



# FCC RADIO TEST REPORT

FCC ID : MSQZ01QD  
Equipment : ASUS Phone (Mobile Phone)  
Brand Name : ASUS  
Model Name : ASUS\_Z01QD  
Applicant : ASUSTeK COMPUTER INC.  
4F, No. 150, LI-TE RD., PEITOU, TAIPEI, TAIWAN  
Manufacturer : Arima Communications (Jiangsu) Co., LTD  
No. 168, Jiao Tong North Road, Wu Jiang, Su Zhou,  
Jiang Su, PRC.  
Standard : 47 CFR Part 2, 22(H), 24(E), 27(L)

The product was received on May 24, 2018 and testing was started from Jun. 29, 2018 and completed on Jul. 29, 2018. 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-603-E and has been in compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Approved by: Jones Tsai

**SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory**

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



## Table of Contents

|                                                                |           |
|----------------------------------------------------------------|-----------|
| <b>History of this test report.....</b>                        | <b>3</b>  |
| <b>Summary of Test Result.....</b>                             | <b>4</b>  |
| <b>1 General Description .....</b>                             | <b>5</b>  |
| 1.1 Product Feature of Equipment Under Test .....              | 5         |
| 1.2 Modification of EUT .....                                  | 5         |
| 1.3 Testing Location .....                                     | 5         |
| 1.4 Applicable Standards .....                                 | 6         |
| <b>2 Test Configuration of Equipment Under Test .....</b>      | <b>7</b>  |
| 2.1 Test Mode.....                                             | 7         |
| 2.2 Connection Diagram of Test System .....                    | 8         |
| 2.3 Support Unit used in test configuration .....              | 8         |
| 2.4 Measurement Results Explanation Example .....              | 8         |
| 2.5 Frequency List of Low/Middle/High Channels.....            | 9         |
| <b>3 Conducted Test Result .....</b>                           | <b>10</b> |
| 3.1 Measuring Instruments.....                                 | 10        |
| 3.2 Conducted Output Power and ERP/EIRP .....                  | 11        |
| 3.3 Peak-to-Average Ratio .....                                | 12        |
| 3.4 99% Occupied Bandwidth and 26dB Bandwidth Measurement..... | 13        |
| 3.5 Conducted Band Edge .....                                  | 14        |
| 3.6 Conducted Spurious Emission .....                          | 15        |
| 3.7 Frequency Stability .....                                  | 16        |
| <b>4 Radiated Test Items .....</b>                             | <b>17</b> |
| 4.1 Measuring Instruments.....                                 | 17        |
| 4.2 Test Setup .....                                           | 17        |
| 4.3 Test Result of Radiated Test.....                          | 17        |
| 4.4 Field Strength of Spurious Radiation Measurement .....     | 18        |
| <b>5 List of Measuring Equipment.....</b>                      | <b>19</b> |
| <b>6 Uncertainty of Evaluation .....</b>                       | <b>20</b> |
| <b>Appendix A. Test Results of Conducted Test</b>              |           |
| <b>Appendix B. Test Results of ERP/EIRP and Radiated Test</b>  |           |
| <b>Appendix C. Test Setup Photographs</b>                      |           |



## History of this test report

| Report No. | Version | Description             | Issued Date   |
|------------|---------|-------------------------|---------------|
| FG852405A  | 01      | Initial issue of report | Aug. 01, 2018 |
|            |         |                         |               |
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## Summary of Test Result

| Report Clause | Ref Std. Clause                                     | Test Items                                   | Result (PASS/FAIL) | Remark                                     |
|---------------|-----------------------------------------------------|----------------------------------------------|--------------------|--------------------------------------------|
| 3.2           | §2.1046                                             | Conducted Output Power                       | Pass               | -                                          |
|               | §22.913 (a)(2)                                      | Effective Radiated Power                     |                    |                                            |
|               | §24.232 (c)                                         | Equivalent Isotropic Radiated Power          |                    |                                            |
|               | §27.50 (d)(4)                                       | Equivalent Isotropic Radiated Power          |                    |                                            |
| 3.3           | §24.232 (d)                                         | Peak-to-Average Ratio                        | Pass               | -                                          |
| 3.4           | §2.1049<br>§22.917 (b)<br>§24.238 (b)<br>§27.53 (g) | Occupied Bandwidth                           | Pass               | -                                          |
| 3.5           | §2.1051<br>§22.917 (a)<br>§24.238 (a)<br>§27.53 (g) | Band Edge Measurement                        | Pass               | -                                          |
| 3.6           | §2.1051<br>§22.917 (a)<br>§24.238 (a)<br>§27.53 (g) | Conducted Emission                           | Pass               | -                                          |
| 3.7           | §2.1055<br>§22.355                                  | Frequency Stability<br>Temperature & Voltage | Pass               | -                                          |
|               | §2.1055<br>§24.235<br>§27.54                        |                                              |                    | -                                          |
| 4.4           | §2.1053<br>§22.917 (a)<br>§24.238 (a)<br>§27.53 (h) | Field Strength of Spurious Radiation         | Pass               | Under limit<br>22.25 dB at<br>5730.000 MHz |

**Reviewed by: Joseph Lin**

**Report Producer: Maggie Chiang**



# 1 General Description

## 1.1 Product Feature of Equipment Under Test

GSM/WCDMA/LTE, Bluetooth, Wi-Fi 2.4GHz 802.11b/g/n, Wi-Fi 5GHz 802.11a/n/ac, FM Receiver, NFC, WiGig, and GNSS

| Product Specification subjective to this standard |                                                                                                                                                                                            |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Antenna Type                                      | WWAN: PIFA Antenna<br>WLAN: PIFA Antenna<br>Bluetooth: PIFA Antenna<br>GPS/Glonass/Galileo/BDS: PIFA Antenna<br>NFC: Loop Antenna<br>WiGig: Patch Antenna<br>FM: using earphone as antenna |

## 1.2 Modification of EUT

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

## 1.3 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1190 and TW0007 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

|                    |                                                                                                                       |
|--------------------|-----------------------------------------------------------------------------------------------------------------------|
| Test Site          | SPORTON INTERNATIONAL INC.                                                                                            |
| Test Site Location | No.52, Huaya 1st Rd., Guishan Dist.,<br>Taoyuan City, Taiwan (R.O.C.)<br>TEL: +886-3-327-3456<br>FAX: +886-3-328-4978 |
| Test Site No.      | Sporton Site No.                                                                                                      |
|                    | TH03-HY                                                                                                               |

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

|                    |                                                                                                                                           |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Test Site          | SPORTON INTERNATIONAL INC.                                                                                                                |
| Test Site Location | 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 |
| Test Site No.      | Sporton Site No.                                                                                                                          |
|                    | 03CH13-HY                                                                                                                                 |

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



## **1.4 Applicable Standards**

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

- ♦ ANSI C63.26-2015
- ♦ ANSI / TIA-603-E
- ♦ 47 CFR Part 2, 22(H), 24(E), 27(L)
- ♦ FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- ♦ 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 v03r01 with maximum output power.

For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane and Y Plane for LAT antenna; Y Plane for UAT antenna) were recorded in this report.

Radiated emissions were investigated as following frequency range:

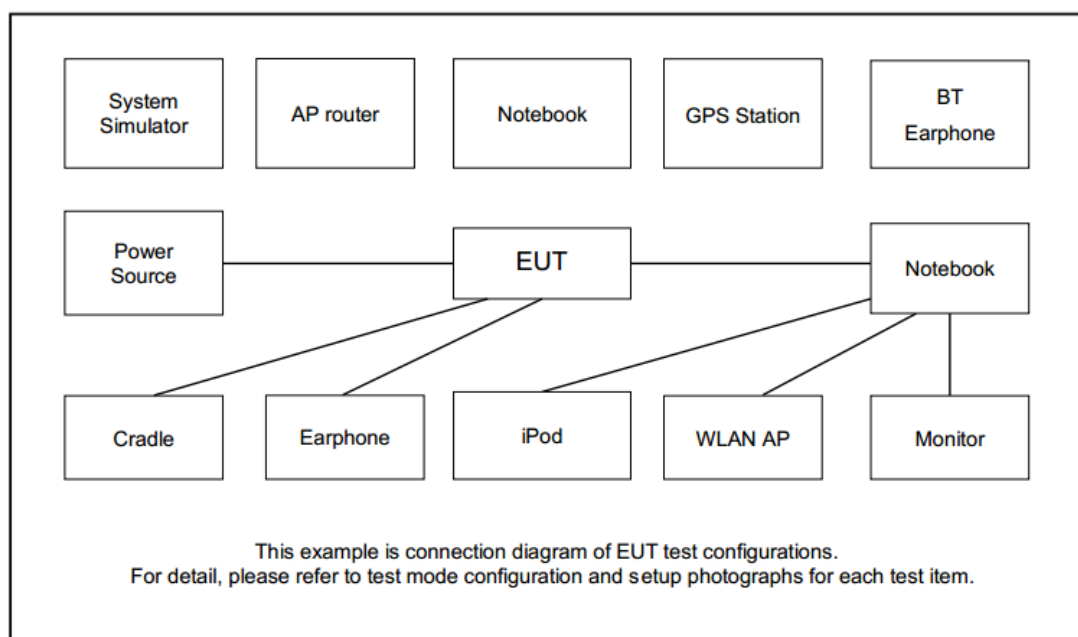
1. 30 MHz to 9000 MHz for GSM850 and WCDMA Band V.
2. 30 MHz to 18000 MHz for WCDMA Band IV.
3. 30 MHz to 19100 MHz for GSM1900 and WCDMA Band II.

All modes and data rates and positions were investigated.

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

| Test Modes    |                     |                     |
|---------------|---------------------|---------------------|
| Band          | Radiated TCs        | Conducted TCs       |
| GSM 850       | ■ GSM Link          | ■ GSM Link          |
|               | ■ EDGE Class 8 Link | ■ EDGE Class 8 Link |
| GSM 1900      | ■ GSM Link          | ■ GSM Link          |
|               | ■ EDGE Class 8 Link | ■ EDGE Class 8 Link |
| WCDMA Band V  | ■ RMC 12.2Kbps Link | ■ RMC 12.2Kbps Link |
| WCDMA Band II | ■ RMC 12.2Kbps Link | ■ RMC 12.2Kbps Link |
| WCDMA Band IV | ■ RMC 12.2Kbps Link | ■ RMC 12.2Kbps Link |

## 2.2 Connection Diagram of Test System



## 2.3 Support Unit used in test configuration

| Item | Equipment        | Trade Name | Model No. | FCC ID | Data Cable | Power Cord        |
|------|------------------|------------|-----------|--------|------------|-------------------|
| 1.   | System Simulator | R&S        | CMU 200   | N/A    | N/A        | Unshielded, 1.8 m |

## 2.4 Measurement Results Explanation Example

### For all conducted test items:

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

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

*Offset = RF cable loss + attenuator factor.*

The following shows an offset computation example with RF cable loss 4.2 dB and a 10dB attenuator.

Example:

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



## 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    | 661    | 810     |
|                  | Frequency              | 1850.2 | 1880.0 | 1909.8  |
| WCDMA<br>Band II | Channel                | 9262   | 9400   | 9538    |
|                  | Frequency              | 1852.4 | 1880.0 | 1907.6  |
| WCDMA<br>Band IV | Channel                | 1312   | 1413   | 1513    |
|                  | Frequency              | 1712.4 | 1732.6 | 1752.6  |

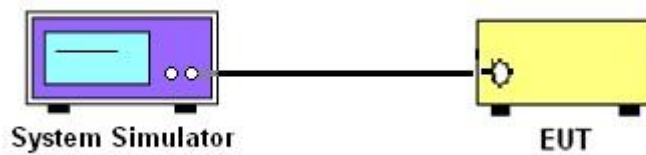
### 3 Conducted Test Result

#### 3.1 Measuring Instruments

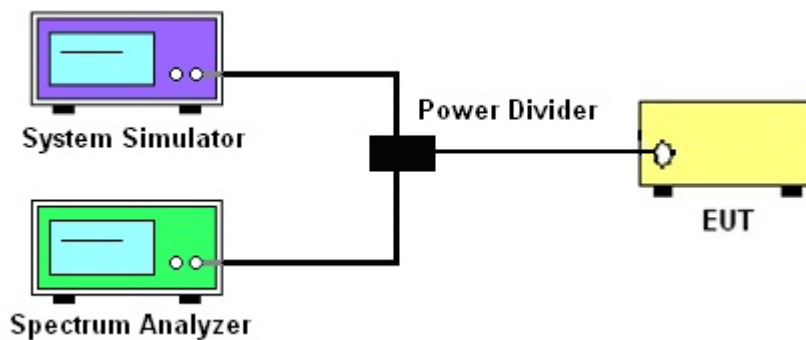
See list of measuring instruments of this test report.

##### 3.1.1 Test Setup

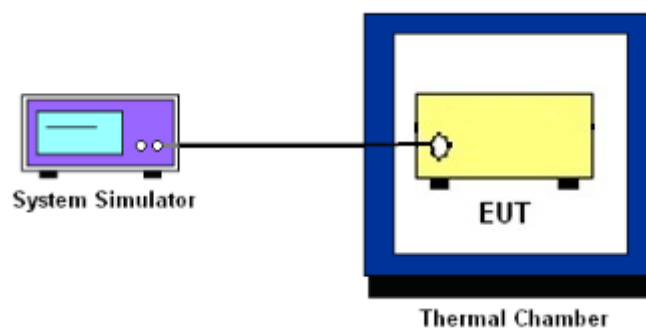
##### 3.1.2 Conducted Output Power



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



##### 3.1.4 Frequency Stability



##### 3.1.5 Test Result of Conducted Test

Please refer to Appendix A.

## 3.2 Conducted Output Power and ERP/EIRP

### 3.2.1 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.

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

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

### 3.2.2 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.



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

#### **3.3.1 Description of the PAR Measurement**

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

#### **3.3.2 Test Procedures**

The testing follows FCC KDB 971168 D01 v03r01 Section 5.7.1

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

### 3.4 99% Occupied Bandwidth and 26dB Bandwidth Measurement

#### 3.4.1 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.

#### 3.4.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 4.2

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. 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.
3. 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.
4. Set the detection mode to peak, and the trace mode to max hold.
5. 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)
6. Determine the “-26 dB down amplitude” as equal to (Reference Value – X).
7. 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.
8. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.



## **3.5 Conducted Band Edge**

### **3.5.1 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.

### **3.5.2 Test Procedures**

The testing follows FCC KDB 971168 D01 v03r01 Section 6.0.

1. The EUT was connected to the spectrum analyzer and system simulator via a power divider.
2. 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.
3. The band edges of low and high channels for the highest RF powers were measured.
4. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
5. The limit line is derived from  $43 + 10\log(P)$  dB below the transmitter power P(Watts)



## **3.6 Conducted Spurious Emission**

### **3.6.1 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.

### **3.6.2 Test Procedures**

The testing follows FCC KDB 971168 D01 v03r01 Section 6.0.

1. The EUT was connected to the spectrum analyzer and system simulator via a power divider.
2. 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.
3. The middle channel for the highest RF power within the transmitting frequency was measured.
4. The conducted spurious emission for the whole frequency range was taken.
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)



### **3.7 Frequency Stability**

#### **3.7.1 Description of Frequency Stability Measurement**

22.355

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.

24.235 & 27.54

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

#### **3.7.2 Test Procedures for Temperature Variation**

The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.

1. The EUT was set up in the thermal chamber and connected with the system simulator.
2. 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.
3. 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.

#### **3.7.3 Test Procedures for Voltage Variation**

The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.

1. The EUT was placed in a temperature chamber at  $20\pm 5^{\circ}\text{C}$  and connected with the system simulator.
2. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
3. The variation in frequency was measured for the worst case.

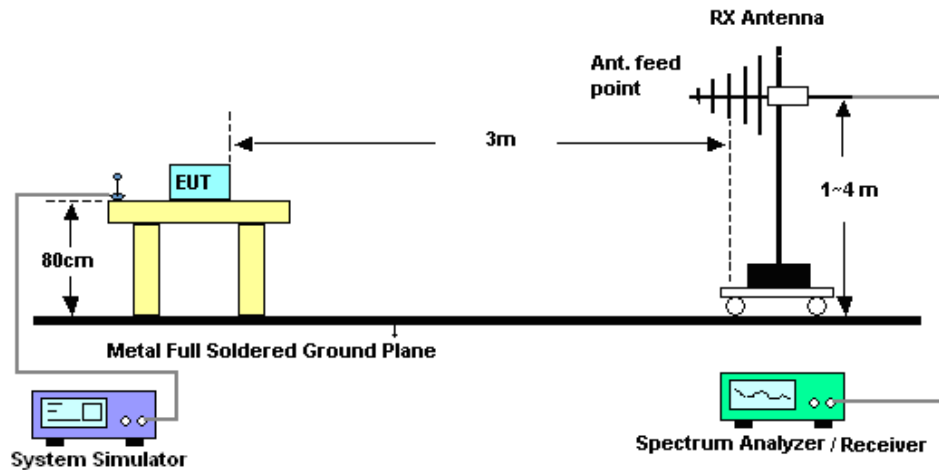
## 4 Radiated Test Items

### 4.1 Measuring Instruments

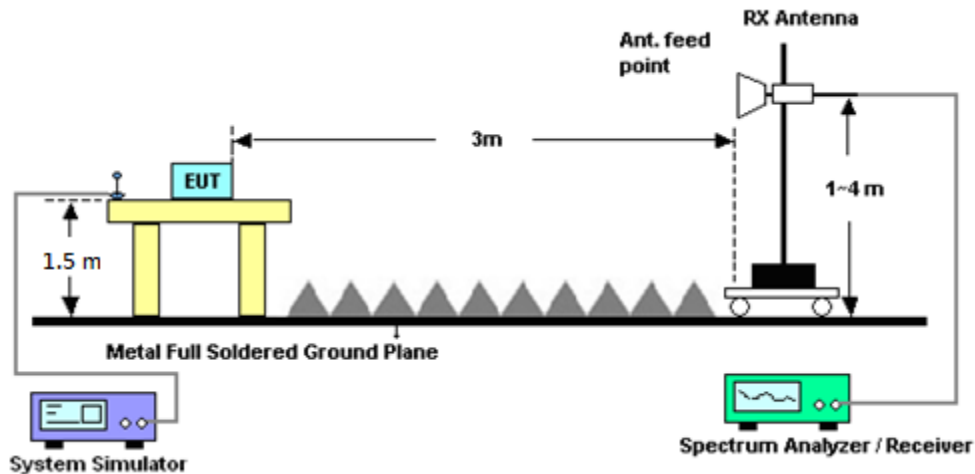
See list of measuring instruments of this test report.

### 4.2 Test Setup

For radiated test from 30MHz to 1GHz



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**

The testing follows FCC KDB 971168 D01 v03r01 Section 5.8 and ANSI / TIA-603-E Section 2.2.12.

1. 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.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. 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.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10.  $EIRP \text{ (dBm)} = S.G. \text{ Power} - Tx \text{ Cable Loss} + Tx \text{ Antenna Gain}$
11.  $ERP \text{ (dBm)} = EIRP - 2.15$
12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
13. 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. 29, 2018    | Jul. 29, 2018                   | Jun. 28, 2019 | Conducted (TH03-HY)   |
| Temperature Chamber       | ESPEC             | SU-641                       | 92013721         | -30℃ ~70℃                      | Dec. 06, 2017    | Jul. 29, 2018                   | Dec. 05, 2019 | Conducted (TH03-HY)   |
| Programmable Power Supply | GW Instek         | PSS-2005                     | EL883644         | Voltage:0~20V;<br>Current:0~5A | Dec. 06, 2017    | Jul. 29, 2018                   | Dec. 05, 2019 | Conducted (TH03-HY)   |
| Base Station (Measure)    | Rohde & Schwarz   | CMU200                       | 117995           | GSM / GPRS / WCDMA / CDMA      | Aug. 09, 2017    | Jul. 29, 2018                   | Aug. 08, 2018 | Conducted (TH03-HY)   |
| Amplifier                 | Sonoma-Instrument | 310 N                        | 187282           | 9KHz~1GHz                      | Dec. 21, 2016    | Jun. 29, 2018~<br>Jul. 21, 2018 | Dec. 20, 2018 | Radiation (03CH13-HY) |
| Bilog Antenna             | TESEQ             | CBL 6111D&00800N 1D01N-06    | 40103&07         | 30MHz to 1GHz                  | Jan. 10, 2018    | Jun. 29, 2018~<br>Jul. 21, 2018 | Jan. 09, 2019 | Radiation (03CH13-HY) |
| Horn Antenna              | SCHWARZBECK       | BBHA 9120 D                  | 9120D-1241       | 1GHz ~ 18GHz                   | Jun. 29, 2018    | Jun. 29, 2018~<br>Jul. 21, 2018 | Jun. 28, 2019 | Radiation (03CH13-HY) |
| Preamplifier              | Keysight          | 83017A                       | MY53270147       | 1GHz~26.5GHz                   | Feb. 02, 2018    | Jun. 29, 2018~<br>Jul. 21, 2018 | Feb. 01, 2019 | Radiation (03CH13-HY) |
| Spectrum Analyzer         | Keysight          | N9010A                       | MY55370526       | 10Hz~44GHz                     | Mar. 15, 2018    | Jun. 29, 2018~<br>Jul. 21, 2018 | Mar. 14, 2019 | Radiation (03CH13-HY) |
| Controller                | EMEC              | EM1000                       | N/A              | Control Turn table & Ant Mast  | N/A              | Jun. 29, 2018~<br>Jul. 21, 2018 | N/A           | Radiation (03CH13-HY) |
| Antenna Mast              | EMEC              | AM-BS-4500-B                 | N/A              | 1m~4m                          | N/A              | Jun. 29, 2018~<br>Jul. 21, 2018 | N/A           | Radiation (03CH13-HY) |
| Turn Table                | EMEC              | TT2000                       | N/A              | 0~360 Degree                   | N/A              | Jun. 29, 2018~<br>Jul. 21, 2018 | N/A           | Radiation (03CH13-HY) |
| Horn Antenna              | SCHWARZBECK       | BBHA 9120 D                  | 9120D-1522       | 1G~18GHz                       | May 10, 2018     | Jun. 29, 2018~<br>Jul. 21, 2018 | May 09, 2019  | Radiation (03CH13-HY) |
| SHF-EHF Horn Antenna      | SCHWARZBECK       | BBHA 9170                    | BBHA9170584      | 18GHz- 40GHz                   | Nov. 27, 2017    | Jun. 29, 2018~<br>Jul. 21, 2018 | Nov. 26, 2018 | Radiation (03CH13-HY) |
| Signal Generator          | Anritsu           | MG3694C                      | 163401           | 0.1Hz~40GHz                    | Jan. 15, 2018    | Jun. 29, 2018~<br>Jul. 21, 2018 | Jan. 14, 2019 | Radiation (03CH13-HY) |
| RF Cable                  | HUBER + SUHNER    | SUCOFLEX 126E                | 0030/126E        | 30M-18G                        | Jan. 22, 2018    | Jun. 29, 2018~<br>Jul. 21, 2018 | Jan. 21, 2019 | Radiation (03CH13-HY) |
| RF Cable                  | HUBER + SUHNER    | SUCOFLEX 104                 | 335041/4         | 30M-18G                        | Jan. 22, 2018    | Jun. 29, 2018~<br>Jul. 21, 2018 | Jan. 21, 2019 | Radiation (03CH13-HY) |
| RF Cable                  | HUBER + SUHNER    | SUCOFLEX 104                 | MY24961/4        | 30M~18GHz                      | Jan. 22, 2018    | Jun. 29, 2018~<br>Jul. 21, 2018 | Jan. 21, 2019 | Radiation (03CH13-HY) |
| RF Cable                  | HUBER + SUHNER    | SUCOFLEX 102                 | 505134/2         | 30M~40GHz                      | Oct. 17, 2017    | Jun. 29, 2018~<br>Jul. 21, 2018 | Oct. 16, 2018 | Radiation (03CH13-HY) |
| RF Cable                  | HUBER + SUHNER    | SUCOFLEX 102                 | 800740/2         | 30M~40GHz                      | Oct. 17, 2017    | Jun. 29, 2018~<br>Jul. 21, 2018 | Oct. 16, 2018 | Radiation (03CH13-HY) |
| Software                  | AUDIX             | E3 6.2009-8-24c              | RK-001124        | N/A                            | N/A              | Jun. 29, 2018~<br>Jul. 21, 2018 | N/A           | Radiation (03CH13-HY) |
| Preamplifier              | Jet-Power         | JPA0118-55-303               | 1710001800054001 | 1GHz~18GHz                     | Apr. 16, 2018    | Jun. 29, 2018~<br>Jul. 21, 2018 | Apr. 15, 2019 | Radiation (03CH13-HY) |
| Amplifier                 | MITEQ             | TTA1840-35-HG                | 1871923          | 18GHz~40GHz, VSWR : 2.5:1 max  | Jul. 18, 2017    | Jun. 29, 2018~<br>Jul. 15, 2018 | Jul. 17, 2018 | Radiation (03CH13-HY) |
| Amplifier                 | MITEQ             | TTA1840-35-HG                | 1871923          | 18GHz~40GHz, VSWR : 2.5:1 max  | Jul. 16, 2018    | Jul. 16, 2018~<br>Jul. 21, 2018 | Jul. 15, 2019 | Radiation (03CH13-HY) |
| Filter                    | Wainwright        | WLKS1200-8SS                 | SN3              | 1.2G Low Pass                  | Nov. 21, 2017    | Jun. 29, 2018~<br>Jul. 21, 2018 | Nov. 20, 2018 | Radiation (03CH13-HY) |
| Filter                    | Wainwright        | WHKX12-1080-1200-1500-60SS   | SN2              | 1.2G High Pass                 | Sep. 18, 2017    | Jun. 29, 2018~<br>Jul. 21, 2018 | Sep. 17, 2018 | Radiation (03CH13-HY) |
| Filter                    | Wainwright        | WHKX12-2700-3000-18000-60SS  | SN3              | 2.7G High Pass                 | Sep. 18, 2017    | Jun. 29, 2018~<br>Jul. 21, 2018 | Sep. 17, 2018 | Radiation (03CH13-HY) |
| Notch Filter              | Wainwright        | WRCD1710-1980-10-40-10SSK    | SN1              | 1710-1980                      | Nov. 03, 2017    | Jun. 29, 2018~<br>Jul. 21, 2018 | Nov. 02, 2018 | Radiation (03CH13-HY) |
| Notch Filter              | Wainwright        | WTRCT5-824-849-20-70-60SSK   | SN1              | 824-849                        | May 22, 2018     | Jun. 29, 2018~<br>Jul. 21, 2018 | May 21, 2019  | Radiation (03CH13-HY) |
| Notch Filter              | Wainwright        | WTRCT10-2500-2570-20-40-40SS | SN1              | 2500-2570                      | May 22, 2018     | Jun. 29, 2018~<br>Jul. 21, 2018 | May 21, 2019  | Radiation (03CH13-HY) |

## 6 Uncertainty of Evaluation

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

|                                                                         |      |
|-------------------------------------------------------------------------|------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 3.07 |
|-------------------------------------------------------------------------|------|

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

|                                                                         |      |
|-------------------------------------------------------------------------|------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 3.48 |
|-------------------------------------------------------------------------|------|

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

|                                                                         |      |
|-------------------------------------------------------------------------|------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 3.92 |
|-------------------------------------------------------------------------|------|



## 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                          | 32.51  | 32.71 | 32.60 | 29.40   | 29.54 | 29.67  |
| GPRS class 8                 | 32.44  | 32.66 | 32.60 | 29.36   | 29.52 | 29.66  |
| GPRS class 10                | 32.25  | 32.49 | 32.56 | 29.10   | 29.32 | 29.52  |
| GPRS class 11                | -      | -     | -     | -       | -     | -      |
| GPRS class 12                | -      | -     | -     | -       | -     | -      |
| EGPRS class 8                | 26.74  | 26.17 | 25.78 | 24.75   | 24.66 | 24.86  |
| EGPRS class 10               | 26.54  | 26.12 | 25.69 | 24.66   | 24.56 | 24.78  |
| EGPRS class 11               | -      | -     | -     | -       | -     | -      |
| EGPRS class 12               | -      | -     | -     | -       | -     | -      |

| 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                    | 23.43        | 23.22 | 23.14 | 24.41         | 24.29 | 23.94  |
| HSDPA Subtest-1              | 22.43        | 22.33 | 22.14 | 23.41         | 23.30 | 22.95  |
| HSDPA Subtest-2              | 22.45        | 22.32 | 22.15 | 23.42         | 23.30 | 22.94  |
| HSDPA Subtest-3              | 21.47        | 21.84 | 21.65 | 22.96         | 22.84 | 22.50  |
| HSDPA Subtest-4              | 21.96        | 21.76 | 21.65 | 22.94         | 22.85 | 22.58  |
| HSUPA Subtest-1              | 22.42        | 22.31 | 22.12 | 23.42         | 23.34 | 22.96  |
| HSUPA Subtest-2              | 20.43        | 20.34 | 20.13 | 21.46         | 21.36 | 21.12  |
| HSUPA Subtest-3              | 21.45        | 21.35 | 21.12 | 22.47         | 22.37 | 22.09  |
| HSUPA Subtest-4              | 20.43        | 20.32 | 20.11 | 21.46         | 21.34 | 21.10  |
| HSUPA Subtest-5              | 22.45        | 22.32 | 22.15 | 23.46         | 23.35 | 23.09  |

| Conducted Power (*Unit: dBm) |               |        |        |
|------------------------------|---------------|--------|--------|
| Band                         | WCDMA Band IV |        |        |
| Channel                      | 1312          | 1413   | 1513   |
| Frequency                    | 1712.4        | 1732.6 | 1752.6 |
| RMC 12.2K                    | 24.14         | 24.13  | 24.09  |
| HSDPA Subtest-1              | 23.14         | 23.15  | 23.20  |
| HSDPA Subtest-2              | 23.17         | 23.25  | 23.22  |
| HSDPA Subtest-3              | 22.66         | 22.78  | 22.73  |
| HSDPA Subtest-4              | 22.67         | 22.71  | 22.74  |
| HSUPA Subtest-1              | 23.19         | 23.28  | 23.24  |
| HSUPA Subtest-2              | 21.20         | 21.30  | 21.25  |
| HSUPA Subtest-3              | 22.22         | 22.29  | 22.25  |
| HSUPA Subtest-4              | 21.20         | 21.30  | 21.24  |
| HSUPA Subtest-5              | 23.19         | 23.29  | 23.24  |



## A2. GSM

### Peak-to-Average Ratio

| Mode       | GSM850 |              | Limit: 13dB |
|------------|--------|--------------|-------------|
| Mod.       | GSM    | EDGE class 8 | Result      |
| Lowest CH  | 0.32   | 3.40         | PASS        |
| Middle CH  | 0.28   | 3.44         |             |
| Highest CH | 0.32   | 3.44         |             |

| Mode       | GSM1900 |              | Limit: 13dB |
|------------|---------|--------------|-------------|
| Mod.       | GSM     | EDGE class 8 | Result      |
| Lowest CH  | 0.32    | 3.56         | PASS        |
| Middle CH  | 0.32    | 3.56         |             |
| Highest CH | 0.28    | 3.56         |             |



| GSM850 (GSM)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | GSM850 (EDGE class 8) |  |
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| Lowest Channel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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| 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|  |                       |  |



| GSM1900 (GSM)                                                                                                                                                                                                                                                                                                                                                              |  | GSM1900 (EDGE class 8)                                                                                                                                                                                                                                                                                                                                                     |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Lowest Channel                                                                                                                                                                                                                                                                                                                                                             |  | Lowest Channel                                                                                                                                                                                                                                                                                                                                                             |  |
| <p>Ref: 35 dBm    Att: 30 dB    AGT: 3.125 ms</p> <p>Center: 1.8502 GHz    2 dB/    Mean: Per + 20 dB</p> <p>Complementary Cumulative Distribution Function (100000 samples)</p> <p>Trace 1</p> <p>Mean: 29.17 dBm<br/>Peak: 29.47 dBm<br/>Crest: 0.30 dB</p> <p>10 %: 0.20 dB<br/>1 %: 0.28 dB<br/>.1 %: 0.32 dB<br/>.01 %: 0.32 dB</p> <p>Date: 29.JUL.2018 10:46:57</p> |  | <p>Ref: 35 dBm    Att: 30 dB    AGT: 3.125 ms</p> <p>Center: 1.8502 GHz    2 dB/    Mean: Per + 20 dB</p> <p>Complementary Cumulative Distribution Function (100000 samples)</p> <p>Trace 1</p> <p>Mean: 24.04 dBm<br/>Peak: 27.70 dBm<br/>Crest: 3.66 dB</p> <p>10 %: 2.80 dB<br/>1 %: 3.44 dB<br/>.1 %: 3.56 dB<br/>.01 %: 3.64 dB</p> <p>Date: 29.JUL.2018 14:45:33</p> |  |
| Middle Channel                                                                                                                                                                                                                                                                                                                                                             |  | Middle Channel                                                                                                                                                                                                                                                                                                                                                             |  |
| <p>Ref: 35 dBm    Att: 30 dB    AGT: 3.125 ms</p> <p>Center: 1.85 GHz    2 dB/    Mean: Per + 20 dB</p> <p>Complementary Cumulative Distribution Function (100000 samples)</p> <p>Trace 1</p> <p>Mean: 29.17 dBm<br/>Peak: 29.47 dBm<br/>Crest: 0.30 dB</p> <p>10 %: 0.20 dB<br/>1 %: 0.24 dB<br/>.1 %: 0.32 dB<br/>.01 %: 0.32 dB</p> <p>Date: 29.JUL.2018 10:47:13</p>   |  | <p>Ref: 35 dBm    Att: 30 dB    AGT: 3.125 ms</p> <p>Center: 1.85 GHz    2 dB/    Mean: Per + 20 dB</p> <p>Complementary Cumulative Distribution Function (100000 samples)</p> <p>Trace 1</p> <p>Mean: 24.01 dBm<br/>Peak: 27.63 dBm<br/>Crest: 3.62 dB</p> <p>10 %: 2.76 dB<br/>1 %: 3.44 dB<br/>.1 %: 3.56 dB<br/>.01 %: 3.64 dB</p> <p>Date: 29.JUL.2018 14:46:00</p>   |  |
| Highest Channel                                                                                                                                                                                                                                                                                                                                                            |  | Highest Channel                                                                                                                                                                                                                                                                                                                                                            |  |
| <p>Ref: 35 dBm    Att: 30 dB    AGT: 3.125 ms</p> <p>Center: 1.9098 GHz    2 dB/    Mean: Per + 20 dB</p> <p>Complementary Cumulative Distribution Function (100000 samples)</p> <p>Trace 1</p> <p>Mean: 28.85 dBm<br/>Peak: 29.12 dBm<br/>Crest: 0.27 dB</p> <p>10 %: 0.20 dB<br/>1 %: 0.24 dB<br/>.1 %: 0.28 dB<br/>.01 %: 0.28 dB</p> <p>Date: 29.JUL.2018 10:47:33</p> |  | <p>Ref: 35 dBm    Att: 30 dB    AGT: 3.125 ms</p> <p>Center: 1.9098 GHz    2 dB/    Mean: Per + 20 dB</p> <p>Complementary Cumulative Distribution Function (100000 samples)</p> <p>Trace 1</p> <p>Mean: 24.20 dBm<br/>Peak: 27.85 dBm<br/>Crest: 3.64 dB</p> <p>10 %: 2.76 dB<br/>1 %: 3.44 dB<br/>.1 %: 3.56 dB<br/>.01 %: 3.60 dB</p> <p>Date: 29.JUL.2018 14:46:16</p> |  |

**26dB Bandwidth**

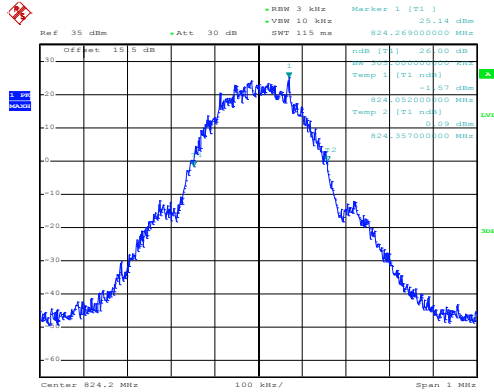
| Mode       | GSM850 |              |
|------------|--------|--------------|
| Mod.       | GSM    | EDGE class 8 |
| Lowest CH  | 0.305  | 0.302        |
| Middle CH  | 0.315  | 0.296        |
| Highest CH | 0.315  | 0.306        |

| Mode       | GSM1900 |              |
|------------|---------|--------------|
| Mod.       | GSM     | EDGE class 8 |
| Lowest CH  | 0.315   | 0.297        |
| Middle CH  | 0.314   | 0.301        |
| Highest CH | 0.292   | 0.303        |



## GSM850 (GSM)

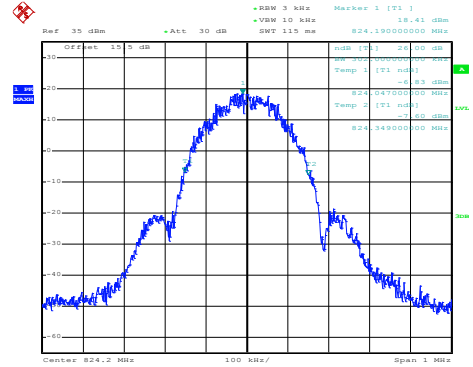
## Lowest Channel



Date: 29.JUL.2018 09:48:49

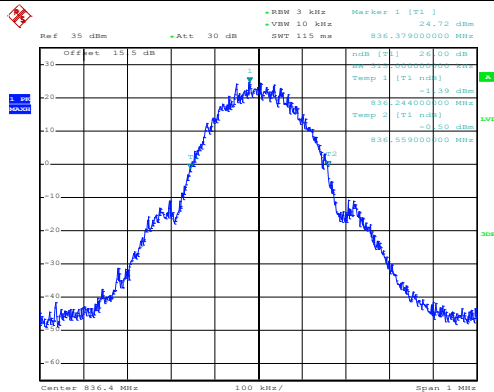
## GSM850 (EDGE class 8)

## Lowest Channel



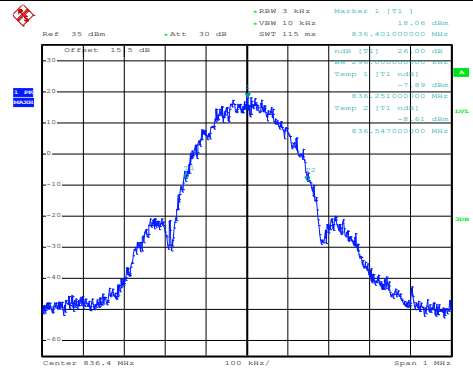
Date: 29.JUL.2018 14:09:49

## Middle Channel



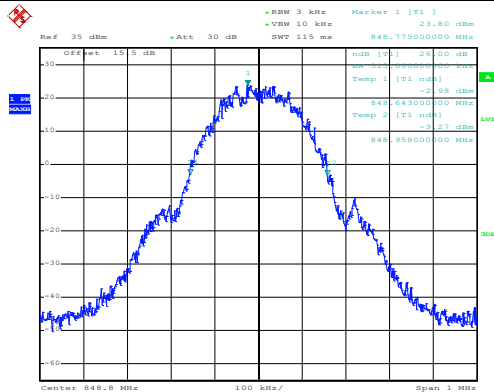
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## Middle Channel



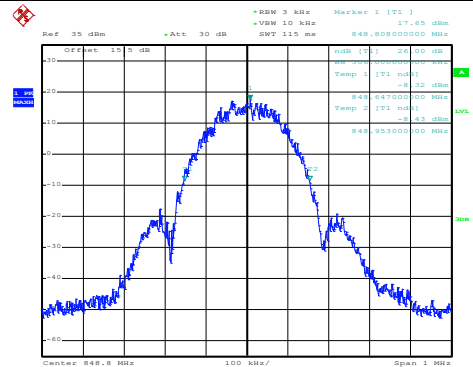
Date: 29.JUL.2018 14:10:23

## Highest Channel

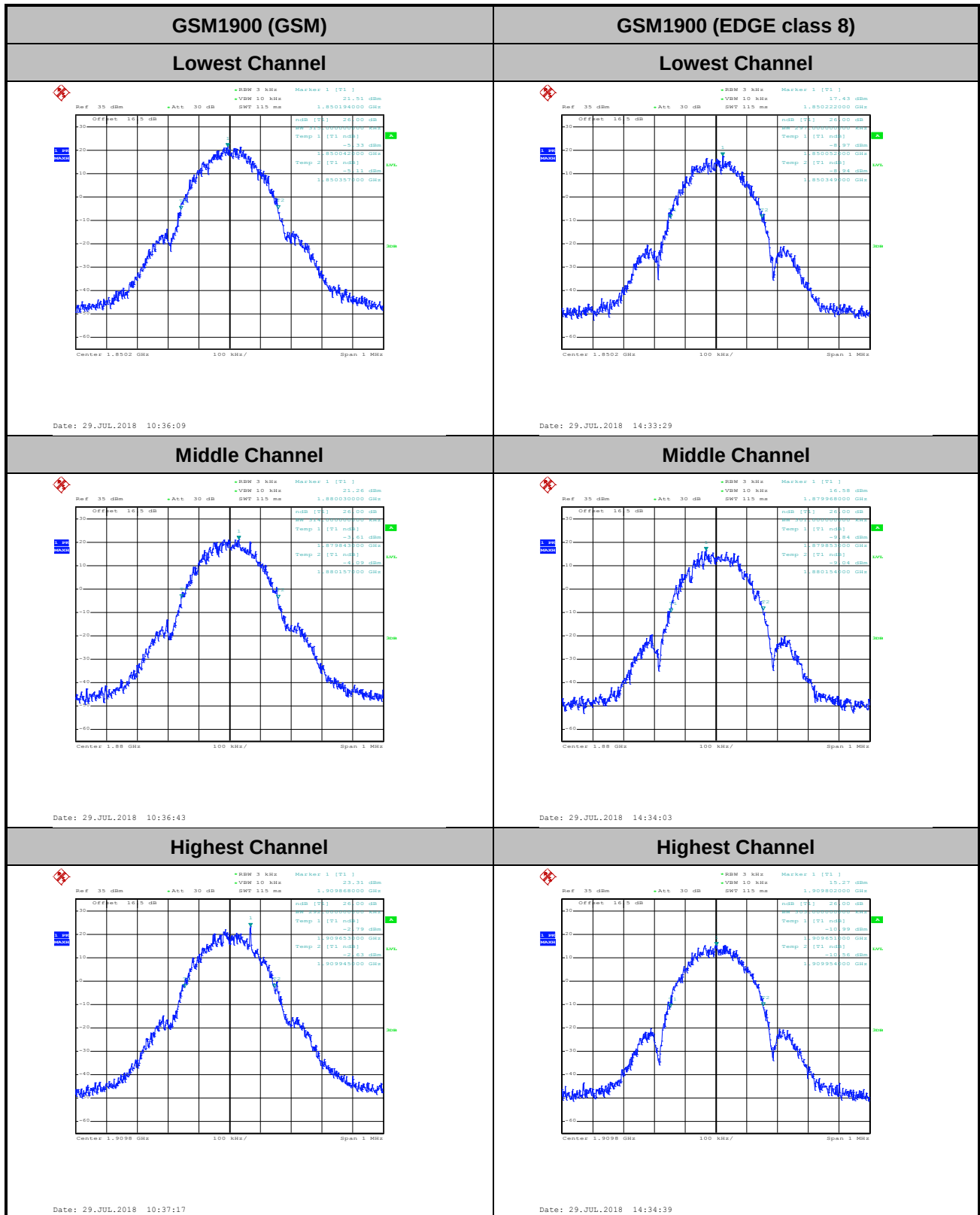


Date: 29.JUL.2018 09:50:08

## Highest Channel



Date: 29.JUL.2018 14:10:58



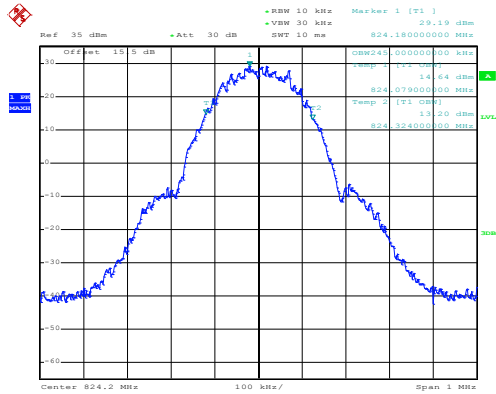
**Occupied Bandwidth**

| Mode       | GSM850 |              |
|------------|--------|--------------|
| Mod.       | GSM    | EDGE class 8 |
| Lowest CH  | 0.245  | 0.246        |
| Middle CH  | 0.245  | 0.245        |
| Highest CH | 0.244  | 0.241        |

| Mode       | GSM1900 |              |
|------------|---------|--------------|
| Mod.       | GSM     | EDGE class 8 |
| Lowest CH  | 0.244   | 0.244        |
| Middle CH  | 0.246   | 0.242        |
| Highest CH | 0.247   | 0.244        |

## GSM850 (GSM)

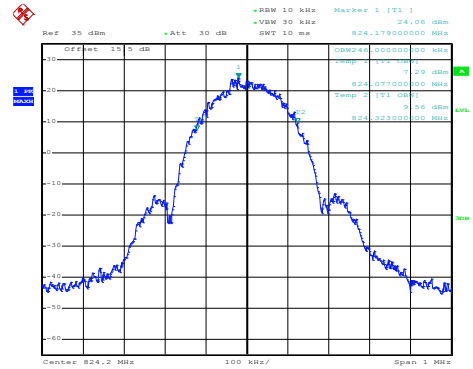
## Lowest Channel



Date: 29.JUL.2018 09:51:07

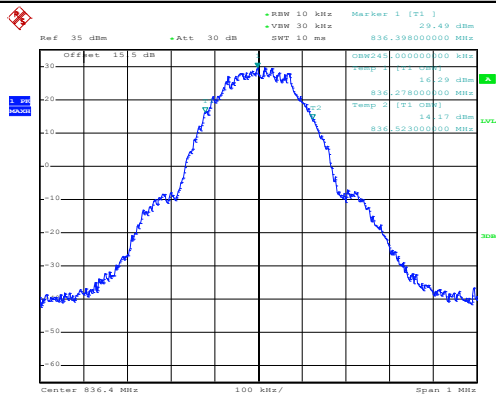
### GSM850 (EDGE class 8)

### Lowest Channel



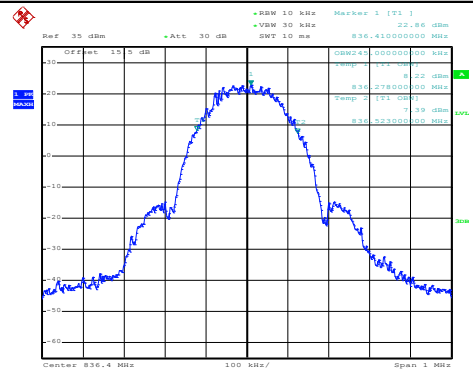
Date: 29.JUL.2018 14:13:25

## Middle Channel



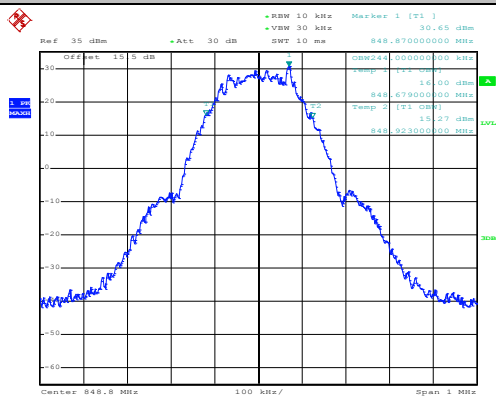
Date: 29.JUL.2018 09:51:42

## Middle Channel



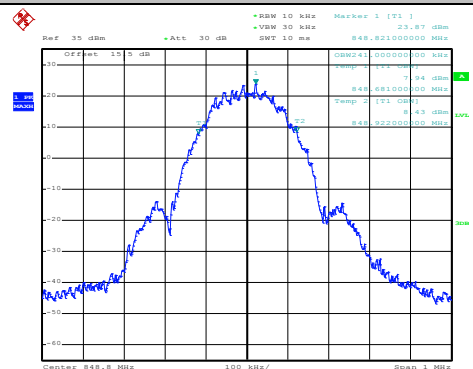
Date: 29.JUL.2018 14:14:00

### Highest Channel

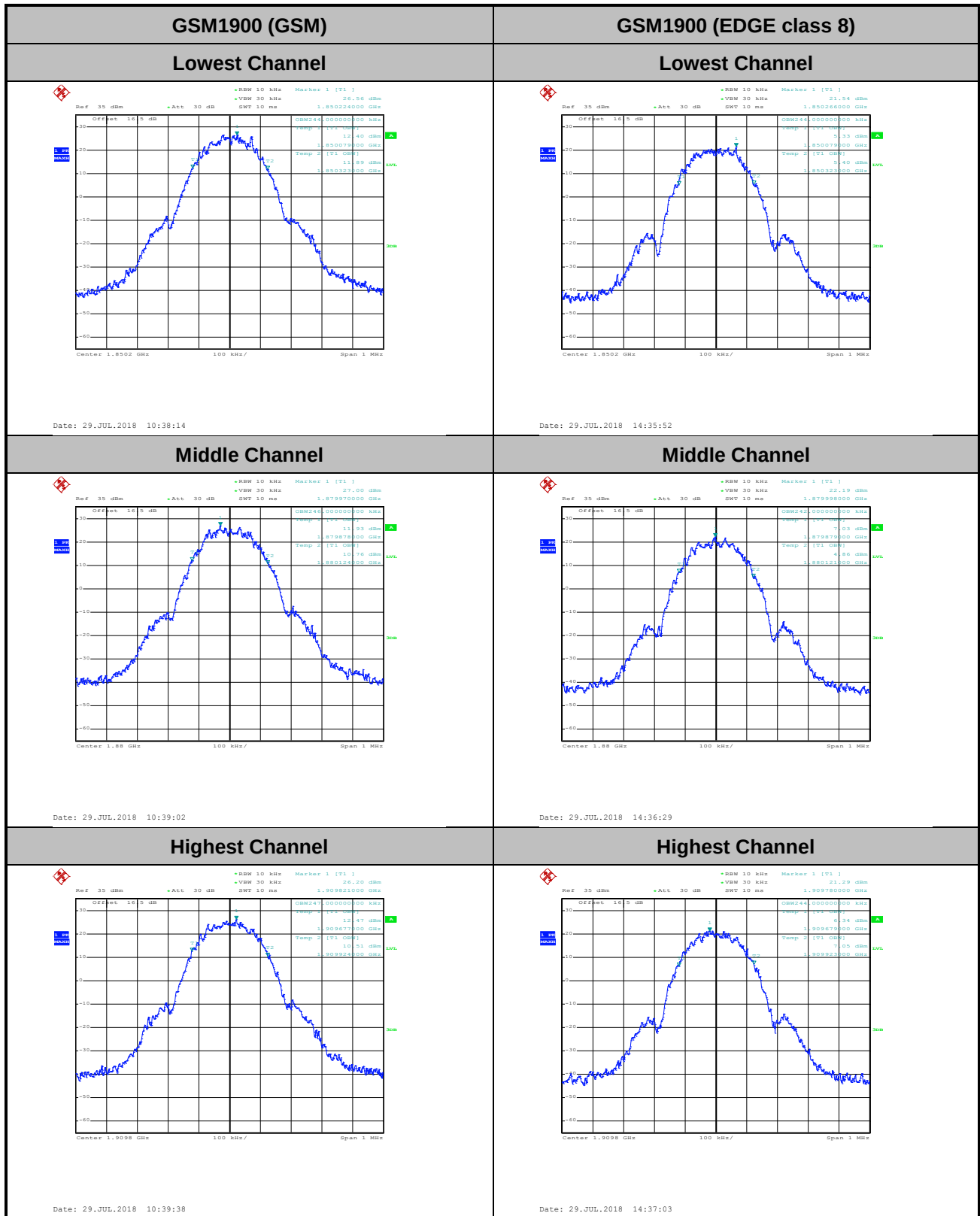


Date: 29.JUL.2018 09:52:25

## Highest Channel



Date: 29.JUL.2018 14:14:34

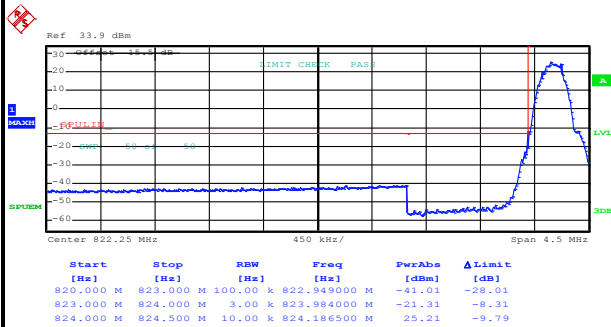




## Conducted Band Edge

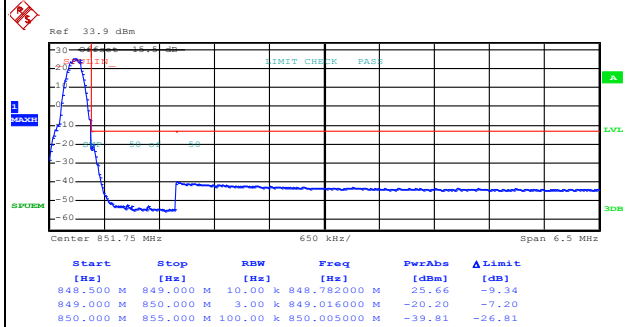
### GSM850 (GSM)

#### Lowest Band Edge



Date: 29.JUL.2018 09:54:39

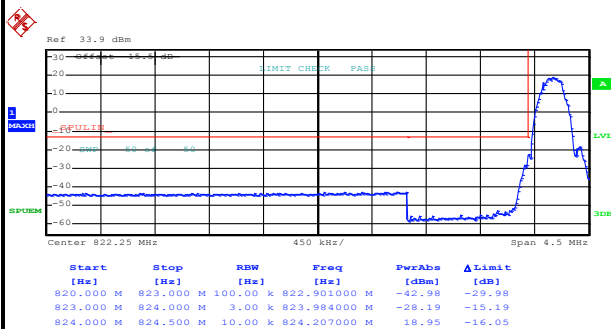
#### Highest Band Edge



Date: 29.JUL.2018 09:56:12

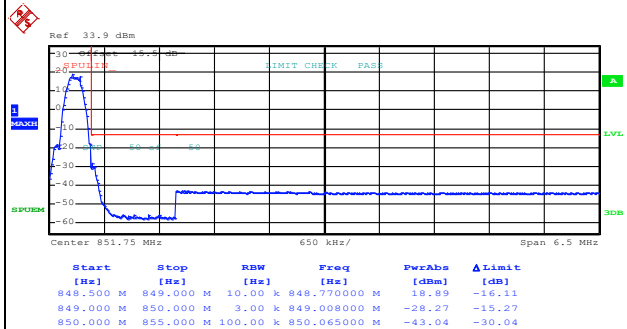
### GSM850 (EDGE class 8)

#### Lowest Band Edge



Date: 29.JUL.2018 14:17:55

#### Highest Band Edge

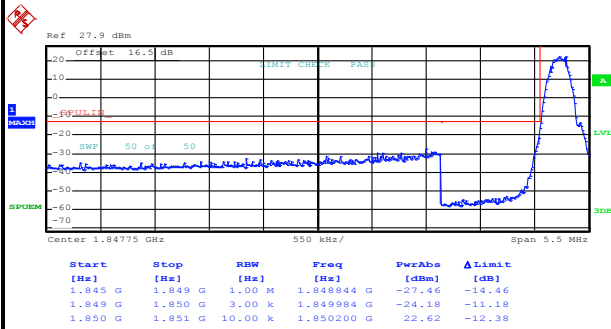


Date: 29.JUL.2018 14:19:29



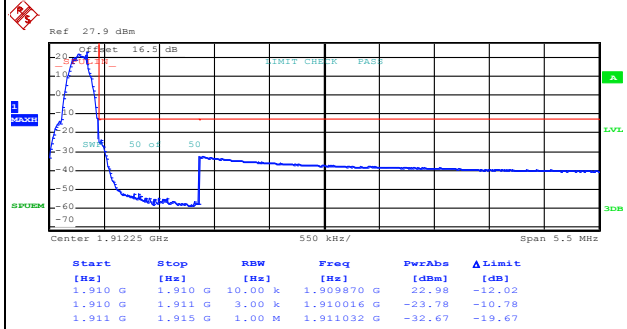
## GSM1900 (GSM)

## Lowest Band Edge



Date: 29.JUL.2018 10:41:24

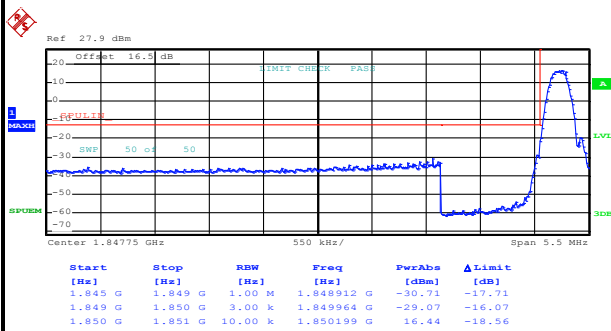
## Highest Band Edge



Date: 29.JUL.2018 10:42:57

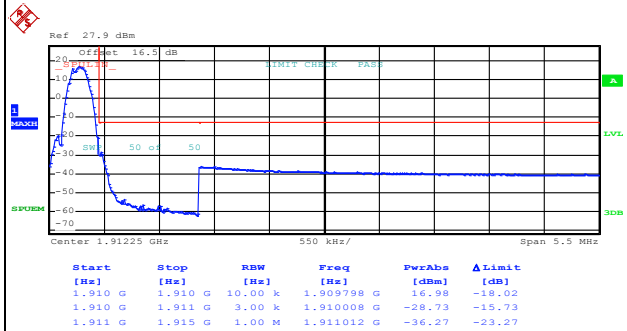
## GSM1900 (EDGE class 8)

## Lowest Band Edge



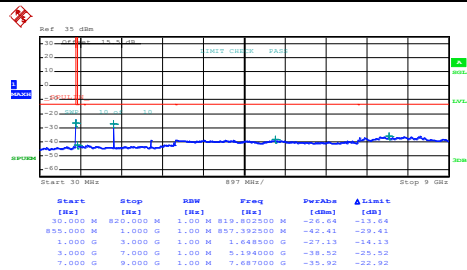
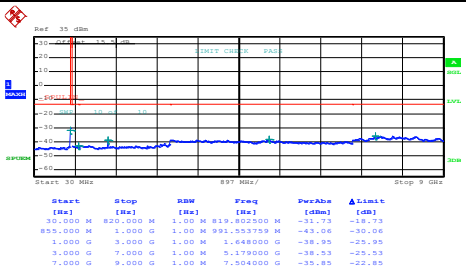
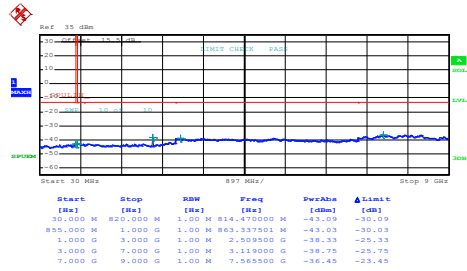
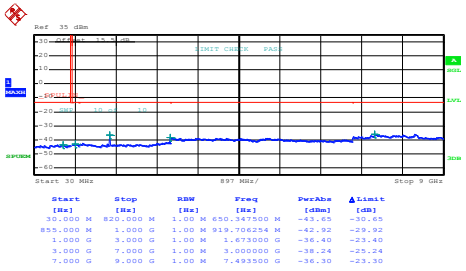
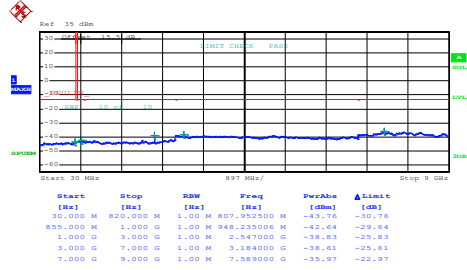
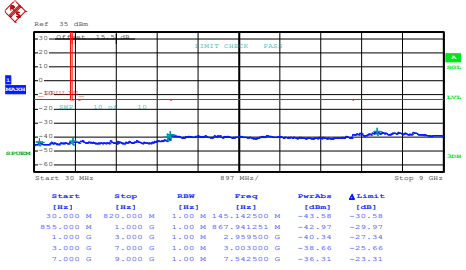
Date: 29.JUL.2018 14:38:38

## Highest Band Edge



Date: 29.JUL.2018 14:41:26

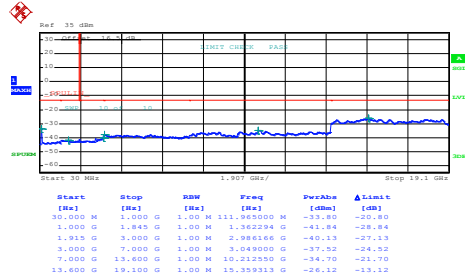
**Conducted Spurious Emission**

| GSM850 (GSM)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           | 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>-26.64</td><td>-13.64</td></tr><tr><td>835,000 M</td><td>1,000 G</td><td>1,00 M</td><td>857,392500 M</td><td>-42.41</td><td>-29.41</td></tr><tr><td>1,000 G</td><td>3,000 G</td><td>1,00 M</td><td>1,648000 G</td><td>-27.13</td><td>-14.13</td></tr><tr><td>3,000 G</td><td>7,000 G</td><td>1,00 M</td><td>5,194000 G</td><td>-38.52</td><td>-25.52</td></tr><tr><td>7,000 G</td><td>9,000 G</td><td>1,00 M</td><td>7,687000 G</td><td>-35.92</td><td>-22.92</td></tr></table><p>Date: 29.JUL.2018 09:57:31</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 | -26.64 | -13.64 | 835,000 M | 1,000 G | 1,00 M | 857,392500 M | -42.41 | -29.41 | 1,000 G | 3,000 G | 1,00 M | 1,648000 G | -27.13 | -14.13 | 3,000 G | 7,000 G | 1,00 M | 5,194000 G | -38.52 | -25.52 | 7,000 G | 9,000 G | 1,00 M | 7,687000 G | -35.92 | -22.92 | <div><table><tr><th>Start</th><th>Stop</th><th>RBW</th><th>Freq</th><th>PerAbn</th><th>ΔLimit</th></tr><tr><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[dBm]</th><th>[dB]</th></tr><tr><td>30,000 M</td><td>820,000 M</td><td>1,00 M</td><td>819,802500 M</td><td>-31.73</td><td>-18.73</td></tr><tr><td>835,000 M</td><td>1,000 G</td><td>1,00 M</td><td>991,553759 M</td><td>-43.06</td><td>-30.06</td></tr><tr><td>1,000 G</td><td>3,000 G</td><td>1,00 M</td><td>1,648000 G</td><td>-38.95</td><td>-25.95</td></tr><tr><td>3,000 G</td><td>7,000 G</td><td>1,00 M</td><td>5,179000 G</td><td>-38.53</td><td>-25.53</td></tr><tr><td>7,000 G</td><td>9,000 G</td><td>1,00 M</td><td>7,504000 G</td><td>-35.85</td><td>-22.85</td></tr></table><p>Date: 29.JUL.2018 14:20:43</p></div>   |  | Start | Stop | RBW | Freq | PerAbn | ΔLimit | [Hz] | [Hz] | [Hz] | [Hz] | [dBm] | [dB] | 30,000 M | 820,000 M | 1,00 M | 819,802500 M | -31.73 | -18.73 | 835,000 M | 1,000 G | 1,00 M | 991,553759 M | -43.06 | -30.06 | 1,000 G | 3,000 G | 1,00 M | 1,648000 G | -38.95 | -25.95 | 3,000 G | 7,000 G | 1,00 M | 5,179000 G | -38.53 | -25.53 | 7,000 G | 9,000 G | 1,00 M | 7,504000 G | -35.85 | -22.85 |
| Start                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Stop      | RBW                   | Freq         | PerAbn | ΔLimit |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| [Hz]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | [Hz]      | [Hz]                  | [Hz]         | [dBm]  | [dB]   |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 30,000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 820,000 M | 1,00 M                | 819,802500 M | -26.64 | -13.64 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 835,000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1,000 G   | 1,00 M                | 857,392500 M | -42.41 | -29.41 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 1,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3,000 G   | 1,00 M                | 1,648000 G   | -27.13 | -14.13 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 3,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 7,000 G   | 1,00 M                | 5,194000 G   | -38.52 | -25.52 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 7,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 9,000 G   | 1,00 M                | 7,687000 G   | -35.92 | -22.92 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| Start                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Stop      | RBW                   | Freq         | PerAbn | ΔLimit |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| [Hz]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | [Hz]      | [Hz]                  | [Hz]         | [dBm]  | [dB]   |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 30,000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 820,000 M | 1,00 M                | 819,802500 M | -31.73 | -18.73 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 835,000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1,000 G   | 1,00 M                | 991,553759 M | -43.06 | -30.06 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 1,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3,000 G   | 1,00 M                | 1,648000 G   | -38.95 | -25.95 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 3,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 7,000 G   | 1,00 M                | 5,179000 G   | -38.53 | -25.53 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 7,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 9,000 G   | 1,00 M                | 7,504000 G   | -35.85 | -22.85 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 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>814,470000 M</td><td>-43.09</td><td>-30.09</td></tr><tr><td>835,000 M</td><td>1,000 G</td><td>1,00 M</td><td>863,337501 M</td><td>-43.03</td><td>-30.03</td></tr><tr><td>1,000 G</td><td>3,000 G</td><td>1,00 M</td><td>2,509500 G</td><td>-38.33</td><td>-25.33</td></tr><tr><td>3,000 G</td><td>7,000 G</td><td>1,00 M</td><td>3,119000 G</td><td>-38.75</td><td>-25.75</td></tr><tr><td>7,000 G</td><td>9,000 G</td><td>1,00 M</td><td>7,583500 G</td><td>-36.45</td><td>-23.45</td></tr></table><p>Date: 29.JUL.2018 09:58:26</p></div>  |           | Start                 | Stop         | RBW    | Freq   | PerAbn | ΔLimit | [Hz] | [Hz] | [Hz] | [Hz] | [dBm] | [dB] | 30,000 M | 820,000 M | 1,00 M | 814,470000 M | -43.09 | -30.09 | 835,000 M | 1,000 G | 1,00 M | 863,337501 M | -43.03 | -30.03 | 1,000 G | 3,000 G | 1,00 M | 2,509500 G | -38.33 | -25.33 | 3,000 G | 7,000 G | 1,00 M | 3,119000 G | -38.75 | -25.75 | 7,000 G | 9,000 G | 1,00 M | 7,583500 G | -36.45 | -23.45 | <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>650,347500 M</td><td>-43.65</td><td>-30.65</td></tr><tr><td>835,000 M</td><td>1,000 G</td><td>1,00 M</td><td>919,786254 M</td><td>-42.92</td><td>-29.92</td></tr><tr><td>1,000 G</td><td>3,000 G</td><td>1,00 M</td><td>1,673000 G</td><td>-36.40</td><td>-23.40</td></tr><tr><td>3,000 G</td><td>7,000 G</td><td>1,00 M</td><td>3,000000 G</td><td>-38.24</td><td>-25.24</td></tr><tr><td>7,000 G</td><td>9,000 G</td><td>1,00 M</td><td>7,493500 G</td><td>-36.30</td><td>-23.30</td></tr></table><p>Date: 29.JUL.2018 14:21:36</p></div>  |  | Start | Stop | RBW | Freq | PerAbn | ΔLimit | [Hz] | [Hz] | [Hz] | [Hz] | [dBm] | [dB] | 30,000 M | 820,000 M | 1,00 M | 650,347500 M | -43.65 | -30.65 | 835,000 M | 1,000 G | 1,00 M | 919,786254 M | -42.92 | -29.92 | 1,000 G | 3,000 G | 1,00 M | 1,673000 G | -36.40 | -23.40 | 3,000 G | 7,000 G | 1,00 M | 3,000000 G | -38.24 | -25.24 | 7,000 G | 9,000 G | 1,00 M | 7,493500 G | -36.30 | -23.30 |
| Start                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Stop      | RBW                   | Freq         | PerAbn | ΔLimit |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| [Hz]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | [Hz]      | [Hz]                  | [Hz]         | [dBm]  | [dB]   |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 30,000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 820,000 M | 1,00 M                | 814,470000 M | -43.09 | -30.09 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 835,000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1,000 G   | 1,00 M                | 863,337501 M | -43.03 | -30.03 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 1,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3,000 G   | 1,00 M                | 2,509500 G   | -38.33 | -25.33 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 3,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 7,000 G   | 1,00 M                | 3,119000 G   | -38.75 | -25.75 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 7,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 9,000 G   | 1,00 M                | 7,583500 G   | -36.45 | -23.45 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| Start                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Stop      | RBW                   | Freq         | PerAbn | ΔLimit |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| [Hz]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | [Hz]      | [Hz]                  | [Hz]         | [dBm]  | [dB]   |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 30,000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 820,000 M | 1,00 M                | 650,347500 M | -43.65 | -30.65 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 835,000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1,000 G   | 1,00 M                | 919,786254 M | -42.92 | -29.92 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 1,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3,000 G   | 1,00 M                | 1,673000 G   | -36.40 | -23.40 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 3,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 7,000 G   | 1,00 M                | 3,000000 G   | -38.24 | -25.24 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 7,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 9,000 G   | 1,00 M                | 7,493500 G   | -36.30 | -23.30 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 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>807,852500 M</td><td>-43.76</td><td>-30.76</td></tr><tr><td>835,000 M</td><td>1,000 G</td><td>1,00 M</td><td>948,235006 M</td><td>-42.64</td><td>-29.64</td></tr><tr><td>1,000 G</td><td>3,000 G</td><td>1,00 M</td><td>2,547000 G</td><td>-38.83</td><td>-25.83</td></tr><tr><td>3,000 G</td><td>7,000 G</td><td>1,00 M</td><td>3,184000 G</td><td>-38.61</td><td>-25.61</td></tr><tr><td>7,000 G</td><td>9,000 G</td><td>1,00 M</td><td>7,589000 G</td><td>-35.97</td><td>-22.97</td></tr></table><p>Date: 29.JUL.2018 09:59:16</p></div> |           | Start                 | Stop         | RBW    | Freq   | PerAbn | ΔLimit | [Hz] | [Hz] | [Hz] | [Hz] | [dBm] | [dB] | 30,000 M | 820,000 M | 1,00 M | 807,852500 M | -43.76 | -30.76 | 835,000 M | 1,000 G | 1,00 M | 948,235006 M | -42.64 | -29.64 | 1,000 G | 3,000 G | 1,00 M | 2,547000 G | -38.83 | -25.83 | 3,000 G | 7,000 G | 1,00 M | 3,184000 G | -38.61 | -25.61 | 7,000 G | 9,000 G | 1,00 M | 7,589000 G | -35.97 | -22.97 | <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>145,142500 M</td><td>-43.58</td><td>-30.58</td></tr><tr><td>835,000 M</td><td>1,000 G</td><td>1,00 M</td><td>867,941251 M</td><td>-42.97</td><td>-29.97</td></tr><tr><td>1,000 G</td><td>3,000 G</td><td>1,00 M</td><td>2,993000 G</td><td>-40.34</td><td>-27.34</td></tr><tr><td>3,000 G</td><td>7,000 G</td><td>1,00 M</td><td>3,003000 G</td><td>-38.66</td><td>-25.66</td></tr><tr><td>7,000 G</td><td>9,000 G</td><td>1,00 M</td><td>7,542500 G</td><td>-36.31</td><td>-23.31</td></tr></table><p>Date: 29.JUL.2018 14:22:28</p></div> |  | Start | Stop | RBW | Freq | PerAbn | ΔLimit | [Hz] | [Hz] | [Hz] | [Hz] | [dBm] | [dB] | 30,000 M | 820,000 M | 1,00 M | 145,142500 M | -43.58 | -30.58 | 835,000 M | 1,000 G | 1,00 M | 867,941251 M | -42.97 | -29.97 | 1,000 G | 3,000 G | 1,00 M | 2,993000 G | -40.34 | -27.34 | 3,000 G | 7,000 G | 1,00 M | 3,003000 G | -38.66 | -25.66 | 7,000 G | 9,000 G | 1,00 M | 7,542500 G | -36.31 | -23.31 |
| Start                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Stop      | RBW                   | Freq         | PerAbn | ΔLimit |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| [Hz]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | [Hz]      | [Hz]                  | [Hz]         | [dBm]  | [dB]   |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 30,000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 820,000 M | 1,00 M                | 807,852500 M | -43.76 | -30.76 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 835,000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1,000 G   | 1,00 M                | 948,235006 M | -42.64 | -29.64 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 1,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3,000 G   | 1,00 M                | 2,547000 G   | -38.83 | -25.83 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 3,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 7,000 G   | 1,00 M                | 3,184000 G   | -38.61 | -25.61 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 7,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 9,000 G   | 1,00 M                | 7,589000 G   | -35.97 | -22.97 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| Start                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Stop      | RBW                   | Freq         | PerAbn | ΔLimit |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| [Hz]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | [Hz]      | [Hz]                  | [Hz]         | [dBm]  | [dB]   |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 30,000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 820,000 M | 1,00 M                | 145,142500 M | -43.58 | -30.58 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 835,000 M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1,000 G   | 1,00 M                | 867,941251 M | -42.97 | -29.97 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 1,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3,000 G   | 1,00 M                | 2,993000 G   | -40.34 | -27.34 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 3,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 7,000 G   | 1,00 M                | 3,003000 G   | -38.66 | -25.66 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |
| 7,000 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 9,000 G   | 1,00 M                | 7,542500 G   | -36.31 | -23.31 |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |       |      |     |      |        |        |      |      |      |      |       |      |          |           |        |              |        |        |           |         |        |              |        |        |         |         |        |            |        |        |         |         |        |            |        |        |         |         |        |            |        |        |



## GSM1900 (GSM)

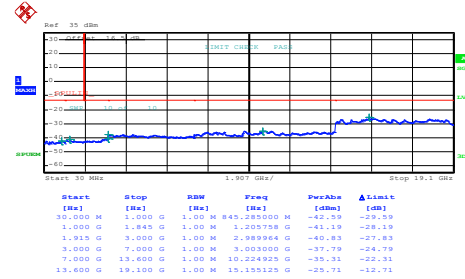
## Lowest Channel



Date: 29.JUL.2018 10:44:25

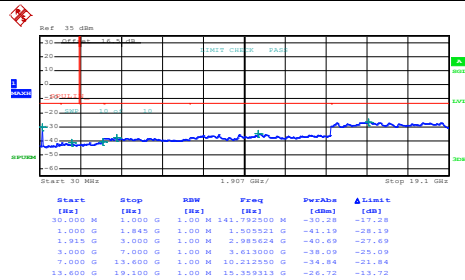
## GSM1900 (EDGE class 8)

## Lowest Channel



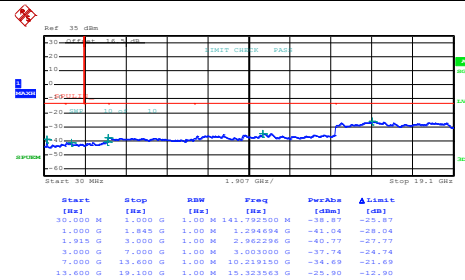
Date: 29.JUL.2018 14:43:03

## Middle Channel



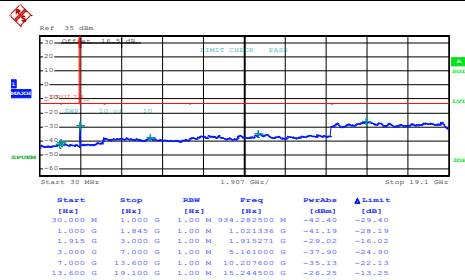
Date: 29.JUL.2018 10:45:18

## Middle Channel



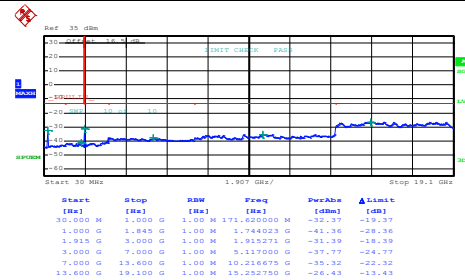
Date: 29.JUL.2018 14:43:56

## Highest Channel



Date: 29.JUL.2018 10:46:11

## Highest Channel



Date: 29.JUL.2018 14:44:48

**Frequency Stability**

| Test Conditions  | Middle Channel    | GSM850<br>(GSM) | GSM850<br>(EDGE class 8) | Limit<br>2.5ppm |
|------------------|-------------------|-----------------|--------------------------|-----------------|
| Temperature (°C) | Voltage (Volt)    | Deviation (ppm) |                          | Result          |
| 50               | Normal Voltage    | 0.0060          | 0.0048                   | PASS            |
| 40               | Normal Voltage    | 0.0024          | 0.0024                   |                 |
| 30               | Normal Voltage    | 0.0048          | 0.0036                   |                 |
| 20(Ref.)         | Normal Voltage    | 0.0000          | 0.0000                   |                 |
| 10               | Normal Voltage    | 0.0024          | 0.0024                   |                 |
| 0                | Normal Voltage    | 0.0311          | 0.0036                   |                 |
| -10              | Normal Voltage    | 0.0036          | 0.0024                   |                 |
| -20              | Normal Voltage    | 0.0048          | 0.0012                   |                 |
| -30              | Normal Voltage    | 0.0012          | 0.0036                   |                 |
| 20               | Maximum Voltage   | 0.0048          | 0.0024                   |                 |
| 20               | Normal Voltage    | 0.0024          | 0.0012                   |                 |
| 20               | Battery End Point | 0.0012          | 0.0000                   |                 |

| Test Conditions  | Middle Channel    | GSM1900<br>(GSM) | GSM1900<br>(EDGE class 8) | Limit<br>Note 2. |
|------------------|-------------------|------------------|---------------------------|------------------|
| Temperature (°C) | Voltage (Volt)    | Deviation (ppm)  |                           | Result           |
| 50               | Normal Voltage    | 0.0000           | 0.0027                    | PASS             |
| 40               | Normal Voltage    | 0.0016           | 0.0032                    |                  |
| 30               | Normal Voltage    | 0.0021           | 0.0005                    |                  |
| 20(Ref.)         | Normal Voltage    | 0.0000           | 0.0000                    |                  |
| 10               | Normal Voltage    | 0.0016           | 0.0016                    |                  |
| 0                | Normal Voltage    | 0.0016           | 0.0005                    |                  |
| -10              | Normal Voltage    | 0.0005           | 0.0011                    |                  |
| -20              | Normal Voltage    | 0.0032           | 0.0027                    |                  |
| -30              | Normal Voltage    | 0.0005           | 0.0016                    |                  |
| 20               | Maximum Voltage   | 0.0027           | 0.0011                    |                  |
| 20               | Normal Voltage    | 0.0037           | 0.0005                    |                  |
| 20               | Battery End Point | 0.0053           | 0.0011                    |                  |

**Note:**

1. Normal Voltage = 3.85V. ; Battery End Point (BEP) = 3.40 V. ; Maximum Voltage =4.40 V
2. The frequency fundamental emissions stay within the authorized frequency block.

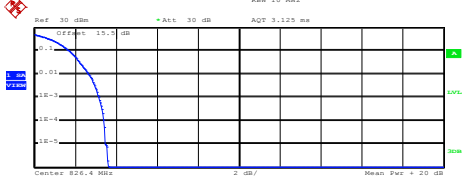
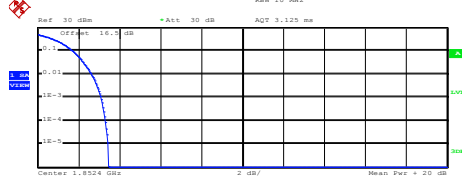
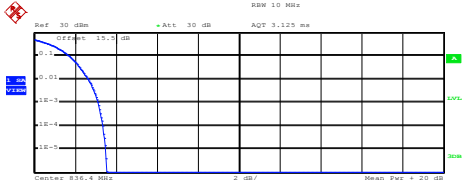
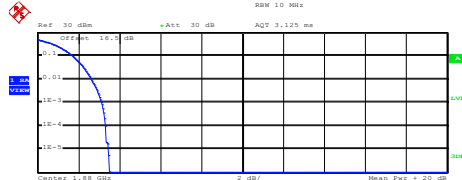
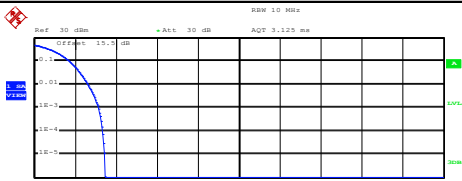
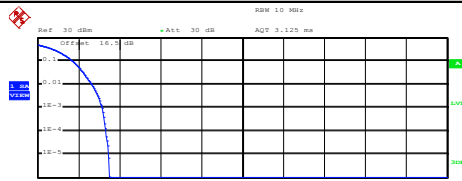


### A3. WCDMA

|                              |
|------------------------------|
| <b>Peak-to-Average Ratio</b> |
|------------------------------|

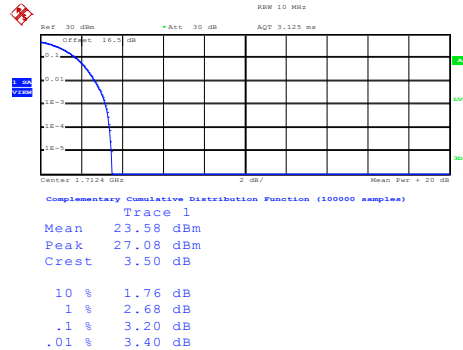
| Mode       | WCDMA Band V | WCDMA Band II | WCDMA Band IV | Limit: 13dB |
|------------|--------------|---------------|---------------|-------------|
| Mod.       | RMC 12.2Kbps | RMC 12.2Kbps  | RMC 12.2Kbps  | Result      |
| Lowest CH  | 3.16         | 3.12          | 3.20          | PASS        |
| Middle CH  | 3.12         | 3.12          | 3.16          |             |
| Highest CH | 3.16         | 3.16          | 3.20          |             |



| WCDMA Band V (RMC 12.2Kbps)                                                                                                                                                                                                                                                                                                                                                                                                   |  | WCDMA Band II (RMC 12.2Kbps)                                                                                                                                                                                                                                                                                                                                                                                                    |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Lowest Channel                                                                                                                                                                                                                                                                                                                                                                                                                |  | Lowest Channel                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
|  <p>Center 826.4 MHz</p> <p>Ref 30 dBm Att 30 dB AQT 3.125 ms</p> <p>Complementary Cumulative Distribution Function (100000 samples)</p> <p>Trace 1</p> <p>Mean 24.46 dBm</p> <p>Peak 28.07 dBm</p> <p>Crest 3.61 dB</p> <p>10 % 1.72 dB</p> <p>1 % 2.68 dB</p> <p>.1 % 3.16 dB</p> <p>.01 % 3.40 dB</p> <p>Date: 29.JUL.2018 11:10:58</p>   |  |  <p>Center 1.8524 GHz</p> <p>Ref 30 dBm Att 30 dB AQT 3.125 ms</p> <p>Complementary Cumulative Distribution Function (100000 samples)</p> <p>Trace 1</p> <p>Mean 23.61 dBm</p> <p>Peak 27.08 dBm</p> <p>Crest 3.47 dB</p> <p>10 % 1.72 dB</p> <p>1 % 2.64 dB</p> <p>.1 % 3.12 dB</p> <p>.01 % 3.32 dB</p> <p>Date: 29.JUL.2018 11:42:15</p>   |  |
| Middle Channel                                                                                                                                                                                                                                                                                                                                                                                                                |  | Middle Channel                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
|  <p>Center 836.4 MHz</p> <p>Ref 30 dBm Att 30 dB AQT 3.125 ms</p> <p>Complementary Cumulative Distribution Function (100000 samples)</p> <p>Trace 1</p> <p>Mean 24.12 dBm</p> <p>Peak 27.64 dBm</p> <p>Crest 3.53 dB</p> <p>10 % 1.72 dB</p> <p>1 % 2.64 dB</p> <p>.1 % 3.12 dB</p> <p>.01 % 3.36 dB</p> <p>Date: 29.JUL.2018 11:11:15</p>  |  |  <p>Center 1.85 GHz</p> <p>Ref 30 dBm Att 30 dB AQT 3.125 ms</p> <p>Complementary Cumulative Distribution Function (100000 samples)</p> <p>Trace 1</p> <p>Mean 23.80 dBm</p> <p>Peak 27.29 dBm</p> <p>Crest 3.49 dB</p> <p>10 % 1.72 dB</p> <p>1 % 2.64 dB</p> <p>.1 % 3.12 dB</p> <p>.01 % 3.32 dB</p> <p>Date: 29.JUL.2018 11:42:29</p>    |  |
| Highest Channel                                                                                                                                                                                                                                                                                                                                                                                                               |  | Highest Channel                                                                                                                                                                                                                                                                                                                                                                                                                 |  |
|  <p>Center 846.6 MHz</p> <p>Ref 30 dBm Att 30 dB AQT 3.125 ms</p> <p>Complementary Cumulative Distribution Function (100000 samples)</p> <p>Trace 1</p> <p>Mean 24.10 dBm</p> <p>Peak 27.57 dBm</p> <p>Crest 3.47 dB</p> <p>10 % 1.72 dB</p> <p>1 % 2.64 dB</p> <p>.1 % 3.16 dB</p> <p>.01 % 3.36 dB</p> <p>Date: 29.JUL.2018 11:11:33</p> |  |  <p>Center 1.9076 GHz</p> <p>Ref 30 dBm Att 30 dB AQT 3.125 ms</p> <p>Complementary Cumulative Distribution Function (100000 samples)</p> <p>Trace 1</p> <p>Mean 23.38 dBm</p> <p>Peak 26.87 dBm</p> <p>Crest 3.49 dB</p> <p>10 % 1.72 dB</p> <p>1 % 2.64 dB</p> <p>.1 % 3.16 dB</p> <p>.01 % 3.32 dB</p> <p>Date: 29.JUL.2018 11:42:44</p> |  |

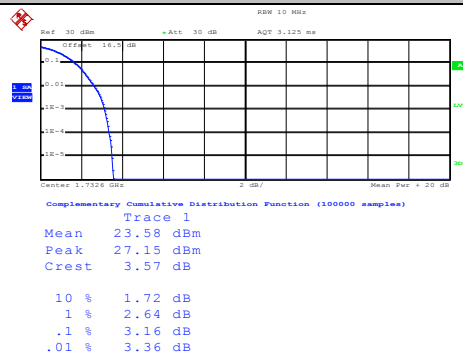
## WCDMA Band IV (RMC 12.2Kbps)

### Lowest Channel



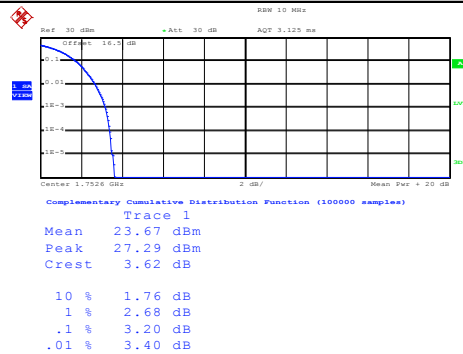
Date: 29.JUL.2018 12:08:39

### Middle Channel



Date: 29.JUL.2018 12:08:54

### Highest Channel



Date: 29.JUL.2018 12:09:11

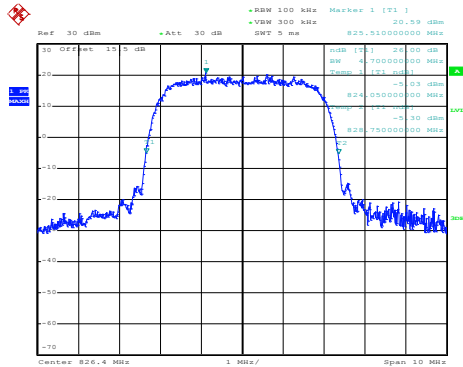
**26dB Bandwidth**

| Mode       | WCDMA Band V | WCDMA Band II | WCDMA Band IV |
|------------|--------------|---------------|---------------|
| Mod.       | RMC 12.2Kbps | RMC 12.2Kbps  | RMC 12.2Kbps  |
| Lowest CH  | 4.70         | 4.70          | 4.70          |
| Middle CH  | 4.71         | 4.71          | 4.70          |
| Highest CH | 4.69         | 4.70          | 4.70          |



## WCDMA Band V (RMC 12.2Kbps)

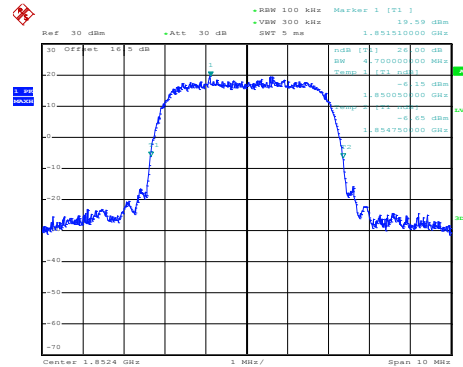
## Lowest Channel



Date: 29.JUL.2018 10:55:54

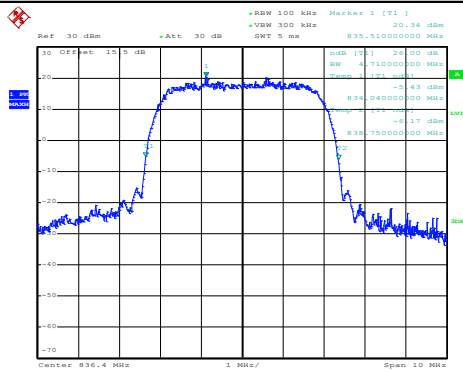
## WCDMA Band II (RMC 12.2Kbps)

## Lowest Channel



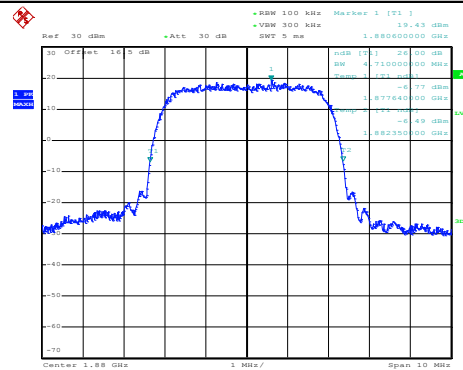
Date: 29.JUL.2018 11:27:05

## Middle Channel



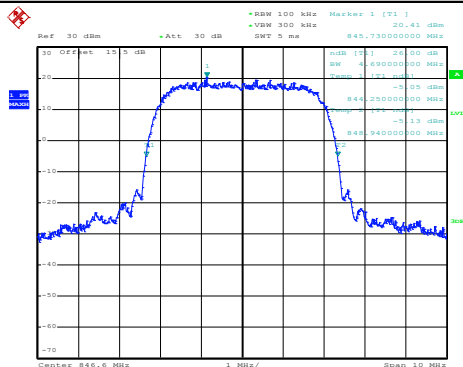
Date: 29.JUL.2018 10:56:33

## Middle Channel



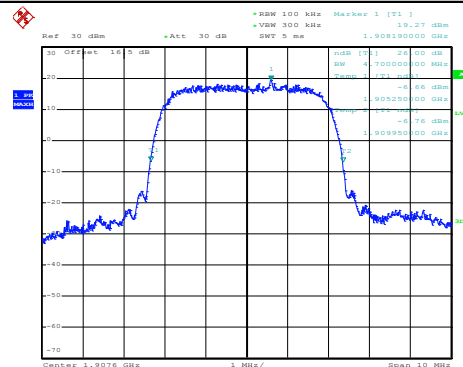
Date: 29.JUL.2018 11:27:41

## Highest Channel

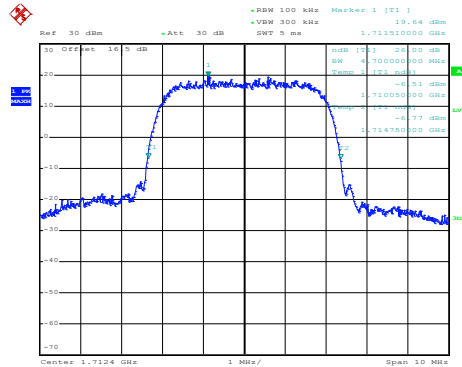


Date: 29.JUL.2018 10:57:07

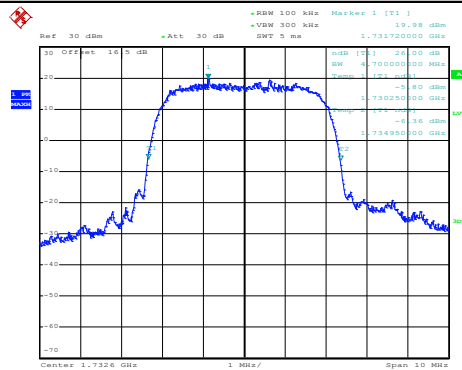
## Highest Channel



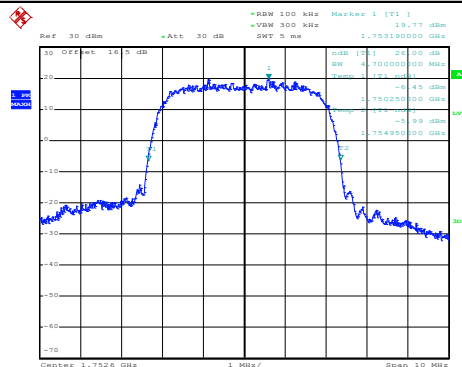
Date: 29.JUL.2018 11:28:14

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


Date: 29.JUL.2018 11:54:46

**Middle Channel**


Date: 29.JUL.2018 11:55:22

**Highest Channel**


Date: 29.JUL.2018 11:55:56

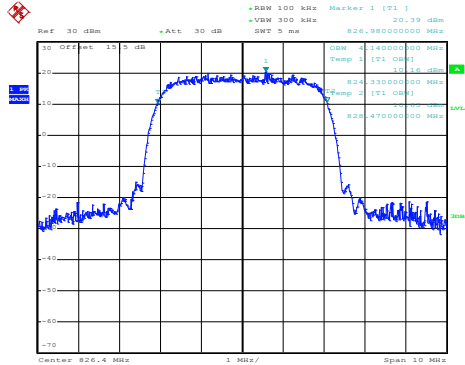
**Occupied Bandwidth**

| Mode       | WCDMA Band V | WCDMA Band II | WCDMA Band IV |
|------------|--------------|---------------|---------------|
| Mod.       | RMC 12.2Kbps | RMC 12.2Kbps  | RMC 12.2Kbps  |
| Lowest CH  | 4.14         | 4.12          | 4.14          |
| Middle CH  | 4.13         | 4.13          | 4.12          |
| Highest CH | 4.13         | 4.12          | 4.13          |



## WCDMA Band V (RMC 12.2Kbps)

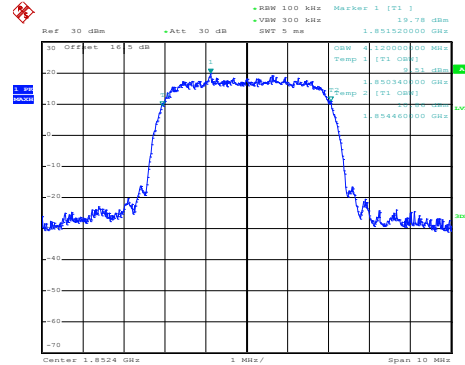
## Lowest Channel



Date: 29.JUL.2018 10:58:00

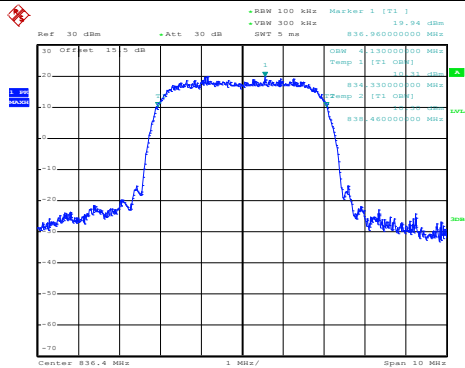
## WCDMA Band II (RMC 12.2Kbps)

## Lowest Channel



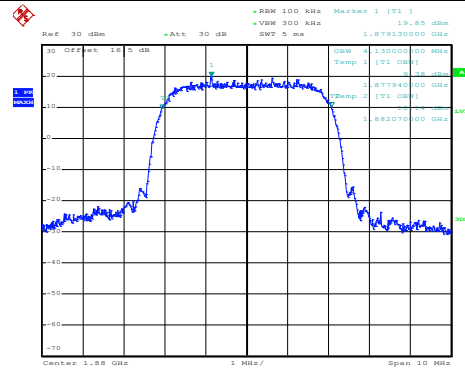
Date: 29.JUL.2018 11:29:15

## Middle Channel



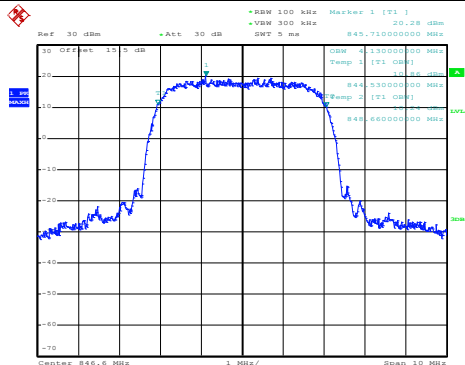
Date: 29.JUL.2018 10:58:42

## Middle Channel



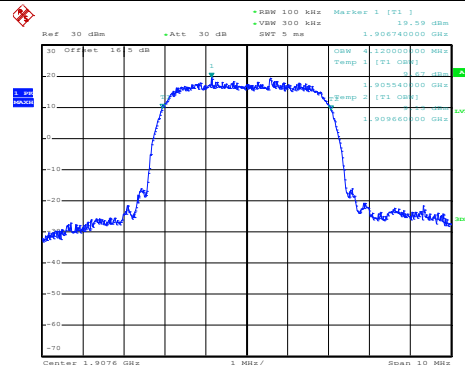
Date: 29.JUL.2018 11:30:17

## Highest Channel



Date: 29.JUL.2018 10:59:31

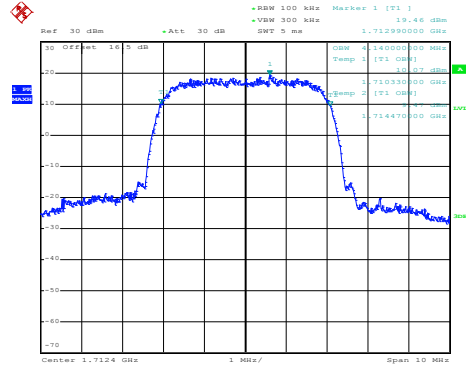
## Highest Channel



Date: 29.JUL.2018 11:30:58

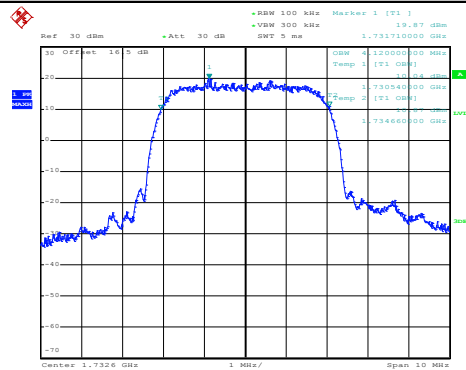
## WCDMA Band IV (RMC 12.2Kbps)

### Lowest Channel



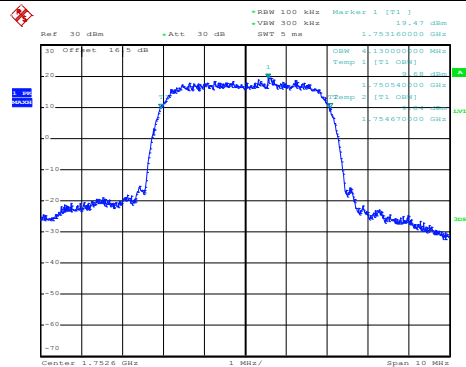
Date: 29.JUL.2018 11:57:22

### Middle Channel



Date: 29.JUL.2018 11:58:02

### Highest Channel



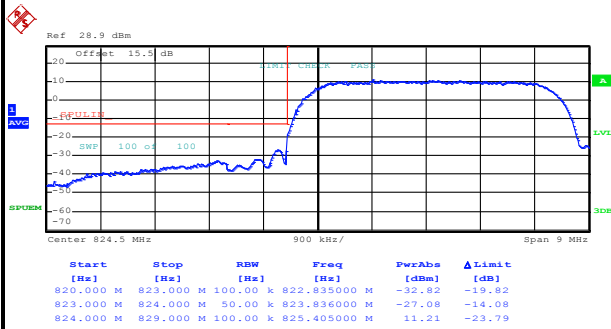
Date: 29.JUL.2018 11:58:36



## Conducted Band Edge

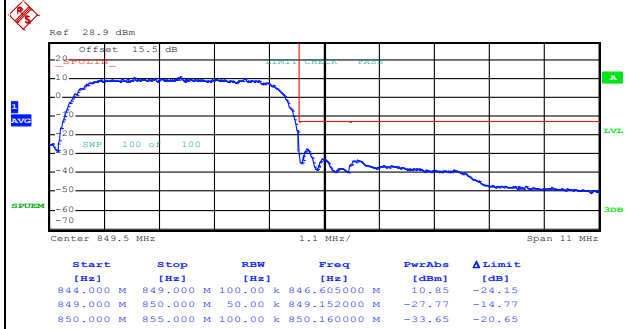
### WCDMA Band V (RMC 12.2Kbps)

#### Lowest Band Edge



Date: 29.JUL.2018 11:03:52

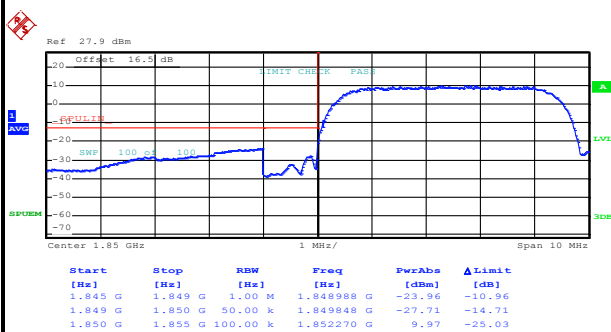
#### Highest Band Edge



Date: 29.JUL.2018 11:06:54

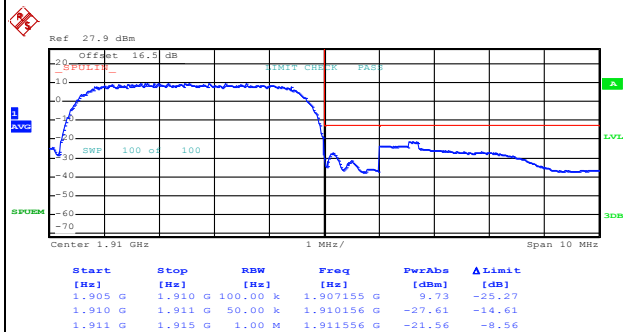
### WCDMA Band II (RMC 12.2Kbps)

#### Lowest Band Edge



Date: 29.JUL.2018 11:34:00

#### Highest Band Edge

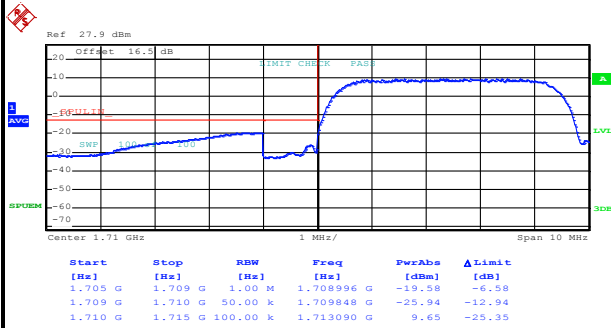


Date: 29.JUL.2018 11:36:51



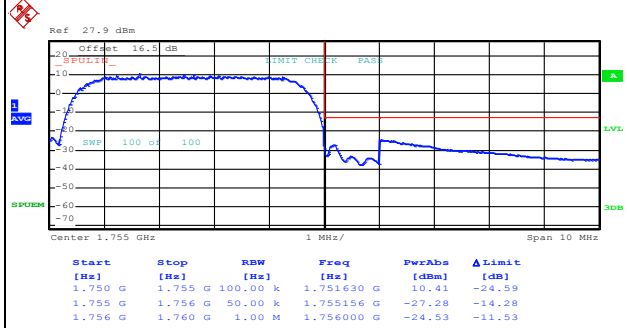
WCDMA Band IV (RMC 12.2Kbps)

Lowest Band Edge



Date: 29.JUL.2018 12:01:32

Highest Band Edge



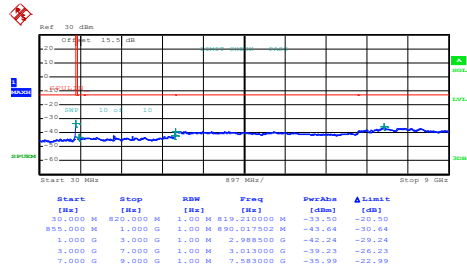
Date: 29.JUL.2018 12:04:26



# Conducted Spurious Emission

## WCDMA Band V (RMC 12.2Kbps)

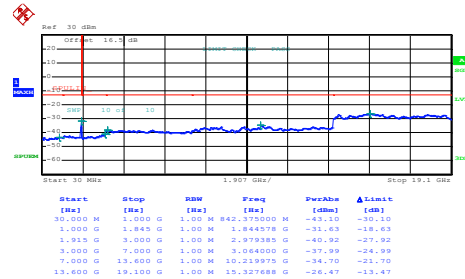
### Lowest Channel



Date: 29.JUL.2018 11:08:35

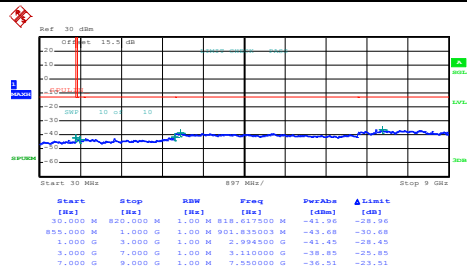
## WCDMA Band II (RMC 12.2Kbps)

### Lowest Channel



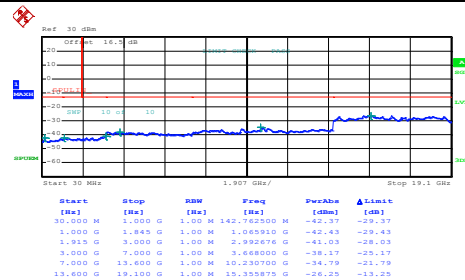
Date: 29.JUL.2018 11:38:17

### Middle Channel



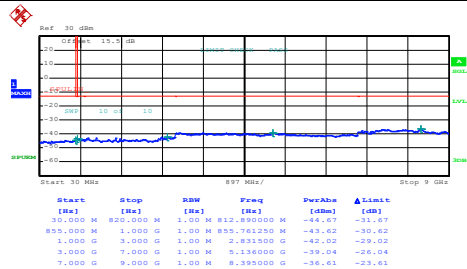
Date: 29.JUL.2018 11:09:29

### Middle Channel



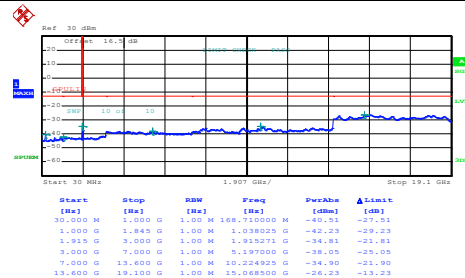
Date: 29.JUL.2018 11:39:59

### Highest Channel



Date: 29.JUL.2018 11:10:20

### Highest Channel

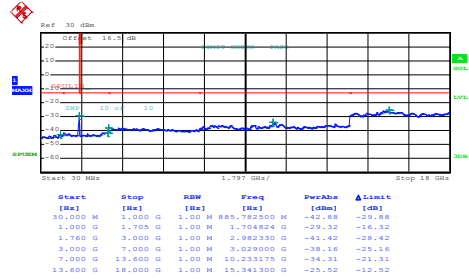


Date: 29.JUL.2018 11:41:06



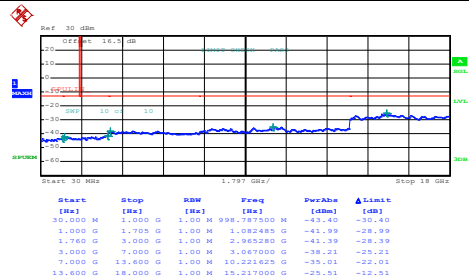
## WCDMA Band IV (RMC 12.2Kbps)

## Lowest Channel



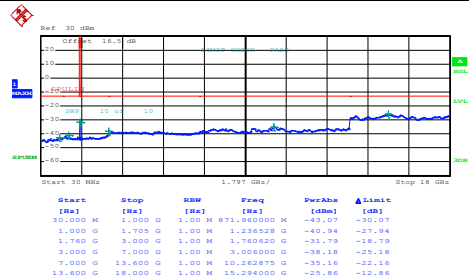
Date: 29.JUL.2018 12:06:28

## Middle Channel



Date: 29.JUL.2018 12:07:22

## Highest Channel



Date: 29.JUL.2018 12:08:17

**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    | 0.0012                         | PASS            |
| 40               | Normal Voltage    | 0.0012                         |                 |
| 30               | Normal Voltage    | 0.0036                         |                 |
| 20(Ref.)         | Normal Voltage    | 0.0000                         |                 |
| 10               | Normal Voltage    | 0.0024                         |                 |
| 0                | Normal Voltage    | 0.0012                         |                 |
| -10              | Normal Voltage    | 0.0036                         |                 |
| -20              | Normal Voltage    | 0.0000                         |                 |
| -30              | Normal Voltage    | 0.0012                         |                 |
| 20               | Maximum Voltage   | 0.0024                         |                 |
| 20               | Normal Voltage    | 0.0012                         |                 |
| 20               | Battery End Point | 0.0132                         |                 |



| Test Conditions  | Middle Channel    | WCDMA Band II<br>(RMC 12.2Kbps) | Limit<br>Note 2. |
|------------------|-------------------|---------------------------------|------------------|
| Temperature (°C) | Voltage (Volt)    | Deviation (ppm)                 | Result           |
| 50               | Normal Voltage    | 0.0021                          | PASS             |
| 40               | Normal Voltage    | 0.0005                          |                  |
| 30               | Normal Voltage    | 0.0005                          |                  |
| 20(Ref.)         | Normal Voltage    | 0.0000                          |                  |
| 10               | Normal Voltage    | 0.0032                          |                  |
| 0                | Normal Voltage    | 0.0016                          |                  |
| -10              | Normal Voltage    | 0.0021                          |                  |
| -20              | Normal Voltage    | 0.0021                          |                  |
| -30              | Normal Voltage    | 0.0011                          |                  |
| 20               | Maximum Voltage   | 0.0016                          |                  |
| 20               | Normal Voltage    | 0.0027                          |                  |
| 20               | Battery End Point | 0.0016                          |                  |

| Test Conditions  | Middle Channel    | WCDMA Band IV<br>(RMC 12.2Kbps) | Limit<br>Note 2. |
|------------------|-------------------|---------------------------------|------------------|
| Temperature (°C) | Voltage (Volt)    | Deviation (ppm)                 | Result           |
| 50               | Normal Voltage    | 0.0012                          | PASS             |
| 40               | Normal Voltage    | 0.0029                          |                  |
| 30               | Normal Voltage    | 0.0012                          |                  |
| 20(Ref.)         | Normal Voltage    | 0.0000                          |                  |
| 10               | Normal Voltage    | 0.0017                          |                  |
| 0                | Normal Voltage    | 0.0012                          |                  |
| -10              | Normal Voltage    | 0.0023                          |                  |
| -20              | Normal Voltage    | 0.0017                          |                  |
| -30              | Normal Voltage    | 0.0000                          |                  |
| 20               | Maximum Voltage   | 0.0006                          |                  |
| 20               | Normal Voltage    | 0.0017                          |                  |
| 20               | Battery End Point | 0.0012                          |                  |

**Note:**

1. Normal Voltage = 3.85V. ; Battery End Point (BEP) = 3.40 V. ; Maximum Voltage =4.40 V
2. The frequency fundamental emissions stay within the authorized frequency block.



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

### ERP/EIRP

<For LAT Antenna>

| Channel | Mode                | Conducted   |               | ERP      |        |
|---------|---------------------|-------------|---------------|----------|--------|
|         |                     | Power (dBm) | Power (Watts) | ERP(dBm) | ERP(W) |
| Lowest  | GSM850              | 32.51       | 1.7824        | 27.79    | 0.6016 |
| Middle  | GSM                 | 32.71       | 1.8664        | 27.99    | 0.6299 |
| Highest | GT - LC = -2.567 dB | 32.60       | 1.8197        | 27.88    | 0.6142 |
| Lowest  | GSM850              | 26.74       | 0.4721        | 22.02    | 0.1593 |
| Middle  | EDGE class 8        | 26.17       | 0.4140        | 21.45    | 0.1397 |
| Highest | GT - LC = -2.567 dB | 25.78       | 0.3784        | 21.06    | 0.1277 |
| Lowest  | WCDMA Band V        | 23.43       | 0.2203        | 18.71    | 0.0744 |
| Middle  | RMC 12.2Kbps        | 23.22       | 0.2099        | 18.50    | 0.0708 |
| Highest | GT - LC = -2.567 dB | 23.14       | 0.2061        | 18.42    | 0.0696 |
| Limit   | ERP < 7W            | Result      |               | PASS     |        |

| Channel | Mode                | Conducted   |               | EIRP      |         |
|---------|---------------------|-------------|---------------|-----------|---------|
|         |                     | Power (dBm) | Power (Watts) | EIRP(dBm) | EIRP(W) |
| Lowest  | GSM1900             | 29.40       | 0.8710        | 29.05     | 0.8041  |
| Middle  | GSM                 | 29.54       | 0.8995        | 29.19     | 0.8304  |
| Highest | GT - LC = -0.347 dB | 29.67       | 0.9268        | 29.32     | 0.8557  |
| Lowest  | GSM1900             | 24.75       | 0.2985        | 24.40     | 0.2756  |
| Middle  | EDGE class 8        | 24.66       | 0.2924        | 24.31     | 0.2700  |
| Highest | GT - LC = -0.347 dB | 24.86       | 0.3062        | 24.51     | 0.2827  |
| Lowest  | WCDMA Band II       | 24.41       | 0.2761        | 24.06     | 0.2549  |
| Middle  | RMC 12.2Kbps        | 24.29       | 0.2685        | 23.94     | 0.2479  |
| Highest | GT - LC = -0.347 dB | 23.94       | 0.2477        | 23.59     | 0.2287  |
| Limit   | EIRP < 2W           | Result      |               | PASS      |         |

| Channel | Mode              | Conducted   |               | EIRP      |         |
|---------|-------------------|-------------|---------------|-----------|---------|
|         |                   | Power (dBm) | Power (Watts) | EIRP(dBm) | EIRP(W) |
| Lowest  | WCDMA Band IV     | 24.14       | 0.2594        | 23.14     | 0.2061  |
| Middle  | RMC 12.2Kbps      | 24.13       | 0.2588        | 23.13     | 0.2056  |
| Highest | (GT - LC = -1 dB) | 24.09       | 0.2564        | 23.09     | 0.2037  |
| Limit   | EIRP < 1W         | Result      |               | PASS      |         |

**<For UAT Antenna>**

| Channel | Mode               | Conducted   |               | ERP      |        |
|---------|--------------------|-------------|---------------|----------|--------|
|         |                    | Power (dBm) | Power (Watts) | ERP(dBm) | ERP(W) |
| Lowest  | WCDMA Band V       | 23.43       | 0.2203        | 18.53    | 0.0713 |
| Middle  | RMC 12.2Kbps       | 23.22       | 0.2099        | 18.32    | 0.0679 |
| Highest | GT - LC = -2.75 dB | 23.14       | 0.2061        | 18.24    | 0.0667 |
| Limit   | ERP < 7W           | Result      |               | PASS     |        |

**Radiated Spurious Emission**

&lt;LAT Antenna&gt;

&lt;EUT with SIM 2&gt; Part22H GSM 850

| GSM 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                 | -58.22         | -13              | -45.22                  | -70.74                  | -63.61                   | 1.23                       | 8.76                        | H                     |
|         | 2472                 | -44.44         | -13              | -31.44                  | -59.77                  | -51.33                   | 1.44                       | 10.48                       | H                     |
|         | 3696                 | -57.92         | -13              | -44.92                  | -74.99                  | -66.08                   | 1.97                       | 12.28                       | H                     |
|         |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|         | 1648                 | -60.36         | -13              | -47.36                  | -70.59                  | -65.75                   | 1.23                       | 8.76                        | V                     |
|         | 2472                 | -47.62         | -13              | -34.62                  | -62.34                  | -54.51                   | 1.44                       | 10.48                       | V                     |
|         | 3696                 | -59.23         | -13              | -46.23                  | -75.85                  | -67.39                   | 1.97                       | 12.28                       | V                     |
|         |                      |                |                  |                         |                         |                          |                            |                             | V                     |
| Middle  | 1672                 | -58.73         | -13              | -45.73                  | -71.49                  | -64.20                   | 1.24                       | 8.85                        | H                     |
|         | 2512                 | -42.46         | -13              | -29.46                  | -57.61                  | -49.38                   | 1.44                       | 10.51                       | H                     |
|         | 3344                 | -59.19         | -13              | -46.19                  | -76.13                  | -67.23                   | 1.74                       | 11.93                       | H                     |
|         | 4184                 | -57.36         | -13              | -44.36                  | -75.43                  | -65.24                   | 2.07                       | 12.10                       | H                     |
|         |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|         | 1672                 | -62.24         | -13              | -49.24                  | -72.58                  | -67.71                   | 1.24                       | 8.85                        | V                     |
|         | 2512                 | -43.27         | -13              | -30.27                  | -57.97                  | -50.19                   | 1.44                       | 10.51                       | V                     |
|         | 3344                 | -58.50         | -13              | -45.50                  | -74.98                  | -66.54                   | 1.74                       | 11.93                       | V                     |
|         | 4184                 | -57.51         | -13              | -44.51                  | -75.46                  | -65.39                   | 2.07                       | 12.10                       | V                     |
|         |                      |                |                  |                         |                         |                          |                            |                             | V                     |
| Highest | 1696                 | -60.82         | -13              | -47.82                  | -74.02                  | -66.37                   | 1.24                       | 8.94                        | H                     |
|         | 2544                 | -43.12         | -13              | -30.12                  | -58.15                  | -50.06                   | 1.44                       | 10.54                       | H                     |
|         | 4248                 | -56.79         | -13              | -43.79                  | -75.35                  | -64.69                   | 2.05                       | 12.10                       | H                     |
|         |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|         | 1696                 | -62.87         | -13              | -49.87                  | -73.41                  | -68.42                   | 1.24                       | 8.94                        | V                     |
|         | 2544                 | -44.51         | -13              | -31.51                  | -59.2                   | -51.45                   | 1.44                       | 10.54                       | V                     |
|         | 4248                 | -56.18         | -13              | -43.18                  | -74.54                  | -64.08                   | 2.05                       | 12.10                       | V                     |
|         |                      |                |                  |                         |                         |                          |                            |                             | V                     |

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



## &lt;EUT with SIM 2&gt; Part22H EDGE 850

| EDGE 850 |                   |             |               |                   |                   |                    |                      |                       |                    |
|----------|-------------------|-------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel  | Frequency ( MHz ) | ERP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest   | 1648              | -63.12      | -13           | -50.12            | -75.64            | -68.51             | 1.23                 | 8.76                  | H                  |
|          | 2472              | -59.67      | -13           | -46.67            | -75               | -66.56             | 1.44                 | 10.48                 | H                  |
|          | 3296              | -59.67      | -13           | -46.67            | -76.74            | -67.61             | 1.70                 | 11.79                 | H                  |
|          |                   |             |               |                   |                   |                    |                      |                       | H                  |
|          | 1648              | -65.64      | -13           | -52.64            | -75.87            | -71.03             | 1.23                 | 8.76                  | V                  |
|          | 2472              | -61.64      | -13           | -48.64            | -76.36            | -68.53             | 1.44                 | 10.48                 | V                  |
|          | 3296              | -60.21      | -13           | -47.21            | -76.83            | -68.15             | 1.70                 | 11.79                 | V                  |
|          |                   |             |               |                   |                   |                    |                      |                       | V                  |
| Middle   | 1672              | -62.61      | -13           | -49.61            | -75.37            | -68.08             | 1.24                 | 8.85                  | H                  |
|          | 2512              | -56.98      | -13           | -43.98            | -72.13            | -63.90             | 1.44                 | 10.51                 | H                  |
|          | 3344              | -59.96      | -13           | -46.96            | -76.9             | -68.00             | 1.74                 | 11.93                 | H                  |
|          |                   |             |               |                   |                   |                    |                      |                       | H                  |
|          | 1672              | -65.18      | -13           | -52.18            | -75.52            | -70.65             | 1.24                 | 8.85                  | V                  |
|          | 2512              | -57.27      | -13           | -44.27            | -71.97            | -64.19             | 1.44                 | 10.51                 | V                  |
|          | 3344              | -60.39      | -13           | -47.39            | -76.87            | -68.43             | 1.74                 | 11.93                 | V                  |
|          |                   |             |               |                   |                   |                    |                      |                       | V                  |
| Highest  | 1697              | -62.64      | -13           | -49.64            | -75.84            | -68.19             | 1.24                 | 8.95                  | H                  |
|          | 2544              | -58.60      | -13           | -45.60            | -73.63            | -65.54             | 1.44                 | 10.54                 | H                  |
|          | 3395              | -60.09      | -13           | -47.09            | -76.82            | -68.24             | 1.78                 | 12.09                 | H                  |
|          |                   |             |               |                   |                   |                    |                      |                       | H                  |
|          | 1697              | -65.19      | -13           | -52.19            | -75.73            | -70.74             | 1.24                 | 8.95                  | V                  |
|          | 2544              | -60.00      | -13           | -47.00            | -74.69            | -66.94             | 1.44                 | 10.54                 | V                  |
|          | 3395              | -60.94      | -13           | -47.94            | -77.21            | -69.09             | 1.78                 | 12.09                 | V                  |
|          |                   |             |               |                   |                   |                    |                      |                       | V                  |

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

**<EUT with SIM 2> Part22H WCDMA 850**

| 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    | 1648                 | -63.57         | -13              | -50.57                  | -76.09                  | -68.96                   | 1.23                       | 8.76                        | H                     |
|           | 2480                 | -57.29         | -13              | -44.29                  | -72.62                  | -64.19                   | 1.44                       | 10.48                       | H                     |
|           | 3696                 | -59.11         | -13              | -46.11                  | -76.97                  | -67.27                   | 1.97                       | 12.28                       | H                     |
|           |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|           | 1648                 | -65.94         | -13              | -52.94                  | -76.17                  | -71.33                   | 1.23                       | 8.76                        | V                     |
|           | 2480                 | -59.75         | -13              | -46.75                  | -74.47                  | -66.65                   | 1.44                       | 10.48                       | V                     |
|           | 3696                 | -59.16         | -13              | -46.16                  | -76.42                  | -67.32                   | 1.97                       | 12.28                       | V                     |
|           |                      |                |                  |                         |                         |                          |                            |                             | V                     |
| Middle    | 1672                 | -62.94         | -13              | -49.94                  | -75.7                   | -68.41                   | 1.24                       | 8.85                        | H                     |
|           | 2512                 | -61.51         | -13              | -48.51                  | -76.66                  | -68.43                   | 1.44                       | 10.51                       | H                     |
|           | 3344                 | -60.13         | -13              | -47.13                  | -77.07                  | -68.17                   | 1.74                       | 11.93                       | H                     |
|           |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|           | 1672                 | -65.28         | -13              | -52.28                  | -75.62                  | -70.75                   | 1.24                       | 8.85                        | V                     |
|           | 2512                 | -60.45         | -13              | -47.45                  | -75.15                  | -67.37                   | 1.44                       | 10.51                       | V                     |
|           | 3344                 | -60.61         | -13              | -47.61                  | -77.09                  | -68.65                   | 1.74                       | 11.93                       | V                     |
|           |                      |                |                  |                         |                         |                          |                            |                             | V                     |
| Highest   | 1696                 | -61.46         | -13              | -48.46                  | -74.66                  | -67.01                   | 1.24                       | 8.94                        | H                     |
|           | 2544                 | -59.35         | -13              | -46.35                  | -74.38                  | -66.29                   | 1.44                       | 10.54                       | H                     |
|           | 3393                 | -60.23         | -13              | -47.23                  | -76.96                  | -68.38                   | 1.78                       | 12.08                       | H                     |
|           |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|           | 1696                 | -65.06         | -13              | -52.06                  | -75.6                   | -70.61                   | 1.24                       | 8.94                        | V                     |
|           | 2544                 | -61.42         | -13              | -48.42                  | -76.11                  | -68.36                   | 1.44                       | 10.54                       | V                     |
|           | 3393                 | -60.61         | -13              | -47.61                  | -76.88                  | -68.76                   | 1.78                       | 12.08                       | V                     |
|           |                      |                |                  |                         |                         |                          |                            |                             | V                     |

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

**<EUT with SIM 1> Part24E GSM 1900**

| 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) |
| Lowest   | 3700                 | -49.11          | -13              | -36.11                  | -66.97                  | -59.42                   | 1.97                       | 12.28                       | H                     |
|          | 5548                 | -39.40          | -13              | -26.40                  | -60.69                  | -49.52                   | 2.14                       | 12.27                       | H                     |
|          | 7403                 | -52.31          | -13              | -39.31                  | -77.07                  | -60.31                   | 2.17                       | 10.17                       | H                     |
|          |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|          | 3700                 | -56.36          | -13              | -43.36                  | -73.62                  | -66.67                   | 1.97                       | 12.28                       | V                     |
|          | 5548                 | -39.66          | -13              | -26.66                  | -61.19                  | -49.78                   | 2.14                       | 12.27                       | V                     |
|          | 7403                 | -53.12          | -13              | -40.12                  | -76.94                  | -61.12                   | 2.17                       | 10.17                       | V                     |
|          |                      |                 |                  |                         |                         |                          |                            |                             | V                     |
| Middle   | 3763                 | -48.18          | -13              | -35.18                  | -65.84                  | -58.42                   | 2.01                       | 12.24                       | H                     |
|          | 5639                 | -37.30          | -13              | -24.30                  | -58.47                  | -47.57                   | 2.12                       | 12.39                       | H                     |
|          | 7522                 | -51.48          | -13              | -38.48                  | -76.97                  | -59.44                   | 2.11                       | 10.08                       | H                     |
|          |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|          | 3763                 | -54.94          | -13              | -41.94                  | -72.1                   | -65.18                   | 2.01                       | 12.24                       | V                     |
|          | 5639                 | -38.29          | -13              | -25.29                  | -59.65                  | -48.56                   | 2.12                       | 12.39                       | V                     |
|          | 7522                 | -52.42          | -13              | -39.42                  | -77.15                  | -60.38                   | 2.11                       | 10.08                       | V                     |
|          |                      |                 |                  |                         |                         |                          |                            |                             | V                     |
| Highest  | 3819                 | -48.13          | -13              | -35.13                  | -65.75                  | -58.30                   | 2.04                       | 12.21                       | H                     |
|          | 5730                 | -35.25          | -13              | -22.25                  | -56.47                  | -45.67                   | 2.10                       | 12.52                       | H                     |
|          | 7641                 | -51.58          | -13              | -38.58                  | -76.79                  | -59.97                   | 2.11                       | 10.51                       | H                     |
|          |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|          | 3819                 | -54.26          | -13              | -41.26                  | -71.44                  | -64.43                   | 2.04                       | 12.21                       | V                     |
|          | 5730                 | -49.31          | -13              | -36.31                  | -70.66                  | -59.73                   | 2.10                       | 12.52                       | V                     |
|          | 7641                 | -52.20          | -13              | -39.20                  | -76.99                  | -60.59                   | 2.11                       | 10.51                       | V                     |
|          |                      |                 |                  |                         |                         |                          |                            |                             | V                     |

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

**<EUT with SIM 1> Part24E EDGE 1900**

| 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) |
| Lowest    | 3700                 | -50.86          | -13              | -37.86                  | -68.72                  | -61.17                   | 1.97                       | 12.28                       | H                     |
|           | 5548                 | -43.46          | -13              | -30.46                  | -64.75                  | -53.58                   | 2.14                       | 12.27                       | H                     |
|           | 7403                 | -52.34          | -13              | -39.34                  | -77.1                   | -60.34                   | 2.17                       | 10.17                       | H                     |
|           |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|           | 3700                 | -57.68          | -13              | -44.68                  | -74.94                  | -67.99                   | 1.97                       | 12.28                       | V                     |
|           | 5548                 | -44.58          | -13              | -31.58                  | -66.11                  | -54.70                   | 2.14                       | 12.27                       | V                     |
|           | 7403                 | -53.19          | -13              | -40.19                  | -77.01                  | -61.19                   | 2.17                       | 10.17                       | V                     |
|           |                      |                 |                  |                         |                         |                          |                            |                             | V                     |
| Middle    | 3763                 | -49.68          | -13              | -36.68                  | -67.34                  | -59.92                   | 2.01                       | 12.24                       | H                     |
|           | 5639                 | -44.82          | -13              | -31.82                  | -65.99                  | -55.09                   | 2.12                       | 12.39                       | H                     |
|           | 7520                 | -51.76          | -13              | -38.76                  | -77.25                  | -59.72                   | 2.11                       | 10.07                       | H                     |
|           |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|           | 3763                 | -56.32          | -13              | -43.32                  | -73.48                  | -66.56                   | 2.01                       | 12.24                       | V                     |
|           | 5639                 | -45.03          | -13              | -32.03                  | -66.39                  | -55.30                   | 2.12                       | 12.39                       | V                     |
|           | 7520                 | -52.51          | -13              | -39.51                  | -77.24                  | -60.47                   | 2.11                       | 10.07                       | V                     |
|           |                      |                 |                  |                         |                         |                          |                            |                             | V                     |
| Highest   | 3763                 | -48.03          | -13              | -35.03                  | -65.69                  | -58.27                   | 2.01                       | 12.24                       | H                     |
|           | 5639                 | -47.56          | -13              | -34.56                  | -68.73                  | -57.83                   | 2.12                       | 12.39                       | H                     |
|           | 7641                 | -51.90          | -13              | -38.90                  | -77.11                  | -60.29                   | 2.11                       | 10.51                       | H                     |
|           |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|           | 3763                 | -57.54          | -13              | -44.54                  | -74.7                   | -67.78                   | 2.01                       | 12.24                       | V                     |
|           | 5639                 | -48.67          | -13              | -35.67                  | -70.03                  | -58.94                   | 2.12                       | 12.39                       | V                     |
|           | 7641                 | -52.33          | -13              | -39.33                  | -77.12                  | -60.72                   | 2.11                       | 10.51                       | V                     |
|           |                      |                 |                  |                         |                         |                          |                            |                             | V                     |

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

**<EUT with SIM 1> Part24E WCDMA 1900**

| 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) |
| Lowest     | 3707                 | -42.99          | -13              | -29.99                  | -60.79                  | -53.29                   | 1.98                       | 12.28                       | H                     |
|            | 5562                 | -44.55          | -13              | -31.55                  | -65.79                  | -54.70                   | 2.14                       | 12.29                       | H                     |
|            | 7410                 | -52.38          | -13              | -39.38                  | -77.28                  | -60.37                   | 2.17                       | 10.16                       | H                     |
|            |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|            | 3707                 | -51.83          | -13              | -38.83                  | -69.06                  | -62.13                   | 1.98                       | 12.28                       | V                     |
|            | 5562                 | -50.94          | -13              | -37.94                  | -72.41                  | -61.09                   | 2.14                       | 12.29                       | V                     |
|            | 7410                 | -53.33          | -13              | -40.33                  | -77.31                  | -61.32                   | 2.17                       | 10.16                       | V                     |
|            |                      |                 |                  |                         |                         |                          |                            |                             | V                     |
| Middle     | 3756                 | -41.43          | -13              | -28.43                  | -59.14                  | -51.67                   | 2.00                       | 12.25                       | H                     |
|            | 5646                 | -43.10          | -13              | -30.10                  | -64.29                  | -53.38                   | 2.12                       | 12.40                       | H                     |
|            | 7520                 | -51.84          | -13              | -38.84                  | -77.33                  | -59.80                   | 2.11                       | 10.07                       | H                     |
|            |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|            | 3756                 | -51.12          | -13              | -38.12                  | -68.31                  | -61.36                   | 2.00                       | 12.25                       | V                     |
|            | 5646                 | -43.76          | -13              | -30.76                  | -65.12                  | -54.04                   | 2.12                       | 12.40                       | V                     |
|            | 7520                 | -52.79          | -13              | -39.79                  | -77.52                  | -60.75                   | 2.11                       | 10.07                       | V                     |
|            |                      |                 |                  |                         |                         |                          |                            |                             | V                     |
| Highest    | 3812                 | -44.40          | -13              | -31.40                  | -61.95                  | -54.58                   | 2.03                       | 12.21                       | H                     |
|            | 5723                 | -44.52          | -13              | -31.52                  | -65.74                  | -54.93                   | 2.10                       | 12.51                       | H                     |
|            | 7627                 | -52.17          | -13              | -39.17                  | -77.4                   | -60.51                   | 2.11                       | 10.46                       | H                     |
|            |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|            | 3812                 | -53.17          | -13              | -40.17                  | -70.28                  | -63.35                   | 2.03                       | 12.21                       | V                     |
|            | 5723                 | -44.95          | -13              | -31.95                  | -66.3                   | -55.36                   | 2.10                       | 12.51                       | V                     |
|            | 7627                 | -52.56          | -13              | -39.56                  | -77.37                  | -60.90                   | 2.11                       | 10.46                       | V                     |
|            |                      |                 |                  |                         |                         |                          |                            |                             | V                     |

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

**<EUT with SIM 2> Part27L WCDMA 1700**

| 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                 | -53.30          | -13              | -40.30                  | -70.14                  | -63.67                   | 1.81                       | 12.18                       | H                     |
|            | 5135                 | -53.53          | -13              | -40.53                  | -74.15                  | -63.35                   | 2.30                       | 12.13                       | H                     |
|            | 6850                 | -54.42          | -13              | -41.42                  | -77.85                  | -63.10                   | 2.37                       | 11.05                       | H                     |
|            |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|            | 3427                 | -57.66          | -13              | -44.66                  | -74.03                  | -68.03                   | 1.81                       | 12.18                       | V                     |
|            | 5135                 | -56.71          | -13              | -43.71                  | -77.27                  | -66.53                   | 2.30                       | 12.13                       | V                     |
|            | 6850                 | -55.40          | -13              | -42.40                  | -78.11                  | -64.08                   | 2.37                       | 11.05                       | V                     |
|            |                      |                 |                  |                         |                         |                          |                            |                             | V                     |
| Middle     | 3469                 | -52.93          | -13              | -39.93                  | -70.12                  | -63.39                   | 1.84                       | 12.31                       | H                     |
|            | 5198                 | -44.42          | -13              | -31.42                  | -65.08                  | -54.28                   | 2.28                       | 12.14                       | H                     |
|            | 6927                 | -54.15          | -13              | -41.15                  | -77.97                  | -62.73                   | 2.40                       | 10.97                       | H                     |
|            |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|            | 3469                 | -57.95          | -13              | -44.95                  | -74.68                  | -68.41                   | 1.84                       | 12.31                       | V                     |
|            | 5198                 | -57.25          | -13              | -44.25                  | -77.8                   | -67.11                   | 2.28                       | 12.14                       | V                     |
|            | 6927                 | -54.95          | -13              | -41.95                  | -77.86                  | -63.53                   | 2.40                       | 10.97                       | V                     |
|            |                      |                 |                  |                         |                         |                          |                            |                             | V                     |
| Highest    | 3504                 | -55.17          | -13              | -42.17                  | -72.7                   | -65.70                   | 1.87                       | 12.40                       | H                     |
|            | 5261                 | -52.77          | -13              | -39.77                  | -73.52                  | -62.67                   | 2.25                       | 12.15                       | H                     |
|            | 7011                 | -53.23          | -13              | -40.23                  | -77.41                  | -61.70                   | 2.41                       | 10.88                       | H                     |
|            |                      |                 |                  |                         |                         |                          |                            |                             | H                     |
|            | 3504                 | -59.43          | -13              | -46.43                  | -76.5                   | -69.96                   | 1.87                       | 12.40                       | V                     |
|            | 5261                 | -57.23          | -13              | -44.23                  | -77.98                  | -67.13                   | 2.25                       | 12.15                       | V                     |
|            | 7011                 | -54.51          | -13              | -41.51                  | -77.6                   | -62.98                   | 2.41                       | 10.88                       | V                     |
|            |                      |                 |                  |                         |                         |                          |                            |                             | V                     |

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



## &lt;UAT Antenna&gt;

## &lt;EUT with SIM 1&gt; Part22H WCDMA 850

| 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    | 1652                 | -63.36         | -13              | -50.36                  | -75.91                  | -68.76                   | 1.23                       | 8.78                        | H                     |
|           | 2478                 | -61.44         | -13              | -48.44                  | -76.77                  | -68.34                   | 1.44                       | 10.48                       | H                     |
|           | 3304                 | -60.05         | -13              | -47.05                  | -77.12                  | -68.00                   | 1.71                       | 11.81                       | H                     |
|           |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|           | 1652                 | -65.67         | -13              | -52.67                  | -75.93                  | -71.07                   | 1.23                       | 8.78                        | V                     |
|           | 2478                 | -61.86         | -13              | -48.86                  | -76.58                  | -68.76                   | 1.44                       | 10.48                       | V                     |
|           | 3304                 | -60.51         | -13              | -47.51                  | -77.13                  | -68.46                   | 1.71                       | 11.81                       | V                     |
|           |                      |                |                  |                         |                         |                          |                            |                             | V                     |
| Middle    | 1672                 | -62.83         | -13              | -49.83                  | -75.59                  | -68.30                   | 1.24                       | 8.85                        | H                     |
|           | 2508                 | -61.51         | -13              | -48.51                  | -76.66                  | -68.43                   | 1.44                       | 10.51                       | H                     |
|           | 3344                 | -60.09         | -13              | -47.09                  | -77.03                  | -68.13                   | 1.74                       | 11.93                       | H                     |
|           |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|           | 1672                 | -65.09         | -13              | -52.09                  | -75.43                  | -70.56                   | 1.24                       | 8.85                        | V                     |
|           | 2508                 | -61.78         | -13              | -48.78                  | -76.48                  | -68.70                   | 1.44                       | 10.51                       | V                     |
|           | 3344                 | -60.39         | -13              | -47.39                  | -76.87                  | -68.43                   | 1.74                       | 11.93                       | V                     |
|           |                      |                |                  |                         |                         |                          |                            |                             | V                     |
| Highest   | 1692                 | -62.05         | -13              | -49.05                  | -75.04                  | -67.59                   | 1.24                       | 8.93                        | H                     |
|           | 2538                 | -61.15         | -13              | -48.15                  | -76.18                  | -68.09                   | 1.44                       | 10.53                       | H                     |
|           | 3384                 | -60.46         | -13              | -47.46                  | -77.19                  | -68.59                   | 1.77                       | 12.05                       | H                     |
|           |                      |                |                  |                         |                         |                          |                            |                             | H                     |
|           | 1692                 | -65.10         | -13              | -52.10                  | -75.55                  | -70.64                   | 1.24                       | 8.93                        | V                     |
|           | 2538                 | -61.87         | -13              | -48.87                  | -76.56                  | -68.81                   | 1.44                       | 10.53                       | V                     |
|           | 3384                 | -60.51         | -13              | -47.51                  | -76.78                  | -68.64                   | 1.77                       | 12.05                       | V                     |
|           |                      |                |                  |                         |                         |                          |                            |                             |                       |

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