



## RF MEASUREMENT REPORT

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**FCC ID:** XMR024BG770ASN  
**Applicant:** Quectel Wireless Solutions Co., Ltd.  
**Product:** LTE NTN Module  
**Model No.:** BG770A-SN  
**Brand Name:** Quectel  
**FCC Rule(s):** Part 2, 22 (H), 24 (E), 27  
**Result:** Complies  
**Received Date:** 2024-06-14  
**Test Date:** 2024-07-19 ~ 2024-09-26

**Reviewed By:**

\_\_\_\_\_  
Sunny Sun

**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  |
|---------------|---------|----------------|------------|-------|
| 2406RSU025-U3 | V01     | Initial Report | 2024-11-27 | Valid |
|               |         |                |            |       |

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## 1. General Information

### 1.1. Applicant

Quectel Wireless Solutions Co., Ltd.

Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China, 200233

## 1.2. Manufacturer

Quectel Wireless Solutions Co., Ltd.

Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China, 200233

### 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 Location (Suzhou - Wujiang)</b><br>Building 1, No.1 Xingdong Road, Wujiang, Suzhou, Jiangsu, People’s Republic of 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: 3261<br>FCC: 291082, TW3261                                                                                                          | ISED: TW3261                                                                                                                                                                                                                                                                                               |

#### 1.4. Product Information

|                                                                                                                                                          |                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Product Name                                                                                                                                             | LTE NTN Module                                                                             |
| Model No.                                                                                                                                                | BG770A-SN                                                                                  |
| Brand Name                                                                                                                                               | Quectel                                                                                    |
| IMEI                                                                                                                                                     | 867953065839237 (Radiated)<br>867953065839203 (Conducted)<br>867953065838916 (Conducted)   |
| 3GPP Specification                                                                                                                                       | L-Band 255<br>LTE Cat M1 Band 2/4/5/12/13/25/26/66<br>LTE Cat NB Band 2/4/5/12/13/17/25/66 |
| GNSS Specification                                                                                                                                       | GPS/GLONASS                                                                                |
| Operating Temperature Range                                                                                                                              | -35 ~ 75°C                                                                                 |
| Supply Voltage Rating                                                                                                                                    | 3.1 ~ 4.2Vdc, typical 3.3Vdc                                                               |
| Antenna Specification                                                                                                                                    | Refer to Section 1.6                                                                       |
| 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 under Testing

| LTE Cat NB Specification                                |                                                                                                                                                                                                           |
|---------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TX Frequency Range                                      | Band 2: 1850 ~ 1910 MHz; Band 4: 1710 ~ 1755 MHz<br>Band 5: 824 ~ 849 MHz; Band 12: 699 ~ 716 MHz<br>Band 13: 777 ~ 787 MHz; Band 17: 704 ~ 716 MHz<br>Band 25: 1850 ~ 1915 MHz; Band 66: 1710 ~ 1780 MHz |
| RX Frequency Range                                      | Band 2: 1930 ~ 1990 MHz; Band 4: 2110 ~ 2155 MHz<br>Band 5: 869 ~ 894 MHz; Band 12: 729 ~ 746 MHz<br>Band 13: 746 ~ 756 MHz; Band 17: 734 ~ 746 MHz<br>Band 25: 1930 ~ 1995 MHz; Band 66: 2110 ~ 2200 MHz |
| Support Bandwidth                                       | 200kHz                                                                                                                                                                                                    |
| Support Power Class                                     | PC3                                                                                                                                                                                                       |
| Modulation                                              | Uplink BPSK, QPSK; Downlink QPSK                                                                                                                                                                          |
| Note: All bands move one channel inward from band edge. |                                                                                                                                                                                                           |

### 1.6. Description of Available Antennas

| Technology                                                                                    | Frequency Range (MHz) | Antenna Type           | Max Peak Gain (dBi) |
|-----------------------------------------------------------------------------------------------|-----------------------|------------------------|---------------------|
| LTE Cat NB Band 2                                                                             | 1850 ~ 1910           | Fixed External Antenna | 1.3                 |
| LTE Cat NB Band 4                                                                             | 1710 ~ 1755           |                        | 1.4                 |
| LTE Cat NB Band 5                                                                             | 824 ~ 849             |                        | 1.1                 |
| LTE Cat NB Band 12                                                                            | 699 ~ 716             |                        | 1.1                 |
| LTE Cat NB Band 13                                                                            | 777 ~ 787             |                        | 1.1                 |
| LTE Cat NB Band 17                                                                            | 704 ~ 716             |                        | 1.1                 |
| LTE Cat NB Band 25                                                                            | 1850 ~ 1915           |                        | 1.3                 |
| LTE Cat NB Band 66                                                                            | 1710 ~ 1780           |                        | 1.4                 |
| Note 1: All antenna information (Antenna type and Peak Gain) is provided by the manufacturer. |                       |                        |                     |
| Note 2: The typical antennas used to calculate the ERP (EIRP).                                |                       |                        |                     |

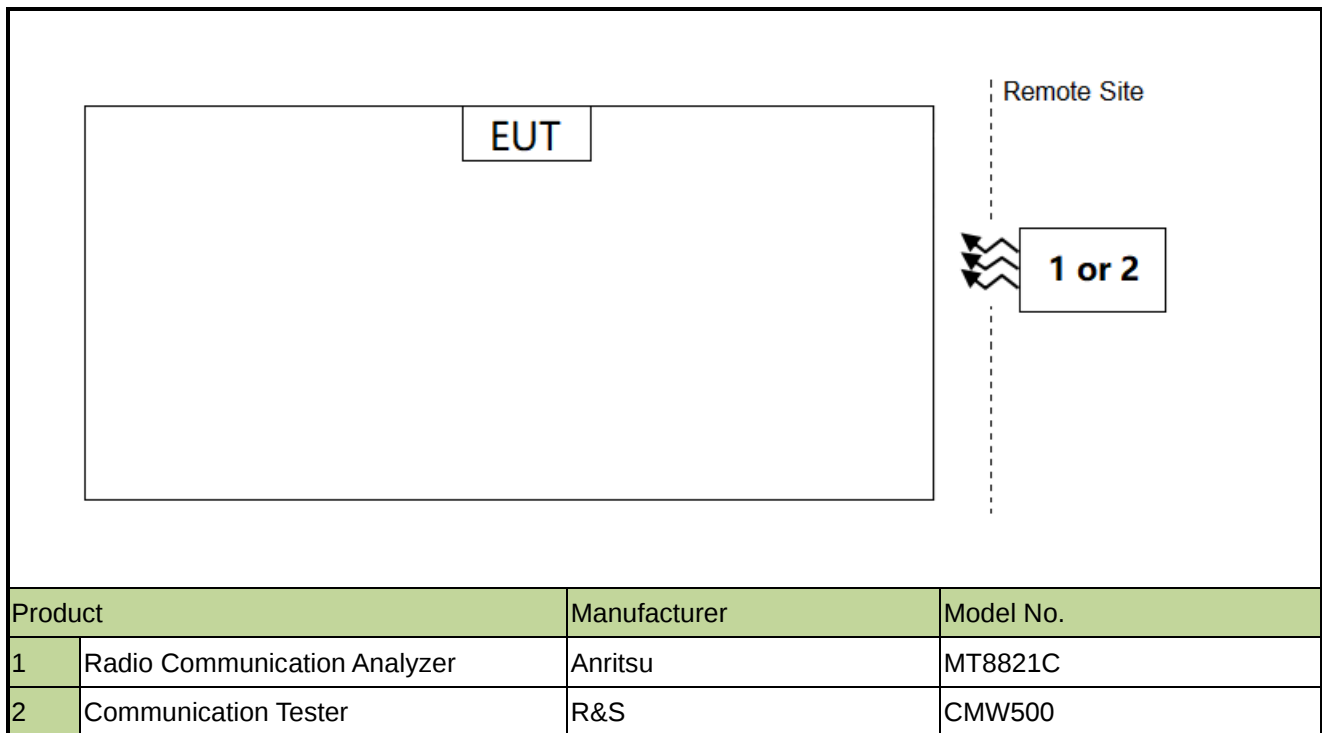
### 1.7. Test Methodology

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

- FCC CFR 47 Part 2, Part 22, Part 24, Part 27
- ANSI C63.26:2015
- 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.   | Cali. Interval | Cali. Due Date | Test Site |
|------------------------------|--------------|----------------|-------------|----------------|----------------|-----------|
| Temperature Chamber          | BAOYT        | BYH-150CL      | MRTSUE06051 | 1 year         | 2024-09-27     | WZ-TR3    |
|                              |              |                |             | 1 year         | 2025-09-02     | WZ-TR3    |
| Thermohygrometer             | testo        | 608-H1         | MRTSUE11268 | 1 year         | 2024-12-14     | WZ-TR3    |
| Radio Communication Analyzer | Anritsu      | MT8821C        | MRTSUE06960 | 1 year         | 2025-06-18     | WZ-SR6    |
| Communication Tester         | R&S          | CMW500         | MRTSUE06881 | 1 year         | 2025-05-08     | WZ-SR6    |
| Shielding Room               | HUAMING      | WZ-SR6         | MRTSUE06443 | N/A            | N/A            | WZ-SR6    |
| Signal Analyzer              | Keysight     | N9020B         | MRTSUE06583 | 1 year         | 2025-06-29     | WZ-SR6    |
| Thermohygrometer             | testo        | 608-H1         | MRTSUE06362 | 1 year         | 2025-02-04     | WZ-SR6    |
| USB Power Sensor             | Keysight     | U2021XA        | MRTSUE06447 | 1 year         | 2025-05-08     | WZ-SR6    |
| Anechoic Chamber             | RIKEN        | SIP-AC3        | MRTSUE06782 | 1 year         | 2024-12-21     | SIP-AC3   |
| Horn Antenna                 | R&S          | HF907          | MRTSUE06611 | 1 year         | 2025-07-07     | SIP-AC3   |
| Preamplifier                 | Schwarzbeck  | BBV 9721       | MRTSUE06121 | 1 year         | 2025-06-06     | SIP-AC3   |
| Preamplifier                 | EMCI         | EMC012645SE    | MRTSUE06642 | 1 year         | 2025-01-11     | SIP-AC3   |
| Thermohygrometer             | testo        | 608-H1         | MRTSUE06619 | 1 year         | 2024-10-28     | SIP-AC3   |
| TRILOG Antenna               | Schwarzbeck  | VULB 9168      | MRTSUE06646 | 1 year         | 2024-08-04     | SIP-AC3   |
|                              |              |                |             | 1 year         | 2025-07-29     | SIP-AC3   |
| Signal Analyzer              | Keysight     | N9020B         | MRTSUE06604 | 1 year         | 2025-02-03     | SIP-AC3   |
| Signal Analyzer              | Keysight     | N9010B         | MRTSUE07028 | 1 year         | 2024-10-23     | SIP-AC3   |
| EMI Test Receiver            | R&S          | ESR3           | MRTSUE06185 | 1 year         | 2024-12-17     | SIP-AC3   |
| Preamplifier                 | EMCI         | EMC184045SE    | MRTSUE06602 | 1 year         | 2024-10-09     | SIP-AC3   |
| EMI Test Receiver            | R&S          | ESR3           | MRTSUE06613 | 1 year         | 2024-10-23     | SIP-AC3   |
| Loop Antenna                 | Schwarzbeck  | FMZB 1519 B    | MRTSUE06937 | 1 year         | 2025-01-27     | SIP-AC3   |
| Active Loop Antenna          | Schwarzbeck  | FMZB 1519-60 D | MRTSUE07075 | 1 year         | 2024-12-04     | SIP-AC3   |
| Directional Coupler          | MVE          | MVE4912-10     | MRTSUE07051 | 1 year         | 2024-08-23     | WZ-SR6    |
|                              |              |                |             | 1 year         | 2025-08-22     | WZ-SR6    |
| Attenuator                   | MVE          | MVE2213        | MRTSUE11090 | 1 year         | 2025-06-05     | WZ-SR6    |

| Software             | Version       | Function               |
|----------------------|---------------|------------------------|
| e3                   | 230711        | RE & CE                |
| Controller_MF 7802BS | 1.02          | RE Antenna & Turntable |
| UCTS                 | V 6.23.217.99 | license 3G & 4G & 5G   |
| BenchVue Power Meter | 2018.1        | Power                  |

## 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% ( $U=2U_c(y)$ ): |                      |
| Coaxial:                                                                  | 9kHz~30MHz: 2.35dB   |
| Coplanar:                                                                 | 9kHz~30MHz: 2.37dB   |
| Horizontal:                                                               | 30MHz~200MHz: 3.46dB |
|                                                                           | 200MHz~1GHz: 3.78dB  |
|                                                                           | 1GHz~40GHz: 4.97dB   |
| Vertical:                                                                 | 30MHz~200MHz: 4.07dB |
|                                                                           | 200MHz~1GHz: 5.28dB  |
|                                                                           | 1GHz~40GHz: 4.78dB   |
| Conducted Spurious Emissions                                              |                      |
| Measuring Uncertainty for a Level of Confidence of 95% ( $U=2U_c(y)$ ):   |                      |
| 1.47dB                                                                    |                      |
| Output Power                                                              |                      |
| Measuring Uncertainty for a Level of Confidence of 95% ( $U=2U_c(y)$ ):   |                      |
| 0.66dB                                                                    |                      |
| Occupied Bandwidth                                                        |                      |
| Measuring Uncertainty for a Level of Confidence of 95% ( $U=2U_c(y)$ ):   |                      |
| 69.28kHz                                                                  |                      |
| Frequency Stability                                                       |                      |
| Measuring Uncertainty for a Level of Confidence of 95% ( $U=2U_c(y)$ ):   |                      |
| 8.04Hz                                                                    |                      |

## 5. Test Result

### 5.1. Summary

| FCC Part Section(s)                                  | Test Description                              | Test Condition | Test Result |
|------------------------------------------------------|-----------------------------------------------|----------------|-------------|
| 2.1049                                               | Occupied Bandwidth                            | Conducted      | Pass        |
| 2.1055, 22.355, 24.235, 27.54                        | Frequency Stability                           |                | Pass        |
| 22.913(a)(5), 24.232(c)<br>27.50(b)(9) (c)(9) (d)(4) | Equivalent Radiated Power                     |                | Pass        |
| 22.913(d), 24.232(d), 27.50(d)(5)                    | Peak to Average Ratio                         |                | Pass        |
| 2.1051, 22.917(a), 24.238(a)<br>27.53(c) (f) (g) (h) | Transmitter unwanted emissions<br>(band-edge) |                | Pass        |
| 2.1051, 22.917(a), 24.238(a)<br>27.53(c) (f) (g) (h) | Transmitter unwanted emissions<br>(spurious)  |                |             |
| 2.1051, 22.917(a), 24.238(a)<br>27.53(c) (f) (g) (h) | Transmitter Spurious Emissions                | Radiated       | Pass        |

#### 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 supported modulation types were evaluated. The worst-case emission of modulation was selected. Therefore, the Frequency Stability, Peak to Average Ratio, Channel Band Edge, Conducted Spurious Emission, Radiated Spurious Emission were presented the worst-case in the test report.
- 3) For radiated emission tests, every axis (X, Y, Z) was also verified. The test results shown in the following sections represent the worst-case emissions.
- 4) LTE Cat NB Band 25 (1850 ~ 1915 MHz) overlaps the entire frequency range of LTE Cat NB Band 2 (1850 ~ 1910 MHz). Therefore, test data provided in this report covers Band 2 as well as Band 25.
- 5) LTE Cat NB Band 66 (1710 ~ 1780 MHz) overlaps the entire frequency range of LTE Cat NB Band 4 (1710 ~ 1755 MHz). Therefore, test data provided in this report covers Band 4 as well as Band 66.

## 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.

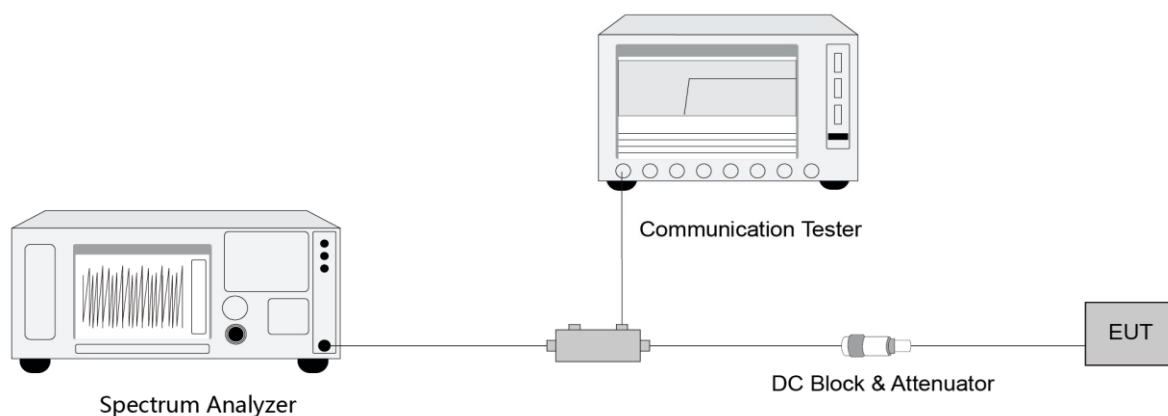
### 5.2.2. Test Procedure

ANSI C63.26-2015 - Section 5.4.4

### 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**

1. A reference point shall be established at the applicable unwanted emissions limit using a RBW equal to the RBW required by the unwanted emissions specification of the applicable regulatory standard. These reference points measured using the lowest and highest channel of operation shall be identified as  $f_L$  and  $f_H$  respectively.
2. Use the frequency error function of the instrument and record the frequency error.
3. Change the temperature of equipment and repeat Steps 2.
4. Change the Voltage of equipment and repeat Steps 2.
5. The frequency error offset determined in the above methods shall be added or subtracted from the values of  $f_L$  and  $f_H$  and the resulting frequencies must remain within the band

#### **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.

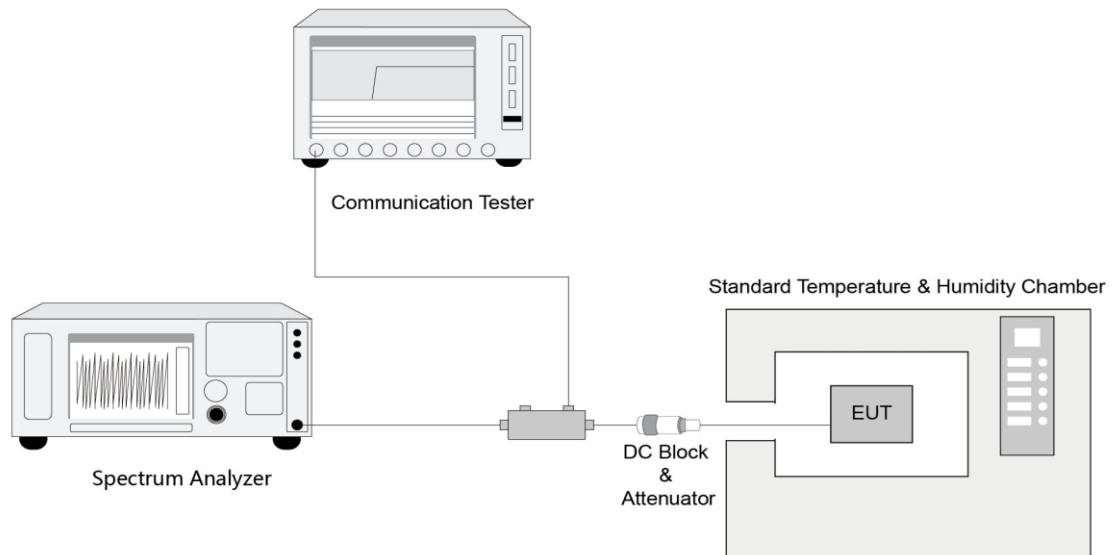
#### **Frequency Stability Under Voltage Variations:**

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. Equivalent Isotropically Radiated Power Measurement**

### **5.4.1. Test Limit**

#### Band 2/25:

Mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

#### Band 4/66:

Fixed, mobile stations operating in the 1710-1755 MHz band and mobile in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

#### Band 5:

The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

#### Band 12/17, 13:

Control stations and mobile stations transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands are limited to 30 watts ERP.

Control and mobile stations in the 698-746 MHz band are limited to 30 watts ERP.

### **5.4.2. Test Procedure**

ANSI C63.26-2015 - Section 5.2.4.2

### 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.

The relevant equation for determining the maximum ERP or EIRP from the measured RF output power is given in Equation (1) as follows:

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

where

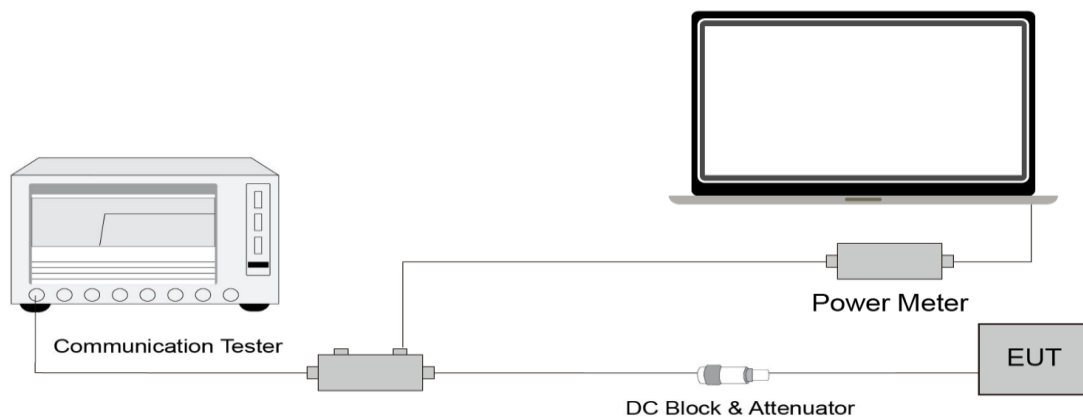
ERP or EIRP effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as  $P_{\text{Meas}}$ , e.g., dBm or dBW)

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

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

$$\text{ERP} = \text{EIRP} - 2.15$$

### 5.4.4. Test Setup



### 5.4.5. Test Result

Refer to Appendix A.3.

## 5.5. Peak to Average Ratio Measurement

### 5.5.1. Test Limit

A peak to average ratio measurement is performed at the conducted port of the EUT. The spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The percent of time the signal spends at or above the level defines the probability for that particular power level.

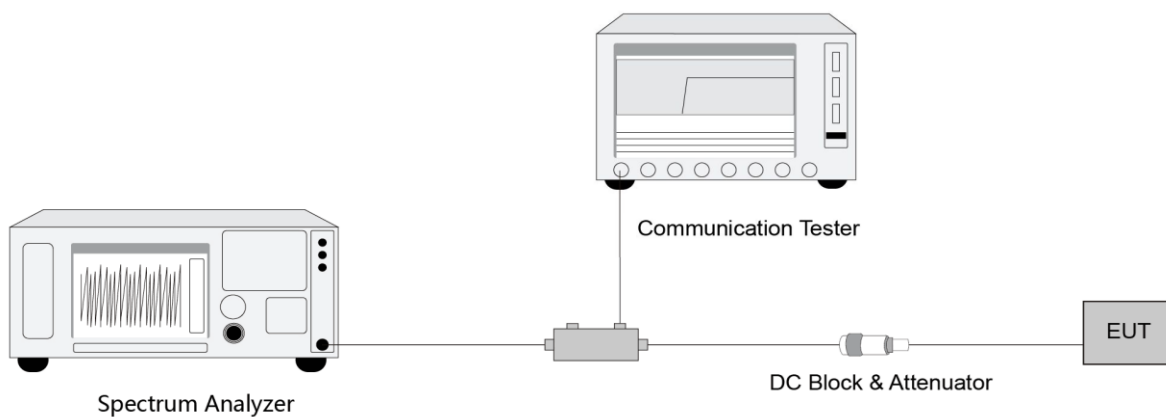
### 5.5.2. Test Procedure

ANSI C63.26-2015 - Section 5.2.3.4 (CCDF).

### 5.5.3. Test Setting

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

### 5.5.4. Test Setup



### 5.5.5. Test Result

Refer to Appendix A.4

## 5.6. Conducted Band-Edge Measurement

### 5.6.1. Test Limit

#### 22.917(a), 24.238 (a), 27.53 (g) (h)

For operations in the 824 ~ 849 MHz, 1850 ~ 1910 MHz, 1930 ~ 1990 MHz, 600MHz & 698 ~ 746 MHz and 1710 ~ 1755 MHz, the FCC limit is  $43 + 10\log_{10}(P_{\text{Watts}})$  dB below the transmitter power P(Watts) in a 1 MHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

#### 27.53 (c)

For operations in the 776-788 MHz band, the FCC limit is  $43 + 10\log_{10}(P_{\text{Watts}})$  dB below the transmitter power P(Watts) in a 100 kHz bandwidth. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed. In addition, the power of any unwanted emissions in any 6.25 kHz bandwidth for all frequencies between 763-775 MHz and 793-806 MHz shall be attenuated below the transmitter power, P (dBW), by at least  $65 + 10 \log_{10} (P_{\text{Watts}})$ , dB, for mobile and portable equipment.

For LTE Cat NB Band 13, For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz (-40dBm/MHz) equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW (-50dBm) EIRP for discrete emissions of less than 700 Hz bandwidth.

### 5.6.2. Test Procedure

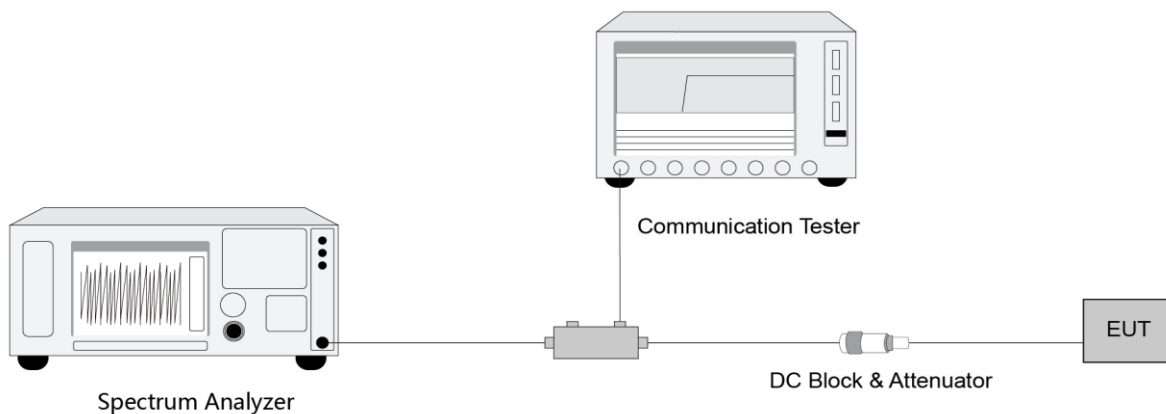
ANSI C63.26-2015 - Section 5.7

### 5.6.3. Test Setting

1. Set the analyzer frequency to Low or High channel
2. RBW = specified resolution bandwidth, 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 frequency block group, 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. If the EUT can be configured to transmit continuously, then set the trigger to free run
7. If the EUT cannot be configured to transmit continuously, then use a sweep trigger with the level set to enable triggering only on full power bursts and configure the EUT to transmit at full power for the entire duration of each sweep. Verify that the sweep time is less than or equal to the transmission burst duration. Time gating can also be used under similar constraints
8. Compute the power by integrating the spectrum across the specified resolution bandwidth using the instrument's band or channel power measurement function, with the band/channel limits set equal to the specified resolution bandwidth, when using a measurement bandwidth smaller than the specified bandwidth. Otherwise, Use the peak marker function to determine the maximum amplitude level.

#### 5.6.4. Test Setup



#### 5.6.5. Test Result

Refer to Appendix A.5.

## **5.7. Conducted Spurious Emissions Measurement**

### **5.7.1. 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.

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.

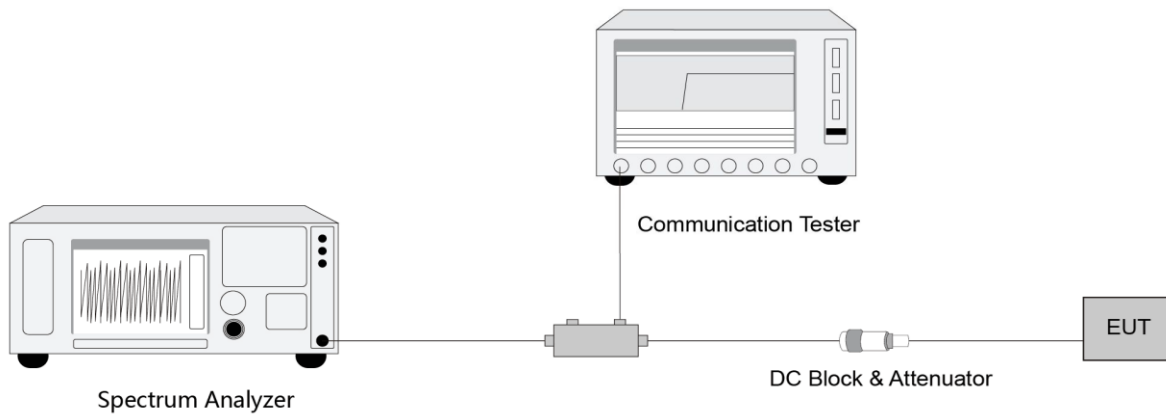
### **5.7.2. Test Procedure**

ANSI C63.26-2015 - Section 5.7

### **5.7.3. Test Setting**

1. Set the analyzer frequency to low, Mid or high channel.
2. RBW = specified resolution bandwidth
3. VBW  $\geq 3 \times$  RBW
4. Sweep time = auto
5. Detector = power averaging (rms)
6. If the EUT can be configured to transmit continuously, then set the trigger to free run
7. If the EUT cannot be configured to transmit continuously, then use a sweep trigger with the level set to enable triggering only on full power bursts and configure the EUT to transmit at full power for the entire duration of each sweep. Verify that the sweep time is less than or equal to the transmission burst duration.  
Time gating can also be used under similar constraints
8. Use the peak marker function to determine the maximum amplitude level.

#### 5.7.4. Test Setup



#### 5.7.5. Test Result

Refer to Appendix A.6

## **5.8. Radiated Spurious Emissions Measurement**

### **5.8.1. Test Limit**

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.

For LTE Cat NB Band 13, For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz (-40dBm/MHz) equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW (-50dBm) EIRP for discrete emissions of less than 700 Hz bandwidth.

$E \text{ (dB}\mu\text{V/m)} = \text{EIRP (dBm)} - 20 \log D + 104.8$ ; where D is the measurement distance in meters. The emission limit equal to 82.3dB $\mu$ V/m or 55.3dB $\mu$ V/m.

### **5.8.2. Test Procedure**

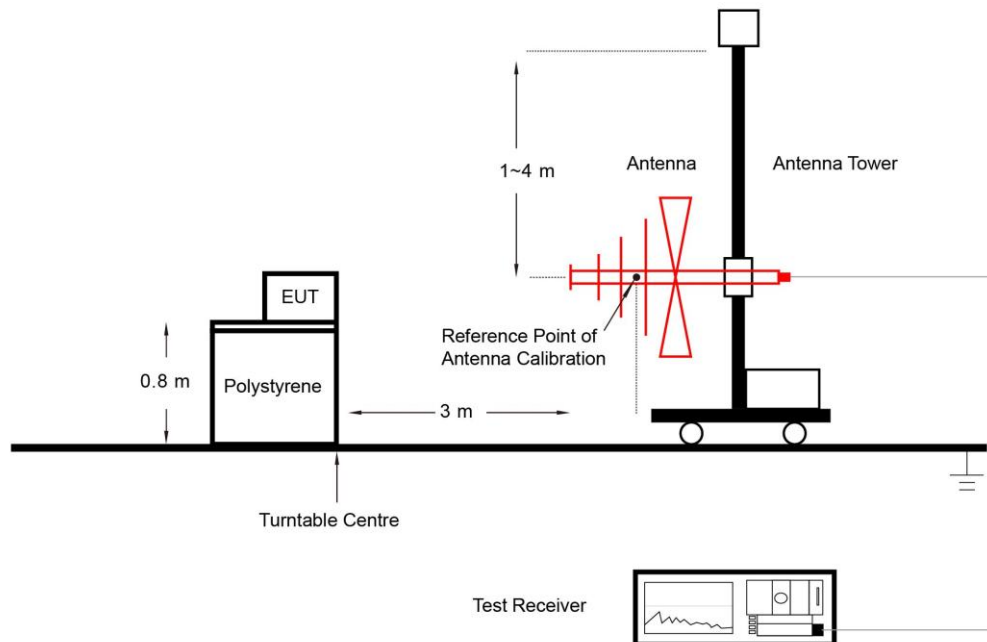
ANSI C63.26-2015 - Section 5.2.7 & 5.5

### **5.8.3. Test Setting**

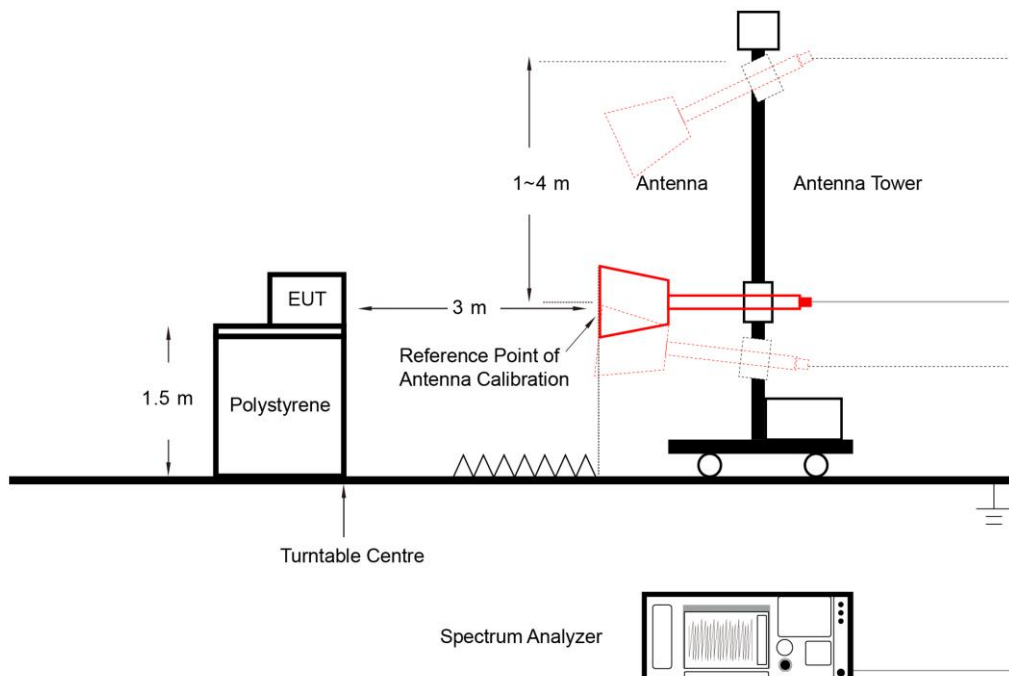
1. RBW = 120kHz or 1MHz
2. VBW  $\geq 3 \times$  RBW
3. Sweep time  $\geq 10 \times$  (number of points in sweep)  $\times$  (transmission symbol period)
4. Detector = CISPR quasi-peak / average detector (Below 1 GHz, compliance with the limits shall be demonstrated using a CISPR quasi-peak detector and the related measurement bandwidth. Above 1 GHz, compliance with the limits shall be demonstrated using a linear average detector with a minimum resolution bandwidth of 1 MHz.)
5. The trace was allowed to stabilize

#### 5.8.4. Test Setup

##### Below 1GHz Test Setup:



##### Above 1GHz Test Setup:



#### 5.8.5. Test Result

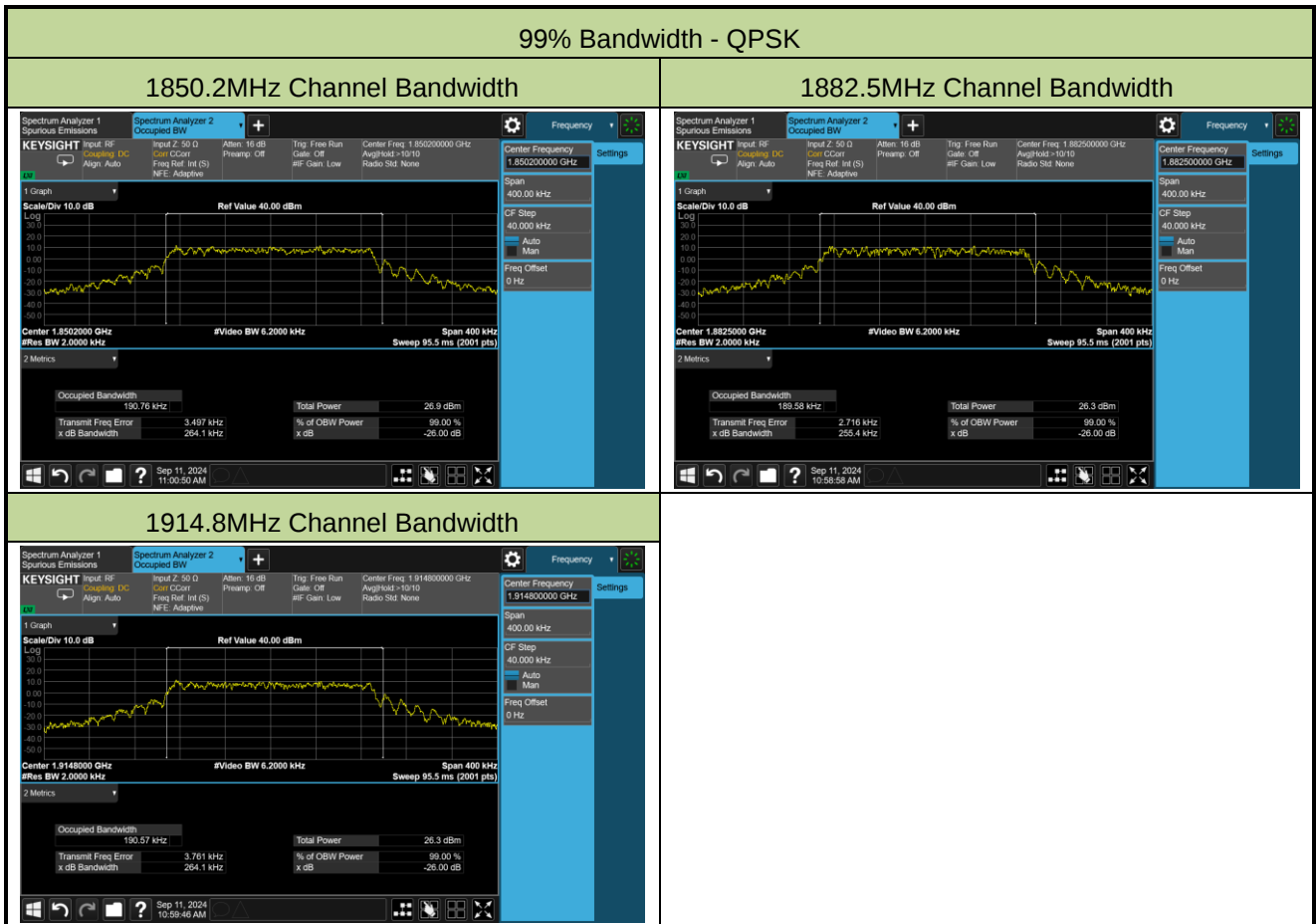
Refer to Appendix A.7.

## Appendix A - Test Result

### A.1 Occupied Bandwidth Test Result

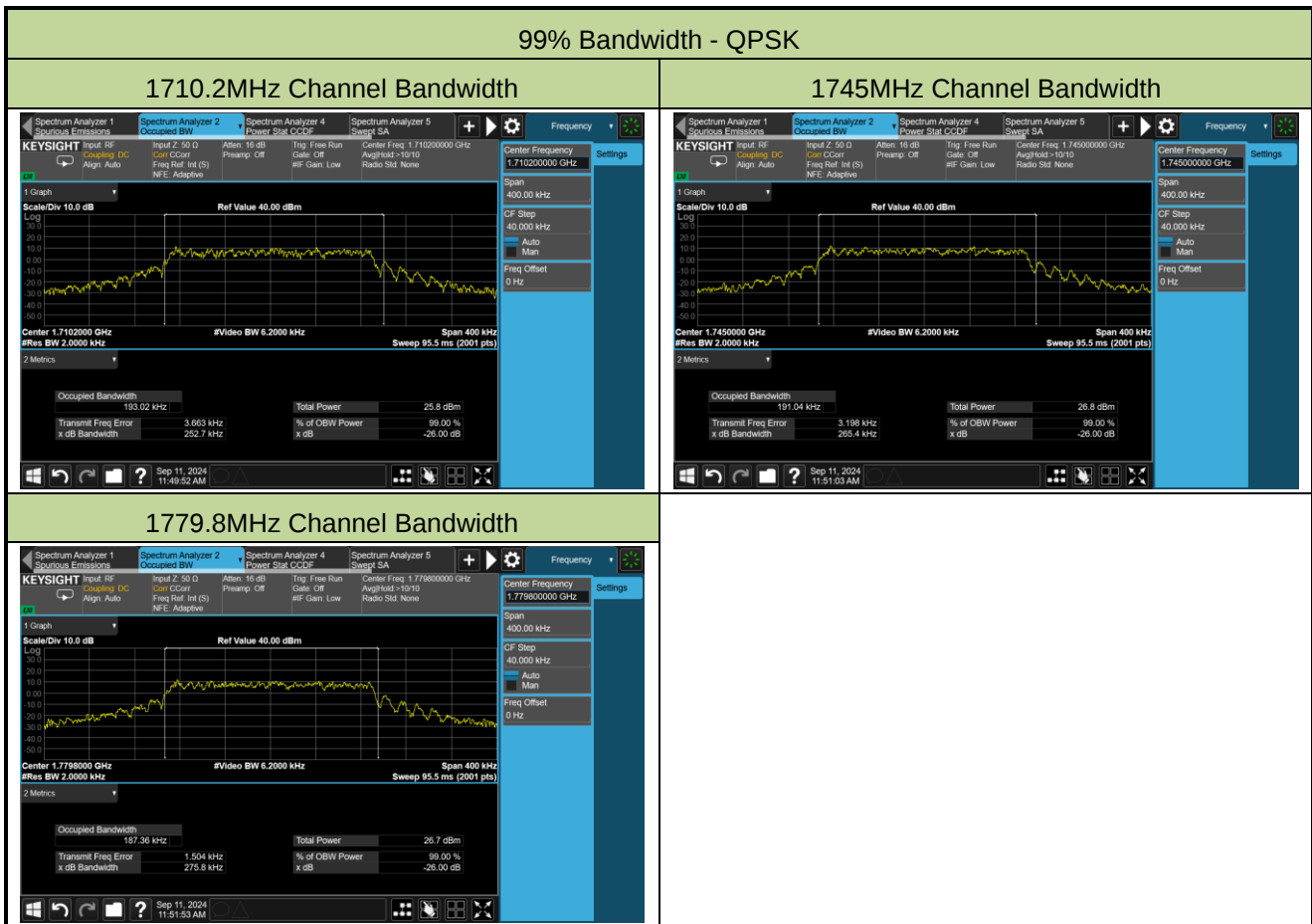
|           |            |               |            |
|-----------|------------|---------------|------------|
| Test Site | WZ-SR6     | Test Engineer | Lucas Wang |
| Test Date | 2024-09-11 | Test Band     | Band 2/25  |

| Modulation | Sub-carrier spacing<br>(kHz) | Frequency<br>(MHz) | 99% Bandwidth<br>(MHz) |
|------------|------------------------------|--------------------|------------------------|
| QPSK       | 15                           | 1850.2             | 0.19076                |
|            |                              | 1882.5             | 0.18958                |
|            |                              | 1914.8             | 0.19057                |



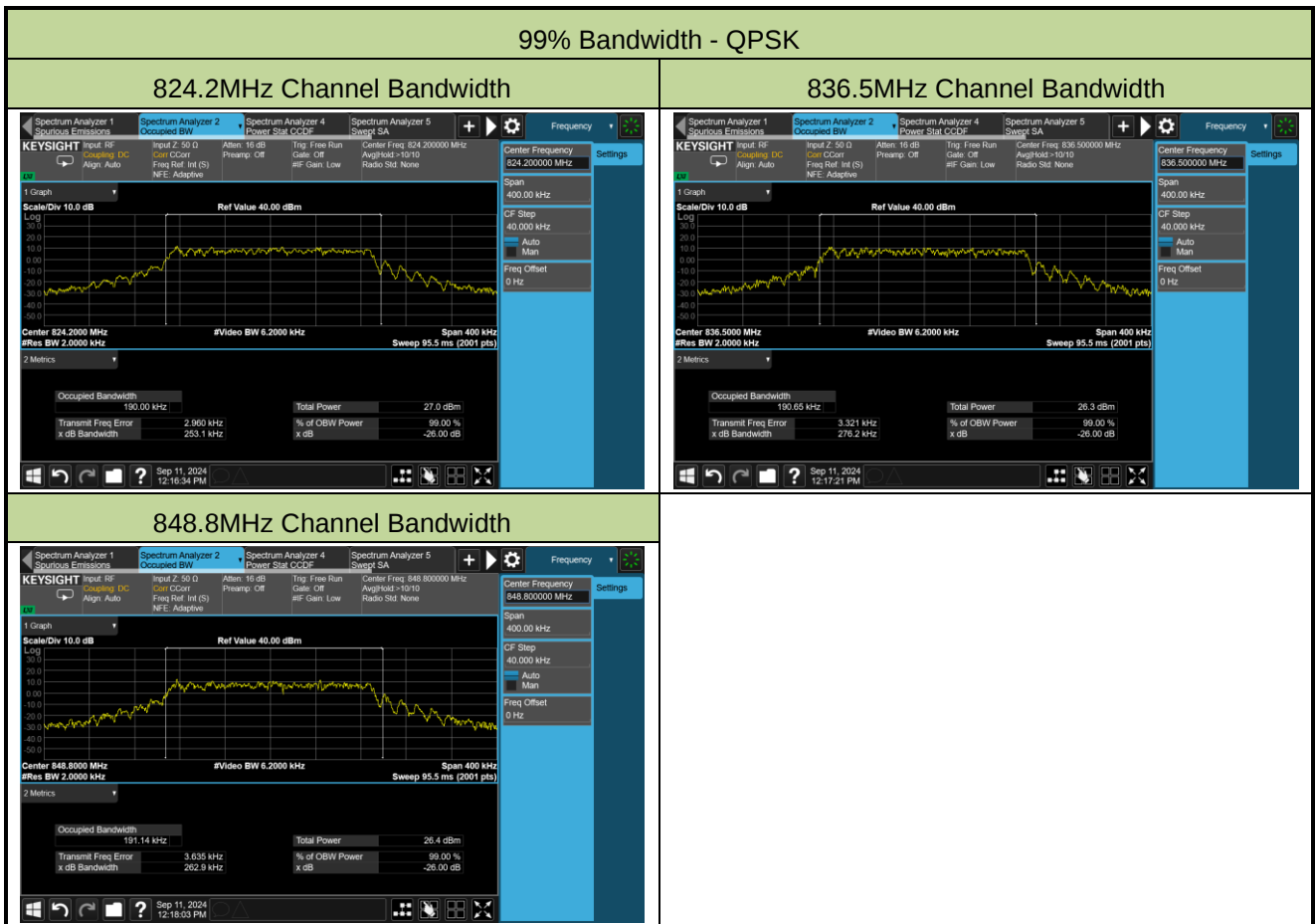
|           |            |               |            |
|-----------|------------|---------------|------------|
| Test Site | WZ-SR6     | Test Engineer | Lucas Wang |
| Test Date | 2024-09-11 | Test Band     | Band 4/66  |

| Modulation | Sub-carrier spacing<br>(kHz) | Frequency<br>(MHz) | 99% Bandwidth<br>(MHz) |
|------------|------------------------------|--------------------|------------------------|
| QPSK       | 15                           | 1710.2             | 0.19302                |
|            |                              | 1745               | 0.19104                |
|            |                              | 1779.8             | 0.18736                |



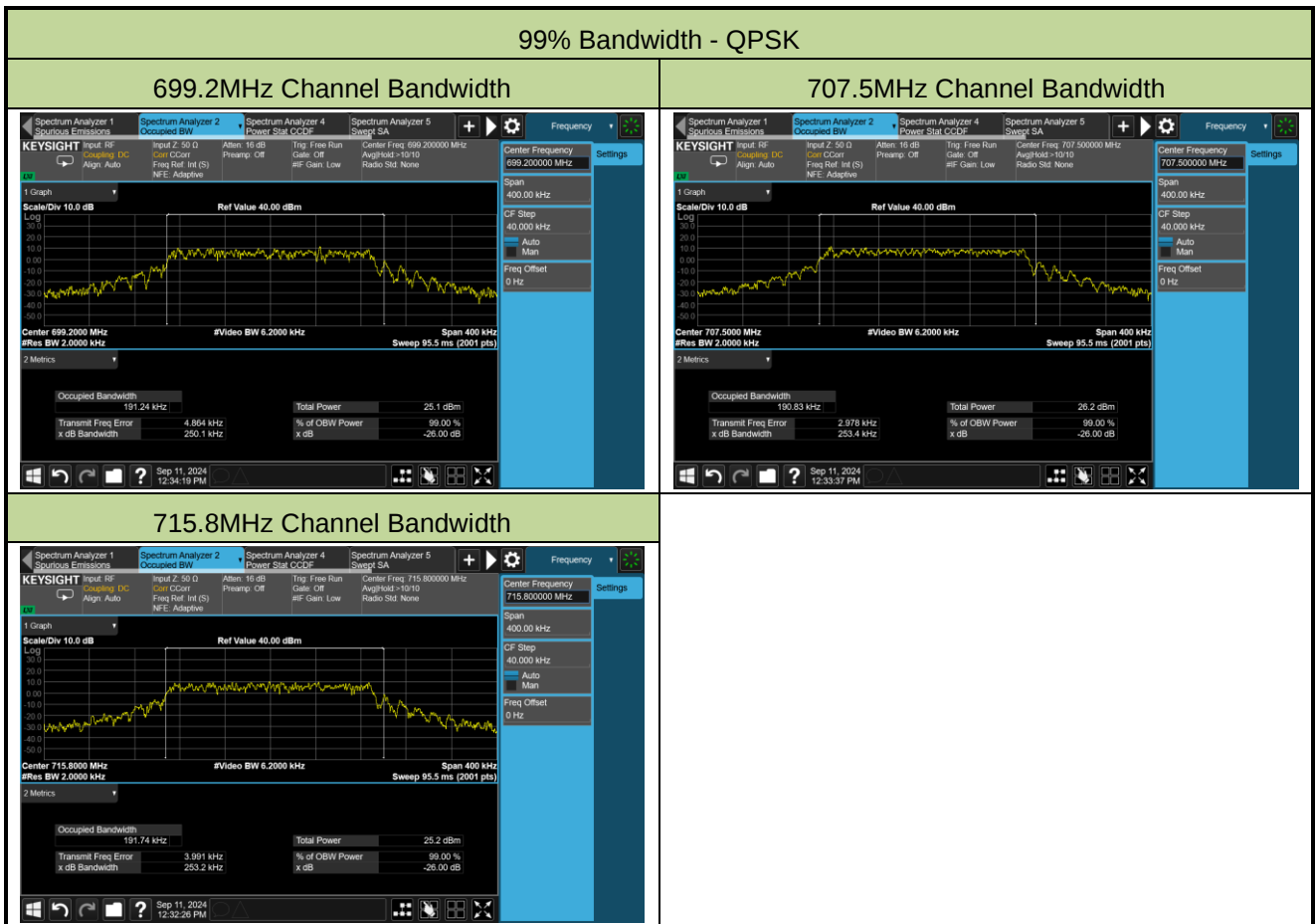
|           |            |               |            |
|-----------|------------|---------------|------------|
| Test Site | WZ-SR6     | Test Engineer | Lucas Wang |
| Test Date | 2024-09-11 | Test Band     | Band 5     |

| Modulation | Sub-carrier spacing<br>(kHz) | Frequency<br>(MHz) | 99% Bandwidth<br>(MHz) |
|------------|------------------------------|--------------------|------------------------|
| QPSK       | 15                           | 824.2              | 0.19000                |
|            |                              | 836.5              | 0.19065                |
|            |                              | 848.8              | 0.19114                |



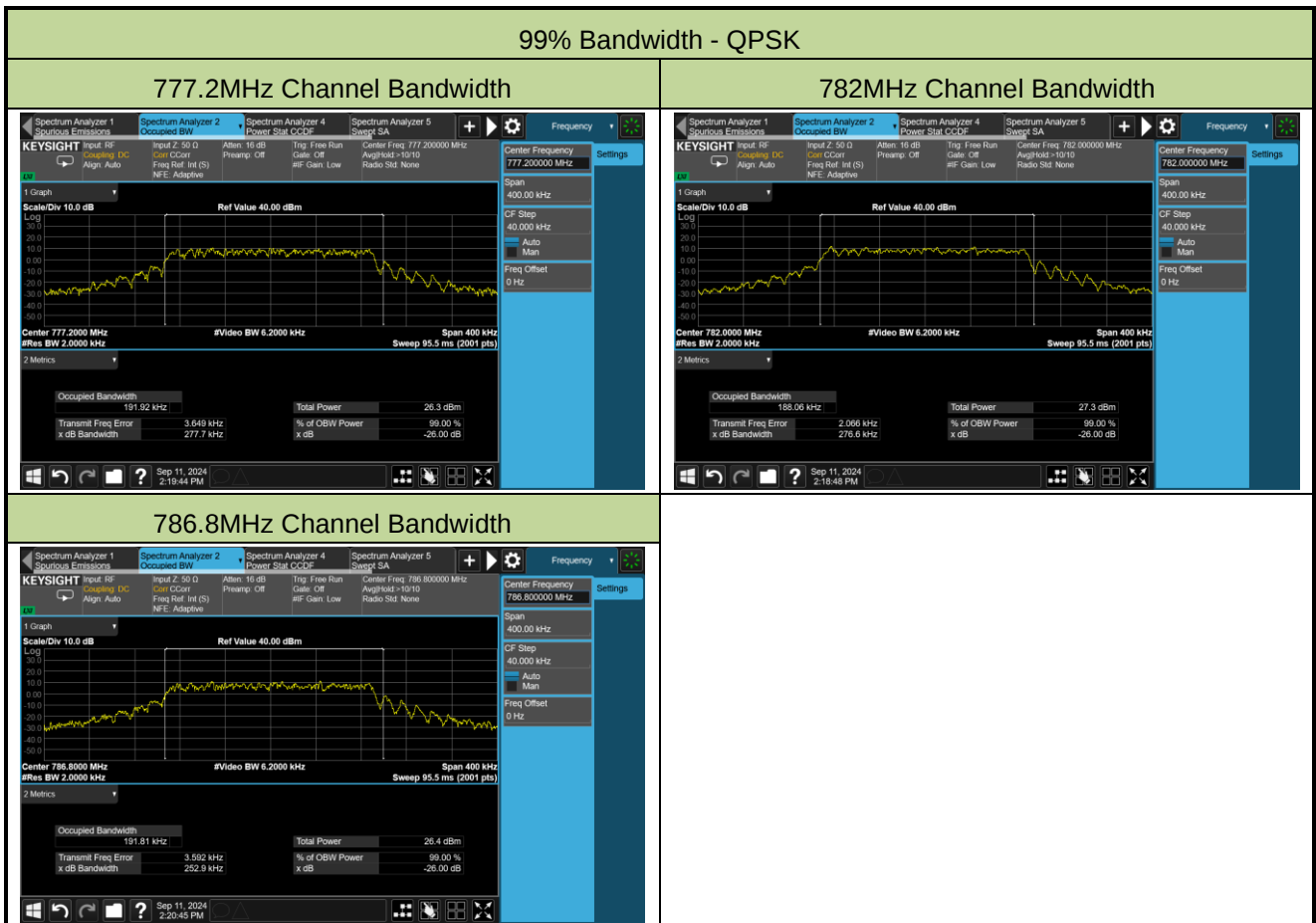
|           |            |               |            |
|-----------|------------|---------------|------------|
| Test Site | WZ-SR6     | Test Engineer | Lucas Wang |
| Test Date | 2024-09-11 | Test Band     | Band 12/17 |

| Modulation | Sub-carrier spacing<br>(kHz) | Frequency<br>(MHz) | 99% Bandwidth<br>(MHz) |
|------------|------------------------------|--------------------|------------------------|
| QPSK       | 15                           | 699.2              | 0.19124                |
|            |                              | 707.5              | 0.19083                |
|            |                              | 715.8              | 0.19174                |



|           |            |               |            |
|-----------|------------|---------------|------------|
| Test Site | WZ-SR6     | Test Engineer | Lucas Wang |
| Test Date | 2024-09-11 | Test Band     | Band 13    |

| Modulation | Sub-carrier spacing (kHz) | Frequency (MHz) | 99% Bandwidth (MHz) |
|------------|---------------------------|-----------------|---------------------|
| QPSK       | 15                        | 777.2           | 0.19192             |
|            |                           | 782             | 0.18806             |
|            |                           | 786.8           | 0.19181             |



## A.2 Frequency Stability Test Result

|           |                         |               |            |
|-----------|-------------------------|---------------|------------|
| Test Site | WZ-TR3                  | Test Engineer | Lucas Wang |
| Test Date | 2024-09-14 ~ 2024-09-18 | Test Band     | Band 2/25  |

| Voltage | Temp (°C)  | Frequency Range (MHz) |                | Delta (Hz) | Frequency stability (ppm) | Within Authorized Frequency Block |
|---------|------------|-----------------------|----------------|------------|---------------------------|-----------------------------------|
|         |            | 1850                  | 1915           |            |                           |                                   |
|         |            | f <sub>L</sub>        | f <sub>H</sub> |            |                           |                                   |
| Normal  | + 20 (Ref) | 1850.098              | 1914.917       | 0.00       | 0.0000                    | Pass                              |
|         | + 50       | 1850.098              | 1914.917       | 9.83       | 0.0053                    | Pass                              |
|         | + 40       | 1850.098              | 1914.917       | -3.16      | -0.0017                   | Pass                              |
|         | + 30       | 1850.098              | 1914.917       | 1.06       | 0.0006                    | Pass                              |
|         | + 10       | 1850.098              | 1914.917       | 6.26       | 0.0034                    | Pass                              |
|         | 0          | 1850.098              | 1914.917       | 5.33       | 0.0029                    | Pass                              |
|         | - 10       | 1850.098              | 1914.917       | -1.32      | -0.0007                   | Pass                              |
|         | - 20       | 1850.098              | 1914.917       | -0.92      | -0.0005                   | Pass                              |
|         | - 30       | 1850.098              | 1914.917       | -1.07      | -0.0006                   | Pass                              |
| 15%     | + 20       | 1850.098              | 1914.917       | 5.09       | 0.0028                    | Pass                              |
| -15%    | + 20       | 1850.098              | 1914.917       | 9.38       | 0.0051                    | Pass                              |

|           |                         |               |            |
|-----------|-------------------------|---------------|------------|
| Test Site | WZ-TR3                  | Test Engineer | Lucas Wang |
| Test Date | 2024-09-14 ~ 2024-09-18 | Test Band     | Band 4/66  |

| Voltage | Temp (°C)  | Frequency Range (MHz) |                | Delta (Hz) | Frequency stability (ppm) | Within Authorized Frequency Block |
|---------|------------|-----------------------|----------------|------------|---------------------------|-----------------------------------|
|         |            | 1710                  | 1780           |            |                           |                                   |
|         |            | f <sub>L</sub>        | f <sub>H</sub> |            |                           |                                   |
| Normal  | + 20 (Ref) | 1710.098              | 1779.918       | 0.00       | 0.0000                    | Pass                              |
|         | + 50       | 1710.098              | 1779.918       | -2.44      | -0.0014                   | Pass                              |
|         | + 40       | 1710.098              | 1779.918       | 3.07       | 0.0018                    | Pass                              |
|         | + 30       | 1710.098              | 1779.918       | 2.27       | 0.0013                    | Pass                              |
|         | + 10       | 1710.098              | 1779.918       | 3.88       | 0.0023                    | Pass                              |
|         | 0          | 1710.098              | 1779.918       | -5.43      | -0.0032                   | Pass                              |
|         | - 10       | 1710.098              | 1779.918       | 4.80       | 0.0028                    | Pass                              |
|         | - 20       | 1710.098              | 1779.918       | -4.13      | -0.0024                   | Pass                              |
|         | - 30       | 1710.098              | 1779.918       | 8.15       | 0.0048                    | Pass                              |
| 15%     | + 20       | 1710.098              | 1779.918       | -0.83      | -0.0005                   | Pass                              |
| -15%    | + 20       | 1710.098              | 1779.918       | -3.04      | -0.0018                   | Pass                              |

|           |                         |               |            |
|-----------|-------------------------|---------------|------------|
| Test Site | WZ-TR3                  | Test Engineer | Lucas Wang |
| Test Date | 2024-09-14 ~ 2024-09-18 | Test Band     | Band 5     |

| Voltage | Temp (°C)  | Frequency Range (MHz) |                | Delta (Hz) | Frequency stability (ppm) | Within Authorized Frequency Block |
|---------|------------|-----------------------|----------------|------------|---------------------------|-----------------------------------|
|         |            | 824                   | 849            |            |                           |                                   |
|         |            | f <sub>L</sub>        | f <sub>H</sub> |            |                           |                                   |
| Normal  | + 20 (Ref) | 824.098               | 848.917        | 0.00       | 0.0000                    | Pass                              |
|         | + 50       | 824.098               | 848.917        | 5.31       | 0.0064                    | Pass                              |
|         | + 40       | 824.098               | 848.917        | 4.08       | 0.0050                    | Pass                              |
|         | + 30       | 824.098               | 848.917        | -2.70      | -0.0033                   | Pass                              |
|         | + 10       | 824.098               | 848.917        | -5.14      | -0.0062                   | Pass                              |
|         | 0          | 824.098               | 848.917        | -0.77      | -0.0009                   | Pass                              |
|         | - 10       | 824.098               | 848.917        | 1.52       | 0.0018                    | Pass                              |
|         | - 20       | 824.098               | 848.917        | 1.88       | 0.0023                    | Pass                              |
|         | - 30       | 824.098               | 848.917        | 2.81       | 0.0034                    | Pass                              |
| 15%     | + 20       | 824.098               | 848.917        | 3.08       | 0.0037                    | Pass                              |
| -15%    | + 20       | 824.098               | 848.917        | 2.44       | 0.0030                    | Pass                              |

|           |                         |               |            |
|-----------|-------------------------|---------------|------------|
| Test Site | WZ-TR3                  | Test Engineer | Lucas Wang |
| Test Date | 2024-09-14 ~ 2024-09-18 | Test Band     | Band 12/17 |

| Voltage | Temp (°C)  | Frequency Range (MHz) |                | Delta (Hz) | Frequency stability (ppm) | Within Authorized Frequency Block |
|---------|------------|-----------------------|----------------|------------|---------------------------|-----------------------------------|
|         |            | 699                   | 716            |            |                           |                                   |
|         |            | f <sub>L</sub>        | f <sub>H</sub> |            |                           |                                   |
| Normal  | + 20 (Ref) | 699.098               | 715.917        | 0.00       | 0.0000                    | Pass                              |
|         | + 50       | 699.098               | 715.917        | 10.84      | 0.0155                    | Pass                              |
|         | + 40       | 699.098               | 715.917        | -7.85      | -0.0112                   | Pass                              |
|         | + 30       | 699.098               | 715.917        | -2.81      | -0.0040                   | Pass                              |
|         | + 10       | 699.098               | 715.917        | 7.32       | 0.0105                    | Pass                              |
|         | 0          | 699.098               | 715.917        | -1.08      | -0.0015                   | Pass                              |
|         | - 10       | 699.098               | 715.917        | -2.62      | -0.0037                   | Pass                              |
|         | - 20       | 699.098               | 715.917        | 3.33       | 0.0048                    | Pass                              |
|         | - 30       | 699.098               | 715.917        | -5.59      | -0.0080                   | Pass                              |
| 15%     | + 20       | 699.098               | 715.917        | 9.00       | 0.0129                    | Pass                              |
| -15%    | + 20       | 699.098               | 715.917        | -4.99      | -0.0071                   | Pass                              |

|           |                         |               |            |
|-----------|-------------------------|---------------|------------|
| Test Site | WZ-TR3                  | Test Engineer | Lucas Wang |
| Test Date | 2024-09-14 ~ 2024-09-18 | Test Band     | Band 13    |

| Voltage | Temp (°C)  | Frequency Range (MHz) |                | Delta (Hz) | Frequency stability (ppm) | Within Authorized Frequency Block |
|---------|------------|-----------------------|----------------|------------|---------------------------|-----------------------------------|
|         |            | 777                   | 787            |            |                           |                                   |
|         |            | f <sub>L</sub>        | f <sub>H</sub> |            |                           |                                   |
| Normal  | + 20 (Ref) | 777.098               | 786.917        | 0.00       | 0.0000                    | Pass                              |
|         | + 50       | 777.098               | 786.917        | -9.63      | -0.0124                   | Pass                              |
|         | + 40       | 777.098               | 786.917        | 1.98       | 0.0025                    | Pass                              |
|         | + 30       | 777.098               | 786.917        | 2.38       | 0.0031                    | Pass                              |
|         | + 10       | 777.098               | 786.917        | -5.46      | -0.0070                   | Pass                              |
|         | 0          | 777.098               | 786.917        | -2.09      | -0.0027                   | Pass                              |
|         | - 10       | 777.098               | 786.917        | -1.05      | -0.0014                   | Pass                              |
|         | - 20       | 777.098               | 786.917        | -5.86      | -0.0075                   | Pass                              |
|         | - 30       | 777.098               | 786.917        | -2.57      | -0.0033                   | Pass                              |
| 15%     | + 20       | 777.098               | 786.917        | -8.04      | -0.0103                   | Pass                              |
| -15%    | + 20       | 777.098               | 786.917        | -3.25      | -0.0042                   | Pass                              |

### A.3 Equivalent Isotropically Radited Power Test Result

|           |                         |               |            |
|-----------|-------------------------|---------------|------------|
| Test Site | WZ-SR6                  | Test Engineer | Lucas Wang |
| Test Date | 2024-08-01 ~ 2024-09-24 | Test Band     | Band 2/25  |

| Channel Bandwidth (MHz)                                        | Frequency (MHz) | Sub-carrier spacing (kHz) | N <sub>tones</sub> | Output Power (dBm) | EIRP (dBm) | Limit (dBm) |
|----------------------------------------------------------------|-----------------|---------------------------|--------------------|--------------------|------------|-------------|
| BPSK                                                           |                 |                           |                    |                    |            |             |
| 0.2                                                            | 1850.2          | 3.75                      | 1@0                | 23.69              | 24.99      | < 33.01     |
|                                                                | 1882.5          |                           |                    | 23.55              | 24.85      | < 33.01     |
|                                                                | 1914.8          |                           |                    | 23.74              | 25.04      | < 33.01     |
|                                                                | 1850.2          |                           | 1@47               | 23.63              | 24.93      | < 33.01     |
|                                                                | 1882.5          |                           |                    | 23.60              | 24.90      | < 33.01     |
|                                                                | 1914.8          |                           |                    | 23.70              | 25.00      | < 33.01     |
|                                                                | 1850.2          | 15                        | 1@0                | 23.76              | 25.06      | < 33.01     |
|                                                                | 1882.5          |                           |                    | 22.82              | 24.12      | < 33.01     |
|                                                                | 1914.8          |                           |                    | 22.67              | 23.97      | < 33.01     |
|                                                                | 1850.2          |                           | 1@11               | 23.71              | 25.01      | < 33.01     |
|                                                                | 1882.5          |                           |                    | 22.81              | 24.11      | < 33.01     |
|                                                                | 1914.8          |                           |                    | 22.61              | 23.91      | < 33.01     |
| QPSK                                                           |                 |                           |                    |                    |            |             |
| 0.2                                                            | 1850.2          | 3.75                      | 1@0                | 23.59              | 24.89      | < 33.01     |
|                                                                | 1882.5          |                           |                    | 23.50              | 24.80      | < 33.01     |
|                                                                | 1914.8          |                           |                    | 23.61              | 24.91      | < 33.01     |
|                                                                | 1850.2          |                           | 1@47               | 23.66              | 24.96      | < 33.01     |
|                                                                | 1882.5          |                           |                    | 23.54              | 24.84      | < 33.01     |
|                                                                | 1914.8          |                           |                    | 23.73              | 25.03      | < 33.01     |
|                                                                | 1850.2          | 15                        | 1@0                | 23.78              | 25.08      | < 33.01     |
|                                                                | 1882.5          |                           |                    | 22.80              | 24.10      | < 33.01     |
|                                                                | 1914.8          |                           |                    | 22.76              | 24.06      | < 33.01     |
|                                                                | 1850.2          |                           | 1@11               | 23.80              | 25.10      | < 33.01     |
|                                                                | 1882.5          |                           |                    | 22.83              | 24.13      | < 33.01     |
|                                                                | 1914.8          |                           |                    | 22.69              | 23.99      | < 33.01     |
|                                                                | 1850.2          |                           | 12@0               | 21.69              | 22.99      | < 33.01     |
|                                                                | 1882.5          |                           |                    | 21.86              | 23.16      | < 33.01     |
|                                                                | 1914.8          |                           |                    | 21.58              | 22.88      | < 33.01     |
| Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi) |                 |                           |                    |                    |            |             |

|           |                         |               |            |
|-----------|-------------------------|---------------|------------|
| Test Site | WZ-SR6                  | Test Engineer | Lucas Wang |
| Test Date | 2024-08-01 ~ 2024-09-24 | Test Band     | Band 4/66  |

| Channel Bandwidth (MHz)                                        | Frequency (MHz) | Sub-carrier spacing (kHz) | N <sub>tones</sub> | Output Power (dBm) | EIRP (dBm) | Limit (dBm) |
|----------------------------------------------------------------|-----------------|---------------------------|--------------------|--------------------|------------|-------------|
| BPSK                                                           |                 |                           |                    |                    |            |             |
| 0.2                                                            | 1710.2          | 3.75                      | 1@0                | 23.64              | 25.04      | < 30.00     |
|                                                                | 1745.0          |                           |                    | 23.92              | 25.32      | < 30.00     |
|                                                                | 1779.8          |                           |                    | 23.49              | 24.89      | < 30.00     |
|                                                                | 1710.2          |                           | 1@47               | 23.59              | 24.99      | < 30.00     |
|                                                                | 1745.0          |                           |                    | 23.89              | 25.29      | < 30.00     |
|                                                                | 1779.8          |                           |                    | 23.44              | 24.84      | < 30.00     |
|                                                                | 1710.2          | 15                        | 1@0                | 22.71              | 24.11      | < 30.00     |
|                                                                | 1745.0          |                           |                    | 22.76              | 24.16      | < 30.00     |
|                                                                | 1779.8          |                           |                    | 22.93              | 24.33      | < 30.00     |
|                                                                | 1710.2          |                           | 1@11               | 22.61              | 24.01      | < 30.00     |
|                                                                | 1745.0          |                           |                    | 22.68              | 24.08      | < 30.00     |
|                                                                | 1779.8          |                           |                    | 22.91              | 24.31      | < 30.00     |
| QPSK                                                           |                 |                           |                    |                    |            |             |
| 0.2                                                            | 1710.2          | 3.75                      | 1@0                | 23.57              | 24.97      | < 30.00     |
|                                                                | 1745.0          |                           |                    | 23.85              | 25.25      | < 30.00     |
|                                                                | 1779.8          |                           |                    | 23.42              | 24.82      | < 30.00     |
|                                                                | 1710.2          |                           | 1@47               | 23.64              | 25.04      | < 30.00     |
|                                                                | 1745.0          |                           |                    | 23.94              | 25.34      | < 30.00     |
|                                                                | 1779.8          |                           |                    | 23.51              | 24.91      | < 30.00     |
|                                                                | 1710.2          | 15                        | 1@0                | 22.70              | 24.10      | < 30.00     |
|                                                                | 1745.0          |                           |                    | 22.79              | 24.19      | < 30.00     |
|                                                                | 1779.8          |                           |                    | 22.93              | 24.33      | < 30.00     |
|                                                                | 1710.2          |                           | 1@11               | 22.73              | 24.13      | < 30.00     |
|                                                                | 1745.0          |                           |                    | 22.77              | 24.17      | < 30.00     |
|                                                                | 1779.8          |                           |                    | 22.99              | 24.39      | < 30.00     |
|                                                                | 1710.2          |                           | 12@0               | 21.77              | 23.17      | < 30.00     |
|                                                                | 1745.0          |                           |                    | 21.79              | 23.19      | < 30.00     |
|                                                                | 1779.8          |                           |                    | 21.88              | 23.28      | < 30.00     |
| Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi) |                 |                           |                    |                    |            |             |

|           |                         |               |            |
|-----------|-------------------------|---------------|------------|
| Test Site | WZ-SR6                  | Test Engineer | Lucas Wang |
| Test Date | 2024-08-01 ~ 2024-09-24 | Test Band     | Band 5     |

| Channel Bandwidth (MHz)                                              | Frequency (MHz) | Sub-carrier spacing (kHz) | N <sub>tones</sub> | Output Power (dBm) | ERP (dBm) | Limit (dBm) |
|----------------------------------------------------------------------|-----------------|---------------------------|--------------------|--------------------|-----------|-------------|
| BPSK                                                                 |                 |                           |                    |                    |           |             |
| 0.2                                                                  | 824.2           | 3.75                      | 1@0                | 23.57              | 22.52     | < 38.45     |
|                                                                      | 836.5           |                           |                    | 23.67              | 22.62     | < 38.45     |
|                                                                      | 848.8           |                           |                    | 23.70              | 22.65     | < 38.45     |
|                                                                      | 824.2           |                           | 1@47               | 23.54              | 22.49     | < 38.45     |
|                                                                      | 836.5           |                           |                    | 23.59              | 22.54     | < 38.45     |
|                                                                      | 848.8           |                           |                    | 23.74              | 22.69     | < 38.45     |
|                                                                      | 824.2           | 15                        | 1@0                | 22.84              | 21.79     | < 38.45     |
|                                                                      | 836.5           |                           |                    | 22.89              | 21.84     | < 38.45     |
|                                                                      | 848.8           |                           |                    | 22.80              | 21.75     | < 38.45     |
|                                                                      | 824.2           |                           | 1@11               | 22.70              | 21.65     | < 38.45     |
|                                                                      | 836.5           |                           |                    | 22.78              | 21.73     | < 38.45     |
|                                                                      | 848.8           |                           |                    | 22.74              | 21.69     | < 38.45     |
| QPSK                                                                 |                 |                           |                    |                    |           |             |
| 0.2                                                                  | 824.2           | 3.75                      | 1@0                | 23.55              | 22.50     | < 38.45     |
|                                                                      | 836.5           |                           |                    | 23.66              | 22.61     | < 38.45     |
|                                                                      | 848.8           |                           |                    | 23.71              | 22.66     | < 38.45     |
|                                                                      | 824.2           |                           | 1@47               | 23.61              | 22.56     | < 38.45     |
|                                                                      | 836.5           |                           |                    | 23.62              | 22.57     | < 38.45     |
|                                                                      | 848.8           |                           |                    | 23.78              | 22.73     | < 38.45     |
|                                                                      | 824.2           | 15                        | 1@0                | 22.72              | 21.67     | < 38.45     |
|                                                                      | 836.5           |                           |                    | 22.76              | 21.71     | < 38.45     |
|                                                                      | 848.8           |                           |                    | 22.84              | 21.79     | < 38.45     |
|                                                                      | 824.2           |                           | 1@11               | 22.63              | 21.58     | < 38.45     |
|                                                                      | 836.5           |                           |                    | 22.80              | 21.75     | < 38.45     |
|                                                                      | 848.8           |                           |                    | 22.87              | 21.82     | < 38.45     |
|                                                                      | 824.2           |                           | 12@0               | 21.77              | 20.72     | < 38.45     |
|                                                                      | 836.5           |                           |                    | 21.82              | 20.77     | < 38.45     |
|                                                                      | 848.8           |                           |                    | 21.72              | 20.67     | < 38.45     |
| Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15 |                 |                           |                    |                    |           |             |

|           |                         |               |            |
|-----------|-------------------------|---------------|------------|
| Test Site | WZ-SR6                  | Test Engineer | Lucas Wang |
| Test Date | 2024-08-01 ~ 2024-09-24 | Test Band     | Band 12/17 |

| Channel Bandwidth (MHz)                                              | Frequency (MHz) | Sub-carrier spacing (kHz) | N <sub>tones</sub> | Output Power (dBm) | ERP (dBm) | Limit (dBm) |
|----------------------------------------------------------------------|-----------------|---------------------------|--------------------|--------------------|-----------|-------------|
| BPSK                                                                 |                 |                           |                    |                    |           |             |
| 0.2                                                                  | 699.2           | 3.75                      | 1@0                | 24.25              | 23.20     | < 44.77     |
|                                                                      | 707.5           |                           |                    | 24.47              | 23.42     | < 44.77     |
|                                                                      | 715.8           |                           |                    | 23.88              | 22.83     | < 44.77     |
|                                                                      | 699.2           |                           | 1@47               | 24.22              | 23.17     | < 44.77     |
|                                                                      | 707.5           |                           |                    | 24.52              | 23.47     | < 44.77     |
|                                                                      | 715.8           |                           |                    | 23.86              | 22.81     | < 44.77     |
|                                                                      | 699.2           | 15                        | 1@0                | 21.49              | 20.44     | < 44.77     |
|                                                                      | 707.5           |                           |                    | 21.51              | 20.46     | < 44.77     |
|                                                                      | 715.8           |                           |                    | 21.58              | 20.53     | < 44.77     |
|                                                                      | 699.2           |                           | 1@11               | 21.52              | 20.47     | < 44.77     |
|                                                                      | 707.5           |                           |                    | 21.57              | 20.52     | < 44.77     |
|                                                                      | 715.8           |                           |                    | 21.67              | 20.62     | < 44.77     |
| QPSK                                                                 |                 |                           |                    |                    |           |             |
| 0.2                                                                  | 699.2           | 3.75                      | 1@0                | 24.20              | 23.15     | < 44.77     |
|                                                                      | 707.5           |                           |                    | 24.51              | 23.46     | < 44.77     |
|                                                                      | 715.8           |                           |                    | 23.78              | 22.73     | < 44.77     |
|                                                                      | 699.2           |                           | 1@47               | 24.26              | 23.21     | < 44.77     |
|                                                                      | 707.5           |                           |                    | 24.58              | 23.53     | < 44.77     |
|                                                                      | 715.8           |                           |                    | 23.84              | 22.79     | < 44.77     |
|                                                                      | 699.2           | 15                        | 1@0                | 21.54              | 20.49     | < 44.77     |
|                                                                      | 707.5           |                           |                    | 21.45              | 20.40     | < 44.77     |
|                                                                      | 715.8           |                           |                    | 21.55              | 20.50     | < 44.77     |
|                                                                      | 699.2           |                           | 1@11               | 21.61              | 20.56     | < 44.77     |
|                                                                      | 707.5           |                           |                    | 21.56              | 20.51     | < 44.77     |
|                                                                      | 715.8           |                           |                    | 21.62              | 20.57     | < 44.77     |
|                                                                      | 699.2           |                           | 12@0               | 21.46              | 20.41     | < 44.77     |
|                                                                      | 707.5           |                           |                    | 21.50              | 20.45     | < 44.77     |
|                                                                      | 715.8           |                           |                    | 21.61              | 20.56     | < 44.77     |
| Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15 |                 |                           |                    |                    |           |             |

Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15

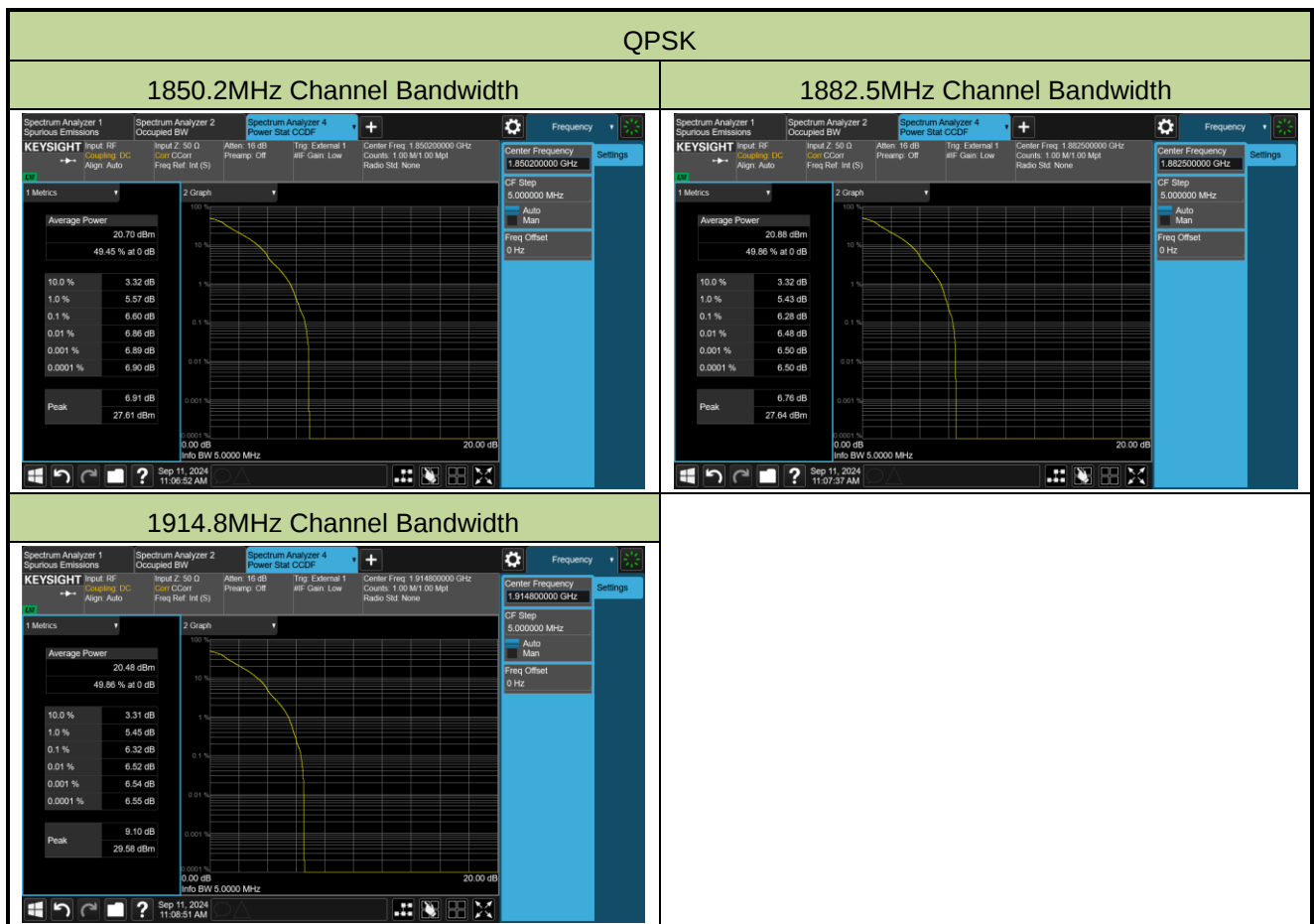
|           |                         |               |            |
|-----------|-------------------------|---------------|------------|
| Test Site | WZ-SR6                  | Test Engineer | Lucas Wang |
| Test Date | 2024-08-01 ~ 2024-09-24 | Test Band     | Band 13    |

| Channel Bandwidth (MHz)                                              | Frequency (MHz) | Sub-carrier spacing (kHz) | N <sub>tones</sub> | Output Power (dBm) | ERP (dBm) | Limit (dBm) |
|----------------------------------------------------------------------|-----------------|---------------------------|--------------------|--------------------|-----------|-------------|
| BPSK                                                                 |                 |                           |                    |                    |           |             |
| 0.2                                                                  | 777.2           | 3.75                      | 1@0                | 23.79              | 22.74     | < 44.77     |
|                                                                      | 782.0           |                           |                    | 23.79              | 22.74     | < 44.77     |
|                                                                      | 786.8           |                           |                    | 23.75              | 22.70     | < 44.77     |
|                                                                      | 777.2           |                           | 1@47               | 23.80              | 22.75     | < 44.77     |
|                                                                      | 782.0           |                           |                    | 23.76              | 22.71     | < 44.77     |
|                                                                      | 786.8           |                           |                    | 23.70              | 22.65     | < 44.77     |
|                                                                      | 777.2           | 15                        | 1@0                | 21.56              | 20.51     | < 44.77     |
|                                                                      | 782.0           |                           |                    | 22.67              | 21.62     | < 44.77     |
|                                                                      | 786.8           |                           |                    | 22.65              | 21.60     | < 44.77     |
|                                                                      | 777.2           |                           | 1@11               | 22.59              | 21.54     | < 44.77     |
|                                                                      | 782.0           |                           |                    | 22.57              | 21.52     | < 44.77     |
|                                                                      | 786.8           |                           |                    | 22.59              | 21.54     | < 44.77     |
| QPSK                                                                 |                 |                           |                    |                    |           |             |
| 0.2                                                                  | 777.2           | 3.75                      | 1@0                | 23.74              | 22.69     | < 44.77     |
|                                                                      | 782.0           |                           |                    | 23.74              | 22.69     | < 44.77     |
|                                                                      | 786.8           |                           |                    | 23.72              | 22.67     | < 44.77     |
|                                                                      | 777.2           |                           | 1@47               | 23.82              | 22.77     | < 44.77     |
|                                                                      | 782.0           |                           |                    | 23.80              | 22.75     | < 44.77     |
|                                                                      | 786.8           |                           |                    | 23.73              | 22.68     | < 44.77     |
|                                                                      | 777.2           | 15                        | 1@0                | 21.50              | 20.45     | < 44.77     |
|                                                                      | 782.0           |                           |                    | 22.53              | 21.48     | < 44.77     |
|                                                                      | 786.8           |                           |                    | 22.59              | 21.54     | < 44.77     |
|                                                                      | 777.2           |                           | 1@11               | 21.62              | 20.57     | < 44.77     |
|                                                                      | 782.0           |                           |                    | 22.64              | 21.59     | < 44.77     |
|                                                                      | 786.8           |                           |                    | 22.73              | 21.68     | < 44.77     |
|                                                                      | 777.2           |                           | 12@0               | 21.56              | 20.51     | < 44.77     |
|                                                                      | 782.0           |                           |                    | 21.59              | 20.54     | < 44.77     |
|                                                                      | 786.8           |                           |                    | 21.61              | 20.56     | < 44.77     |
| Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15 |                 |                           |                    |                    |           |             |

#### A.4 Peak to Average Radio Test Result

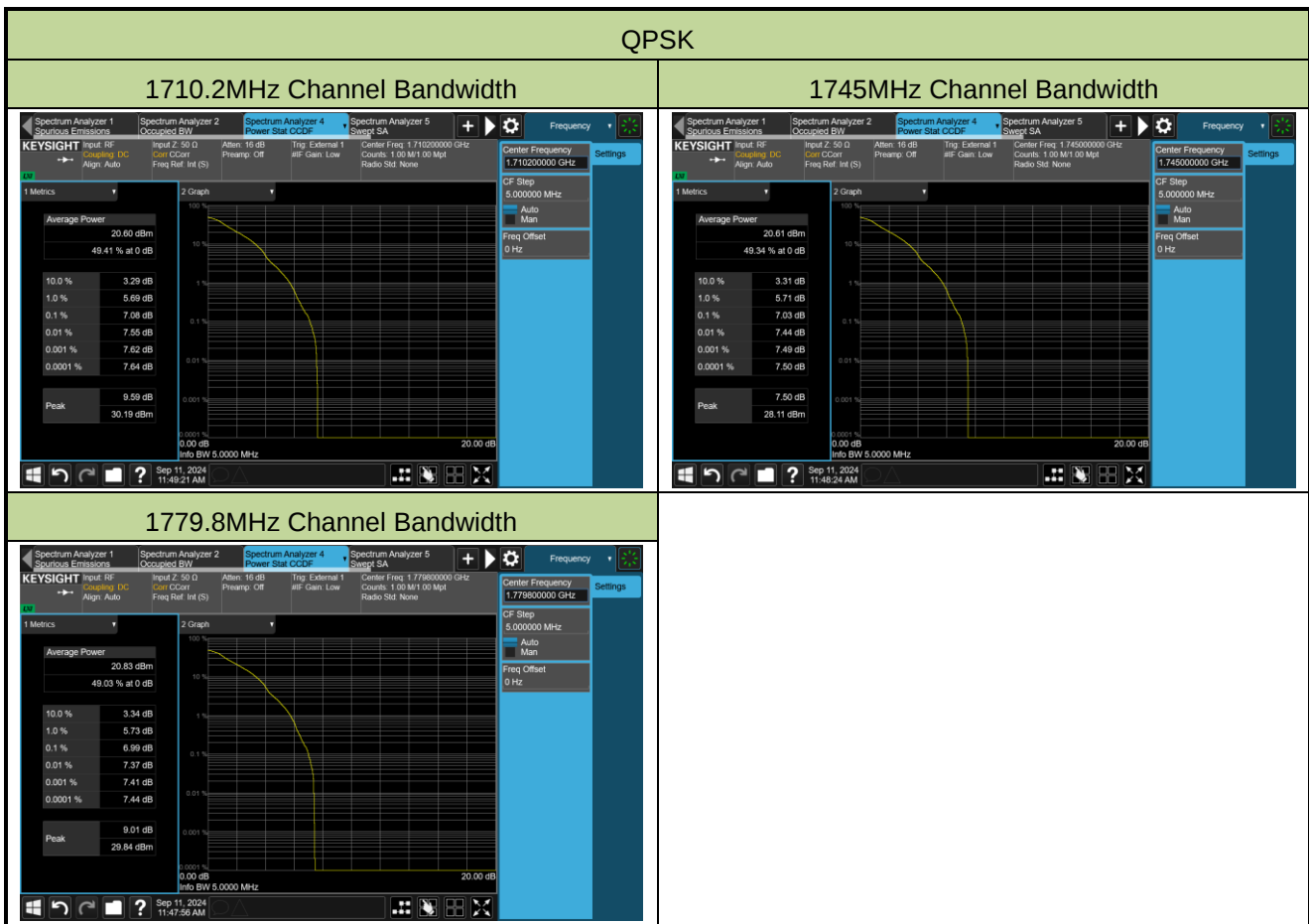
|           |            |               |            |
|-----------|------------|---------------|------------|
| Test Site | WZ-SR6     | Test Engineer | Lucas Wang |
| Test Date | 2024-09-11 | Test Band     | Band 2/25  |

| Channel Bandwidth (MHz) | Frequency (MHz) | Sub-carrier spacing (kHz) | Peak to Average Ratio (dB) | Limit (dB)   | Result |
|-------------------------|-----------------|---------------------------|----------------------------|--------------|--------|
| QPSK                    |                 |                           |                            |              |        |
| 0.2                     | 1850.2          | 15                        | 6.60                       | $\leq 13.00$ | Pass   |
|                         | 1882.5          | 15                        | 6.28                       | $\leq 13.00$ | Pass   |
|                         | 1914.8          | 15                        | 6.32                       | $\leq 13.00$ | Pass   |



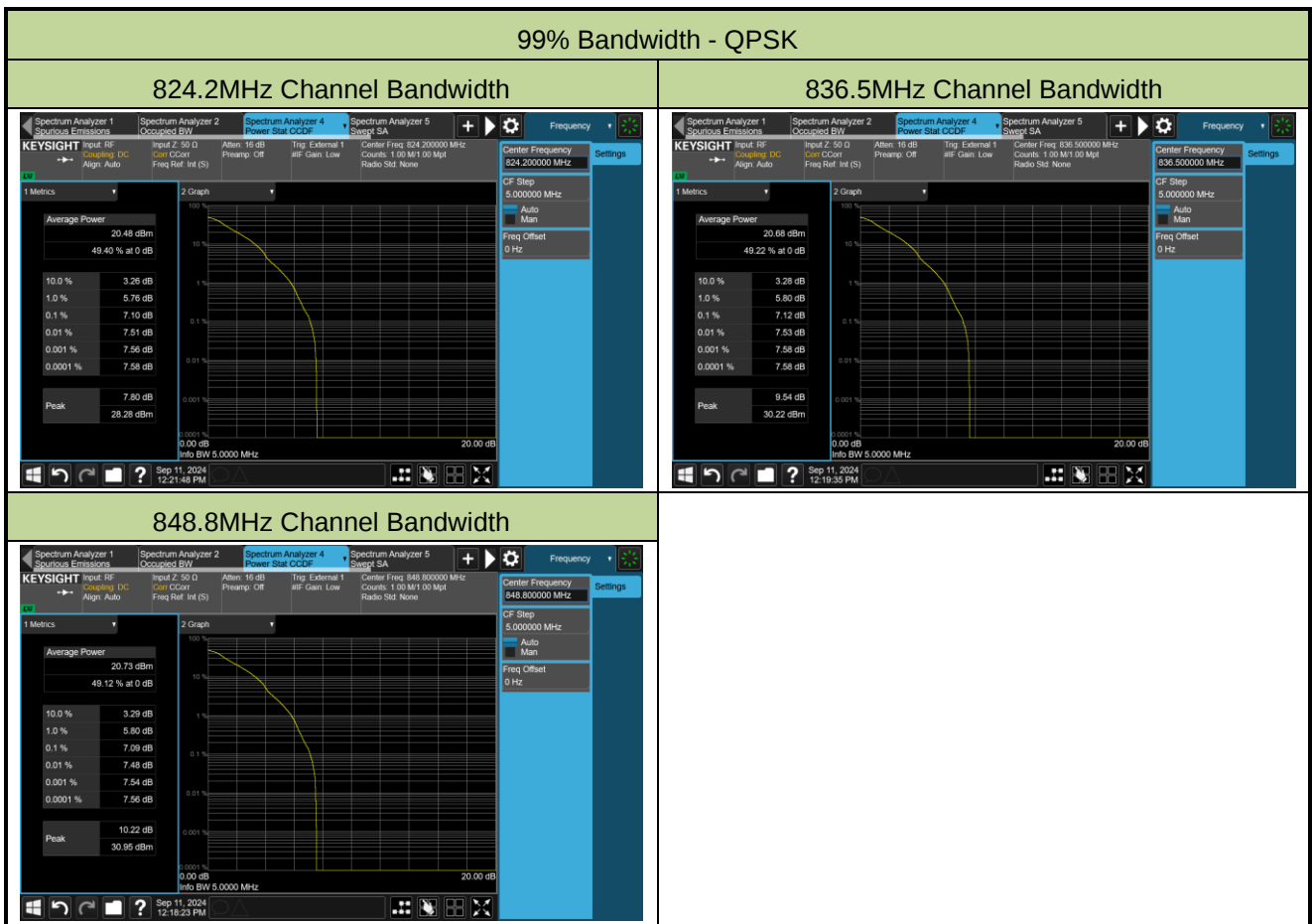
|           |            |               |            |
|-----------|------------|---------------|------------|
| Test Site | WZ-SR6     | Test Engineer | Lucas Wang |
| Test Date | 2024-09-11 | Test Band     | Band 4/66  |

| Frequency (MHz) | Channel Bandwidth (MHz) | Sub-carrier spacing (kHz) | Peak to Average Ratio (dB) | Limit (dB)   | Result |
|-----------------|-------------------------|---------------------------|----------------------------|--------------|--------|
| QPSK            |                         |                           |                            |              |        |
| 0.2             | 1710.2                  | 15                        | 7.08                       | $\leq 13.00$ | Pass   |
|                 | 1745                    | 15                        | 7.03                       | $\leq 13.00$ | Pass   |
|                 | 1779.8                  | 15                        | 6.99                       | $\leq 13.00$ | Pass   |



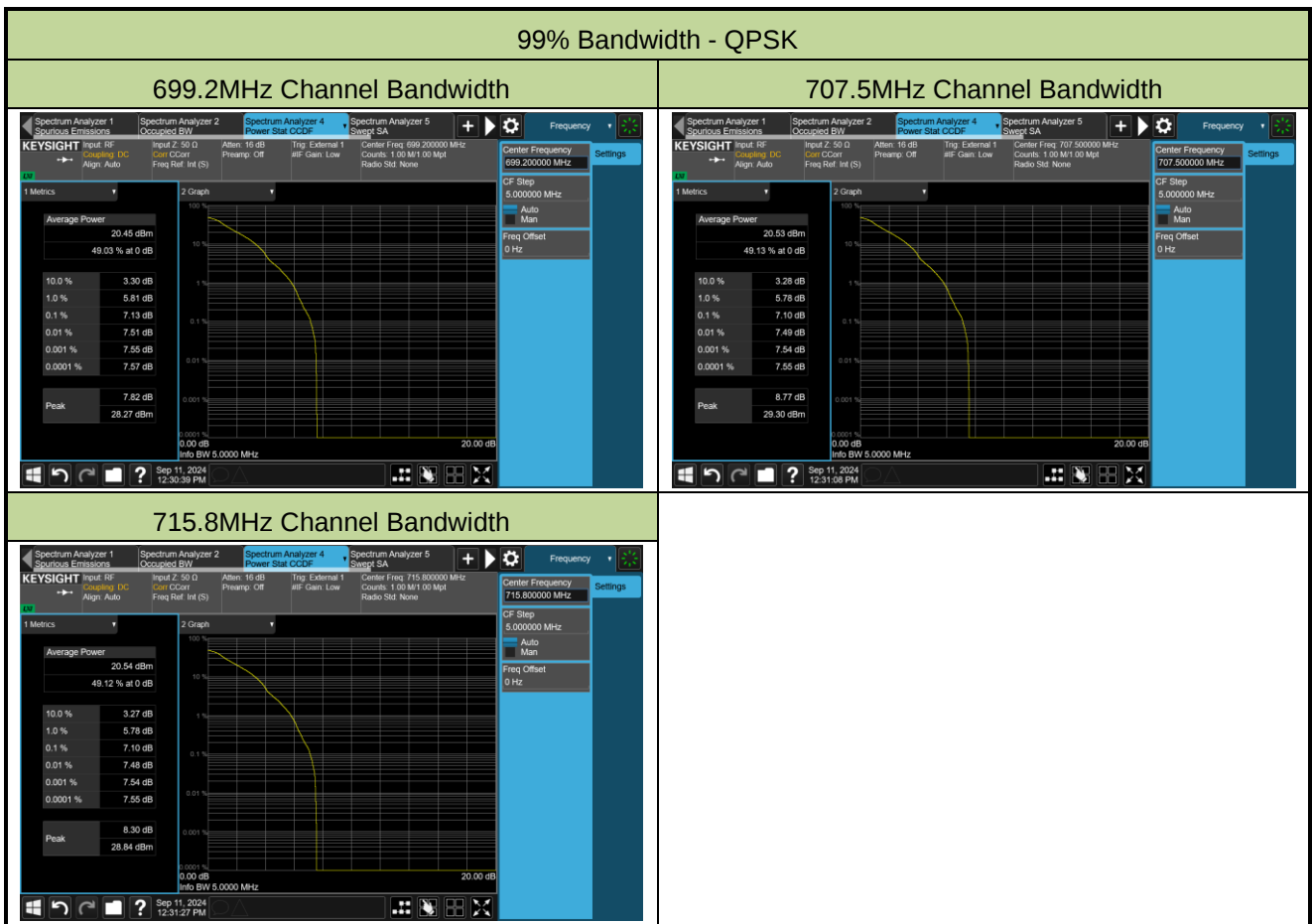
|           |            |               |            |
|-----------|------------|---------------|------------|
| Test Site | WZ-SR6     | Test Engineer | Lucas Wang |
| Test Date | 2024-09-11 | Test Band     | Band 5     |

| Frequency (MHz) | Channel Bandwidth (MHz) | Sub-carrier spacing (kHz) | Peak to Average Ratio (dB) | Limit (dB)   | Result |
|-----------------|-------------------------|---------------------------|----------------------------|--------------|--------|
| QPSK            |                         |                           |                            |              |        |
| 0.2             | 824.2                   | 15                        | 7.10                       | $\leq 13.00$ | Pass   |
|                 | 836.5                   | 15                        | 7.12                       | $\leq 13.00$ | Pass   |
|                 | 848.8                   | 15                        | 7.09                       | $\leq 13.00$ | Pass   |



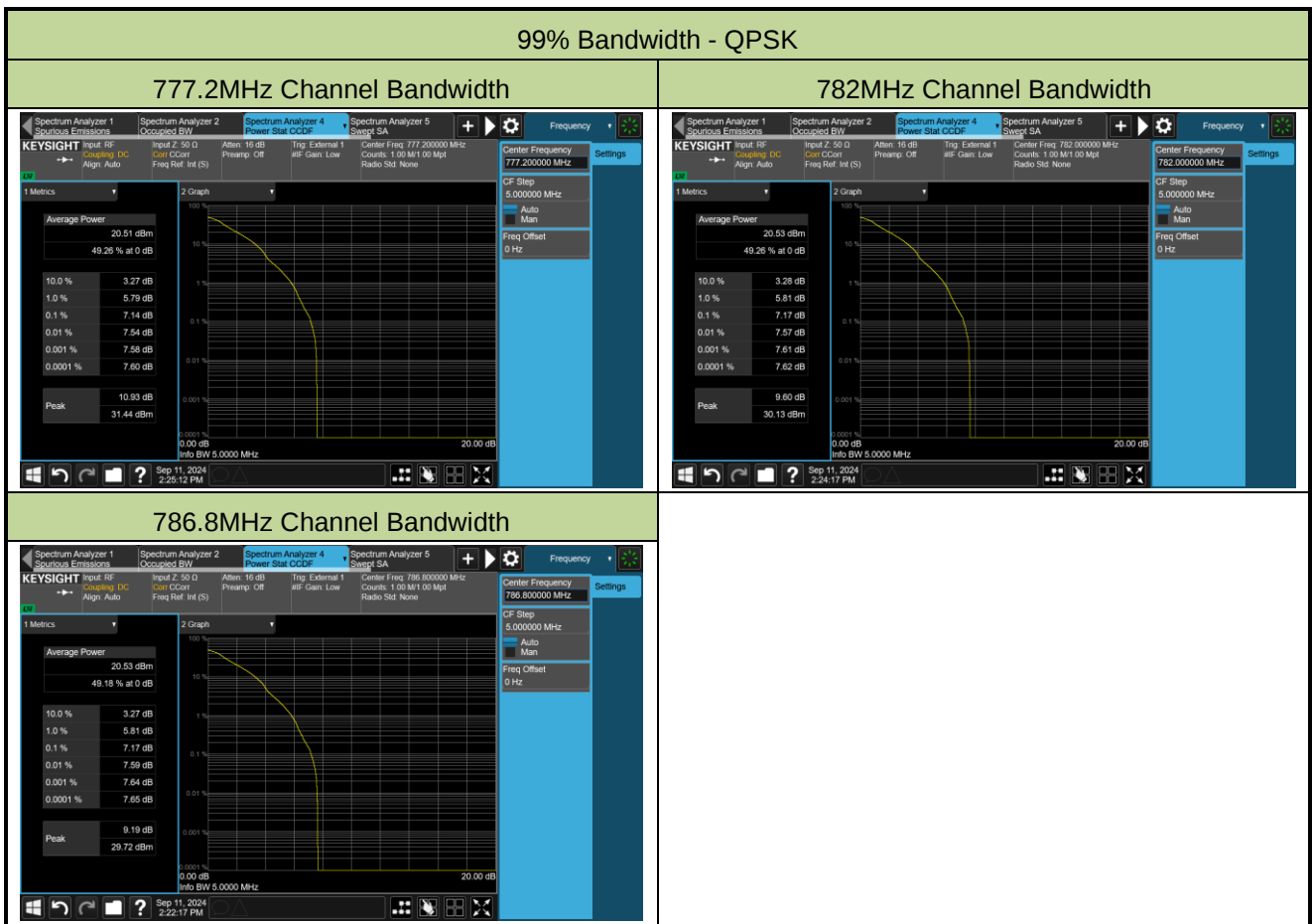
|           |            |               |            |
|-----------|------------|---------------|------------|
| Test Site | WZ-SR6     | Test Engineer | Lucas Wang |
| Test Date | 2024-09-11 | Test Band     | Band 12/17 |

| Frequency (MHz) | Channel Bandwidth (MHz) | Sub-carrier spacing (kHz) | Peak to Average Ratio (dB) | Limit (dB)   | Result |
|-----------------|-------------------------|---------------------------|----------------------------|--------------|--------|
| QPSK            |                         |                           |                            |              |        |
| 0.2             | 699.2                   | 15                        | 7.13                       | $\leq 13.00$ | Pass   |
|                 | 707.5                   | 15                        | 7.10                       | $\leq 13.00$ | Pass   |
|                 | 715.8                   | 15                        | 7.10                       | $\leq 13.00$ | Pass   |



|           |            |               |            |
|-----------|------------|---------------|------------|
| Test Site | WZ-SR6     | Test Engineer | Lucas Wang |
| Test Date | 2024-09-11 | Test Band     | Band 13    |

| Frequency (MHz) | Channel Bandwidth (MHz) | Sub-carrier spacing (kHz) | Peak to Average Ratio (dB) | Limit (dB)   | Result |
|-----------------|-------------------------|---------------------------|----------------------------|--------------|--------|
| QPSK            |                         |                           |                            |              |        |
| 0.2             | 777.2                   | 15                        | 7.14                       | $\leq 13.00$ | Pass   |
|                 | 782                     | 15                        | 7.17                       | $\leq 13.00$ | Pass   |
|                 | 786.8                   | 15                        | 7.17                       | $\leq 13.00$ | Pass   |

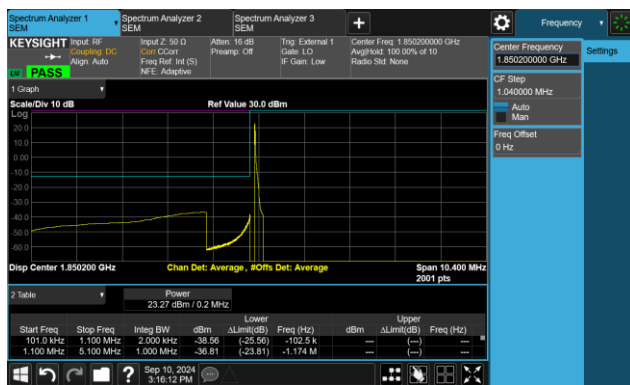


### A.5 Conducted Band-Edge Test Result

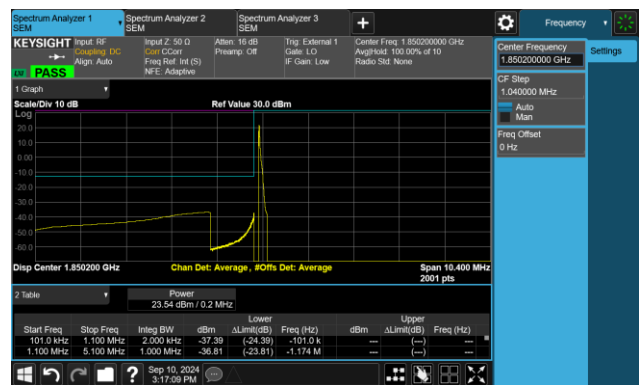
|           |                         |               |            |
|-----------|-------------------------|---------------|------------|
| Test Site | WZ-SR6                  | Test Engineer | Lucas Wang |
| Test Date | 2024-09-10 ~ 2024-09-12 | Test Band     | Band 2/25  |

#### BPSK

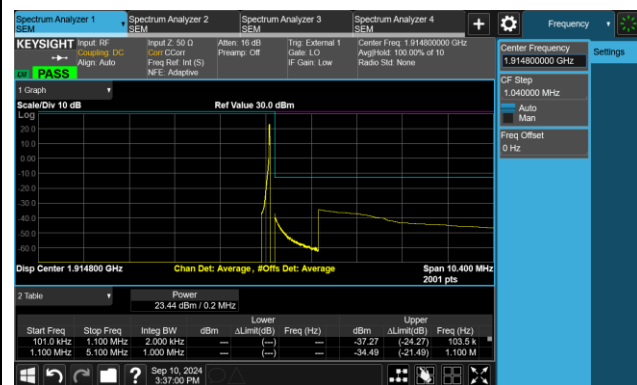
##### 3.75kHz 1@0 CH-Low



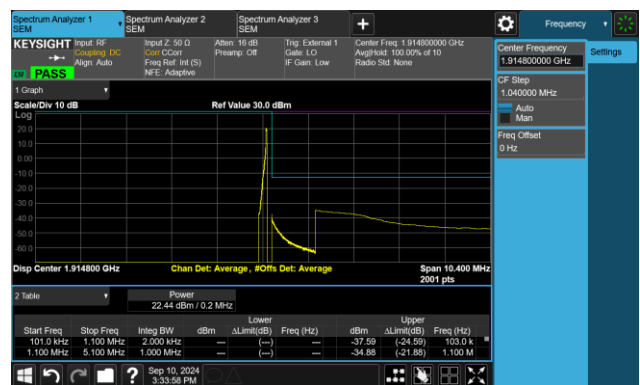
##### 15kHz 1@0 CH-Low



##### 3.75kHz 1@47 CH-High

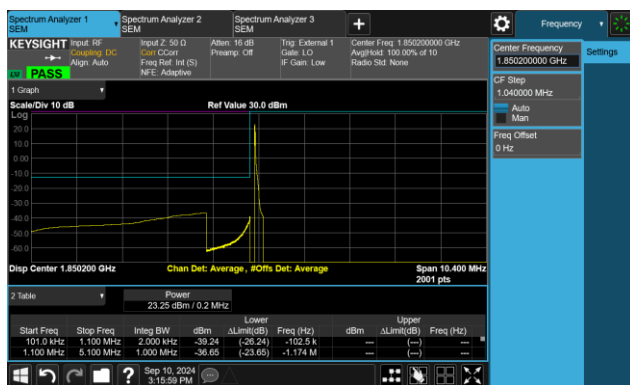


##### 15kHz 1@11 CH-High

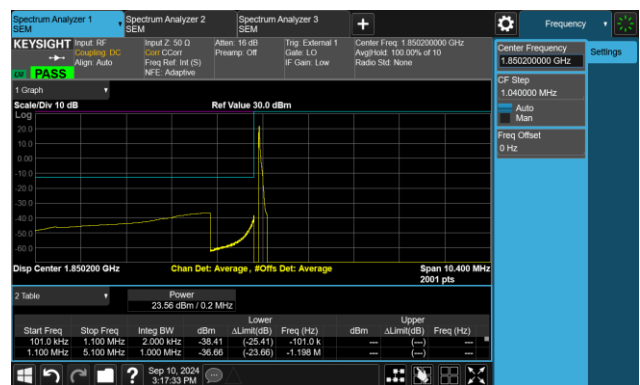


#### QPSK

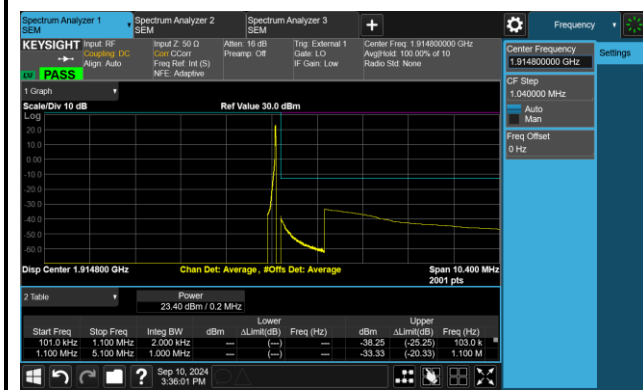
##### 3.75kHz 1@0 CH-Low



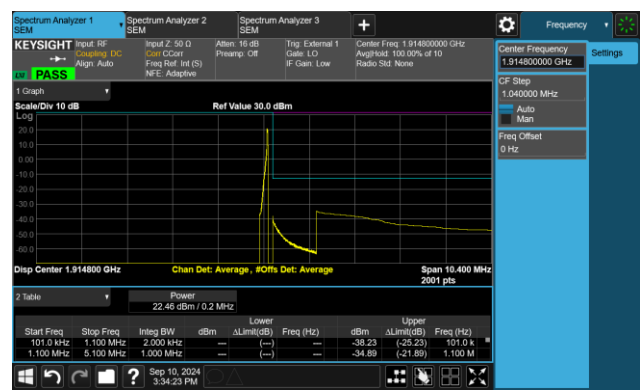
##### 15kHz 1@0 CH-Low



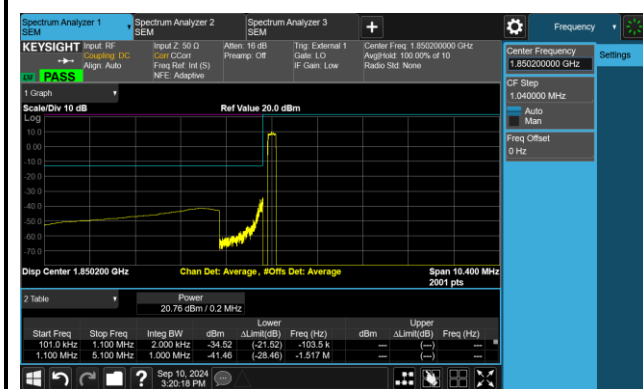
### 3.75kHz 1@47 CH-High



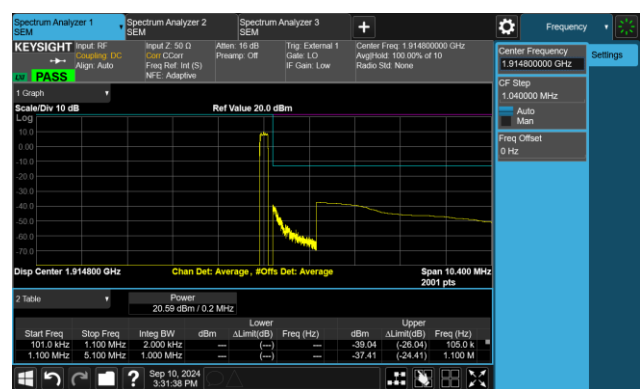
### 15kHz 1@11 CH-High



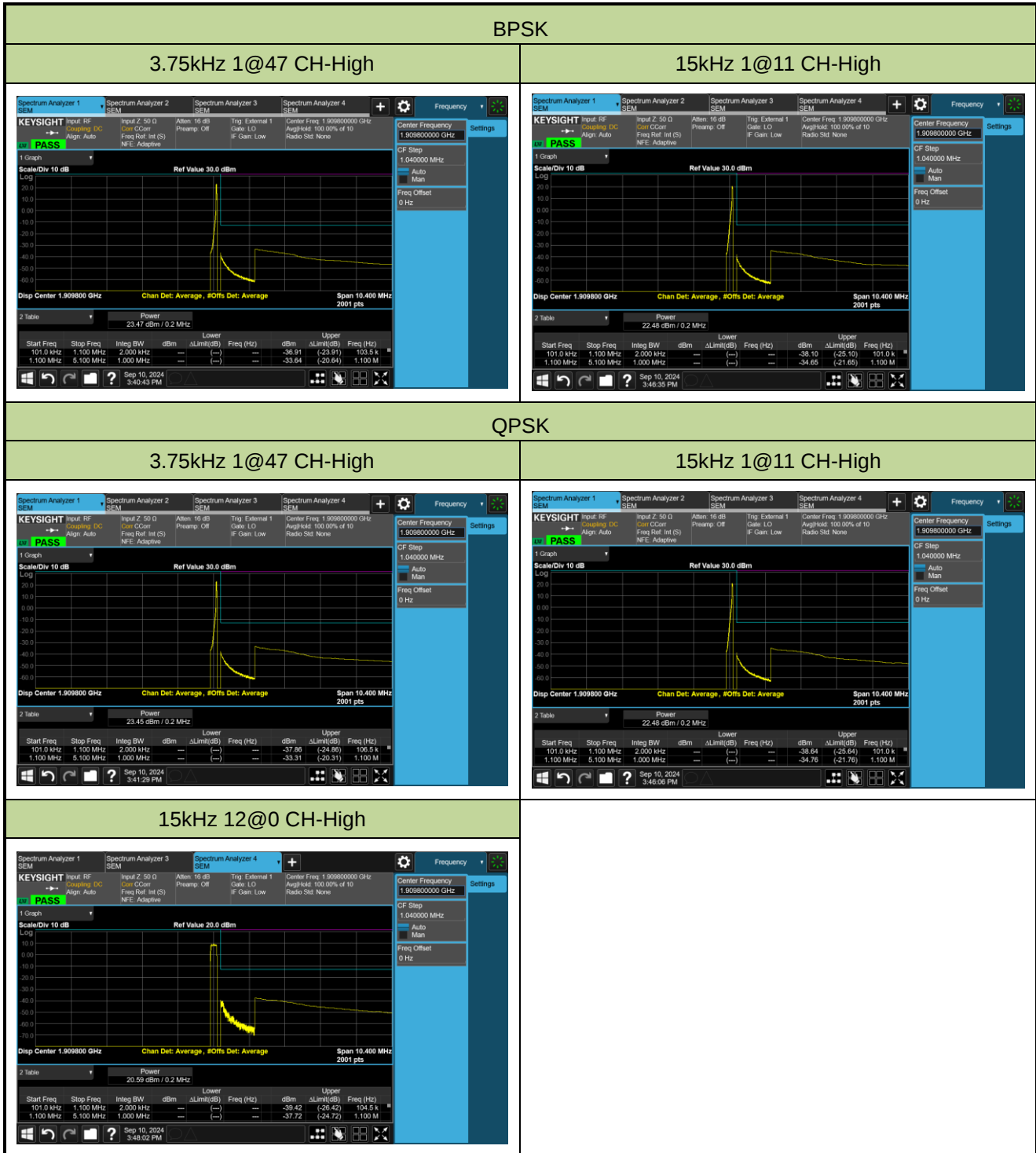
### 15 kHz 12@0 CH-Low



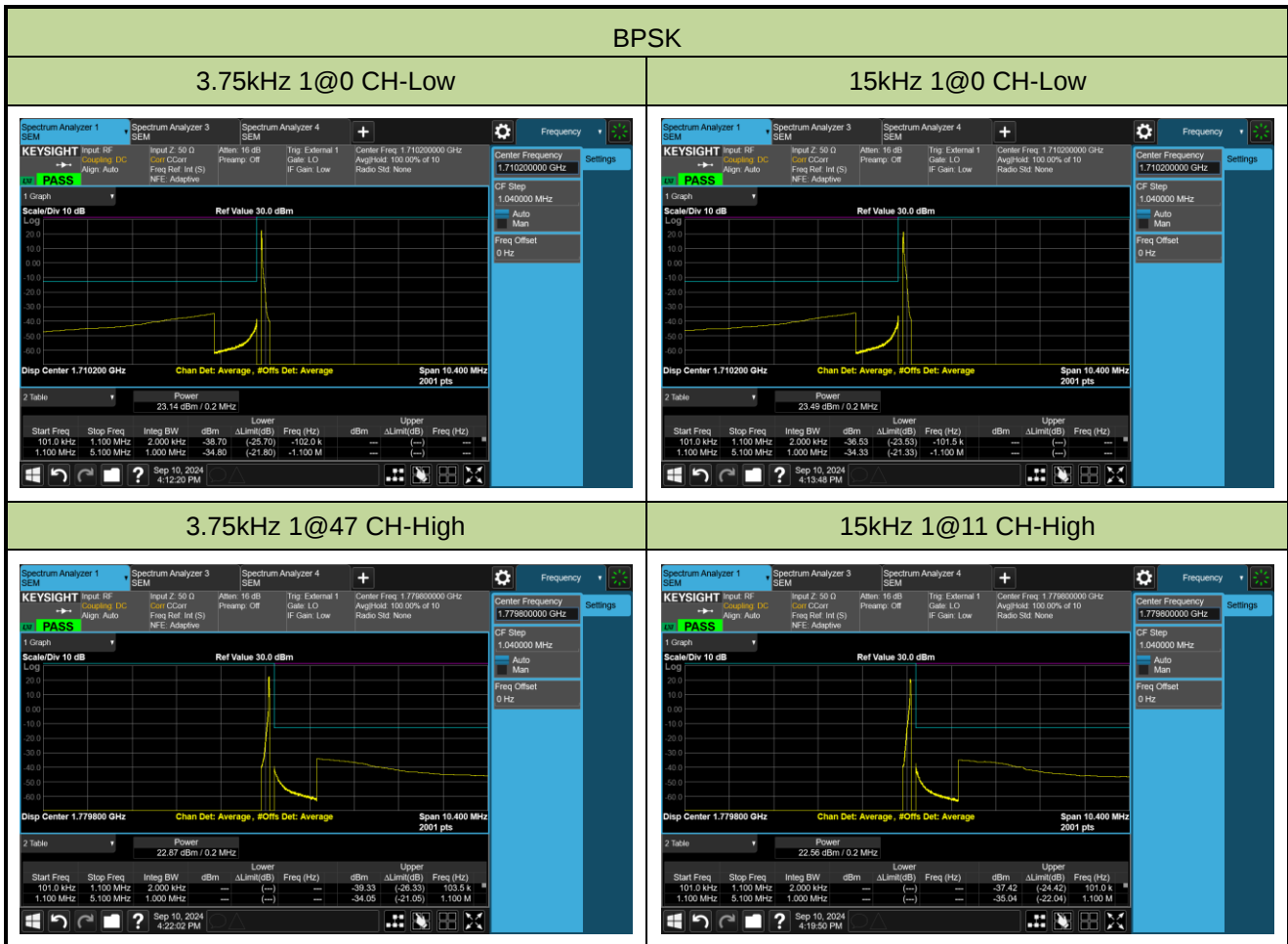
### 15kHz 12@0 CH-High



|           |                         |               |            |
|-----------|-------------------------|---------------|------------|
| Test Site | WZ-SR6                  | Test Engineer | Lucas Wang |
| Test Date | 2024-09-10 ~ 2024-09-12 | Test Band     | Band 2     |

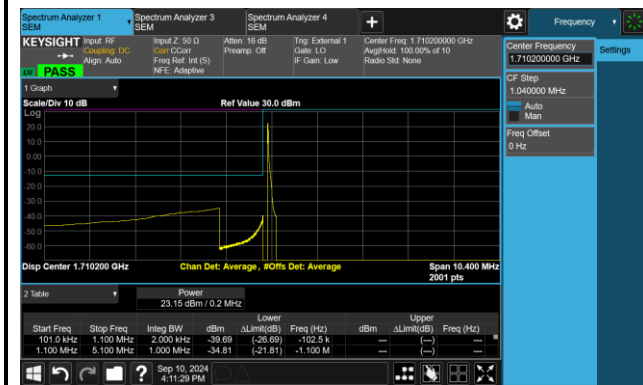


|           |                         |               |            |
|-----------|-------------------------|---------------|------------|
| Test Site | WZ-SR6                  | Test Engineer | Lucas Wang |
| Test Date | 2024-09-10 ~ 2024-09-12 | Test Band     | Band 4/66  |

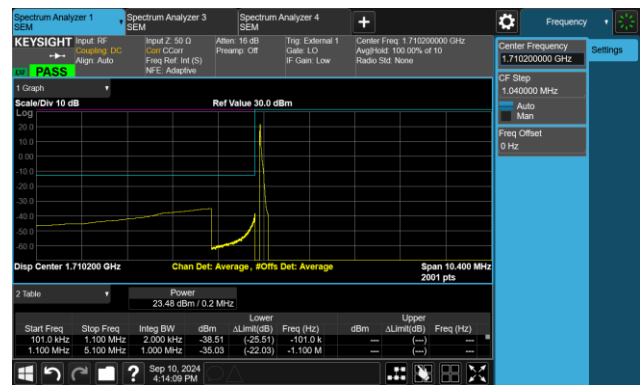


# QPSK

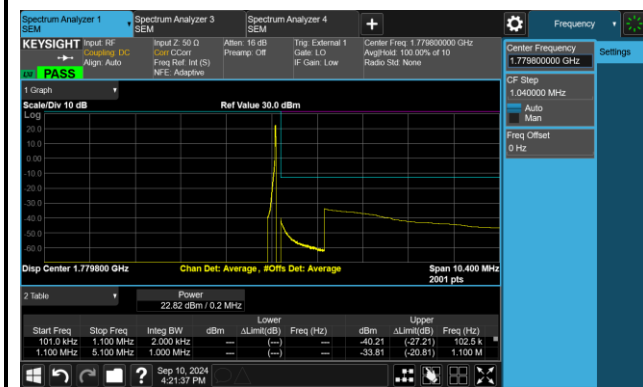
## 3.75kHz 1@0 CH-Low



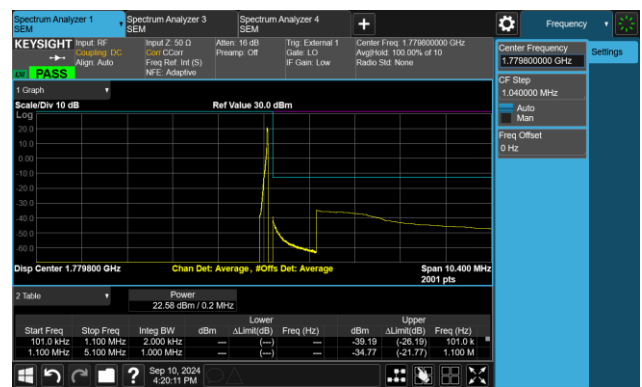
## 15kHz 1@0 CH-Low



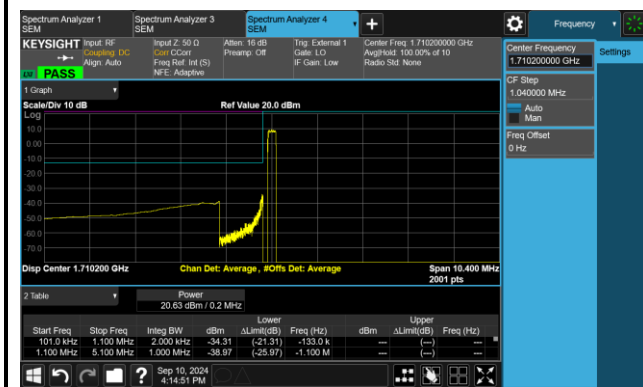
## 3.75kHz 1@47 CH-High



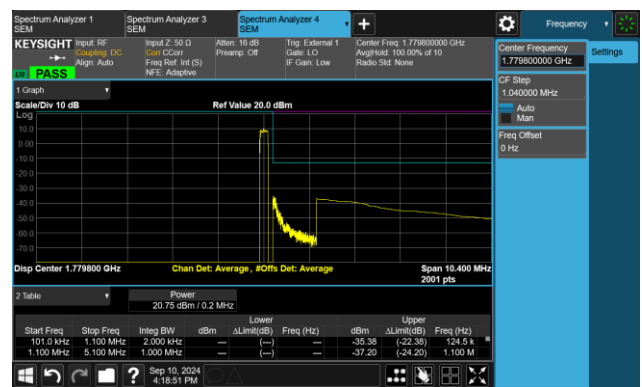
## 15kHz 1@11 CH-High



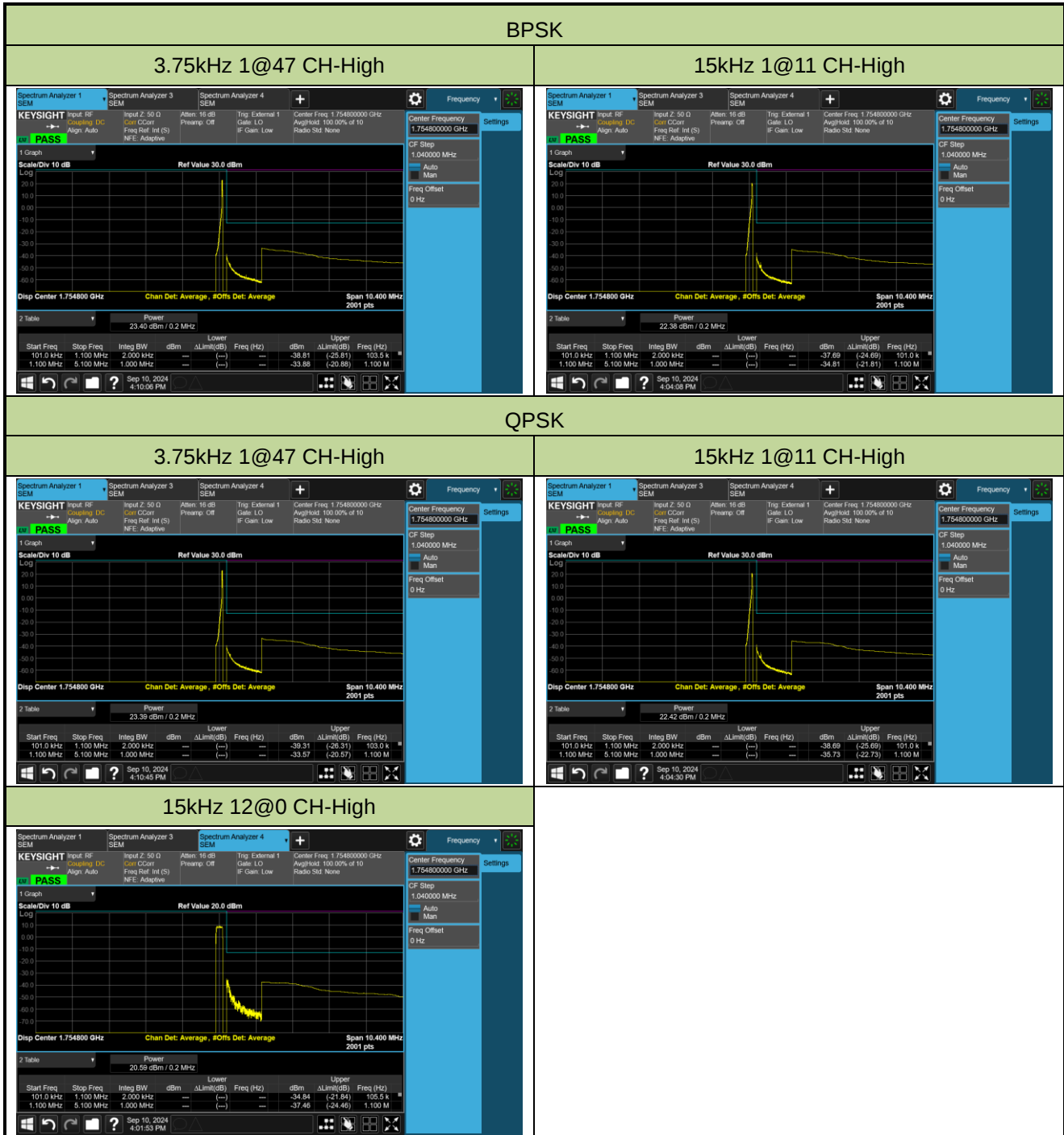
## 15 kHz 12@0 CH-Low



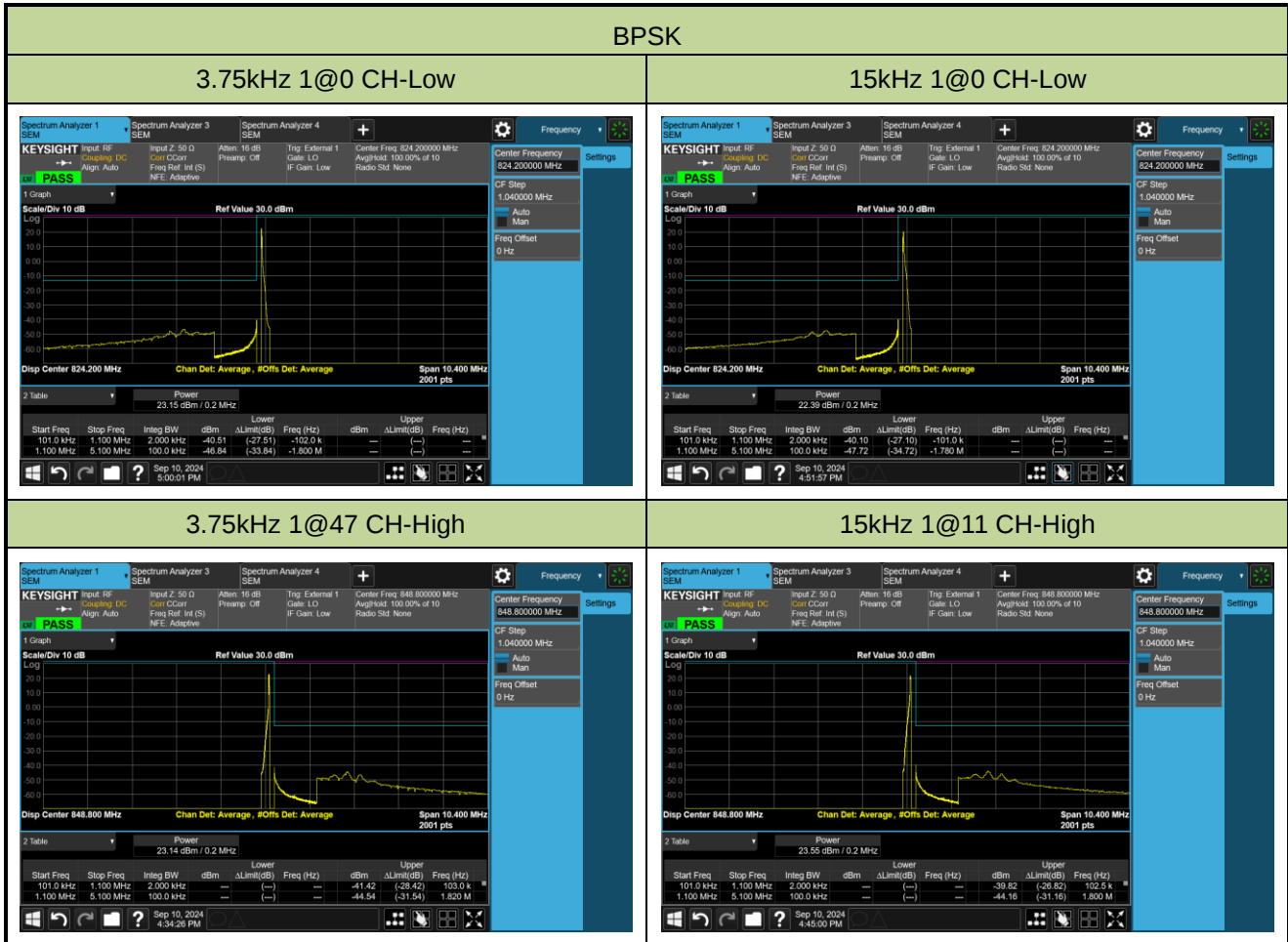
## 15kHz 12@0 CH-High



|           |                         |               |            |
|-----------|-------------------------|---------------|------------|
| Test Site | WZ-SR6                  | Test Engineer | Lucas Wang |
| Test Date | 2024-09-10 ~ 2024-09-12 | Test Band     | Band 4     |

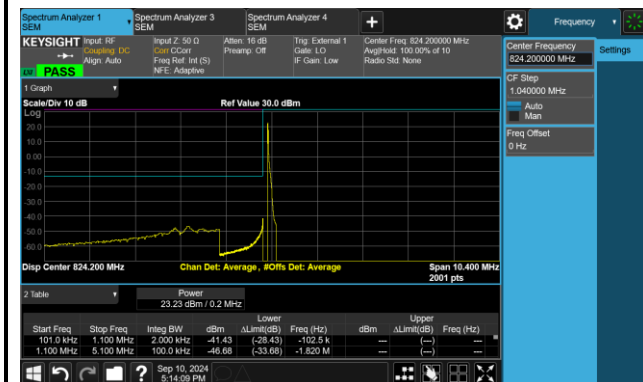


|           |                         |               |            |
|-----------|-------------------------|---------------|------------|
| Test Site | WZ-SR6                  | Test Engineer | Lucas Wang |
| Test Date | 2024-09-10 ~ 2024-09-12 | Test Band     | Band 5     |

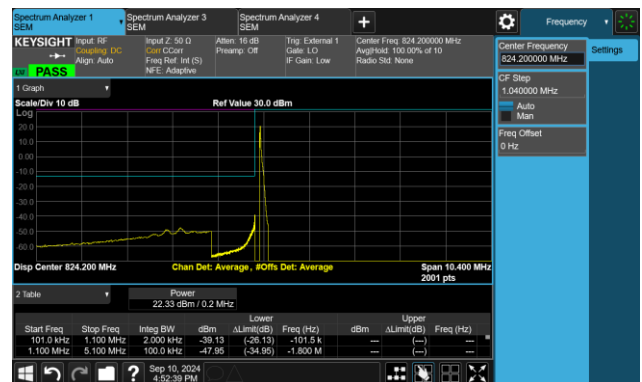


# QPSK

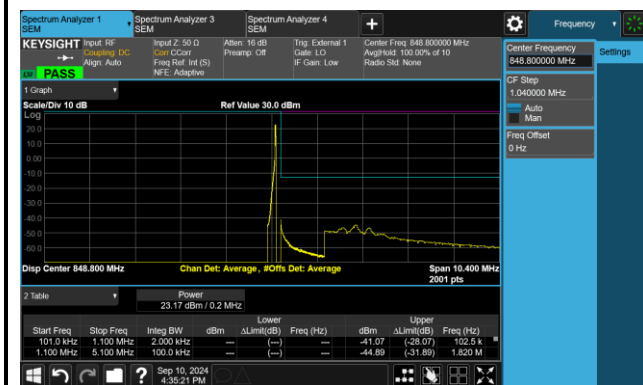
## 3.75kHz 1@0 CH-Low



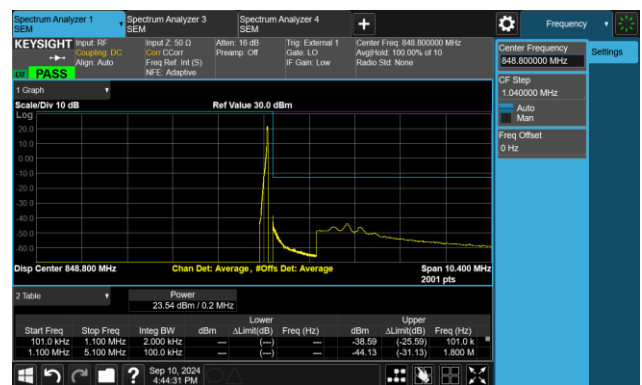
## 15kHz 1@0 CH-Low



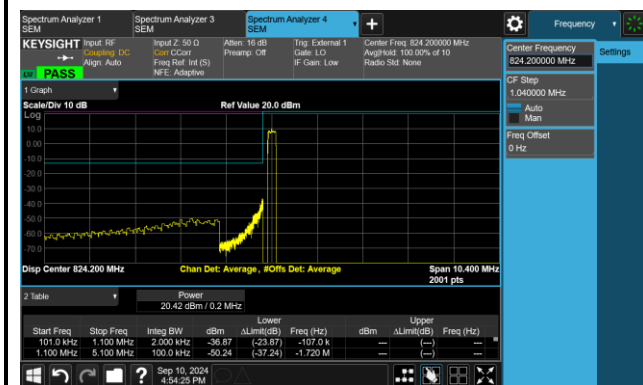
## 3.75kHz 1@47 CH-High



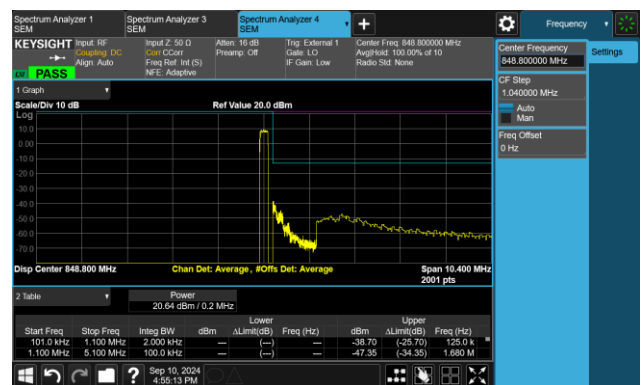
## 15kHz 1@11 CH-High



## 15 kHz 12@0 CH-Low



## 15kHz 12@0 CH-High



|           |                         |               |            |
|-----------|-------------------------|---------------|------------|
| Test Site | WZ-SR6                  | Test Engineer | Lucas Wang |
| Test Date | 2024-09-10 ~ 2024-09-12 | Test Band     | Band 12/17 |

