

## RF MEASUREMENT REPORT

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**FCC ID:** 2APJ4-SLM156  
**Application:** MeiG Smart Technology Co., Ltd  
**Product:** CAT-M Module  
**Model No.:** SLM156  
**Brand Name:** MEIGLink  
**FCC Rule Part(s):** Part 90 Subpart S  
**Test Procedure(s):** ANSI C63.26: 2015  
**Result:** Complies  
**Test Date:** 2022-05-23 ~ 2022-11-02

**Reviewed By:**

Vincent Yu

**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.

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### Revision History

| Report No.    | Version | Description    | Issue Date | Note  |
|---------------|---------|----------------|------------|-------|
| 2205RSU044-U6 | Rev. 01 | Initial Report | 2023-04-17 | Valid |
|               |         |                |            |       |

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## 1. General Information

### 1.1. Applicant

MeiG Smart Technology Co., Ltd

2nd Floor, Office Building, No.5 Lingxia Road, Fenghuang, Fuyong Street, Bao 'an District, Shenzhen, China

## 1.2. Manufacturer

MeiG Smart Technology Co., Ltd

2nd Floor, Office Building, No.5 Lingxia Road, Fenghuang, Fuyong Street, Bao 'an District, Shenzhen, China

### 1.3. Testing Facility

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

#### 1.4. Product Information

|                                                                                                                                                          |                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Product Name                                                                                                                                             | CAT-M Module                                                                                |
| Model No.                                                                                                                                                | SLM156                                                                                      |
| IMEI                                                                                                                                                     | Conducted Measurement: 868510050004513<br>Radiated Measurement: 868510050007318             |
| Operating Temperature                                                                                                                                    | -35 ~ 75 °C                                                                                 |
| Hardware Version                                                                                                                                         | SLM156_V1.01_PCB                                                                            |
| Software Version                                                                                                                                         | SLM156_5.0.12_EQ100                                                                         |
| Power Type                                                                                                                                               | 3.3 ~ 4.2Vdc, typical 3.8Vdc                                                                |
| GSM Specification                                                                                                                                        |                                                                                             |
| Band                                                                                                                                                     | GSM850, PCS1900                                                                             |
| Modulation                                                                                                                                               | GMSK, 8PSK                                                                                  |
| E-UTRA Specification                                                                                                                                     |                                                                                             |
| Single Band                                                                                                                                              | Cat M Band 2, 4, 5, 12, 13, 14, 25, 26, 66<br>NB-IoT Band 2, 4, 5, 12, 13, 25, 26, 66, 71   |
| Modulation                                                                                                                                               | Cat M: Uplink up to 16QAM, Downlink up to 16QAM<br>NB-IoT: Uplink BPSK, QPSK; Downlink QPSK |
| 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 Tx Frequency Range | NB-IoT: Band 26: 814 ~ 824 MHz |
| FDD Rx Frequency Range | NB-IoT: Band 26: 859 ~ 869 MHz |

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

Note 2: The band need move channels from band edge.

Note 3: The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

### 1.6. Description of Available Antennas

| Technology | Frequency Range (MHz) | Antenna Type | Max Peak Gain (dBi) |
|------------|-----------------------|--------------|---------------------|
| Band 2     | 1850 ~ 1910           | PCB Antenna  | 0.78                |
| Band 4     | 1710 ~ 1755           |              | -0.10               |
| Band 5     | 824 ~ 849             |              | 0.44                |
| Band 12    | 699 ~ 716             |              | 1.72                |
| Band 13    | 777 ~ 787             |              | 1.59                |
| Band 14    | 788 ~ 798             |              | 0.66                |
| Band 25    | 1850 ~ 1915           |              | 0.71                |
| Band 26    | 814 ~ 849             |              | 0.49                |
| Band 66    | 1710 ~ 1780           |              | -0.10               |
| Band 71    | 663 ~ 698             |              | -2.38               |

Note: All antenna information (Antenna type and Peak Gain) is provided by the manufacturer.

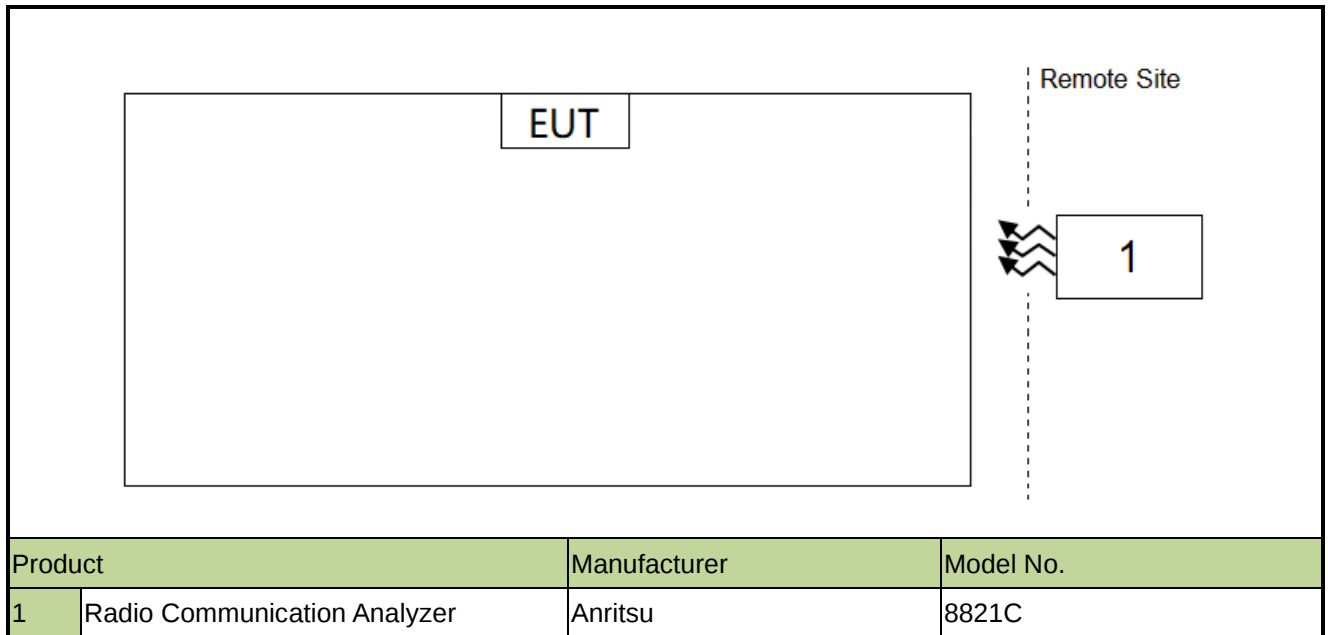
### 1.7. Test Methodology

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. Test Configuration

### 2.1. Test System Connection Diagram



### 2.2. Test Environment Condition

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

### 3. Measuring Instrument

| Instrument                   | Manufacturer | Model No.  | Asset No.   | Last Cali. Date | Cali. Due Date | Test Site     |
|------------------------------|--------------|------------|-------------|-----------------|----------------|---------------|
| TRILOG Antenna               | Schwarzbeck  | VULB 9162  | MRTSUE06022 | 1 year          | 2023-05-20     | WZ-AC2        |
| EMI Test Receiver            | Agilent      | N9038A     | MRTSUE06125 | 1 year          | 2022-06-24     | WZ-AC2        |
|                              |              |            |             | 1 year          | 2023-06-04     |               |
| Thermohygrometer             | Mingle       | ETH529     | MRTSUE06170 | 1 year          | 2022-12-01     | WZ-AC2        |
| Horn Antenna                 | Schwarzbeck  | BBHA 9120D | MRTSUE06171 | 1 year          | 2022-10-21     | WZ-AC2        |
|                              |              |            |             | 1 year          | 2023-10-13     |               |
| Preamplifier                 | Schwarzbeck  | BBV 9718   | MRTSUE06176 | 1 year          | 2022-11-12     | WZ-AC2        |
| Anechoic Chamber             | RIKEN        | WZ-AC2     | MRTSUE06213 | 1 year          | 2023-04-21     | WZ-AC2        |
| Thermohygrometer             | testo        | 608-H1     | MRTSUE11038 | 1 year          | 2022-11-11     | WZ-AC2        |
| Thermohygrometer             | testo        | 608-H1     | MRTSUE06362 | 1 year          | 2023-02-15     | WZ-SR6        |
| Shielding Room               | HUAMING      | WZ-SR6     | MRTSUE06443 | N/A             | N/A            | WZ-SR6        |
| Signal Analyzer              | Keysight     | N9020B     | MRTSUE06583 | 1 year          | 2022-10-10     | WZ-SR6/WZ-TR3 |
|                              |              |            |             | 1 year          | 2023-10-08     |               |
| Radio Communication Analyzer | Anritsu      | MT8821C    | MRTSUE06960 | 1 year          | 2022-07-01     | WZ-SR6/WZ-TR3 |
|                              |              |            |             | 1 year          | 2023-07-08     |               |
| Temperature Chamber          | BAOYT        | BYH-150CL  | MRTSUE06051 | 1 year          | 2022-10-10     | WZ-SR6/WZ-TR3 |
|                              |              |            |             | 1 year          | 2023-10-08     |               |
| Vibration Test System        | DongLing     | ES-1-150   | MRTSUE06206 | 1 year          | 2022-08-08     | WZ-SR6/WZ-TR3 |
|                              |              |            |             | 1 year          | 2023-07-07     |               |
| Thermohygrometer             | testo        | 608-H1     | MRTSUE06401 | 1 year          | 2022-06-28     | WZ-SR6/WZ-TR3 |
|                              |              |            |             | 1 year          | 2023-06-06     |               |
| Directional Coupler          | Agilent      | 778D       | MRTSUE06083 | 1 year          | 2023-03-17     | WZ-SR6/WZ-TR3 |
| Directional Coupler          | narda        | 4226-10    | MRTSUE06562 | 1 year          | 2022-10-28     | WZ-SR6/WZ-TR3 |
|                              |              |            |             | 1 year          | 2023-10-27     |               |
| Attenuator                   | MVE          | MVE2213    | MRTSUE11087 | 1 year          | 2022-06-10     | WZ-SR6/WZ-TR3 |
|                              |              |            |             | 1 year          | 2023-06-09     |               |
| Attenuator                   | MVE          | MVE2213    | MRTSUE11088 | 1 year          | 2022-06-10     | WZ-SR6/WZ-TR3 |
|                              |              |            |             | 1 year          | 2023-06-09     |               |

| Software           | Version | Function               |
|--------------------|---------|------------------------|
| EMI V3             | V3.0.0  | EMI Test Software      |
| Controller_MF 7802 | 2.03C   | RE Antenna & Turntable |

## 4. Decision Rules and Measurement Uncertainty

### 4.1. Decision Rules

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4: 2012 Clause 8.2.  
(Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

### 4.2. 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  $k = 2$ .

| Radiated Spurious Emissions                                                                                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Measurement Uncertainty for a Level of Confidence of 95% ( $U=2Uc(y)$ ):<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 |
| Conducted Spurious Emissions                                                                                                                                                                                                                       |
| Measuring Uncertainty for a Level of Confidence of 95% ( $U=2Uc(y)$ ):<br>0.78dB                                                                                                                                                                   |
| Output Power                                                                                                                                                                                                                                       |
| Measuring Uncertainty for a Level of Confidence of 95% ( $U=2Uc(y)$ ):<br>1.13dB                                                                                                                                                                   |
| Occupied Bandwidth                                                                                                                                                                                                                                 |
| Measuring Uncertainty for a Level of Confidence of 95% ( $U=2Uc(y)$ ):<br>0.28%                                                                                                                                                                    |
| Frequency Stability                                                                                                                                                                                                                                |
| Measuring Uncertainty for a Level of Confidence of 95% ( $U=2Uc(y)$ ):<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 + 10log10 (P <sub>[Watts]</sub> ) within 37.5kHz of Block Edge |                | Pass        | Section 5.5, 5.6 |
| 2.1051, 90.691(a)   | Spurious Emission      | < 43 + 10log10 (P <sub>[Watts]</sub> )                              | Radiated       | Pass        | Section 5.7      |
| 2.1053, 90.691(a)   | Spurious Emissions     | < 43 + 10log10 (P <sub>[Watts]</sub> )                              |                |             |                  |

#### Notes:

- 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.
- 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.

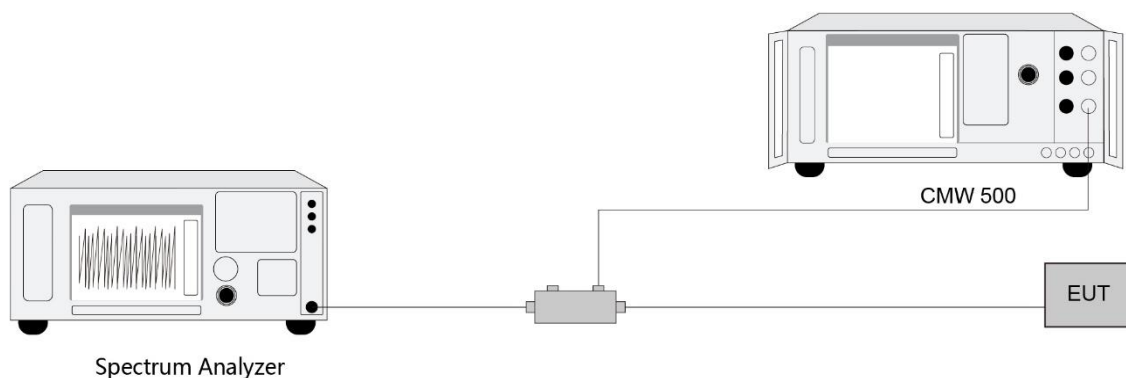
### 5.2.2. Test Procedure

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**

Refer to Appendix A.1.

### **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:**

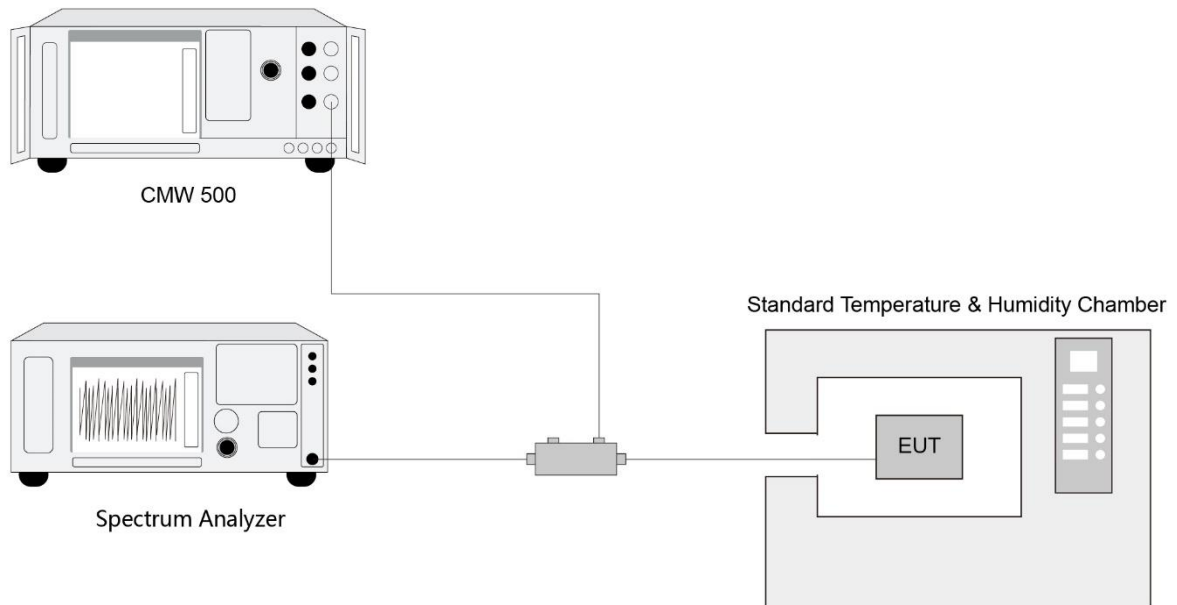
The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain 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

Refer to Appendix A.2.

## **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).

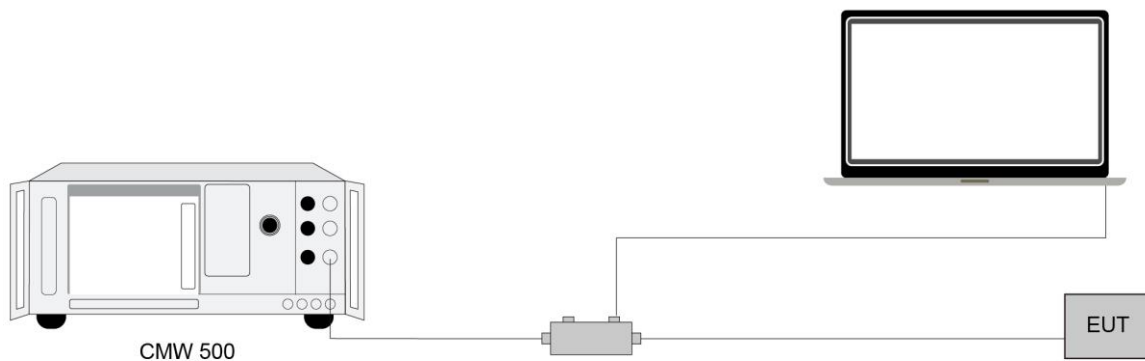
### **5.4.2. Test Procedure**

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**

Refer to Appendix A.3.

## **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.

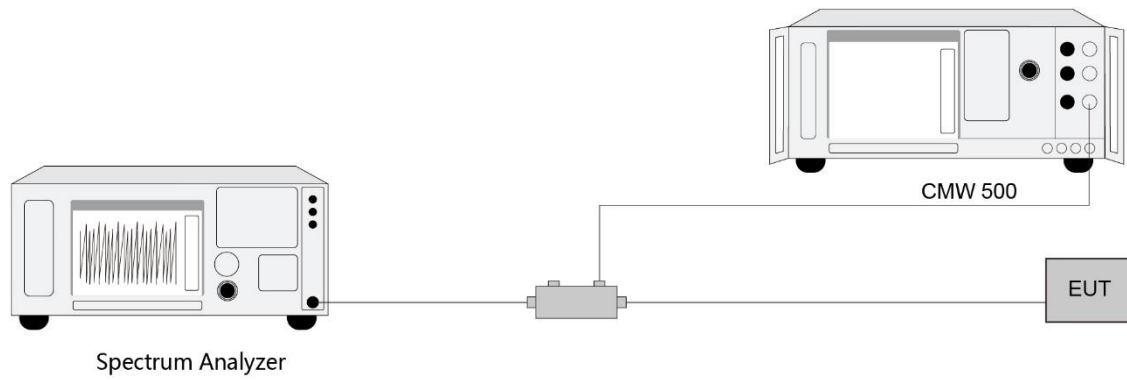
### **5.5.2. Test Procedure**

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.  $VBW \geq 3 \cdot RBW$
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

Refer to Appendix A.4.

## **5.6. Conducted Spurious Emissions 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.

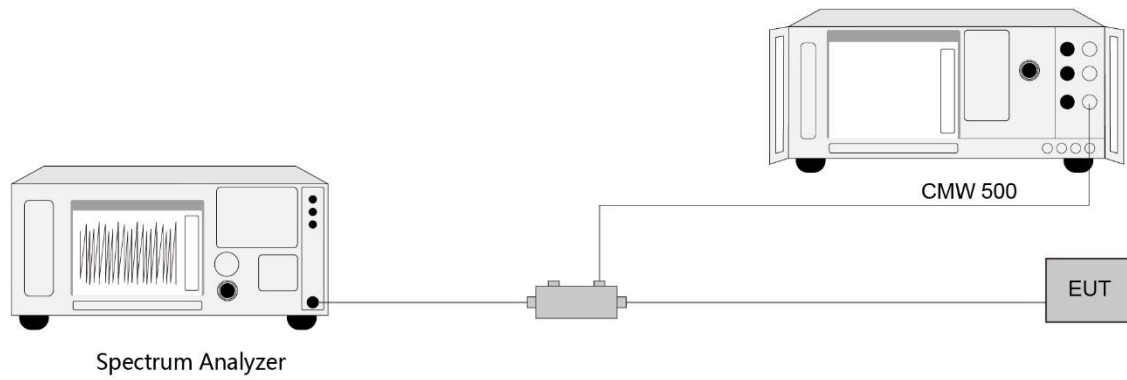
### **5.6.2. Test Procedure**

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

Refer to Appendix A.5.

## **5.7. Radiated Spurious Emissions 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.

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

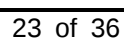
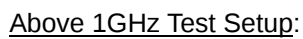
### **5.7.2. Test Procedure**

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

### Below 1GHz Test Setup:



#### **5.7.5.Test Result**

Refer to Appendix A.6.

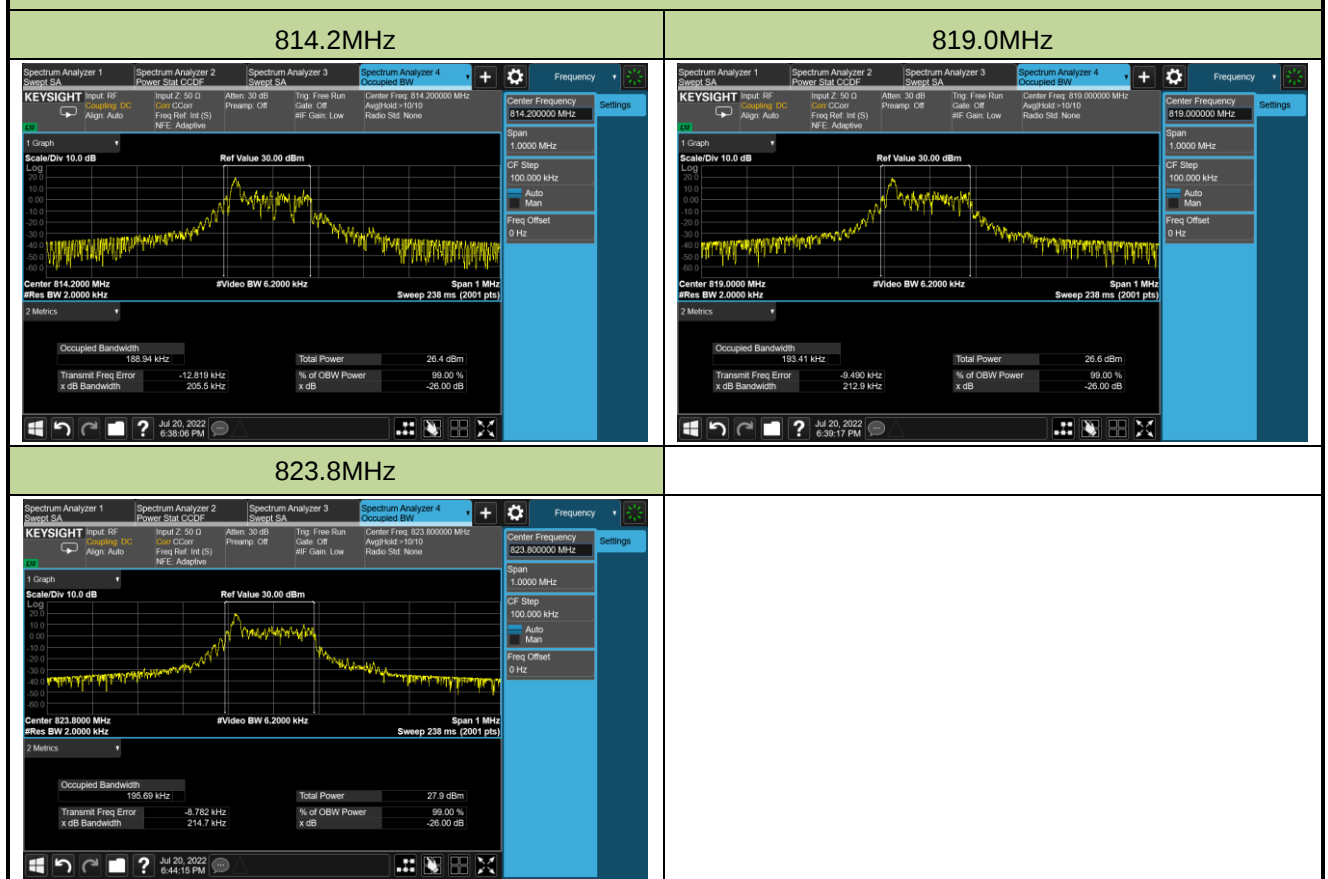
## Appendix A - Test Result

### A.1 Occupied Bandwidth Test Result

|           |            |               |           |
|-----------|------------|---------------|-----------|
| Test Site | WZ-SR6     | Test Engineer | Cloud Guo |
| Test Date | 2022/07/20 | Test Band     | Band 26   |

| Channel | Frequency (MHz) | Modulation | Sub-carrier spacing (kHz) | Ntones | 99% Bandwidth (kHz) |
|---------|-----------------|------------|---------------------------|--------|---------------------|
| 26692   | 814.2           | QPSK       | 15                        | 12@0   | 188.94              |
| 26740   | 819.0           |            |                           |        | 193.41              |
| 26788   | 823.8           |            |                           |        | 195.69              |

#### 99% Bandwidth - QPSK



## A.2 Frequency Stability Test Result

|           |                       |               |           |
|-----------|-----------------------|---------------|-----------|
| Test Site | WZ-TR3                | Test Engineer | Cloud Guo |
| Test Date | 2022/07/20~2022/07/24 | Test Band     | Band 26   |

| Power (Vdc) | Temp. (°C) | Frequency Tolerance (ppm) |
|-------------|------------|---------------------------|
| 3.8         | - 30       | -0.0151                   |
|             | - 20       | -0.0055                   |
|             | - 10       | 0.0040                    |
|             | 0          | 0.0044                    |
|             | + 10       | 0.0040                    |
|             | + 20 (Ref) | -0.0070                   |
|             | + 30       | -0.0077                   |
|             | + 40       | -0.0101                   |
|             | + 50       | -0.0096                   |
| 4.2         | + 20       | -0.0090                   |
| 3.3         | + 20       | -0.0092                   |

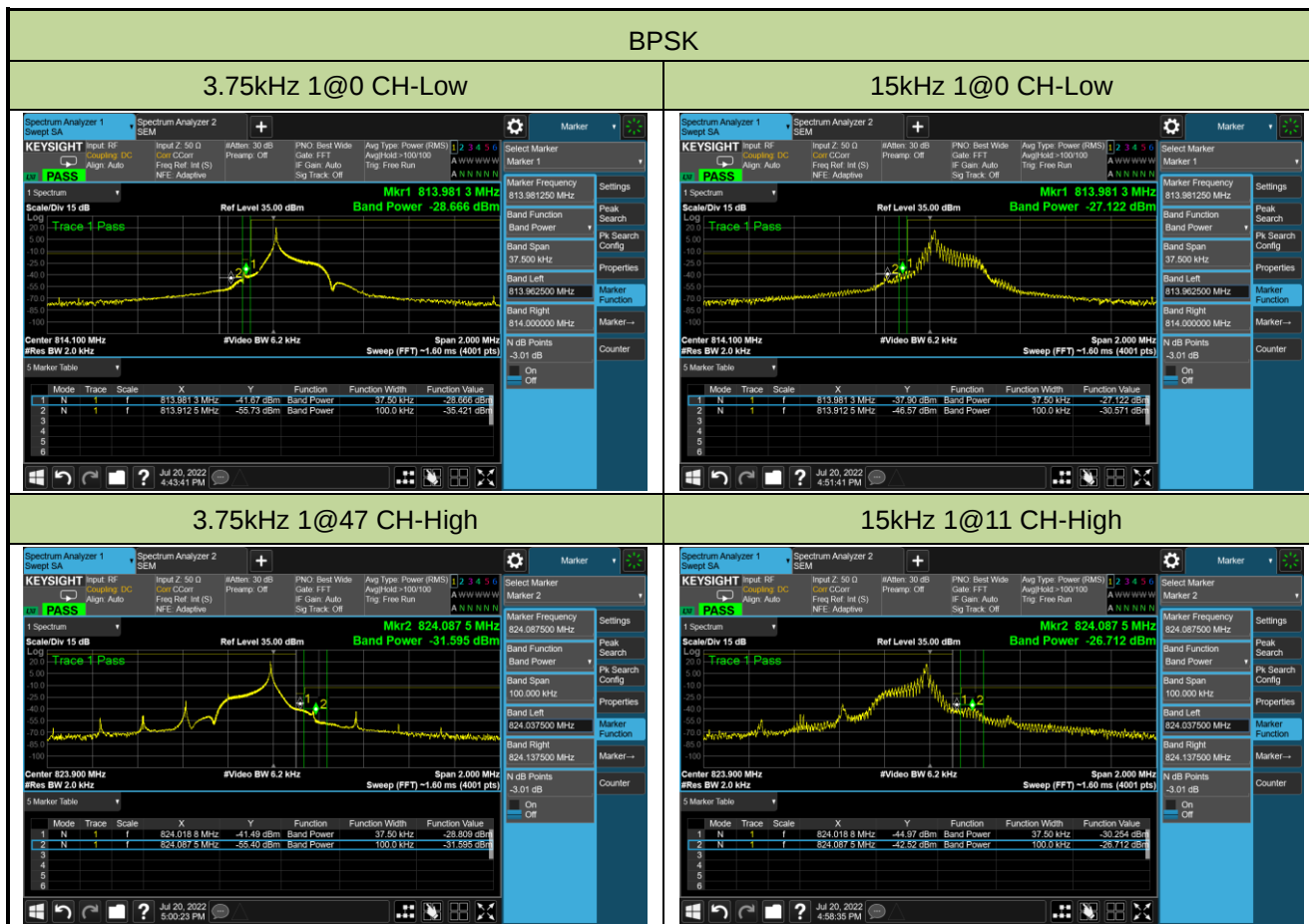
### A.3 Conducted Output Power Test Result

|           |            |               |           |
|-----------|------------|---------------|-----------|
| Test Site | WZ-SR6     | Test Engineer | Cloud Guo |
| Test Date | 2022/07/22 | Test Band     | Band 26   |

| Channel No. | Frequency<br>(MHz) | Sub-carrier<br>spacing (kHz) | N <sub>tones</sub> | Output<br>Power<br>(dBm) | Output<br>Power (W) | Limit<br>(W) |
|-------------|--------------------|------------------------------|--------------------|--------------------------|---------------------|--------------|
| BPSK        |                    |                              |                    |                          |                     |              |
| 26692       | 814.2              | 3.75                         | 1@0                | 21.53                    | 0.1422              | < 100        |
| 26740       | 819.0              |                              |                    | 21.57                    | 0.1435              | < 100        |
| 26788       | 823.8              |                              |                    | 21.62                    | 0.1452              | < 100        |
| 26692       | 814.2              |                              | 1@47               | 21.46                    | 0.1400              | < 100        |
| 26740       | 819.0              |                              |                    | 21.49                    | 0.1409              | < 100        |
| 26788       | 823.8              |                              |                    | 21.56                    | 0.1432              | < 100        |
| 26692       | 814.2              | 15                           | 1@0                | 21.65                    | 0.1462              | < 100        |
| 26740       | 819.0              |                              |                    | 22.01                    | 0.1589              | < 100        |
| 26788       | 823.8              |                              |                    | 21.70                    | 0.1479              | < 100        |
| 26692       | 814.2              |                              | 1@11               | 21.65                    | 0.1462              | < 100        |
| 26740       | 819.0              |                              |                    | 21.98                    | 0.1578              | < 100        |
| 26788       | 823.8              |                              |                    | 21.69                    | 0.1476              | < 100        |
| QPSK        |                    |                              |                    |                          |                     |              |
| 26692       | 814.2              | 3.75                         | 1@0                | 21.54                    | 0.1426              | < 100        |
| 26740       | 819.0              |                              |                    | 21.58                    | 0.1439              | < 100        |
| 26788       | 823.8              |                              |                    | 21.63                    | 0.1455              | < 100        |
| 26692       | 814.2              |                              | 1@47               | 21.45                    | 0.1396              | < 100        |
| 26740       | 819.0              |                              |                    | 21.50                    | 0.1413              | < 100        |
| 26788       | 823.8              |                              |                    | 21.54                    | 0.1426              | < 100        |
| 26692       | 814.2              | 15                           | 1@0                | 21.70                    | 0.1479              | < 100        |
| 26740       | 819.0              |                              |                    | 22.04                    | 0.1600              | < 100        |
| 26788       | 823.8              |                              |                    | 21.70                    | 0.1479              | < 100        |
| 26692       | 814.2              |                              | 1@11               | 21.62                    | 0.1452              | < 100        |
| 26740       | 819.0              |                              |                    | 21.99                    | 0.1581              | < 100        |
| 26788       | 823.8              |                              |                    | 21.63                    | 0.1455              | < 100        |
| 26692       | 814.2              |                              | 12@0               | 18.52                    | 0.0711              | < 100        |
| 26740       | 819.0              |                              |                    | 19.03                    | 0.0800              | < 100        |
| 26788       | 823.8              |                              |                    | 18.54                    | 0.0714              | < 100        |

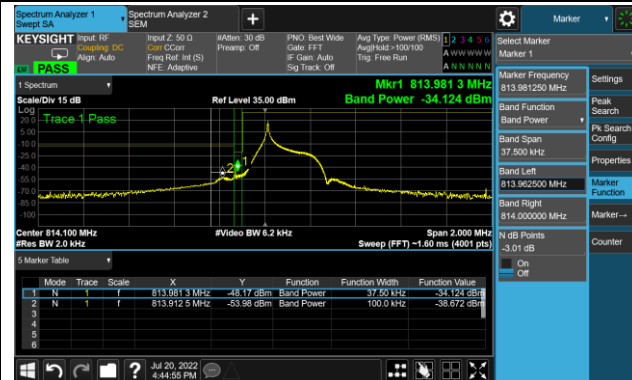
#### A.4 Band Edge Test Result

|           |            |               |           |
|-----------|------------|---------------|-----------|
| Test Site | WZ-SR6     | Test Engineer | Cloud Guo |
| Test Date | 2022/07/20 | Test Band     | Band 26   |

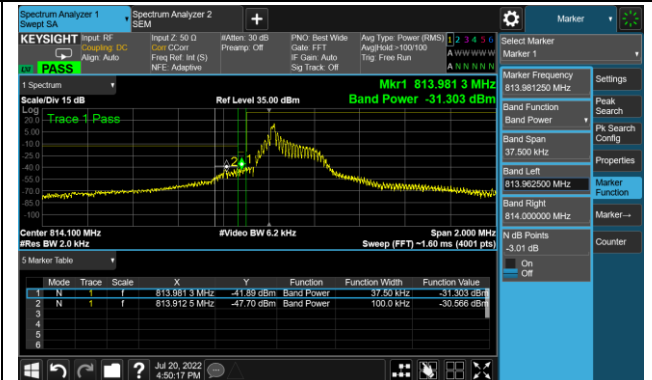


# QPSK

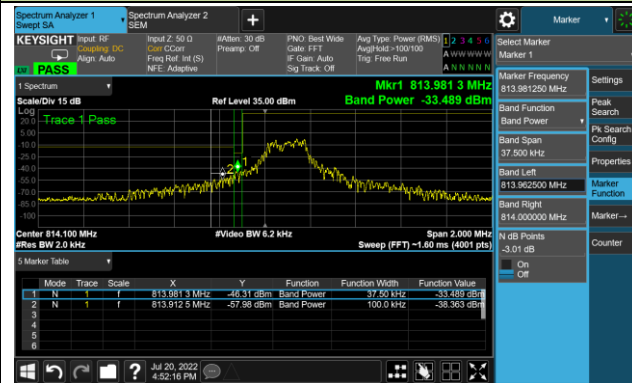
## 3.75kHz 1@0 CH-Low



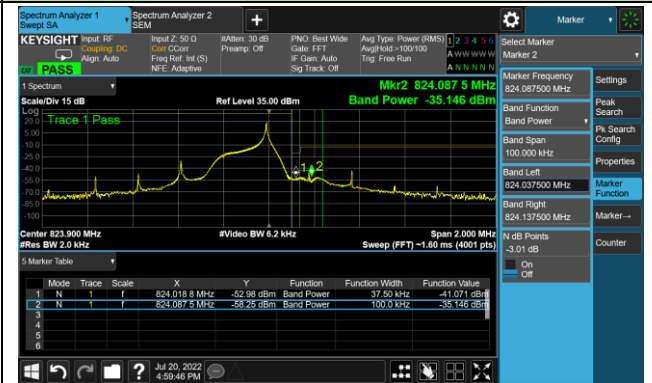
## 15kHz 1@0 CH-Low



## 15 kHz 12@0 CH-Low



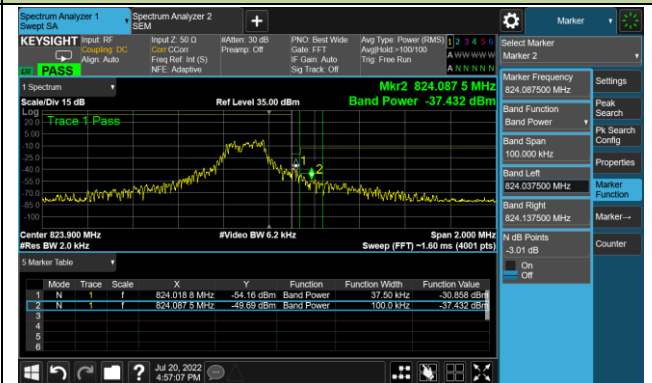
## 3.75kHz 1@47 CH-High



## 15kHz 1@11 CH-High



## 15kHz 12@0 CH-High



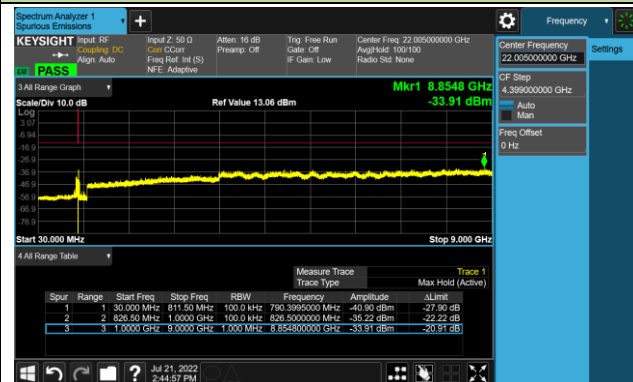
### A.5 Conducted Spurious Emissions Test Result

|           |            |               |           |
|-----------|------------|---------------|-----------|
| Test Site | WZ-SR6     | Test Engineer | Cloud Guo |
| Test Date | 2022/07/21 | Test Band     | Band 26   |

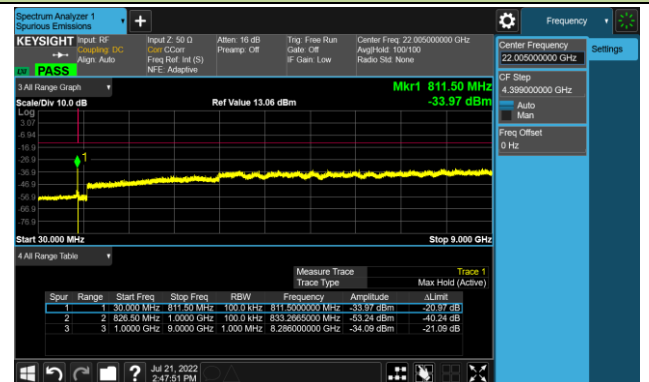
| Channel | Frequency<br>(MHz) | Sub-carrier<br>spacing<br>(kHz) | N <sub>tones</sub> | Frequency<br>Range<br>(MHz) | Max Spurious<br>Emissions<br>(dBm) | Limit<br>(dBm) | Result |
|---------|--------------------|---------------------------------|--------------------|-----------------------------|------------------------------------|----------------|--------|
| BPSK    |                    |                                 |                    |                             |                                    |                |        |
| 26692   | 814.2              | 3.75                            | 1@0                | 30 ~ 9000                   | -33.91                             | ≤ -13.00       | Pass   |
| 26740   | 819.0              | 15                              | 1@0                | 30 ~ 9000                   | -33.97                             | ≤ -13.00       | Pass   |
| 26788   | 823.8              | 3.75                            | 1@0                | 30 ~ 9000                   | -33.34                             | ≤ -13.00       | Pass   |
| 26692   | 814.2              | 15                              | 1@0                | 30 ~ 9000                   | -33.91                             | ≤ -13.00       | Pass   |
| 26740   | 819.0              | 3.75                            | 1@47               | 30 ~ 9000                   | -27.34                             | ≤ -13.00       | Pass   |
| 26788   | 823.8              | 15                              | 1@11               | 30 ~ 9000                   | -33.33                             | ≤ -13.00       | Pass   |
| QPSK    |                    |                                 |                    |                             |                                    |                |        |
| 26692   | 814.2              | 3.75                            | 1@0                | 30 ~ 9000                   | -34.22                             | ≤ -13.00       | Pass   |
| 26740   | 819.0              | 15                              | 1@0                | 30 ~ 9000                   | -33.91                             | ≤ -13.00       | Pass   |
| 26788   | 823.8              | 15                              | 12@0               | 30 ~ 9000                   | -32.86                             | ≤ -13.00       | Pass   |
| 26692   | 814.2              | 3.75                            | 1@0                | 30 ~ 9000                   | -30.37                             | ≤ -13.00       | Pass   |
| 26740   | 819.0              | 15                              | 1@0                | 30 ~ 9000                   | -33.68                             | ≤ -13.00       | Pass   |
| 26788   | 823.8              | 15                              | 12@0               | 30 ~ 9000                   | -33.92                             | ≤ -13.00       | Pass   |
| 26692   | 814.2              | 3.75                            | 1@47               | 30 ~ 9000                   | -33.84                             | ≤ -13.00       | Pass   |
| 26740   | 819.0              | 15                              | 1@11               | 30 ~ 9000                   | -33.93                             | ≤ -13.00       | Pass   |
| 26788   | 823.8              | 15                              | 12@0               | 30 ~ 9000                   | -33.72                             | ≤ -13.00       | Pass   |

## Channel 26692 (814.2 MHz)

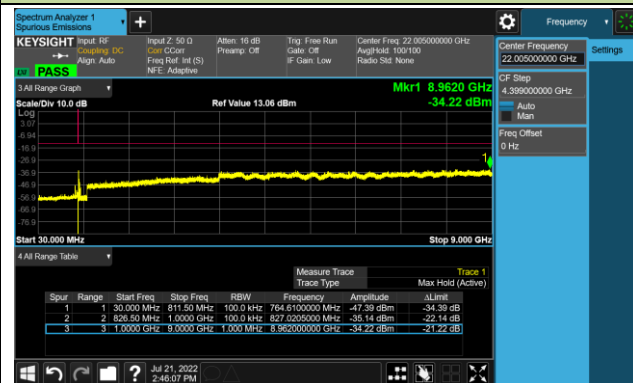
## BPSK 3.75kHz 1@0



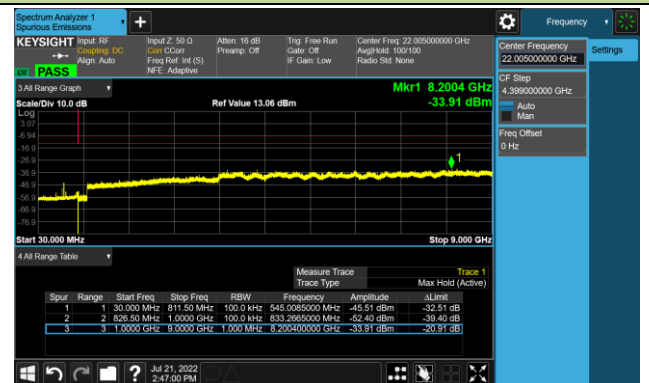
## BPSK 15kHz 1@0



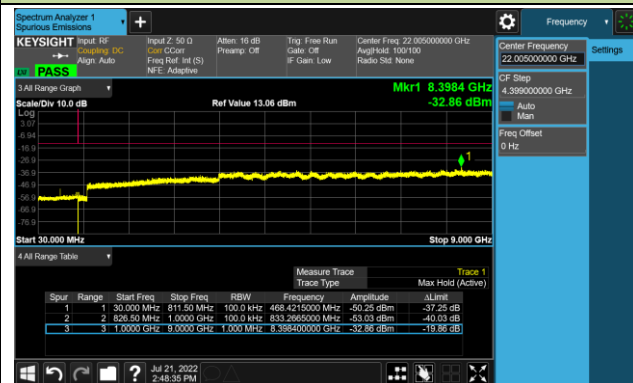
## QPSK 3.75kHz 1@0

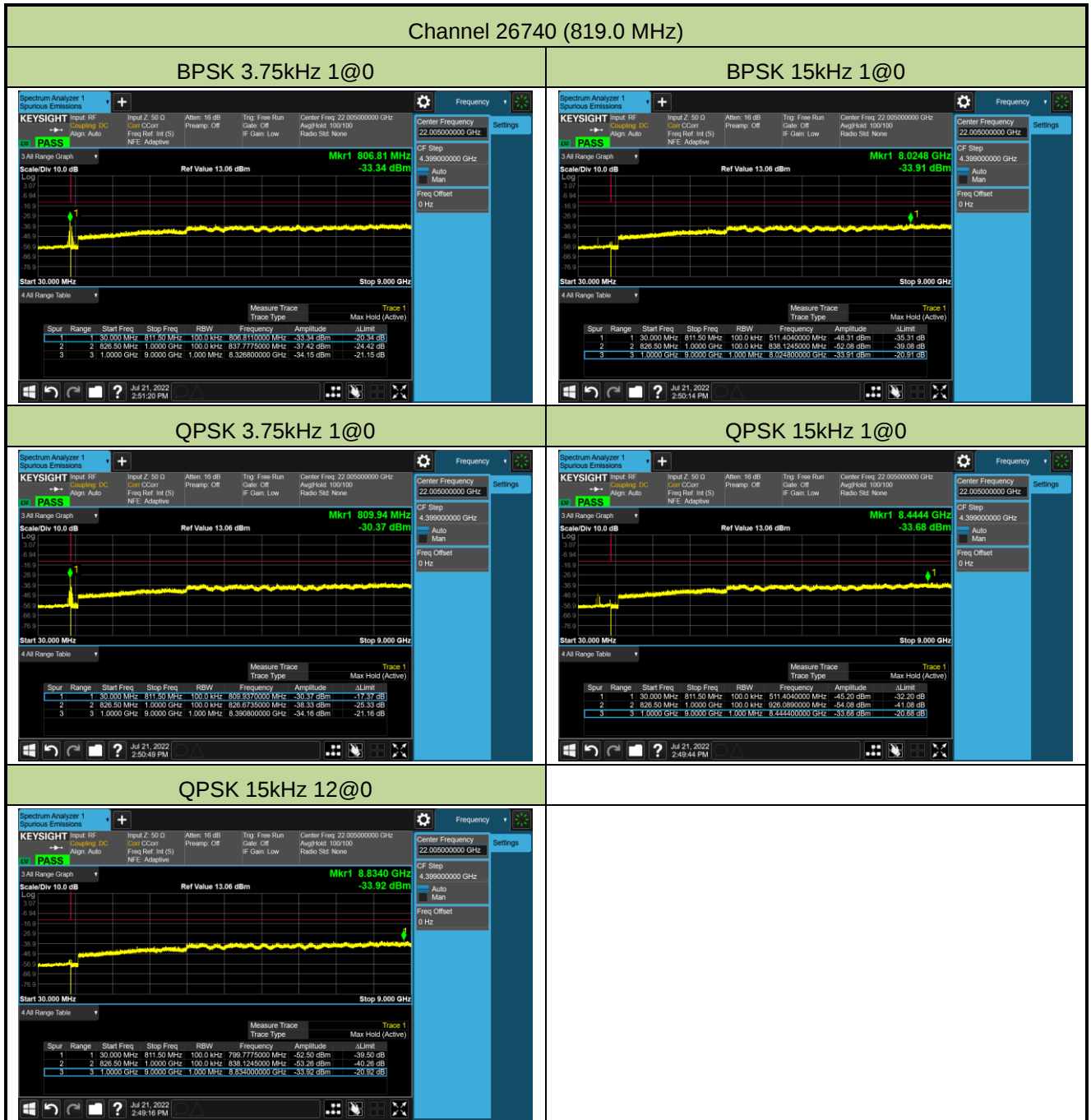


## QPSK 15kHz 1@0



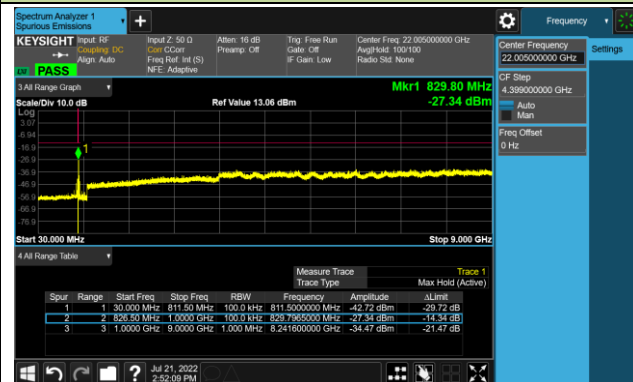
## QPSK 15kHz 12@0



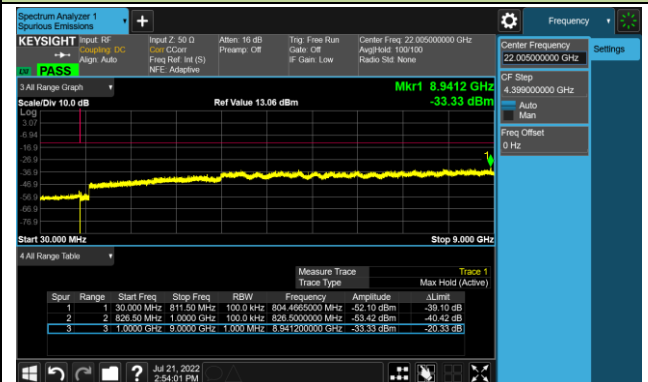


## Channel 26788 (823.8 MHz)

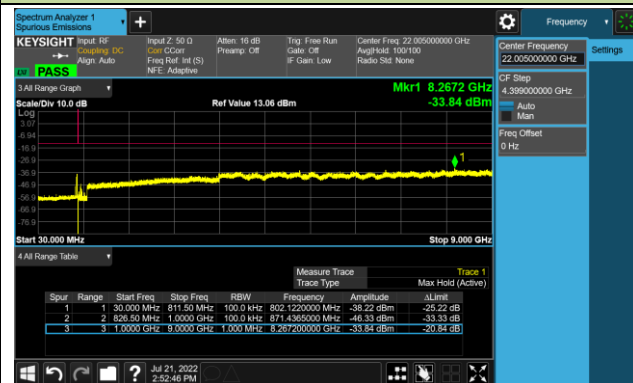
## BPSK 3.75kHz 1@47



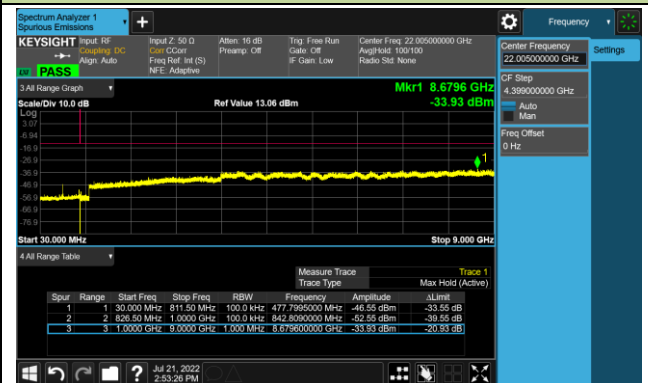
## BPSK 15kHz 1@11



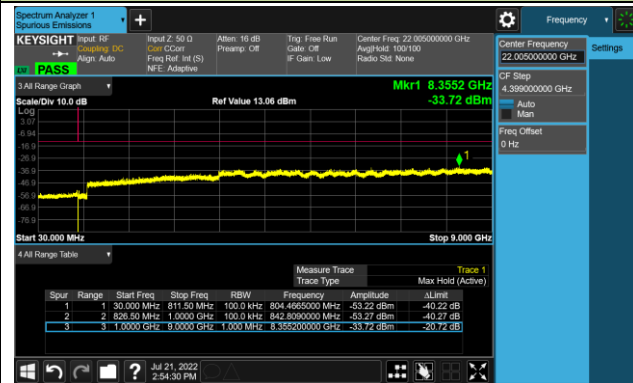
## QPSK 3.75kHz 1@47



## QPSK 15kHz 1@11



## QPSK 15kHz 12@0



### A.6 Radiated Suprious Emissions Test Result

|           |                       |               |           |
|-----------|-----------------------|---------------|-----------|
| Test Site | WZ-AC2                | Test Engineer | Bob Zhang |
| Test Date | 2022/07/23~2022/07/27 | Test Band     | Band 26   |

| Frequency<br>(MHz) | Reading Level<br>(dBμV) | Factor<br>(dB) | Measure<br>Level(dBμV/m) | Limit<br>(dBμV/m) | Margin<br>(dB) | Detector | Polarization |
|--------------------|-------------------------|----------------|--------------------------|-------------------|----------------|----------|--------------|
| Low Channel        |                         |                |                          |                   |                |          |              |
| 51.3               | 19.7                    | 18.5           | 38.2                     | 82.3              | -44.1          | Peak     | Horizontal   |
| 968.0              | 22.6                    | 30.6           | 53.2                     | 82.3              | -29.1          | Peak     | Horizontal   |
| 52.8               | 20.1                    | 18.4           | 38.5                     | 82.3              | -43.8          | Peak     | Vertical     |
| 927.7              | 21.8                    | 30.2           | 52.0                     | 82.3              | -30.3          | Peak     | Vertical     |
| 7094.5             | 32.4                    | 10.9           | 43.3                     | 82.3              | -39.0          | Peak     | Horizontal   |
| 10579.5            | 33.2                    | 15.6           | 48.8                     | 82.3              | -33.5          | Peak     | Horizontal   |
| 8004.0             | 32.9                    | 11.9           | 44.8                     | 82.3              | -37.5          | Peak     | Vertical     |
| 10911.0            | 32.5                    | 17.2           | 49.7                     | 82.3              | -32.6          | Peak     | Vertical     |
| Middle Channel     |                         |                |                          |                   |                |          |              |
| 61.0               | 20.0                    | 17.7           | 37.7                     | 82.3              | -44.6          | Peak     | Horizontal   |
| 936.0              | 22.2                    | 30.2           | 52.4                     | 82.3              | -29.9          | Peak     | Horizontal   |
| 54.3               | 19.7                    | 18.4           | 38.1                     | 82.3              | -44.2          | Peak     | Vertical     |
| 974.8              | 23.4                    | 30.6           | 54.0                     | 82.3              | -28.3          | Peak     | Vertical     |
| 5148.0             | 34.5                    | 4.2            | 38.7                     | 82.3              | -43.6          | Peak     | Horizontal   |
| 10979.0            | 31.3                    | 17.1           | 48.4                     | 82.3              | -33.9          | Peak     | Horizontal   |
| 7026.5             | 32.9                    | 10.4           | 43.3                     | 82.3              | -39.0          | Peak     | Vertical     |
| 10979.0            | 32.2                    | 17.1           | 49.3                     | 82.3              | -33.0          | Peak     | Vertical     |
| High Channel       |                         |                |                          |                   |                |          |              |
| 322.9              | 21.4                    | 19.3           | 40.7                     | 82.3              | -41.6          | Peak     | Horizontal   |
| 988.8              | 22.8                    | 30.8           | 53.6                     | 82.3              | -28.7          | Peak     | Horizontal   |
| 461.2              | 22.3                    | 22.8           | 45.1                     | 82.3              | -37.2          | Peak     | Vertical     |
| 948.6              | 22.4                    | 30.3           | 52.7                     | 82.3              | -29.6          | Peak     | Vertical     |
| 7018.0             | 33.6                    | 10.3           | 43.9                     | 82.3              | -38.4          | Peak     | Horizontal   |
| 10401.0            | 33.4                    | 15.7           | 49.1                     | 82.3              | -33.2          | Peak     | Horizontal   |
| 8097.5             | 33.7                    | 11.9           | 45.6                     | 82.3              | -36.7          | Peak     | Vertical     |
| 11642.0            | 31.0                    | 17.8           | 48.8                     | 82.3              | -33.5          | Peak     | Vertical     |

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

## **Appendix B - Test Setup Photograph**

Refer to "2205RSU044-UT" file.

## **Appendix C - EUT Photograph**

Refer to “2205RSU044-UE” file.