# FCC RF Test Report

| | | |
|---|---|---|
| APPLICANT | : | BLU Products, Inc. |
| EQUIPMENT | : | Smartphone |
| BRAND NAME | : | BLU |
| MODEL NAME | : | DASH X2 |
| FCC ID | : | YHLBLUDASHX2 |
| STANDARD | : | FCC 47 CFR Part 2, 22(H), 24(E), 27(L) |
| CLASSIFICATION | : | PCS Licensed Transmitter Held to Ear (PCE) |

**The product was received on Jan. 28, 2016 and testing was completed on Feb. 22, 2016. We, SPORTON INTERNATIONAL (SHENZHEN) INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA / EIA-603-D-2010 and has been in compliance with the applicable technical standards.**

**The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL (SHENZHEN) INC., the test report shall not be reproduced except in full.**

Prepared by: Andy Yeh / Manager

Approved by: Jones Tsai / Manager

Testing Laboratory
2353

***SPORTON INTERNATIONAL (SHENZHEN) INC.***
***1F & 2F, Building A, Morning Business Center, No. 4003 ShiGu Rd., Xili Town, Nanshan District, Shenzhen, Guangdong, P. R. China***

# TABLE OF CONTENTS


**REVISION HISTORY** ..... 3

**SUMMARY OF TEST RESULT** ..... 4

**1 GENERAL DESCRIPTION** ..... 6

1.1 Applicant ..... 6
1.2 Manufacturer ..... 6
1.3 Product Feature of Equipment Under Test ..... 6
1.4 Product Specification of Equipment Under Test ..... 7
1.5 Modification of EUT ..... 7
1.6 Maximum ERP/EIRP Power, Frequency Tolerance, and Emission Designator ..... 8
1.7 Testing Location ..... 8
1.8 Applicable Standards ..... 9

**2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST** ..... 10

2.1 Test Mode ..... 10
2.2 Connection Diagram of Test System ..... 11
2.3 Support Unit used in test configuration ..... 11
2.4 Measurement Results Explanation Example ..... 12

**3 CONDUCTED TEST RESULT** ..... 13

3.1 Measuring Instruments ..... 13
3.2 Test Setup ..... 13
3.3 Test Result of Conducted Test ..... 13
3.4 Conducted Output Power ..... 14
3.5 Peak-to-Average Ratio ..... 14
3.6 99% Occupied Bandwidth and 26dB Bandwidth Measurement ..... 15
3.7 Conducted Band Edge ..... 16
3.8 Conducted Spurious Emission ..... 17
3.9 Frequency Stability ..... 18

**4 RADIATED TEST ITEMS** ..... 19

4.1 Measuring Instruments ..... 19
4.2 Test Setup ..... 19
4.3 Test Result of Radiated Test ..... 19
4.4 Effective Radiated Power and Effective Isotropic Radiated Power Measurement ..... 20
4.5 Field Strength of Spurious Radiation Measurement ..... 22

**5 LIST OF MEASURING EQUIPMENT** ..... 23

**6 UNCERTAINTY OF EVALUATION** ..... 24

**APPENDIX A. TEST RESULTS OF CONDUCTED TEST**

**APPENDIX B. TEST RESULTS OF RADIATED TEST**

**APPENDIX C. TEST SETUP PHOTOGRAPHS**

# REVISION HISTORY

| REPORT NO. | VERSION | DESCRIPTION | ISSUED DATE |
|---|---|---|---|
| FG612803 | Rev. 01 | Initial issue of report | Mar. 16, 2016 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

# SUMMARY OF TEST RESULT

| Report Section | FCC Rule | IC Rule | Description | Limit | Result | Remark |
|---|---|---|---|---|---|---|
| 3.4 | §2.1046 | RSS-132 (5.4)<br>RSS-133 (6.4)<br>RSS-139 (6.5) | Conducted Output Power | Reporting Only | PASS | - |
| 3.5 | §24.232(d) | RSS-132 (5.4)<br>RSS-133 (6.4)<br>RSS-139 (6.5) | Peak-to-Average Ratio | < 13 dB | PASS | - |
| 3.6 | §2.1049<br>§22.917(b)<br>§24.238(b)<br>§27.53(g) | RSS-GEN(6.6)<br>RSS-132(3.1)<br>RSS-133(3.1)<br>RSS-139 (3.1) | Occupied Bandwidth | Reporting Only | PASS | - |
| 3.7 | §2.1051<br>§22.917(a)<br>§24.238(a)<br>§27.53(h) | RSS-132 (5.5)<br>RSS-133 (6.5)<br>RSS-139 (6.6) | Band Edge Measurement | < 43+10log10(P[Watts]) | PASS | - |
| 3.8 | §2.1051<br>§22.917(a)<br>§24.238(a)<br>§27.53(h) | RSS-132 (5.5)<br>RSS-133 (6.5)<br>RSS-139 (6.6) | Conducted Emission | < 43+10log10(P[Watts]) | PASS | - |
| 3.9 | §2.1055<br>§22.355 | RSS-GEN(6.11)<br>RSS-132 (5.3) | Frequency Stability for Temperature & Voltage | < 2.5 ppm for Part 22H | PASS | - |
| | §2.1055<br>§24.235<br>§27.54 | RSS-GEN(6.11)<br>RSS-133 (6.3)<br>RSS-139 (6.4) | | Within Authorized Band | | |

| Report Section | FCC Rule | IC Rule | Description | Limit | Result | Remark |
|---|---|---|---|---|---|---|
| 4.4 | §22.913(a)(2) | RSS-132(5.4)<br>SRSP-503(5.1.3) | Effective Radiated Power | < 7 Watts | PASS | - |
| | §24.232(c) | RSS-133 (6.4)<br>SRSP-510(5.1.2) | Equivalent Isotropic Radiated Power | < 2 Watts | PASS | - |
| | §27.50(d)(4) | RSS-139 (6.5)<br>SRSP-513(5.1.2) | Equivalent Isotropic Radiated Power | < 1 Watts | PASS | - |
| 4.5 | §2.1053<br>§22.917(a)<br>§24.238(a)<br>§27.53(h) | RSS-132 (5.5)<br>RSS-133 (6.5)<br>RSS-139 (6.6) | Field Strength of Spurious Radiation | < 43+10log10(P[Watts]) | PASS | Under limit 19.17 dB at 2510.000 MHz |

# 1 General Description

## 1.1 Applicant

**BLU Products, Inc.**
10814 NW 33rd St # 100 Doral, FL 33172

## 1.2 Manufacturer

**BLU Products, Inc.**
10814 NW 33rd St # 100 Doral, FL 33172

## 1.3 Product Feature of Equipment Under Test

| Product Feature | |
|---|---|
| **Equipment** | Smartphone |
| **Brand Name** | BLU |
| **Model Name** | DASH X2 |
| **FCC ID** | YHLBLUDASHX2 |
| **EUT supports Radios application** | GSM/GPRS/EGPRS/<br>WCDMA/HSPA/HSPA+(16QAM uplink is not supported)/<br>WLAN2.4GHz 802.11b/g/n HT20/HT40/<br>Bluetooth v3.0+EDR/Bluetooth v4.0 LE |
| **IMEI Code** | Conducted: 353919027769771/353919027819774<br>Radiation: 353919027769888/353919027819881<br>ERP/EIRP: 353919027769888/353919027819881 |
| **HW Version** | V1.0 |
| **SW Version** | BLU_3702_V01_GENERIC |
| **EUT Stage** | Pre-Production |

**Remark:**

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. After pre-scan two SIM cards power, we found test result of the SIM1 was the worse, so we chose dual SIM1 card to perform all tests

## 1.4 Product Specification of Equipment Under Test

| Standards-related Product Specification | |
|---|---|
| **Tx Frequency** | **GSM/GPRS/EDGE:**<br>850: 824.2 MHz ~ 848.8 MHz<br>1900: 1850.2 MHz ~ 1909.8MHz<br>**WCDMA:**<br>Band V: 826.4 MHz ~ 846.6 MHz<br>Band II: 1852.4 MHz ~ 1907.6 MHz<br>Band IV: 1712.4 MHz ~ 1752.6 MHz |
| **Rx Frequency** | **GSM/GPRS/EDGE:**<br>850: 869.2 MHz ~ 893.8 MHz<br>1900: 1930.2 MHz ~ 1989.8 MHz<br>**WCDMA:**<br>Band V: 871.4 MHz ~ 891.6 MHz<br>Band II: 1932.4 MHz ~ 1987.6 MHz<br>Band IV: 2112.4 MHz ~ 2152.6 MHz |
| **Maximum Output Power to Antenna** | **GSM/GPRS/EDGE:**<br>850: 32.79 dBm<br>1900: 29.43 dBm<br>**WCDMA:**<br>Band V: 23.40 dBm<br>Band II: 23.32 dBm<br>Band IV: 23.96 dBm |
| **Antenna Type** | PIFA Antenna |
| **Type of Modulation** | GSM: GMSK<br>GPRS: GMSK<br>EDGE: GMSK / 8PSK<br>WCDMA: QPSK (Uplink)<br>HSDPA: QPSK (Uplink)<br>HSUPA: QPSK (Uplink)<br>HSPA+: 16QAM (Uplink is not supported) |

## 1.5 Modification of EUT

No modifications are made to the EUT during all test items.

## 1.6 Maximum ERP/EIRP Power, Frequency Tolerance, and Emission Designator

| FCC Rule | System | Type of Modulation | Maximum ERP/EIRP (W) | Frequency Tolerance (ppm) | Emission Designator |
|---|---|---|---|---|---|
| Part 22H | GSM850 GSM | GMSK | 0.9555 | 0.0155 ppm | 243KGXW |
| Part 22H | GSM850 EDGE class 8 | 8PSK | 0.2620 | 0.0155 ppm | 240KG7W |
| Part 22H | WCDMA Band V RMC 12.2Kbps | QPSK | 0.0966 | 0.0191 ppm | 4M15F9W |
| Part 24E | GSM1900 GSM | GMSK | 0.6741 | 0.0426 ppm | 244KGXW |
| Part 24E | GSM1900 EDGE class 8 | 8PSK | 0.2251 | 0.0495 ppm | 245KG7W |
| Part 24E | WCDMA Band II RMC 12.2Kbps | QPSK | 0.1204 | 0.0191 ppm | 4M17F9W |
| Part 27L | WCDMA Band IV RMC 12.2Kbps | QPSK | 0.3009 | 0.0133 ppm | 4M19F9W |

## 1.7 Testing Location

| | |
|---|---|
| **Test Site** | SPORTON INTERNATIONAL (SHENZHEN) INC. |
| **Test Site Location** | 1F & 2F,Building A, Morning Business Center, No. 4003 ShiGu Rd., Xili Town, Nanshan District, Shenzhen, Guangdong, P. R. China<br>TEL: +86-755-8637-9589<br>FAX: +86-755-8637-9595 |
| **Test Site No.** | **Sporton Site No.** |
| | TH01-SZ |

| | | |
|---|---|---|
| **Test Site** | SPORTON INTERNATIONAL (KUNSHAN) INC. | |
| **Test Site Location** | No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P. R. China<br>TEL: +86-0512-5790-0158<br>FAX: +86-0512-5790-0958 | |
| **Test Site No.** | **Sporton Site No.** | **FCC/IC Registration No.** |
| | 03CH03-KS | 306251/4086E |

**Note:** The test site complies with ANSI C63.4 2014 requirement.

## 1.8 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR Part 2, 22(H), 24(E), 27(L)
- ANSI / TIA / EIA-603-D-2010
- FCC KDB 971168 D01 Power Meas. License Digital Systems v02r02

**Remark:**

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

# 2 Test Configuration of Equipment Under Test

## 2.1 Test Mode

Antenna port conducted and radiated test items were performed according to KDB 971168 D01 Power Meas. License Digital Systems v02r02 with maximum output power.

Radiated measurements were performed with rotating EUT in different three orthogonal test planes to find the maximum emission.

Radiated emissions were investigated as following frequency range:

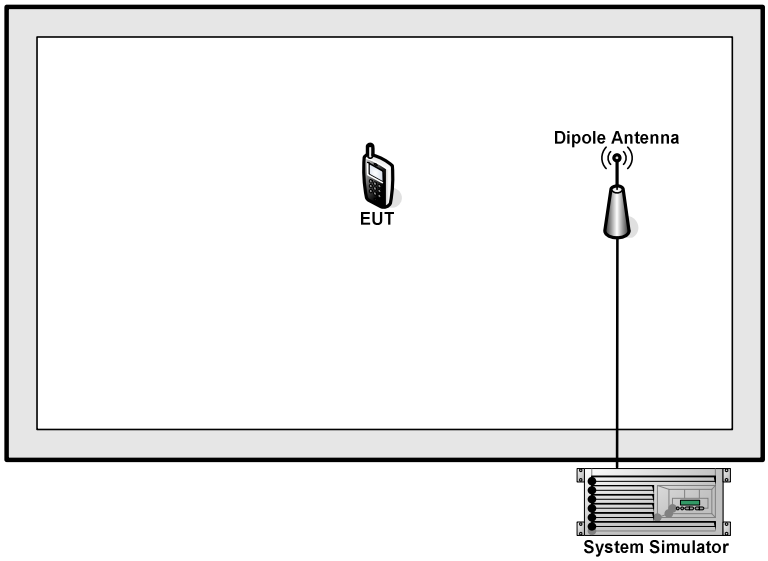
1. 30 MHz to 10th harmonic for GSM850 and WCDMA Band V.
2. 30 MHz to 10th harmonic for WCDMA Band IV.
3. 30 MHz to 10th harmonic for GSM1900 and WCDMA Band II.

All modes and data rates and positions were investigated.

Test modes are chosen to be reported as the worst case configuration below:

| Test Modes | | |
|---|---|---|
| **Band** | **Radiated TCs** | **Conducted TCs** |
| **GSM 850** | ■ GSM Link<br>■ EDGE class 8 Link | ■ GSM Link<br>■ EDGE class 8 Link |
| **GSM 1900** | ■ GSM Link<br>■ EDGE class 8 Link | ■ GSM Link<br>■ EDGE class 8 Link |
| **WCDMA Band V** | ■ RMC 12.2Kbps Link | ■ RMC 12.2Kbps Link |
| **WCDMA Band II** | ■ RMC 12.2Kbps Link | ■ RMC 12.2Kbps Link |
| **WCDMA Band IV** | ■ RMC 12.2Kbps Link | ■ RMC 12.2Kbps Link |

## 2.2 Connection Diagram of Test System




## 2.3 Support Unit used in test configuration

| Item | Equipment | Trade Name | Model No. | FCC ID | Data Cable | Power Cord |
|---|---|---|---|---|---|---|
| 1. | System Simulator | R&S | CMU 200 | N/A | N/A | Unshielded, 1.8 m |
| 2. | DC Power Supply | GW INSTEK | GPS-3030D | N/A | N/A | Unshielded, 1.8 m |

## 2.4 Measurement Results Explanation Example

**For all conducted test items:**

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between RF conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level will be exactly the RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

*Offset = RF cable loss + attenuator factor.*

The following shows an offset computation example with RF cable loss 4.5 dB and a 10dB attenuator.

Example :

*Offset(dB) = RF cable loss(dB) + attenuator factor(dB).*

= 4.5 + 10 = 14.5 (dB)

# 3 Conducted Test Result

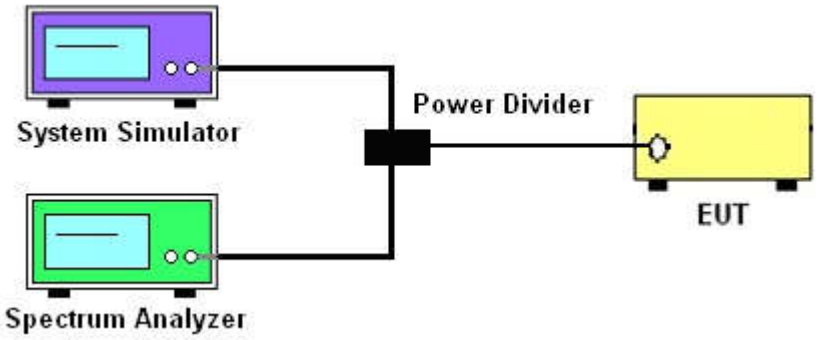
## 3.1 Measuring Instruments

See list of measuring instruments of this test report.

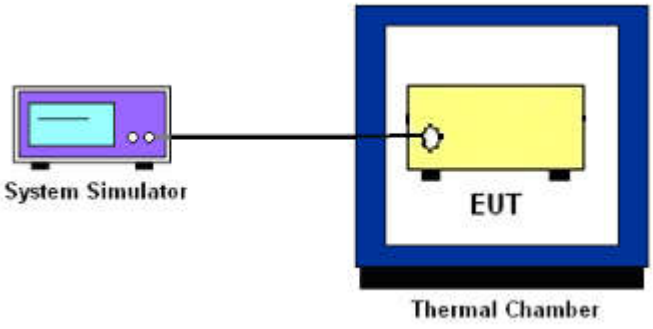
## 3.2 Test Setup

### 3.2.1 Conducted Output Power

### 3.2.2 Peak-to-Average Ratio, Occupied Bandwidth, Conducted Band-Edge and Conducted Spurious Emission




### 3.2.3 Frequency Stability




## 3.3 Test Result of Conducted Test

Please refer to Appendix A.

## 3.4 Conducted Output Power

### 3.4.1 Description of the Conducted Output Power

A system simulator was used to establish communication with the EUT. Its parameters were set to enforce EUT transmitting at the maximum power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

### 3.4.2 Test Procedures

1. The transmitter output port was connected to the system simulator.
2. Set EUT at maximum power through system simulator.
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Measure the maximum burst average power for GSM and maximum average power for other modulation signal.

## 3.5 Peak-to-Average Ratio

### 3.5.1 Description of the PAR Measurement

The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

### 3.5.2 Test Procedures

1. The testing follows FCC KDB 971168 D01 v02r02 Section 5.7.1.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. Set EUT to transmit at maximum output power.
4. When the duty cycle is less than 98%, then signal gating will be implemented on the spectrum analyzer by triggering from the system simulator.
5. Set the CCDF (Complementary Cumulative Distribution Function) option of the spectrum analyzer. Record the maximum PAPR level associated with a probability of 0.1%.

# 3.6 99% Occupied Bandwidth and 26dB Bandwidth Measurement

## 3.6.1 Description of 99% Occupied Bandwidth and 26dB Bandwidth Measurement

The occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

The 26 dB emission bandwidth is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated 26 dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of the emission bandwidth.

## 3.6.2 Test Procedures

1. The testing follows FCC KDB 971168 v02r02 Section 4.2.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be between two and five times the anticipated OBW.
4. The nominal resolution bandwidth (RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.
5. Set the detection mode to peak, and the trace mode to max hold.
6. Determine the reference value: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace. (this is the reference value)
7. Determine the “-26 dB down amplitude” as equal to (Reference Value – X).
8. Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below the “–X dB down amplitude” determined in step 6. If a marker is below this “-X dB down amplitude” value it shall be placed as close as possible to this value. The OBW is the positive frequency difference between the two markers.
9. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

# 3.7 Conducted Band Edge

## 3.7.1 Description of Conducted Band Edge Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

## 3.7.2 Test Procedures

1. The testing follows FCC KDB 971168 D01 v02r02 Section 6.0.
2. The EUT was connected to the spectrum analyzer and system simulator via a power divider.
3. The RF output of EUT was connected to the spectrum analyzer by an RF cable and attenuator. The path loss was compensated to the results for each measurement.
4. The band edges of low and high channels for the highest RF powers were measured.
5. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
6. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)
   = P(W) - [43 + 10log(P) ] (dB)
   = [30 + 10log(P)] (dBm) - [43 + 10log(P) ] (dB)
   = -13dBm.

# 3.8 Conducted Spurious Emission

## 3.8.1 Description of Conducted Spurious Emission Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its $10^{th}$ harmonic.

## 3.8.2 Test Procedures

1. The testing follows FCC KDB 971168 D01 v02r02 Section 6.0.
2. The EUT was connected to the spectrum analyzer and system simulator via a power divider.
3. The RF output of EUT was connected to the spectrum analyzer by an RF cable and attenuator. The path loss was compensated to the results for each measurement.
4. The middle channel for the highest RF power within the transmitting frequency was measured.
5. The conducted spurious emission for the whole frequency range was taken.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
7. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

= P(W) - [43 + 10log(P)] (dB)

= [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)

= -13dBm.

# 3.9 Frequency Stability

## 3.9.1 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5ppm) of the center frequency.

## 3.9.2 Test Procedures for Temperature Variation

1. The testing follows FCC KDB 971168 D01 v02r02 Section 9.0.
2. The EUT was set up in the thermal chamber and connected with the system simulator.
3. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
4. With power OFF, the temperature was raised in 10°C steps up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

## 3.9.3 Test Procedures for Voltage Variation

1. The testing follows FCC KDB 971168 D01 v02r02 Section 9.0.
2. The EUT was placed in a temperature chamber at 25±5° C and connected with the system simulator.
3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
4. The variation in frequency was measured for the worst case.

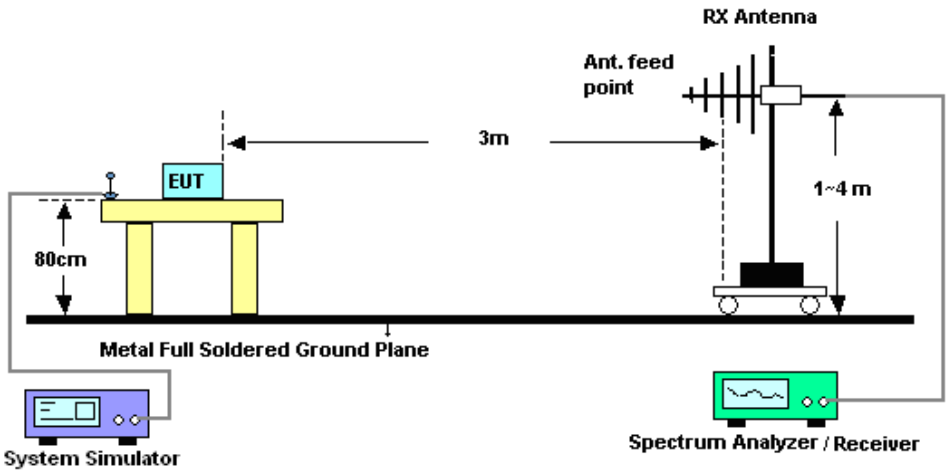
# 4 Radiated Test Items

## 4.1 Measuring Instruments

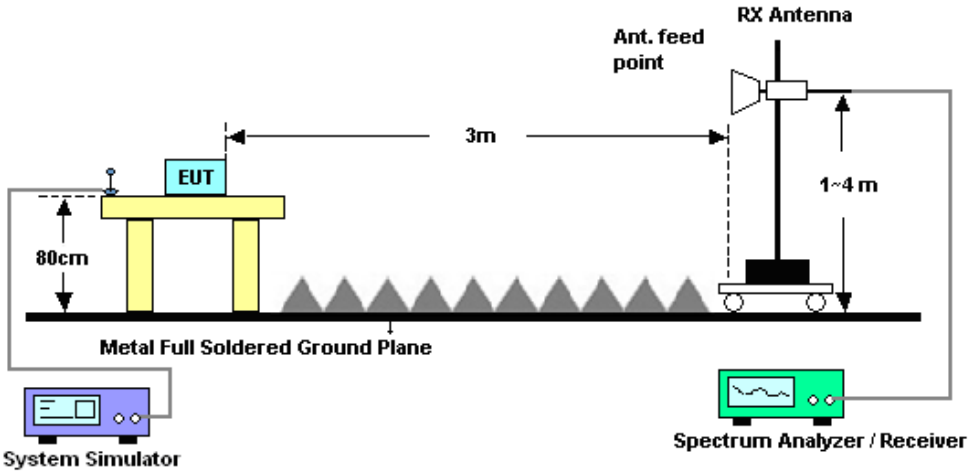
See list of measuring instruments of this test report.

## 4.2 Test Setup

### 4.2.1 For radiated test from 30MHz to 1GHz




### 4.2.2 For radiated test above 1GHz




## 4.3 Test Result of Radiated Test

Please refer to Appendix B.

# 4.4 Effective Radiated Power and Effective Isotropic Radiated Power Measurement

## 4.4.1 Description of the ERP/EIRP Measurement

The substitution method, in ANSI / TIA / EIA-603-D-2010, was used for ERP/EIRP measurement, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas. License Digital Systems v02r02. The ERP of mobile transmitters must not exceed 7 Watts (Cellular Band) and the EIRP of mobile transmitters are limited to 2 Watts (PCS Band) and 1 Watts (AWS Band).

## 4.4.2 Test Procedures

1. The testing follows FCC KDB 971168 D01 v02r02 Section 5.2.1. (for CDMA/WCDMA), Section 5.2.2.2 (for GSM/GPRS/EDGE) and ANSI / TIA-603-D-2010 Section 2.2.17.
2. The EUT was placed on a non-conductive rotating platform 0.8 meters high in a semi-anechoic chamber. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and a spectrum analyzer with RMS detector per section 5. of KDB 971168 D01.
3. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power. The maximum emission was recorded from analyzer power level (LVL) from the 360 degrees rotation of the turntable and the test antenna raised and lowered over a range from 1 to 4 meters in both horizontally and vertically polarized orientations.
4. Effective Isotropic Radiated Power (EIRP) was measured by substitution method according to TIA/EIA-603-D. The EUT was replaced by the substitution antenna at same location, and then a known power from S.G. was applied into the dipole antenna through a Tx cable, and then recorded the maximum Analyzer reading through raised and lowered the test antenna. The correction factor (in dB) = S.G. - Tx Cable loss + Substitution antenna gain - Analyzer reading. Then the EUT's EIRP was calculated with the correction factor, EIRP = LVL + Correction factor and ERP = EIRP - 2.15. Take the record of the output power at substitution antenna.

| | GSM/GPRS/EDGE | WCDMA/HSPA |
|---|---|---|
| SPAN | 500kHz | 10MHz |
| RBW | 10kHz | 100kHz |
| VBW | 30kHz | 300kHz |
| Detector | RMS | RMS |
| Trace | Average | Average |
| Average Type | Power | Power |
| Sweep Count | 100 | 100 |

# 4.5 Field Strength of Spurious Radiation Measurement

## 4.5.1 Description of Field Strength of Spurious Radiated Measurement

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

## 4.5.2 Test Procedures

1. The testing follows FCC KDB 971168 D01 v02r02 Section 5.8 and ANSI / TIA-603-D-2010 Section 2.2.12.
2. The EUT was placed on a rotatable wooden table 0.8 meters above the ground.
3. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between one meter and four meters to search for the maximum spurious emission for both horizontal and vertical polarizations.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking record of maximum spurious emission.
7. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
8. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
9. Taking the record of output power at antenna port.
10. Repeat step 7 to step 8 for another polarization.
11. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
12. ERP (dBm) = EIRP - 2.15
13. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
14. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

    = P(W) - [43 + 10log(P)] (dB)

    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)

    = -13dBm.

# 5 List of Measuring Equipment

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Test Date | Due Date | Remark |
|---|---|---|---|---|---|---|---|---|
| Spectrum Analyzer | R&S | FSV40 | 101078 | 9kHz~40GHz | May 05,2015 | Feb. 03, 2016~ Feb. 04, 2016 | May 04, 2016 | Conducted (TH01-SZ) |
| Thermal Chamber | Ten Billion Hongzhangroup | LP-150U | H2014081803 | -40~+150°C | Aug. 07, 2015 | Feb. 03, 2016~ Feb. 04, 2016 | Aug. 06, 2016 | Conducted (TH01-SZ) |
| EXA Spectrum Analyzer | Keysight | N9010A | MY55150244 | 10Hz~44GHz | Jun. 05, 2015 | Feb. 22, 2016 | Jun. 04, 2016 | Radiation (03CH03-KS) |
| Bilog Antenna | TeseQ | CBL6112D | 23182 | 25MHz~2GHz | Jan. 16, 2016 | Feb. 22, 2016 | Jan. 15, 2017 | Radiation (03CH03-KS) |
| Horn Antenna | Schwarzbeck | BBHA9120D | 9120D-1356 | 1GHz~18GHz | Jun. 25, 2015 | Feb. 22, 2016 | Jun. 24, 2016 | Radiation (03CH03-KS) |
| SHF-EHF Horn | Schwarzbeck | BBHA 9170 | BBHA170249 | 15GHz~40GHz | Mar. 03, 2015 | Feb. 22, 2016 | Mar. 02, 2016 | Radiation (03CH03-KS) |
| Amplifier | Burgeon | BPA-530 | 102212 | 0.01MHz~ 3000MHz | Aug. 10, 2015 | Feb. 22, 2016 | Aug. 09, 2016 | Radiation (03CH03-KS) |
| Amplifier | Agilent | 8449B | 3008A02370 | 1GHz~26.5GHz | Oct. 24, 2015 | Feb. 22, 2016 | Oct. 23, 2016 | Radiation (03CH03-KS) |
| AC Power Source | Chroma | 61601 | F104090004 | N/A | NCR | Feb. 22, 2016 | NCR | Radiation (03CH03-KS) |
| Turn Table | ChamPro | EM 1000-T | 060762-T | 0~360 degree | NCR | Feb. 22, 2016 | NCR | Radiation (03CH03-KS) |
| Antenna Mast | ChamPro | EM 1000-A | 060762-A | 1 m~4 m | NCR | Feb. 22, 2016 | NCR | Radiation (03CH03-KS) |

NCR: No Calibration Required

# 6 Uncertainty of Evaluation

**Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)**

| | |
|---|---|
| **Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))** | **4.5dB** |

# Appendix A. Test Results of Conducted Test

## Conducted Output Power (Average power)

| Conducted Power (*Unit: dBm) | | | | | | |
|---|---|---|---|---|---|---|
| Band | GSM850 | | | GSM1900 | | |
| Channel | 128 | 189 | 251 | 512 | 661 | 810 |
| Frequency | 824.2 | 836.4 | 848.8 | 1850.2 | 1880.0 | 1909.8 |
| GSM | 32.78 | 32.73 | 32.79 | 29.29 | 29.33 | 29.43 |
| GPRS class 8 | 32.75 | 32.72 | 32.76 | 29.22 | 29.25 | 29.33 |
| GPRS class 10 | 31.80 | 31.79 | 31.82 | 28.29 | 28.31 | 28.38 |
| GPRS class 11 | 29.98 | 30.01 | 30.00 | 26.47 | 26.48 | 26.61 |
| GPRS class 12 | 29.14 | 29.18 | 29.19 | 25.63 | 25.68 | 25.78 |
| EGPRS class 8 | 26.80 | 26.78 | 26.84 | 26.96 | 26.84 | 26.89 |
| EGPRS class 10 | 25.86 | 25.75 | 25.83 | 25.93 | 25.77 | 25.90 |
| EGPRS class 11 | 23.70 | 23.56 | 23.73 | 23.71 | 23.56 | 23.70 |
| EGPRS class 12 | 22.42 | 22.39 | 22.42 | 22.46 | 22.47 | 22.41 |

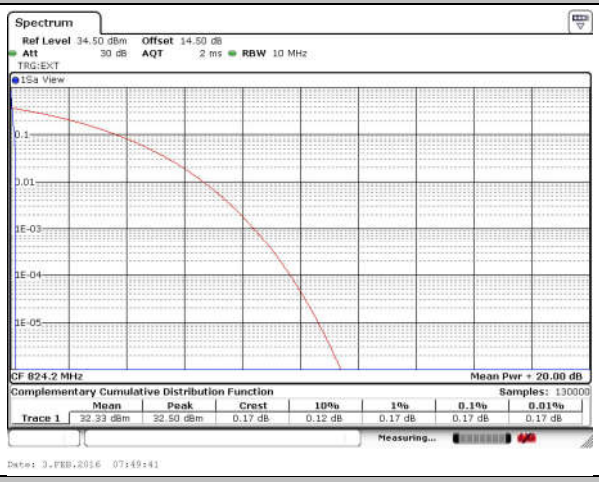
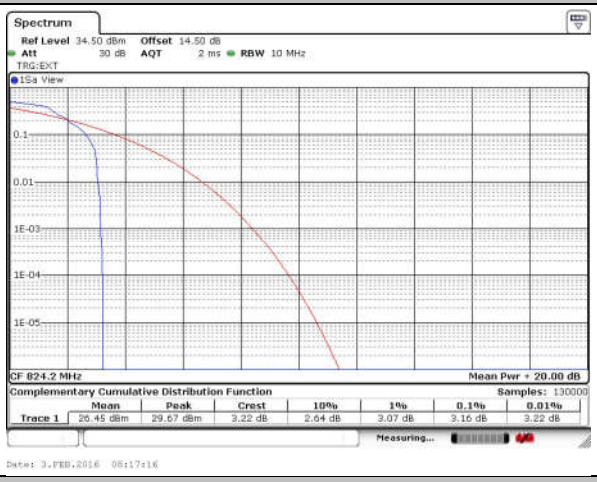
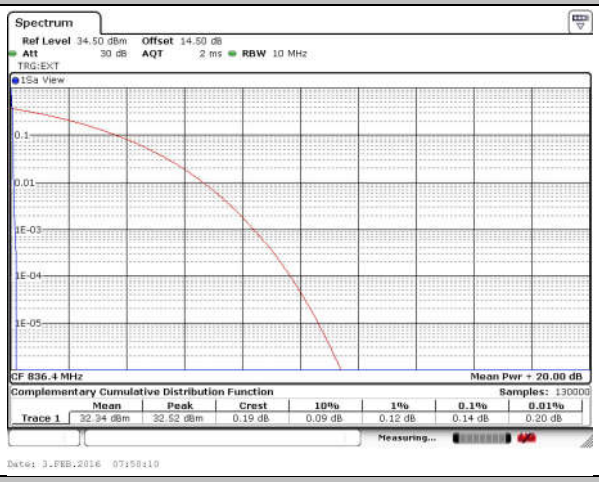
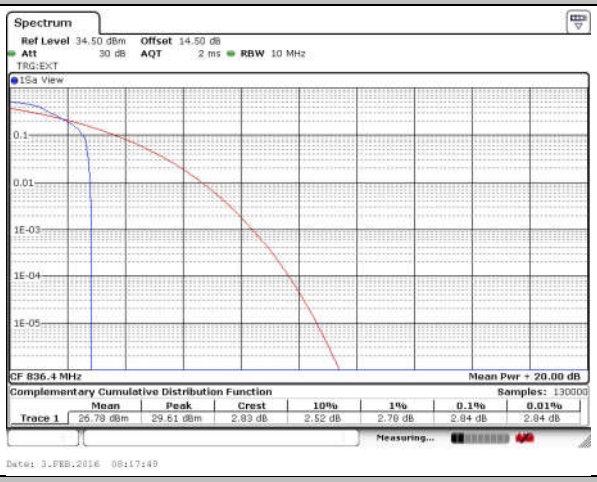
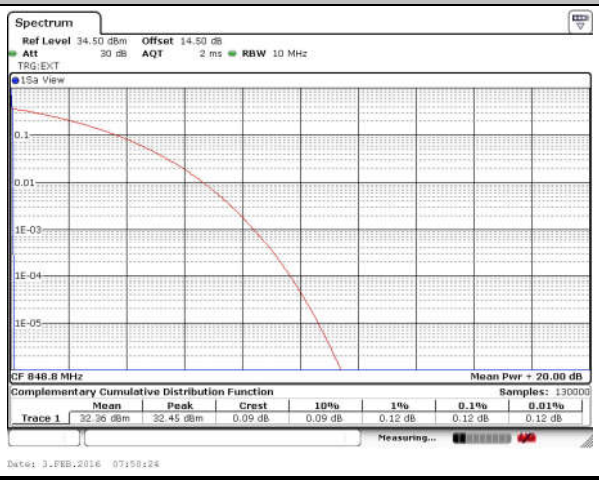
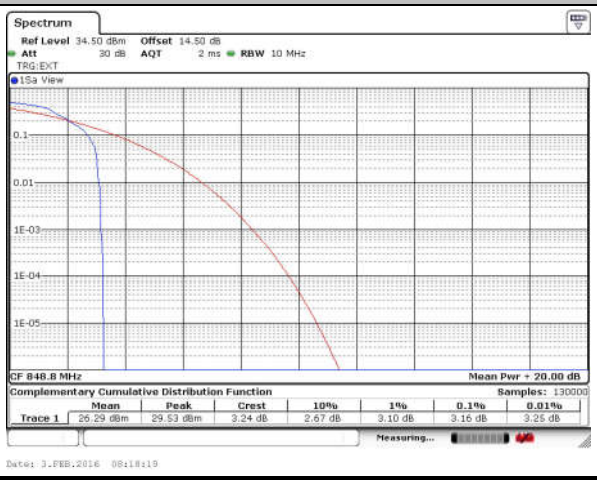
| Conducted Power (*Unit: dBm) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Band | WCDMA Band V | | | WCDMA Band II | | | WCDMA Band IV | | |
| Channel | 4132 | 4182 | 4233 | 9262 | 9400 | 9538 | 1312 | 1413 | 1513 |
| Frequency | 826.4 | 836.4 | 846.6 | 1852.4 | 1880 | 1907.6 | 1712.4 | 1732.6 | 1752.6 |
| AMR 12.2Kbps | 23.38 | 23.38 | 23.35 | 23.31 | 23.24 | 23.13 | 23.60 | 23.95 | 23.73 |
| RMC 12.2Kbps | 23.40 | 23.39 | 23.37 | 23.32 | 23.25 | 23.14 | 23.62 | 23.96 | 23.75 |
| HSDPA Subtest-1 | 22.02 | 21.93 | 22.06 | 21.86 | 21.79 | 21.55 | 22.01 | 22.57 | 22.36 |
| HSDPA Subtest-2 | 22.02 | 21.95 | 22.04 | 21.81 | 21.73 | 21.57 | 21.96 | 22.59 | 22.34 |
| HSDPA Subtest-3 | 21.54 | 21.48 | 21.53 | 21.35 | 21.28 | 21.13 | 21.50 | 22.10 | 21.88 |
| HSDPA Subtest-4 | 21.53 | 21.46 | 21.54 | 21.33 | 21.25 | 21.06 | 21.51 | 22.06 | 21.82 |
| HSUPA Subtest-1 | 20.00 | 19.99 | 20.01 | 19.83 | 19.81 | 19.66 | 20.04 | 20.57 | 20.38 |
| HSUPA Subtest-2 | 20.02 | 19.98 | 20.06 | 19.84 | 19.76 | 19.62 | 20.04 | 20.56 | 20.37 |
| HSUPA Subtest-3 | 21.01 | 20.98 | 21.05 | 20.83 | 20.73 | 20.66 | 21.02 | 21.55 | 21.37 |
| HSUPA Subtest-4 | 19.47 | 19.43 | 19.48 | 19.29 | 19.30 | 19.11 | 19.51 | 20.05 | 19.86 |
| HSUPA Subtest-5 | 22.00 | 22.00 | 22.00 | 21.90 | 21.80 | 21.70 | 22.00 | 22.60 | 22.40 |

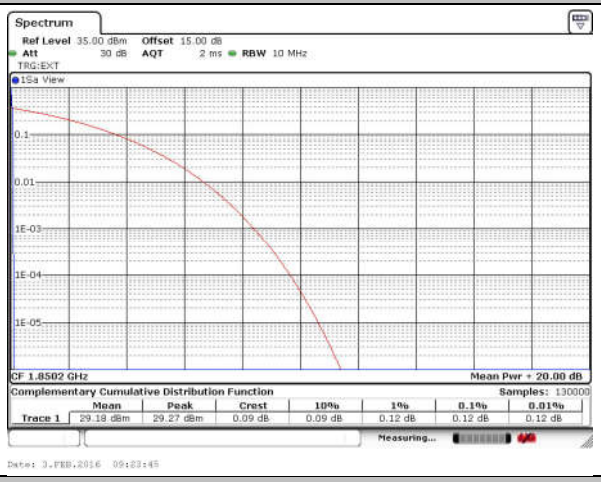
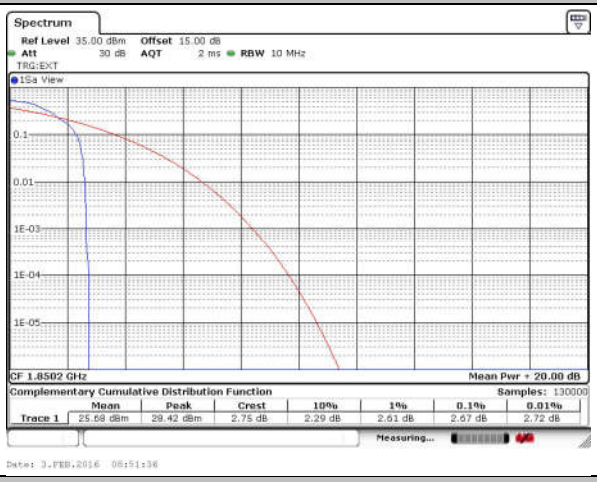
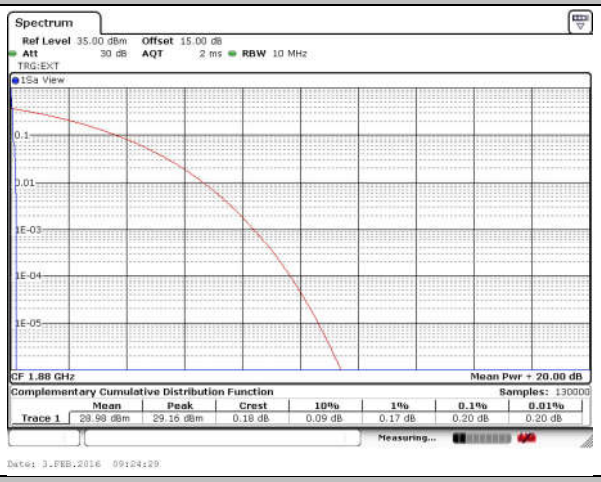
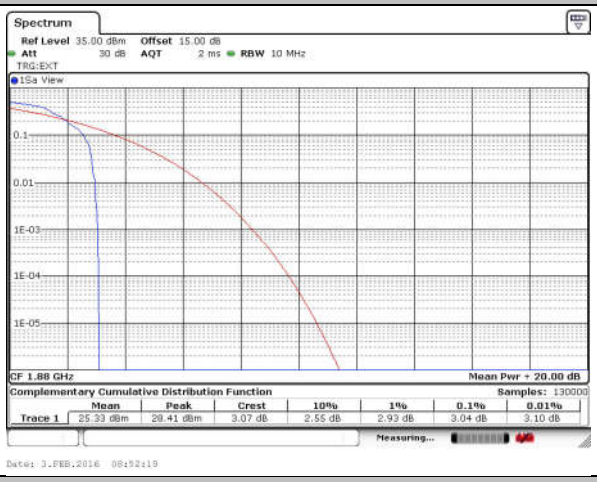
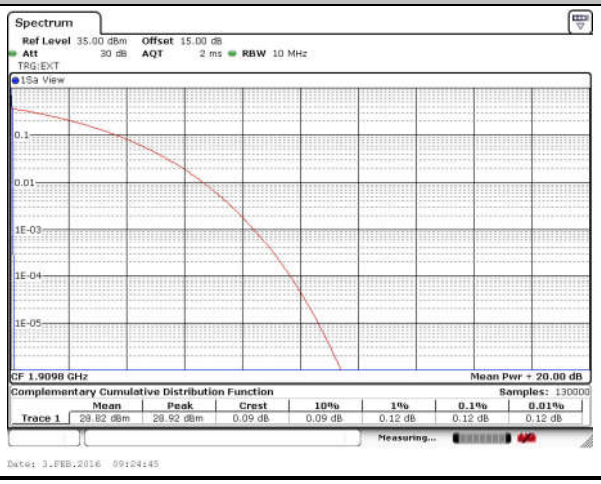
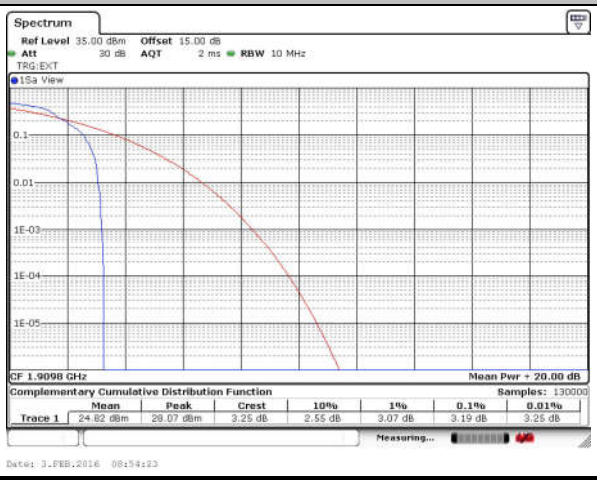
# A1. GSM

## Peak-to-Average Ratio

| Mode | GSM850 | | Limit: 13dB |
|---|---|---|---|
| Mod. | GSM | EDGE class 8 | Result |
| Lowest CH | 0.17 | 3.16 | PASS |
| Middle CH | 0.14 | 2.84 | |
| Highest CH | 0.12 | 3.16 | |

| Mode | GSM1900 | | Limit: 13dB |
|---|---|---|---|
| Mod. | GSM | EDGE class 8 | Result |
| Lowest CH | 0.12 | 2.67 | PASS |
| Middle CH | 0.20 | 3.04 | |
| Highest CH | 0.12 | 3.19 | |

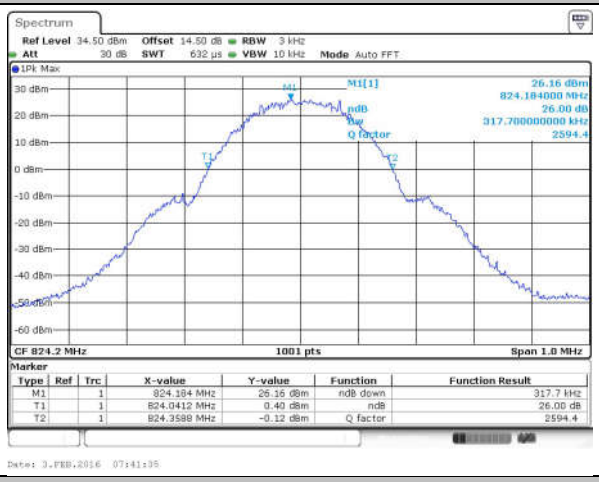
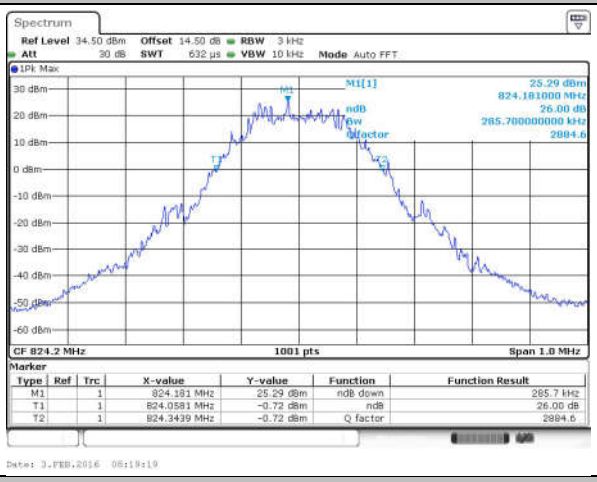
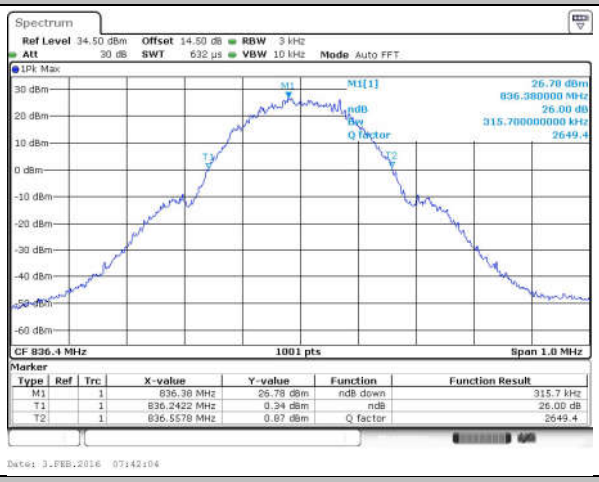
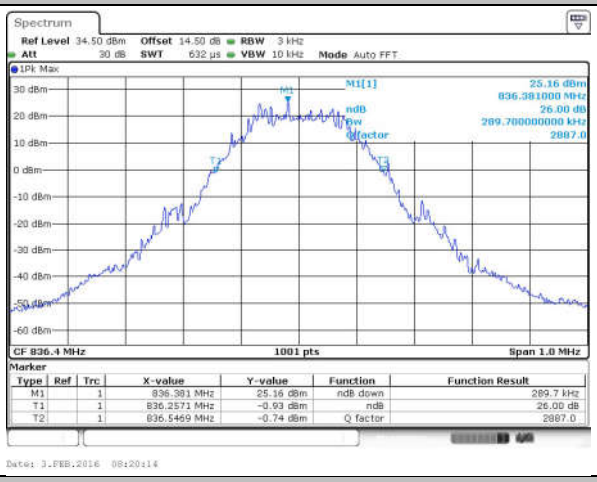
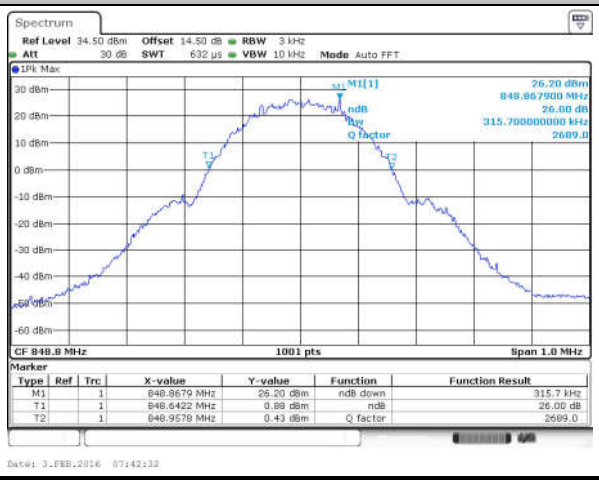
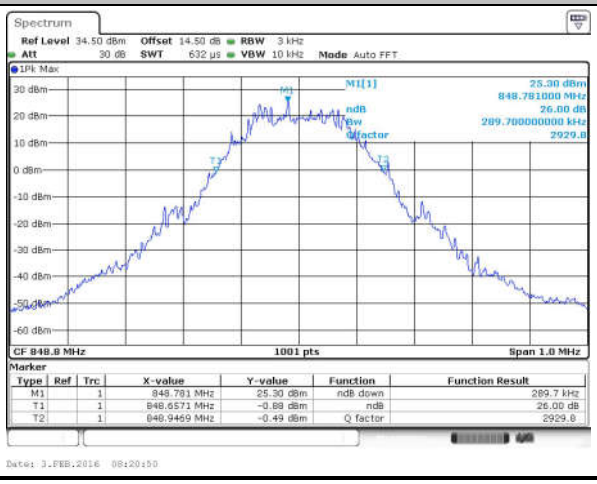
| GSM850 (GSM) | GSM850 (EDGE class 8) |
|---|---|
| **Lowest Channel** | **Lowest Channel** |
|  |  |
| **Middle Channel** | **Middle Channel** |
|  |  |
| **Highest Channel** | **Highest Channel** |
|  |  |

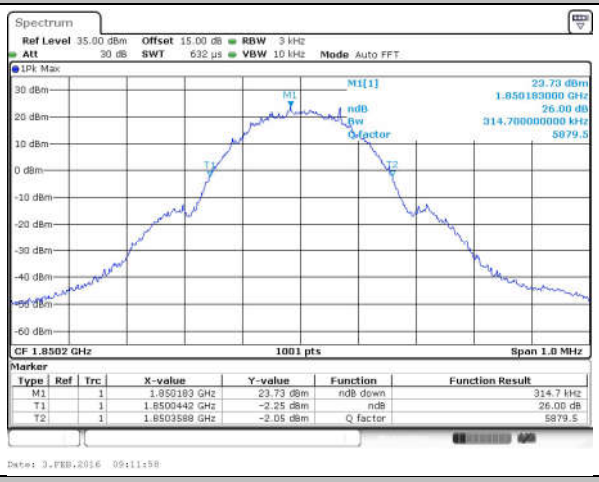
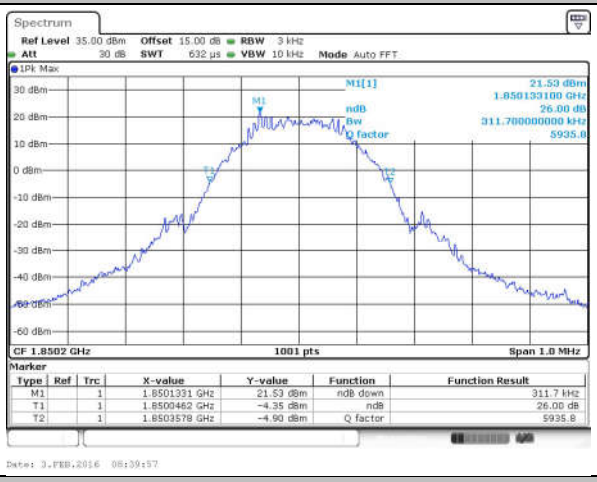
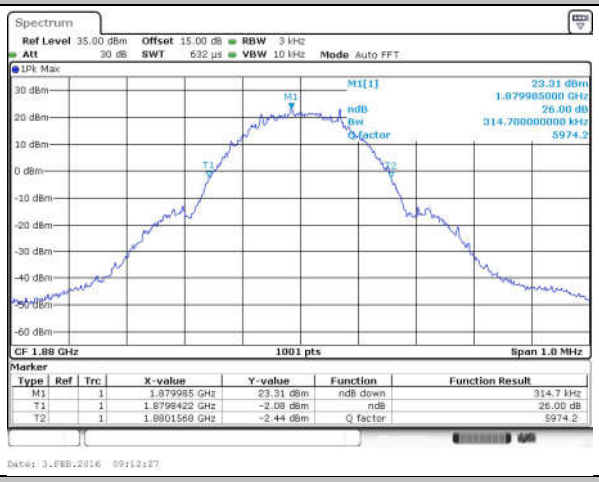
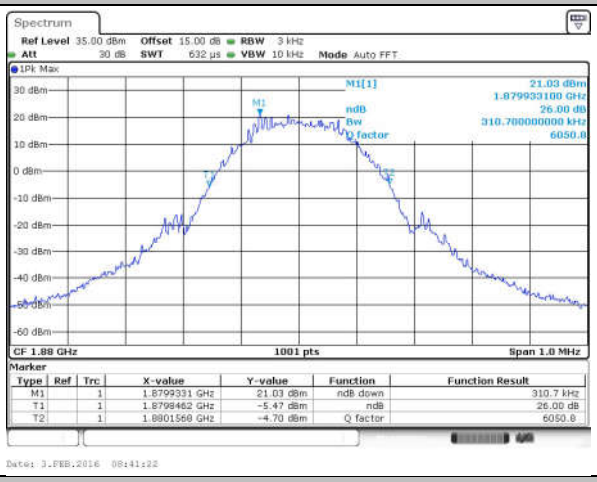
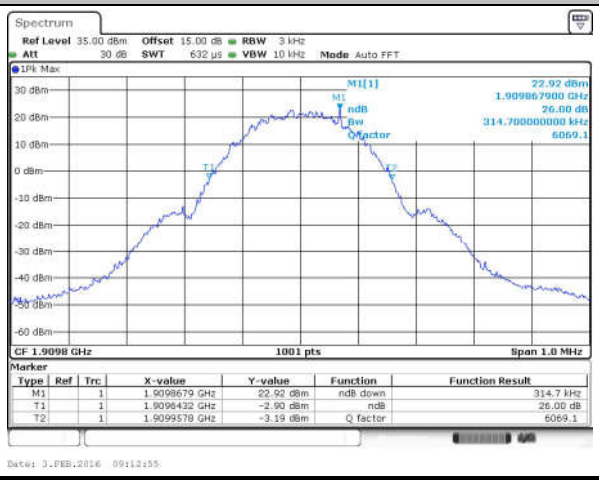
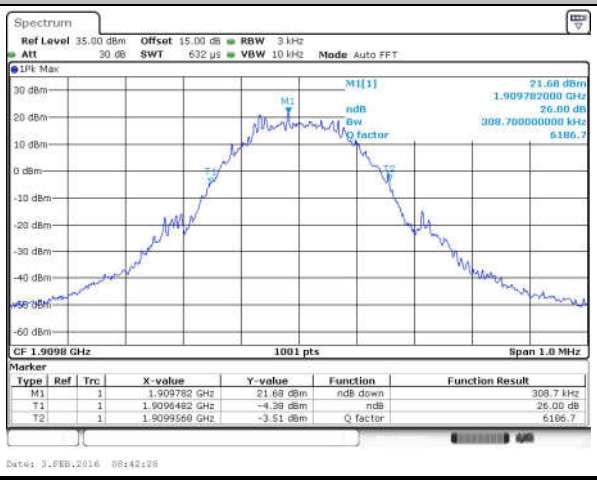
| GSM1900 (GSM) | GSM1900 (EDGE class 8) |
|---|---|
| **Lowest Channel** | **Lowest Channel** |
|  |  |
| **Middle Channel** | **Middle Channel** |
|  |  |
| **Highest Channel** | **Highest Channel** |
|  |  |

# 26dB Bandwidth

| Mode | GSM850 | |
|---|---|---|
| Mod. | GSM | EDGE class 8 |
| Lowest CH | 0.318 | 0.286 |
| Middle CH | 0.316 | 0.290 |
| Highest CH | 0.316 | 0.290 |

| Mode | GSM1900 | |
|---|---|---|
| Mod. | GSM | EDGE class 8 |
| Lowest CH | 0.315 | 0.312 |
| Middle CH | 0.315 | 0.311 |
| Highest CH | 0.315 | 0.309 |

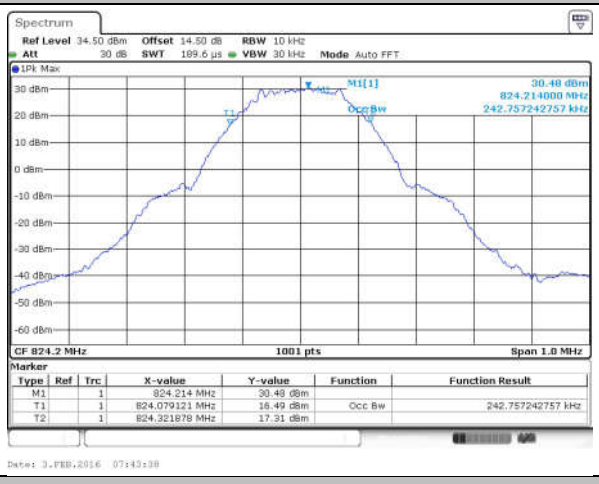
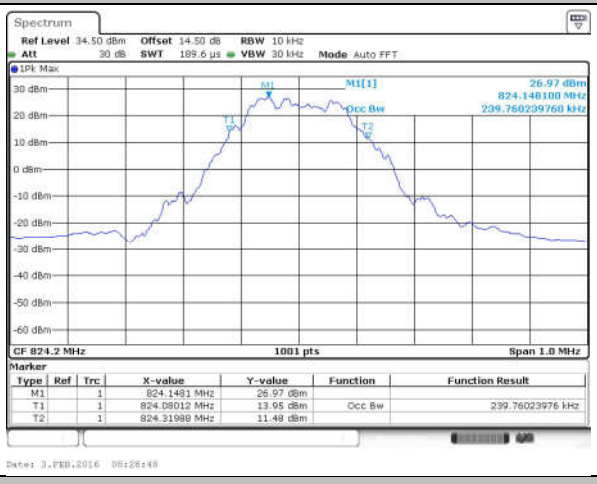
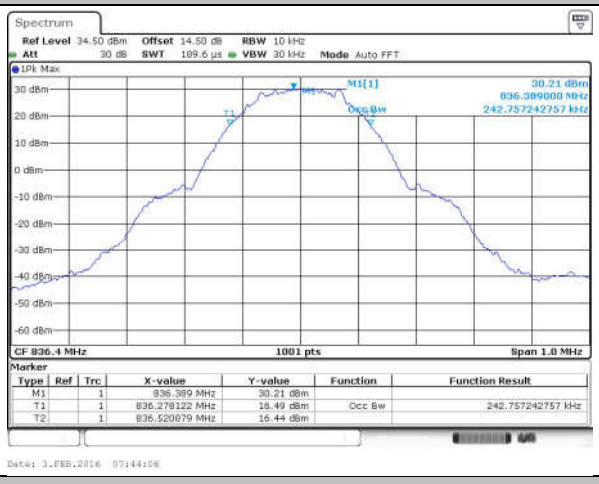
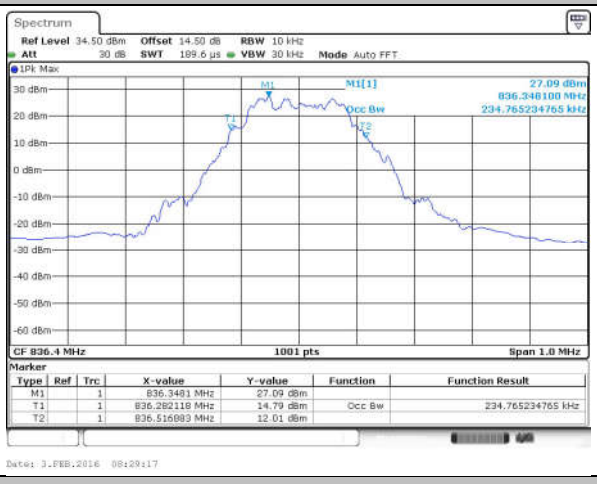
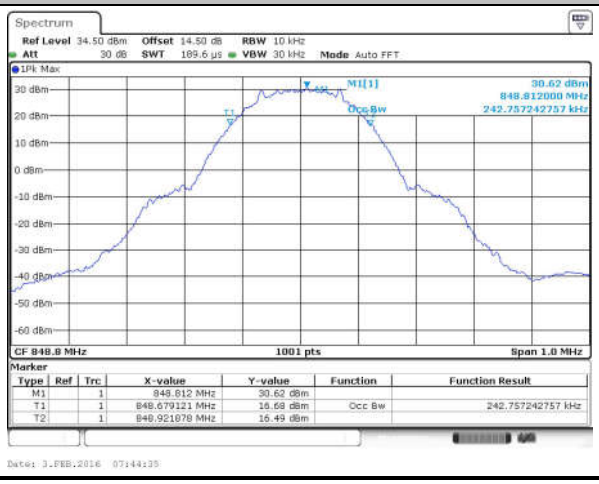
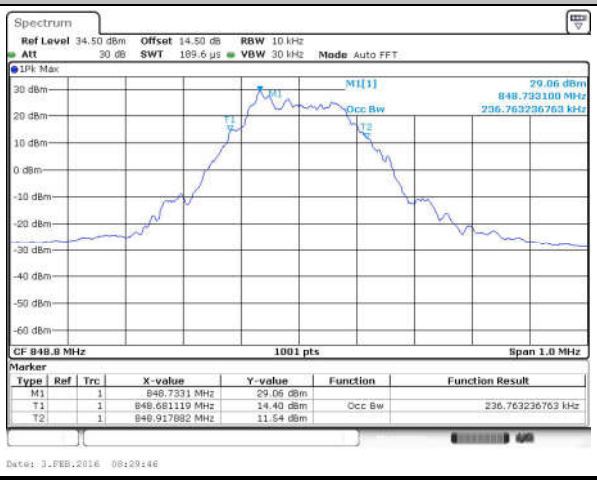
| GSM850 (GSM) | GSM850 (EDGE class 8) |
|---|---|
| **Lowest Channel** | **Lowest Channel** |
|  |  |
| **Middle Channel** | **Middle Channel** |
|  |  |
| **Highest Channel** | **Highest Channel** |
|  |  |

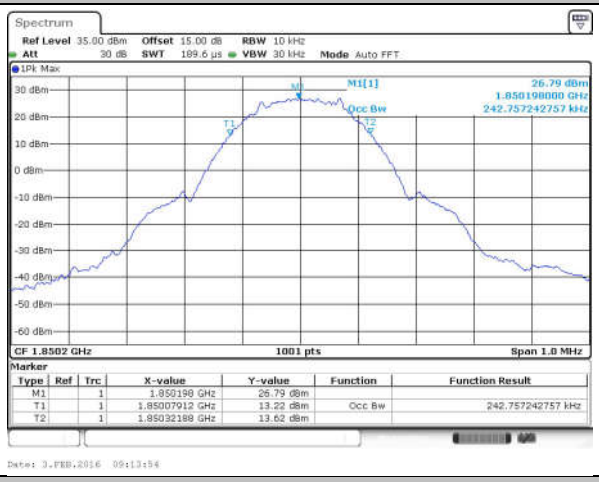
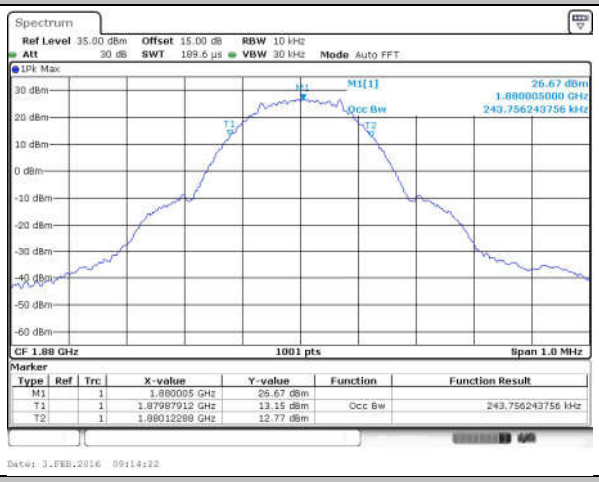
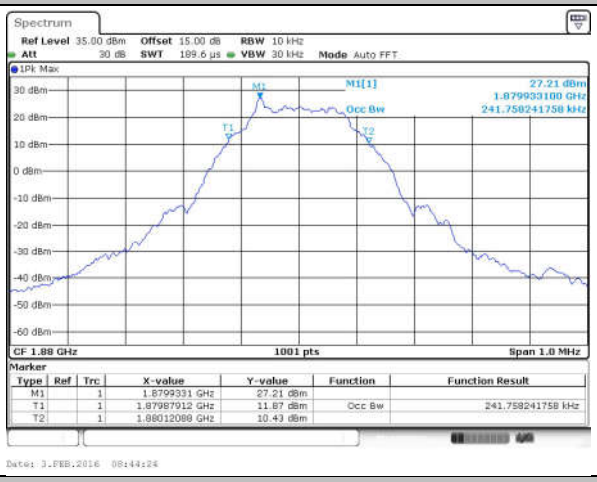
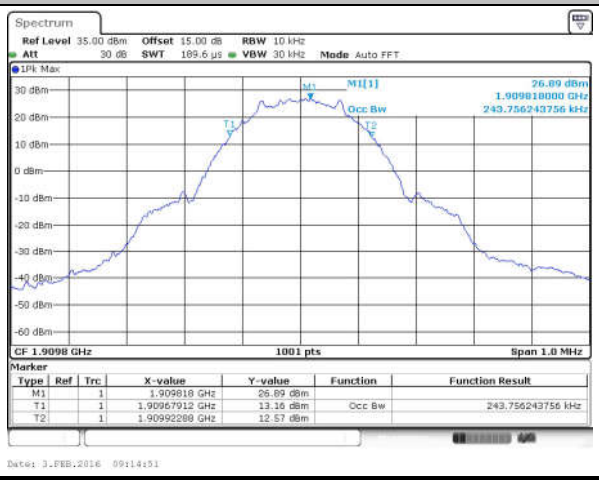
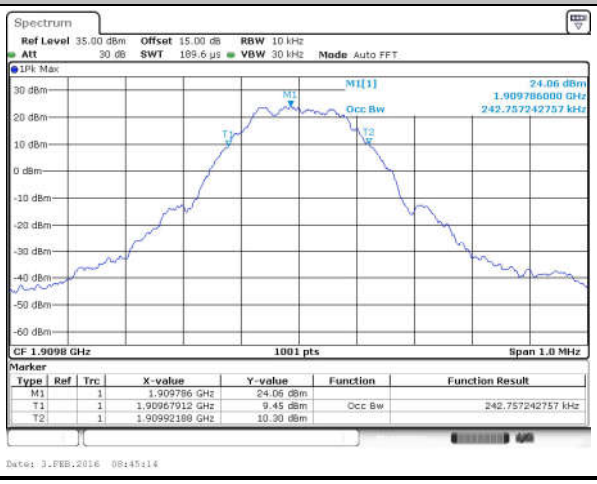
| GSM1900 (GSM) | GSM1900 (EDGE class 8) |
|---|---|
| **Lowest Channel** | **Lowest Channel** |
|  |  |
| **Middle Channel** | **Middle Channel** |
|  |  |
| **Highest Channel** | **Highest Channel** |
|  |  |

# Occupied Bandwidth

| Mode | GSM850 | |
|---|---|---|
| Mod. | GSM | EDGE class 8 |
| Lowest CH | 0.243 | 0.240 |
| Middle CH | 0.243 | 0.235 |
| Highest CH | 0.243 | 0.237 |

| Mode | GSM1900 | |
|---|---|---|
| Mod. | GSM | EDGE class 8 |
| Lowest CH | 0.243 | 0.245 |
| Middle CH | 0.244 | 0.242 |
| Highest CH | 0.244 | 0.243 |

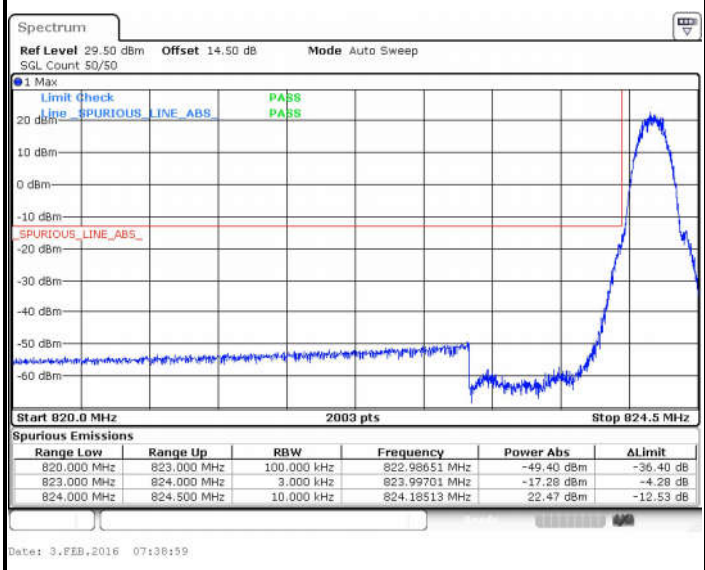
| GSM850 (GSM) | GSM850 (EDGE class 8) |
|---|---|
| **Lowest Channel** | **Lowest Channel** |
|  |  |
| **Middle Channel** | **Middle Channel** |
|  |  |
| **Highest Channel** | **Highest Channel** |
|  |  |

| GSM1900 (GSM) | GSM1900 (EDGE class 8) |
|---|---|
| **Lowest Channel** | **Lowest Channel** |
|  | |
| **Middle Channel** | **Middle Channel** |
|  |  |
| **Highest Channel** | **Highest Channel** |
|  |  |

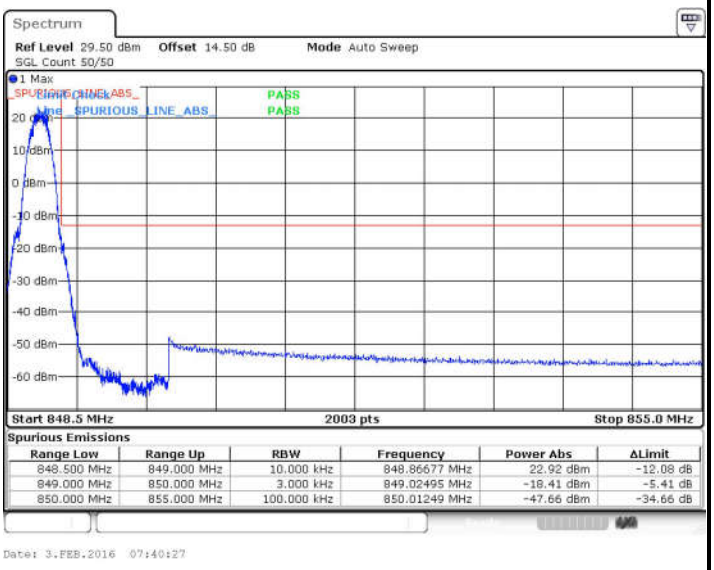
# Conducted Band Edge

## GSM850 (GSM)

### Lowest Band Edge

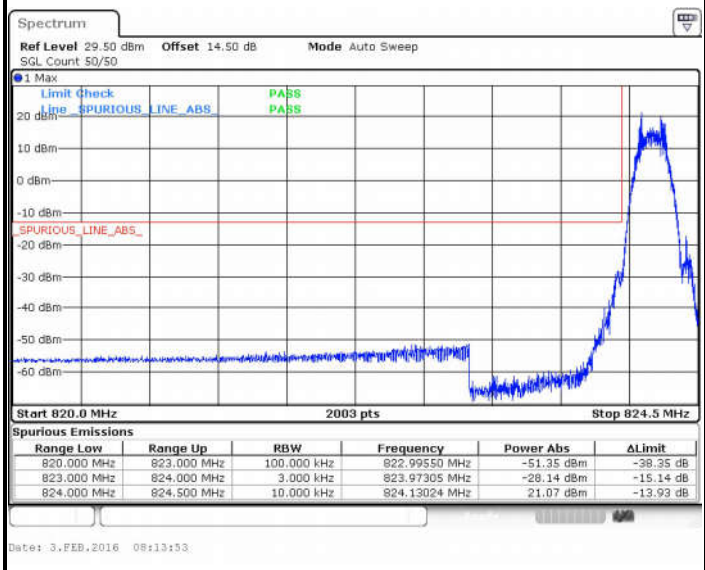



### Highest Band Edge

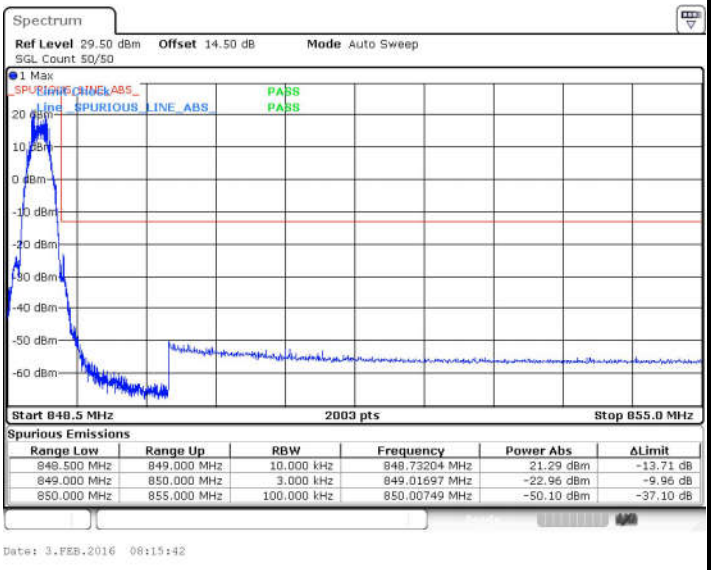


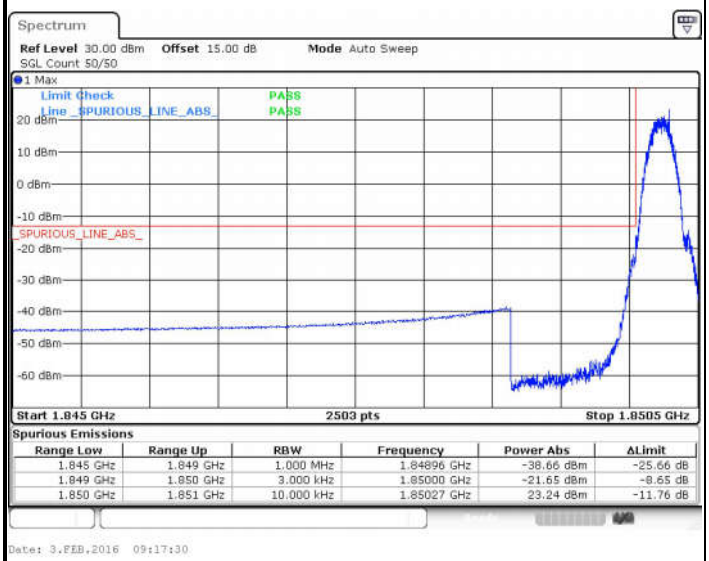
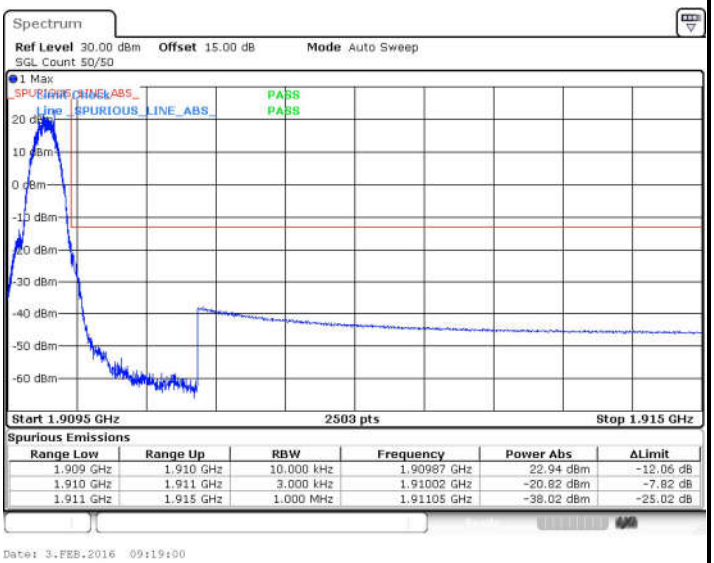

## GSM850 (EDGE class 8)

### Lowest Band Edge



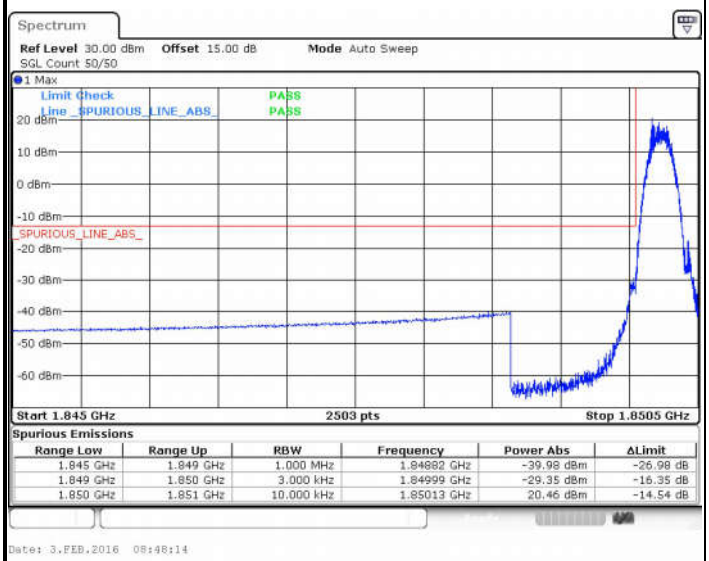
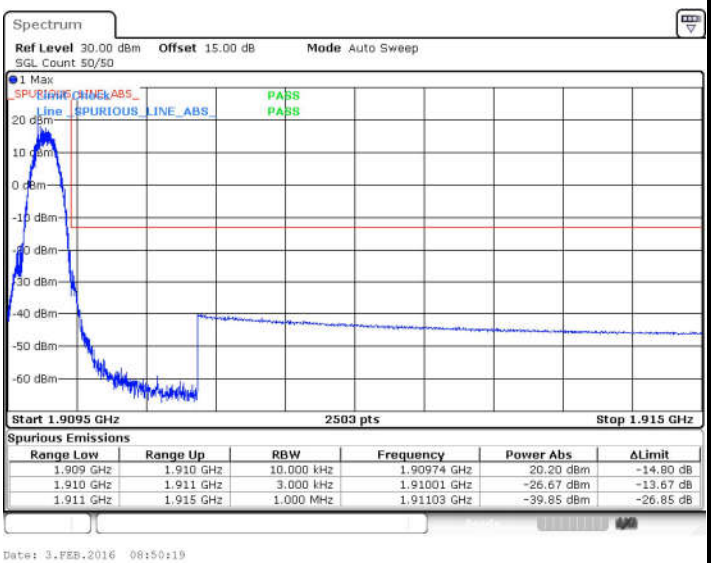

### Highest Band Edge



| GSM1900 (GSM) | |
|---|---|
| **Lowest Band Edge** | **Highest Band Edge** |
|  |  |



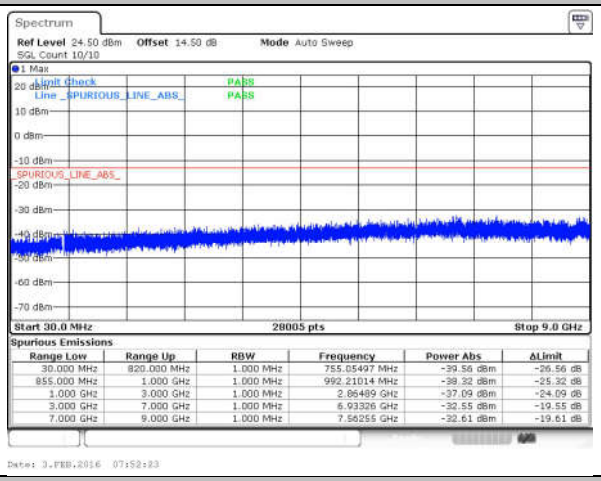


| GSM1900 (EDGE class 8) | |
|---|---|
| **Lowest Band Edge** | **Highest Band Edge** |
|  |  |

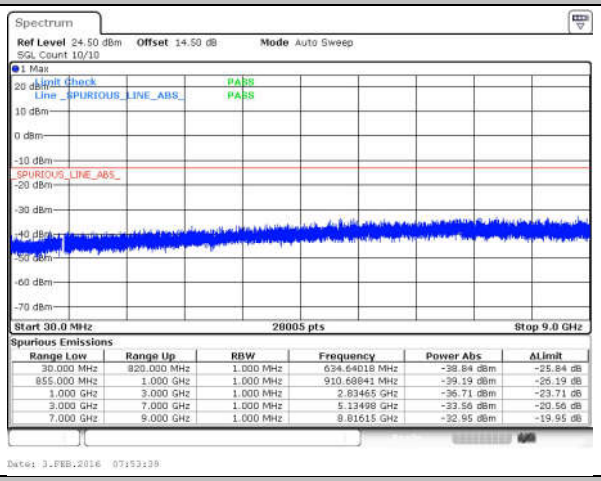
# Conducted Spurious Emission

## GSM850 (GSM)

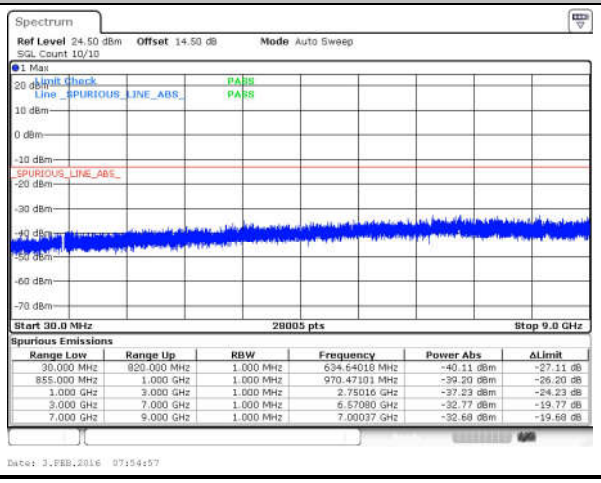
### Lowest Channel




### Middle Channel

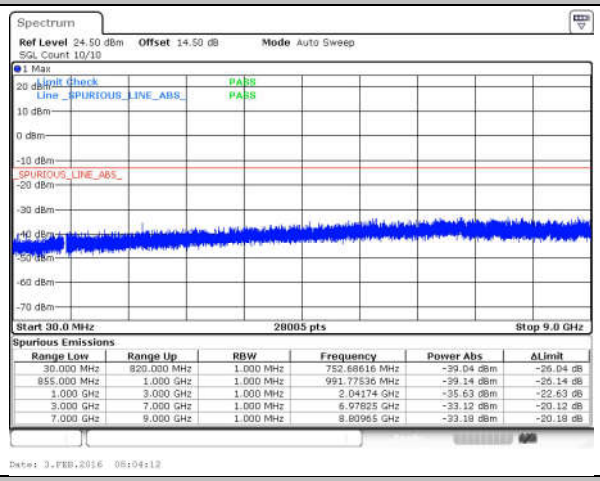



### Highest Channel

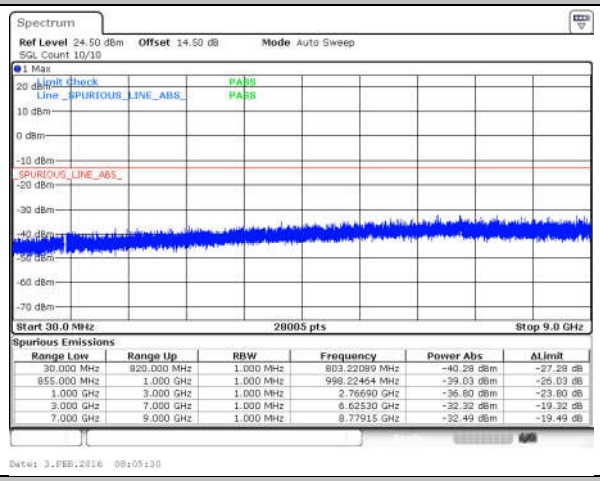



## GSM850 (EDGE class 8)

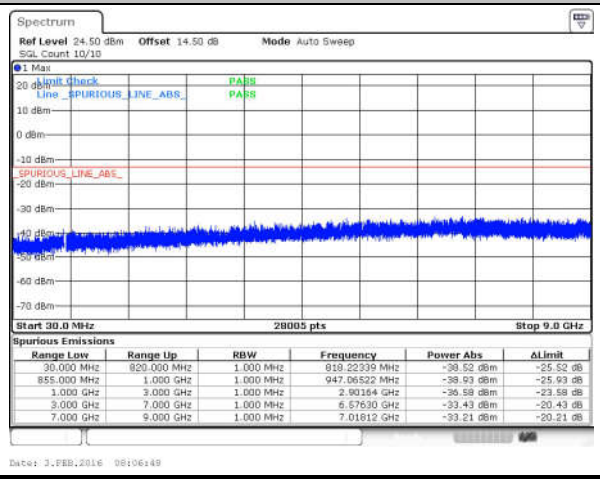
### Lowest Channel

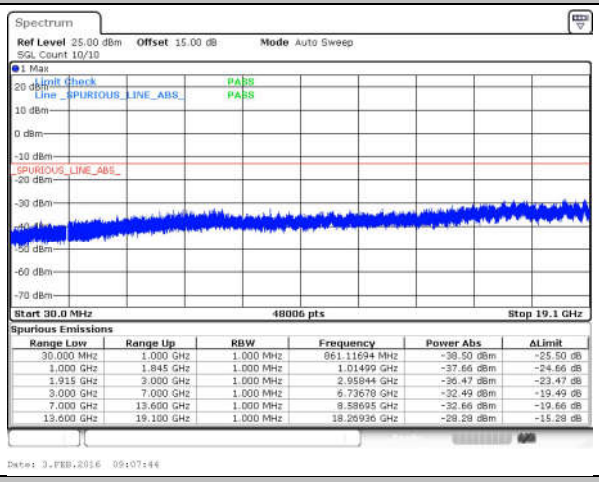
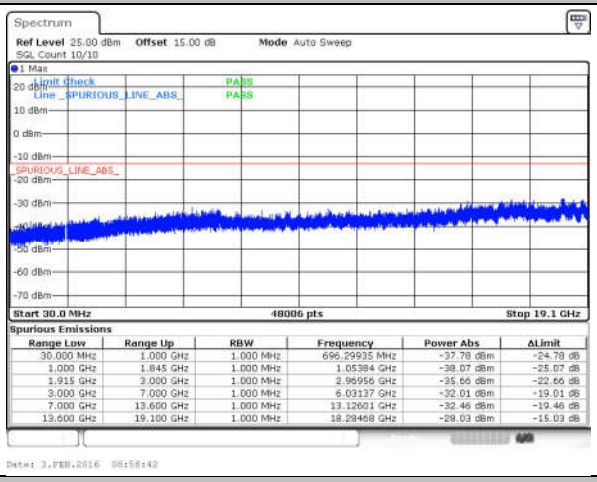
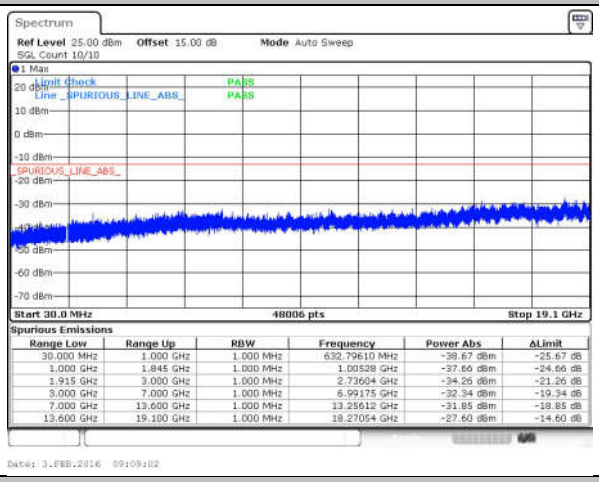
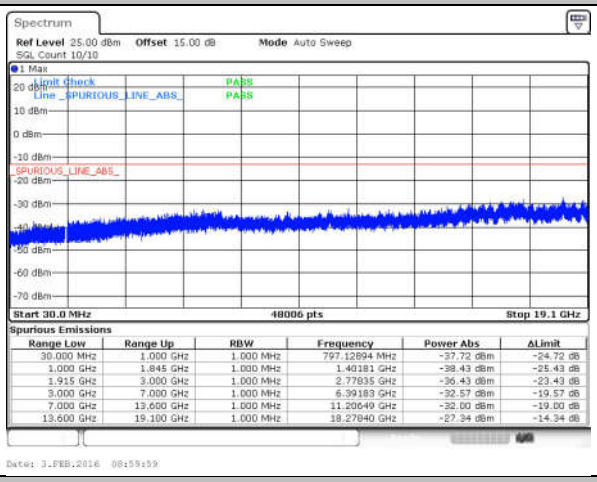
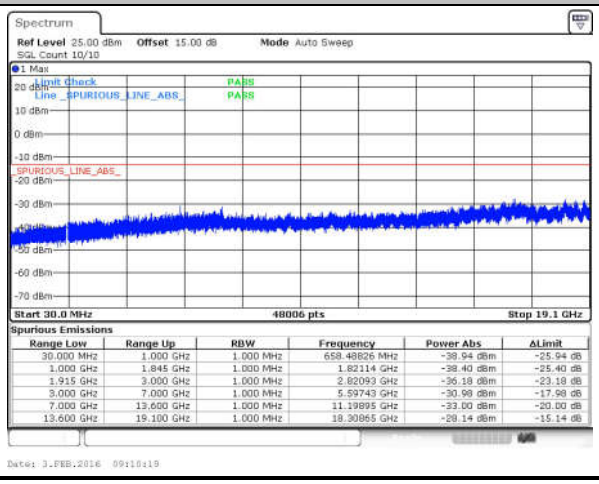
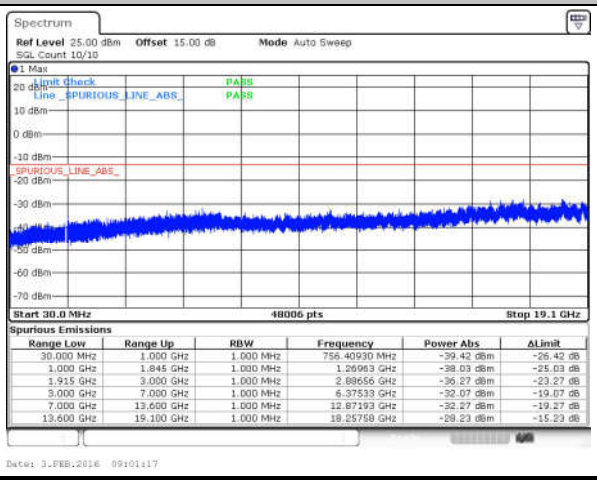



### Middle Channel




### Highest Channel



| GSM1900 (GSM) | GSM1900 (EDGE class 8) |
|---|---|
| **Lowest Channel** | **Lowest Channel** |
|  |  |
| **Middle Channel** | **Middle Channel** |
|  |  |
| **Highest Channel** | **Highest Channel** |
|  |  |

# Frequency Stability

| Test Conditions | Middle Channel | GSM850 (GSM) | GSM850 (EDGE class 8) | Limit 2.5ppm |
|---|---|---|---|---|
| Temperature (°C) | Voltage (Volt) | Deviation (ppm) | | Result |
| 50 | Normal Voltage | 0.0155 | 0.0132 | PASS |
| 40 | Normal Voltage | 0.0108 | 0.0036 | |
| 30 | Normal Voltage | 0.0024 | 0.0012 | |
| 20(Ref.) | Normal Voltage | 0.0000 | 0.0000 | |
| 10 | Normal Voltage | 0.0012 | 0.0012 | |
| 0 | Normal Voltage | 0.0036 | 0.0060 | |
| -10 | Normal Voltage | 0.0060 | 0.0084 | |
| -20 | Normal Voltage | 0.0108 | 0.0132 | |
| -30 | Normal Voltage | 0.0120 | 0.0155 | |
| 20 | Maximum Voltage | 0.0060 | 0.0036 | |
| 20 | Normal Voltage | 0.0012 | 0.0012 | |
| 20 | Battery End Point | 0.0036 | 0.0048 | |

**Note:** Normal Voltage = 3.8V. ；Battery End Point (BEP) = 3.5 V.；Maximum Voltage =4.2 V

| Test Conditions | Middle Channel | GSM1900 (GSM) | GSM1900 (EDGE class 8) | Limit Note 2. |
|---|---|---|---|---|
| Temperature (°C) | Voltage (Volt) | Deviation (ppm) | | Result |
| 50 | Normal Voltage | 0.0027 | 0.0005 | PASS |
| 40 | Normal Voltage | 0.0011 | 0.0457 | |
| 30 | Normal Voltage | 0.0404 | 0.0021 | |
| 20(Ref.) | Normal Voltage | 0.0000 | 0.0000 | |
| 10 | Normal Voltage | 0.0011 | 0.0005 | |
| 0 | Normal Voltage | 0.0426 | 0.0495 | |
| -10 | Normal Voltage | 0.0032 | 0.0011 | |
| -20 | Normal Voltage | 0.0027 | 0.0005 | |
| -30 | Normal Voltage | 0.0037 | 0.0021 | |
| 20 | Maximum Voltage | 0.0016 | 0.0021 | |
| 20 | Normal Voltage | 0.0000 | 0.0037 | |
| 20 | Battery End Point | 0.0021 | 0.0027 | |

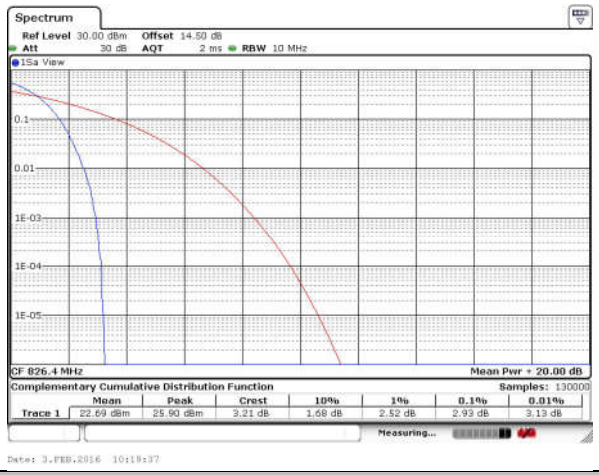
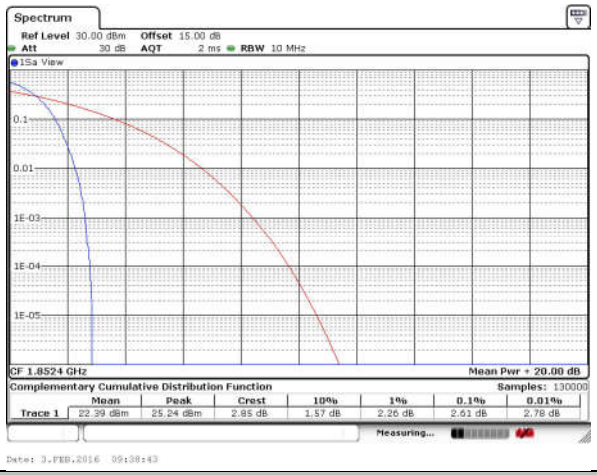
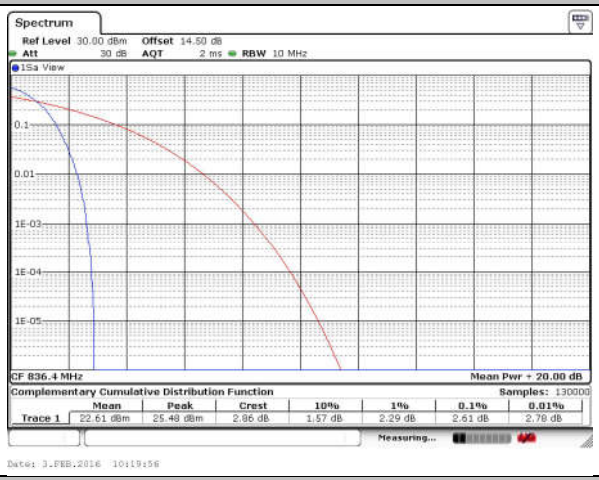
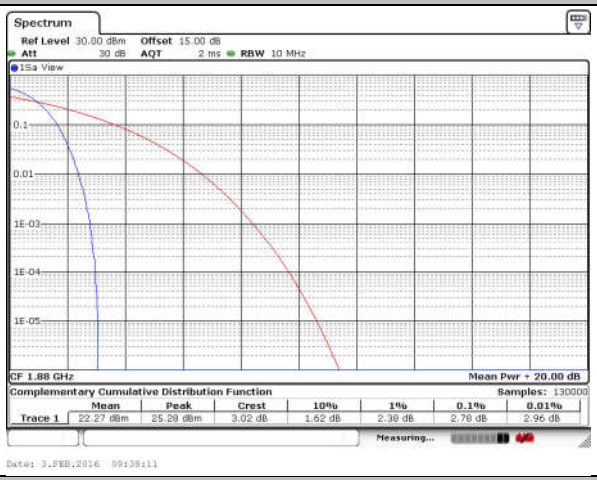
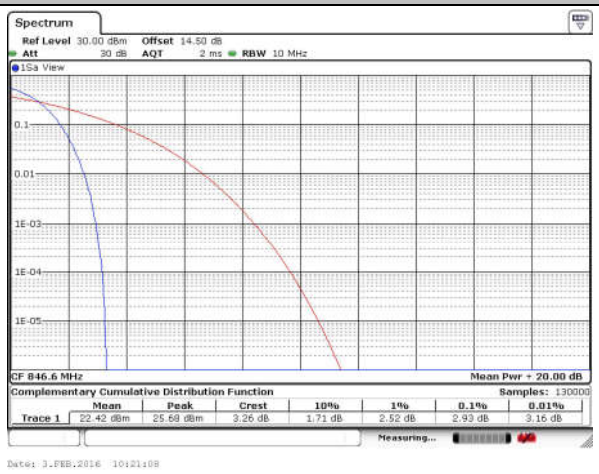
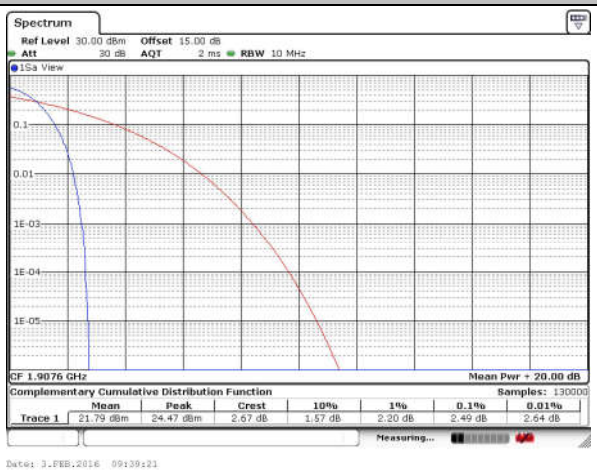
**Note:**

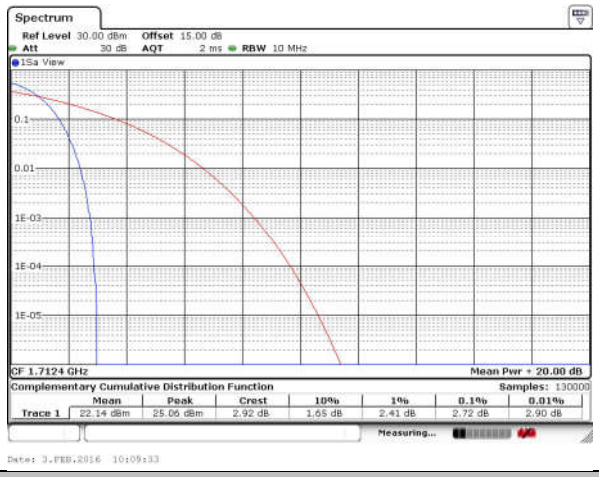
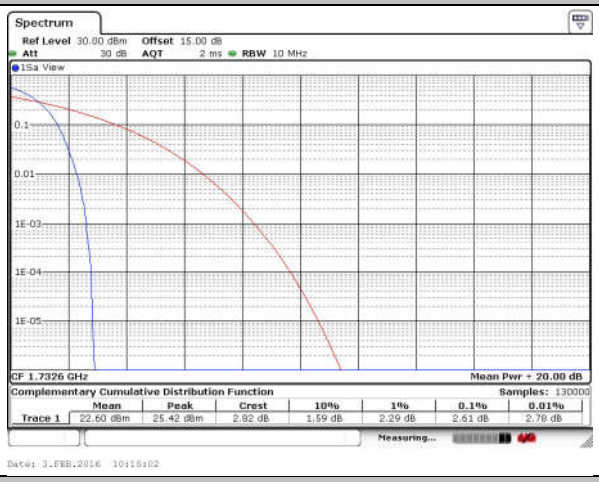
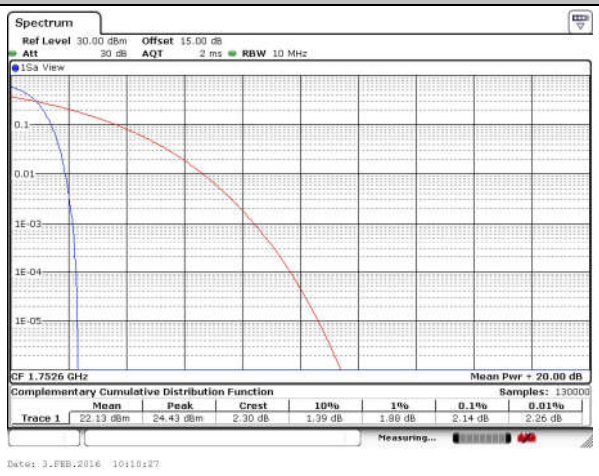
1. Normal Voltage = 3.8V. ；Battery End Point (BEP) = 3.5 V.；Maximum Voltage =4.2 V
2. The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

# A2. WCDMA

## Peak-to-Average Ratio

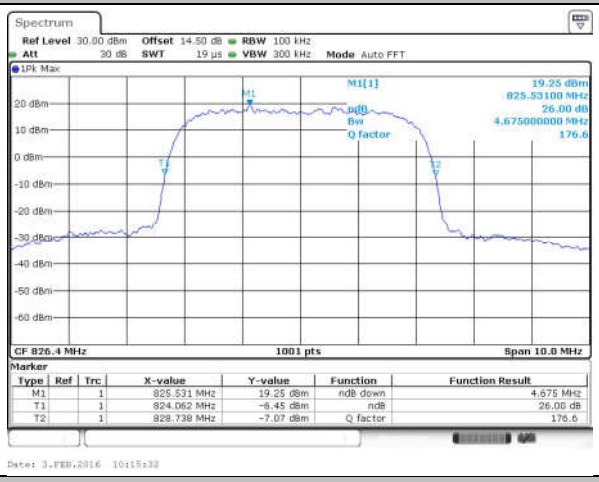
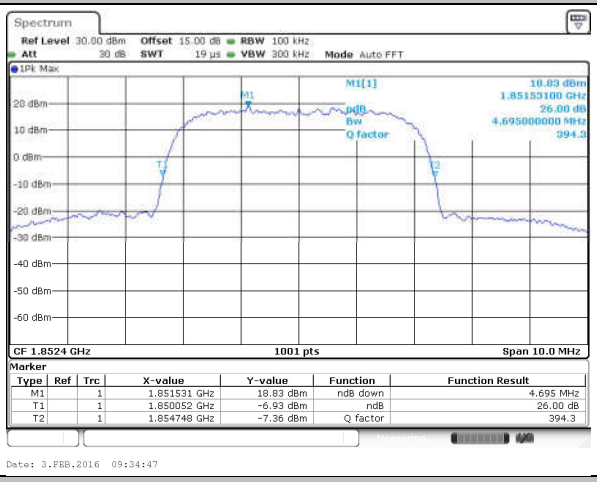
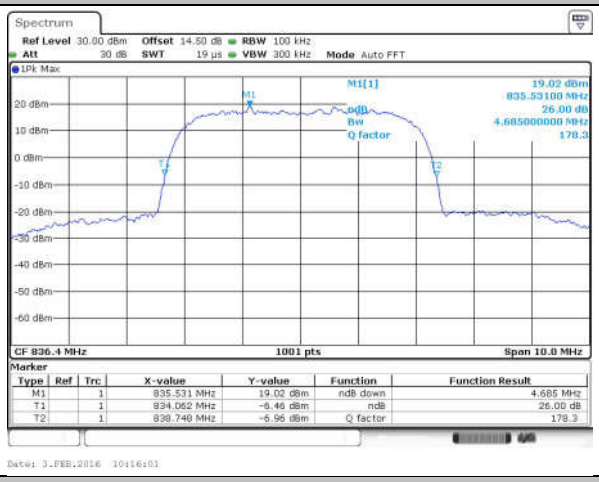
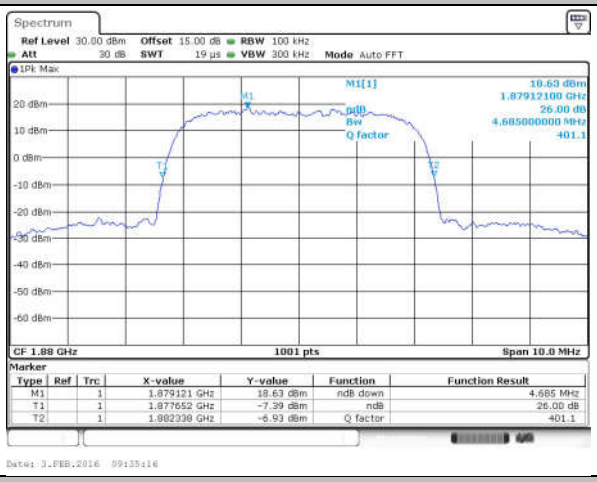
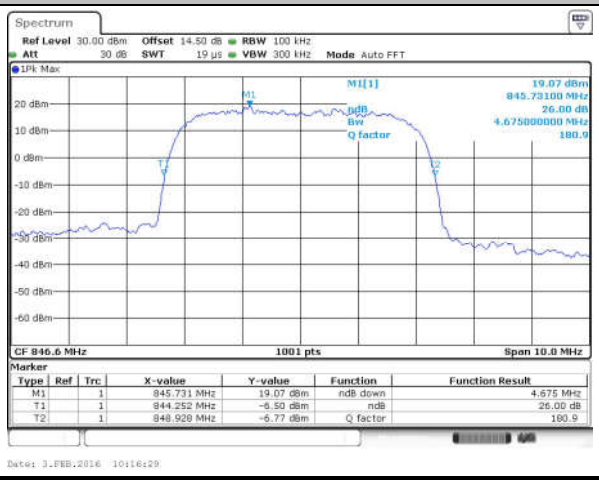
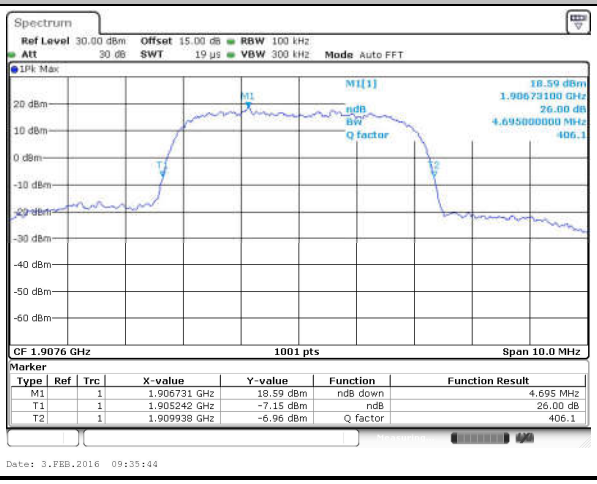
| Mode | WCDMA Band V | WCDMA Band II | WCDMA Band IV | Limit: 13dB |
|---|---|---|---|---|
| Mod. | RMC 12.2Kbps | RMC 12.2Kbps | RMC 12.2Kbps | Result |
| Lowest CH | 2.93 | 2.61 | 2.72 | PASS |
| Middle CH | 2.61 | 2.78 | 2.61 | |
| Highest CH | 2.93 | 2.49 | 2.14 | |

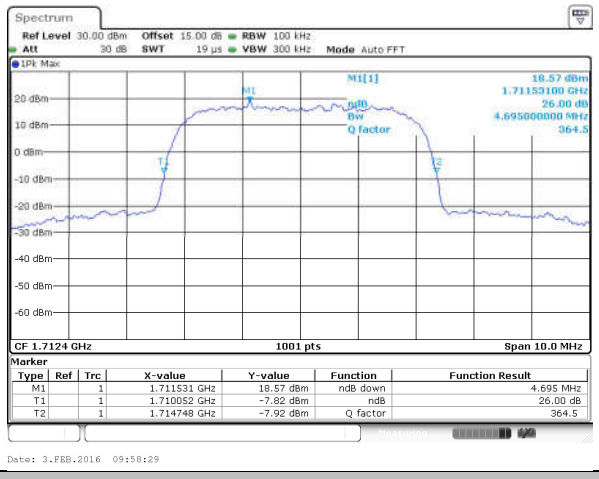
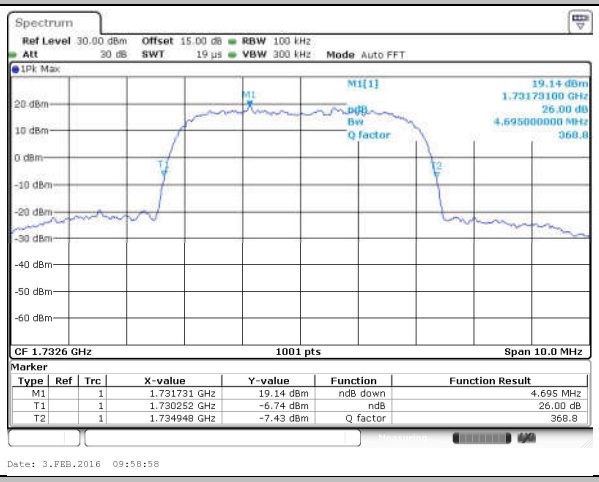
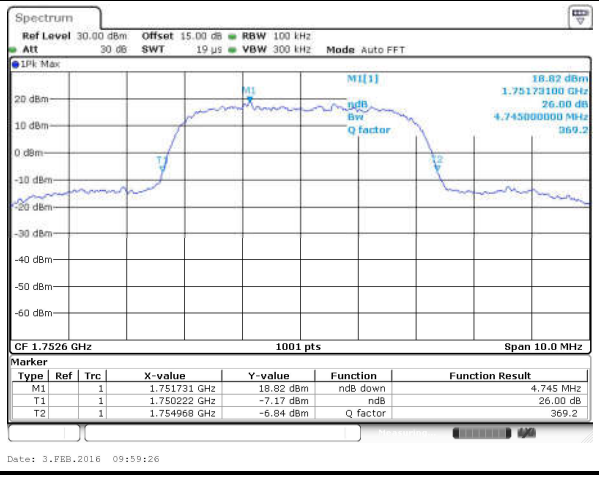
| WCDMA Band V (RMC 12.2Kbps) | WCDMA Band II (RMC 12.2Kbps) |
|---|---|
| **Lowest Channel** | **Lowest Channel** |
|  |  |
| **Middle Channel** | **Middle Channel** |
|  |  |
| **Highest Channel** | **Highest Channel** |
|  |  |

| WCDMA Band IV (RMC 12.2Kbps) | |
|---|---|
| **Lowest Channel** | |
|  | |
| **Middle Channel** | |
|  | |
| **Highest Channel** | |
|  | |

# 26dB Bandwidth

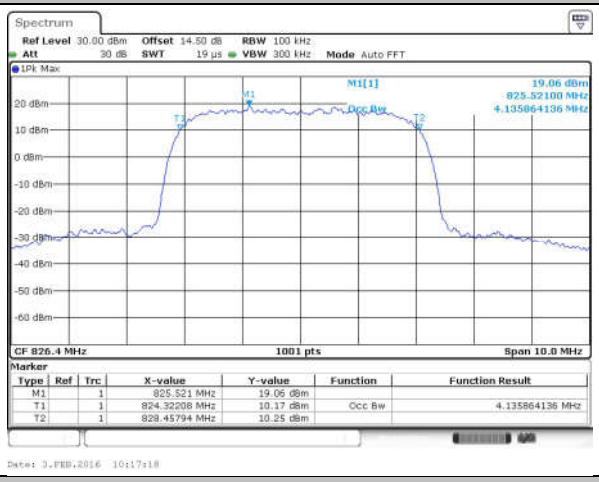
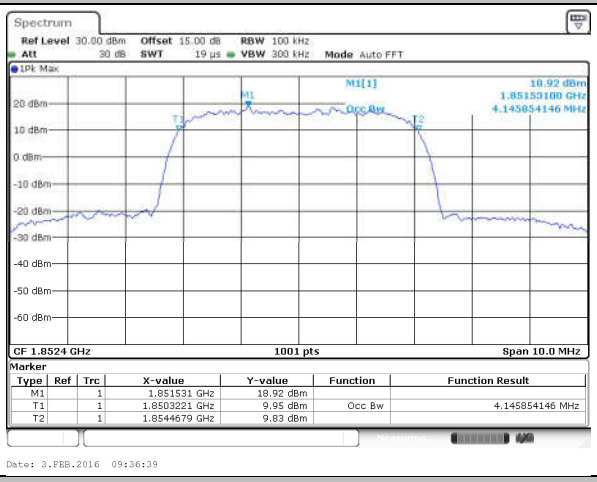
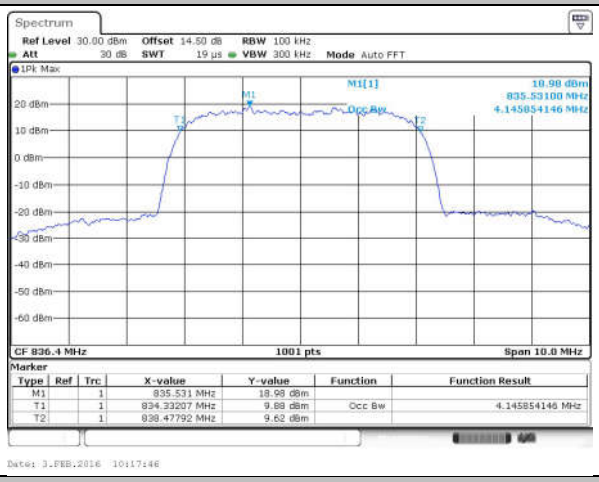
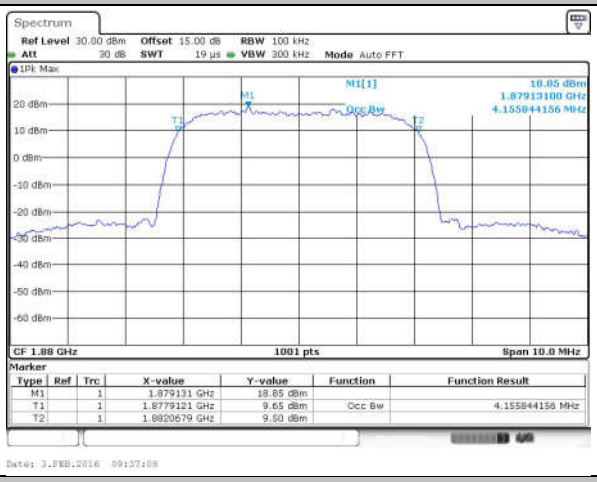
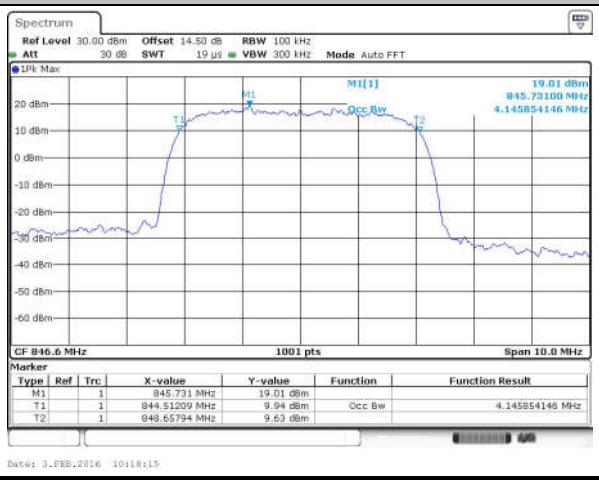
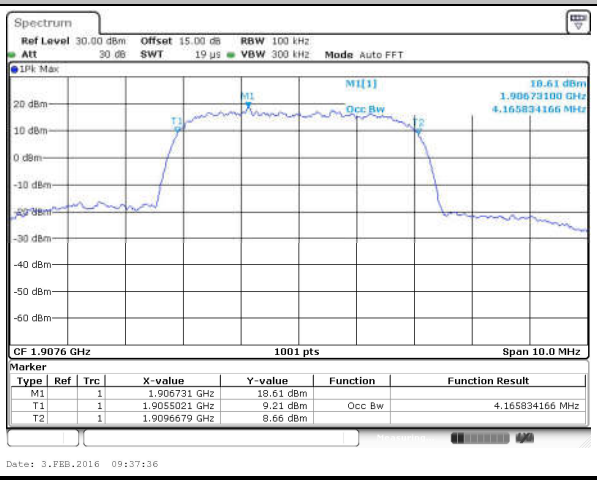
| Mode | WCDMA Band V | WCDMA Band II | WCDMA Band IV |
|---|---|---|---|
| Mod. | RMC 12.2Kbps | RMC 12.2Kbps | RMC 12.2Kbps |
| Lowest CH | 4.68 | 4.70 | 4.70 |
| Middle CH | 4.69 | 4.69 | 4.70 |
| Highest CH | 4.68 | 4.70 | 4.75 |

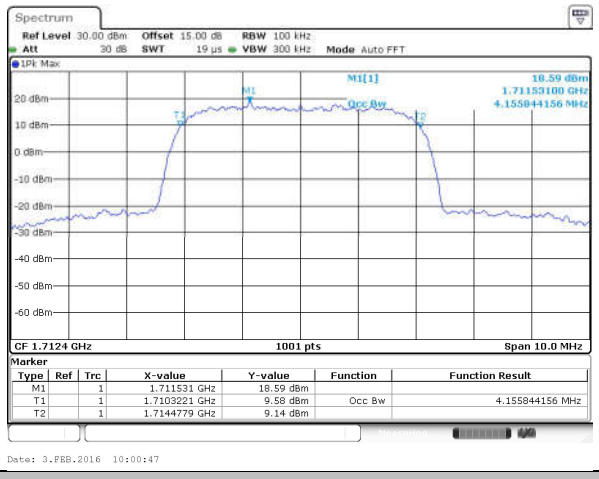
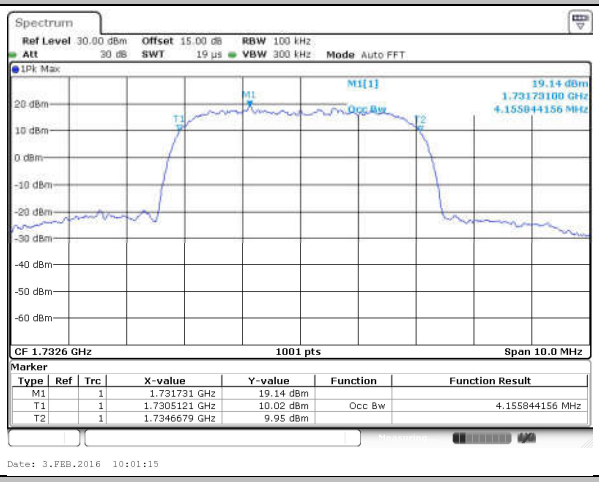
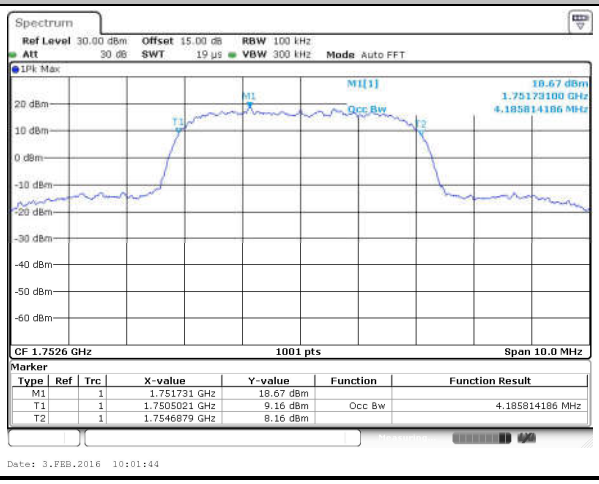
| WCDMA Band V (RMC 12.2Kbps) | WCDMA Band II (RMC 12.2Kbps) |
|---|---|
| **Lowest Channel** | **Lowest Channel** |
|  |  |
| **Middle Channel** | **Middle Channel** |
|  |  |
| **Highest Channel** | **Highest Channel** |
|  |  |

| WCDMA Band IV (RMC 12.2Kbps) | |
|---|---|
| **Lowest Channel** | |
|  | |
| **Middle Channel** | |
|  | |
| **Highest Channel** | |
|  | |

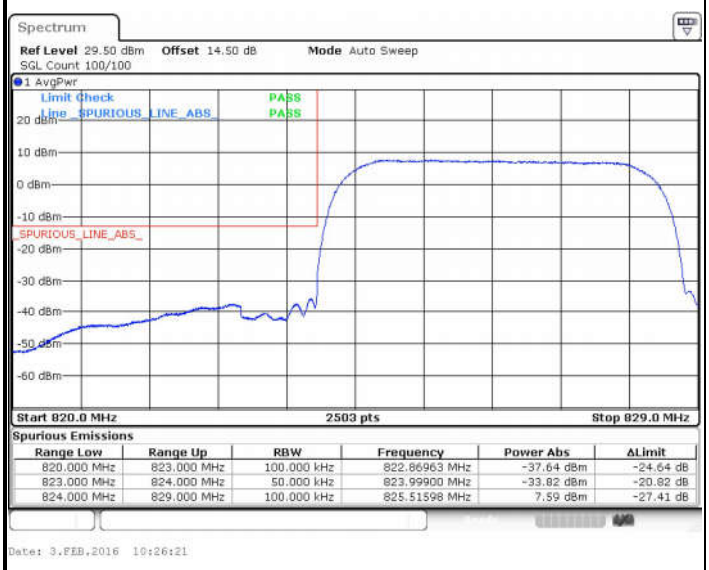
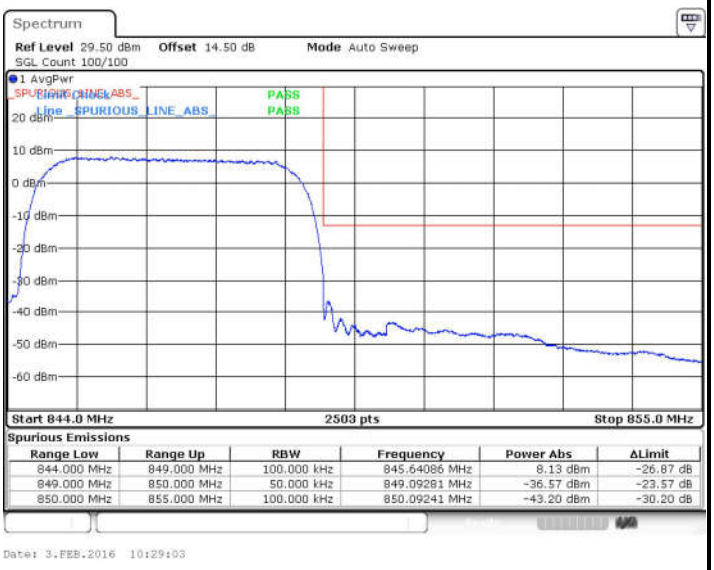
# Occupied Bandwidth

| Mode | WCDMA Band V | WCDMA Band II | WCDMA Band IV |
|---|---|---|---|
| Mod. | RMC 12.2Kbps | RMC 12.2Kbps | RMC 12.2Kbps |
| Lowest CH | 4.14 | 4.15 | 4.16 |
| Middle CH | 4.15 | 4.16 | 4.16 |
| Highest CH | 4.15 | 4.17 | 4.19 |

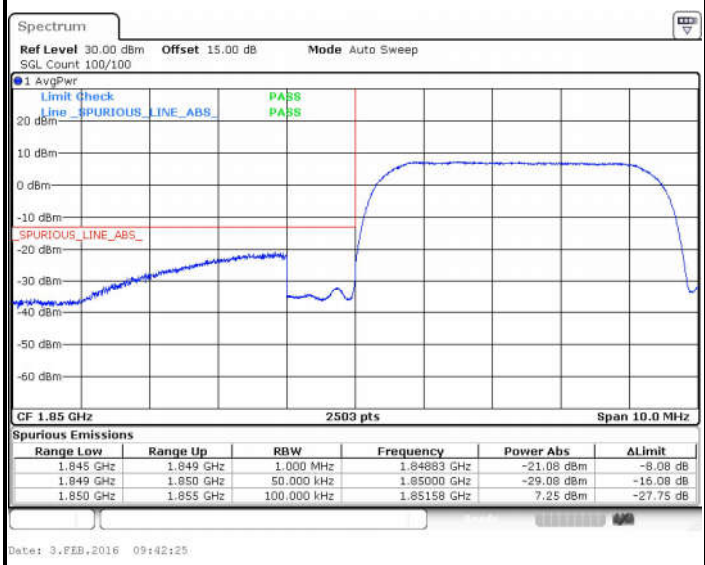
| WCDMA Band V (RMC 12.2Kbps) | WCDMA Band II (RMC 12.2Kbps) |
|---|---|
| **Lowest Channel** | **Lowest Channel** |
|  |  |
| **Middle Channel** | **Middle Channel** |
|  |  |
| **Highest Channel** | **Highest Channel** |
|  |  |

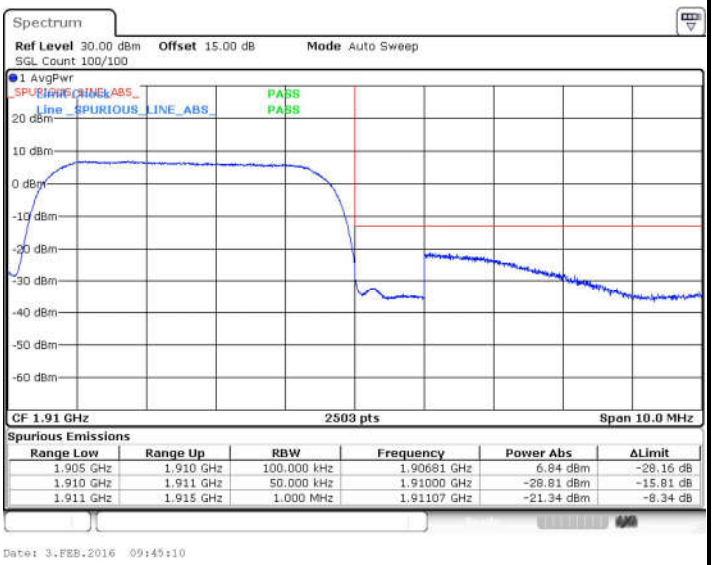
| WCDMA Band IV (RMC 12.2Kbps) | |
|---|---|
| **Lowest Channel** | |
|  | |
| **Middle Channel** | |
|  | |
| **Highest Channel** | |
|  | |

# Conducted Band Edge

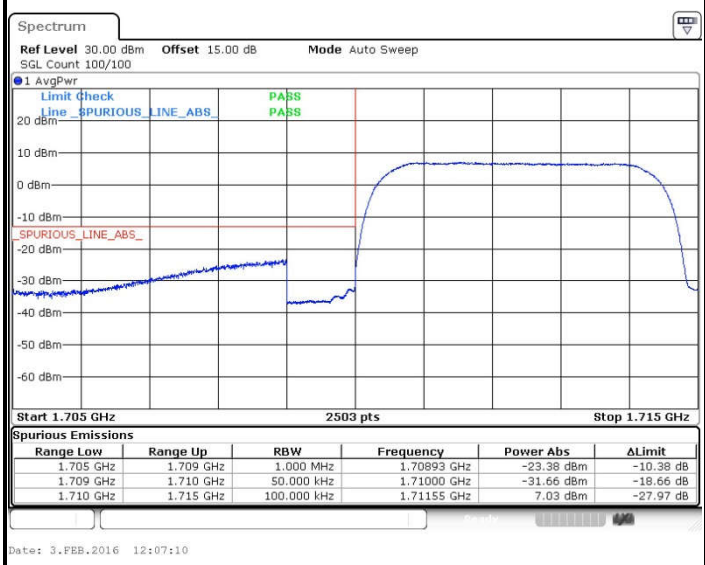
| WCDMA Band V (RMC 12.2Kbps) | |
|---|---|
| **Lowest Band Edge** | **Highest Band Edge** |
|  |  |

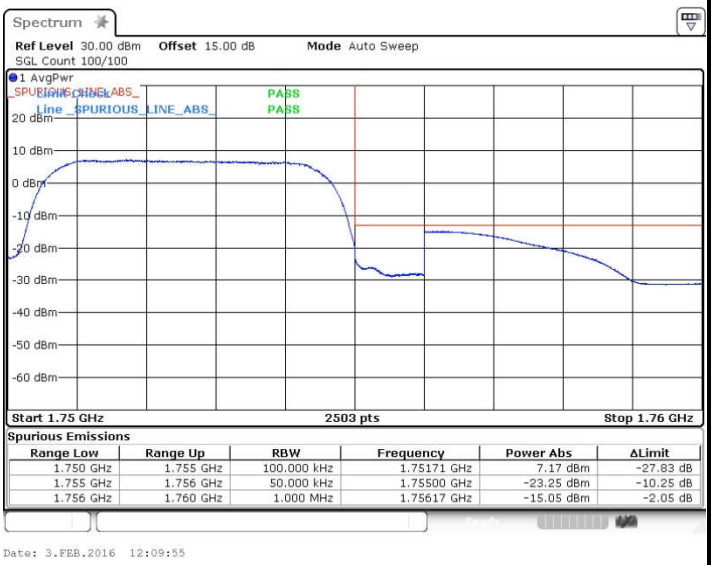
| WCDMA Band II (RMC 12.2Kbps) | |
|---|---|
| **Lowest Band Edge** | **Highest Band Edge** |



| WCDMA Band IV (RMC 12.2Kbps) | |
|---|---|
| **Lowest Band Edge** | **Highest Band Edge** |

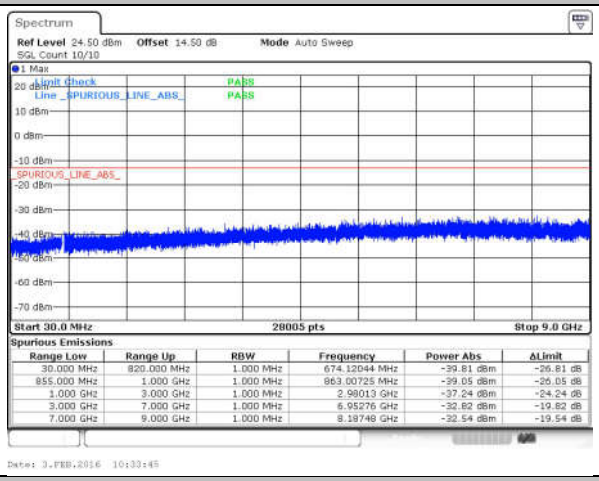


# Conducted Spurious Emission

## WCDMA Band V (RMC 12.2Kbps)

### Lowest Channel

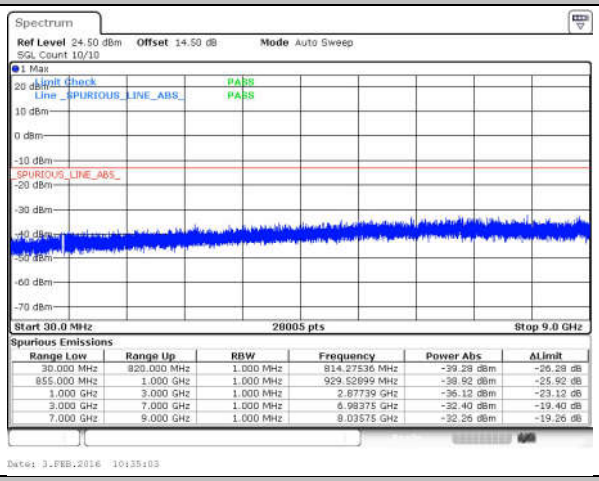



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 30.000 MHz | 820.000 MHz | 1.000 MHz | 674.12044 MHz | -39.81 dBm | -26.81 dB |
| 855.000 MHz | 1.000 GHz | 1.000 MHz | 863.00725 MHz | -39.05 dBm | -26.05 dB |
| 1.000 GHz | 3.000 GHz | 1.000 MHz | 2.98013 GHz | -37.24 dBm | -24.24 dB |
| 3.000 GHz | 7.000 GHz | 1.000 MHz | 6.95276 GHz | -32.62 dBm | -19.82 dB |
| 7.000 GHz | 9.000 GHz | 1.000 MHz | 8.18748 GHz | -32.54 dBm | -19.54 dB |

Date: 3.FEB.2016 10:33:45

### Middle Channel

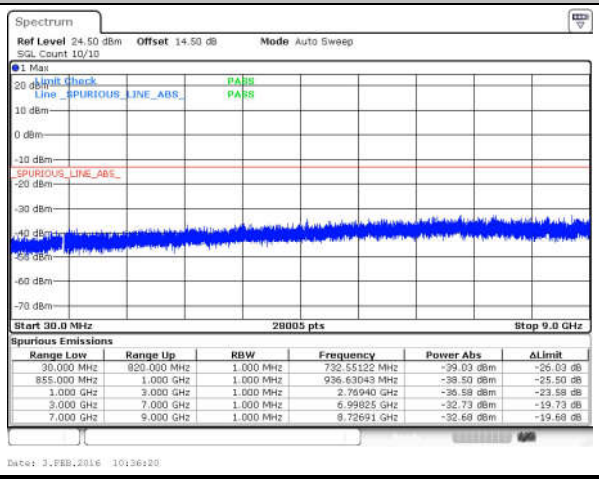



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 30.000 MHz | 820.000 MHz | 1.000 MHz | 814.27536 MHz | -39.28 dBm | -26.28 dB |
| 855.000 MHz | 1.000 GHz | 1.000 MHz | 929.52899 MHz | -38.92 dBm | -25.92 dB |
| 1.000 GHz | 3.000 GHz | 1.000 MHz | 2.87739 GHz | -36.12 dBm | -23.12 dB |
| 3.000 GHz | 7.000 GHz | 1.000 MHz | 6.98375 GHz | -32.40 dBm | -19.40 dB |
| 7.000 GHz | 9.000 GHz | 1.000 MHz | 9.03575 GHz | -32.26 dBm | -19.26 dB |

Date: 3.FEB.2016 10:35:03

### Highest Channel



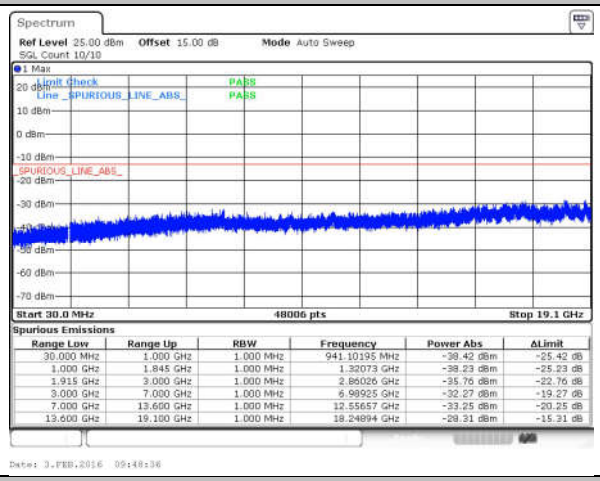

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 30.000 MHz | 820.000 MHz | 1.000 MHz | 732.55122 MHz | -39.03 dBm | -26.03 dB |
| 855.000 MHz | 1.000 GHz | 1.000 MHz | 936.63043 MHz | -38.50 dBm | -25.50 dB |
| 1.000 GHz | 3.000 GHz | 1.000 MHz | 2.76940 GHz | -36.58 dBm | -23.58 dB |
| 3.000 GHz | 7.000 GHz | 1.000 MHz | 6.99825 GHz | -32.73 dBm | -19.73 dB |
| 7.000 GHz | 9.000 GHz | 1.000 MHz | 8.72691 GHz | -32.68 dBm | -19.68 dB |

Date: 3.FEB.2016 10:36:20

## WCDMA Band II (RMC 12.2Kbps)

### Lowest Channel

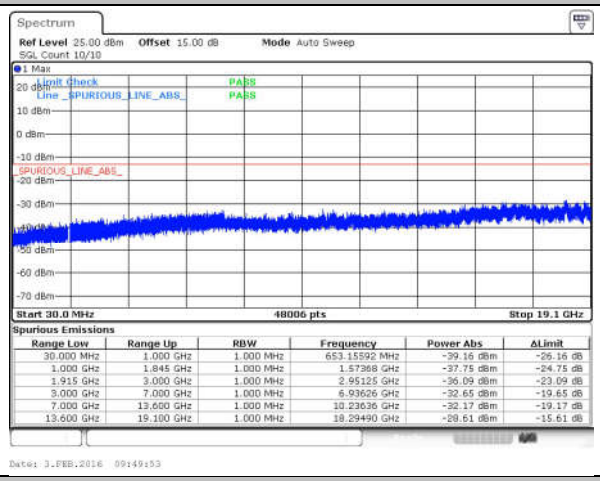



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 30.000 MHz | 1.000 GHz | 1.000 MHz | 941.10195 MHz | -38.42 dBm | -25.42 dB |
| 1.000 GHz | 1.845 GHz | 1.000 MHz | 1.32073 GHz | -38.23 dBm | -25.23 dB |
| 1.915 GHz | 3.000 GHz | 1.000 MHz | 2.86026 GHz | -35.76 dBm | -22.76 dB |
| 3.000 GHz | 7.000 GHz | 1.000 MHz | 6.98925 GHz | -32.27 dBm | -19.27 dB |
| 7.000 GHz | 13.600 GHz | 1.000 MHz | 12.55657 GHz | -33.25 dBm | -20.25 dB |
| 13.600 GHz | 19.100 GHz | 1.000 MHz | 18.24894 GHz | -28.31 dBm | -15.31 dB |

Date: 3.FEB.2016 09:48:36

### Middle Channel

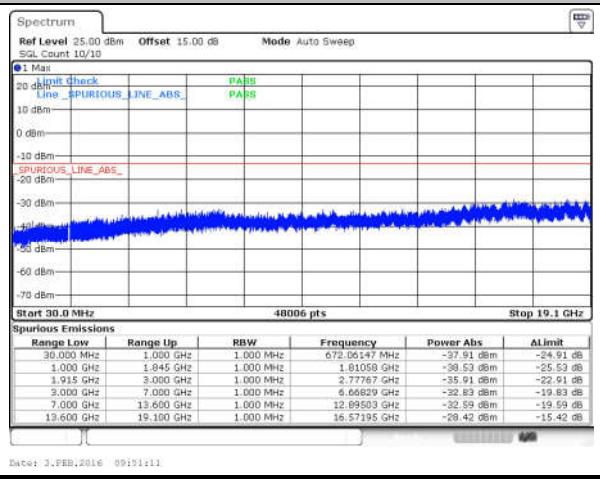



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 30.000 MHz | 1.000 GHz | 1.000 MHz | 653.15592 MHz | -39.16 dBm | -26.16 dB |
| 1.000 GHz | 1.845 GHz | 1.000 MHz | 1.57368 GHz | -37.75 dBm | -24.75 dB |
| 1.915 GHz | 3.000 GHz | 1.000 MHz | 2.95125 GHz | -36.09 dBm | -23.09 dB |
| 3.000 GHz | 7.000 GHz | 1.000 MHz | 6.93626 GHz | -32.65 dBm | -19.65 dB |
| 7.000 GHz | 13.600 GHz | 1.000 MHz | 10.23636 GHz | -32.17 dBm | -19.17 dB |
| 13.600 GHz | 19.100 GHz | 1.000 MHz | 18.29490 GHz | -28.61 dBm | -15.61 dB |

Date: 3.FEB.2016 09:49:53

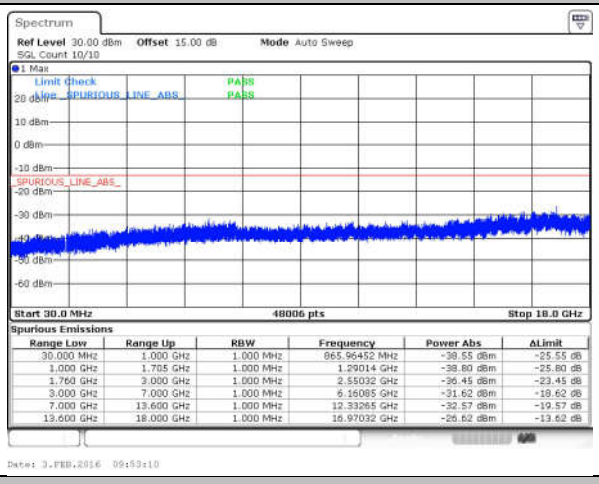
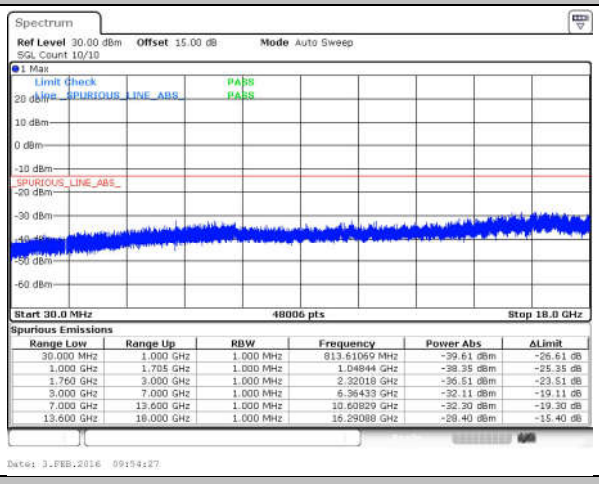
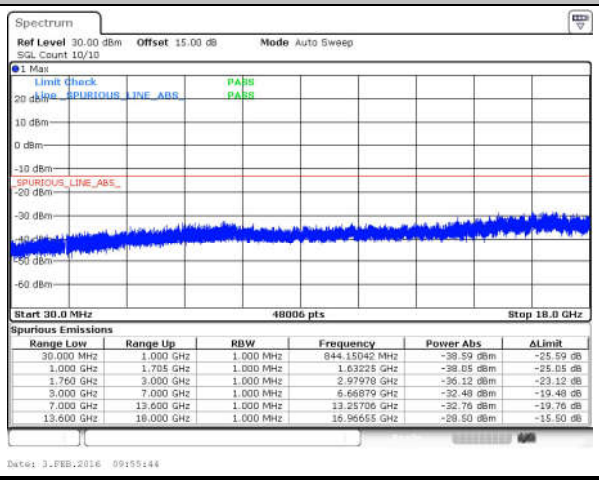
### Highest Channel




Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 30.000 MHz | 1.000 GHz | 1.000 MHz | 672.06147 MHz | -37.91 dBm | -24.91 dB |
| 1.000 GHz | 1.845 GHz | 1.000 MHz | 1.81058 GHz | -38.53 dBm | -25.53 dB |
| 1.915 GHz | 3.000 GHz | 1.000 MHz | 2.77767 GHz | -35.91 dBm | -22.91 dB |
| 3.000 GHz | 7.000 GHz | 1.000 MHz | 6.66829 GHz | -32.83 dBm | -19.83 dB |
| 7.000 GHz | 13.600 GHz | 1.000 MHz | 12.89503 GHz | -32.59 dBm | -19.59 dB |
| 13.600 GHz | 19.100 GHz | 1.000 MHz | 16.57195 GHz | -28.42 dBm | -15.42 dB |

Date: 3.FEB.2016 09:51:11

| WCDMA Band IV (RMC 12.2Kbps) | |
|---|---|
| **Lowest Channel** | |
|  | |
| **Middle Channel** | |
|  | |
| **Highest Channel** | |
|  | |

# Frequency Stability

| Test Conditions | Middle Channel | WCDMA Band V (RMC 12.2KbpsRMC 12.2Kbps) | Limit 2.5ppm |
|---|---|---|---|
| Temperature (°C) | Voltage (Volt) | Deviation (ppm) | Result |
| 50 | Normal Voltage | 0.0084 | PASS |
| 40 | Normal Voltage | 0.0179 | |
| 30 | Normal Voltage | 0.0036 | |
| 20(Ref.) | Normal Voltage | 0.0000 | |
| 10 | Normal Voltage | 0.0132 | |
| 0 | Normal Voltage | 0.0024 | |
| -10 | Normal Voltage | 0.0048 | |
| -20 | Normal Voltage | 0.0084 | |
| -30 | Normal Voltage | 0.0191 | |
| 20 | Maximum Voltage | 0.0036 | |
| 20 | Normal Voltage | 0.0012 | |
| 20 | Battery End Point | 0.0060 | |

**Note:** Normal Voltage = 3.8V. ；Battery End Point (BEP) = 3.5V.；Maximum Voltage =4.2 V

| Test Conditions | Middle Channel | WCDMA Band II (RMC 12.2Kbps) | Limit Note 2. |
|---|---|---|---|
| Temperature (°C) | Voltage (Volt) | Deviation (ppm) | Result |
| 50 | Normal Voltage | 0.0032 | PASS |
| 40 | Normal Voltage | 0.0191 | |
| 30 | Normal Voltage | 0.0011 | |
| 20(Ref.) | Normal Voltage | 0.0000 | |
| 10 | Normal Voltage | 0.0005 | |
| 0 | Normal Voltage | 0.0186 | |
| -10 | Normal Voltage | 0.0021 | |
| -20 | Normal Voltage | 0.0032 | |
| -30 | Normal Voltage | 0.0037 | |
| 20 | Maximum Voltage | 0.0000 | |
| 20 | Normal Voltage | 0.0005 | |
| 20 | Battery End Point | 0.0005 | |

**Note:**

1. Normal Voltage = 3.8V. ；Battery End Point (BEP) = 3.5V.；Maximum Voltage =4.2 V
2. The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

| Test Conditions | Middle Channel | WCDMA Band IV (RMC 12.2Kbps) | Limit Note 2. |
|---|---|---|---|
| Temperature (°C) | Voltage (Volt) | Deviation (ppm) | Result |
| 50 | Normal Voltage | 0.0040 | PASS |
| 40 | Normal Voltage | 0.0029 | |
| 30 | Normal Voltage | 0.0133 | |
| 20(Ref.) | Normal Voltage | 0.0000 | |
| 10 | Normal Voltage | 0.0121 | |
| 0 | Normal Voltage | 0.0012 | |
| -10 | Normal Voltage | 0.0029 | |
| -20 | Normal Voltage | 0.0035 | |
| -30 | Normal Voltage | 0.0052 | |
| 20 | Maximum Voltage | 0.0012 | |
| 20 | Normal Voltage | 0.0000 | |
| 20 | Battery End Point | 0.0023 | |

**Note:**

1. Normal Voltage = 3.8V. ；Battery End Point (BEP) = 3.5V.；Maximum Voltage =4.2 V
2. The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

# Appendix B. Test Results of Radiated Test

## ERP/EIRP

| Channel | Mode | Horizontal | | Vertical | |
|---|---|---|---|---|---|
| | | ERP(dBm) | ERP(W) | ERP(dBm) | ERP(W) |
| Lowest | GSM850 GSM | 29.80 | 0.9555 | 19.32 | 0.0855 |
| Middle | | 29.23 | 0.8382 | 18.86 | 0.0769 |
| Highest | | 28.62 | 0.7273 | 18.86 | 0.0770 |
| Lowest | GSM850 EDGE class 8 | 22.95 | 0.1974 | 12.25 | 0.0168 |
| Middle | | 23.63 | 0.2306 | 13.16 | 0.0207 |
| Highest | | 24.18 | 0.2620 | 14.50 | 0.0282 |
| Lowest | WCDMA Band V RMC 12.2Kbps | 19.66 | 0.0924 | 9.00 | 0.0080 |
| Middle | | 19.85 | 0.0966 | 9.49 | 0.0089 |
| Highest | | 19.32 | 0.0855 | 9.43 | 0.0088 |
| Limit | ERP < 7W | Result | | PASS | |

| Channel | Mode | Horizontal | | Vertical | |
|---|---|---|---|---|---|
| | | EIRP(dBm) | EIRP(W) | EIRP(dBm) | EIRP(W) |
| Lowest | GSM1900 GSM | 28.19 | 0.6591 | 28.29 | 0.6741 |
| Middle | | 26.36 | 0.4322 | 26.30 | 0.4265 |
| Highest | | 24.92 | 0.3105 | 25.36 | 0.3438 |
| Lowest | GSM1900 EDGE class 8 | 23.11 | 0.2045 | 23.52 | 0.2251 |
| Middle | | 22.02 | 0.1592 | 22.39 | 0.1735 |
| Highest | | 21.87 | 0.1539 | 22.68 | 0.1853 |
| Lowest | WCDMA Band II RMC 12.2Kbps | 20.61 | 0.1152 | 20.81 | 0.1204 |
| Middle | | 18.56 | 0.0718 | 18.58 | 0.0720 |
| Highest | | 18.31 | 0.0677 | 18.54 | 0.0714 |
| Limit | EIRP < 2W | Result | | PASS | |

| Channel | Mode | Horizontal | | Vertical | |
|---|---|---|---|---|---|
| | | EIRP(dBm) | EIRP(W) | EIRP(dBm) | EIRP(W) |
| Lowest | WCDMA Band IV RMC 12.2Kbps | 22.67 | 0.1850 | 22.73 | 0.1877 |
| Middle | | 24.72 | 0.2966 | 24.78 | 0.3009 |
| Highest | | 23.85 | 0.2426 | 23.94 | 0.2478 |
| Limit | EIRP < 1W | Result | | PASS | |

# Radiated Spurious Emission

| GSM850 (GSM) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | Frequency ( MHz ) | ERP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 1648.4 | -47.18 | -13 | -34.18 | -51.77 | -45.61 | 4.92 | 5.50 | H |
| | 2472.6 | -36.55 | -13 | -23.55 | -46.61 | -34.09 | 6.11 | 5.80 | H |
| | 3296.8 | -50.74 | -13 | -37.74 | -59.46 | -49.36 | 7.33 | 8.10 | H |
| | 1648.4 | -45.92 | -13 | -32.92 | -51.12 | -44.35 | 4.92 | 5.50 | V |
| | 2472.6 | -36.69 | -13 | -23.69 | -46.57 | -34.23 | 6.11 | 5.80 | V |
| | 3296.8 | -51.54 | -13 | -38.54 | -59.77 | -50.16 | 7.33 | 8.10 | V |
| Middle | 1672 | -47.95 | -13 | -34.95 | -52.51 | -46.38 | 4.92 | 5.50 | H |
| | 2510 | -35.43 | -13 | -22.43 | -45.61 | -32.97 | 6.11 | 5.80 | H |
| | 3346 | -52.16 | -13 | -39.16 | -60.88 | -50.78 | 7.33 | 8.10 | H |
| | 1672 | -50.41 | -13 | -37.41 | -54.46 | -48.84 | 4.92 | 5.50 | V |
| | 2510 | -36.55 | -13 | -23.55 | -46.45 | -34.09 | 6.11 | 5.80 | V |
| | 3346 | -52.73 | -13 | -39.73 | -60.96 | -51.35 | 7.33 | 8.10 | V |
| Highest | 1697.6 | -48.76 | -13 | -35.76 | -52.94 | -47.19 | 4.92 | 5.50 | H |
| | 2546.4 | -35.51 | -13 | -22.51 | -45.68 | -33.05 | 6.11 | 5.80 | H |
| | 3395.2 | -50.45 | -13 | -37.45 | -59.17 | -49.07 | 7.33 | 8.10 | H |
| | 1697.6 | -50.68 | -13 | -37.68 | -54.69 | -49.11 | 4.92 | 5.50 | V |
| | 2546.4 | -37.53 | -13 | -24.53 | -47.23 | -35.07 | 6.11 | 5.80 | V |
| | 3395.2 | -50.81 | -13 | -37.81 | -59.04 | -49.43 | 7.33 | 8.10 | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

| GSM850 (EDGE class 8) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | Frequency ( MHz ) | ERP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 1648.4 | -46.75 | -13 | -33.75 | -51.44 | -45.18 | 4.92 | 5.50 | H |
| | 2472.6 | -34.92 | -13 | -21.92 | -45.12 | -32.46 | 6.11 | 5.80 | H |
| | 3296.8 | -51.38 | -13 | -38.38 | -60.10 | -50.00 | 7.33 | 8.10 | H |
| | 1648.4 | -49.02 | -13 | -36.02 | -53.61 | -47.45 | 4.92 | 5.50 | V |
| | 2472.6 | -34.77 | -13 | -21.77 | -44.82 | -32.31 | 6.11 | 5.80 | V |
| | 3296.8 | -54.63 | -13 | -41.63 | -62.86 | -53.25 | 7.33 | 8.10 | V |
| Middle | 1672 | -47.78 | -13 | -34.78 | -52.34 | -46.21 | 4.92 | 5.50 | H |
| | 2510 | -34.97 | -13 | -21.97 | -45.16 | -32.51 | 6.11 | 5.80 | H |
| | 3346 | -53.05 | -13 | -40.05 | -61.77 | -51.67 | 7.33 | 8.10 | H |
| | 1672 | -55.18 | -13 | -42.18 | -57.66 | -53.61 | 4.92 | 5.50 | V |
| | 2510 | -32.17 | -13 | -19.17 | -42.39 | -29.71 | 6.11 | 5.80 | V |
| | 3346 | -53.76 | -13 | -40.76 | -61.99 | -52.38 | 7.33 | 8.10 | V |
| Highest | 1697.6 | -49.38 | -13 | -36.38 | -53.41 | -47.81 | 4.92 | 5.50 | H |
| | 2546.4 | -36.02 | -13 | -23.02 | -46.18 | -33.56 | 6.11 | 5.80 | H |
| | 3395.2 | -50.02 | -13 | -37.02 | -58.74 | -48.64 | 7.33 | 8.10 | H |
| | 1697.6 | -52.02 | -13 | -39.02 | -55.67 | -50.45 | 4.92 | 5.50 | V |
| | 2546.4 | -34.86 | -13 | -21.86 | -44.91 | -32.40 | 6.11 | 5.80 | V |
| | 3395.2 | -52.00 | -13 | -39.00 | -60.23 | -50.62 | 7.33 | 8.10 | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

| GSM1900 (GSM) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | Frequency ( MHz ) | EIRP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 3700.4 | -49.84 | -13 | -36.84 | -61.09 | -61.57 | 0.87 | 12.60 | H |
| | 5550.6 | -39.79 | -13 | -26.79 | -55.79 | -51.82 | 1.07 | 13.10 | H |
| | 7400.8 | -44.72 | -13 | -31.72 | -63.04 | -54.33 | 1.69 | 11.30 | H |
| | 9251 | -41.60 | -13 | -28.60 | -65.03 | -51.67 | 1.83 | 11.90 | H |
| | 11101.2 | -43.04 | -13 | -30.04 | -66.09 | -52.65 | 1.89 | 11.50 | H |
| | 12951.7 | -35.69 | -13 | -22.69 | -59.62 | -47.36 | 1.93 | 13.60 | H |
| | 3700.4 | -50.11 | -13 | -37.11 | -62.58 | -61.84 | 0.87 | 12.6 | V |
| | 5550.6 | -38.45 | -13 | -25.45 | -55.11 | -50.48 | 1.07 | 13.1 | V |
| | 7400.8 | -43.63 | -13 | -30.63 | -61.85 | -53.24 | 1.69 | 11.3 | V |
| | 9251 | -45.52 | -13 | -32.52 | -68.33 | -55.59 | 1.83 | 11.9 | V |
| | 11101.2 | -44.81 | -13 | -31.81 | -67.61 | -54.42 | 1.89 | 11.5 | V |
| | 12951.7 | -38.05 | -13 | -25.05 | -61.7 | -49.72 | 1.93 | 13.6 | V |
| Middle | 3760 | -46.98 | -13 | -33.98 | -58.23 | -58.71 | 0.87 | 12.60 | H |
| | 5640 | -38.81 | -13 | -25.81 | -55.27 | -50.84 | 1.07 | 13.10 | H |
| | 7520 | -39.28 | -13 | -26.28 | -57.89 | -48.89 | 1.69 | 11.30 | H |
| | 9400 | -40.54 | -13 | -27.54 | -63.97 | -50.61 | 1.83 | 11.90 | H |
| | 11280 | -43.56 | -13 | -30.56 | -66.61 | -53.17 | 1.89 | 11.50 | H |
| | 13160 | -35.15 | -13 | -22.15 | -59.08 | -46.82 | 1.93 | 13.60 | H |
| | 3760 | -43.98 | -13 | -30.98 | -56.45 | -55.71 | 0.87 | 12.6 | V |
| | 5640 | -37.08 | -13 | -24.08 | -53.99 | -49.11 | 1.07 | 13.1 | V |
| | 7520 | -40.85 | -13 | -27.85 | -59.07 | -50.46 | 1.69 | 11.3 | V |
| | 9400 | -45.83 | -13 | -32.83 | -68.64 | -55.90 | 1.83 | 11.9 | V |
| | 11280 | -45.34 | -13 | -32.34 | -68.14 | -54.95 | 1.89 | 11.5 | V |
| | 13160 | -36.74 | -13 | -23.74 | -60.39 | -48.41 | 1.93 | 13.6 | V |
| Highest | 3819.6 | -39.14 | -13 | -26.14 | -50.89 | -50.87 | 0.87 | 12.60 | H |
| | 5729.4 | -42.47 | -13 | -29.47 | -58.35 | -54.50 | 1.07 | 13.10 | H |
| | 7639.2 | -40.31 | -13 | -27.31 | -58.63 | -49.92 | 1.69 | 11.30 | H |
| | 9549 | -42.49 | -13 | -29.49 | -65.92 | -52.56 | 1.83 | 11.90 | H |
| | 11458.8 | -44.04 | -13 | -31.04 | -67.09 | -53.65 | 1.89 | 11.50 | H |
| | 13368.6 | -36.25 | -13 | -23.25 | -60.18 | -47.92 | 1.93 | 13.60 | H |
| | 3819.6 | -44.71 | -13 | -31.71 | -57.18 | -56.44 | 0.87 | 12.6 | V |
| | 5729.4 | -41.21 | -13 | -28.21 | -57.53 | -53.24 | 1.07 | 13.1 | V |
| | 7639.2 | -38.16 | -13 | -25.16 | -56.79 | -47.77 | 1.69 | 11.3 | V |
| | 9549 | -46.47 | -13 | -33.47 | -69.28 | -56.54 | 1.83 | 11.9 | V |
| | 11458.8 | -45.11 | -13 | -32.11 | -67.91 | -54.72 | 1.89 | 11.5 | V |
| | 13368.6 | -38.33 | -13 | -25.33 | -61.98 | -50.00 | 1.93 | 13.6 | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

| GSM1900 (EDGE class 8) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | Frequency ( MHz ) | EIRP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 3700.4 | -50.70 | -13 | -37.70 | -61.95 | -62.43 | 0.87 | 12.60 | H |
| | 5550.6 | -34.89 | -13 | -21.89 | -52.05 | -46.92 | 1.07 | 13.10 | H |
| | 7400.8 | -49.13 | -13 | -36.13 | -67.45 | -58.74 | 1.69 | 11.30 | H |
| | 3700.4 | -50.94 | -13 | -37.94 | -63.41 | -62.67 | 0.87 | 12.6 | V |
| | 5550.6 | -36.23 | -13 | -23.23 | -53.51 | -48.26 | 1.07 | 13.1 | V |
| | 7400.8 | -50.02 | -13 | -37.02 | -68.24 | -59.63 | 1.69 | 11.3 | V |
| Middle | 3760 | -48.46 | -13 | -35.46 | -59.71 | -60.19 | 0.87 | 12.60 | H |
| | 5640 | -41.29 | -13 | -28.29 | -57.17 | -53.32 | 1.07 | 13.10 | H |
| | 7520 | -49.50 | -13 | -36.50 | -67.82 | -59.11 | 1.69 | 11.30 | H |
| | 3760 | -49.36 | -13 | -36.36 | -61.83 | -61.09 | 0.87 | 12.6 | V |
| | 5640 | -37.92 | -13 | -24.92 | -54.24 | -49.95 | 1.07 | 13.1 | V |
| | 7520 | -49.84 | -13 | -36.84 | -68.06 | -59.45 | 1.69 | 11.3 | V |
| Highest | 3819.6 | -49.65 | -13 | -36.65 | -60.90 | -61.38 | 0.87 | 12.60 | H |
| | 5729.4 | -41.86 | -13 | -28.86 | -57.74 | -53.89 | 1.07 | 13.10 | H |
| | 7639.2 | -45.30 | -13 | -32.30 | -63.62 | -54.91 | 1.69 | 11.30 | H |
| | 3819.6 | -50.92 | -13 | -37.92 | -63.39 | -62.65 | 0.87 | 12.6 | V |
| | 5729.4 | -37.68 | -13 | -24.68 | -54.53 | -49.71 | 1.07 | 13.1 | V |
| | 7639.2 | -47.45 | -13 | -34.45 | -65.67 | -57.06 | 1.69 | 11.3 | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

| WCDMA Band V(RMC 12.2Kbps) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | Frequency ( MHz ) | ERP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 1652.8 | -58.23 | -13 | -45.23 | -60.54 | -56.66 | 4.92 | 5.50 | H |
| | 2479.2 | -55.69 | -13 | -42.69 | -61.98 | -53.23 | 6.11 | 5.80 | H |
| | 3305.6 | -56.72 | -13 | -43.72 | -65.44 | -55.34 | 7.33 | 8.10 | H |
| | 1652.8 | -59.81 | -13 | -46.81 | -62.29 | -58.24 | 4.92 | 5.50 | V |
| | 2479.2 | -55.69 | -13 | -42.69 | -61.27 | -53.23 | 6.11 | 5.80 | V |
| | 3305.6 | -56.93 | -13 | -43.93 | -65.16 | -55.55 | 7.33 | 8.10 | V |
| Middle | 1672 | -59.05 | -13 | -46.05 | -61.36 | -57.48 | 4.92 | 5.50 | H |
| | 2510 | -55.81 | -13 | -42.81 | -62.10 | -53.35 | 6.11 | 5.80 | H |
| | 3346 | -56.12 | -13 | -43.12 | -64.84 | -54.74 | 7.33 | 8.10 | H |
| | 1672 | -61.02 | -13 | -48.02 | -63.50 | -59.45 | 4.92 | 5.50 | V |
| | 2510 | -55.70 | -13 | -42.70 | -61.28 | -53.24 | 6.11 | 5.80 | V |
| | 3346 | -57.42 | -13 | -44.42 | -65.65 | -56.04 | 7.33 | 8.10 | V |
| Highest | 1693.2 | -55.84 | -13 | -42.84 | -58.15 | -54.27 | 4.92 | 5.50 | H |
| | 2539.8 | -55.13 | -13 | -42.13 | -61.42 | -52.67 | 6.11 | 5.80 | H |
| | 3386.4 | -56.61 | -13 | -43.61 | -65.33 | -55.23 | 7.33 | 8.10 | H |
| | 1693.2 | -59.55 | -13 | -46.55 | -62.03 | -57.98 | 4.92 | 5.50 | V |
| | 2539.8 | -53.91 | -13 | -40.91 | -59.49 | -51.45 | 6.11 | 5.80 | V |
| | 3386.4 | -57.66 | -13 | -44.66 | -65.89 | -56.28 | 7.33 | 8.10 | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

| WCDMA Band II(RMC 12.2Kbps) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | Frequency ( MHz ) | EIRP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 3704.8 | -54.07 | -13 | -41.07 | -65.32 | -65.80 | 0.87 | 12.60 | H |
| | 5557.2 | -48.40 | -13 | -35.40 | -64.28 | -60.43 | 1.07 | 13.10 | H |
| | 7409.6 | -49.14 | -13 | -36.14 | -67.46 | -58.75 | 1.69 | 11.30 | H |
| | 3704.8 | -52.12 | -13 | -39.12 | -64.59 | -63.85 | 0.87 | 12.6 | V |
| | 5557.2 | -46.00 | -13 | -33.00 | -62.32 | -58.03 | 1.07 | 13.1 | V |
| | 7409.6 | -49.35 | -13 | -36.35 | -67.57 | -58.96 | 1.69 | 11.3 | V |
| Middle | 3760 | -55.17 | -13 | -42.17 | -66.42 | -66.90 | 0.87 | 12.60 | H |
| | 5640 | -50.27 | -13 | -37.27 | -66.15 | -62.30 | 1.07 | 13.10 | H |
| | 7520 | -49.81 | -13 | -36.81 | -68.13 | -59.42 | 1.69 | 11.30 | H |
| | 3760 | -53.08 | -13 | -40.08 | -65.55 | -64.81 | 0.87 | 12.6 | V |
| | 5640 | -48.41 | -13 | -35.41 | -64.73 | -60.44 | 1.07 | 13.1 | V |
| | 7520 | -50.06 | -13 | -37.06 | -68.28 | -59.67 | 1.69 | 11.3 | V |
| Highest | 3815.2 | -51.97 | -13 | -38.97 | -63.22 | -63.70 | 0.87 | 12.60 | H |
| | 5722.8 | -47.71 | -13 | -34.71 | -63.59 | -59.74 | 1.07 | 13.10 | H |
| | 7630.4 | -49.26 | -13 | -36.26 | -67.58 | -58.87 | 1.69 | 11.30 | H |
| | 3815.2 | -49.88 | -13 | -36.88 | -62.35 | -61.61 | 0.87 | 12.6 | V |
| | 5722.8 | -48.21 | -13 | -35.21 | -64.53 | -60.24 | 1.07 | 13.1 | V |
| | 7630.4 | -50.22 | -13 | -37.22 | -68.44 | -59.83 | 1.69 | 11.3 | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

| WCDMA Band IV(RMC 12.2Kbps) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | Frequency ( MHz ) | EIRP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 3424.8 | -50.72 | -13 | -37.72 | -65.47 | -55.99 | 7.33 | 12.60 | H |
| | 5137.2 | -48.09 | -13 | -35.09 | -66.09 | -51.64 | 9.15 | 12.70 | H |
| | 6849.6 | -47.53 | -13 | -34.53 | -66.34 | -48.59 | 10.64 | 11.70 | H |
| | 3424.8 | -53.61 | -13 | -40.61 | -65.19 | -58.88 | 7.33 | 12.60 | V |
| | 5137.2 | -52.28 | -13 | -39.28 | -66.03 | -55.83 | 9.15 | 12.70 | V |
| | 6849.6 | -48.24 | -13 | -35.24 | -66.33 | -49.30 | 10.64 | 11.70 | V |
| Middle | 3465.2 | -50.28 | -13 | -37.28 | -65.03 | -55.55 | 7.33 | 12.60 | H |
| | 5197.8 | -43.31 | -13 | -30.31 | -61.31 | -46.86 | 9.15 | 12.70 | H |
| | 6930.4 | -46.89 | -13 | -33.89 | -65.70 | -47.95 | 10.64 | 11.70 | H |
| | 3465.2 | -53.52 | -13 | -40.52 | -65.1 | -58.79 | 7.33 | 12.60 | V |
| | 5197.8 | -48.80 | -13 | -35.80 | -62.55 | -52.35 | 9.15 | 12.70 | V |
| | 6930.4 | -48.23 | -13 | -35.23 | -66.32 | -49.29 | 10.64 | 11.70 | V |
| Highest | 3505.2 | -50.77 | -13 | -37.77 | -65.52 | -56.04 | 7.33 | 12.60 | H |
| | 5257.8 | -48.24 | -13 | -35.24 | -66.24 | -51.79 | 9.15 | 12.70 | H |
| | 7010.4 | -48.14 | -13 | -35.14 | -66.95 | -49.20 | 10.64 | 11.70 | H |
| | 3505.2 | -54.22 | -13 | -41.22 | -65.8 | -59.49 | 7.33 | 12.60 | V |
| | 5257.8 | -51.60 | -13 | -38.60 | -65.35 | -55.15 | 9.15 | 12.70 | V |
| | 7010.4 | -48.61 | -13 | -35.61 | -66.7 | -49.67 | 10.64 | 11.70 | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.