



# FCC RF Test Report

**APPLICANT** : Motorola Mobility, LLC  
**EQUIPMENT** : Mobile Cellular Phone  
**BRAND NAME** : Motorola  
**MODEL NAME** : 10720  
**FCC ID** : IHDT56WB2  
**STANDARD** : FCC 47 CFR Part 2, 22(H), 24(E), 27(L)  
**CLASSIFICATION** : PCS Licensed Transmitter Held to Ear (PCE)

This is a variant report which is only valid together with the original test report. The product was received on Mar. 31, 2017 and testing was completed on May 04, 2017. 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.

Reviewed by: Joseph Lin / Supervisor

Approved by: Jones Tsai / Manager



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FCC ID : IHDT56WB2

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## REVISION HISTORY

| REPORT NO.   | VERSION | DESCRIPTION                                                      | ISSUED DATE   |
|--------------|---------|------------------------------------------------------------------|---------------|
| FG733129-04A | Rev. 01 | Initial issue of report                                          | May 19, 2017  |
| FG733129-04A | Rev. 02 | Revising frequency range information of CDMA BC0 in section 1.6. | Jun. 20, 2017 |
|              |         |                                                                  |               |
|              |         |                                                                  |               |
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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   | -                                          |
|                | §22.913(a)(2)                                    | Effective Radiated Power                      | < 7 Watts                              |        |                                            |
|                | §24.232(c)                                       | Equivalent Isotropic Radiated Power           | < 2 Watts                              |        |                                            |
|                | §27.50(d)(4)                                     | Equivalent Isotropic Radiated Power           | < 1 Watts                              |        |                                            |
| 3.5            | §24.232(d)                                       | Peak-to-Average Ratio                         | < 13 dB                                | PASS   | -                                          |
| 3.6            | §2.1049<br>§22.917(b)<br>§24.238(b)<br>§27.53(g) | Occupied Bandwidth                            | Reporting Only                         | PASS   | -                                          |
| 3.7            | §2.1051<br>§22.917(a)<br>§24.238(a)<br>§27.53(h) | Band Edge Measurement                         | $< 43 + 10 \log_{10}(P[\text{Watts}])$ | PASS   | -                                          |
| 3.8            | §2.1051<br>§22.917(a)<br>§24.238(a)<br>§27.53(h) | Conducted Emission                            | $< 43 + 10 \log_{10}(P[\text{Watts}])$ | 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<br>§27.54                     |                                               | Within Authorized Band                 |        |                                            |
| 4.4            | §2.1053<br>§22.917(a)<br>§24.238(a)<br>§27.53(h) | Field Strength of Spurious Radiation          | $< 43 + 10 \log_{10}(P[\text{Watts}])$ | PASS   | Under limit<br>20.08 dB at<br>1672.000 MHz |



# 1 General Description

## 1.1 Applicant

**Motorola Mobility, LLC**

222 W Merchandise Mart Plaza, Suite 1800, Chicago, IL 60654, United States

## 1.2 Manufacturer

**Motorola Mobility, LLC**

222 W Merchandise Mart Plaza, Suite 1800, Chicago, IL 60654, United States

## 1.3 Product Feature of Equipment Under Test

| Product Feature                 |                                                                                                                                            |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Equipment                       | Mobile Cellular Phone                                                                                                                      |
| Brand Name                      | Motorola                                                                                                                                   |
| Model Name                      | 10720                                                                                                                                      |
| FCC ID                          | IHDT56WB2                                                                                                                                  |
| IMEI Code                       | 990007530003398                                                                                                                            |
|                                 | 990007530007308 (for Radiation)                                                                                                            |
|                                 | 990007530005260 (for Conducted)                                                                                                            |
| EUT supports Radios application | CDMA/EV-DO/GSM/EGPRS/WCDMA/HSPA/LTE/NFC<br>WLAN 11b/g/n HT20<br>WLAN 11a/n HT20/HT40<br>WLAN 11ac VHT20/VHT40/VHT80<br>Bluetooth BR/EDR/LE |
| HW Version                      | DVT2                                                                                                                                       |
| EUT Stage                       | Identical Prototype                                                                                                                        |

**Remark:**

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. This is a variant report. Except conducted output power, GSM850, WCDMA Band 5, CDMA BC0, and CMDA BC10, FG733129-04A report the test data reuses test data from the FG733129A report and FG733129-04A report the CDMA BC1 test data reuses test data from the FG733129-02A report.



| Accessory List   |                         |
|------------------|-------------------------|
| AC Adapter 1     | Brand Name : Motorola   |
|                  | Model Name : SPN5970A   |
| AC Adapter 2     | Brand Name : Motorola   |
|                  | Model Name : SPN5993A   |
| AC Adapter 3     | Brand Name : Motorola   |
|                  | Model Name : SPN5978A   |
| Battery 1        | Brand Name : Motorola   |
|                  | Model Name : SNN5986A   |
| Battery 2        | Brand Name : Motorola   |
|                  | Model Name : SNN5897A   |
| Earphone         | Brand Name : Motorola   |
|                  | Model Name : SH38C16618 |
| USB Cable        | Brand Name : Motorola   |
|                  | Model Name : SKN6473A   |
| USB-C Data Cable | Brand Name : Motorola   |
|                  | Model Name : SKN6474A   |

## 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<br>Band IV: 1712.4 MHz ~ 1752.6 MHz<br><b>CDMA2000:</b><br>BC0: 824.70 MHz ~ 848.31 MHz<br>BC1: 1851.25 MHz ~ 1908.75 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<br>Band IV: 2112.4 MHz ~ 2152.6 MHz<br><b>CDMA2000:</b><br>BC0: 869.70 MHz ~ 893.31 MHz<br>BC1: 1931.25 MHz ~ 1988.75 MHz |
| <b>Maximum Output Power to Antenna</b>  | <b>GSM/GPRS/EDGE:</b><br>850: 32.45 dBm<br>1900: 29.56 dBm<br><b>WCDMA:</b><br>Band V: 23.03 dBm<br>Band II: 22.46 dBm<br>Band IV: 22.37 dBm<br><b>CDMA2000:</b><br>BC0: 24.23 dBm<br>BC1: 23.97 dBm                                                                                                 |
| <b>Antenna Type</b>                     | Fixed Internal Antenna                                                                                                                                                                                                                                                                               |
| <b>Type of Modulation</b>               | GSM: GMSK<br>GPRS: GMSK<br>EDGE: GMSK / 8PSK<br>WCDMA: BPSK (Uplink)<br>HSDPA: 64QAM (Downlink)<br>HSUPA: QPSK (Uplink)<br>CDMA2000 1xRTT: QPSK<br>CDMA2000 1xEV-DO: QPSK/8PSK                                                                                                                       |

## 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 | Frequency Range (MHz) | System                         | Type of Modulation | Maximum ERP/EIRP (W) | Frequency Tolerance (ppm) | Emission Designator |
|----------|-----------------------|--------------------------------|--------------------|----------------------|---------------------------|---------------------|
| Part 22  | 824.2 ~848.8          | GSM850<br>GPRS class 8         | GMSK               | 0.9120               | 0.0072 ppm                | 245KGXW             |
| Part 22  | 824.2 ~848.8          | GSM850<br>EDGE class 8         | 8PSK               | 0.2075               | 0.0096 ppm                | 243KG7W             |
| Part 22  | 826.4 ~846.6          | WCDMA Band V<br>RMC 12.2Kbps   | BPSK               | 0.1042               | 0.0191 ppm                | 4M13F9W             |
| Part 22  | 824.70 ~ 848.31       | CDMA2000 BC0<br>1xRTT          | QPSK               | 0.1374               | 0.0227 ppm                | 1M27F9W             |
| Part 22  | 824.70 ~ 848.31       | CDMA2000 BC0<br>1xEV-DO Rev. A | QPSK               | 0.1371               | 0.0143 ppm                | 1M27F9W             |
| Part 24  | 1850.2 ~1909.8        | GSM1900<br>GPRS class 8        | GMSK               | 0.9683               | -                         | -                   |
| Part 24  | 1850.2 ~1909.8        | GSM1900<br>EDGE class 8        | 8PSK               | 0.3388               | -                         | -                   |
| Part 24  | 1852.4 ~ 1907.6       | WCDMA Band II<br>RMC 12.2Kbps  | BPSK               | 0.1888               | -                         | -                   |
| Part 27  | 1712.4 ~ 1752.6       | WCDMA Band IV<br>RMC 12.2Kbps  | BPSK               | 0.2673               | -                         | -                   |
| Part 24  | 1851.25 ~ 1908.75     | CDMA2000 BC1<br>1xRTT          | QPSK               | 0.2642               | -                         | -                   |
| Part 24  | 1851.25 ~ 1908.75     | CDMA2000 BC1<br>1xEV-DO Rev. A | QPSK               | 0.1849               | -                         | -                   |

## 1.7 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW0007 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>                                                                                                                |
|                           | 03CH12-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), 27(L)
- ANSI / TIA / EIA-603-D-2010
- FCC KDB 971168 D01 Power Meas. License Digital Systems v02r02
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01

### Remark:

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

## 2 Test Configuration of Equipment Under Test

### 2.1 Test Mode

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

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

Radiated emissions were investigated as following frequency range:

1. 30 MHz to 9000 MHz for GSM850 and WCDMA Band V and CDMA BC0.
2. 30 MHz to 18000 MHz for WCDMA Band IV.
3. 30 MHz to 19100 MHz for GSM1900 and WCDMA Band II and CDMA BC1.

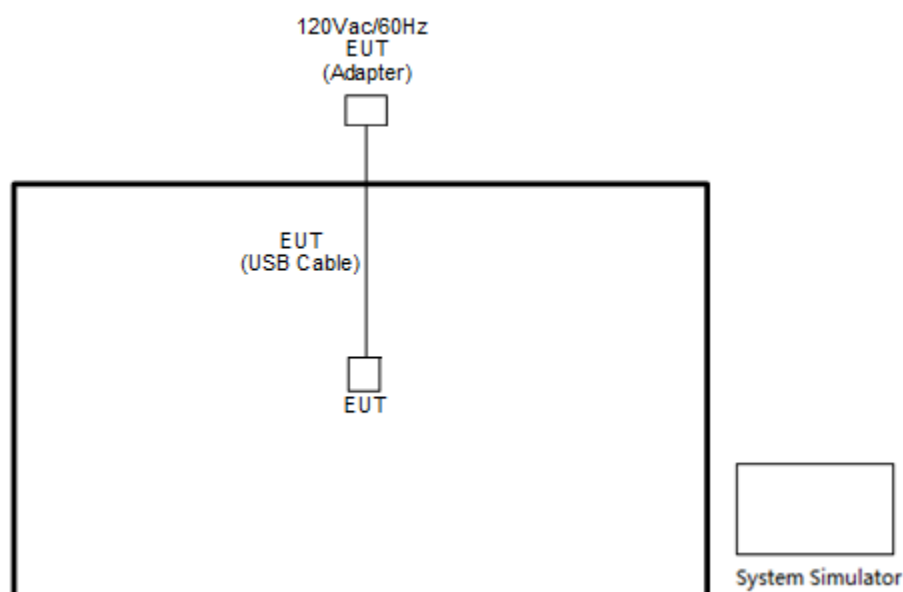
All modes and data rates and positions were investigated.

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

| Test Modes           |                                                                                                    |                                                                                                    |
|----------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Band                 | Radiated TCs                                                                                       | Conducted TCs                                                                                      |
| <b>GSM 850</b>       | <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> |
| <b>GSM 1900</b>      | <ul style="list-style-type: none"> <li>■ GPRS class 8 Link</li> <li>■ EDGE class 8 Link</li> </ul> | -                                                                                                  |
| <b>WCDMA Band V</b>  | <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>                              |
| <b>WCDMA Band II</b> | <ul style="list-style-type: none"> <li>■ RMC 12.2Kbps Link</li> </ul>                              | -                                                                                                  |
| <b>CDMA BC0</b>      | <ul style="list-style-type: none"> <li>■ 1xEV-DO Rev. A Link</li> </ul>                            | <ul style="list-style-type: none"> <li>■ 1xEV-DO Rev. A Link</li> </ul>                            |
| <b>CDMA BC1</b>      | <ul style="list-style-type: none"> <li>■ 1xEV-DO Rev. A Link</li> </ul>                            | -                                                                                                  |

**Remark:** All the radiated test cases were performance with Adapter 1 and Battery 2.

## 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 :

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

$$= 4.2 + 10 = 14.2 \text{ (dB)}$$



## 2.5 Frequency List of Low/Middle/High Channels

| Frequency List   |                        |         |        |         |
|------------------|------------------------|---------|--------|---------|
| Band             | Channel/Frequency(MHz) | Lowest  | Middle | Highest |
| GSM850           | Channel                | 128     | 189    | 251     |
|                  | Frequency              | 824.2   | 836.4  | 848.8   |
| WCDMA<br>Band V  | Channel                | 4132    | 4182   | 4233    |
|                  | Frequency              | 826.4   | 836.4  | 846.6   |
| GSM1900          | Channel                | 512     | -      | 810     |
|                  | Frequency              | 1850.2  | -      | 1909.8  |
| WCDMA<br>Band II | Channel                | -       | 9400   | 9538    |
|                  | Frequency              | -       | 1880.0 | 1907.6  |
| WCDMA<br>Band IV | Channel                | 1312    | -      | -       |
|                  | Frequency              | 1712.4  | -      | -       |
| CDMA2000<br>BC0  | Channel                | 1013    | 384    | 777     |
|                  | Frequency              | 824.7   | 836.52 | 848.31  |
| CDMA2000<br>BC1  | Channel                | 25      | 600    | 1175    |
|                  | Frequency              | 1851.25 | 1880.0 | 1908.75 |

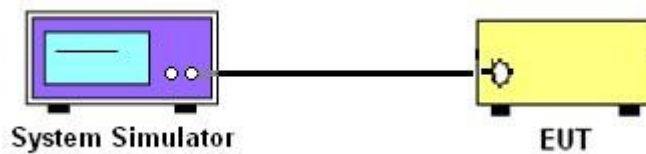
### 3 Conducted Test Result

#### 3.1 Measuring Instruments

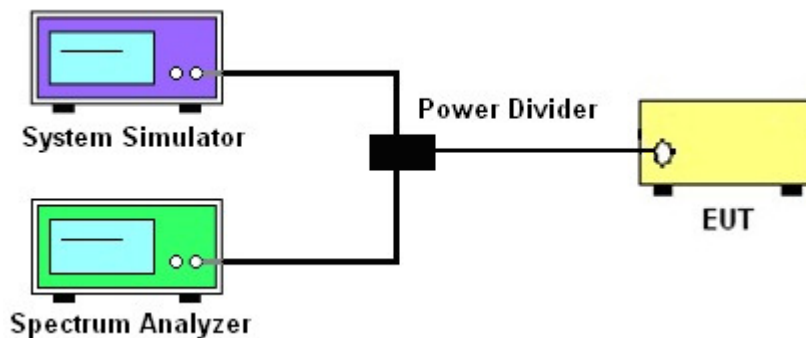
See list of measuring instruments of this test report.

#### 3.2 Test Setup

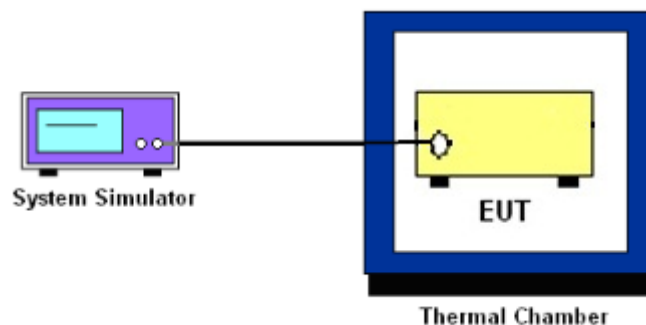
##### 3.2.1 Conducted Output Power



##### 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 and ERP/EIRP

#### 3.4.1 Description of the Conducted Output Power and ERP/EIRP

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.

The ERP of mobile transmitters must not exceed 7 Watts for GSM850 and WCDMA Band V and CDMA BC0.

The EIRP of mobile transmitters must not exceed 2 Watts for GSM1900 and WCDMA Band II and CMDA BC1.

The EIRP of mobile transmitters must not exceed 1 Watts for WCDMA Band IV.

According to KDB 412172 D01 Power Approach,

$EIRP = P_T + G_T - L_C$ ,  $ERP = EIRP - 2.15$ , where

$P_T$  = transmitter output power in dBm

$G_T$  = gain of the transmitting antenna in dBi

$L_C$  = signal attenuation in the connecting cable between the transmitter and antenna in dB

#### 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)

### **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)

### **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  $20 \pm 5^{\circ}\text{C}$  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.

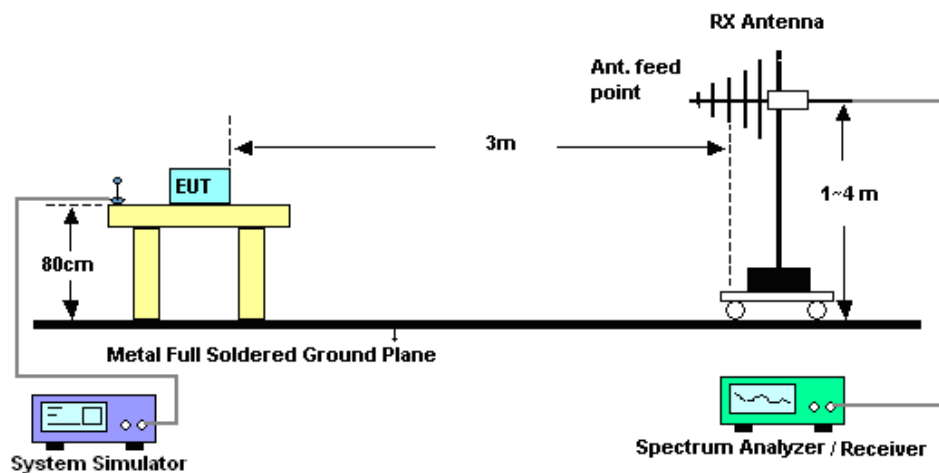
## 4 Radiated Test Items

### 4.1 Measuring Instruments

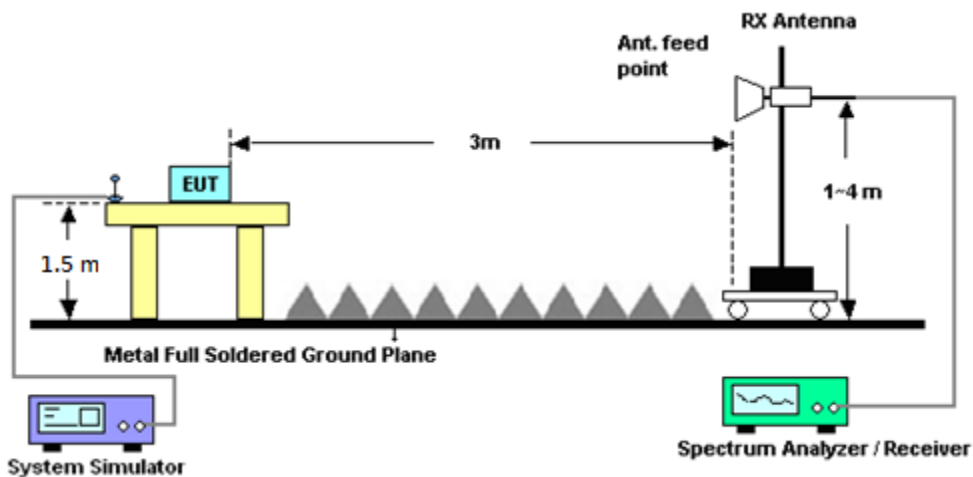
See list of measuring instruments of this test report.

### 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 Field Strength of Spurious Radiation Measurement

### 4.4.1 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.

### 4.4.2 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 for frequency below 1GHz and 1.5 meter for frequency above 1GHz 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)



## 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. 27, 2016    | Apr. 19, 2017~<br>Apr. 21, 2017 | Jun. 26, 2017 | Conducted (TH03-HY)   |
| Temperature Chamber       | ESPEC           | SU-641                | 92013721     | -30℃ ~70℃                  | Nov. 16, 2016    | Apr. 19, 2017~<br>Apr. 21, 2017 | Nov. 15, 2017 | Conducted (TH03-HY)   |
| Programmable Power Supply | GW Instek       | PSS-2005              | EL883644     | Voltage:0~20V;Current:0~5A | Nov. 22, 2016    | Apr. 19, 2017~<br>Apr. 21, 2017 | Nov. 21, 2017 | Conducted (TH03-HY)   |
| Base Station (Measure)    | Rohde & Schwarz | CMU200                | 117997       | GSM / GPRS / WCDMA / CDMA  | Aug. 05, 2016    | Apr. 19, 2017~<br>Apr. 21, 2017 | Aug. 04, 2017 | Conducted (TH03-HY)   |
| Bilog Antenna             | TESEQ           | CBL 6111D&008         | 37059&01     | 30MHz~1GHz                 | Oct. 15, 2016    | Apr. 29, 2017~<br>May 04, 2017  | Oct. 14, 2017 | Radiation (03CH12-HY) |
| Horn Antenna              | SCHWARZBECK     | BBHA 9120D            | 9120D-1328   | 1GHz ~ 18GHz               | Oct. 25, 2016    | Apr. 29, 2017~<br>May 04, 2017  | Oct. 24, 2017 | Radiation (03CH12-HY) |
| EMI Test Receiver         | Rohde & Schwarz | ESU26                 | 100390       | 20Hz~26.5GHz               | Dec. 23, 2016    | Apr. 29, 2017~<br>May 04, 2017  | Dec. 22, 2017 | Radiation (03CH12-HY) |
| Loop Antenna              | Rohde & Schwarz | HFH2-Z2               | 100315       | 9 kHz~30 MHz               | Sep. 02, 2015    | Apr. 29, 2017~<br>May 04, 2017  | Sep. 01, 2017 | Radiation (03CH12-HY) |
| Preamplifier              | MITEQ           | AMF-7D-00 101800-30-1 | 1815698      | 1GHz~18GHz                 | Dec. 01, 2016    | Apr. 29, 2017~<br>May 04, 2017  | Nov. 30, 2017 | Radiation (03CH12-HY) |
| Amplifier                 | SONOMA          | 310N                  | 187312       | 9kHz~1GHz                  | Nov. 10, 2016    | Apr. 29, 2017~<br>May 04, 2017  | Nov. 09, 2017 | Radiation (03CH12-HY) |
| Spectrum Analyzer         | Agilent         | N9030A                | MY52350276   | 3Hz~44GHz                  | Mar. 23, 2017    | Apr. 29, 2017~<br>May 04, 2017  | Mar. 22, 2018 | Radiation (03CH12-HY) |
| Antenna Mast              | EMEC            | AM-BS-450 0-B         | N/A          | 1m~4m                      | N/A              | Apr. 29, 2017~<br>May 04, 2017  | N/A           | Radiation (03CH12-HY) |
| Turn Table                | EMEC            | TT2000                | N/A          | 0~360 Degree               | N/A              | Apr. 29, 2017~<br>May 04, 2017  | N/A           | Radiation (03CH12-HY) |
| Preamplifier              | MITEQ           | JS44-18004 000-33-8P  | 1840917      | 18GHz ~ 40GHz              | Jun. 14, 2016    | Apr. 29, 2017~<br>May 04, 2017  | Jun. 13, 2017 | Radiation (03CH12-HY) |
| SHF-EHF Horn Antenna      | SCHWARZBECK     | BBHA 9170             | BBHA917025 1 | 18GHz- 40GHz               | Nov. 08, 2016    | Apr. 29, 2017~<br>May 04, 2017  | Nov. 07, 2017 | Radiation (03CH12-HY) |
| Signal Generator          | Anritsu         | MG3694C               | 163401       | 0.1Hz~40GHz                | Jan. 04, 2017    | Apr. 29, 2017~<br>May 04, 2017  | Jan. 03, 2018 | Radiation (03CH12-HY) |



## 6 Uncertainty of Evaluation

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

|                                                                         |      |
|-------------------------------------------------------------------------|------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 3.36 |
|-------------------------------------------------------------------------|------|

### Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

|                                                                         |      |
|-------------------------------------------------------------------------|------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 3.70 |
|-------------------------------------------------------------------------|------|

### Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

|                                                                         |      |
|-------------------------------------------------------------------------|------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 3.98 |
|-------------------------------------------------------------------------|------|



## 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  | 1909.8 |
| GSM                          | 32.42  | 32.32 | 32.18 | 29.20   | 29.11 | 29.16  |
| GPRS class 8                 | 32.45  | 32.37 | 32.21 | 29.56   | 29.12 | 29.55  |
| GPRS class 10                | 28.70  | 28.63 | 28.50 | 25.74   | 25.64 | 25.84  |
| GPRS class 11                | 27.00  | 27.06 | 26.93 | 24.10   | 24.07 | 24.17  |
| GPRS class 12                | 26.31  | 26.27 | 26.09 | 22.58   | 22.56 | 22.73  |
| EGPRS class 8                | 26.01  | 26.00 | 26.02 | 24.87   | 24.81 | 25.00  |
| EGPRS class 10               | 25.64  | 25.68 | 25.59 | 24.45   | 24.42 | 24.70  |
| EGPRS class 11               | 24.85  | 24.75 | 24.63 | 23.41   | 23.34 | 23.54  |
| EGPRS class 12               | 23.56  | 23.57 | 23.55 | 21.73   | 21.71 | 21.93  |

| 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                    | 23.03        | 22.89 | 22.72 | 22.45         | 22.22 | 22.46  |
| HSDPA Subtest-1              | 21.60        | 21.51 | 21.40 | 21.12         | 21.54 | 21.35  |
| HSDPA Subtest-2              | 21.58        | 21.55 | 21.40 | 21.20         | 21.51 | 21.30  |
| HSDPA Subtest-3              | 21.15        | 21.08 | 20.89 | 20.81         | 20.85 | 20.85  |
| HSDPA Subtest-4              | 21.19        | 21.12 | 20.84 | 20.83         | 20.84 | 20.92  |
| HSUPA Subtest-1              | 21.58        | 21.57 | 21.29 | 21.42         | 21.20 | 21.38  |
| HSUPA Subtest-2              | 19.56        | 19.64 | 19.32 | 19.00         | 19.53 | 19.02  |
| HSUPA Subtest-3              | 20.66        | 20.57 | 20.34 | 20.47         | 20.48 | 20.33  |
| HSUPA Subtest-4              | 19.63        | 19.62 | 19.21 | 19.25         | 19.00 | 19.04  |
| HSUPA Subtest-5              | 21.54        | 21.61 | 21.31 | 21.41         | 21.18 | 21.45  |



| Conducted Power (*Unit: dBm) |               |        |        |
|------------------------------|---------------|--------|--------|
| Band                         | WCDMA Band IV |        |        |
| Channel                      | 1312          | 1413   | 1513   |
| Frequency                    | 1712.4        | 1732.6 | 1752.6 |
| RMC 12.2K                    | 22.37         | 22.11  | 22.07  |
| HSDPA Subtest-1              | 21.40         | 21.30  | 21.18  |
| HSDPA Subtest-2              | 21.28         | 21.33  | 21.44  |
| HSDPA Subtest-3              | 20.80         | 20.73  | 20.81  |
| HSDPA Subtest-4              | 20.84         | 20.80  | 20.85  |
| HSUPA Subtest-1              | 21.33         | 21.39  | 21.39  |
| HSUPA Subtest-2              | 19.25         | 19.32  | 19.16  |
| HSUPA Subtest-3              | 20.26         | 20.16  | 20.31  |
| HSUPA Subtest-4              | 19.26         | 19.30  | 19.40  |
| HSUPA Subtest-5              | 21.36         | 21.01  | 21.30  |

| Conducted Power (*Unit: dBm) |               |        |        |               |       |         |
|------------------------------|---------------|--------|--------|---------------|-------|---------|
| Band                         | CDMA 2000 BC0 |        |        | CDMA 2000 BC1 |       |         |
| Channel                      | 1013          | 384    | 777    | 25            | 600   | 1175    |
| Frequency                    | 824.7         | 836.52 | 848.31 | 1851.25       | 1880  | 1908.75 |
| 1xRTT RC1 SO55               | 24.23         | 24.15  | 23.96  | 23.97         | 23.00 | 23.79   |
| 1xRTT RC3 SO55               | 24.18         | 24.16  | 24.00  | 23.86         | 23.01 | 23.96   |
| 1xRTT RC3 SO32 (+ F-SCH)     | 24.19         | 24.07  | 23.85  | 23.77         | 23.02 | 23.90   |
| 1xRTT RC3 SO32 (+SCH)        | 24.21         | 24.16  | 23.96  | 23.72         | 23.01 | 23.86   |
| 1xEVDO RTAP 153.6Kbps        | 24.20         | 24.18  | 23.94  | 23.92         | 23.00 | 23.81   |
| 1xEVDO RETAP 4096Bits        | 24.22         | 24.18  | 23.95  | 23.80         | 23.01 | 23.88   |



## A2. GSM

### Peak-to-Average Ratio

| Mode       | GSM850       |              | Limit: 13dB |
|------------|--------------|--------------|-------------|
| Mod.       | GPRS class 8 | EDGE class 8 | Result      |
| Lowest CH  | 0.20         | 3.40         | PASS        |
| Middle CH  | 0.24         | 3.08         |             |
| Highest CH | 0.24         | 3.08         |             |

## GSM850 (GPRS class 8)

## GSM850 (EDGE class 8)

### Lowest Channel

### Lowest Channel

Ref: 35 dBm  
Offset: 15.1 dB  
Att: 30 dB  
AQT: 3.125 ms  
Center: 824.2 MHz  
2 dB/  
Mean Pwr: +20 dB

Trace 1  
Complementary Cumulative Distribution Function (100000 samples)

| Mean  | 31.53 dBm |
|-------|-----------|
| Peak  | 31.80 dBm |
| Crest | 0.27 dB   |

| 10 %  | 0.12 dB |
|-------|---------|
| 1 %   | 0.20 dB |
| .1 %  | 0.20 dB |
| .01 % | 0.28 dB |

Ref: 35 dBm  
Offset: 15.1 dB  
Att: 30 dB  
AQT: 3.125 ms  
Center: 824.2 MHz  
2 dB/  
Mean Pwr: +20 dB

Trace 1  
Complementary Cumulative Distribution Function (100000 samples)

| Mean  | 25.14 dBm |
|-------|-----------|
| Peak  | 28.62 dBm |
| Crest | 3.49 dB   |

| 10 %  | 2.64 dB |
|-------|---------|
| 1 %   | 3.28 dB |
| .1 %  | 3.40 dB |
| .01 % | 3.48 dB |

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### Middle Channel

### Middle Channel

Ref: 35 dBm  
Offset: 15.1 dB  
Att: 30 dB  
AQT: 3.125 ms  
Center: 836.4 MHz  
2 dB/  
Mean Pwr: +20 dB

Trace 1  
Complementary Cumulative Distribution Function (100000 samples)

| Mean  | 31.43 dBm |
|-------|-----------|
| Peak  | 31.66 dBm |
| Crest | 0.22 dB   |

| 10 %  | 0.12 dB |
|-------|---------|
| 1 %   | 0.16 dB |
| .1 %  | 0.24 dB |
| .01 % | 0.24 dB |

Ref: 35 dBm  
Offset: 15.1 dB  
Att: 30 dB  
AQT: 3.125 ms  
Center: 836.4 MHz  
2 dB/  
Mean Pwr: +20 dB

Trace 1  
Complementary Cumulative Distribution Function (100000 samples)

| Mean  | 25.32 dBm |
|-------|-----------|
| Peak  | 28.48 dBm |
| Crest | 3.16 dB   |

| 10 %  | 2.52 dB |
|-------|---------|
| 1 %   | 3.00 dB |
| .1 %  | 3.08 dB |
| .01 % | 3.16 dB |

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### Highest Channel

### Highest Channel

Ref: 35 dBm  
Offset: 15.1 dB  
Att: 30 dB  
AQT: 3.125 ms  
Center: 849.8 MHz  
2 dB/  
Mean Pwr: +20 dB

Trace 1  
Complementary Cumulative Distribution Function (100000 samples)

| Mean  | 31.38 dBm |
|-------|-----------|
| Peak  | 31.66 dBm |
| Crest | 0.27 dB   |

| 10 %  | 0.12 dB |
|-------|---------|
| 1 %   | 0.20 dB |
| .1 %  | 0.24 dB |
| .01 % | 0.24 dB |

Ref: 35 dBm  
Offset: 15.1 dB  
Att: 30 dB  
AQT: 3.125 ms  
Center: 849.8 MHz  
2 dB/  
Mean Pwr: +20 dB

Trace 1  
Complementary Cumulative Distribution Function (100000 samples)

| Mean  | 25.33 dBm |
|-------|-----------|
| Peak  | 28.48 dBm |
| Crest | 3.15 dB   |

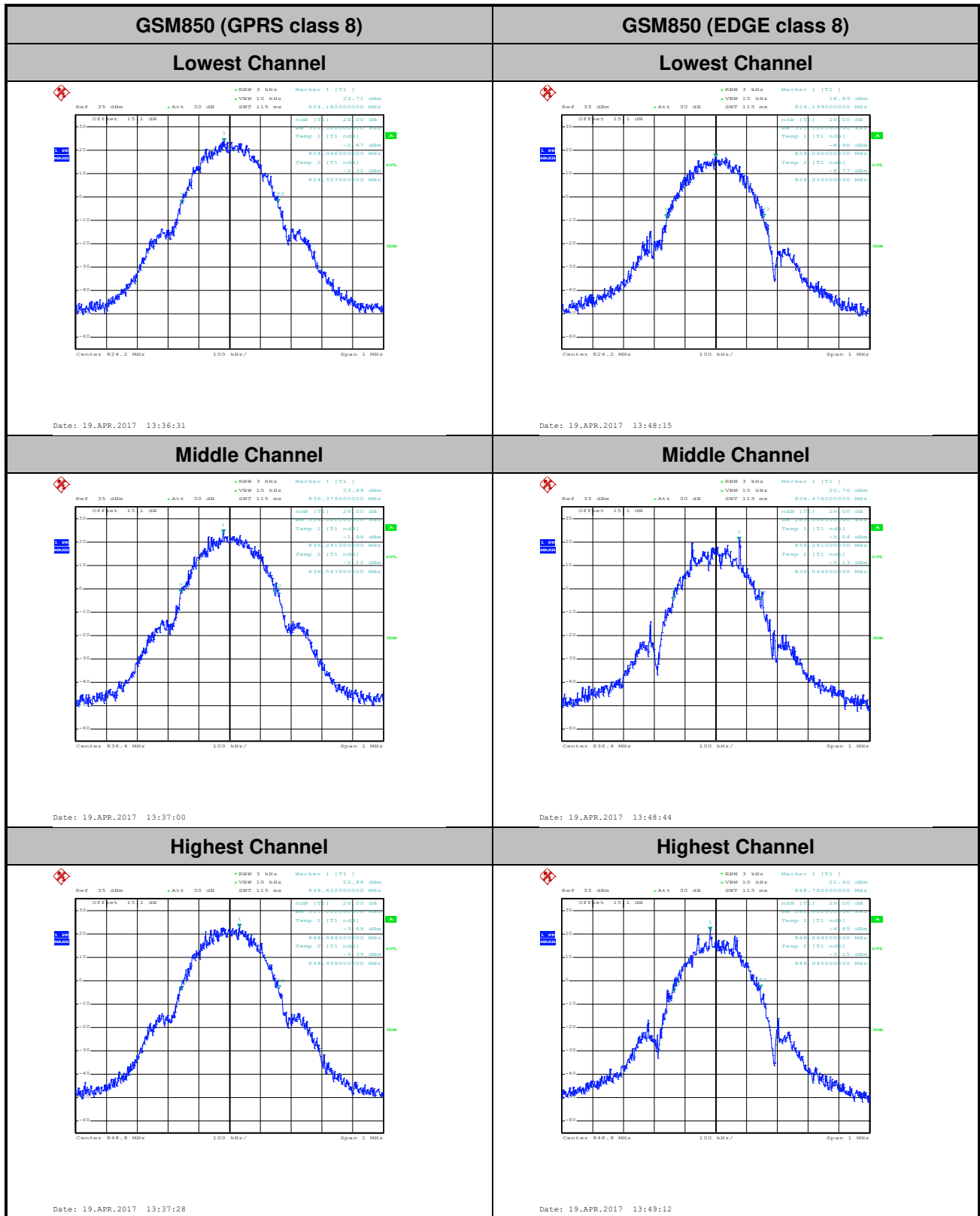
| 10 %  | 2.48 dB |
|-------|---------|
| 1 %   | 3.00 dB |
| .1 %  | 3.08 dB |
| .01 % | 3.12 dB |

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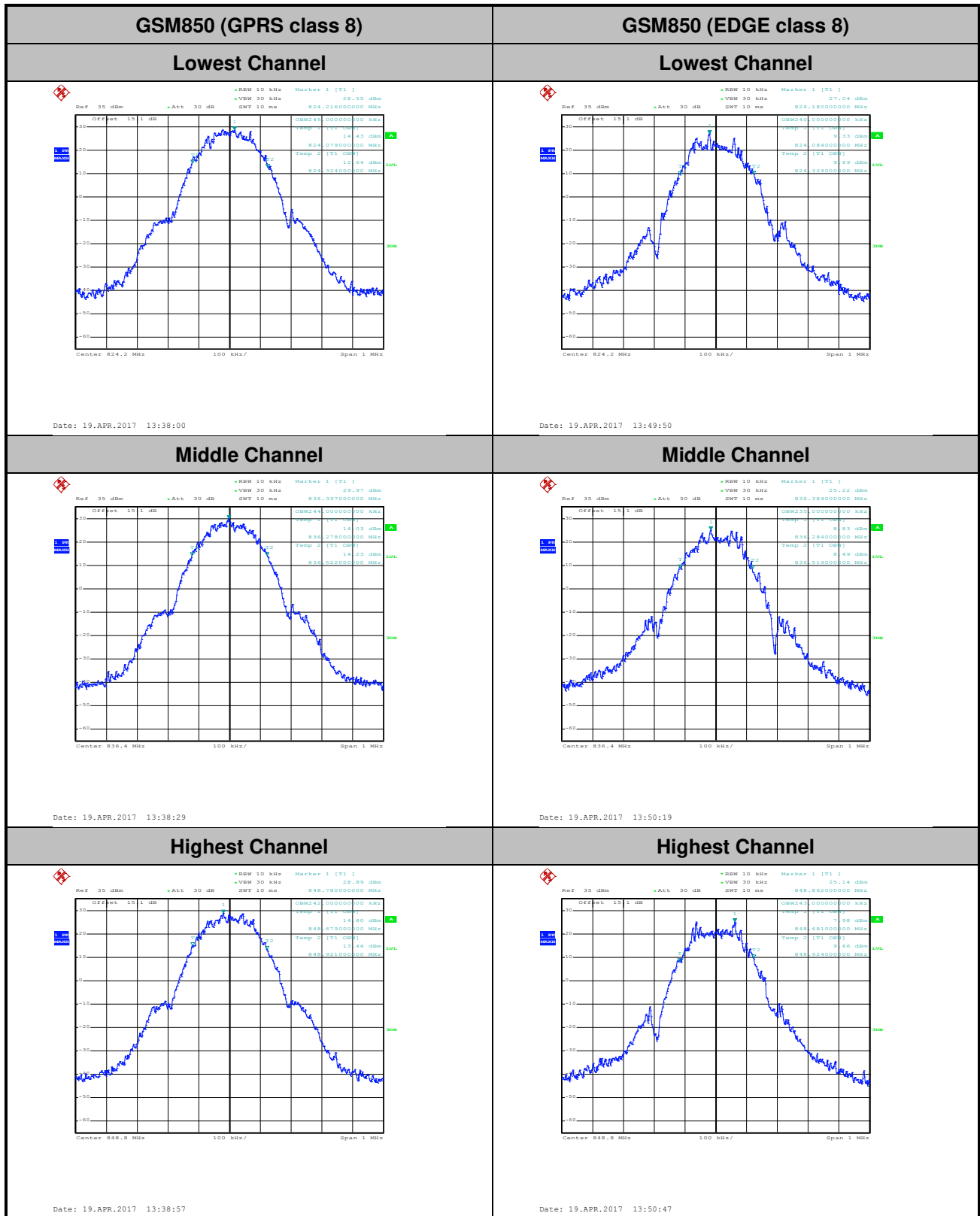
**26dB Bandwidth**

| Mode       | GSM850       |              |
|------------|--------------|--------------|
| Mod.       | GPRS class 8 | EDGE class 8 |
| Lowest CH  | 0.311        | 0.315        |
| Middle CH  | 0.306        | 0.283        |
| Highest CH | 0.315        | 0.281        |



**Occupied Bandwidth**

| <b>Mode</b>       | <b>GSM850</b>       |                     |
|-------------------|---------------------|---------------------|
| <b>Mod.</b>       | <b>GPRS class 8</b> | <b>EDGE class 8</b> |
| <b>Lowest CH</b>  | 0.245               | 0.240               |
| <b>Middle CH</b>  | 0.244               | 0.235               |
| <b>Highest CH</b> | 0.242               | 0.243               |

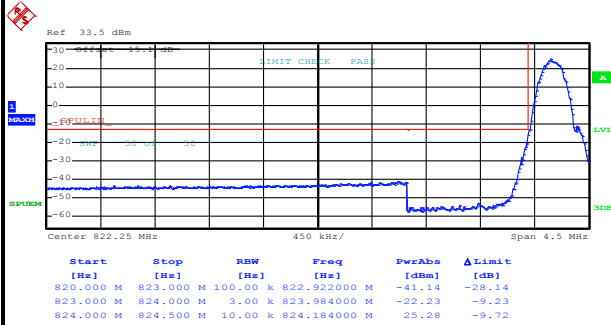




## Conducted Band Edge

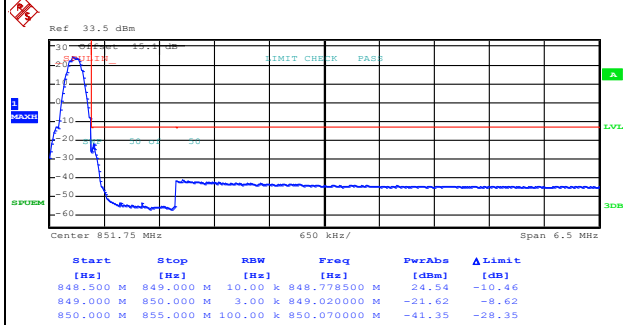
### GSM850 (GPRS class 8)

#### Lowest Band Edge



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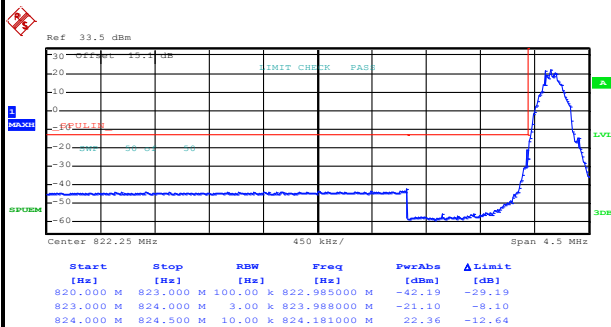
#### Highest Band Edge



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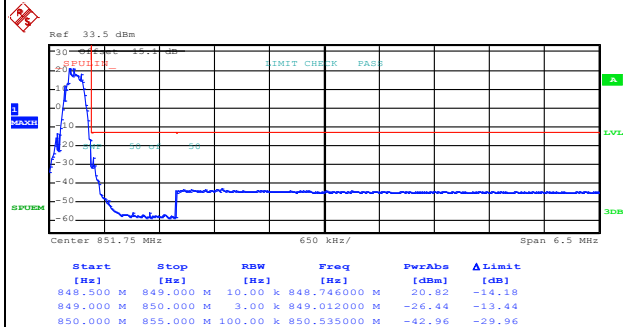
### GSM850 (EDGE class 8)

#### Lowest Band Edge



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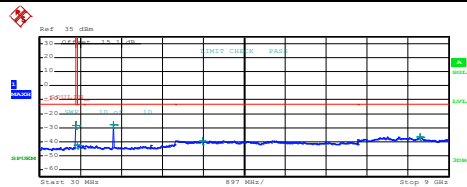
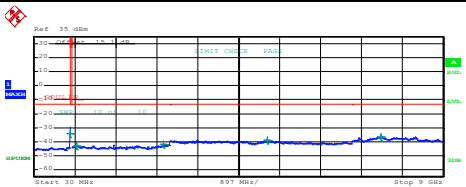
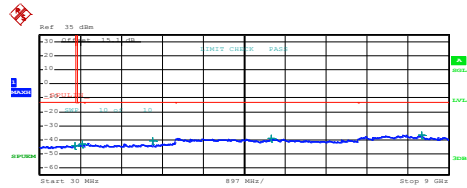
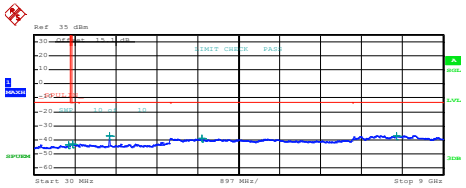
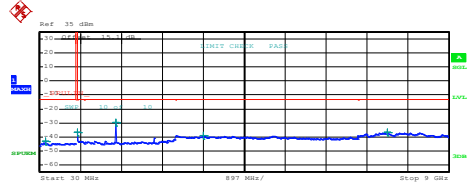
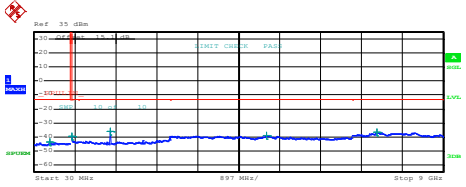
#### Highest Band Edge



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## 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>-28.38</td><td>-15.38</td></tr><tr><td>850.000 M</td><td>1.000 G</td><td>1.00 M</td><td>863.446251 M</td><td>-42.45</td><td>-29.45</td></tr><tr><td>1.000 G</td><td>3.000 G</td><td>1.00 M</td><td>1.648500 G</td><td>-27.83</td><td>-24.83</td></tr><tr><td>3.000 G</td><td>7.000 G</td><td>1.00 M</td><td>3.506000 G</td><td>-39.33</td><td>-26.33</td></tr><tr><td>7.000 G</td><td>9.000 G</td><td>1.00 M</td><td>8.370500 G</td><td>-36.42</td><td>-23.42</td></tr></table><p>Date: 19.APR.2017 13:42:49</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 | -28.38 | -15.38 | 850.000 M | 1.000 G | 1.00 M | 863.446251 M | -42.45 | -29.45 | 1.000 G | 3.000 G | 1.00 M | 1.648500 G | -27.83 | -24.83 | 3.000 G | 7.000 G | 1.00 M | 3.506000 G | -39.33 | -26.33 | 7.000 G | 9.000 G | 1.00 M | 8.370500 G | -36.42 | -23.42 | <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>-28.04</td><td>-15.04</td></tr><tr><td>850.000 M</td><td>1.000 G</td><td>1.00 M</td><td>855.956257 M</td><td>-43.10</td><td>-30.10</td></tr><tr><td>1.000 G</td><td>3.000 G</td><td>1.00 M</td><td>2.866500 G</td><td>-41.88</td><td>-28.88</td></tr><tr><td>3.000 G</td><td>7.000 G</td><td>1.00 M</td><td>5.151000 G</td><td>-39.18</td><td>-26.18</td></tr><tr><td>7.000 G</td><td>9.000 G</td><td>1.00 M</td><td>7.631000 G</td><td>-36.52</td><td>-23.52</td></tr></table><p>Date: 19.APR.2017 13:54:51</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 | -28.04 | -15.04 | 850.000 M | 1.000 G | 1.00 M | 855.956257 M | -43.10 | -30.10 | 1.000 G | 3.000 G | 1.00 M | 2.866500 G | -41.88 | -28.88 | 3.000 G | 7.000 G | 1.00 M | 5.151000 G | -39.18 | -26.18 | 7.000 G | 9.000 G | 1.00 M | 7.631000 G | -36.52 | -23.52 |
| Start                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Stop      | RBW                   | Freq         | PerAbn | ΔLimit |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| [Hz]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | [Hz]      | [Hz]                  | [Hz]         | [dBm]  | [dB]   |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 30.000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 820.000 M | 1.00 M                | 819.802500 M | -28.38 | -15.38 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 850.000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1.000 G   | 1.00 M                | 863.446251 M | -42.45 | -29.45 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 1.000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3.000 G   | 1.00 M                | 1.648500 G   | -27.83 | -24.83 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 3.000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 7.000 G   | 1.00 M                | 3.506000 G   | -39.33 | -26.33 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 7.000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 9.000 G   | 1.00 M                | 8.370500 G   | -36.42 | -23.42 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| Start                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Stop      | RBW                   | Freq         | PerAbn | ΔLimit |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| [Hz]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | [Hz]      | [Hz]                  | [Hz]         | [dBm]  | [dB]   |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 30.000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 820.000 M | 1.00 M                | 819.802500 M | -28.04 | -15.04 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 850.000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1.000 G   | 1.00 M                | 855.956257 M | -43.10 | -30.10 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 1.000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3.000 G   | 1.00 M                | 2.866500 G   | -41.88 | -28.88 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 3.000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 7.000 G   | 1.00 M                | 5.151000 G   | -39.18 | -26.18 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 7.000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 9.000 G   | 1.00 M                | 7.631000 G   | -36.52 | -23.52 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 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>799.850000 M</td><td>-43.96</td><td>-30.96</td></tr><tr><td>850.000 M</td><td>1.000 G</td><td>1.00 M</td><td>970.275008 M</td><td>-43.12</td><td>-30.12</td></tr><tr><td>1.000 G</td><td>3.000 G</td><td>1.00 M</td><td>2.509500 G</td><td>-40.97</td><td>-27.97</td></tr><tr><td>3.000 G</td><td>7.000 G</td><td>1.00 M</td><td>5.111000 G</td><td>-39.23</td><td>-26.23</td></tr><tr><td>7.000 G</td><td>9.000 G</td><td>1.00 M</td><td>8.410000 G</td><td>-36.67</td><td>-23.67</td></tr></table><p>Date: 19.APR.2017 13:43:35</p></div>  |           | Start                 | Stop         | RBW    | Freq   | PerAbn | ΔLimit | [Hz] | [Hz] | [Hz] | [Hz] | [dBm] | [dB] | 30.000 M | 820.000 M | 1.00 M | 799.850000 M | -43.96 | -30.96 | 850.000 M | 1.000 G | 1.00 M | 970.275008 M | -43.12 | -30.12 | 1.000 G | 3.000 G | 1.00 M | 2.509500 G | -40.97 | -27.97 | 3.000 G | 7.000 G | 1.00 M | 5.111000 G | -39.23 | -26.23 | 7.000 G | 9.000 G | 1.00 M | 8.410000 G | -36.67 | -23.67 | <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>779.315000 M</td><td>-43.88</td><td>-30.88</td></tr><tr><td>850.000 M</td><td>1.000 G</td><td>1.00 M</td><td>880.362502 M</td><td>-43.34</td><td>-30.34</td></tr><tr><td>1.000 G</td><td>3.000 G</td><td>1.00 M</td><td>1.672500 G</td><td>-37.02</td><td>-24.02</td></tr><tr><td>3.000 G</td><td>7.000 G</td><td>1.00 M</td><td>3.712000 G</td><td>-39.06</td><td>-26.06</td></tr><tr><td>7.000 G</td><td>9.000 G</td><td>1.00 M</td><td>7.969500 G</td><td>-37.05</td><td>-24.05</td></tr></table><p>Date: 19.APR.2017 13:55:37</p></div>  |  | Start | Stop | RBW | Freq | PerAbn | ΔLimit | [Hz] | [Hz] | [Hz] | [Hz] | [dBm] | [dB] | 30.000 M | 820.000 M | 1.00 M | 779.315000 M | -43.88 | -30.88 | 850.000 M | 1.000 G | 1.00 M | 880.362502 M | -43.34 | -30.34 | 1.000 G | 3.000 G | 1.00 M | 1.672500 G | -37.02 | -24.02 | 3.000 G | 7.000 G | 1.00 M | 3.712000 G | -39.06 | -26.06 | 7.000 G | 9.000 G | 1.00 M | 7.969500 G | -37.05 | -24.05 |
| Start                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Stop      | RBW                   | Freq         | PerAbn | ΔLimit |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| [Hz]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | [Hz]      | [Hz]                  | [Hz]         | [dBm]  | [dB]   |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 30.000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 820.000 M | 1.00 M                | 799.850000 M | -43.96 | -30.96 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 850.000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1.000 G   | 1.00 M                | 970.275008 M | -43.12 | -30.12 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 1.000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3.000 G   | 1.00 M                | 2.509500 G   | -40.97 | -27.97 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 3.000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 7.000 G   | 1.00 M                | 5.111000 G   | -39.23 | -26.23 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 7.000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 9.000 G   | 1.00 M                | 8.410000 G   | -36.67 | -23.67 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| Start                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Stop      | RBW                   | Freq         | PerAbn | ΔLimit |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| [Hz]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | [Hz]      | [Hz]                  | [Hz]         | [dBm]  | [dB]   |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 30.000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 820.000 M | 1.00 M                | 779.315000 M | -43.88 | -30.88 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 850.000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1.000 G   | 1.00 M                | 880.362502 M | -43.34 | -30.34 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 1.000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3.000 G   | 1.00 M                | 1.672500 G   | -37.02 | -24.02 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 3.000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 7.000 G   | 1.00 M                | 3.712000 G   | -39.06 | -26.06 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 7.000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 9.000 G   | 1.00 M                | 7.969500 G   | -37.05 | -24.05 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 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>156.440000 M</td><td>-43.10</td><td>-30.10</td></tr><tr><td>850.000 M</td><td>1.000 G</td><td>1.00 M</td><td>855.036250 M</td><td>-36.52</td><td>-23.52</td></tr><tr><td>1.000 G</td><td>3.000 G</td><td>1.00 M</td><td>1.697500 G</td><td>-39.84</td><td>-26.84</td></tr><tr><td>3.000 G</td><td>7.000 G</td><td>1.00 M</td><td>3.625000 G</td><td>-38.95</td><td>-25.95</td></tr><tr><td>7.000 G</td><td>9.000 G</td><td>1.00 M</td><td>7.662000 G</td><td>-36.73</td><td>-23.73</td></tr></table><p>Date: 19.APR.2017 13:44:21</p></div> |           | Start                 | Stop         | RBW    | Freq   | PerAbn | ΔLimit | [Hz] | [Hz] | [Hz] | [Hz] | [dBm] | [dB] | 30.000 M | 820.000 M | 1.00 M | 156.440000 M | -43.10 | -30.10 | 850.000 M | 1.000 G | 1.00 M | 855.036250 M | -36.52 | -23.52 | 1.000 G | 3.000 G | 1.00 M | 1.697500 G | -39.84 | -26.84 | 3.000 G | 7.000 G | 1.00 M | 3.625000 G | -38.95 | -25.95 | 7.000 G | 9.000 G | 1.00 M | 7.662000 G | -36.73 | -23.73 | <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>387.133000 M</td><td>-43.66</td><td>-30.66</td></tr><tr><td>850.000 M</td><td>1.000 G</td><td>1.00 M</td><td>855.036250 M</td><td>-39.70</td><td>-26.70</td></tr><tr><td>1.000 G</td><td>3.000 G</td><td>1.00 M</td><td>1.698000 G</td><td>-36.26</td><td>-23.26</td></tr><tr><td>3.000 G</td><td>7.000 G</td><td>1.00 M</td><td>5.122000 G</td><td>-39.26</td><td>-26.26</td></tr><tr><td>7.000 G</td><td>9.000 G</td><td>1.00 M</td><td>7.548000 G</td><td>-36.59</td><td>-23.59</td></tr></table><p>Date: 19.APR.2017 13:56:23</p></div> |  | Start | Stop | RBW | Freq | PerAbn | ΔLimit | [Hz] | [Hz] | [Hz] | [Hz] | [dBm] | [dB] | 30.000 M | 820.000 M | 1.00 M | 387.133000 M | -43.66 | -30.66 | 850.000 M | 1.000 G | 1.00 M | 855.036250 M | -39.70 | -26.70 | 1.000 G | 3.000 G | 1.00 M | 1.698000 G | -36.26 | -23.26 | 3.000 G | 7.000 G | 1.00 M | 5.122000 G | -39.26 | -26.26 | 7.000 G | 9.000 G | 1.00 M | 7.548000 G | -36.59 | -23.59 |
| Start                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Stop      | RBW                   | Freq         | PerAbn | ΔLimit |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| [Hz]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | [Hz]      | [Hz]                  | [Hz]         | [dBm]  | [dB]   |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 30.000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 820.000 M | 1.00 M                | 156.440000 M | -43.10 | -30.10 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 850.000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1.000 G   | 1.00 M                | 855.036250 M | -36.52 | -23.52 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 1.000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3.000 G   | 1.00 M                | 1.697500 G   | -39.84 | -26.84 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 3.000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 7.000 G   | 1.00 M                | 3.625000 G   | -38.95 | -25.95 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 7.000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 9.000 G   | 1.00 M                | 7.662000 G   | -36.73 | -23.73 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| Start                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Stop      | RBW                   | Freq         | PerAbn | ΔLimit |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| [Hz]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | [Hz]      | [Hz]                  | [Hz]         | [dBm]  | [dB]   |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 30.000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 820.000 M | 1.00 M                | 387.133000 M | -43.66 | -30.66 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 850.000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1.000 G   | 1.00 M                | 855.036250 M | -39.70 | -26.70 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 1.000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3.000 G   | 1.00 M                | 1.698000 G   | -36.26 | -23.26 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 3.000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 7.000 G   | 1.00 M                | 5.122000 G   | -39.26 | -26.26 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 7.000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 9.000 G   | 1.00 M                | 7.548000 G   | -36.59 | -23.59 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |

**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    | 0.0012                   | 0.0048                   | PASS            |
| 40               | Normal Voltage    | 0.0072                   | 0.0096                   |                 |
| 30               | Normal Voltage    | 0.0024                   | 0.0084                   |                 |
| 20(Ref.)         | Normal Voltage    | 0.0000                   | 0.0000                   |                 |
| 10               | Normal Voltage    | 0.0024                   | 0.0072                   |                 |
| 0                | Normal Voltage    | 0.0024                   | 0.0036                   |                 |
| -10              | Normal Voltage    | 0.0048                   | 0.0096                   |                 |
| -20              | Normal Voltage    | 0.0036                   | 0.0012                   |                 |
| -30              | Normal Voltage    | 0.0060                   | 0.0012                   |                 |
| 20               | Maximum Voltage   | 0.0000                   | 0.0036                   |                 |
| 20               | Normal Voltage    | 0.0000                   | 0.0000                   |                 |
| 20               | Battery End Point | 0.0012                   | 0.0096                   |                 |

**Note:**

1. Normal Voltage = 3.8V. ; Battery End Point (BEP) = 3.4 V. ; Maximum Voltage =4.35 V
2. The frequency fundamental emissions stay within the authorized frequency block.



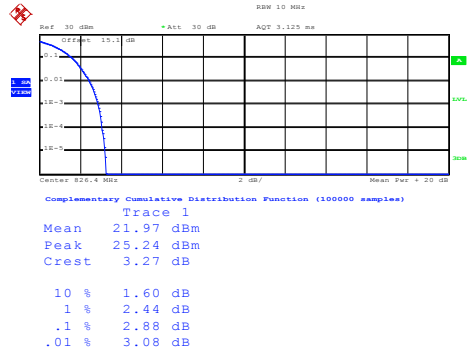
## **A3. WCDMA**

### **Peak-to-Average Ratio**

| Mode       | WCDMA Band V | Limit: 13dB |
|------------|--------------|-------------|
| Mod.       | RMC 12.2Kbps | Result      |
| Lowest CH  | 2.88         | PASS        |
| Middle CH  | 3.08         |             |
| Highest CH | 3.12         |             |

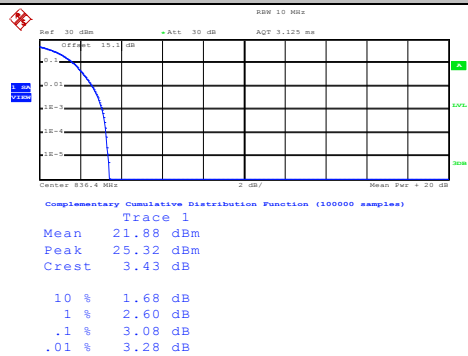
### WCDMA Band V (RMC 12.2Kbps)

#### Lowest Channel



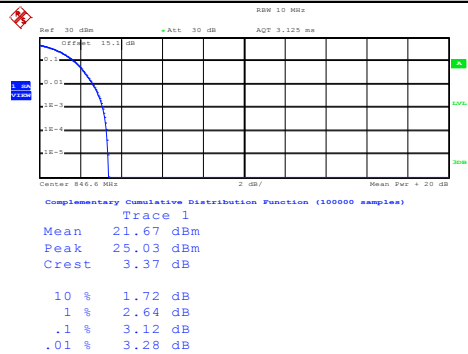
Date: 19.APR.2017 14:12:38

#### Middle Channel



Date: 19.APR.2017 14:12:47

#### Highest Channel

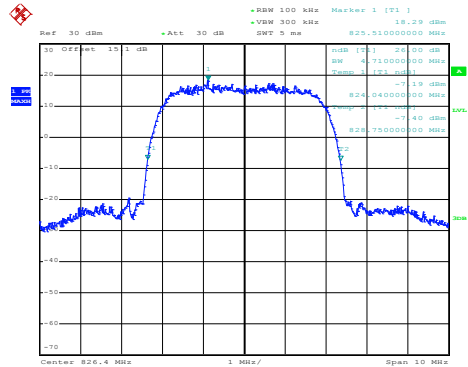


Date: 19.APR.2017 14:12:56

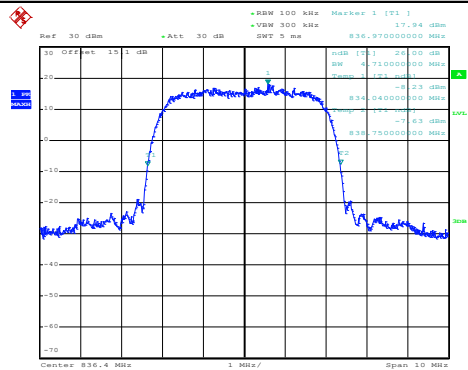


**26dB Bandwidth**

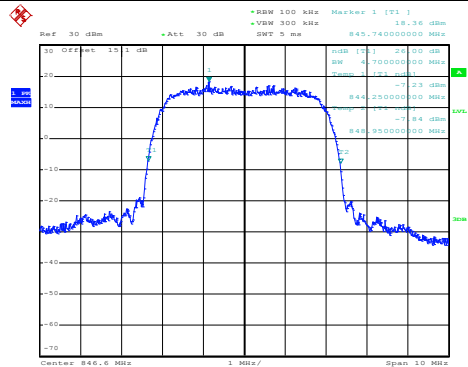
| Mode       | WCDMA Band V |
|------------|--------------|
| Mod.       | RMC 12.2Kbps |
| Lowest CH  | 4.71         |
| Middle CH  | 4.71         |
| Highest CH | 4.70         |

**WCDMA Band V (RMC 12.2Kbps)**
**Lowest Channel**


Date: 19.APR.2017 14:00:57

**Middle Channel**


Date: 19.APR.2017 14:01:25

**Highest Channel**


Date: 19.APR.2017 14:01:54

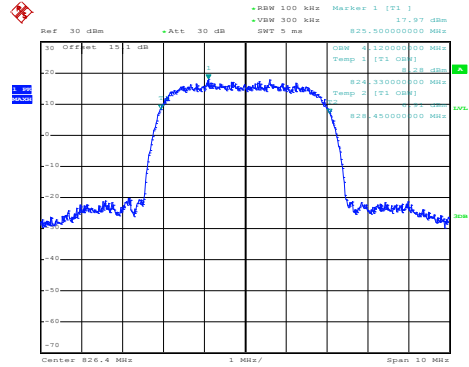


## Occupied Bandwidth

| Mode       | WCDMA Band V |
|------------|--------------|
| Mod.       | RMC 12.2Kbps |
| Lowest CH  | 4.12         |
| Middle CH  | 4.13         |
| Highest CH | 4.12         |

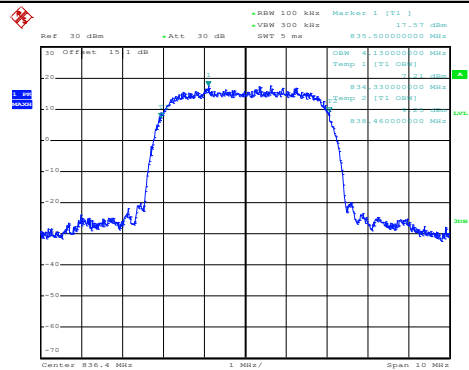
### WCDMA Band V (RMC 12.2Kbps)

#### Lowest Channel



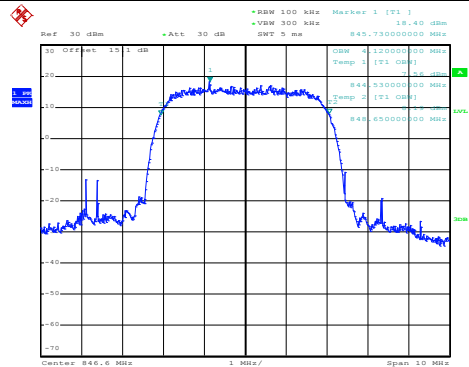
Date: 19.APR.2017 14:02:25

#### Middle Channel

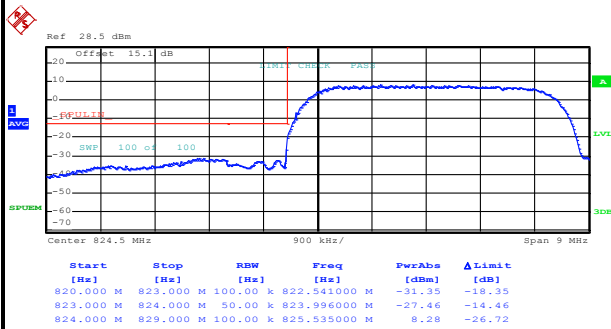


Date: 19.APR.2017 14:02:54

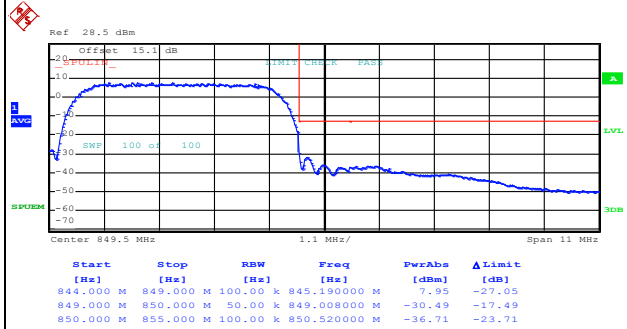
#### Highest Channel



Date: 19.APR.2017 14:03:22

**Conducted Band Edge****WCDMA Band V (RMC 12.2Kbps)****Lowest Band Edge**

Date: 19.APR.2017 14:06:16

**Highest Band Edge**

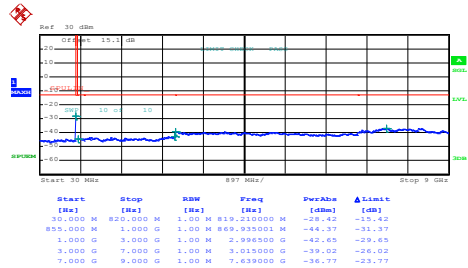
Date: 19.APR.2017 14:08:58



## Conducted Spurious Emission

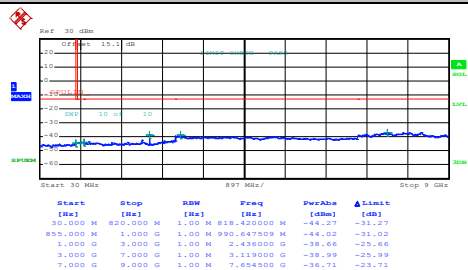
### WCDMA Band V (RMC 12.2Kbps)

#### Lowest Channel



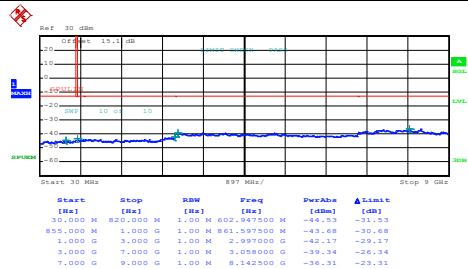
Date: 19.APR.2017 14:09:47

#### Middle Channel



Date: 19.APR.2017 14:10:33

#### Highest Channel



Date: 19.APR.2017 14:11:19

## 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    | 0.0179                         | PASS            |
| 40               | Normal Voltage    | 0.0167                         |                 |
| 30               | Normal Voltage    | 0.0048                         |                 |
| 20(Ref.)         | Normal Voltage    | 0.0000                         |                 |
| 10               | Normal Voltage    | 0.0191                         |                 |
| 0                | Normal Voltage    | 0.0191                         |                 |
| -10              | Normal Voltage    | 0.0143                         |                 |
| -20              | Normal Voltage    | 0.0012                         |                 |
| -30              | Normal Voltage    | 0.0012                         |                 |
| 20               | Maximum Voltage   | 0.0048                         |                 |
| 20               | Normal Voltage    | 0.0000                         |                 |
| 20               | Battery End Point | 0.0036                         |                 |

**Note:**

1. Normal Voltage = 3.8V. ; Battery End Point (BEP) = 3.4 V. ; Maximum Voltage =4.35 V
2. The frequency fundamental emissions stay within the authorized frequency block.



## A4. CDMA

### Peak-to-Average Ratio

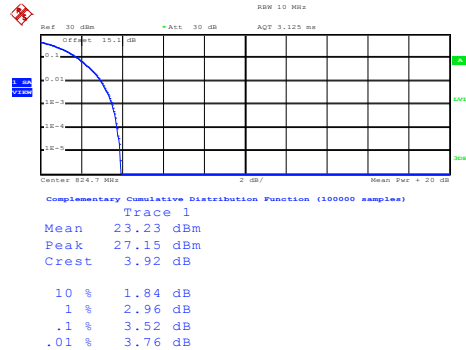
| Mode       | CDMA BC0 | Limit: 13dB |
|------------|----------|-------------|
| Mod.       | 1xRTT    | Result      |
| Lowest CH  | 3.52     | PASS        |
| Middle CH  | 4.16     |             |
| Highest CH | 3.56     |             |

| Mode       | CDMA BC0       | Limit: 13dB |
|------------|----------------|-------------|
| Mod.       | 1xEV-DO Rev. A | Result      |
| Lowest CH  | 3.92           | PASS        |
| Middle CH  | 4.80           |             |
| Highest CH | 4.12           |             |



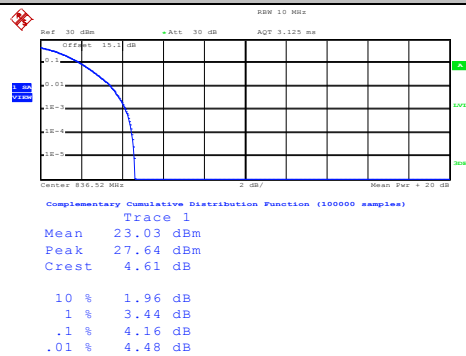
### CDMA BC0 (1xRTT)

#### Lowest Channel



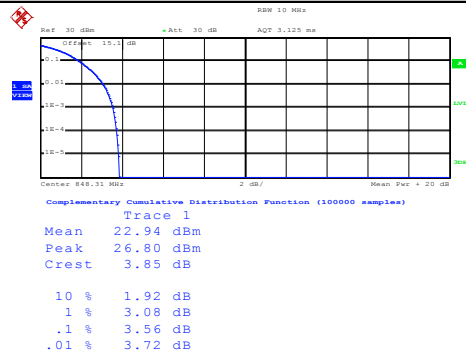
Date: 19.APR.2017 15:27:47

#### Middle Channel



Date: 19.APR.2017 15:28:21

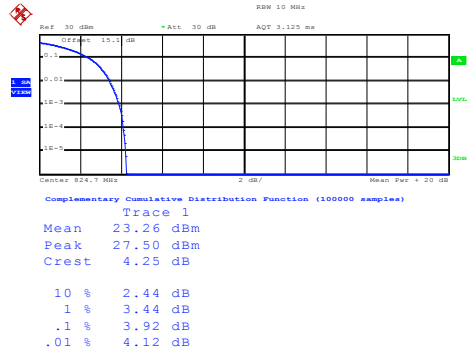
#### Highest Channel



Date: 19.APR.2017 15:28:31

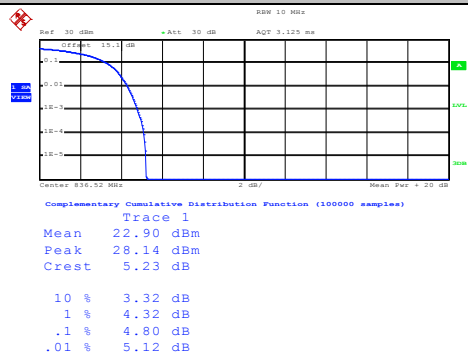
### CDMA BC0 (1xEV-DO Rev. A)

#### Lowest Channel



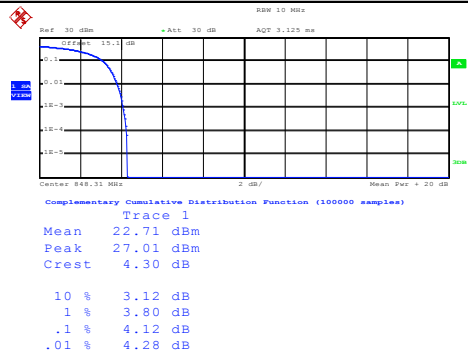
Date: 19.APR.2017 16:19:54

#### Middle Channel



Date: 19.APR.2017 16:20:12

#### Highest Channel

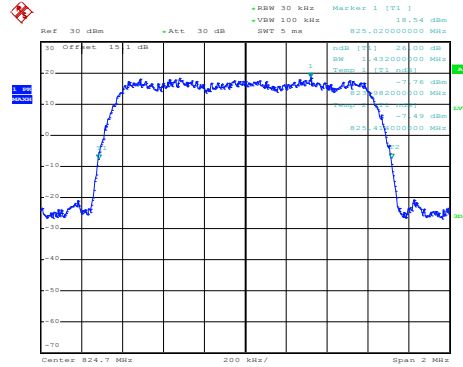


Date: 19.APR.2017 16:20:22

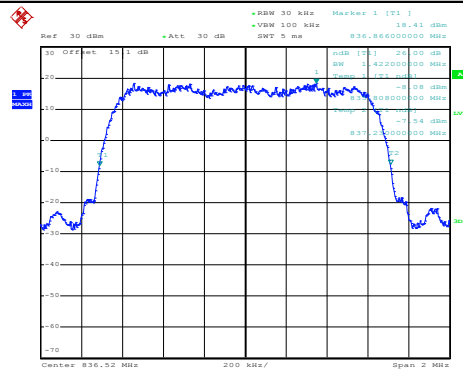
**26dB Bandwidth**

| Mode       | CDMA BC0 |
|------------|----------|
| Mod.       | 1xRTT    |
| Lowest CH  | 1.43     |
| Middle CH  | 1.42     |
| Highest CH | 1.43     |

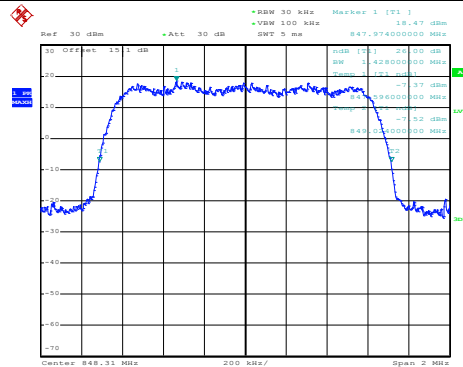
| Mode       | CDMA BC0       |
|------------|----------------|
| Mod.       | 1xEV-DO Rev. A |
| Lowest CH  | 1.42           |
| Middle CH  | 1.42           |
| Highest CH | 1.43           |

**CDMA BC0 (1xRTT)**
**Lowest Channel**


Date: 19.APR.2017 15:17:10

**Middle Channel**


Date: 19.APR.2017 15:17:38

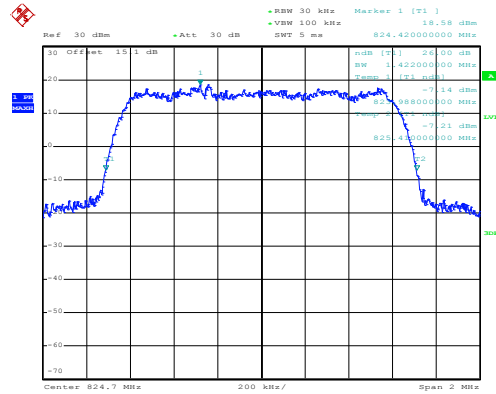
**Highest Channel**


Date: 19.APR.2017 15:18:06



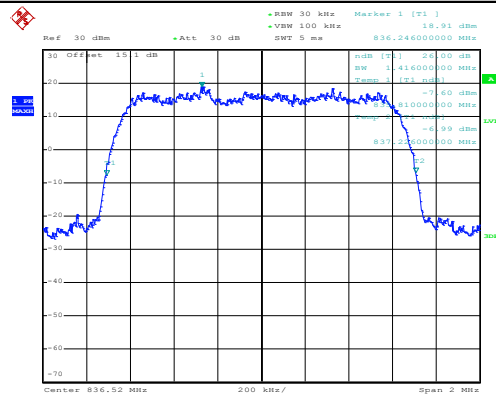
CDMA BC0 (1xEV-DO Rev. A)

Lowest Channel



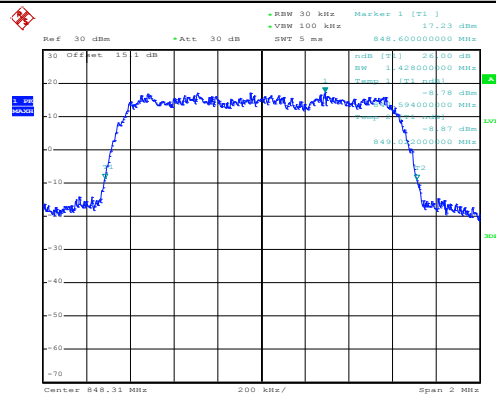
Date: 19.APR.2017 16:06:04

Middle Channel



Date: 19.APR.2017 16:06:32

Highest Channel



Date: 19.APR.2017 16:07:00

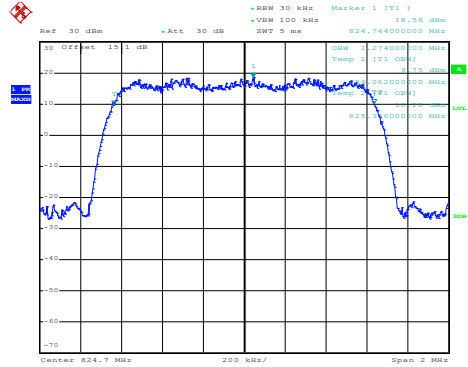
**Occupied Bandwidth**

| Mode       | CDMA BC0 |
|------------|----------|
| Mod.       | 1xRTT    |
| Lowest CH  | 1.27     |
| Middle CH  | 1.27     |
| Highest CH | 1.27     |

| Mode       | CDMA BC0       |
|------------|----------------|
| Mod.       | 1xEV-DO Rev. A |
| Lowest CH  | 1.27           |
| Middle CH  | 1.27           |
| Highest CH | 1.27           |

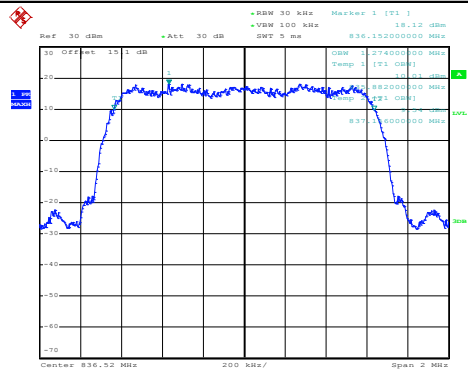
### CDMA BC0 (1xRTT)

#### Lowest Channel



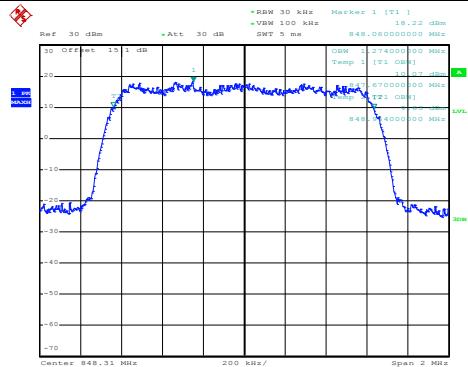
Date: 19.APR.2017 15:18:37

#### Middle Channel



Date: 19.APR.2017 15:19:05

#### Highest Channel

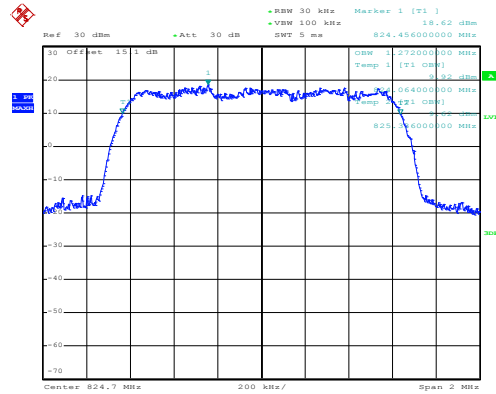


Date: 19.APR.2017 15:19:33



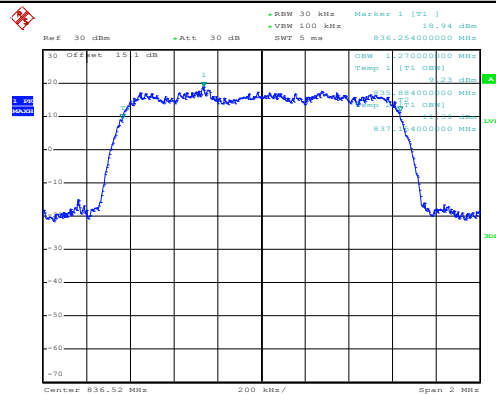
### CDMA BC0 (1xEV-DO Rev. A)

#### Lowest Channel



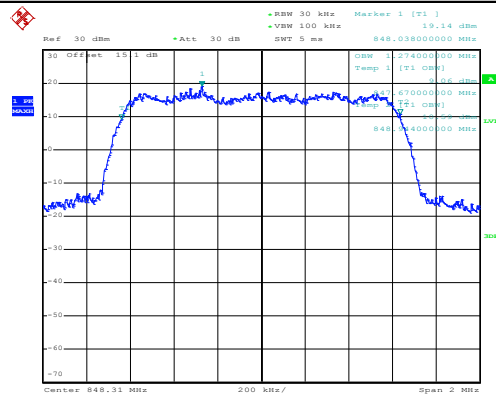
Date: 19.APR.2017 16:08:34

#### Middle Channel



Date: 19.APR.2017 16:10:30

#### Highest Channel



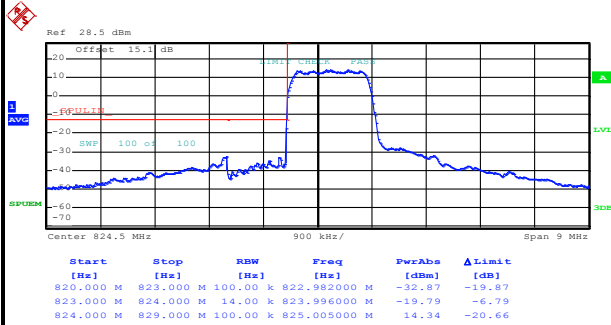
Date: 19.APR.2017 16:11:02



## Conducted Band Edge

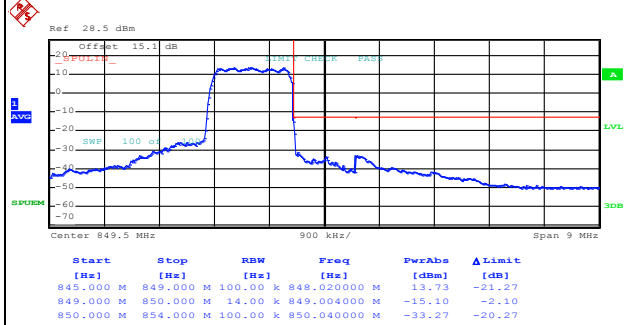
### CDMA BC0 (1xRTT)

#### Lowest Band Edge



Date: 19.APR.2017 15:22:19

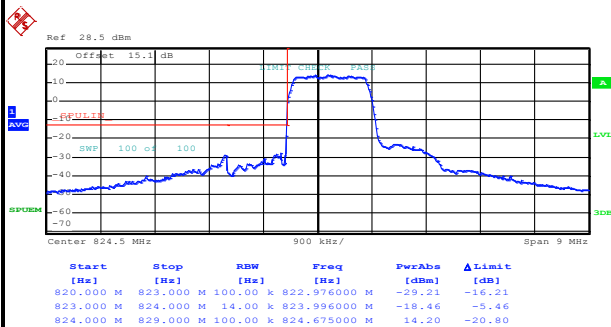
#### Highest Band Edge



Date: 19.APR.2017 15:25:02

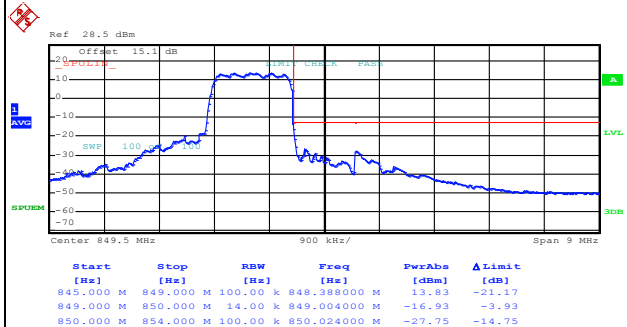
### CDMA BC0 (1xEV-DO Rev. A)

#### Lowest Band Edge



Date: 19.APR.2017 16:13:54

#### Highest Band Edge



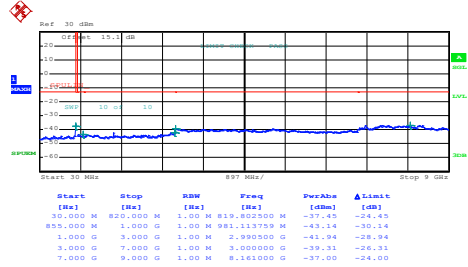
Date: 19.APR.2017 16:16:40



## Conducted Spurious Emission

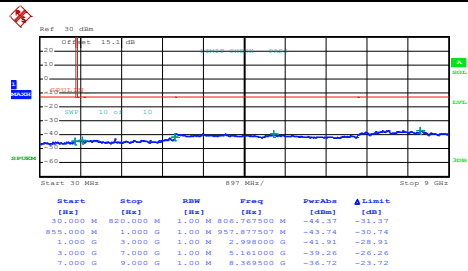
### CDMA BC0 (1xRTT)

#### Lowest Channel



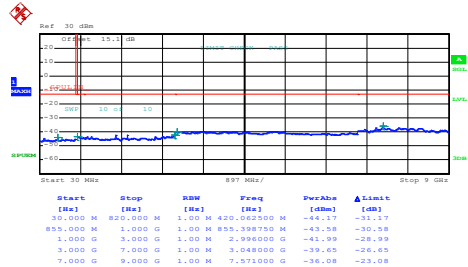
Date: 19.APR.2017 15:25:57

#### Middle Channel



Date: 19.APR.2017 15:26:43

#### Highest Channel

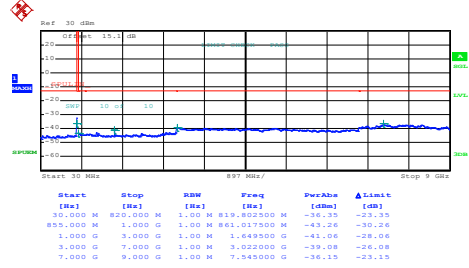


Date: 19.APR.2017 15:27:30



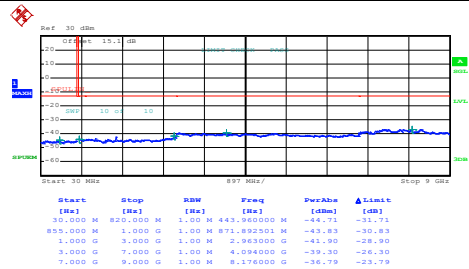
CDMA BC0 (1xEV-DO Rev. A)

Lowest Channel



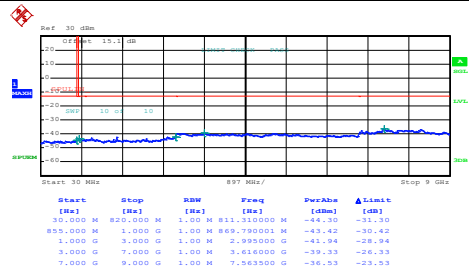
Date: 19.APR.2017 16:17:36

Middle Channel



Date: 19.APR.2017 16:18:27

Highest Channel



Date: 19.APR.2017 16:19:21

## Frequency Stability

| Test Conditions  | Middle Channel    | CDMA BC0<br>(1xRTT) | Limit<br>2.5ppm |
|------------------|-------------------|---------------------|-----------------|
| Temperature (°C) | Voltage (Volt)    | Deviation (ppm)     | Result          |
| 50               | Normal Voltage    | 0.0096              | PASS            |
| 40               | Normal Voltage    | 0.0191              |                 |
| 30               | Normal Voltage    | 0.0227              |                 |
| 20(Ref.)         | Normal Voltage    | 0.0000              |                 |
| 10               | Normal Voltage    | 0.0155              |                 |
| 0                | Normal Voltage    | 0.0203              |                 |
| -10              | Normal Voltage    | 0.0048              |                 |
| -20              | Normal Voltage    | 0.0024              |                 |
| -30              | Normal Voltage    | 0.0131              |                 |
| 20               | Maximum Voltage   | 0.0155              |                 |
| 20               | Normal Voltage    | 0.0000              |                 |
| 20               | Battery End Point | 0.0000              |                 |

| Test Conditions  | Middle Channel    | CDMA BC0<br>(1xEV-DO Rev. A) | Limit<br>2.5ppm |
|------------------|-------------------|------------------------------|-----------------|
| Temperature (°C) | Voltage (Volt)    | Deviation (ppm)              | Result          |
| 50               | Normal Voltage    | 0.0012                       | PASS            |
| 40               | Normal Voltage    | 0.0012                       |                 |
| 30               | Normal Voltage    | 0.0012                       |                 |
| 20(Ref.)         | Normal Voltage    | 0.0000                       |                 |
| 10               | Normal Voltage    | 0.0036                       |                 |
| 0                | Normal Voltage    | 0.0120                       |                 |
| -10              | Normal Voltage    | 0.0143                       |                 |
| -20              | Normal Voltage    | 0.0143                       |                 |
| -30              | Normal Voltage    | 0.0143                       |                 |
| 20               | Maximum Voltage   | 0.0143                       |                 |
| 20               | Normal Voltage    | 0.0000                       |                 |
| 20               | Battery End Point | 0.0012                       |                 |

**Note:**

1. Normal Voltage = 3.8V. ; Battery End Point (BEP) = 3.4 V. ; Maximum Voltage =4.35 V
2. The frequency fundamental emissions stay within the authorized frequency block.



## Appendix B. Test Results of ERP/EIRP and Radiated Test

### ERP/EIRP

| Channel | Mode                | Conducted   |               | ERP      |        |
|---------|---------------------|-------------|---------------|----------|--------|
|         |                     | Power (dBm) | Power (Watts) | ERP(dBm) | ERP(W) |
| Lowest  | GSM850              | 32.45       | 1.7579        | 29.60    | 0.9120 |
| Middle  | GPRS class 8        | 32.37       | 1.7258        | 29.52    | 0.8954 |
| Highest | (GT - LC = -0.7 dB) | 32.21       | 1.6634        | 29.36    | 0.8630 |
| Lowest  | GSM850              | 26.01       | 0.3990        | 23.16    | 0.2070 |
| Middle  | EDGE class 8        | 26.00       | 0.3981        | 23.15    | 0.2065 |
| Highest | (GT - LC = -0.7 dB) | 26.02       | 0.3999        | 23.17    | 0.2075 |
| Lowest  | WCDMA Band V        | 23.03       | 0.2009        | 20.18    | 0.1042 |
| Middle  | AMR 12.2Kbps        | 22.89       | 0.1945        | 20.04    | 0.1009 |
| Highest | (GT - LC = -0.7 dB) | 22.72       | 0.1871        | 19.87    | 0.0971 |
| Lowest  | CDMA BC0            | 24.23       | 0.2649        | 21.38    | 0.1374 |
| Middle  | 1xRTT               | 24.15       | 0.2600        | 21.30    | 0.1349 |
| Highest | (GT - LC = -0.7 dB) | 23.96       | 0.2489        | 21.11    | 0.1291 |
| Lowest  | CDMA BC0            | 24.22       | 0.2642        | 21.37    | 0.1371 |
| Middle  | 1xEV-DO             | 24.18       | 0.2618        | 21.33    | 0.1358 |
| Highest | (GT - LC = -0.7 dB) | 23.95       | 0.2483        | 21.10    | 0.1288 |
| Limit   | ERP < 7W            | Result      |               | PASS     |        |

| Channel | Mode                                                | Conducted   |               | EIRP      |         |
|---------|-----------------------------------------------------|-------------|---------------|-----------|---------|
|         |                                                     | Power (dBm) | Power (Watts) | EIRP(dBm) | EIRP(W) |
| Lowest  | GSM1900<br>GPRS class 8<br>(GT - LC = 0.3 dB)       | 29.56       | 0.9036        | 29.86     | 0.9683  |
| Highest | GSM1900<br>EDGE class 8<br>(GT - LC = 0.3 dB)       | 25.00       | 0.3162        | 25.30     | 0.3388  |
| Highest | WCDMA Band II<br>AMR 12.2Kbps<br>(GT - LC = 0.3 dB) | 22.46       | 0.1762        | 22.76     | 0.1888  |
| Lowest  | CDMA BC1<br>1xRTT<br>(GT - LC = 0.3 dB)             | 23.97       | 0.2495        | 24.27     | 0.2673  |
| Lowest  | CDMA BC1<br>1xEV-DO<br>(GT - LC = 0.3 dB)           | 23.92       | 0.2466        | 24.22     | 0.2642  |
| Limit   | EIRP < 2W                                           | Result      |               | PASS      |         |

| Channel | Mode                                                | Conducted   |               | EIRP      |         |
|---------|-----------------------------------------------------|-------------|---------------|-----------|---------|
|         |                                                     | Power (dBm) | Power (Watts) | EIRP(dBm) | EIRP(W) |
| Lowest  | WCDMA Band IV<br>AMR 12.2Kbps<br>(GT - LC = 0.3 dB) | 22.37       | 0.1726        | 22.67     | 0.1849  |
| Limit   | EIRP < 1W                                           | Result      |               | PASS      |         |

**Radiated Spurious Emission****Part22H GPRS 850**

| Mode 1_GPRS 850 |                      |                |                  |                         |                         |                          |                            |                             |                       |
|-----------------|----------------------|----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|
| 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                 | -34.12         | -13              | -21.12                  | -20.8                   | -35.88                   | 0.98                       | 4.89                        | H                     |
|                 | 2472                 | -49.59         | -13              | -36.59                  | -40.1                   | -51.47                   | 1.28                       | 5.32                        | H                     |
|                 | 3296                 | -66.35         | -13              | -53.35                  | -59.29                  | -69.76                   | 1.54                       | 7.10                        | H                     |
|                 | 4120                 | -67.63         | -13              | -54.63                  | -62.26                  | -72.27                   | 1.83                       | 8.62                        | H                     |
|                 |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                 |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                 | 1648                 | -37.46         | -13              | -24.46                  | -24.31                  | -39.22                   | 0.98                       | 4.89                        | V                     |
|                 | 2472                 | -53.27         | -13              | -40.27                  | -43.8                   | -55.15                   | 1.28                       | 5.32                        | V                     |
|                 | 3296                 | -64.16         | -13              | -51.16                  | -56.88                  | -67.57                   | 1.54                       | 7.10                        | V                     |
|                 | 4120                 | -67.89         | -13              | -54.89                  | -62.33                  | -72.53                   | 1.83                       | 8.62                        | V                     |
|                 |                      |                |                  |                         |                         |                          |                            |                             | V                     |
|                 |                      |                |                  |                         |                         |                          |                            |                             | V                     |
| Middle          | 1672                 | -33.08         | -13              | -20.08                  | -19.92                  | -34.76                   | 0.99                       | 4.82                        | H                     |
|                 | 2512                 | -51.73         | -13              | -38.73                  | -42.37                  | -53.70                   | 1.29                       | 5.41                        | H                     |
|                 | 3344                 | -66.46         | -13              | -53.46                  | -59.51                  | -70.07                   | 1.56                       | 7.31                        | H                     |
|                 | 4184                 | -67.17         | -13              | -54.17                  | -62.02                  | -71.79                   | 1.87                       | 8.64                        | H                     |
|                 |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                 |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                 | 1672                 | -33.10         | -13              | -20.10                  | -20.04                  | -34.78                   | 0.99                       | 4.82                        | V                     |
|                 | 2512                 | -51.88         | -13              | -38.88                  | -42.56                  | -53.85                   | 1.29                       | 5.41                        | V                     |
|                 | 3344                 | -65.90         | -13              | -52.90                  | -58.7                   | -69.51                   | 1.56                       | 7.31                        | V                     |
|                 | 4184                 | -66.74         | -13              | -53.74                  | -61.38                  | -71.36                   | 1.87                       | 8.64                        | V                     |
|                 |                      |                |                  |                         |                         |                          |                            |                             | V                     |
|                 |                      |                |                  |                         |                         |                          |                            |                             | V                     |



|         |      |        |     |        |        |        |      |      |   |
|---------|------|--------|-----|--------|--------|--------|------|------|---|
| Highest | 1696 | -34.23 | -13 | -21.23 | -21.15 | -35.83 | 1.00 | 4.75 | H |
|         | 2544 | -53.22 | -13 | -40.22 | -43.98 | -55.20 | 1.30 | 5.44 | H |
|         | 3392 | -66.88 | -13 | -53.88 | -60.03 | -70.68 | 1.57 | 7.52 | H |
|         |      |        |     |        |        |        |      |      | H |
|         |      |        |     |        |        |        |      |      | H |
|         |      |        |     |        |        |        |      |      | H |
|         |      |        |     |        |        |        |      |      | H |
|         | 1696 | -34.16 | -13 | -21.16 | -21.15 | -35.76 | 1.00 | 4.75 | V |
|         | 2544 | -55.00 | -13 | -42.00 | -45.79 | -56.98 | 1.30 | 5.44 | V |
|         | 3392 | -65.93 | -13 | -52.93 | -58.82 | -69.73 | 1.57 | 7.52 | V |
|         |      |        |     |        |        |        |      |      | V |
|         |      |        |     |        |        |        |      |      | V |
|         |      |        |     |        |        |        |      |      | V |
|         |      |        |     |        |        |        |      |      | V |

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

**Part22H EDGE 850**

| Mode 2_EDGE 850 |                      |                |                  |                         |                         |                          |                            |                             |                       |
|-----------------|----------------------|----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|
| 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                 | -44.18         | -13              | -31.18                  | -30.86                  | -45.94                   | 0.98                       | 4.89                        | H                     |
|                 | 2472                 | -67.37         | -13              | -54.37                  | -57.88                  | -69.25                   | 1.28                       | 5.32                        | H                     |
|                 | 3296                 | -66.69         | -13              | -53.69                  | -59.63                  | -70.10                   | 1.54                       | 7.10                        | H                     |
|                 |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                 |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                 |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                 |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                 | 1648                 | -47.72         | -13              | -34.72                  | -34.57                  | -49.48                   | 0.98                       | 4.89                        | V                     |
|                 | 2472                 | -66.78         | -13              | -53.78                  | -57.31                  | -68.66                   | 1.28                       | 5.32                        | V                     |
|                 | 3296                 | -66.42         | -13              | -53.42                  | -59.14                  | -69.83                   | 1.54                       | 7.10                        | V                     |
|                 |                      |                |                  |                         |                         |                          |                            |                             | V                     |
|                 |                      |                |                  |                         |                         |                          |                            |                             | V                     |
|                 |                      |                |                  |                         |                         |                          |                            |                             | V                     |
|                 |                      |                |                  |                         |                         |                          |                            |                             | V                     |
| Middle          | 1672                 | -42.66         | -13              | -29.66                  | -29.5                   | -44.34                   | 0.99                       | 4.82                        | H                     |
|                 | 2512                 | -68.59         | -13              | -55.59                  | -59.23                  | -70.56                   | 1.29                       | 5.41                        | H                     |
|                 | 3344                 | -66.87         | -13              | -53.87                  | -59.92                  | -70.48                   | 1.56                       | 7.31                        | H                     |
|                 | 4184                 | -67.08         | -13              | -54.08                  | -61.93                  | -71.70                   | 1.87                       | 8.64                        | H                     |
|                 |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                 |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                 |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                 | 1672                 | -45.27         | -13              | -32.27                  | -32.21                  | -46.95                   | 0.99                       | 4.82                        | V                     |
|                 | 2512                 | -67.11         | -13              | -54.11                  | -57.79                  | -69.08                   | 1.29                       | 5.41                        | V                     |
|                 | 3344                 | -67.03         | -13              | -54.03                  | -59.83                  | -70.64                   | 1.56                       | 7.31                        | V                     |
|                 | 4184                 | -67.24         | -13              | -54.24                  | -61.88                  | -71.86                   | 1.87                       | 8.64                        | V                     |
|                 |                      |                |                  |                         |                         |                          |                            |                             | V                     |
|                 |                      |                |                  |                         |                         |                          |                            |                             | V                     |
|                 |                      |                |                  |                         |                         |                          |                            |                             | V                     |
|                 |                      |                |                  |                         |                         |                          |                            |                             | V                     |



|         |      |        |     |        |        |        |      |      |   |
|---------|------|--------|-----|--------|--------|--------|------|------|---|
| Highest | 1696 | -45.09 | -13 | -32.09 | -32.01 | -46.69 | 1.00 | 4.75 | H |
|         | 2544 | -66.66 | -13 | -53.66 | -57.42 | -68.64 | 1.30 | 5.44 | H |
|         | 3392 | -66.63 | -13 | -53.63 | -59.78 | -70.43 | 1.57 | 7.52 | H |
|         |      |        |     |        |        |        |      |      | H |
|         |      |        |     |        |        |        |      |      | H |
|         |      |        |     |        |        |        |      |      | H |
|         |      |        |     |        |        |        |      |      | H |
|         | 1696 | -44.23 | -13 | -31.23 | -31.22 | -45.83 | 1.00 | 4.75 | V |
|         | 2544 | -66.68 | -13 | -53.68 | -57.47 | -68.66 | 1.30 | 5.44 | V |
|         | 3392 | -66.53 | -13 | -53.53 | -59.42 | -70.33 | 1.57 | 7.52 | V |
|         |      |        |     |        |        |        |      |      | V |
|         |      |        |     |        |        |        |      |      | V |
|         |      |        |     |        |        |        |      |      | V |
|         |      |        |     |        |        |        |      |      | V |

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

**Part22H WCDMA 850**

| Mode 3_WCDMA 850 |                      |                |                  |                         |                         |                          |                            |                             |                       |
|------------------|----------------------|----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|
| 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           | 1656                 | -52.72         | -13              | -39.72                  | -39.48                  | -54.45                   | 0.98                       | 4.86                        | H                     |
|                  | 2480                 | -68.90         | -13              | -55.90                  | -59.41                  | -70.81                   | 1.28                       | 5.34                        | H                     |
|                  | 3304                 | -68.61         | -13              | -55.61                  | -61.59                  | -72.05                   | 1.54                       | 7.14                        | H                     |
|                  |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                  |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                  |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                  |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                  | 1656                 | -53.73         | -13              | -40.73                  | -40.63                  | -55.46                   | 0.98                       | 4.86                        | V                     |
|                  | 2480                 | -69.22         | -13              | -56.22                  | -59.75                  | -71.13                   | 1.28                       | 5.34                        | V                     |
|                  | 3304                 | -68.90         | -13              | -55.90                  | -61.65                  | -72.34                   | 1.54                       | 7.14                        | V                     |
|                  |                      |                |                  |                         |                         |                          |                            |                             | V                     |
|                  |                      |                |                  |                         |                         |                          |                            |                             | V                     |
|                  |                      |                |                  |                         |                         |                          |                            |                             | V                     |
|                  |                      |                |                  |                         |                         |                          |                            |                             | V                     |
| Middle           | 1672                 | -51.01         | -13              | -38.01                  | -37.85                  | -52.69                   | 0.99                       | 4.82                        | H                     |
|                  | 2512                 | -67.47         | -13              | -54.47                  | -58.11                  | -69.44                   | 1.29                       | 5.41                        | H                     |
|                  | 3344                 | -68.67         | -13              | -55.67                  | -61.72                  | -72.28                   | 1.56                       | 7.31                        | H                     |
|                  |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                  |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                  |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                  |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                  | 1672                 | -50.29         | -13              | -37.29                  | -37.23                  | -51.97                   | 0.99                       | 4.82                        | V                     |
|                  | 2512                 | -68.71         | -13              | -55.71                  | -59.39                  | -70.68                   | 1.29                       | 5.41                        | V                     |
|                  | 3344                 | -68.74         | -13              | -55.74                  | -61.54                  | -72.35                   | 1.56                       | 7.31                        | V                     |
|                  |                      |                |                  |                         |                         |                          |                            |                             | V                     |
|                  |                      |                |                  |                         |                         |                          |                            |                             | V                     |
|                  |                      |                |                  |                         |                         |                          |                            |                             | V                     |
|                  |                      |                |                  |                         |                         |                          |                            |                             | V                     |



|         |      |        |     |        |        |        |      |      |   |
|---------|------|--------|-----|--------|--------|--------|------|------|---|
| Highest | 1688 | -52.68 | -13 | -39.68 | -39.52 | -54.31 | 1.00 | 4.77 | H |
|         | 2536 | -66.01 | -13 | -53.01 | -56.71 | -67.99 | 1.30 | 5.43 | H |
|         | 3384 | -68.35 | -13 | -55.35 | -61.47 | -72.12 | 1.57 | 7.49 | H |
|         |      |        |     |        |        |        |      |      | H |
|         |      |        |     |        |        |        |      |      | H |
|         |      |        |     |        |        |        |      |      | H |
|         |      |        |     |        |        |        |      |      | H |
|         | 1688 | -52.61 | -13 | -39.61 | -39.55 | -54.24 | 1.00 | 4.77 | V |
|         | 2536 | -66.42 | -13 | -53.42 | -57.15 | -68.40 | 1.30 | 5.43 | V |
|         | 3384 | -68.67 | -13 | -55.67 | -61.53 | -72.44 | 1.57 | 7.49 | V |
|         |      |        |     |        |        |        |      |      | V |
|         |      |        |     |        |        |        |      |      | V |
|         |      |        |     |        |        |        |      |      | V |
|         |      |        |     |        |        |        |      |      | V |

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

**Part22H CDMA 850 1xRTT**

| Mode 4 CDMA 850 1xRTT |                      |                |                  |                         |                         |                          |                            |                             |                       |
|-----------------------|----------------------|----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|
| 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                 | -49.28         | -13              | -36.28                  | -35.96                  | -51.04                   | 0.98                       | 4.89                        | H                     |
|                       | 2472                 | -61.72         | -13              | -48.72                  | -52.23                  | -63.60                   | 1.28                       | 5.32                        | H                     |
|                       | 3296                 | -68.72         | -13              | -55.72                  | -61.66                  | -72.13                   | 1.54                       | 7.10                        | H                     |
|                       |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                       |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                       |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                       |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                       | 1648                 | -51.01         | -13              | -38.01                  | -37.86                  | -52.77                   | 0.98                       | 4.89                        | V                     |
|                       | 2472                 | -63.23         | -13              | -50.23                  | -53.76                  | -65.11                   | 1.28                       | 5.32                        | V                     |
|                       | 3296                 | -68.81         | -13              | -55.81                  | -61.53                  | -72.22                   | 1.54                       | 7.10                        | V                     |
|                       |                      |                |                  |                         |                         |                          |                            |                             | V                     |
|                       |                      |                |                  |                         |                         |                          |                            |                             | V                     |
|                       |                      |                |                  |                         |                         |                          |                            |                             | V                     |
|                       |                      |                |                  |                         |                         |                          |                            |                             | V                     |
| Middle                | 1672                 | -46.61         | -13              | -33.61                  | -33.45                  | -48.29                   | 0.99                       | 4.82                        | H                     |
|                       | 2512                 | -64.46         | -13              | -51.46                  | -55.1                   | -66.43                   | 1.29                       | 5.41                        | H                     |
|                       | 3344                 | -68.37         | -13              | -55.37                  | -61.42                  | -71.98                   | 1.56                       | 7.31                        | H                     |
|                       |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                       |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                       |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                       |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                       | 1672                 | -45.36         | -13              | -32.36                  | -32.3                   | -47.04                   | 0.99                       | 4.82                        | V                     |
|                       | 2512                 | -64.98         | -13              | -51.98                  | -55.66                  | -66.95                   | 1.29                       | 5.41                        | V                     |
|                       | 3344                 | -68.65         | -13              | -55.65                  | -61.45                  | -72.26                   | 1.56                       | 7.31                        | V                     |
|                       |                      |                |                  |                         |                         |                          |                            |                             | V                     |
|                       |                      |                |                  |                         |                         |                          |                            |                             | V                     |
|                       |                      |                |                  |                         |                         |                          |                            |                             | V                     |
|                       |                      |                |                  |                         |                         |                          |                            |                             | V                     |



|         |      |        |     |        |        |        |      |      |   |
|---------|------|--------|-----|--------|--------|--------|------|------|---|
| Highest | 1696 | -48.44 | -13 | -35.44 | -35.36 | -50.04 | 1.00 | 4.75 | H |
|         | 2544 | -66.20 | -13 | -53.20 | -56.96 | -68.18 | 1.30 | 5.44 | H |
|         | 3392 | -68.39 | -13 | -55.39 | -61.54 | -72.19 | 1.57 | 7.52 | H |
|         |      |        |     |        |        |        |      |      | H |
|         |      |        |     |        |        |        |      |      | H |
|         |      |        |     |        |        |        |      |      | H |
|         |      |        |     |        |        |        |      |      | H |
|         | 1696 | -48.42 | -13 | -35.42 | -35.41 | -50.02 | 1.00 | 4.75 | V |
|         | 2544 | -66.83 | -13 | -53.83 | -57.62 | -68.81 | 1.30 | 5.44 | V |
|         | 3392 | -68.65 | -13 | -55.65 | -61.54 | -72.45 | 1.57 | 7.52 | V |
|         |      |        |     |        |        |        |      |      | V |
|         |      |        |     |        |        |        |      |      | V |
|         |      |        |     |        |        |        |      |      | V |
|         |      |        |     |        |        |        |      |      | V |

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

**Part22H CDMA 850 1xEVDO**

| Mode 5_CDMA 850 1xEVDO |                      |                |                  |                         |                         |                          |                            |                             |                       |
|------------------------|----------------------|----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|
| 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                 | -48.25         | -13              | -35.25                  | -34.93                  | -50.01                   | 0.98                       | 4.89                        | H                     |
|                        | 2472                 | -63.03         | -13              | -50.03                  | -53.54                  | -64.91                   | 1.28                       | 5.32                        | H                     |
|                        | 3296                 | -68.69         | -13              | -55.69                  | -61.63                  | -72.10                   | 1.54                       | 7.10                        | H                     |
|                        |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                        |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                        |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                        |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                        | 1648                 | -49.32         | -13              | -36.32                  | -36.17                  | -51.08                   | 0.98                       | 4.89                        | V                     |
|                        | 2472                 | -64.64         | -13              | -51.64                  | -55.17                  | -66.52                   | 1.28                       | 5.32                        | V                     |
|                        | 3296                 | -68.80         | -13              | -55.80                  | -61.52                  | -72.21                   | 1.54                       | 7.10                        | V                     |
|                        |                      |                |                  |                         |                         |                          |                            |                             | V                     |
|                        |                      |                |                  |                         |                         |                          |                            |                             | V                     |
|                        |                      |                |                  |                         |                         |                          |                            |                             | V                     |
|                        |                      |                |                  |                         |                         |                          |                            |                             | V                     |
| Middle                 | 1672                 | -45.59         | -13              | -32.59                  | -32.43                  | -47.27                   | 0.99                       | 4.82                        | H                     |
|                        | 2512                 | -62.19         | -13              | -49.19                  | -52.83                  | -64.16                   | 1.29                       | 5.41                        | H                     |
|                        | 3344                 | -68.28         | -13              | -55.28                  | -61.33                  | -71.89                   | 1.56                       | 7.31                        | H                     |
|                        |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                        |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                        |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                        |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|                        | 1672                 | -44.40         | -13              | -31.40                  | -31.34                  | -46.08                   | 0.99                       | 4.82                        | V                     |
|                        | 2512                 | -61.15         | -13              | -48.15                  | -51.83                  | -63.12                   | 1.29                       | 5.41                        | V                     |
|                        | 3344                 | -68.93         | -13              | -55.93                  | -61.73                  | -72.54                   | 1.56                       | 7.31                        | V                     |
|                        |                      |                |                  |                         |                         |                          |                            |                             | V                     |
|                        |                      |                |                  |                         |                         |                          |                            |                             | V                     |
|                        |                      |                |                  |                         |                         |                          |                            |                             | V                     |
|                        |                      |                |                  |                         |                         |                          |                            |                             | V                     |



|         |      |        |     |        |        |        |      |      |   |
|---------|------|--------|-----|--------|--------|--------|------|------|---|
| Highest | 1696 | -48.07 | -13 | -35.07 | -34.99 | -49.67 | 1.00 | 4.75 | H |
|         | 2544 | -59.08 | -13 | -46.08 | -49.84 | -61.06 | 1.30 | 5.44 | H |
|         | 3392 | -68.59 | -13 | -55.59 | -61.74 | -72.39 | 1.57 | 7.52 | H |
|         |      |        |     |        |        |        |      |      | H |
|         |      |        |     |        |        |        |      |      | H |
|         |      |        |     |        |        |        |      |      | H |
|         |      |        |     |        |        |        |      |      | H |
|         | 1696 | -47.16 | -13 | -34.16 | -34.15 | -48.76 | 1.00 | 4.75 | V |
|         | 2544 | -59.93 | -13 | -46.93 | -50.72 | -61.91 | 1.30 | 5.44 | V |
|         | 3392 | -68.58 | -13 | -55.58 | -61.47 | -72.38 | 1.57 | 7.52 | V |
|         |      |        |     |        |        |        |      |      | V |
|         |      |        |     |        |        |        |      |      | V |
|         |      |        |     |        |        |        |      |      | V |
|         |      |        |     |        |        |        |      |      | V |

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

**Part24E GSM 1900**

| Mode 1_ GSM 1900 |                      |                 |                  |                         |                         |                          |                            |                             |                       |
|------------------|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|
| 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) |
| Highest          | 3819                 | -57.24          | -13              | -44.24                  | -51.06                  | -63.92                   | 1.70                       | 8.38                        | H                     |
|                  | 5730                 | -61.55          | -13              | -48.55                  | -62.5                   | -68.58                   | 2.76                       | 9.79                        | H                     |
|                  | 7641                 | -58.26          | -13              | -45.26                  | -64.78                  | -67.76                   | 2.38                       | 11.88                       | H                     |
|                  |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|                  |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|                  |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|                  |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|                  | 3819                 | -57.49          | -13              | -44.49                  | -51.11                  | -64.17                   | 1.70                       | 8.38                        | V                     |
|                  | 5730                 | -60.45          | -13              | -47.45                  | -61.33                  | -67.48                   | 2.76                       | 9.79                        | V                     |
|                  | 7641                 | -56.43          | -13              | -43.43                  | -63.18                  | -65.93                   | 2.38                       | 11.88                       | V                     |
|                  | 11454                | -51.35          | -13              | -38.35                  | -66.4                   | -60.99                   | 2.68                       | 12.32                       | V                     |
|                  |                      |                 |                  |                         |                         |                          |                            |                             | V                     |
|                  |                      |                 |                  |                         |                         |                          |                            |                             | V                     |
|                  |                      |                 |                  |                         |                         |                          |                            |                             | V                     |

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

**Part24E EDGE 1900**

| Mode 2_EDGE 1900 |                      |                 |                  |                         |                         |                          |                            |                             |                       |
|------------------|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|
| 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) |
| Highest          | 3819                 | -67.52          | -13              | -54.52                  | -61.34                  | -74.20                   | 1.70                       | 8.38                        | H                     |
|                  | 5730                 | -63.13          | -13              | -50.13                  | -64.08                  | -70.16                   | 2.76                       | 9.79                        | H                     |
|                  | 7641                 | -58.65          | -13              | -45.65                  | -65.17                  | -68.15                   | 2.38                       | 11.88                       | H                     |
|                  |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|                  |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|                  |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|                  |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|                  | 3819                 | -67.64          | -13              | -54.64                  | -61.26                  | -74.32                   | 1.70                       | 8.38                        | V                     |
|                  | 5730                 | -63.15          | -13              | -50.15                  | -64.03                  | -70.18                   | 2.76                       | 9.79                        | V                     |
|                  | 7641                 | -58.22          | -13              | -45.22                  | -64.97                  | -67.72                   | 2.38                       | 11.88                       | V                     |
|                  |                      |                 |                  |                         |                         |                          |                            |                             | V                     |
|                  |                      |                 |                  |                         |                         |                          |                            |                             | V                     |
|                  |                      |                 |                  |                         |                         |                          |                            |                             | V                     |
|                  |                      |                 |                  |                         |                         |                          |                            |                             | V                     |

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

**Part24E WCDMA 1900**

| Mode 3_WCDMA 1900 |                      |                 |                  |                         |                         |                          |                            |                             |                       |
|-------------------|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|
| 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) |
| Middle            | 3763                 | -67.34          | -13              | -54.34                  | -61.09                  | -73.97                   | 1.69                       | 8.32                        | H                     |
|                   | 5639                 | -63.90          | -13              | -50.90                  | -64.65                  | -70.95                   | 2.71                       | 9.76                        | H                     |
|                   | 7522                 | -58.71          | -13              | -45.71                  | -64.98                  | -68.10                   | 2.42                       | 11.81                       | H                     |
|                   |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|                   |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|                   |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|                   |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|                   | 3763                 | -67.60          | -13              | -54.60                  | -61.13                  | -74.23                   | 1.69                       | 8.32                        | V                     |
|                   | 5639                 | -64.05          | -13              | -51.05                  | -64.74                  | -71.10                   | 2.71                       | 9.76                        | V                     |
|                   | 11282                | -50.45          | -13              | -37.45                  | -65.22                  | -60.15                   | 2.68                       | 12.39                       | V                     |
|                   |                      |                 |                  |                         |                         |                          |                            |                             | V                     |
|                   |                      |                 |                  |                         |                         |                          |                            |                             | V                     |
|                   |                      |                 |                  |                         |                         |                          |                            |                             | V                     |
|                   |                      |                 |                  |                         |                         |                          |                            |                             | V                     |

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

**Part24E CDMA 1900 1xRTT**

| Mode 4 CDMA 1900 1xRTT |                      |                 |                  |                         |                         |                          |                            |                             |                       |
|------------------------|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|
| 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) |
| Middle                 | 3763                 | -67.28          | -13              | -54.28                  | -61.03                  | -73.91                   | 1.69                       | 8.32                        | H                     |
|                        | 5639                 | -63.96          | -13              | -50.96                  | -64.71                  | -71.01                   | 2.71                       | 9.76                        | H                     |
|                        | 11282                | -49.90          | -13              | -36.90                  | -64.88                  | -59.60                   | 2.68                       | 12.39                       | H                     |
|                        | 13163                | -48.15          | -13              | -35.15                  | -65.99                  | -58.41                   | 2.97                       | 13.23                       | H                     |
|                        | 15044                | -52.33          | -13              | -39.33                  | -70.39                  | -62.38                   | 3.62                       | 13.66                       | H                     |
|                        |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|                        |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|                        | 3763                 | -67.20          | -13              | -54.20                  | -60.73                  | -73.83                   | 1.69                       | 8.32                        | V                     |
|                        | 5639                 | -64.12          | -13              | -51.12                  | -64.81                  | -71.17                   | 2.71                       | 9.76                        | V                     |
|                        | 11282                | -54.50          | -13              | -41.50                  | -69.27                  | -64.20                   | 2.68                       | 12.39                       | V                     |
|                        | 13163                | -53.42          | -13              | -40.42                  | -70.42                  | -63.68                   | 2.97                       | 13.23                       | V                     |
|                        | 15044                | -53.37          | -13              | -40.37                  | -73.03                  | -63.42                   | 3.62                       | 13.66                       | V                     |
|                        |                      |                 |                  |                         |                         |                          |                            |                             | V                     |
|                        |                      |                 |                  |                         |                         |                          |                            |                             | V                     |

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

**Part24E CDMA 1900 1xEVDO**

| Mode 5_CDMA 1900 1xEVDO |                      |                 |                  |                         |                         |                          |                            |                             |                       |
|-------------------------|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|
| 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) |
| Highest                 | 3819                 | -67.17          | -13              | -54.17                  | -60.99                  | -73.85                   | 1.70                       | 8.38                        | H                     |
|                         | 5723                 | -62.91          | -13              | -49.91                  | -63.86                  | -69.95                   | 2.75                       | 9.79                        | H                     |
|                         | 11453                | -46.64          | -13              | -33.64                  | -61.77                  | -56.28                   | 2.68                       | 12.32                       | H                     |
|                         | 13363                | -49.77          | -13              | -36.77                  | -68.07                  | -60.26                   | 3.02                       | 13.51                       | H                     |
|                         | 15272                | -50.79          | -13              | -37.79                  | -70.05                  | -61.06                   | 3.71                       | 13.98                       | H                     |
|                         |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|                         |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|                         | 3819                 | -67.66          | -13              | -54.66                  | -61.28                  | -74.34                   | 1.70                       | 8.38                        | V                     |
|                         | 5723                 | -62.88          | -13              | -49.88                  | -63.76                  | -69.92                   | 2.75                       | 9.79                        | V                     |
|                         | 11453                | -54.28          | -13              | -41.28                  | -69.33                  | -63.92                   | 2.68                       | 12.32                       | V                     |
|                         | 13363                | -52.65          | -13              | -39.65                  | -70.1                   | -63.14                   | 3.02                       | 13.51                       | V                     |
|                         | 15272                | -52.40          | -13              | -39.40                  | -72.12                  | -62.67                   | 3.71                       | 13.98                       | V                     |
|                         |                      |                 |                  |                         |                         |                          |                            |                             | V                     |
|                         |                      |                 |                  |                         |                         |                          |                            |                             | V                     |

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

**Part27L WCDMA 1700**

| Mode 1_WCDMA 1700 |                      |                 |                  |                         |                         |                          |                            |                             |                       |
|-------------------|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|
| 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            | 3427                 | -67.59          | -13              | -54.59                  | -60.81                  | -73.69                   | 1.58                       | 7.68                        | H                     |
|                   | 5135                 | -64.63          | -13              | -51.63                  | -64.07                  | -71.92                   | 2.41                       | 9.70                        | H                     |
|                   | 11986                | -53.46          | -13              | -40.46                  | -69.35                  | -63.08                   | 2.68                       | 12.30                       | H                     |
|                   |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|                   |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|                   |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|                   |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|                   | 3427                 | -68.04          | -13              | -55.04                  | -60.98                  | -74.14                   | 1.58                       | 7.68                        | V                     |
|                   | 5135                 | -64.30          | -13              | -51.30                  | -63.56                  | -71.59                   | 2.41                       | 9.70                        | V                     |
|                   | 11986                | -52.30          | -13              | -39.30                  | -67.81                  | -61.92                   | 2.68                       | 12.30                       | V                     |
|                   |                      |                 |                  |                         |                         |                          |                            |                             | V                     |
|                   |                      |                 |                  |                         |                         |                          |                            |                             | V                     |
|                   |                      |                 |                  |                         |                         |                          |                            |                             | V                     |
|                   |                      |                 |                  |                         |                         |                          |                            |                             | V                     |

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



## **Appendix C. Original Report**

Please refer to Sporton report number FG733129A and FG733129-02A.