



# FCC RF Test Report

**APPLICANT** : Nortek Security & Control LLC  
**EQUIPMENT** : Wireless mPERS  
**BRAND NAME** : Nortek  
**MODEL NAME** : 10-1112  
**MARKETING NAME** : Libris  
**FCC ID** : EF4-UL-150  
**STANDARD** : FCC 47 CFR Part 2, 22(H), 24(E)  
**CLASSIFICATION** : PCS Licensed Transmitter (PCB)

The product was received on Nov. 23, 2015 and testing was completed on Jan. 05, 2016. We, SPORTON INTERNATIONAL 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 INC., the test report shall not be reproduced except in full.

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Reviewed by: Joseph Lin / Supervisor

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Approved by: Jones Tsai / Manager



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FCC ID : EF4-UL-150

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Report Template No.: BU5-FG22/24 Version 1.1



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## REVISION HISTORY

| REPORT NO. | VERSION | DESCRIPTION                                                                                                     | ISSUED DATE  |
|------------|---------|-----------------------------------------------------------------------------------------------------------------|--------------|
| FG5N2308   | Rev. 01 | Initial issue of report                                                                                         | May 12, 2016 |
| FG5N2308   | Rev. 02 | Revising the data of Effective Radiated Power and Effective Isotropic Radiated Power Measurement in Appendix B. | May 18, 2016 |
|            |         |                                                                                                                 |              |
|            |         |                                                                                                                 |              |
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|            |         |                                                                                                                 |              |
|            |         |                                                                                                                 |              |



## SUMMARY OF TEST RESULT

| Report Section | FCC Rule                            | Description                                   | Limit                  | Result | Remark                                      |
|----------------|-------------------------------------|-----------------------------------------------|------------------------|--------|---------------------------------------------|
| 3.4            | §2.1046                             | Conducted Output Power                        | Reporting Only         | PASS   | -                                           |
| 3.4            | §90.635                             | Conducted Output Power                        | <100W                  | PASS   | -                                           |
| 3.5            | §24.232(d)                          | Peak-to-Average Ratio                         | < 13 dB                | PASS   | -                                           |
| 3.6            | §2.1049<br>§22.917(b)<br>§24.238(b) | Occupied Bandwidth                            | Reporting Only         | PASS   | -                                           |
| 3.7            | §2.1051<br>§22.917(a)<br>§24.238(a) | Band Edge Measurement                         | < 43+10log10(P[Watts]) | PASS   | -                                           |
| 3.8            | §2.1051<br>§22.917(a)<br>§24.238(a) | Conducted Emission                            | < 43+10log10(P[Watts]) | PASS   | -                                           |
| 3.9            | §2.1055<br>§22.355                  | Frequency Stability for Temperature & Voltage | < 2.5 ppm for Part 22  | PASS   | -                                           |
|                | §2.1055<br>§24.235                  |                                               | Within Authorized Band |        |                                             |
| 4.4            | §22.913(a)(2)                       | Effective Radiated Power                      | < 7 Watts              | PASS   | -                                           |
|                | §24.232(c)                          | Equivalent Isotropic Radiated Power           | < 2 Watts              | PASS   | -                                           |
| 4.5            | §2.1053<br>§22.917(a)<br>§24.238(a) | Field Strength of Spurious Radiation          | < 43+10log10(P[Watts]) | PASS   | Under limit<br>12.06 dB at<br>13372.500 MHz |



# 1 General Description

## 1.1 Applicant

**Nortek Security & Control LLC**

1950 Camino Vida Roble, Suite 150, Carlsbad, CA 92008-6517

## 1.2 Manufacturer

**Wistron NeWeb Corporation**

20 Park Ave. II, Hsinchu Science Park, Hsinchu 308, Taiwan

## 1.3 Product Feature of Equipment Under Test

| Product Feature                 |                                               |
|---------------------------------|-----------------------------------------------|
| Equipment                       | Wireless mPERS                                |
| Brand Name                      | Nortek                                        |
| Model Name                      | 10-1112                                       |
| Marketing Name                  | Libris                                        |
| FCC ID                          | EF4-UL-150                                    |
| EUT supports Radios application | GSM/EGPRS/WCDMA/HSPA<br>Bluetooth v2.1 BR/EDR |
| HW Version                      | version 1.5                                   |
| EUT Stage                       | Production Unit                               |

**Remark:** The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

## 1.4 Product Specification of Equipment Under Test

| Standards-related Product Specification |                                                                                                                                                                            |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Tx Frequency</b>                     | <b>GSM/GPRS/EDGE:</b><br>850: 824.2 MHz ~ 848.8 MHz<br>1900: 1850.2 MHz ~ 1909.8MHz<br><b>WCDMA:</b><br>Band V: 826.4 MHz ~ 846.6 MHz<br>Band II: 1852.4 MHz ~ 1907.6 MHz  |
| <b>Rx Frequency</b>                     | <b>GSM/GPRS/EDGE:</b><br>850: 869.2 MHz ~ 893.8 MHz<br>1900: 1930.2 MHz ~ 1989.8 MHz<br><b>WCDMA:</b><br>Band V: 871.4 MHz ~ 891.6 MHz<br>Band II: 1932.4 MHz ~ 1987.6 MHz |
| <b>Maximum Output Power to Antenna</b>  | <b>GSM/GPRS/EDGE:</b><br>850: 32.34 dBm<br>1900: 28.98 dBm<br><b>WCDMA:</b><br>Band V: 22.52 dBm<br>Band II: 21.36 dBm                                                     |
| <b>Antenna Type</b>                     | Fixed Internal Antenna                                                                                                                                                     |
| <b>Antenna Gain</b>                     | Cellular Band: -3.00 dBi<br>PCS Band: 0.00 dBi                                                                                                                             |
| <b>Type of Modulation</b>               | GSM: GMSK<br>GPRS: GMSK<br>EDGE: GMSK / 8PSK<br>WCDMA: QPSK (Uplink)<br>HSDPA: QPSK (Downlink)                                                                             |

## 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 22  | GSM850 GPRS class 8        | GMSK               | 0.5320               | 0.0885 ppm                | 249KGXW             |
| Part 22  | GSM850 EDGE class 8        | 8PSK               | 0.1333               | 0.1184 ppm                | 248KG7W             |
| Part 22  | WCDMA Band V RMC 12.2Kbps  | QPSK               | 0.0374               | 0.0921 ppm                | 4M17F9W             |
| Part 24  | GSM1900 GPRS class 8       | GMSK               | 0.7326               | 0.0622 ppm                | 247KGXW             |
| Part 24  | GSM1900 EDGE class 8       | 8PSK               | 0.2625               | 0.0872 ppm                | 249KG7W             |
| Part 24  | WCDMA Band II RMC 12.2Kbps | QPSK               | 0.0970               | 0.0670 ppm                | 4M16F9W             |

## 1.7 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1022 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

|                           |                                                                                                                                                                  |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Test Site</b>          | SPORTON INTERNATIONAL INC.                                                                                                                                       |
| <b>Test Site Location</b> | No. 52, Hwa Ya 1 <sup>st</sup> Rd., Hwa Ya Technology Park,<br>Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C.<br>TEL: +886-3-327-3456<br>FAX: +886-3-328-4978 |
| <b>Test Site No.</b>      | <b>Sporton Site No.</b>                                                                                                                                          |
|                           | TH03-HY                                                                                                                                                          |

|                           |                                                                                                                                        |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <b>Test Site</b>          | SPORTON INTERNATIONAL INC.                                                                                                             |
| <b>Test Site Location</b> | No.58, Aly. 75, Ln. 564, Wenhua 3rd Rd. Guishan Dist,<br>Taoyuan City, Taiwan (R.O.C.)<br>TEL: +886-3-327-0868<br>FAX: +886-3-327-0855 |
| <b>Test Site No.</b>      | <b>Sporton Site No.</b>                                                                                                                |
|                           | 03CH10-HY                                                                                                                              |

## 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)
- 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 emissions were investigated as following frequency range:

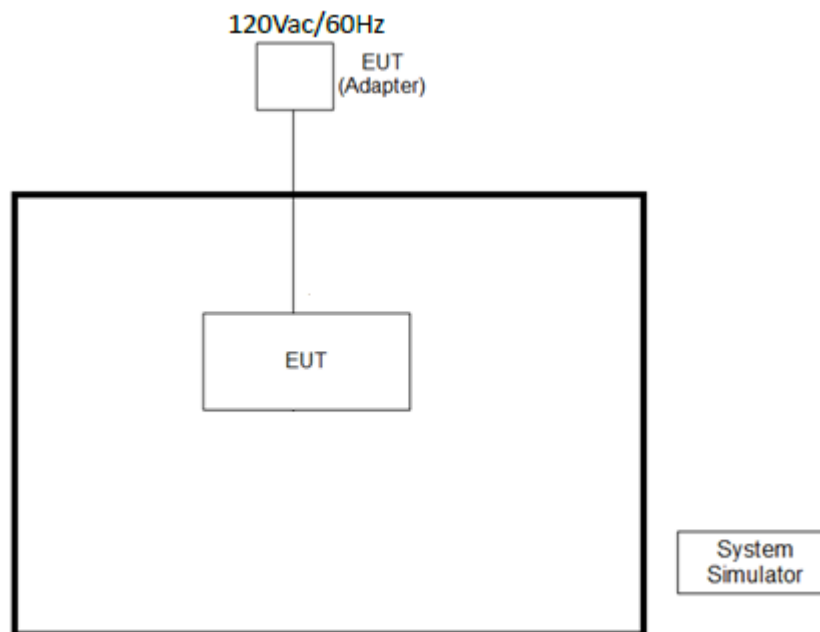
1. 30 MHz to 9000 MHz for GSM850 and WCDMA Band V.
2. 30 MHz to 19000 MHz for GSM1900 and WCDMA Band II.

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       | <ul style="list-style-type: none"><li>■ GPRS class 8 Link</li><li>■ EDGE class 8 Link</li></ul> | <ul style="list-style-type: none"><li>■ GPRS class 8 Link</li><li>■ EDGE class 8 Link</li></ul> |
| GSM 1900      | <ul style="list-style-type: none"><li>■ GPRS class 8 Link</li><li>■ EDGE class 8 Link</li></ul> | <ul style="list-style-type: none"><li>■ GPRS class 8 Link</li><li>■ EDGE class 8 Link</li></ul> |
| WCDMA Band V  | <ul style="list-style-type: none"><li>■ RMC 12.2Kbps Link</li></ul>                             | <ul style="list-style-type: none"><li>■ RMC 12.2Kbps Link</li></ul>                             |
| WCDMA Band II | <ul style="list-style-type: none"><li>■ RMC 12.2Kbps Link</li></ul>                             | <ul style="list-style-type: none"><li>■ RMC 12.2Kbps Link</li></ul>                             |

## 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 |

## 2.4 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 4.2 dB and a 10dB attenuator.

Example :

$$\begin{aligned}
 \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)} \\
 &= 4.2 + 10 = 14.2 \text{ (dB)}
 \end{aligned}$$

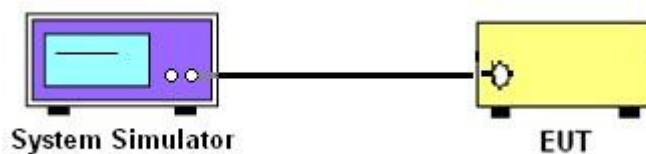
### 3 Conducted Test Result

#### 3.1 Measuring Instruments

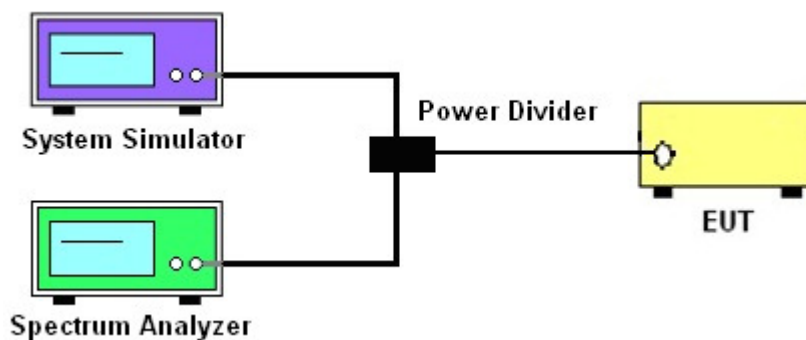
See list of measuring instruments of this test report.

#### 3.2 Test Setup

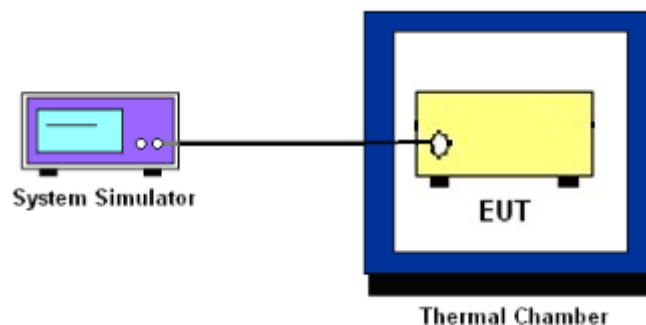
##### 3.2.1 Conducted Output Power



##### 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  $43 + 10\log(P)$  dB below the transmitter power P(Watts)  
=  $P(W) - [43 + 10\log(P)]$  (dB)  
=  $[30 + 10\log(P)]$  (dBm) -  $[43 + 10\log(P)]$  (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<sup>th</sup> 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  $43 + 10\log(P)$  dB below the transmitter power P(Watts)  
=  $P(W) - [43 + 10\log(P)]$  (dB)  
=  $[30 + 10\log(P)]$  (dBm) -  $[43 + 10\log(P)]$  (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  $\pm 0.00025\%$  ( $\pm 2.5\text{ppm}$ ) 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  $-30^{\circ}\text{C}$  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  $10^{\circ}\text{C}$  steps up to  $50^{\circ}\text{C}$ . 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  $25\pm 5^{\circ}\text{C}$  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.

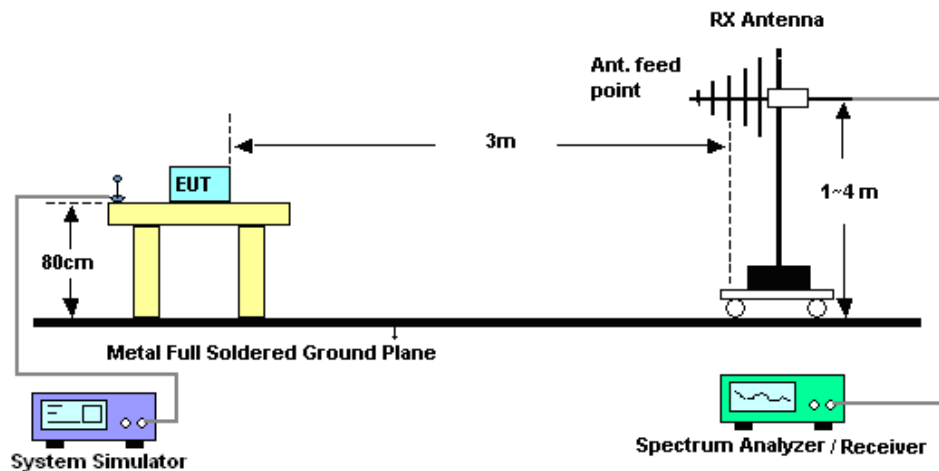
## 4 Radiated Test Items

### 4.1 Measuring Instruments

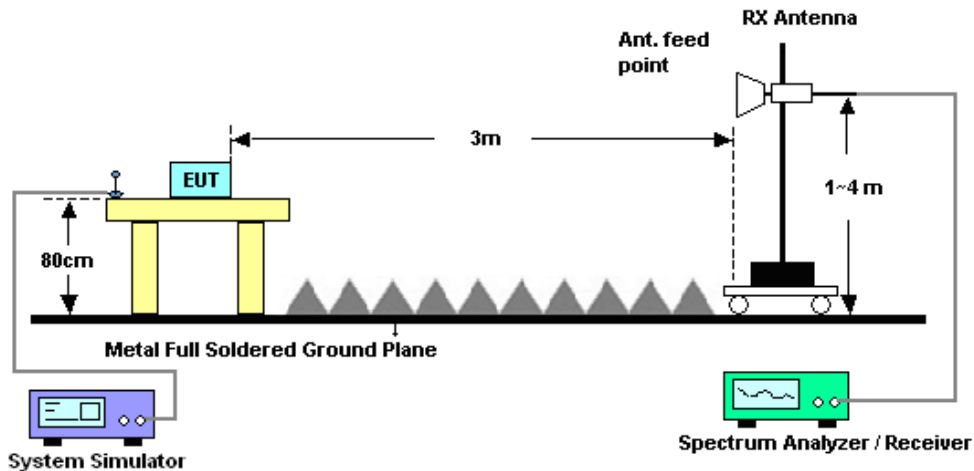
See list of measuring instruments of this test report.

### 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).

### **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,  $EIRP = LVL + \text{Correction factor}$  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.  $EIRP \text{ (dBm)} = S.G. \text{ Power} - Tx \text{ Cable Loss} + Tx \text{ Antenna Gain}$
12.  $ERP \text{ (dBm)} = EIRP - 2.15$
13. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
14. The limit line is derived from  $43 + 10\log(P)$  dB below the transmitter power P(Watts)  
 $= P(W) - [43 + 10\log(P)] \text{ (dB)}$   
 $= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$   
 $= -13\text{dBm}.$



## 5 List of Measuring Equipment

| Instrument                | Manufacturer    | Model No.     | Serial No.   | Characteristics               | Calibration Date | Test Date                     | Due Date      | Remark                |
|---------------------------|-----------------|---------------|--------------|-------------------------------|------------------|-------------------------------|---------------|-----------------------|
| Spectrum Analyzer         | Rohde & Schwarz | FSP30         | 101329       | 9kHz~30GHz                    | Jun. 24, 2015    | Jan. 04, 2016 ~ Jan. 05, 2016 | Jun. 23, 2016 | Conducted (TH03-HY)   |
| Base Station(Measu        | Rohde & Schwarz | CMU200        | 117995       | GSM / GPRS / WCDMA / CDMA     | Jul. 26, 2015    | Jan. 04, 2016 ~ Jan. 05, 2016 | Jul. 25, 2016 | Conducted (TH03-HY)   |
| Programmable Power Supply | GW Instek       | PSS-2005      | EL883644     | Voltage:0~20V;Current:0~5A    | Nov. 26, 2015    | Jan. 04, 2016 ~ Jan. 05, 2016 | Nov. 25, 2016 | Conducted (TH03-HY)   |
| Hygrometer                | Testo           | 608-H1        | 34893241     | N/A                           | May 04, 2015     | Jan. 04, 2016 ~ Jan. 05, 2016 | May 03, 2016  | Conducted (TH03-HY)   |
| Temperature Chamber       | ESPEC           | SU-641        | 92013721     | -30℃ ~70℃                     | Nov. 20, 2015    | Jan. 04, 2016 ~ Jan. 05, 2016 | Nov. 19, 2016 | Conducted (TH03-HY)   |
| Amplifier                 | SONOMA          | 310N          | 187311       | 9kHz~1GHz                     | Nov. 16, 2015    | Jan. 04, 2016 ~ Jan. 05, 2016 | Nov. 15, 2016 | Radiation (03CH10-HY) |
| Horn Antenna              | SCHWARZBECK     | BBHA 9120 D   | 9120D-1325   | 1GHz ~ 18GHz                  | Sep. 30, 2015    | Jan. 04, 2016 ~ Jan. 05, 2016 | Sep. 29, 2016 | Radiation (03CH10-HY) |
| Preamplifier              | Keysight        | 83017A        | MY53270078   | 1GHz~26.5GHz                  | Nov. 13, 2015    | Jan. 04, 2016 ~ Jan. 05, 2016 | Nov. 12, 2016 | Radiation (03CH10-HY) |
| Spectrum Analyzer         | Keysight        | N9010A        | MY54200485   | 10Hz ~ 44GHZ                  | Oct. 15, 2015    | Jan. 04, 2016 ~ Jan. 05, 2016 | Oct. 14, 2016 | Radiation (03CH10-HY) |
| Controller                | EMEC            | EM 1000       | N/A          | Control Turn table & Ant Mast | N/A              | Jan. 04, 2016 ~ Jan. 05, 2016 | N/A           | Radiation (03CH10-HY) |
| Antenna Mast              | EMEC            | AM-BS-450 0-B | N/A          | 1~4m                          | N/A              | Jan. 04, 2016 ~ Jan. 05, 2016 | N/A           | Radiation (03CH10-HY) |
| Turn Table                | EMEC            | TT 2200       | N/A          | 0-360 degree                  | N/A              | Jan. 04, 2016 ~ Jan. 05, 2016 | N/A           | Radiation (03CH10-HY) |
| Bilog Antenna             | TESEQ           | CBL 6111D     | 35414        | 30MHz~1GHz                    | Nov. 17, 2015    | Jan. 04, 2016 ~ Jan. 05, 2016 | Nov. 16, 2016 | Radiation (03CH10-HY) |
| EMI Test Receiver         | Rohde & Schwarz | ESU26         | 100390       | 20Hz~26.5GHz                  | Dec. 21, 2015    | Jan. 04, 2016 ~ Jan. 05, 2016 | Dec. 20, 2016 | Radiation (03CH10-HY) |
| SHF-EHF Horn Antenna      | SCHWARZBECK     | BBHA 9170     | BBHA917057 6 | 18GHz ~ 40GHz                 | Apr. 20, 2015    | Jan. 04, 2016 ~ Jan. 05, 2016 | Apr. 19, 2016 | Radiation (03CH10-HY) |



## 6 Uncertainty of Evaluation

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

|                                                                         |      |
|-------------------------------------------------------------------------|------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 4.90 |
|-------------------------------------------------------------------------|------|

## 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                          | 32.16  | 32.24 | 32.31 | 28.85   | 28.83  | 28.93  |
| GPRS class 8                 | 32.19  | 32.26 | 32.34 | 28.88   | 28.85  | 28.98  |
| GPRS class 10                | 28.37  | 28.35 | 28.38 | 25.37   | 25.32  | 25.48  |
| EGPRS class 8                | 25.54  | 25.58 | 25.60 | 24.61   | 24.55  | 24.71  |
| EGPRS class 10               | 25.50  | 25.53 | 25.58 | 24.60   | 24.54  | 24.70  |

| Conducted Power (*Unit: dBm) |              |       |       |               |       |        |
|------------------------------|--------------|-------|-------|---------------|-------|--------|
| Band                         | WCDMA Band V |       |       | WCDMA Band II |       |        |
| Channel                      | 4132         | 4182  | 4233  | 9262          | 9400  | 9538   |
| Frequency                    | 826.4        | 836.4 | 846.6 | 1852.4        | 1880  | 1907.6 |
| RMC 12.2K                    | 22.33        | 22.35 | 22.52 | 21.30         | 21.32 | 21.36  |
| HSDPA Subtest-1              | 21.99        | 21.90 | 22.11 | 21.12         | 21.20 | 21.28  |
| HSDPA Subtest-2              | 21.92        | 21.88 | 22.10 | 21.01         | 21.02 | 21.17  |
| HSDPA Subtest-3              | 21.89        | 21.81 | 22.08 | 20.97         | 20.84 | 21.20  |
| HSDPA Subtest-4              | 21.88        | 21.83 | 22.07 | 20.89         | 20.83 | 21.16  |



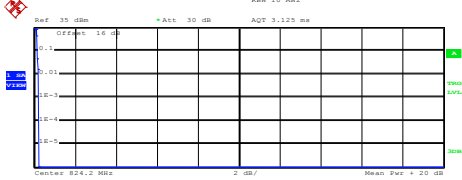
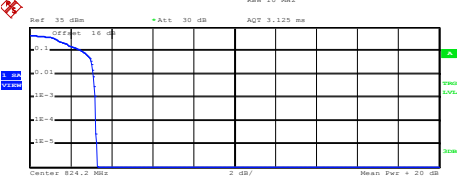
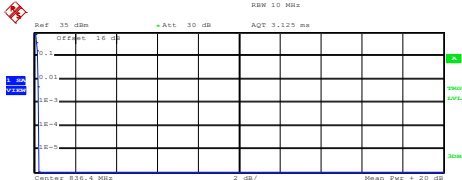
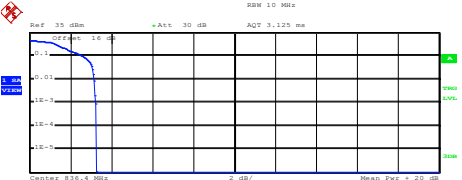
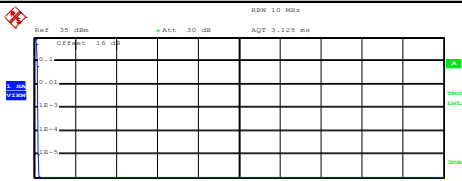
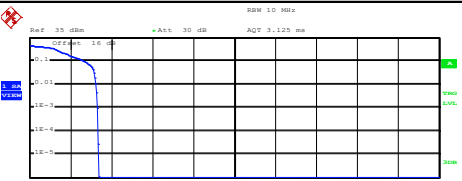


## A1. GSM

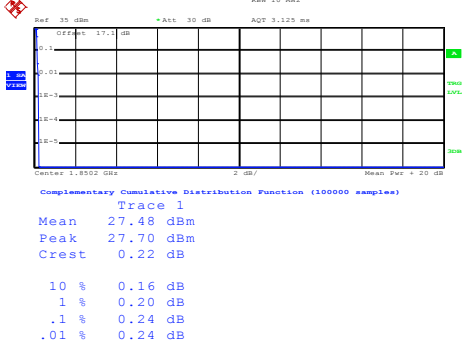
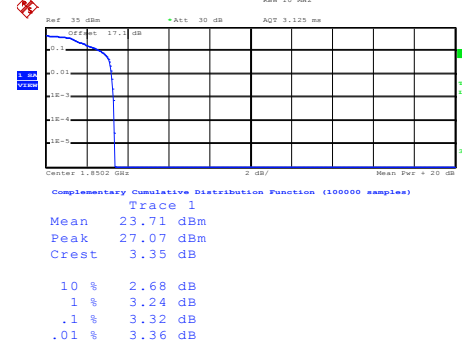
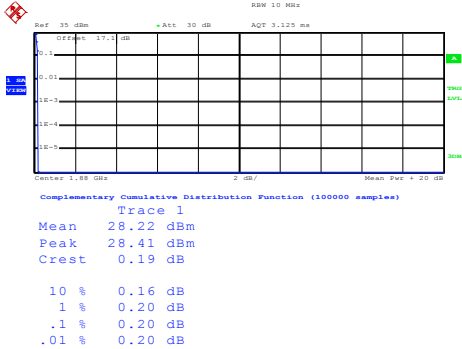
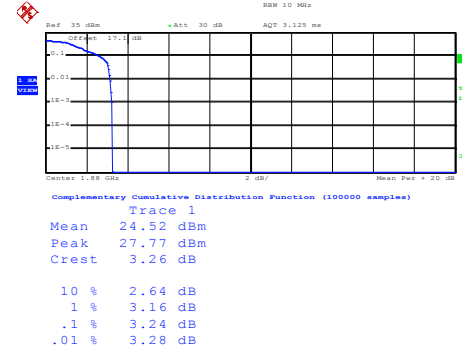
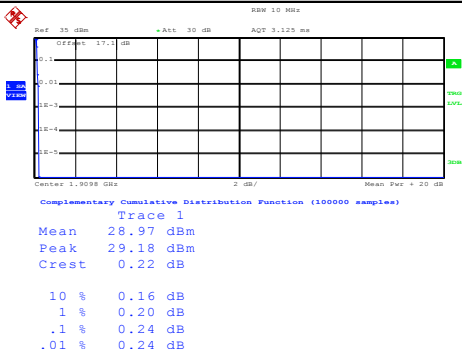
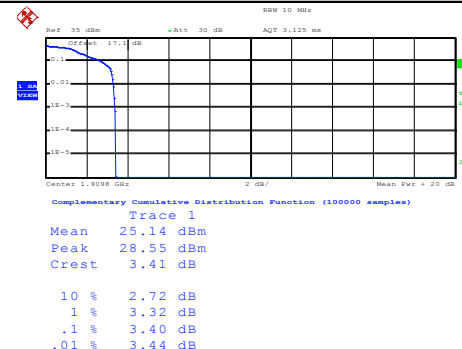
### Peak-to-Average Ratio

| Mode       | GSM850       |              | Limit: 13dB |
|------------|--------------|--------------|-------------|
| Mod.       | GPRS class 8 | EDGE class 8 | Result      |
| Lowest CH  | 0.24         | 3.20         | PASS        |
| Middle CH  | 0.24         | 3.24         |             |
| Highest CH | 0.20         | 3.32         |             |

| Mode       | GSM1900      |              | Limit: 13dB |
|------------|--------------|--------------|-------------|
| Mod.       | GPRS class 8 | EDGE class 8 | Result      |
| Lowest CH  | 0.24         | 3.32         | PASS        |
| Middle CH  | 0.20         | 3.24         |             |
| Highest CH | 0.24         | 3.40         |             |

| GSM850 (GPRS class 8)                                                                                                                                                                                                                                                                                                                                                                                                                                        | GSM850 (EDGE class 8)                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lowest Channel                                                                                                                                                                                                                                                                                                                                                                                                                                               | Lowest Channel                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|  <p>Ref: 35 dBm Att: 30 dB RSW: 10 MHz AQT: 3.125 ms</p> <p>Center: 824.2 MHz 2 dB/ Mean: Per: +20 dB</p> <p>Complementary Cumulative Distribution Function (100000 samples)</p> <p>Trace 1</p> <p>Mean: 31.29 dBm<br/>Peak: 31.51 dBm<br/>Crest: 0.22 dB</p> <p>10 %: 0.16 dB<br/>1 %: 0.20 dB<br/>.1 %: 0.24 dB<br/>.01 %: 0.24 dB</p> <p>Date: 4.JAN.2016 17:13:00</p>   |  <p>Ref: 35 dBm Att: 30 dB RSW: 10 MHz AQT: 3.125 ms</p> <p>Center: 824.2 MHz 2 dB/ Mean: Per: +20 dB</p> <p>Complementary Cumulative Distribution Function (100000 samples)</p> <p>Trace 1</p> <p>Mean: 25.25 dBm<br/>Peak: 28.55 dBm<br/>Crest: 3.30 dB</p> <p>10 %: 2.56 dB<br/>1 %: 3.12 dB<br/>.1 %: 3.20 dB<br/>.01 %: 3.24 dB</p> <p>Date: 4.JAN.2016 17:23:42</p>   |
| Middle Channel                                                                                                                                                                                                                                                                                                                                                                                                                                               | Middle Channel                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|  <p>Ref: 35 dBm Att: 30 dB RSW: 10 MHz AQT: 3.125 ms</p> <p>Center: 836.4 MHz 2 dB/ Mean: Per: +20 dB</p> <p>Complementary Cumulative Distribution Function (100000 samples)</p> <p>Trace 1</p> <p>Mean: 32.16 dBm<br/>Peak: 32.36 dBm<br/>Crest: 0.20 dB</p> <p>10 %: 0.16 dB<br/>1 %: 0.20 dB<br/>.1 %: 0.24 dB<br/>.01 %: 0.24 dB</p> <p>Date: 4.JAN.2016 17:13:13</p>  |  <p>Ref: 35 dBm Att: 30 dB RSW: 10 MHz AQT: 3.125 ms</p> <p>Center: 836.4 MHz 2 dB/ Mean: Per: +20 dB</p> <p>Complementary Cumulative Distribution Function (100000 samples)</p> <p>Trace 1</p> <p>Mean: 26.06 dBm<br/>Peak: 29.33 dBm<br/>Crest: 3.26 dB</p> <p>10 %: 2.60 dB<br/>1 %: 3.16 dB<br/>.1 %: 3.24 dB<br/>.01 %: 3.28 dB</p> <p>Date: 4.JAN.2016 17:23:56</p>  |
| Highest Channel                                                                                                                                                                                                                                                                                                                                                                                                                                              | Highest Channel                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|  <p>Ref: 35 dBm Att: 30 dB RSW: 10 MHz AQT: 3.125 ms</p> <p>Center: 848.8 MHz 2 dB/ Mean: Per: +20 dB</p> <p>Complementary Cumulative Distribution Function (100000 samples)</p> <p>Trace 1</p> <p>Mean: 32.97 dBm<br/>Peak: 33.21 dBm<br/>Crest: 0.24 dB</p> <p>10 %: 0.16 dB<br/>1 %: 0.20 dB<br/>.1 %: 0.20 dB<br/>.01 %: 0.20 dB</p> <p>Date: 4.JAN.2016 17:13:26</p> |  <p>Ref: 35 dBm Att: 30 dB RSW: 10 MHz AQT: 3.125 ms</p> <p>Center: 848.8 MHz 2 dB/ Mean: Per: +20 dB</p> <p>Complementary Cumulative Distribution Function (100000 samples)</p> <p>Trace 1</p> <p>Mean: 26.78 dBm<br/>Peak: 30.17 dBm<br/>Crest: 3.39 dB</p> <p>10 %: 2.68 dB<br/>1 %: 3.24 dB<br/>.1 %: 3.32 dB<br/>.01 %: 3.36 dB</p> <p>Date: 4.JAN.2016 17:24:09</p> |

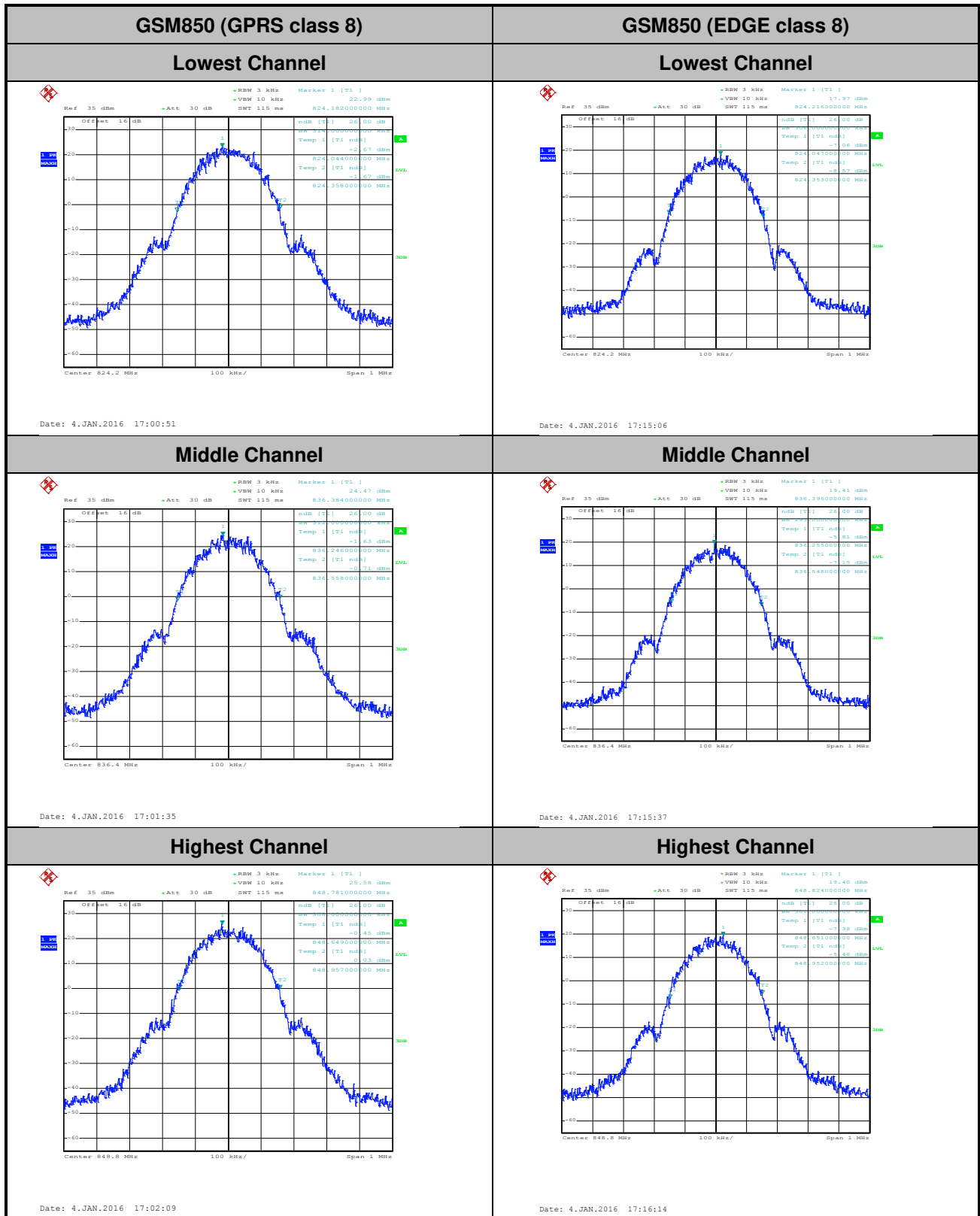


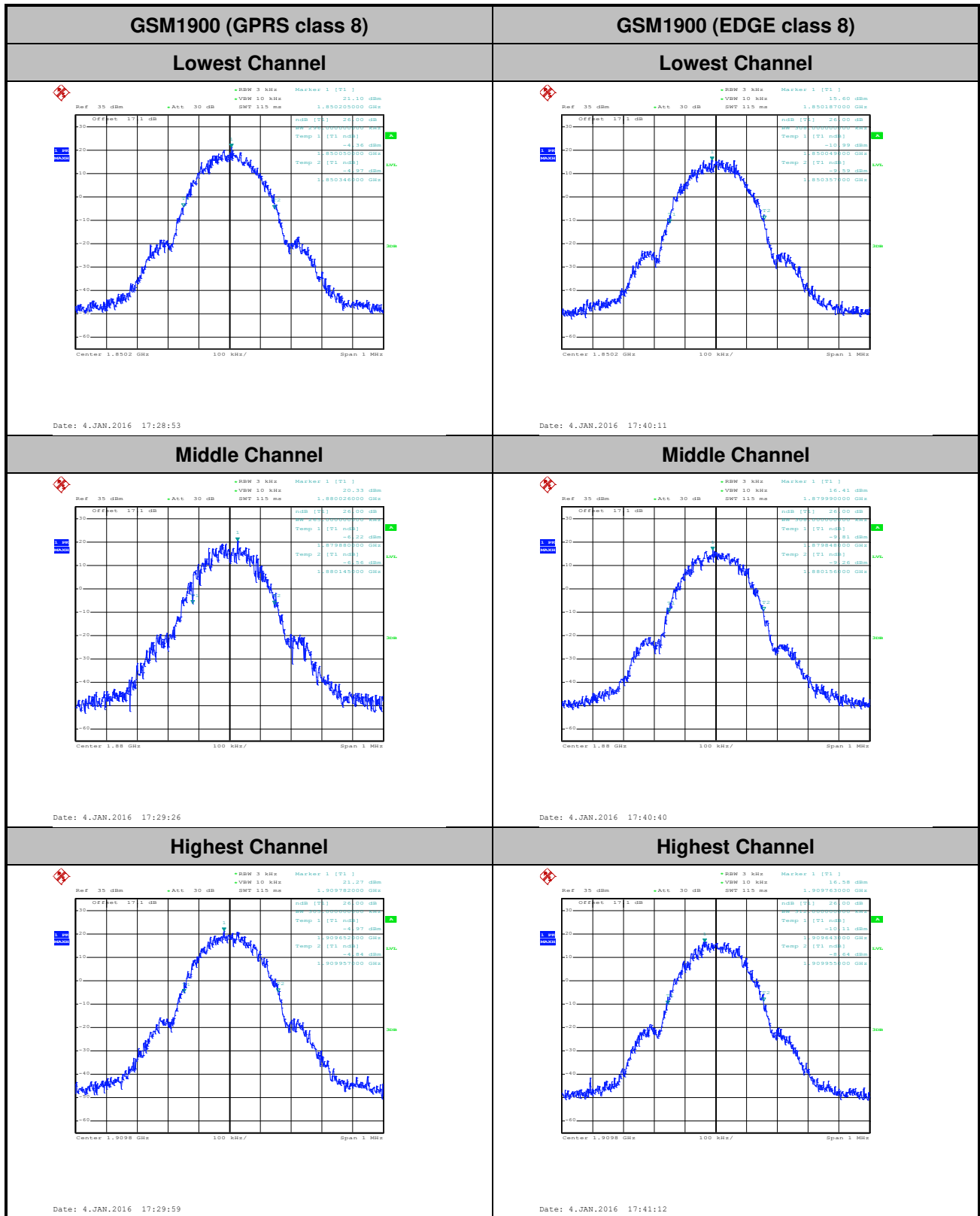
| GSM1900 (GPRS class 8)                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | GSM1900 (EDGE class 8)                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Lowest Channel                                                                                                                                                                                                                                                                                                                                                                                                                                              |  | Lowest Channel                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
|  <p>Ref: 35 dBm    Att: 30 dB    AGT: 3.125 ms</p> <p>Center: 1.8502 GHz    2 dB/    Mean: 27.48 dBm</p> <p>Complementary Cumulative Distribution Function (100000 samples)</p> <p>Trace 1</p> <p>Mean: 27.48 dBm<br/>Peak: 27.70 dBm<br/>Crest: 0.22 dB</p> <p>10 %: 0.16 dB<br/>1 %: 0.20 dB<br/>.1 %: 0.24 dB<br/>.01 %: 0.24 dB</p> <p>Date: 4.JAN.2016 17:38:35</p>   |  |  <p>Ref: 35 dBm    Att: 30 dB    AGT: 3.125 ms</p> <p>Center: 1.8502 GHz    2 dB/    Mean: 23.71 dBm</p> <p>Complementary Cumulative Distribution Function (100000 samples)</p> <p>Trace 1</p> <p>Mean: 23.71 dBm<br/>Peak: 27.07 dBm<br/>Crest: 3.35 dB</p> <p>10 %: 2.68 dB<br/>1 %: 3.24 dB<br/>.1 %: 3.32 dB<br/>.01 %: 3.36 dB</p> <p>Date: 4.JAN.2016 17:49:04</p>   |  |
| Middle Channel                                                                                                                                                                                                                                                                                                                                                                                                                                              |  | Middle Channel                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
|  <p>Ref: 35 dBm    Att: 30 dB    AGT: 3.125 ms</p> <p>Center: 1.8502 GHz    2 dB/    Mean: 28.22 dBm</p> <p>Complementary Cumulative Distribution Function (100000 samples)</p> <p>Trace 1</p> <p>Mean: 28.22 dBm<br/>Peak: 28.41 dBm<br/>Crest: 0.19 dB</p> <p>10 %: 0.16 dB<br/>1 %: 0.20 dB<br/>.1 %: 0.20 dB<br/>.01 %: 0.20 dB</p> <p>Date: 4.JAN.2016 17:38:45</p>  |  |  <p>Ref: 35 dBm    Att: 30 dB    AGT: 3.125 ms</p> <p>Center: 1.8502 GHz    2 dB/    Mean: 24.52 dBm</p> <p>Complementary Cumulative Distribution Function (100000 samples)</p> <p>Trace 1</p> <p>Mean: 24.52 dBm<br/>Peak: 27.77 dBm<br/>Crest: 3.26 dB</p> <p>10 %: 2.64 dB<br/>1 %: 3.16 dB<br/>.1 %: 3.24 dB<br/>.01 %: 3.28 dB</p> <p>Date: 4.JAN.2016 17:49:19</p>  |  |
| Highest Channel                                                                                                                                                                                                                                                                                                                                                                                                                                             |  | Highest Channel                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
|  <p>Ref: 35 dBm    Att: 30 dB    AGT: 3.125 ms</p> <p>Center: 1.8502 GHz    2 dB/    Mean: 28.97 dBm</p> <p>Complementary Cumulative Distribution Function (100000 samples)</p> <p>Trace 1</p> <p>Mean: 28.97 dBm<br/>Peak: 29.18 dBm<br/>Crest: 0.22 dB</p> <p>10 %: 0.16 dB<br/>1 %: 0.20 dB<br/>.1 %: 0.24 dB<br/>.01 %: 0.24 dB</p> <p>Date: 4.JAN.2016 17:38:57</p> |  |  <p>Ref: 35 dBm    Att: 30 dB    AGT: 3.125 ms</p> <p>Center: 1.8502 GHz    2 dB/    Mean: 25.14 dBm</p> <p>Complementary Cumulative Distribution Function (100000 samples)</p> <p>Trace 1</p> <p>Mean: 25.14 dBm<br/>Peak: 28.55 dBm<br/>Crest: 3.41 dB</p> <p>10 %: 2.72 dB<br/>1 %: 3.32 dB<br/>.1 %: 3.40 dB<br/>.01 %: 3.44 dB</p> <p>Date: 4.JAN.2016 17:49:32</p> |  |

**26dB Bandwidth**

| Mode       | GSM850       |              |
|------------|--------------|--------------|
| Mod.       | GPRS class 8 | EDGE class 8 |
| Lowest CH  | 0.314        | 0.306        |
| Middle CH  | 0.312        | 0.293        |
| Highest CH | 0.308        | 0.301        |

| Mode       | GSM1900      |              |
|------------|--------------|--------------|
| Mod.       | GPRS class 8 | EDGE class 8 |
| Lowest CH  | 0.296        | 0.308        |
| Middle CH  | 0.265        | 0.308        |
| Highest CH | 0.305        | 0.312        |

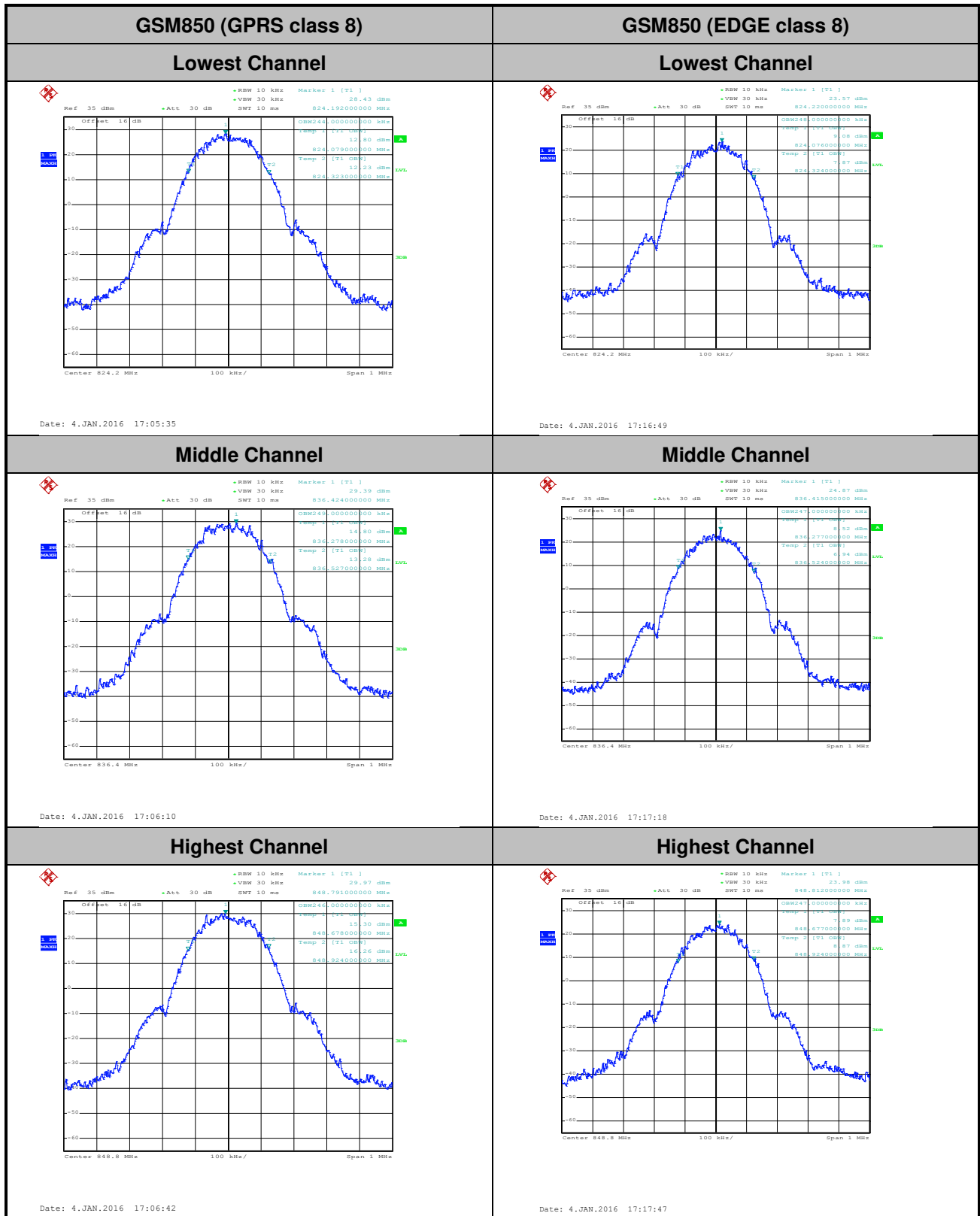




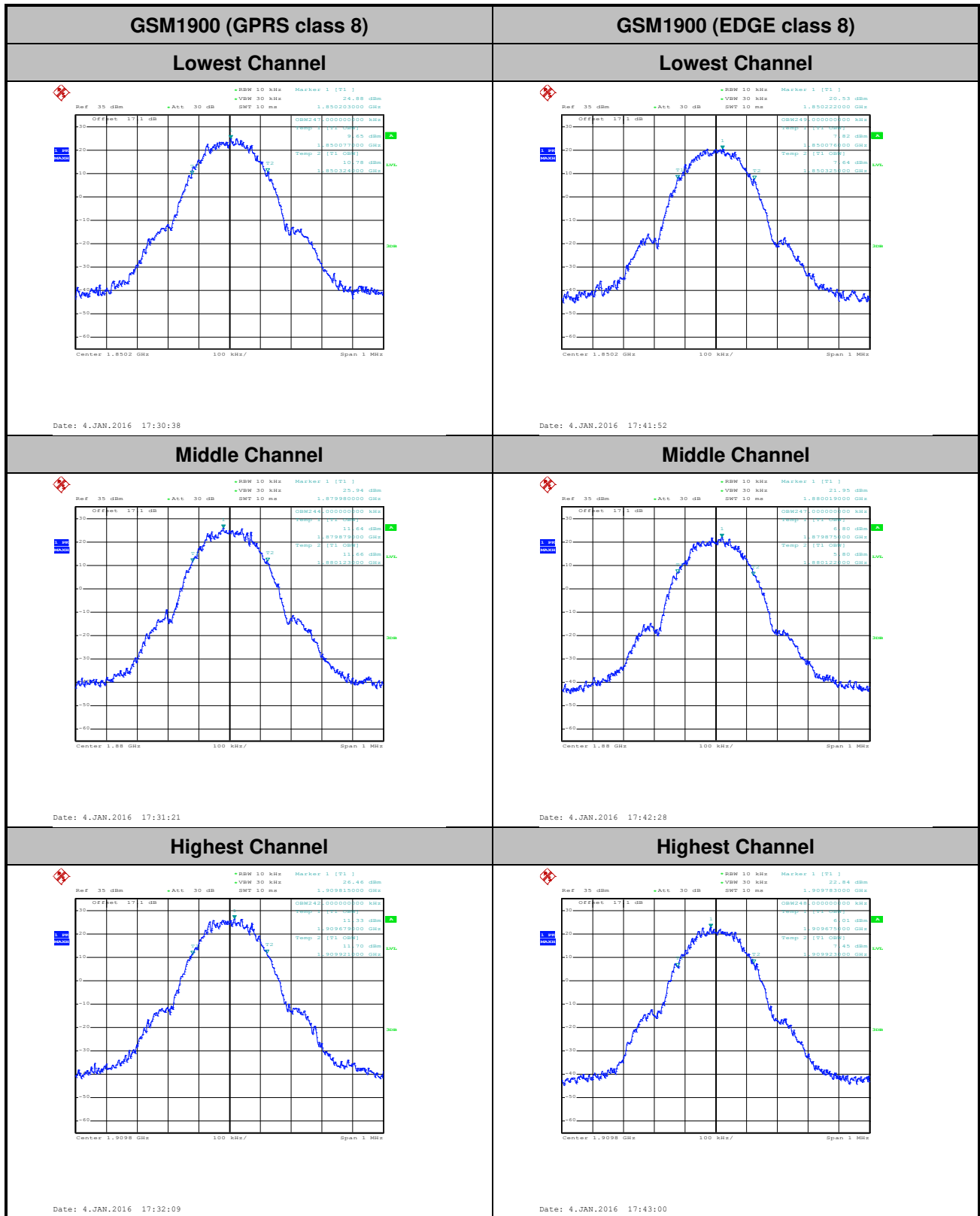
**Occupied Bandwidth**

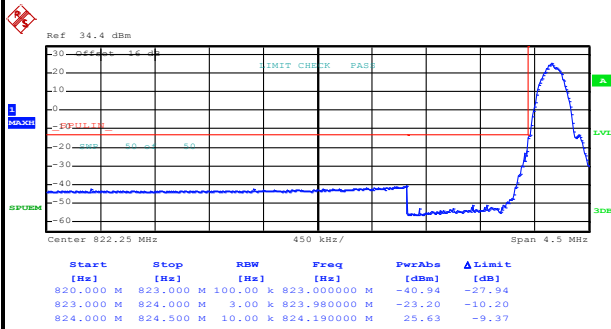
| Mode       | GSM850       |              |
|------------|--------------|--------------|
| Mod.       | GPRS class 8 | EDGE class 8 |
| Lowest CH  | 0.244        | 0.248        |
| Middle CH  | 0.249        | 0.247        |
| Highest CH | 0.246        | 0.247        |

| Mode       | GSM1900      |              |
|------------|--------------|--------------|
| Mod.       | GPRS class 8 | EDGE class 8 |
| Lowest CH  | 0.247        | 0.249        |
| Middle CH  | 0.244        | 0.247        |
| Highest CH | 0.242        | 0.248        |

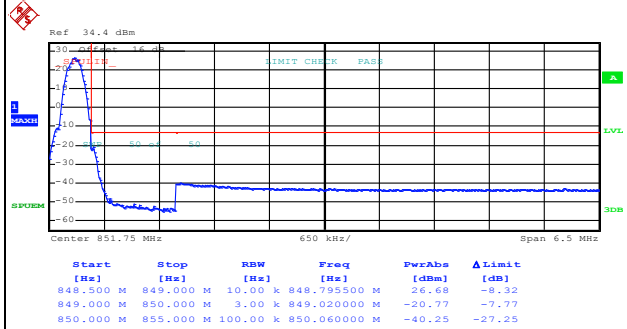




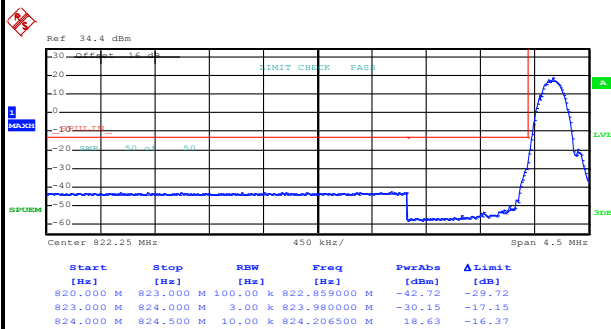


**Conducted Band Edge****GSM850 (GPRS class 8)****Lowest Band Edge**

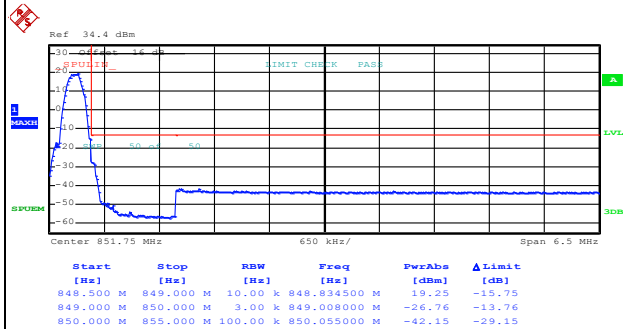
Date: 4.JAN.2016 17:08:15

**Highest Band Edge**

Date: 4.JAN.2016 17:09:46

**GSM850 (EDGE class 8)****Lowest Band Edge**

Date: 4.JAN.2016 17:19:24

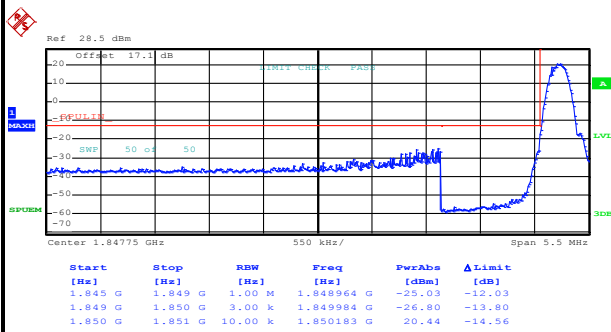
**Highest Band Edge**

Date: 4.JAN.2016 17:20:53



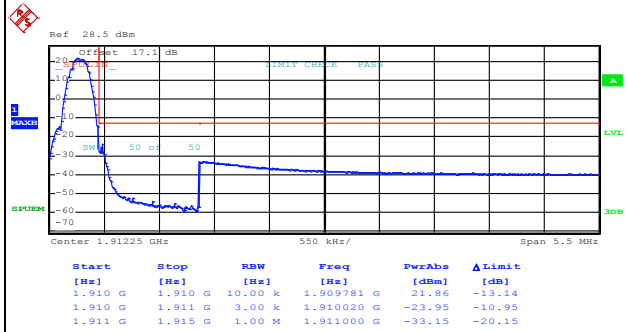
## GSM1900 (GPRS class 8)

## Lowest Band Edge



Date: 4.JAN.2016 17:33:59

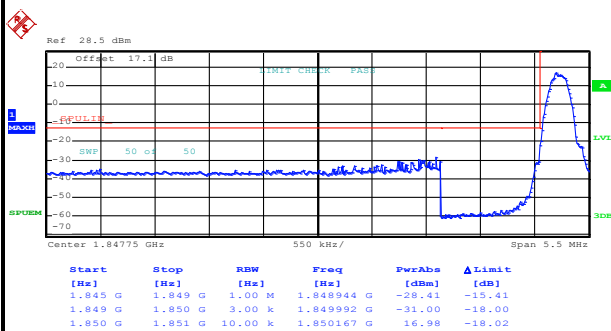
## Highest Band Edge



Date: 4.JAN.2016 17:35:28

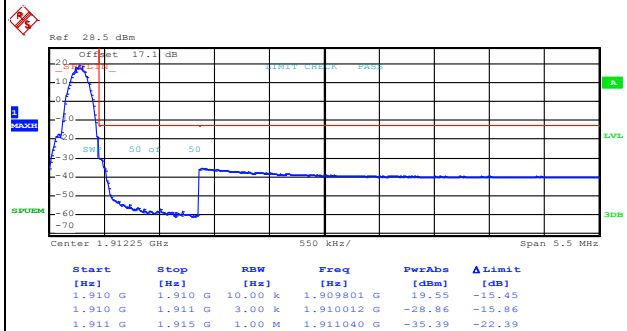
## GSM1900 (EDGE class 8)

## Lowest Band Edge



Date: 4.JAN.2016 17:44:36

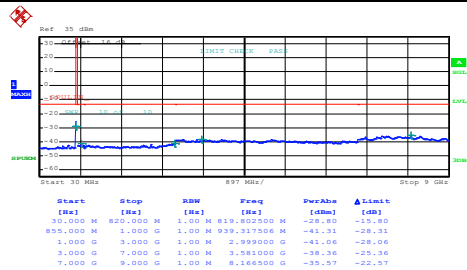
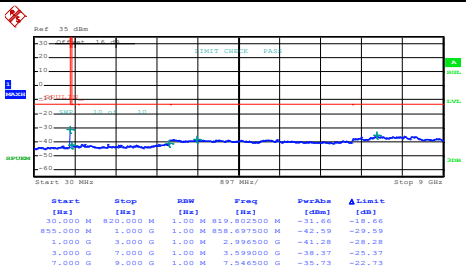
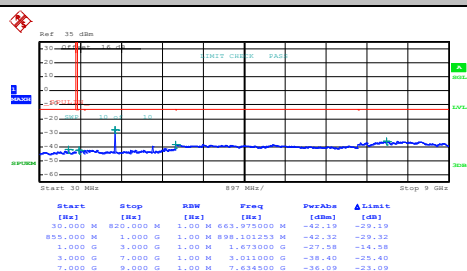
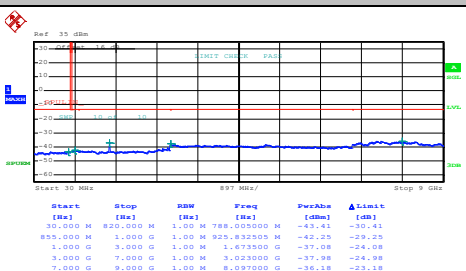
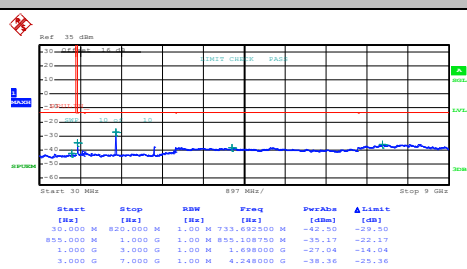
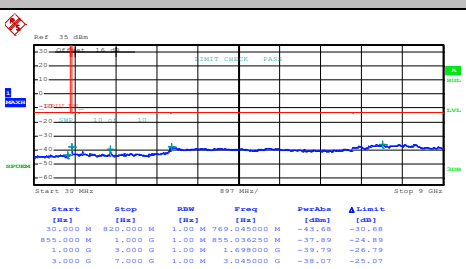
## Highest Band Edge

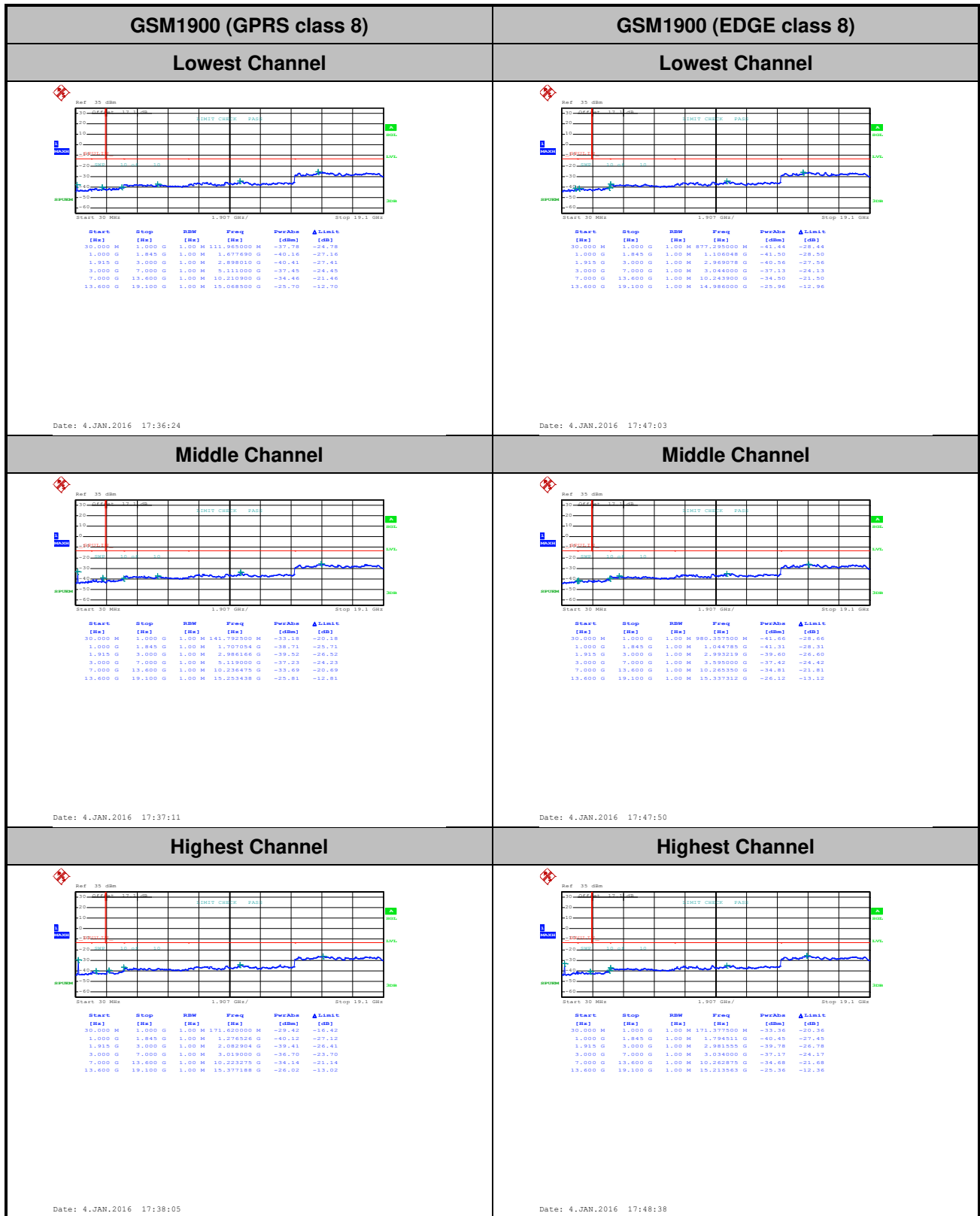


Date: 4.JAN.2016 17:46:06



## Conducted Spurious Emission

| GSM850 (GPRS class 8)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           | GSM850 (EDGE class 8) |              |        |        |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------------------|--------------|--------|--------|--------|--------|------|------|------|------|-------|------|----------|-----------|--------|--------------|--------|--------|-----------|---------|--------|--------------|--------|--------|---------|---------|--------|------------|--------|--------|---------|---------|--------|------------|--------|--------|---------|---------|--------|------------|--------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------|------|-----|------|--------|--------|------|------|------|------|-------|------|----------|-----------|--------|--------------|--------|--------|-----------|---------|--------|--------------|--------|--------|---------|---------|--------|------------|--------|--------|---------|---------|--------|------------|--------|--------|---------|---------|--------|------------|--------|--------|
| Lowest Channel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           | Lowest Channel        |              |        |        |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| <div><table><tr><th>Start</th><th>Stop</th><th>RBW</th><th>Freq</th><th>PerAbn</th><th>ΔLimit</th></tr><tr><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[dBm]</th><th>[dB]</th></tr><tr><td>30,000 M</td><td>820,000 M</td><td>1,00 M</td><td>819,802500 M</td><td>-28,80</td><td>-15,80</td></tr><tr><td>850,000 M</td><td>1,000 G</td><td>1,00 M</td><td>850,317506 M</td><td>-41,31</td><td>-28,31</td></tr><tr><td>1,000 G</td><td>3,000 G</td><td>1,00 M</td><td>2,999000 G</td><td>-41,06</td><td>-28,06</td></tr><tr><td>3,000 G</td><td>7,000 G</td><td>1,00 M</td><td>3,581000 G</td><td>-38,36</td><td>-25,36</td></tr><tr><td>7,000 G</td><td>9,000 G</td><td>1,00 M</td><td>8,166500 G</td><td>-35,57</td><td>-22,57</td></tr></table><p>Date: 4.JAN.2016 17:10:45</p></div>   |           | Start                 | Stop         | RBW    | Freq   | PerAbn | ΔLimit | [Hz] | [Hz] | [Hz] | [Hz] | [dBm] | [dB] | 30,000 M | 820,000 M | 1,00 M | 819,802500 M | -28,80 | -15,80 | 850,000 M | 1,000 G | 1,00 M | 850,317506 M | -41,31 | -28,31 | 1,000 G | 3,000 G | 1,00 M | 2,999000 G | -41,06 | -28,06 | 3,000 G | 7,000 G | 1,00 M | 3,581000 G | -38,36 | -25,36 | 7,000 G | 9,000 G | 1,00 M | 8,166500 G | -35,57 | -22,57 | <div><table><tr><th>Start</th><th>Stop</th><th>RBW</th><th>Freq</th><th>PerAbn</th><th>ΔLimit</th></tr><tr><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[dBm]</th><th>[dB]</th></tr><tr><td>30,000 M</td><td>820,000 M</td><td>1,00 M</td><td>819,802500 M</td><td>-31,66</td><td>-18,66</td></tr><tr><td>850,000 M</td><td>1,000 G</td><td>1,00 M</td><td>850,697500 M</td><td>-42,59</td><td>-29,59</td></tr><tr><td>1,000 G</td><td>3,000 G</td><td>1,00 M</td><td>2,999500 G</td><td>-41,28</td><td>-28,28</td></tr><tr><td>3,000 G</td><td>7,000 G</td><td>1,00 M</td><td>3,599000 G</td><td>-38,37</td><td>-25,37</td></tr><tr><td>7,000 G</td><td>9,000 G</td><td>1,00 M</td><td>7,546500 G</td><td>-35,73</td><td>-22,73</td></tr></table><p>Date: 4.JAN.2016 17:21:47</p></div>   |  | Start | Stop | RBW | Freq | PerAbn | ΔLimit | [Hz] | [Hz] | [Hz] | [Hz] | [dBm] | [dB] | 30,000 M | 820,000 M | 1,00 M | 819,802500 M | -31,66 | -18,66 | 850,000 M | 1,000 G | 1,00 M | 850,697500 M | -42,59 | -29,59 | 1,000 G | 3,000 G | 1,00 M | 2,999500 G | -41,28 | -28,28 | 3,000 G | 7,000 G | 1,00 M | 3,599000 G | -38,37 | -25,37 | 7,000 G | 9,000 G | 1,00 M | 7,546500 G | -35,73 | -22,73 |
| Start                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Stop      | RBW                   | Freq         | PerAbn | ΔLimit |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| [Hz]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | [Hz]      | [Hz]                  | [Hz]         | [dBm]  | [dB]   |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 30,000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 820,000 M | 1,00 M                | 819,802500 M | -28,80 | -15,80 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 850,000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1,000 G   | 1,00 M                | 850,317506 M | -41,31 | -28,31 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 1,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 3,000 G   | 1,00 M                | 2,999000 G   | -41,06 | -28,06 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 3,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 7,000 G   | 1,00 M                | 3,581000 G   | -38,36 | -25,36 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 7,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 9,000 G   | 1,00 M                | 8,166500 G   | -35,57 | -22,57 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| Start                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Stop      | RBW                   | Freq         | PerAbn | ΔLimit |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| [Hz]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | [Hz]      | [Hz]                  | [Hz]         | [dBm]  | [dB]   |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 30,000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 820,000 M | 1,00 M                | 819,802500 M | -31,66 | -18,66 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 850,000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1,000 G   | 1,00 M                | 850,697500 M | -42,59 | -29,59 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 1,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 3,000 G   | 1,00 M                | 2,999500 G   | -41,28 | -28,28 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 3,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 7,000 G   | 1,00 M                | 3,599000 G   | -38,37 | -25,37 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 7,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 9,000 G   | 1,00 M                | 7,546500 G   | -35,73 | -22,73 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| Middle Channel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           | Middle Channel        |              |        |        |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| <div><table><tr><th>Start</th><th>Stop</th><th>RBW</th><th>Freq</th><th>PerAbn</th><th>ΔLimit</th></tr><tr><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[dBm]</th><th>[dB]</th></tr><tr><td>30,000 M</td><td>820,000 M</td><td>1,00 M</td><td>663,975000 M</td><td>-42,19</td><td>-29,19</td></tr><tr><td>850,000 M</td><td>1,000 G</td><td>1,00 M</td><td>898,103253 M</td><td>-42,32</td><td>-29,32</td></tr><tr><td>1,000 G</td><td>3,000 G</td><td>1,00 M</td><td>1,673000 G</td><td>-27,58</td><td>-14,58</td></tr><tr><td>3,000 G</td><td>7,000 G</td><td>1,00 M</td><td>3,011000 G</td><td>-38,40</td><td>-25,40</td></tr><tr><td>7,000 G</td><td>9,000 G</td><td>1,00 M</td><td>7,638500 G</td><td>-36,09</td><td>-23,09</td></tr></table><p>Date: 4.JAN.2016 17:11:54</p></div>  |           | Start                 | Stop         | RBW    | Freq   | PerAbn | ΔLimit | [Hz] | [Hz] | [Hz] | [Hz] | [dBm] | [dB] | 30,000 M | 820,000 M | 1,00 M | 663,975000 M | -42,19 | -29,19 | 850,000 M | 1,000 G | 1,00 M | 898,103253 M | -42,32 | -29,32 | 1,000 G | 3,000 G | 1,00 M | 1,673000 G | -27,58 | -14,58 | 3,000 G | 7,000 G | 1,00 M | 3,011000 G | -38,40 | -25,40 | 7,000 G | 9,000 G | 1,00 M | 7,638500 G | -36,09 | -23,09 | <div><table><tr><th>Start</th><th>Stop</th><th>RBW</th><th>Freq</th><th>PerAbn</th><th>ΔLimit</th></tr><tr><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[dBm]</th><th>[dB]</th></tr><tr><td>30,000 M</td><td>820,000 M</td><td>1,00 M</td><td>789,005000 M</td><td>-43,41</td><td>-30,41</td></tr><tr><td>850,000 M</td><td>1,000 G</td><td>1,00 M</td><td>820,832505 M</td><td>-42,25</td><td>-29,25</td></tr><tr><td>1,000 G</td><td>3,000 G</td><td>1,00 M</td><td>1,673500 G</td><td>-37,08</td><td>-24,08</td></tr><tr><td>3,000 G</td><td>7,000 G</td><td>1,00 M</td><td>3,023000 G</td><td>-37,98</td><td>-24,98</td></tr><tr><td>7,000 G</td><td>9,000 G</td><td>1,00 M</td><td>8,087000 G</td><td>-36,18</td><td>-23,18</td></tr></table><p>Date: 4.JAN.2016 17:22:37</p></div>  |  | Start | Stop | RBW | Freq | PerAbn | ΔLimit | [Hz] | [Hz] | [Hz] | [Hz] | [dBm] | [dB] | 30,000 M | 820,000 M | 1,00 M | 789,005000 M | -43,41 | -30,41 | 850,000 M | 1,000 G | 1,00 M | 820,832505 M | -42,25 | -29,25 | 1,000 G | 3,000 G | 1,00 M | 1,673500 G | -37,08 | -24,08 | 3,000 G | 7,000 G | 1,00 M | 3,023000 G | -37,98 | -24,98 | 7,000 G | 9,000 G | 1,00 M | 8,087000 G | -36,18 | -23,18 |
| Start                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Stop      | RBW                   | Freq         | PerAbn | ΔLimit |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| [Hz]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | [Hz]      | [Hz]                  | [Hz]         | [dBm]  | [dB]   |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 30,000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 820,000 M | 1,00 M                | 663,975000 M | -42,19 | -29,19 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 850,000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1,000 G   | 1,00 M                | 898,103253 M | -42,32 | -29,32 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 1,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 3,000 G   | 1,00 M                | 1,673000 G   | -27,58 | -14,58 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 3,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 7,000 G   | 1,00 M                | 3,011000 G   | -38,40 | -25,40 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 7,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 9,000 G   | 1,00 M                | 7,638500 G   | -36,09 | -23,09 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| Start                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Stop      | RBW                   | Freq         | PerAbn | ΔLimit |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| [Hz]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | [Hz]      | [Hz]                  | [Hz]         | [dBm]  | [dB]   |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 30,000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 820,000 M | 1,00 M                | 789,005000 M | -43,41 | -30,41 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 850,000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1,000 G   | 1,00 M                | 820,832505 M | -42,25 | -29,25 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 1,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 3,000 G   | 1,00 M                | 1,673500 G   | -37,08 | -24,08 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 3,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 7,000 G   | 1,00 M                | 3,023000 G   | -37,98 | -24,98 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 7,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 9,000 G   | 1,00 M                | 8,087000 G   | -36,18 | -23,18 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| Highest Channel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           | Highest Channel       |              |        |        |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| <div><table><tr><th>Start</th><th>Stop</th><th>RBW</th><th>Freq</th><th>PerAbn</th><th>ΔLimit</th></tr><tr><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[dBm]</th><th>[dB]</th></tr><tr><td>30,000 M</td><td>820,000 M</td><td>1,00 M</td><td>733,692500 M</td><td>-42,50</td><td>-29,50</td></tr><tr><td>850,000 M</td><td>1,000 G</td><td>1,00 M</td><td>855,108760 M</td><td>-35,17</td><td>-22,17</td></tr><tr><td>1,000 G</td><td>3,000 G</td><td>1,00 M</td><td>1,698000 G</td><td>-27,04</td><td>-14,04</td></tr><tr><td>3,000 G</td><td>7,000 G</td><td>1,00 M</td><td>4,248000 G</td><td>-38,36</td><td>-25,36</td></tr><tr><td>7,000 G</td><td>9,000 G</td><td>1,00 M</td><td>7,539000 G</td><td>-36,04</td><td>-23,04</td></tr></table><p>Date: 4.JAN.2016 17:12:40</p></div> |           | Start                 | Stop         | RBW    | Freq   | PerAbn | ΔLimit | [Hz] | [Hz] | [Hz] | [Hz] | [dBm] | [dB] | 30,000 M | 820,000 M | 1,00 M | 733,692500 M | -42,50 | -29,50 | 850,000 M | 1,000 G | 1,00 M | 855,108760 M | -35,17 | -22,17 | 1,000 G | 3,000 G | 1,00 M | 1,698000 G | -27,04 | -14,04 | 3,000 G | 7,000 G | 1,00 M | 4,248000 G | -38,36 | -25,36 | 7,000 G | 9,000 G | 1,00 M | 7,539000 G | -36,04 | -23,04 | <div><table><tr><th>Start</th><th>Stop</th><th>RBW</th><th>Freq</th><th>PerAbn</th><th>ΔLimit</th></tr><tr><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[dBm]</th><th>[dB]</th></tr><tr><td>30,000 M</td><td>820,000 M</td><td>1,00 M</td><td>769,045000 M</td><td>-43,68</td><td>-30,68</td></tr><tr><td>850,000 M</td><td>1,000 G</td><td>1,00 M</td><td>855,036250 M</td><td>-37,89</td><td>-24,89</td></tr><tr><td>1,000 G</td><td>3,000 G</td><td>1,00 M</td><td>1,698000 G</td><td>-39,79</td><td>-26,79</td></tr><tr><td>3,000 G</td><td>7,000 G</td><td>1,00 M</td><td>3,045000 G</td><td>-38,07</td><td>-25,07</td></tr><tr><td>7,000 G</td><td>9,000 G</td><td>1,00 M</td><td>7,668000 G</td><td>-35,89</td><td>-22,89</td></tr></table><p>Date: 4.JAN.2016 17:23:26</p></div> |  | Start | Stop | RBW | Freq | PerAbn | ΔLimit | [Hz] | [Hz] | [Hz] | [Hz] | [dBm] | [dB] | 30,000 M | 820,000 M | 1,00 M | 769,045000 M | -43,68 | -30,68 | 850,000 M | 1,000 G | 1,00 M | 855,036250 M | -37,89 | -24,89 | 1,000 G | 3,000 G | 1,00 M | 1,698000 G | -39,79 | -26,79 | 3,000 G | 7,000 G | 1,00 M | 3,045000 G | -38,07 | -25,07 | 7,000 G | 9,000 G | 1,00 M | 7,668000 G | -35,89 | -22,89 |
| Start                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Stop      | RBW                   | Freq         | PerAbn | ΔLimit |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| [Hz]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | [Hz]      | [Hz]                  | [Hz]         | [dBm]  | [dB]   |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 30,000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 820,000 M | 1,00 M                | 733,692500 M | -42,50 | -29,50 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 850,000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1,000 G   | 1,00 M                | 855,108760 M | -35,17 | -22,17 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 1,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 3,000 G   | 1,00 M                | 1,698000 G   | -27,04 | -14,04 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 3,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 7,000 G   | 1,00 M                | 4,248000 G   | -38,36 | -25,36 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 7,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 9,000 G   | 1,00 M                | 7,539000 G   | -36,04 | -23,04 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| Start                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Stop      | RBW                   | Freq         | PerAbn | ΔLimit |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| [Hz]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | [Hz]      | [Hz]                  | [Hz]         | [dBm]  | [dB]   |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 30,000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 820,000 M | 1,00 M                | 769,045000 M | -43,68 | -30,68 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 850,000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1,000 G   | 1,00 M                | 855,036250 M | -37,89 | -24,89 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 1,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 3,000 G   | 1,00 M                | 1,698000 G   | -39,79 | -26,79 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 3,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 7,000 G   | 1,00 M                | 3,045000 G   | -38,07 | -25,07 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 7,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 9,000 G   | 1,00 M                | 7,668000 G   | -35,89 | -22,89 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |



**Frequency Stability**

| Test Conditions  | Middle Channel    | GSM850<br>(GPRS class 8) | GSM850<br>(EDGE class 8) | Limit<br>2.5ppm |
|------------------|-------------------|--------------------------|--------------------------|-----------------|
| Temperature (°C) | Voltage (Volt)    | Deviation (ppm)          |                          | Result          |
| 50               | Normal Voltage    | 0.0765                   | 0.0956                   | PASS            |
| 40               | Normal Voltage    | 0.0143                   | 0.0060                   |                 |
| 30               | Normal Voltage    | 0.0813                   | 0.0909                   |                 |
| 20(Ref.)         | Normal Voltage    | 0.0000                   | 0.0000                   |                 |
| 10               | Normal Voltage    | 0.0885                   | 0.0096                   |                 |
| 0                | Normal Voltage    | 0.0132                   | 0.0012                   |                 |
| -10              | Normal Voltage    | 0.0036                   | 0.1184                   |                 |
| -20              | Normal Voltage    | 0.0096                   | 0.0897                   |                 |
| -30              | Normal Voltage    | 0.0801                   | 0.1016                   |                 |
| 20               | Maximum Voltage   | 0.0024                   | 0.0000                   |                 |
| 20               | Normal Voltage    | 0.0729                   | 0.0933                   |                 |
| 20               | Battery End Point | 0.0789                   | 0.0980                   |                 |

**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.

| Test Conditions  | Middle Channel    | GSM1900<br>(GPRS class 8) | GSM1900<br>(EDGE class 8) | Limit<br>Note 2. |
|------------------|-------------------|---------------------------|---------------------------|------------------|
| Temperature (°C) | Voltage (Volt)    | Deviation (ppm)           |                           | Result           |
| 50               | Normal Voltage    | 0.0016                    | 0.0713                    | PASS             |
| 40               | Normal Voltage    | 0.0011                    | 0.0612                    |                  |
| 30               | Normal Voltage    | 0.0138                    | 0.0638                    |                  |
| 20(Ref.)         | Normal Voltage    | 0.0000                    | 0.0000                    |                  |
| 10               | Normal Voltage    | 0.0043                    | 0.0622                    |                  |
| 0                | Normal Voltage    | 0.0117                    | 0.0872                    |                  |
| -10              | Normal Voltage    | 0.0170                    | 0.0761                    |                  |
| -20              | Normal Voltage    | 0.0622                    | 0.0676                    |                  |
| -30              | Normal Voltage    | 0.0005                    | 0.0617                    |                  |
| 20               | Maximum Voltage   | 0.0080                    | 0.0021                    |                  |
| 20               | Normal Voltage    | 0.0059                    | 0.0612                    |                  |
| 20               | Battery End Point | 0.0048                    | 0.0644                    |                  |

**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.



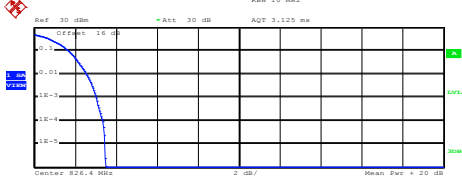
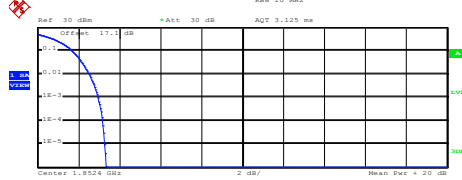
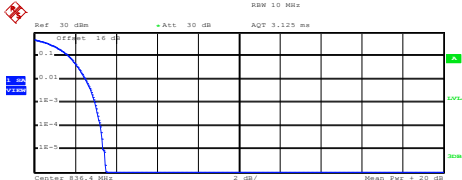
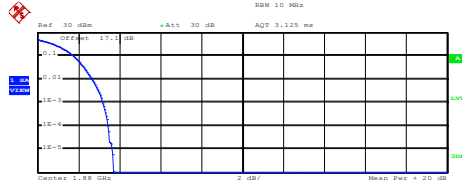
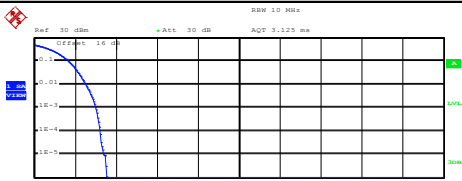
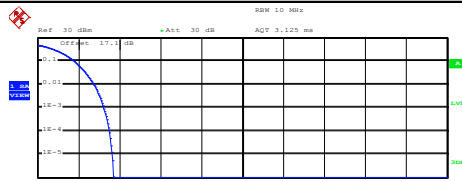
## A2. WCDMA

### Peak-to-Average Ratio

| Mode       | WCDMA Band V | WCDMA Band II | Limit: 13dB |
|------------|--------------|---------------|-------------|
| Mod.       | RMC 12.2Kbps | RMC 12.2Kbps  | Result      |
| Lowest CH  | 3.04         | 2.96          | PASS        |
| Middle CH  | 2.96         | 3.20          |             |
| Highest CH | 3.00         | 3.24          |             |

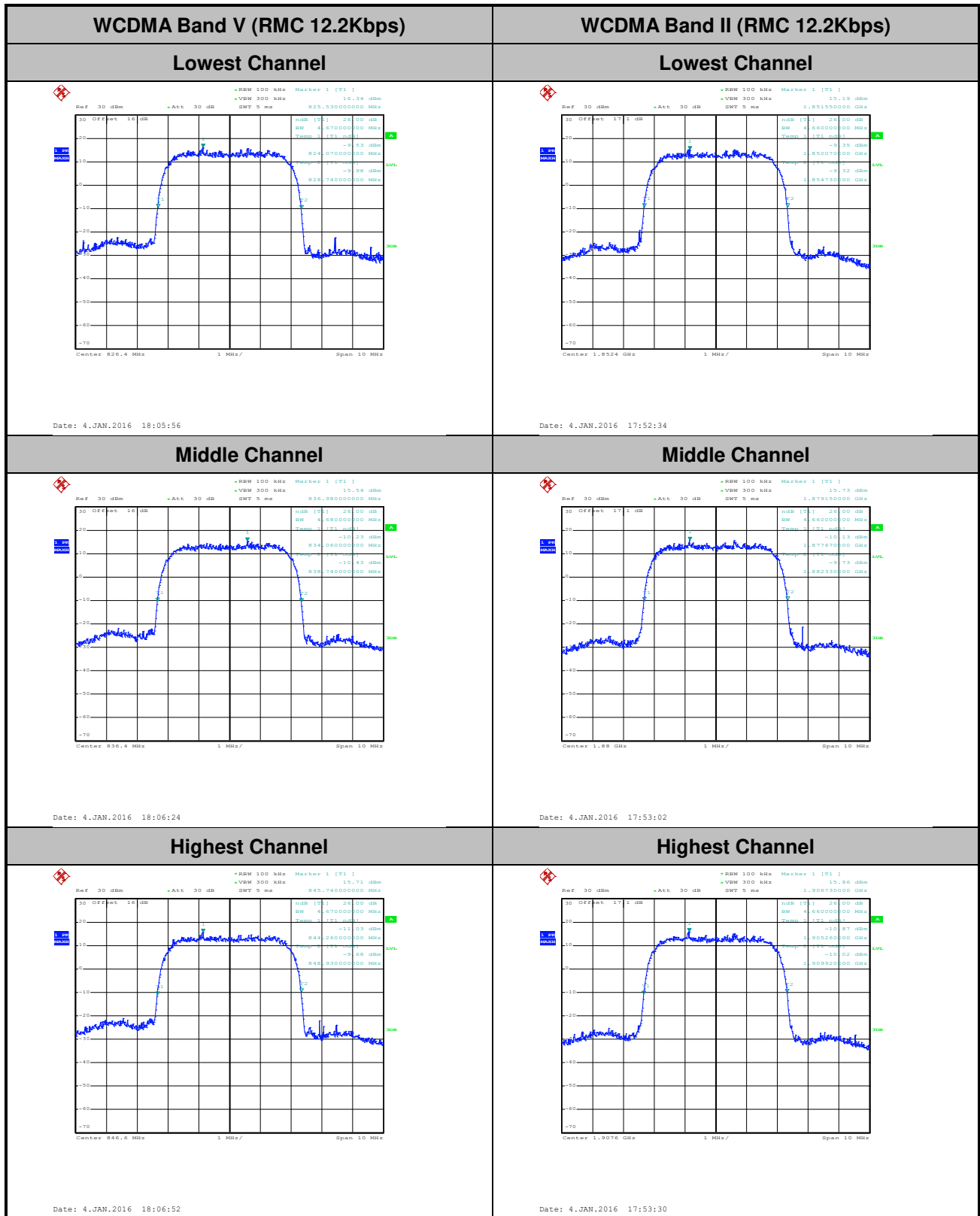




| WCDMA Band V (RMC 12.2Kbps)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | WCDMA Band II (RMC 12.2Kbps) |         |     |         |      |         |       |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |         |     |         |      |         |       |         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|---------|-----|---------|------|---------|-------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------|-----|---------|------|---------|-------|---------|
| Lowest Channel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Lowest Channel               |         |     |         |      |         |       |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |         |     |         |      |         |       |         |
|  <p>Ref: 30 dBm    Att: 30 dB    AQT: 3.125 ms<br/>Center: 826.4 MHz    2 dB/    Mean: Pwr + 20 dB</p> <p>Complementary Cumulative Distribution Function (100000 samples)<br/>Trace 1<br/>Mean: 19.93 dBm<br/>Peak: 23.41 dBm<br/>Crest: 3.48 dB</p> <table><tr><td>10 %</td><td>1.68 dB</td></tr><tr><td>1 %</td><td>2.56 dB</td></tr><tr><td>.1 %</td><td>3.04 dB</td></tr><tr><td>.01 %</td><td>3.36 dB</td></tr></table> <p>Date: 4.JAN.2016 18:17:09</p>   | 10 %                         | 1.68 dB | 1 % | 2.56 dB | .1 % | 3.04 dB | .01 % | 3.36 dB |  <p>Ref: 30 dBm    Att: 30 dB    AQT: 3.125 ms<br/>Center: 1.8524 GHz    2 dB/    Mean: Pwr + 20 dB</p> <p>Complementary Cumulative Distribution Function (100000 samples)<br/>Trace 1<br/>Mean: 20.00 dBm<br/>Peak: 23.34 dBm<br/>Crest: 3.34 dB</p> <table><tr><td>10 %</td><td>1.68 dB</td></tr><tr><td>1 %</td><td>2.52 dB</td></tr><tr><td>.1 %</td><td>2.96 dB</td></tr><tr><td>.01 %</td><td>3.20 dB</td></tr></table> <p>Date: 4.JAN.2016 18:03:21</p>   | 10 % | 1.68 dB | 1 % | 2.52 dB | .1 % | 2.96 dB | .01 % | 3.20 dB |
| 10 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1.68 dB                      |         |     |         |      |         |       |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |         |     |         |      |         |       |         |
| 1 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2.56 dB                      |         |     |         |      |         |       |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |         |     |         |      |         |       |         |
| .1 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 3.04 dB                      |         |     |         |      |         |       |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |         |     |         |      |         |       |         |
| .01 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 3.36 dB                      |         |     |         |      |         |       |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |         |     |         |      |         |       |         |
| 10 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1.68 dB                      |         |     |         |      |         |       |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |         |     |         |      |         |       |         |
| 1 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2.52 dB                      |         |     |         |      |         |       |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |         |     |         |      |         |       |         |
| .1 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2.96 dB                      |         |     |         |      |         |       |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |         |     |         |      |         |       |         |
| .01 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 3.20 dB                      |         |     |         |      |         |       |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |         |     |         |      |         |       |         |
| Middle Channel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Middle Channel               |         |     |         |      |         |       |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |         |     |         |      |         |       |         |
|  <p>Ref: 30 dBm    Att: 30 dB    AQT: 3.125 ms<br/>Center: 836.4 MHz    2 dB/    Mean: Pwr + 20 dB</p> <p>Complementary Cumulative Distribution Function (100000 samples)<br/>Trace 1<br/>Mean: 19.64 dBm<br/>Peak: 23.13 dBm<br/>Crest: 3.49 dB</p> <table><tr><td>10 %</td><td>1.68 dB</td></tr><tr><td>1 %</td><td>2.52 dB</td></tr><tr><td>.1 %</td><td>2.96 dB</td></tr><tr><td>.01 %</td><td>3.24 dB</td></tr></table> <p>Date: 4.JAN.2016 18:17:21</p>  | 10 %                         | 1.68 dB | 1 % | 2.52 dB | .1 % | 2.96 dB | .01 % | 3.24 dB |  <p>Ref: 30 dBm    Att: 30 dB    AQT: 3.125 ms<br/>Center: 1.85 GHz    2 dB/    Mean: Pwr + 20 dB</p> <p>Complementary Cumulative Distribution Function (100000 samples)<br/>Trace 1<br/>Mean: 19.55 dBm<br/>Peak: 23.27 dBm<br/>Crest: 3.72 dB</p> <table><tr><td>10 %</td><td>1.76 dB</td></tr><tr><td>1 %</td><td>2.68 dB</td></tr><tr><td>.1 %</td><td>3.20 dB</td></tr><tr><td>.01 %</td><td>3.44 dB</td></tr></table> <p>Date: 4.JAN.2016 18:03:31</p>    | 10 % | 1.76 dB | 1 % | 2.68 dB | .1 % | 3.20 dB | .01 % | 3.44 dB |
| 10 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1.68 dB                      |         |     |         |      |         |       |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |         |     |         |      |         |       |         |
| 1 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2.52 dB                      |         |     |         |      |         |       |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |         |     |         |      |         |       |         |
| .1 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2.96 dB                      |         |     |         |      |         |       |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |         |     |         |      |         |       |         |
| .01 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 3.24 dB                      |         |     |         |      |         |       |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |         |     |         |      |         |       |         |
| 10 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1.76 dB                      |         |     |         |      |         |       |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |         |     |         |      |         |       |         |
| 1 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2.68 dB                      |         |     |         |      |         |       |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |         |     |         |      |         |       |         |
| .1 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 3.20 dB                      |         |     |         |      |         |       |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |         |     |         |      |         |       |         |
| .01 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 3.44 dB                      |         |     |         |      |         |       |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |         |     |         |      |         |       |         |
| Highest Channel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Highest Channel              |         |     |         |      |         |       |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |         |     |         |      |         |       |         |
|  <p>Ref: 30 dBm    Att: 30 dB    AQT: 3.125 ms<br/>Center: 846.6 MHz    2 dB/    Mean: Pwr + 20 dB</p> <p>Complementary Cumulative Distribution Function (100000 samples)<br/>Trace 1<br/>Mean: 19.52 dBm<br/>Peak: 23.06 dBm<br/>Crest: 3.54 dB</p> <table><tr><td>10 %</td><td>1.68 dB</td></tr><tr><td>1 %</td><td>2.52 dB</td></tr><tr><td>.1 %</td><td>3.00 dB</td></tr><tr><td>.01 %</td><td>3.24 dB</td></tr></table> <p>Date: 4.JAN.2016 18:17:31</p> | 10 %                         | 1.68 dB | 1 % | 2.52 dB | .1 % | 3.00 dB | .01 % | 3.24 dB |  <p>Ref: 30 dBm    Att: 30 dB    AQT: 3.125 ms<br/>Center: 1.9076 GHz    2 dB/    Mean: Pwr + 20 dB</p> <p>Complementary Cumulative Distribution Function (100000 samples)<br/>Trace 1<br/>Mean: 19.27 dBm<br/>Peak: 22.98 dBm<br/>Crest: 3.71 dB</p> <table><tr><td>10 %</td><td>1.80 dB</td></tr><tr><td>1 %</td><td>2.76 dB</td></tr><tr><td>.1 %</td><td>3.24 dB</td></tr><tr><td>.01 %</td><td>3.52 dB</td></tr></table> <p>Date: 4.JAN.2016 18:03:40</p> | 10 % | 1.80 dB | 1 % | 2.76 dB | .1 % | 3.24 dB | .01 % | 3.52 dB |
| 10 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1.68 dB                      |         |     |         |      |         |       |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |         |     |         |      |         |       |         |
| 1 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2.52 dB                      |         |     |         |      |         |       |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |         |     |         |      |         |       |         |
| .1 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 3.00 dB                      |         |     |         |      |         |       |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |         |     |         |      |         |       |         |
| .01 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 3.24 dB                      |         |     |         |      |         |       |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |         |     |         |      |         |       |         |
| 10 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1.80 dB                      |         |     |         |      |         |       |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |         |     |         |      |         |       |         |
| 1 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2.76 dB                      |         |     |         |      |         |       |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |         |     |         |      |         |       |         |
| .1 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 3.24 dB                      |         |     |         |      |         |       |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |         |     |         |      |         |       |         |
| .01 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 3.52 dB                      |         |     |         |      |         |       |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |         |     |         |      |         |       |         |

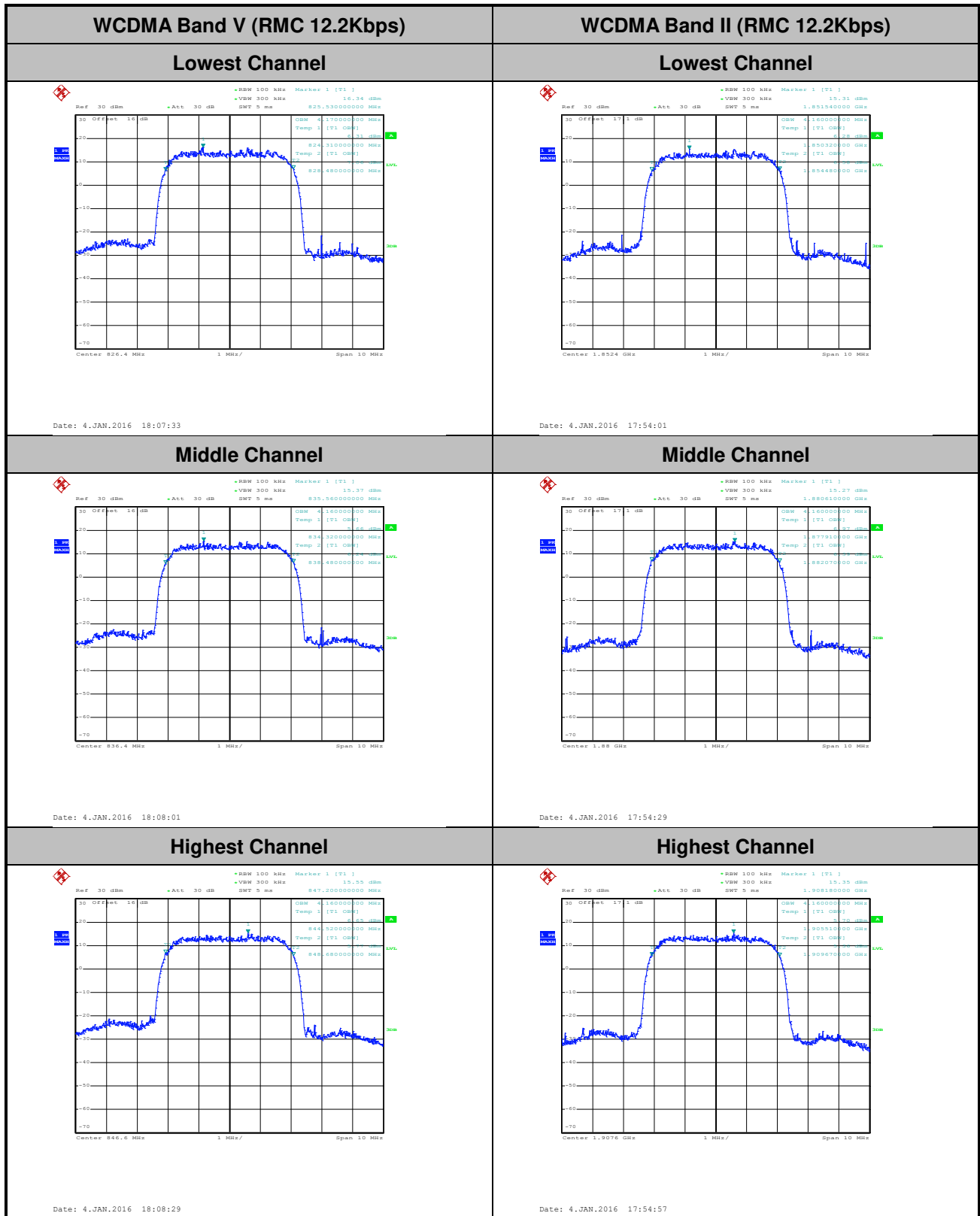
**26dB Bandwidth**

| Mode       | WCDMA Band V | WCDMA Band II |
|------------|--------------|---------------|
| Mod.       | RMC 12.2Kbps | RMC 12.2Kbps  |
| Lowest CH  | 4.67         | 4.66          |
| Middle CH  | 4.68         | 4.66          |
| Highest CH | 4.67         | 4.66          |



**Occupied Bandwidth**

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

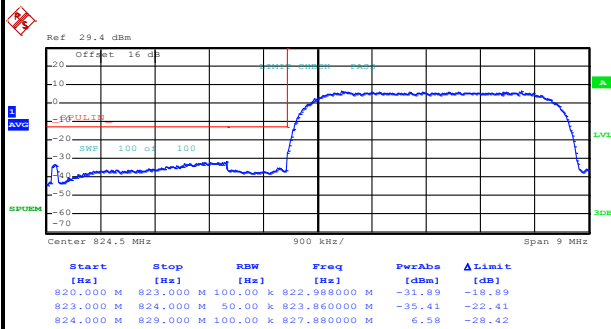




## Conducted Band Edge

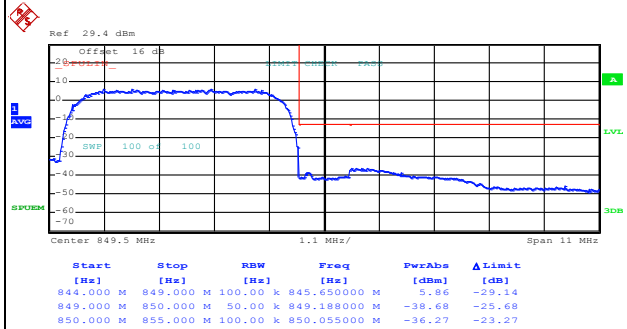
### WCDMA Band V (RMC 12.2Kbps)

#### Lowest Band Edge



Date: 4.JAN.2016 18:11:15

#### Highest Band Edge

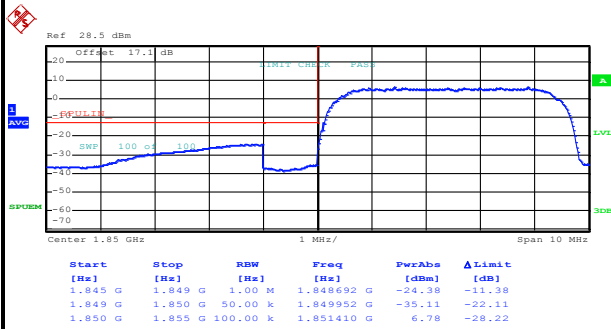


Date: 4.JAN.2016 18:13:58



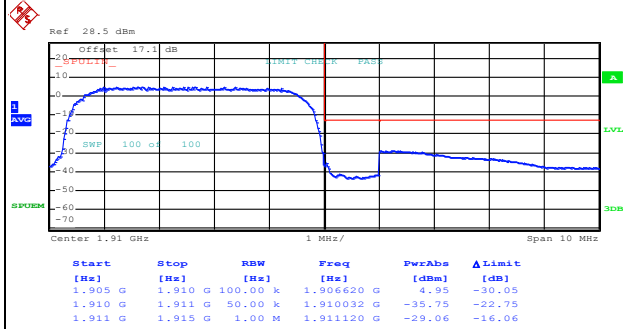
WCDMA Band II (RMC 12.2Kbps)

Lowest Band Edge



Date: 4.JAN.2016 17:57:49

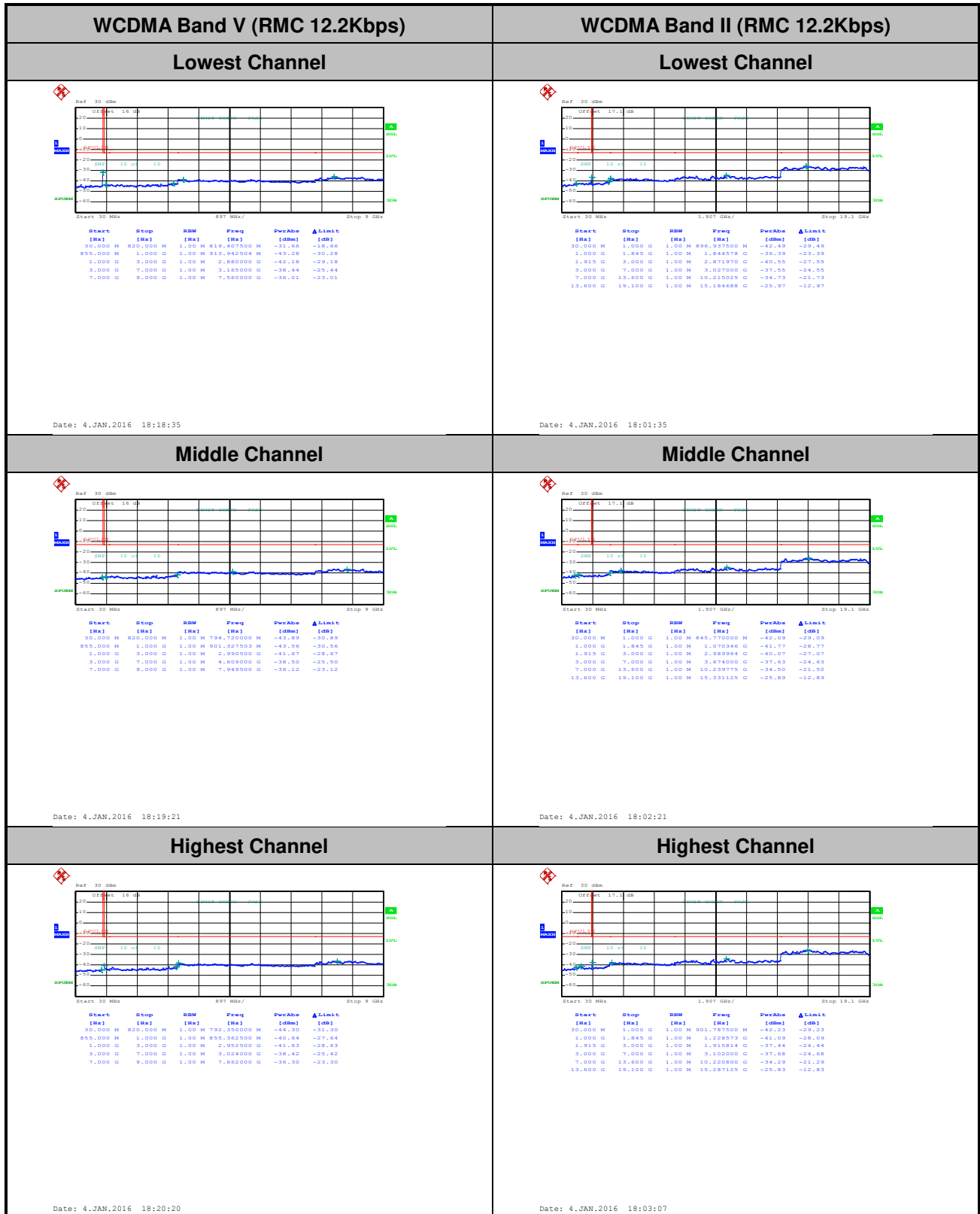
Highest Band Edge



Date: 4.JAN.2016 18:00:32



# Conducted Spurious Emission





## Frequency Stability

| Test Conditions  | Middle Channel    | WCDMA Band V<br>(RMC 12.2Kbps) | Limit<br>2.5ppm |
|------------------|-------------------|--------------------------------|-----------------|
| Temperature (°C) | Voltage (Volt)    | Deviation (ppm)                | Result          |
| 50               | Normal Voltage    | 0.0670                         | PASS            |
| 40               | Normal Voltage    | 0.0622                         |                 |
| 30               | Normal Voltage    | 0.0580                         |                 |
| 20(Ref.)         | Normal Voltage    | 0.0000                         |                 |
| 10               | Normal Voltage    | 0.0505                         |                 |
| 0                | Normal Voltage    | 0.0649                         |                 |
| -10              | Normal Voltage    | 0.0080                         |                 |
| -20              | Normal Voltage    | 0.0085                         |                 |
| -30              | Normal Voltage    | 0.0516                         |                 |
| 20               | Maximum Voltage   | 0.0500                         |                 |
| 20               | Normal Voltage    | 0.0011                         |                 |
| 20               | Battery End Point | 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.



| Test Conditions  | Middle Channel    | WCDMA Band II<br>(RMC 12.2Kbps) | Limit<br>Note 2. |
|------------------|-------------------|---------------------------------|------------------|
| Temperature (°C) | Voltage (Volt)    | Deviation (ppm)                 | Result           |
| 50               | Normal Voltage    | 0.0012                          | PASS             |
| 40               | Normal Voltage    | 0.0084                          |                  |
| 30               | Normal Voltage    | 0.0036                          |                  |
| 20(Ref.)         | Normal Voltage    | 0.0000                          |                  |
| 10               | Normal Voltage    | 0.0108                          |                  |
| 0                | Normal Voltage    | 0.0837                          |                  |
| -10              | Normal Voltage    | 0.0921                          |                  |
| -20              | Normal Voltage    | 0.0753                          |                  |
| -30              | Normal Voltage    | 0.0036                          |                  |
| 20               | Maximum Voltage   | 0.0777                          |                  |
| 20               | Normal Voltage    | 0.0179                          |                  |
| 20               | Battery End Point | 0.0813                          |                  |

**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.



## Appendix B. Test Results of Radiated Test

### ERP/EIRP

| Channel | Mode                         | Horizontal |        | Vertical |        |
|---------|------------------------------|------------|--------|----------|--------|
|         |                              | ERP(dBm)   | ERP(W) | ERP(dBm) | ERP(W) |
| Lowest  | GSM850<br>GPRS class 8       | 25.38      | 0.3454 | 14.79    | 0.0302 |
| Middle  |                              | 26.57      | 0.4539 | 7.82     | 0.0061 |
| Highest |                              | 27.26      | 0.5320 | 8.73     | 0.0075 |
| Lowest  | GSM850<br>EDGE class 8       | 19.53      | 0.0897 | 1.54     | 0.0014 |
| Middle  |                              | 21.01      | 0.1261 | 3.06     | 0.0020 |
| Highest |                              | 21.25      | 0.1333 | 3.32     | 0.0021 |
| Lowest  | WCDMA Band V<br>RMC 12.2Kbps | 14.64      | 0.0291 | -4.12    | 0.0004 |
| Middle  |                              | 15.66      | 0.0368 | -3.26    | 0.0005 |
| Highest |                              | 15.73      | 0.0374 | -3.34    | 0.0005 |
| Limit   | ERP < 7W                     | Result     |        | PASS     |        |

| Channel | Mode                          | Horizontal |         | Vertical  |         |
|---------|-------------------------------|------------|---------|-----------|---------|
|         |                               | EIRP(dBm)  | EIRP(W) | EIRP(dBm) | EIRP(W) |
| Lowest  | GSM1900<br>GPRS class 8       | 28.65      | 0.7326  | 21.86     | 0.1533  |
| Middle  |                               | 27.53      | 0.5658  | 20.35     | 0.1083  |
| Highest |                               | 26.53      | 0.4498  | 19.45     | 0.0882  |
| Lowest  | GSM1900<br>EDGE class 8       | 24.19      | 0.2625  | 17.41     | 0.0550  |
| Middle  |                               | 23.22      | 0.2097  | 16.27     | 0.0424  |
| Highest |                               | 22.49      | 0.1772  | 15.54     | 0.0358  |
| Lowest  | WCDMA Band II<br>RMC 12.2Kbps | 19.66      | 0.0925  | 12.98     | 0.0199  |
| Middle  |                               | 19.87      | 0.0970  | 12.98     | 0.0199  |
| Highest |                               | 19.41      | 0.0873  | 13.02     | 0.0201  |
| Limit   | EIRP < 2W                     | Result     |         | PASS      |         |



## Radiated Spurious Emission

| GSM850 (GPRS class 8) |                      |                |                  |                         |                         |                          |                            |                             |                       |
|-----------------------|----------------------|----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|
| Channel               | Frequency<br>( MHz ) | ERP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) |
| Lowest                | 1648                 | -30.78         | -13              | -17.78                  | -40.35                  | -32.54                   | 0.98                       | 4.89                        | H                     |
|                       | 2472                 | -33.39         | -13              | -20.39                  | -46.51                  | -35.27                   | 1.28                       | 5.32                        | H                     |
|                       | 3296                 | -32.64         | -13              | -19.64                  | -49.17                  | -36.05                   | 1.54                       | 7.10                        | H                     |
|                       | 4120                 | -34.29         | -13              | -21.29                  | -55.41                  | -38.93                   | 1.83                       | 8.62                        | H                     |
|                       | 4944                 | -40.08         | -13              | -27.08                  | -62.72                  | -45.21                   | 2.30                       | 9.59                        | H                     |
|                       | 5768                 | -47.16         | -13              | -34.16                  | -71.44                  | -52.04                   | 2.78                       | 9.81                        | H                     |
|                       | 1648                 | -34.88         | -13              | -21.88                  | -42.53                  | -36.64                   | 0.98                       | 4.89                        | V                     |
|                       | 2472                 | -32.71         | -13              | -19.71                  | -47.91                  | -34.59                   | 1.28                       | 5.32                        | V                     |
|                       | 3296                 | -33.77         | -13              | -20.77                  | -49.18                  | -37.18                   | 1.54                       | 7.10                        | V                     |
|                       | 4120                 | -32.84         | -13              | -19.84                  | -52.94                  | -37.48                   | 1.83                       | 8.62                        | V                     |
|                       | 4944                 | -40.51         | -13              | -27.51                  | -61.96                  | -45.64                   | 2.30                       | 9.59                        | V                     |
|                       | 5768                 | -47.25         | -13              | -34.25                  | -70.69                  | -52.13                   | 2.78                       | 9.81                        | V                     |
| Middle                | 1672                 | -32.21         | -13              | -19.21                  | -41.51                  | -33.89                   | 0.99                       | 4.82                        | H                     |
|                       | 2512                 | -32.22         | -13              | -19.22                  | -45.54                  | -34.19                   | 1.29                       | 5.41                        | H                     |
|                       | 3344                 | -35.43         | -13              | -22.43                  | -51.65                  | -39.04                   | 1.56                       | 7.31                        | H                     |
|                       | 4184                 | -34.22         | -13              | -21.22                  | -55.32                  | -38.84                   | 1.87                       | 8.64                        | H                     |
|                       | 5016                 | -42.11         | -13              | -29.11                  | -64.92                  | -47.31                   | 2.35                       | 9.70                        | H                     |
|                       | 5856                 | -48.18         | -13              | -35.18                  | -72.88                  | -53.04                   | 2.83                       | 9.84                        | H                     |
|                       | 1672                 | -36.86         | -13              | -23.86                  | -44.18                  | -38.54                   | 0.99                       | 4.82                        | V                     |
|                       | 2512                 | -33.84         | -13              | -20.84                  | -49.19                  | -35.81                   | 1.29                       | 5.41                        | V                     |
|                       | 3344                 | -34.77         | -13              | -21.77                  | -50.02                  | -38.38                   | 1.56                       | 7.31                        | V                     |
|                       | 4184                 | -34.21         | -13              | -21.21                  | -53.28                  | -38.83                   | 1.87                       | 8.64                        | V                     |
|                       | 5016                 | -44.74         | -13              | -31.74                  | -66.16                  | -49.94                   | 2.35                       | 9.70                        | V                     |
|                       | 5856                 | -47.89         | -13              | -34.89                  | -71.93                  | -52.75                   | 2.83                       | 9.84                        | V                     |
| Highest               | 1696                 | -32.61         | -13              | -19.61                  | -41.99                  | -34.21                   | 1.00                       | 4.75                        | H                     |
|                       | 2544                 | -37.96         | -13              | -24.96                  | -51.68                  | -39.94                   | 1.30                       | 5.44                        | H                     |
|                       | 3392                 | -36.31         | -13              | -23.31                  | -52.66                  | -40.11                   | 1.57                       | 7.52                        | H                     |
|                       | 4248                 | -34.83         | -13              | -21.83                  | -56.26                  | -39.43                   | 1.90                       | 8.65                        | H                     |
|                       | 5096                 | -42.13         | -13              | -29.13                  | -65.05                  | -47.29                   | 2.39                       | 9.70                        | H                     |
|                       | 5944                 | -49.46         | -13              | -36.46                  | -74.53                  | -54.31                   | 2.88                       | 9.88                        | H                     |
|                       | 1696                 | -35.88         | -13              | -22.88                  | -43.59                  | -37.48                   | 1.00                       | 4.75                        | V                     |
|                       | 2544                 | -36.17         | -13              | -23.17                  | -51.54                  | -38.15                   | 1.30                       | 5.44                        | V                     |
|                       | 3392                 | -32.87         | -13              | -19.87                  | -48.77                  | -36.67                   | 1.57                       | 7.52                        | V                     |
|                       | 4248                 | -33.84         | -13              | -20.84                  | -53.96                  | -38.44                   | 1.90                       | 8.65                        | V                     |
|                       | 5096                 | -44.52         | -13              | -31.52                  | -66.31                  | -49.68                   | 2.39                       | 9.70                        | V                     |
|                       | 5944                 | -48.76         | -13              | -35.76                  | -73.06                  | -53.61                   | 2.88                       | 9.88                        | V                     |

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



| GSM850 (EDGE class 8) |                      |                |                  |                         |                         |                          |                            |                             |                       |
|-----------------------|----------------------|----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|
| Channel               | Frequency<br>( MHz ) | ERP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) |
| Lowest                | 1648                 | -32.15         | -13              | -19.15                  | -41.72                  | -33.91                   | 0.98                       | 4.89                        | H                     |
|                       | 2472                 | -33.16         | -13              | -20.16                  | -46.25                  | -35.04                   | 1.28                       | 5.32                        | H                     |
|                       | 3296                 | -35.80         | -13              | -22.80                  | -52.33                  | -39.21                   | 1.54                       | 7.10                        | H                     |
|                       | 4120                 | -33.67         | -13              | -20.67                  | -54.88                  | -38.31                   | 1.83                       | 8.62                        | H                     |
|                       | 4944                 | -39.71         | -13              | -26.71                  | -62.25                  | -44.84                   | 2.30                       | 9.59                        | H                     |
|                       | 5768                 | -46.05         | -13              | -33.05                  | -70.27                  | -50.93                   | 2.78                       | 9.81                        | H                     |
|                       | 1648                 | -35.29         | -13              | -22.29                  | -42.88                  | -37.05                   | 0.98                       | 4.89                        | V                     |
|                       | 2472                 | -33.05         | -13              | -20.05                  | -48.28                  | -34.93                   | 1.28                       | 5.32                        | V                     |
|                       | 3296                 | -35.56         | -13              | -22.56                  | -50.89                  | -38.97                   | 1.54                       | 7.10                        | V                     |
|                       | 4120                 | -33.50         | -13              | -20.50                  | -53.68                  | -38.14                   | 1.83                       | 8.62                        | V                     |
|                       | 4944                 | -42.30         | -13              | -29.30                  | -63.79                  | -47.43                   | 2.30                       | 9.59                        | V                     |
|                       | 5768                 | -47.43         | -13              | -34.43                  | -70.94                  | -52.31                   | 2.78                       | 9.81                        | V                     |
| Middle                | 1672                 | -33.61         | -13              | -20.61                  | -42.95                  | -35.29                   | 0.99                       | 4.82                        | H                     |
|                       | 2512                 | -35.24         | -13              | -22.24                  | -48.45                  | -37.21                   | 1.29                       | 5.41                        | H                     |
|                       | 3344                 | -35.77         | -13              | -22.77                  | -51.96                  | -39.38                   | 1.56                       | 7.31                        | H                     |
|                       | 4184                 | -34.77         | -13              | -21.77                  | -55.88                  | -39.39                   | 1.87                       | 8.64                        | H                     |
|                       | 5016                 | -40.64         | -13              | -27.64                  | -63.49                  | -45.84                   | 2.35                       | 9.70                        | H                     |
|                       | 5856                 | -47.35         | -13              | -34.35                  | -72.07                  | -52.21                   | 2.83                       | 9.84                        | H                     |
|                       | 1672                 | -36.93         | -13              | -23.93                  | -44.17                  | -38.61                   | 0.99                       | 4.82                        | V                     |
|                       | 2512                 | -33.47         | -13              | -20.47                  | -48.82                  | -35.44                   | 1.29                       | 5.41                        | V                     |
|                       | 3344                 | -34.37         | -13              | -21.37                  | -49.56                  | -37.98                   | 1.56                       | 7.31                        | V                     |
|                       | 4184                 | -33.92         | -13              | -20.92                  | -54                     | -38.54                   | 1.87                       | 8.64                        | V                     |
|                       | 5016                 | -44.41         | -13              | -31.41                  | -65.8                   | -49.61                   | 2.35                       | 9.70                        | V                     |
|                       | 5856                 | -46.51         | -13              | -33.51                  | -70.52                  | -51.37                   | 2.83                       | 9.84                        | V                     |
| Highest               | 1696                 | -32.78         | -13              | -19.78                  | -42.22                  | -34.38                   | 1.00                       | 4.75                        | H                     |
|                       | 2544                 | -35.55         | -13              | -22.55                  | -49.25                  | -37.53                   | 1.30                       | 5.44                        | H                     |
|                       | 3392                 | -34.34         | -13              | -21.34                  | -50.81                  | -38.14                   | 1.57                       | 7.52                        | H                     |
|                       | 4248                 | -34.41         | -13              | -21.41                  | -55.8                   | -39.01                   | 1.90                       | 8.65                        | H                     |
|                       | 5096                 | -41.18         | -13              | -28.18                  | -63.96                  | -46.34                   | 2.39                       | 9.70                        | H                     |
|                       | 5944                 | -48.96         | -13              | -35.96                  | -73.99                  | -53.81                   | 2.88                       | 9.88                        | H                     |
|                       | 1696                 | -35.34         | -13              | -22.34                  | -43.1                   | -36.94                   | 1.00                       | 4.75                        | V                     |
|                       | 2544                 | -36.51         | -13              | -23.51                  | -51.86                  | -40.64                   | 1.30                       | 5.44                        | V                     |
|                       | 3392                 | -34.03         | -13              | -21.03                  | -49.88                  | -39.98                   | 1.57                       | 7.52                        | V                     |
|                       | 4248                 | -33.52         | -13              | -20.52                  | -53.66                  | -40.27                   | 1.90                       | 8.65                        | V                     |
|                       | 5096                 | -46.53         | -13              | -33.53                  | -68.19                  | -53.84                   | 2.39                       | 9.70                        | V                     |
|                       | 5944                 | -49.09         | -13              | -36.09                  | -73.47                  | -56.09                   | 2.88                       | 9.88                        | V                     |

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



| GSM1900 (GPRS class 8) |                      |                 |                  |                         |                         |                          |                            |                             |                       |
|------------------------|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|
| Channel                | Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) |
| Lowest                 | 3700                 | -44.86          | -13              | -31.86                  | -63.45                  | -51.43                   | 1.67                       | 8.24                        | H                     |
|                        | 5548                 | -49.67          | -13              | -36.67                  | -73.41                  | -56.74                   | 2.65                       | 9.72                        | H                     |
|                        | 12954.5              | -29.25          | -13              | -16.25                  | -67.74                  | -39.28                   | 2.92                       | 12.94                       | H                     |
|                        | 3700                 | -37.45          | -13              | -24.45                  | -55.99                  | -44.02                   | 1.67                       | 8.24                        | V                     |
|                        | 5548                 | -52.19          | -13              | -39.19                  | -74.38                  | -59.26                   | 2.65                       | 9.72                        | V                     |
|                        | 12954.5              | -34.49          | -13              | -21.49                  | -70.58                  | -44.52                   | 2.92                       | 12.94                       | V                     |
| Middle                 | 3763                 | -44.60          | -13              | -31.60                  | -63.72                  | -51.23                   | 1.69                       | 8.32                        | H                     |
|                        | 5639                 | -50.07          | -13              | -37.07                  | -73.76                  | -57.12                   | 2.71                       | 9.76                        | H                     |
|                        | 13163.5              | -29.07          | -13              | -16.07                  | -68.09                  | -39.33                   | 2.97                       | 13.23                       | H                     |
|                        | 3763                 | -38.25          | -13              | -25.25                  | -56.78                  | -44.88                   | 1.69                       | 8.32                        | V                     |
|                        | 5639                 | -54.04          | -13              | -41.04                  | -76.36                  | -61.09                   | 2.71                       | 9.76                        | V                     |
|                        | 13163.5              | -29.88          | -13              | -16.88                  | -66.86                  | -40.14                   | 2.97                       | 13.23                       | V                     |
| Highest                | 3819                 | -45.26          | -13              | -32.26                  | -64.87                  | -51.94                   | 1.70                       | 8.38                        | H                     |
|                        | 5730                 | -51.50          | -13              | -38.50                  | -75.65                  | -58.53                   | 2.76                       | 9.79                        | H                     |
|                        | 13372.5              | -29.09          | -13              | -16.09                  | -68.4                   | -39.59                   | 3.02                       | 13.52                       | H                     |
|                        | 3819                 | -39.14          | -13              | -26.14                  | -57.84                  | -45.82                   | 1.70                       | 8.38                        | V                     |
|                        | 5730                 | -52.97          | -13              | -39.97                  | -76.05                  | -60                      | 2.76                       | 9.79                        | V                     |
|                        | 13372.5              | -25.06          | -13              | -12.06                  | -63.1                   | -35.56                   | 3.02                       | 13.52                       | V                     |

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



| GSM1900 (EDGE class 8) |                      |                 |                  |                         |                         |                          |                            |                             |                       |
|------------------------|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|
| Channel                | Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) |
| Lowest                 | 3700                 | -47.77          | -13              | -34.77                  | -66.43                  | -54.34                   | 1.67                       | 8.24                        | H                     |
|                        | 5548                 | -51.60          | -13              | -38.60                  | -75.36                  | -58.67                   | 2.65                       | 9.72                        | H                     |
|                        | 12954.5              | -34.98          | -13              | -21.98                  | -73.42                  | -45.01                   | 2.92                       | 12.94                       | H                     |
|                        | 3700                 | -42.57          | -13              | -29.57                  | -61.07                  | -49.14                   | 1.67                       | 8.24                        | V                     |
|                        | 5548                 | -52.24          | -13              | -39.24                  | -74.44                  | -59.31                   | 2.65                       | 9.72                        | V                     |
|                        | 12954.5              | -38.44          | -13              | -25.44                  | -74.54                  | -48.47                   | 2.92                       | 12.94                       | V                     |
| Middle                 | 3763                 | -48.23          | -13              | -35.23                  | -67.37                  | -54.86                   | 1.69                       | 8.32                        | H                     |
|                        | 5639                 | -51.61          | -13              | -38.61                  | -75.28                  | -58.66                   | 2.71                       | 9.76                        | H                     |
|                        | 13163.5              | -31.82          | -13              | -18.82                  | -70.8                   | -42.08                   | 2.97                       | 13.23                       | H                     |
|                        | 3763                 | -42.74          | -13              | -29.74                  | -61.33                  | -49.37                   | 1.69                       | 8.32                        | V                     |
|                        | 5639                 | -54.54          | -13              | -41.54                  | -76.8                   | -61.59                   | 2.71                       | 9.76                        | V                     |
|                        | 13163.5              | -34.85          | -13              | -21.85                  | -71.84                  | -45.11                   | 2.97                       | 13.23                       | V                     |
| Highest                | 3819                 | -48.01          | -13              | -35.01                  | -67.6                   | -54.69                   | 1.70                       | 8.38                        | H                     |
|                        | 5730                 | -53.25          | -13              | -40.25                  | -77.33                  | -60.28                   | 2.76                       | 9.79                        | H                     |
|                        | 13372.5              | -32.04          | -13              | -19.04                  | -71.35                  | -42.54                   | 3.02                       | 13.52                       | H                     |
|                        | 3819                 | -43.29          | -13              | -30.29                  | -61.9                   | -49.97                   | 1.70                       | 8.38                        | V                     |
|                        | 5730                 | -53.79          | -13              | -40.79                  | -76.97                  | -60.82                   | 2.76                       | 9.79                        | V                     |
|                        | 13372.5              | -33.57          | -13              | -20.57                  | -71.61                  | -44.07                   | 3.02                       | 13.52                       | V                     |

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



| WCDMA Band V (RMC 12.2Kbps) |                      |                |                  |                         |                         |                          |                            |                             |                       |
|-----------------------------|----------------------|----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|
| Channel                     | Frequency<br>( MHz ) | ERP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) |
| Lowest                      | 1648                 | -42.76         | -13              | -29.76                  | -52.33                  | -44.52                   | 0.98                       | 4.89                        | H                     |
|                             | 2480                 | -48.94         | -13              | -35.94                  | -61.91                  | -50.85                   | 1.28                       | 5.34                        | H                     |
|                             | 3304                 | -50.71         | -13              | -37.71                  | -67.34                  | -54.15                   | 1.54                       | 7.14                        | H                     |
|                             | 4128                 | -50.92         | -13              | -37.92                  | -72.14                  | -55.56                   | 1.83                       | 8.63                        | H                     |
|                             | 1648                 | -50.29         | -13              | -37.29                  | -57.94                  | -52.05                   | 0.98                       | 4.89                        | V                     |
|                             | 2480                 | -48.40         | -13              | -35.40                  | -63.55                  | -50.31                   | 1.28                       | 5.34                        | V                     |
|                             | 3304                 | -51.70         | -13              | -38.70                  | -67.04                  | -55.14                   | 1.54                       | 7.14                        | V                     |
|                             | 4128                 | -51.23         | -13              | -38.23                  | -71.36                  | -55.87                   | 1.83                       | 8.63                        | V                     |
| Middle                      | 1672                 | -42.77         | -13              | -29.77                  | -52.07                  | -44.45                   | 0.99                       | 4.82                        | H                     |
|                             | 2512                 | -45.80         | -13              | -32.80                  | -59.05                  | -47.77                   | 1.29                       | 5.41                        | H                     |
|                             | 3352                 | -49.72         | -13              | -36.72                  | -65.95                  | -53.36                   | 1.56                       | 7.35                        | H                     |
|                             | 4184                 | -50.27         | -13              | -37.27                  | -71.37                  | -54.89                   | 1.87                       | 8.64                        | H                     |
|                             | 1672                 | -47.33         | -13              | -34.33                  | -54.51                  | -49.01                   | 0.99                       | 4.82                        | V                     |
|                             | 2512                 | -47.61         | -13              | -34.61                  | -62.96                  | -49.58                   | 1.29                       | 5.41                        | V                     |
|                             | 3352                 | -50.01         | -13              | -37.01                  | -65.17                  | -53.65                   | 1.56                       | 7.35                        | V                     |
|                             | 4184                 | -50.56         | -13              | -37.56                  | -70.63                  | -55.18                   | 1.87                       | 8.64                        | V                     |
| Highest                     | 1696                 | -50.26         | -13              | -37.26                  | -59.68                  | -51.86                   | 1.00                       | 4.75                        | H                     |
|                             | 2536                 | -54.35         | -13              | -41.35                  | -67.74                  | -56.33                   | 1.30                       | 5.43                        | H                     |
|                             | 3384                 | -54.40         | -13              | -41.40                  | -70.77                  | -58.17                   | 1.57                       | 7.49                        | H                     |
|                             | 4232                 | -53.43         | -13              | -40.43                  | -74.7                   | -58.03                   | 1.89                       | 8.65                        | H                     |
|                             | 1696                 | -50.32         | -13              | -37.32                  | -58.1                   | -51.92                   | 1.00                       | 4.75                        | V                     |
|                             | 2536                 | -52.82         | -13              | -39.82                  | -68.18                  | -54.8                    | 1.30                       | 5.43                        | V                     |
|                             | 3384                 | -53.45         | -13              | -40.45                  | -69.11                  | -57.22                   | 1.57                       | 7.49                        | V                     |
|                             | 4232                 | -53.65         | -13              | -40.65                  | -73.74                  | -58.25                   | 1.89                       | 8.65                        | V                     |

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





| WCDMA Band II (RMC 12.2Kbps) |                      |                 |                  |                         |                         |                          |                            |                             |                       |
|------------------------------|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|
| Channel                      | Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) |
| Lowest                       | 3700                 | -55.89          | -13              | -42.89                  | -74.63                  | -62.46                   | 1.67                       | 8.24                        | H                     |
|                              | 5548                 | -54.10          | -13              | -41.10                  | -77.72                  | -61.17                   | 2.65                       | 9.72                        | H                     |
|                              | 7403                 | -48.29          | -13              | -35.29                  | -77.13                  | -57.44                   | 2.46                       | 11.61                       | H                     |
|                              | 3700                 | -50.04          | -13              | -37.04                  | -68.64                  | -56.61                   | 1.67                       | 8.24                        | V                     |
|                              | 5548                 | -55.51          | -13              | -42.51                  | -77.71                  | -62.58                   | 2.65                       | 9.72                        | V                     |
|                              | 7403                 | -49.34          | -13              | -36.34                  | -77.37                  | -58.49                   | 2.46                       | 11.61                       | V                     |
| Middle                       | 3756                 | -54.81          | -13              | -41.81                  | -73.83                  | -61.43                   | 1.68                       | 8.31                        | H                     |
|                              | 5639                 | -53.60          | -13              | -40.60                  | -77.32                  | -60.65                   | 2.71                       | 9.76                        | H                     |
|                              | 7522                 | -48.77          | -13              | -35.77                  | -77.33                  | -58.16                   | 2.42                       | 11.81                       | H                     |
|                              | 3763                 | -48.01          | -13              | -35.01                  | -66.63                  | -54.64                   | 1.69                       | 8.32                        | V                     |
|                              | 5639                 | -55.04          | -13              | -42.04                  | -77.29                  | -62.09                   | 2.71                       | 9.76                        | V                     |
|                              | 7522                 | -48.93          | -13              | -35.93                  | -77.25                  | -58.32                   | 2.42                       | 11.81                       | V                     |
| Highest                      | 3812                 | -54.86          | -13              | -41.86                  | -74.14                  | -61.53                   | 1.70                       | 8.37                        | H                     |
|                              | 5716                 | -53.52          | -13              | -40.52                  | -77.6                   | -60.56                   | 2.75                       | 9.79                        | H                     |
|                              | 7627                 | -48.53          | -13              | -35.53                  | -76.94                  | -58.02                   | 2.39                       | 11.88                       | H                     |
|                              | 3812                 | -52.49          | -13              | -39.49                  | -71.13                  | -59.16                   | 1.70                       | 8.37                        | V                     |
|                              | 5716                 | -54.51          | -13              | -41.51                  | -77.5                   | -61.55                   | 2.75                       | 9.79                        | V                     |
|                              | 7627                 | -48.52          | -13              | -35.52                  | -76.45                  | -58.01                   | 2.39                       | 11.88                       | V                     |

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