

# VARIANT FCC TEST REPORT

## (PART 22)

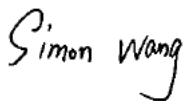
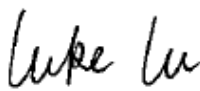
|            |                                           |
|------------|-------------------------------------------|
| Applicant: | Nokia of America Corp                     |
| Address:   | 3201, Olympus Blvd, Dallas, TX 75019, USA |

|                           |                                           |
|---------------------------|-------------------------------------------|
| Manufacturer or Supplier: | Nokia of America Corp                     |
| Address:                  | 3201, Olympus Blvd, Dallas, TX 75019, USA |
| Product:                  | Nokia Industrial 5G handheld HHRA501x     |
| Brand Name:               | Nokia                                     |
| Model Name:               | HHRA501a                                  |
| Marketing Name:           | Nokia Industrial 5G handheld HHRA501a     |
| FCC ID:                   | 2AVO2-HHRA501A                            |
| Date of tests:            | Nov. 24, 2022 ~ Feb. 03, 2023             |

The tests have been carried out according to the requirements of the following standard:

- ☒ **FCC PART 22, Subpart H**    ☒ **FCC Part 2**  
☒ **ANSI/TIA/EIA-603-D**        ☒ **ANSI C63.26-2015**  
☒ **ANSI/TIA/EIA-603-E**

**CONCLUSION:** The submitted sample was found to COMPLY with the test requirement

|                                                                                     |                                                                                       |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Prepared by Simon Wang<br>Engineer / Mobile Department                              | Approved by Luke Lu<br>Manager / Mobile Department                                    |
|  |  |
| Date: Oct. 23, 2023                                                                 | Date: Oct. 23, 2023                                                                   |

This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

## TABLE OF CONTENTS

|                                                                |           |
|----------------------------------------------------------------|-----------|
| <b>RELEASE CONTROL RECORD .....</b>                            | <b>4</b>  |
| <b>1 SUMMARY OF TEST RESULTS.....</b>                          | <b>5</b>  |
| 1.1 MEASUREMENT UNCERTAINTY .....                              | 6         |
| 1.2 TEST SITE AND INSTRUMENTS .....                            | 7         |
| <b>2 GENERAL INFORMATION .....</b>                             | <b>8</b>  |
| 2.1 GENERAL DESCRIPTION OF EUT .....                           | 8         |
| 2.2 CONFIGURATION OF SYSTEM UNDER TEST .....                   | 11        |
| 2.3 DESCRIPTION OF SUPPORT UNITS .....                         | 12        |
| 2.4 TEST ITEM AND TEST CONFIGURATION.....                      | 12        |
| 2.5 EUT OPERATING CONDITIONS.....                              | 16        |
| 2.6 GENERAL DESCRIPTION OF APPLIED STANDARDS.....              | 17        |
| <b>3 TEST TYPES AND RESULTS.....</b>                           | <b>18</b> |
| 3.1 OUTPUT POWER MEASUREMENT .....                             | 18        |
| 3.1.1 LIMITS OF OUTPUT POWER MEASUREMENT .....                 | 18        |
| 3.1.2 TEST PROCEDURES .....                                    | 18        |
| 3.1.3 TEST SETUP.....                                          | 19        |
| 3.1.4 TEST RESULTS .....                                       | 19        |
| 3.2 FREQUENCY STABILITY MEASUREMENT .....                      | 38        |
| 3.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT.....           | 38        |
| 3.2.2 TEST PROCEDURE.....                                      | 38        |
| 3.2.3 TEST SETUP.....                                          | 38        |
| 3.2.4 TEST RESULTS .....                                       | 39        |
| 3.3 OCCUPIED BANDWIDTH MEASUREMENT .....                       | 40        |
| 3.3.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT .....           | 40        |
| 3.3.2 TEST SETUP.....                                          | 40        |
| 3.3.3 TEST PROCEDURES .....                                    | 40        |
| 3.3.4 TEST RESULTS .....                                       | 41        |
| 3.4 BAND EDGE MEASUREMENT .....                                | 42        |
| 3.4.1 LIMITS OF BAND EDGE MEASUREMENT .....                    | 42        |
| 3.4.2 TEST SETUP.....                                          | 42        |
| 3.4.3 TEST PROCEDURES .....                                    | 43        |
| 3.4.4 TEST RESULTS .....                                       | 44        |
| 3.5 CONDUCTED SPURIOUS EMISSIONS.....                          | 45        |
| 3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT ..... | 45        |
| 3.5.2 TEST PROCEDURE.....                                      | 45        |
| 3.5.3 TEST SETUP.....                                          | 45        |
| 3.5.4 TEST RESULTS .....                                       | 46        |
| 3.6 RADIATED EMISSION MEASUREMENT .....                        | 47        |
| 3.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT .....            | 47        |
| 3.6.2 TEST PROCEDURES .....                                    | 47        |
| 3.6.3 DEVIATION FROM TEST STANDARD .....                       | 47        |
| 3.6.4 TEST SETUP.....                                          | 48        |



**Test Report No.: W7L-P23100014RF04**

|       |                                                                             |     |
|-------|-----------------------------------------------------------------------------|-----|
| 3.6.5 | TEST RESULTS .....                                                          | 50  |
| 3.7   | PEAK TO AVERAGE RATIO .....                                                 | 84  |
| 3.7.1 | LIMITS OF PEAK TO AVERAGE RATIO MEASUREMENT .....                           | 84  |
| 3.7.2 | TEST SETUP .....                                                            | 84  |
| 3.7.3 | TEST PROCEDURES .....                                                       | 84  |
| 3.7.4 | TEST RESULTS .....                                                          | 85  |
| 4     | PHOTOGRAPHS OF THE TEST CONFIGURATION .....                                 | 86  |
| 5     | INFORMATION ON THE TESTING LABORATORIES .....                               | 87  |
| 6     | MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB ..... | 88  |
| 7     | APPENDIX .....                                                              | 89  |
|       | GSM850 .....                                                                | 89  |
|       | WCDMA BAND5 .....                                                           | 105 |
|       | LTE BAND26 (INCLUDING LTE BAND5) .....                                      | 118 |

## RELEASE CONTROL RECORD

| ISSUE NO.         | REASON FOR CHANGE                                                                                                                                                  | DATE ISSUED   |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| W7L-P22110036RF04 | Original release                                                                                                                                                   | Feb. 03, 2023 |
| W7L-P23100014RF04 | Based on the original product changing the model name and FCC ID, brand name, marketing name, product name, battery model, applicant and manufacturer information. | Oct. 23, 2023 |

## 1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

| APPLIED STANDARD: FCC Part 22 & Part 2 |                              |            |
|----------------------------------------|------------------------------|------------|
| STANDARD SECTION                       | TEST TYPE                    | RESULT     |
| §2.1046                                | Conducted Output Power       | Compliance |
| §22.913 (a)(5)                         | Effective Radiated Power     | Compliance |
| §2.1055<br>§22.355                     | Frequency Stability          | Compliance |
| §2.1049                                | Occupied Bandwidth           | Compliance |
| §22.913 (d)                            | Peak to average ratio*       | Compliance |
| §22.917(a)                             | Band Edge Measurements       | Compliance |
| §2.1051<br>§22.917(a)                  | Conducted Spurious Emissions | Compliance |
| §2.1053<br>§22.917(a)                  | Radiated Spurious Emissions  | Compliance |

\* Refer to KDB 971168 D01 Power Meas License Digital Systems v03r01.

## 1.1 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                       | UNCERTAINTY |
|-----------------------------------|-------------|
| Maximum Peak Output Power         | ±2.06dB     |
| Frequency Stability               | ±76.97Hz    |
| Radiated emissions (9KHz~30MHz)   | ±2.68dB     |
| Radiated emissions (30MHz~1GHz)   | ±4.98dB     |
| Radiated emissions (1GHz ~6GHz)   | ±4.70dB     |
| Radiated emissions (6GHz ~18GHz)  | ±4.60dB     |
| Radiated emissions (18GHz ~40GHz) | ±4.12dB     |
| Conducted emissions               | ±4.01dB     |
| Occupied Channel Bandwidth        | ±43.58KHz   |
| Band Edge Measurements            | ±4.70dB     |
| Peak to average ratio             | ±0.76dB     |

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

## 1.2 TEST SITE AND INSTRUMENTS

| Equipment                                   | Manufacturer      | Model No.                       | Serial No.                          | Last Cal.   | Next Cal.   |
|---------------------------------------------|-------------------|---------------------------------|-------------------------------------|-------------|-------------|
| MXE EMI Receiver                            | KEYSIGHT          | N9038A-544                      | MY54450026                          | Feb. 21,22  | Feb. 20,23  |
| EXA Signal Analyzer                         | KEYSIGHT          | N9010A-544                      | MY54510355                          | May.15,22   | May.14,23   |
| Loop Antenna                                | Schwarzbeck       | FMZB 1519B                      | 00173                               | Sep.04,22   | Sep.03,23   |
| Bilog Antenna                               | ETS-LINDGRE<br>N  | 3143B                           | 00161965                            | Mar. 06,22  | Mar. 05,23  |
| Horn Antenna                                | ETS-LINDGRE<br>N  | 3117                            | 00168692                            | Mar. 06,22  | Mar. 05,23  |
| Horn Antenna<br>(18GHz-40GHz)               | N/A               | QWH-SL-18-40-K-<br>SG/QMS-00361 | 15433                               | Aug. 24, 22 | Aug. 23, 23 |
| Radio Communication<br>Analyzer             | ANRITSU           | MT8820C                         | 6201465426                          | Feb. 15,22  | Feb. 14,23  |
| Signal Pre-Amplifier                        | EMSI              | EMC 9135                        | 980249                              | May.12,22   | May.11,23   |
| Signal Pre-Amplifier                        | EMSI              | EMC 012645B                     | 980257                              | May.12,22   | May.11,23   |
| Signal Pre-Amplifier                        | EMSI              | EMC 184045B                     | 980259                              | Feb. 21,22  | Feb.20,23   |
| 3m<br>Semi-anechoic<br>Chamber              | ETS-LINDGRE<br>N  | 9m*6m*6m                        | Euroshieldpn-<br>CT0001143-121<br>6 | May. 19,20  | May. 18,23  |
| Test Software                               | E3                | V 9.160323                      | N/A                                 | N/A         | N/A         |
| Test Software                               | JS1120            | 3.1.36                          | N/A                                 | N/A         | N/A         |
| 10dB Attenuator                             | JFW/USA           | 50HF-010-SMA                    | 1505                                | May. 07,22  | May. 06,23  |
| Power Meter                                 | Anritsu           | ML2495A                         | 1506002                             | Feb. 22,22  | Feb. 21,23  |
| Power Sensor                                | Anritsu           | MA2411B                         | 1339352                             | May. 07,22  | May. 06,23  |
| Temperature Chamber                         | ESPEC             | SH-242                          | 93000855                            | May. 12,22  | May. 11,23  |
| MXG<br>Analog Microvave<br>Signal Generator | KEYSIGHT          | N5183A                          | MY50143024                          | Feb. 18,22  | Feb. 17,23  |
| Base station R&S<br>CMW500                  | Rohde&Schwa<br>rz | CMW500                          | 153085                              | May.12,22   | May.11,23   |
| DC Source                                   | Kikusui/JP        | PMX18-5A                        | 0000001                             | Aug. 24,22  | Aug. 23,23  |

- NOTE:**
1. The calibration interval of the above test instruments is 12 months or 36 months and the calibrations are traceable to CEPREI/CHINA, GREGT/CHINA and NIM/CHINA.
  2. The test was performed in 3m Semi-anechoic Chamber and RF Oven Room.
  3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.
  4. The FCC Site Registration No. is 525120; The Designation No. is CN1171.

## 2 GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

|                        |                                                               |                     |
|------------------------|---------------------------------------------------------------|---------------------|
| <b>PRODUCT</b>         | Nokia Industrial 5G handheld HHRA501x                         |                     |
| <b>BRAND NAME</b>      | Nokia                                                         |                     |
| <b>MODEL NAME</b>      | HHRA501a                                                      |                     |
| <b>MARKETING NAME</b>  | Nokia Industrial 5G handheld HHRA501a                         |                     |
| <b>NOMINAL VOLTAGE</b> | 5.0Vdc(adapter or host equipment)<br>3.7Vdc (Li-ion, battery) |                     |
| <b>MODULATION TYPE</b> | <b>GSM/EDGE</b>                                               | GMSK, 8PSK          |
|                        | <b>WCDMA</b>                                                  | BPSK, QPSK          |
|                        | <b>LTE</b>                                                    | QPSK, 16QAM, 64QAM  |
| <b>FREQUENCY RANGE</b> | <b>GSM/EDGE</b>                                               | 824.2MHz ~ 848.8MHz |
|                        | <b>WCDMA</b>                                                  | 826.4MHz ~ 846.6MHz |
|                        | <b>LTE Band 5<br/>(Channel Bandwidth: 1.4MHz)</b>             | 824.7MHz ~ 848.3MHz |
|                        | <b>LTE Band 5<br/>(Channel Bandwidth: 3MHz)</b>               | 825.5MHz ~ 847.5MHz |
|                        | <b>LTE Band 5<br/>(Channel Bandwidth: 5MHz)</b>               | 826.5MHz ~ 846.5MHz |
|                        | <b>LTE Band 5<br/>(Channel Bandwidth: 10MHz)</b>              | 829MHz ~ 844MHz     |
|                        | <b>LTE Band 26<br/>(Channel Bandwidth: 1.4MHz)</b>            | 824.7MHz ~ 848.3MHz |
|                        | <b>LTE Band 26<br/>(Channel Bandwidth: 3MHz)</b>              | 825.5MHz ~ 847.5MHz |
|                        | <b>LTE Band 26<br/>(Channel Bandwidth: 5MHz)</b>              | 826.5MHz ~ 846.5MHz |
|                        | <b>LTE Band 26<br/>(Channel Bandwidth: 10MHz)</b>             | 829MHz ~ 844MHz     |
|                        | <b>LTE Band 26<br/>(Channel Bandwidth: 15MHz)</b>             | 831.5MHz ~ 841.5MHz |
| <b>MAX. ERP POWER</b>  | <b>GSM</b>                                                    | 497.74mW            |
|                        | <b>EDGE</b>                                                   | 123.59mW            |
|                        | <b>WCDMA</b>                                                  | 57.94mW             |
|                        | <b>LTE Band 5<br/>(Channel Bandwidth: 1.4MHz)</b>             | 56.49mW             |
|                        | <b>LTE Band 5<br/>(Channel Bandwidth: 3MHz)</b>               | 56.36mW             |
|                        | <b>LTE Band 5<br/>(Channel Bandwidth: 5MHz)</b>               | 56.62mW             |

|                                    |                                                                                                                                      |                |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|----------------|
|                                    | <b>LTE Band 5<br/>(Channel Bandwidth: 10MHz)</b>                                                                                     | 57.28mW        |
| <b>MAX. ERP POWER</b>              | <b>LTE Band 26<br/>(Channel Bandwidth: 1.4MHz)</b>                                                                                   | 53.33mW        |
|                                    | <b>LTE Band 26<br/>(Channel Bandwidth: 3MHz)</b>                                                                                     | 53.83mW        |
|                                    | <b>LTE Band 26<br/>(Channel Bandwidth: 5MHz)</b>                                                                                     | 53.83mW        |
|                                    | <b>LTE Band 26<br/>(Channel Bandwidth: 10MHz)</b>                                                                                    | 53.7mW         |
|                                    | <b>LTE Band 26<br/>(Channel Bandwidth: 15MHz)</b>                                                                                    | 54.08mW        |
| <b>EMISSION<br/>DESIGNATOR GGN</b> | <b>GSM</b>                                                                                                                           | 247KGXW        |
|                                    | <b>EDGE</b>                                                                                                                          | 243KG7W        |
|                                    | <b>WCDMA</b>                                                                                                                         | 4M15F9W        |
|                                    | <b>LTE Band 26<br/>(Channel Bandwidth: 1.4MHz)</b>                                                                                   | QPSK: 1M09G7D  |
|                                    |                                                                                                                                      | 16QAM: 1M09W7D |
|                                    |                                                                                                                                      | 64QAM: 1M09W7D |
|                                    | <b>LTE Band 26<br/>(Channel Bandwidth: 3MHz)</b>                                                                                     | QPSK: 2M70G7D  |
|                                    |                                                                                                                                      | 16QAM: 2M69W7D |
|                                    |                                                                                                                                      | 64QAM: 2M70W7D |
|                                    | <b>LTE Band 26<br/>(Channel Bandwidth: 5MHz)</b>                                                                                     | QPSK: 4M50G7D  |
|                                    |                                                                                                                                      | 16QAM: 4M51W7D |
|                                    |                                                                                                                                      | 64QAM: 4M50W7D |
|                                    | <b>LTE Band 26<br/>(Channel Bandwidth: 10MHz)</b>                                                                                    | QPSK: 8M98G7D  |
|                                    |                                                                                                                                      | 16QAM: 8M96W7D |
|                                    |                                                                                                                                      | 64QAM: 8M97W7D |
|                                    | <b>LTE Band 26<br/>(Channel Bandwidth: 15MHz)</b>                                                                                    | QPSK: 13M5G7D  |
|                                    |                                                                                                                                      | 16QAM: 13M5W7D |
|                                    |                                                                                                                                      | 64QAM: 13M5W7D |
| <b>ANTENNA TYPE</b>                | PIFA Antenna with -3dBi gain for GSM850/WCDMA V/LTE B5/LTE B26                                                                       |                |
| <b>HW VERSION</b>                  | V02                                                                                                                                  |                |
| <b>SW VERSION</b>                  | IS540_ROW_00.00_1_20221017                                                                                                           |                |
| <b>I/O PORTS</b>                   | Refer to user's manual                                                                                                               |                |
| <b>CABLE SUPPLIED</b>              | USB cable1: non-shielded cable, with w/o ferrite core, 1.0 meter<br>USB cable2: non-shielded cable, with w/o ferrite core, 1.0 meter |                |
| <b>EXTREME TEMPERATURE</b>         | -10-50 °C                                                                                                                            |                |
| <b>EXTREME VOLTAGE</b>             | 3.6V - 4.2V                                                                                                                          |                |

**NOTE:**

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and one receiver.

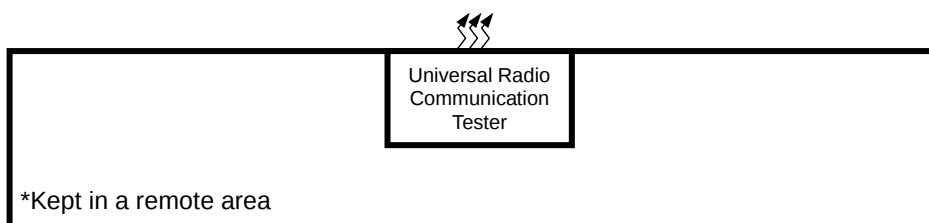
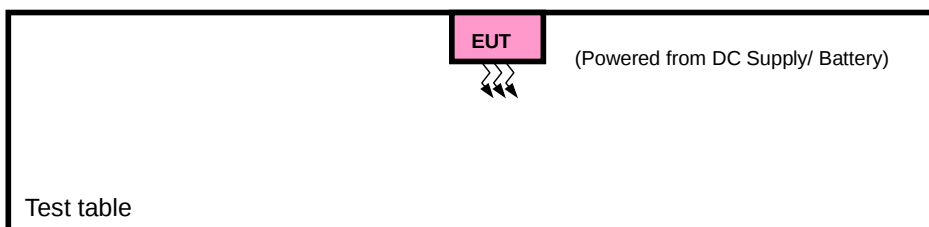
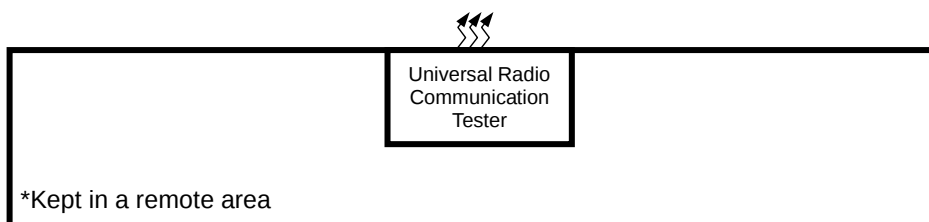
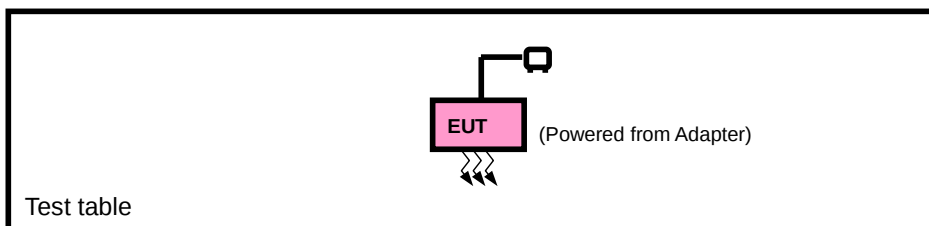
| MODULATION MODE | TX FUNCTION |
|-----------------|-------------|
| GSM/GPRS/EDGE   | 1TX/1RX     |
| WCDMA           | 1TX/1RX     |
| LTE             | 1TX/1RX     |

3. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.

**List of Accessory:**

| ACCESSORIES | BRAND | MANUFACTURER                                            | MODEL           | SPECIFICATION                          |
|-------------|-------|---------------------------------------------------------|-----------------|----------------------------------------|
| Battery     | N/A   | FPR Connectivity Technology Inc.                        | BL440ACP        | Capacity: 3.7Vdc, 4400mAh              |
| AC Adapter  | N/A   | SHENZHEN SHI YINGYUAN POWER SUPPLY TECHNOLOGY CO., LTD. | ICP12-050-2000B | I/P: 100-240Vac, 0.3A, O/P: 5.0Vdc, 2A |
| USB Cable 1 | N/A   | Winpower Technology Co., LTD                            | USB2.0          | Signal Line,1.0meter                   |
| USB Cable 2 | N/A   | Winpower Technology Co., LTD                            | PROTECTOR 2.0   | Signal Line,1.0meter                   |

## 2.2 CONFIGURATION OF SYSTEM UNDER TEST FOR RADIATION EMISSION



## 2.3 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.

| NO. | PRODUCT   | BRAND      | MODEL NO. | SERIAL NO. | FCC ID |
|-----|-----------|------------|-----------|------------|--------|
| 1   | DC source | Kikusui/JP | PMX18-5A  | 0000001    | N/A    |

| NO. | SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS |
|-----|-----------------------------------------------------|
| 1   | DC Line: Unshielded, Detachable 1.0m                |

## 2.4 TEST ITEM AND TEST CONFIGURATION

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

| EUT<br>CONFIGURE<br>MODE | DESCRIPTION                                   |
|--------------------------|-----------------------------------------------|
| A                        | EUT + Adapter with GSM or WCDMA or LTE link   |
| B                        | EUT + DC Supply with GSM or WCDMA or LTE link |

#### GSM MODE

| EUT<br>CONFIGURE<br>MODE | TEST ITEM             | AVAILABLE CHANNEL | TESTED CHANNEL | MODE     |
|--------------------------|-----------------------|-------------------|----------------|----------|
| A                        | ERP                   | 128 to 251        | 128, 189, 251  | GSM,EDGE |
| B                        | FREQUENCY STABILITY   | 128 to 251        | 128, 189, 251  | GSM,EDGE |
| A                        | OCCUPIED BANDWIDTH    | 128 to 251        | 128, 189, 251  | GSM,EDGE |
| A                        | BAND EDGE             | 128 to 251        | 128, 251       | GSM,EDGE |
| A                        | CONDCUDED EMISSION    | 128 to 251        | 128, 189, 251  | GSM,EDGE |
| A                        | RADIATED EMISSION     | 128 to 251        | 128, 189, 251  | GSM,EDGE |
| A                        | PEAK TO AVERAGE RATIO | 128 to 251        | 128, 189, 251  | GSM,EDGE |

#### WCDMA MODE

| EUT<br>CONFIGURE<br>MODE | TEST ITEM             | AVAILABLE CHANNEL | TESTED CHANNEL   | MODE  |
|--------------------------|-----------------------|-------------------|------------------|-------|
| A                        | ERP                   | 4132 to 4233      | 4132, 4182, 4233 | WCDMA |
| B                        | FREQUENCY STABILITY   | 4132 to 4233      | 4132, 4182, 4233 | WCDMA |
| A                        | OCCUPIED BANDWIDTH    | 4132 to 4233      | 4132, 4182, 4233 | WCDMA |
| A                        | BAND EDGE             | 4132 to 4233      | 4132, 4233       | WCDMA |
| A                        | CONDCUDED EMISSION    | 4132 to 4233      | 4132, 4182, 4233 | WCDMA |
| A                        | RADIATED EMISSION     | 4132 to 4233      | 4132, 4182, 4233 | WCDMA |
| A                        | PEAK TO AVERAGE RATIO | 4132 to 4233      | 4132, 4182, 4233 | WCDMA |

#### LTE BAND 5 MODE

| EUT<br>CONFIGURE<br>MODE | TEST ITEM | Available<br>Channel | Tested Channel         | Channel<br>bandwidth | modulation       | mode               |
|--------------------------|-----------|----------------------|------------------------|----------------------|------------------|--------------------|
| A                        | ERP       | 20407 to 20643       | 20407, 20525,<br>20643 | 1.4MHz               | QPSK,16QAM,64QAM | 1 RB / 0 RB Offset |
|                          |           | 20415 to 20635       | 20415, 20525,<br>20635 | 3MHz                 | QPSK,16QAM,64QAM | 1 RB / 0 RB Offset |
|                          |           | 20425 to 20625       | 20425, 20525,<br>20625 | 5MHz                 | QPSK,16QAM,64QAM | 1 RB / 0 RB Offset |
|                          |           | 20450 to 20600       | 20450, 20525,<br>20600 | 10MHz                | QPSK,16QAM,64QAM | 1 RB / 0 RB Offset |

**Note:** 1. This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

2. LTE Band 5 are covered by LTE Band 26, Because it is a subset of LTE Band 26 with the same output power and supported bandwidths, So the test data please refer to LTE Band 26

#### LTE BAND 26 MODE

| EUT<br>CONFIGURE<br>MODE | TEST ITEM                   | Available<br>Channel | Tested Channel         | Channel<br>bandwidth | modulation       | mode                                      |
|--------------------------|-----------------------------|----------------------|------------------------|----------------------|------------------|-------------------------------------------|
| A                        | ERP                         | 26797 to 27033       | 26797, 26915,<br>27033 | 1.4MHz               | QPSK,16QAM,64QAM | 1 RB / 0 RB Offset                        |
|                          |                             | 26805 to 27025       | 26805, 26915,<br>27025 | 3MHz                 | QPSK,16QAM,64QAM | 1 RB / 0 RB Offset                        |
|                          |                             | 26815 to 27015       | 26815, 26915,<br>27015 | 5MHz                 | QPSK,16QAM,64QAM | 1 RB / 0 RB Offset                        |
|                          |                             | 26840 to 26990       | 26840, 26915,<br>26990 | 10MHz                | QPSK,16QAM,64QAM | 1 RB / 0 RB Offset                        |
|                          |                             | 26865 to 26965       | 26865, 26915,<br>26965 | 15MHz                | QPSK,16QAM,64QAM | 1 RB / 0 RB Offset                        |
| B                        | FREQUENCY<br>STABILITY      | 26797 to 27033       | 26797, 26915,<br>27033 | 1.4MHz               | QPSK,16QAM,64QAM | 6 RB / 0 RB Offset                        |
|                          |                             | 26805 to 27025       | 26805, 26915,<br>27025 | 3MHz                 | QPSK,16QAM,64QAM | 15 RB / 0 RB Offset                       |
|                          |                             | 26815 to 27015       | 26815, 26915,<br>27015 | 5MHz                 | QPSK,16QAM,64QAM | 25 RB / 0 RB Offset                       |
|                          |                             | 26840 to 26990       | 26840, 26915,<br>26990 | 10MHz                | QPSK,16QAM,64QAM | 50 RB / 0 RB Offset                       |
|                          |                             | 26865 to 26965       | 26865, 26915,<br>26965 | 15MHz                | QPSK,16QAM,64QAM | 75 RB / 0 RB Offset                       |
| A                        | OCCUPIED<br>BANDWIDTH       | 26797 to 27033       | 26797, 26915,<br>27033 | 1.4MHz               | QPSK,16QAM,64QAM | 6 RB / 0 RB Offset                        |
|                          |                             | 26805 to 27025       | 26805, 26915,<br>27025 | 3MHz                 | QPSK,16QAM,64QAM | 15 RB / 0 RB Offset                       |
|                          |                             | 26815 to 27015       | 26815, 26915,<br>27015 | 5MHz                 | QPSK,16QAM,64QAM | 25 RB / 0 RB Offset                       |
|                          |                             | 26840 to 26990       | 26840, 26915,<br>26990 | 10MHz                | QPSK,16QAM,64QAM | 50 RB / 0 RB Offset                       |
|                          |                             | 26865 to 26965       | 26865, 26915,<br>26965 | 15MHz                | QPSK,16QAM,64QAM | 75 RB / 0 RB Offset                       |
| A                        | PEAK TO<br>AVERAGE<br>RATIO | 26697 to 26783       | 26697, 26740,<br>26783 | 1.4MHz               | QPSK,16QAM,64QAM | 1 RB / 0 RB Offset<br>6 RB / 0 RB Offset  |
|                          |                             | 26705 to 26775       | 26705, 26740,<br>26775 | 3MHz                 | QPSK,16QAM,64QAM | 1 RB / 0 RB Offset<br>15 RB / 0 RB Offset |

|   |                    |                |                     |         |                  |                                            |
|---|--------------------|----------------|---------------------|---------|------------------|--------------------------------------------|
|   |                    | 26715 to 26765 | 26715, 26740, 26765 | 5MHz    | QPSK,16QAM,64QAM | 1 RB / 0 RB Offset<br>25 RB / 0 RB Offset  |
|   |                    | 26740          | 26740               | 10MHz   | QPSK,16QAM,64QAM | 1 RB / 0 RB Offset<br>50 RB / 0 RB Offset  |
| A | BAND EDGE          | 26797 to 27033 | 26797               | 1.4 MHz | QPSK,16QAM,64QAM | 1 RB / 0 RB Offset<br>6 RB / 0 RB Offset   |
|   |                    | 26797 to 27033 | 27033               | 1.4 MHz | QPSK,16QAM,64QAM | 1 RB / 5 RB Offset<br>6 RB / 0 RB Offset   |
|   |                    | 26805 to 27025 | 26805               | 3 MHz   | QPSK,16QAM,64QAM | 1 RB / 0 RB Offset<br>15 RB / 0 RB Offset  |
|   |                    | 26805 to 27025 | 27025               | 3 MHz   | QPSK,16QAM,64QAM | 1 RB / 14 RB Offset<br>15 RB / 0 RB Offset |
|   |                    | 26815 to 27015 | 26815               | 5MHz    | QPSK,16QAM,64QAM | 1 RB / 0 RB Offset<br>25 RB / 0 RB Offset  |
|   |                    | 26815 to 27015 | 27015               | 5MHz    | QPSK,16QAM,64QAM | 1 RB / 24 RB Offset<br>25 RB / 0 RB Offset |
|   |                    | 26840 to 26990 | 26840               | 10MHz   | QPSK,16QAM,64QAM | 1 RB / 0 RB Offset<br>50 RB / 0 RB Offset  |
|   |                    | 26840 to 26990 | 26990               | 10MHz   | QPSK,16QAM,64QAM | 1 RB / 49 RB Offset<br>50 RB / 0 RB Offset |
|   |                    | 26865 to 26965 | 26865               | 15MHz   | QPSK,16QAM,64QAM | 1 RB / 0 RB Offset<br>75 RB / 0 RB Offset  |
|   |                    | 26865 to 26965 | 26965               | 15MHz   | QPSK,16QAM,64QAM | 1 RB / 74 RB Offset<br>75 RB / 0 RB Offset |
| A | CONDCUDED EMISSION | 26797 to 27033 | 26797, 26915, 27033 | 1.4MHz  | QPSK,16QAM,64QAM | 1 RB / 0 RB Offset                         |
|   |                    | 26805 to 27025 | 26805, 26915, 27025 | 3MHz    | QPSK,16QAM,64QAM | 1 RB / 0 RB Offset                         |
|   |                    | 26815 to 27015 | 26815, 26915, 27015 | 5MHz    | QPSK,16QAM,64QAM | 1 RB / 0 RB Offset                         |
|   |                    | 26840 to 26990 | 26840, 26915, 26990 | 10MHz   | QPSK,16QAM,64QAM | 1 RB / 0 RB Offset                         |
|   |                    | 26865 to 26965 | 26865, 26915, 26965 | 15MHz   | QPSK,16QAM,64QAM | 1 RB / 0 RB Offset                         |
| A | RADIATED EMISSION  | 26797 to 27033 | 26915               | 1.4MHz  | QPSK             | 1 RB / 0 RB Offset                         |
|   |                    | 26805 to 27025 | 26915               | 3MHz    | QPSK             | 1 RB / 0 RB Offset                         |
|   |                    | 26815 to 27015 | 26915               | 5MHz    | QPSK             | 1 RB / 0 RB Offset                         |
|   |                    | 26840 to 26990 | 26915               | 10MHz   | QPSK             | 1 RB / 0 RB Offset                         |
|   |                    | 26865 to 26965 | 26865, 26915, 26965 | 15MHz   | QPSK             | 1 RB / 0 RB Offset                         |

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

**TEST CONDITION:**

| TEST ITEM             | ENVIRONMENTAL CONDITIONS | INPUT POWER                    | TESTED BY |
|-----------------------|--------------------------|--------------------------------|-----------|
| ERP                   | 23deg. C, 70%RH          | DC 5V By Adapter               | Jace Hu   |
| FREQUENCY STABILITY   | 23deg. C, 70%RH          | DC 3.6V/3.7V/4.2V By DC Supply | James Fu  |
| OCCUPIED BANDWIDTH    | 23deg. C, 70%RH          | DC5V By Adapter                | James Fu  |
| BAND EDGE             | 23deg. C, 70%RH          | DC 5V By Adapter               | James Fu  |
| CONDUCTED EMISSION    | 23deg. C, 70%RH          | DC5V By Adapter                | James Fu  |
| RADIATED EMISSION     | 23deg. C, 70%RH          | DC5V By Adapter                | Jace Hu   |
| PEAK TO AVERAGE RATIO | 23deg. C, 70%RH          | DC5V By Adapter                | James Fu  |

**2.5 EUT OPERATING CONDITIONS**

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

## 2.6 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

**FCC 47 CFR Part 2**

**FCC 47 CFR Part 22**

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

**ANSI/TIA/EIA-603-D**

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

**ANSI C63.26-2015**

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

### 3 TEST TYPES AND RESULTS

#### 3.1 OUTPUT POWER MEASUREMENT

##### 3.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

Mobile / Portable station are limited to 7 watts e.r.p.

##### 3.1.2 TEST PROCEDURES

###### EIRP / ERP MEASUREMENT:

Per KDB 971168 D01 Power Meas License Digital Systems v03r01 or subclause 5.2.5.5 of ANSI C63.26-2015, the relevant equation for determining the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:

$$\text{ERP or EIRP} = P_{\text{Meas}} + G_T - L_C$$

Where:

ERP or EIRP = effective radiated power or equivalent isotropically radiated power, respectively

(expressed in the same units as  $P_{\text{Meas}}$ , typically dBW or dBm);

$P_{\text{Meas}}$  = measured transmitter output power or PSD, in dBm or dBW;

$G_T$  = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

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

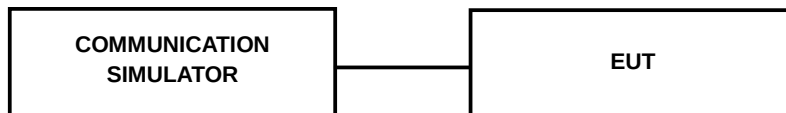
###### CONDUCTED POWER MEASUREMENT:

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

### 3.1.3 TEST SETUP

EIRP / ERP Measurement:

CONDUCTED POWER MEASUREMENT:



### 3.1.4 TEST RESULTS

CONDUCTED OUTPUT POWER (dBm)

| Band                  | GSM850 |              |       |
|-----------------------|--------|--------------|-------|
| Channel               | 128    | 189          | 251   |
| Frequency             | 824.2  | 836.4        | 848.8 |
| GSM                   | 32.05  | <b>32.12</b> | 32.02 |
| GPRS (GMSK, 1Tx-slot) | 32.04  | 32.10        | 31.99 |
| GPRS (GMSK, 2Tx-slot) | 30.25  | 30.09        | 30.23 |
| GPRS (GMSK, 3Tx-slot) | 28.73  | 28.64        | 28.65 |
| GPRS (GMSK, 4Tx-slot) | 27.20  | 27.07        | 27.16 |
| EDGE (8PSK, 1Tx-slot) | 25.71  | 26.07        | 25.95 |
| EDGE (8PSK, 2Tx-slot) | 25.42  | 25.77        | 25.69 |
| EDGE (8PSK, 3Tx-slot) | 21.71  | 21.69        | 21.70 |
| EDGE (8PSK, 4Tx-slot) | 20.68  | 20.65        | 20.63 |

| Band               | WCDMA V      |       |       |
|--------------------|--------------|-------|-------|
| Channel            | 4132         | 4182  | 4233  |
| Frequency          | 826.4        | 836.4 | 846.6 |
| RMC 12.2K          | <b>22.78</b> | 22.76 | 22.75 |
| HSDPA Subtest-1    | 21.76        | 21.68 | 21.73 |
| HSDPA Subtest-2    | 21.73        | 21.68 | 21.74 |
| HSDPA Subtest-3    | 21.24        | 21.21 | 21.20 |
| HSDPA Subtest-4    | 21.20        | 21.25 | 21.20 |
| DC-HSDPA Subtest-1 | 21.74        | 21.71 | 21.74 |
| DC-HSDPA Subtest-2 | 21.72        | 21.74 | 21.70 |
| DC-HSDPA Subtest-3 | 21.21        | 21.21 | 21.23 |
| DC-HSDPA Subtest-4 | 21.20        | 21.24 | 21.20 |
| HSUPA Subtest-1    | 19.26        | 19.18 | 19.23 |
| HSUPA Subtest-2    | 19.20        | 19.20 | 19.17 |
| HSUPA Subtest-3    | 19.22        | 19.24 | 19.19 |
| HSUPA Subtest-4    | 19.21        | 19.21 | 19.23 |
| HSUPA Subtest-5    | 21.42        | 21.39 | 21.40 |

LTE Band 5

| Band/BW | Modulation | RB Size | RB Offset | Low CH<br>20407        | Mid CH<br>20525        | High CH<br>20643       |
|---------|------------|---------|-----------|------------------------|------------------------|------------------------|
|         |            |         |           | Frequency<br>824.7 MHz | Frequency<br>836.5 MHz | Frequency<br>848.3 MHz |
| 5/ 1.4  | QPSK       | 1       | 0         | 22.50                  | 22.67                  | 22.50                  |
|         |            | 1       | 2         | 22.13                  | 22.41                  | 22.18                  |
|         |            | 1       | 5         | 22.25                  | 22.41                  | 22.30                  |
|         |            | 3       | 0         | 22.24                  | 22.48                  | 22.31                  |
|         |            | 3       | 1         | 22.22                  | 22.46                  | 22.28                  |
|         |            | 3       | 3         | 22.25                  | 22.61                  | 22.33                  |
|         |            | 6       | 0         | 21.25                  | 21.41                  | 21.30                  |
|         | 16QAM      | 1       | 0         | 21.40                  | 21.69                  | 21.43                  |
|         |            | 1       | 2         | 21.39                  | 21.68                  | 21.46                  |
|         |            | 1       | 5         | 21.42                  | 21.73                  | 21.52                  |
|         |            | 3       | 0         | 21.25                  | 21.41                  | 21.28                  |
|         |            | 3       | 1         | 21.26                  | 21.53                  | 21.33                  |
|         |            | 3       | 3         | 21.34                  | 21.67                  | 21.38                  |
|         |            | 6       | 0         | 20.26                  | 20.53                  | 20.38                  |
|         | 64QAM      | 1       | 0         | 20.28                  | 20.49                  | 20.25                  |
|         |            | 1       | 2         | 20.28                  | 20.64                  | 20.39                  |
|         |            | 1       | 5         | 20.41                  | 20.57                  | 20.39                  |
|         |            | 3       | 0         | 20.19                  | 20.48                  | 20.24                  |
|         |            | 3       | 1         | 20.23                  | 20.57                  | 20.31                  |
|         |            | 3       | 3         | 20.36                  | 20.55                  | 20.38                  |
|         |            | 6       | 0         | 19.28                  | 19.54                  | 19.32                  |

| Band/BW | Modulation | RB<br>Size | RB<br>Offset | Low CH<br>20415        | Mid CH<br>20525        | High CH<br>20635       |
|---------|------------|------------|--------------|------------------------|------------------------|------------------------|
|         |            |            |              | Frequency<br>825.5 MHz | Frequency<br>836.5 MHz | Frequency<br>847.5 MHz |
| 5/ 3    | QPSK       | 1          | 0            | 22.45                  | 22.66                  | 22.47                  |
|         |            | 1          | 7            | 22.11                  | 22.43                  | 22.21                  |
|         |            | 1          | 14           | 22.19                  | 22.47                  | 22.26                  |
|         |            | 8          | 0            | 21.21                  | 21.55                  | 21.30                  |
|         |            | 8          | 3            | 21.22                  | 21.46                  | 21.25                  |
|         |            | 8          | 7            | 21.25                  | 21.61                  | 21.36                  |
|         |            | 15         | 0            | 21.24                  | 21.41                  | 21.27                  |
|         | 16QAM      | 1          | 0            | 21.44                  | 21.63                  | 21.47                  |
|         |            | 1          | 7            | 21.38                  | 21.69                  | 21.43                  |
|         |            | 1          | 14           | 21.47                  | 21.69                  | 21.55                  |
|         |            | 8          | 0            | 20.25                  | 20.42                  | 20.25                  |
|         |            | 8          | 3            | 20.28                  | 20.51                  | 20.39                  |
|         |            | 8          | 7            | 20.39                  | 20.67                  | 20.36                  |
|         |            | 15         | 0            | 20.26                  | 20.53                  | 20.33                  |
|         | 64QAM      | 1          | 0            | 20.31                  | 20.48                  | 20.28                  |
|         |            | 1          | 7            | 20.31                  | 20.64                  | 20.37                  |
|         |            | 1          | 14           | 20.41                  | 20.57                  | 20.40                  |
|         |            | 8          | 0            | 19.19                  | 19.50                  | 19.27                  |
|         |            | 8          | 3            | 19.27                  | 19.51                  | 19.36                  |
|         |            | 8          | 7            | 19.33                  | 19.59                  | 19.34                  |
|         |            | 15         | 0            | 19.30                  | 19.51                  | 19.36                  |

| Band/BW | Modulation | RB<br>Size | RB<br>Offset | Low CH<br>20425        | Mid CH<br>20525        | High CH<br>20625       |
|---------|------------|------------|--------------|------------------------|------------------------|------------------------|
|         |            |            |              | Frequency<br>826.5 MHz | Frequency<br>836.5 MHz | Frequency<br>846.5 MHz |
| 5/ 5    | QPSK       | 1          | 0            | 22.47                  | 22.68                  | 22.47                  |
|         |            | 1          | 12           | 22.10                  | 22.47                  | 22.18                  |
|         |            | 1          | 24           | 22.23                  | 22.44                  | 22.31                  |
|         |            | 12         | 0            | 21.23                  | 21.54                  | 21.27                  |
|         |            | 12         | 6            | 21.19                  | 21.46                  | 21.31                  |
|         |            | 12         | 13           | 21.25                  | 21.60                  | 21.33                  |
|         |            | 25         | 0            | 21.27                  | 21.38                  | 21.29                  |
|         | 16QAM      | 1          | 0            | 21.38                  | 21.65                  | 21.40                  |
|         |            | 1          | 12           | 21.40                  | 21.71                  | 21.42                  |
|         |            | 1          | 24           | 21.43                  | 21.70                  | 21.55                  |
|         |            | 12         | 0            | 20.21                  | 20.42                  | 20.25                  |
|         |            | 12         | 6            | 20.27                  | 20.54                  | 20.39                  |
|         |            | 12         | 13           | 20.32                  | 20.67                  | 20.38                  |
|         |            | 25         | 0            | 20.23                  | 20.60                  | 20.37                  |
|         | 64QAM      | 1          | 0            | 20.28                  | 20.49                  | 20.22                  |
|         |            | 1          | 12           | 20.28                  | 20.65                  | 20.42                  |
|         |            | 1          | 24           | 20.39                  | 20.60                  | 20.33                  |
|         |            | 12         | 0            | 19.21                  | 19.52                  | 19.29                  |
|         |            | 12         | 6            | 19.21                  | 19.58                  | 19.35                  |
|         |            | 12         | 13           | 19.37                  | 19.58                  | 19.31                  |
|         |            | 25         | 0            | 19.26                  | 19.57                  | 19.34                  |

| Band/BW | Modulation | RB<br>Size | RB<br>Offset | Low CH<br>20450      | Mid CH<br>20525        | High CH<br>20600     |
|---------|------------|------------|--------------|----------------------|------------------------|----------------------|
|         |            |            |              | Frequency<br>829 MHz | Frequency<br>836.5 MHz | Frequency<br>844 MHz |
| 5/ 10   | QPSK       | 1          | 0            | 22.51                | <b>22.73</b>           | 22.52                |
|         |            | 1          | 24           | 22.18                | 22.48                  | 22.23                |
|         |            | 1          | 49           | 22.27                | 22.49                  | 22.32                |
|         |            | 25         | 0            | 21.29                | 21.56                  | 21.32                |
|         |            | 25         | 12           | 21.26                | 21.51                  | 21.33                |
|         |            | 25         | 25           | 21.33                | 21.62                  | 21.38                |
|         |            | 50         | 0            | 21.29                | 21.46                  | 21.31                |
|         | 16QAM      | 1          | 0            | 21.46                | 21.71                  | 21.48                |
|         |            | 1          | 24           | 21.46                | 21.73                  | 21.48                |
|         |            | 1          | 49           | 21.50                | 21.75                  | 21.57                |
|         |            | 25         | 0            | 20.27                | 20.49                  | 20.30                |
|         |            | 25         | 12           | 20.34                | 20.59                  | 20.41                |
|         |            | 25         | 25           | 20.40                | 20.69                  | 20.44                |
|         |            | 50         | 0            | 20.31                | 20.61                  | 20.39                |
|         | 64QAM      | 1          | 0            | 20.32                | 20.54                  | 20.30                |
|         |            | 1          | 24           | 20.36                | 20.66                  | 20.44                |
|         |            | 1          | 49           | 20.43                | 20.65                  | 20.41                |
|         |            | 25         | 0            | 19.27                | 19.54                  | 19.32                |
|         |            | 25         | 12           | 19.29                | 19.59                  | 19.37                |
|         |            | 25         | 25           | 19.41                | 19.63                  | 19.39                |
|         |            | 50         | 0            | 19.32                | 19.59                  | 19.37                |



**BUREAU  
VERITAS**

**Test Report No.: W7L-P23100014RF04**

**LTE BAND 26**

| Band/BW | Modulation | RB<br>Size | RB<br>Offset | Low CH<br>26797        | Mid CH<br>26915        | High CH<br>27033       |
|---------|------------|------------|--------------|------------------------|------------------------|------------------------|
|         |            |            |              | Frequency<br>824.7 MHz | Frequency<br>836.5 MHz | Frequency<br>848.3 MHz |
| 26/ 1.4 | QPSK       | 1          | 0            | 22.32                  | 22.26                  | 22.42                  |
|         |            | 1          | 2            | 22.35                  | 22.25                  | 22.40                  |
|         |            | 1          | 5            | 22.13                  | 22.16                  | 22.30                  |
|         |            | 3          | 0            | 22.21                  | 22.05                  | 22.25                  |
|         |            | 3          | 1            | 22.13                  | 22.06                  | 22.21                  |
|         |            | 3          | 3            | 22.15                  | 22.17                  | 22.32                  |
|         |            | 6          | 0            | 21.37                  | 21.34                  | 21.48                  |
|         | 16QAM      | 1          | 0            | 21.48                  | 21.52                  | 21.65                  |
|         |            | 1          | 2            | 21.79                  | 21.79                  | 21.93                  |
|         |            | 1          | 5            | 21.78                  | 21.71                  | 21.87                  |
|         |            | 3          | 0            | 21.30                  | 21.28                  | 21.47                  |
|         |            | 3          | 1            | 21.35                  | 21.23                  | 21.43                  |
|         |            | 3          | 3            | 21.30                  | 21.37                  | 21.46                  |
|         |            | 6          | 0            | 20.31                  | 20.20                  | 20.42                  |
|         | 64QAM      | 1          | 0            | 20.39                  | 20.45                  | 20.54                  |
|         |            | 1          | 2            | 20.26                  | 20.16                  | 20.26                  |
|         |            | 1          | 5            | 20.02                  | 19.92                  | 20.14                  |
|         |            | 3          | 0            | 20.42                  | 20.39                  | 20.56                  |
|         |            | 3          | 1            | 20.49                  | 20.41                  | 20.47                  |
|         |            | 3          | 3            | 20.37                  | 20.34                  | 20.57                  |
|         |            | 6          | 0            | 19.41                  | 19.36                  | 19.50                  |

| Band/BW | Modulation | RB<br>Size | RB<br>Offset | Low CH<br>26805        | Mid CH<br>26915        | High CH<br>27025       |
|---------|------------|------------|--------------|------------------------|------------------------|------------------------|
|         |            |            |              | Frequency<br>825.5 MHz | Frequency<br>836.5 MHz | Frequency<br>847.5 MHz |
| 26/ 3   | QPSK       | 1          | 0            | 22.29                  | 22.26                  | 22.41                  |
|         |            | 1          | 7            | 22.35                  | 22.25                  | 22.46                  |
|         |            | 1          | 14           | 22.16                  | 22.12                  | 22.31                  |
|         |            | 8          | 0            | 21.40                  | 21.26                  | 21.45                  |
|         |            | 8          | 3            | 21.27                  | 21.32                  | 21.40                  |
|         |            | 8          | 7            | 21.37                  | 21.40                  | 21.52                  |
|         |            | 15         | 0            | 21.32                  | 21.34                  | 21.41                  |
|         | 16QAM      | 1          | 0            | 21.48                  | 21.55                  | 21.68                  |
|         |            | 1          | 7            | 21.74                  | 21.83                  | 21.94                  |
|         |            | 1          | 14           | 21.78                  | 21.70                  | 21.87                  |
|         |            | 8          | 0            | 20.28                  | 20.30                  | 20.47                  |
|         |            | 8          | 3            | 20.31                  | 20.29                  | 20.43                  |
|         |            | 8          | 7            | 20.31                  | 20.36                  | 20.46                  |
|         |            | 15         | 0            | 20.27                  | 20.21                  | 20.42                  |
|         | 64QAM      | 1          | 0            | 20.40                  | 20.44                  | 20.54                  |
|         |            | 1          | 7            | 20.21                  | 20.20                  | 20.26                  |
|         |            | 1          | 14           | 19.96                  | 19.98                  | 20.13                  |
|         |            | 8          | 0            | 19.44                  | 19.42                  | 19.54                  |
|         |            | 8          | 3            | 19.42                  | 19.42                  | 19.52                  |
|         |            | 8          | 7            | 19.38                  | 19.37                  | 19.53                  |
|         |            | 15         | 0            | 19.36                  | 19.40                  | 19.54                  |

| Band/BW | Modulation | RB<br>Size | RB<br>Offset | Low CH<br>26815        | Mid CH<br>26915        | High CH<br>27015       |
|---------|------------|------------|--------------|------------------------|------------------------|------------------------|
|         |            |            |              | Frequency<br>826.5 MHz | Frequency<br>836.5 MHz | Frequency<br>846.5 MHz |
| 26/ 5   | QPSK       | 1          | 0            | 22.28                  | 22.26                  | 22.46                  |
|         |            | 1          | 12           | 22.30                  | 22.28                  | 22.43                  |
|         |            | 1          | 24           | 22.13                  | 22.18                  | 22.31                  |
|         |            | 12         | 0            | 21.36                  | 21.30                  | 21.46                  |
|         |            | 12         | 6            | 21.31                  | 21.28                  | 21.41                  |
|         |            | 12         | 13           | 21.33                  | 21.44                  | 21.52                  |
|         |            | 25         | 0            | 21.33                  | 21.31                  | 21.44                  |
|         | 16QAM      | 1          | 0            | 21.53                  | 21.52                  | 21.68                  |
|         |            | 1          | 12           | 21.74                  | 21.81                  | 21.90                  |
|         |            | 1          | 24           | 21.77                  | 21.72                  | 21.82                  |
|         |            | 12         | 0            | 20.34                  | 20.29                  | 20.50                  |
|         |            | 12         | 6            | 20.31                  | 20.23                  | 20.40                  |
|         |            | 12         | 13           | 20.37                  | 20.39                  | 20.49                  |
|         |            | 25         | 0            | 20.28                  | 20.20                  | 20.38                  |
|         | 64QAM      | 1          | 0            | 20.46                  | 20.43                  | 20.60                  |
|         |            | 1          | 12           | 20.24                  | 20.20                  | 20.24                  |
|         |            | 1          | 24           | 20.02                  | 19.91                  | 20.13                  |
|         |            | 12         | 0            | 19.40                  | 19.43                  | 19.53                  |
|         |            | 12         | 6            | 19.48                  | 19.35                  | 19.50                  |
|         |            | 12         | 13           | 19.34                  | 19.38                  | 19.56                  |
|         |            | 25         | 0            | 19.40                  | 19.34                  | 19.49                  |

| Band/BW | Modulation | RB<br>Size | RB<br>Offset | Low CH<br>26840      | Mid CH<br>26915        | High CH<br>26990     |
|---------|------------|------------|--------------|----------------------|------------------------|----------------------|
|         |            |            |              | Frequency<br>829 MHz | Frequency<br>836.5 MHz | Frequency<br>844 MHz |
| 26/10   | QPSK       | 1          | 0            | 22.33                | 22.27                  | 22.45                |
|         |            | 1          | 24           | 22.32                | 22.26                  | 22.43                |
|         |            | 1          | 49           | 22.19                | 22.12                  | 22.34                |
|         |            | 25         | 0            | 21.39                | 21.23                  | 21.39                |
|         |            | 25         | 12           | 21.31                | 21.28                  | 21.40                |
|         |            | 25         | 25           | 21.33                | 21.44                  | 21.52                |
|         |            | 50         | 0            | 21.34                | 21.31                  | 21.44                |
|         | 16QAM      | 1          | 0            | 21.49                | 21.58                  | 21.68                |
|         |            | 1          | 24           | 21.75                | 21.80                  | 21.97                |
|         |            | 1          | 49           | 21.72                | 21.76                  | 21.83                |
|         |            | 25         | 0            | 20.34                | 20.28                  | 20.51                |
|         |            | 25         | 12           | 20.29                | 20.25                  | 20.40                |
|         |            | 25         | 25           | 20.32                | 20.39                  | 20.49                |
|         |            | 50         | 0            | 20.28                | 20.20                  | 20.39                |
|         | 64QAM      | 1          | 0            | 20.43                | 20.44                  | 20.60                |
|         |            | 1          | 24           | 20.21                | 20.20                  | 20.24                |
|         |            | 1          | 49           | 20.02                | 19.91                  | 20.09                |
|         |            | 25         | 0            | 19.40                | 19.41                  | 19.59                |
|         |            | 25         | 12           | 19.44                | 19.41                  | 19.45                |
|         |            | 25         | 25           | 19.37                | 19.34                  | 19.57                |
|         |            | 50         | 0            | 19.38                | 19.37                  | 19.53                |

| Band/BW | Modulation | RB<br>Size | RB<br>Offset | Low CH<br>26865        | Mid CH<br>26915        | High CH<br>26965       |
|---------|------------|------------|--------------|------------------------|------------------------|------------------------|
|         |            |            |              | Frequency<br>831.5 MHz | Frequency<br>836.5 MHz | Frequency<br>841.5 MHz |
| 26/ 15  | QPSK       | 1          | 0            | 22.34                  | 22.33                  | 22.47                  |
|         |            | 1          | 37           | 22.37                  | 22.33                  | <b>22.48</b>           |
|         |            | 1          | 74           | 22.21                  | 22.20                  | 22.36                  |
|         |            | 36         | 0            | 21.44                  | 21.31                  | 21.47                  |
|         |            | 36         | 19           | 21.35                  | 21.33                  | 21.46                  |
|         |            | 36         | 39           | 21.41                  | 21.45                  | 21.54                  |
|         |            | 75         | 0            | 21.38                  | 21.36                  | 21.49                  |
|         | 16QAM      | 1          | 0            | 21.55                  | 21.60                  | 21.70                  |
|         |            | 1          | 37           | 21.82                  | 21.85                  | 21.98                  |
|         |            | 1          | 74           | 21.80                  | 21.78                  | 21.88                  |
|         |            | 36         | 0            | 20.36                  | 20.36                  | 20.52                  |
|         |            | 36         | 19           | 20.37                  | 20.31                  | 20.45                  |
|         |            | 36         | 39           | 20.38                  | 20.41                  | 20.51                  |
|         |            | 75         | 0            | 20.33                  | 20.28                  | 20.44                  |
|         | 64QAM      | 1          | 0            | 20.47                  | 20.49                  | 20.62                  |
|         |            | 1          | 37           | 20.29                  | 20.22                  | 20.32                  |
|         |            | 1          | 74           | 20.04                  | 19.99                  | 20.15                  |
|         |            | 36         | 0            | 19.48                  | 19.47                  | 19.61                  |
|         |            | 36         | 19           | 19.50                  | 19.43                  | 19.53                  |
|         |            | 36         | 39           | 19.42                  | 19.42                  | 19.58                  |
|         |            | 75         | 0            | 19.42                  | 19.42                  | 19.55                  |

## ERP POWER (dBm)

### GSM

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 128     | 824.2           | 32.05                 | -3                                  | 26.9      | 489.78   | 7         |
| 189     | 836.4           | 32.12                 | -3                                  | 26.97     | 497.74   | 7         |
| 251     | 848.8           | 32.02                 | -3                                  | 26.87     | 486.41   | 7         |

**REMARKS:** ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

### EDGE

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 128     | 824.2           | 25.71                 | -3                                  | 20.56     | 113.76   | 7         |
| 189     | 836.4           | 26.07                 | -3                                  | 20.92     | 123.59   | 7         |
| 251     | 848.8           | 25.95                 | -3                                  | 20.8      | 120.23   | 7         |

**REMARKS:** ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

### WCDMA

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 4132    | 826.4           | 22.78                 | -3                                  | 17.63     | 57.94    | 7         |
| 4182    | 836.4           | 22.76                 | -3                                  | 17.61     | 57.68    | 7         |
| 4233    | 846.6           | 22.75                 | -3                                  | 17.6      | 57.54    | 7         |

**REMARKS:** ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

**LTE BAND 5**

**CHANNEL BANDWIDTH: 1.4MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 20407   | 824.7           | 22.5                  | -3                                  | 17.35     | 54.33    | 7         |
| 20525   | 836.5           | 22.67                 | -3                                  | 17.52     | 56.49    | 7         |
| 20643   | 848.3           | 22.5                  | -3                                  | 17.35     | 54.33    | 7         |

**CHANNEL BANDWIDTH: 1.4MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 20407   | 824.7           | 21.42                 | -3                                  | 16.27     | 42.36    | 7         |
| 20525   | 836.5           | 21.73                 | -3                                  | 16.58     | 45.5     | 7         |
| 20643   | 848.3           | 21.52                 | -3                                  | 16.37     | 43.35    | 7         |

**CHANNEL BANDWIDTH: 1.4MHz 64QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 20407   | 824.7           | 20.41                 | -3                                  | 15.26     | 33.57    | 7         |
| 20525   | 836.5           | 20.64                 | -3                                  | 15.49     | 35.4     | 7         |
| 20643   | 848.3           | 20.39                 | -3                                  | 15.24     | 33.42    | 7         |

**CHANNEL BANDWIDTH: 3MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 20415   | 825.5           | 22.45                 | -3                                  | 17.3      | 53.7     | 7         |
| 20525   | 836.5           | 22.66                 | -3                                  | 17.51     | 56.36    | 7         |
| 20635   | 847.5           | 22.47                 | -3                                  | 17.32     | 53.95    | 7         |

**CHANNEL BANDWIDTH: 3MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 20415   | 825.5           | 21.47                 | -3                                  | 16.32     | 42.85    | 7         |
| 20525   | 836.5           | 21.69                 | -3                                  | 16.54     | 45.08    | 7         |
| 20635   | 847.5           | 21.55                 | -3                                  | 16.4      | 43.65    | 7         |



**BUREAU  
VERITAS**

Test Report No.: W7L-P23100014RF04

**CHANNEL BANDWIDTH: 3MHz 64QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 20415   | 825.5           | 20.41                 | -3                                  | 15.26     | 33.57    | 7         |
| 20525   | 836.5           | 20.64                 | -3                                  | 15.49     | 35.4     | 7         |
| 20635   | 847.5           | 20.4                  | -3                                  | 15.25     | 33.5     | 7         |

**CHANNEL BANDWIDTH: 5MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 20425   | 826.5           | 22.47                 | -3                                  | 17.32     | 53.95    | 7         |
| 20525   | 836.5           | 22.68                 | -3                                  | 17.53     | 56.62    | 7         |
| 20625   | 846.5           | 22.47                 | -3                                  | 17.32     | 53.95    | 7         |

**CHANNEL BANDWIDTH: 5MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 20425   | 826.5           | 21.43                 | -3                                  | 16.28     | 42.46    | 7         |
| 20525   | 836.5           | 21.71                 | -3                                  | 16.56     | 45.29    | 7         |
| 20625   | 846.5           | 21.55                 | -3                                  | 16.4      | 43.65    | 7         |

**CHANNEL BANDWIDTH: 5MHz 64QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 20425   | 826.5           | 20.39                 | -3                                  | 15.24     | 33.42    | 7         |
| 20525   | 836.5           | 20.65                 | -3                                  | 15.5      | 35.48    | 7         |
| 20625   | 846.5           | 20.42                 | -3                                  | 15.27     | 33.65    | 7         |

**CHANNEL BANDWIDTH: 10MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>c</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 20450   | 829.0           | 22.51                 | -3                                  | 17.36     | 54.45    | 7         |
| 20525   | 836.5           | 22.73                 | -3                                  | 17.58     | 57.28    | 7         |
| 20600   | 844.0           | 22.52                 | -3                                  | 17.37     | 54.58    | 7         |

**CHANNEL BANDWIDTH: 10MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>c</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 20450   | 829.0           | 21.5                  | -3                                  | 16.35     | 43.15    | 7         |
| 20525   | 836.5           | 21.75                 | -3                                  | 16.6      | 45.71    | 7         |
| 20600   | 844.0           | 21.57                 | -3                                  | 16.42     | 43.85    | 7         |

**CHANNEL BANDWIDTH: 10MHz 64QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>c</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 20450   | 829.0           | 20.43                 | -3                                  | 15.28     | 33.73    | 7         |
| 20525   | 836.5           | 20.66                 | -3                                  | 15.51     | 35.56    | 7         |
| 20600   | 844.0           | 20.44                 | -3                                  | 15.29     | 33.81    | 7         |

**REMARKS:** ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

**LTE BAND 26**

**CHANNEL BANDWIDTH: 1.4MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 26797   | 824.7           | 22.35                 | -3                                  | 17.2      | 52.48    | 7         |
| 26915   | 836.5           | 22.26                 | -3                                  | 17.11     | 51.4     | 7         |
| 27033   | 848.3           | 22.42                 | -3                                  | 17.27     | 53.33    | 7         |

**CHANNEL BANDWIDTH: 1.4MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 26797   | 824.7           | 21.79                 | -3                                  | 16.64     | 46.13    | 7         |
| 26915   | 836.5           | 21.79                 | -3                                  | 16.64     | 46.13    | 7         |
| 27033   | 848.3           | 21.93                 | -3                                  | 16.78     | 47.64    | 7         |

**CHANNEL BANDWIDTH: 1.4MHz 64QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 26797   | 824.7           | 20.49                 | -3                                  | 15.34     | 34.2     | 7         |
| 26915   | 836.5           | 20.45                 | -3                                  | 15.3      | 33.88    | 7         |
| 27033   | 848.3           | 20.57                 | -3                                  | 15.42     | 34.83    | 7         |

**CHANNEL BANDWIDTH: 3MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 26805   | 825.5           | 22.35                 | -3                                  | 17.2      | 52.48    | 7         |
| 26915   | 836.5           | 22.26                 | -3                                  | 17.11     | 51.4     | 7         |
| 27025   | 847.5           | 22.46                 | -3                                  | 17.31     | 53.83    | 7         |

**CHANNEL BANDWIDTH: 3MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 26805   | 825.5           | 21.78                 | -3                                  | 16.63     | 46.03    | 7         |
| 26915   | 836.5           | 21.83                 | -3                                  | 16.68     | 46.56    | 7         |
| 27025   | 847.5           | 21.94                 | -3                                  | 16.79     | 47.75    | 7         |

**CHANNEL BANDWIDTH: 3MHz 64QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 26805   | 825.5           | 20.4                  | -3                                  | 15.25     | 33.5     | 7         |
| 26915   | 836.5           | 20.44                 | -3                                  | 15.29     | 33.81    | 7         |
| 27025   | 847.5           | 20.54                 | -3                                  | 15.39     | 34.59    | 7         |

**CHANNEL BANDWIDTH: 5MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 26815   | 826.5           | 22.3                  | -3                                  | 17.15     | 51.88    | 7         |
| 26915   | 836.5           | 22.28                 | -3                                  | 17.13     | 51.64    | 7         |
| 27015   | 846.5           | 22.46                 | -3                                  | 17.31     | 53.83    | 7         |

**CHANNEL BANDWIDTH: 5MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 26815   | 826.5           | 21.77                 | -3                                  | 16.62     | 45.92    | 7         |
| 26915   | 836.5           | 21.81                 | -3                                  | 16.66     | 46.34    | 7         |
| 27015   | 846.5           | 21.9                  | -3                                  | 16.75     | 47.32    | 7         |

**CHANNEL BANDWIDTH: 5MHz 64QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 26815   | 826.5           | 20.46                 | -3                                  | 15.31     | 33.96    | 7         |
| 26915   | 836.5           | 20.43                 | -3                                  | 15.28     | 33.73    | 7         |
| 27015   | 846.5           | 20.6                  | -3                                  | 15.45     | 35.08    | 7         |

**CHANNEL BANDWIDTH: 10MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 26840   | 829             | 22.33                 | -3                                  | 17.18     | 52.24    | 7         |
| 26915   | 836.5           | 22.27                 | -3                                  | 17.12     | 51.52    | 7         |
| 26990   | 844             | 22.45                 | -3                                  | 17.3      | 53.7     | 7         |

**CHANNEL BANDWIDTH: 10MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 26840   | 829             | 21.75                 | -3                                  | 16.6      | 45.71    | 7         |
| 26915   | 836.5           | 21.8                  | -3                                  | 16.65     | 46.24    | 7         |
| 26990   | 844             | 21.97                 | -3                                  | 16.82     | 48.08    | 7         |

**CHANNEL BANDWIDTH: 10MHz 64QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 26840   | 829             | 20.43                 | -3                                  | 15.28     | 33.73    | 7         |
| 26915   | 836.5           | 20.44                 | -3                                  | 15.29     | 33.81    | 7         |
| 26990   | 844             | 20.6                  | -3                                  | 15.45     | 35.08    | 7         |

**CHANNEL BANDWIDTH: 15MHz QPSK**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 26865   | 831.5           | 22.37                 | -3                                  | 17.22     | 52.72    | 7         |
| 26915   | 836.5           | 22.33                 | -3                                  | 17.18     | 52.24    | 7         |
| 26965   | 841.5           | 22.48                 | -3                                  | 17.33     | 54.08    | 7         |

**CHANNEL BANDWIDTH: 15MHz 16QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 26865   | 831.5           | 21.82                 | -3                                  | 16.67     | 46.45    | 7         |
| 26915   | 836.5           | 21.85                 | -3                                  | 16.7      | 46.77    | 7         |
| 26965   | 841.5           | 21.98                 | -3                                  | 16.83     | 48.19    | 7         |

**CHANNEL BANDWIDTH: 15MHz 64QAM**

| Channel | Frequency (MHz) | Conducted Power (dBm) | G <sub>T</sub> -L <sub>C</sub> (dB) | ERP (dBm) | ERP (mW) | Limit (W) |
|---------|-----------------|-----------------------|-------------------------------------|-----------|----------|-----------|
| 26865   | 831.5           | 20.47                 | -3                                  | 15.32     | 34.04    | 7         |
| 26915   | 836.5           | 20.49                 | -3                                  | 15.34     | 34.2     | 7         |
| 26965   | 841.5           | 20.62                 | -3                                  | 15.47     | 35.24    | 7         |

**REMARKS:** ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

## 3.2 FREQUENCY STABILITY MEASUREMENT

### 3.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

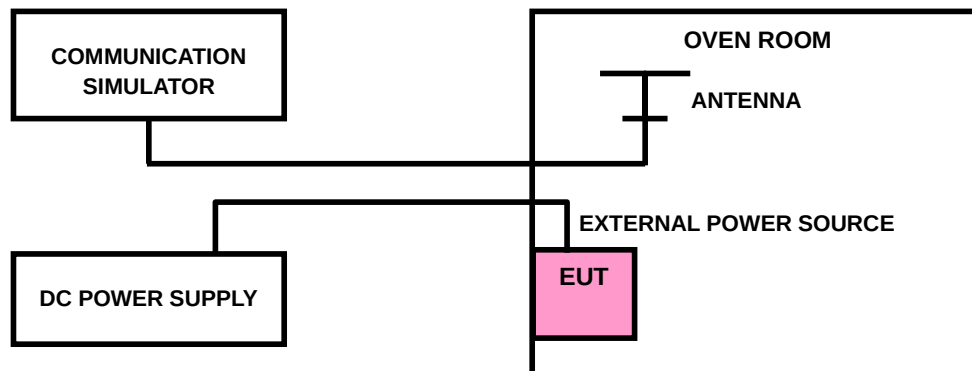
1.5 ppm is for base and fixed station. 2.5 ppm is for mobile station.

### 3.2.2 TEST PROCEDURE

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

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

### 3.2.3 TEST SETUP





Test Report No.: W7L-P23100014RF04

### 3.2.4 TEST RESULTS

Please Refer to Appendix Of this test report.

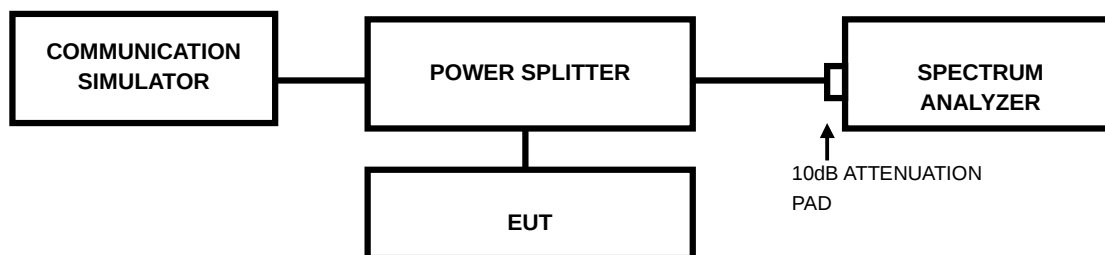
Note: VL = Low voltage(3.6V); VN/NV = Normal voltage(3.7V); VH = High voltage(4.2V);  
NT = Normal temperature (25°C)

### 3.3 OCCUPIED BANDWIDTH MEASUREMENT

#### 3.3.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT

The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 %of the total mean power of a given emission.

#### 3.3.2 TEST SETUP



#### 3.3.3 TEST PROCEDURES

- The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
- Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.



Test Report No.: W7L-P23100014RF04

### 3.3.4 TEST RESULTS

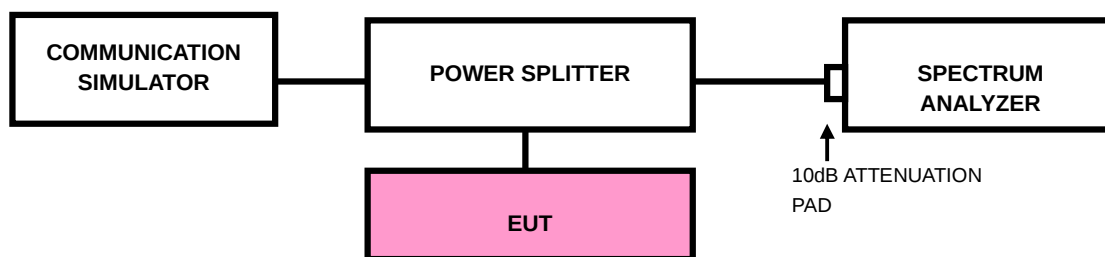
Please Refer to Appendix Of this test report.

### 3.4 BAND EDGE MEASUREMENT

#### 3.4.1 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.

#### 3.4.2 TEST SETUP



### 3.4.3 TEST PROCEDURES

- a) All measurements were done at low and high operational frequency range
- b) Connect the transmitter to the spectrum analyzer via coaxial cable while ensuring proper impedance matching.
- c) Tune the analyzer to the nominal center frequency of the emission bandwidth (EBW)
- d) .Set the resolution bandwidth (RBW)  $\geq 1\%$  EBW in the 1MHz band immediately outside and adjacent to the band edge.
- e) Beyond the 1MHz band from the band edge, RBW=1MHz was used.
- f) Set the video bandwidth (VBW) to  $\geq 3 \times$  RBW.
- g) Select the average power (RMS) display detector.
- h) Set the number of measurement points to  $\geq 1001$ .
- i) Use auto-coupled sweep time.
- j) Perform the measurement over an interval of time when the transmission is continuous and at its maximum power level.
- k) The RF fundamental frequency should be excluded against the limit line in the operating frequency band and use RBW is 10KHz or 100KHz.
- l) Record the max trace plot into the test report.



Test Report No.: W7L-P23100014RF04

#### 3.4.4 TEST RESULTS

Please Refer to Appendix Of this test report.

### 3.5 CONDUCTED SPURIOUS EMISSIONS

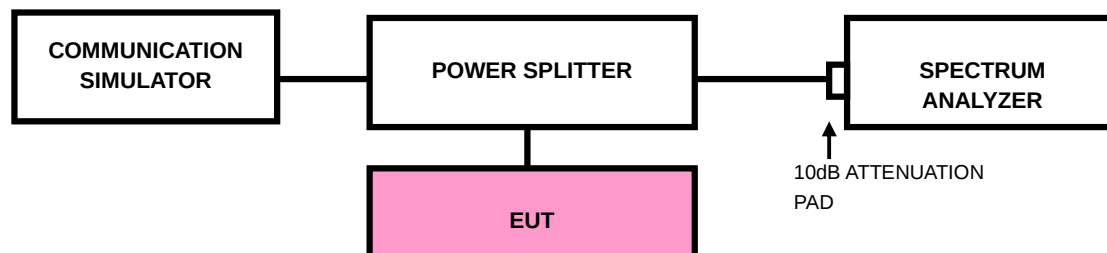
#### 3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

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

#### 3.5.2 TEST PROCEDURE

- a. The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
- b. Measuring frequency range is from 9kHz up to a frequency including its 10<sup>th</sup> harmonic. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

#### 3.5.3 TEST SETUP





Test Report No.: W7L-P23100014RF04

#### 3.5.4 TEST RESULTS

NOTE : The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

Please Refer to Appendix Of this test report.

### 3.6 RADIATED EMISSION MEASUREMENT

#### 3.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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

#### 3.6.2 TEST PROCEDURES

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

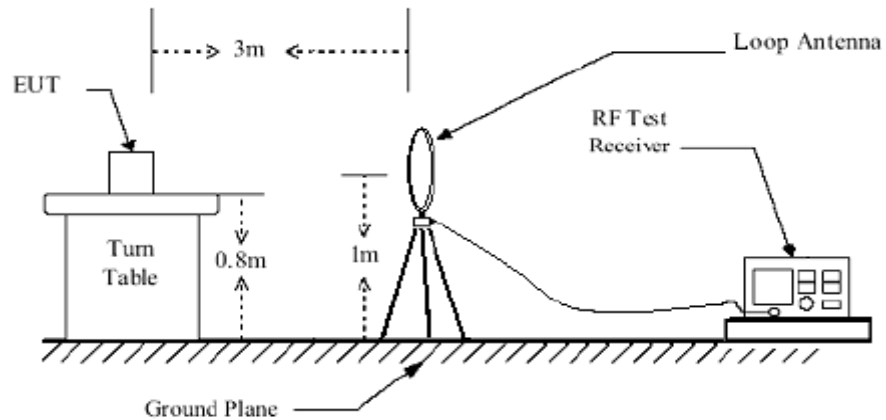
**NOTE:** The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

#### 3.6.3 DEVIATION FROM TEST STANDARD

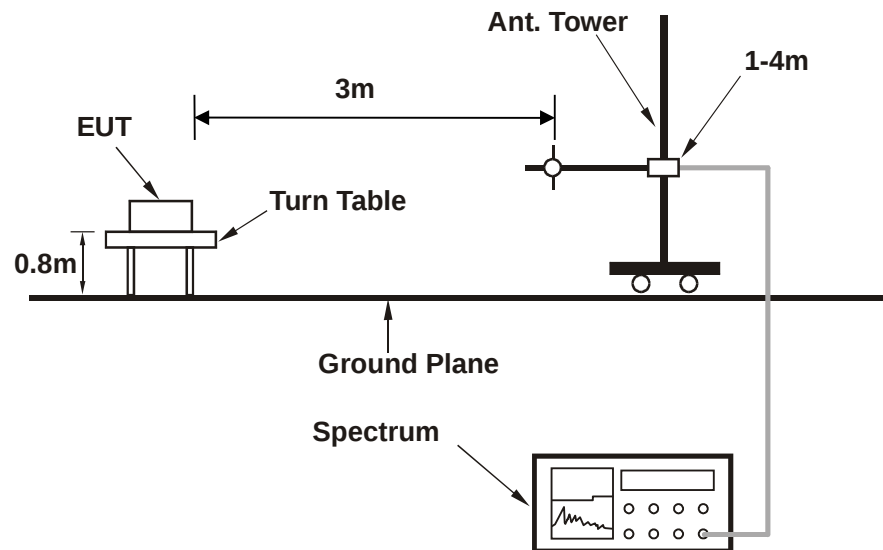
No deviation

### 3.6.4 TEST SETUP

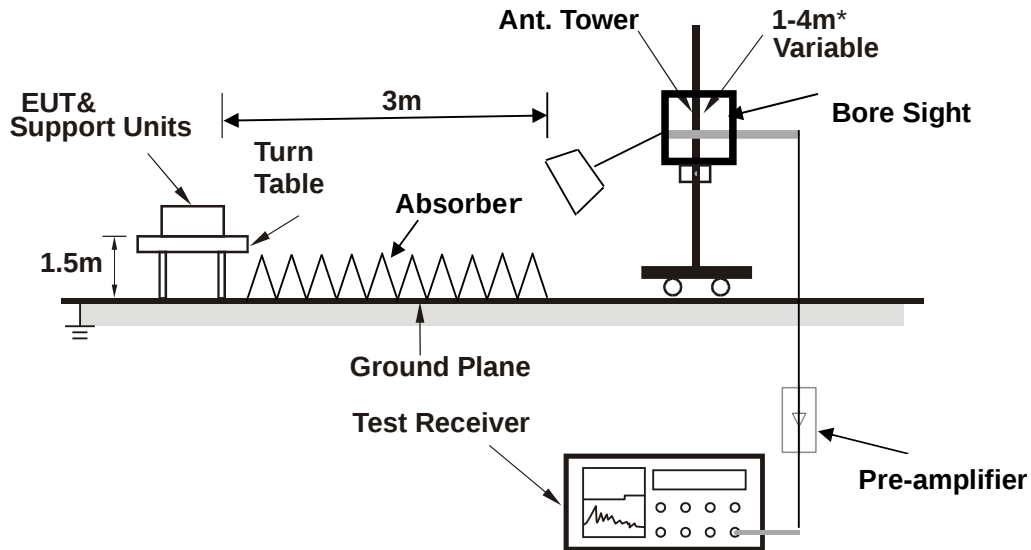
#### < Frequency Range below 30MHz >



#### < Frequency Range 30MHz~1GHz >



<Frequency Range above 1GHz>



**Note:** Above 1G is a directional antenna

Depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

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

### 3.6.5 TEST RESULTS

NOTE : The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

#### BELOW 1GHz WORST-CASE DATA

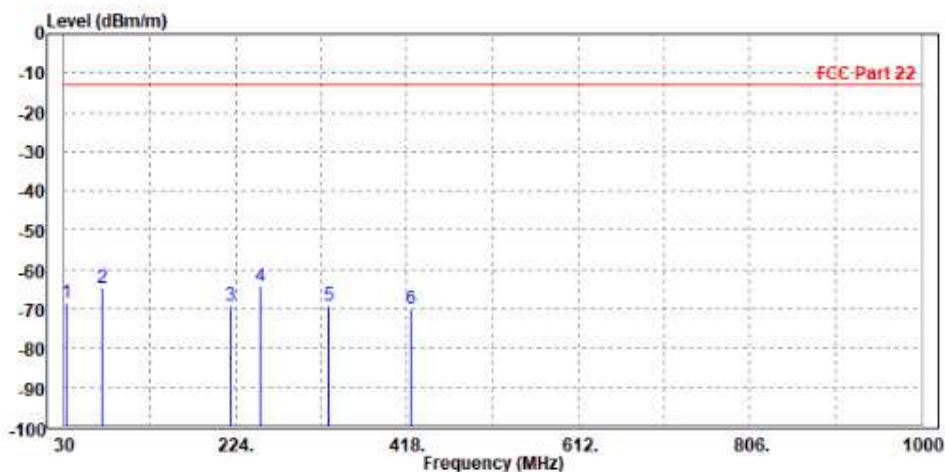
30 MHz – 1GHz data:

EDGE 850:

CHANNEL BANDWIDTH: 128 ~ 251

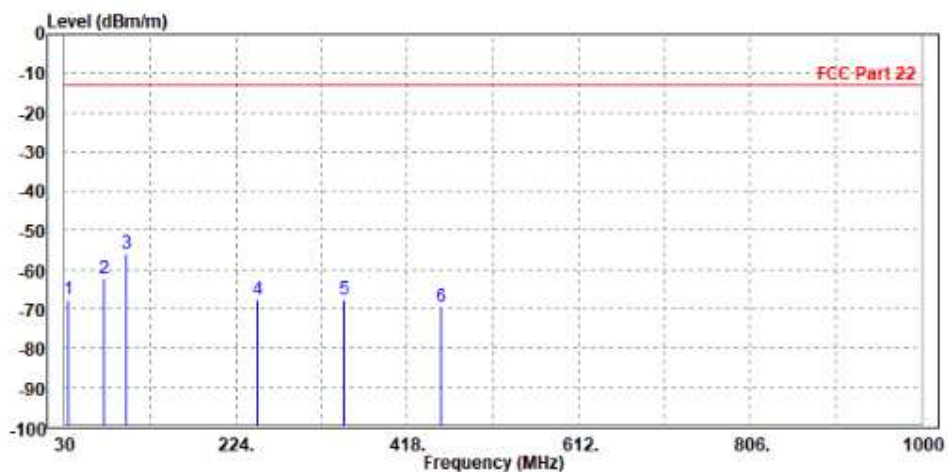
|                                                     |                 |                 |               |
|-----------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                                | TX channel 189  | FREQUENCY RANGE | Below 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                 |                 |               |

|      | Freq    | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase  |
|------|---------|--------|------------|------------|------------|--------|--------|------------|
|      | MHz     | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |            |
| 1    | 31.940  | -68.45 | -58.85     | -13.00     | -55.45     | -9.60  | Peak   | Horizontal |
| 2    | 72.680  | -64.79 | -43.54     | -13.00     | -51.79     | -21.25 | Peak   | Horizontal |
| 3    | 218.180 | -69.25 | -54.00     | -13.00     | -56.25     | -15.25 | Peak   | Horizontal |
| 4 PP | 252.130 | -64.42 | -52.92     | -13.00     | -51.42     | -11.50 | Peak   | Horizontal |
| 5    | 328.760 | -69.02 | -57.26     | -13.00     | -56.02     | -11.76 | Peak   | Horizontal |
| 6    | 422.850 | -69.97 | -60.35     | -13.00     | -56.97     | -9.62  | Peak   | Horizontal |



|                                                   |                 |                 |               |
|---------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                              | TX channel 189  | FREQUENCY RANGE | Below 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                 |                 |               |

|      | Freq    | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|------|---------|--------|------------|------------|------------|--------|--------|-----------|
|      | MHz     | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |           |
| 1    | 34.850  | -67.74 | -47.17     | -13.00     | -54.74     | -20.57 | Peak   | Vertical  |
| 2    | 74.620  | -62.44 | -41.39     | -13.00     | -49.44     | -21.05 | Peak   | Vertical  |
| 3 PP | 99.840  | -55.72 | -49.21     | -13.00     | -42.72     | -6.51  | Peak   | Vertical  |
| 4    | 248.250 | -67.83 | -54.08     | -13.00     | -54.83     | -13.75 | Peak   | Vertical  |
| 5    | 346.220 | -67.77 | -57.79     | -13.00     | -54.77     | -9.98  | Peak   | Vertical  |
| 6    | 455.830 | -69.68 | -61.19     | -13.00     | -56.68     | -8.49  | Peak   | Vertical  |



**ABOVE 1GHz DATA**

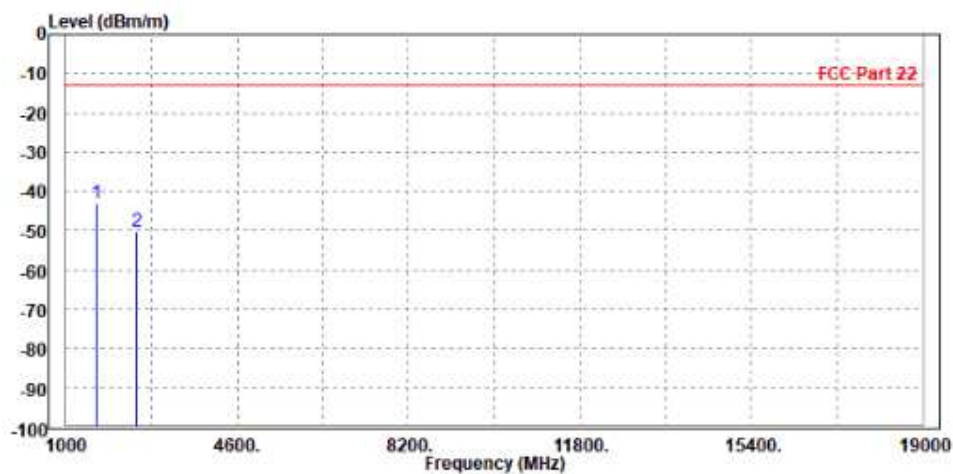
**Note:** For higher frequency, the emission is too low to be detected.

**GSM 850**

**CH 128:**

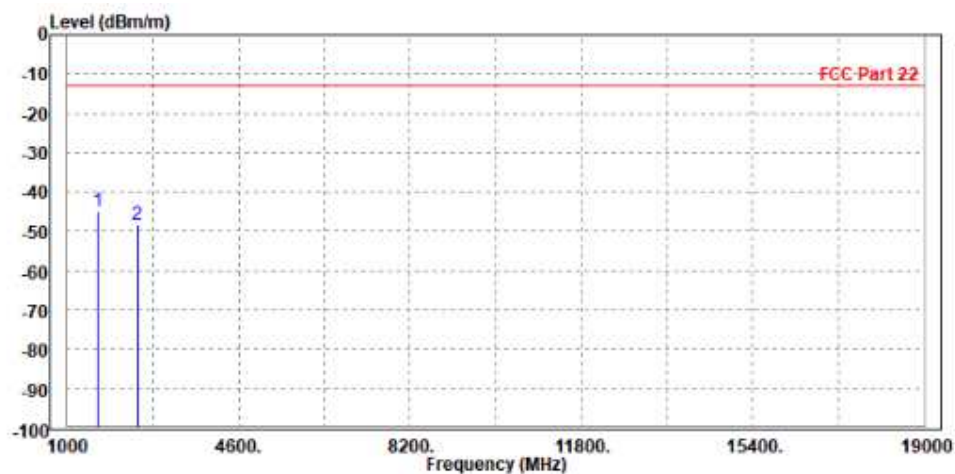
|                                                     |                 |                 |               |
|-----------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                                | TX channel 128  | FREQUENCY RANGE | Above 1000MHZ |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                 |                 |               |

|   |    | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase  |
|---|----|----------|--------|------------|------------|------------|--------|--------|------------|
|   |    | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |            |
| 1 | PP | 1648.400 | -43.02 | -43.80     | -13.00     | -30.02     | 0.78   | Peak   | Horizontal |
| 2 |    | 2476.000 | -50.29 | -55.64     | -13.00     | -37.29     | 5.35   | Peak   | Horizontal |



|                                                   |                 |                 |               |
|---------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                              | TX channel 128  | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                 |                 |               |

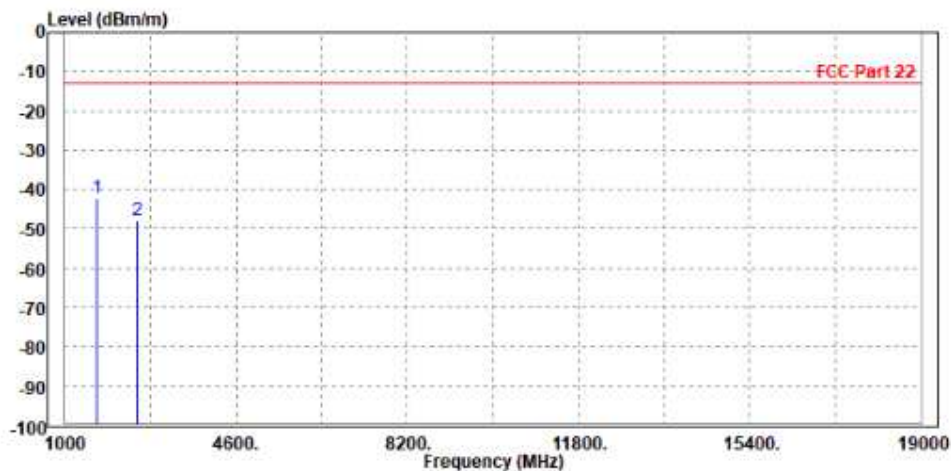
|      | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|------|----------|--------|------------|------------|------------|--------|--------|-----------|
|      | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |           |
| 1 PP | 1648.000 | -44.73 | -45.77     | -13.00     | -31.73     | 1.04   | Peak   | Vertical  |
| 2    | 2472.600 | -48.32 | -53.18     | -13.00     | -35.32     | 4.86   | Peak   | Vertical  |



CH 189:

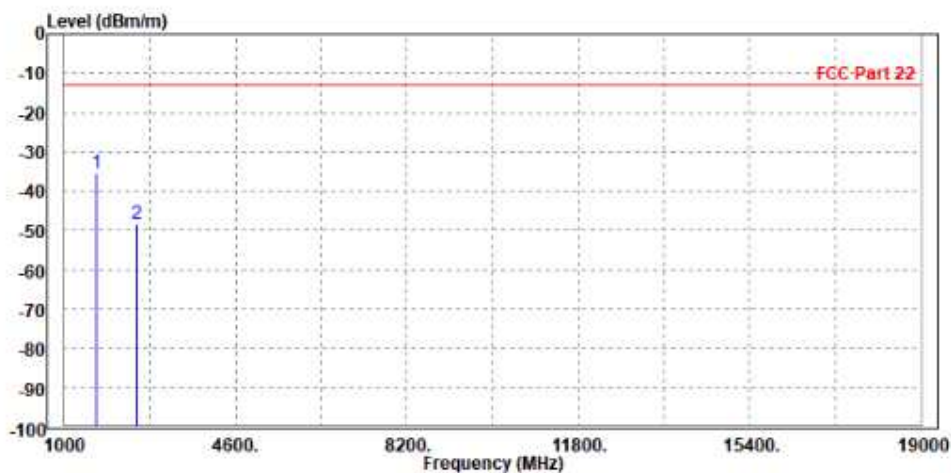
|                                                     |                 |                 |               |
|-----------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                                | TX channel 189  | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                 |                 |               |

|   | Freq        | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase  |
|---|-------------|--------|------------|------------|------------|--------|--------|------------|
|   | MHz         | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |            |
| 1 | PP 1666.000 | -42.10 | -43.02     | -13.00     | -29.10     | 0.92   | Peak   | Horizontal |
| 2 | 2509.200    | -47.96 | -53.42     | -13.00     | -34.96     | 5.46   | Peak   | Horizontal |



|                                                   |                 |                 |               |
|---------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                              | TX channel 189  | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                 |                 |               |

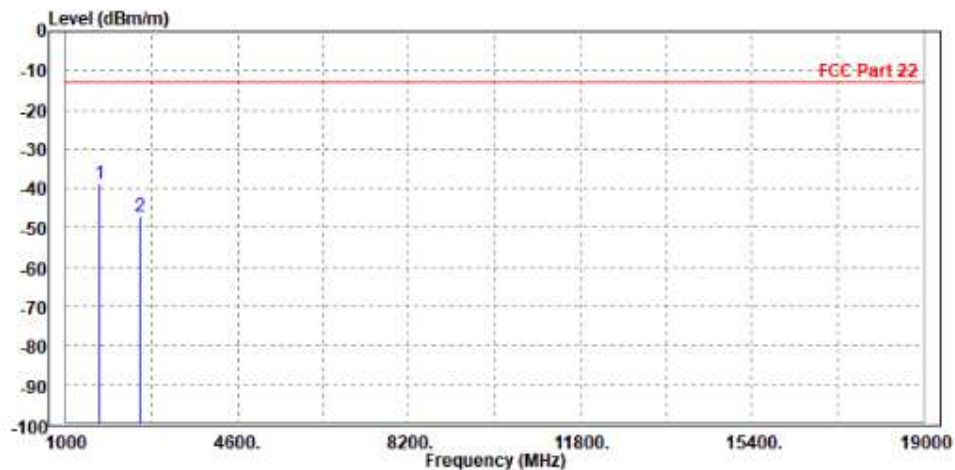
|   | Freq        | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|---|-------------|--------|------------|------------|------------|--------|--------|-----------|
|   | MHz         | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |           |
| 1 | PP 1672.800 | -35.31 | -36.53     | -13.00     | -22.31     | 1.22   | Peak   | Vertical  |
| 2 | 2512.000    | -48.41 | -53.39     | -13.00     | -35.41     | 4.98   | Peak   | Vertical  |



CH 251:

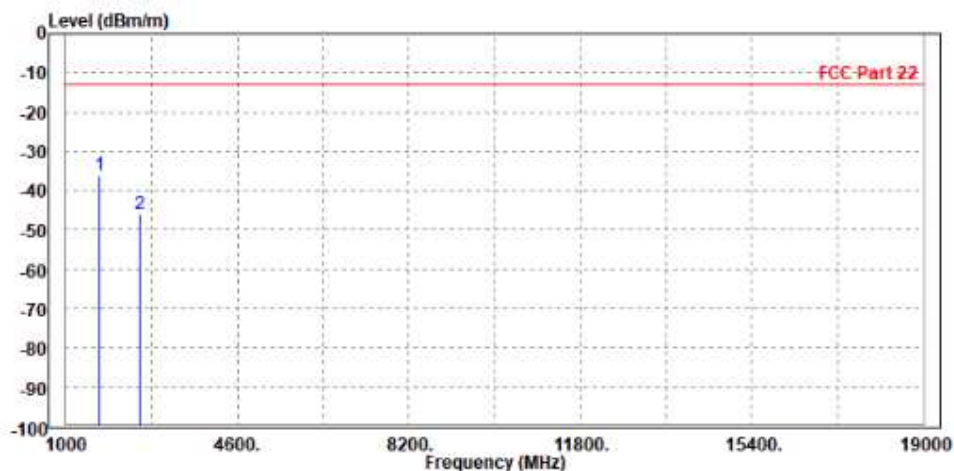
|                                                     |                 |                 |               |
|-----------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                                | TX channel 251  | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                 |                 |               |

|   | Freq        | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase  |
|---|-------------|--------|------------|------------|------------|--------|--------|------------|
|   | MHz         | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |            |
| 1 | PP 1702.000 | -38.63 | -39.84     | -13.00     | -25.63     | 1.21   | Peak   | Horizontal |
| 2 | 2546.400    | -47.06 | -52.61     | -13.00     | -34.06     | 5.55   | Peak   | Horizontal |



|                                                   |                 |                 |               |
|---------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                              | TX channel 251  | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                 |                 |               |

|      | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|------|----------|--------|------------|------------|------------|--------|--------|-----------|
|      | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |           |
| 1 PP | 1697.600 | -36.18 | -37.58     | -13.00     | -23.18     | 1.40   | Peak   | Vertical  |
| 2    | 2548.000 | -45.91 | -51.00     | -13.00     | -32.91     | 5.09   | Peak   | Vertical  |

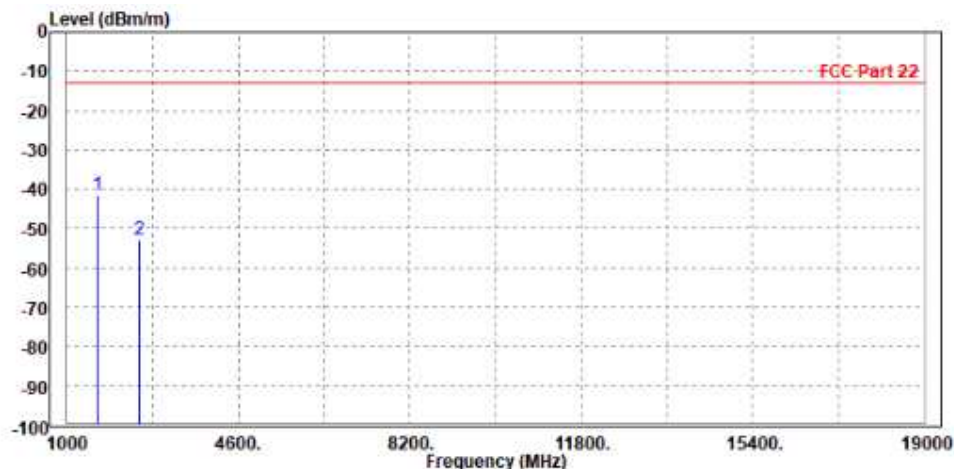


EDGE 850:

CH 128:

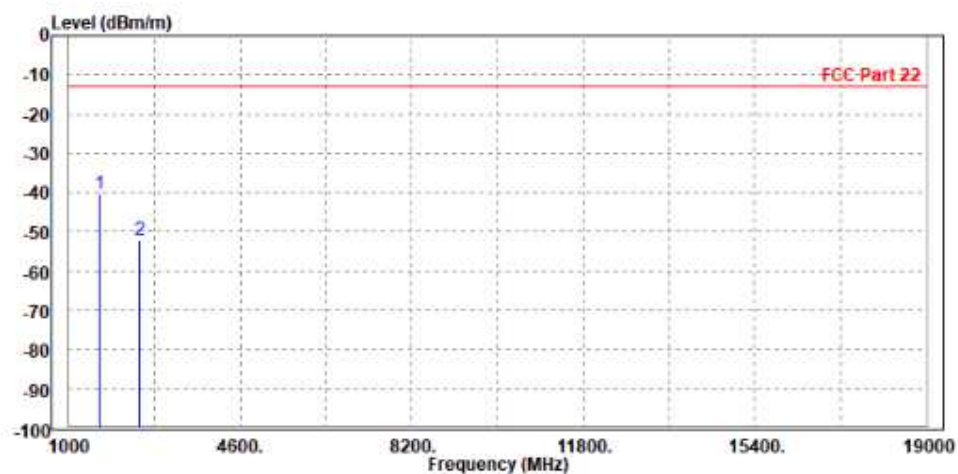
|                                                     |                 |                 |               |
|-----------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                                | TX channel 128  | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL<br>CONDITIONS                         | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                 |                 |               |

|   | Freq        | Level  | Read<br>Level | Limit<br>Line | Over<br>Limit | Factor | Remark | Pol/Phase  |
|---|-------------|--------|---------------|---------------|---------------|--------|--------|------------|
|   | MHz         | dBm/m  | dBm           | dBm/m         | dB            | dB/m   |        |            |
| 1 | PP 1648.000 | -41.57 | -42.34        | -13.00        | -28.57        | 0.77   | Peak   | Horizontal |
| 2 | 2509.200    | -52.98 | -58.44        | -13.00        | -39.98        | 5.46   | Peak   | Horizontal |



|                                                   |                 |                 |               |
|---------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                              | TX channel 128  | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                 |                 |               |

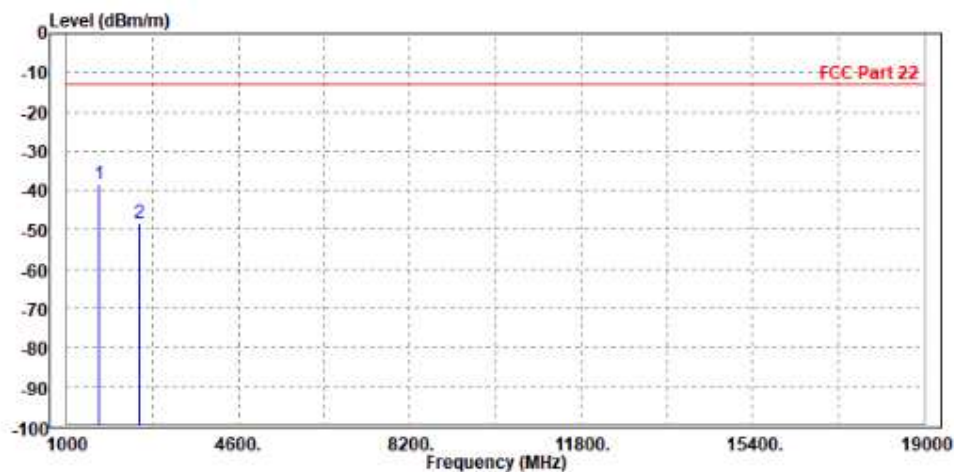
|      | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|------|----------|--------|------------|------------|------------|--------|--------|-----------|
|      | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |           |
| 1 PP | 1648.400 | -40.17 | -41.21     | -13.00     | -27.17     | 1.04   | Peak   | Vertical  |
| 2    | 2476.000 | -52.25 | -57.12     | -13.00     | -39.25     | 4.87   | Peak   | Vertical  |



CH 189:

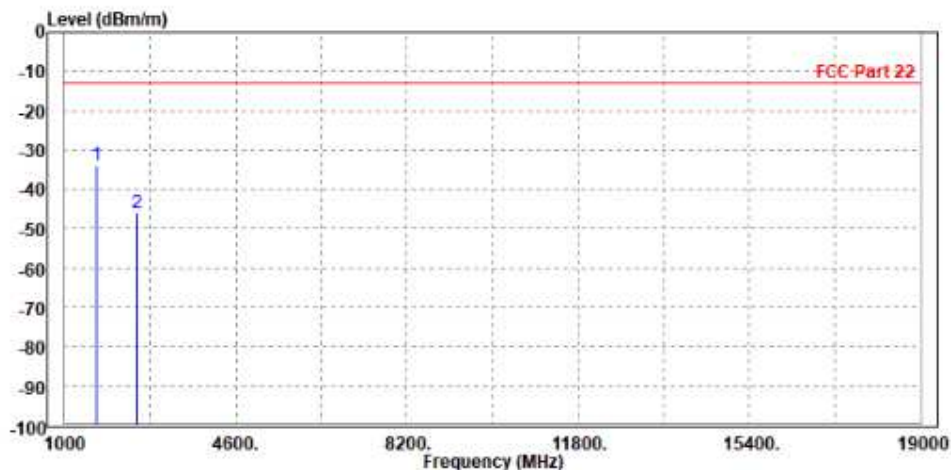
|                                                     |                 |                 |               |
|-----------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                                | TX channel 189  | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                 |                 |               |

|   | Freq        | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase  |
|---|-------------|--------|------------|------------|------------|--------|--------|------------|
|   | MHz         | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |            |
| 1 | PP 1672.800 | -38.59 | -39.56     | -13.00     | -25.59     | 0.97   | Peak   | Horizontal |
| 2 | 2512.000    | -48.15 | -53.62     | -13.00     | -35.15     | 5.47   | Peak   | Horizontal |



|                                                   |                 |                 |               |
|---------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                              | TX channel 189  | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                 |                 |               |

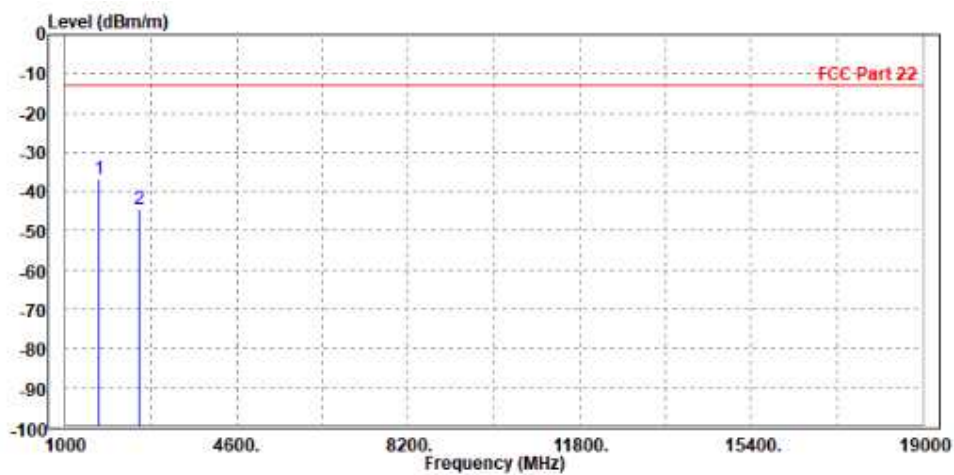
|      | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|------|----------|--------|------------|------------|------------|--------|--------|-----------|
|      | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |           |
| 1 PP | 1666.000 | -33.70 | -34.87     | -13.00     | -20.70     | 1.17   | Peak   | Vertical  |
| 2    | 2509.200 | -46.15 | -51.12     | -13.00     | -33.15     | 4.97   | Peak   | Vertical  |



CH 251:

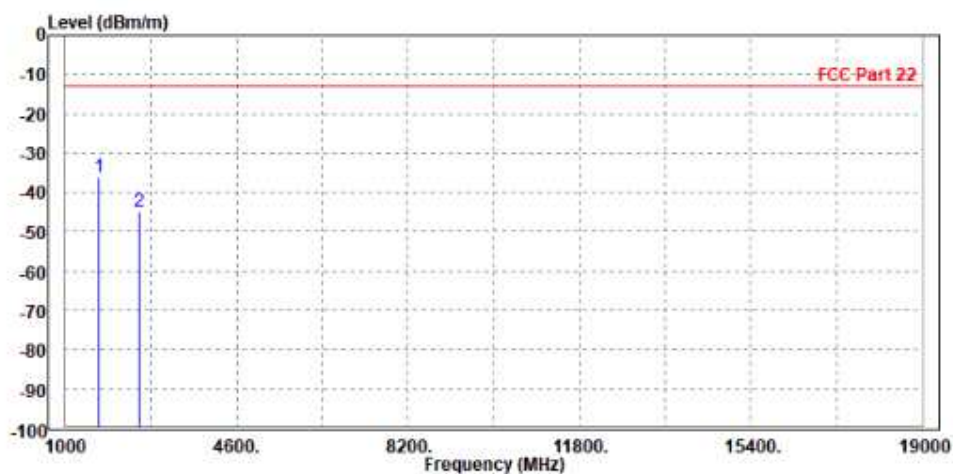
|                                                     |                 |                 |               |
|-----------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                                | TX channel 251  | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                 |                 |               |

|   | Freq        | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase  |
|---|-------------|--------|------------|------------|------------|--------|--------|------------|
|   | MHz         | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |            |
| 1 | PP 1702.000 | -37.01 | -38.22     | -13.00     | -24.01     | 1.21   | Peak   | Horizontal |
| 2 | 2548.000    | -44.61 | -50.16     | -13.00     | -31.61     | 5.55   | Peak   | Horizontal |



|                                                   |                 |                 |               |
|---------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                              | TX channel 251  | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                 |                 |               |

|      | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|------|----------|--------|------------|------------|------------|--------|--------|-----------|
|      | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |           |
| 1 PP | 1702.000 | -36.16 | -37.59     | -13.00     | -23.16     | 1.43   | Peak   | Vertical  |
| 2    | 2546.400 | -44.90 | -49.99     | -13.00     | -31.90     | 5.09   | Peak   | Vertical  |

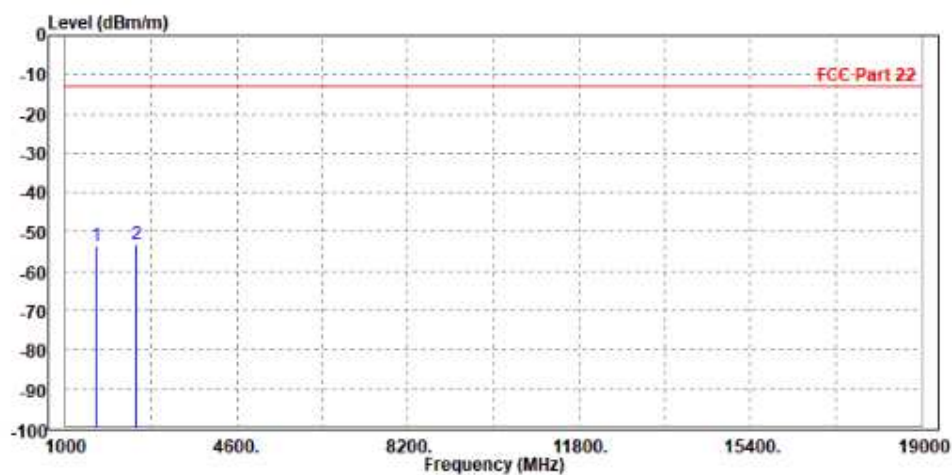


**WCDMA Band V:**

**CH 4132:**

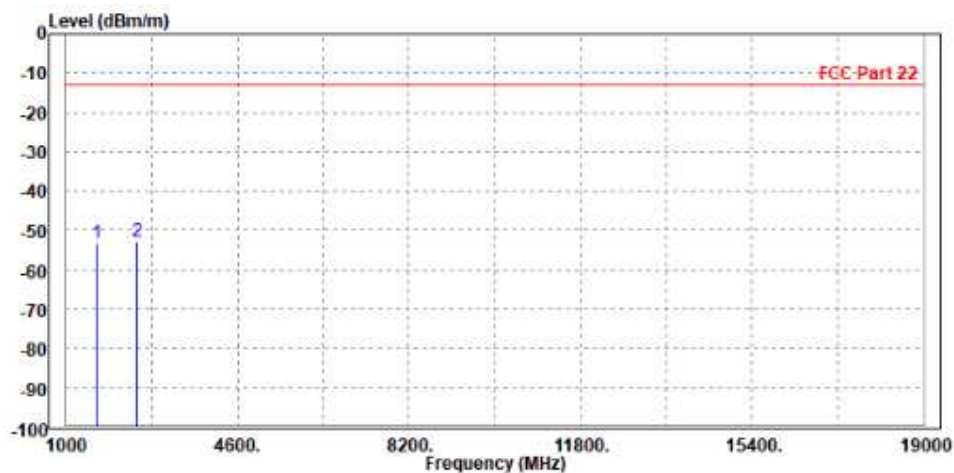
|                                                     |                 |                 |               |
|-----------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                                | TX channel 4132 | FREQUENCY RANGE | Above 1000MHZ |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                 |                 |               |

|      | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase  |
|------|----------|--------|------------|------------|------------|--------|--------|------------|
|      | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |            |
| 1    | 1652.800 | -53.60 | -54.41     | -13.00     | -40.60     | 0.81   | Peak   | Horizontal |
| 2 PP | 2476.000 | -53.20 | -58.55     | -13.00     | -40.20     | 5.35   | Peak   | Horizontal |



|                                                   |                 |                 |               |
|---------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                              | TX channel 4132 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                 |                 |               |

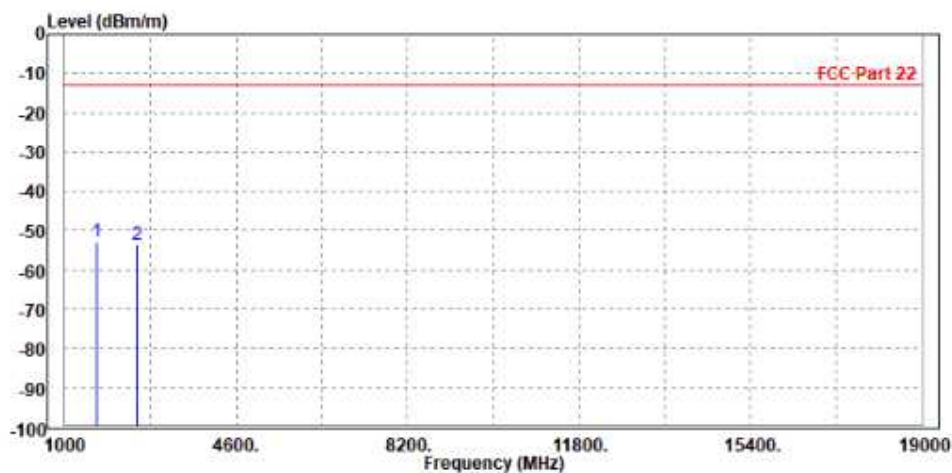
|      | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|------|----------|--------|------------|------------|------------|--------|--------|-----------|
|      | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |           |
| 1    | 1648.000 | -53.15 | -54.19     | -13.00     | -40.15     | 1.04   | Peak   | Vertical  |
| 2 PP | 2479.200 | -52.93 | -57.81     | -13.00     | -39.93     | 4.88   | Peak   | Vertical  |



CH 4182:

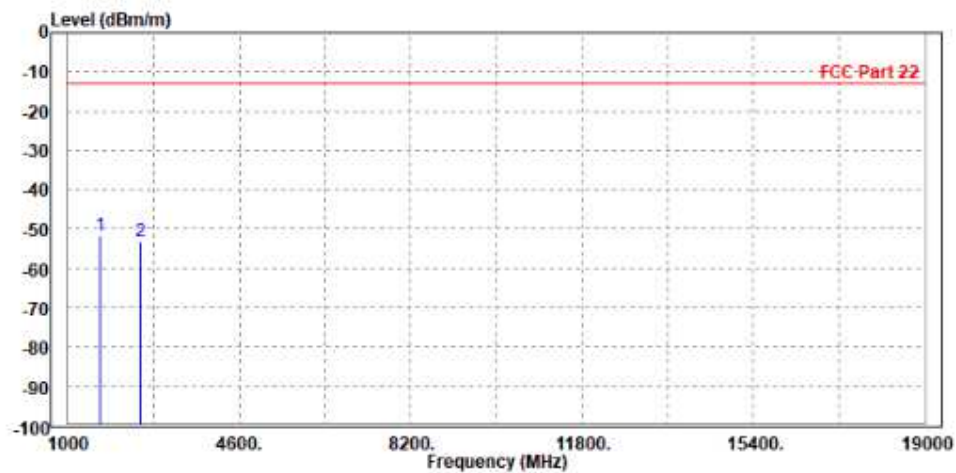
|                                                     |                 |                 |               |
|-----------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                                | TX channel 4182 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                 |                 |               |

|      | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase  |
|------|----------|--------|------------|------------|------------|--------|--------|------------|
|      | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |            |
| 1 PP | 1666.000 | -52.70 | -53.62     | -13.00     | -39.70     | 0.92   | Peak   | Horizontal |
| 2    | 2509.200 | -53.50 | -58.96     | -13.00     | -40.50     | 5.46   | Peak   | Horizontal |



|                                                   |                 |                 |               |
|---------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                              | TX channel 4182 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                 |                 |               |

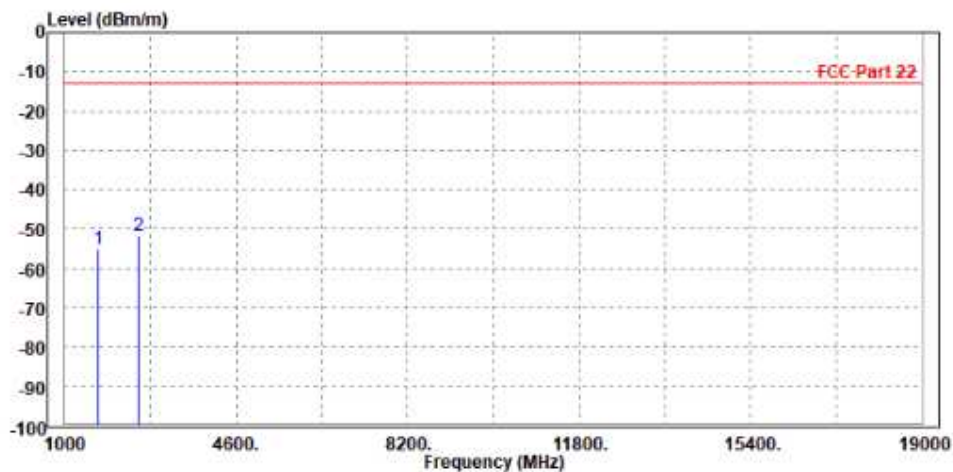
|   |    | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|---|----|----------|--------|------------|------------|------------|--------|--------|-----------|
|   |    | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |           |
| 1 | PP | 1672.800 | -51.86 | -53.08     | -13.00     | -38.86     | 1.22   | Peak   | Vertical  |
| 2 |    | 2512.000 | -53.07 | -58.05     | -13.00     | -40.07     | 4.98   | Peak   | Vertical  |



CH 4233:

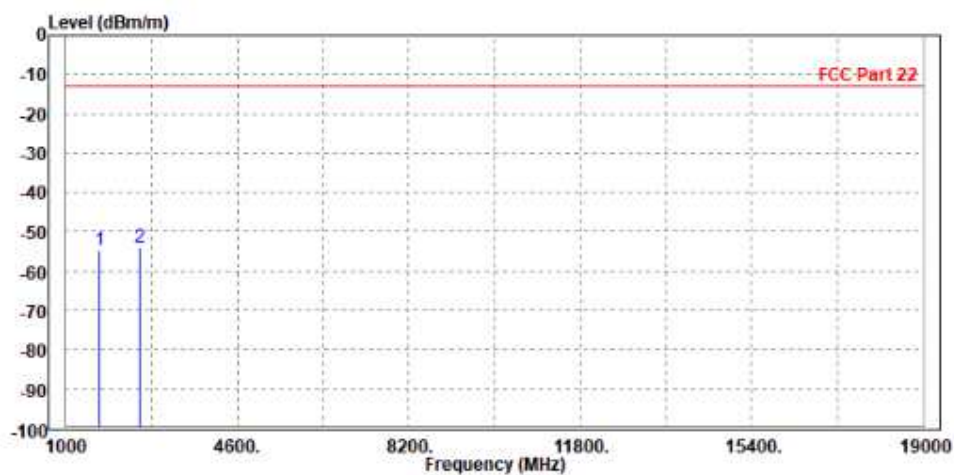
|                                                     |                 |                 |               |
|-----------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                                | TX channel 4233 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                 |                 |               |

|      | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase  |
|------|----------|--------|------------|------------|------------|--------|--------|------------|
|      | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |            |
| 1    | 1702.000 | -55.19 | -56.40     | -13.00     | -42.19     | 1.21   | Peak   | Horizontal |
| 2 PP | 2539.800 | -51.58 | -57.11     | -13.00     | -38.58     | 5.53   | Peak   | Horizontal |



|                                                   |                 |                 |               |
|---------------------------------------------------|-----------------|-----------------|---------------|
| MODE                                              | TX channel 4233 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu         |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                 |                 |               |

|      | Freq     | Level  | Read<br>Level | Limit<br>Line | Over<br>Limit | Factor | Remark | Pol/Phase |
|------|----------|--------|---------------|---------------|---------------|--------|--------|-----------|
|      | MHz      | dBm/m  | dBm           | dBm/m         | dB            | dB/m   |        |           |
| 1    | 1693.200 | -54.94 | -56.30        | -13.00        | -41.94        | 1.36   | Peak   | Vertical  |
| 2 PP | 2548.000 | -53.85 | -58.94        | -13.00        | -40.85        | 5.09   | Peak   | Vertical  |



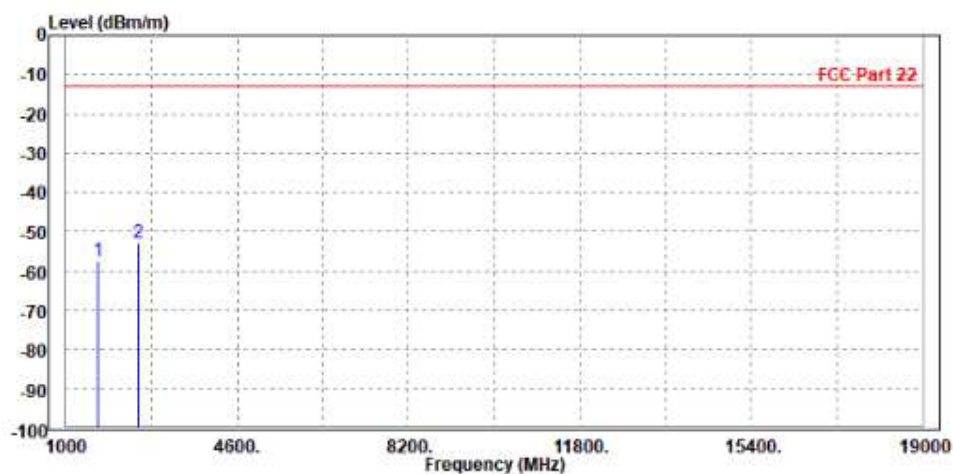
LTE Band 26

CHANNEL BANDWIDTH: 1.4MHz / QPSK

CH26915

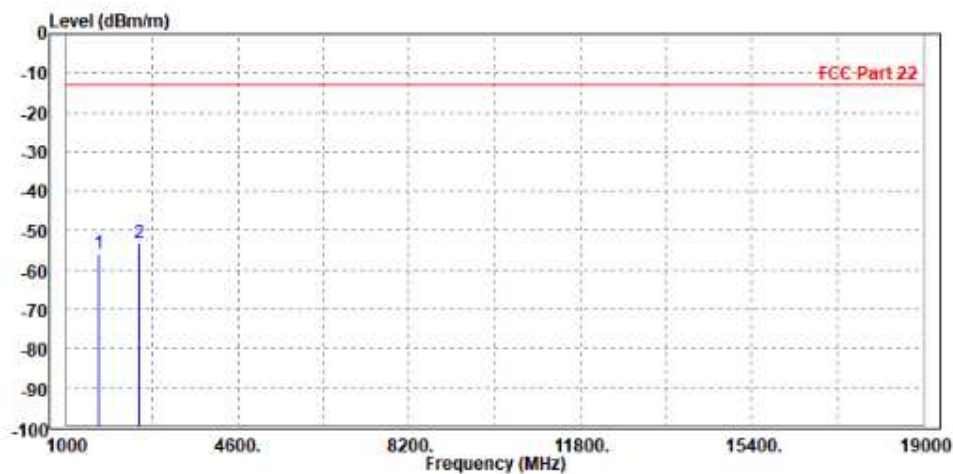
|                                                     |                  |                 |               |
|-----------------------------------------------------|------------------|-----------------|---------------|
| MODE                                                | TX channel 26915 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                  |                 |               |

|      | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase  |
|------|----------|--------|------------|------------|------------|--------|--------|------------|
|      | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |            |
| 1    | 1666.000 | -57.24 | -58.16     | -13.00     | -44.24     | 0.92   | Peak   | Horizontal |
| 2 PP | 2512.000 | -52.72 | -58.19     | -13.00     | -39.72     | 5.47   | Peak   | Horizontal |



|                                                   |                  |                 |               |
|---------------------------------------------------|------------------|-----------------|---------------|
| MODE                                              | TX channel 26915 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL<br>CONDITIONS                       | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                  |                 |               |

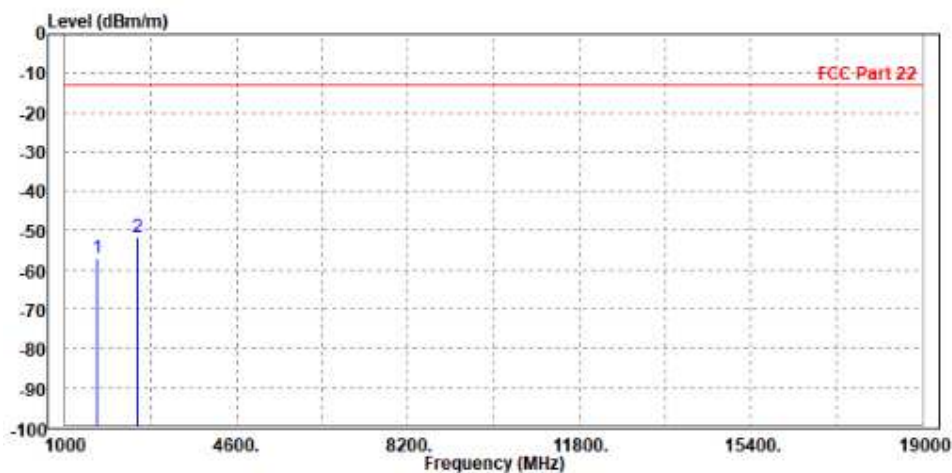
|   | Freq        | Level  | Read<br>Level | Limit<br>Line | Over<br>Limit | Factor | Remark | Pol/Phase |
|---|-------------|--------|---------------|---------------|---------------|--------|--------|-----------|
|   | MHz         | dBm/m  | dBm           | dBm/m         | dB            | dB/m   |        |           |
| 1 | 1673.000    | -55.71 | -56.93        | -13.00        | -42.71        | 1.22   | Peak   | Vertical  |
| 2 | PP 2512.000 | -53.31 | -58.29        | -13.00        | -40.31        | 4.98   | Peak   | Vertical  |



**CHANNEL BANDWIDTH: 3MHz / QPSK**

|                                                     |                  |                 |               |
|-----------------------------------------------------|------------------|-----------------|---------------|
| MODE                                                | TX channel 26915 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                  |                 |               |

|      | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase  |
|------|----------|--------|------------|------------|------------|--------|--------|------------|
|      | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |            |
| 1    | 1673.000 | -57.07 | -58.05     | -13.00     | -44.07     | 0.98   | Peak   | Horizontal |
| 2 PP | 2512.000 | -51.83 | -57.30     | -13.00     | -38.83     | 5.47   | Peak   | Horizontal |



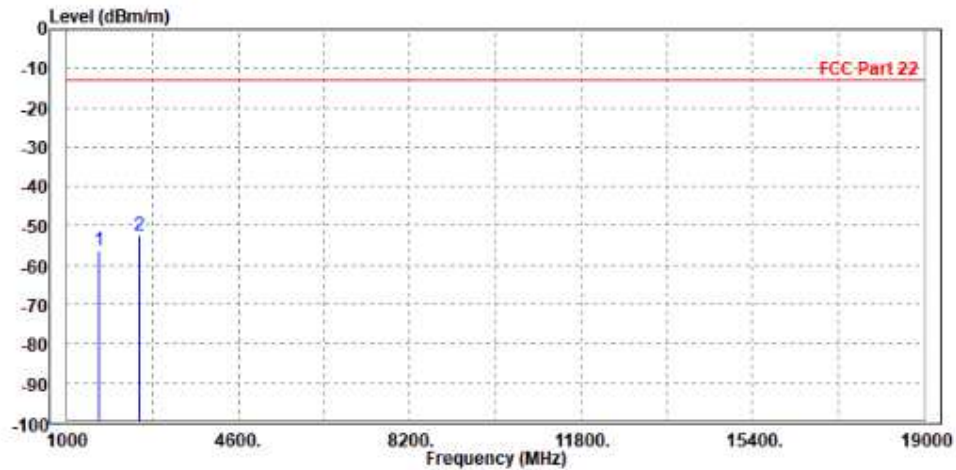


**BUREAU  
VERITAS**

Test Report No.: W7L-P23100014RF04

|                                                   |                  |                 |               |
|---------------------------------------------------|------------------|-----------------|---------------|
| MODE                                              | TX channel 26915 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                  |                 |               |

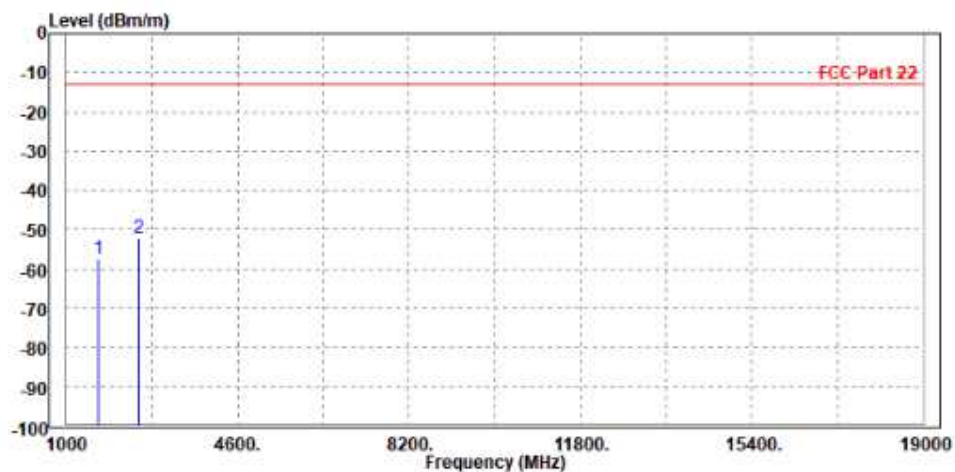
|      | Freq     | Level  | Read<br>Level | Limit<br>Line | Over<br>Limit | Factor | Remark | Pol/Phase |
|------|----------|--------|---------------|---------------|---------------|--------|--------|-----------|
|      | MHz      | dBm/m  | dBm           | dBm/m         | dB            | dB/m   |        |           |
| 1    | 1666.000 | -56.36 | -57.53        | -13.00        | -43.36        | 1.17   | Peak   | Vertical  |
| 2 PP | 2509.500 | -52.61 | -57.58        | -13.00        | -39.61        | 4.97   | Peak   | Vertical  |



CHANNEL BANDWIDTH: 5MHz / QPSK

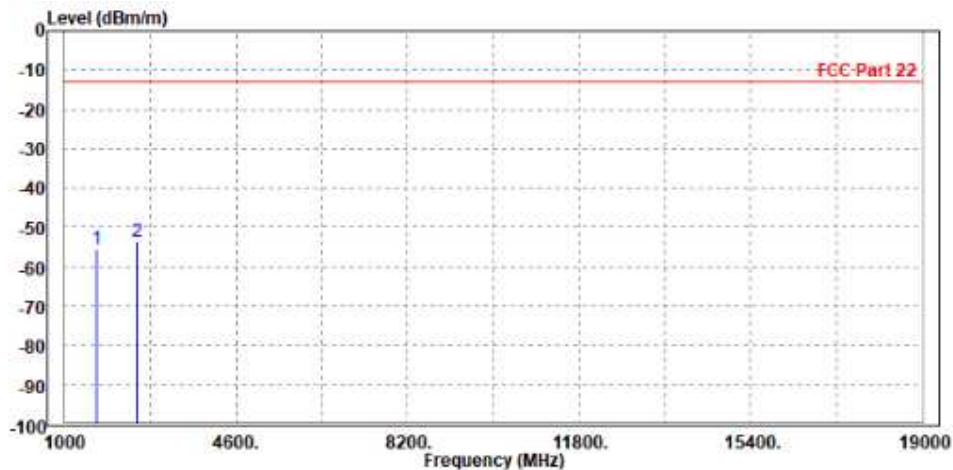
|                                                     |                  |                 |               |
|-----------------------------------------------------|------------------|-----------------|---------------|
| MODE                                                | TX channel 26915 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                  |                 |               |

|   | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase  |
|---|----------|--------|------------|------------|------------|--------|--------|------------|
|   | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |            |
| 1 | 1666.000 | -57.37 | -58.29     | -13.00     | -44.37     | 0.92   | Peak   | Horizontal |
| 2 | 2509.500 | -52.11 | -57.57     | -13.00     | -39.11     | 5.46   | Peak   | Horizontal |



|                                                   |                  |                 |               |
|---------------------------------------------------|------------------|-----------------|---------------|
| MODE                                              | TX channel 26915 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                  |                 |               |

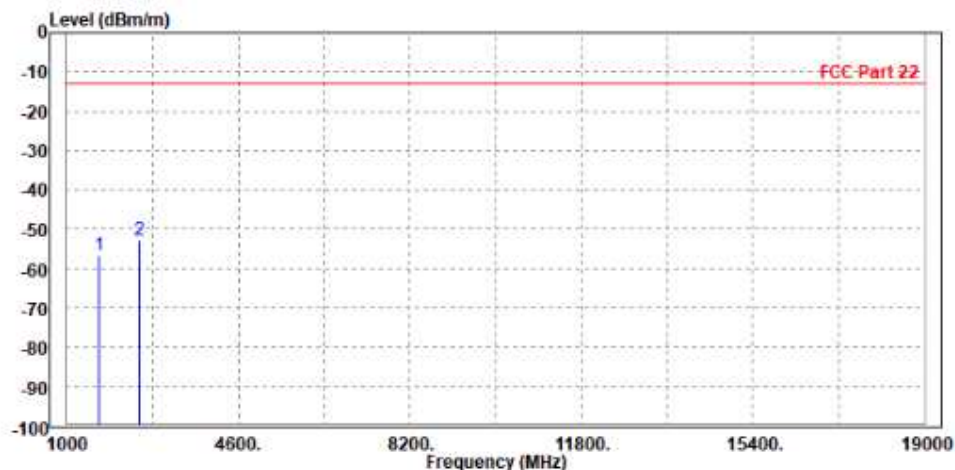
|      | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|------|----------|--------|------------|------------|------------|--------|--------|-----------|
|      | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |           |
| 1    | 1673.000 | -55.58 | -56.80     | -13.00     | -42.58     | 1.22   | Peak   | Vertical  |
| 2 PP | 2512.000 | -53.64 | -58.62     | -13.00     | -40.64     | 4.98   | Peak   | Vertical  |



CHANNEL BANDWIDTH: 10MHz / QPSK

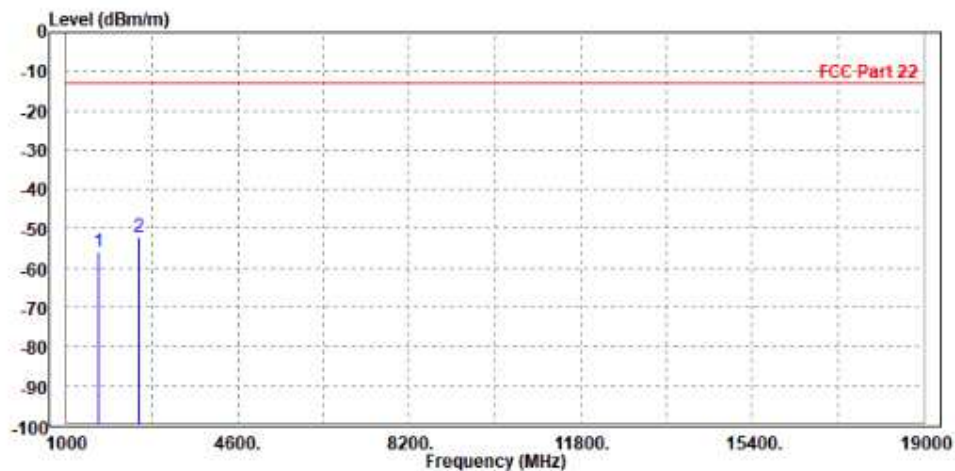
|                                                     |                  |                 |               |
|-----------------------------------------------------|------------------|-----------------|---------------|
| MODE                                                | TX channel 26915 | FREQUENCY RANGE | Above 1000MHZ |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                  |                 |               |

|      | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase  |
|------|----------|--------|------------|------------|------------|--------|--------|------------|
|      | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |            |
| 1    | 1666.000 | -56.73 | -57.65     | -13.00     | -43.73     | 0.92   | Peak   | Horizontal |
| 2 PP | 2509.500 | -53.02 | -58.48     | -13.00     | -40.02     | 5.46   | Peak   | Horizontal |



|                                                   |                  |                 |               |
|---------------------------------------------------|------------------|-----------------|---------------|
| MODE                                              | TX channel 26915 | FREQUENCY RANGE | Above 1000MHZ |
| ENVIRONMENTAL<br>CONDITIONS                       | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                  |                 |               |

|      | Freq     | Level  | Read<br>Level | Limit<br>Line | Over<br>Limit | Factor | Remark | Pol/Phase |
|------|----------|--------|---------------|---------------|---------------|--------|--------|-----------|
|      | MHz      | dBm/m  | dBm           | dBm/m         | dB            | dB/m   |        |           |
| 1    | 1666.000 | -55.81 | -56.98        | -13.00        | -42.81        | 1.17   | Peak   | Vertical  |
| 2 PP | 2509.500 | -51.94 | -56.91        | -13.00        | -38.94        | 4.97   | Peak   | Vertical  |

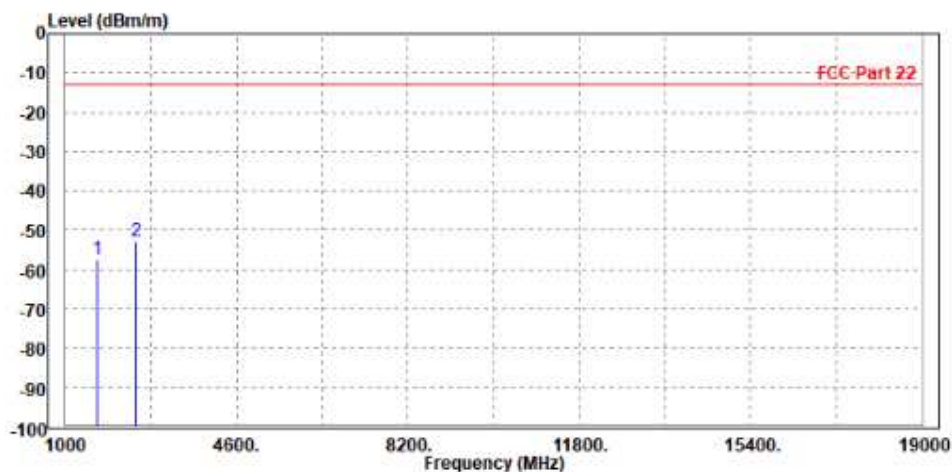


CHANNEL BANDWIDTH: 15MHz / QPSK

CH26845

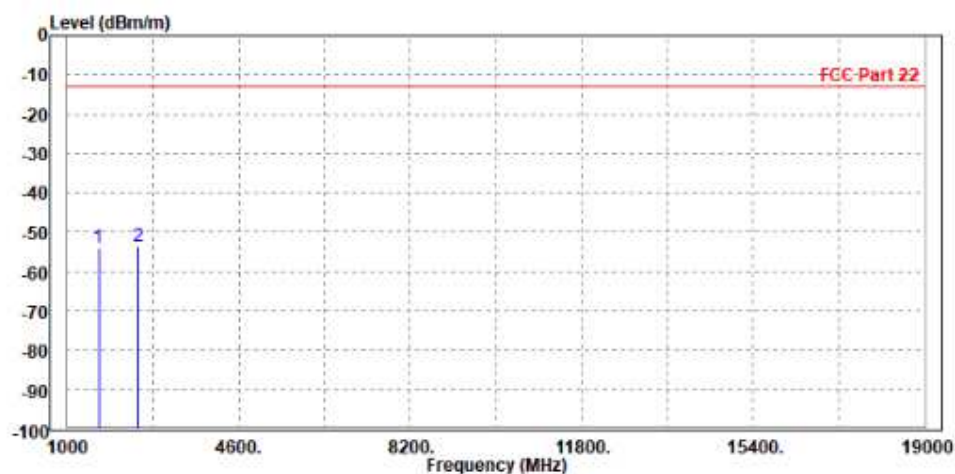
|                                                     |                  |                 |               |
|-----------------------------------------------------|------------------|-----------------|---------------|
| MODE                                                | TX channel 26845 | FREQUENCY RANGE | Above 1000MHZ |
| ENVIRONMENTAL<br>CONDITIONS                         | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                  |                 |               |

|      | Freq     | Level  | Read<br>Level | Limit<br>Line | Over<br>Limit | Factor | Remark | Pol/Phase  |
|------|----------|--------|---------------|---------------|---------------|--------|--------|------------|
|      | MHz      | dBm/m  | dBm           | dBm/m         | dB            | dB/m   |        |            |
| 1    | 1666.000 | -57.34 | -58.26        | -13.00        | -44.34        | 0.92   | Peak   | Horizontal |
| 2 PP | 2487.000 | -52.73 | -58.12        | -13.00        | -39.73        | 5.39   | Peak   | Horizontal |



|                                                   |                  |                 |               |
|---------------------------------------------------|------------------|-----------------|---------------|
| MODE                                              | TX channel 26845 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                  |                 |               |

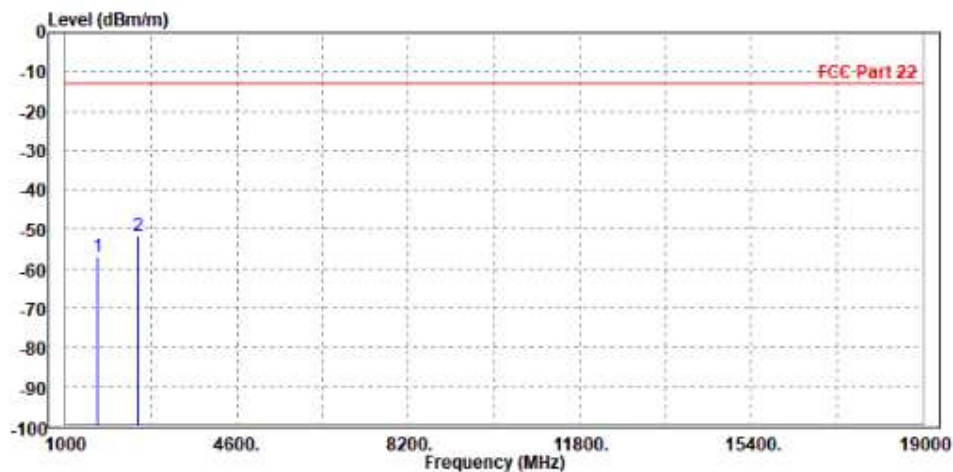
|      | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase |
|------|----------|--------|------------|------------|------------|--------|--------|-----------|
|      | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |           |
| 1    | 1658.000 | -54.10 | -55.21     | -13.00     | -41.10     | 1.11   | Peak   | Vertical  |
| 2 PP | 2494.000 | -53.47 | -58.39     | -13.00     | -40.47     | 4.92   | Peak   | Vertical  |



CH26915

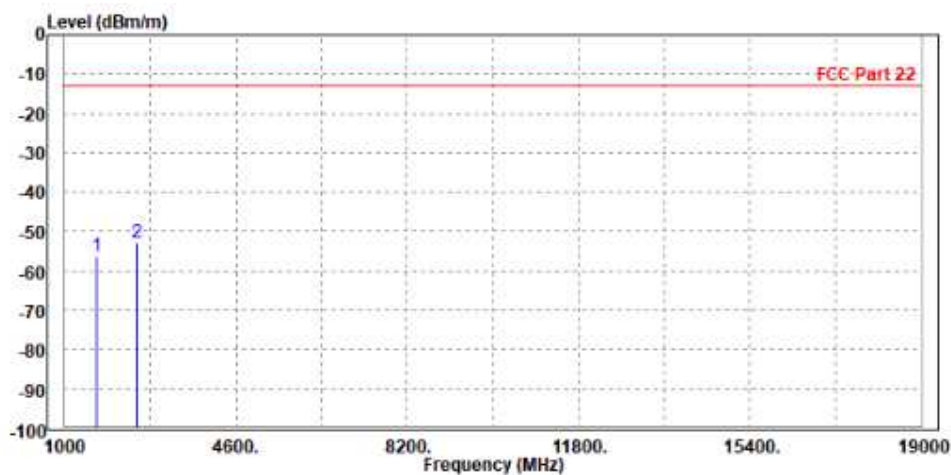
|                                                     |                  |                 |               |
|-----------------------------------------------------|------------------|-----------------|---------------|
| MODE                                                | TX channel 26915 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                  |                 |               |

|      | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase  |
|------|----------|--------|------------|------------|------------|--------|--------|------------|
|      | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |            |
| 1    | 1673.000 | -56.97 | -57.95     | -13.00     | -43.97     | 0.98   | Peak   | Horizontal |
| 2 PP | 2512.000 | -51.82 | -57.29     | -13.00     | -38.82     | 5.47   | Peak   | Horizontal |



|                                                   |                  |                 |               |
|---------------------------------------------------|------------------|-----------------|---------------|
| MODE                                              | TX channel 26915 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                  |                 |               |

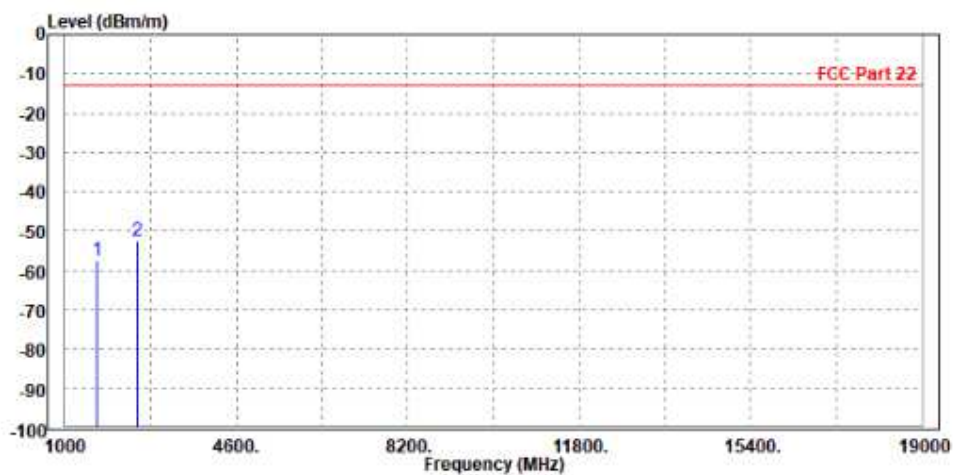
|      | Freq     | Level  | Read Level | Limit Line | Over Limit Factor | Remark    | Pol/Phase |
|------|----------|--------|------------|------------|-------------------|-----------|-----------|
|      | MHz      | dBm/m  | dBm        | dBm/m      | dB                | dB/m      |           |
| 1    | 1666.000 | -56.27 | -57.44     | -13.00     | -43.27            | 1.17 Peak | Vertical  |
| 2 PP | 2509.500 | -53.00 | -57.97     | -13.00     | -40.00            | 4.97 Peak | Vertical  |



CH26990

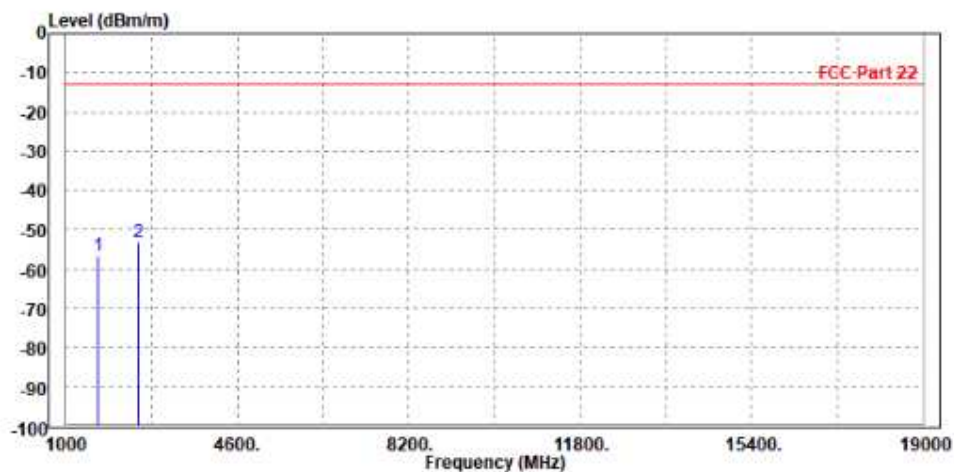
|                                                     |                  |                 |               |
|-----------------------------------------------------|------------------|-----------------|---------------|
| MODE                                                | TX channel 26990 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                            | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                           | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                  |                 |               |

|      | Freq     | Level  | Read Level | Limit Line | Over Limit | Factor | Remark | Pol/Phase  |
|------|----------|--------|------------|------------|------------|--------|--------|------------|
|      | MHz      | dBm/m  | dBm        | dBm/m      | dB         | dB/m   |        |            |
| 1    | 1688.000 | -57.50 | -58.60     | -13.00     | -44.50     | 1.10   | Peak   | Horizontal |
| 2 PP | 2530.000 | -52.60 | -58.11     | -13.00     | -39.60     | 5.51   | Peak   | Horizontal |



|                                                   |                  |                 |               |
|---------------------------------------------------|------------------|-----------------|---------------|
| MODE                                              | TX channel 26990 | FREQUENCY RANGE | Above 1000MHz |
| ENVIRONMENTAL CONDITIONS                          | 23deg. C, 70%RH  | INPUT POWER     | AC 120V/60HZ  |
| TESTED BY                                         | Jace Hu          |                 |               |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                  |                 |               |

|      | Freq     | Level  | Read<br>Level | Limit<br>Line | Over<br>Limit | Factor | Remark | Pol/Phase |
|------|----------|--------|---------------|---------------|---------------|--------|--------|-----------|
|      | MHz      | dBm/m  | dBm           | dBm/m         | dB            | dB/m   |        |           |
| 1    | 1684.000 | -56.68 | -57.98        | -13.00        | -43.68        | 1.30   | Peak   | Vertical  |
| 2 PP | 2532.000 | -53.23 | -58.27        | -13.00        | -40.23        | 5.04   | Peak   | Vertical  |

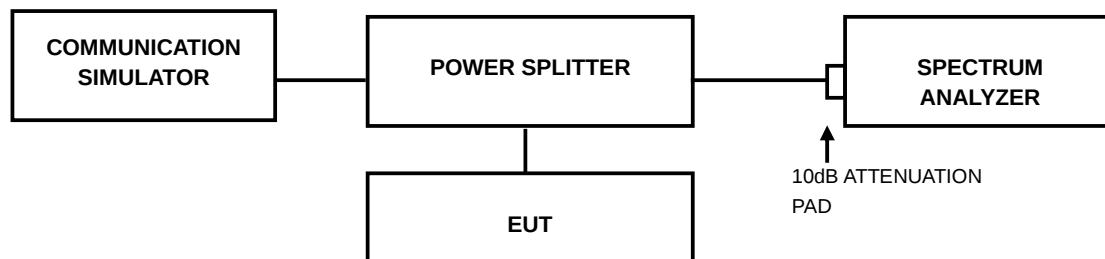


### 3.7 PEAK TO AVERAGE RATIO

#### 3.7.1 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

#### 3.7.2 TEST SETUP



#### 3.7.3 TEST PROCEDURES

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



Test Report No.: W7L-P23100014RF04

### 3.7.4 TEST RESULTS

Please Refer to Appendix Of this test report.



Test Report No.: W7L-P23100014RF04

## 4 PHOTOGRAPHS OF THE TEST CONFIGURATION

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



Test Report No.: W7L-P23100014RF04

## 5 INFORMATION ON THE TESTING LABORATORIES

We, BV 7LAYERS COMMUNICATIONS TECHNOLOGY (SHENZHEN) CO. LTD., were founded in 2015 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

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

**Shenzhen EMC/RF Lab:**

Tel: +86-755-88696566

Fax: +86-755-88696577

**Email:** [customerservice.sw@bureauveritas.com](mailto:customerservice.sw@bureauveritas.com)

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

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

## **6 MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB**

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

## 7 APPENDIX

### GSM850

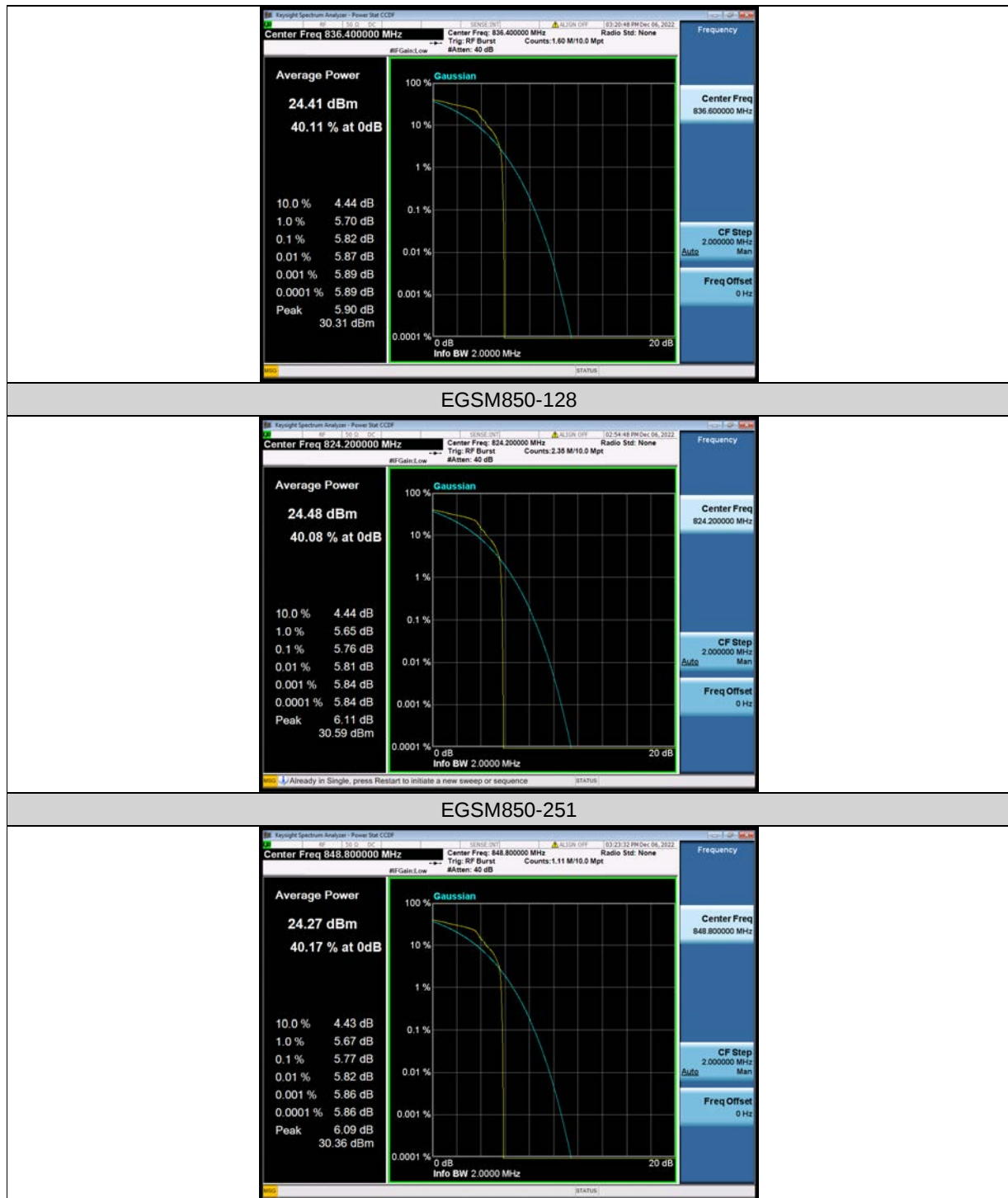
#### PEAK-TO-AVERAGE RATIO (CCDF)

##### Test Result

| Band    | Channel | Result(dB) | Limit(dB) | Verdict |
|---------|---------|------------|-----------|---------|
| GSM850  | 189     | 2.63       | 13        | PASS    |
| GSM850  | 128     | 2.64       | 13        | PASS    |
| GSM850  | 251     | 2.63       | 13        | PASS    |
| EGSM850 | 189     | 5.76       | 13        | PASS    |
| EGSM850 | 128     | 5.82       | 13        | PASS    |
| EGSM850 | 251     | 5.77       | 13        | PASS    |

## Test Graphs



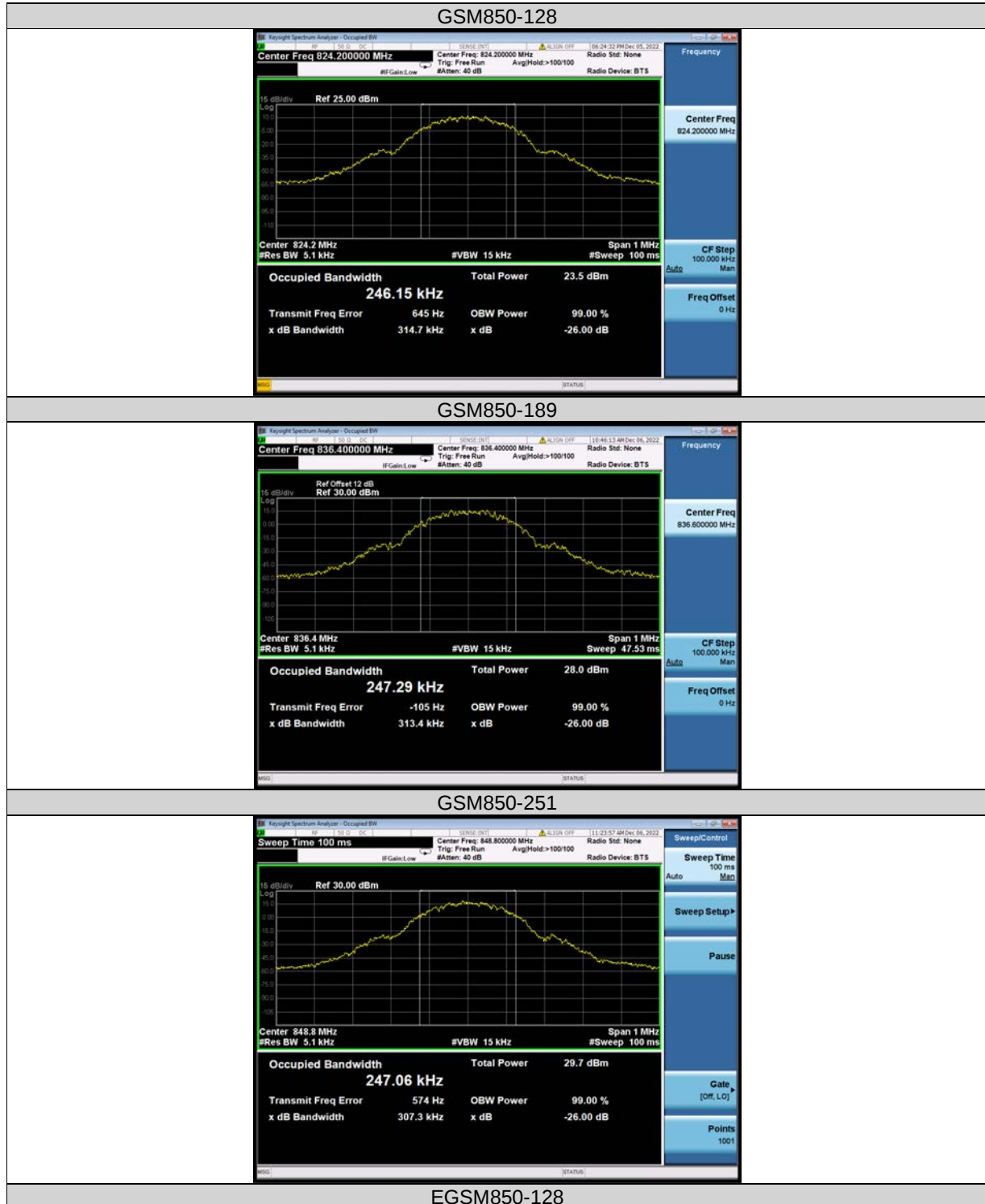


## 26DB BANDWIDTH AND OCCUPIED BANDWIDTH

### Test Result

| Band    | Channel | Occupied<br>Bandwidth (MHz) | 26dB Bandwidth<br>(MHz) | Limit<br>(MHz) | Verdict |
|---------|---------|-----------------------------|-------------------------|----------------|---------|
| GSM850  | 128     | 0.24615                     | 0.3147                  | ---            | PASS    |
| GSM850  | 189     | 0.24229                     | 0.3134                  | ---            | PASS    |
| GSM850  | 251     | 0.24706                     | 0.3073                  | ---            | PASS    |
| EGSM850 | 128     | 0.24300                     | 0.3059                  | ---            | PASS    |
| EGSM850 | 189     | 0.24317                     | 0.3139                  | ---            | PASS    |
| EGSM850 | 251     | 0.24321                     | 0.3000                  | ---            | PASS    |

## Test Graphs





EGSM850-189



EGSM850-251

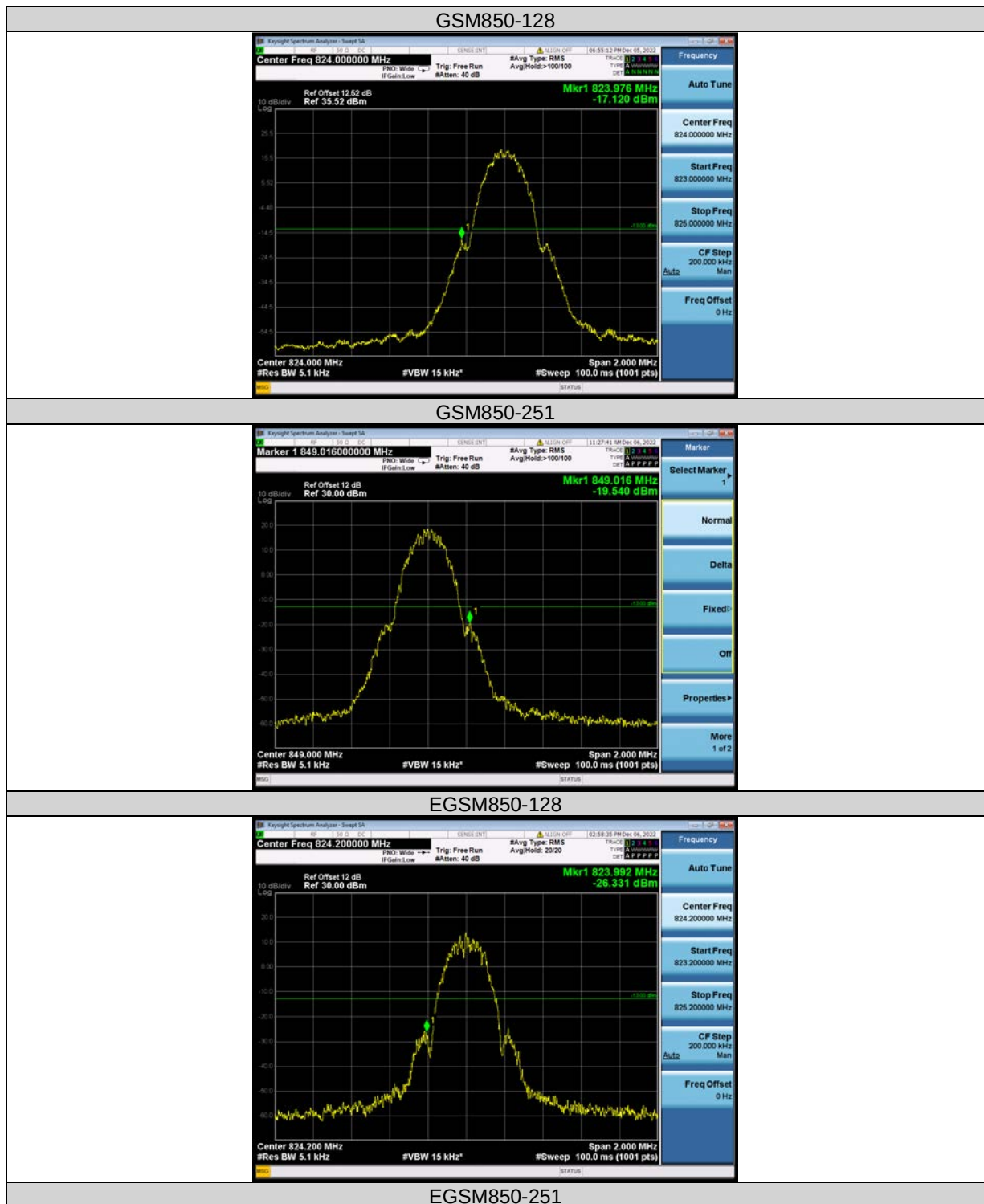


## BAND EDGE

### Test Result

| Band    | Channel | Freq (MHz) | Result (dBm) | Limit(dBm) | Verdict |
|---------|---------|------------|--------------|------------|---------|
| GSM850  | 128     | 823.98     | -17.12       | -13        | PASS    |
| GSM850  | 251     | 849.02     | -19.54       | -13        | PASS    |
| EGSM850 | 128     | 823.99     | -26.33       | -13        | PASS    |
| EGSM850 | 251     | 849.02     | -28.15       | -13        | PASS    |

## Test Graphs





BUREAU  
VERITAS

Test Report No.: W7L-P23100014RF04

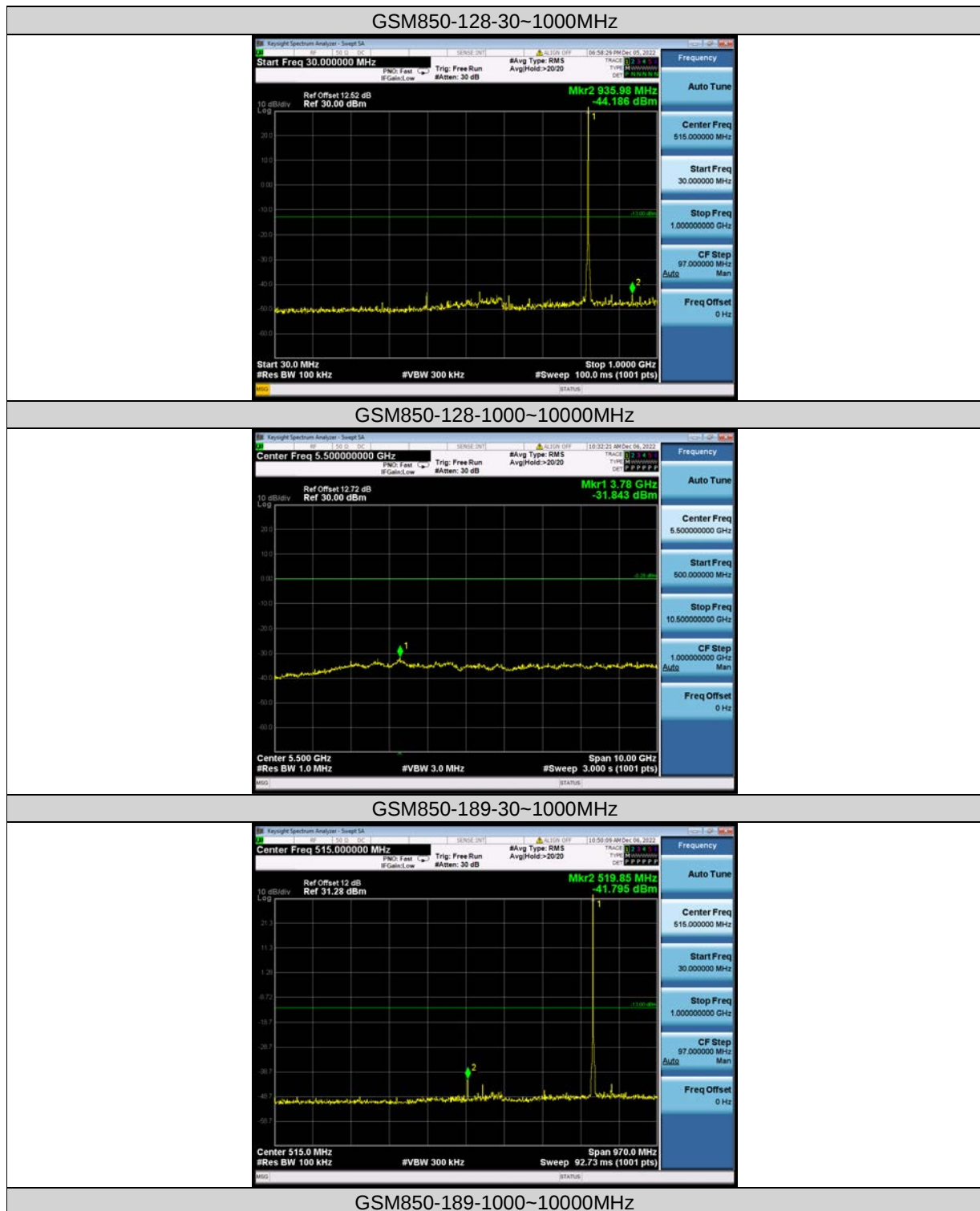


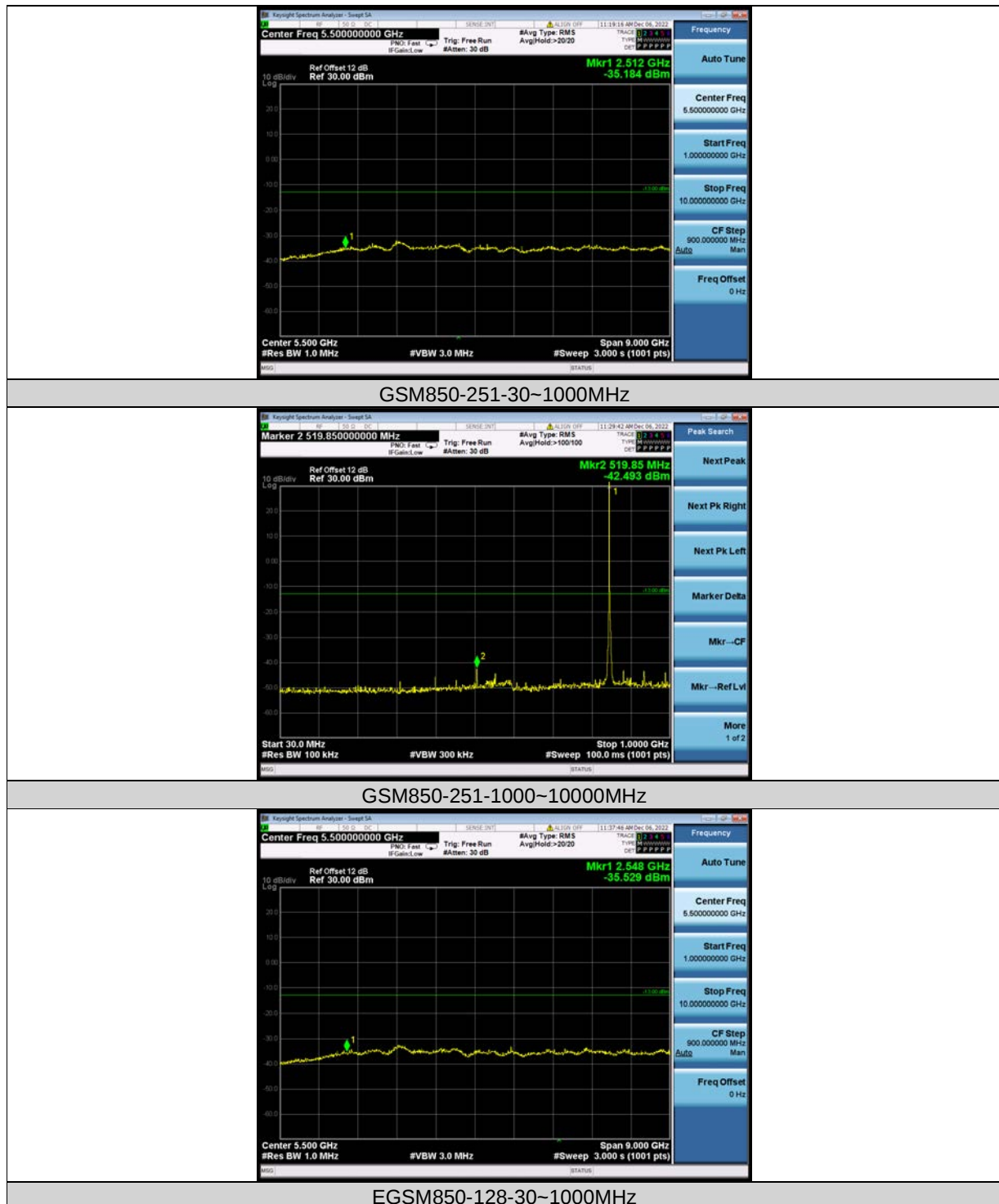
## CONDUCTED SPURIOUS EMISSION

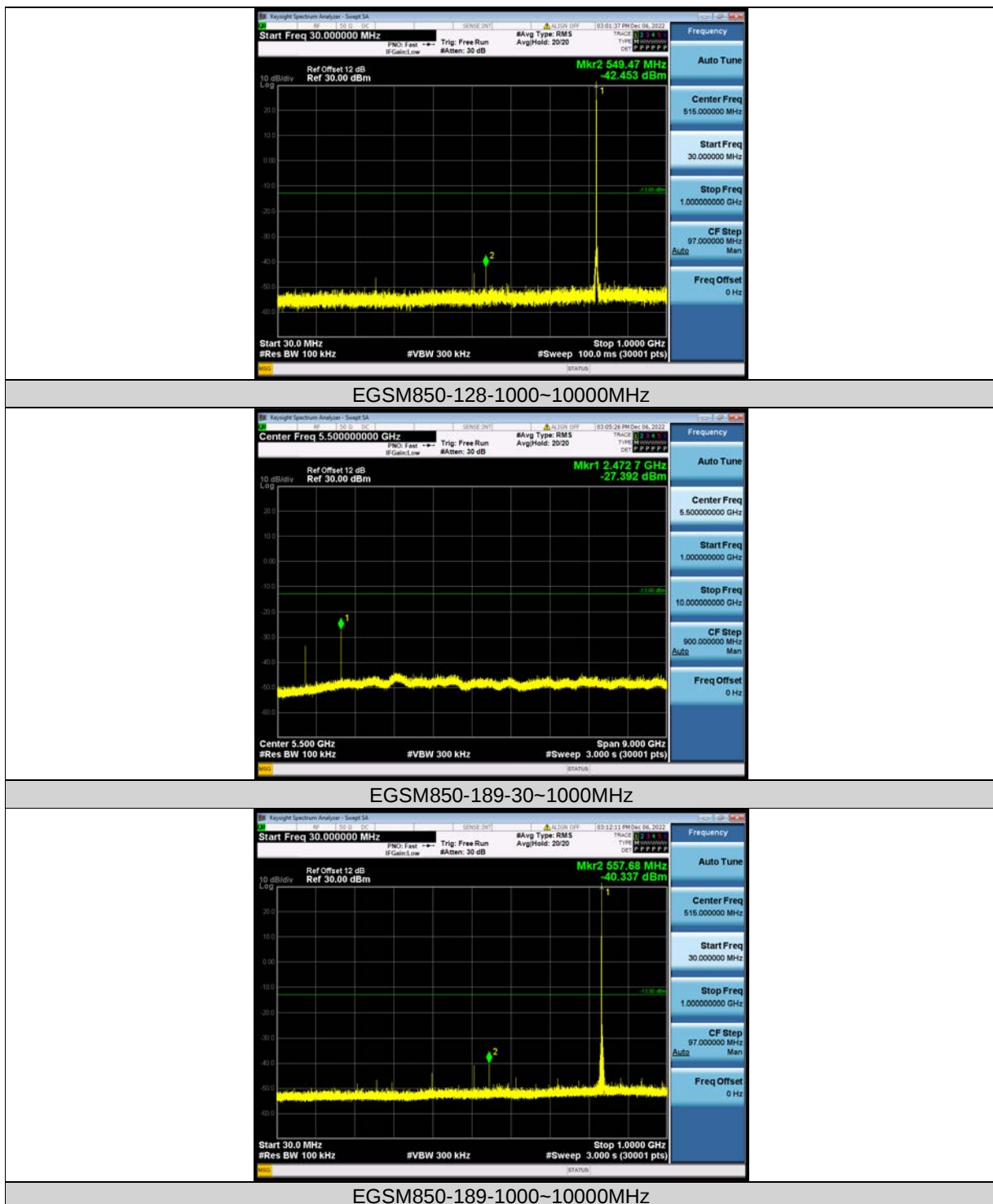
### Test Result

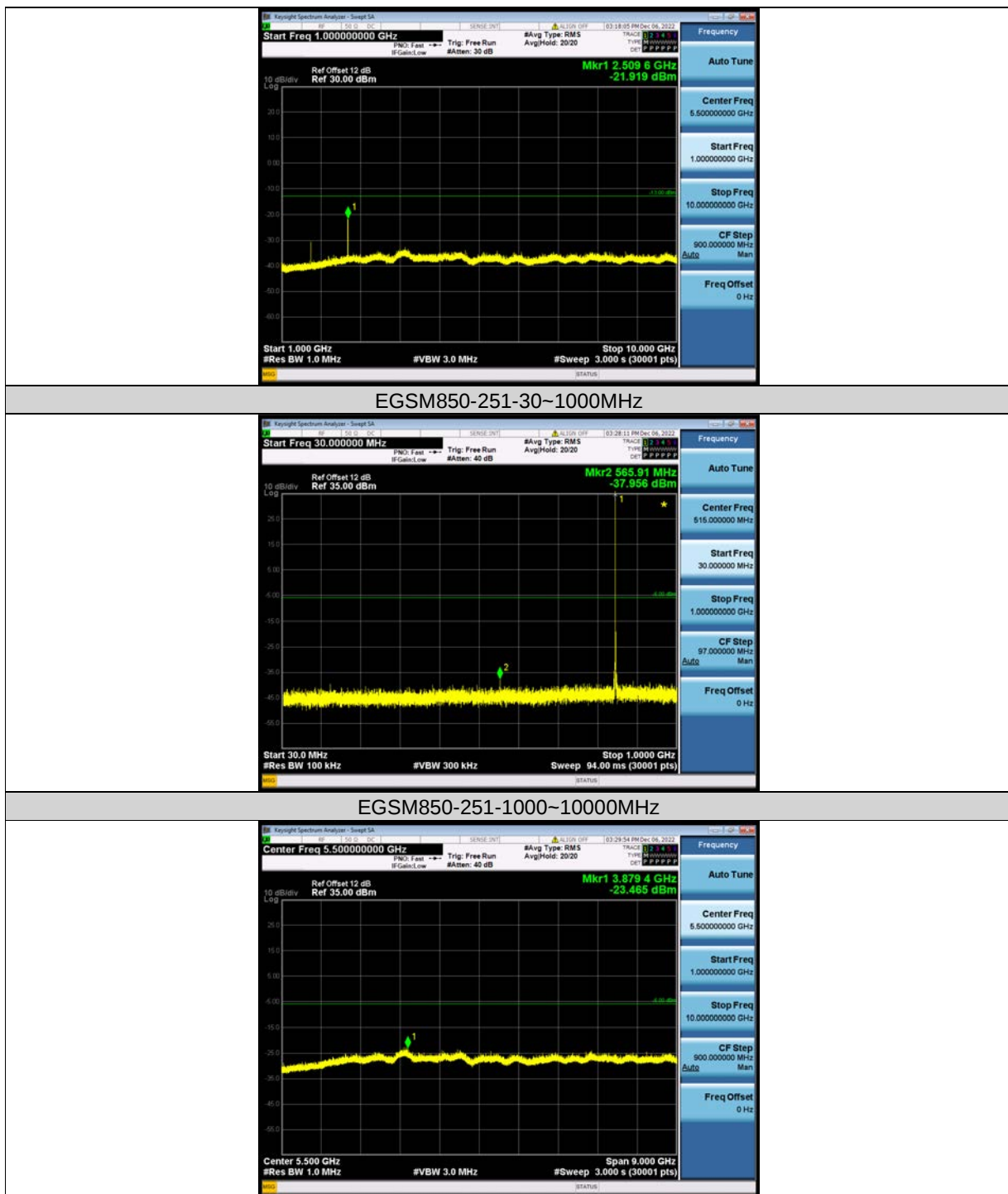
| Band    | Channel | Frequency Range(MHz) | Max.Freq. (MHz) | Result (dBm) | Limit (dBm) | Verdict |
|---------|---------|----------------------|-----------------|--------------|-------------|---------|
| GSM850  | 189     | 30~1000MHz           | 935.98          | -44.19       | -13         | PASS    |
| GSM850  | 189     | 1000~10000MHz        | 3780            | -31.84       | -13         | PASS    |
| GSM850  | 128     | 30~1000MHz           | 519.85          | -41.80       | -13         | PASS    |
| GSM850  | 128     | 1000~10000MHz        | 2512            | -35.18       | -13         | PASS    |
| GSM850  | 251     | 30~1000MHz           | 519.85          | -42.49       | -13         | PASS    |
| GSM850  | 251     | 1000~10000MHz        | 2548            | -35.53       | -13         | PASS    |
| EGSM850 | 189     | 30~1000MHz           | 549.47          | -42.45       | -13         | PASS    |
| EGSM850 | 189     | 1000~10000MHz        | 2472.7          | -27.39       | -13         | PASS    |
| EGSM850 | 128     | 30~1000MHz           | 557.68          | -40.34       | -13         | PASS    |
| EGSM850 | 128     | 1000~10000MHz        | 2509.6          | -21.92       | -13         | PASS    |
| EGSM850 | 251     | 30~1000MHz           | 565.91          | -37.96       | -13         | PASS    |
| EGSM850 | 251     | 1000~10000MHz        | 3879.4          | -23.47       | -13         | PASS    |

## Test Graphs









## FREQUENCY STABILITY

### Test Result

| Voltage |         |               |                  |                |                 |             |         |
|---------|---------|---------------|------------------|----------------|-----------------|-------------|---------|
| Band    | Channel | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| GSM850  | 189     | VL            | NT               | 29.03          | 0.034706        | ±2.5        | PASS    |
| GSM850  | 189     | VN            | NT               | 24.47          | 0.029260        | ±2.5        | PASS    |
| GSM850  | 189     | VH            | NT               | 27.18          | 0.032497        | ±2.5        | PASS    |
| GSM850  | 128     | VL            | NT               | 30.17          | 0.036602        | ±2.5        | PASS    |
| GSM850  | 128     | VN            | NT               | 24.14          | 0.029288        | ±2.5        | PASS    |
| GSM850  | 128     | VH            | NT               | 31.80          | 0.038582        | ±2.5        | PASS    |
| GSM850  | 251     | VL            | NT               | 32.64          | 0.038452        | ±2.5        | PASS    |
| GSM850  | 251     | VN            | NT               | 31.90          | 0.037587        | ±2.5        | PASS    |
| GSM850  | 251     | VH            | NT               | 31.60          | 0.037229        | ±2.5        | PASS    |
| EGSM850 | 189     | VL            | NT               | 22.18          | 0.026519        | ±2.5        | PASS    |
| EGSM850 | 189     | VN            | NT               | 28.03          | 0.033517        | ±2.5        | PASS    |
| EGSM850 | 189     | VH            | NT               | 26.08          | 0.031181        | ±2.5        | PASS    |
| EGSM850 | 128     | VL            | NT               | 25.93          | 0.031457        | ±2.5        | PASS    |
| EGSM850 | 128     | VN            | NT               | 25.73          | 0.031221        | ±2.5        | PASS    |
| EGSM850 | 128     | VH            | NT               | 24.51          | 0.029739        | ±2.5        | PASS    |
| EGSM850 | 251     | VL            | NT               | 27.49          | 0.032384        | ±2.5        | PASS    |
| EGSM850 | 251     | VN            | NT               | 21.44          | 0.025263        | ±2.5        | PASS    |
| EGSM850 | 251     | VH            | NT               | 25.69          | 0.030267        | ±2.5        | PASS    |

| Temperature |         |               |                  |                |                 |             |         |
|-------------|---------|---------------|------------------|----------------|-----------------|-------------|---------|
| Band        | Channel | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| GSM850      | 189     | NV            | -30              | 28.09          | 0.033580        | ±2.5        | PASS    |
| GSM850      | 189     | NV            | -20              | 30.15          | 0.036050        | ±2.5        | PASS    |
| GSM850      | 189     | NV            | -10              | 28.59          | 0.034178        | ±2.5        | PASS    |
| GSM850      | 189     | NV            | 0                | 29.59          | 0.035375        | ±2.5        | PASS    |
| GSM850      | 189     | NV            | 10               | 24.95          | 0.029827        | ±2.5        | PASS    |
| GSM850      | 189     | NV            | 20               | 31.94          | 0.038189        | ±2.5        | PASS    |
| GSM850      | 189     | NV            | 30               | 24.57          | 0.029372        | ±2.5        | PASS    |
| GSM850      | 189     | NV            | 40               | 30.76          | 0.036774        | ±2.5        | PASS    |
| GSM850      | 189     | NV            | 50               | 29.90          | 0.035747        | ±2.5        | PASS    |
| GSM850      | 128     | NV            | -30              | 30.97          | 0.037576        | ±2.5        | PASS    |
| GSM850      | 128     | NV            | -20              | 32.75          | 0.039739        | ±2.5        | PASS    |
| GSM850      | 128     | NV            | -10              | 29.17          | 0.035393        | ±2.5        | PASS    |
| GSM850      | 128     | NV            | 0                | 26.91          | 0.032651        | ±2.5        | PASS    |
| GSM850      | 128     | NV            | 10               | 24.30          | 0.029481        | ±2.5        | PASS    |
| GSM850      | 128     | NV            | 20               | 27.76          | 0.033680        | ±2.5        | PASS    |
| GSM850      | 128     | NV            | 30               | 29.89          | 0.036270        | ±2.5        | PASS    |
| GSM850      | 128     | NV            | 40               | 27.02          | 0.032779        | ±2.5        | PASS    |
| GSM850      | 128     | NV            | 50               | 28.77          | 0.034906        | ±2.5        | PASS    |

|         |     |    |     |       |          |      |      |
|---------|-----|----|-----|-------|----------|------|------|
| GSM850  | 251 | NV | -30 | 25.44 | 0.029974 | ±2.5 | PASS |
| GSM850  | 251 | NV | -20 | 33.49 | 0.039454 | ±2.5 | PASS |
| GSM850  | 251 | NV | -10 | 31.12 | 0.036661 | ±2.5 | PASS |
| GSM850  | 251 | NV | 0   | 30.26 | 0.035648 | ±2.5 | PASS |
| GSM850  | 251 | NV | 10  | 25.53 | 0.030074 | ±2.5 | PASS |
| GSM850  | 251 | NV | 20  | 28.15 | 0.033168 | ±2.5 | PASS |
| GSM850  | 251 | NV | 30  | 25.65 | 0.030215 | ±2.5 | PASS |
| GSM850  | 251 | NV | 40  | 33.05 | 0.038938 | ±2.5 | PASS |
| GSM850  | 251 | NV | 50  | 25.62 | 0.030187 | ±2.5 | PASS |
| EGSM850 | 189 | NV | -30 | 21.15 | 0.025285 | ±2.5 | PASS |
| EGSM850 | 189 | NV | -20 | 19.90 | 0.023789 | ±2.5 | PASS |
| EGSM850 | 189 | NV | -10 | 30.41 | 0.036353 | ±2.5 | PASS |
| EGSM850 | 189 | NV | 0   | 22.48 | 0.026877 | ±2.5 | PASS |
| EGSM850 | 189 | NV | 10  | 22.13 | 0.026460 | ±2.5 | PASS |
| EGSM850 | 189 | NV | 20  | 26.41 | 0.031572 | ±2.5 | PASS |
| EGSM850 | 189 | NV | 30  | 21.30 | 0.025460 | ±2.5 | PASS |
| EGSM850 | 189 | NV | 40  | 26.46 | 0.031641 | ±2.5 | PASS |
| EGSM850 | 189 | NV | 50  | 21.49 | 0.025692 | ±2.5 | PASS |
| EGSM850 | 128 | NV | -30 | 21.07 | 0.025565 | ±2.5 | PASS |
| EGSM850 | 128 | NV | -20 | 30.31 | 0.036776 | ±2.5 | PASS |
| EGSM850 | 128 | NV | -10 | 22.01 | 0.026711 | ±2.5 | PASS |
| EGSM850 | 128 | NV | 0   | 25.19 | 0.030567 | ±2.5 | PASS |
| EGSM850 | 128 | NV | 10  | 25.96 | 0.031493 | ±2.5 | PASS |
| EGSM850 | 128 | NV | 20  | 24.20 | 0.029358 | ±2.5 | PASS |
| EGSM850 | 128 | NV | 30  | 26.54 | 0.032200 | ±2.5 | PASS |
| EGSM850 | 128 | NV | 40  | 29.35 | 0.035615 | ±2.5 | PASS |
| EGSM850 | 128 | NV | 50  | 21.92 | 0.026592 | ±2.5 | PASS |
| EGSM850 | 251 | NV | -30 | 22.59 | 0.026619 | ±2.5 | PASS |
| EGSM850 | 251 | NV | -20 | 28.47 | 0.033541 | ±2.5 | PASS |
| EGSM850 | 251 | NV | -10 | 28.88 | 0.034019 | ±2.5 | PASS |
| EGSM850 | 251 | NV | 0   | 30.58 | 0.036022 | ±2.5 | PASS |
| EGSM850 | 251 | NV | 10  | 23.65 | 0.027868 | ±2.5 | PASS |
| EGSM850 | 251 | NV | 20  | 23.66 | 0.027873 | ±2.5 | PASS |
| EGSM850 | 251 | NV | 30  | 22.44 | 0.026433 | ±2.5 | PASS |
| EGSM850 | 251 | NV | 40  | 22.83 | 0.026897 | ±2.5 | PASS |
| EGSM850 | 251 | NV | 50  | 25.96 | 0.030586 | ±2.5 | PASS |

## WCMDA BAND5

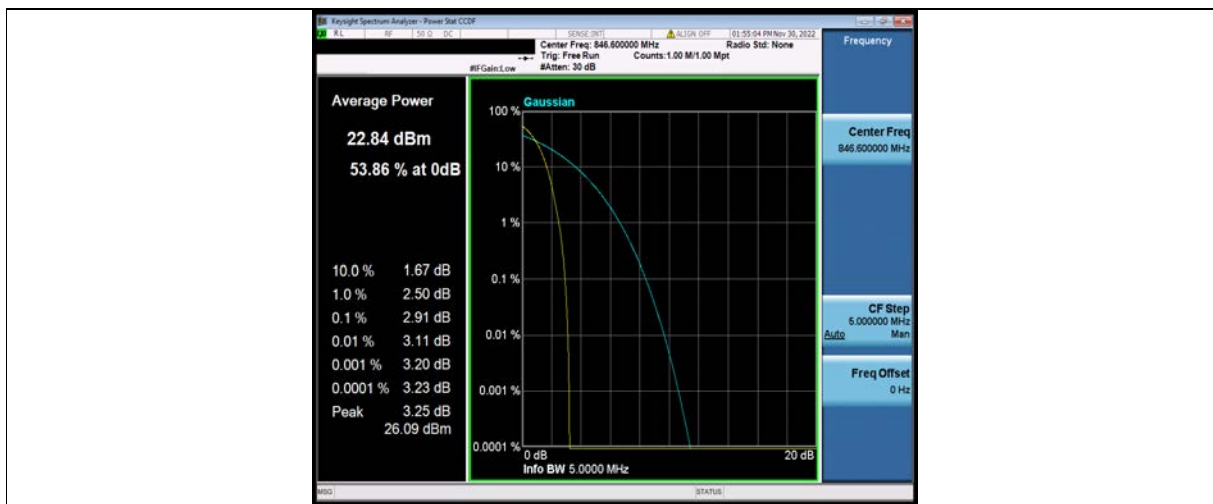
### PEAK-TO-AVERAGE RATIO

#### Test Result

| Band  | Channel | Peak-to-Average Ratio(dB) | Limit(dBm) | Verdict |
|-------|---------|---------------------------|------------|---------|
| Band5 | 4132    | 3.26                      | 13         | PASS    |
| Band5 | 4182    | 2.88                      | 13         | PASS    |
| Band5 | 4233    | 2.91                      | 13         | PASS    |

## Test Graphs





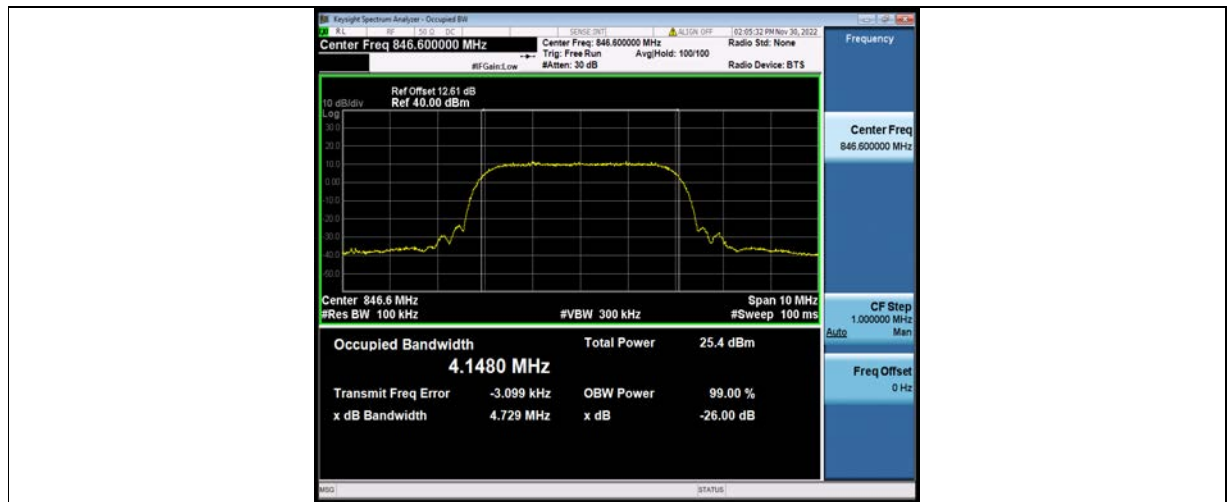
## 26DB BANDWIDTH AND OCCUPIED BANDWIDTH

### Test Result

| Band  | Channel | Occupied Bandwidth<br>(MHz) | 26dB Bandwidth<br>(MHz) | Limit(MHz) | Verdict |
|-------|---------|-----------------------------|-------------------------|------------|---------|
| Band5 | 4132    | 4.1524                      | 4.727                   | ---        | PASS    |
| Band5 | 4182    | 4.1521                      | 4.744                   | ---        | PASS    |
| Band5 | 4233    | 4.1480                      | 4.729                   | ---        | PASS    |

## Test Graphs







Test Report No.: W7L-P23100014RF04

## BAND EDGE

### Test Result

| Band  | Channel | Frequency (MHz) | Result (dBm) | Limit(dBm) | Verdict |
|-------|---------|-----------------|--------------|------------|---------|
| Band5 | 4132    | 823.85          | -27.60       | -13        | PASS    |
| Band5 | 4233    | 849.00          | -26.89       | -13        | PASS    |

## Test Graphs

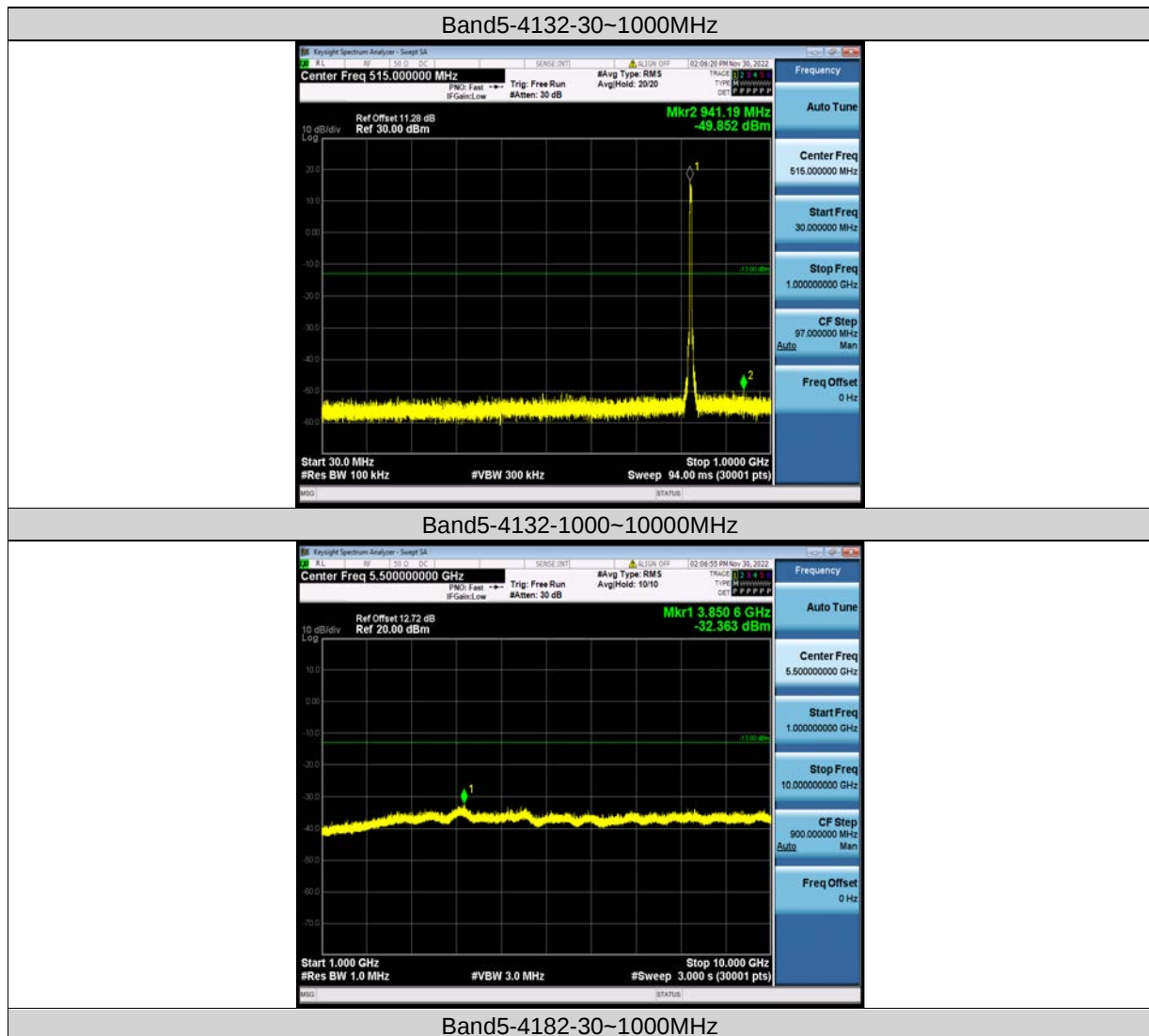


## CONDUCTED SPURIOUS EMISSION

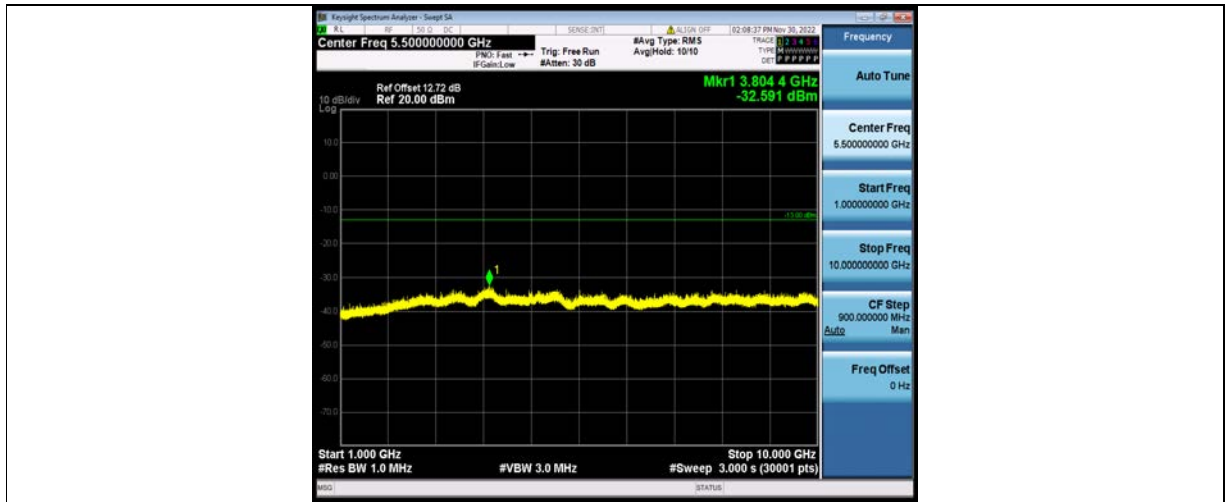
### Test Result

| Band  | Channel | Frequency Range (Mhz) | Frequency (dBm) | Result (dBm) | Limit (dBm) | Verdict |
|-------|---------|-----------------------|-----------------|--------------|-------------|---------|
| Band5 | 4132    | 30~1000MHz            | 941.19          | -49.85       | -13         | PASS    |
| Band5 | 4132    | 1000~10000MHz         | 3850.6          | -32.36       | -13         | PASS    |
| Band5 | 4182    | 30~1000MHz            | 951.66          | -50.21       | -13         | PASS    |
| Band5 | 4182    | 1000~10000MHz         | 3788.5          | -32.43       | -13         | PASS    |
| Band5 | 4233    | 30~1000MHz            | 588.07          | -50.42       | -13         | PASS    |
| Band5 | 4233    | 1000~10000MHz         | 3804.4          | -32.59       | -13         | PASS    |

## Test Graphs







## FREQUENCY STABILITY

### Test Result

| Voltage |         |               |                  |                |                 |             |         |
|---------|---------|---------------|------------------|----------------|-----------------|-------------|---------|
| Band    | Channel | Voltage (Vdc) | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| Band5   | 4132    | VL            | NT               | -0.27          | -0.000327       | ±2.5        | PASS    |
| Band5   | 4132    | VN            | NT               | -0.25          | -0.000303       | ±2.5        | PASS    |
| Band5   | 4132    | VH            | NT               | -0.09          | -0.000109       | ±2.5        | PASS    |
| Band5   | 4182    | VL            | NT               | -0.01          | -0.000012       | ±2.5        | PASS    |
| Band5   | 4182    | VN            | NT               | 0.01           | 0.000012        | ±2.5        | PASS    |
| Band5   | 4182    | VH            | NT               | 0.16           | 0.000191        | ±2.5        | PASS    |
| Band5   | 4233    | VL            | NT               | 0.07           | 0.000083        | ±2.5        | PASS    |
| Band5   | 4233    | VN            | NT               | 0.06           | 0.000071        | ±2.5        | PASS    |
| Band5   | 4233    | VH            | NT               | 0.14           | 0.000165        | ±2.5        | PASS    |

| Temperature |         |               |                  |                |                 |             |         |
|-------------|---------|---------------|------------------|----------------|-----------------|-------------|---------|
| Band        | Channel | Voltage (Vdc) | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| Band5       | 4132    | NV            | -30              | -0.05          | -0.000061       | ±2.5        | PASS    |
| Band5       | 4132    | NV            | -20              | -0.03          | -0.000036       | ±2.5        | PASS    |
| Band5       | 4132    | NV            | -10              | -0.01          | -0.000011       | ±2.5        | PASS    |
| Band5       | 4132    | NV            | 0                | 0.05           | 0.000061        | ±2.5        | PASS    |
| Band5       | 4132    | NV            | -10              | -0.02          | -0.000024       | ±2.5        | PASS    |
| Band5       | 4132    | NV            | 20               | -0.04          | -0.000048       | ±2.5        | PASS    |
| Band5       | 4132    | NV            | 30               | 0.09           | 0.000109        | ±2.5        | PASS    |
| Band5       | 4132    | NV            | 40               | 0.04           | 0.000048        | ±2.5        | PASS    |
| Band5       | 4132    | NV            | 50               | 0.04           | 0.000048        | ±2.5        | PASS    |
| Band5       | 4182    | NV            | -30              | 0.09           | 0.000108        | ±2.5        | PASS    |
| Band5       | 4182    | NV            | -20              | -0.02          | -0.000024       | ±2.5        | PASS    |
| Band5       | 4182    | NV            | 0                | 0.00           | 0.000000        | ±2.5        | PASS    |
| Band5       | 4182    | NV            | 0                | 0.00           | 0.000000        | ±2.5        | PASS    |
| Band5       | 4182    | NV            | 10               | -0.01          | -0.000012       | ±2.5        | PASS    |
| Band5       | 4182    | NV            | 20               | 0.00           | 0.000000        | ±2.5        | PASS    |
| Band5       | 4182    | NV            | 30               | 0.05           | 0.000060        | ±2.5        | PASS    |
| Band5       | 4182    | NV            | 40               | 0.06           | 0.000072        | ±2.5        | PASS    |
| Band5       | 4182    | NV            | 50               | -0.02          | -0.000024       | ±2.5        | PASS    |
| Band5       | 4233    | NV            | -30              | -0.01          | -0.000012       | ±2.5        | PASS    |
| Band5       | 4233    | NV            | -20              | 0.04           | 0.000047        | ±2.5        | PASS    |
| Band5       | 4233    | NV            | -10              | 0.06           | 0.000071        | ±2.5        | PASS    |
| Band5       | 4233    | NV            | 0                | -0.06          | -0.000071       | ±2.5        | PASS    |
| Band5       | 4233    | NV            | 10               | 0.06           | 0.000071        | ±2.5        | PASS    |
| Band5       | 4233    | NV            | 20               | 0.01           | 0.000012        | ±2.5        | PASS    |
| Band5       | 4233    | NV            | 30               | -0.10          | -0.000118       | ±2.5        | PASS    |
| Band5       | 4233    | NV            | 40               | 0.01           | 0.000012        | ±2.5        | PASS    |

|       |      |    |    |       |           |      |      |
|-------|------|----|----|-------|-----------|------|------|
| Band5 | 4233 | NV | 50 | -0.04 | -0.000047 | ±2.5 | PASS |
|-------|------|----|----|-------|-----------|------|------|

## LTE BAND26 (INCLUDING LTE BAND5)

### PEAK-TO-AVERAGE RATIO(CCDF)

#### Test Result

| Band   | Bandwidth | Modulation | Channel | RB Configuration | Result(dB) | Limit(dB) | Verdict |
|--------|-----------|------------|---------|------------------|------------|-----------|---------|
| Band26 | 1.4MHz    | QPSK       | 26797   | 1RB#0            | 3.81       | 13        | PASS    |
| Band26 | 1.4MHz    | QPSK       | 26797   | 6RB#0            | 5.19       | 13        | PASS    |
| Band26 | 1.4MHz    | QPSK       | 26915   | 1RB#0            | 3.86       | 13        | PASS    |
| Band26 | 1.4MHz    | QPSK       | 26915   | 6RB#0            | 5.19       | 13        | PASS    |
| Band26 | 1.4MHz    | QPSK       | 27033   | 1RB#0            | 3.76       | 13        | PASS    |
| Band26 | 1.4MHz    | QPSK       | 27033   | 6RB#0            | 5.09       | 13        | PASS    |
| Band26 | 1.4MHz    | 16QAM      | 26797   | 1RB#0            | 5.51       | 13        | PASS    |
| Band26 | 1.4MHz    | 16QAM      | 26797   | 6RB#0            | 6.07       | 13        | PASS    |
| Band26 | 1.4MHz    | 16QAM      | 26915   | 1RB#0            | 5.54       | 13        | PASS    |
| Band26 | 1.4MHz    | 16QAM      | 26915   | 6RB#0            | 6.00       | 13        | PASS    |
| Band26 | 1.4MHz    | 16QAM      | 27033   | 1RB#0            | 5.41       | 13        | PASS    |
| Band26 | 1.4MHz    | 16QAM      | 27033   | 6RB#0            | 5.99       | 13        | PASS    |
| Band26 | 1.4MHz    | 64QAM      | 26797   | 1RB#0            | 6.25       | 13        | PASS    |
| Band26 | 1.4MHz    | 64QAM      | 26797   | 6RB#0            | 6.48       | 13        | PASS    |
| Band26 | 1.4MHz    | 64QAM      | 26915   | 1RB#0            | 6.75       | 13        | PASS    |
| Band26 | 1.4MHz    | 64QAM      | 26915   | 6RB#0            | 6.72       | 13        | PASS    |
| Band26 | 1.4MHz    | 64QAM      | 27033   | 1RB#0            | 6.53       | 13        | PASS    |
| Band26 | 1.4MHz    | 64QAM      | 27033   | 6RB#0            | 6.42       | 13        | PASS    |
| Band26 | 3MHz      | QPSK       | 26805   | 1RB#0            | 3.65       | 13        | PASS    |
| Band26 | 3MHz      | QPSK       | 26805   | 15RB#0           | 5.12       | 13        | PASS    |
| Band26 | 3MHz      | QPSK       | 26915   | 1RB#0            | 3.63       | 13        | PASS    |
| Band26 | 3MHz      | QPSK       | 26915   | 15RB#0           | 5.13       | 13        | PASS    |
| Band26 | 3MHz      | QPSK       | 27025   | 1RB#0            | 3.68       | 13        | PASS    |
| Band26 | 3MHz      | QPSK       | 27025   | 15RB#0           | 5.08       | 13        | PASS    |
| Band26 | 3MHz      | 16QAM      | 26805   | 1RB#0            | 5.31       | 13        | PASS    |
| Band26 | 3MHz      | 16QAM      | 26805   | 15RB#0           | 5.96       | 13        | PASS    |
| Band26 | 3MHz      | 16QAM      | 26915   | 1RB#0            | 5.33       | 13        | PASS    |
| Band26 | 3MHz      | 16QAM      | 26915   | 15RB#0           | 5.98       | 13        | PASS    |
| Band26 | 3MHz      | 16QAM      | 27025   | 1RB#0            | 5.29       | 13        | PASS    |
| Band26 | 3MHz      | 16QAM      | 27025   | 15RB#0           | 5.88       | 13        | PASS    |
| Band26 | 3MHz      | 64QAM      | 26805   | 1RB#0            | 6.42       | 13        | PASS    |
| Band26 | 3MHz      | 64QAM      | 26805   | 15RB#0           | 6.79       | 13        | PASS    |
| Band26 | 3MHz      | 64QAM      | 26915   | 1RB#0            | 6.54       | 13        | PASS    |
| Band26 | 3MHz      | 64QAM      | 26915   | 15RB#0           | 6.64       | 13        | PASS    |
| Band26 | 3MHz      | 64QAM      | 27025   | 1RB#0            | 6.16       | 13        | PASS    |
| Band26 | 3MHz      | 64QAM      | 27025   | 15RB#0           | 6.66       | 13        | PASS    |
| Band26 | 5MHz      | QPSK       | 26815   | 1RB#0            | 3.66       | 13        | PASS    |
| Band26 | 5MHz      | QPSK       | 26815   | 25RB#0           | 5.15       | 13        | PASS    |
| Band26 | 5MHz      | QPSK       | 26915   | 1RB#0            | 3.64       | 13        | PASS    |
| Band26 | 5MHz      | QPSK       | 26915   | 25RB#0           | 5.19       | 13        | PASS    |



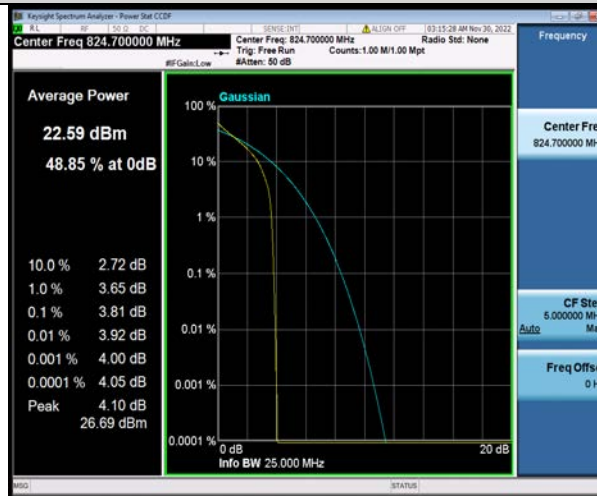
**BUREAU  
VERITAS**

**Test Report No.: W7L-P23100014RF04**

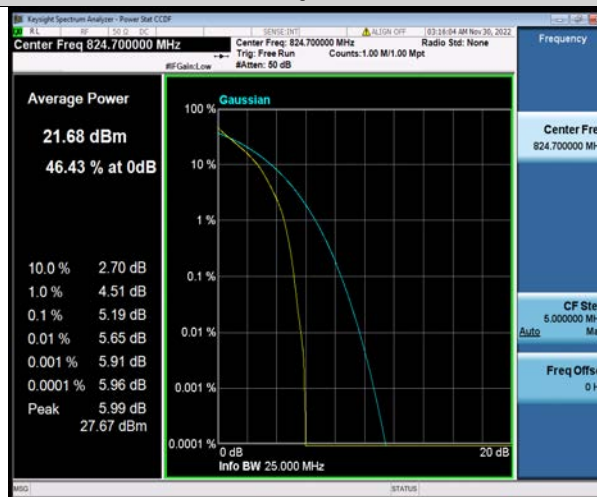
|        |       |       |       |        |      |    |      |
|--------|-------|-------|-------|--------|------|----|------|
| Band26 | 5MHz  | QPSK  | 27015 | 1RB#0  | 3.67 | 13 | PASS |
| Band26 | 5MHz  | QPSK  | 27015 | 25RB#0 | 5.25 | 13 | PASS |
| Band26 | 5MHz  | 16QAM | 26815 | 1RB#0  | 5.18 | 13 | PASS |
| Band26 | 5MHz  | 16QAM | 26815 | 25RB#0 | 5.96 | 13 | PASS |
| Band26 | 5MHz  | 16QAM | 26915 | 1RB#0  | 5.23 | 13 | PASS |
| Band26 | 5MHz  | 16QAM | 26915 | 25RB#0 | 5.98 | 13 | PASS |
| Band26 | 5MHz  | 16QAM | 27015 | 1RB#0  | 5.40 | 13 | PASS |
| Band26 | 5MHz  | 16QAM | 27015 | 25RB#0 | 6.02 | 13 | PASS |
| Band26 | 5MHz  | 64QAM | 26815 | 1RB#0  | 6.41 | 13 | PASS |
| Band26 | 5MHz  | 64QAM | 26815 | 25RB#0 | 6.64 | 13 | PASS |
| Band26 | 5MHz  | 64QAM | 26915 | 1RB#0  | 6.37 | 13 | PASS |
| Band26 | 5MHz  | 64QAM | 26915 | 25RB#0 | 6.67 | 13 | PASS |
| Band26 | 5MHz  | 64QAM | 27015 | 1RB#0  | 6.26 | 13 | PASS |
| Band26 | 5MHz  | 64QAM | 27015 | 25RB#0 | 6.68 | 13 | PASS |
| Band26 | 10MHz | QPSK  | 26840 | 1RB#0  | 3.58 | 13 | PASS |
| Band26 | 10MHz | QPSK  | 26840 | 50RB#0 | 5.16 | 13 | PASS |
| Band26 | 10MHz | QPSK  | 26915 | 1RB#0  | 3.57 | 13 | PASS |
| Band26 | 10MHz | QPSK  | 26915 | 50RB#0 | 5.16 | 13 | PASS |
| Band26 | 10MHz | QPSK  | 26990 | 1RB#0  | 3.67 | 13 | PASS |
| Band26 | 10MHz | QPSK  | 26990 | 50RB#0 | 5.22 | 13 | PASS |
| Band26 | 10MHz | 16QAM | 26840 | 1RB#0  | 5.30 | 13 | PASS |
| Band26 | 10MHz | 16QAM | 26840 | 50RB#0 | 5.98 | 13 | PASS |
| Band26 | 10MHz | 16QAM | 26915 | 1RB#0  | 5.20 | 13 | PASS |
| Band26 | 10MHz | 16QAM | 26915 | 50RB#0 | 6.00 | 13 | PASS |
| Band26 | 10MHz | 16QAM | 26990 | 1RB#0  | 5.14 | 13 | PASS |
| Band26 | 10MHz | 16QAM | 26990 | 50RB#0 | 6.04 | 13 | PASS |
| Band26 | 10MHz | 64QAM | 26840 | 1RB#0  | 6.45 | 13 | PASS |
| Band26 | 10MHz | 64QAM | 26840 | 50RB#0 | 6.63 | 13 | PASS |
| Band26 | 10MHz | 64QAM | 26915 | 1RB#0  | 6.38 | 13 | PASS |
| Band26 | 10MHz | 64QAM | 26915 | 50RB#0 | 6.69 | 13 | PASS |
| Band26 | 10MHz | 64QAM | 26990 | 1RB#0  | 6.09 | 13 | PASS |
| Band26 | 10MHz | 64QAM | 26990 | 50RB#0 | 6.65 | 13 | PASS |
| Band26 | 15MHz | QPSK  | 26865 | 1RB#0  | 3.57 | 13 | PASS |
| Band26 | 15MHz | QPSK  | 26865 | 75RB#0 | 5.41 | 13 | PASS |
| Band26 | 15MHz | QPSK  | 26915 | 1RB#0  | 3.57 | 13 | PASS |
| Band26 | 15MHz | QPSK  | 26915 | 75RB#0 | 5.41 | 13 | PASS |
| Band26 | 15MHz | QPSK  | 26965 | 1RB#0  | 3.55 | 13 | PASS |
| Band26 | 15MHz | QPSK  | 26965 | 75RB#0 | 5.48 | 13 | PASS |
| Band26 | 15MHz | 16QAM | 26865 | 1RB#0  | 5.19 | 13 | PASS |
| Band26 | 15MHz | 16QAM | 26865 | 75RB#0 | 6.10 | 13 | PASS |
| Band26 | 15MHz | 16QAM | 26915 | 1RB#0  | 5.27 | 13 | PASS |
| Band26 | 15MHz | 16QAM | 26915 | 75RB#0 | 6.11 | 13 | PASS |
| Band26 | 15MHz | 16QAM | 26965 | 1RB#0  | 5.28 | 13 | PASS |
| Band26 | 15MHz | 16QAM | 26965 | 75RB#0 | 6.17 | 13 | PASS |
| Band26 | 15MHz | 64QAM | 26865 | 1RB#0  | 6.53 | 13 | PASS |
| Band26 | 15MHz | 64QAM | 26865 | 75RB#0 | 6.70 | 13 | PASS |
| Band26 | 15MHz | 64QAM | 26915 | 1RB#0  | 6.57 | 13 | PASS |
| Band26 | 15MHz | 64QAM | 26915 | 75RB#0 | 6.67 | 13 | PASS |
| Band26 | 15MHz | 64QAM | 26965 | 1RB#0  | 6.47 | 13 | PASS |
| Band26 | 15MHz | 64QAM | 26965 | 75RB#0 | 6.66 | 13 | PASS |

## Test Graphs

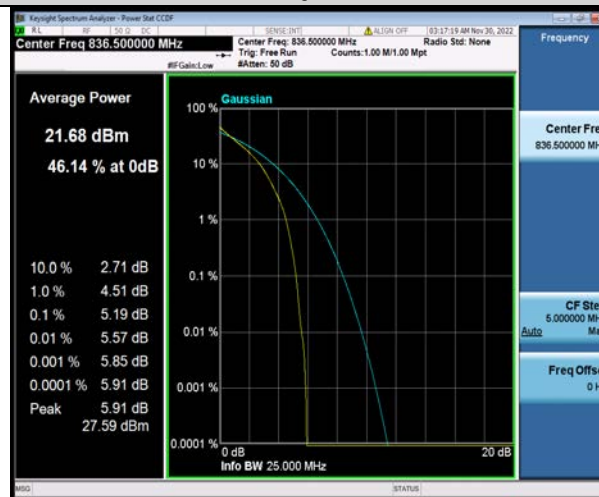
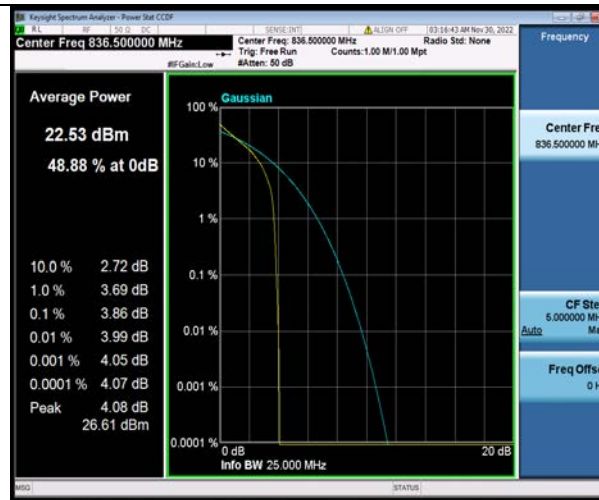
Band26-1.4MHz-QPSK-26797-1RB#0

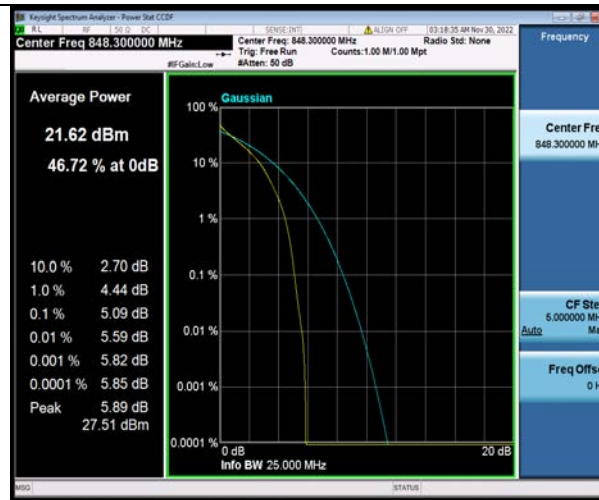


Band26-1.4MHz-QPSK-26797-6RB#0

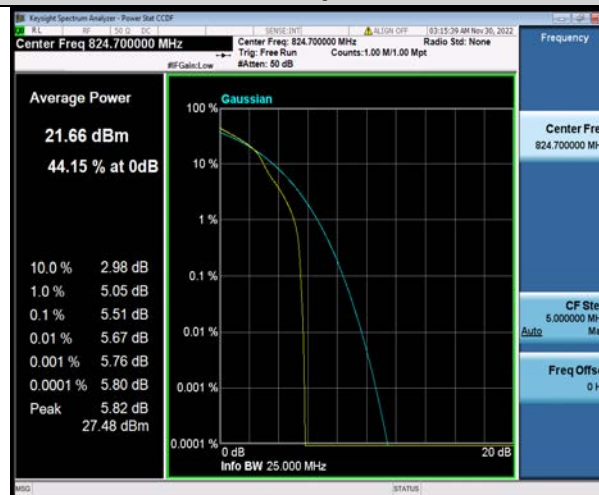


Band26-1.4MHz-QPSK-26915-1RB#0

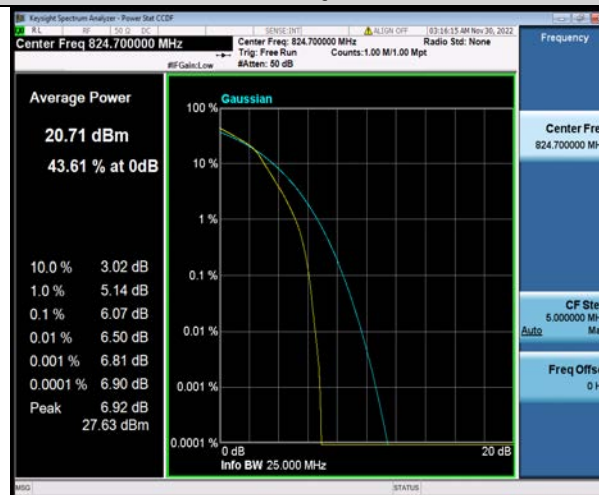




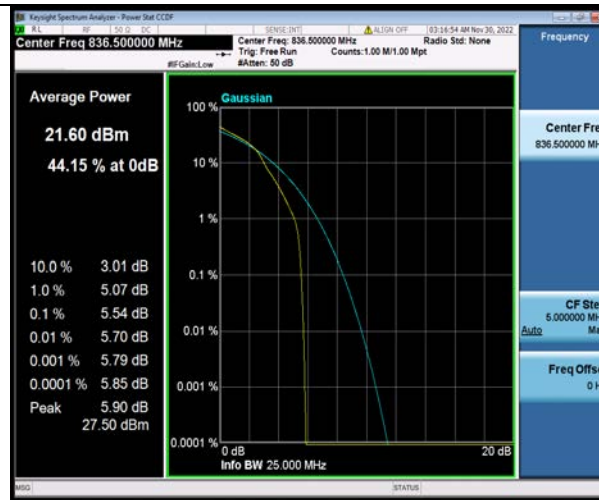
Band26-1.4MHz-16QAM-26797-1RB#0



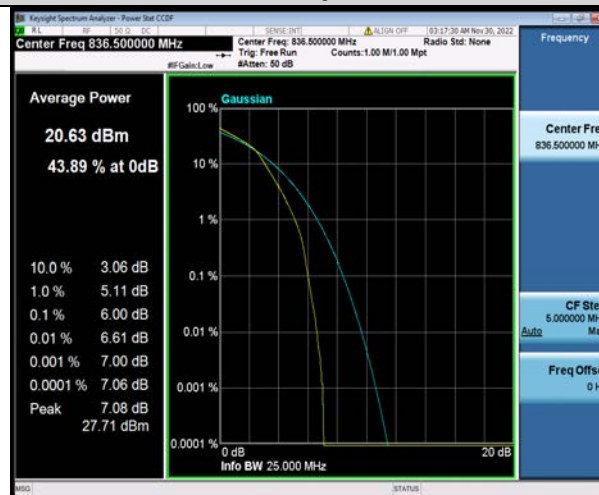
Band26-1.4MHz-16QAM-26797-6RB#0



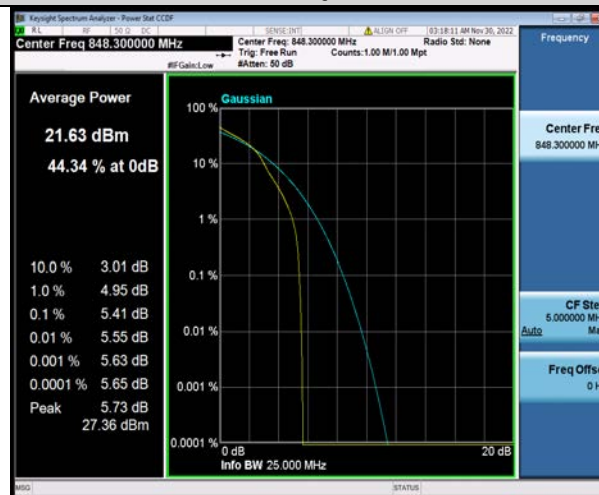
Band26-1.4MHz-16QAM-26915-1RB#0



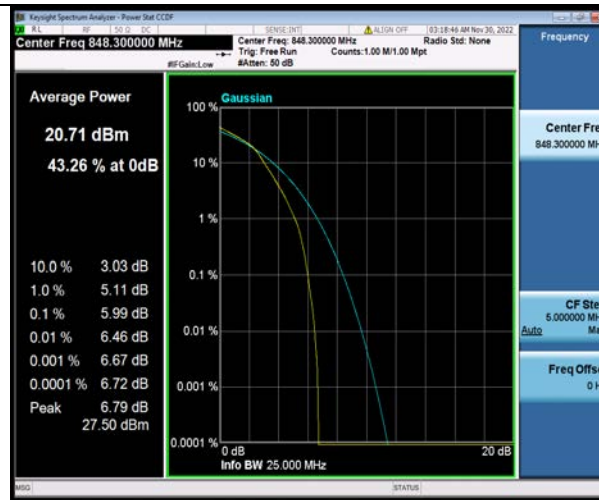
Band26-1.4MHz-16QAM-26915-6RB#0



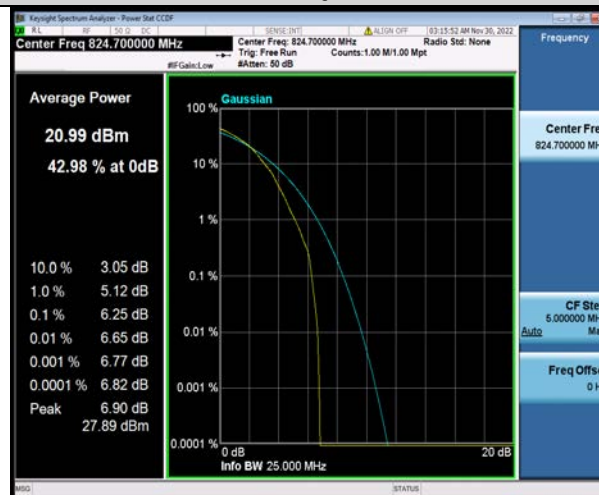
Band26-1.4MHz-16QAM-27033-1RB#0



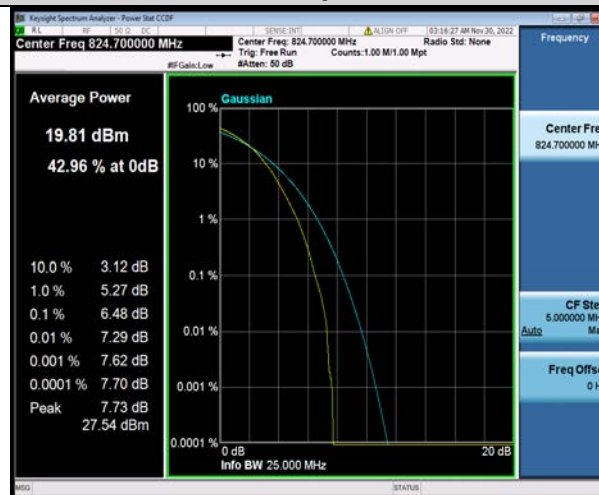
Band26-1.4MHz-16QAM-27033-6RB#0



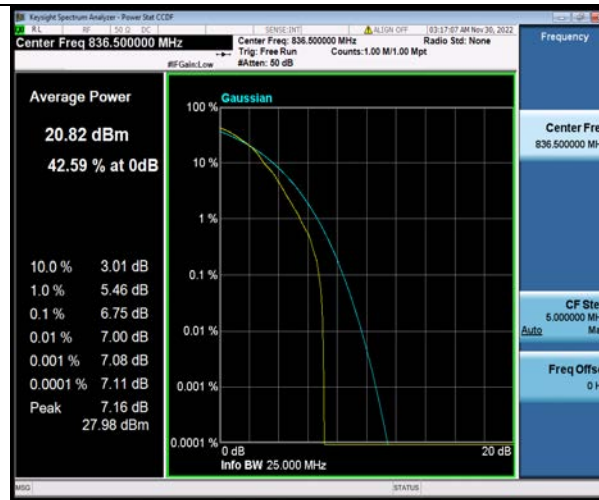
Band26-1.4MHz-64QAM-26797-1RB#0



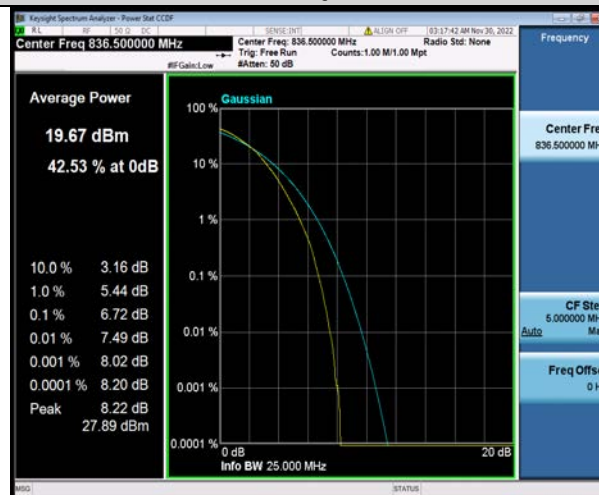
Band26-1.4MHz-64QAM-26797-6RB#0



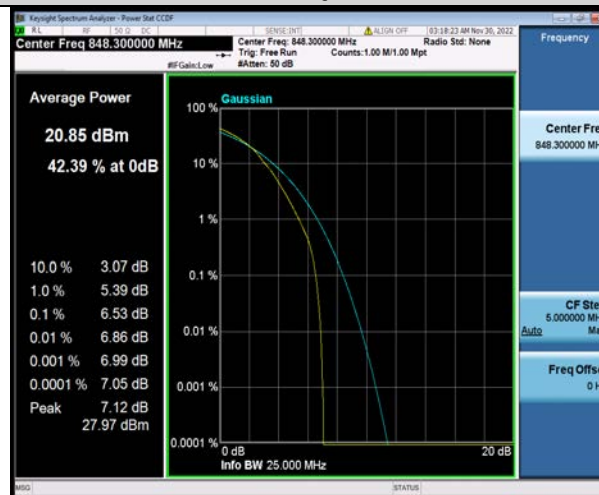
Band26-1.4MHz-64QAM-26915-1RB#0



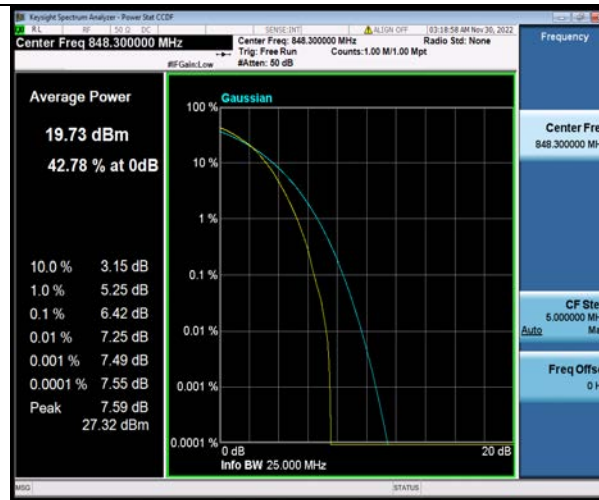
Band26-1.4MHz-64QAM-26915-6RB#0



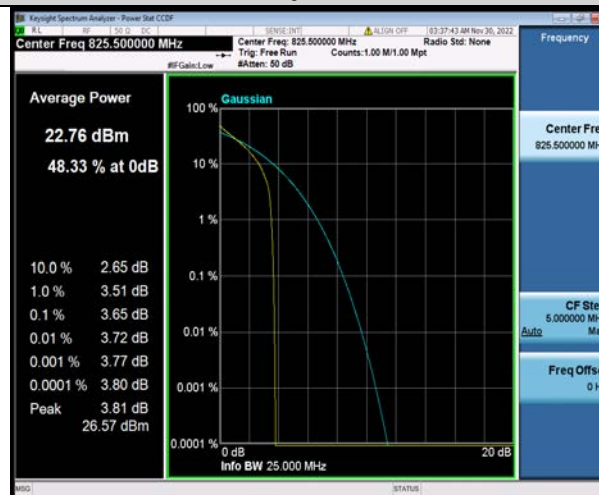
Band26-1.4MHz-64QAM-27033-1RB#0



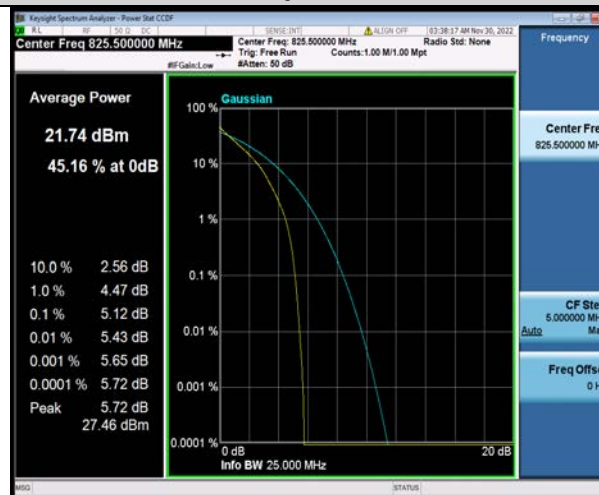
Band26-1.4MHz-64QAM-27033-6RB#0



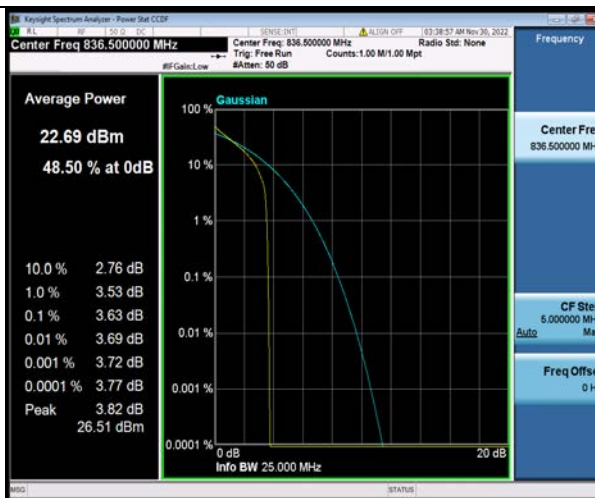
Band26-3MHz-QPSK-26805-1RB#0



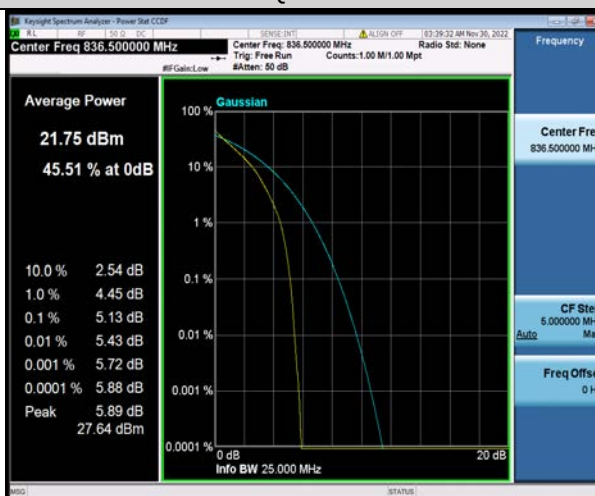
Band26-3MHz-QPSK-26805-15RB#0



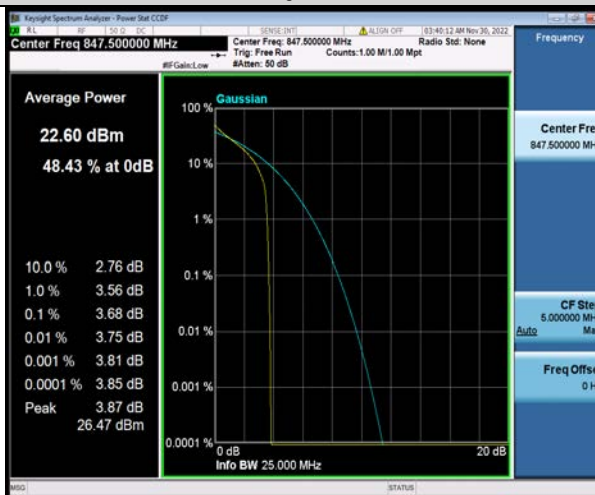
Band26-3MHz-QPSK-26915-1RB#0



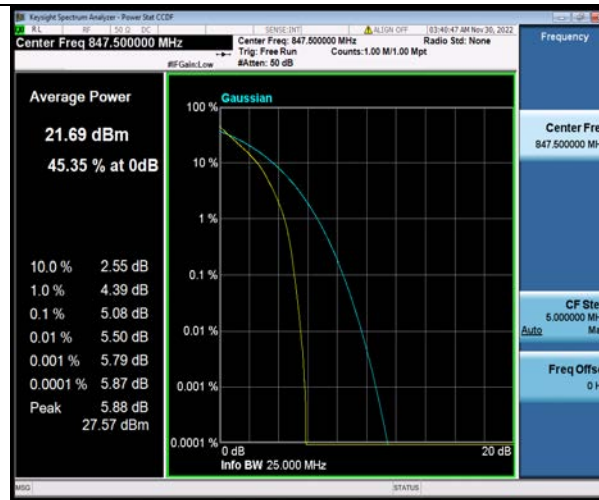
Band26-3MHz-QPSK-26915-15RB#0



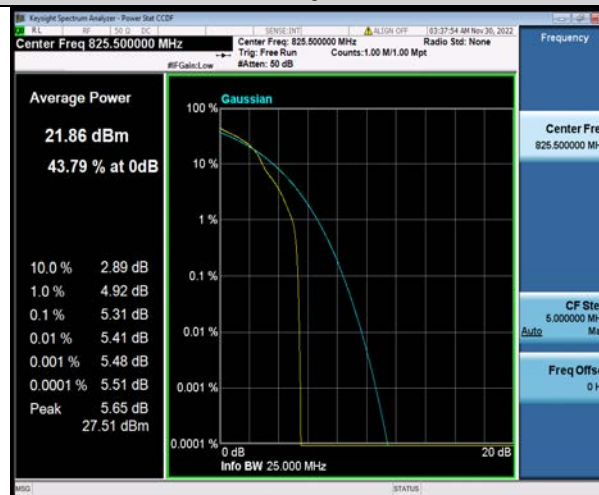
Band26-3MHz-QPSK-27025-1RB#0



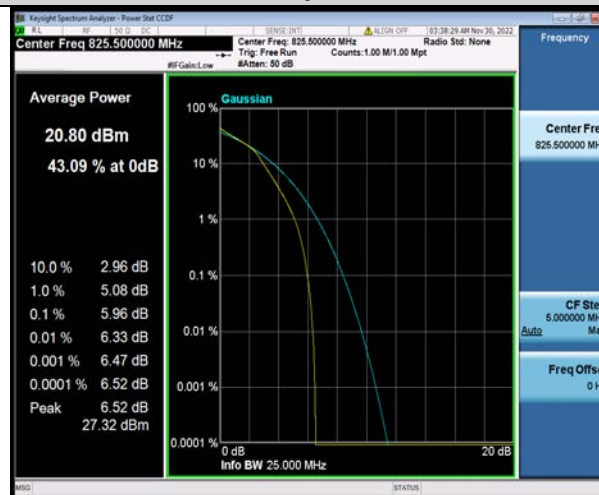
Band26-3MHz-QPSK-27025-15RB#0



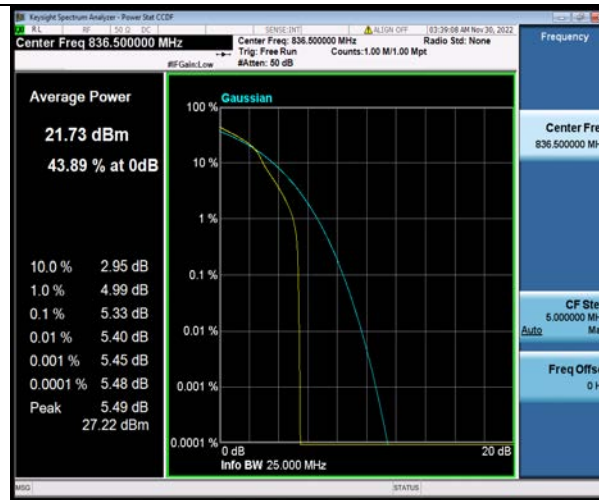
Band26-3MHz-16QAM-26805-1RB#0



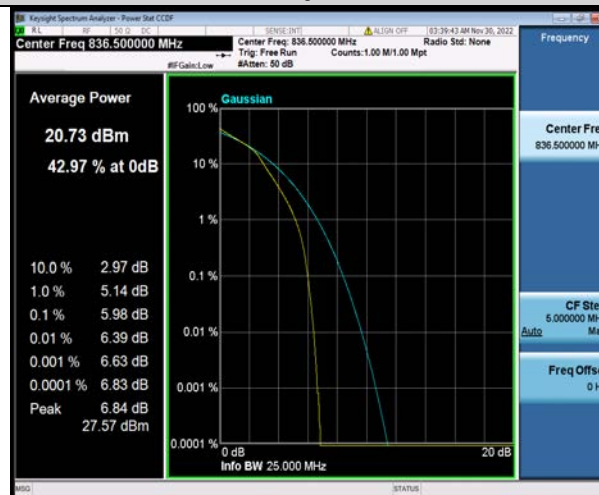
Band26-3MHz-16QAM-26805-15RB#0



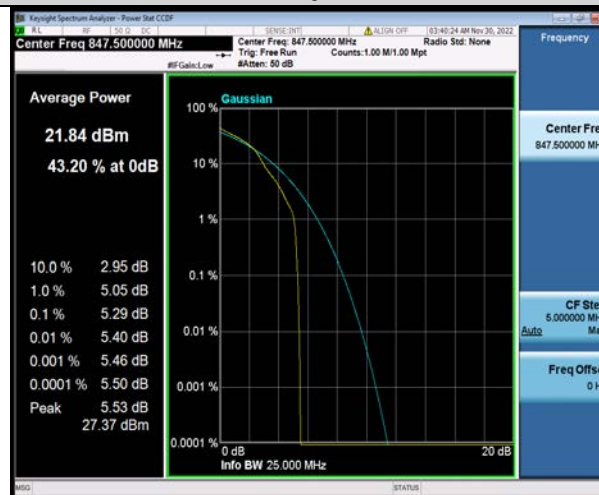
Band26-3MHz-16QAM-26915-1RB#0



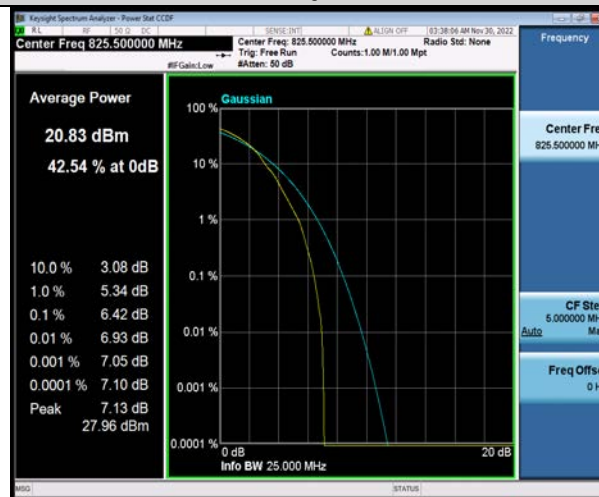
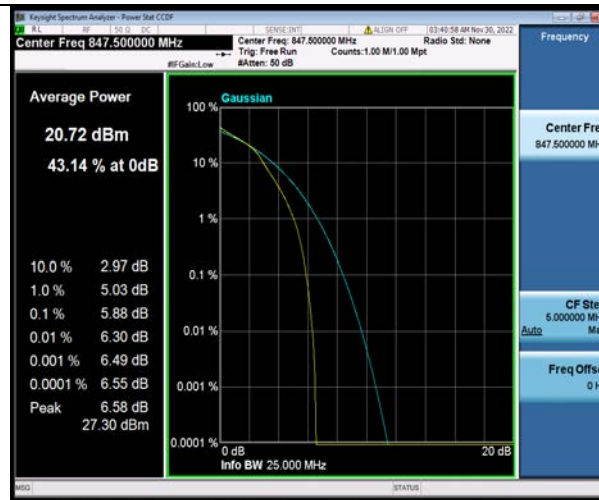
Band26-3MHz-16QAM-26915-15RB#0

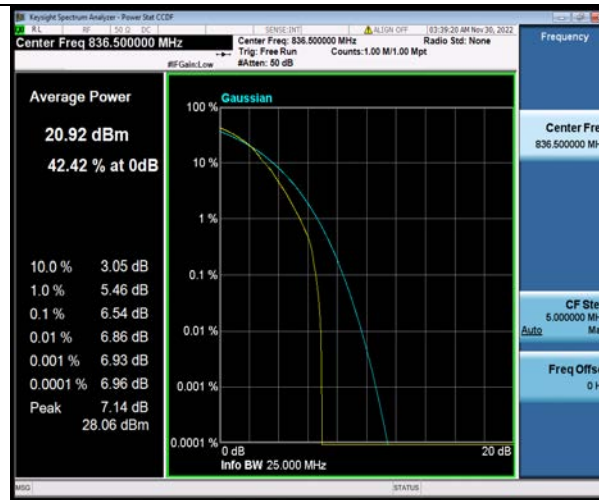


Band26-3MHz-16QAM-27025-1RB#0

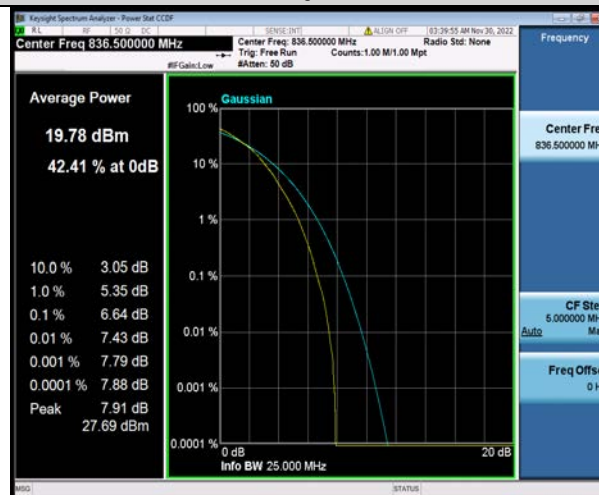


Band26-3MHz-16QAM-27025-15RB#0

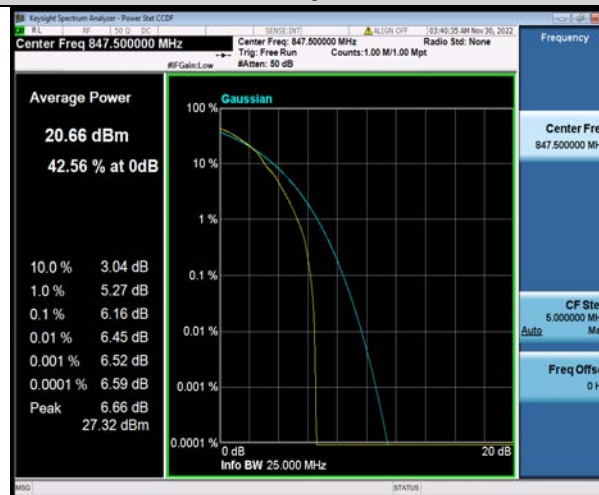




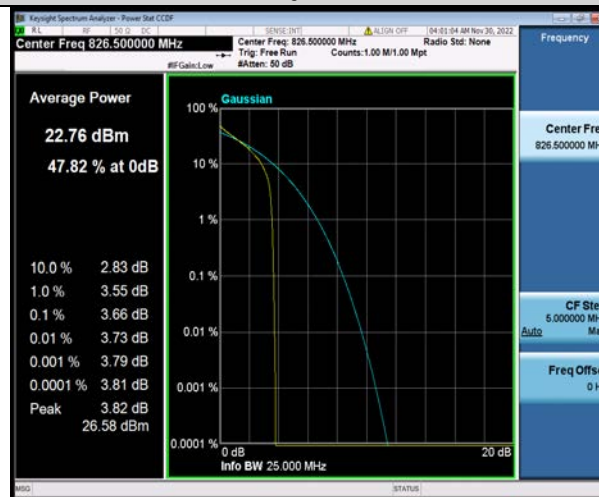
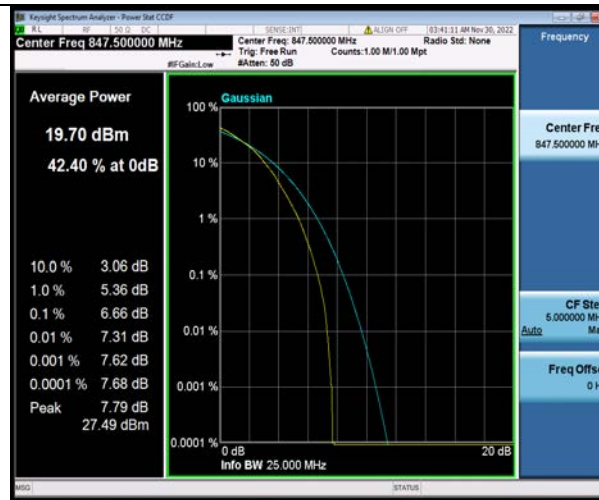
Band26-3MHz-64QAM-26915-15RB#0

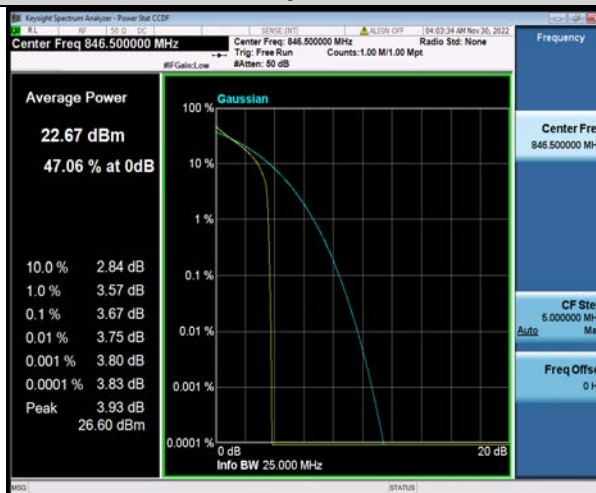
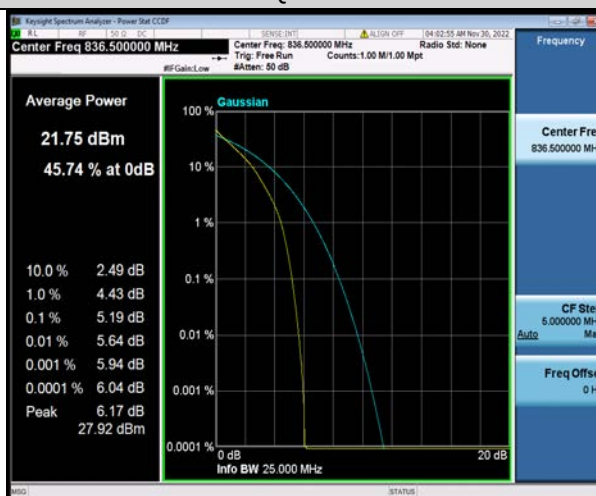
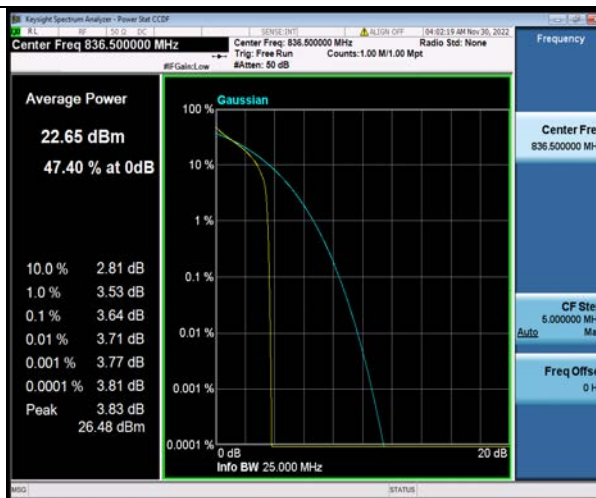


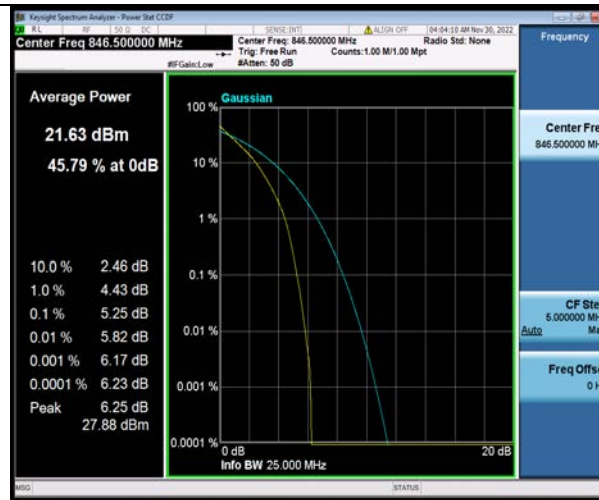
Band26-3MHz-64QAM-27025-1RB#0



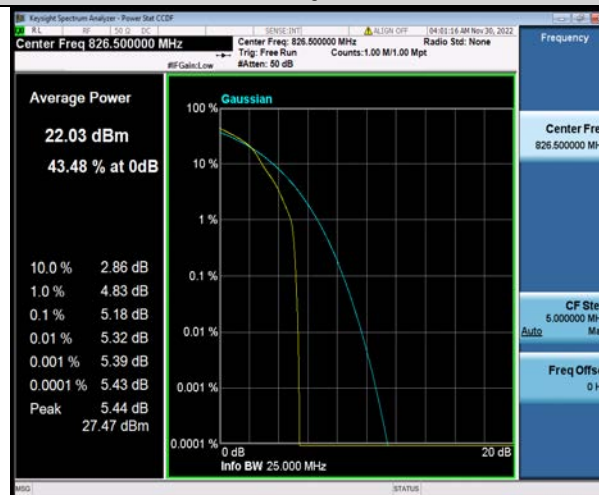
Band26-3MHz-64QAM-27025-15RB#0



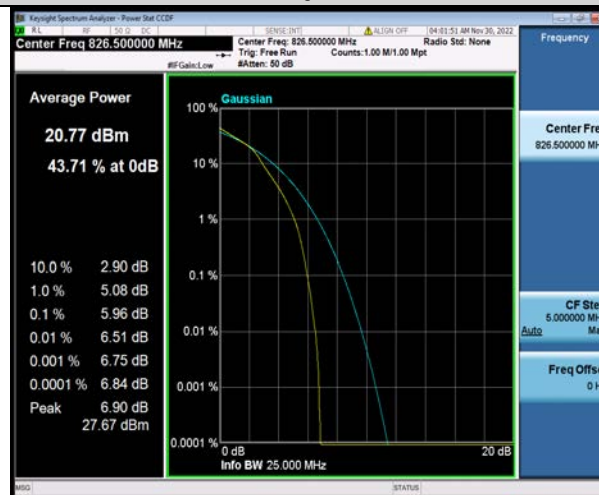




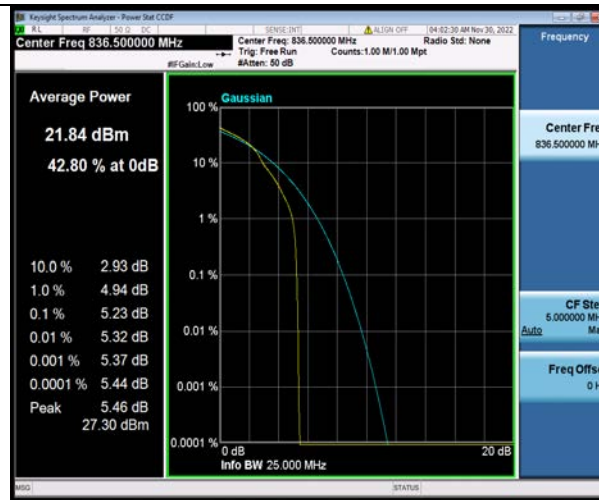
Band26-5MHz-16QAM-26815-1RB#0



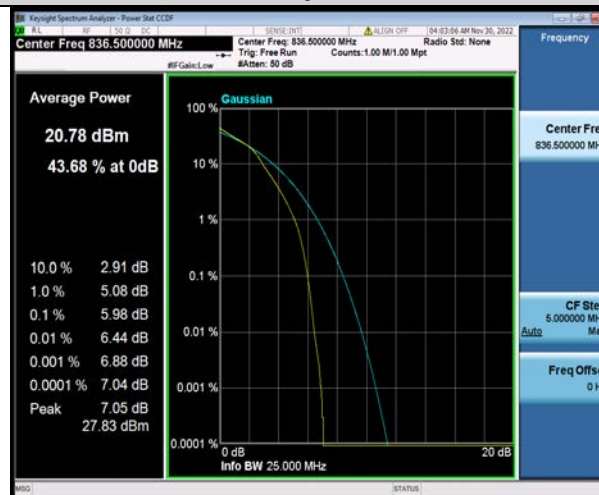
Band26-5MHz-16QAM-26815-25RB#0



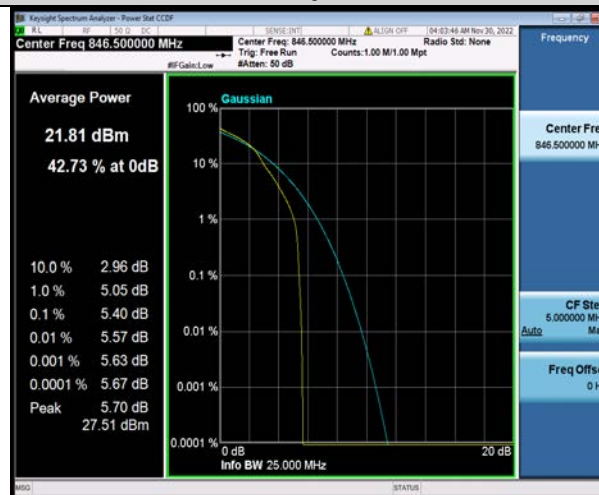
Band26-5MHz-16QAM-26915-1RB#0



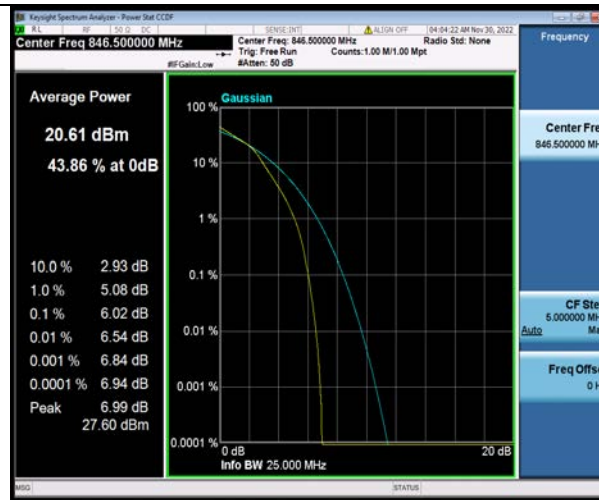
Band26-5MHz-16QAM-26915-25RB#0



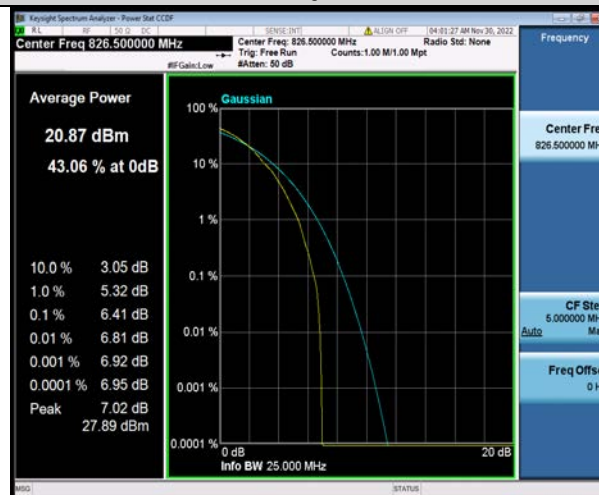
Band26-5MHz-16QAM-27015-1RB#0



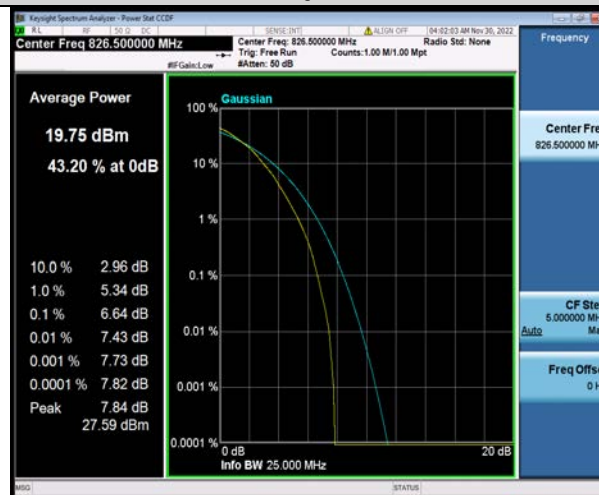
Band26-5MHz-16QAM-27015-25RB#0



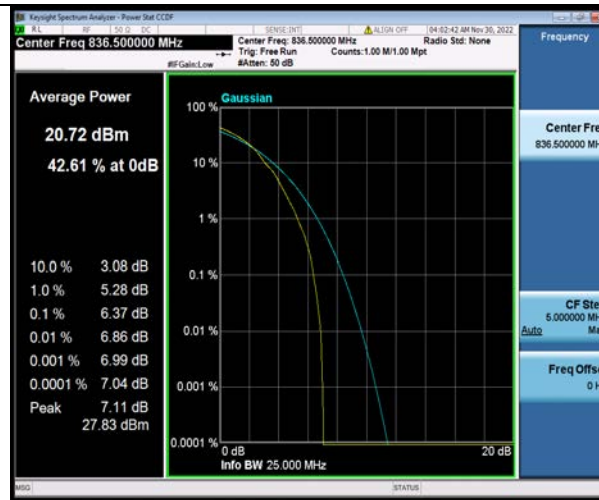
Band26-5MHz-64QAM-26815-1RB#0



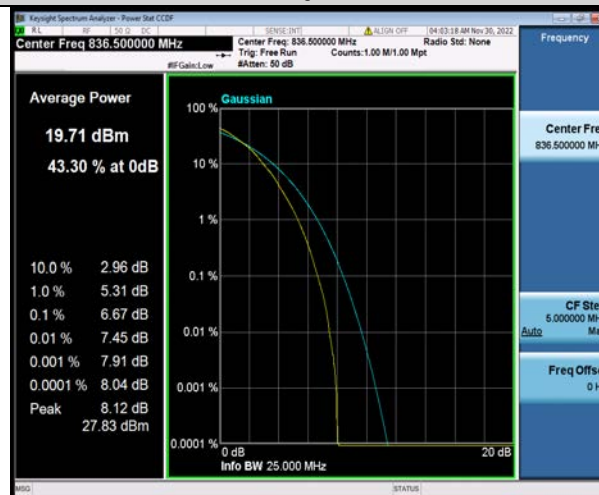
Band26-5MHz-64QAM-26815-25RB#0



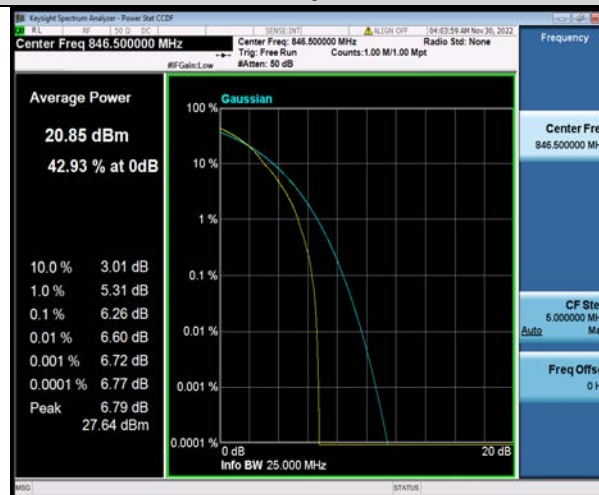
Band26-5MHz-64QAM-26915-1RB#0



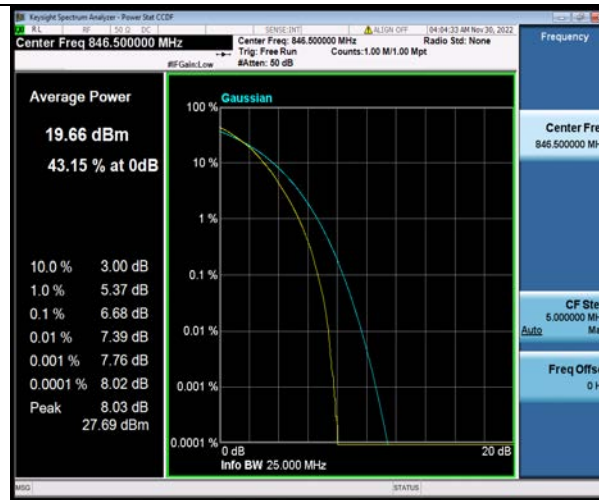
Band26-5MHz-64QAM-26915-25RB#0



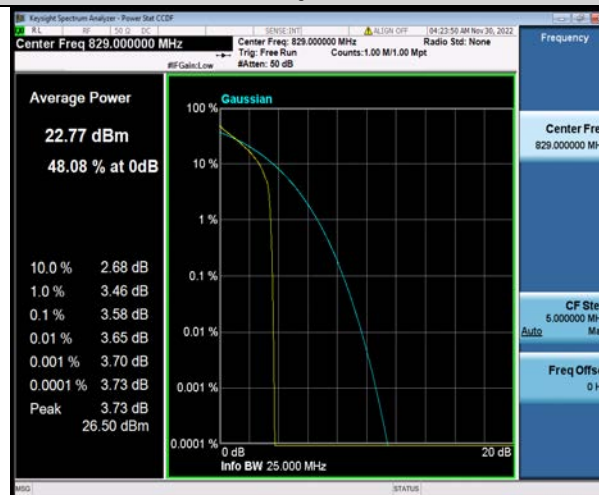
Band26-5MHz-64QAM-27015-1RB#0



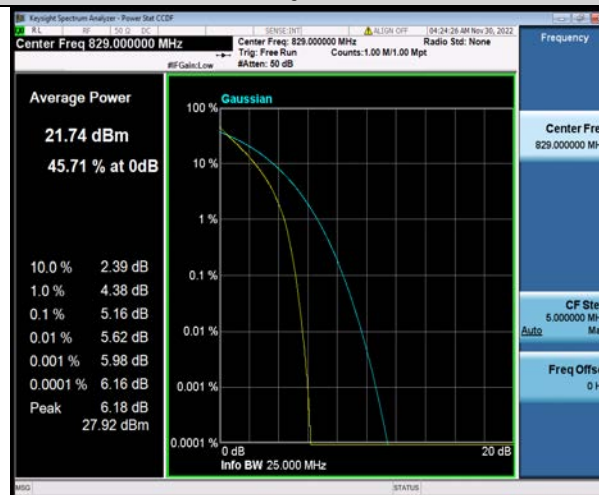
Band26-5MHz-64QAM-27015-25RB#0



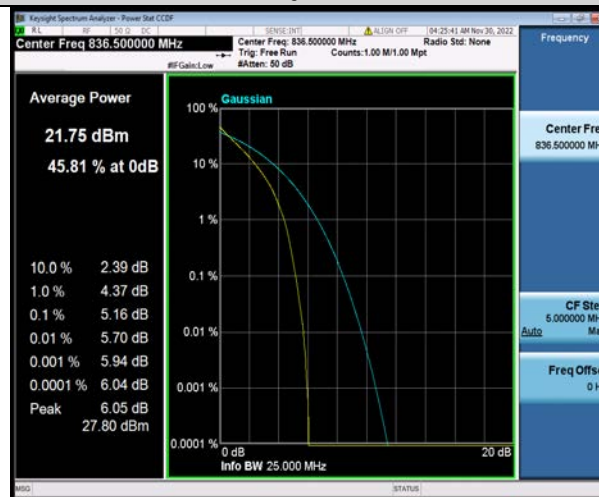
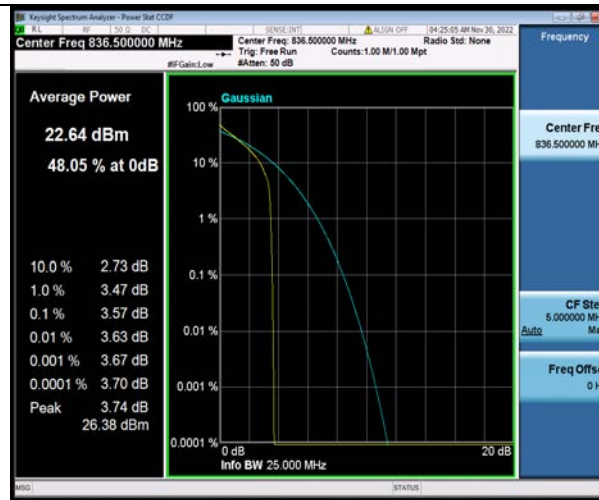
Band26-10MHz-QPSK-26840-1RB#0

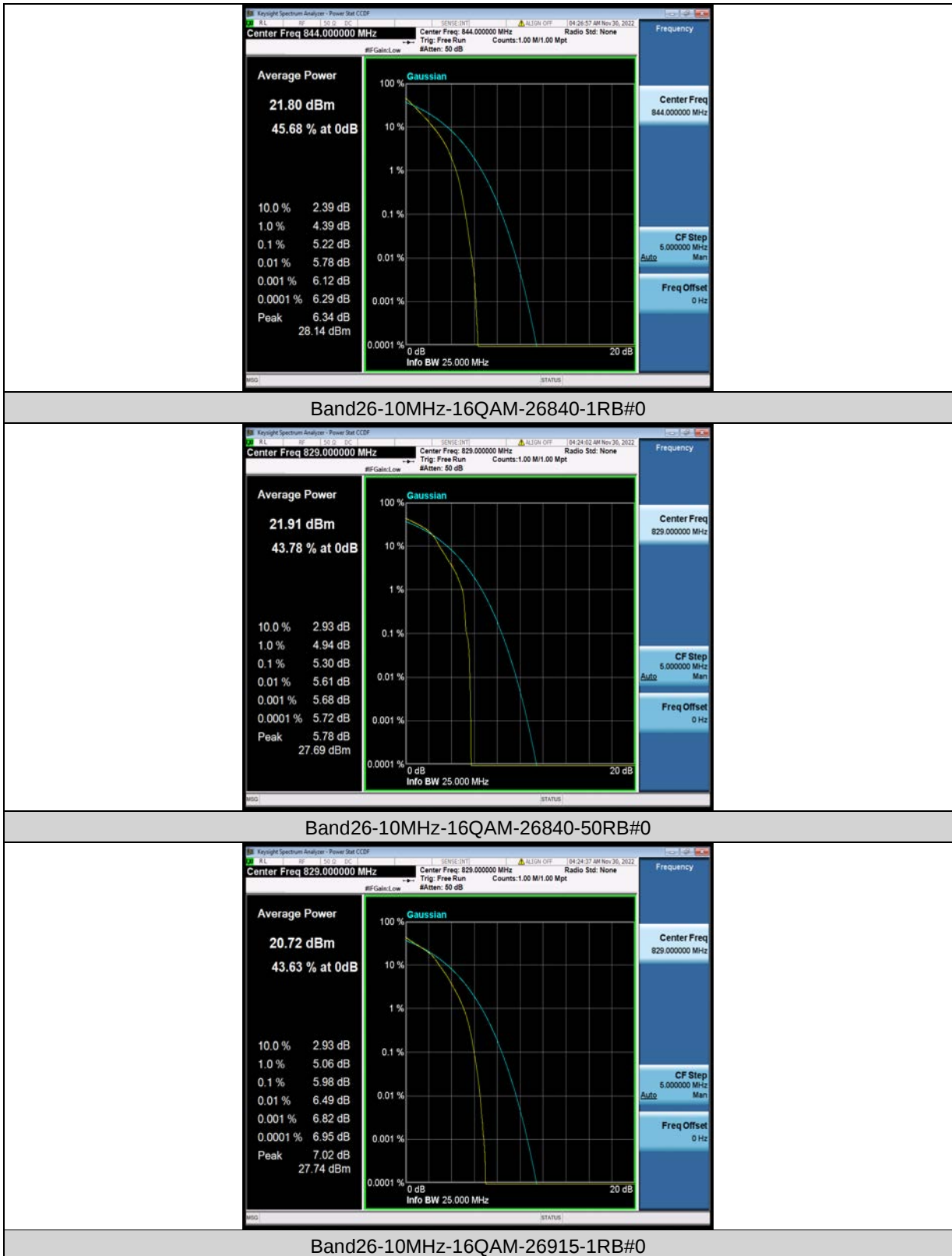


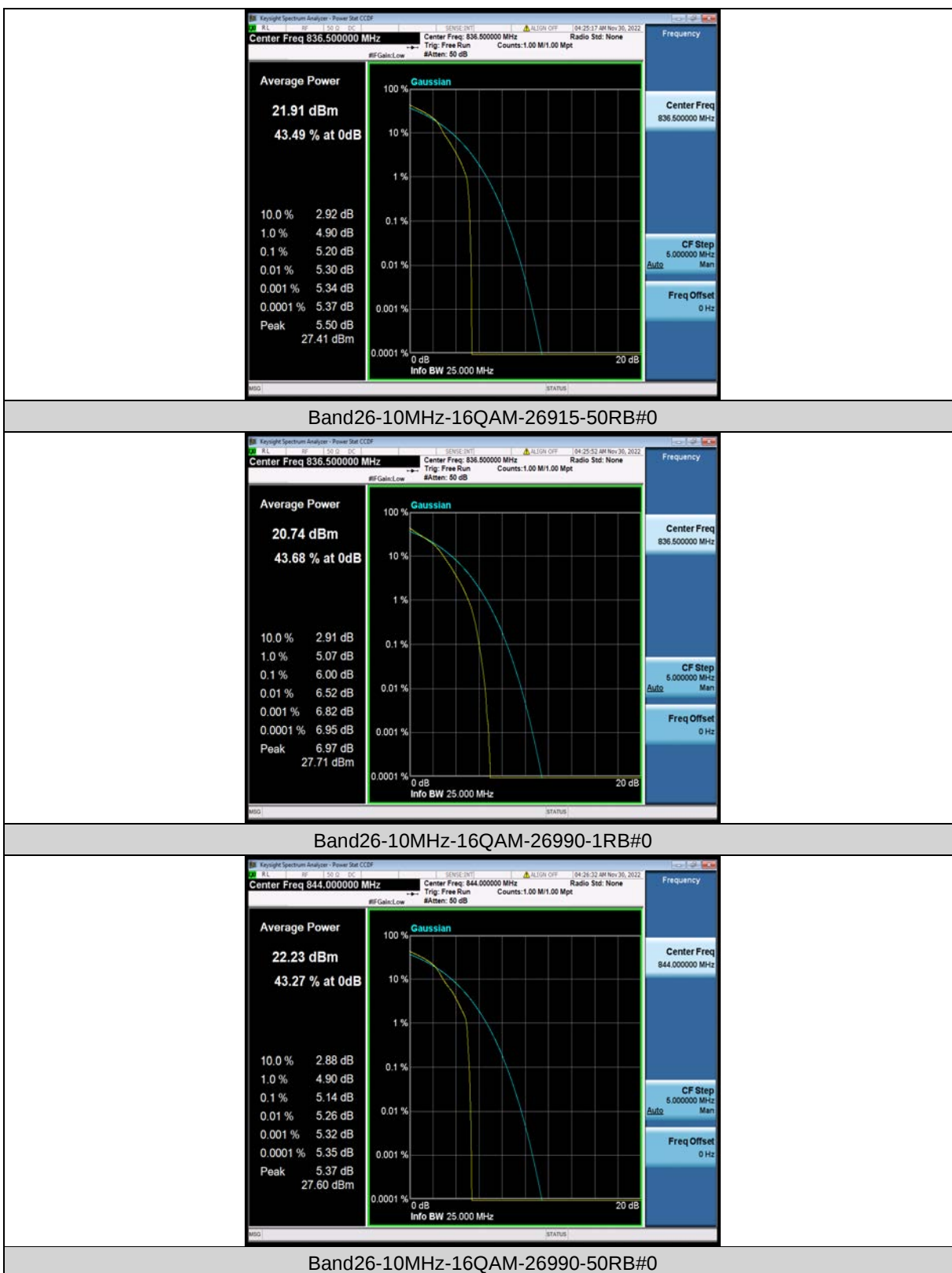
Band26-10MHz-QPSK-26840-50RB#0

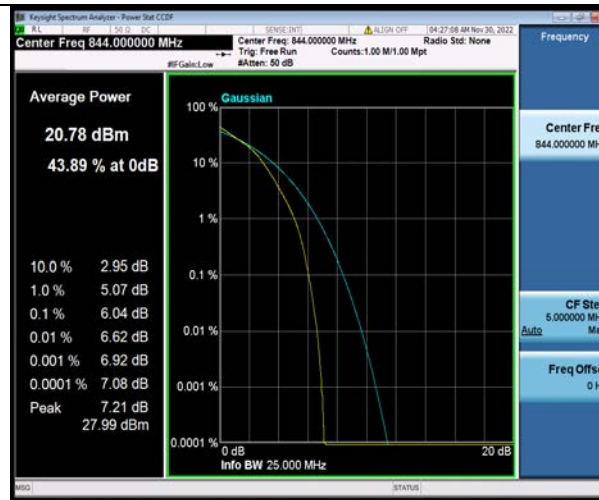


Band26-10MHz-QPSK-26915-1RB#0

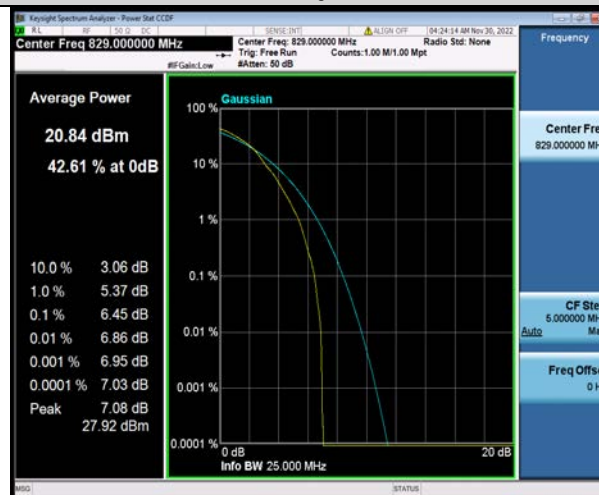




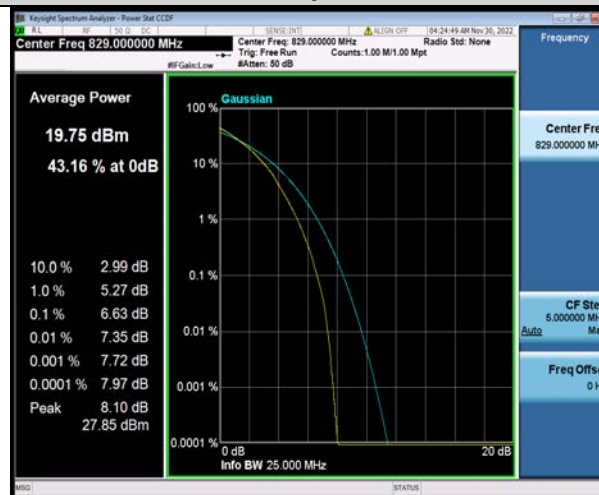




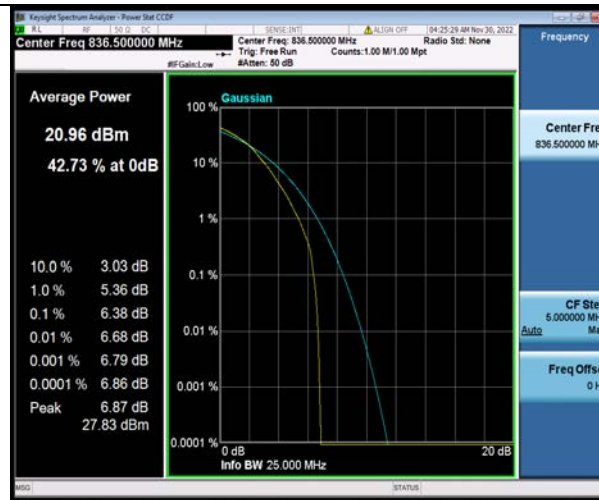
Band26-10MHz-64QAM-26840-1RB#0



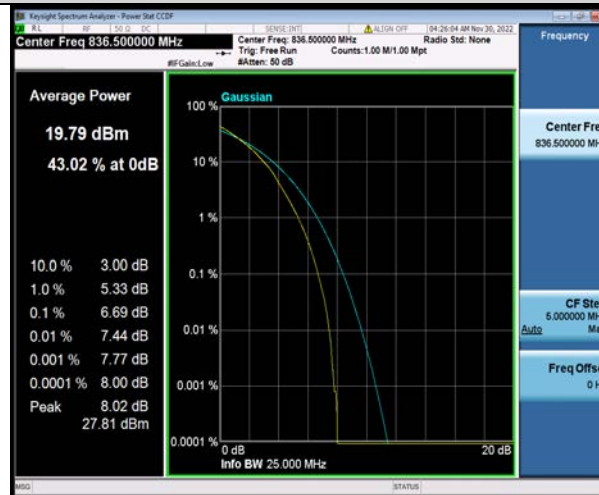
Band26-10MHz-64QAM-26840-50RB#0



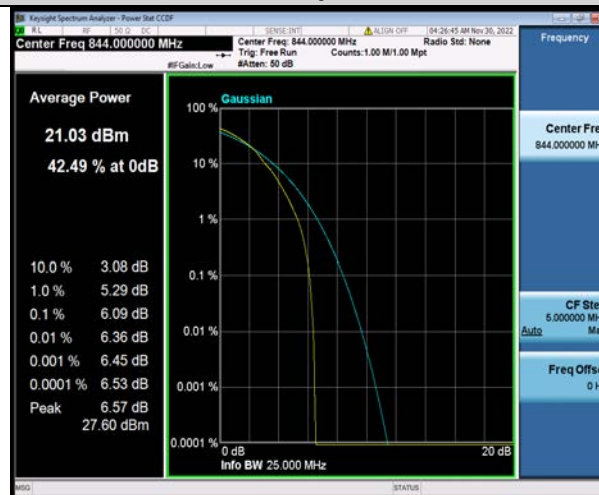
Band26-10MHz-64QAM-26915-1RB#0



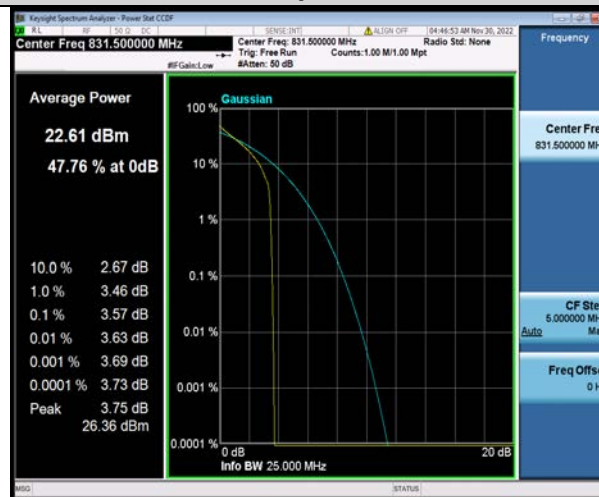
Band26-10MHz-64QAM-26915-50RB#0

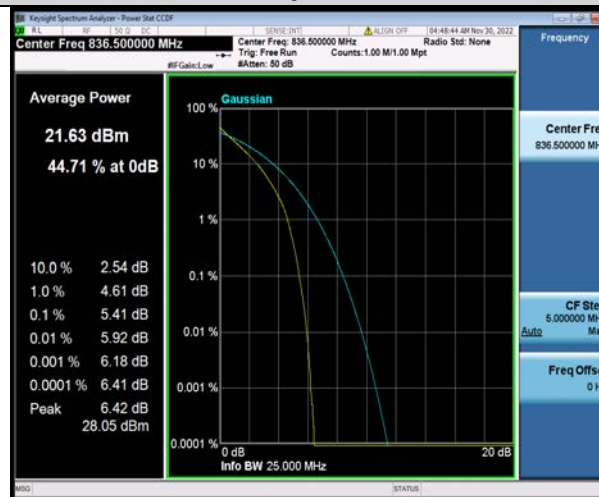


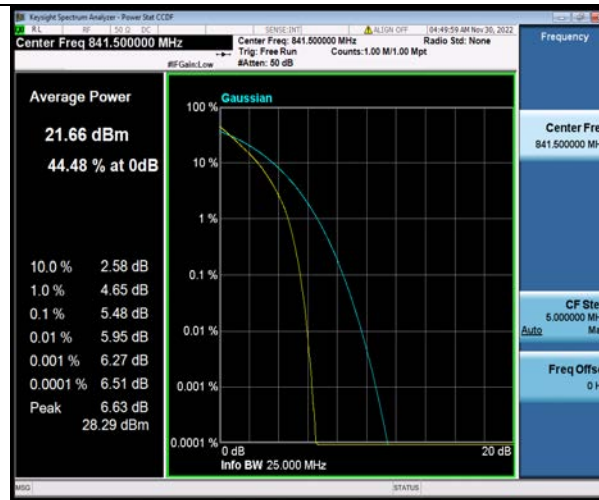
Band26-10MHz-64QAM-26990-1RB#0



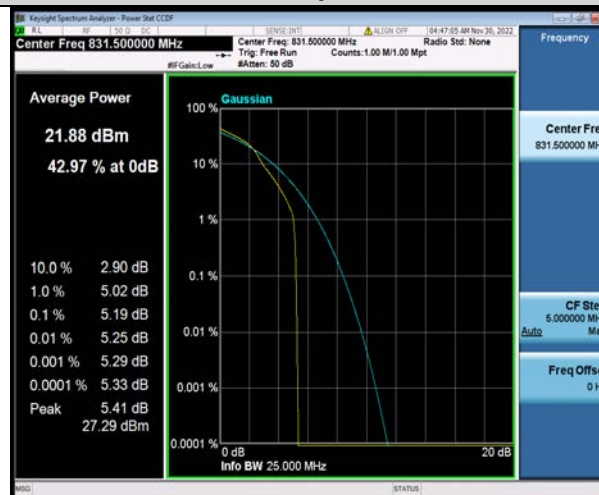
Band26-10MHz-64QAM-26990-50RB#0



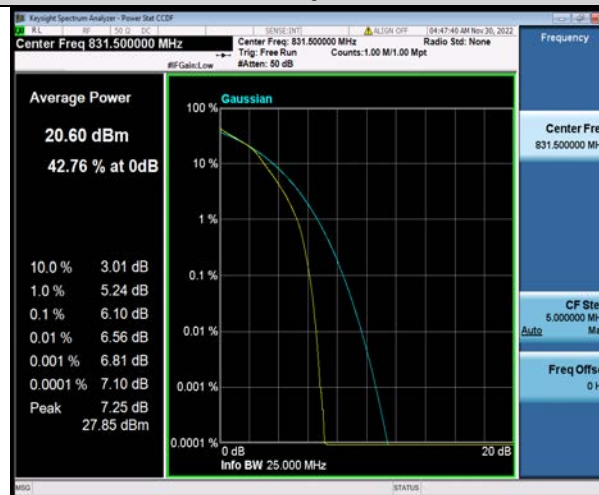




Band26-15MHz-16QAM-26865-1RB#0



Band26-15MHz-16QAM-26865-75RB#0



Band26-15MHz-16QAM-26915-1RB#0

