

# FCC TEST REPORT (PART 90S)

**REPORT NO.:** RF131023C31-8  
**MODEL NO.:** 0P6B700  
**FCC ID:** NM80P6B700  
**RECEIVED:** Oct. 23, 2013  
**TESTED:** Jan. 02, 2014 ~ Jan. 09, 2014  
**ISSUED:** Jan. 14, 2014

**APPLICANT:** HTC Corporation

**ADDRESS:** No. 23,Xinghua Rd.,Taoyuan 330,Taiwan,R.O.C.

**ISSUED BY:** Bureau Veritas Consumer Products Services  
(H.K.) Ltd., Taoyuan Branch

**LAB ADDRESS:** No. 47, 14th Ling, Chia Pau Vil., Lin Kou Dist., New  
Taipei City, Taiwan ( R.O.C. )

**TEST LOCATION:** No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei  
Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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## RELEASE CONTROL RECORD

| ISSUE NO.     | REASON FOR CHANGE | DATE ISSUED   |
|---------------|-------------------|---------------|
| RF131023C31-8 | Original release  | Jan. 14, 2014 |

## 1 CERTIFICATION

**PRODUCT:** Smartphone

**MODEL:** 0P6B700

**BRAND:** HTC

**APPLICANT:** HTC Corporation

**TESTED:** Jan. 02, 2014 ~ Jan. 09, 2014

**TEST SAMPLE:** Production Unit

**STANDARDS:** FCC PART 90, Subpart S

The above equipment (model: 0P6B700) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

**PREPARED BY** : Ivy Wu , **DATE** : Jan. 14, 2014

Ivy Wu / Supervisor

**APPROVED BY** : Sam Chen , **DATE** : Jan. 14, 2014

Sam Chen / Senior Project Engineer

## 2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

| APPLIED STANDARD: FCC Part 90 & Part 2 |                              |        |                                                                                     |
|----------------------------------------|------------------------------|--------|-------------------------------------------------------------------------------------|
| STANDARD SECTION                       | TEST TYPE                    | RESULT | REMARK                                                                              |
| 2.1046<br>90.635 (b)                   | Effective radiated power     | PASS   | Meet the requirement of limit.                                                      |
| 2.1055<br>90.213                       | Frequency Stability          | PASS   | Meet the requirement of limit.                                                      |
| 2.1049<br>90.209                       | Occupied Bandwidth (*)       | PASS   | Meet the requirement of limit.                                                      |
| 2.1051<br>90.210                       | Emission Masks               | PASS   | Meet the requirement of limit.                                                      |
| 2.1051<br>90.691                       | Conducted Spurious Emissions | PASS   | Meet the requirement of limit.                                                      |
| 2.1053<br>90.691                       | Radiated Spurious Emissions  | PASS   | Meet the requirement of limit.<br>Minimum passing margin is -25.72dB at 2453.10MHz. |

### 2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

| MEASUREMENT         | FREQUENCY       | UNCERTAINTY |
|---------------------|-----------------|-------------|
| Conducted emissions | 150kHz~30MHz    | 2.44 dB     |
| Radiated emissions  | 30MHz ~ 200MHz  | 2.93 dB     |
|                     | 200MHz ~1000MHz | 2.95 dB     |
|                     | 1GHz ~ 18GHz    | 2.26 dB     |
|                     | 18GHz ~ 40GHz   | 1.94 dB     |

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

## 2.2 TEST SITE AND INSTRUMENTS

| DESCRIPTION & MANUFACTURER                     | MODEL NO.      | SERIAL NO.          | DATE OF CALIBRATION | DUE DATE OF CALIBRATION |
|------------------------------------------------|----------------|---------------------|---------------------|-------------------------|
| Test Receiver<br>ROHDE & SCHWARZ               | ESCI           | 100744              | Apr. 15, 2013       | Apr. 14, 2014           |
| Spectrum Analyzer<br>ROHDE & SCHWARZ           | FSU43          | 101261              | Dec. 21, 2013       | Dec. 20, 2014           |
| BILOG Antenna<br>SCHWARZBECK                   | VULB9168       | 9168-472            | Mar. 25, 2013       | Mar. 24, 2014           |
| HORN Antenna<br>SCHWARZBECK                    | BBHA 9120 D    | 9120D-969           | Jan. 07, 2013       | Jan. 06, 2014           |
| HORN Antenna<br>SCHWARZBECK                    | BBHA 9170      | 9170-480            | Dec. 18, 2013       | Dec. 17, 2014           |
| Loop Antenna                                   | HFH2-Z2        | 100070              | Jan. 31, 2012       | Jan. 30, 2014           |
| Preamplifier<br>EMCI                           | EMC 330H       | 980112              | Dec. 27, 2013       | Dec. 26, 2014           |
| RF signal cable<br>HUBER+SUHNNER               | SUCOFLEX 104   | 309219/4<br>2950114 | Oct. 18, 2013       | Oct. 17, 2014           |
| RF signal cable<br>HUBER+SUHNNER               | SUCOFLEX 104   | 250130/4            | Oct. 18, 2013       | Oct. 17, 2014           |
| RF signal cable<br>Worken                      | RG-213         | NA                  | Nov. 07, 2013       | Nov. 06, 2014           |
| Software<br>BV ADT                             | E3<br>6.120103 | NA                  | NA                  | NA                      |
| Antenna Tower<br>MF                            | MFA-440H       | NA                  | NA                  | NA                      |
| Turn Table<br>MF                               | MFT-201SS      | NA                  | NA                  | NA                      |
| Antenna Tower & Turn Table<br>Controller<br>MF | MF-7802        | NA                  | NA                  | NA                      |
| Mini-Circuits Power Splitter                   | ZN2PD-9G       | NA                  | Jul. 18, 2013       | Jul. 17, 2014           |
| JFW 20dB attenuation                           | 50HF-020-SMA   | NA                  | NA                  | NA                      |
| Communications<br>Tester-Wireless              | E5515C         | MY52102544          | Sep. 05, 2012       | Sep. 04, 2014           |
| Radio Communication<br>Analyzer                | MT8820C        | 6201300640          | Aug. 01, 2013       | Jul. 31, 2014           |

- NOTE:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 10.
3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 690701.
5. The IC Site Registration No. is IC 7450F-10.

### 3 GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

|                            |                                                                                                                            |                     |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------|---------------------|
| <b>EUT</b>                 | Smartphone                                                                                                                 |                     |
| <b>MODEL NO.</b>           | 0P6B700                                                                                                                    |                     |
| <b>POWER SUPPLY</b>        | 5.0Vdc (adapter or host equipment)<br>3.8Vdc (battery)                                                                     |                     |
| <b>MODULATION TYPE</b>     | <b>CDMA BC10</b>                                                                                                           | QPSK, OQPSK, HPSK   |
|                            | <b>LTE Band 26</b>                                                                                                         | QPSK, 16QAM         |
| <b>FREQUENCY RANGE</b>     | <b>CDMA BC10</b>                                                                                                           | 817.9MHz ~ 823.1MHz |
|                            | <b>LTE Band 26 (Channel Bandwidth: 1.4MHz)</b>                                                                             | 814.7MHz ~ 823.3MHz |
|                            | <b>LTE Band 26 (Channel Bandwidth: 3MHz)</b>                                                                               | 815.5MHz ~ 822.5MHz |
|                            | <b>LTE Band 26 (Channel Bandwidth: 5MHz)</b>                                                                               | 816.5MHz ~ 821.5MHz |
|                            | <b>LTE Band 26 (Channel Bandwidth: 10MHz)</b>                                                                              | 819MHz              |
| <b>MAX. ERP POWER</b>      | <b>CDMA BC10</b>                                                                                                           | 83.37mW             |
|                            | <b>LTE Band 26 (Channel Bandwidth: 1.4MHz)</b>                                                                             | 68.39mW             |
|                            | <b>LTE Band 26 (Channel Bandwidth: 3MHz)</b>                                                                               | 69.34mW             |
|                            | <b>LTE Band 26 (Channel Bandwidth: 5MHz)</b>                                                                               | 68.39mW             |
|                            | <b>LTE Band 26 (Channel Bandwidth: 10MHz)</b>                                                                              | 72.28mW             |
| <b>EMISSION DESIGNATOR</b> | <b>CDMA BC10</b>                                                                                                           | 1M28F9W             |
|                            | <b>LTE Band 26 (Channel Bandwidth: 1.4MHz)</b>                                                                             | 1M09G7D             |
|                            | <b>LTE Band 26 (Channel Bandwidth: 3MHz)</b>                                                                               | 2M69G7D             |
|                            | <b>LTE Band 26 (Channel Bandwidth: 5MHz)</b>                                                                               | 4M50G7D             |
|                            | <b>LTE Band 26 (Channel Bandwidth: 10MHz)</b>                                                                              | 8M94G7D             |
| <b>ANTENNA TYPE</b>        | <b>CDMA BC10:</b> Fixed Internal antenna with -2.8dBi gain<br><b>LTE Band 26:</b> Fixed Internal antenna with -2.5dBi gain |                     |
| <b>I/O PORTS</b>           | Refer to users' manual                                                                                                     |                     |
| <b>DATA CABLE</b>          | Refer to NOTE as below                                                                                                     |                     |
| <b>ACCESSORY DEVICES</b>   | Refer to NOTE as below                                                                                                     |                     |



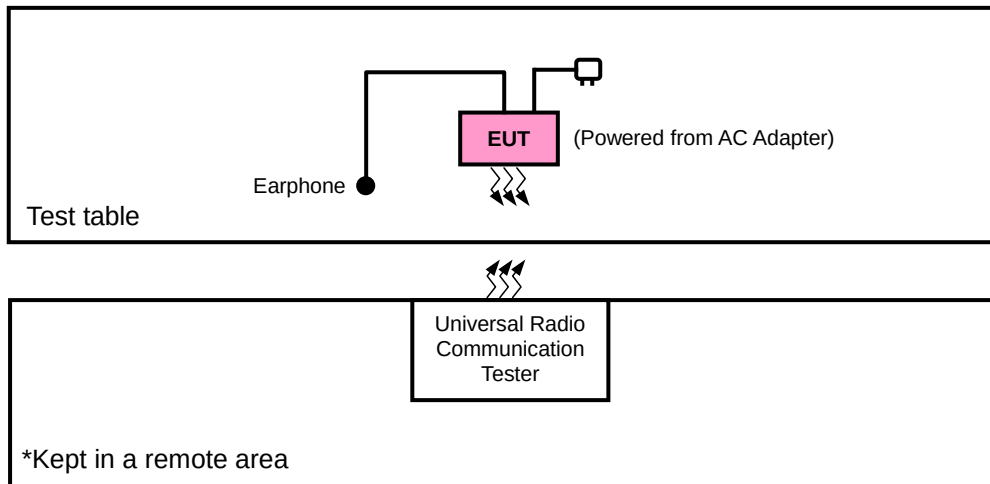
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**NOTE:**

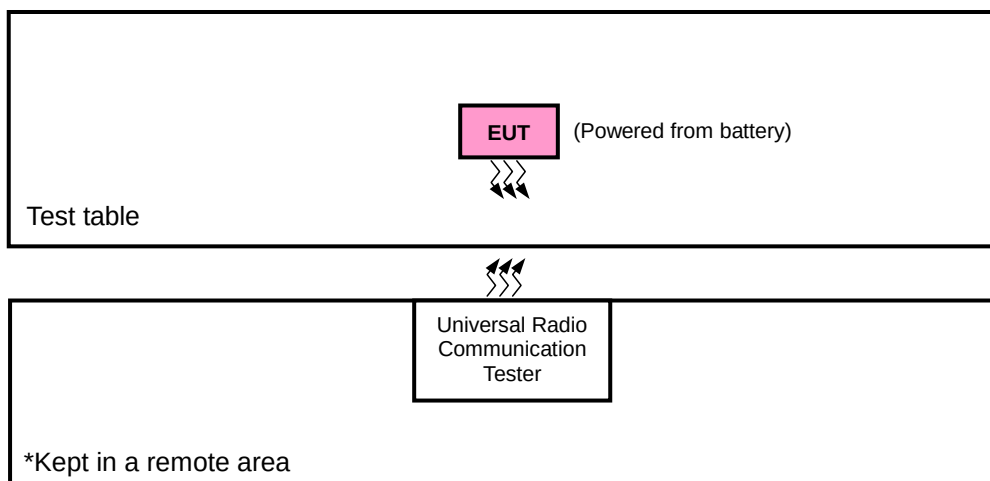
1. The EUT's accessories list refers to EUT photo.
2. There're 2 configurations for the EUT listed as below.  
Main Sample (A): Battery 1 + LCD Panel 1  
2<sup>nd</sup> Sample (B): Battery 2 + LCD Panel 2  
✧ Only the worst test data was presented in the report.
3. The above EUT information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

### 3.2 CONFIGURATION OF SYSTEM UNDER TEST

#### FOR RADIATION EMISSION TEST



#### FOR E.R.P. TEST



### 3.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units.

### 3.4 TEST ITEM AND TEST CONFIGURATION

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports. The worst case was found when positioned on X-plane for CDMA and Y-plane for LTE for ERP, and Y-axis for CDMA and Z-axis for LTE for radiated emission for antenna 0. Following channel(s) was (were) selected for the final test as listed below:

| EUT CONFIGURE MODE | DESCRIPTION            |
|--------------------|------------------------|
| A                  | Main sample            |
| B                  | 2 <sup>nd</sup> sample |

#### CDMA MODE

| EUT CONFIGURE MODE | TEST ITEM           | AVAILABLE CHANNEL | TESTED CHANNEL | MODE  |
|--------------------|---------------------|-------------------|----------------|-------|
| A                  | ERP                 | 476 to 684        | 476, 580, 684  | 1xRTT |
| B                  | ERP                 | 476 to 684        | 580            | 1xRTT |
| A                  | FREQUENCY STABILITY | 476 to 684        | 580            | 1xRTT |
| A                  | OCCUPIED BANDWIDTH  | 476 to 684        | 476, 580, 684  | 1xRTT |
| A                  | EMISSION MASK       | 476 to 684        | 476, 580, 684  | 1xRTT |
| A                  | CONDCUDED EMISSION  | 476 to 684        | 580            | 1xRTT |
| A                  | RADIATED EMISSION   | 476 to 684        | 580            | 1xRTT |

## LTE BAND 26 MODE

| EUT CONFIGURE MODE | TEST ITEM           | AVAILABLE CHANNEL | TESTED CHANNEL      | CHANNEL BANDWIDTH | MODULATION  | MODE                |
|--------------------|---------------------|-------------------|---------------------|-------------------|-------------|---------------------|
| A                  | ERP                 | 26697 to 26783    | 26697, 26740, 26783 | 1.4MHz            | QPSK, 16QAM | 1 RB / 0 RB Offset  |
|                    |                     | 26705 to 26775    | 26705, 26740, 26775 | 3MHz              | QPSK, 16QAM | 1 RB / 0 RB Offset  |
|                    |                     | 26715 to 26765    | 26715, 26740, 26765 | 5MHz              | QPSK, 16QAM | 1 RB / 0 RB Offset  |
|                    |                     | 26740             | 26740               | 10MHz             | QPSK, 16QAM | 1 RB / 0 RB Offset  |
| A                  | FREQUENCY STABILITY | 26697 to 26783    | 26740               | 1.4MHz            | QPSK        | 1 RB / 0 RB Offset  |
|                    |                     | 26705 to 26775    | 26740               | 3MHz              | QPSK        | 1 RB / 0 RB Offset  |
|                    |                     | 26715 to 26765    | 26740               | 5MHz              | QPSK        | 1 RB / 0 RB Offset  |
|                    |                     | 26740             | 26740               | 10MHZ             | QPSK        | 1 RB / 0 RB Offset  |
| A                  | OCCUPIED BANDWIDTH  | 26697 to 26783    | 26697, 26740, 26783 | 1.4MHz            | QPSK, 16QAM | 6 RB / 0 RB Offset  |
|                    |                     | 26705 to 26775    | 26705, 26740, 26775 | 3MHz              | QPSK, 16QAM | 15 RB / 0 RB Offset |
|                    |                     | 26715 to 26765    | 26715, 26740, 26765 | 5MHz              | QPSK, 16QAM | 25 RB / 0 RB Offset |
|                    |                     | 26740             | 26740               | 10MHz             | QPSK, 16QAM | 50 RB / 0 RB Offset |
| A                  | EMISSION MASK       | 26697 to 26783    | 26697               | 1.4MHz            | QPSK, 16QAM | 1 RB / 0 RB Offset  |
|                    |                     |                   | 26740               | 1.4MHz            | QPSK, 16QAM | 6 RB / 0 RB Offset  |
|                    |                     |                   | 26783               | 1.4MHz            | QPSK, 16QAM | 1 RB / 0 RB Offset  |
|                    |                     |                   | 26740               | 1.4MHz            | QPSK, 16QAM | 6 RB / 0 RB Offset  |
|                    |                     | 26705 to 26775    | 26705               | 3MHz              | QPSK, 16QAM | 1 RB / 0 RB Offset  |
|                    |                     |                   | 26740               | 3MHz              | QPSK, 16QAM | 15 RB / 0 RB Offset |
|                    |                     |                   | 26775               | 3MHz              | QPSK, 16QAM | 1 RB / 0 RB Offset  |
|                    |                     |                   | 26740               | 3MHz              | QPSK, 16QAM | 15 RB / 0 RB Offset |
|                    |                     | 26715 to 26765    | 26715               | 5MHz              | QPSK, 16QAM | 1 RB / 0 RB Offset  |
|                    |                     |                   | 26740               | 5MHz              | QPSK, 16QAM | 25 RB / 0 RB Offset |
|                    |                     |                   | 26775               | 5MHz              | QPSK, 16QAM | 1 RB / 0 RB Offset  |
|                    |                     |                   | 26740               | 5MHz              | QPSK, 16QAM | 25 RB / 0 RB Offset |
|                    |                     | 26740             | 26740               | 10MHz             | QPSK, 16QAM | 1 RB / 0 RB Offset  |
|                    |                     |                   | 26740               | 10MHz             | QPSK, 16QAM | 1 RB / 49 RB Offset |
|                    |                     |                   | 26740               | 10MHz             | QPSK, 16QAM | 50 RB / 0 RB Offset |
|                    |                     |                   | 26740               | 10MHz             | QPSK, 16QAM | 50 RB / 0 RB Offset |
| A                  | CONDCUDED EMISSION  | 26697 to 26783    | 26740               | 1.4MHz            | QPSK        | 1 RB / 0 RB Offset  |
|                    |                     | 26705 to 26775    | 26740               | 3MHz              | QPSK        | 1 RB / 0 RB Offset  |
|                    |                     | 26715 to 26765    | 26740               | 5MHz              | QPSK        | 1 RB / 0 RB Offset  |
|                    |                     | 26740             | 26740               | 10MHZ             | QPSK        | 1 RB / 0 RB Offset  |
| A                  | RADIATED EMISSION   | 26697 to 26783    | 26740               | 1.4MHz            | QPSK        | 1 RB / 0 RB Offset  |
|                    |                     | 26705 to 26775    | 26740               | 3MHz              | QPSK        | 1 RB / 0 RB Offset  |
|                    |                     | 26715 to 26765    | 26740               | 5MHz              | QPSK        | 1 RB / 0 RB Offset  |
|                    |                     | 26740             | 26740               | 10MHZ             | QPSK        | 1 RB / 0 RB Offset  |

**Note:** This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.



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**TEST CONDITION:**

| TEST ITEM           | ENVIRONMENTAL CONDITIONS | INPUT POWER  | TESTED BY    |
|---------------------|--------------------------|--------------|--------------|
| ERP                 | 26deg. C, 58%RH          | 3.8Vdc       | Howard Kao   |
| FREQUENCY STABILITY | 26deg. C, 58%RH          | 3.8Vdc       | Howard Kao   |
| OCCUPIED BANDWIDTH  | 26deg. C, 58%RH          | 3.8Vdc       | Howard Kao   |
| EMISSION MASK       | 26deg. C, 58%RH          | 3.8Vdc       | Howard Kao   |
| CONDCUDED EMISSION  | 26deg. C, 58%RH          | 3.8Vdc       | Howard Kao   |
| RADIATED EMISSION   | 25deg. C, 65%RH          | 120Vac, 60Hz | Johnson Liao |



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### **3.5 EUT OPERATING CONDITIONS**

The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency

### **3.6 GENERAL DESCRIPTION OF APPLIED STANDARDS**

The EUT is a RF product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

**FCC 47 CFR Part 2**

**FCC 47 CFR Part 90**

**ANSI/TIA/EIA-603-C 2004**

**NOTE:** All test items have been performed and recorded as per the above standards.

## 4 TEST TYPES AND RESULTS

### 4.1 OUTPUT POWER MEASUREMENT

#### 4.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

Mobile / Portable station are limited to 100 watts e.r.p.

#### 4.1.2 TEST PROCEDURES

##### EIRP MEASUREMENT:

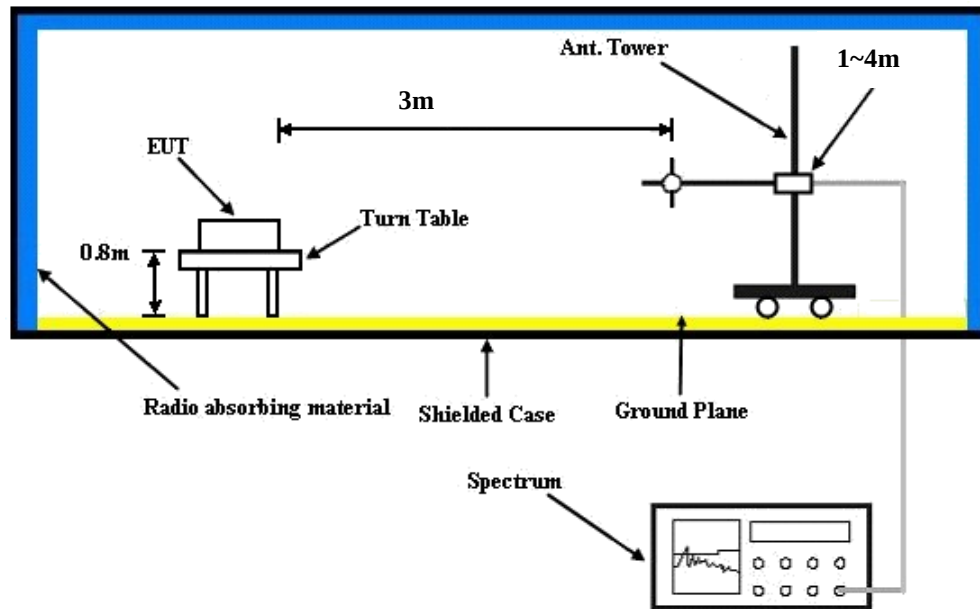
- a. All measurements were done at low, middle and high operational frequency range. RBW and VBW is 5MHz for CDMA mode, and 10MHz for LTE mode.
- b. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- c. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a tx cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step b. Record the power level of S.G
- d.  $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}.$

##### CONDUCTED POWER MEASUREMENT:

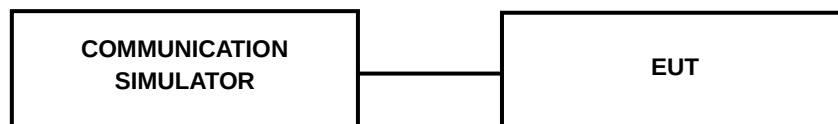
The EUT was set up for the maximum power with CDMA & LTE link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

### 4.1.3 TEST SETUP

#### EIRP / ERP MEASUREMENT:



#### CONDUCTED POWER MEASUREMENT:



#### 4.1.4 TEST RESULTS

##### CONDUCTED OUTPUT POWER (dBm)

| Band              | CDMA  |       |              |
|-------------------|-------|-------|--------------|
| Channel           | 476   | 580   | 684          |
| Frequency (MHz)   | 817.9 | 820.5 | 823.1        |
| RC1+SO55          | 24.37 | 24.30 | 24.41        |
| RC3+SO55          | 24.41 | 24.34 | 24.45        |
| RC3+SO32(+ F-SCH) | 24.40 | 24.33 | 24.44        |
| RC3+SO32(+SCH)    | 24.38 | 24.31 | 24.42        |
| RTAP 153.6        | 24.44 | 24.37 | <b>24.48</b> |
| RETAP 4096        | 24.36 | 24.29 | 24.40        |

| Band / BW | Modulation | RB Size | RB Offset | Low CH 26697        | Mid CH 26740        | High CH 26783       | 3PGG MPR (dB) |
|-----------|------------|---------|-----------|---------------------|---------------------|---------------------|---------------|
|           |            |         |           | Frequency 814.7 MHz | Frequency 819.0 MHz | Frequency 823.3 MHz |               |
| 26 / 1.4M | QPSK       | 1       | 0         | 23.06               | 23.11               | 23.14               | 0             |
|           |            | 1       | 2         | 22.99               | 23.04               | 23.07               | 0             |
|           |            | 1       | 5         | 23.00               | 23.05               | 23.08               | 0             |
|           |            | 3       | 0         | 23.03               | 23.08               | 23.11               | 0             |
|           |            | 3       | 1         | 23.04               | 23.09               | 23.12               | 0             |
|           |            | 3       | 3         | 22.99               | 23.04               | 23.07               | 0             |
|           |            | 6       | 0         | 22.07               | 22.12               | 22.15               | 1             |
|           | 16QAM      | 1       | 0         | 22.02               | 22.07               | 22.10               | 1             |
|           |            | 1       | 2         | 21.95               | 22.00               | 22.03               | 1             |
|           |            | 1       | 5         | 21.96               | 22.01               | 22.04               | 1             |
|           |            | 3       | 0         | 21.99               | 22.04               | 22.07               | 1             |
|           |            | 3       | 1         | 22.00               | 22.05               | 22.08               | 1             |
|           |            | 3       | 3         | 21.95               | 22.00               | 22.03               | 1             |
|           |            | 6       | 0         | 21.03               | 21.08               | 21.11               | 2             |

| Band / BW | Modulation | RB Size | RB Offset | Low CH 26705        | Mid CH 26740        | High CH 26775       | 3PGG MPR (dB) |
|-----------|------------|---------|-----------|---------------------|---------------------|---------------------|---------------|
|           |            |         |           | Frequency 815.5 MHz | Frequency 819.0 MHz | Frequency 822.5 MHz |               |
| 26 / 3M   | QPSK       | 1       | 0         | 23.19               | 23.24               | 23.27               | 0             |
|           |            | 1       | 7         | 23.12               | 23.17               | 23.20               | 0             |
|           |            | 1       | 14        | 23.13               | 23.18               | 23.21               | 0             |
|           |            | 8       | 0         | 22.16               | 22.21               | 22.24               | 1             |
|           |            | 8       | 3         | 22.17               | 22.22               | 22.25               | 1             |
|           |            | 8       | 7         | 22.12               | 22.17               | 22.20               | 1             |
|           |            | 15      | 0         | 22.20               | 22.25               | 22.28               | 1             |
|           | 16QAM      | 1       | 0         | 22.15               | 22.20               | 22.23               | 1             |
|           |            | 1       | 7         | 22.08               | 22.13               | 22.16               | 1             |
|           |            | 1       | 14        | 22.09               | 22.14               | 22.17               | 1             |
|           |            | 8       | 0         | 21.12               | 21.17               | 21.20               | 2             |
|           |            | 8       | 3         | 21.13               | 21.18               | 21.21               | 2             |
|           |            | 8       | 7         | 21.08               | 21.13               | 21.16               | 2             |
|           |            | 15      | 0         | 21.16               | 21.21               | 21.24               | 2             |

| Band / BW | Modulation | RB Size | RB Offset | Low CHG<br>26715       | Mid CH<br>26740        | High CH<br>26765       | 3PGG<br>MPR<br>(dB) |
|-----------|------------|---------|-----------|------------------------|------------------------|------------------------|---------------------|
|           |            |         |           | Frequency<br>816.5 MHz | Frequency<br>819.0 MHz | Frequency<br>821.5 MHz |                     |
| 26 / 5M   | QPSK       | 1       | 0         | 23.30                  | 23.35                  | 23.38                  | 0                   |
|           |            | 1       | 12        | 23.23                  | 23.28                  | 23.31                  | 0                   |
|           |            | 1       | 24        | 23.24                  | 23.29                  | 23.32                  | 0                   |
|           |            | 12      | 0         | 22.27                  | 22.32                  | 22.35                  | 1                   |
|           |            | 12      | 6         | 22.28                  | 22.33                  | 22.36                  | 1                   |
|           |            | 12      | 13        | 22.23                  | 22.28                  | 22.31                  | 1                   |
|           |            | 25      | 0         | 22.31                  | 22.36                  | 22.39                  | 1                   |
|           | 16QAM      | 1       | 0         | 22.26                  | 22.31                  | 22.34                  | 1                   |
|           |            | 1       | 12        | 22.19                  | 22.24                  | 22.27                  | 1                   |
|           |            | 1       | 24        | 22.20                  | 22.25                  | 22.28                  | 1                   |
|           |            | 12      | 0         | 21.23                  | 21.28                  | 21.31                  | 2                   |
|           |            | 12      | 6         | 21.24                  | 21.29                  | 21.32                  | 2                   |
|           |            | 12      | 13        | 21.19                  | 21.24                  | 21.27                  | 2                   |
|           |            | 25      | 0         | 21.27                  | 21.32                  | 21.35                  | 2                   |

| Band / BW | Modulation | RB Size | RB Offset | Mid CH<br>26740        | 3PGG<br>MPR<br>(dB) |
|-----------|------------|---------|-----------|------------------------|---------------------|
|           |            |         |           | Frequency<br>819.0 MHz |                     |
| 26 / 10M  | QPSK       | 1       | 0         | 23.39                  | 0                   |
|           |            | 1       | 24        | 23.32                  | 0                   |
|           |            | 1       | 49        | 23.33                  | 0                   |
|           |            | 25      | 0         | 22.36                  | 1                   |
|           |            | 25      | 12        | 22.37                  | 1                   |
|           |            | 25      | 25        | 22.32                  | 1                   |
|           |            | 50      | 0         | 22.40                  | 1                   |
|           | 16QAM      | 1       | 0         | 22.35                  | 1                   |
|           |            | 1       | 24        | 22.28                  | 1                   |
|           |            | 1       | 49        | 22.29                  | 1                   |
|           |            | 25      | 0         | 21.32                  | 2                   |
|           |            | 25      | 12        | 21.33                  | 2                   |
|           |            | 25      | 25        | 21.28                  | 2                   |
|           |            | 50      | 0         | 21.36                  | 2                   |

## ERP POWER (dBm)

### TEST MODE A

#### CDMA

| Plane | Channel | Frequency (MHz) | LVL (dBm) | Correction Factor(dB) | ERP(dBm) | ERP(mW) | Polarization (H/V) |
|-------|---------|-----------------|-----------|-----------------------|----------|---------|--------------------|
| X     | 476     | 817.9           | -11.42    | 32.62                 | 19.05    | 80.35   | H                  |
|       | 580     | 820.5           | -11.16    | 32.52                 | 19.21    | 83.37   | H                  |
|       | 684     | 823.1           | -11.45    | 32.65                 | 19.05    | 80.35   | H                  |
|       | 476     | 817.9           | -18.82    | 32.76                 | 11.79    | 15.10   | V                  |
|       | 580     | 820.5           | -18.94    | 32.39                 | 11.30    | 13.49   | V                  |
|       | 684     | 823.1           | -18.75    | 32.54                 | 11.64    | 14.59   | V                  |

#### LTE Band 26

#### CHANNEL BANDWIDTH: 1.4MHz QPSK

| Plane | Channel | Frequency (MHz) | LVL (dBm) | Correction Factor(dB) | ERP(dBm) | ERP(mW) | Polarization (H/V) |
|-------|---------|-----------------|-----------|-----------------------|----------|---------|--------------------|
| Y     | 26697   | 814.7           | -11.52    | 32.02                 | 18.35    | 68.39   | H                  |
|       | 26740   | 819             | -11.75    | 32.11                 | 18.21    | 66.22   | H                  |
|       | 26783   | 823.3           | -11.73    | 32.18                 | 18.30    | 67.61   | H                  |
|       | 26697   | 814.7           | -17.21    | 32.5                  | 13.14    | 20.61   | V                  |
|       | 26740   | 819             | -17.19    | 32.51                 | 13.17    | 20.75   | V                  |
|       | 26783   | 823.3           | -17.38    | 32.47                 | 12.94    | 19.68   | V                  |

#### CHANNEL BANDWIDTH: 1.4MHz 16QAM

| Plane | Channel | Frequency (MHz) | LVL (dBm) | Correction Factor(dB) | ERP(dBm) | ERP(mW) | Polarization (H/V) |
|-------|---------|-----------------|-----------|-----------------------|----------|---------|--------------------|
| Y     | 26697   | 814.7           | -12.68    | 32.02                 | 17.19    | 52.36   | H                  |
|       | 26740   | 819             | -12.75    | 32.11                 | 17.21    | 52.60   | H                  |
|       | 26783   | 823.3           | -12.77    | 32.18                 | 17.26    | 53.21   | H                  |
|       | 26697   | 814.7           | -18.02    | 32.5                  | 12.33    | 17.10   | V                  |
|       | 26740   | 819             | -17.98    | 32.51                 | 12.38    | 17.30   | V                  |
|       | 26783   | 823.3           | -18.04    | 32.47                 | 12.28    | 16.90   | V                  |

### CHANNEL BANDWIDTH: 3MHz QPSK

| Plane | Channel | Frequency (MHz) | LVL (dBm) | Correction Factor(dB) | ERP(dBm) | ERP(mW) | Polarization (H/V) |
|-------|---------|-----------------|-----------|-----------------------|----------|---------|--------------------|
| Y     | 26705   | 815.5           | -11.49    | 32.02                 | 18.38    | 68.87   | H                  |
|       | 26740   | 819             | -11.60    | 32.11                 | 18.36    | 68.55   | H                  |
|       | 26775   | 822.5           | -11.62    | 32.18                 | 18.41    | 69.34   | H                  |
|       | 26705   | 815.5           | -17.31    | 32.5                  | 13.04    | 20.14   | V                  |
|       | 26740   | 819             | -17.41    | 32.51                 | 12.95    | 19.72   | V                  |
|       | 26775   | 822.5           | -17.40    | 32.47                 | 12.92    | 19.59   | V                  |

### CHANNEL BANDWIDTH: 3MHz 16QAM

| Plane | Channel | Frequency (MHz) | LVL (dBm) | Correction Factor(dB) | ERP(dBm) | ERP(mW) | Polarization (H/V) |
|-------|---------|-----------------|-----------|-----------------------|----------|---------|--------------------|
| Y     | 26705   | 815.5           | -12.42    | 32.02                 | 17.45    | 55.59   | H                  |
|       | 26740   | 819             | -12.63    | 32.11                 | 17.33    | 54.08   | H                  |
|       | 26775   | 822.5           | -12.74    | 32.18                 | 17.29    | 53.58   | H                  |
|       | 26705   | 815.5           | -17.87    | 32.5                  | 12.48    | 17.70   | V                  |
|       | 26740   | 819             | -18.02    | 32.51                 | 12.34    | 17.14   | V                  |
|       | 26775   | 822.5           | -17.84    | 32.47                 | 12.48    | 17.70   | V                  |

### CHANNEL BANDWIDTH: 5MHz QPSK

| Plane | Channel | Frequency (MHz) | LVL (dBm) | Correction Factor(dB) | ERP(dBm) | ERP(mW) | Polarization (H/V) |
|-------|---------|-----------------|-----------|-----------------------|----------|---------|--------------------|
| Y     | 26715   | 816.5           | -11.54    | 32.04                 | 18.35    | 68.39   | H                  |
|       | 26740   | 819             | -11.80    | 32.11                 | 18.16    | 65.46   | H                  |
|       | 26765   | 821.5           | -11.31    | 31.79                 | 18.33    | 68.08   | H                  |
|       | 26715   | 816.5           | -17.10    | 32.52                 | 13.27    | 21.23   | V                  |
|       | 26740   | 819             | -17.25    | 32.51                 | 13.11    | 20.46   | V                  |
|       | 26765   | 821.5           | -17.07    | 32.17                 | 12.95    | 19.72   | V                  |

#### CHANNEL BANDWIDTH: 5MHz 16QAM

| Plane | Channel | Frequency (MHz) | LVL (dBm) | Correction Factor(dB) | ERP(dBm) | ERP(mW) | Polarization (H/V) |
|-------|---------|-----------------|-----------|-----------------------|----------|---------|--------------------|
| Y     | 26715   | 816.5           | -12.47    | 32.04                 | 17.42    | 55.21   | H                  |
|       | 26740   | 819             | -12.72    | 32.11                 | 17.24    | 52.97   | H                  |
|       | 26765   | 821.5           | -12.49    | 31.79                 | 17.15    | 51.88   | H                  |
|       | 26715   | 816.5           | -18.17    | 32.52                 | 12.20    | 16.60   | V                  |
|       | 26740   | 819             | -18.08    | 32.51                 | 12.28    | 16.90   | V                  |
|       | 26765   | 821.5           | -17.86    | 32.17                 | 12.16    | 16.44   | V                  |

#### CHANNEL BANDWIDTH: 10MHz QPSK

| Plane | Channel | Frequency (MHz) | LVL (dBm) | Correction Factor(dB) | ERP(dBm) | ERP(mW) | Polarization (H/V) |
|-------|---------|-----------------|-----------|-----------------------|----------|---------|--------------------|
| Y     | 26740   | 819             | -11.37    | 32.11                 | 18.59    | 72.28   | H                  |
|       | 26740   | 819             | -17.41    | 32.51                 | 12.95    | 19.72   | V                  |

#### CHANNEL BANDWIDTH: 10MHz 16QAM

| Plane | Channel | Frequency (MHz) | LVL (dBm) | Correction Factor(dB) | ERP(dBm) | ERP(mW) | Polarization (H/V) |
|-------|---------|-----------------|-----------|-----------------------|----------|---------|--------------------|
| Y     | 26740   | 819             | -12.50    | 32.11                 | 17.46    | 55.72   | H                  |
|       | 26740   | 819             | -17.84    | 32.51                 | 12.52    | 17.86   | V                  |

#### TEST MODE B

##### CDMA

| Plane | Channel | Frequency (MHz) | LVL (dBm) | Correction Factor(dB) | ERP(dBm) | ERP(mW) | Polarization (H/V) |
|-------|---------|-----------------|-----------|-----------------------|----------|---------|--------------------|
| X     | 580     | 820.5           | -11.49    | 32.52                 | 18.88    | 77.27   | H                  |
|       | 580     | 820.5           | -18.70    | 32.39                 | 11.54    | 14.26   | V                  |

## 4.2 FREQUENCY STABILITY MEASUREMENT

### 4.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

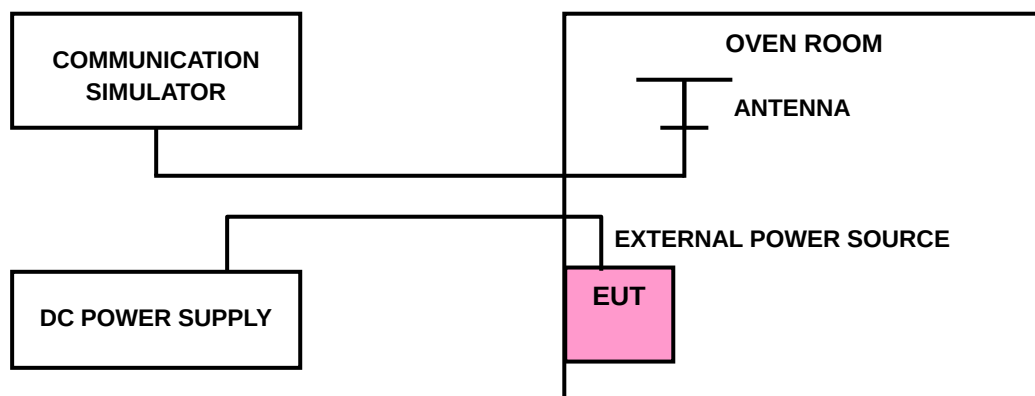
1.5 ppm is for base and fixed station. 2.5 ppm is for mobile station.

### 4.2.2 TEST PROCEDURE

- Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
- EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
- The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the  $\pm 0.5^{\circ}\text{C}$  during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

**NOTE:** The frequency error was recorded frequency error from the communication simulator.

### 4.2.3 TEST SETUP



## 4.2.4 TEST RESULTS

### FREQUENCY ERROR vs. VOLTAGE

| VOLTAGE (Volts) | FREQUENCY ERROR (ppm) |             |         |         |         | LIMIT (ppm) |
|-----------------|-----------------------|-------------|---------|---------|---------|-------------|
|                 | CDMA                  | LTE Band 26 |         |         |         |             |
|                 |                       | 1.4MHz      | 3MHz    | 5MHz    | 10MHz   |             |
| 3.8             | -0.0017               | 0.0050      | 0.0035  | 0.0034  | -0.0061 | 2.5         |
| 3.6             | -0.0013               | 0.0054      | 0.0006  | 0.0017  | 0.0039  | 2.5         |
| 4.35            | -0.0021               | -0.0037     | -0.0029 | -0.0044 | -0.0021 | 2.5         |

**NOTE:** The applicant defined the normal working voltage of the battery is from 3.6Vdc to 4.35Vdc.

### FREQUENCY ERROR vs. TEMPERATURE

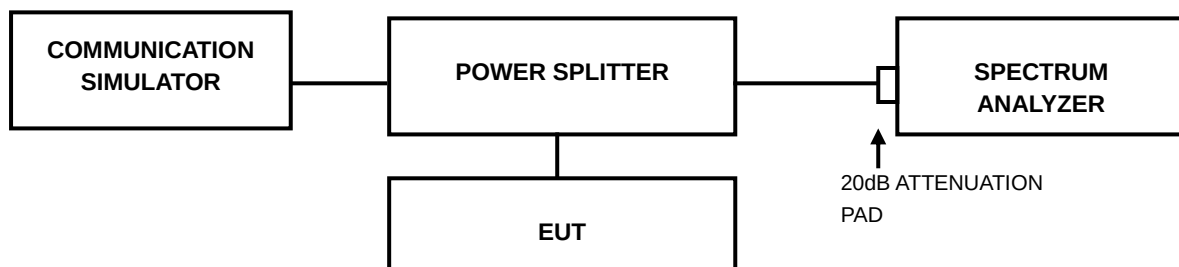
| TEMP. (°C) | FREQUENCY ERROR (ppm) |             |         |         |         | LIMIT (ppm) |
|------------|-----------------------|-------------|---------|---------|---------|-------------|
|            | CDMA                  | LTE Band 26 |         |         |         |             |
|            |                       | 1.4MHz      | 3MHz    | 5MHz    | 10MHz   |             |
| -30        | 0.0023                | 0.0016      | -0.0017 | -0.0009 | -0.0015 | 2.5         |
| -20        | 0.0023                | 0.0011      | 0.0072  | 0.0001  | -0.0024 | 2.5         |
| -10        | 0.0014                | -0.0012     | 0.0062  | -0.0060 | -0.0118 | 2.5         |
| 0          | 0.0018                | 0.0057      | -0.0088 | 0.0021  | -0.0022 | 2.5         |
| 10         | 0.0022                | 0.0045      | 0.0023  | -0.0042 | -0.0021 | 2.5         |
| 20         | 0.0008                | -0.0074     | -0.0017 | -0.0018 | -0.0054 | 2.5         |
| 30         | -0.0011               | -0.0012     | -0.0021 | -0.0002 | -0.0055 | 2.5         |
| 40         | -0.0016               | -0.0018     | -0.0011 | -0.0055 | -0.0081 | 2.5         |
| 50         | -0.0017               | -0.0006     | -0.0066 | -0.0001 | -0.0038 | 2.5         |

## 4.3 OCCUPIED BANDWIDTH MEASUREMENT

### 4.3.1 TEST PROCEDURES

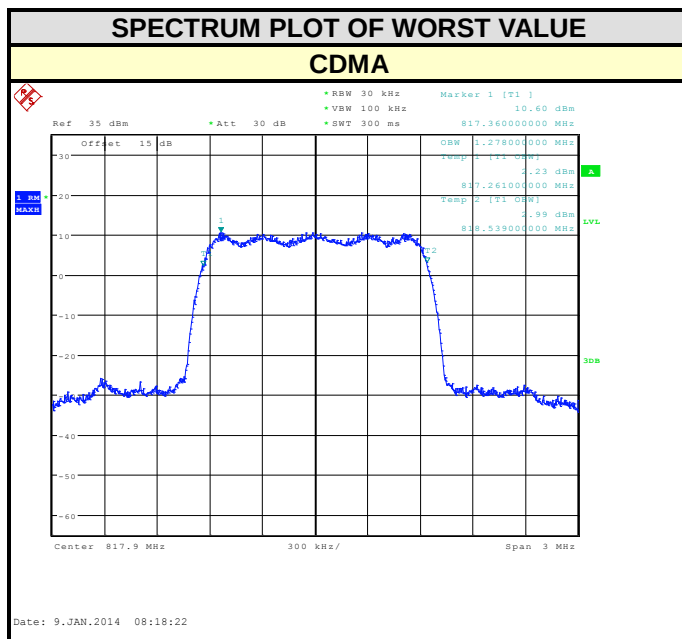
The EUT makes a call to the communication simulator. All measurements were done at low, middle and high operational frequency range. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

### 4.3.2 TEST SETUP

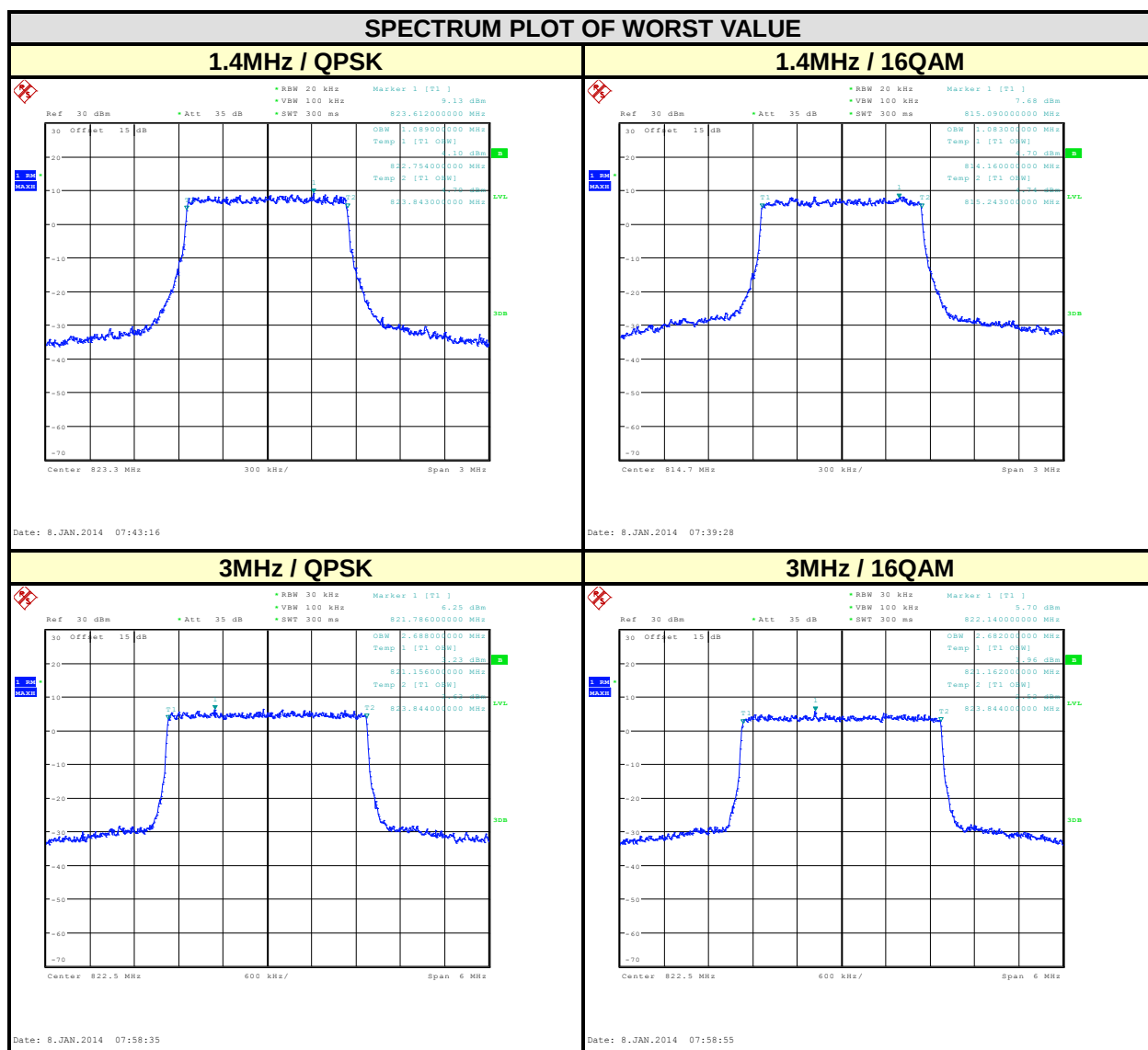


### 4.3.3 TEST RESULTS

| CHANNEL | FREQUENCY (MHz) | 99% OCCUPIED BANDWIDTH (MHz) |
|---------|-----------------|------------------------------|
|         |                 | CDMA                         |
| 476     | 817.9           | 1.278                        |
| 580     | 820.5           | 1.278                        |
| 684     | 823.1           | 1.275                        |



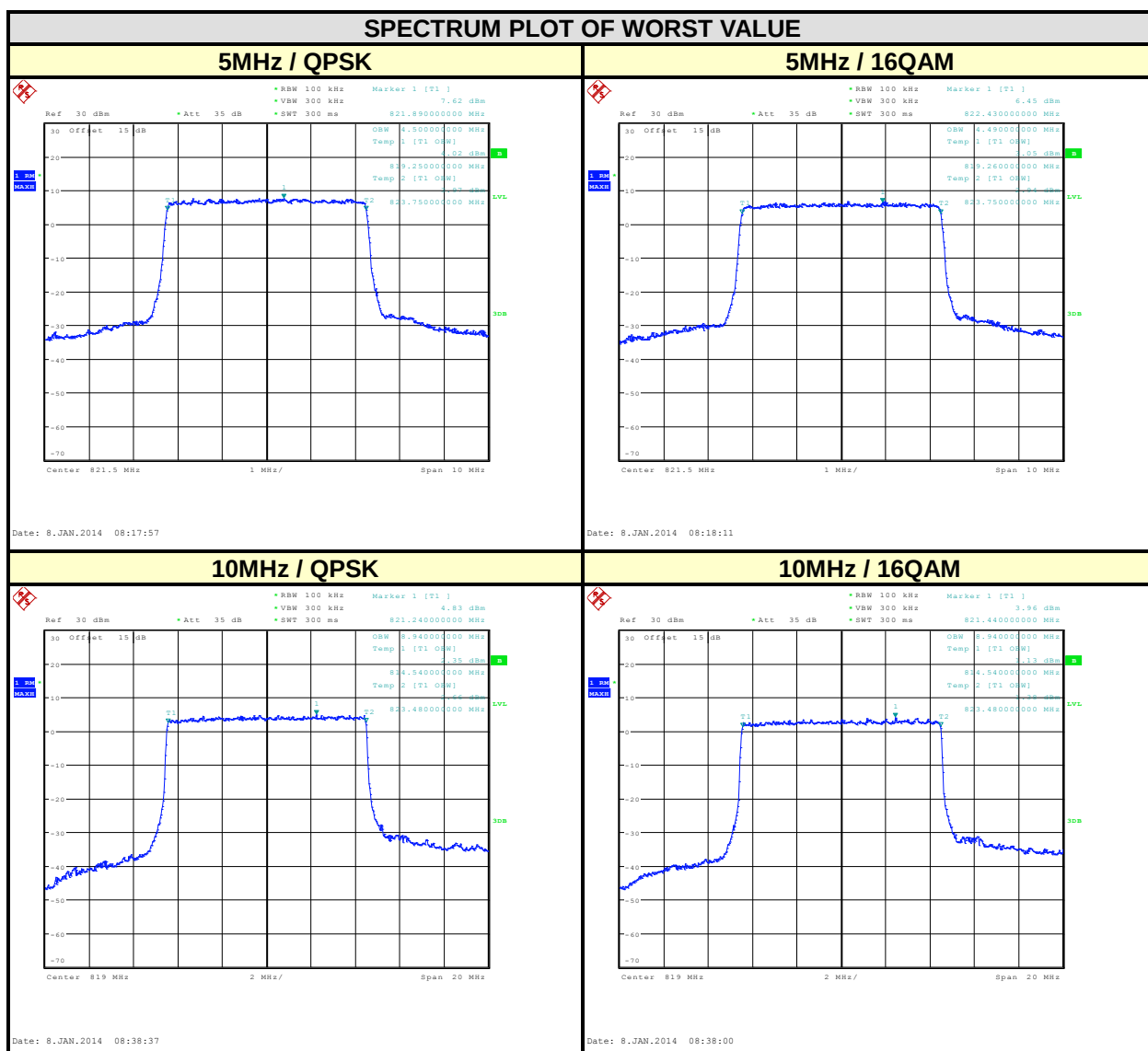
| LTE BAND 26               |                 |                              |       |                         |                 |                              |       |
|---------------------------|-----------------|------------------------------|-------|-------------------------|-----------------|------------------------------|-------|
| CHANNEL BANDWIDTH: 1.4MHz |                 |                              |       | CHANNEL BANDWIDTH: 3MHz |                 |                              |       |
| CHANNEL                   | FREQUENCY (MHz) | 99% OCCUPIED BANDWIDTH (MHz) |       | CHANNEL                 | FREQUENCY (MHz) | 99% OCCUPIED BANDWIDTH (MHz) |       |
|                           |                 | QPSK                         | 16QAM |                         |                 | QPSK                         | 16QAM |
| 26697                     | 814.7           | 1.086                        | 1.083 | 26705                   | 815.5           | 2.682                        | 2.682 |
| 26740                     | 819             | 1.086                        | 1.083 | 26740                   | 819             | 2.688                        | 2.682 |
| 26783                     | 823.3           | 1.089                        | 1.083 | 26775                   | 822.5           | 2.688                        | 2.682 |





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| LTE BAND 26             |                 |                              |       |                          |                 |                              |       |
|-------------------------|-----------------|------------------------------|-------|--------------------------|-----------------|------------------------------|-------|
| CHANNEL BANDWIDTH: 5MHz |                 |                              |       | CHANNEL BANDWIDTH: 10MHz |                 |                              |       |
| CHANNEL                 | FREQUENCY (MHz) | 99% OCCUPIED BANDWIDTH (MHz) |       | CHANNEL                  | FREQUENCY (MHz) | 99% OCCUPIED BANDWIDTH (MHz) |       |
|                         |                 | QPSK                         | 16QAM |                          |                 | QPSK                         | 16QAM |
| 26715                   | 816.5           | 4.49                         | 4.49  | 26740                    | 819             | 8.94                         | 8.94  |
| 26740                   | 819             | 4.5                          | 4.49  |                          |                 |                              |       |
| 26765                   | 821.5           | 4.5                          | 4.49  |                          |                 |                              |       |

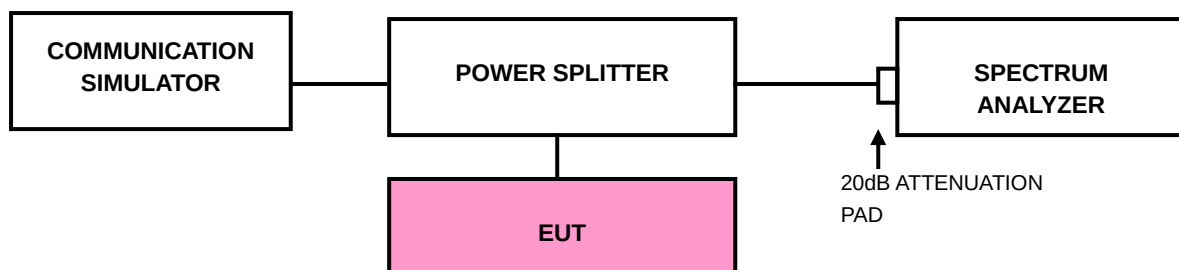


## 4.4 EMISSION MASK MEASUREMENT

### 4.4.1 LIMITS OF BAND EDGE MEASUREMENT

According to FCC part 90.691 shall be tested the emission mask. For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least  $116 \log_{10}(f/6.1)$  decibels or  $50 + 10 \log_{10}(P)$  decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

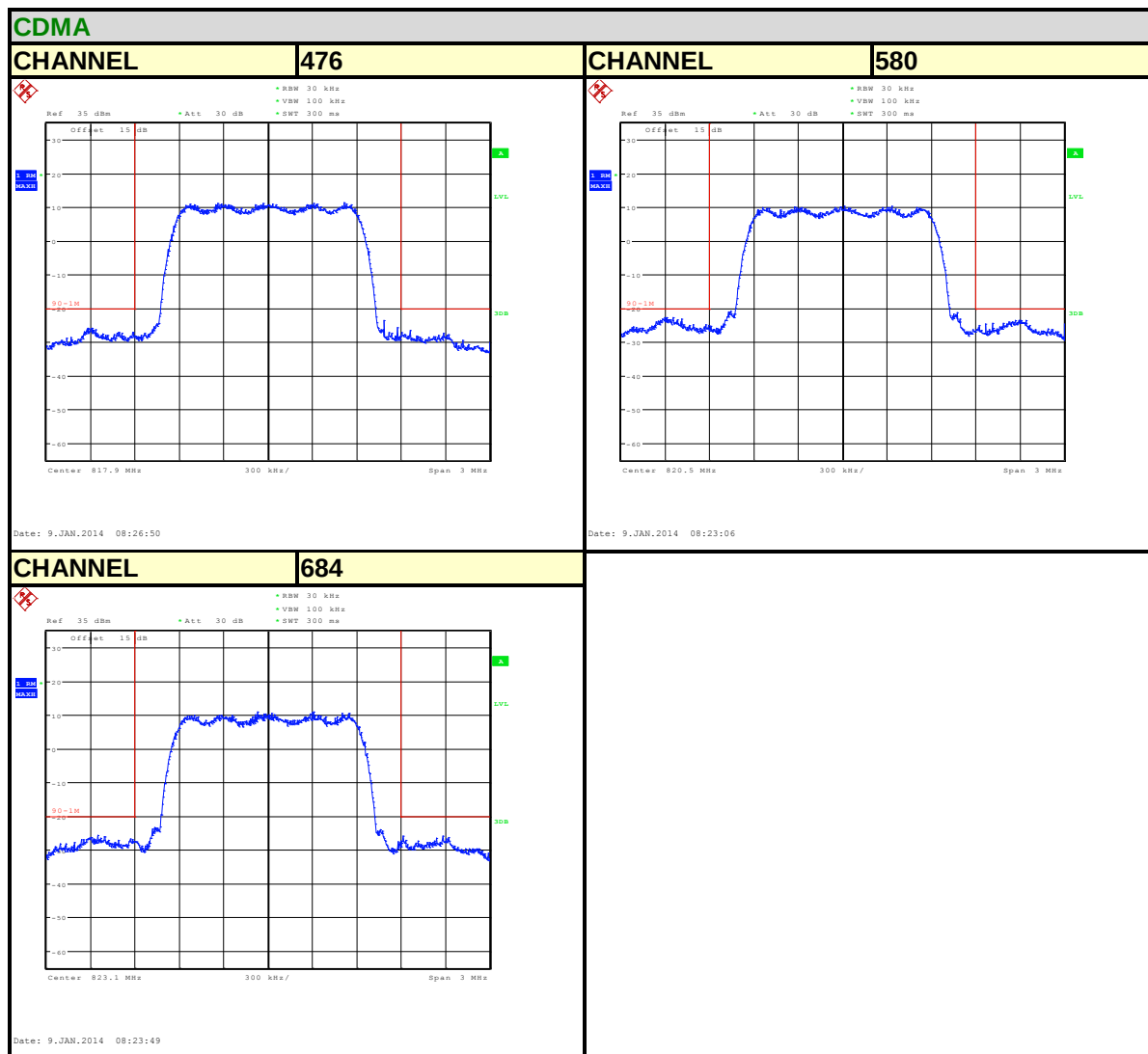
### 4.4.2 TEST SETUP



### 4.4.3 TEST PROCEDURES

- The measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
- Record the test plot.

## 4.4.4 TEST RESULTS

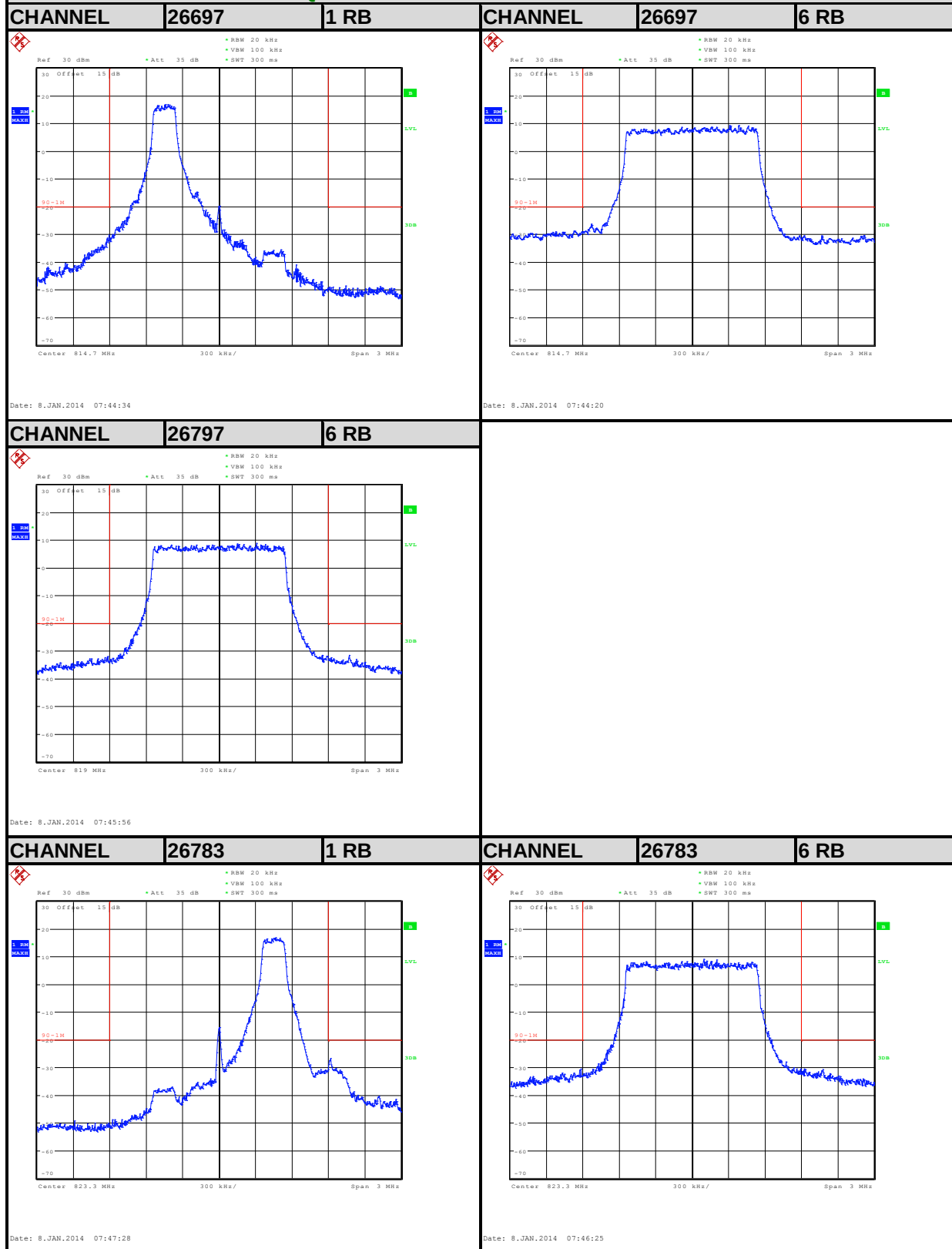




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## LTE Band 26

Channel Bandwidth: 1.4MHz / QPSK



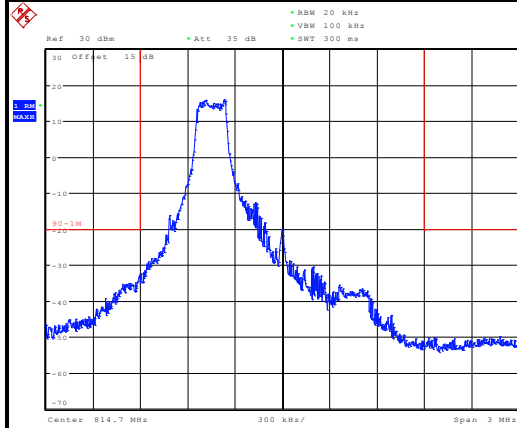


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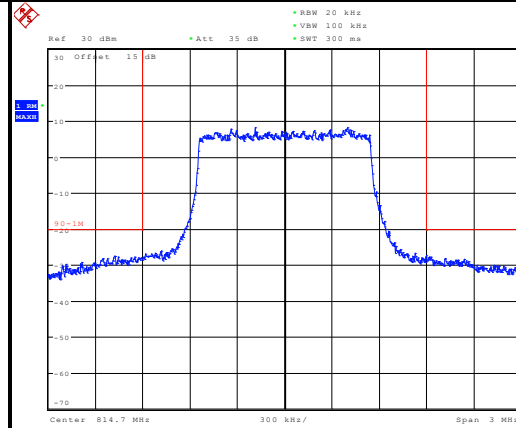
## LTE Band 26

Channel Bandwidth: 1.4MHz / 16QAM

| CHANNEL | 26697 | 1 RB | CHANNEL | 26697 | 6 RB |
|---------|-------|------|---------|-------|------|
|---------|-------|------|---------|-------|------|

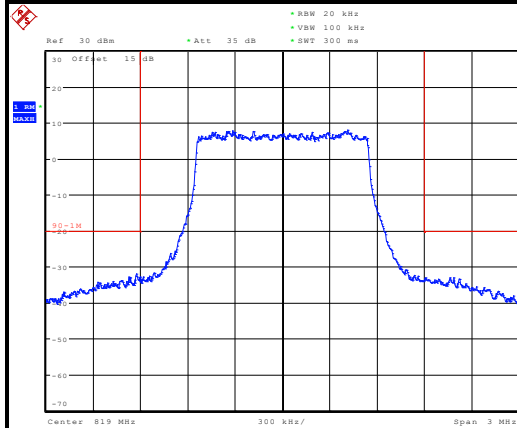


Date: 8.JAN.2014 07:44:54



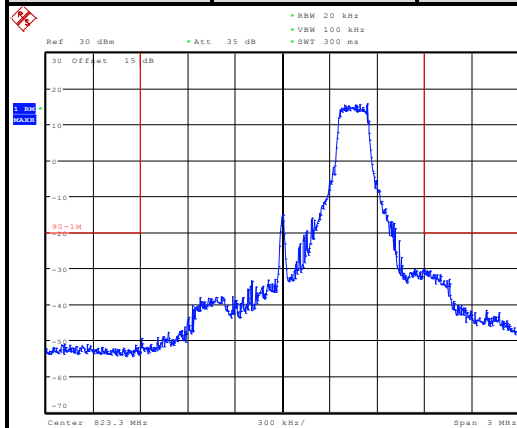
Date: 8.JAN.2014 07:45:11

| CHANNEL | 26797 | 6 RB |
|---------|-------|------|
|---------|-------|------|

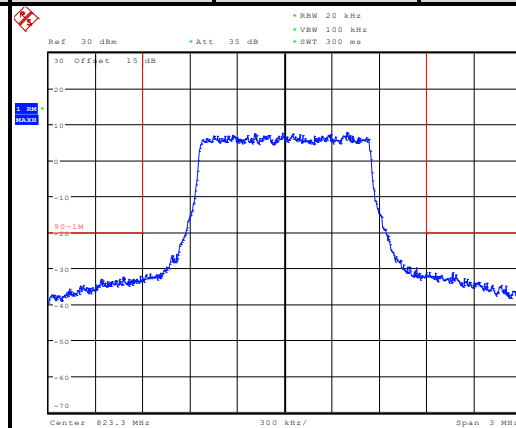


Date: 8.JAN.2014 07:45:43

| CHANNEL | 26783 | 1 RB | CHANNEL | 26783 | 6 RB |
|---------|-------|------|---------|-------|------|
|---------|-------|------|---------|-------|------|



Date: 8.JAN.2014 07:46:53



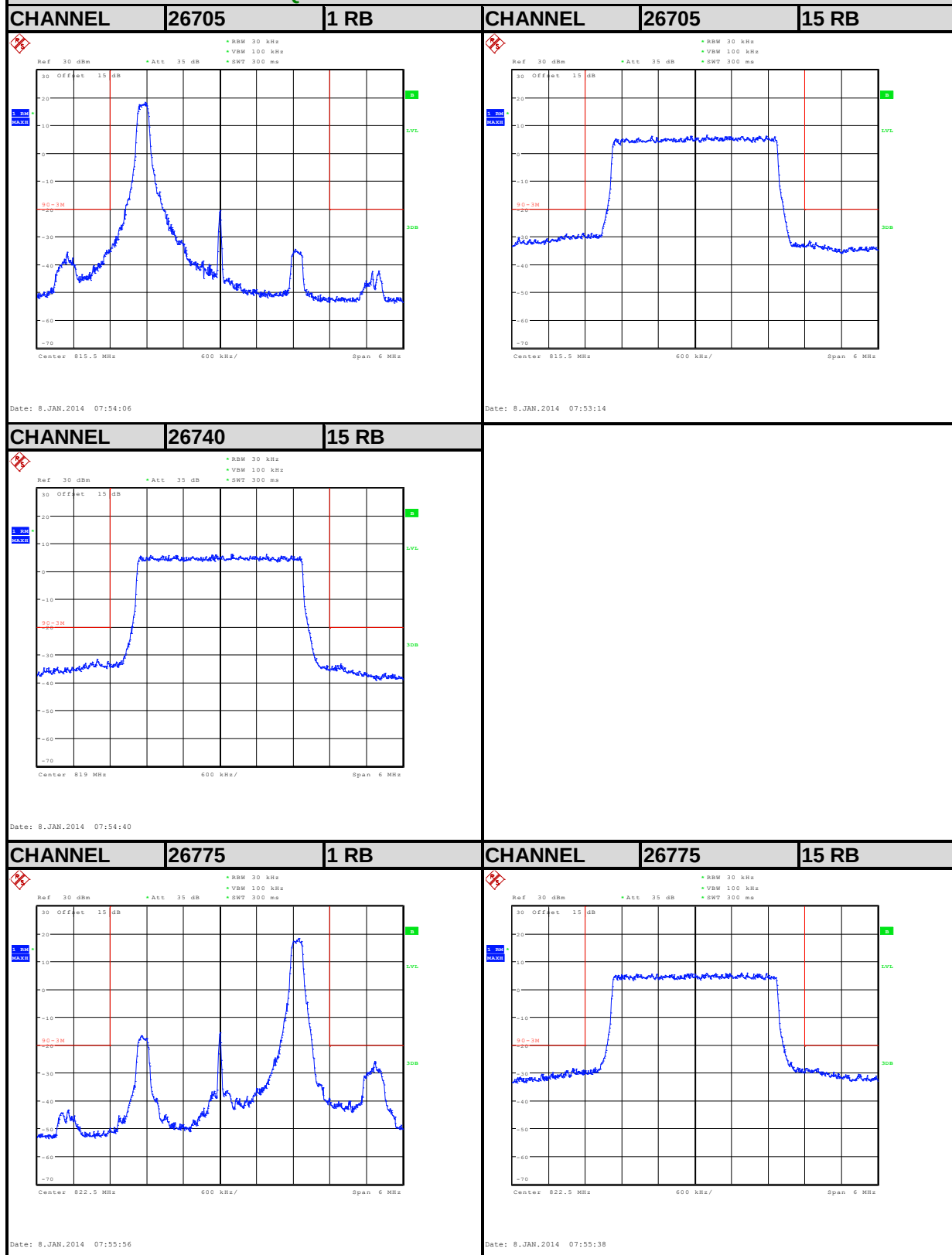
Date: 8.JAN.2014 07:46:39



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## LTE Band 26

Channel Bandwidth: 3MHz / QPSK

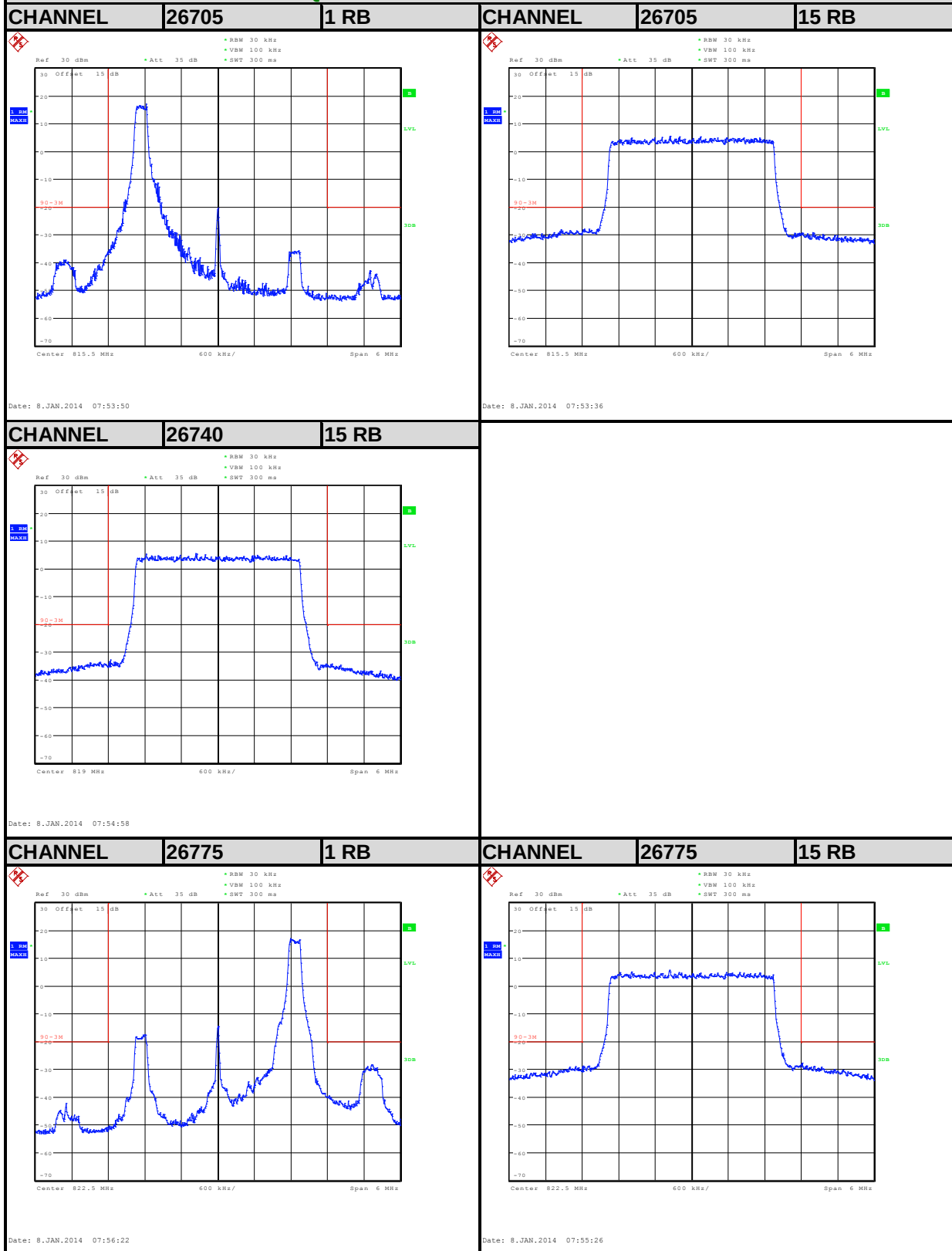




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## LTE Band 26

Channel Bandwidth: 3MHz / 16QAM

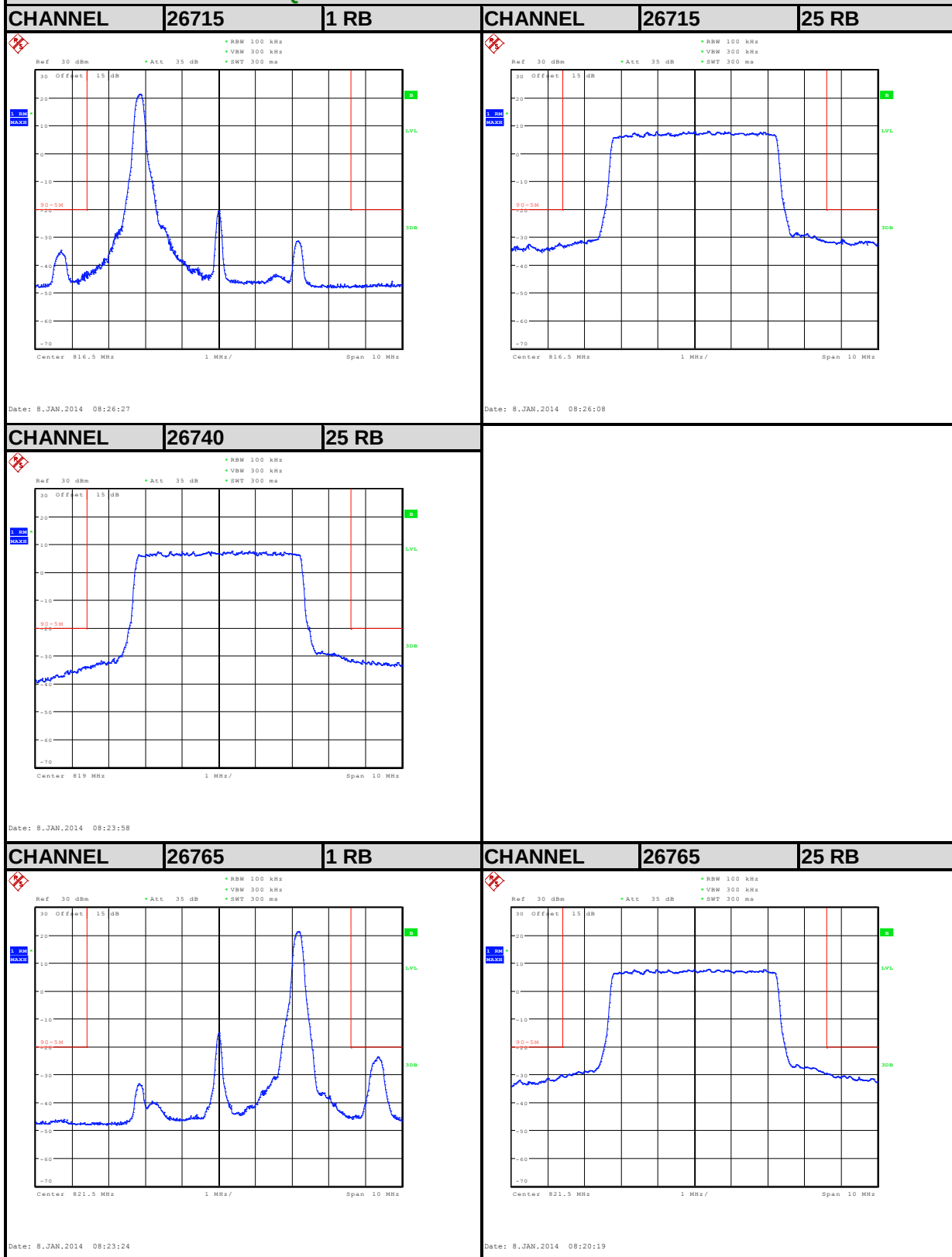




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## LTE Band 26

Channel Bandwidth: 5MHz / QPSK

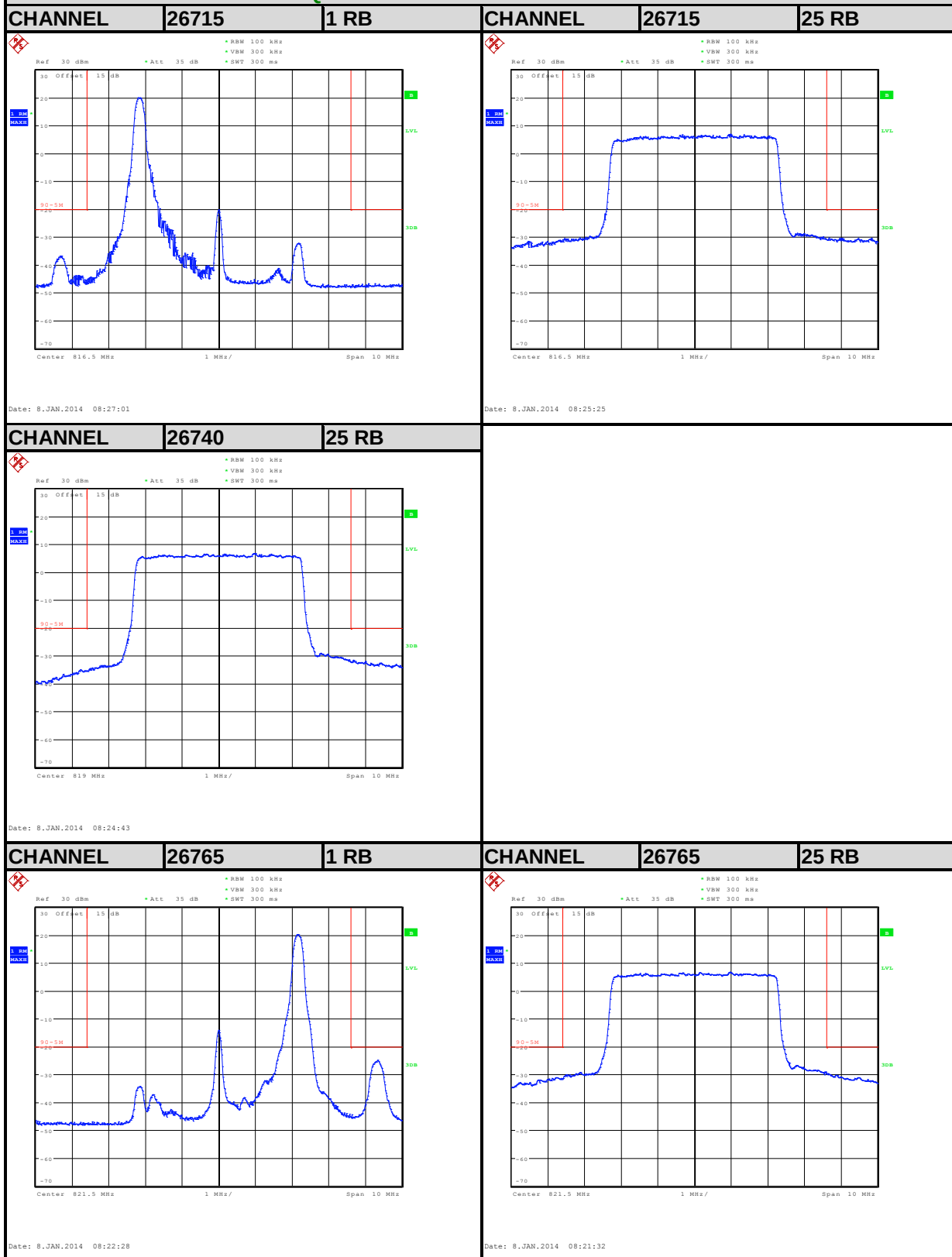




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## LTE Band 26

Channel Bandwidth: 5MHz / 16QAM



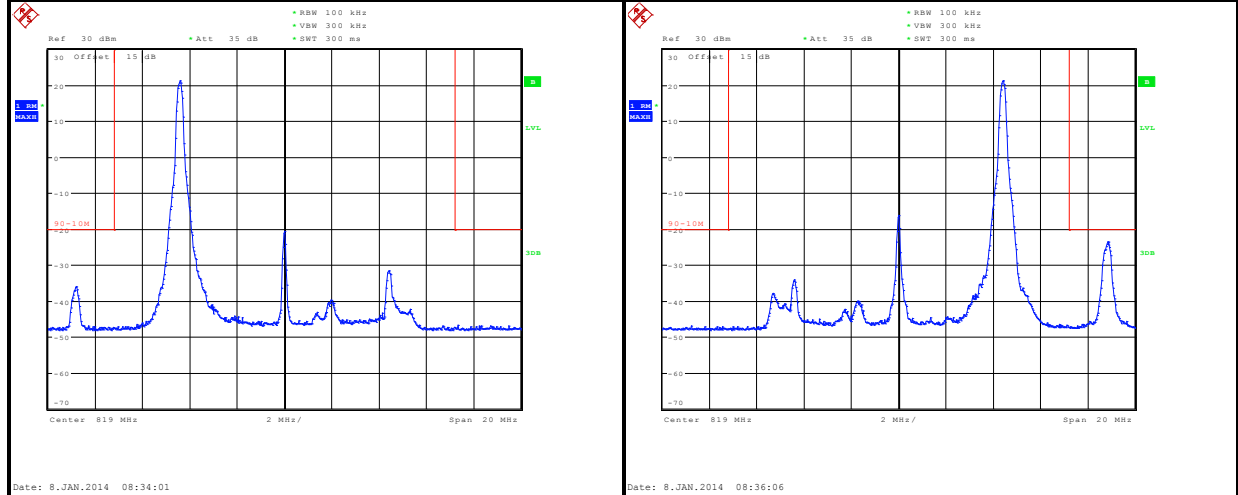


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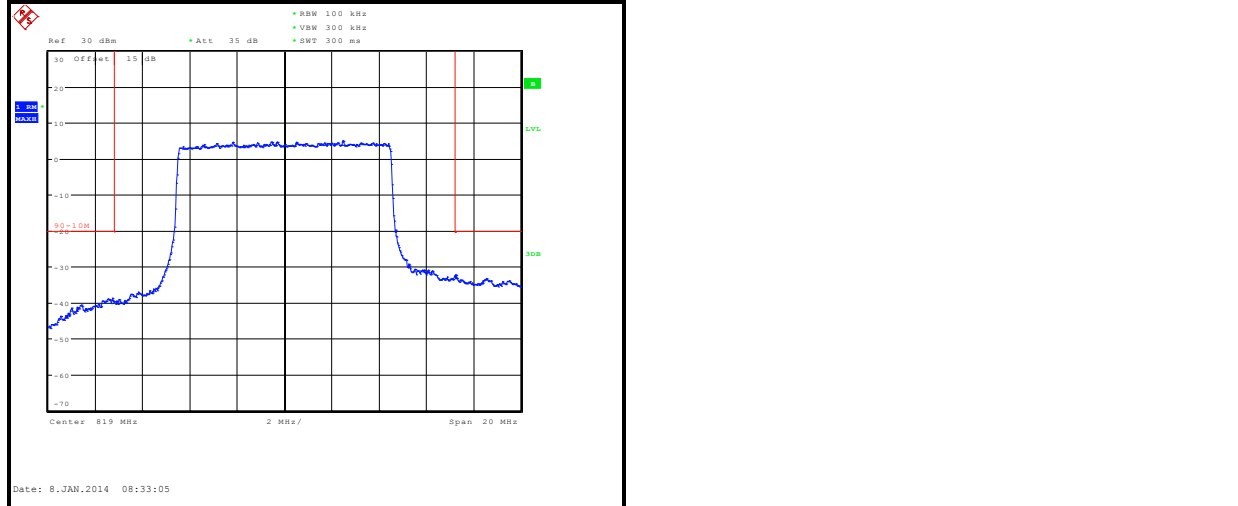
**LTE Band 26**

**Channel Bandwidth: 10MHz / QPSK**

| CHANNEL | 26740 | 1 RB | CHANNEL | 26740 | 1 RB |
|---------|-------|------|---------|-------|------|
|---------|-------|------|---------|-------|------|



| CHANNEL | 26740 | 50 RB |
|---------|-------|-------|
|---------|-------|-------|



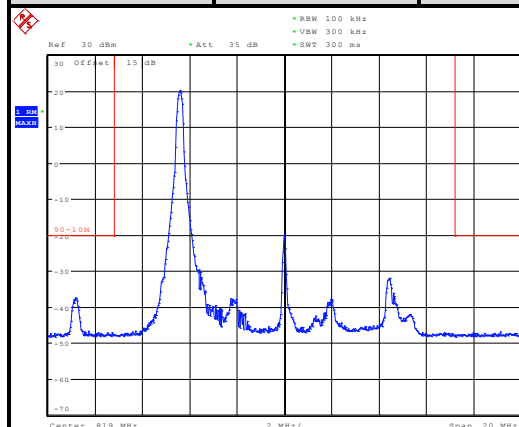


A D T

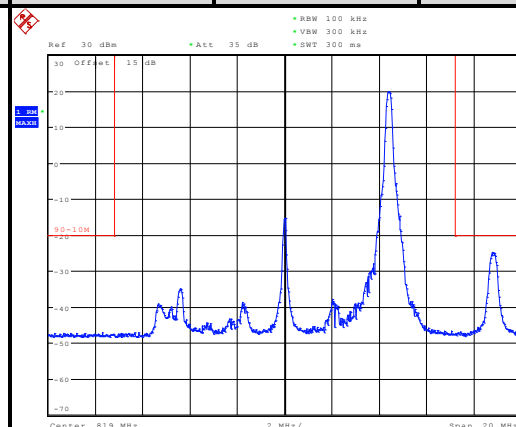
## LTE Band 26

Channel Bandwidth: 10MHz / 16QAM

| CHANNEL | 26740 | 1 RB | CHANNEL | 26740 | 1 RB |
|---------|-------|------|---------|-------|------|
|---------|-------|------|---------|-------|------|

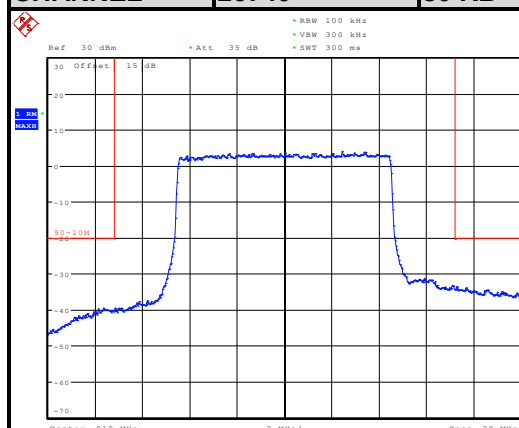


Date: 8.JAN.2014 08:34:28



Date: 8.JAN.2014 08:34:54

| CHANNEL | 26740 | 50 RB |
|---------|-------|-------|
|---------|-------|-------|



Date: 8.JAN.2014 08:32:40

## 4.5 CONDUCTED SPURIOUS EMISSIONS

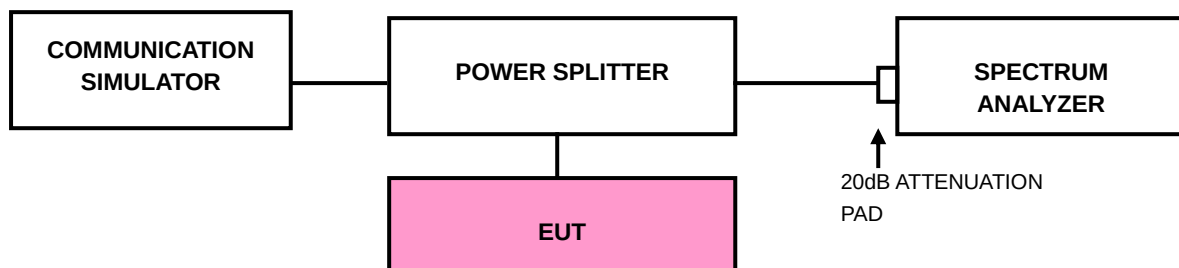
### 4.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB. The emission limit equal to  $-13\text{dBm}$ .

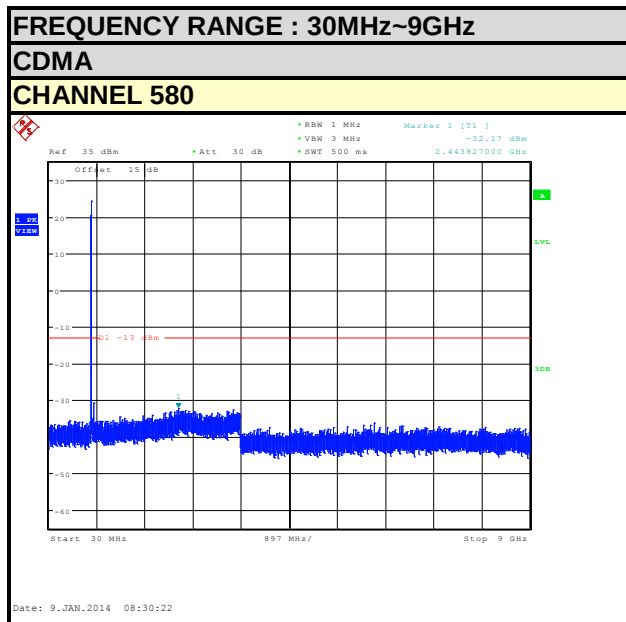
### 4.5.2 TEST PROCEDURE

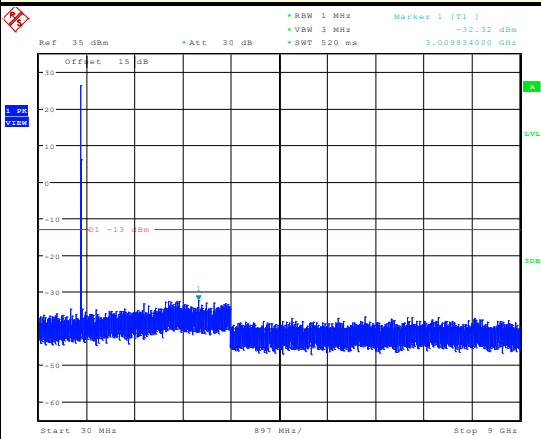
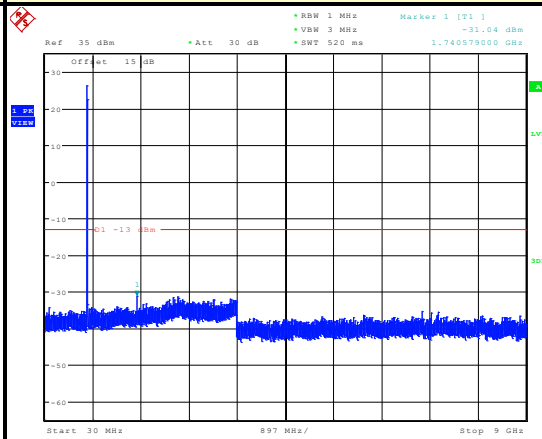
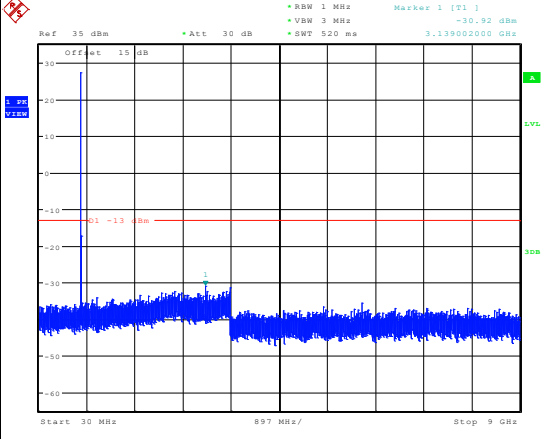
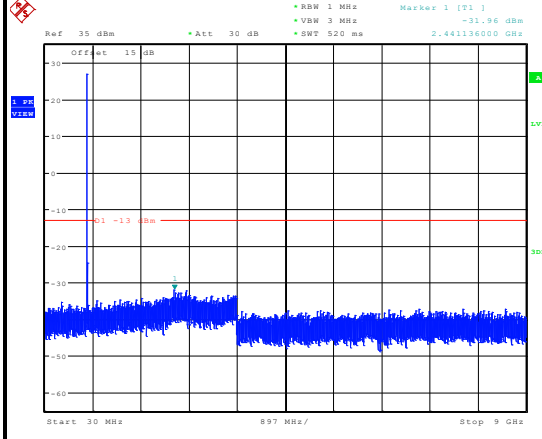
- The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
- Measuring frequency range is from 30 MHz to 9GHz. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

### 4.5.3 TEST SETUP



#### 4.5.4 TEST RESULTS



| FREQUENCY RANGE : 30MHz~9GHz                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LTE Band 26 (Channel Bandwidth: 1.4MHz)                                                                                                                                                                                                                                | LTE Band 26 (Channel Bandwidth: 3MHz)                                                                                                                                                                                                                                   |
| CHANNEL 26740                                                                                                                                                                                                                                                          | CHANNEL 26740                                                                                                                                                                                                                                                           |
|  <p>Ref: 35 dBm, Att: 30 dB, RBW: 1 MHz, VBW: 3 MHz, SWT: 520 ms, Marker 1 [T1]: -32.32 dBm, 3.009834000 GHz</p> <p>Start: 30 MHz, Stop: 9 GHz</p> <p>Date: 8.JAN.2014 07:50:38</p>   |  <p>Ref: 35 dBm, Att: 30 dB, RBW: 1 MHz, VBW: 3 MHz, SWT: 520 ms, Marker 1 [T1]: -31.04 dBm, 1.740579000 GHz</p> <p>Start: 30 MHz, Stop: 9 GHz</p> <p>Date: 8.JAN.2014 08:08:40</p>   |
| FREQUENCY RANGE : 30MHz~9GHz                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                         |
| LTE Band 26 (Channel Bandwidth: 5MHz)                                                                                                                                                                                                                                  | LTE Band 26 (Channel Bandwidth: 10MHz)                                                                                                                                                                                                                                  |
| CHANNEL 26740                                                                                                                                                                                                                                                          | CHANNEL 26740                                                                                                                                                                                                                                                           |
|  <p>Ref: 35 dBm, Att: 30 dB, RBW: 1 MHz, VBW: 3 MHz, SWT: 520 ms, Marker 1 [T1]: -30.92 dBm, 3.139602000 GHz</p> <p>Start: 30 MHz, Stop: 9 GHz</p> <p>Date: 8.JAN.2014 08:11:48</p> |  <p>Ref: 35 dBm, Att: 30 dB, RBW: 1 MHz, VBW: 3 MHz, SWT: 520 ms, Marker 1 [T1]: -31.96 dBm, 2.441196000 GHz</p> <p>Start: 30 MHz, Stop: 9 GHz</p> <p>Date: 8.JAN.2014 08:13:00</p> |

## 4.6 RADIATED EMISSION MEASUREMENT

### 4.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB. The emission limit equal to  $-13\text{dBm}$ .

### 4.6.2 TEST PROCEDURES

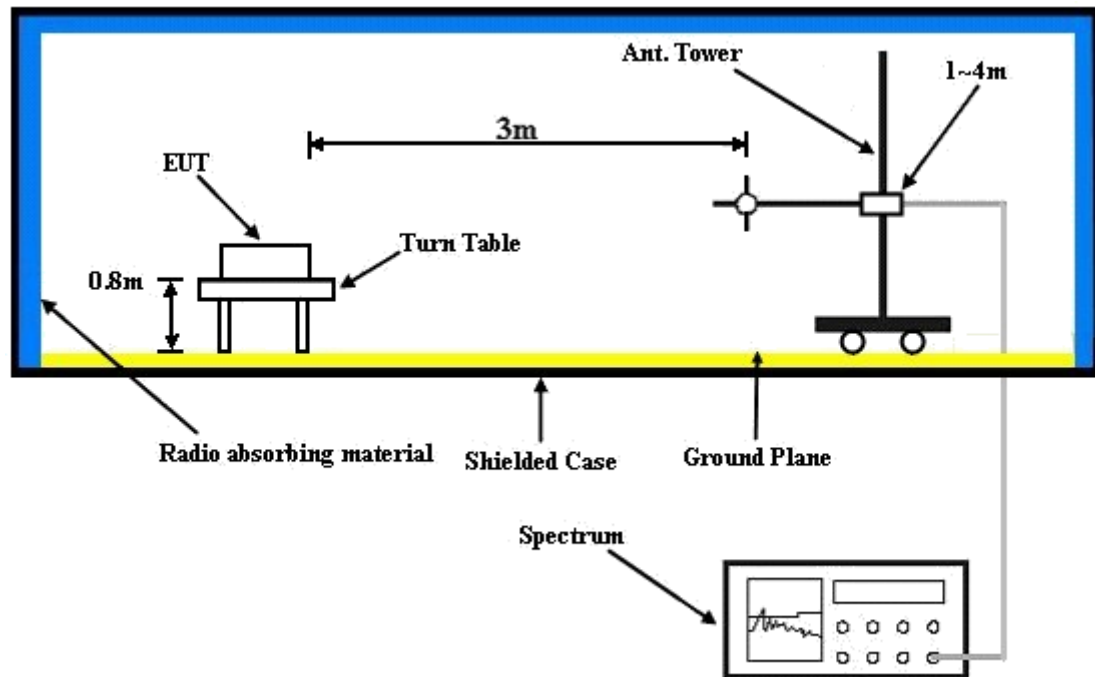
- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step a. Record the power level of S.G
- c.  $\text{EIRP} = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}.$
- d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole,  
 $\text{E.R.P power} = \text{E.I.R.P power} - 2.15\text{dBi}.$

**NOTE:** The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

### 4.6.3 DEVIATION FROM TEST STANDARD

No deviation

#### 4.6.4 TEST SETUP



For the actual test configuration, please refer to the attached file (Test Setup Photo).

## 4.6.5 TEST RESULTS

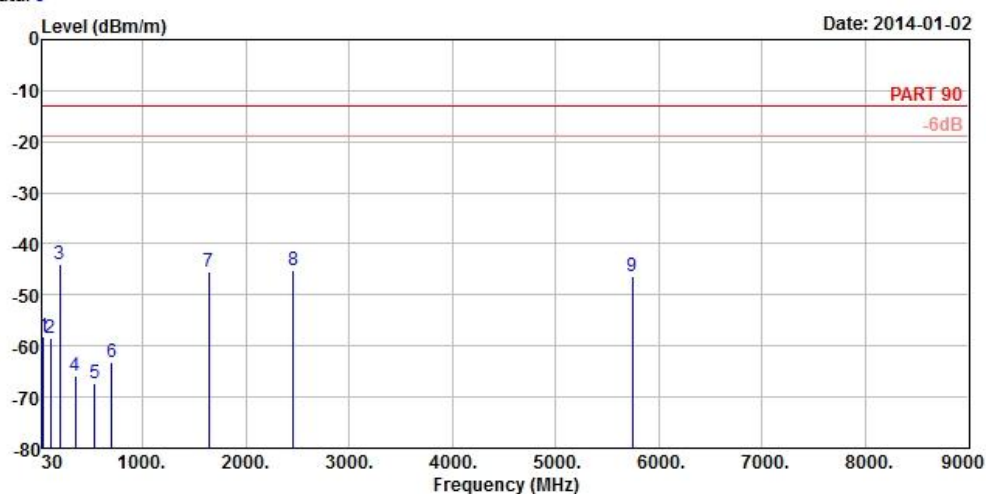
### CDMA:



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Data: 9



Site : 966 Chamber 5  
Condition : PART 90 3m HORIZONTAL  
Brand/Model: 0P6B700  
Remark : 1xRTT800 Link  
Tested by : Anson Lin  
Temperature : 25°C  
Humidity : 65%  
Plane : Y

|      | Freq    | Level  | Read Level | Limit Line | Over Limit | Factor | Remark |
|------|---------|--------|------------|------------|------------|--------|--------|
|      | MHz     | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |
| 1    | 39.72   | -58.20 | -56.67     | -13.00     | -45.20     | -1.53  | Peak   |
| 2    | 109.38  | -58.36 | -47.75     | -13.00     | -45.36     | -10.61 | Peak   |
| 3 pp | 194.70  | -43.85 | -36.47     | -13.00     | -30.85     | -7.38  | Peak   |
| 4    | 345.50  | -65.78 | -59.74     | -13.00     | -52.78     | -6.04  | Peak   |
| 5    | 538.00  | -67.16 | -65.11     | -13.00     | -54.16     | -2.05  | Peak   |
| 6    | 701.80  | -63.27 | -64.73     | -13.00     | -50.27     | 1.46   | Peak   |
| 7    | 1641.00 | -45.53 | -31.68     | -13.00     | -32.53     | -13.85 | Peak   |
| 8    | 2461.50 | -45.26 | -35.20     | -13.00     | -32.26     | -10.06 | Peak   |
| 9    | 5743.50 | -46.43 | -44.56     | -13.00     | -33.43     | -1.87  | Peak   |



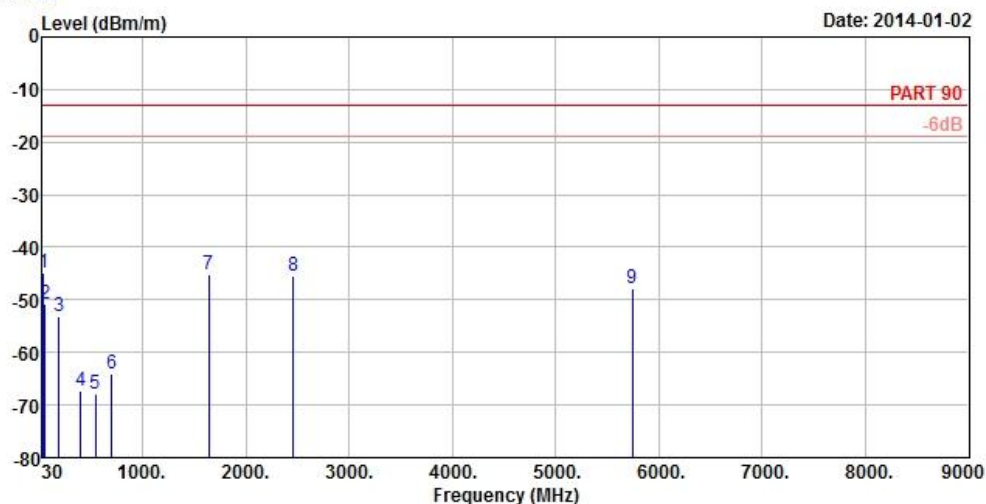
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A D T

Data: 10



Site : 966 Chamber 5  
Condition : PART 90 3m VERTICAL  
Brand/Model: 0P6B700  
Remark : 1xRTT800 Link  
Tested by : Anson Lin  
Temperature : 25°C  
Humidity : 65%  
Plane : Y

|   | Freq | Level   | Read<br>Level | Limit<br>Line | Over<br>Limit | Factor | Remark      |
|---|------|---------|---------------|---------------|---------------|--------|-------------|
|   | MHz  | dBm/m   | dBm           | dBm/m         | dB            | dB/m   |             |
| 1 | pp   | 39.72   | -44.88        | -43.35        | -13.00        | -31.88 | -1.53 Peak  |
| 2 |      | 57.27   | -50.90        | -45.25        | -13.00        | -37.90 | -5.65 Peak  |
| 3 |      | 188.22  | -53.02        | -46.44        | -13.00        | -40.02 | -6.58 Peak  |
| 4 |      | 403.60  | -67.22        | -61.68        | -13.00        | -54.22 | -5.54 Peak  |
| 5 |      | 541.50  | -67.78        | -65.81        | -13.00        | -54.78 | -1.97 Peak  |
| 6 |      | 701.80  | -63.95        | -65.41        | -13.00        | -50.95 | 1.46 Peak   |
| 7 |      | 1641.00 | -45.31        | -31.46        | -13.00        | -32.31 | -13.85 Peak |
| 8 |      | 2461.50 | -45.47        | -35.41        | -13.00        | -32.47 | -10.06 Peak |
| 9 |      | 5743.50 | -47.95        | -46.08        | -13.00        | -34.95 | -1.87 Peak  |

# LTE Band 26

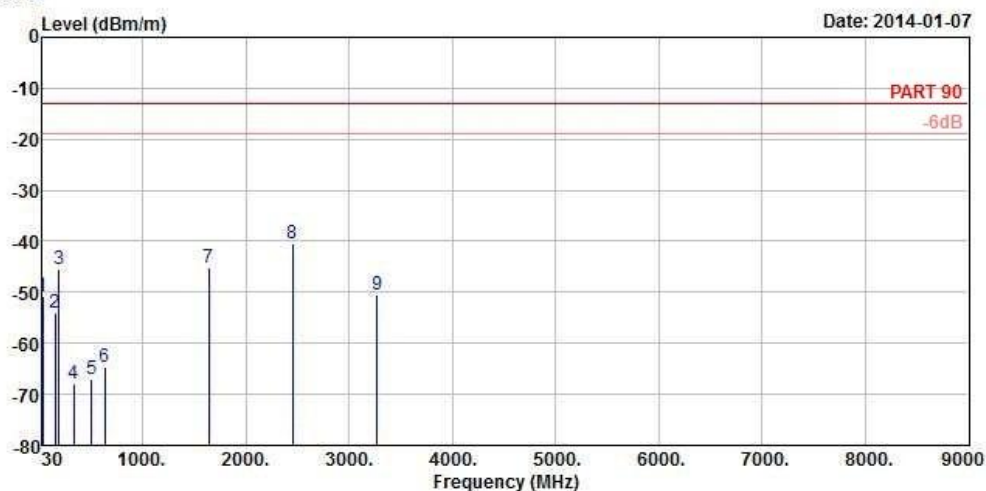
CHANNEL BANDWIDTH: 1.4MHz / QPSK



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A D T

Data: 9



Site : 966 Chamber 5  
Condition : PART 90 3m HORIZONTAL  
Brand/Model: 0P6B700  
Remark : Band 26\_1.4M\_QPSK(1,0) Link  
Tested by : Anson Lin  
Temperature : 25°C  
Humidity : 65%  
Plane : Z

|      | Freq    | Level  | Read Level | Limit Line | Over Limit | Factor | Remark |
|------|---------|--------|------------|------------|------------|--------|--------|
|      | MHz     | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |
| 1    | 32.97   | -50.76 | -49.65     | -13.00     | -37.76     | -1.11  | Peak   |
| 2    | 151.77  | -54.09 | -47.70     | -13.00     | -41.09     | -6.39  | Peak   |
| 3    | 186.87  | -45.40 | -38.93     | -13.00     | -32.40     | -6.47  | Peak   |
| 4    | 330.10  | -67.96 | -61.80     | -13.00     | -54.96     | -6.16  | Peak   |
| 5    | 507.20  | -66.91 | -64.01     | -13.00     | -53.91     | -2.90  | Peak   |
| 6    | 634.60  | -64.50 | -64.76     | -13.00     | -51.50     | 0.26   | Peak   |
| 7    | 1637.00 | -45.18 | -31.31     | -13.00     | -32.18     | -13.87 | Peak   |
| 8 pp | 2455.50 | -40.39 | -30.33     | -13.00     | -27.39     | -10.06 | Peak   |
| 9    | 3274.00 | -50.43 | -41.11     | -13.00     | -37.43     | -9.32  | Peak   |



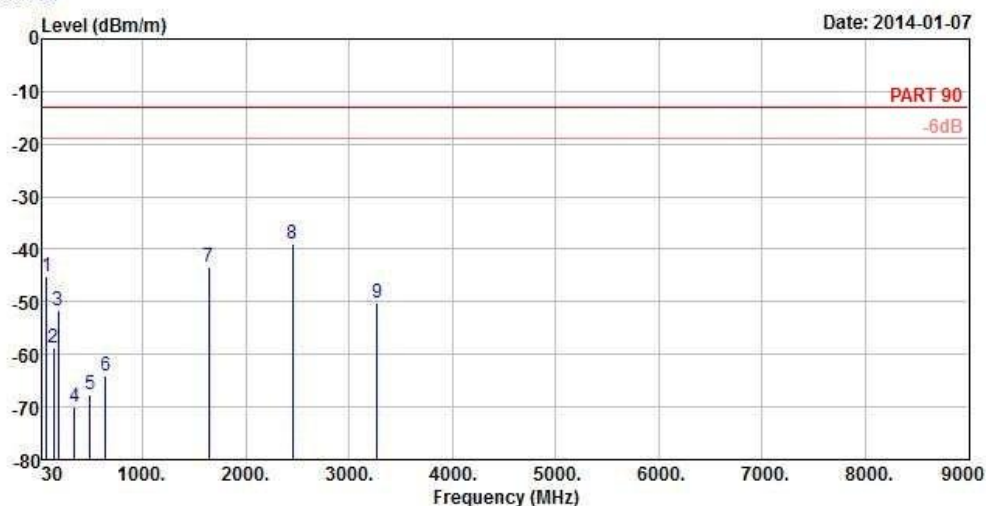
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Data: 10



Site : 966 Chamber 5  
Condition : PART 90 3m VERTICAL  
Brand/Model: 0P6B700  
Remark : Band 26\_1.4M\_QPSK(1,0) Link  
Tested by : Anson Lin  
Temperature : 25°C  
Humidity : 65%  
Plane : Z

|      | Freq    | Level  | Read<br>Level | Limit<br>Line | Over<br>Limit | Factor | Remark |
|------|---------|--------|---------------|---------------|---------------|--------|--------|
|      | MHz     | dBm/m  | dBm           | dBm/m         | dB            | dB/m   |        |
| 1    | 68.88   | -45.14 | -36.12        | -13.00        | -32.14        | -9.02  | Peak   |
| 2    | 138.54  | -58.82 | -52.89        | -13.00        | -45.82        | -5.93  | Peak   |
| 3    | 182.01  | -51.52 | -45.62        | -13.00        | -38.52        | -5.90  | Peak   |
| 4    | 337.80  | -69.85 | -63.75        | -13.00        | -56.85        | -6.10  | Peak   |
| 5    | 491.80  | -67.71 | -64.40        | -13.00        | -54.71        | -3.31  | Peak   |
| 6    | 637.40  | -64.12 | -64.43        | -13.00        | -51.12        | 0.31   | Peak   |
| 7    | 1637.00 | -43.30 | -29.43        | -13.00        | -30.30        | -13.87 | Peak   |
| 8 pp | 2455.50 | -39.07 | -29.01        | -13.00        | -26.07        | -10.06 | Peak   |
| 9    | 3274.00 | -50.20 | -40.88        | -13.00        | -37.20        | -9.32  | Peak   |

# LTE Band 26

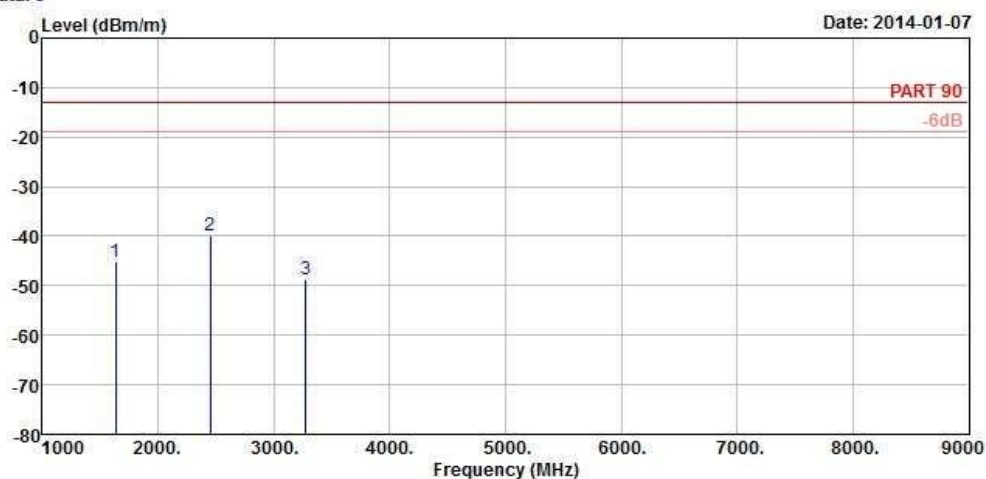
CHANNEL BANDWIDTH: 3MHz / QPSK



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Data: 5



Site : 966 Chamber 5  
Condition : PART 90 3m HORIZONTAL  
Brand/Model: 0P6B700  
Remark : Band 26\_3M\_QPSK(1,0) Link  
Tested by : Anson Lin  
Temperature : 25°C  
Humidity : 65%  
Plane : Z

|      | Freq    | Level  | Read Level | Limit Line | Over Limit | Factor | Remark |
|------|---------|--------|------------|------------|------------|--------|--------|
|      | MHz     | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |
| 1    | 1635.40 | -45.14 | -31.27     | -13.00     | -32.14     | -13.87 | Peak   |
| 2 pp | 2453.10 | -39.94 | -29.88     | -13.00     | -26.94     | -10.06 | Peak   |
| 3    | 3270.80 | -48.68 | -39.36     | -13.00     | -35.68     | -9.32  | Peak   |



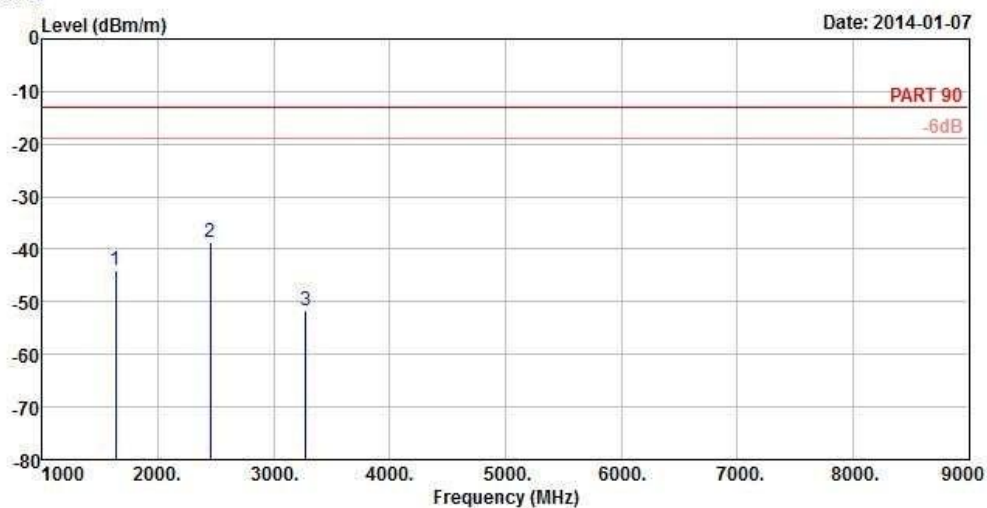
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A D T

Data: 6



Site : 966 Chamber 5  
Condition : PART 90 3m VERTICAL  
Brand/Model: 0P6B700  
Remark : Band 26\_3M\_QPSK(1,0) Link  
Tested by : Anson Lin  
Temperature : 25°C  
Humidity : 65%  
Plane : Z

|   | Freq    | Level  | Read Level | Limit Line | Over Limit | Factor | Remark |
|---|---------|--------|------------|------------|------------|--------|--------|
|   | MHz     | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |
| 1 | 1635.40 | -44.10 | -30.23     | -13.00     | -31.10     | -13.87 | Peak   |
| 2 | 2453.10 | -38.72 | -28.66     | -13.00     | -25.72     | -10.06 | Peak   |
| 3 | 3270.80 | -51.61 | -42.29     | -13.00     | -38.61     | -9.32  | Peak   |

# LTE Band 26

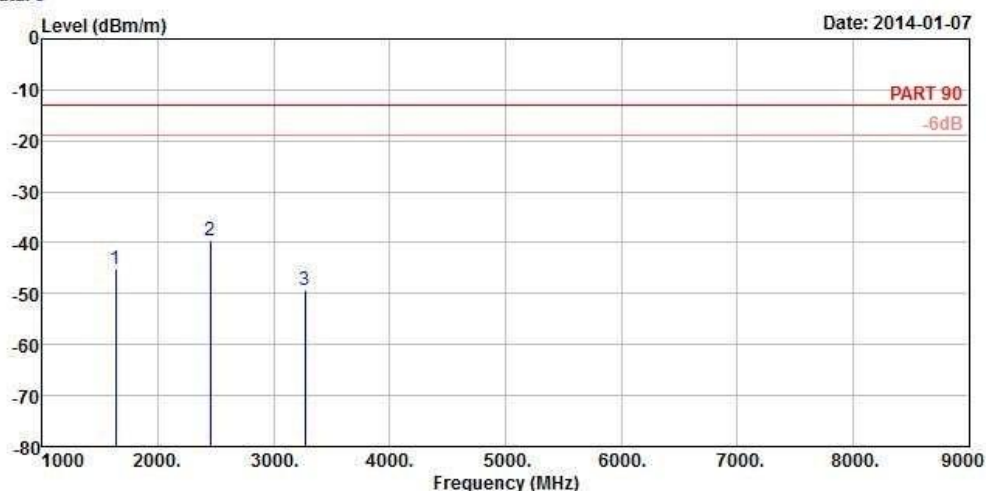
CHANNEL BANDWIDTH: 5MHz / QPSK



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Data: 5



Site : 966 Chamber 5  
Condition : PART 90 3m HORIZONTAL  
Brand/Model: 0P6B700  
Remark : Band 26\_5M\_QPSK(1,0) Link  
Tested by : Anson Lin  
Temperature : 25°C  
Humidity : 65%  
Plane : Z

|      | Freq    | Level  | Read Level | Limit Line | Over Limit | Factor | Remark |
|------|---------|--------|------------|------------|------------|--------|--------|
|      | MHz     | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |
| 1    | 1633.60 | -45.24 | -31.37     | -13.00     | -32.24     | -13.87 | Peak   |
| 2 pp | 2450.40 | -39.51 | -29.45     | -13.00     | -26.51     | -10.06 | Peak   |
| 3    | 3267.20 | -49.42 | -40.10     | -13.00     | -36.42     | -9.32  | Peak   |



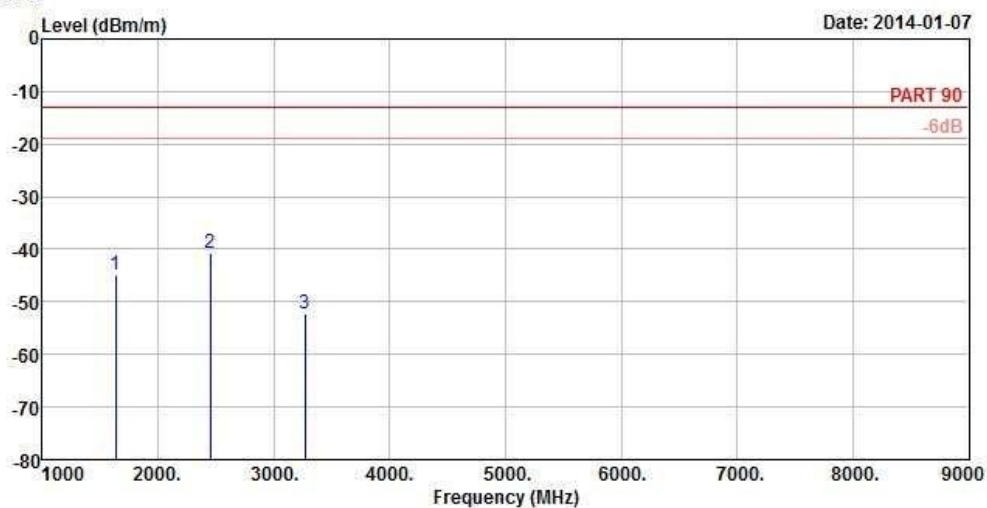
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A D T

Data: 6



Site : 966 Chamber 5  
Condition : PART 90 3m VERTICAL  
Brand/Model: 0P6B700  
Remark : Band 26\_5M\_QPSK(1,0) Link  
Tested by : Anson Lin  
Temperature : 25°C  
Humidity : 65%  
Plane : Z

|      | Freq    | Level  | Read Level | Limit Line | Over Limit | Factor | Remark |
|------|---------|--------|------------|------------|------------|--------|--------|
|      | MHz     | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |
| 1    | 1633.60 | -44.91 | -31.04     | -13.00     | -31.91     | -13.87 | Peak   |
| 2 pp | 2450.40 | -40.67 | -30.61     | -13.00     | -27.67     | -10.06 | Peak   |
| 3    | 3267.20 | -52.18 | -42.86     | -13.00     | -39.18     | -9.32  | Peak   |

# LTE Band 26

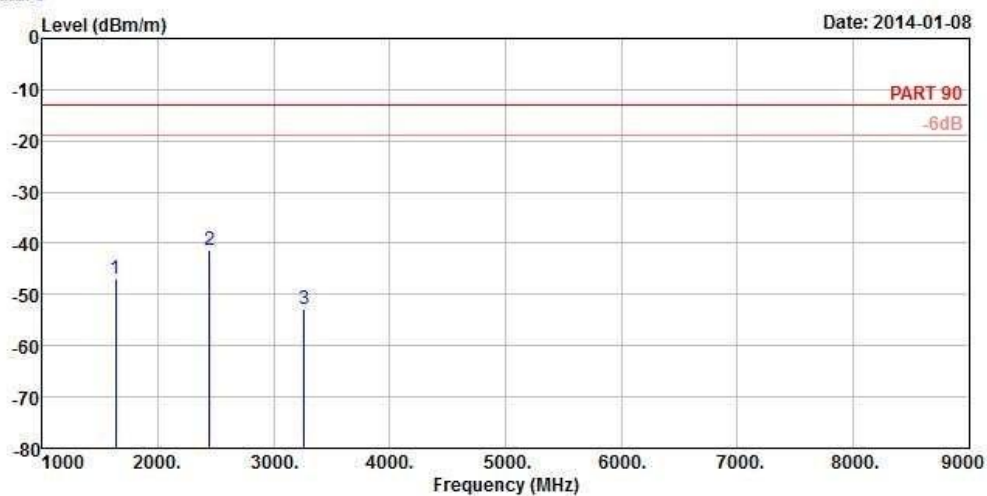
CHANNEL BANDWIDTH: 10MHz / QPSK



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A D T

Data: 5



Site : 966 Chamber 5  
Condition : PART 90 3m HORIZONTAL  
Brand/Model: 0P6B700  
Remark : Band 26\_10M\_QPSK(1,0) Link  
Tested by : Anson Lin  
Temperature : 25°C  
Humidity : 65%  
Plane : Z

|      | Freq    | Level  | Read   | Limit  | Over   |        |        |
|------|---------|--------|--------|--------|--------|--------|--------|
|      | MHz     | dBm/m  | Level  | Line   | Limit  | Factor | Remark |
|      |         |        | dBm    | dBm/m  | dB     | dB/m   |        |
| 1    | 1629.20 | -46.80 | -32.93 | -13.00 | -33.80 | -13.87 | Peak   |
| 2 pp | 2443.80 | -41.23 | -31.09 | -13.00 | -28.23 | -10.14 | Peak   |
| 3    | 3258.40 | -52.70 | -43.41 | -13.00 | -39.70 | -9.29  | Peak   |



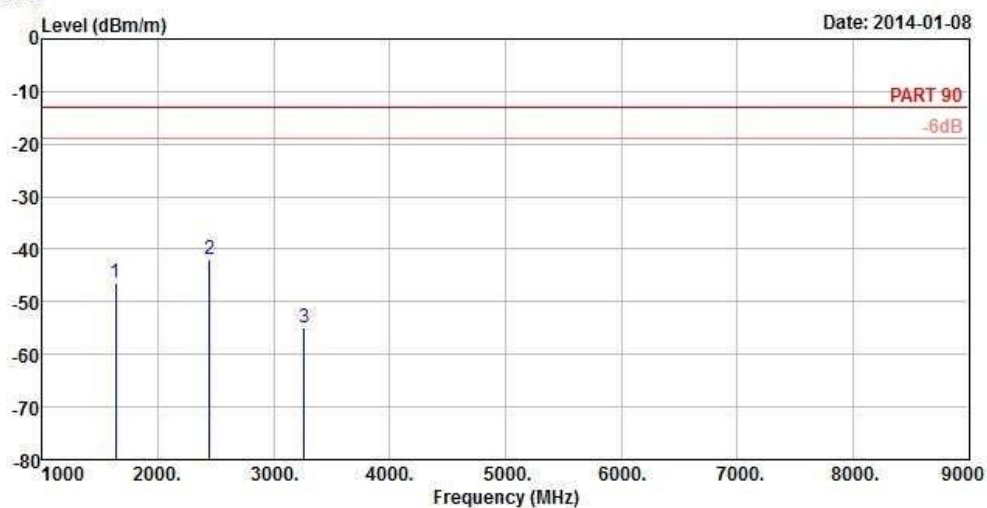
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A D T

Data: 6



Site : 966 Chamber 5  
Condition : PART 90 3m VERTICAL  
Brand/Model: 0P6B700  
Remark : Band 26\_10M\_QPSK(1,0) Link  
Tested by : Anson Lin  
Temperature : 25°C  
Humidity : 65%  
Plane : Z

|      | Freq    | Level  | Read Level | Limit Line | Over Limit | Factor | Remark |
|------|---------|--------|------------|------------|------------|--------|--------|
|      | MHz     | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |
| 1    | 1629.20 | -46.23 | -32.36     | -13.00     | -33.23     | -13.87 | Peak   |
| 2 pp | 2443.80 | -41.90 | -31.76     | -13.00     | -28.90     | -10.14 | Peak   |
| 3    | 3258.40 | -55.02 | -45.73     | -13.00     | -42.02     | -9.29  | Peak   |

## 5 PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (Test Setup Photo).

## 6 INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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Fax: 886-2-26051924

**Hsin Chu EMC/RF Lab:**

Tel: 886-3-5935343

Fax: 886-3-5935342

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Fax: 886-3-3270892

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**Web Site:** [www.bureauveritas-adt.com](http://www.bureauveritas-adt.com)

The address and road map of all our labs can be found in our web site also.



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## **7 APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB**

No any modifications were made to the EUT by the lab during the test.

**---END---**