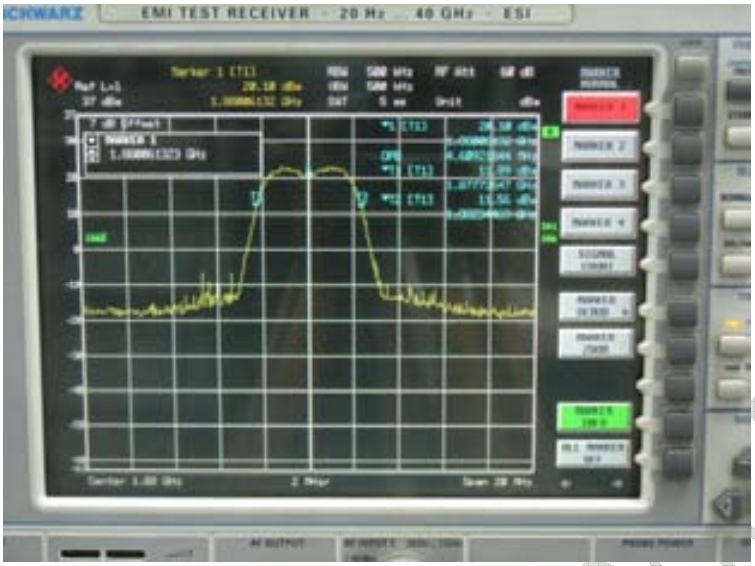
Channel 4133

Channel 4175



Channel 4232

Channel 9263




Channel 9400


Channel 9537

## 4.4 Frequency Stability over Temperature Variation

| | |
|---|---|
| **Specifications:** | 2.1055,22.355,24.235 |
| **Date of Test** | 2007.10.23, 2008.1.2 |
| **Test conditions:** | Ambient Temperature:-30℃-50℃<br>Relative Humidity:30%-60%<br>Air pressure: 86-106kPa |
| **Operation Mode** | TX on, channel 190 and 661 for GPRS and EDGE mode, and Channel 4175 and 9400 for WCDMA and HSDPA mode |
| **Test Results:** | Pass |

**Test equipment Used:**

| Asset Number | Description | Manufacturer | Model Number | Serial Number | Cal Due | State |
|---|---|---|---|---|---|---|
| 023 | Wireless Communications Test Set | Agilent | 8960(E5515C) | GB41450323 | 2008-06-13 | Normal |
| 561 | Temperature Chamber | Terchy Environmental Technology LTD. | MHU-800SR | 84121202 | 2008-05-06 | Normal |
| 4295 | Notebook | Lenovo | T60 | 2007I23 | -- | Normal |
| 111835 | Wireless Communications Test Set | R&S | CMU200 | 1100000802 | -- | Normal |

| **Limit** | |
|---|---|
| Frequency deviation [ppm] | ±2.5 |

## Test Setup

The EUT was placed in a temperature chamber, demonstrated as figure T. The wireless communications test set (test simulator) was used to set the TX channel and power levels, modulate the TX signal with different bit patterns and measure the frequency of TX.

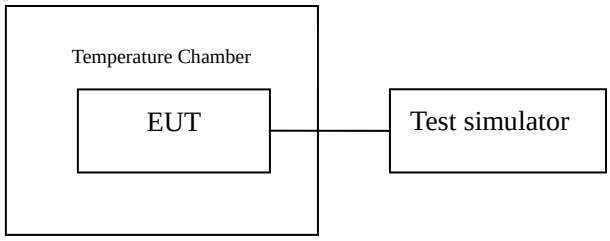



Figure T: setup for measurement of frequency stability over temperature variation

## Test Method

1. The EUT was turned off and placed in the temperature chamber.
2. The temperature of the chamber was set to -30℃ and allowed to stabilize.
3. The EUT temperature was allowed to stabilize for 45 minutes.
4. The EUT was turned on and set to transmit with 8960.
5. The maximum transmit frequency deviation during one minute period was measured by Wireless Communications Test Set.
6. The steps 3-5 were repeated for -20℃, -10℃, 0℃, 10℃, 20℃, 30℃, 40℃ and 50℃.

## Test results data for GPRS mode:

Table T1: frequency deviation over temperature variation for channel 190

| Temperature[℃] | Deviation[Hz] | Deviation[ppm] | Remarks |
|---|---|---|---|
| -30 | -29 | -0.03 | Pass |
| -20 | -21 | -0.03 | Pass |
| -10 | -23 | -0.03 | Pass |
| 0 | -16 | -0.02 | Pass |
| 10 | -7 | -0.01 | Pass |
| 20 | -7 | -0.01 | Pass |
| 30 | -12 | -0.01 | Pass |
| 40 | -20 | -0.02 | Pass |
| 50 | -39 | -0.05 | Pass |

Table T2: frequency deviation over temperature variation for channel 661

| Temperature[℃] | Deviation[Hz] | Deviation[ppm] | Remarks |
|---|---|---|---|
| -30 | -12 | -0.01 | Pass |
| -20 | -18 | -0.01 | Pass |
| -10 | 17 | 0.01 | Pass |
| 0 | 12 | 0.01 | Pass |
| 10 | 13 | 0.01 | Pass |
| 20 | 17 | 0.01 | Pass |
| 30 | 18 | 0.01 | Pass |
| 40 | -16 | -0.01 | Pass |
| 50 | -14 | -0.01 | Pass |

## Test results data for EDGE mode:

Table T3: frequency deviation over temperature variation for channel 190

| Temperature[℃] | Deviation[Hz] | Deviation[ppm] | Remarks |
|---|---|---|---|
| -30 | 10 | 0.012 | Pass |
| -20 | 8 | 0.010 | Pass |
| -10 | 7 | 0.008 | Pass |
| 0 | 7 | 0.008 | Pass |
| 10 | -10 | -0.012 | Pass |
| 20 | -5 | -0.006 | Pass |
| 30 | -11 | -0.013 | Pass |
| 40 | -8 | 0.010 | Pass |
| 50 | -4 | -0.005 | Pass |

Table T4: frequency deviation over temperature variation for channel 661

| Temperature[℃] | Deviation[Hz] | Deviation[ppm] | Remarks |
|---|---|---|---|
| -30 | -35 | -0.019 | Pass |
| -20 | -8 | -0.004 | Pass |
| -10 | -13 | -0.007 | Pass |
| 0 | -17 | -0.009 | Pass |
| 10 | -28 | -0.015 | Pass |
| 20 | -51 | -0.027 | Pass |
| 30 | -46 | -0.024 | Pass |
| 40 | -53 | -0.028 | Pass |
| 50 | -39 | -0.021 | Pass |

## Test results data for WCDMA mode:

Table T5: frequency deviation over temperature variation for channel 4175

| Temperature[℃] | Deviation[Hz] | Deviation[ppm] | Remarks |
|---|---|---|---|
| -30 | -11 | -0.01 | Pass |
| -20 | -10 | -0.01 | Pass |
| -10 | -12 | -0.01 | Pass |
| 0 | -10 | -0.01 | Pass |
| 10 | -10 | -0.01 | Pass |
| 20 | -9 | -0.01 | Pass |
| 30 | -10 | -0.01 | Pass |
| 40 | -10 | -0.01 | Pass |
| 50 | -10 | -0.01 | Pass |

Table T6: frequency deviation over temperature variation for channel 9400

| Temperature[℃] | Deviation[Hz] | Deviation[ppm] | Remarks |
|---|---|---|---|
| -30 | -20 | -0.01 | Pass |
| -20 | -21 | -0.01 | Pass |
| -10 | -18 | -0.01 | Pass |
| 0 | -19 | -0.01 | Pass |
| 10 | -20 | -0.01 | Pass |
| 20 | -19 | -0.01 | Pass |
| 30 | -19 | -0.01 | Pass |
| 40 | -17 | -0.01 | Pass |
| 50 | -18 | -0.01 | Pass |

## Test results data for HSDPA mode:

Table T7: frequency deviation over temperature variation for channel 4175

| Temperature[℃] | Deviation[Hz] | Deviation[ppm] | Remarks |
|---|---|---|---|
| -30 | -71 | -0.085 | Pass |
| -20 | -58 | -0.069 | Pass |
| -10 | -97 | -0.116 | Pass |
| 0 | -55 | -0.066 | Pass |
| 10 | -152 | -0.182 | Pass |
| 20 | -100 | -0.120 | Pass |
| 30 | -104 | -0.124 | Pass |
| 40 | -87 | -0.104 | Pass |
| 50 | -99 | -0.118 | Pass |

Table T8: frequency deviation over temperature variation for channel 9400

| Temperature[℃] | Deviation[Hz] | Deviation[ppm] | Remarks |
|---|---|---|---|
| -30 | -124 | -0.066 | Pass |
| -20 | -149 | -0.079 | Pass |
| -10 | -182 | -0.097 | Pass |
| 0 | -173 | -0.092 | Pass |
| 10 | -102 | -0.054 | Pass |
| 20 | -87 | -0.046 | Pass |
| 30 | -29 | -0.015 | Pass |
| 40 | -124 | -0.066 | Pass |
| 50 | -88 | -0.047 | Pass |

## 4.5 Frequency Stability over Voltage Variation

| | |
|---|---|
| **Specifications:** | 2.1055,22.355,24.235 |
| **Date of Test** | 2007.10.24, 2007.12.28 |
| **Test conditions:** | Ambient Temperature:15℃-35℃<br>Relative Humidity:30%-60%<br>Air pressure: 86-106kPa |
| **Operation Mode** | TX on, channel 190 and 661 for GPRS and EDGE mode, and Channel 4175 and 9400 for WCDMA and HSDPA mode |
| **Test Results:** | Pass |

**Test equipment Used:**

| Asset Number | Description | Manufacturer | Model Number | Serial Number | Cal Due | State |
|---|---|---|---|---|---|---|
| 023 | Wireless Communications Test Set | Agilent | 8960(E5515C) | GB41450323 | 2008-06-13 | Normal |
| 4295 | Notebook | Lenovo | T60 | 2007I23 | -- | Normal |
| 111835 | Wireless Communications Test Set | R&S | CMU200 | 1100000802 | -- | Normal |

| **Limit** | |
|---|---|
| Frequency deviation [ppm] | ±2.5 |

### Test Setup

The EUT was placed in a shielding chamber and powered by the USB port of a notebook PC, demonstrated as figure V. The wireless communications test set was used to set the TX channel and power level, modulate the TX signal with different bit patterns and measure the frequency of TX.

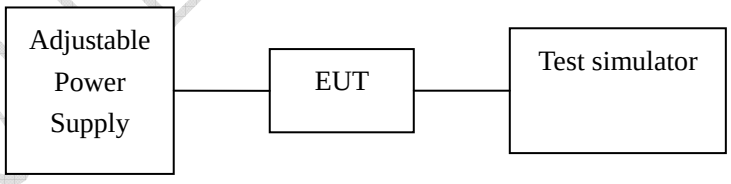



Figure V: test setup for measurement of frequency stability over voltage variation

### Test Method

The EUT was powered by the USB port of a notebook PC. The frequency stability is measured only at nominal voltage of USB port only.

## Test Results data for GPRS mode:

Table V1: frequency deviation over voltage variation for channel 190

| Level | Voltage[V] | Deviation[Hz] | Deviation[ppm] | Remarks |
|---|---|---|---|---|
| Nominal | Note* | -12 | -0.01 | Pass |
| Cut-off point | -- | -- | -- | NA |

Table V2: frequency deviation over voltage variation for channel 661

| Level | Voltage[V] | Deviation[Hz] | Deviation[ppm] | Remarks |
|---|---|---|---|---|
| Nominal | Note* | -28 | -0.01 | Pass |
| Cut-off point | -- | -- | -- | NA |

## Test Results data for EDGE mode:

Table V3: frequency deviation over voltage variation for channel 190

| Level | Voltage[V] | Deviation[Hz] | Deviation[ppm] | Remarks |
|---|---|---|---|---|
| Nominal | Note* | -23 | 0.027 | Pass |
| Cut-off point | -- | -- | -- | NA |

Table V4: frequency deviation over voltage variation for channel 661

| Level | Voltage[V] | Deviation[Hz] | Deviation[ppm] | Remarks |
|---|---|---|---|---|
| Nominal | Note* | -37 | 0.020 | Pass |
| Cut-off point | -- | -- | -- | NA |

## Test Results data for WCDMA mode:

Table V5: frequency deviation over voltage variation for channel 4175

| Level | Voltage[V] | Deviation[Hz] | Deviation[ppm] | Remarks |
|---|---|---|---|---|
| Nominal | Note* | -10 | -0.01 | Pass |
| Cut-off point | -- | -- | -- | NA |

Table V6: frequency deviation over voltage variation for channel 9400

| Level | Voltage[V] | Deviation[Hz] | Deviation[ppm] | Remarks |
|---|---|---|---|---|
| Nominal | Note* | -11 | -0.01 | Pass |
| Cut-off point | -- | -- | -- | NA |

Note*: Standard Laptop USB voltage.

## Test Results data for HSDPA mode:

Table V7: frequency deviation over voltage variation for channel 4175

| Level | Voltage[V] | Deviation[Hz] | Deviation[ppm] | Remarks |
|---|---|---|---|---|
| Nominal | Note* | -91 | -0.109 | Pass |
| Cut-off point | -- | -- | -- | NA |

Table V8: frequency deviation over voltage variation for channel 9400

| Level | Voltage[V] | Deviation[Hz] | Deviation[ppm] | Remarks |
|---|---|---|---|---|
| Nominal | Note* | -87 | -0.046 | Pass |
| Cut-off point | -- | -- | -- | NA |

Note*: Standard Laptop USB voltage.

## 4.6 Conducted RF Power Output

| | |
|---|---|
| **Specifications:** | 2.1046,22.913(a),24.232(c) |
| **Date of Tests** | 2007.10.10, 2007.10.23, 2007.12.28 |
| **Test conditions:** | Ambient Temperature:15℃-35℃<br>Relative Humidity:30%-60%<br>Air pressure: 86-106kPa |
| **Operation Mode** | TX on, channel 128, 190, 251, 512, 661 and 810 for GPRS and EDGE mode, and Channel 4133, 4175, 4232, 9263, 9400 and 9537 for WCDMA and HSDPA mode |
| **Test Results:** | Pass |

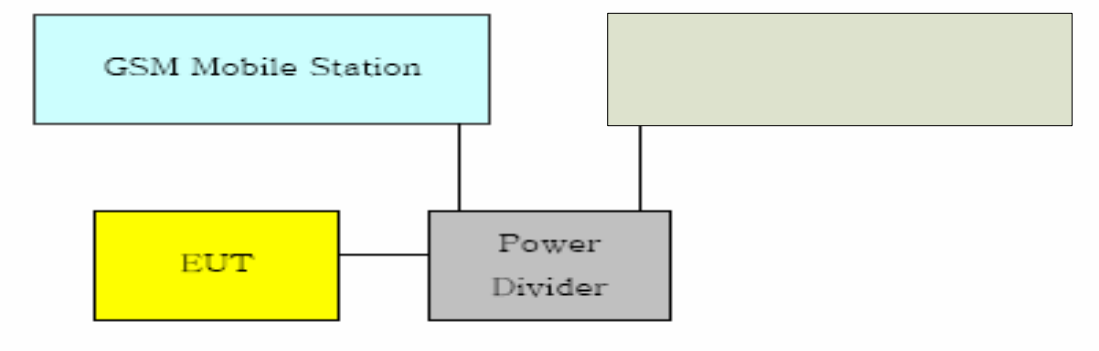
**Test equipment Used:**

| Asset Number | Description | Manufacturer | Model Number | Serial Number | Cal Due | State |
|---|---|---|---|---|---|---|
| 7805 | EMI Test Receiver | R/S | ESI26 | 100211 | 2008-01-04 | Normal |
| 023 | Wireless Communications Test Set | Agilent | 8960(E5515C) | GB41450323 | 2008-06-13 | Normal |
| --- | Power spliter | Jie sai | --- | 1000132 | 2008-01-04 | Normal |
| 4295 | Notebook | Lenovo | T60 | 2007I23 | -- | Normal |
| 111835 | Wireless Communications Test Set | R&S | CMU200 | 1100000802 | -- | Normal |

| **Limits for Radiated RF Power Output** | |
|---|---|
| **Frequency range** | **Limit Level (EIRP)/Resolution Bandwidth** |
| TX channel | 33dBm/1MHz |
| **Limits for ERP** | |
| **Frequency range** | **Limit Level (ERP)** |
| TX channel | 7W |

## Test Setup:

During the process of testing, the EUT was controlled via the Wireless Communications Test Set to ensure max power transmission and proper modulation and measured by Rhode & Schwarz EMI test receiver (ESI26).




## Test Method

1) The EUT was coupled to the EMI test receiver analyzer mode and the base station simulator through a power divider. The radio frequency load attached to the EUT antenna terminal was 50 Ohm. The lost of the cables the test system is calibrated to correct the readings.
2) The spectrum analyzer was set to Maxpeak Detector function and Maximum hold mode.
3) The resolution bandwidth of the spectrum analyzer was comparable to the emission bandwidth.

## Note:

For GPRS 850 and EDGE 850 band, the ARFCN 128 (824.2 MHz), 190 (836.6 MHz) and 251 (848.8 MHz) are investigated, which are the lowest, middle and highest channel. For GPRS 1900 and EDGE 1900 band, the ARFCN 512 (1850.2 MHz), 661 (1880.0 MHz) and 810 (1909.8 MHz) are investigated. For WCDMA and HSDPA FDD V, the UARFCN 4133 (826.6 MHz), 4175 (835 MHz) and 4232 (846.4 MHz) are investigated. For WCDMA and HSDPA FDD II, the UARFCN 9263 (1852.6 MHz), 9400 (1880 MHz) and 9537 (1907.4 MHz) were investigated.

## Test Results for GPRS mode:

ERP Value for GPRS 850 band:

| ARFCN | Peak output power [dBm] |
|---|---|
| 128 | 30.08 |
| 190 | 30.03 |
| 251 | 30.01 |

EIRP Value for GPRS 1900 band:

| ARFCN | Peak output power [dBm] |
|---|---|
| 512 | 29.68 |
| 661 | 29.63 |
| 810 | 29.60 |

## Test Results for EDGE mode:

ERP Value for EDGE 850 band:

| ARFCN | Peak output power [dBm] |
|---|---|
| 128 | 30.67 |
| 190 | 30.83 |
| 251 | 30.62 |

EIRP Value for EDGE 1900 band:

| ARFCN | Peak output power [dBm] |
|---|---|
| 512 | 23.60 |
| 661 | 24.26 |
| 810 | 24.75 |

## Test Results for WCDMA mode:

ERP Value for WCDMA FDD V band:

| UARFCN | Peak output power [dBm] |
|---|---|
| 4133 | 21.06 |
| 4175 | 20.88 |
| 4232 | 21.30 |

EIRP Value for WCDMA FDD II band:

| UARFCN | Peak output power [dBm] |
|---|---|
| 9263 | 23.02 |
| 9400 | 22.93 |
| 9537 | 23.41 |

## Test Results for HSDPA mode:

ERP Value for HSDPA FDD V band:

| UARFCN | Peak output power [dBm] |
|---|---|
| 4133 | 24.06 |
| 4175 | 23.60 |
| 4232 | 23.30 |

EIRP Value for HSDPA FDD II band:

| UARFCN | Peak output power [dBm] |
|---|---|
| 9263 | 24.02 |
| 9400 | 23.42 |
| 9537 | 23.41 |

## 4.7 Conducted Spurious Emission

| | |
|---|---|
| **Specifications:** | 2.1051,22.917,24.238 |
| **Date of Tests** | 2007.10.23 |
| **Test conditions:** | Ambient Temperature:15℃-35℃<br>Relative Humidity:30%-60%<br>Air pressure: 86-106kPa |
| **Operation Mode** | TX on, channel 190 and 661 for GPRS and EDGE mode,<br>And Channel 4175 and 9400 for WCDMA and HSDPA mode |
| **Test Results:** | Pass |

**Test equipment Used:**

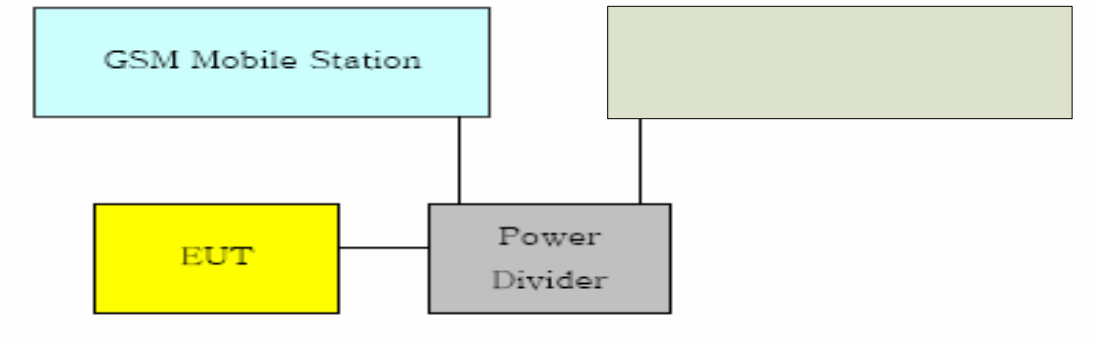
| Asset Number | Description | Manufacturer | Model Number | Serial Number | Cal Due | State |
|---|---|---|---|---|---|---|
| 7805 | EMI Test Receiver | R/S | ESI26 | 100211 | 2008-01-04 | Normal |
| 023 | Wireless Communications Test Set | Agilent | 8960(E5515C) | GB41450323 | 2008-06-13 | Normal |
| --- | Power spliter | Jie sai | --- | 1000132 | 2008-01-04 | Normal |
| 4295 | Notebook | Lenovo | T60 | 2007I23 | -- | Normal |
| 111835 | Wireless Communications Test Set | R&S | CMU200 | 1100000802 | -- | Normal |

**Limit Level Construction:**
According to Part 24.238 (a), i.e., Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB, so the limit level is:
P(dBm) – (43 + 10 log(P)) dB= -13dBm

| **Limits for Radiated spurious emissions(UE)** | |
|---|---|
| **Frequency range** | **Limit Level /Resolution Bandwidth** |
| 30 MHz to 20000 MHz | -13dBm/1MHz |

## Test Setup:

During the process of testing, the EUT was controlled via Wireless Communications Test Set to ensure max power transmission and proper modulation and measured by Rhode & Schwarz EMI test receiver (ESI26)




## Test Method

The measurement was performed accordance with section 2.2.13 of ANSI/TIA-603-B-2002: *Land Mobile FM or PM Communications Equipment Measurement and Performance Standards*.

The following steps outline the procedure used to measure the conducted emissions from the EUT.

1. Determine frequency range for measurements: From CFR 2.1057 the spectrum should be investigated from the lowest radio frequency generated in the equipment up to at least the 10th harmonic of the carrier frequency. For the equipment under test, this equates to a frequency range of 30 MHz to 19.1 GHz, data taken from 30 MHz to 20 GHz.
2. Determine EUT transmit frequencies: below outlines the band edge frequencies pertinent to conducted emissions testing.

## Note:

The investigated ARFCNs are 190 (836.6 MHz) and 661 (1880.0 MHz) for GPRS and EDGE mode, and UARFCNs are 4175 and 9400 for WCDMA and HSDPA mode.

**Test Results for GPRS mode:**

| Out of band emission | |
|---|---|
| Frequency [MHz] | Level (dBm) |
| 1673.2 | -51.64 |
| 2509.8 | nf |
| 3346.4 | nf |
| 4183.0 | nf |
| 5019.6 | nf |
| 5856.2 | nf |
| 6692.8 | -45.30 |
| 7529.4 | nf |
| 8366.0 | nf |
| 3760 | nf |
| 5640 | nf |
| 7520 | nf |
| 9400 | nf |
| 11280 | nf |
| 13160 | nf |
| 15040 | nf |
| 16920 | nf |
| 18800 | nf |
| nf: noise floor | |

**Graphical results for GPRS mode:**

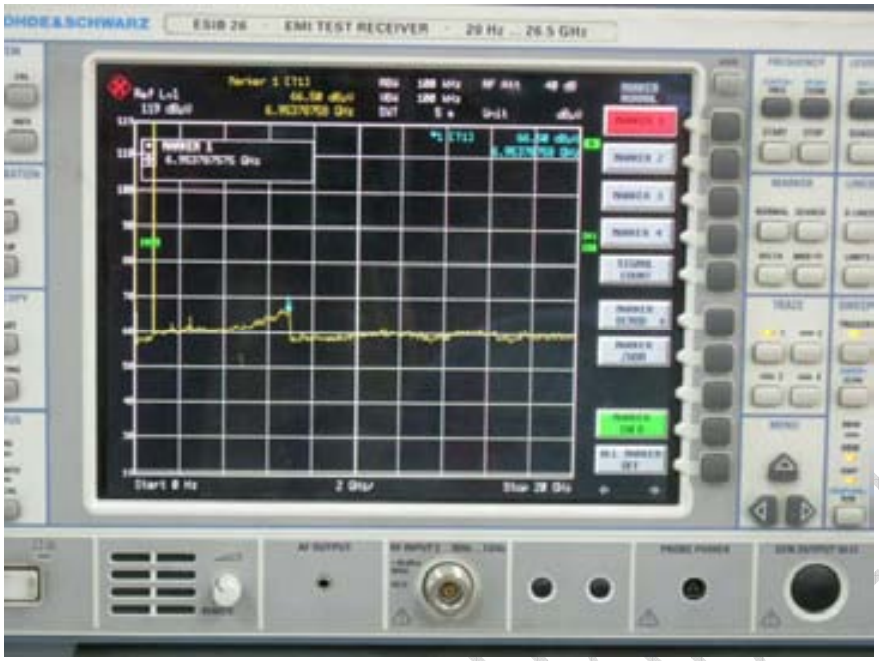
Channel 190


Channel 661

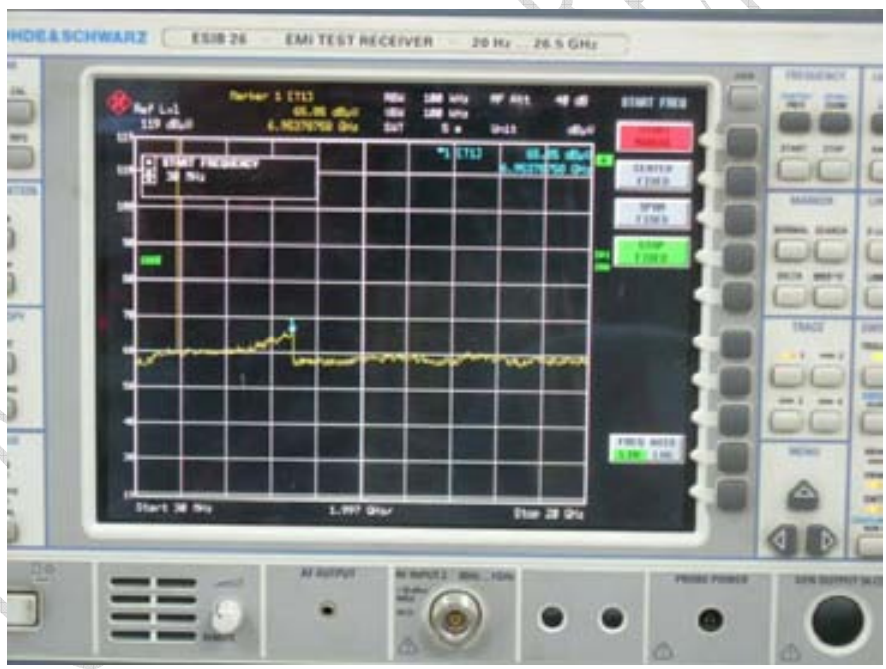
**Test Results for EDGE mode:**

| Out of band emission | |
|---|---|
| Frequency [MHz] | Level (dBm) |
| 1673.2 | nf |
| 2509.8 | nf |
| 3346.4 | nf |
| 4183.0 | nf |
| 5019.6 | nf |
| 5856.2 | nf |
| 6692.8 | nf |
| 7529.4 | nf |
| 8366.0 | nf |
| 3760 | nf |
| 5640 | nf |
| 7520 | nf |
| 9400 | nf |
| 11280 | nf |
| 13160 | nf |
| 15040 | nf |
| 16920 | nf |
| 18800 | nf |
| nf: noise floor | |

**Graphical results for EDGE mode:**




Channel 190

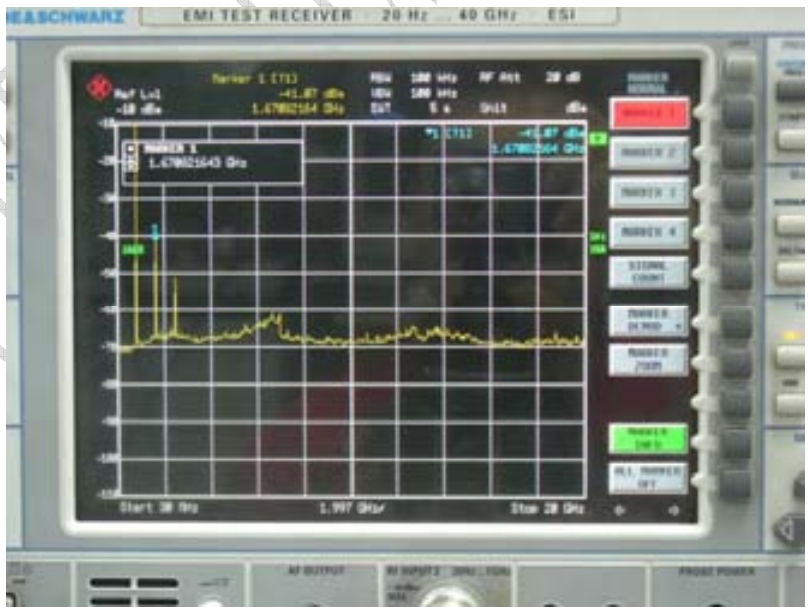



Channel 661

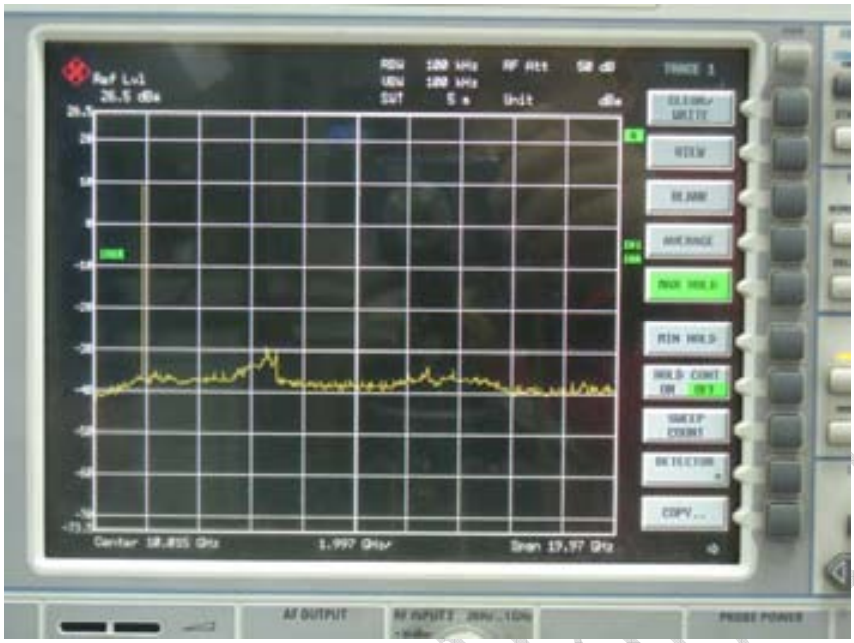
**Test Results for WCDMA mode:**

| Out of band emission | |
|---|---|
| Frequency [MHz] | Level (dBm) |
| 1670 | nf |
| 2505 | nf |
| 3340 | nf |
| 4175 | nf |
| 5010 | nf |
| 5845 | nf |
| 6680 | nf |
| 7515 | nf |
| 8350 | nf |
| 3760 | nf |
| 5640 | nf |
| 7520 | nf |
| 9400 | nf |
| 11280 | nf |
| 13160 | nf |
| 15040 | nf |
| 16920 | nf |
| 18800 | nf |

**Graphical results for WCDMA mode:**




Channel 4175

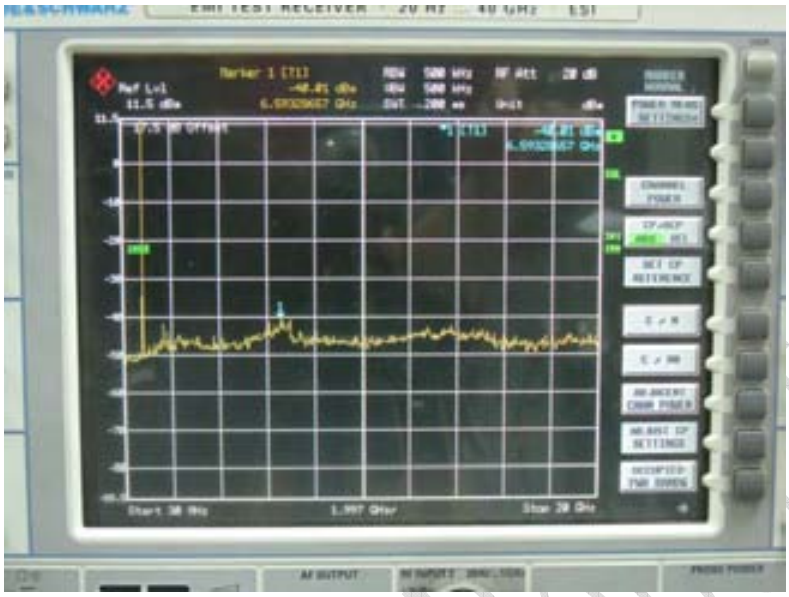


Channel 9400

**Test Results for HSDPA mode:**

| Out of band emission | |
|---|---|
| Frequency [MHz] | Level (dBm) |
| 1670 | -41.07 |
| 2505 | -52.32 |
| 3340 | nf |
| 4175 | nf |
| 5010 | nf |
| 5845 | nf |
| 6680 | nf |
| 7515 | nf |
| 8350 | nf |
| 3760 | nf |
| 5640 | nf |
| 7520 | nf |
| 9400 | nf |
| 11280 | nf |
| 13160 | nf |
| 15040 | nf |
| 16920 | nf |
| 18800 | nf |

**Graphical results for HSDPA mode:**



Channel 4175


Channel 9400

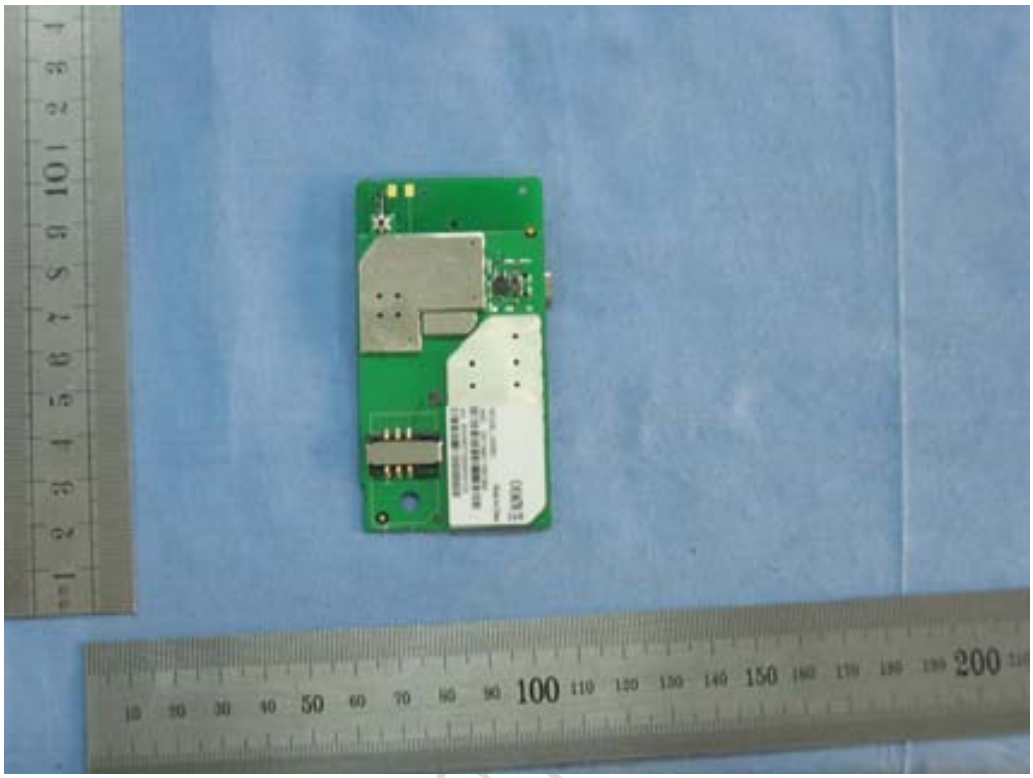
# Annex A External Photos

Picture 1 Front view

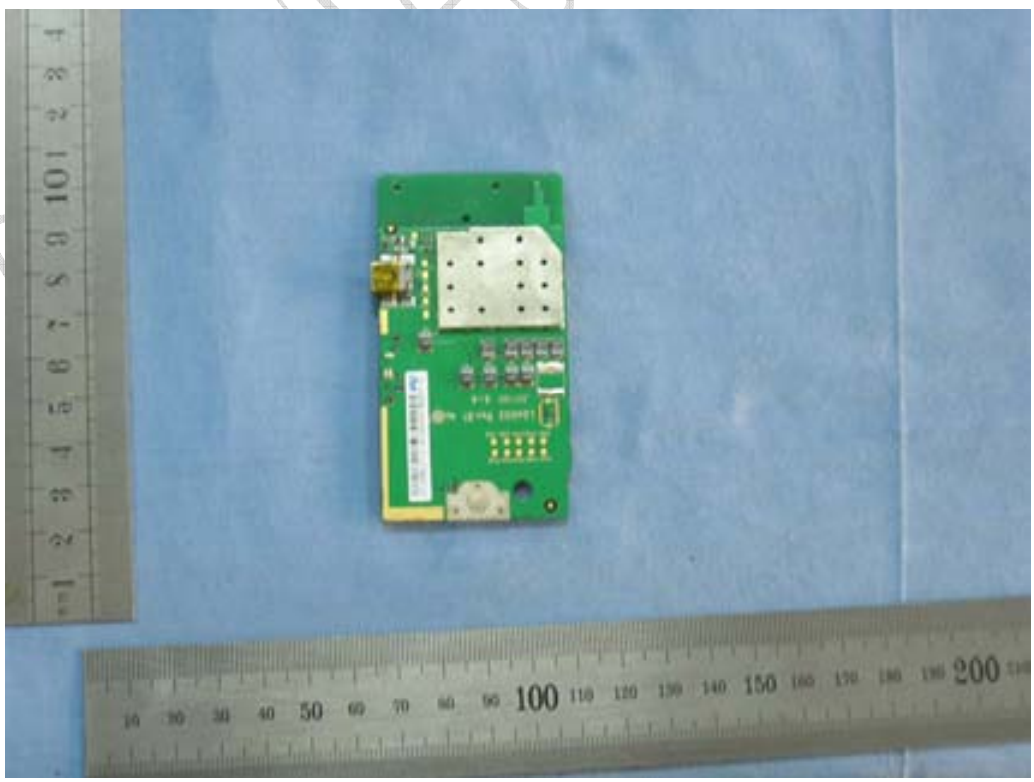
Picture 2 Back view


Picture 3 Cable

# Annex B Internal Photos



Picture 5 Front view of the internal structure



Picture 6 Back view of the internal structure

# ANNEX C Deviations from Prescribed Test Methods

No deviation from Prescribed Test Methods.

**The End of this Report**