

## FCC Test Report (Part 24)

**Report No.:** RF170208C16B

**FCC ID:** H8NSFE3046

**Test Model:** SS2FII Femtocell Multi-band SOHO

**Received Date:** Jun. 11, 2018

**Test Date:** Jun. 13 ~ Jul. 02, 2018

**Issued Date:** Jul. 03, 2018

**Applicant:** ASKEY COMPUTER CORP.

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

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(R.O.C.)

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33383, TAIWAN (R.O.C.)



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## Table of Contents

|                                                          |           |
|----------------------------------------------------------|-----------|
| <b>Release Control Record</b>                            | <b>4</b>  |
| <b>1 Certificate of Conformity</b>                       | <b>5</b>  |
| <b>2 Summary of Test Results</b>                         | <b>6</b>  |
| 2.1 Measurement Uncertainty                              | 6         |
| 2.2 Test Site and Instruments                            | 7         |
| <b>3 General Information</b>                             | <b>8</b>  |
| 3.1 General Description of EUT                           | 8         |
| 3.2 Configuration of System Under Test                   | 9         |
| 3.2.1 Description of Support Units                       | 9         |
| 3.3 Test Mode Applicability and Tested Channel Detail    | 10        |
| 3.4 EUT Operating Conditions                             | 12        |
| 3.5 General Description of Applied Standards             | 13        |
| <b>4 Test Types and Results</b>                          | <b>14</b> |
| 4.1 Output Power Measurement                             | 14        |
| 4.1.1 Limits of Output Power Measurement                 | 14        |
| 4.1.2 Test Procedures                                    | 14        |
| 4.1.3 Test Setup                                         | 15        |
| 4.1.4 Test Results                                       | 16        |
| 4.2 Modulation Characteristics Measurement               | 30        |
| 4.2.1 Limits of Modulation Characteristics               | 30        |
| 4.2.2 Test Procedure                                     | 30        |
| 4.2.3 Test Setup                                         | 30        |
| 4.2.4 Test Results                                       | 31        |
| 4.3 Frequency Stability Measurement                      | 33        |
| 4.3.1 Limits of Frequency Stability Measurement          | 33        |
| 4.3.2 Test Procedure                                     | 33        |
| 4.3.3 Test Setup                                         | 33        |
| 4.3.4 Test Results                                       | 34        |
| 4.4 Emission Bandwidth Measurement                       | 35        |
| 4.4.1 Test Procedure                                     | 35        |
| 4.4.2 Test Setup                                         | 35        |
| 4.4.3 Test Result                                        | 36        |
| 4.5 Band Edge Measurement                                | 43        |
| 4.5.1 Limits of Band Edge Measurement                    | 43        |
| 4.5.2 Test Setup                                         | 43        |
| 4.5.3 Test Procedures                                    | 43        |
| 4.5.4 Test Results                                       | 43        |
| 4.6 Peak to Average Ratio                                | 48        |
| 4.6.1 Limits of Peak to Average Ratio Measurement        | 48        |
| 4.6.2 Test Setup                                         | 48        |
| 4.6.3 Test Procedures                                    | 48        |
| 4.6.4 Test Results                                       | 49        |
| 4.7 Conducted Spurious Emissions                         | 52        |
| 4.7.1 Limits of Conducted Spurious Emissions Measurement | 52        |
| 4.7.2 Test Setup                                         | 52        |
| 4.7.3 Test Procedure                                     | 52        |
| 4.7.4 Test Results                                       | 53        |
| 4.8 Radiated Emission Measurement                        | 80        |
| 4.8.1 Limits of Radiated Emission Measurement            | 80        |
| 4.8.2 Test Procedure                                     | 80        |
| 4.8.3 Deviation from Test Standard                       | 80        |
| 4.8.4 Test Setup                                         | 81        |
| 4.8.5 Test Results                                       | 82        |

|          |                                                                 |           |
|----------|-----------------------------------------------------------------|-----------|
| <b>5</b> | <b>Pictures of Test Arrangements.....</b>                       | <b>92</b> |
|          | <b>Appendix – Information on the Testing Laboratories .....</b> | <b>93</b> |

### Release Control Record

| Issue No.    | Description      | Date Issued   |
|--------------|------------------|---------------|
| RF170208C16B | Original release | Jul. 03, 2018 |

## 1 Certificate of Conformity

**Product:** Femtocell

**Brand:** Nokia

**Test Model:** SS2FII Femtocell Multi-band SOHO

**Sample Status:** Engineering sample

**Applicant:** ASKEY COMPUTER CORP.

**Test Date:** Jun. 13 ~ Jul. 02, 2018

**Standards:** FCC Part 24, Subpart E  
FCC Part 2

The above equipment 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 RF characteristics under the conditions specified in this report.

**Prepared by :**



**Date:**

Jul. 03, 2018

Pettie Chen / Senior Specialist

**Approved by :**



**Date:**

Jul. 03, 2018

Dylan Chiou / Project Engineer

## 2 Summary of Test Results

| Applied Standard: FCC Part 24 & Part 2 |                              |        |                                                                                    |
|----------------------------------------|------------------------------|--------|------------------------------------------------------------------------------------|
| FCC Clause                             | Test Item                    | Result | Remarks                                                                            |
| 2.1046<br>24.232                       | Output power                 | Pass   | Meet the requirement of limit.                                                     |
| 2.1046<br>24.232(d)                    | Peak To Average Ratio        | Pass   | Meet the requirement of limit.                                                     |
| 2.1047                                 | Modulation characteristics   | Pass   | Meet the requirement                                                               |
| 2.1055<br>24.235                       | Frequency Stability          | Pass   | Meet the requirement of limit.                                                     |
| 2.1049<br>24.238(b)                    | Occupied Bandwidth           | Pass   | Meet the requirement of limit.                                                     |
| 24.238(b)                              | Band Edge Measurements       | Pass   | Meet the requirement of limit.                                                     |
| 2.1051<br>24.238                       | Conducted Spurious Emissions | Pass   | Meet the requirement of limit.                                                     |
| 2.1053<br>24.238                       | Radiated Spurious Emissions  | Pass   | Meet the requirement of limit.<br>Minimum passing margin is -28.2dB at 3865.00MHz. |

### 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       | Expanded Uncertainty (k=2) (±) |
|--------------------------------|-----------------|--------------------------------|
| Radiated Emissions up to 1 GHz | 30MHz ~ 200MHz  | 3.59 dB                        |
|                                | 200MHz ~1000MHz | 3.60 dB                        |
| Radiated Emissions above 1 GHz | 1GHz ~ 18GHz    | 2.29 dB                        |
|                                | 18GHz ~ 40GHz   | 2.29 dB                        |

## 2.2 Test Site and Instruments

| Description & Manufacturer                 | Model No.                          | Serial No.                      | Cal. Date     | Cal. Due      |
|--------------------------------------------|------------------------------------|---------------------------------|---------------|---------------|
| Test Receiver<br>KEYSIGHT                  | N9038A                             | MY55420137                      | Apr. 11, 2018 | Apr. 10, 2019 |
| Spectrum Analyzer<br>ROHDE & SCHWARZ       | FSP40                              | 100269                          | May 29, 2018  | May 28, 2019  |
| BILOG Antenna<br>SCHWARZBECK               | VULB9168                           | 9168-148                        | Dec. 11, 2017 | Dec. 10, 2018 |
| HORN Antenna<br>SCHWARZBECK                | BBHA 9120 D                        | 9120D-1169                      | Dec. 12, 2017 | Dec. 11, 2018 |
| HORN Antenna<br>SCHWARZBECK                | BBHA 9170                          | BBHA9170241                     | Dec. 01, 2017 | Nov. 30, 2018 |
| Loop Antenna<br>EMCI                       | EM-6879                            | 269                             | Aug. 11, 2017 | Aug. 10, 2018 |
| Preamplifier<br>Agilent<br>(Below 1GHz)    | 8447D                              | 2944A10638                      | Aug. 08, 2017 | Aug. 07, 2018 |
| Preamplifier<br>Agilent<br>(Above 1GHz)    | 8449B                              | 3008A01638                      | Feb. 22, 2018 | Feb. 21, 2019 |
| RF signal cable<br>HUBER+SUHNER&EMCI       | SUCOFLEX 104 &<br>EMC104-SM-SM8000 | CABLE-CH9-02<br>(248780+171006) | Jan. 15, 2018 | Jan. 14, 2019 |
| RF signal cable<br>HUBER+SUHNER            | SUCOFLEX 104                       | CABLE-CH9-(250795/4)            | Aug. 08, 2017 | Aug. 07, 2018 |
| RF signal cable<br>Woken                   | 8D-FB                              | Cable-CH9-01                    | Aug. 01, 2017 | Jul. 31, 2018 |
| Software<br>BV ADT                         | ADT_Radiated_<br>V7.6.15.9.5       | NA                              | NA            | NA            |
| Antenna Tower<br>EMCO                      | 2070/2080                          | 512.835.4684                    | NA            | NA            |
| Turn Table<br>EMCO                         | 2087-2.03                          | NA                              | NA            | NA            |
| Antenna Tower & Turn<br>BV ADT             | AT100                              | AT93021705                      | NA            | NA            |
| Turn Table<br>BV ADT                       | TT100                              | TT93021705                      | NA            | NA            |
| Turn Table Controller<br>BV ADT            | SC100                              | SC93021705                      | NA            | NA            |
| Boresight Antenna Fixture                  | FBA-01                             | FBA-SIP01                       | NA            | NA            |
| Turn Table Controller<br>BV ADT            | SC100                              | SC93021702                      | NA            | NA            |
| Temperature And Humidity<br>Chamber TERCHY | HRM-120RF                          | 931022                          | Nov. 20, 2017 | Nov. 19, 2018 |
| JFW 20dB attenuation                       | 50HF-020-SMA                       | NA                              | NA            | NA            |
| Radio Communication<br>Analyzer            | MT8821C                            | 6261786083                      | Dec. 21, 2017 | Dec. 20, 2018 |

- 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 9.
3. The horn antenna and preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 215374.
5. The IC Site Registration No. is IC 7450F-9.

### 3 General Information

#### 3.1 General Description of EUT

|                     |                                                                                                                                                                                                                                                                                         |                     |                     |                     |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|
| Product             | Femtocell                                                                                                                                                                                                                                                                               |                     |                     |                     |
| Brand               | Nokia                                                                                                                                                                                                                                                                                   |                     |                     |                     |
| Test Model          | SS2FII Femtocell Multi-band SOHO                                                                                                                                                                                                                                                        |                     |                     |                     |
| Sample Status       | Engineering sample                                                                                                                                                                                                                                                                      |                     |                     |                     |
| Power Supply Rating | 12Vdc (Adapter)                                                                                                                                                                                                                                                                         |                     |                     |                     |
| Modulation Type     | WCDMA: BPSK, QPSK<br>LTE: QPSK, 16QAM, 64QAM                                                                                                                                                                                                                                            |                     |                     |                     |
| Operating Frequency | WCDMA: 1932.4MHz ~ 1987.6MHz<br>LTE Band 2 (Channel Bandwidth 5MHz): 1932.5MHz ~ 1987.5MHz<br>LTE Band 2 (Channel Bandwidth 10MHz): 1935.0MHz ~ 1985.0MHz<br>LTE Band 2 (Channel Bandwidth 15MHz): 1937.5MHz ~ 1982.5MHz<br>LTE Band 2 (Channel Bandwidth 20MHz): 1940.0MHz ~ 1980.0MHz |                     |                     |                     |
| Max. EIRP Power     | WCDMA                                                                                                                                                                                                                                                                                   | 190.546mW (22.8dBm) |                     |                     |
|                     |                                                                                                                                                                                                                                                                                         | QPSK                | 16QAM               | 64QAM               |
|                     | LTE Band 2 (Channel Bandwidth 5MHz)                                                                                                                                                                                                                                                     | 269.153mW (24.3dBm) | 213.796mW (23.3dBm) | 190.546mW (22.8dBm) |
|                     | LTE Band 2 (Channel Bandwidth 10MHz)                                                                                                                                                                                                                                                    | 269.153mW (24.4dBm) | 218.776mW (23.4dBm) | 194.984mW (22.9dBm) |
|                     | LTE Band 2 (Channel Bandwidth 15MHz)                                                                                                                                                                                                                                                    | 288.403mW (24.6dBm) | 229.087mW (23.6dBm) | 204.174mW (23.1dBm) |
|                     | LTE Band 2 (Channel Bandwidth 20MHz)                                                                                                                                                                                                                                                    | 288.403mW (24.6dBm) | 229.087mW (23.6dBm) | 199.526mW (23.0dBm) |
| Emission Designator | WCDMA                                                                                                                                                                                                                                                                                   | 4M16F9W             |                     |                     |
|                     |                                                                                                                                                                                                                                                                                         | QPSK                | 16QAM               | 64QAM               |
|                     | LTE Band 2 (Channel Bandwidth 5MHz)                                                                                                                                                                                                                                                     | 4M43G7D             | 4M43W7D             | 4M45W7D             |
|                     | LTE Band 2 (Channel Bandwidth 10MHz)                                                                                                                                                                                                                                                    | 8M90G7D             | 8M93W7D             | 8M93W7D             |
|                     | LTE Band 2 (Channel Bandwidth 15MHz)                                                                                                                                                                                                                                                    | 13M3G7D             | 13M3W7D             | 13M3W7D             |
|                     | LTE Band 2 (Channel Bandwidth 20MHz)                                                                                                                                                                                                                                                    | 18M0G7D             | 17M9W7D             | 17M9W7D             |
| Antenna Type        | WCDMA: Antenna 1: PIFA antenna with 2.6dBi gain<br>LTE Band 2:<br>Antenna 2: PIFA antenna with 2.9dBi gain<br>Antenna 4: PIFA antenna with 3.7dBi gain                                                                                                                                  |                     |                     |                     |
| Antenna Connector   | NA                                                                                                                                                                                                                                                                                      |                     |                     |                     |
| Accessory Device    | Adapter, GPS antenna (Brand: INPAQ, model: GPSGLONASS15D-S6-0341-A, cable: 4.55m non-shielded cable w/o core)                                                                                                                                                                           |                     |                     |                     |
| Data Cable Supplied | 2.95m non-shielded RJ45 cable w/o core                                                                                                                                                                                                                                                  |                     |                     |                     |

Note:

1. The EUT uses following adapters.

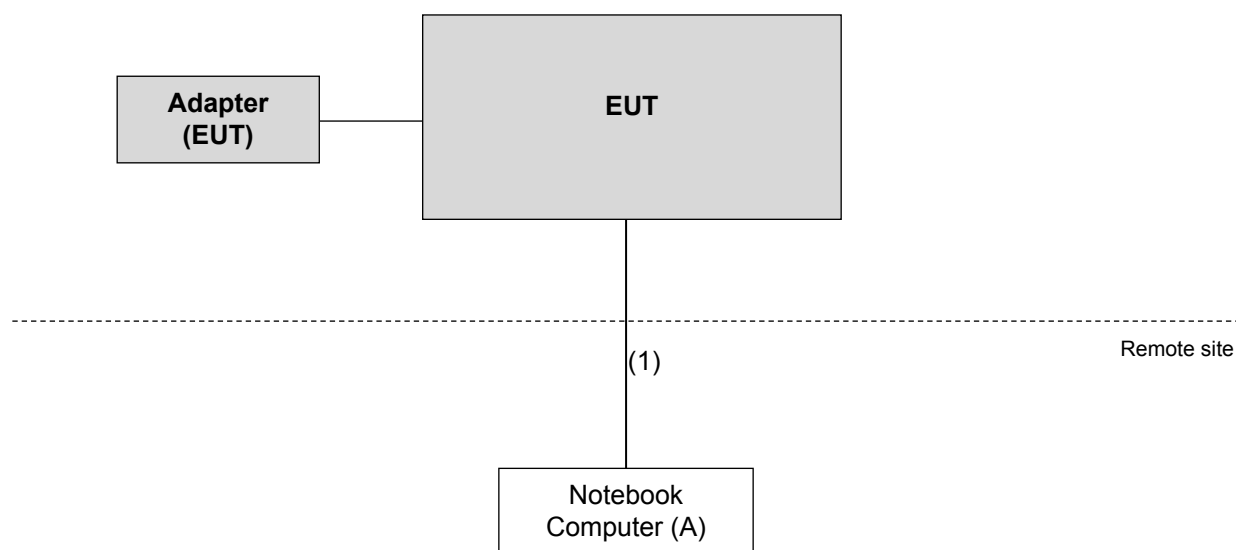
|              |                                                |
|--------------|------------------------------------------------|
| Adapter 1    |                                                |
| Brand        | SHENZHEN FRECOM ELECTRONICS CO., LTD           |
| Model        | F24W5-120200SPAU                               |
| Input Power  | 100-240Vac, 50/60Hz, 0.6A                      |
| Output Power | 12Vdc, 2A                                      |
| Power Line   | 1.5m DC cable without core attached on adapter |

| Adapter 2    |                                                 |
|--------------|-------------------------------------------------|
| Brand        | AOEM                                            |
| Model        | ADS0248T-W120200(H)                             |
| Input Power  | 100-240V~50-60Hz 0.6A                           |
| Output Power | 12V / 2.0A                                      |
| Power Line   | 1.55m DC cable without core attached on adapter |

\*After pre-testing, adapter 1 was the worst case for the final tests.

- Carrier Aggregation technology supported for this device, the operation behavior is LTE Band 2 + LTE Band 4, for more details information please refer to "CA Mode" of test report.

### 3.2 Configuration of System under Test



#### 3.2.1 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

| ID | Product           | Brand | Model No. | Serial No. | FCC ID           | Remarks |
|----|-------------------|-------|-----------|------------|------------------|---------|
| A. | Notebook Computer | DELL  | E5410     | 1HC2XM1    | FCC DoC Approved | -       |

Note:

- All power cords of the above support units are non-shielded (1.8m).
- Item A acted as communication partner to transfer data.

| ID | Descriptions | Qty. | Length (m) | Shielding (Yes/No) | Cores (Qty.) | Remarks |
|----|--------------|------|------------|--------------------|--------------|---------|
| 1. | RJ45 Cable   | 1    | 10         | N                  | 0            | Cat5e   |

### 3.3 Test Mode Applicability and Tested Channel Detail

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. Following channel(s) was (were) selected for the final test as listed below:

#### WCDMA Mode

| EUT Configure Mode | Test Item                       | Available Channel | Tested Channel                                          | Mode         |
|--------------------|---------------------------------|-------------------|---------------------------------------------------------|--------------|
| -                  | EIRP                            | 9662 to 9938      | 9662(1932.4MHz),<br>9800(1960.0MHz),<br>9938(1987.6MHz) | WCDMA (BPSK) |
| -                  | Modulation characteristics      | 9662 to 9938      | 9800(1960.0MHz)                                         | WCDMA (BPSK) |
| -                  | Frequency Stability             | 9662 to 9938      | 9800(1960.0MHz)                                         | WCDMA (BPSK) |
| -                  | Emission Bandwidth              | 9662 to 9938      | 9662(1932.4MHz),<br>9800(1960.0MHz),<br>9938(1987.6MHz) | WCDMA (BPSK) |
| -                  | Band Edge                       | 9662 to 9938      | 9662(1932.4MHz),<br>9938(1987.6MHz)                     | WCDMA (BPSK) |
| -                  | Peak To Average Ratio           | 9662 to 9938      | 9662(1932.4MHz),<br>9800(1960.0MHz),<br>9938(1987.6MHz) | WCDMA (BPSK) |
| -                  | Conducted Emission              | 9662 to 9938      | 9662(1932.4MHz),<br>9800(1960.0MHz),<br>9938(1987.6MHz) | WCDMA (BPSK) |
| -                  | Radiated Emission<br>Below 1GHz | 9662 to 9938      | 9800(1960.0MHz)                                         | WCDMA (BPSK) |
| -                  | Radiated Emission<br>Above 1GHz | 9662 to 9938      | 9662(1932.4MHz),<br>9800(1960.0MHz),<br>9938(1987.6MHz) | WCDMA (BPSK) |

## LTE Band 2

| Test item                  | Available channel | Tested channel                                        | Channel Bandwidth | Modulation           |
|----------------------------|-------------------|-------------------------------------------------------|-------------------|----------------------|
| Output Power               | 625 to 1175       | 625(1932.5MHz),<br>900(1960.0MHz),<br>1175(1987.5MHz) | 5MHz              | QPSK / 16QAM / 64QAM |
|                            | 650 to 1150       | 650(1935.0MHz),<br>900(1960.0MHz),<br>1150(1985.0MHz) | 10MHz             | QPSK / 16QAM / 64QAM |
|                            | 675 to 1125       | 675(1937.5MHz),<br>900(1960.0MHz),<br>1125(1982.5MHz) | 15MHz             | QPSK / 16QAM / 64QAM |
|                            | 700 to 1100       | 700(1940.0MHz),<br>900(1960.0MHz),<br>1100(1980.0MHz) | 20MHz             | QPSK / 16QAM / 64QAM |
| Modulation characteristics | 625 to 1175       | 900(1960.0MHz)                                        | 5MHz              | QPSK / 16QAM         |
|                            | 700 to 1100       | 900(1960.0MHz)                                        | 20MHz             | QPSK / 16QAM         |
| Frequency Stability        | 625 to 1175       | 900(1960.0MHz)                                        | 5MHz              | QPSK                 |
| Emission Bandwidth         | 625 to 1175       | 625(1932.5MHz),<br>900(1960.0MHz),<br>1175(1987.5MHz) | 5MHz              | QPSK / 16QAM / 64QAM |
|                            | 650 to 1150       | 650(1935.0MHz),<br>900(1960.0MHz),<br>1150(1985.0MHz) | 10MHz             | QPSK / 16QAM / 64QAM |
|                            | 675 to 1125       | 675(1937.5MHz),<br>900(1960.0MHz),<br>1125(1982.5MHz) | 15MHz             | QPSK / 16QAM / 64QAM |
|                            | 700 to 1100       | 700(1940.0MHz),<br>900(1960.0MHz),<br>1100(1980.0MHz) | 20MHz             | QPSK / 16QAM / 64QAM |
| Band Edge                  | 625 to 1175       | 625(1932.5MHz),<br>1175(1987.5MHz)                    | 5MHz              | QPSK                 |
|                            | 650 to 1150       | 650(1935.0MHz),<br>1150(1985.0MHz)                    | 10MHz             | QPSK                 |
|                            | 675 to 1125       | 675(1937.5MHz),<br>1125(1982.5MHz)                    | 15MHz             | QPSK                 |
|                            | 700 to 1100       | 700(1940.0MHz),<br>1100(1980.0MHz)                    | 20MHz             | QPSK                 |
| Peak to Average Ratio      | 625 to 1175       | 625(1932.5MHz),<br>900(1960.0MHz),<br>1175(1987.5MHz) | 5MHz              | QPSK / 16QAM / 64QAM |
|                            | 650 to 1150       | 650(1935.0MHz),<br>900(1960.0MHz),<br>1150(1985.0MHz) | 10MHz             | QPSK / 16QAM / 64QAM |
|                            | 675 to 1125       | 675(1937.5MHz),<br>900(1960.0MHz),<br>1125(1982.5MHz) | 15MHz             | QPSK / 16QAM / 64QAM |
|                            | 700 to 1100       | 700(1940.0MHz),<br>900(1960.0MHz),<br>1100(1980.0MHz) | 20MHz             | QPSK / 16QAM / 64QAM |
| Conducuted Emission        | 625 to 1175       | 625(1932.5MHz),<br>900(1960.0MHz),<br>1175(1987.5MHz) | 5MHz              | QPSK                 |
|                            | 650 to 1150       | 650(1935.0MHz),<br>900(1960.0MHz),<br>1150(1985.0MHz) | 10MHz             | QPSK                 |
|                            | 675 to 1125       | 675(1937.5MHz),<br>900(1960.0MHz),<br>1125(1982.5MHz) | 15MHz             | QPSK                 |
|                            | 700 to 1100       | 700(1940.0MHz),<br>900(1960.0MHz),<br>1100(1980.0MHz) | 20MHz             | QPSK                 |

| Test item                       | Available channel | Tested channel                                        | Channel Bandwidth | Modulation |
|---------------------------------|-------------------|-------------------------------------------------------|-------------------|------------|
| Radiated Emission<br>Below 1GHz | 625 to 1175       | 625(1932.5MHz)                                        | 5MHz              | QPSK       |
|                                 | 650 to 1150       | 650(1935.0MHz)                                        | 10MHz             | QPSK       |
|                                 | 675 to 1125       | 675(1937.5MHz)                                        | 15MHz             | QPSK       |
|                                 | 700 to 1100       | 700(1940.0MHz)                                        | 20MHz             | QPSK       |
| Radiated Emission<br>Above 1GHz | 625 to 1175       | 625(1932.5MHz),<br>900(1960.0MHz),<br>1175(1987.5MHz) | 5MHz              | QPSK       |
|                                 | 650 to 1150       | 650(1935.0MHz),<br>900(1960.0MHz),<br>1150(1985.0MHz) | 10MHz             | QPSK       |
|                                 | 675 to 1125       | 675(1937.5MHz),<br>900(1960.0MHz),<br>1125(1982.5MHz) | 15MHz             | QPSK       |
|                                 | 700 to 1100       | 700(1940.0MHz),<br>900(1960.0MHz),<br>1100(1980.0MHz) | 20MHz             | QPSK       |

**Note:**

1. For radiated emission below 1 GHz, the low, mid and high channels were pre-tested in chamber. The low channel was the worst case and chosen for final test.
2. The conducted output power for QPSK, 16QAM and 64QAM, measured value of QPSK is higher than 16QAM and 64QAM mode. Therefore, Frequency Stability, Channel edge, Conducted Emission, Radiated Emission were presented under QPSK mode only.

**Test Condition:**

| Test Item                  | Environmental Conditions           | Input Power (System) | Tested By                    |
|----------------------------|------------------------------------|----------------------|------------------------------|
| EIRP                       | 25deg. C, 66%RH                    | 120Vac, 60Hz         | Greg Lin<br>Han Wu           |
| Modulation characteristics | 24deg. C, 64%RH                    | 120Vac, 60Hz         | James Yang                   |
| Frequency Stability        | 24deg. C, 64%RH                    | 120Vac, 60Hz         | James Yang                   |
| Emission Bandwidth         | 24deg. C, 64%RH                    | 120Vac, 60Hz         | James Yang                   |
| Band Edge                  | 24deg. C, 64%RH                    | 120Vac, 60Hz         | James Yang                   |
| Peak To Average Ratio      | 24deg. C, 64%RH                    | 120Vac, 60Hz         | James Yang                   |
| Conducted Emission         | 24deg. C, 64%RH                    | 120Vac, 60Hz         | James Yang                   |
| Radiated Emission          | 25deg. C, 66%RH<br>20deg. C, 69%RH | 120Vac, 60Hz         | Han Wu<br>Tank Wu, Bayu Chen |

### 3.4 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

### **3.5 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 24**

**KDB 971168 D01 Power Meas License Digital Systems v03r01**

**KDB 412172 D01 Determining ERP and EIRP v01r01**

**KDB 662911 D01 multiple transmitter output v02r01**

**ANSI/TIA/EIA-603-E 2016**

**ANSI 63.26-2015**

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

Base stations with an emission bandwidth greater than 1MHz are limited to 1640 watts/MHz EIRP with an antenna height up to 300 meters HAAT.

#### 4.1.2 Test Procedures

##### EIRP / ERP Measurement:

- All measurements were done at low, middle and high operational frequency range. RBW and VBW is 5MHz for WCDMA mode, 10MHz for LTE Mode.
- 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.
- 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
- $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$ . E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole,  $E.R.P \text{ power} = E.I.R.P \text{ power} - 2.15\text{dB}$ .

Where:

$$ERP/EIRP = P_{Meas} + G_T - L_C$$

$P_{Meas}$  : Measure transmitter output power.

$G_T$  : Gain of the transmitting antenna.

$L_C$  : signal attenuation in the connecting cable between the transmitter and antenna.

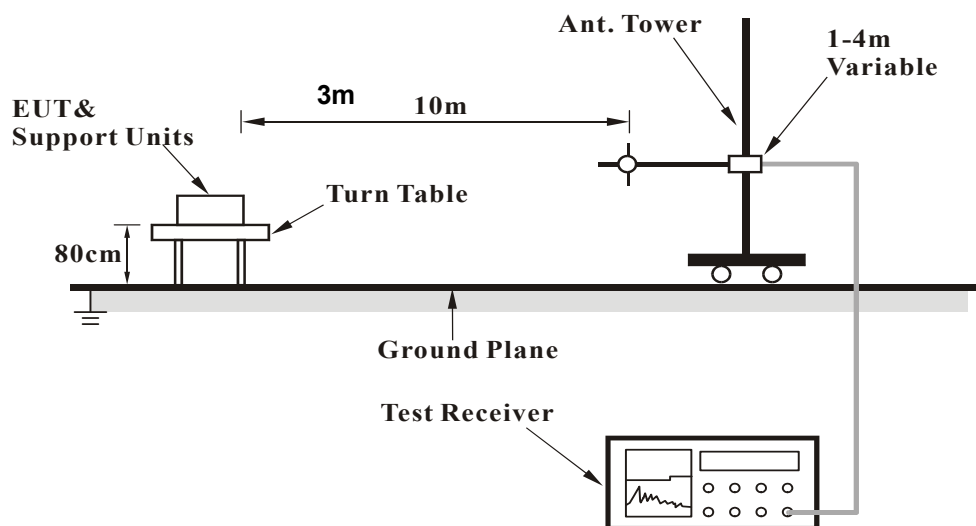
##### Conducted Power Measurement:

The EUT was set up for the maximum power with WCDMA, 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.

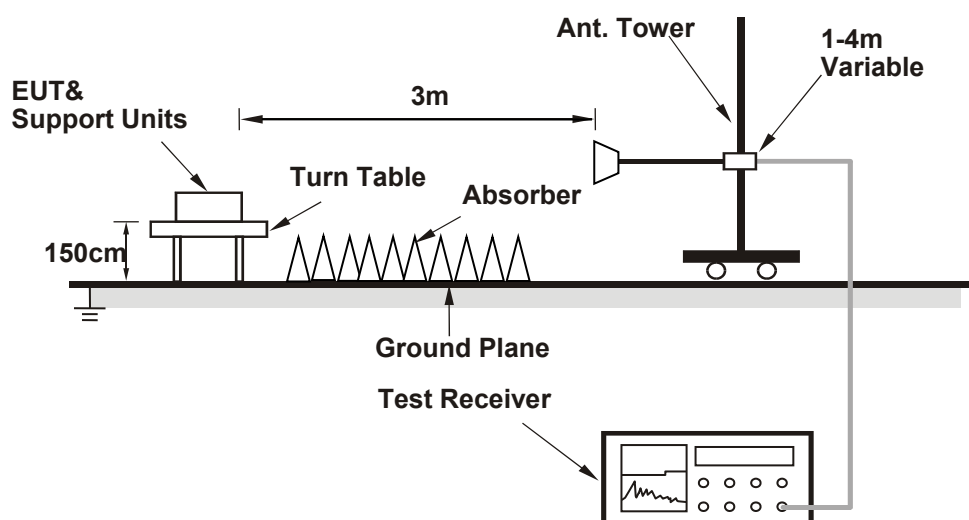
### 4.1.3 Test Setup

EIRP / ERP Measurement:

**For Radiated Emission below or equal 1GHz**



**For Radiated Emission above 1GHz**



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

**CONDUCTED POWER MEASUREMENT:**



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

#### 4.1.4 Test Results

Conducted Output Power (dBm)

| Band      | WCDMA II |       |        |
|-----------|----------|-------|--------|
| Channel   | 9662     | 9800  | 9938   |
| Frequency | 1932.4   | 1960  | 1987.6 |
| RMC 12.2K | 19.95    | 20.65 | 20.76  |

| Band / BW | RB Size | RB Offset | QPSK       |        |            |        |              |        | 16QAM      |        |            |        |              |        | 64QAM      |        |            |        |              |        |
|-----------|---------|-----------|------------|--------|------------|--------|--------------|--------|------------|--------|------------|--------|--------------|--------|------------|--------|------------|--------|--------------|--------|
|           |         |           | Low CH 625 |        | Mid CH 900 |        | High CH 1175 |        | Low CH 625 |        | Mid CH 900 |        | High CH 1175 |        | Low CH 625 |        | Mid CH 900 |        | High CH 1175 |        |
|           |         |           | 1932.5 MHz |        | 1960 MHz   |        | 1987.5 MHz   |        | 1932.5 MHz |        | 1960 MHz   |        | 1987.5 MHz   |        | 1932.5 MHz |        | 1960 MHz   |        | 1987.5 MHz   |        |
|           |         |           | Chain0     | Chain1 | Chain0     | Chain1 | Chain0       | Chain1 | Chain0     | Chain1 | Chain0     | Chain1 | Chain0       | Chain1 | Chain0     | Chain1 | Chain0     | Chain1 | Chain0       | Chain1 |
| 2/5M      | 25      | 0         | 19.95      | 18.53  | 20.22      | 20.56  | 19.81        | 20.62  | 19.43      | 18.12  | 19.76      | 20.04  | 19.35        | 20.21  | 18.98      | 17.68  | 19.24      | 19.67  | 18.87        | 19.84  |
|           |         |           | Total      |        | Total      |        | Total        |        | Total      |        | Total      |        | Total        |        | Total      |        | Total      |        | Total        |        |
|           |         |           | 22.31      |        | 23.40      |        | 23.24        |        | 21.83      |        | 22.91      |        | 22.81        |        | 21.39      |        | 22.47      |        | 22.39        |        |
| Band / BW | RB Size | RB Offset | QPSK       |        |            |        |              |        | 16QAM      |        |            |        |              |        | 64QAM      |        |            |        |              |        |
|           |         |           | Low CH 650 |        | Mid CH 900 |        | High CH 1150 |        | Low CH 650 |        | Mid CH 900 |        | High CH 1150 |        | Low CH 650 |        | Mid CH 900 |        | High CH 1150 |        |
|           |         |           | 1935 MHz   |        | 1960 MHz   |        | 1985 MHz     |        | 1935 MHz   |        | 1960 MHz   |        | 1985 MHz     |        | 1935 MHz   |        | 1960 MHz   |        | 1985 MHz     |        |
|           |         |           | Chain0     | Chain1 | Chain0     | Chain1 | Chain0       | Chain1 | Chain0     | Chain1 | Chain0     | Chain1 | Chain0       | Chain1 | Chain0     | Chain1 | Chain0     | Chain1 | Chain0       | Chain1 |
| 2/10M     | 50      | 0         | 19.66      | 19.17  | 20.44      | 20.53  | 20.83        | 20.92  | 19.13      | 18.68  | 20.01      | 20.09  | 20.28        | 20.43  | 18.65      | 18.14  | 19.64      | 19.68  | 19.74        | 19.99  |
|           |         |           | Total      |        | Total      |        | Total        |        | Total      |        | Total      |        | Total        |        | Total      |        | Total      |        | Total        |        |
|           |         |           | 22.43      |        | 23.50      |        | 23.89        |        | 21.92      |        | 23.06      |        | 23.37        |        | 21.41      |        | 22.67      |        | 22.88        |        |
| Band / BW | RB Size | RB Offset | QPSK       |        |            |        |              |        | 16QAM      |        |            |        |              |        | 64QAM      |        |            |        |              |        |
|           |         |           | Low CH 675 |        | Mid CH 900 |        | High CH 1125 |        | Low CH 675 |        | Mid CH 900 |        | High CH 1125 |        | Low CH 675 |        | Mid CH 900 |        | High CH 1125 |        |
|           |         |           | 1937.5 MHz |        | 1960 MHz   |        | 1982.5 MHz   |        | 1937.5 MHz |        | 1960 MHz   |        | 1982.5 MHz   |        | 1937.5 MHz |        | 1960 MHz   |        | 1982.5 MHz   |        |
|           |         |           | Chain0     | Chain1 | Chain0     | Chain1 | Chain0       | Chain1 | Chain0     | Chain1 | Chain0     | Chain1 | Chain0       | Chain1 | Chain0     | Chain1 | Chain0     | Chain1 | Chain0       | Chain1 |
| 2/15M     | 75      | 0         | 20.94      | 20.76  | 21.65      | 21.70  | 22.09        | 21.93  | 20.54      | 20.22  | 21.14      | 21.21  | 21.64        | 21.48  | 20.01      | 19.78  | 20.60      | 20.73  | 21.13        | 20.89  |
|           |         |           | Total      |        | Total      |        | Total        |        | Total      |        | Total      |        | Total        |        | Total      |        | Total      |        | Total        |        |
|           |         |           | 23.86      |        | 24.69      |        | 25.02        |        | 23.39      |        | 24.19      |        | 24.57        |        | 22.91      |        | 23.68      |        | 24.02        |        |
| Band / BW | RB Size | RB Offset | QPSK       |        |            |        |              |        | 16QAM      |        |            |        |              |        | 64QAM      |        |            |        |              |        |
|           |         |           | Low CH 700 |        | Mid CH 900 |        | High CH 1100 |        | Low CH 700 |        | Mid CH 900 |        | High CH 1100 |        | Low CH 700 |        | Mid CH 900 |        | High CH 1100 |        |
|           |         |           | 1940 MHz   |        | 1960 MHz   |        | 1980 MHz     |        | 1940 MHz   |        | 1960 MHz   |        | 1980 MHz     |        | 1940 MHz   |        | 1960 MHz   |        | 1980 MHz     |        |
|           |         |           | Chain0     | Chain1 | Chain0     | Chain1 | Chain0       | Chain1 | Chain0     | Chain1 | Chain0     | Chain1 | Chain0       | Chain1 | Chain0     | Chain1 | Chain0     | Chain1 | Chain0       | Chain1 |
| 2/20M     | 100     | 0         | 19.90      | 19.78  | 20.18      | 20.52  | 20.69        | 21.00  | 19.48      | 19.34  | 19.84      | 20.10  | 20.14        | 20.53  | 19.02      | 18.75  | 19.36      | 19.63  | 19.64        | 20.11  |
|           |         |           | Total      |        | Total      |        | Total        |        | Total      |        | Total      |        | Total        |        | Total      |        | Total      |        | Total        |        |
|           |         |           | 22.85      |        | 23.36      |        | 23.86        |        | 22.42      |        | 22.98      |        | 23.35        |        | 21.90      |        | 22.51      |        | 22.89        |        |

EIRP Power (dBm)

WCDMA Mode

|                                                     |             |                 |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|-----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 9662 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                 |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)   | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1932.4      | -19.7           | 20.9                  | -0.2                   | 20.7       | 33.0        | -12.3       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                 |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)   | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1932.4      | -18.6           | 22.4                  | -0.2                   | 22.2       | 33.0        | -10.8       |

|                                                     |             |                 |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|-----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 9800 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                 |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)   | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1960.00     | -19.3           | 21.2                  | -0.3                   | 20.9       | 33.0        | -12.1       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                 |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)   | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1960.00     | -18.1           | 23.1                  | -0.3                   | 22.8       | 33.0        | -10.2       |

|                                                     |             |                 |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|-----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 9938 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                 |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)   | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1987.60     | -20.2           | 20.2                  | -0.4                   | 19.8       | 33.0        | -13.2       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                 |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)   | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1987.60     | -19.2           | 22.2                  | -0.4                   | 21.8       | 33.0        | -11.2       |

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

LTE Band 2

**Modulation Type: QPSK**

Channel Bandwidth: 5MHz

|                                                     |             |                |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 625 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1932.50     | -16.3          | 24.3                  | -0.2                   | 24.1       | 33.0        | -8.9        |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1932.50     | -17.4          | 23.6                  | -0.2                   | 23.4       | 33.0        | -9.6        |

|                                                     |             |                |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 900 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1960.00     | -16.1          | 24.4                  | -0.3                   | 24.1       | 33.0        | -8.9        |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1960.00     | -17.4          | 23.8                  | -0.3                   | 23.5       | 33.0        | -9.5        |

|                                                     |             |                 |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|-----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 1175 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                 |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)   | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1987.50     | -15.7           | 24.7                  | -0.4                   | 24.3       | 33.0        | -8.7        |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                 |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)   | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1987.50     | -17.6           | 23.8                  | -0.4                   | 23.4       | 33.0        | -9.6        |

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 10MHz

|                                                     |             |                |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 650 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1935.00     | -16.2          | 24.4                  | -0.2                   | 24.2       | 33.0        | -8.8        |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1935.00     | -17.7          | 23.3                  | -0.2                   | 23.1       | 33.0        | -9.9        |

|                                                     |             |                |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 900 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1960.00     | -15.9          | 24.6                  | -0.3                   | 24.3       | 33.0        | -8.7        |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1960.00     | -17.5          | 23.7                  | -0.3                   | 23.4       | 33.0        | -9.6        |

|                                                     |             |                 |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|-----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 1150 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                 |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)   | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1985.00     | -15.6           | 24.8                  | -0.4                   | 24.4       | 33.0        | -8.6        |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                 |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)   | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1985.00     | -17.8           | 23.6                  | -0.4                   | 23.2       | 33.0        | -9.8        |

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 15MHz

|                                                     |             |                |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 675 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1937.50     | -15.9          | 24.8                  | -0.3                   | 24.5       | 33.0        | -8.5        |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1937.50     | -17.6          | 23.5                  | -0.3                   | 23.2       | 33.0        | -9.8        |

|                                                     |             |                |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 900 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1960.00     | -16.0          | 24.5                  | -0.3                   | 24.2       | 33.0        | -8.8        |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1960.00     | -17.5          | 23.7                  | -0.3                   | 23.4       | 33.0        | -9.6        |

|                                                     |             |                 |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|-----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 1125 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                 |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)   | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1982.50     | -15.5           | 25.0                  | -0.4                   | 24.6       | 33.0        | -8.4        |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                 |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)   | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1982.50     | -17.9           | 23.5                  | -0.4                   | 23.1       | 33.0        | -9.9        |

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 20MHz

|                                                     |             |                |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 700 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1940.00     | -15.7          | 24.9                  | -0.3                   | 24.6       | 33.0        | -8.4        |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1940.00     | -17.2          | 23.9                  | -0.3                   | 23.6       | 33.0        | -9.4        |

|                                                     |             |                |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 900 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1960.00     | -16.0          | 24.5                  | -0.3                   | 24.2       | 33.0        | -8.8        |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1960.00     | -17.4          | 23.8                  | -0.3                   | 23.5       | 33.0        | -9.5        |

|                                                     |             |                 |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|-----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 1100 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                 |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)   | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1980.00     | -15.8           | 24.7                  | -0.4                   | 24.3       | 33.0        | -8.7        |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                 |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)   | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1980.00     | -17.8           | 23.6                  | -0.4                   | 23.2       | 33.0        | -9.8        |

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

**Modulation Type: 16QAM**

Channel Bandwidth: 5MHz

|                                                     |             |                |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 625 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1932.50     | -17.3          | 23.3                  | -0.2                   | 23.1       | 33.0        | -9.9        |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1932.50     | -18.4          | 22.6                  | -0.2                   | 22.4       | 33.0        | -10.6       |

|                                                     |             |                |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 900 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1960.00     | -17.1          | 23.4                  | -0.3                   | 23.1       | 33.0        | -9.9        |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1960.00     | -18.4          | 22.8                  | -0.3                   | 22.5       | 33.0        | -10.5       |

|                                                     |             |                 |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|-----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 1175 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                 |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)   | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1987.50     | -16.7           | 23.7                  | -0.4                   | 23.3       | 33.0        | -9.7        |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                 |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)   | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1987.50     | -18.7           | 22.7                  | -0.4                   | 22.3       | 33.0        | -10.7       |

Note:  $EIRP (dBm) = S.G \text{ Power Value (dBm)} + \text{Correction Factor (dB)}$ .

Channel Bandwidth: 10MHz

|                                                     |             |                |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 650 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1935.00     | -17.2          | 23.4                  | -0.2                   | 23.2       | 33.0        | -9.8        |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1935.00     | -17.7          | 23.3                  | -0.2                   | 23.1       | 33.0        | -9.9        |

|                                                     |             |                |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 900 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1960.00     | -16.8          | 23.7                  | -0.3                   | 23.4       | 33.0        | -9.6        |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1960.00     | -18.5          | 22.7                  | -0.3                   | 22.4       | 33.0        | -10.6       |

|                                                     |             |                 |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|-----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 1150 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                 |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)   | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1985.00     | -16.6           | 23.8                  | -0.4                   | 23.4       | 33.0        | -9.6        |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                 |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)   | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1985.00     | -18.9           | 22.5                  | -0.4                   | 22.1       | 33.0        | -10.9       |

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 15MHz

|                                                     |             |                |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 675 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1937.50     | -16.9          | 23.8                  | -0.3                   | 23.5       | 33.0        | -9.5        |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1937.50     | -18.6          | 22.5                  | -0.3                   | 22.2       | 33.0        | -10.8       |

|                                                     |             |                |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 900 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1960.00     | -17.0          | 23.5                  | -0.3                   | 23.2       | 33.0        | -9.8        |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1960.00     | -18.5          | 22.7                  | -0.3                   | 22.4       | 33.0        | -10.6       |

|                                                     |             |                 |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|-----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 1125 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                 |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)   | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1982.50     | -16.5           | 24.0                  | -0.4                   | 23.6       | 33.0        | -9.4        |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                 |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)   | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1982.50     | -18.9           | 22.5                  | -0.4                   | 22.1       | 33.0        | -10.9       |

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 20MHz

|                                                     |             |                |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 700 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1940.00     | -16.7          | 23.9                  | -0.3                   | 23.6       | 33.0        | -9.4        |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1940.00     | -18.2          | 22.9                  | -0.3                   | 22.6       | 33.0        | -10.4       |

|                                                     |             |                |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 900 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1960.00     | -17.1          | 23.4                  | -0.3                   | 23.1       | 33.0        | -9.9        |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1960.00     | -18.4          | 22.8                  | -0.3                   | 22.5       | 33.0        | -10.5       |

|                                                     |             |                 |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|-----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 1100 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                 |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)   | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1980.00     | -16.9           | 23.6                  | -0.4                   | 23.2       | 33.0        | -9.8        |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                 |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)   | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1980.00     | -17.8           | 23.6                  | -0.4                   | 23.2       | 33.0        | -9.8        |

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

**Modulation Type: 64QAM**

Channel Bandwidth: 5MHz

|                                                     |             |                |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 625 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1932.50     | -17.7          | 22.9                  | -0.2                   | 22.7       | 33.0        | -10.3       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1932.50     | -19.0          | 22.0                  | -0.2                   | 21.8       | 33.0        | -11.2       |

|                                                     |             |                |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 900 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1960.00     | -17.9          | 22.6                  | -0.3                   | 22.3       | 33.0        | -10.7       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1960.00     | -19.3          | 21.9                  | -0.3                   | 21.6       | 33.0        | -11.4       |

|                                                     |             |                 |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|-----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 1175 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                 |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)   | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1987.50     | -17.2           | 23.2                  | -0.4                   | 22.8       | 33.0        | -10.2       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                 |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)   | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1987.50     | -19.6           | 21.8                  | -0.4                   | 21.4       | 33.0        | -11.6       |

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 10MHz

|                                                     |             |                |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 650 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1935.00     | -17.8          | 22.8                  | -0.2                   | 22.6       | 33.0        | -10.4       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1935.00     | -18.0          | 23.0                  | -0.2                   | 22.8       | 33.0        | -10.2       |

|                                                     |             |                |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 900 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1960.00     | -17.3          | 23.2                  | -0.3                   | 22.9       | 33.0        | -10.1       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1960.00     | -19.2          | 22.0                  | -0.3                   | 21.7       | 33.0        | -11.3       |

|                                                     |             |                 |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|-----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 1150 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                 |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)   | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1985.00     | -17.6           | 22.8                  | -0.4                   | 22.4       | 33.0        | -10.6       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                 |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)   | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1985.00     | -19.6           | 21.8                  | -0.4                   | 21.4       | 33.0        | -11.6       |

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 15MHz

|                                                     |             |                |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 675 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1937.50     | -17.3          | 23.4                  | -0.3                   | 23.1       | 33.0        | -9.9        |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1937.50     | -19.2          | 21.9                  | -0.3                   | 21.6       | 33.0        | -11.4       |

|                                                     |             |                |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 900 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1960.00     | -17.5          | 23.0                  | -0.3                   | 22.7       | 33.0        | -10.3       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1960.00     | -19.0          | 22.2                  | -0.3                   | 21.9       | 33.0        | -11.1       |

|                                                     |             |                 |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|-----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 1125 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                 |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)   | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1982.50     | -17.0           | 23.5                  | -0.4                   | 23.1       | 33.0        | -9.9        |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                 |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)   | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1982.50     | -19.5           | 21.9                  | -0.4                   | 21.5       | 33.0        | -11.5       |

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 20MHz

|                                                     |             |                |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 700 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1940.00     | -17.3          | 23.3                  | -0.3                   | 23.0       | 33.0        | -10.0       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1940.00     | -18.7          | 22.4                  | -0.3                   | 22.1       | 33.0        | -10.9       |

|                                                     |             |                |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 900 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1960.00     | -17.7          | 22.8                  | -0.3                   | 22.5       | 33.0        | -10.5       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)  | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1960.00     | -18.9          | 22.3                  | -0.3                   | 22.0       | 33.0        | -11.0       |

|                                                     |             |                 |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|-----------------|-----------------------|------------------------|------------|-------------|-------------|
| MODE                                                |             | TX channel 1100 |                       |                        |            |             |             |
| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                 |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)   | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1980.00     | -17.7           | 22.8                  | -0.4                   | 22.4       | 33.0        | -10.6       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                 |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm)   | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1980.00     | -18.4           | 23.0                  | -0.4                   | 22.6       | 33.0        | -10.4       |

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

## 4.2 Modulation Characteristics Measurement

### 4.2.1 Limits of Modulation Characteristics

N/A

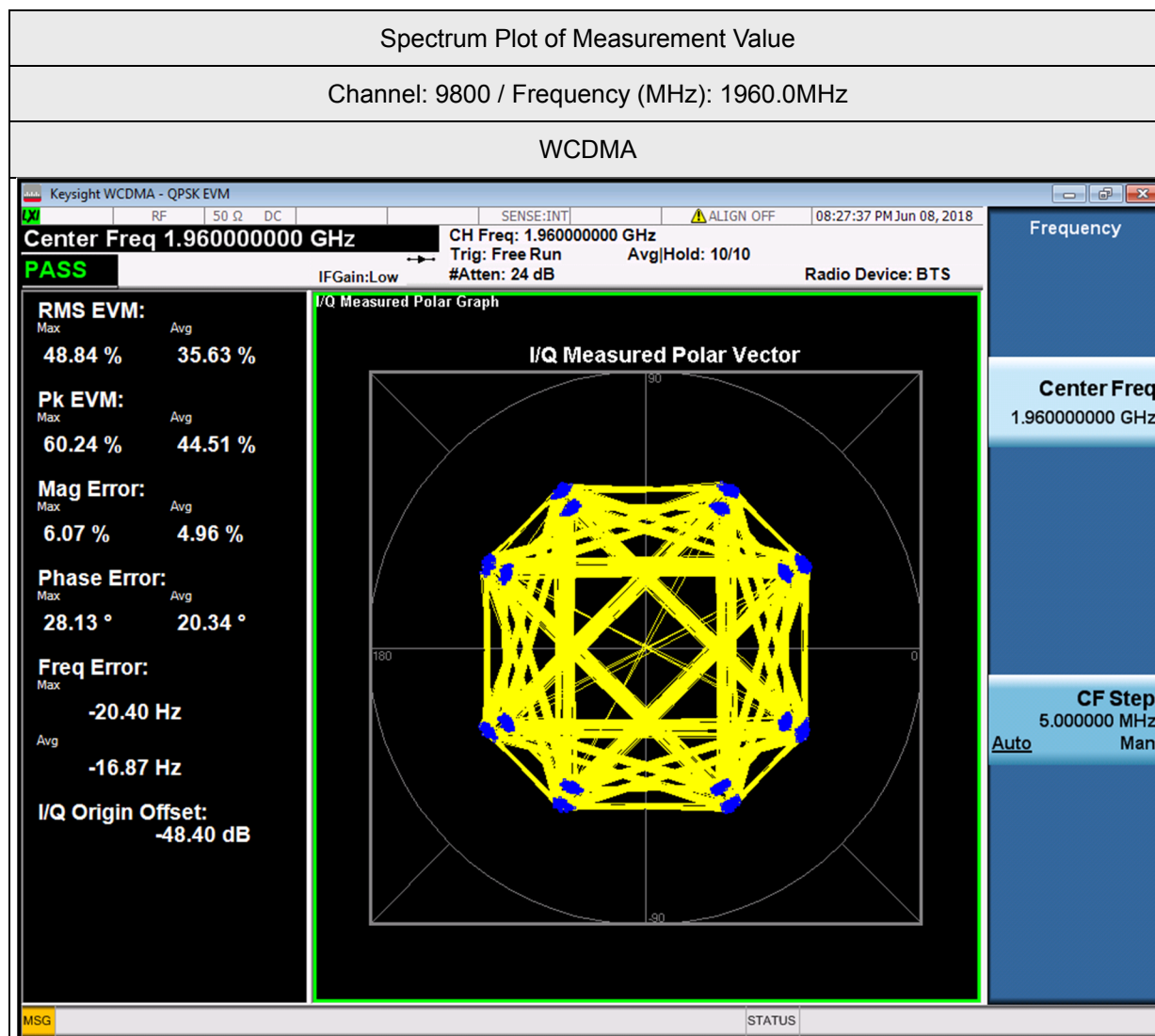
### 4.2.2 Test Procedure

Connect the EUT to Communication Simulator via the antenna connector, The frequency band is set as EUT supported Modulation and Channels, the EUT output is matched with 50 ohm load, the waveform quality and constellation of the EUT was tested.

### 4.2.3 Test Setup



#### 4.2.4 Test Results

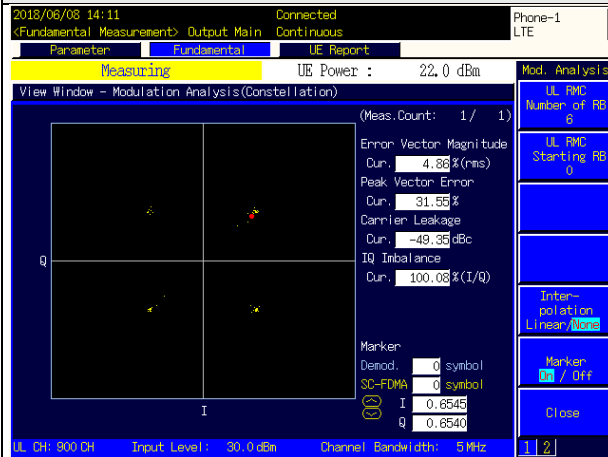


## LTE Band 2

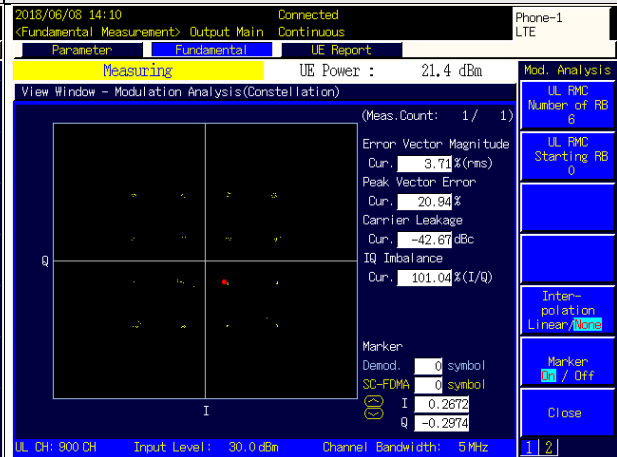
### Spectrum Plot of Measurement Value

Channel: 900 / Frequency (MHz): 1960.0MHz

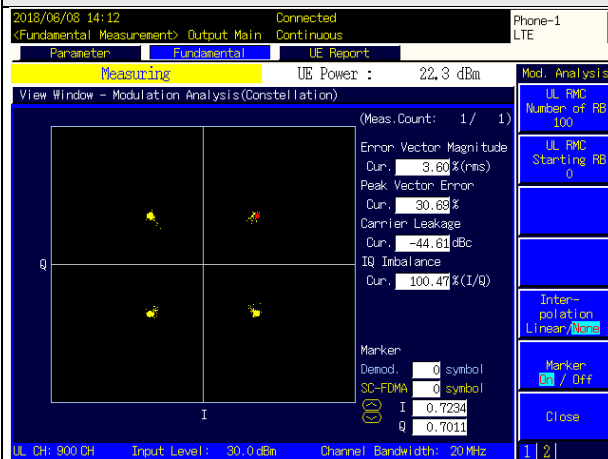
Channel Bandwidth: 5MHz / QPSK



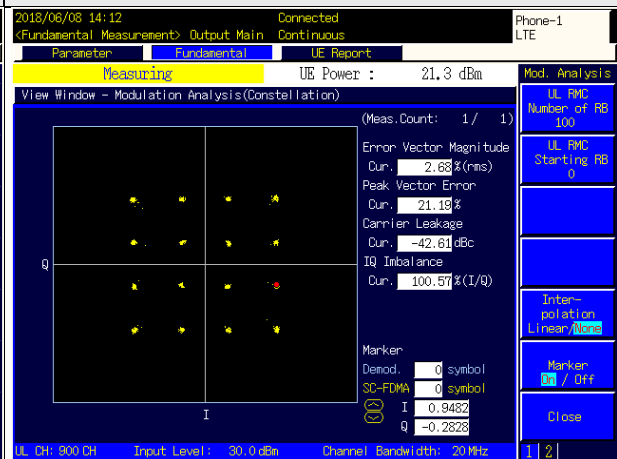
Channel Bandwidth: 5MHz / 16QAM



Channel Bandwidth: 20MHz / QPSK



Channel Bandwidth: 20MHz / 16QAM



### 4.3 Frequency Stability Measurement

#### 4.3.1 Limits of Frequency Stability Measurement

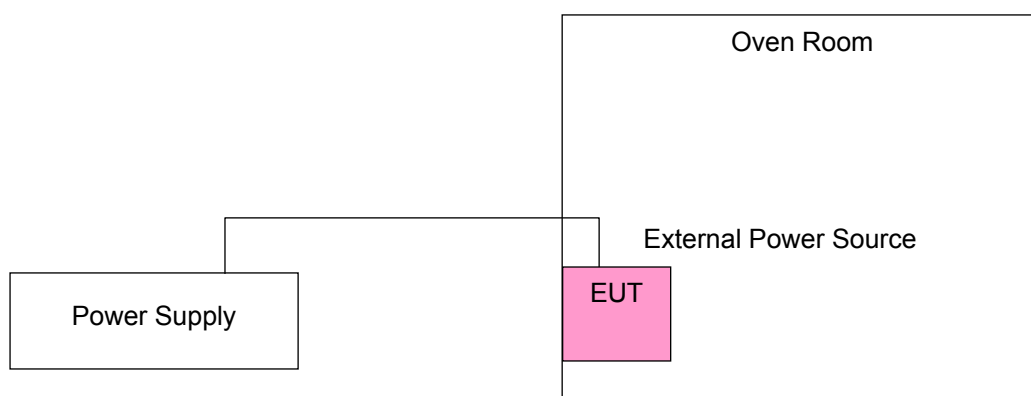
The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

#### 4.3.2 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 AC 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.

#### 4.3.3 Test Setup



#### 4.3.4 Test Results

##### Frequency Error vs. Voltage

| Voltage (Volts) | Frequency Error (ppm) |            | Limit (Pass/Fail) |
|-----------------|-----------------------|------------|-------------------|
|                 | WCDMA                 | LTE Band 2 |                   |
| 138             | 0.08365               | 0.08475    | Pass              |
| 120             | 0.05467               | 0.01213    | Pass              |
| 102             | 0.06930               | 0.05277    | Pass              |

Note: The applicant defined the normal working voltage is from 102Vac to 138Vac.

##### Frequency Error vs. Temperature.

| TEMP. (°C) | Frequency Error (ppm) |            | Limit (Pass/Fail) |
|------------|-----------------------|------------|-------------------|
|            | WCDMA                 | LTE Band 2 |                   |
| 50         | 0.02295               | 0.00187    | Pass              |
| 40         | 0.00642               | 0.07577    | Pass              |
| 30         | 0.03831               | 0.07020    | Pass              |
| 20         | 0.05467               | 0.08974    | Pass              |
| 10         | 0.00911               | 0.01557    | Pass              |
| 0          | 0.06825               | 0.07735    | Pass              |
| -10        | 0.04721               | 0.05855    | Pass              |
| -20        | 0.08572               | 0.11882    | Pass              |
| -30        | 0.10723               | 0.01509    | Pass              |

## 4.4 Emission Bandwidth Measurement

### 4.4.1 Test Procedure

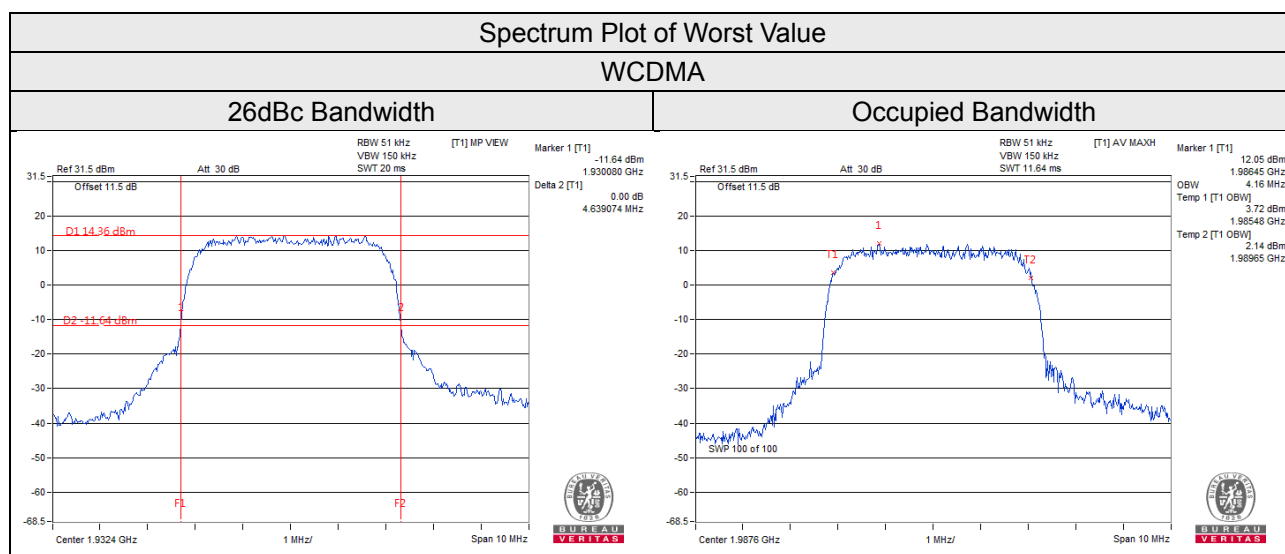
The EUT connected with Spectrum Analyzer. All measurements were done at low, middle and high operational frequency range. The control system connected a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

### 4.4.2 Test Setup



#### 4.4.3 Test Result

| Channel | Frequency (MHz) | WCDMA                 |                              |
|---------|-----------------|-----------------------|------------------------------|
|         |                 | 26dBc Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) |
| 9662    | 1932.4          | 4.639                 | 4.15                         |
| 9800    | 1960.0          | 4.624                 | 4.16                         |
| 9938    | 1987.6          | 4.617                 | 4.16                         |



LTE Band 2 / Chain 0

| Channel Bandwidth 5MHz |                 |                       |       |       |                          |       |       |
|------------------------|-----------------|-----------------------|-------|-------|--------------------------|-------|-------|
| Channel                | Frequency (MHz) | 26dBc Bandwidth (MHz) |       |       | Occupied Bandwidth (MHz) |       |       |
|                        |                 | QPSK                  | 16QAM | 64QAM | QPSK                     | 16QAM | 64QAM |
| 625                    | 1932.5          | 4.707                 | 4.726 | 4.731 | 4.43                     | 4.43  | 4.45  |
| 900                    | 1960.0          | 4.691                 | 4.718 | 4.716 | 4.43                     | 4.41  | 4.43  |
| 1175                   | 1987.5          | 4.712                 | 4.699 | 4.703 | 4.43                     | 4.43  | 4.43  |

| Channel Bandwidth 10MHz |                 |                       |       |       |                          |       |       |
|-------------------------|-----------------|-----------------------|-------|-------|--------------------------|-------|-------|
| Channel                 | Frequency (MHz) | 26dBc Bandwidth (MHz) |       |       | Occupied Bandwidth (MHz) |       |       |
|                         |                 | QPSK                  | 16QAM | 64QAM | QPSK                     | 16QAM | 64QAM |
| 650                     | 1935.0          | 9.590                 | 9.574 | 9.579 | 8.90                     | 8.90  | 8.90  |
| 900                     | 1960.0          | 9.554                 | 9.539 | 9.520 | 8.90                     | 8.90  | 8.90  |
| 1150                    | 1985.0          | 9.541                 | 9.560 | 9.561 | 8.83                     | 8.93  | 8.90  |

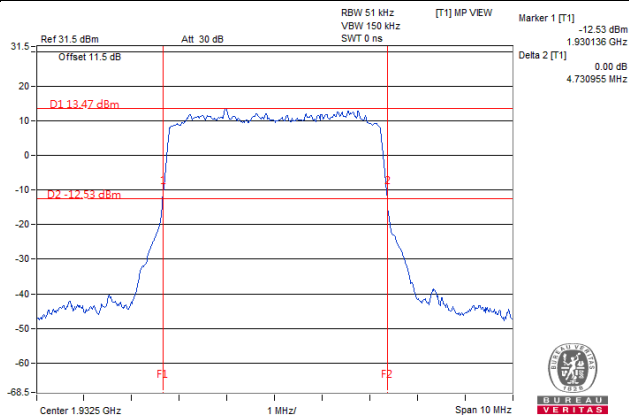
| Channel Bandwidth 15MHz |                 |                       |        |        |                          |       |       |
|-------------------------|-----------------|-----------------------|--------|--------|--------------------------|-------|-------|
| Channel                 | Frequency (MHz) | 26dBc Bandwidth (MHz) |        |        | Occupied Bandwidth (MHz) |       |       |
|                         |                 | QPSK                  | 16QAM  | 64QAM  | QPSK                     | 16QAM | 64QAM |
| 675                     | 1937.5          | 14.168                | 14.183 | 14.191 | 13.30                    | 13.26 | 13.26 |
| 900                     | 1960.0          | 14.242                | 14.210 | 14.218 | 13.26                    | 13.26 | 13.33 |
| 1125                    | 1982.5          | 14.172                | 14.176 | 14.209 | 13.26                    | 13.26 | 13.26 |

| Channel Bandwidth 20MHz |                 |                       |        |        |                          |       |       |
|-------------------------|-----------------|-----------------------|--------|--------|--------------------------|-------|-------|
| Channel                 | Frequency (MHz) | 26dBc Bandwidth (MHz) |        |        | Occupied Bandwidth (MHz) |       |       |
|                         |                 | QPSK                  | 16QAM  | 64QAM  | QPSK                     | 16QAM | 64QAM |
| 700                     | 1940.0          | 19.318                | 19.298 | 19.375 | 18.00                    | 17.93 | 17.93 |
| 900                     | 1960.0          | 19.330                | 19.277 | 19.228 | 17.86                    | 17.86 | 17.93 |
| 1100                    | 1980.0          | 19.310                | 19.334 | 19.321 | 17.86                    | 17.86 | 17.86 |

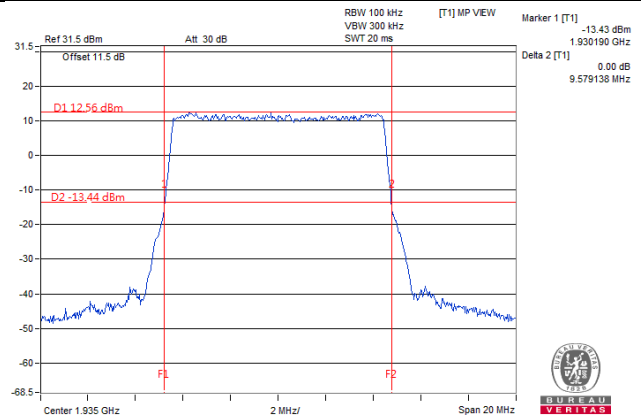
# Spectrum Plot of Worst Value

## 26dBc Bandwidth

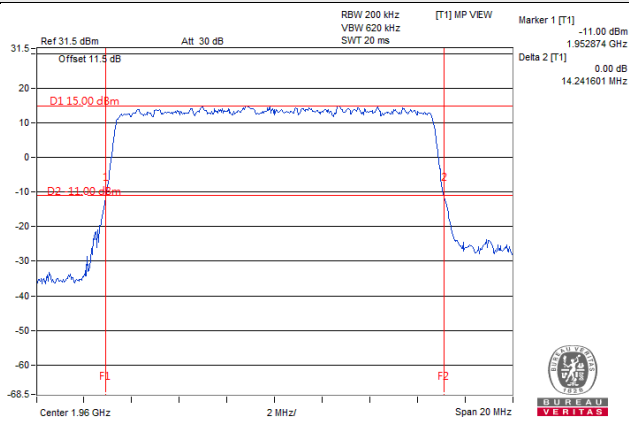
### 5MHz / 64QAM / Ch 625



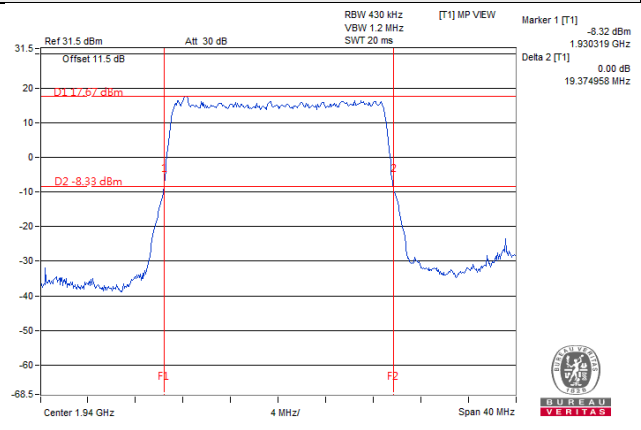
### 10MHz / 64QAM / Ch 650



### 15MHz / QPSK / Ch 900



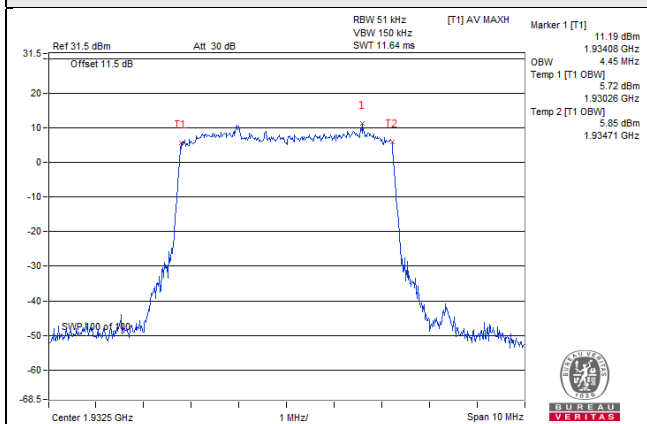
### 20MHz / 64QAM / Ch 700



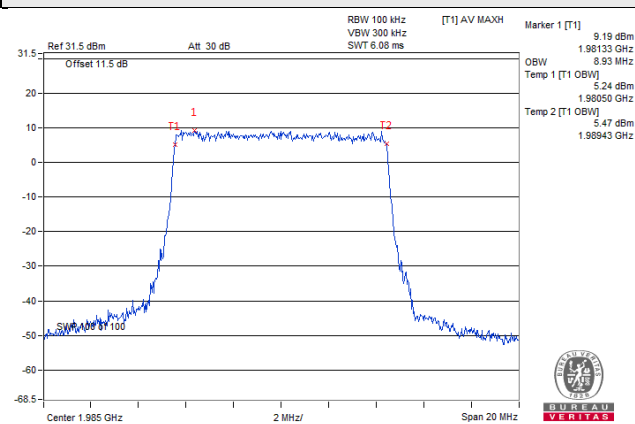
## Spectrum Plot of Worst Value

### Occupied Bandwidth

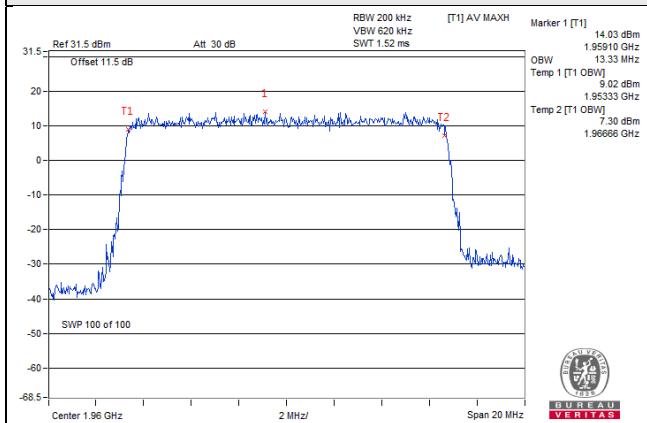
#### 5MHz / 64QAM / Ch 625



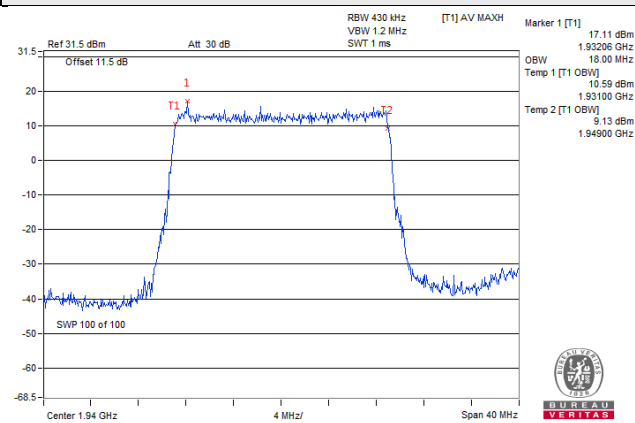
#### 10MHz / 16QAM / Ch 1150



#### 15MHz / 64QAM / Ch 900



#### 20MHz / QPSK / Ch 700



LTE Band 2 / Chain 1

| Channel Bandwidth 5MHz |                 |                       |       |       |                          |       |       |
|------------------------|-----------------|-----------------------|-------|-------|--------------------------|-------|-------|
| Channel                | Frequency (MHz) | 26dBc Bandwidth (MHz) |       |       | Occupied Bandwidth (MHz) |       |       |
|                        |                 | QPSK                  | 16QAM | 64QAM | QPSK                     | 16QAM | 64QAM |
| 625                    | 1932.5          | 4.732                 | 4.717 | 4.719 | 4.41                     | 4.41  | 4.41  |
| 900                    | 1960.0          | 4.680                 | 4.719 | 4.711 | 4.43                     | 4.43  | 4.45  |
| 1175                   | 1987.5          | 4.699                 | 4.687 | 4.719 | 4.43                     | 4.43  | 4.43  |

| Channel Bandwidth 10MHz |                 |                       |       |       |                          |       |       |
|-------------------------|-----------------|-----------------------|-------|-------|--------------------------|-------|-------|
| Channel                 | Frequency (MHz) | 26dBc Bandwidth (MHz) |       |       | Occupied Bandwidth (MHz) |       |       |
|                         |                 | QPSK                  | 16QAM | 64QAM | QPSK                     | 16QAM | 64QAM |
| 650                     | 1935.0          | 9.550                 | 9.564 | 9.538 | 8.90                     | 8.90  | 8.90  |
| 900                     | 1960.0          | 9.530                 | 9.549 | 9.567 | 8.90                     | 8.90  | 8.90  |
| 1150                    | 1985.0          | 9.524                 | 9.576 | 9.572 | 8.93                     | 8.90  | 8.93  |

| Channel Bandwidth 15MHz |                 |                       |        |        |                          |       |       |
|-------------------------|-----------------|-----------------------|--------|--------|--------------------------|-------|-------|
| Channel                 | Frequency (MHz) | 26dBc Bandwidth (MHz) |        |        | Occupied Bandwidth (MHz) |       |       |
|                         |                 | QPSK                  | 16QAM  | 64QAM  | QPSK                     | 16QAM | 64QAM |
| 675                     | 1937.5          | 14.185                | 14.112 | 14.189 | 13.30                    | 13.30 | 13.30 |
| 900                     | 1960.0          | 14.210                | 14.189 | 14.212 | 13.30                    | 13.30 | 13.33 |
| 1125                    | 1982.5          | 14.204                | 14.177 | 14.138 | 13.30                    | 13.30 | 13.30 |

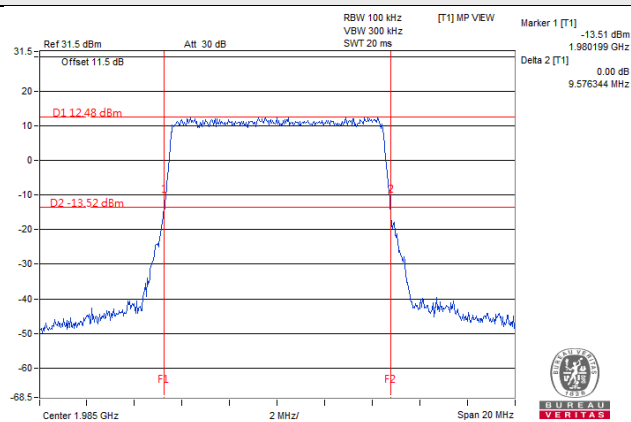
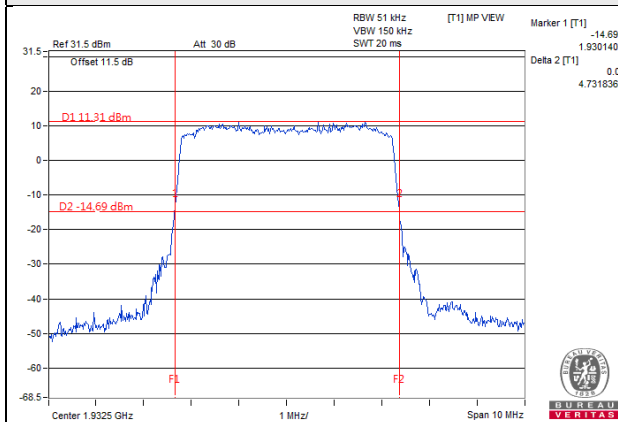
| Channel Bandwidth 20MHz |                 |                       |        |        |                          |       |       |
|-------------------------|-----------------|-----------------------|--------|--------|--------------------------|-------|-------|
| Channel                 | Frequency (MHz) | 26dBc Bandwidth (MHz) |        |        | Occupied Bandwidth (MHz) |       |       |
|                         |                 | QPSK                  | 16QAM  | 64QAM  | QPSK                     | 16QAM | 64QAM |
| 700                     | 1940.0          | 19.350                | 19.316 | 19.395 | 17.93                    | 17.93 | 17.93 |
| 900                     | 1960.0          | 19.428                | 19.430 | 19.449 | 17.86                    | 17.86 | 17.93 |
| 1100                    | 1980.0          | 19.255                | 19.330 | 19.330 | 17.93                    | 17.93 | 17.93 |

## Spectrum Plot of Worst Value

### 26dBc Bandwidth

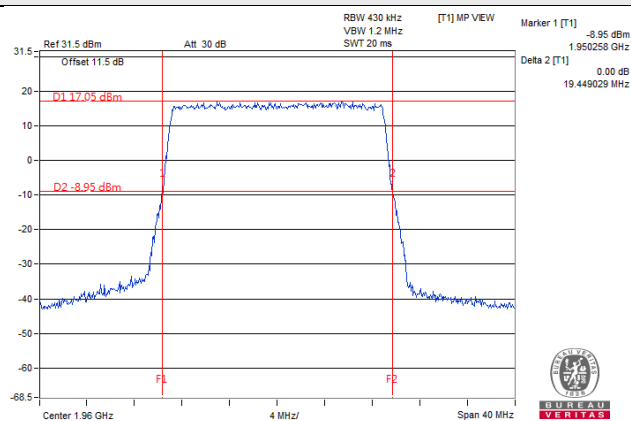
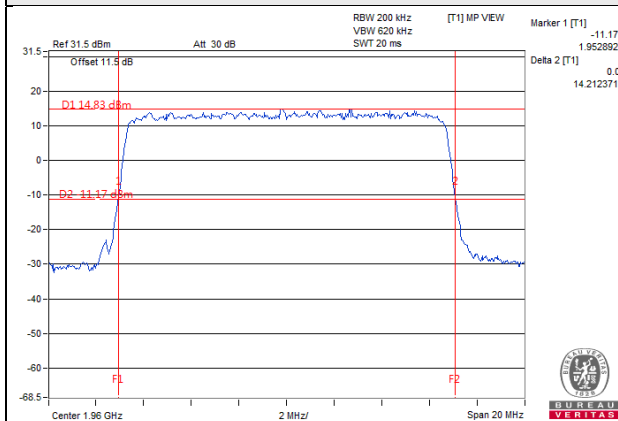
5MHz / QPSK / Ch 625

10MHz / 16QAM / Ch 1150



15MHz / 64QAM / Ch 900

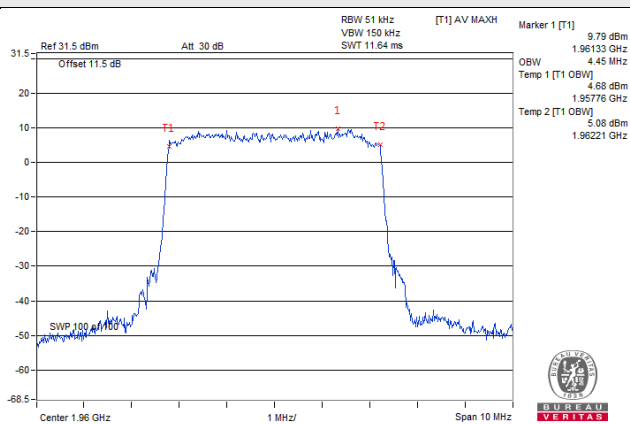
20MHz / 64QAM / Ch 900



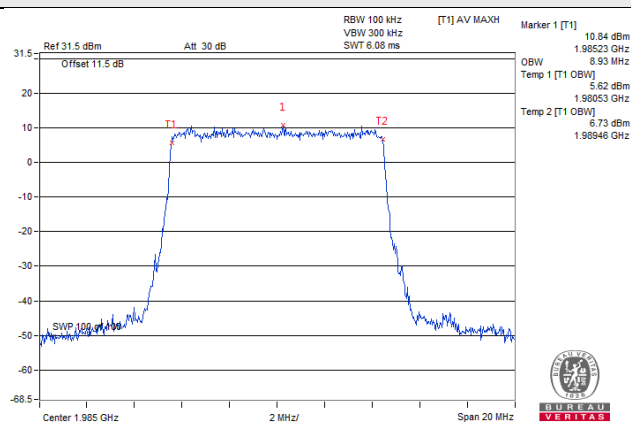
## Spectrum Plot of Worst Value

### Occupied Bandwidth

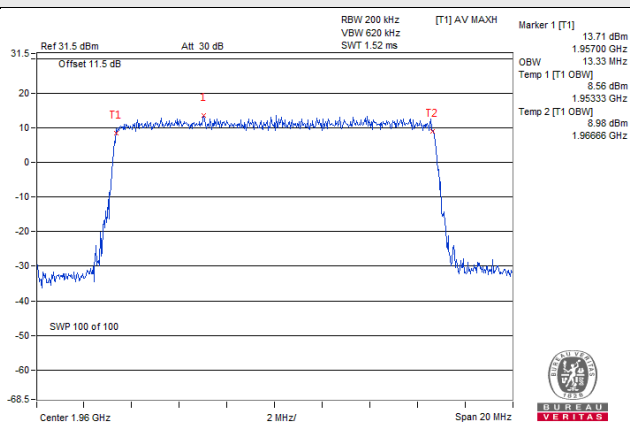
#### 5MHz / 64QAM / Ch 900



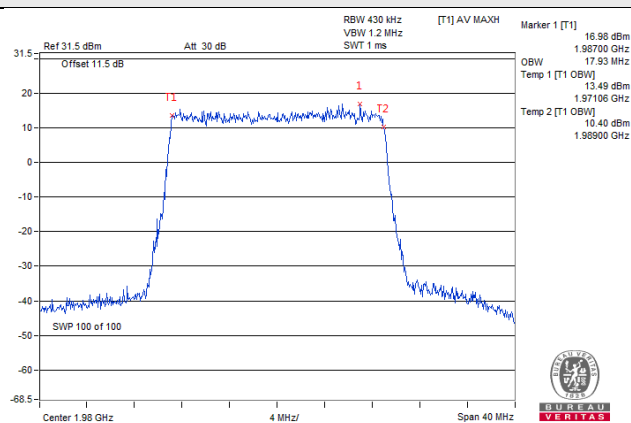
#### 10MHz / QPSK / Ch 1150



#### 15MHz / 64QAM / Ch 900



#### 20MHz / QPSK / Ch 1100



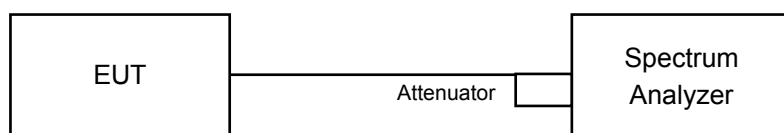
## 4.5 Band Edge Measurement

### 4.5.1 Limits of Band Edge Measurement

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. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

This device can be implement MIMO function, so the limit of spurious emissions needs to be reduced by  $10\log(\text{Numbers}_{\text{Ant}})$  according to FCC KDB 662911 D01 guidance.

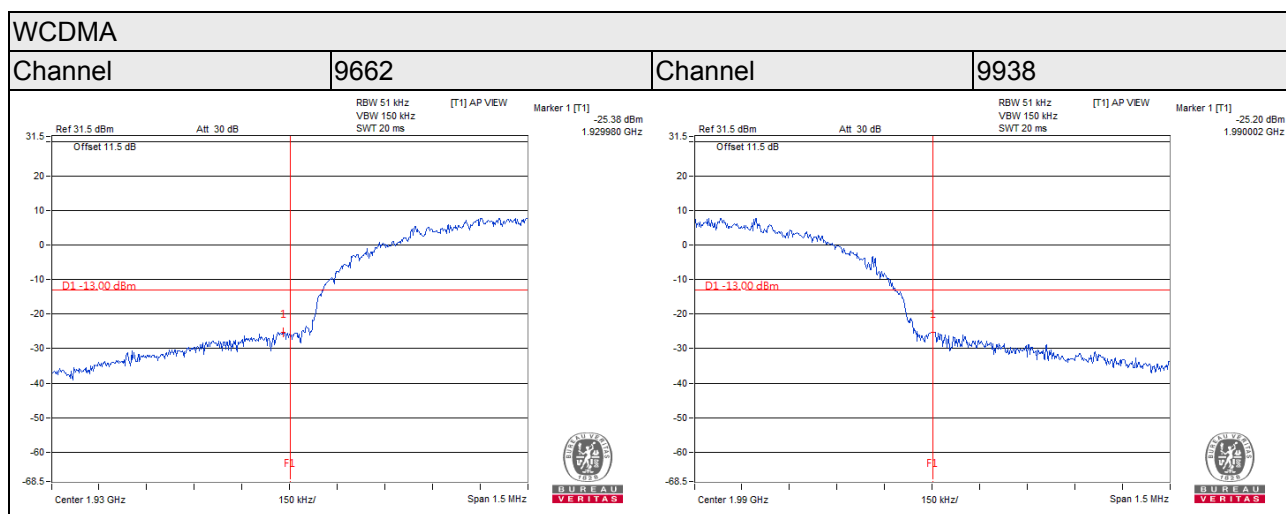
### 4.5.2 Test Setup



### 4.5.3 Test Procedures

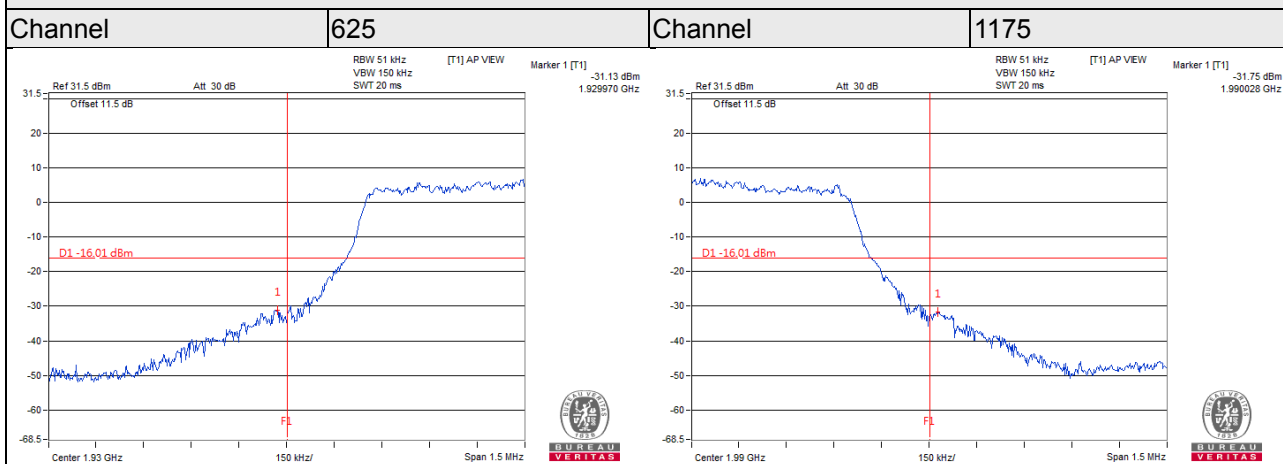
- All measurements were done at low and high operational frequency range.
- The center frequency of spectrum is the band edge frequency and span is 10MHz. RB of the spectrum is 100kHz and VB of the spectrum is 300kHz (WCDMA).
- The center frequency of spectrum is the band edge frequency and span is 1.5MHz. RB of the spectrum is 50kHz and VB of the spectrum is 150kHz (LTE).
- Record the max trace plot into the test report.

### 4.5.4 Test Results

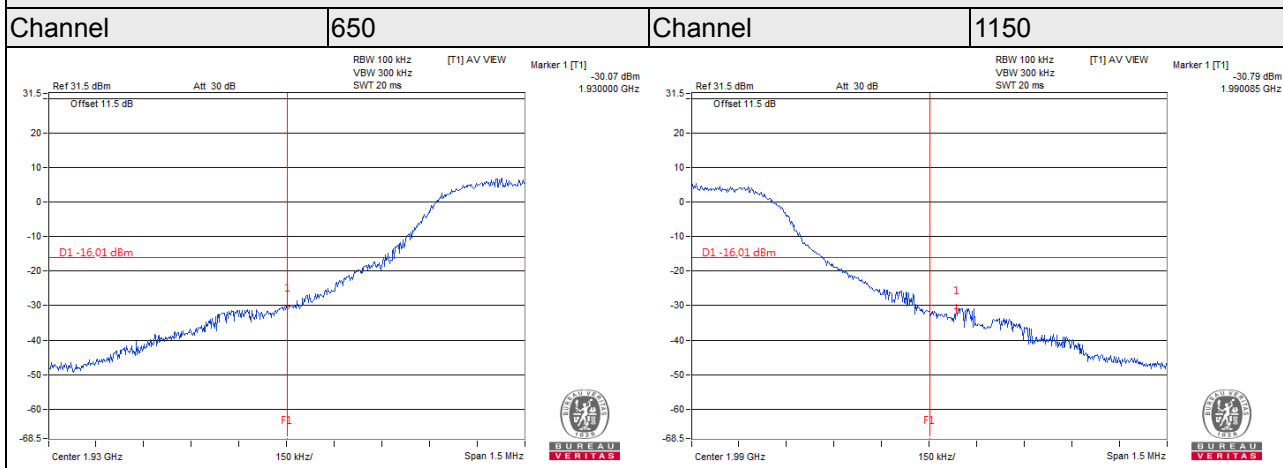


## LTE Band 2 / Chain 0

### Channel Bandwidth 5MHz

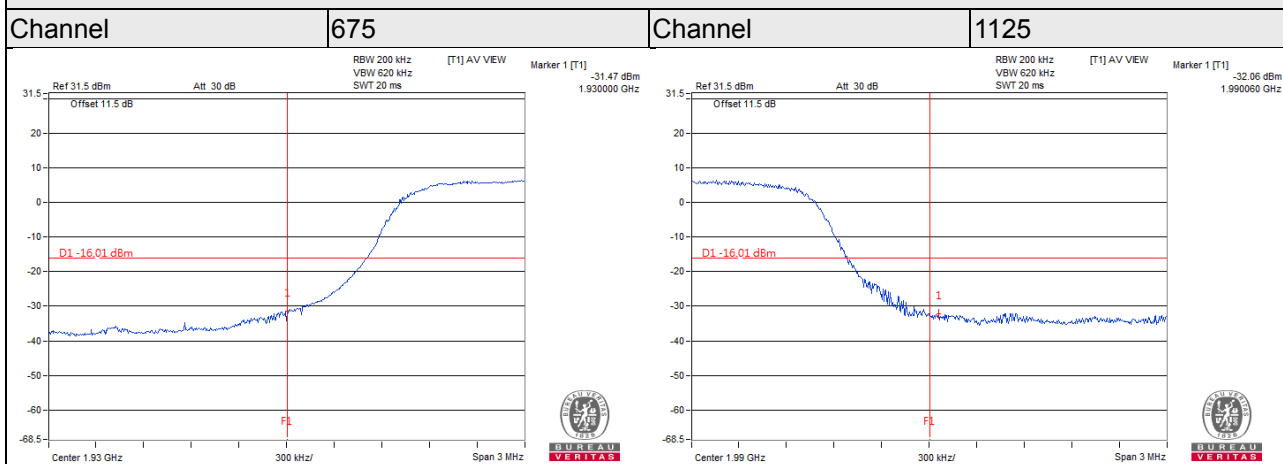


### Channel Bandwidth 10MHz

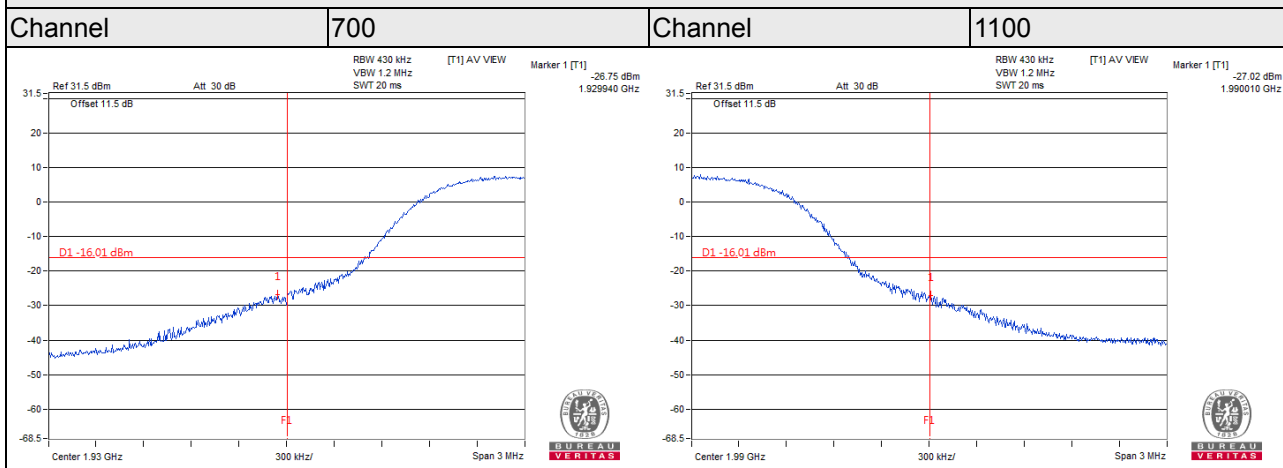


## LTE Band 2 / Chain 0

### Channel Bandwidth 15MHz

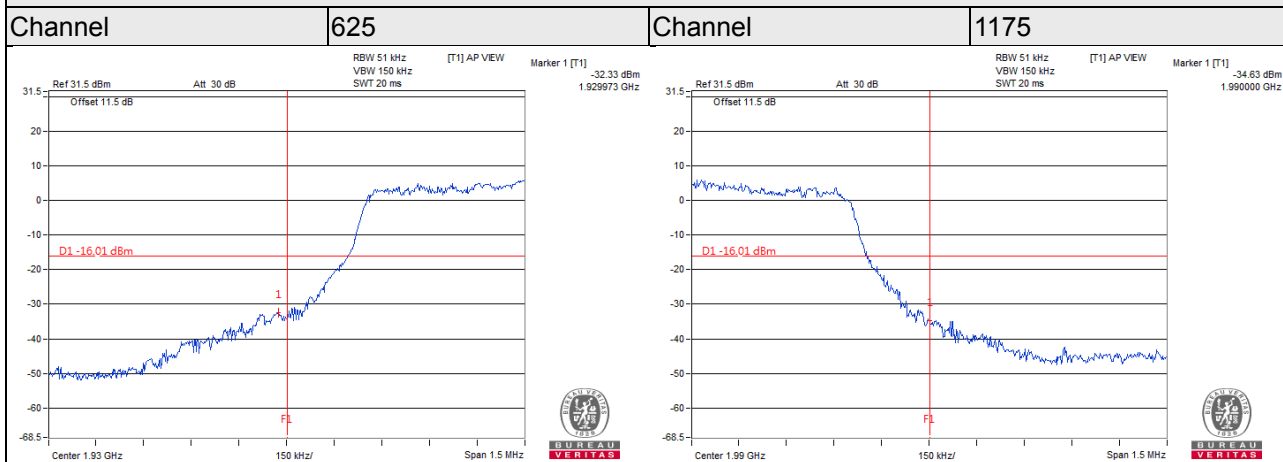


### Channel Bandwidth 20MHz

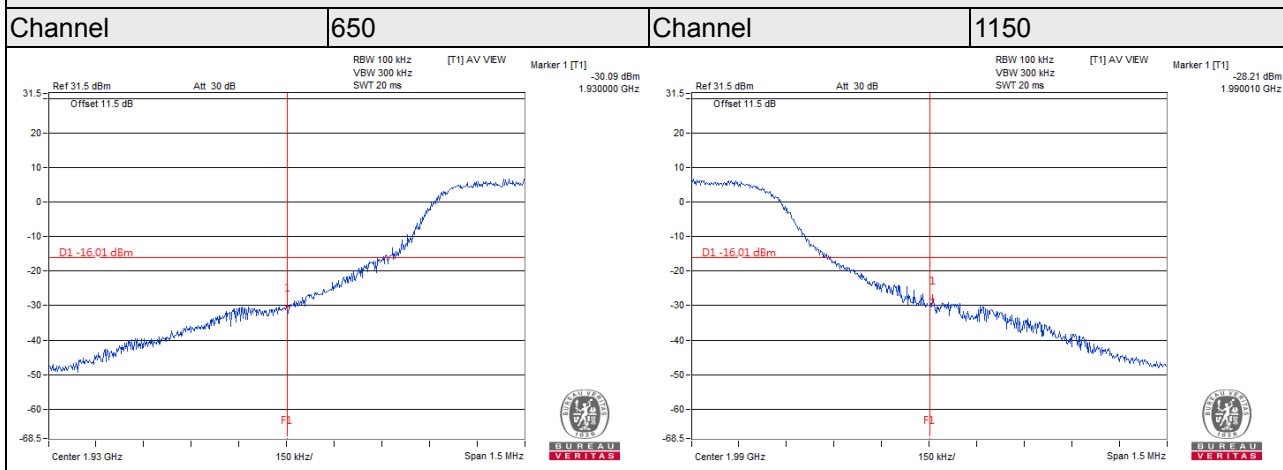


# LTE Band 2 / Chain 1

## Channel Bandwidth 5MHz

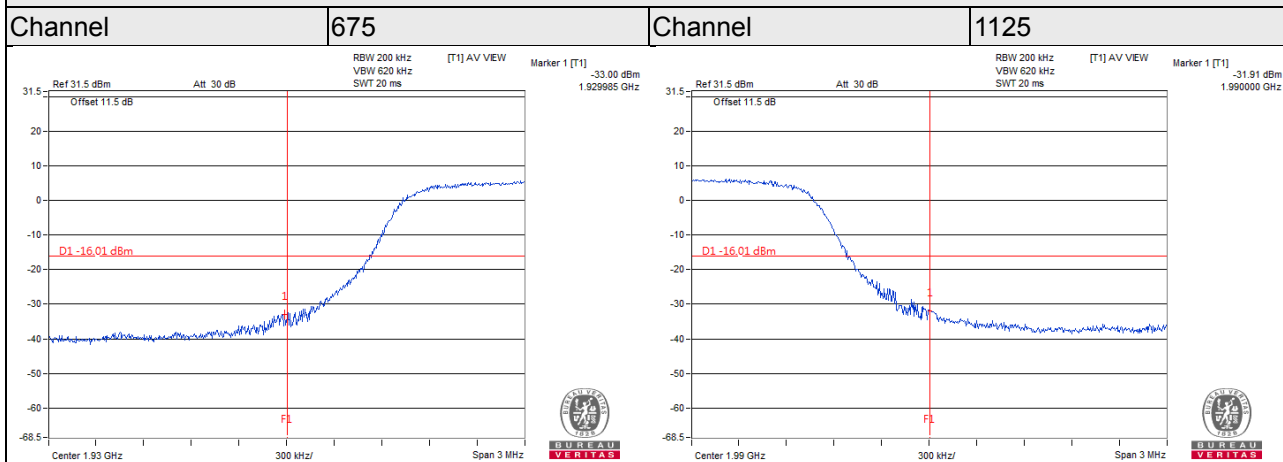


## Channel Bandwidth 10MHz

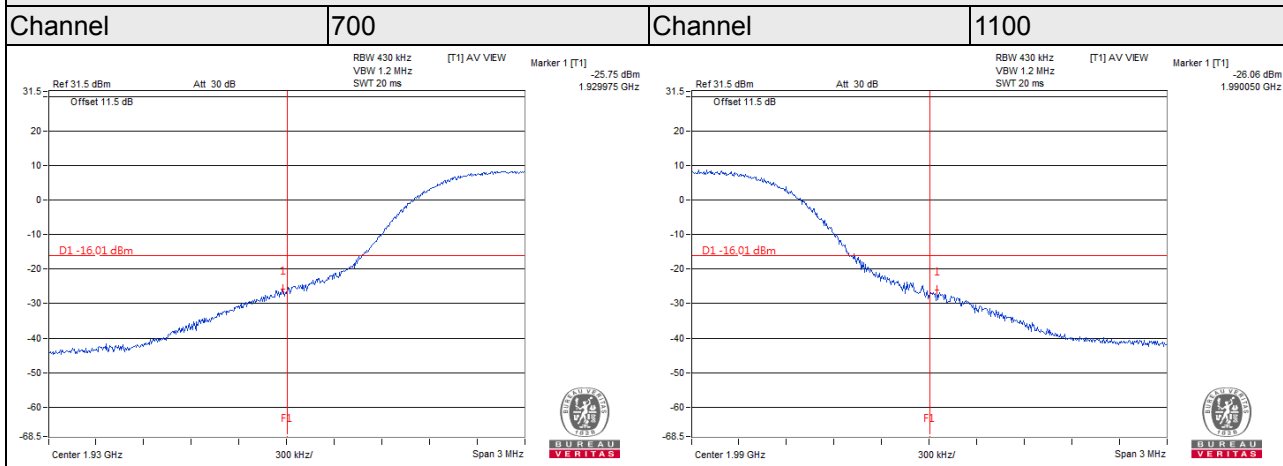


## LTE Band 2 / Chain 1

### Channel Bandwidth 15MHz



### Channel Bandwidth 20MHz

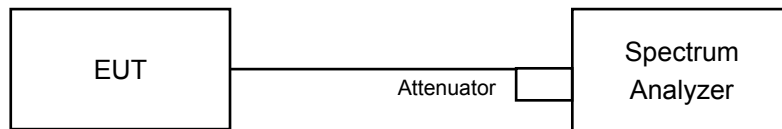


## 4.6 Peak to Average Ratio

### 4.6.1 Limits of Peak to Average Ratio Measurement

In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB

### 4.6.2 Test Setup

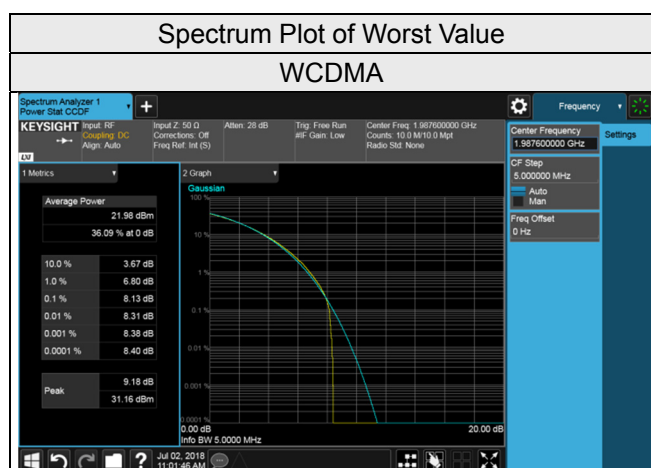


### 4.6.3 Test Procedures

- Set resolution/measurement bandwidth  $\geq$  signal's occupied bandwidth;
- Set the number of counts to a value that stabilizes the measured CCDF curve;
- Record the maximum PAPR level associated with a probability of 0.1%.

#### 4.6.4 Test Results

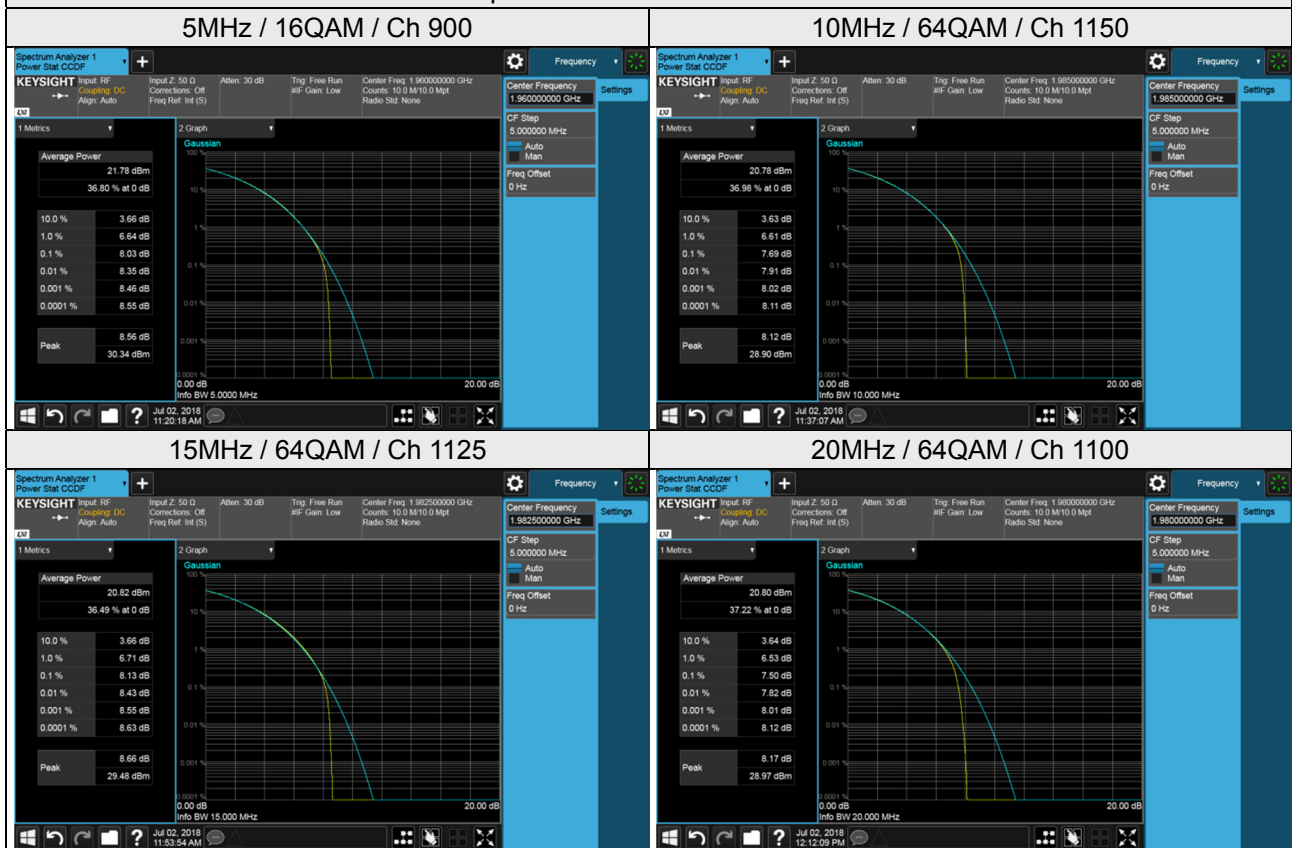
| Channel | Frequency (MHz) | Peak To Average Ratio (dB) |
|---------|-----------------|----------------------------|
|         |                 | WCDMA                      |
| 9262    | 1932.4          | 7.98                       |
| 9800    | 1960.0          | 8.04                       |
| 9938    | 1987.6          | 8.13                       |



### LTE Band 2 / Chain 0

| Channel Bandwidth 5MHz  |                 |                            |       |       | Channel Bandwidth 10MHz |                 |                            |       |       |
|-------------------------|-----------------|----------------------------|-------|-------|-------------------------|-----------------|----------------------------|-------|-------|
| Channel                 | Frequency (MHz) | Peak To Average Ratio (dB) |       |       | Channel                 | Frequency (MHz) | Peak To Average Ratio (dB) |       |       |
|                         |                 | QPSK                       | 16QAM | 64QAM |                         |                 | QPSK                       | 16QAM | 64QAM |
| 625                     | 1932.5          | 7.99                       | 8.00  | 8.00  | 650                     | 1935.0          | 7.63                       | 7.63  | 7.63  |
| 900                     | 1960.0          | 8.01                       | 8.03  | 8.00  | 900                     | 1960.0          | 7.64                       | 7.64  | 7.64  |
| 1175                    | 1987.5          | 8.00                       | 8.01  | 8.00  | 1150                    | 1985.0          | 7.68                       | 7.68  | 7.69  |
| Channel Bandwidth 15MHz |                 |                            |       |       | Channel Bandwidth 20MHz |                 |                            |       |       |
| Channel                 | Frequency (MHz) | Peak To Average Ratio (dB) |       |       | Channel                 | Frequency (MHz) | Peak To Average Ratio (dB) |       |       |
|                         |                 | QPSK                       | 16QAM | 64QAM |                         |                 | QPSK                       | 16QAM | 64QAM |
| 675                     | 1937.5          | 8.11                       | 8.10  | 8.11  | 700                     | 1940.0          | 7.46                       | 7.46  | 7.48  |
| 900                     | 1960.0          | 8.09                       | 8.10  | 8.10  | 900                     | 1960.0          | 7.46                       | 7.46  | 7.46  |
| 1125                    | 1982.5          | 8.12                       | 8.11  | 8.13  | 1100                    | 1980.0          | 7.50                       | 7.50  | 7.50  |

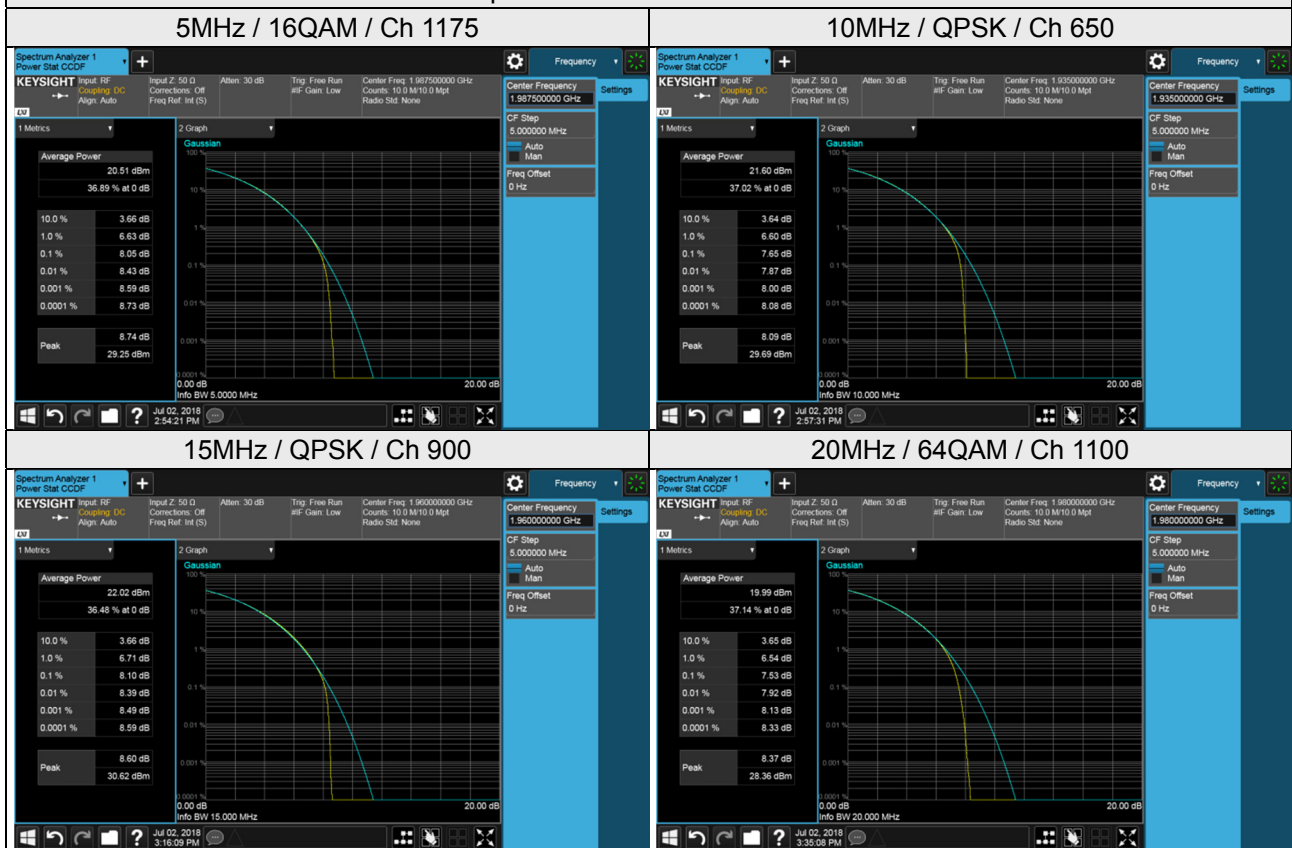
### Spectrum Plot Of Worst Value



### LTE Band 2 / Chain 1

| Channel Bandwidth 5MHz  |                 |                            |       |       | Channel Bandwidth 10MHz |                 |                            |       |       |
|-------------------------|-----------------|----------------------------|-------|-------|-------------------------|-----------------|----------------------------|-------|-------|
| Channel                 | Frequency (MHz) | Peak To Average Ratio (dB) |       |       | Channel                 | Frequency (MHz) | Peak To Average Ratio (dB) |       |       |
|                         |                 | QPSK                       | 16QAM | 64QAM |                         |                 | QPSK                       | 16QAM | 64QAM |
| 625                     | 1932.5          | 7.98                       | 7.98  | 7.99  | 650                     | 1935.0          | 7.65                       | 7.65  | 7.65  |
| 900                     | 1960.0          | 8.05                       | 8.02  | 8.02  | 900                     | 1960.0          | 7.65                       | 7.65  | 7.66  |
| 1175                    | 1987.5          | 8.04                       | 8.05  | 8.03  | 1150                    | 1985.0          | 7.58                       | 7.57  | 7.57  |
| Channel Bandwidth 15MHz |                 |                            |       |       | Channel Bandwidth 20MHz |                 |                            |       |       |
| Channel                 | Frequency (MHz) | Peak To Average Ratio (dB) |       |       | Channel                 | Frequency (MHz) | Peak To Average Ratio (dB) |       |       |
|                         |                 | QPSK                       | 16QAM | 64QAM |                         |                 | QPSK                       | 16QAM | 64QAM |
| 675                     | 1937.5          | 8.04                       | 8.04  | 8.04  | 700                     | 1940.0          | 7.49                       | 7.50  | 7.50  |
| 900                     | 1960.0          | 8.10                       | 8.10  | 8.10  | 900                     | 1960.0          | 7.47                       | 7.47  | 7.46  |
| 1125                    | 1982.5          | 7.95                       | 7.95  | 7.94  | 1100                    | 1980.0          | 7.53                       | 7.53  | 7.53  |

### Spectrum Plot Of Worst Value



## 4.7 Conducted Spurious Emissions

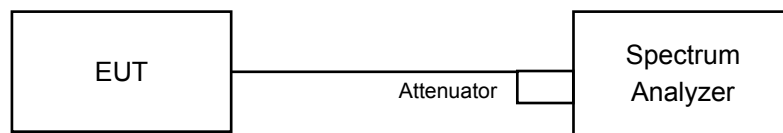
### 4.7.1 Limits of Conducted Spurious Emissions Measurement

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  $-13\text{dBm}$ .

Note:

This device can be implement MIMO function, so the limit of spurious emissions needs to be reduced by  $10\log(\text{Numbers}_{\text{Ant}})$  according to FCC KDB 662911 D01 guidance.

### 4.7.2 Test Setup



### 4.7.3 Test Procedure

- All measurements were done at 3 channels: low, middle and high operational frequency range.
- When the spectrum scanned from 9kHz to 26.5GHz for LTE Band 4, it shall be connected to the attenuator with the carried frequency.

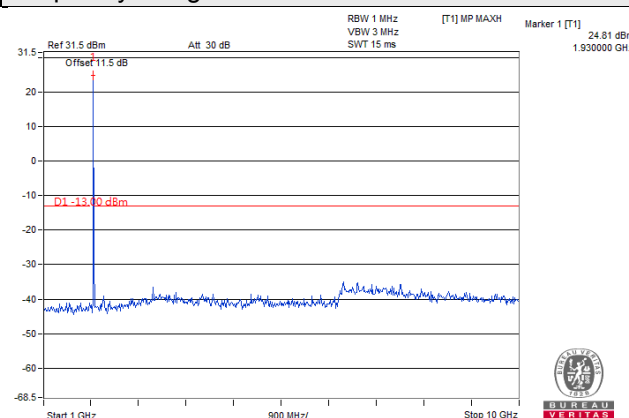
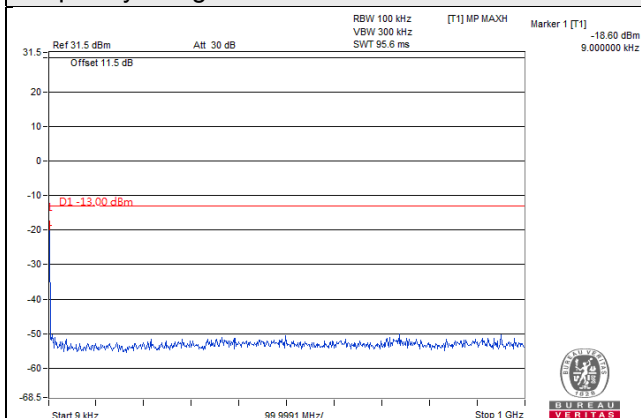
#### 4.7.4 Test Results

WCDMA

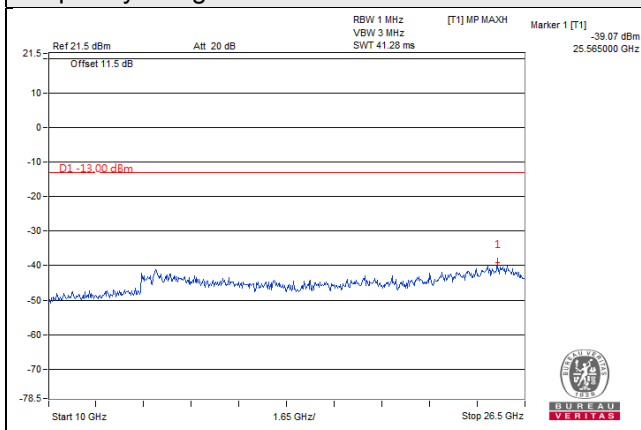
Channel 9662

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz

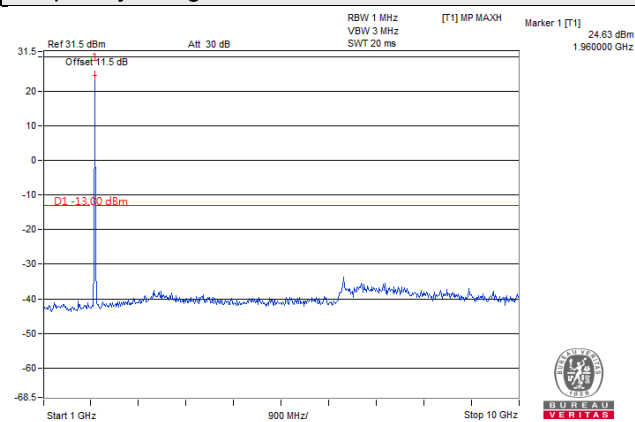
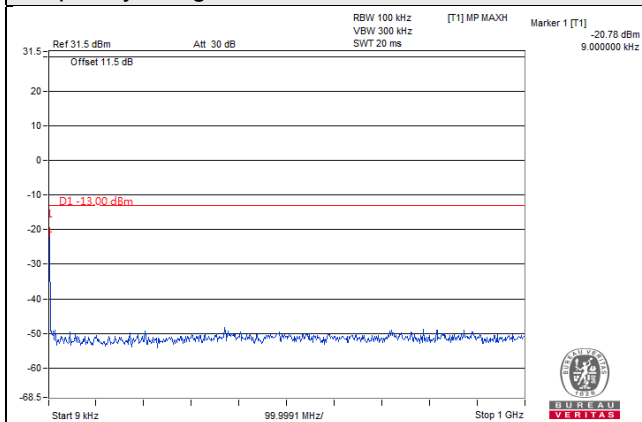


# WCDMA

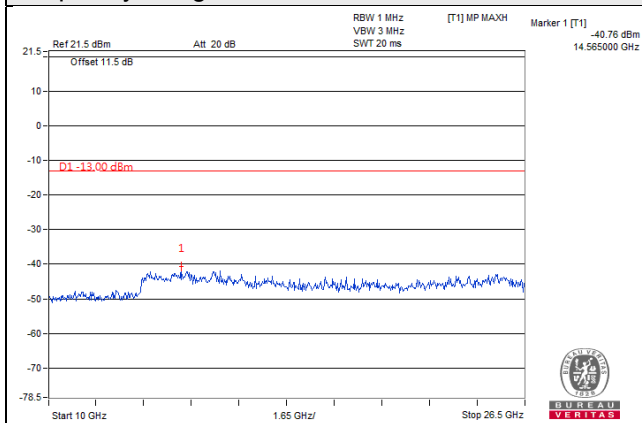
## Channel 9800

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz

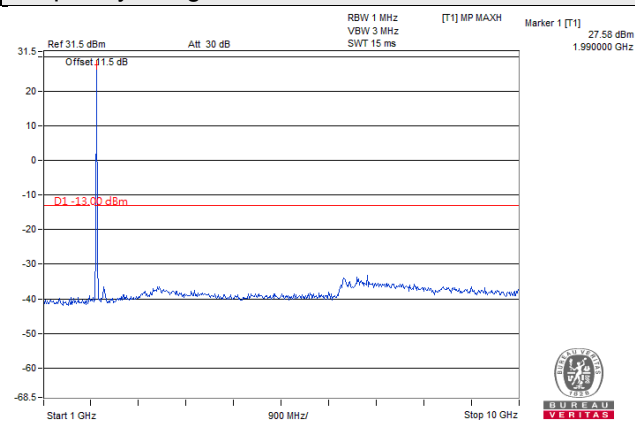
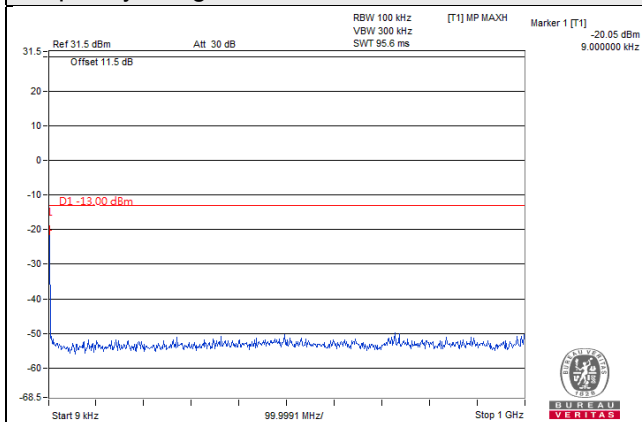


# WCDMA

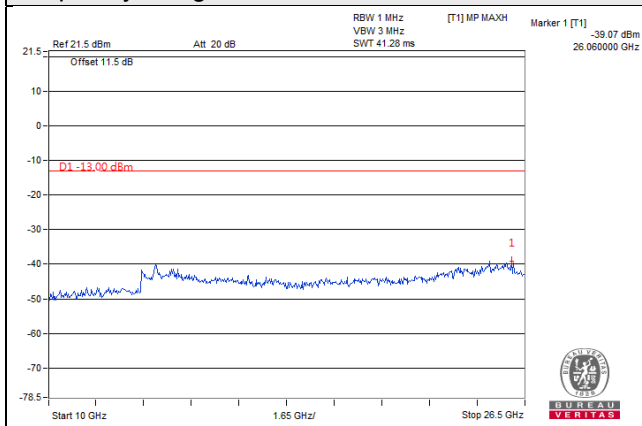
Channel 9938

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz

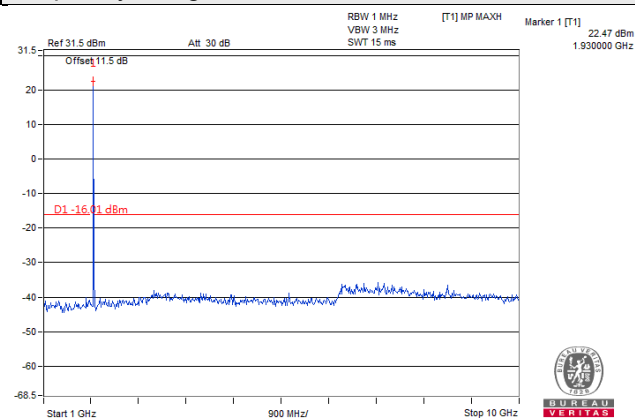
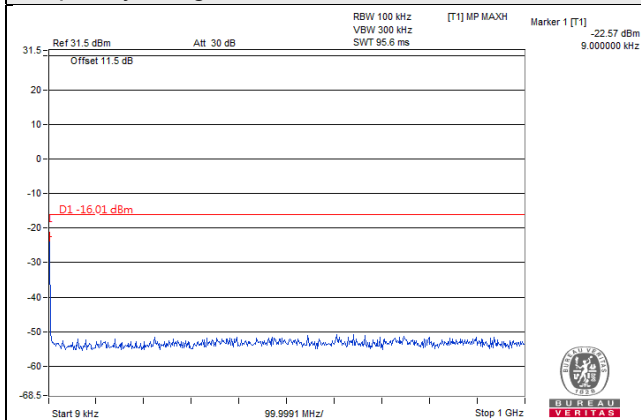


LTE Band 2 / Chain 0 / Channel Bandwidth: 5MHz

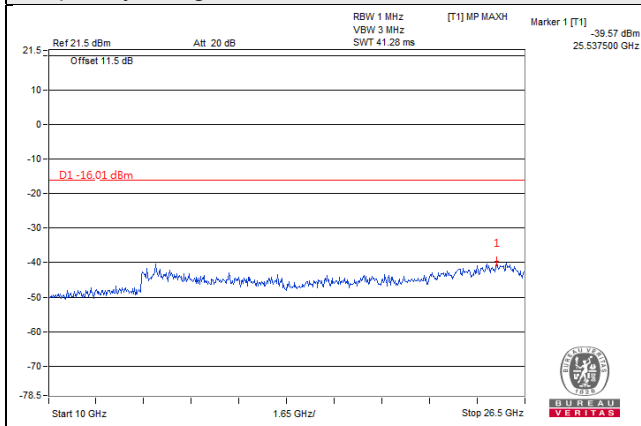
Channel 625

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz

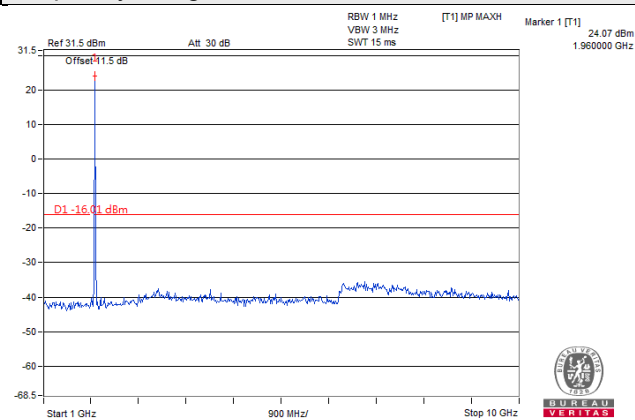
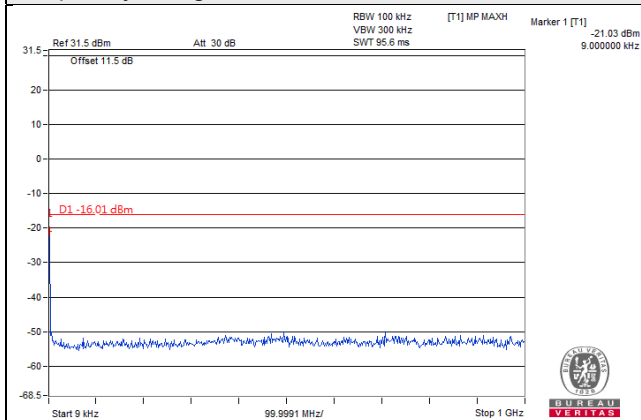


LTE Band 2 / Chain 0 / Channel Bandwidth: 5MHz

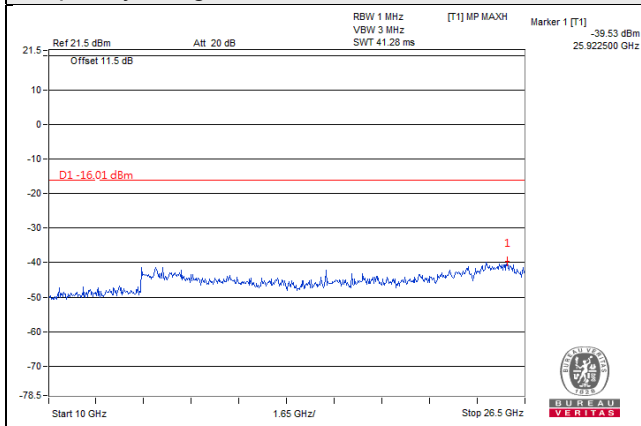
Channel 900

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz

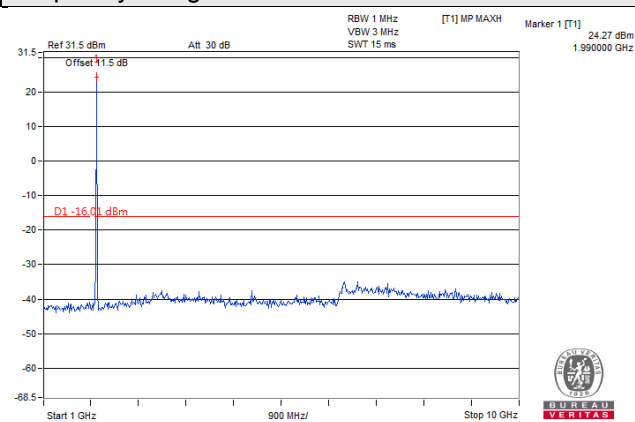
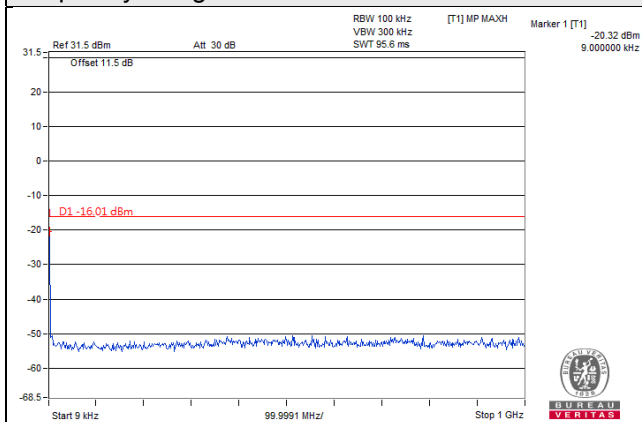


LTE Band 2 / Chain 0 / Channel Bandwidth: 5MHz

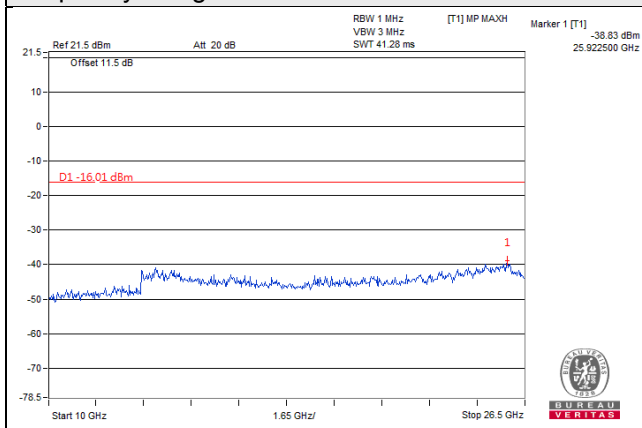
Channel 1175

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz

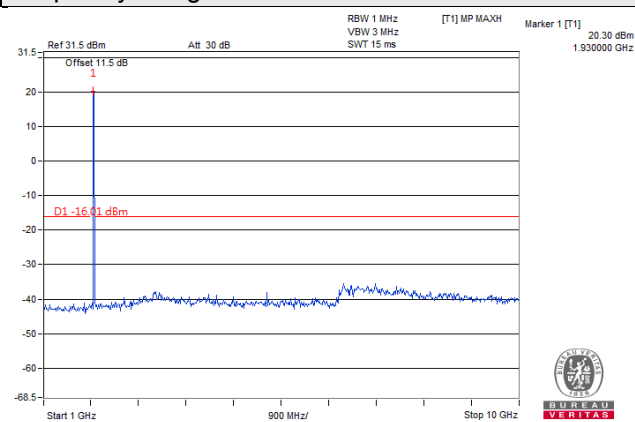
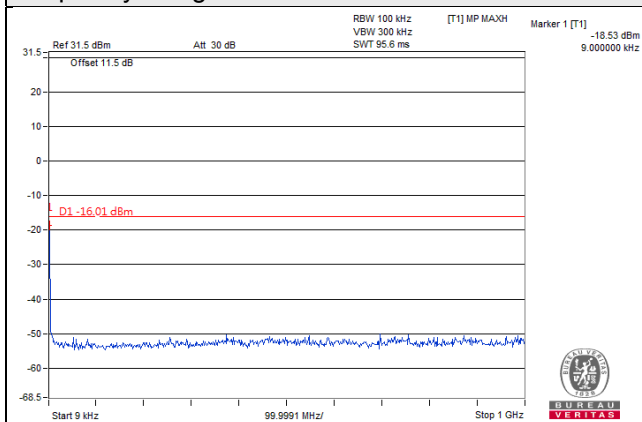


LTE Band 2 / Chain 0 / Channel Bandwidth: 10MHz

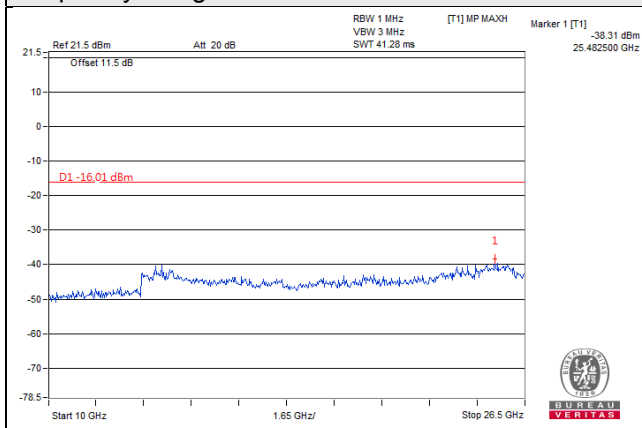
Channel 650

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz

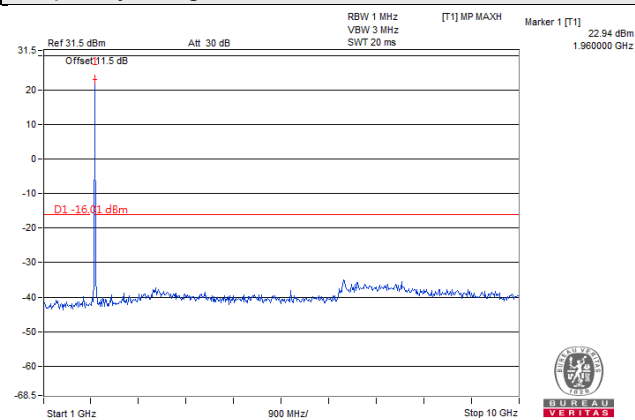
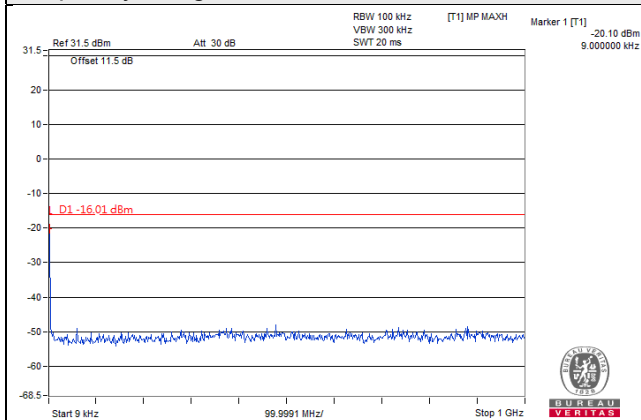


LTE Band 2 / Chain 0 / Channel Bandwidth: 10MHz

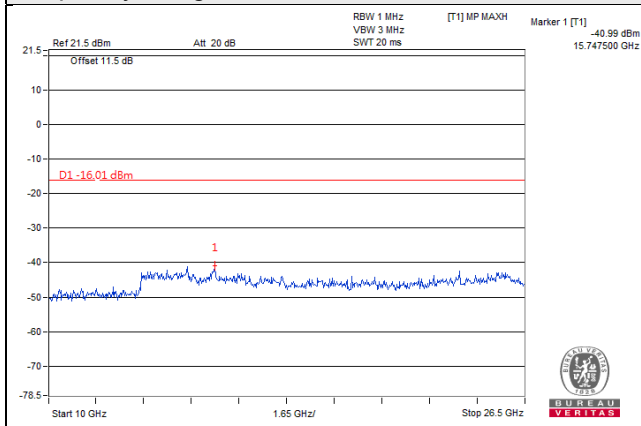
Channel 900

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz

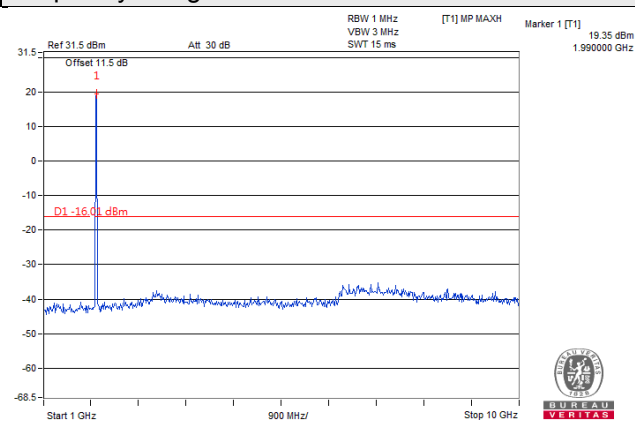
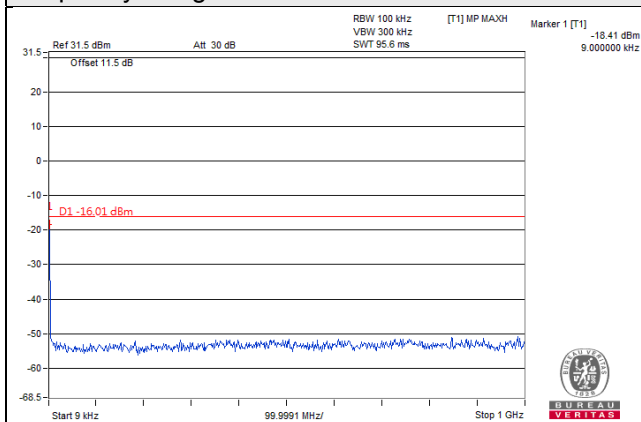


LTE Band 2 / Chain 0 / Channel Bandwidth: 10MHz

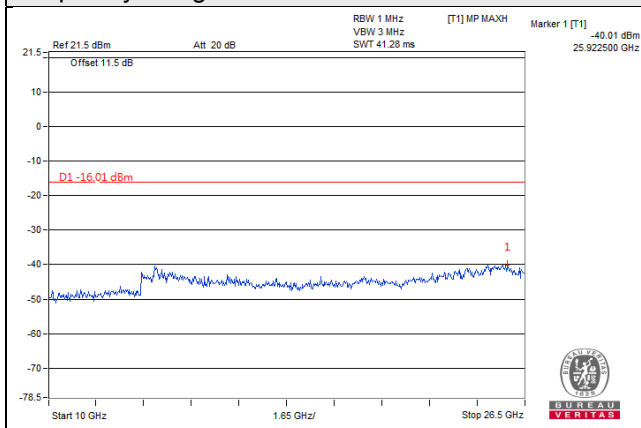
Channel 1150

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz

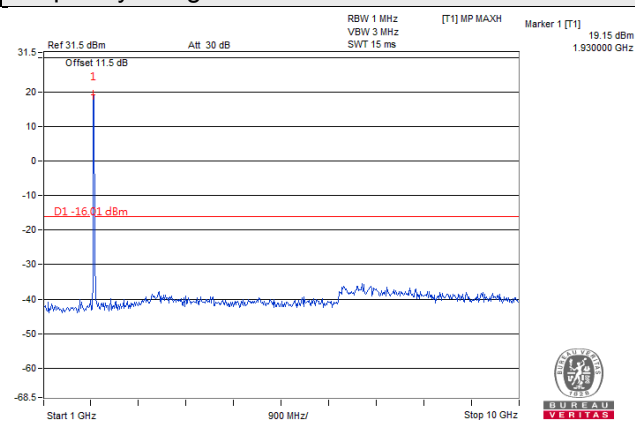
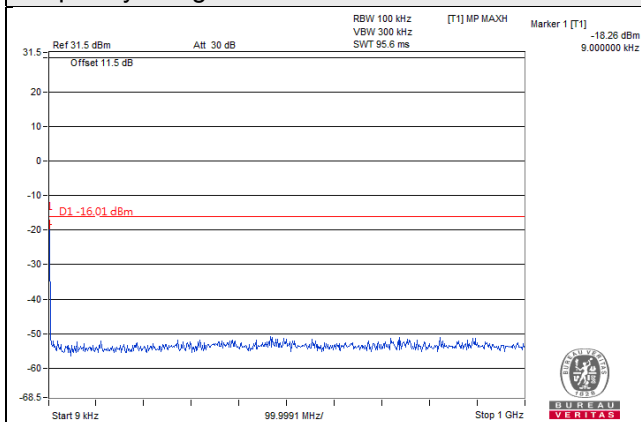


LTE Band 2 / Chain 0 / Channel Bandwidth: 15MHz

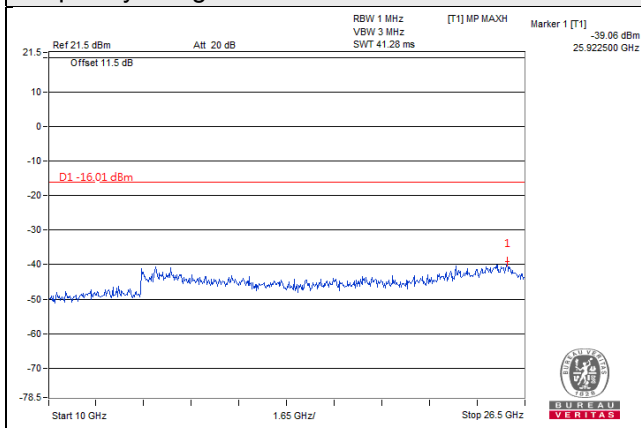
Channel 675

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz

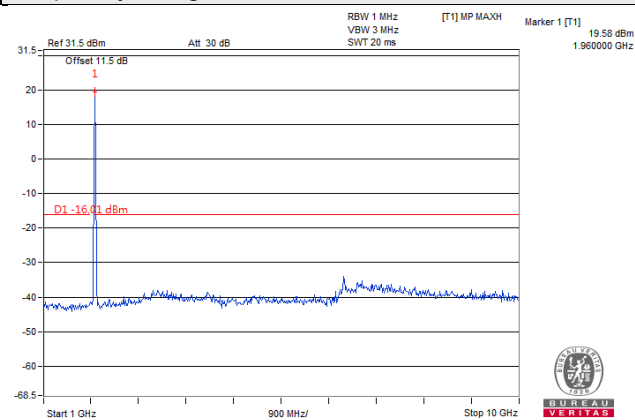
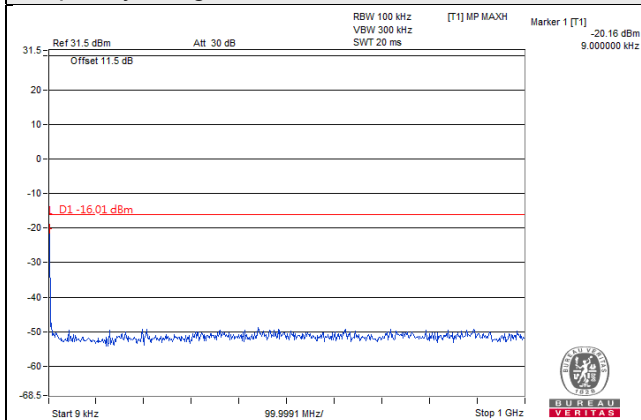


LTE Band 2 / Chain 0 / Channel Bandwidth: 15MHz

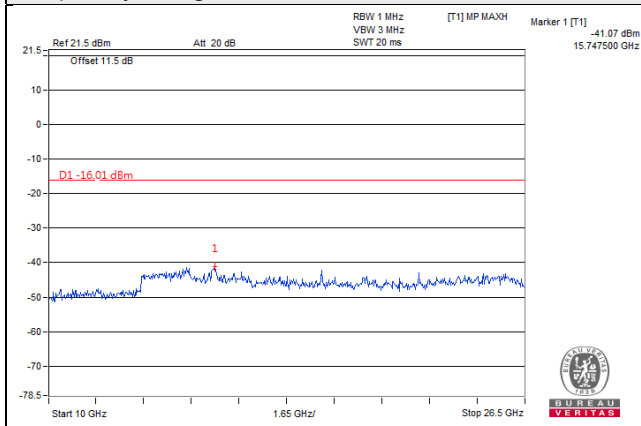
Channel 900

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz

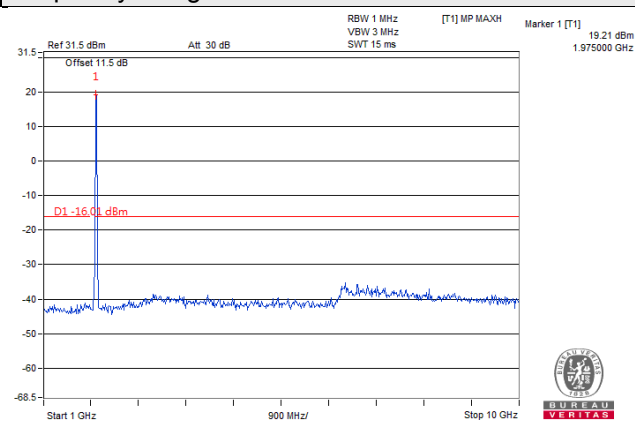
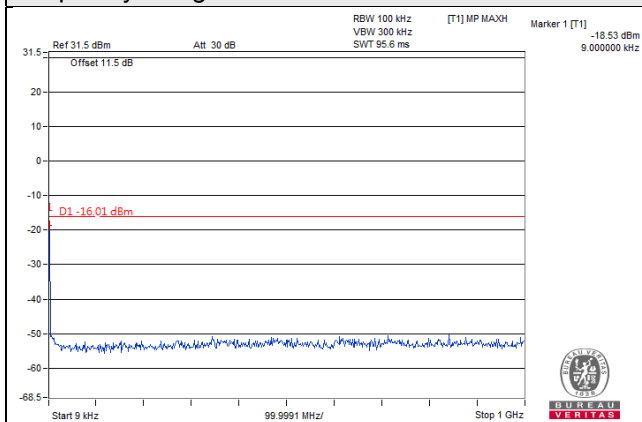


LTE Band 2 / Chain 0 / Channel Bandwidth: 15MHz

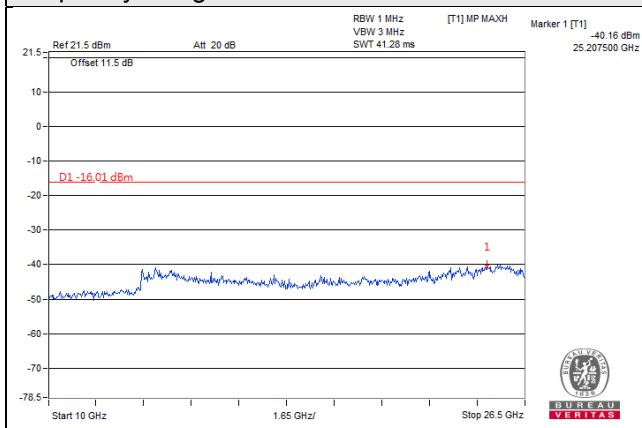
Channel 1125

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz

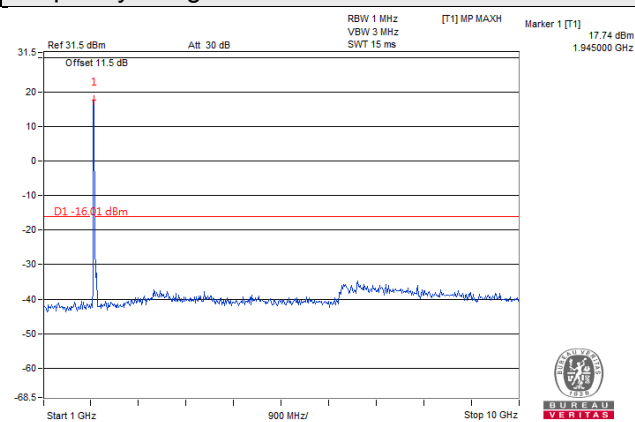
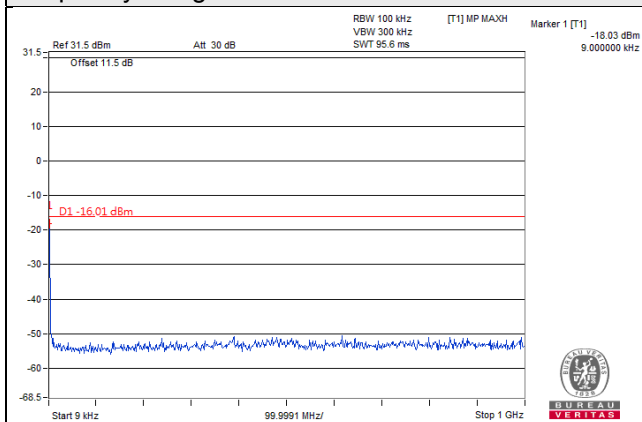


LTE Band 2 / Chain 0 / Channel Bandwidth: 20MHz

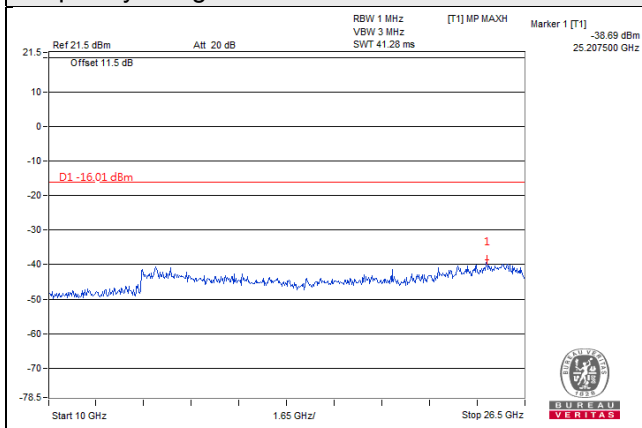
Channel 700

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz

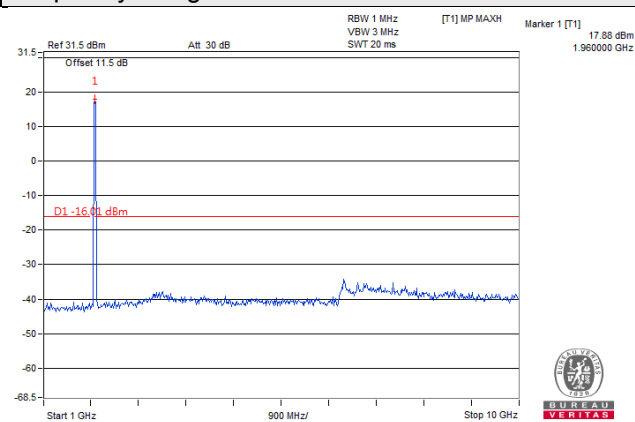
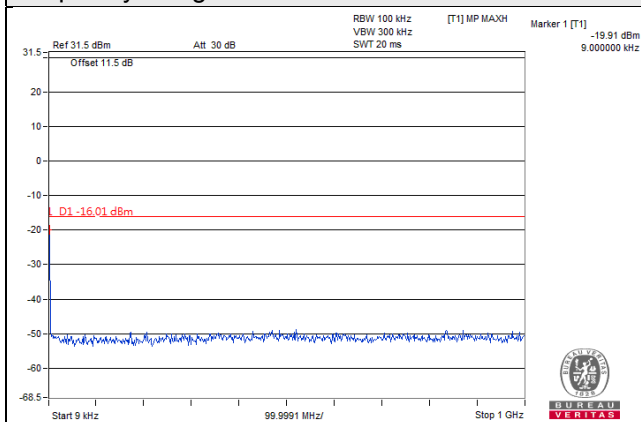


LTE Band 2 / Chain 0 / Channel Bandwidth: 20MHz

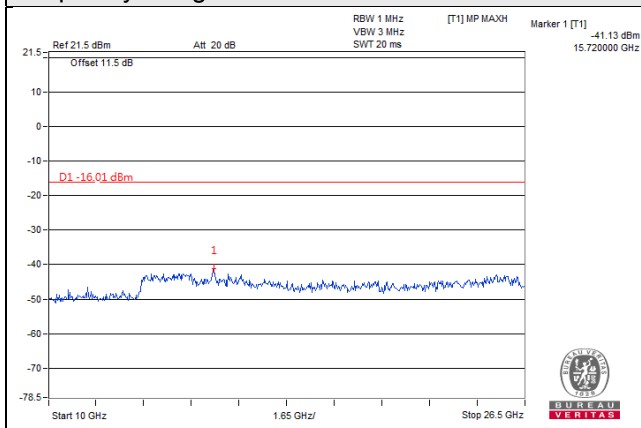
Channel 900

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz

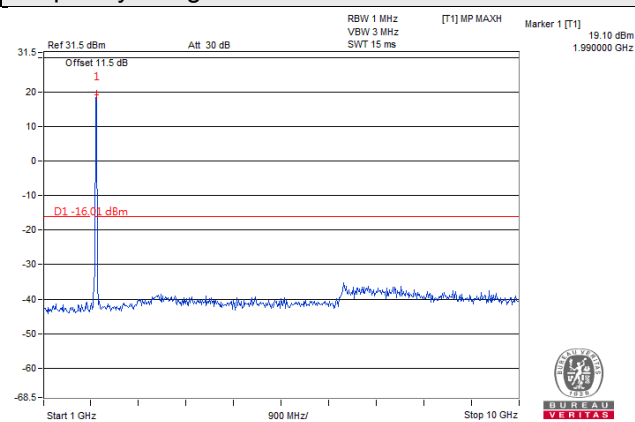
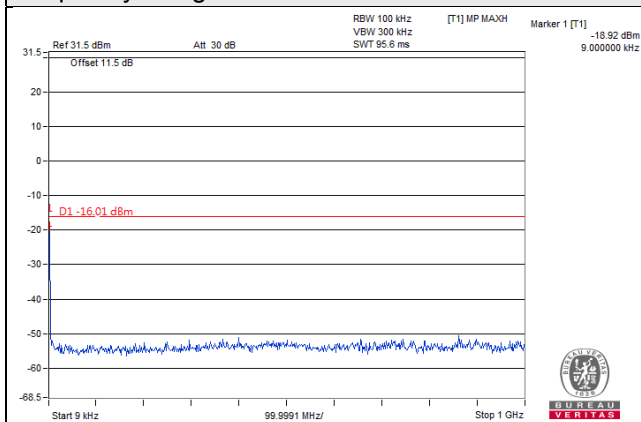


LTE Band 2 / Chain 0 / Channel Bandwidth: 20MHz

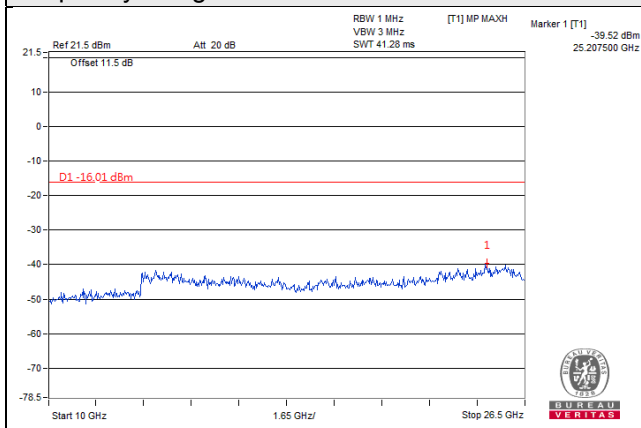
Channel 1100

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz

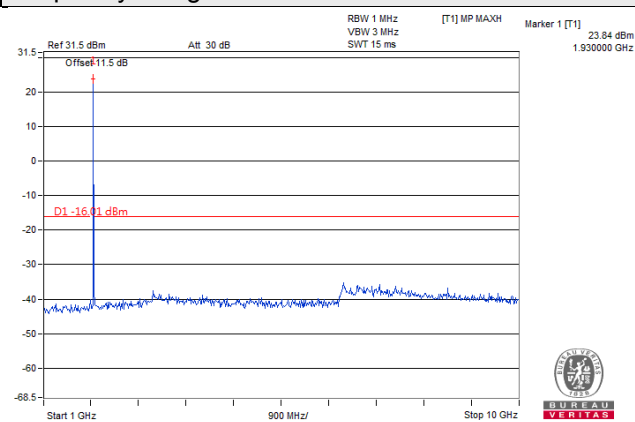
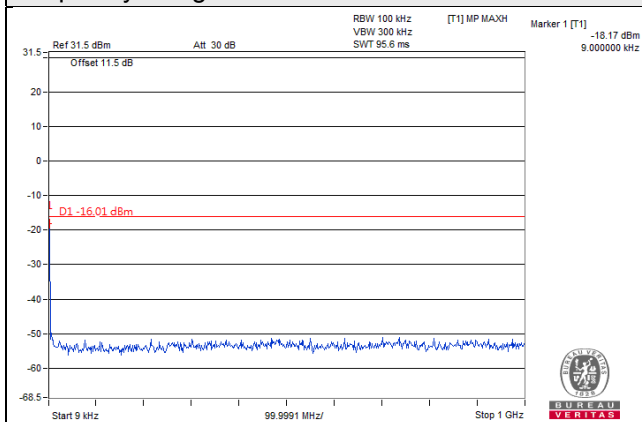


LTE Band 2 / Chain 1 / Channel Bandwidth: 5MHz

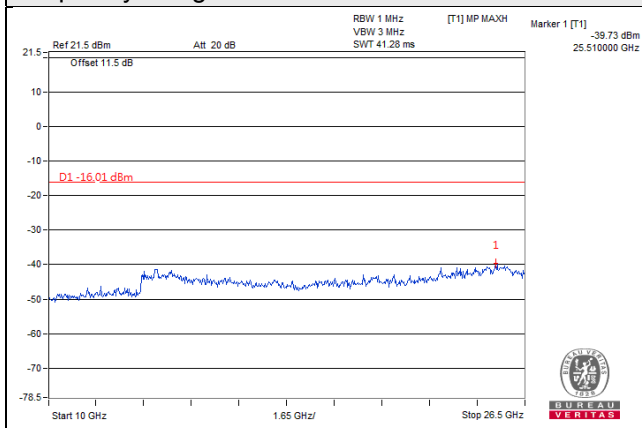
Channel 625

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz

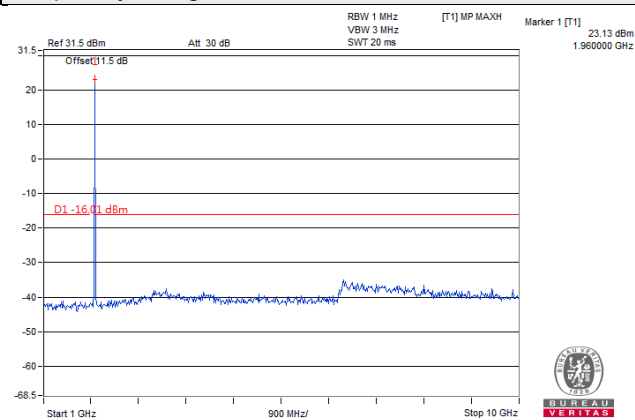
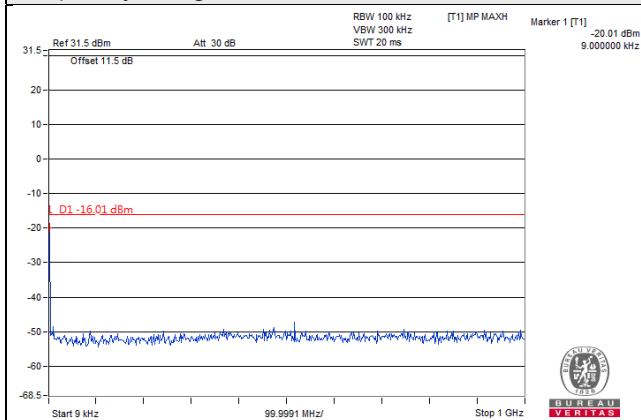


LTE Band 2 / Chain 1 / Channel Bandwidth: 5MHz

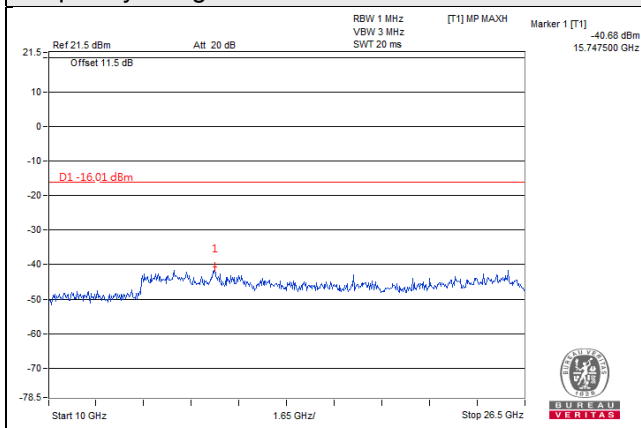
Channel 900

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz

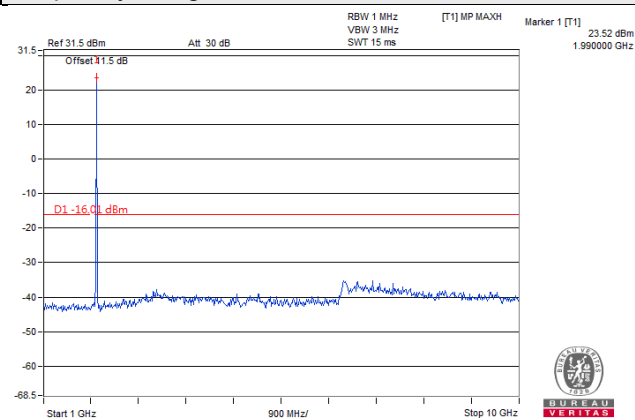
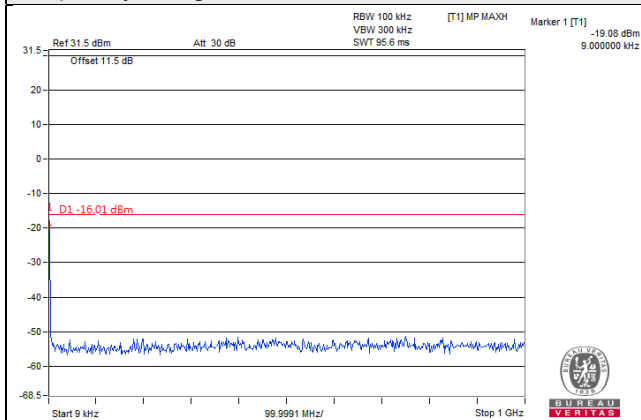


LTE Band 2 / Chain 1 / Channel Bandwidth: 5MHz

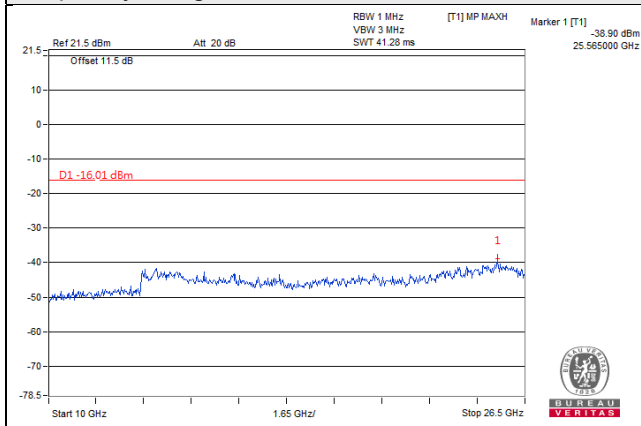
Channel 1175

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz

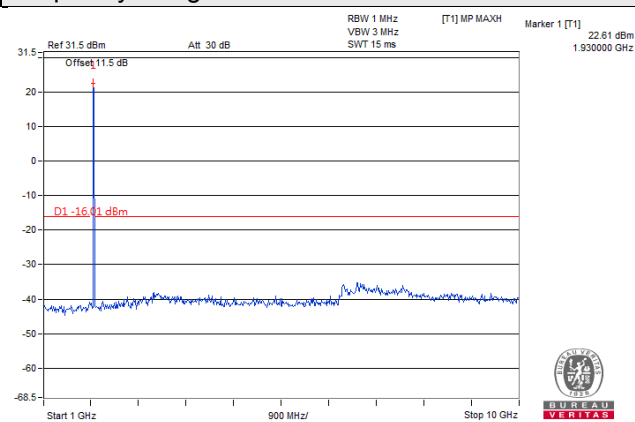
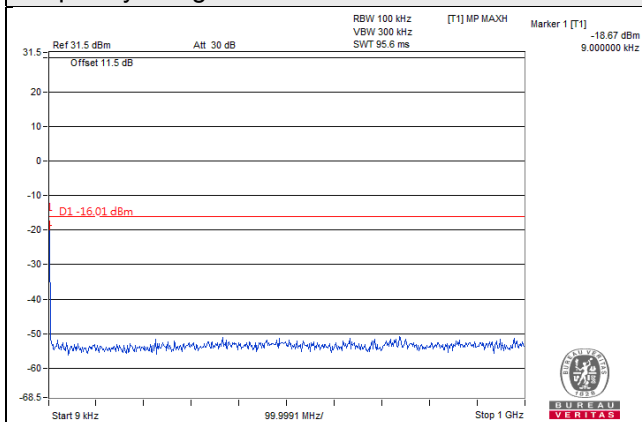


LTE Band 2 / Chain 1 / Channel Bandwidth: 10MHz

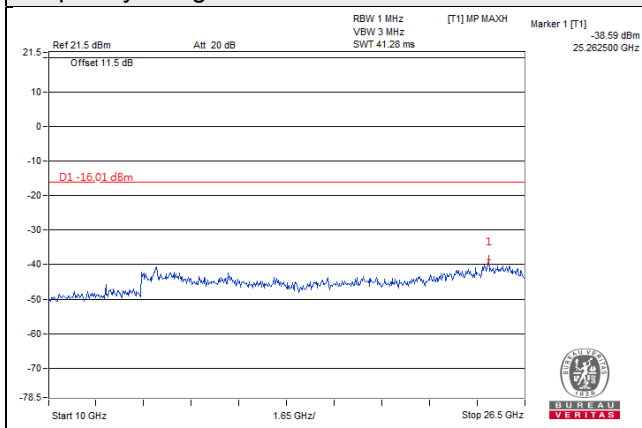
Channel 650

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz

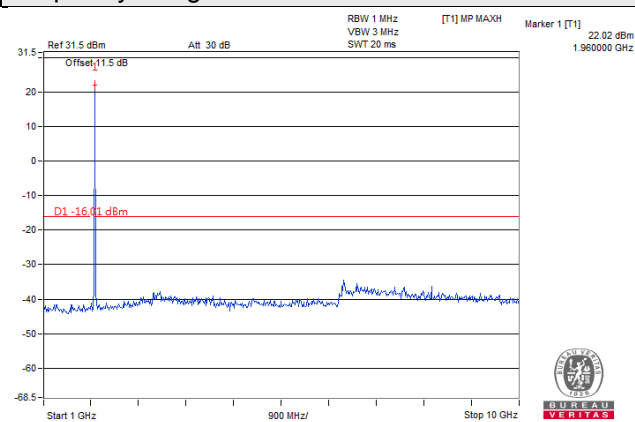
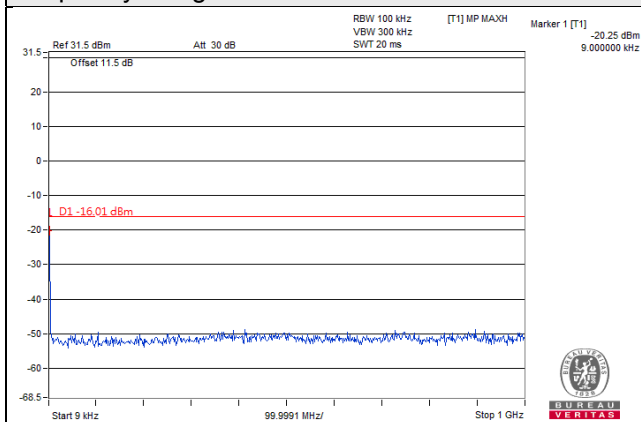


LTE Band 2 / Chain 1 / Channel Bandwidth: 10MHz

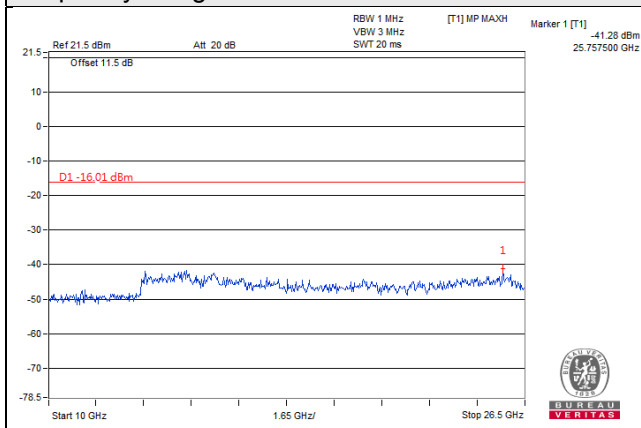
Channel 900

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz

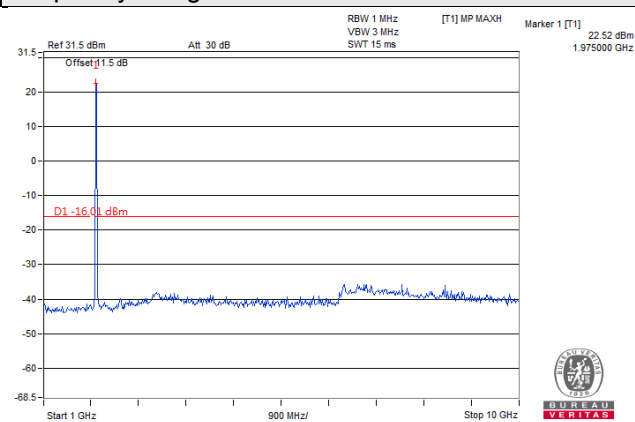
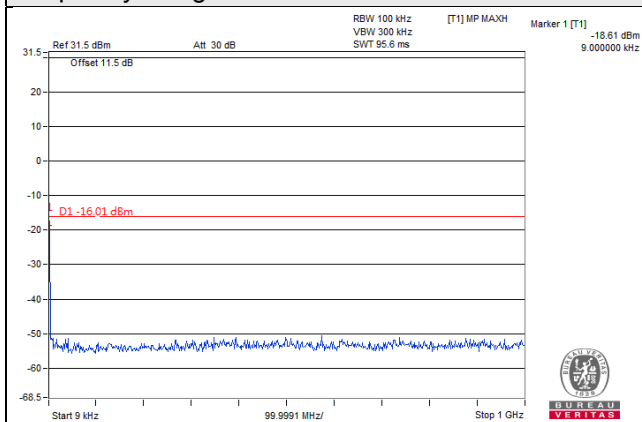


LTE Band 2 / Chain 1 / Channel Bandwidth: 10MHz

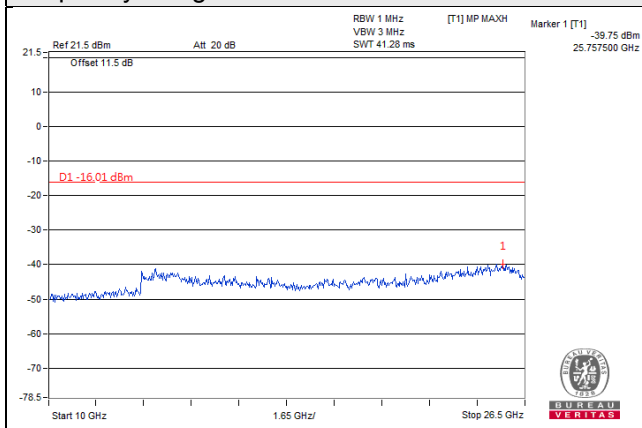
Channel 1150

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz

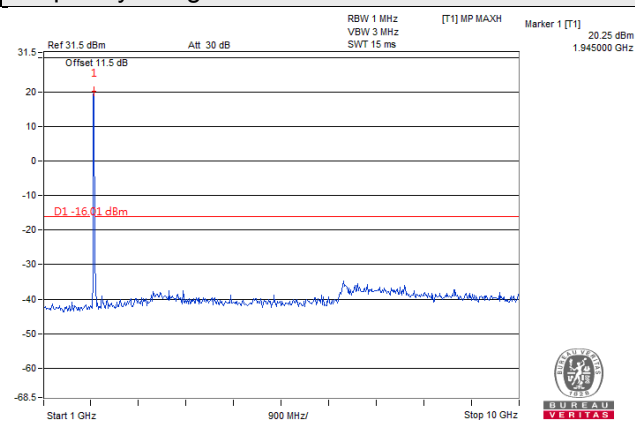
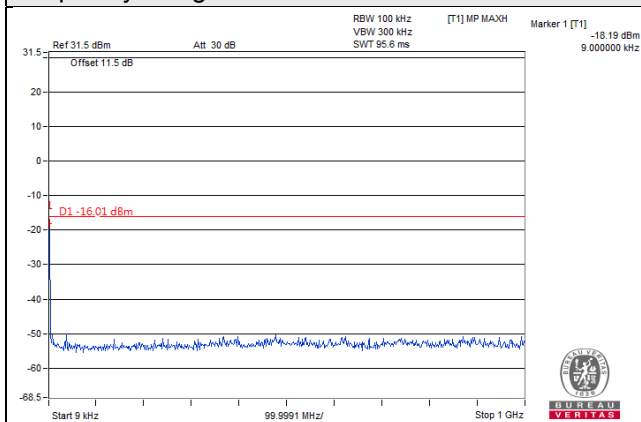


LTE Band 2 / Chain 1 / Channel Bandwidth: 15MHz

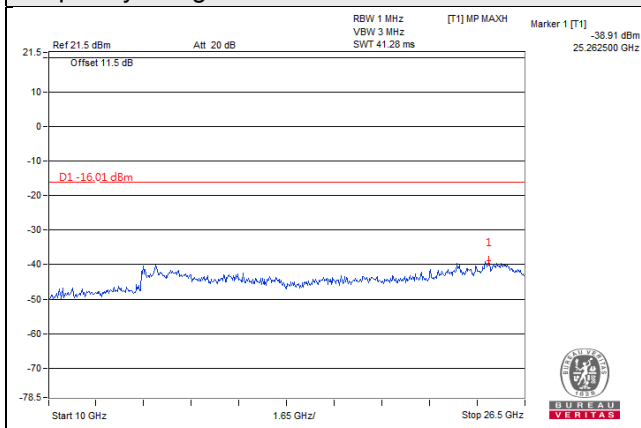
Channel 675

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz

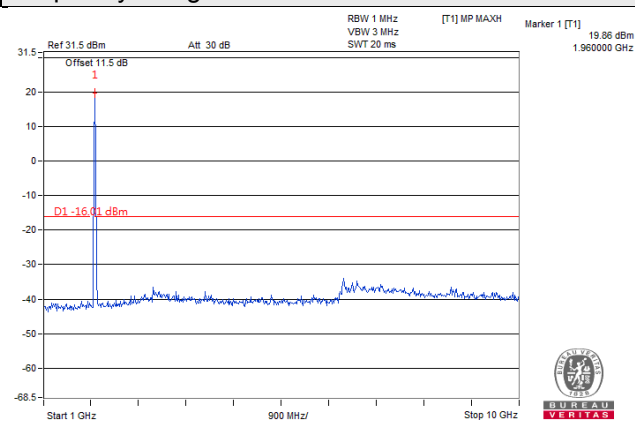
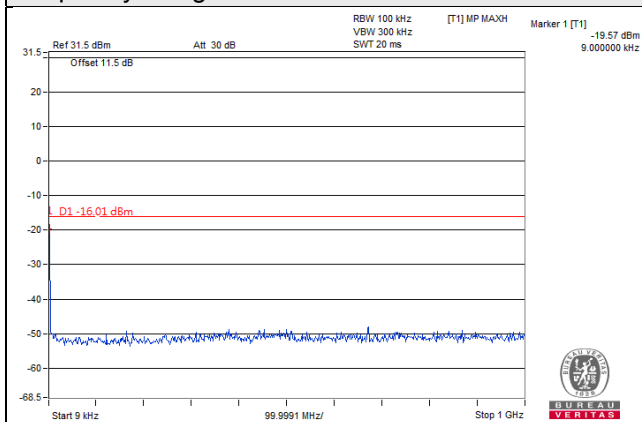


LTE Band 2 / Chain 1 / Channel Bandwidth: 15MHz

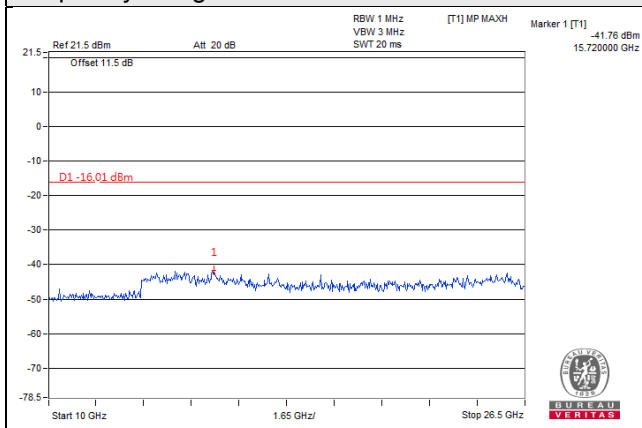
Channel 900

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz

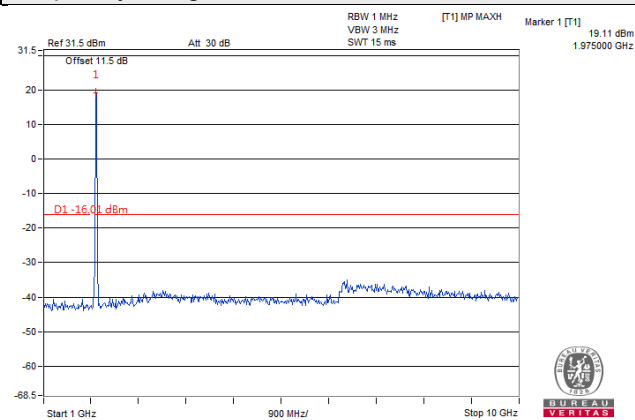
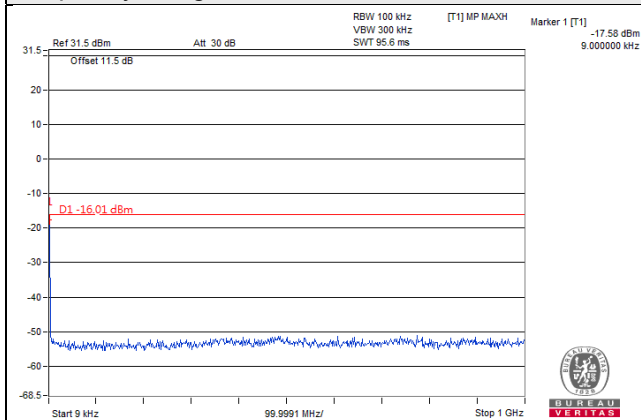


LTE Band 2 / Chain 1 / Channel Bandwidth: 15MHz

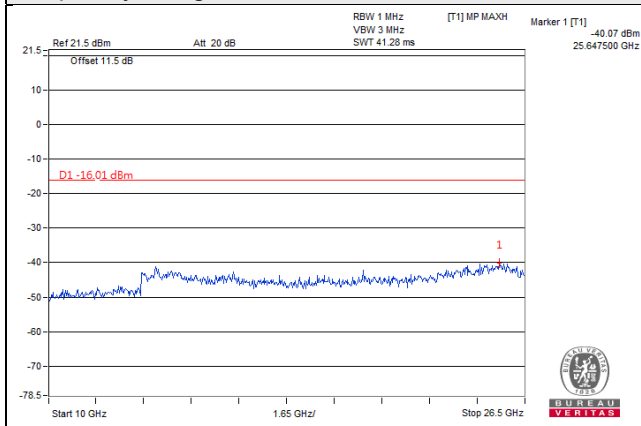
Channel 1125

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz

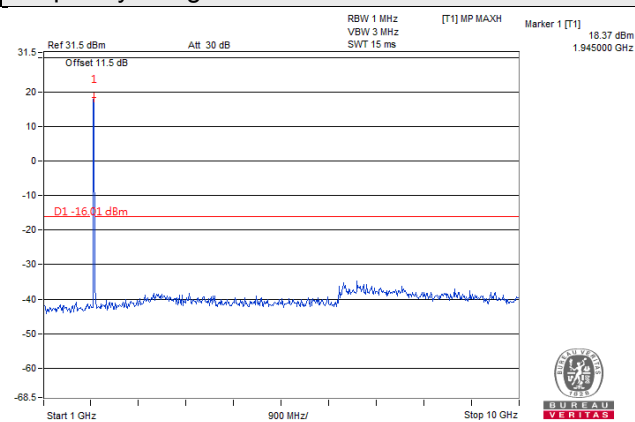
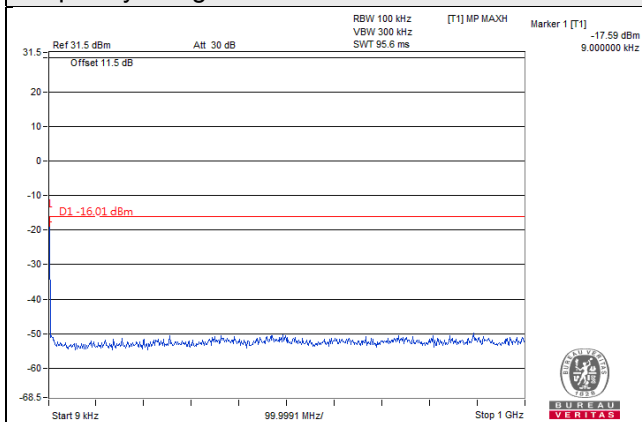


LTE Band 2 / Chain 1 / Channel Bandwidth: 20MHz

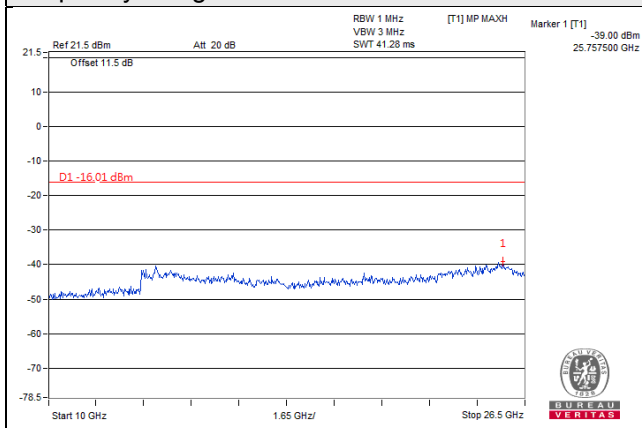
Channel 700

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz

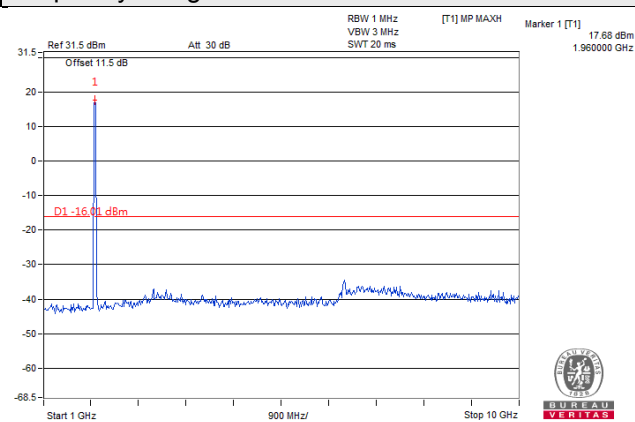
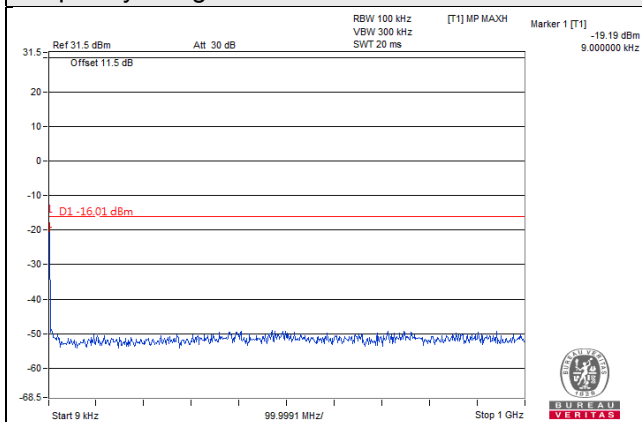


LTE Band 2 / Chain 1 / Channel Bandwidth: 20MHz

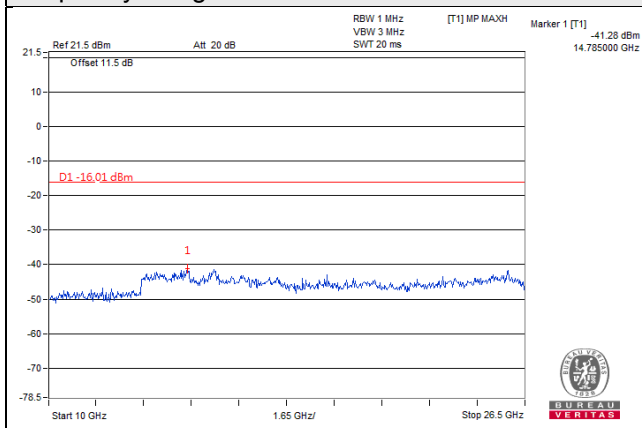
Channel 900

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz

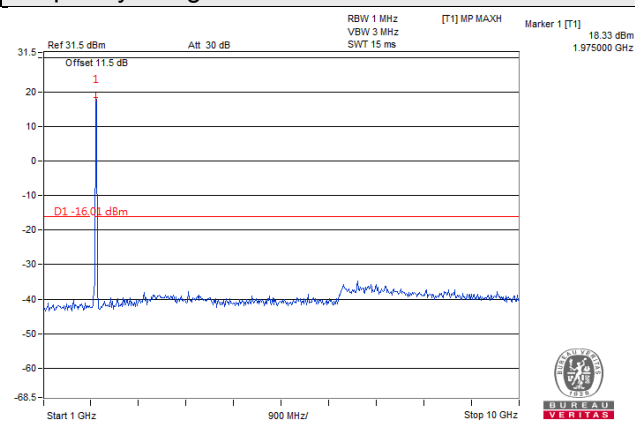
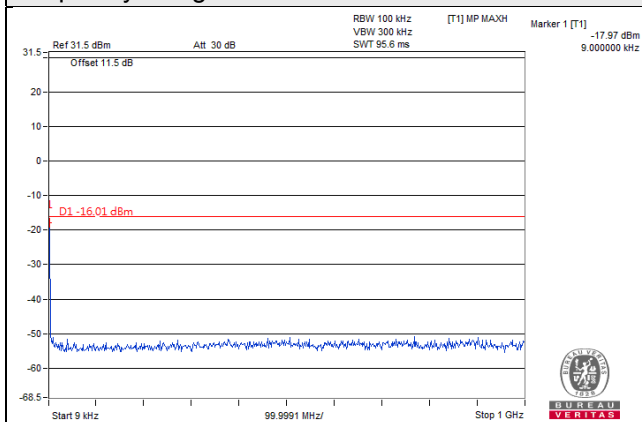


LTE Band 2 / Chain 1 / Channel Bandwidth: 20MHz

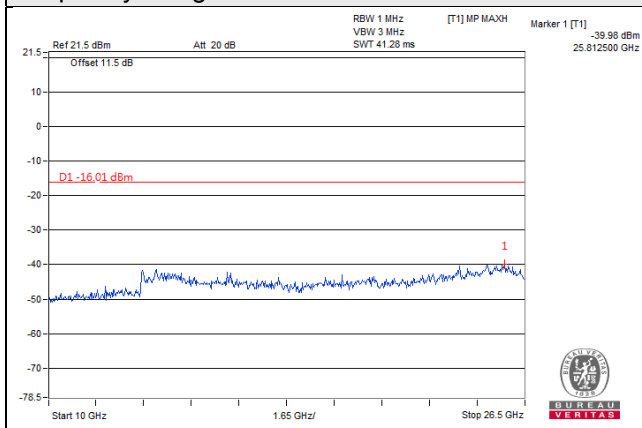
Channel 1100

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz



## **4.8 Radiated Emission Measurement**

### **4.8.1 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  $-13\text{dBm}$ .

### **4.8.2 Test Procedure**

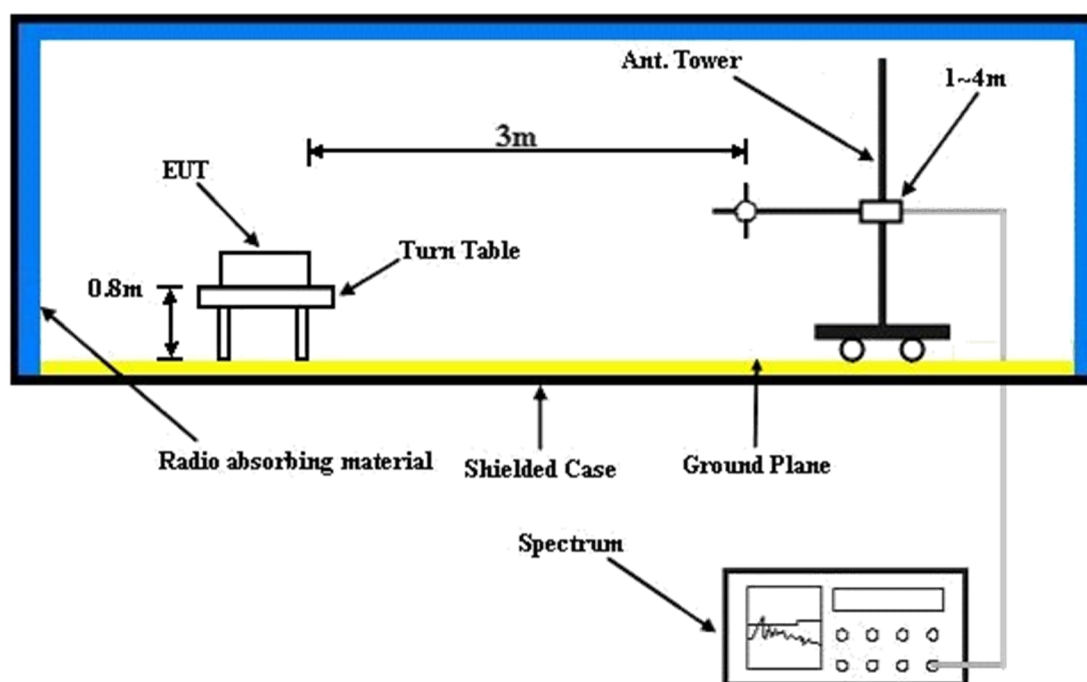
- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 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,  $\text{E.R.P power} = \text{E.I.R.P power} - 2.15\text{dB}$ .

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

### **4.8.3 Deviation from Test Standard**

No deviation.

#### 4.8.4 Test Setup



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

#### 4.8.5 Test Results

Below 1GHz  
WCDMA Mode

|      |                 |                 |                |
|------|-----------------|-----------------|----------------|
| Mode | TX channel 9800 | Frequency Range | Below 1000 MHz |
|------|-----------------|-----------------|----------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |               |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|---------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 77.53       | -53.6         | -59.4                 | 0.5                    | -58.9      | -13.0       | -45.9       |
| 2                                                   | 121.18      | -49.6         | -54.2                 | -3.2                   | -57.4      | -13.0       | -44.4       |
| 3                                                   | 206.54      | -50.1         | -56.3                 | -2.0                   | -58.3      | -13.0       | -45.3       |
| 4                                                   | 268.62      | -62.5         | -65.1                 | -1.5                   | -66.6      | -13.0       | -53.6       |
| 5                                                   | 332.64      | -63.5         | -71.3                 | 4.0                    | -67.3      | -13.0       | -54.3       |
| 6                                                   | 434.49      | -64.9         | -68.8                 | 3.6                    | -65.2      | -13.0       | -52.2       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |               |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 30.97       | -40.5         | -31.9                 | -18.8                  | -50.7      | -13.0       | -37.7       |
| 2                                                   | 56.19       | -52.6         | -54.4                 | -5.1                   | -59.5      | -13.0       | -46.5       |
| 3                                                   | 76.56       | -50.1         | -56.1                 | 0.3                    | -55.8      | -13.0       | -42.8       |
| 4                                                   | 120.21      | -49.2         | -52.6                 | -3.2                   | -55.8      | -13.0       | -42.8       |
| 5                                                   | 205.57      | -54.9         | -55.1                 | -2.0                   | -57.1      | -13.0       | -44.1       |
| 6                                                   | 280.26      | -62.6         | -57.8                 | -1.6                   | -59.4      | -13.0       | -46.4       |

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

LTE Band 2

Channel Bandwidth: 5MHz

|      |                |                 |                |
|------|----------------|-----------------|----------------|
| Mode | TX channel 625 | Frequency Range | Below 1000 MHz |
|------|----------------|-----------------|----------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |               |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|---------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 114.39      | -61.2         | -66.3                 | -2.8                   | -69.1      | -13.0       | -56.1       |
| 2                                                   | 205.57      | -55.7         | -61.8                 | -2.0                   | -63.8      | -13.0       | -50.8       |
| 3                                                   | 278.32      | -65.5         | -68.4                 | -1.6                   | -70.0      | -13.0       | -57.0       |
| 4                                                   | 316.15      | -66.2         | -74.2                 | 4.0                    | -70.2      | -13.0       | -57.2       |
| 5                                                   | 499.48      | -70.9         | -74.8                 | 3.8                    | -71.0      | -13.0       | -58.0       |
| 6                                                   | 637.22      | -71.0         | -72.5                 | 3.6                    | -68.9      | -13.0       | -55.9       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |               |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 61.04       | -60.7         | -64.3                 | -3.2                   | -67.5      | -13.0       | -54.5       |
| 2                                                   | 117.30      | -51.4         | -55.4                 | -2.9                   | -58.3      | -13.0       | -45.3       |
| 3                                                   | 195.87      | -67.6         | -66.0                 | -2.5                   | -68.5      | -13.0       | -55.5       |
| 4                                                   | 233.70      | -71.2         | -71.8                 | -1.7                   | -73.5      | -13.0       | -60.5       |
| 5                                                   | 408.30      | -71.2         | -75.0                 | 3.2                    | -71.8      | -13.0       | -58.8       |
| 6                                                   | 564.47      | -70.4         | -72.4                 | 3.7                    | -68.7      | -13.0       | -55.7       |

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Channel Bandwidth: 10MHz

|      |                |                 |                |
|------|----------------|-----------------|----------------|
| Mode | TX channel 650 | Frequency Range | Below 1000 MHz |
|------|----------------|-----------------|----------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |               |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|---------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 35.82       | -52.7         | -33.3                 | -15.9                  | -49.2      | -13.0       | -36.2       |
| 2                                                   | 61.04       | -59.6         | -61.7                 | -3.2                   | -64.9      | -13.0       | -51.9       |
| 3                                                   | 86.26       | -61.1         | -68.0                 | 0.1                    | -67.9      | -13.0       | -54.9       |
| 4                                                   | 116.33      | -50.4         | -55.4                 | -3.0                   | -58.4      | -13.0       | -45.4       |
| 5                                                   | 210.42      | -53.9         | -60.4                 | -2.0                   | -62.4      | -13.0       | -49.4       |
| 6                                                   | 295.78      | -64.0         | -65.1                 | -1.8                   | -66.9      | -13.0       | -53.9       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |               |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 33.88       | -49.8         | -43.3                 | -17.1                  | -60.4      | -13.0       | -47.4       |
| 2                                                   | 64.92       | -61.5         | -66.6                 | -1.9                   | -68.5      | -13.0       | -55.5       |
| 3                                                   | 88.20       | -62.0         | -68.2                 | -0.2                   | -68.4      | -13.0       | -55.4       |
| 4                                                   | 119.24      | -51.3         | -54.8                 | -3.1                   | -57.9      | -13.0       | -44.9       |
| 5                                                   | 201.69      | -64.7         | -63.8                 | -2.2                   | -66.0      | -13.0       | -53.0       |
| 6                                                   | 272.50      | -70.7         | -66.8                 | -1.5                   | -68.3      | -13.0       | -55.3       |

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Channel Bandwidth: 15MHz

|      |                |                 |                |
|------|----------------|-----------------|----------------|
| Mode | TX channel 675 | Frequency Range | Below 1000 MHz |
|------|----------------|-----------------|----------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |               |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|---------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 36.79       | -65.1         | -46.5                 | -15.2                  | -61.7      | -13.0       | -48.7       |
| 2                                                   | 114.39      | -63.9         | -69.0                 | -2.8                   | -71.8      | -13.0       | -58.8       |
| 3                                                   | 159.98      | -71.5         | -73.8                 | -3.0                   | -76.8      | -13.0       | -63.8       |
| 4                                                   | 212.36      | -58.9         | -65.3                 | -2.1                   | -67.4      | -13.0       | -54.4       |
| 5                                                   | 296.75      | -65.3         | -66.3                 | -1.8                   | -68.1      | -13.0       | -55.1       |
| 6                                                   | 322.94      | -66.2         | -74.2                 | 4.1                    | -70.1      | -13.0       | -57.1       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |               |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 40.67       | -64.3         | -60.6                 | -13.1                  | -73.7      | -13.0       | -60.7       |
| 2                                                   | 64.92       | -60.6         | -65.7                 | -1.9                   | -67.6      | -13.0       | -54.6       |
| 3                                                   | 90.14       | -62.1         | -68.2                 | -0.2                   | -68.4      | -13.0       | -55.4       |
| 4                                                   | 117.30      | -52.3         | -56.3                 | -2.9                   | -59.2      | -13.0       | -46.2       |
| 5                                                   | 200.72      | -64.0         | -62.9                 | -2.3                   | -65.2      | -13.0       | -52.2       |
| 6                                                   | 280.26      | -72.8         | -68.0                 | -1.6                   | -69.6      | -13.0       | -56.6       |

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Channel Bandwidth: 20MHz

|      |                |                 |                |
|------|----------------|-----------------|----------------|
| Mode | TX channel 700 | Frequency Range | Below 1000 MHz |
|------|----------------|-----------------|----------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |               |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|---------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 36.79       | -67.0         | -48.4                 | -15.2                  | -63.6      | -13.0       | -50.6       |
| 2                                                   | 76.56       | -62.2         | -68.1                 | 0.3                    | -67.8      | -13.0       | -54.8       |
| 3                                                   | 110.51      | -53.3         | -58.6                 | -2.6                   | -61.2      | -13.0       | -48.2       |
| 4                                                   | 146.40      | -67.9         | -69.7                 | -3.0                   | -72.7      | -13.0       | -59.7       |
| 5                                                   | 296.75      | -63.8         | -64.8                 | -1.8                   | -66.6      | -13.0       | -53.6       |
| 6                                                   | 330.70      | -62.5         | -70.4                 | 4.0                    | -66.4      | -13.0       | -53.4       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |               |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 33.88       | -50.4         | -43.9                 | -17.1                  | -61.0      | -13.0       | -48.0       |
| 2                                                   | 56.19       | -60.5         | -62.3                 | -5.1                   | -67.4      | -13.0       | -54.4       |
| 3                                                   | 109.54      | -50.0         | -55.7                 | -2.5                   | -58.2      | -13.0       | -45.2       |
| 4                                                   | 201.69      | -62.8         | -61.9                 | -2.2                   | -64.1      | -13.0       | -51.1       |
| 5                                                   | 278.32      | -71.2         | -66.3                 | -1.6                   | -67.9      | -13.0       | -54.9       |
| 6                                                   | 451.95      | -69.5         | -73.2                 | 3.5                    | -69.7      | -13.0       | -56.7       |

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Above 1GHz  
WCDMA Mode

|      |                 |                 |               |
|------|-----------------|-----------------|---------------|
| Mode | TX channel 9662 | Frequency Range | Above 1000MHz |
|------|-----------------|-----------------|---------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |               |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|---------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 3864.80     | -60.6         | -52.2                 | 1.3                    | -50.9      | -13.0       | -37.9       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |               |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 3864.80     | -65.8         | -57.2                 | 1.3                    | -55.9      | -13.0       | -42.9       |

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

|      |                 |                 |               |
|------|-----------------|-----------------|---------------|
| Mode | TX channel 9800 | Frequency Range | Above 1000MHz |
|------|-----------------|-----------------|---------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |               |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|---------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 3920.00     | -61.6         | -53.1                 | 1.3                    | -51.8      | -13.0       | -38.8       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |               |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 3920.00     | -66.8         | -58.1                 | 1.3                    | -56.8      | -13.0       | -43.8       |

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

|      |                 |                 |               |
|------|-----------------|-----------------|---------------|
| Mode | TX channel 9938 | Frequency Range | Above 1000MHz |
|------|-----------------|-----------------|---------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |               |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|---------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 3975.20     | -60.1         | -51.6                 | 1.3                    | -50.3      | -13.0       | -37.3       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |               |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 3975.20     | -65.5         | -56.9                 | 1.3                    | -55.6      | -13.0       | -42.6       |

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

LTE Band 2

Channel Bandwidth: 5MHz

|      |                |                 |               |
|------|----------------|-----------------|---------------|
| Mode | TX channel 625 | Frequency Range | Above 1000MHz |
|------|----------------|-----------------|---------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |               |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|---------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 3865.00     | -50.9         | -42.5                 | 1.3                    | -41.2      | -13.0       | -28.2       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |               |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 3865.00     | -54.1         | -45.5                 | 1.3                    | -44.2      | -13.0       | -31.2       |

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

|      |                |                 |               |
|------|----------------|-----------------|---------------|
| Mode | TX channel 900 | Frequency Range | Above 1000MHz |
|------|----------------|-----------------|---------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |               |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|---------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 3920.00     | -51.7         | -43.2                 | 1.3                    | -41.9      | -13.0       | -28.9       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |               |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 3920.00     | -54.5         | -45.8                 | 1.3                    | -44.5      | -13.0       | -31.5       |

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

|      |                 |                 |               |
|------|-----------------|-----------------|---------------|
| Mode | TX channel 1175 | Frequency Range | Above 1000MHz |
|------|-----------------|-----------------|---------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |               |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|---------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 3975.00     | -51.5         | -43.0                 | 1.3                    | -41.7      | -13.0       | -28.7       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |               |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 3975.00     | -54.5         | -45.9                 | 1.3                    | -44.6      | -13.0       | -31.6       |

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Channel Bandwidth: 10MHz

|      |                |                 |               |
|------|----------------|-----------------|---------------|
| Mode | TX channel 650 | Frequency Range | Above 1000MHz |
|------|----------------|-----------------|---------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |               |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|---------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 3870.00     | -51.8         | -43.4                 | 1.3                    | -42.1      | -13.0       | -29.1       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |               |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 3870.00     | -55.2         | -46.6                 | 1.3                    | -45.3      | -13.0       | -32.3       |

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

|      |                |                 |               |
|------|----------------|-----------------|---------------|
| Mode | TX channel 900 | Frequency Range | Above 1000MHz |
|------|----------------|-----------------|---------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |               |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|---------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 3920.00     | -52.4         | -43.9                 | 1.3                    | -42.6      | -13.0       | -29.6       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |               |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 3920.00     | -55.6         | -46.9                 | 1.3                    | -45.6      | -13.0       | -32.6       |

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

|      |                 |                 |               |
|------|-----------------|-----------------|---------------|
| Mode | TX channel 1150 | Frequency Range | Above 1000MHz |
|------|-----------------|-----------------|---------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |               |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|---------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 3970.00     | -52.1         | -43.6                 | 1.3                    | -42.3      | -13.0       | -29.3       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |               |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 3970.00     | -55.7         | -47.1                 | 1.3                    | -45.8      | -13.0       | -32.8       |

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Channel Bandwidth: 15MHz

|      |                |                 |               |
|------|----------------|-----------------|---------------|
| Mode | TX channel 675 | Frequency Range | Above 1000MHz |
|------|----------------|-----------------|---------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |               |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|---------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 3875.00     | -52.8         | -44.4                 | 1.3                    | -43.1      | -13.0       | -30.1       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |               |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 3875.00     | -56.1         | -47.5                 | 1.3                    | -46.2      | -13.0       | -33.2       |

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

|      |                |                 |               |
|------|----------------|-----------------|---------------|
| Mode | TX channel 900 | Frequency Range | Above 1000MHz |
|------|----------------|-----------------|---------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |               |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|---------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 3920.00     | -53.4         | -44.9                 | 1.3                    | -43.6      | -13.0       | -30.6       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |               |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 3920.00     | -56.1         | -47.4                 | 1.3                    | -46.1      | -13.0       | -33.1       |

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

|      |                 |                 |               |
|------|-----------------|-----------------|---------------|
| Mode | TX channel 1125 | Frequency Range | Above 1000MHz |
|------|-----------------|-----------------|---------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |               |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|---------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 3965.00     | -53.0         | -44.5                 | 1.3                    | -43.2      | -13.0       | -30.2       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |               |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 3965.00     | -56.4         | -47.8                 | 1.3                    | -46.5      | -13.0       | -33.5       |

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Channel Bandwidth: 20MHz

|      |                |                 |               |
|------|----------------|-----------------|---------------|
| Mode | TX channel 700 | Frequency Range | Above 1000MHz |
|------|----------------|-----------------|---------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |               |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|---------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 3880.00     | -53.5         | -45.1                 | 1.3                    | -43.8      | -13.0       | -30.8       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |               |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 3880.00     | -56.8         | -48.1                 | 1.3                    | -46.8      | -13.0       | -33.8       |

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

|      |                |                 |               |
|------|----------------|-----------------|---------------|
| Mode | TX channel 900 | Frequency Range | Above 1000MHz |
|------|----------------|-----------------|---------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |               |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|---------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 3920.00     | -53.7         | -45.2                 | 1.3                    | -43.9      | -13.0       | -30.9       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |               |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 3920.00     | -56.7         | -48.0                 | 1.3                    | -46.7      | -13.0       | -33.7       |

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

|      |                 |                 |               |
|------|-----------------|-----------------|---------------|
| Mode | TX channel 1100 | Frequency Range | Above 1000MHz |
|------|-----------------|-----------------|---------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |               |                       |                        |            |             |             |
|-----------------------------------------------------|-------------|---------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 3960.00     | -54.0         | -45.5                 | 1.3                    | -44.2      | -13.0       | -31.2       |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |               |                       |                        |            |             |             |
| No.                                                 | Freq. (MHz) | Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 3960.00     | -56.5         | -47.9                 | 1.3                    | -46.6      | -13.0       | -33.6       |

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

## 5 Pictures of Test Arrangements

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

## Appendix – 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.

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

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