



## RF MEASUREMENT REPORT

---

**FCC ID:** HD5-EDA521

**Application:** Honeywell International Inc  
Honeywell Safety and Productivity Solutions

**Product:** Mobile Computer

**Model No.:** EDA52-1

**Brand Name:** Honeywell

**FCC Classification:** PCS Licensed Transmitter Held to Ear (PCE)

**FCC Rule Part(s):** Part 90 Subpart S

**Test Procedure(s):** ANSI C63.26: 2015

**Test Date:** December 14, 2021 ~ February 28, 2022

Reviewed By:

\_\_\_\_\_  
Jame Yuan

Approved By:

\_\_\_\_\_  
Robin Wu



The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.26-2015. Test results reported herein relate only to the item(s) tested.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

### Revision History

| Report No.     | Version | Description    | Issue Date | Note  |
|----------------|---------|----------------|------------|-------|
| 2112RSU039-U10 | Rev. 01 | Initial Report | 02-28-2022 | Valid |
|                |         |                |            |       |

## CONTENTS

| Description                                     | Page      |
|-------------------------------------------------|-----------|
| <b>1. General Information .....</b>             | <b>5</b>  |
| 1.1. Applicant .....                            | 5         |
| 1.2. Manufacturer .....                         | 5         |
| 1.3. Testing Facility .....                     | 5         |
| 1.4. Product Information .....                  | 6         |
| 1.5. Radio Specification .....                  | 6         |
| 1.6. Antenna Details .....                      | 7         |
| <b>2. Test Configuration .....</b>              | <b>8</b>  |
| 2.1. Configuration of Tested System .....       | 8         |
| 2.2. Test Methodology .....                     | 8         |
| 2.3. Test Environment Condition .....           | 8         |
| <b>3. Test Equipment Calibration Date .....</b> | <b>9</b>  |
| <b>4. Measurement Uncertainty .....</b>         | <b>11</b> |
| <b>5. Test Result .....</b>                     | <b>12</b> |
| 5.1. Summary .....                              | 12        |
| 5.2. Occupied Bandwidth Measurement .....       | 13        |
| 5.2.1. Test Limit .....                         | 13        |
| 5.2.2. Test Procedure .....                     | 13        |
| 5.2.3. Test Setting .....                       | 13        |
| 5.2.4. Test Setup .....                         | 13        |
| 5.2.5. Test Result .....                        | 14        |
| 5.3. Frequency Stability Measurement .....      | 18        |
| 5.3.1. Test Limit .....                         | 18        |
| 5.3.2. Test Procedure .....                     | 18        |
| 5.3.3. Test Setting .....                       | 18        |
| 5.3.4. Test Setup .....                         | 19        |
| 5.3.5. Test Result .....                        | 20        |
| 5.4. Conducted Output Power Measurement .....   | 21        |
| 5.4.1. Test Limit .....                         | 21        |
| 5.4.2. Test Procedure .....                     | 21        |
| 5.4.3. Test Setting .....                       | 21        |
| 5.4.4. Test Setup .....                         | 21        |
| 5.4.5. Test Result .....                        | 22        |
| 5.5. Band Edge Measurement .....                | 28        |

|                                                 |                                              |           |
|-------------------------------------------------|----------------------------------------------|-----------|
| 5.5.1.                                          | Test Limit .....                             | 28        |
| 5.5.2.                                          | Test Procedure .....                         | 28        |
| 5.5.3.                                          | Test Setting.....                            | 28        |
| 5.5.4.                                          | Test Setup .....                             | 29        |
| 5.5.5.                                          | Test Result.....                             | 30        |
| 5.6.                                            | Conducted Spurious Emission Measurement..... | 34        |
| 5.6.1.                                          | Test Limit .....                             | 34        |
| 5.6.2.                                          | Test Procedure .....                         | 34        |
| 5.6.3.                                          | Test Setting.....                            | 34        |
| 5.6.4.                                          | Test Setup .....                             | 35        |
| 5.6.5.                                          | Test Result.....                             | 36        |
| 5.7.                                            | Radiated Spurious Emission Measurement.....  | 40        |
| 5.7.1.                                          | Test Limit .....                             | 40        |
| 5.7.2.                                          | Test Procedure .....                         | 40        |
| 5.7.3.                                          | Test Setting.....                            | 40        |
| 5.7.4.                                          | Test Setup .....                             | 40        |
| 5.7.5.                                          | Test Result.....                             | 42        |
| <b>Appendix A - Test Setup Photograph .....</b> |                                              | <b>43</b> |
| <b>Appendix B - EUT Photograph.....</b>         |                                              | <b>44</b> |

## 1. General Information

## 1.1. Applicant

Honeywell International Inc  
Honeywell Safety and Productivity Solutions  
9680 Old Bailes Rd. Fort Mill, SC 29707 United States

## 1.2. Manufacturer

Honeywell International Inc  
Honeywell Safety and Productivity Solutions  
9680 Old Bailes Rd. Fort Mill, SC 29707 United States

### 1.3. Testing Facility

|                                     |                                                                                                 |                                  |                                  |                                  |  |
|-------------------------------------|-------------------------------------------------------------------------------------------------|----------------------------------|----------------------------------|----------------------------------|--|
| <input checked="" type="checkbox"/> | <b>Test Site – MRT Suzhou Laboratory</b>                                                        |                                  |                                  |                                  |  |
|                                     | <b>Laboratory Location (Suzhou - Wuzhong)</b>                                                   |                                  |                                  |                                  |  |
|                                     | D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China              |                                  |                                  |                                  |  |
|                                     | <b>Laboratory Location (Suzhou - SIP)</b>                                                       |                                  |                                  |                                  |  |
|                                     | 4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China    |                                  |                                  |                                  |  |
|                                     | <b>Laboratory Accreditations</b>                                                                |                                  |                                  |                                  |  |
| A2LA: 3628.01                       |                                                                                                 | CNAS: L10551                     |                                  |                                  |  |
| FCC: CN1166                         |                                                                                                 | ISED: CN0001                     |                                  |                                  |  |
| VCCI:                               | <input type="checkbox"/> R-20025                                                                | <input type="checkbox"/> G-20034 | <input type="checkbox"/> C-20020 | <input type="checkbox"/> T-20020 |  |
|                                     | <input type="checkbox"/> R-20141                                                                | <input type="checkbox"/> G-20134 | <input type="checkbox"/> C-20103 | <input type="checkbox"/> T-20104 |  |
| <input type="checkbox"/>            | <b>Test Site – MRT Shenzhen Laboratory</b>                                                      |                                  |                                  |                                  |  |
|                                     | <b>Laboratory Location (Shenzhen)</b>                                                           |                                  |                                  |                                  |  |
|                                     | 1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China |                                  |                                  |                                  |  |
|                                     | <b>Laboratory Accreditations</b>                                                                |                                  |                                  |                                  |  |
|                                     | A2LA: 3628.02                                                                                   |                                  | CNAS: L10551                     |                                  |  |
|                                     | FCC: CN1284                                                                                     |                                  | ISED: CN0105                     |                                  |  |
| <input type="checkbox"/>            | <b>Test Site – MRT Taiwan Laboratory</b>                                                        |                                  |                                  |                                  |  |
|                                     | <b>Laboratory Location (Taiwan)</b>                                                             |                                  |                                  |                                  |  |
|                                     | No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)                        |                                  |                                  |                                  |  |
|                                     | <b>Laboratory Accreditations</b>                                                                |                                  |                                  |                                  |  |
|                                     | TAF: L3261-190725                                                                               |                                  |                                  |                                  |  |
| FCC: 291082, TW3261                 |                                                                                                 | ISED: TW3261                     |                                  |                                  |  |

#### 1.4. Product Information

|                                                                                                                                                          |                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Product Name                                                                                                                                             | Mobile Computer                                                                    |
| Model No.                                                                                                                                                | EDA52-1                                                                            |
| IMEI                                                                                                                                                     | Conducted Measurement: 990017701062131<br>Radiated Measurement: 990017701732584    |
| Wi-Fi Specification                                                                                                                                      | 802.11a/b/g/n/ac                                                                   |
| Bluetooth Specification                                                                                                                                  | v5.0 dual mode                                                                     |
| NFC Specification                                                                                                                                        | Active, 13.56MHz                                                                   |
| GNSS Specification                                                                                                                                       | GPS/Galileo/BDS/GLONASS                                                            |
| 3GPP Specification                                                                                                                                       | GSM 850/1900<br>WCDMA Band 2/4/5<br>LTE Band 2/4/5/7/12/13/17/25/26/30/38/40/41/66 |
| Working Voltage                                                                                                                                          | 3.8Vdc                                                                             |
| Remark:<br>The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer. |                                                                                    |

#### 1.5. Radio Specification

|                                    |                        |
|------------------------------------|------------------------|
| FDD T <sub>x</sub> Frequency Range | Band 26: 814 ~ 824 MHz |
| FDD R <sub>x</sub> Frequency Range | Band 26: 859 ~ 869 MHz |

Note 1: For other features of this EUT, test report will be issued separately.

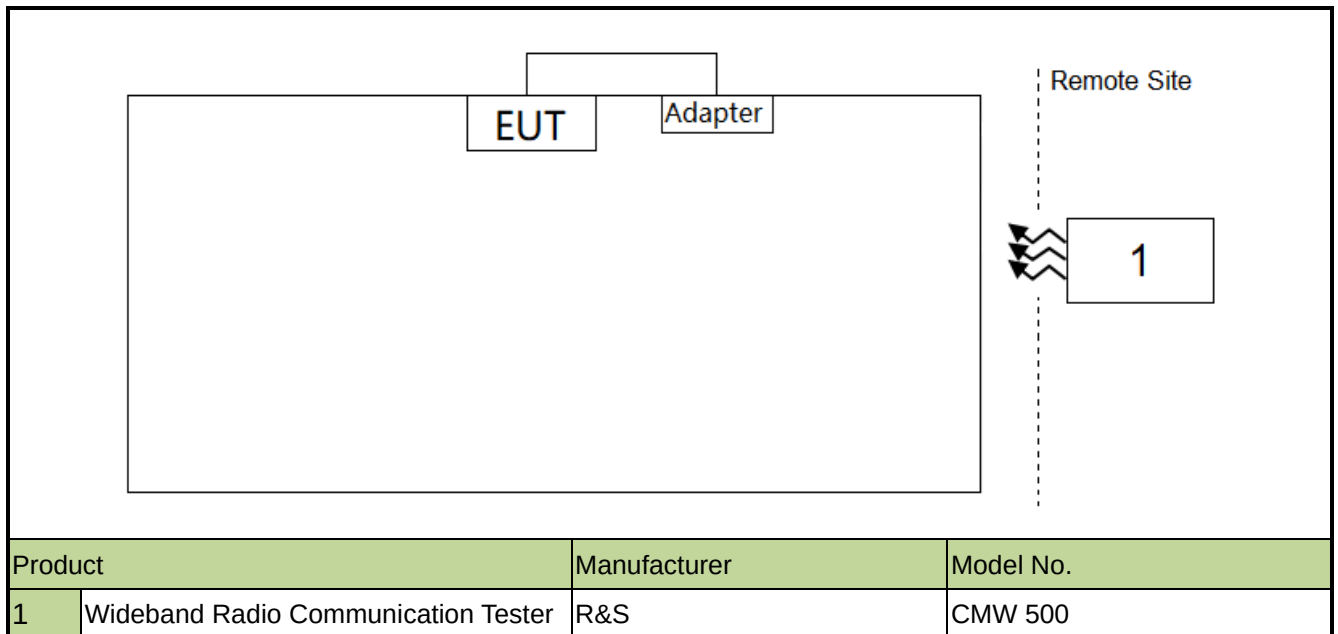
Note 2: LTE band 26 transmit frequency for part 90 rule is 814 ~ 824MHz and part 22 rule is 824 ~ 849MHz. ERP over 15MHz bandwidth complies the ERP limit line of part 22 rule, therefore ERP of the partial frequency spectrum which falls within part 22 also complies.

## 1.6. Antenna Details

| Technology  | Frequency Range (MHz) | Antenna Type | Max Peak Gain (dBi) |
|-------------|-----------------------|--------------|---------------------|
| LTE Band 2  | 1850 ~ 1910           | PIFA         | 2.66                |
| LTE Band 4  | 1710 ~ 1755           |              | 0.94                |
| LTE Band 5  | 824 ~ 849             |              | -0.12               |
| LTE Band 7  | 2500 ~ 2570           |              | -0.33               |
| LTE Band 12 | 699 ~ 716             |              | -0.74               |
| LTE Band 13 | 777 ~ 787             |              | -1.64               |
| LTE Band 17 | 704 ~ 716             |              | -1.06               |
| LTE Band 25 | 1850 ~ 1915           |              | 2.66                |
| LTE Band 26 | 814 ~ 849             |              | 0.18                |
| LTE Band 30 | 2305 ~ 2315           |              | 0.48                |
| LTE Band 38 | 2570 ~ 2620           |              | 0.20                |
| LTE Band 40 | 2300 ~ 2400           |              | 0.55                |
| LTE Band 41 | 2500 ~ 2690           |              | 1.27                |
| LTE Band 66 | 1710 ~ 1780           |              | 2.66                |

## 2. Test Configuration

### 2.1. Configuration of Tested System



### 2.2. Test Methodology

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

- ANSI C63.26:2015
- FCC CFR 47 Part 90
- FCC KDB 971168 D01 v03r01: Power Meas License Digital Systems
- FCC KDB 971168 D02 v02r01: Misc Rev Approv License Devices
- FCC KDB 412172 D01 v01r01: Determining ERP and EIRP

### 2.3. Test Environment Condition

|                     |            |
|---------------------|------------|
| Ambient Temperature | 15 ~ 35°C  |
| Relative Humidity   | 20 ~ 75%RH |

### 3. Test Equipment Calibration Date

| Instrument Name                            | Manufacturer | Model No.   | Asset No.   | Cali. Interval | Cal. Due Date | Test Site |
|--------------------------------------------|--------------|-------------|-------------|----------------|---------------|-----------|
| Communication Tester                       | R&S          | CMU 200     | MRTSUE06009 | 1 year         | 2022/9/7      | SIP-SR1   |
| Communication Tester                       | R&S          | CMW500      | MRTSUE06243 | 1 year         | 2022/10/10    | SIP-SR1   |
| Signal Generator                           | Keysight     | E8257D      | MRTSUE06453 | 1 year         | 2022/6/24     | SIP-SR1   |
| Thermohygrometer                           | testo        | 622         | MRTSUE06629 | 1 year         | 2022/11/2     | SIP-SR1   |
| Signal Generator                           | Keysight     | E8257D      | MRTSUE06904 | 1 year         | 2022/11/23    | SIP-SR1   |
| DC POWER MODULE                            | Keysight     | N6743B      | MRTSUE06905 | /              | /             | SIP-SR1   |
| DC POWER MODULE                            | Keysight     | N6743B      | MRTSUE06906 | /              | /             | SIP-SR1   |
| Low-Profile Modular Power System Mainframe | Keysight     | N6700C      | MRTSUE06907 | /              | /             | SIP-SR1   |
| Signal Analyzer                            | Keysight     | N9021B      | MRTSUE06915 | 1 year         | 2022/12/19    | SIP-SR1   |
| Temperature Chamber                        | BAOYT        | BYG-80CL    | MRTSUE06932 | 1 year         | 2022/3/16     | SIP-SR1   |
| Shielding Room                             | MIX-BEP      | SIP-SR1     | MRTSUE06948 | /              | /             | SIP-SR1   |
| Anechoic Chamber                           | RIKEN        | SIP-AC1     | MRTSUE06554 | 1 year         | 2022/12/23    | SIP-AC1   |
| Preamplifier                               | EMCI         | EMC051845SE | MRTSUE06600 | 1 year         | 2022/11/8     | SIP-AC1   |
| Horn Antenna                               | R&S          | HF907       | MRTSUE06610 | 1 year         | 2022/8/5      | SIP-AC1   |
| Thermohygrometer                           | testo        | 608-H1      | MRTSUE06616 | 1 year         | 2022/11/2     | SIP-AC1   |
| Thermohygrometer                           | testo        | 608-H1      | MRTSUE06620 | 1 year         | 2022/11/28    | SIP-AC1   |
| TRILOG Antenna                             | Schwarzbeck  | VULB 9168   | MRTSUE06645 | 1 year         | 2022/8/26     | SIP-AC1   |
| EMI Test Receiver                          | R&S          | ESR3        | MRTSUE06185 | 1 year         | 2022/12/29    | SIP-AC2   |
| Signal Analyzer                            | Keysight     | N9010B      | MRTSUE06559 | 1 year         | 2022/6/24     | SIP-AC2   |
| Horn Antenna                               | Schwarzbeck  | BBHA 9170   | MRTSUE06599 | 1 year         | 2022/10/20    | SIP-AC2   |
| Preamplifier                               | EMCI         | EMC184045SE | MRTSUE06602 | 1 year         | 2022/10/11    | SIP-AC2   |
| Signal Analyzer                            | Keysight     | N9010B      | MRTSUE06603 | 1 year         | 2022/10/31    | SIP-AC2   |
| Signal Analyzer                            | Keysight     | N9020B      | MRTSUE06604 | 1 year         | 2022/9/7      | SIP-AC2   |
| EMI Test Receiver                          | R&S          | ESR3        | MRTSUE06613 | 1 year         | 2022/6/24     | SIP-AC2   |
| Thermohygrometer                           | testo        | 608-H1      | MRTSUE06623 | 1 year         | 2022/11/28    | SIP-AC2   |
| Thermohygrometer                           | testo        | 608-H1      | MRTSUE06624 | 1 year         | 2022/11/28    | SIP-AC2   |
| Preamplifier                               | EMCI         | EMC001330   | MRTSUE06643 | 1 year         | 2022/1/12     | SIP-AC2   |
|                                            |              |             |             | 1 year         | 2023/1/13     | SIP-AC2   |
| TRILOG Antenna                             | Schwarzbeck  | VULB 9168   | MRTSUE06647 | 1 year         | 2022/8/5      | SIP-AC2   |
| Horn Antenna                               | Schwarzbeck  | BBHA 9120D  | MRTSUE06648 | 1 year         | 2022/11/9     | SIP-AC2   |
| Anechoic Chamber                           | RIKEN        | SIP-AC2     | MRTSUE06781 | 1 year         | 2022/12/23    | SIP-AC2   |
| Loop Antenna                               | Schwarzbeck  | FMZB 1519 B | MRTSUE06937 | 1 year         | 2022/3/9      | SIP-AC2   |

| Instrument Name  | Manufacturer | Model No.   | Asset No.   | Cali. Interval | Cal. Due Date | Test Site |
|------------------|--------------|-------------|-------------|----------------|---------------|-----------|
| Preamplifier     | Schwarzbeck  | BBV 9721    | MRTSUE06121 | 1 year         | 2022/6/9      | SIP-AC3   |
| Horn Antenna     | Schwarzbeck  | BBHA 9170   | MRTSUE06598 | 1 year         | 2022/11/9     | SIP-AC3   |
| Horn Antenna     | R&S          | HF907       | MRTSUE06611 | 1 year         | 2022/9/12     | SIP-AC3   |
| Thermohygrometer | testo        | 608-H1      | MRTSUE06619 | 1 year         | 2022/11/2     | SIP-AC3   |
| Thermohygrometer | testo        | 608-H1      | MRTSUE06622 | 1 year         | 2022/11/28    | SIP-AC3   |
| Preamplifier     | EMCI         | EMC012645SE | MRTSUE06642 | 1 year         | 2022/1/12     | SIP-AC3   |
|                  |              |             |             | 1 year         | 2023/1/13     | SIP-AC3   |
| TRILOG Antenna   | Schwarzbeck  | VULB 9168   | MRTSUE06646 | 1 year         | 2022/8/26     | SIP-AC3   |
| Anechoic Chamber | RIKEN        | SIP-AC3     | MRTSUE06782 | 1 year         | 2022/12/23    | SIP-AC3   |

| Software     | Version | Function          |
|--------------|---------|-------------------|
| EMI Software | V3      | EMI Test Software |

## 4. Measurement Uncertainty

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of  $k = 2$ .

|                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Radiated Spurious Emissions</b>                                                                                                                                                                                                                  |
| Measurement Uncertainty for a Level of Confidence of 95% ( $U=2U_c(y)$ ):<br>Horizontal: 9kHz ~ 300MHz: 5.04dB<br>300MHz ~ 1GHz: 4.95dB<br>1GHz ~ 40GHz: 6.40dB<br>Vertical: 9kHz ~ 300MHz: 5.24dB<br>300MHz ~ 1GHz: 6.03dB<br>1GHz ~ 40GHz: 6.40dB |
| <b>Conducted Spurious Emissions</b>                                                                                                                                                                                                                 |
| Measuring Uncertainty for a Level of Confidence of 95% ( $U=2U_c(y)$ ):<br>0.78dB                                                                                                                                                                   |
| <b>Output Power</b>                                                                                                                                                                                                                                 |
| Measuring Uncertainty for a Level of Confidence of 95% ( $U=2U_c(y)$ ):<br>1.13dB                                                                                                                                                                   |
| <b>Occupied Bandwidth</b>                                                                                                                                                                                                                           |
| Measuring Uncertainty for a Level of Confidence of 95% ( $U=2U_c(y)$ ):<br>0.28%                                                                                                                                                                    |
| <b>Frequency Stability</b>                                                                                                                                                                                                                          |
| Measuring Uncertainty for a Level of Confidence of 95% ( $U=2U_c(y)$ ):<br>76.2Hz                                                                                                                                                                   |

## 5. Test Result

### 5.1. Summary

| FCC Part Section(s) | Test Description       | Test Limit                                                                      | Test Condition | Test Result | Reference        |
|---------------------|------------------------|---------------------------------------------------------------------------------|----------------|-------------|------------------|
| 2.1049              | Occupied Bandwidth     | N/A                                                                             | Conducted      | Pass        | Section 5.2      |
| 2.1055, 90.213      | Frequency Stability    | < 2.5 ppm                                                                       |                | Pass        | Section 5.3      |
| 90.635              | Conducted Output Power | < 100W                                                                          |                | Pass        | Section 5.4      |
| 2.1051, 90.691(a)   | Band Edge              | < 50 + 10log <sub>10</sub> (P <sub>[Watts]</sub> ) within 37.5kHz of Block Edge |                | Pass        | Section 5.5, 5.6 |
| 2.1051, 90.691(a)   | Spurious Emission      | < 43 + 10log <sub>10</sub> (P <sub>[Watts]</sub> )                              | Radiated       | Pass        | Section 5.7      |
| 2.1053, 90.691(a)   | Spurious Emission      | < 43 + 10log <sub>10</sub> (P <sub>[Watts]</sub> )                              |                |             |                  |

#### Notes:

- 1) The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.
- 2) All modes of operation and data rates were investigated. For radiated emission test, every axis (X, Y, Z) was also verified. The test results shown in the following sections represent the worst-case emissions.
- 3) All supported modulation types were evaluated. The worst-case emission of modulation was selected. Therefore, the Frequency Stability, Channel Band Edge, Radiated & Conducted Spurious Emission were presented worst-case in the test report.

## 5.2. Occupied Bandwidth Measurement

### 5.2.1. Test Limit

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured.

### 5.2.2. Test Procedure

ANSI C63.26-2015 - Section 5.4

### 5.2.3. Test Setting

1. Set center frequency to the nominal EUT channel center frequency
2. RBW = The nominal RBW shall be in the range of 1% to 5% of the anticipated OBW
3. VBW  $\geq 3 \times$  RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. Allow the trace to stabilize
8. Use the 99% power bandwidth function of the instrument and report the measured bandwidth.

### 5.2.4. Test Setup



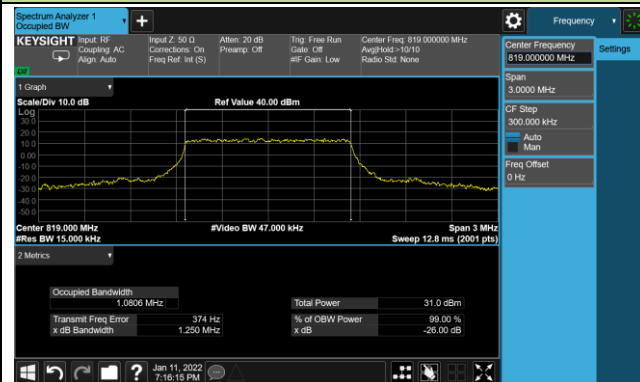
### 5.2.5.Test Result

|               |                 |           |            |
|---------------|-----------------|-----------|------------|
| Product       | Mobile Computer | Test Site | SIP-SR1    |
| Test Engineer | Candy Luo       | Test Date | 2022/01/11 |
| Test Band     | LTE Band 26     |           |            |

| Modulation | Frequency (MHz) | Bandwidth (MHz) | 99% Bandwidth (MHz) |
|------------|-----------------|-----------------|---------------------|
| QPSK       | 819.0           | 1.4             | 1.08                |
|            |                 | 3               | 2.68                |
|            |                 | 5               | 4.48                |
|            |                 | 10              | 8.94                |
| 16QAM      | 819.0           | 1.4             | 1.08                |
|            |                 | 3               | 2.68                |
|            |                 | 5               | 4.46                |
|            |                 | 10              | 8.93                |
| 64QAM      | 819.0           | 1.4             | 1.08                |
|            |                 | 3               | 2.69                |
|            |                 | 5               | 4.47                |
|            |                 | 10              | 8.93                |
| QPSK       | 821.5           | 15              | 13.37               |
| 16QAM      |                 |                 | 13.37               |
| 64QAM      |                 |                 | 13.36               |

## 99% Bandwidth - QPSK

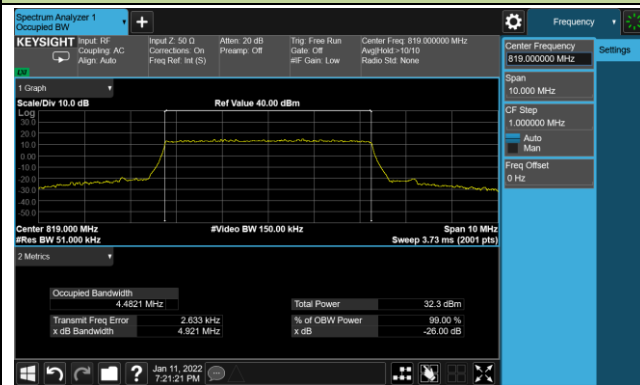
### 1.4MHz Channel Bandwidth



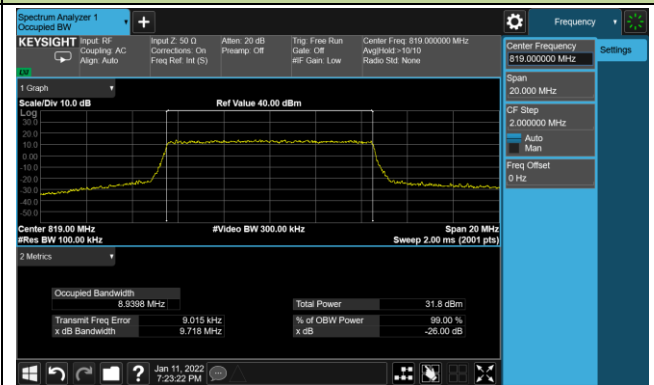
### 3MHz Channel Bandwidth



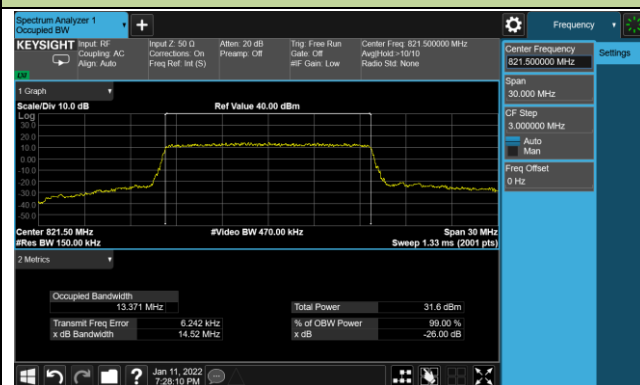
### 5MHz Channel Bandwidth



### 10MHz Channel Bandwidth

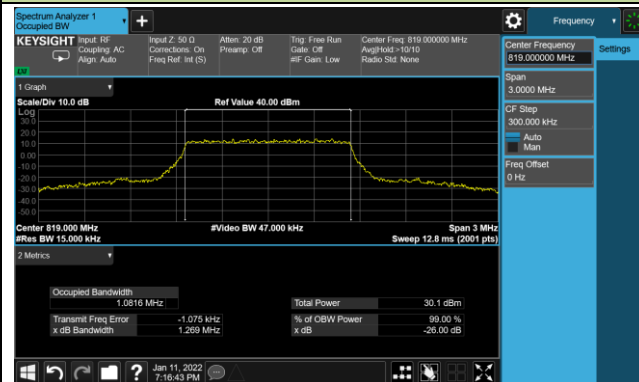


### 15MHz Channel Bandwidth



## 99% Bandwidth - 16QAM

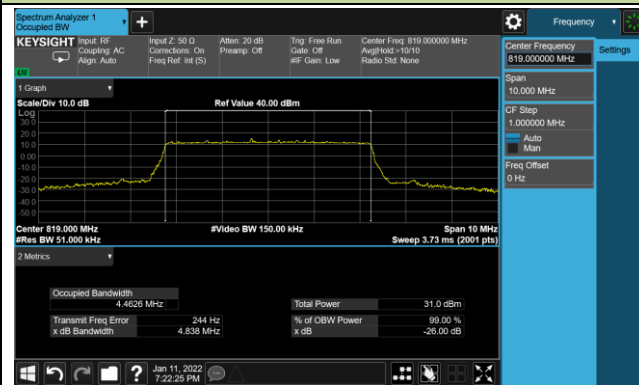
### 1.4MHz Channel Bandwidth



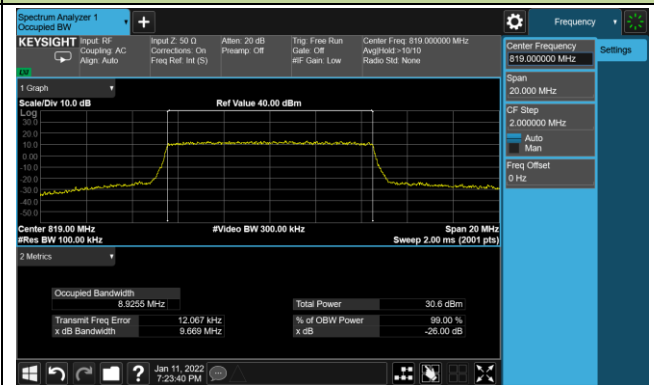
### 3MHz Channel Bandwidth



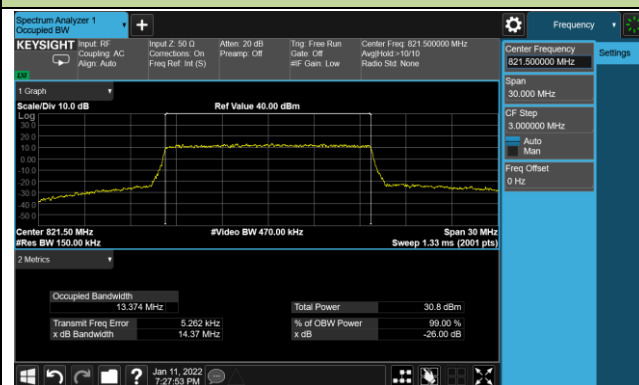
### 5MHz Channel Bandwidth



### 10MHz Channel Bandwidth

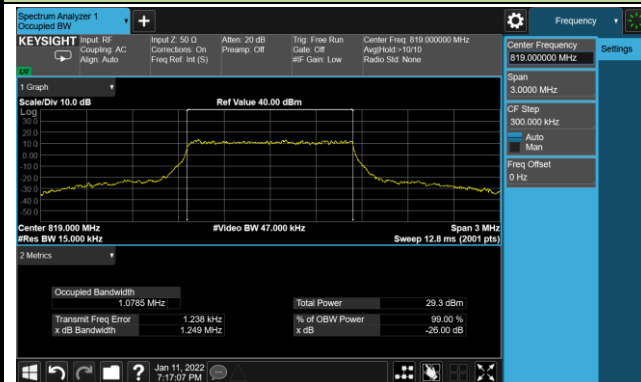


### 15MHz Channel Bandwidth

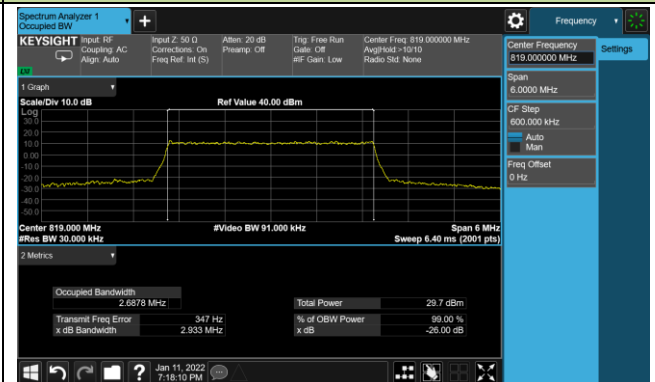


## 99% Bandwidth - 64QAM

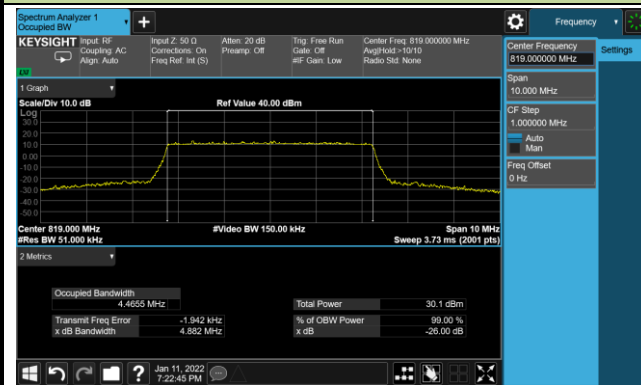
### 1.4MHz Channel Bandwidth



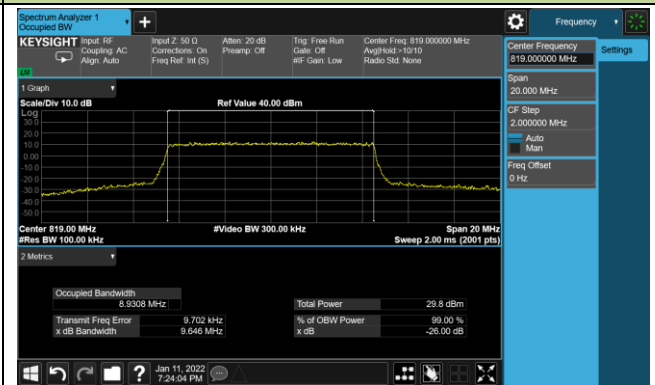
### 3MHz Channel Bandwidth



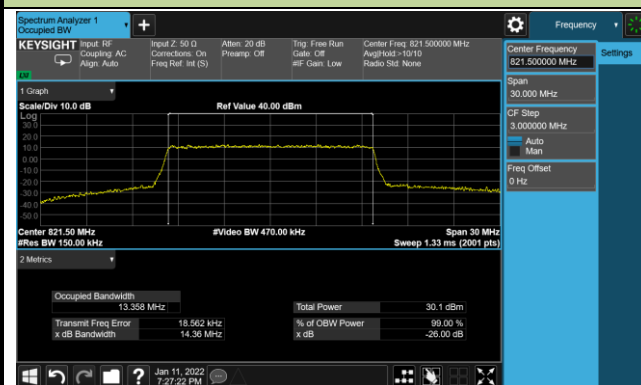
### 5MHz Channel Bandwidth



### 10MHz Channel Bandwidth



### 15MHz Channel Bandwidth



### **5.3. Frequency Stability Measurement**

#### **5.3.1. Test Limit**

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within  $\pm 0.00025\%$  ( $\pm 2.5\text{ppm}$ ) of the center frequency.

#### **5.3.2. Test Procedure**

ANSI C63.26-2015 - Section 5.6

#### **5.3.3. Test Setting**

##### **Frequency Stability Under Temperature Variations:**

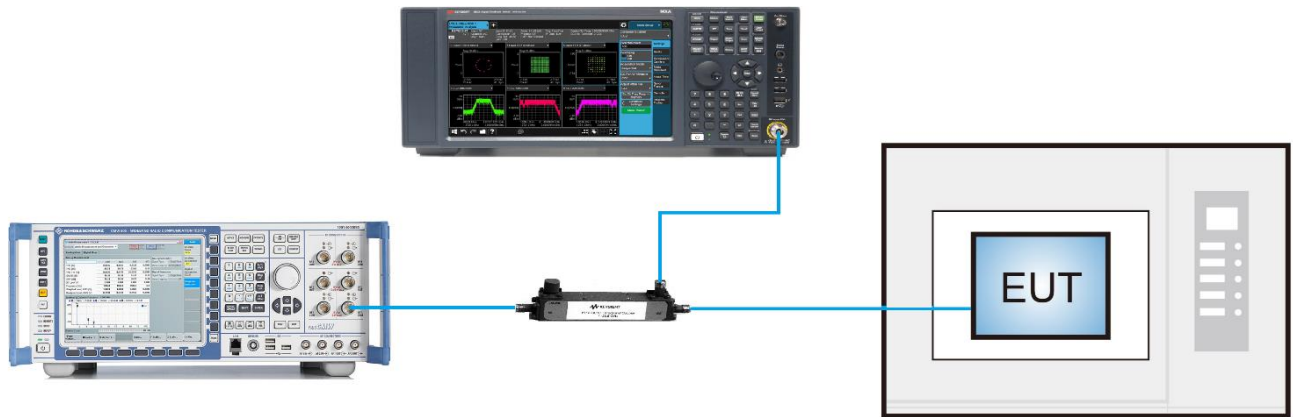
The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to highest. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C decreased per stage until the lowest temperature reached.

##### **Frequency Stability Under Voltage Variations:**

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation ( $\pm 15\%$ ) and endpoint, record the maximum frequency change.

### 5.3.4. Test Setup



### 5.3.5. Test Result

|               |                  |           |                         |
|---------------|------------------|-----------|-------------------------|
| Product       | Mobile Computer  | Test Site | SIP-R1                  |
| Test Engineer | Candy Luo        | Test Date | 2022/01/17 ~ 2022/01/18 |
| Test Band     | LTE Band 26_QPSK |           |                         |

| Power (Vdc) | Temp. (°C) | Frequency Tolerance (ppm) |
|-------------|------------|---------------------------|
| 3.80        | - 30       | 0.0040                    |
|             | - 20       | 0.0139                    |
|             | - 10       | -0.0079                   |
|             | 0          | -0.0008                   |
|             | + 10       | 0.0046                    |
|             | + 20 (Ref) | -0.0037                   |
|             | + 30       | 0.0025                    |
|             | + 40       | -0.0067                   |
|             | + 50       | -0.0111                   |
| 4.37        | + 20       | -0.0017                   |
| 3.23        | + 20       | -0.0061                   |

## 5.4. Conducted Output Power Measurement

### 5.4.1. Test Limit

The maximum output power of the transmitter for mobile stations is 100 watts (20dBw).

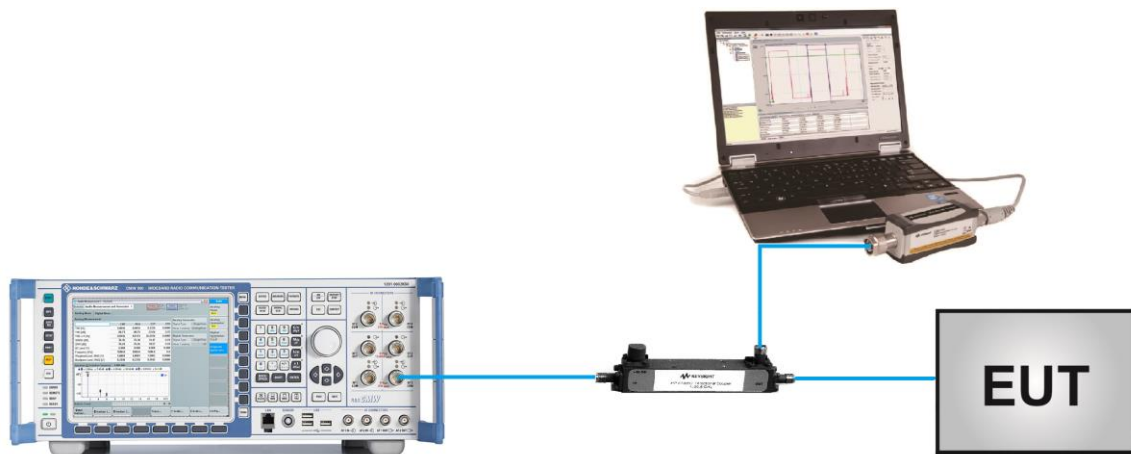
### 5.4.2. Test Procedure

ANSI C63.26-2015 - Section 5.2

### 5.4.3. Test Setting

Average power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter.

### 5.4.4. Test Setup



### 5.4.5. Test Result

|               |                 |           |            |
|---------------|-----------------|-----------|------------|
| Product       | Mobile Computer | Test Site | SIP-SR1    |
| Test Engineer | Candy Luo       | Test Date | 2022/01/10 |
| Test Band     | LTE Band 26     |           |            |

| Channel No. | Frequency (MHz) | Channel Bandwidth (MHz) | RB Size | RB Offset | Output Power (dBm) | Output Power (W) | Limit (W) |
|-------------|-----------------|-------------------------|---------|-----------|--------------------|------------------|-----------|
| QPSK        |                 |                         |         |           |                    |                  |           |
| 26697       | 814.7           | 1.4                     | 1       | 0         | 23.23              | 0.2104           | < 100     |
| 26740       | 819.0           |                         |         |           | 22.80              | 0.1905           | < 100     |
| 26783       | 823.3           |                         |         |           | 23.30              | 0.2138           | < 100     |
| 26697       | 814.7           | 1.4                     | 1       | 2         | 23.06              | 0.2023           | < 100     |
| 26740       | 819.0           |                         |         |           | 23.40              | 0.2188           | < 100     |
| 26783       | 823.3           |                         |         |           | 23.56              | 0.2270           | < 100     |
| 26697       | 814.7           | 1.4                     | 1       | 6         | 22.90              | 0.1950           | < 100     |
| 26740       | 819.0           |                         |         |           | 23.33              | 0.2153           | < 100     |
| 26783       | 823.3           |                         |         |           | 23.14              | 0.2061           | < 100     |
| 26697       | 814.7           | 1.4                     | 6       | 0         | 21.94              | 0.1563           | < 100     |
| 26740       | 819.0           |                         |         |           | 22.07              | 0.1611           | < 100     |
| 26783       | 823.3           |                         |         |           | 22.21              | 0.1663           | < 100     |
| 26705       | 815.5           | 3                       | 1       | 0         | 23.28              | 0.2128           | < 100     |
| 26740       | 819.0           |                         |         |           | 22.99              | 0.1991           | < 100     |
| 26775       | 822.5           |                         |         |           | 23.21              | 0.2094           | < 100     |
| 26705       | 815.5           | 3                       | 1       | 7         | 22.97              | 0.1982           | < 100     |
| 26740       | 819.0           |                         |         |           | 23.02              | 0.2004           | < 100     |
| 26775       | 822.5           |                         |         |           | 23.28              | 0.2128           | < 100     |
| 26705       | 815.5           | 3                       | 1       | 14        | 23.17              | 0.2075           | < 100     |
| 26740       | 819.0           |                         |         |           | 22.98              | 0.1986           | < 100     |
| 26775       | 822.5           |                         |         |           | 23.28              | 0.2128           | < 100     |
| 26705       | 815.5           | 3                       | 15      | 0         | 21.98              | 0.1578           | < 100     |
| 26740       | 819.0           |                         |         |           | 22.14              | 0.1637           | < 100     |
| 26775       | 822.5           |                         |         |           | 22.13              | 0.1633           | < 100     |

| Channel No. | Frequency (MHz) | Channel Bandwidth (MHz) | RB Size | RB Offset | Output Power (dBm) | Output Power (W) | Limit (W) |
|-------------|-----------------|-------------------------|---------|-----------|--------------------|------------------|-----------|
| QPSK        |                 |                         |         |           |                    |                  |           |
| 26715       | 816.5           | 5                       | 1       | 0         | 22.80              | 0.1905           | < 100     |
| 26740       | 819.0           |                         |         |           | 22.96              | 0.1977           | < 100     |
| 26765       | 821.5           |                         |         |           | 22.72              | 0.1871           | < 100     |
| 26715       | 816.5           | 5                       | 1       | 12        | 22.77              | 0.1892           | < 100     |
| 26740       | 819.0           |                         |         |           | 22.81              | 0.1910           | < 100     |
| 26765       | 821.5           |                         |         |           | 23.05              | 0.2018           | < 100     |
| 26715       | 816.5           | 5                       | 1       | 24        | 23.03              | 0.2009           | < 100     |
| 26740       | 819.0           |                         |         |           | 23.00              | 0.1995           | < 100     |
| 26765       | 821.5           |                         |         |           | 23.23              | 0.2104           | < 100     |
| 26715       | 816.5           | 5                       | 25      | 0         | 21.92              | 0.1556           | < 100     |
| 26740       | 819.0           |                         |         |           | 22.06              | 0.1607           | < 100     |
| 26765       | 821.5           |                         |         |           | 22.22              | 0.1667           | < 100     |
| 26740       | 819.0           | 10                      | 1       | 0         | 23.11              | 0.2046           | < 100     |
|             |                 |                         | 1       | 24        | 23.15              | 0.2065           | < 100     |
|             |                 |                         | 1       | 49        | 23.35              | 0.2163           | < 100     |
|             |                 |                         | 50      | 0         | 21.98              | 0.1578           | < 100     |
| 26765       | 821.5           | 15                      | 1       | 0         | 23.02              | 0.2004           | < 100     |
|             |                 |                         | 1       | 36        | 23.26              | 0.2118           | < 100     |
|             |                 |                         | 1       | 74        | 23.36              | 0.2168           | < 100     |
|             |                 |                         | 75      | 0         | 22.16              | 0.1644           | < 100     |

| Channel No. | Frequency (MHz) | Channel Bandwidth (MHz) | RB Size | RB Offset | Output Power (dBm) | Output Power (W) | Limit (W) |
|-------------|-----------------|-------------------------|---------|-----------|--------------------|------------------|-----------|
| 16QAM       |                 |                         |         |           |                    |                  |           |
| 26697       | 814.7           | 1.4                     | 1       | 0         | 22.74              | 0.1879           | < 100     |
| 26740       | 819.0           |                         |         |           | 21.80              | 0.1514           | < 100     |
| 26783       | 823.3           |                         |         |           | 22.13              | 0.1633           | < 100     |
| 26697       | 814.7           | 1.4                     | 1       | 2         | 22.11              | 0.1626           | < 100     |
| 26740       | 819.0           |                         |         |           | 22.81              | 0.1910           | < 100     |
| 26783       | 823.3           |                         |         |           | 22.58              | 0.1811           | < 100     |
| 26697       | 814.7           | 1.4                     | 1       | 6         | 21.85              | 0.1531           | < 100     |
| 26740       | 819.0           |                         |         |           | 22.18              | 0.1652           | < 100     |
| 26783       | 823.3           |                         |         |           | 22.82              | 0.1914           | < 100     |
| 26697       | 814.7           | 1.4                     | 6       | 0         | 21.04              | 0.1271           | < 100     |
| 26740       | 819.0           |                         |         |           | 21.13              | 0.1297           | < 100     |
| 26783       | 823.3           |                         |         |           | 20.99              | 0.1256           | < 100     |
| 26705       | 815.5           | 3                       | 1       | 0         | 21.83              | 0.1524           | < 100     |
| 26740       | 819.0           |                         |         |           | 21.88              | 0.1542           | < 100     |
| 26775       | 822.5           |                         |         |           | 22.46              | 0.1762           | < 100     |
| 26705       | 815.5           | 3                       | 1       | 7         | 21.91              | 0.1552           | < 100     |
| 26740       | 819.0           |                         |         |           | 22.10              | 0.1622           | < 100     |
| 26775       | 822.5           |                         |         |           | 22.59              | 0.1816           | < 100     |
| 26705       | 815.5           | 3                       | 1       | 14        | 21.84              | 0.1528           | < 100     |
| 26740       | 819.0           |                         |         |           | 22.53              | 0.1791           | < 100     |
| 26775       | 822.5           |                         |         |           | 22.08              | 0.1614           | < 100     |
| 26705       | 815.5           | 3                       | 15      | 0         | 21.01              | 0.1262           | < 100     |
| 26740       | 819.0           |                         |         |           | 21.12              | 0.1294           | < 100     |
| 26775       | 822.5           |                         |         |           | 21.02              | 0.1265           | < 100     |

| Channel No. | Frequency (MHz) | Channel Bandwidth (MHz) | RB Size | RB Offset | Output Power (dBm) | Output Power (W) | Limit (W) |
|-------------|-----------------|-------------------------|---------|-----------|--------------------|------------------|-----------|
| 16QAM       |                 |                         |         |           |                    |                  |           |
| 26715       | 816.5           | 5                       | 1       | 0         | 21.88              | 0.1542           | < 100     |
| 26740       | 819.0           |                         |         |           | 21.76              | 0.1500           | < 100     |
| 26765       | 821.5           |                         |         |           | 22.24              | 0.1675           | < 100     |
| 26715       | 816.5           | 5                       | 1       | 12        | 21.93              | 0.1560           | < 100     |
| 26740       | 819.0           |                         |         |           | 22.22              | 0.1667           | < 100     |
| 26765       | 821.5           |                         |         |           | 22.71              | 0.1866           | < 100     |
| 26715       | 816.5           | 5                       | 1       | 24        | 21.97              | 0.1574           | < 100     |
| 26740       | 819.0           |                         |         |           | 22.22              | 0.1667           | < 100     |
| 26765       | 821.5           |                         |         |           | 22.52              | 0.1786           | < 100     |
| 26715       | 816.5           | 5                       | 25      | 0         | 21.03              | 0.1268           | < 100     |
| 26740       | 819.0           |                         |         |           | 20.98              | 0.1253           | < 100     |
| 26765       | 821.5           |                         |         |           | 21.16              | 0.1306           | < 100     |
| 26740       | 819.0           | 10                      | 1       | 0         | 21.87              | 0.1538           | < 100     |
|             |                 |                         | 1       | 24        | 22.08              | 0.1614           | < 100     |
|             |                 |                         | 1       | 49        | 22.14              | 0.1637           | < 100     |
|             |                 |                         | 50      | 0         | 21.05              | 0.1274           | < 100     |
| 26765       | 821.5           | 15                      | 1       | 0         | 21.98              | 0.1578           | < 100     |
|             |                 |                         | 1       | 36        | 22.23              | 0.1671           | < 100     |
|             |                 |                         | 1       | 74        | 22.42              | 0.1746           | < 100     |
|             |                 |                         | 75      | 0         | 21.20              | 0.1318           | < 100     |

| Channel No. | Frequency (MHz) | Channel Bandwidth (MHz) | RB Size | RB Offset | Output Power (dBm) | Output Power (W) | Limit (W) |
|-------------|-----------------|-------------------------|---------|-----------|--------------------|------------------|-----------|
| 64QAM       |                 |                         |         |           |                    |                  |           |
| 26697       | 814.7           | 1.4                     | 1       | 0         | 20.76              | 0.1191           | < 100     |
| 26740       | 819.0           |                         |         |           | 21.00              | 0.1259           | < 100     |
| 26783       | 823.3           |                         |         |           | 21.18              | 0.1312           | < 100     |
| 26697       | 814.7           | 1.4                     | 1       | 2         | 20.91              | 0.1233           | < 100     |
| 26740       | 819.0           |                         |         |           | 21.07              | 0.1279           | < 100     |
| 26783       | 823.3           |                         |         |           | 21.38              | 0.1374           | < 100     |
| 26697       | 814.7           | 1.4                     | 1       | 6         | 20.93              | 0.1239           | < 100     |
| 26740       | 819.0           |                         |         |           | 21.14              | 0.1300           | < 100     |
| 26783       | 823.3           |                         |         |           | 20.91              | 0.1233           | < 100     |
| 26697       | 814.7           | 1.4                     | 6       | 0         | 19.77              | 0.0948           | < 100     |
| 26740       | 819.0           |                         |         |           | 20.14              | 0.1033           | < 100     |
| 26783       | 823.3           |                         |         |           | 20.08              | 0.1019           | < 100     |
| 26705       | 815.5           | 3                       | 1       | 0         | 20.93              | 0.1239           | < 100     |
| 26740       | 819.0           |                         |         |           | 21.42              | 0.1387           | < 100     |
| 26775       | 822.5           |                         |         |           | 20.74              | 0.1186           | < 100     |
| 26705       | 815.5           | 3                       | 1       | 7         | 21.29              | 0.1346           | < 100     |
| 26740       | 819.0           |                         |         |           | 20.86              | 0.1219           | < 100     |
| 26775       | 822.5           |                         |         |           | 21.17              | 0.1309           | < 100     |
| 26705       | 815.5           | 3                       | 1       | 14        | 21.27              | 0.1340           | < 100     |
| 26740       | 819.0           |                         |         |           | 20.99              | 0.1256           | < 100     |
| 26775       | 822.5           |                         |         |           | 21.08              | 0.1282           | < 100     |
| 26705       | 815.5           | 3                       | 15      | 0         | 19.97              | 0.0993           | < 100     |
| 26740       | 819.0           |                         |         |           | 20.15              | 0.1035           | < 100     |
| 26775       | 822.5           |                         |         |           | 20.12              | 0.1028           | < 100     |

| Channel No. | Frequency (MHz) | Channel Bandwidth (MHz) | RB Size | RB Offset | Output Power (dBm) | Output Power (W) | Limit (W) |
|-------------|-----------------|-------------------------|---------|-----------|--------------------|------------------|-----------|
| 64QAM       |                 |                         |         |           |                    |                  |           |
| 26715       | 816.5           | 5                       | 1       | 0         | 20.56              | 0.1138           | < 100     |
| 26740       | 819.0           |                         |         |           | 21.14              | 0.1300           | < 100     |
| 26765       | 821.5           |                         |         |           | 20.99              | 0.1256           | < 100     |
| 26715       | 816.5           | 5                       | 1       | 12        | 21.07              | 0.1279           | < 100     |
| 26740       | 819.0           |                         |         |           | 20.67              | 0.1167           | < 100     |
| 26765       | 821.5           |                         |         |           | 21.32              | 0.1355           | < 100     |
| 26715       | 816.5           | 5                       | 1       | 24        | 20.77              | 0.1194           | < 100     |
| 26740       | 819.0           |                         |         |           | 21.03              | 0.1268           | < 100     |
| 26765       | 821.5           |                         |         |           | 20.77              | 0.1194           | < 100     |
| 26715       | 816.5           | 5                       | 25      | 0         | 19.80              | 0.0955           | < 100     |
| 26740       | 819.0           |                         |         |           | 20.12              | 0.1028           | < 100     |
| 26765       | 821.5           |                         |         |           | 19.92              | 0.0982           | < 100     |
| 26740       | 819.0           | 10                      | 1       | 0         | 21.38              | 0.1374           | < 100     |
|             |                 |                         | 1       | 24        | 21.61              | 0.1449           | < 100     |
|             |                 |                         | 1       | 49        | 21.68              | 0.1472           | < 100     |
|             |                 |                         | 50      | 0         | 20.05              | 0.1012           | < 100     |
| 26765       | 821.5           | 15                      | 1       | 0         | 21.38              | 0.1374           | < 100     |
|             |                 |                         | 1       | 36        | 21.60              | 0.1445           | < 100     |
|             |                 |                         | 1       | 74        | 21.74              | 0.1493           | < 100     |
|             |                 |                         | 75      | 0         | 20.18              | 0.1042           | < 100     |

## **5.5. Band Edge Measurement**

### **5.5.1. Test Limit**

Out-of-band emission requirement shall apply only to the “outer” channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows:

- (1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least  $116 \log(f/6.1)$  decibels or  $50 + 10 \log(P)$  decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.
- (2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least  $43 + 10 \log_{10}(P)$  decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

### **5.5.2. Test Procedure**

ANSI C63.26-2015 - Section 5.7

### **5.5.3. Test Setting**

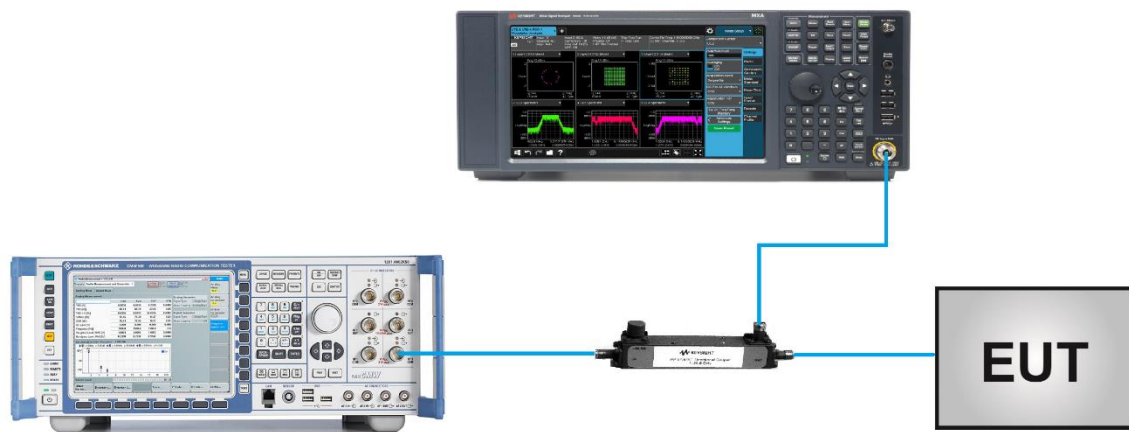
1. Set the analyzer frequency to low or high channel
2.  $RBW \geq$  The nominal RBW shall be in the range of 1% of the anticipated OBW (in the 1MHz band immediately outside and adjacent to the band edge). For improvement of the accuracy in the measurement of the average power of a noise-like emission, a RBW narrower than the specified reference bandwidth can be used (generally limited to no less than 1% of the OBW), provided that a subsequent integration is performed over the full required measurement bandwidth. This integration should be performed using the spectrum analyzer's band power functions.
3.  $VBW \geq 3 \times RBW$
4. Sweep time = auto
5. Detector = power averaging (rms)
6. Set sweep trigger to “free run.”
7. User gate triggered such that the analyzer only sweeps when the device is transmitting at full

power

8. Trace average at least 100 traces in power averaging (rms) mode if sweep is set to auto-couple.

To accurately determine the average power over the on and off time of the transmitter, it can be necessary to increase the number of traces to be averaged above 100, or if using a manually configured sweep time, increase the sweep time.

#### 5.5.4.Test Setup

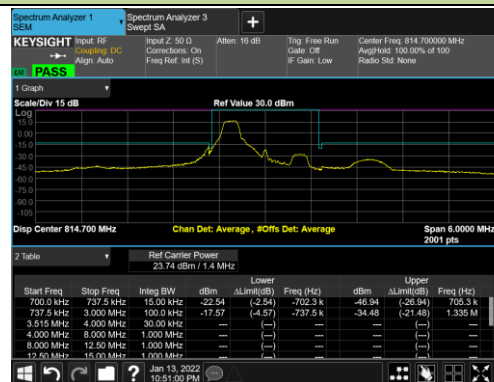


### 5.5.5. Test Result

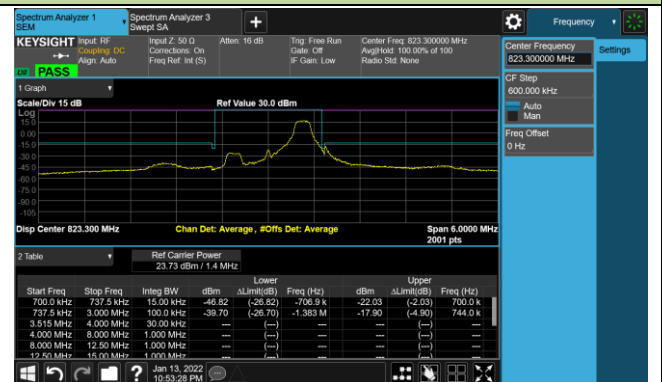
|               |                  |           |                         |
|---------------|------------------|-----------|-------------------------|
| Product       | Mobile Computer  | Test Site | SIP-SR1                 |
| Test Engineer | Candy Luo        | Test Date | 2022/01/13 ~ 2022/01/17 |
| Test Band     | LTE Band 26_QPSK |           |                         |

#### 1.4MHz Channel Bandwidth - 1RB

##### Lower Band Edge

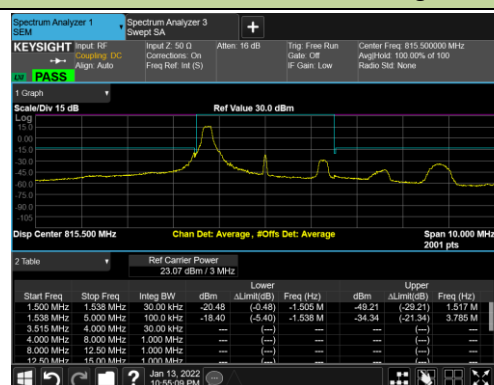


##### Upper Band Edge

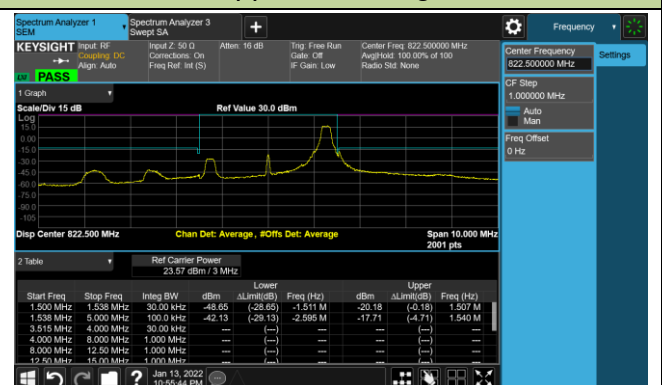


#### 3MHz Channel Bandwidth - 1RB

##### Lower Band Edge

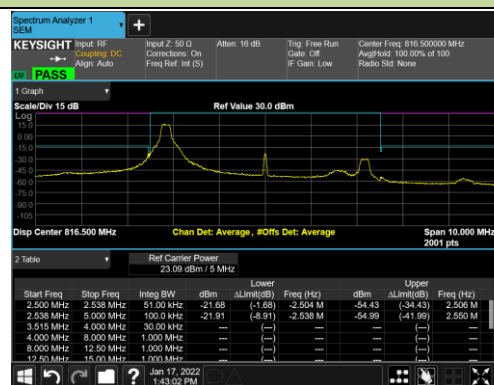


##### Upper Band Edge

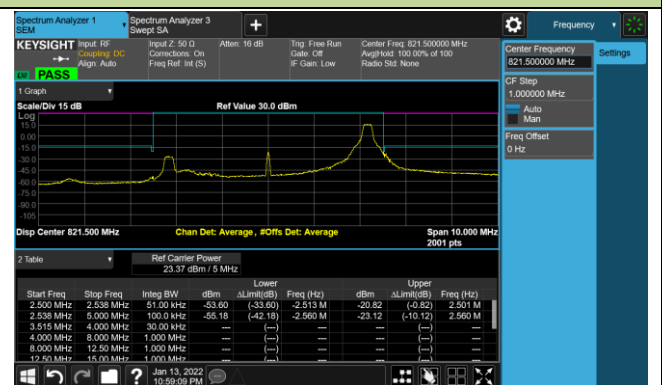


#### 5MHz Channel Bandwidth - 1RB

##### Lower Band Edge

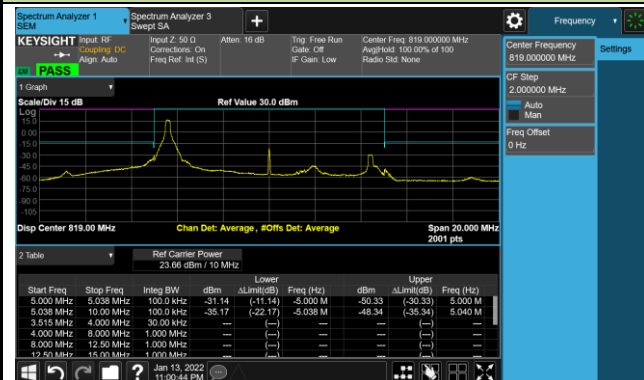


##### Upper Band Edge

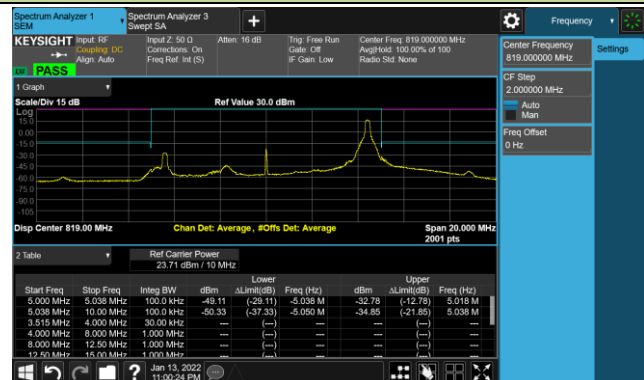


## 10MHz Channel Bandwidth - 1RB

## Lower Band Edge

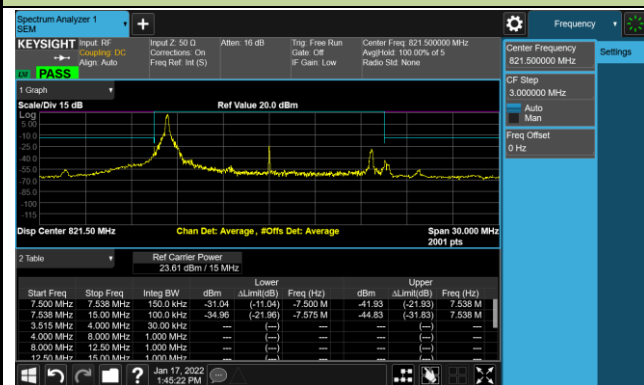


## Upper Band Edge

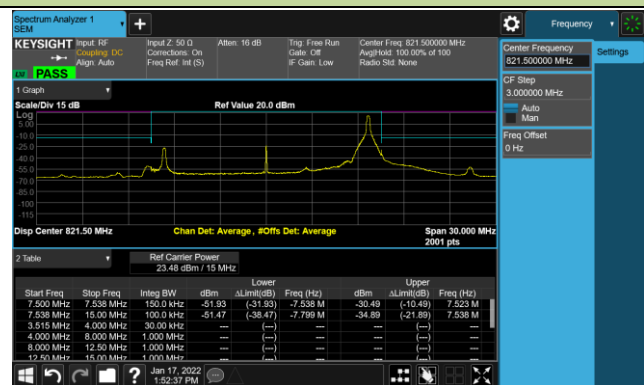


## 15MHz Channel Bandwidth - 1RB

## Lower Band Edge

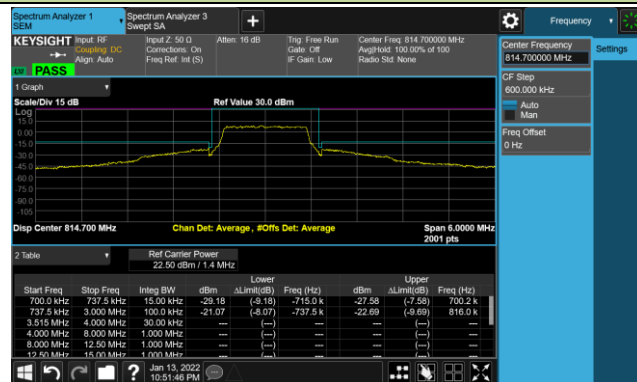


## Upper Band Edge



### 1.4MHz Channel Bandwidth - Full RB

#### Lower Band Edge

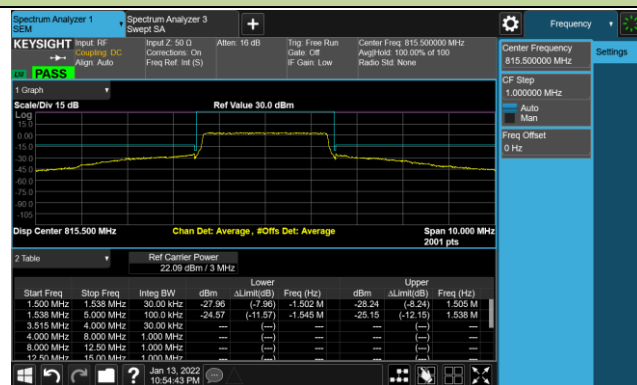


#### Upper Band Edge

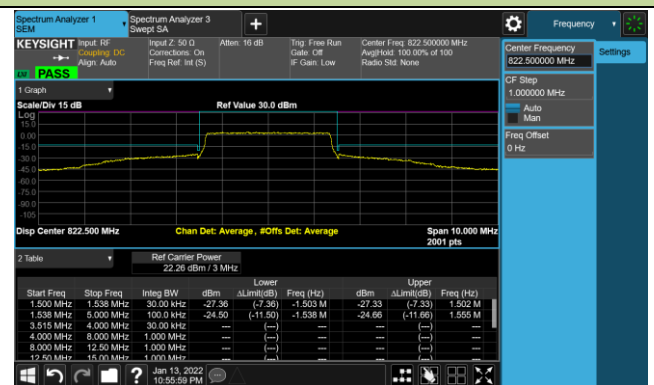


### 3MHz Channel Bandwidth - Full RB

#### Lower Band Edge

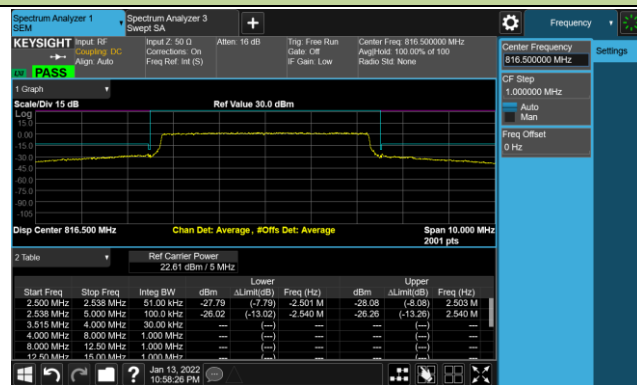


#### Upper Band Edge

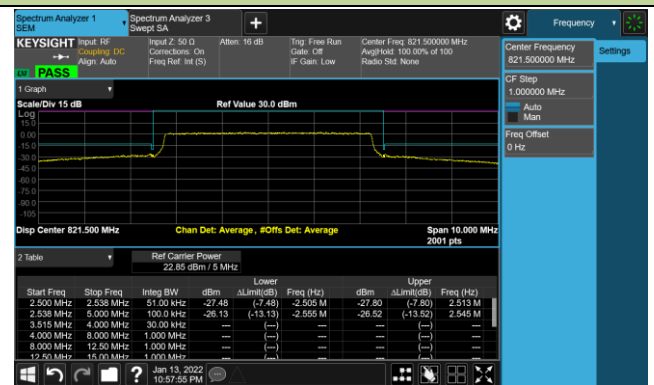


### 5MHz Channel Bandwidth - Full RB

#### Lower Band Edge

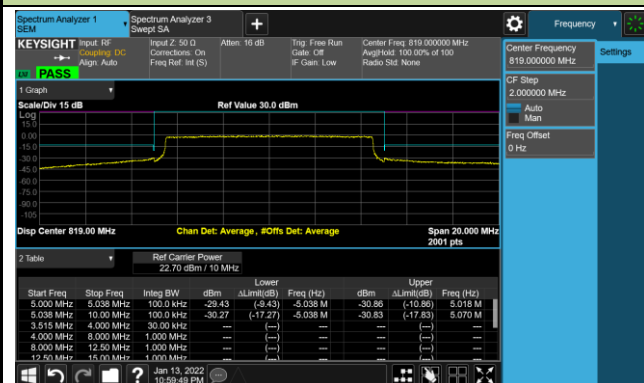


#### Upper Band Edge



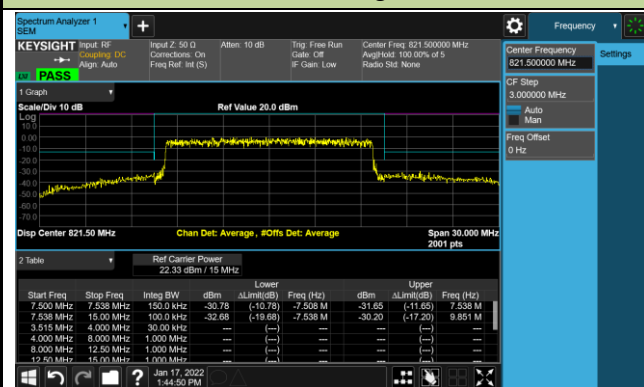
## 10MHz Channel Bandwidth - Full RB

### Band Edge



## 15MHz Channel Bandwidth - Full RB

### Band Edge



## **5.6. Conducted Spurious Emission Measurement**

### **5.6.1. Test Limit**

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10<sup>th</sup> harmonic. All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst-case configuration. All modes of operation were investigated, and the worst-case configuration results are reported in this section.

For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least  $43 + 10\log_{10}(P)$  decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

### **5.6.2. Test Procedure**

ANSI C63.26-2015 - Section 5.7

### **5.6.3. Test Setting**

1. Set the analyzer frequency to low, mid, high channel.
2. RBW = 1MHz
3. VBW  $\geq 3 \times$  RBW
4. Sweep time = auto
5. Detector = power averaging (rms)
6. Set sweep trigger to "free run."
7. User gate triggered such that the analyzer only sweeps when the device is transmitting at full power.
8. Trace average at least 100 traces in power averaging (rms) mode if sweep is set to auto-couple.

To accurately determine the average power over the on and off time of the transmitter, it can be necessary to increase the number of traces to be averaged above 100, or if using a manually configured sweep time, increase the sweep time.

#### 5.6.4. Test Setup



### 5.6.5. Test Result

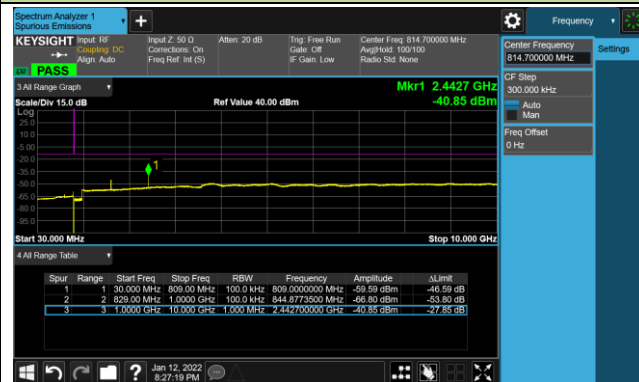
|               |                  |           |            |
|---------------|------------------|-----------|------------|
| Product       | Mobile Computer  | Test Site | SIP-SR1    |
| Test Engineer | Candy Luo        | Test Date | 2222/01/12 |
| Test Band     | LTE Band 26_QPSK |           |            |

| Channel | Frequency (MHz) | Channel Bandwidth (MHz) | Frequency Range (MHz) | Max Spurious Emissions (dBm) | Limit (dBm) | Result |
|---------|-----------------|-------------------------|-----------------------|------------------------------|-------------|--------|
| 26697   | 814.7           | 1.4                     | 30 ~ 10000            | -40.85                       | ≤ -13.00    | Pass   |
| 26740   | 819.0           | 1.4                     | 30 ~ 10000            | -38.62                       | ≤ -13.00    | Pass   |
| 26783   | 823.3           | 1.4                     | 30 ~ 10000            | 38.02                        | ≤ -13.00    | Pass   |
| 26705   | 815.5           | 3                       | 30 ~ 10000            | -39.67                       | ≤ -13.00    | Pass   |
| 26740   | 819.0           | 3                       | 30 ~ 10000            | -39.10                       | ≤ -13.00    | Pass   |
| 26775   | 822.5           | 3                       | 30 ~ 10000            | -38.54                       | ≤ -13.00    | Pass   |
| 26715   | 816.5           | 5                       | 30 ~ 10000            | -39.72                       | ≤ -13.00    | Pass   |
| 26740   | 819.0           | 5                       | 30 ~ 10000            | -40.38                       | ≤ -13.00    | Pass   |
| 26765   | 821.5           | 5                       | 30 ~ 10000            | -39.22                       | ≤ -13.00    | Pass   |
| 26740   | 819.0           | 10                      | 30 ~ 10000            | -38.50                       | ≤ -13.00    | Pass   |
| 26745   | 821.5           | 15                      | 30 ~ 10000            | -43.40                       | ≤ -13.00    | Pass   |

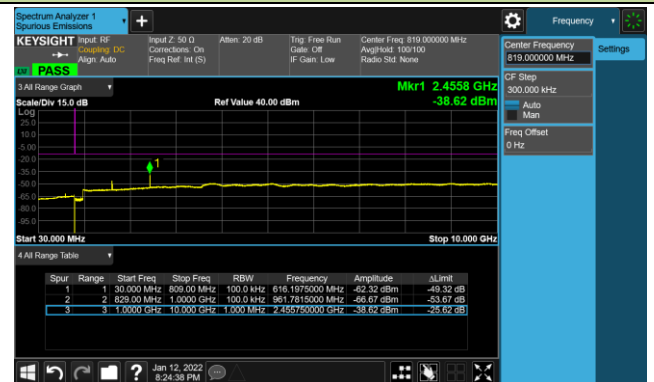
Note: Spurious emissions within 9Khz – 30MHz were found more than 20dB below limit line.

## 1.4MHz Channel Bandwidth

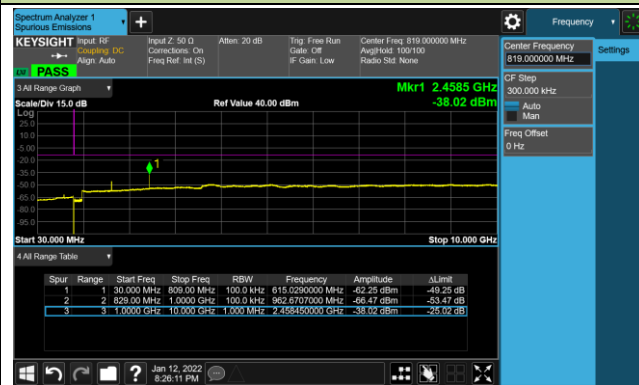
### Low Channel



### Middle Channel

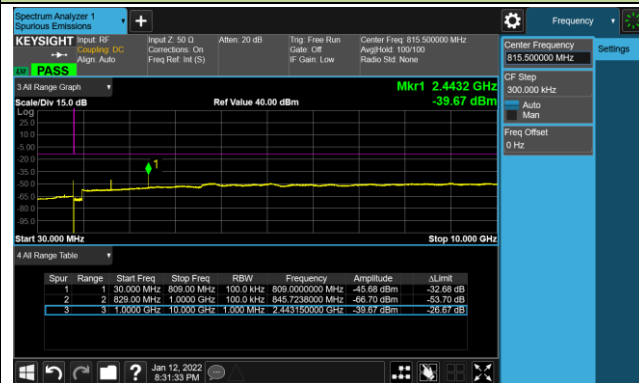


### High Channel

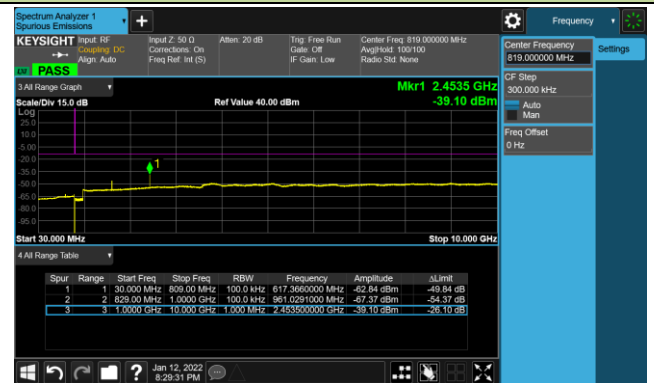


## 3MHz Channel Bandwidth

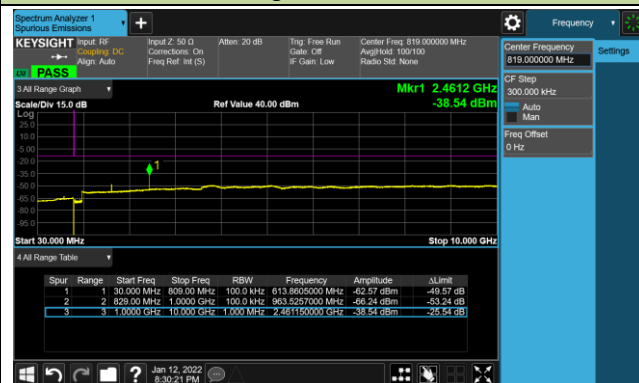
### Low Channel



### Middle Channel

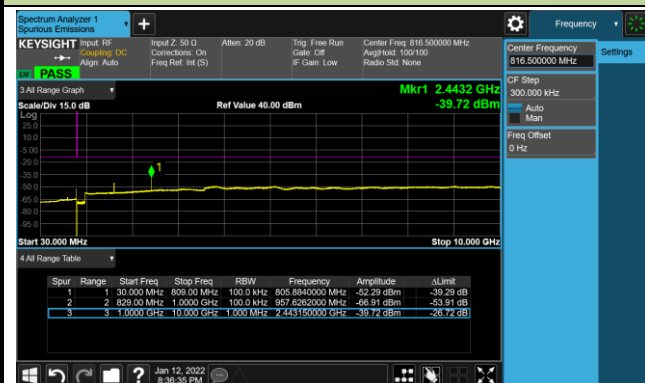


### High Channel

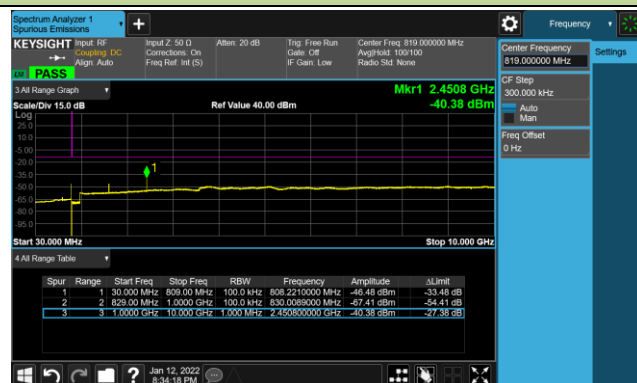


## 5MHz Channel Bandwidth

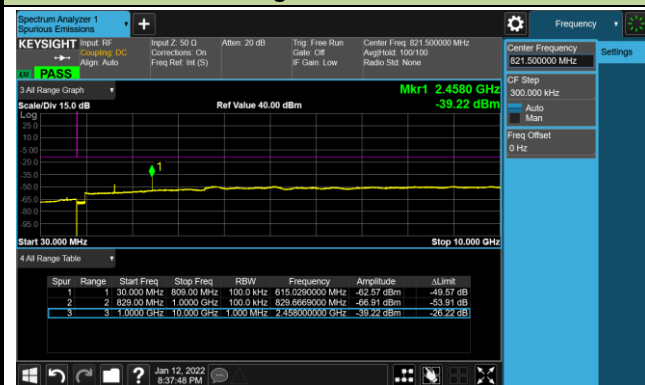
### Low Channel



### Middle Channel

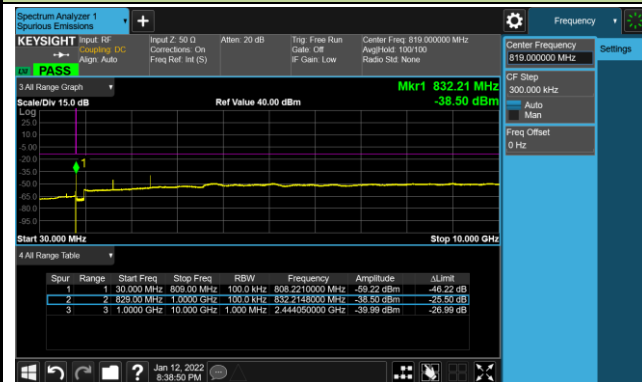


### High Channel



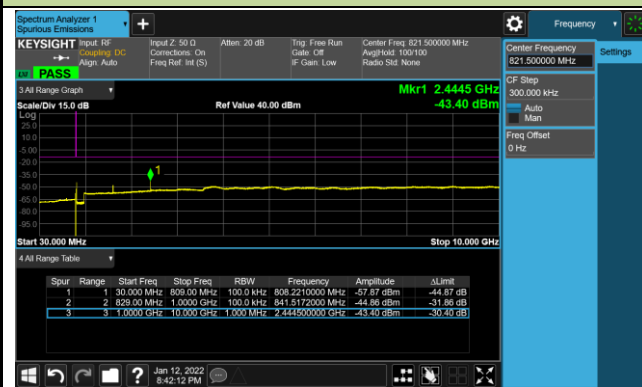
## 10MHz Channel Bandwidth

### Middle Channel



## 15MHz Channel Bandwidth

### Middle Channel



## 5.7. Radiated Spurious Emission Measurement

### 5.7.1. Test Limit

Out of band emissions: 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 -13dBm.

$E \text{ (dB}\mu\text{V/m)} = \text{EIRP (dBm)} - 20 \log D + 104.8$ ; where D is the measurement distance in meters. The emission limit equal to 82.3dB $\mu\text{V/m}$ .

### 5.7.2. Test Procedure

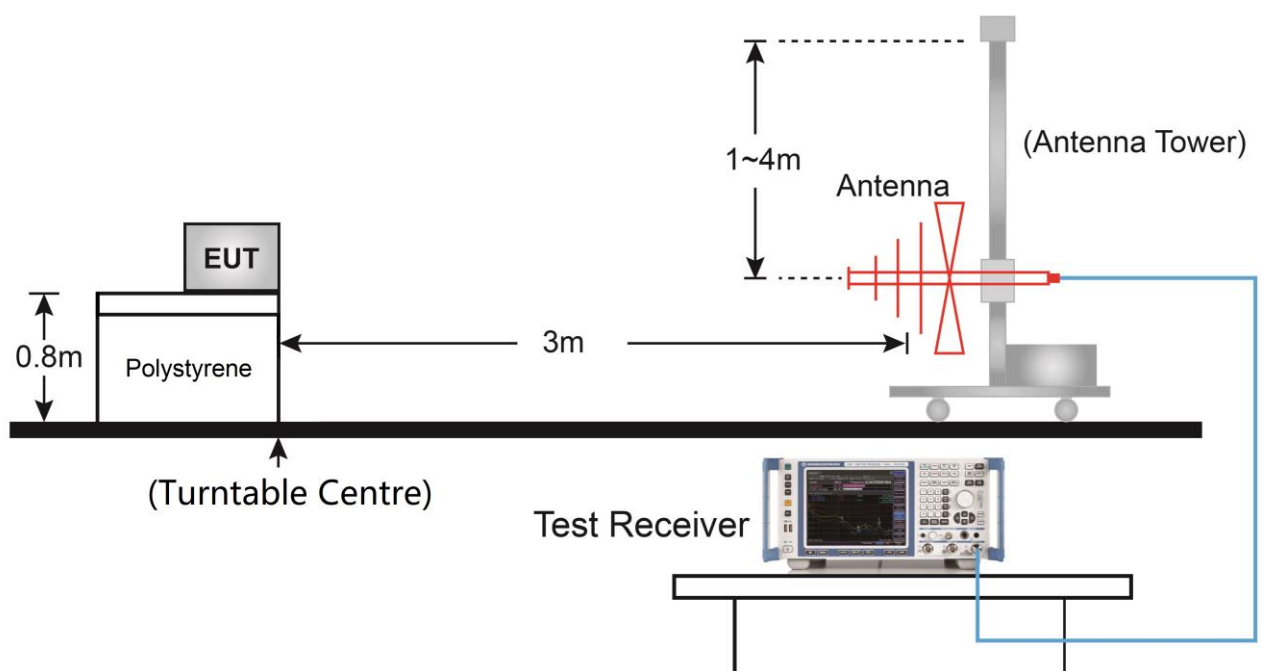
ANSI C63.26-2015 - Section 5.2.7 & 5.5

### 5.7.3. Test Setting

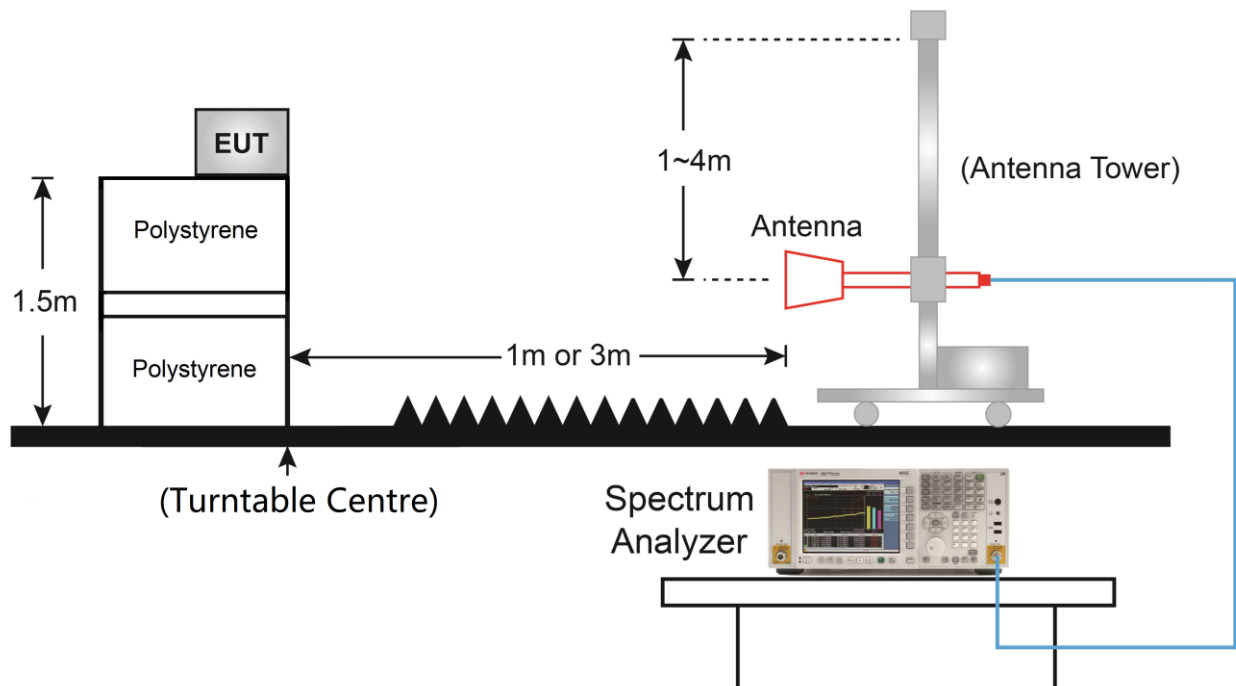
1. RBW = 1MHz
2. VBW  $\geq 3 \times$  RBW
3. Sweep time  $\geq 10 \times$  (number of points in sweep)  $\times$  (transmission symbol period)
4. Detector = Peak
5. Trace mode = max hold
6. The trace was allowed to stabilize

### 5.7.4. Test Setup

Below 1GHz Test Setup:



### Above 1GHz Test Setup:



### 5.7.5. Test Result

|               |                             |           |            |
|---------------|-----------------------------|-----------|------------|
| Product       | Mobile Computer             | Test Site | SIP-AC1    |
| Test Engineer | Kyrie Xie                   | Test Date | 2022/01/23 |
| Test Band     | LTE Band 26_1.4MHz_1RB_QPSK |           |            |

| Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| Low Channel     |                      |             |                        |                |             |          |              |
| 947.6           | 22.6                 | 29.9        | 52.5                   | 82.3           | -29.8       | Peak     | Horizontal   |
| 996.6           | 22.4                 | 30.0        | 52.4                   | 82.3           | -29.9       | Peak     | Horizontal   |
| 921.4           | 22.5                 | 29.7        | 52.2                   | 82.3           | -30.1       | Peak     | Vertical     |
| 965.6           | 23.4                 | 30.0        | 53.4                   | 82.3           | -28.9       | Peak     | Vertical     |
| 9058.0          | 48.6                 | -4.4        | 44.2                   | 82.3           | -38.1       | Peak     | Horizontal   |
| 17345.5         | 44.5                 | 7.4         | 51.9                   | 82.3           | -30.4       | Peak     | Horizontal   |
| 7120.0          | 49.4                 | -6.1        | 43.3                   | 82.3           | -39.0       | Peak     | Vertical     |
| 16929.0         | 43.9                 | 7.2         | 51.1                   | 82.3           | -31.2       | Peak     | Vertical     |
| Middle Channel  |                      |             |                        |                |             |          |              |
| 869.5           | 23.7                 | 28.3        | 52.0                   | 82.3           | -30.3       | Peak     | Horizontal   |
| 955.4           | 22.0                 | 30.1        | 52.1                   | 82.3           | -30.2       | Peak     | Horizontal   |
| 743.9           | 22.4                 | 27.8        | 50.2                   | 82.3           | -32.1       | Peak     | Vertical     |
| 975.8           | 22.4                 | 30.0        | 52.4                   | 82.3           | -29.9       | Peak     | Vertical     |
| 15577.5         | 44.8                 | 4.3         | 49.1                   | 82.3           | -33.2       | Peak     | Horizontal   |
| 17116.0         | 43.9                 | 6.5         | 50.4                   | 82.3           | -31.9       | Peak     | Horizontal   |
| 13767.0         | 45.9                 | 0.8         | 46.7                   | 82.3           | -35.6       | Peak     | Vertical     |
| 17243.5         | 43.1                 | 7.4         | 50.5                   | 82.3           | -31.8       | Peak     | Vertical     |
| High Channel    |                      |             |                        |                |             |          |              |
| 741.5           | 22.7                 | 27.6        | 50.3                   | 82.3           | -32.0       | Peak     | Horizontal   |
| 939.9           | 22.1                 | 29.8        | 51.9                   | 82.3           | -30.4       | Peak     | Horizontal   |
| 758.5           | 22.0                 | 27.9        | 49.9                   | 82.3           | -32.4       | Peak     | Vertical     |
| 962.2           | 22.8                 | 30.1        | 52.9                   | 82.3           | -29.4       | Peak     | Vertical     |
| 13733.0         | 46.8                 | 0.6         | 47.4                   | 82.3           | -34.9       | Peak     | Horizontal   |
| 17345.5         | 43.9                 | 7.4         | 51.3                   | 82.3           | -31.0       | Peak     | Horizontal   |
| 13750.0         | 47.0                 | 0.2         | 47.2                   | 82.3           | -35.1       | Peak     | Vertical     |
| 16623.0         | 44.6                 | 5.7         | 50.3                   | 82.3           | -32.0       | Peak     | Vertical     |

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB).

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m)

## **Appendix A - Test Setup Photograph**

Refer to “2112RSU039-UT” file.

## **Appendix B - EUT Photograph**

Refer to “2112RSU039-UE” file.

\_\_\_\_\_ The End \_\_\_\_\_