

# TEST REPORT

FCC Test for TVJLPENN5E2  
Certification

**APPLICANT**  
LG Electronics Inc.

**REPORT NO.**  
HCT-RF-2503-FC054-R4

**DATE OF ISSUE**  
April 10, 2025

**Tested by**  
Kwon Jeong



**Technical Manager**  
Jong Seok Lee



Accredited by KOLAS, Republic of KOREA

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**Applicant**

**LG Electronics Inc.**

128, Yeoui-daero, Yeongdeungpo-gu, Seoul, Republic of Korea

**Product Name**

Telematics

**Model Name**

TVJLPENN5E2

**Date of Test**

March 17, 2025 ~ March 27, 2025

**FCC ID**

BEJTVJLPENN5E2

**Location of Test**

☒ Permanent Testing Lab ☐ On Site Testing

(Address: 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea)

**FCC Classification:**

Part 95L On Board Unit (CVO)

**Test Standard Used**

FCC Rule Part: § 95

**Test Results**

PASS

## REVISION HISTORY

The revision history for this test report is shown in table.

| Revision No. | Date of Issue  | Description                                                                                   |
|--------------|----------------|-----------------------------------------------------------------------------------------------|
| 0            | March 24, 2025 | Initial Release                                                                               |
| 1            | March 27, 2025 | - Revised the Geofencing Capability on page 5, 20.<br>(Supported → Not Supported)             |
| 2            | March 28, 2025 | - Revised the Report Title.<br>- Added the antenna configuration.<br>(Cyclic Delay Diversity) |
| 3            | April 01, 2025 | - Added the note value in Section 3.9.                                                        |
| 4            | April 10, 2025 | - Revised the Product Name.                                                                   |

## Notice

### Content

The measurements shown in this report were made in accordance with the procedures specified in CFR47 section § 2.947. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them.

HCT CO., LTD. Certifies that no party to this application has subject to a denial of Federal benefits that includes FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998, 21 U.S. C. 853(a)

The results shown in this test report only apply to the sample(s), as received, provided by the applicant, unless otherwise stated.

The test results have only been applied with the test methods required by the standard(s).

The laboratory is not accredited for the test results marked \*.

Information provided by the applicant is marked \*\*.

Test results provided by external providers are marked \*\*\*.

When confirmation of authenticity of this test report is required, please contact [www.hct.co.kr](http://www.hct.co.kr)

This test report provides test result(s) under the scope accredited by the Korea Laboratory Accreditation Scheme (KOLAS), which signed the ILAC-MRA.

(KOLAS (KS Q ISO/IEC 17025) Accreditation No. KT197)

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## MEASUREMENT REPORT

### 1. GENERAL INFORMATION

|                                  |                                                                                                                                                                                            |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Applicant Name:</b>           | LG Electronics Inc.                                                                                                                                                                        |
| <b>Address:</b>                  | 128, Yeoui-daero, Yeongdeungpo-gu, Seoul, Republic of Korea                                                                                                                                |
| <b>FCC ID:</b>                   | BEJTVJLPENN5E2                                                                                                                                                                             |
| <b>Application Type:</b>         | Certification                                                                                                                                                                              |
| <b>FCC Classification:</b>       | Part 95L On Board Unit (CVO)                                                                                                                                                               |
| <b>FCC Rule Part(s):</b>         | § 95                                                                                                                                                                                       |
| <b>EUT Type:</b>                 | Telematics                                                                                                                                                                                 |
| <b>Model(s):</b>                 | TVJLPENN5E2                                                                                                                                                                                |
| <b>Voltage :</b>                 | DC 12.0 V                                                                                                                                                                                  |
| <b>Supported Band:</b>           | 5895 MHz – 5925 MHz                                                                                                                                                                        |
| <b>Supported Bandwidth:</b>      | 10MHz, 20MHz                                                                                                                                                                               |
| <b>Supported Modulation:</b>     | QPSK, 16QAM, 64QAM                                                                                                                                                                         |
| <b>Supported Resource Block:</b> | BW 10MHz : 1 ~ 48 (Offset : 2 ~ 48)<br>BW 20MHz : 1 ~ 96 (Offset : 2 ~ 96)                                                                                                                 |
| <b>Geofencing Capability</b>     | Not Supported                                                                                                                                                                              |
| <b>Test Frequency:</b>           | BW 10MHz : 5900 MHz – 5920 MHz<br>BW 20MHz : 5905 MHz – 5915 MHz                                                                                                                           |
| <b>Date(s) of Tests:</b>         | March 17, 2025 ~ March 27, 2025                                                                                                                                                            |
| <b>Antenna</b>                   | 1. Ant 1: Roof pod antenna<br>2. Ant 2: Front antenna                                                                                                                                      |
| <b>Antenna Configurations</b>    | 1. SISO: Ant 1, Ant 2<br>2. MIMO: Ant 1+Ant 2 (Cyclic Delay Diversity).<br>3. MIMO (CDD) operates with a 3dB power back-off.                                                               |
| <b>Antenna Information</b>       | Please refer to the Antenna Specification document.                                                                                                                                        |
| <b>Serial number:</b>            | 501VIXV900165                                                                                                                                                                              |
| <b>Remark</b>                    | 1. This EUT is C-V2X OBU.<br>2. During testing, Channel & Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. |

## 1.1 MAXIMUM OUTPUT POWER

### Ant 1

| Bandwidth<br>(MHz) | Tx Frequency<br>(MHz) | Emission<br>Designator | Modulation | EIRP              |                     |
|--------------------|-----------------------|------------------------|------------|-------------------|---------------------|
|                    |                       |                        |            | Max. Power<br>(W) | Max. Power<br>(dBm) |
| 10                 | 5900 – 5920           | 8M73G7D                | QPSK       | 0.191             | 22.81               |
|                    |                       | 8M75W7D                | 16QAM      | 0.189             | 22.76               |
|                    |                       | 8M80W7D                | 64QAM      | 0.190             | 22.79               |
| 20                 | 5905 – 5915           | 17M4G7D                | QPSK       | 0.192             | 22.83               |
|                    |                       | 17M4W7D                | 16QAM      | 0.190             | 22.80               |
|                    |                       | 17M5W7D                | 64QAM      | 0.190             | 22.79               |

## 2. INTRODUCTION

### 2.1 DESCRIPTION OF EUT

Please refer to the C-V2X Test Report.

### 2.2 MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

### 2.3 TEST FACILITY

The Fully-anechoic chamber and conducted measurement facility used to collect the radiated data are located at the **74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea**

### 3. DESCRIPTION OF TESTS

#### 3.1 TEST PROCEDURE

| Test Description                     | Test Procedure Used                                                                                                       |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Occupied Bandwidth<br>26dB Bandwidth | - ANSI C63.26-2015 – Section 5.4                                                                                          |
| Conducted Band Edge                  | - ANSI C63.26-2015 – Section 5.7<br>- KDB 511808 D01 C-V2X v02 – Section 3.3                                              |
| Conducted Spurious Emissions         | - ANSI C63.26-2015 – Section 5.7<br>- KDB 511808 D01 C-V2X v02 – Section 3.3                                              |
| Conducted Transmit Power             | - ANSI C63.26-2015 - Section 5.2.4                                                                                        |
| Radiated Transmit Power              | - ANSI C63.26-2015 – Section 5.2.4<br>- KDB 971168 D01 v03r01 – Section 5.8<br>- KDB 511808 D01 C-V2X v02 – Section 3.2.1 |
| Radiated Spurious Emissions          | - ANSI C63.26-2015 – Section 5.5.3<br>- KDB 971168 D01 v03r01 – Section 5.8                                               |
| OBU Geofencing                       | - KDB 511808 D01 C-V2X v02 – Section 3.4                                                                                  |

## 3.2 RADIATED TRANSMIT POWER

### Test Overview

Radiated tests are performed in the Fully-anechoic chamber.

The equipment under test is placed on a non-conductive table 3-meters away from the receive antenna.

### Test Settings

1. Radiated power measurements are performed using the signal analyzer's "channel power" measurement capability for signals with continuous operation.
2. RBW = 1 – 5 % of the expected OBW, not to exceed 1 MHz
3. VBW  $\geq$  3 x RBW
4. Span = 1.5 times the OBW
5. No. of sweep points > 2 x span / RBW
6. Detector = RMS
7. Trigger is set to "free run" for signals with continuous operation with the sweep times set to "auto".
8. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation.
9. Trace mode = trace averaging (RMS) over 100 sweeps
10. The trace was allowed to stabilize

### Test Note

1. The turntable is rotated through 360 degrees, and the receiving antenna scans in order to determine the level of the maximized emission.
2. A half wave dipole is then substituted in place of the EUT. For emissions above 1 GHz, a horn antenna is substituted in place of the EUT. The substitute antenna is driven by a signal generator and the previously recorded signal was duplicated.

The power is calculated by the following formula;

$$P_d \text{ (dBm)} = P_g \text{ (dBm)} - \text{cable loss (dB)} + \text{antenna gain (dB)}$$

Where:  $P_d$  is the dipole equivalent power and  $P_g$  is the generator output power into the substitution antenna.

3. The maximum value is calculated by adding the forward power to the calibrated source plus its appropriate gain value.

These steps are repeated with the receiving antenna in both vertical and horizontal polarization. the difference between the gain of the horn and an isotropic antenna are taken into consideration

4. The EUT was tested in three orthogonal planes(X, Y, Z) and in all possible test configurations and positioning.
5. All measurements are performed as RMS average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

### 3.3 RADIATED SPURIOUS EMISSIONS

#### Test Overview

Radiated tests are performed in the Fully-anechoic chamber.

Radiated Spurious Emission Measurements at 3 meters by Substitution Method.

#### Test Settings

1. RBW = 1MHz
2. VBW  $\geq$  3 x RBW
3. Span = 1.5 times the OBW
4. No. of sweep points > 2 x span / RBW
5. Detector = 2nd Harmonic: RMS/ 3rd Harmonic: Peak
6. Trace mode = 2nd Harmonic: trace average/ 3rd Harmonic: Maxhold
7. Sweep time > Number of points in sweep x Transmitter period
8. The trace was allowed to stabilize
9. Test channel : Low/ Middle/ High
10. Frequency range : We are performed all frequency to 10<sup>th</sup> harmonics from 9 kHz.

#### Test Note

1. Measurements value show only up to 3 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
2. The EUT was tested in three orthogonal planes(X, Y, Z) and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the test data
3. For spurious emissions above 1 GHz, a horn antenna is substituted in place of the EUT. The substitute antenna is driven by a signal generator and the previously recorded signal was duplicated. The spurious emissions is calculated by the following formula;

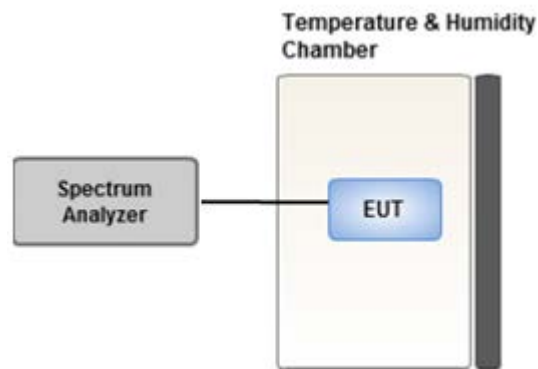
$$\text{Result}_{(\text{dBm})} = P_g_{(\text{dBm})} - \text{cable loss}_{(\text{dB})} + \text{antenna gain}_{(\text{dBi})}$$

Where:  $P_g$  is the generator output power into the substitution antenna.

If the fundamental frequency is below 1 GHz, RF output power has been converted to EIRP.

$$\text{EIRP}_{(\text{dBm})} = \text{ERP}_{(\text{dBm})} + 2.15$$

### 3.4 CONDUCTED TRANSMIT POWER



Test setup

#### Test Overview

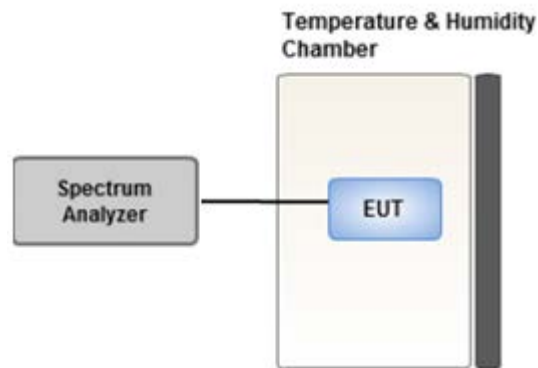
According to ANSI C63.26-2015 Section 5.2.1 when measuring the maximum RF output power from such devices, control over the EUT must be provided either through special test software (provided by manufacturer specifically for compliance testing, but not accessible by an end user) or through use of a base station emulator, communications test set, call box, or similar instrumentation that is capable of establishing a communications link with the EUT to enable control over variable parameters (e.g., output power, OBW, etc.).

In some cases, these instruments also include basic digital spectrum analyzer and/or power meter capabilities that can be utilized to measure the RF output power if the specified detectors and requirements can be realized and the measurement functions have been calibrated.

#### Test Procedure

1. The RF port of the EUT was connected to the Communication Tester via an RF cable.
2. Conducted average power was measured using a calibrated Radio Communication Tester.
3.  $EIRP_{(dBm)} = \text{Conducted Power}_{(dBm)} + \text{antenna gain}_{(dBi)}$

### 3.5 OCCUPIED BANDWIDTH & 26dB BANDWIDTH



#### Test setup

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

The EUT makes a call to the communication simulator.

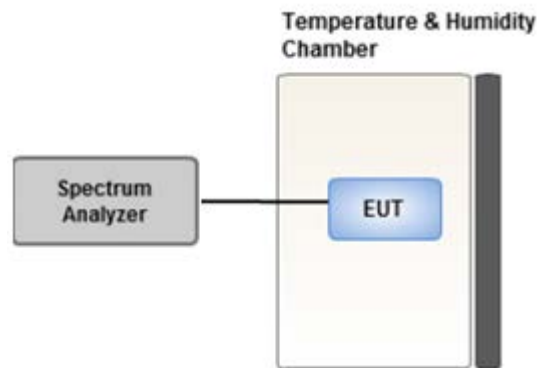
The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth

#### Test Settings

1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99 % occupied bandwidth and the 26 dB bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2.  $RBW = 1 - 5\%$  of the expected OBW
3.  $VBW \geq 3 \times RBW$
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. The trace was allowed to stabilize
8. If necessary, steps 2 – 7 were repeated after changing the RBW such that it would be within 1 – 5 % of the 99 % occupied bandwidth observed in Step 7

### 3.6 CONDUCTED SPURIOUS EMISSIONS



Test setup

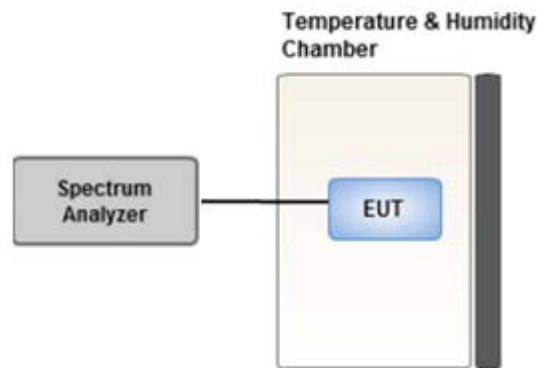
#### Test Overview

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 10th 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.

#### Test Settings

1. RBW = 1 MHz
2. VBW  $\geq$  3 MHz
3. Detector = RMS
4. Number of sweep points  $\geq 2 \times \text{Span/RBW}$
5. Trace mode = trace average
6. Sweep time > Number of points in sweep  $\times$  Transmitter period
7. The trace was allowed to stabilize

### 3.7 CONDUCTED BAND EDGE



Test setup

#### Test Overview

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 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.

#### Test Settings

1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. RBW = 1MHz (100kHz within  $\pm 1$  megahertz of the band edges)
4. VBW > 3 x RBW
5. Detector = RMS
6. Number of sweep points  $\geq 2 \times \text{Span/RBW}$
7. Trace mode = trace average
8. Sweep time > Number of points in sweep  $\times$  Transmitter period
9. The trace was allowed to stabilize

#### Test Notes

1. Ref Lvl Offset(dB) = Cable Loss + Ext. Attenuator + Duty Cycle Factor  
Result(dBm) = Measured value + Ref Lvl Offset
2. Duty Cycle factor(dB) = 0.315

### 3.8 OBU GEOFENCING

#### Test Overview

OBUs incorporating a geofencing mechanism to protect the appropriate areas around coordination zones listed in Table 3 may operate at higher power outside these zones per Table 1.

A geolocation mechanism is mandatory for OBUs with geofencing capability, filed under equipment class CVG.

| Location                              | Latitude   | Longitude   | Coordination<br>Zone<br>Radius (km) |
|---------------------------------------|------------|-------------|-------------------------------------|
| Anclote, Florida                      | 28°11'18"N | 82°47'40"W  | 45                                  |
| Cape Canaveral, Florida               | 28°28'54"N | 80°34'35"W  | 47                                  |
| Cape San Blas, Florida                | 29°40'31"N | 85°20'48"W  | 47                                  |
| Carabelle Field, Florida              | 29°50'38"N | 84°39'46"W  | 36                                  |
| Charleston, South Carolina            | 32°51'48"N | 79°57'48"W  | 16                                  |
| Edwards, California                   | 34°56'43"N | 117°54'50"W | 53                                  |
| Eglin, Florida                        | 30°37'51"N | 86°24'16"W  | 103                                 |
| Fort Walton Beach, Florida            | 30°24'53"N | 86°39'58"W  | 41                                  |
| Kennedy Space Center Florida          | 28°25'29"N | 80°39'51"W  | 47                                  |
| Key West, Florida                     | 24°33'09"N | 81°48'28"W  | 12                                  |
| Kirtland AFB, New Mexico              | 34°59'51"N | 106°28'54"W | 15                                  |
| Kokeepark, Hawaii                     | 22°07'35"N | 159°40'06"W | 5                                   |
| MacDill, Florida                      | 27°50'37"N | 82°30'04"W  | 47                                  |
| NV Test Training Range, Nevada        | 37°18'27"N | 116°10'24"W | 186                                 |
| Patuxent River, Maryland              | 38°16'55"N | 76°25'12"W  | 6                                   |
| Pearl Harbor, Hawaii                  | 21°21'17"N | 157°57'51"W | 16                                  |
| Pillar Point, California              | 37°29'52"N | 122°29'59"W | 36                                  |
| Poker Flat, Alaska                    | 65°07'36"N | 147°29'21"W | 13                                  |
| Port Canaveral, Florida               | 28°24'42"N | 80°36'17"W  | 19                                  |
| Port Hueneme, California              | 34°08'60"N | 119°12'24"W | 24                                  |
| Point Mugu, California                | 34°07'17"N | 119°09'1"W  | 18                                  |
| Saddlebunch Keys, Florida             | 24°38'51"N | 81°36'22"W  | 29                                  |
| San Diego, California                 | 32°43'00"N | 117°11'00"W | 11                                  |
| San Nicolas Island, California        | 33°14'47"N | 119°31'07"W | 195                                 |
| Tonopah Test Range, Nevada            | 37°44'00"N | 116°43'00"W | 2                                   |
| Vandenberg, California                | 34°34'58"N | 120°33'42"W | 55                                  |
| Venice, Florida                       | 27°04'37"N | 82°27'03"W  | 50                                  |
| Wallops Island, Virginia              | 37°51'23"N | 75°30'41"W  | 48                                  |
| White Sands Missile Range, New Mexico | 32°58'26"N | 106°23'43"W | 158                                 |
| Yuma, Arizona                         | 32°54'03"N | 114°23'10"W | 2                                   |

Table 1

### 3.9 WORST CASE(RADIATED TEST)

- The EUT was tested in three orthogonal planes(X, Y, Z) and in all possible test configurations and positioning.
- All simultaneous transmission scenarios of operation were investigated, and the test results showed no additional significant emissions relative to the least restrictive limit were observed.  
Therefore, only the worst case(stand-alone) results were reported.
- The worst case is reported with the EUT positioning, modulations, and paging service configurations shown in the test data.
- All RB sizes, offsets of operation were investigated and the worst case configuration results are reported.
- The Radiated Spurious Emissions requirement values show only up to 2 maximum emissions.  
Above 18GHz, only ambient noise is measured.
- Radiated Transmit Power :  
All antenna configurations of operation were investigated and the worst case configuration results are reported.
  1. Mode : Ant 1(SISO), Ant2(SISO), Ant 1+Ant 2(MIMO)
  2. Worst case : Ant 1(SISO)
- Radiated Spurious Emissions :  
All antenna configurations of operation were investigated and the worst case configuration results are reported.
  1. Mode : Ant 1(SISO), Ant2(SISO), Ant 1+Ant 2(MIMO)
  2. Worst case : Ant 1(SISO), Ant2(SISO)
- The operating modes of EUT are SISO(each Ant 1, Ant 2) and MIMO(CDD). In case of MIMO(CDD), it has 3 dB back off power.

[Ant 1 Worst case configuration]

| Test Description            | Modulation          | RB size | RB offset | Axis |
|-----------------------------|---------------------|---------|-----------|------|
| Radiated Transmit Power     | QPSK, 16QAM, 64QAM, | 1       | 2         | Y    |
| Radiated Spurious Emissions | QPSK                | 1       | 2         | X    |

[Ant 2 Worst case configuration]

| Test Description            | Modulation          | RB size | RB offset | Axis |
|-----------------------------|---------------------|---------|-----------|------|
| Radiated Transmit Power     | QPSK, 16QAM, 64QAM, | 1       | 2         | Y    |
| Radiated Spurious Emissions | QPSK                | 1       | 2         | X    |

[Ant 1&2(CDD) Worst case configuration]

| Test Description            | Modulation          | RB size | RB offset | Axis |
|-----------------------------|---------------------|---------|-----------|------|
| Radiated Transmit Power     | QPSK, 16QAM, 64QAM, | 1       | 2         | Y    |
| Radiated Spurious Emissions | QPSK                | 1       | 2         | X    |

### 3.10 WORST CASE(CONDUCTED TEST)

- All test requirements, except for conducted transmit power, were applied under the worst-case scenario.
- All modes of operation were investigated and the worst case configuration results are reported.
- All antenna configurations of operation were investigated and the worst case configuration results are reported.
  1. Mode : Ant 1(SISO), Ant2(SISO), Ant 1+Ant 2(MIMO)
  2. Worst case : Ant 1(SISO), Ant2(SISO)

[Worst case configuration]

| Test Description                     | Modulation                | Bandwidth<br>(MHz) | Frequency            | RB size | RB offset |
|--------------------------------------|---------------------------|--------------------|----------------------|---------|-----------|
| Occupied Bandwidth<br>26dB Bandwidth | QPSK,<br>16QAM,<br>64QAM, | 10, 20             | Mid                  | Full RB | 2         |
| Conducted Band Edge                  | QPSK                      | 10                 | Low                  | 1       | 2         |
|                                      |                           |                    | High                 | 1       | 48        |
|                                      |                           | 20                 | Low                  | 1       | 2         |
|                                      |                           |                    | High                 | 1       | 96        |
|                                      |                           | 10, 20             | Low,<br>High         | Full RB | 2         |
| Conducted Spurious Emissions         | QPSK                      | 10, 20             | Low,<br>Mid,<br>High | 1       | 2         |

#### 4. LIST OF TEST EQUIPMENT

| Equipment                                            | Model                     | Manufacture      | Serial No.  | Due to Calibration | Calibration Interval |
|------------------------------------------------------|---------------------------|------------------|-------------|--------------------|----------------------|
| RF Switching System                                  | Switch box(1.2 G HPF+LNA) | HCT CO., LTD.,   | F1L1        | 08/21/2025         | Annual               |
| RF Switching System                                  | Switch box(3.3 G HPF+LNA) | HCT CO., LTD.,   | F1L2        | 08/21/2025         | Annual               |
| RF Switching System                                  | Switch box(LNA)           | HCT CO., LTD.,   | F1L4        | 08/21/2025         | Annual               |
| RF Switching System                                  | Switch box(6 G HPF+LNA)   | HCT CO., LTD.,   | F1L7        | 08/21/2025         | Annual               |
| DC Power Supply                                      | E3632A                    | Agilent          | MY40010147  | 08/06/2025         | Annual               |
| Chamber                                              | SU-642                    | ESPEC            | 93008124    | 02/11/2026         | Annual               |
| Horn Antenna(1 ~ 18 GHz)                             | BBHA 9120D                | Schwarzbeck      | 147         | 08/17/2025         | Biennial             |
| Horn Antenna(1 ~ 18 GHz)                             | BBHA 9120D                | Schwarzbeck      | 9120D-1298  | 09/11/2025         | Biennial             |
| Horn Antenna (15 ~ 40 GHz)                           | BBHA 9170                 | Schwarzbeck      | BBHA9170342 | 09/20/2026         | Biennial             |
| Horn Antenna (15 ~ 40 GHz)                           | BBHA 9170                 | Schwarzbeck      | BBHA9170124 | 03/28/2025         | Biennial             |
| Power Amplifier                                      | CBL18265035               | CERNEX           | 22966       | 11/07/2025         | Annual               |
| Power Amplifier                                      | CBL26405040               | CERNEX           | 25956       | 02/19/2026         | Annual               |
| ATTENUATOR (20 dB)                                   | 8493C                     | Hewlett Packard  | 17280       | 04/17/2025         | Annual               |
| Spectrum Analyzer (10 Hz ~ 40 GHz)                   | FSV40                     | REOHDE & SCHWARZ | 100931      | 08/06/2025         | Annual               |
| Trilog Broadband Antenna                             | VULB9168                  | Schwarzbeck      | 895         | 08/28/2026         | Biennial             |
| Trilog Broadband Antenna                             | VULB9168                  | Schwarzbeck      | 1135        | 08/19/2026         | Biennial             |
| SIGNAL GENERATOR (100 kHz ~ 40 GHz)                  | SMB100A                   | REOHDE & SCHWARZ | 177633      | 07/26/2025         | Annual               |
| Signal Analyzer (5 Hz ~ 40.0 GHz)                    | N9030B                    | KEYSIGHT         | MY55480167  | 05/17/2025         | Annual               |
| FCC LTE Mobile Conducted RF Automation Test Software | -                         | HCT CO., LTD.,   | -           | -                  | -                    |

Note:

- Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.
- Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5 (Version : 2017).

## 5. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4:2014.

All measurement uncertainty values are shown with a coverage factor of  $k=2$  to indicate a 95 % level of confidence. The measurement data shown herein meets or exceeds the  $U_{\text{CISPR}}$  measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

| Parameter                              | Expanded Uncertainty ( $\pm$ dB)           |
|----------------------------------------|--------------------------------------------|
| Radiated Disturbance (9 kHz ~ 30 MHz)  | 4.36 (Confidence level about 95 %, $k=2$ ) |
| Radiated Disturbance (30 MHz ~ 1 GHz)  | 5.68 (Confidence level about 95 %, $k=2$ ) |
| Radiated Disturbance (1 GHz ~ 18 GHz)  | 5.75 (Confidence level about 95 %, $k=2$ ) |
| Radiated Disturbance (18 GHz ~ 40 GHz) | 5.82 (Confidence level about 95 %, $k=2$ ) |
| Radiated Disturbance (Above 40 GHz)    | 5.58 (Confidence level about 95 %, $k=2$ ) |

## 6. SUMMARY OF TEST RESULTS

Note. The decision rule applies ‘simple acceptance’

### 6.1 Test Condition : Conducted Test

| Test Description             | Standard  | Test Limit                                                                                                                                                                                                                                                             | Test Result |
|------------------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Conducted Transmit Power     | § 2.1046  | N/A                                                                                                                                                                                                                                                                    | PASS        |
| Occupied & 26dB Bandwidth    | § 95.3203 | Permitted to operate in the 5895-5925 MHz band.<br>(5895 MHz ~ 5925MHz)                                                                                                                                                                                                | PASS        |
| Conducted Band Edge          | § 95.3205 | (1) -16 dBm/100 kHz within $\pm 1$ MHz of the band edges.<br>(2) -13 dBm/MHz within $\pm 1$ MHz to $\pm 5$ megahertz of the band edges.<br>(3) -16 dBm/MHz within $\pm 5$ MHz to $\pm 30$ MHz of the band edges.<br>(4) -28 dBm/MHz beyond 30 MHz from the band edges. | PASS        |
| Conducted Spurious Emissions | § 95.3205 | < -28 dBm/MHz                                                                                                                                                                                                                                                          | PASS        |

### 6.2 Test Condition : Radiated Test

| Test Description            | Standard                               | Test Limit                                                                                                                                                                     | Test Result                        |
|-----------------------------|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| Radiated Transmit Power     | § 95.3204(b)                           | Channel Bandwidth 10MHz<br>1. 5895-5905MHz: 23 dBm/BW<br>2. 5905-5925MHz: 33 dBm/BW<br><br>Channel Bandwidth 20MHz<br>1. 5895-5915MHz: 23 dBm/BW<br>2. 5905-5925MHz: 33 dBm/BW | PASS                               |
| Radiated Spurious Emissions | § 95.3205                              | < -28 dBm/MHz                                                                                                                                                                  | PASS                               |
| OBU Geofencing              | KDB 511808 D01 C-V2X v02 – Section 3.4 | Refer to Section 3.8 of the report.                                                                                                                                            | Not Tested<br>(Note <sup>1</sup> ) |

#### Note:

1. This product does not support geofencing capability.

## 7. SAMPLE CALCULATION

| Ch./ Freq. |            | Measured<br>Level (dBm) | Substitute<br>Level (dBm) | Ant. Gain<br>(dBi) | C.L  | Pol. | EIRP  |       |
|------------|------------|-------------------------|---------------------------|--------------------|------|------|-------|-------|
| channel    | Freq.(MHz) |                         |                           |                    |      |      | W     | dBm   |
| 20175      | 1,732.50   | -15.75                  | 18.45                     | 9.90               | 1.76 | H    | 0.456 | 26.59 |

Equivalent Isotropic Radiated Power(dBm) = Substitute Level(dBm) + Ant. Gain(dBi) – Cable Loss(dB)

- 1) The EUT mounted on a non-conductive turntable is 2.5 meter above test site ground level.
- 2) During the test, the turn table is rotated until the maximum signal is found.
- 3) Record the field strength meter's level.
- 4) Replace the EUT with dipole/Horn antenna that is connected to a calibrated signal generator.
- 5) Increase the signal generator output till the field strength meter's level is equal to the item (3).
- 6) The signal generator output level with Ant. Gain and cable loss are the rating of equivalent isotropic radiated power.

### QPSK Modulation

Emission Designator = 4M48G7D

BW = 4.48 MHz

G = Phase Modulation

7 = Quantized/Digital Info

D = Data transmission; telemetry; telecommand

### QAM Modulation

Emission Designator = 4M48W7D

BW = 4.48 MHz

W = Amplitude/Angle Modulated

7 = Quantized/Digital Info

D = Data transmission; telemetry; telecommand

## 8. TEST DATA (Ant 1)

### 8.1 RADIATED TRANSMIT POWER

| Freq<br>(MHz) | Bandwidth | Modulation | Measured       | Substitute     | Ant.          | C.L  | Pol | Limit | Result |       |
|---------------|-----------|------------|----------------|----------------|---------------|------|-----|-------|--------|-------|
|               |           |            | Level<br>(dBm) | Level<br>(dBm) | Gain<br>(dBi) |      |     | dBm   | W      | dBm   |
| 5900          | 10 MHz    | QPSK       | -34.55         | 15.14          | 11.47         | 4.05 | H   | < 23  | 0.180  | 22.56 |
|               |           | 16-QAM     | -34.57         | 15.12          | 11.47         | 4.05 | H   |       | 0.180  | 22.54 |
|               |           | 64-QAM     | -34.56         | 15.13          | 11.47         | 4.05 | H   |       | 0.180  | 22.55 |
| 5910          |           | QPSK       | -34.39         | 15.40          | 11.46         | 4.05 | H   | < 33  | 0.191  | 22.81 |
|               |           | 16-QAM     | -34.62         | 15.17          | 11.46         | 4.05 | H   |       | 0.181  | 22.58 |
|               |           | 64-QAM     | -34.41         | 15.38          | 11.46         | 4.05 | H   |       | 0.190  | 22.79 |
| 5920          |           | QPSK       | -34.41         | 15.37          | 11.46         | 4.05 | H   | < 33  | 0.190  | 22.78 |
|               |           | 16-QAM     | -34.43         | 15.35          | 11.46         | 4.05 | H   |       | 0.189  | 22.76 |
|               |           | 64-QAM     | -34.43         | 15.35          | 11.46         | 4.05 | H   |       | 0.189  | 22.76 |

| Freq<br>(MHz) | Bandwidth | Modulation | Measured       | Substitute     | Ant.          | C.L  | Pol | Limit | Result |       |
|---------------|-----------|------------|----------------|----------------|---------------|------|-----|-------|--------|-------|
|               |           |            | Level<br>(dBm) | Level<br>(dBm) | Gain<br>(dBi) |      |     | dBm   | W      | dBm   |
| 5905          | 20 MHz    | QPSK       | -34.57         | 15.17          | 11.47         | 4.05 | H   | < 23  | 0.181  | 22.58 |
|               |           | 16-QAM     | -34.61         | 15.13          | 11.47         | 4.05 | H   |       | 0.180  | 22.54 |
|               |           | 64-QAM     | -34.60         | 15.14          | 11.47         | 4.05 | H   |       | 0.180  | 22.55 |
| 5910          |           | QPSK       | -34.37         | 15.42          | 11.46         | 4.05 | H   | < 33  | 0.192  | 22.83 |
|               |           | 16-QAM     | -34.40         | 15.39          | 11.46         | 4.05 | H   |       | 0.190  | 22.80 |
|               |           | 64-QAM     | -34.41         | 15.38          | 11.46         | 4.05 | H   |       | 0.190  | 22.79 |
| 5915          |           | QPSK       | -34.42         | 15.37          | 11.46         | 4.05 | H   | < 33  | 0.189  | 22.78 |
|               |           | 16-QAM     | -34.45         | 15.34          | 11.46         | 4.05 | H   |       | 0.188  | 22.75 |
|               |           | 64-QAM     | -34.44         | 15.35          | 11.46         | 4.05 | H   |       | 0.189  | 22.76 |

## 8.2 RADIATED SPURIOUS EMISSIONS

- ☐ Bandwidth: 10 MHz  
☐ Modulation: QPSK  
☐ Distance: 3 meters

| Freq (MHz) | Measured Frequency (MHz) | Measured Level (dBm) | Ant. Gain (dBi) | Substitute Level (dBm) | C.L  | Pol | Result (dBm) | Limit (dBm) |
|------------|--------------------------|----------------------|-----------------|------------------------|------|-----|--------------|-------------|
| 5900       | 11,800.00                | -40.04               | 13.02           | -39.18                 | 6.00 | H   | -32.16       | -28.00      |
|            | 17,700.00                | -70.55               | 16.62           | -42.27                 | 7.49 | V   | -33.14       | -28.00      |
| 5910       | 11,820.00                | -40.73               | 13.01           | -39.37                 | 5.92 | V   | -32.28       | -28.00      |
|            | 17,730.00                | -71.34               | 16.45           | -42.17                 | 7.51 | H   | -33.23       | -28.00      |
| 5920       | 11,840.00                | -42.00               | 13.00           | -40.14                 | 5.97 | V   | -33.11       | -28.00      |
|            | 17,760.00                | -71.07               | 16.29           | -41.77                 | 7.54 | V   | -33.02       | -28.00      |

■ Bandwidth: 20 MHz  
 ■ Modulation: QPSK  
 ■ Distance: 3 meters

| Freq (MHz) | Measured Frequency (MHz) | Measured Level (dBm) | Ant. Gain (dBi) | Substitute Level (dBm) | C.L  | Pol | Result (dBm) | Limit (dBm) |
|------------|--------------------------|----------------------|-----------------|------------------------|------|-----|--------------|-------------|
| 5905       | 11,810.00                | -39.83               | 13.02           | -38.86                 | 5.94 | V   | -31.78       | -28.00      |
|            | 17,715.00                | -71.36               | 16.54           | -42.26                 | 7.47 | V   | -33.19       | -28.00      |
| 5910       | 11,820.00                | -40.49               | 13.01           | -39.13                 | 5.92 | V   | -32.04       | -28.00      |
|            | 17,730.00                | -71.13               | 16.45           | -41.96                 | 7.51 | H   | -33.02       | -28.00      |
| 5915       | 11,830.00                | -40.58               | 13.01           | -38.79                 | 5.93 | V   | -31.71       | -28.00      |
|            | 17,745.00                | -71.94               | 16.36           | -42.19                 | 7.56 | H   | -33.38       | -28.00      |

### 8.3 CONDUCTED TRANSMIT POWER

| Bandwidth | Modulation | RB Size | RB Offset | Conducted Transmit Power<br>(dBm) |          |          |
|-----------|------------|---------|-----------|-----------------------------------|----------|----------|
|           |            |         |           | 5900 MHz                          | 5910 MHz | 5920 MHz |
| 10 MHz    | QPSK       | 1       | 2         | 23.04                             | 22.94    | 22.53    |
|           |            | 1       | 25        | 23.05                             | 22.82    | 22.45    |
|           |            | 1       | 48        | 22.89                             | 22.63    | 22.33    |
|           |            | 25      | 2         | 22.19                             | 21.95    | 21.64    |
|           |            | 25      | 12        | 22.14                             | 21.91    | 21.61    |
|           |            | 25      | 23        | 22.08                             | 21.88    | 21.54    |
|           |            | 48      | 2         | 22.16                             | 21.92    | 21.56    |
|           | 16QAM      | 1       | 2         | 22.04                             | 21.80    | 21.45    |
|           |            | 1       | 25        | 21.85                             | 21.60    | 21.24    |
|           |            | 1       | 48        | 21.82                             | 21.51    | 21.26    |
|           |            | 25      | 2         | 21.23                             | 20.97    | 20.68    |
|           |            | 25      | 12        | 21.20                             | 20.93    | 20.68    |
|           |            | 25      | 23        | 21.12                             | 20.86    | 20.57    |
|           |            | 48      | 2         | 21.19                             | 20.94    | 20.54    |
|           | 64QAM      | 1       | 2         | 21.18                             | 20.92    | 20.60    |
|           |            | 1       | 25        | 21.02                             | 20.70    | 20.39    |
|           |            | 1       | 48        | 20.98                             | 20.64    | 19.70    |
|           |            | 25      | 2         | 20.29                             | 19.97    | 20.01    |
|           |            | 25      | 12        | 20.28                             | 19.99    | 19.71    |
|           |            | 25      | 23        | 20.12                             | 19.87    | 19.61    |
|           |            | 48      | 2         | 20.23                             | 19.90    | 19.62    |

| Bandwidth | Modulation | RB Size | RB Offset | Conducted Transmit Power<br>(dBm) |
|-----------|------------|---------|-----------|-----------------------------------|
|           |            |         |           | 5910 MHz                          |
| 20 MHz    | QPSK       | 1       | 2         | 23.05                             |
|           |            | 1       | 50        | 22.73                             |
|           |            | 1       | 96        | 22.46                             |
|           |            | 48      | 2         | 22.16                             |
|           |            | 48      | 24        | 22.02                             |
|           |            | 48      | 47        | 21.84                             |
|           |            | 96      | 2         | 22.01                             |
|           | 16QAM      | 1       | 2         | 21.98                             |
|           |            | 1       | 50        | 21.70                             |
|           |            | 1       | 96        | 21.36                             |
|           |            | 48      | 2         | 21.16                             |
|           |            | 48      | 24        | 20.39                             |
|           |            | 48      | 47        | 20.82                             |
|           |            | 96      | 2         | 20.97                             |
|           | 64QAM      | 1       | 2         | 21.13                             |
|           |            | 1       | 50        | 20.85                             |
|           |            | 1       | 96        | 20.53                             |
|           |            | 48      | 2         | 20.12                             |
|           |            | 48      | 24        | 20.00                             |
|           |            | 48      | 47        | 19.77                             |
|           |            | 96      | 2         | 20.03                             |

#### 8.4 OCCUPIED BANDWIDTH & 26dB BANDWIDTH

| Band Width<br>(MHz) | Frequency<br>(MHz) | Modulation | Resource<br>Block Size | Resource<br>Block Offset | OBW<br>(MHz) | 26dB<br>(MHz) | Limit<br>(MHz) |
|---------------------|--------------------|------------|------------------------|--------------------------|--------------|---------------|----------------|
| 10                  | 5910.0             | QPSK       | 25                     | 0                        | 8.7275       | 9.665         | < 10           |
|                     |                    | 16QAM      |                        |                          | 8.7519       | 9.667         | < 10           |
|                     |                    | 64QAM      |                        |                          | 8.8013       | 9.521         | < 10           |
| 20                  |                    | QPSK       | 50                     | 0                        | 17.368       | 18.88         | < 20           |
|                     |                    | 16QAM      |                        |                          | 17.396       | 19.03         | < 20           |
|                     |                    | 64QAM      |                        |                          | 17.456       | 19.19         | < 20           |

**Note:**

1. In order to simplify the report, attached plots were only the Widest BW channel.
2. Plots of the EUT's Occupied Bandwidth are shown Page 42 ~ 47.

## 8.5 CONDUCTED SPURIOUS EMISSIONS

| Band Width (MHz) | Test Frequency (MHz) | Measured Frequency (GHz) | Factor (dB) | Measured Value (dBm) | Result (dBm) | Limit (dBm) |
|------------------|----------------------|--------------------------|-------------|----------------------|--------------|-------------|
| 10               | 5900.0               | 11.7919                  | 24.216      | -69.716              | -45.500      | -28.00      |
|                  | 5910.0               | 11.8117                  | 24.216      | -69.490              | -45.274      |             |
|                  | 5920.0               | 11.8483                  | 24.216      | -69.705              | -45.489      |             |
| 20               | 5905.0               | 11.7928                  | 24.216      | -69.173              | -44.957      |             |
|                  | 5910.0               | 11.8027                  | 24.216      | -68.732              | -44.516      |             |
|                  | 5915.0               | 11.8465                  | 24.216      | -70.022              | -45.806      |             |

### Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 48 ~ 59.
2. Result (dBm) = Measured Value (dBm) + Factor (dB)
3. Factor (dB) = Cable Loss + Attenuator + Duty Cycle factor

| Frequency Range (GHz) | Factor [dB] |
|-----------------------|-------------|
| 0.03 – 1              | 20.370      |
| 1 – 5                 | 23.076      |
| 5 – 10                | 23.691      |
| 10 – 15               | 24.216      |
| 15 – 20               | 24.589      |
| Above 20(26.5)        | 25.231      |

4. Duty Cycle factor(dB) = 0.315

## 8.6 CONDUCTED BAND EDGE

### [Lower Band Edge]

| Band Width (MHz) | Test Frequency (MHz) | Test Frequency Range (MHz)         | Resource Block Size | Resource Block Offset | Measured Frequency (MHz) | Result (dBm) | Limit (dBm) |
|------------------|----------------------|------------------------------------|---------------------|-----------------------|--------------------------|--------------|-------------|
| 10               | 5900                 | Within $\pm 1$ MHz                 | Full                | Lowest                | 5894.320                 | -36.618      | -16.00      |
|                  |                      | Within $\pm 1$ MHz to $\pm 5$ MHz  | Full                | Lowest                | 5894.000                 | -27.322      | -13.00      |
|                  |                      | Within $\pm 5$ MHz to $\pm 30$ MHz | Full                | Lowest                | 5890.000                 | -32.217      | -16.00      |
|                  |                      | Beyond 30 megahertz                | Full                | Lowest                | 5862.980                 | -54.408      | -28.00      |
|                  |                      | Within $\pm 1$ MHz                 | 1                   | Lowest                | 5895.000                 | -33.657      | -16.00      |
|                  |                      | Within $\pm 1$ MHz to $\pm 5$ MHz  | 1                   | Lowest                | 5894.000                 | -27.674      | -13.00      |
|                  |                      | Within $\pm 5$ MHz to $\pm 30$ MHz | 1                   | Lowest                | 5890.000                 | -39.984      | -16.00      |
|                  |                      | Beyond 30 megahertz                | 1                   | Lowest                | 5864.660                 | -52.658      | -28.00      |
| 20               | 5905                 | Within $\pm 1$ MHz                 | Full                | Lowest                | 5894.904                 | -40.254      | -16.00      |
|                  |                      | Within $\pm 1$ MHz to $\pm 5$ MHz  | Full                | Lowest                | 5892.700                 | -30.808      | -13.00      |
|                  |                      | Within $\pm 5$ MHz to $\pm 30$ MHz | Full                | Lowest                | 5887.125                 | -33.343      | -16.00      |
|                  |                      | Beyond 30 megahertz                | Full                | Lowest                | 5865.000                 | -54.303      | -28.00      |
|                  |                      | Within $\pm 1$ MHz                 | 1                   | Lowest                | 5894.996                 | -46.281      | -16.00      |
|                  |                      | Within $\pm 1$ MHz to $\pm 5$ MHz  | 1                   | Lowest                | 5894.000                 | -41.651      | -13.00      |
|                  |                      | Within $\pm 5$ MHz to $\pm 30$ MHz | 1                   | Lowest                | 5889.975                 | -46.523      | -16.00      |
|                  |                      | Beyond 30 megahertz                | 1                   | Lowest                | 5857.900                 | -53.646      | -28.00      |

#### Note:

1. Plots of the EUT's Band Edge are shown Page 60 ~ 91.

## [Upper Band Edge]

| Band Width<br>(MHz) | Test<br>Frequency<br>(MHz) | Test Frequency Range<br>(MHz)      | Resource<br>Block Size | Resource<br>Block Offset | Measured<br>Frequency<br>(MHz) | Result<br>(dBm) | Limit<br>(dBm) |
|---------------------|----------------------------|------------------------------------|------------------------|--------------------------|--------------------------------|-----------------|----------------|
| 10                  | 5920                       | Within $\pm 1$ MHz                 | Full                   | Highest                  | 5925.004                       | -35.161         | -16.00         |
|                     |                            | Within $\pm 1$ MHz to $\pm 5$ MHz  | Full                   | Highest                  | 5926.000                       | -25.898         | -13.00         |
|                     |                            | Within $\pm 5$ MHz to $\pm 30$ MHz | Full                   | Highest                  | 5930.025                       | -32.405         | -16.00         |
|                     |                            | Beyond 30 megahertz                | Full                   | Highest                  | 5955.080                       | -53.629         | -28.00         |
|                     |                            | Within $\pm 1$ MHz                 | 1                      | Highest                  | 5925.000                       | -29.933         | -16.00         |
|                     |                            | Within $\pm 1$ MHz to $\pm 5$ MHz  | 1                      | Highest                  | 5926.000                       | -22.175         | -13.00         |
|                     |                            | Within $\pm 5$ MHz to $\pm 30$ MHz | 1                      | Highest                  | 5930.000                       | -39.827         | -16.00         |
|                     |                            | Beyond 30 megahertz                | 1                      | Highest                  | 5962.760                       | -52.883         | -28.00         |
| 20                  | 5925                       | Within $\pm 1$ MHz                 | Full                   | Highest                  | 5926.896                       | -41.222         | -16.00         |
|                     |                            | Within $\pm 1$ MHz to $\pm 5$ MHz  | Full                   | Highest                  | 5927.224                       | -31.952         | -13.00         |
|                     |                            | Within $\pm 5$ MHz to $\pm 30$ MHz | Full                   | Highest                  | 5930.075                       | -34.566         | -16.00         |
|                     |                            | Beyond 30 megahertz                | Full                   | Highest                  | 5955.100                       | -54.520         | -28.00         |
|                     |                            | Within $\pm 1$ MHz                 | 1                      | Highest                  | 5925.000                       | -40.833         | -16.00         |
|                     |                            | Within $\pm 1$ MHz to $\pm 5$ MHz  | 1                      | Highest                  | 5926.000                       | -41.216         | -13.00         |
|                     |                            | Within $\pm 5$ MHz to $\pm 30$ MHz | 1                      | Highest                  | 5931.375                       | -46.892         | -16.00         |
|                     |                            | Beyond 30 megahertz                | 1                      | Highest                  | 5961.700                       | -53.839         | -28.00         |

**Note:**

1. Plots of the EUT's Band Edge are shown Page 60 ~ 91.

## 9. TEST DATA (Ant 2)

### 9.1 RADIATED SPURIOUS EMISSIONS

- ▣ Bandwidth: 10 MHz
- ▣ Modulation: QPSK
- ▣ Distance: 3 meters

| Freq (MHz) | Measured Frequency (MHz) | Measured Level (dBm) | Ant. Gain (dBi) | Substitute Level (dBm) | C.L  | Pol | Result (dBm) | Limit (dBm) |
|------------|--------------------------|----------------------|-----------------|------------------------|------|-----|--------------|-------------|
| 5900       | 11,800.00                | -49.01               | 13.02           | -48.15                 | 6.00 | V   | -41.13       | -28.00      |
|            | 17,700.00                | -70.75               | 16.62           | -42.47                 | 7.49 | V   | -33.34       | -28.00      |
| 5910       | 11,820.00                | -49.04               | 13.01           | -47.68                 | 5.92 | V   | -40.59       | -28.00      |
|            | 17,730.00                | -71.22               | 16.45           | -42.05                 | 7.51 | V   | -33.11       | -28.00      |
| 5920       | 11,840.00                | -48.48               | 13.00           | -46.62                 | 5.97 | V   | -39.59       | -28.00      |
|            | 17,760.00                | -71.45               | 16.29           | -42.15                 | 7.54 | V   | -33.40       | -28.00      |

■ Bandwidth: 20 MHz  
 ■ Modulation: QPSK  
 ■ Distance: 3 meters

| Freq (MHz) | Measured Frequency (MHz) | Measured Level (dBm) | Ant. Gain (dBi) | Substitute Level (dBm) | C.L  | Pol | Result (dBm) | Limit (dBm) |
|------------|--------------------------|----------------------|-----------------|------------------------|------|-----|--------------|-------------|
| 5905       | 11,810.00                | -49.35               | 13.02           | -48.38                 | 5.94 | V   | -41.30       | -28.00      |
|            | 17,715.00                | -71.42               | 16.54           | -42.32                 | 7.47 | H   | -33.25       | -28.00      |
| 5910       | 11,820.00                | -51.16               | 13.01           | -49.80                 | 5.92 | V   | -42.71       | -28.00      |
|            | 17,730.00                | -72.21               | 16.45           | -43.04                 | 7.51 | H   | -34.10       | -28.00      |
| 5915       | 11,830.00                | -49.63               | 13.01           | -47.84                 | 5.93 | V   | -40.76       | -28.00      |
|            | 17,745.00                | -71.59               | 16.36           | -41.84                 | 7.56 | H   | -33.03       | -28.00      |

## 9.2 CONDUCTED TRANSMIT POWER

| Bandwidth | Modulation | RB Size | RB Offset | Conducted Transmit Power<br>(dBm) |          |          |
|-----------|------------|---------|-----------|-----------------------------------|----------|----------|
|           |            |         |           | 5900 MHz                          | 5910 MHz | 5920 MHz |
| 10 MHz    | QPSK       | 1       | 2         | 22.86                             | 23.10    | 23.00    |
|           |            | 1       | 25        | 23.01                             | 23.19    | 23.13    |
|           |            | 1       | 48        | 22.98                             | 23.21    | 23.27    |
|           |            | 25      | 2         | 21.96                             | 22.17    | 22.29    |
|           |            | 25      | 12        | 22.10                             | 22.11    | 22.27    |
|           |            | 25      | 23        | 22.02                             | 22.19    | 22.27    |
|           |            | 48      | 2         | 22.10                             | 22.26    | 22.13    |
|           | 16QAM      | 1       | 2         | 21.72                             | 21.88    | 21.73    |
|           |            | 1       | 25        | 21.87                             | 21.85    | 21.82    |
|           |            | 1       | 48        | 22.01                             | 22.18    | 21.87    |
|           |            | 25      | 2         | 21.03                             | 21.26    | 21.21    |
|           |            | 25      | 12        | 21.12                             | 21.17    | 21.24    |
|           |            | 25      | 23        | 21.17                             | 21.26    | 21.27    |
|           |            | 48      | 2         | 21.00                             | 21.27    | 21.13    |
|           | 64QAM      | 1       | 2         | 20.76                             | 20.88    | 21.24    |
|           |            | 1       | 25        | 20.74                             | 20.93    | 21.28    |
|           |            | 1       | 48        | 20.89                             | 21.15    | 21.26    |
|           |            | 25      | 2         | 19.92                             | 20.20    | 20.24    |
|           |            | 25      | 12        | 20.00                             | 20.23    | 20.29    |
|           |            | 25      | 23        | 20.10                             | 20.09    | 20.26    |
|           |            | 48      | 2         | 20.11                             | 20.26    | 20.27    |

| Bandwidth | Modulation | RB Size | RB Offset | Conducted Transmit Power<br>(dBm) |
|-----------|------------|---------|-----------|-----------------------------------|
|           |            |         |           | 5910 MHz                          |
| 20 MHz    | QPSK       | 1       | 2         | 23.01                             |
|           |            | 1       | 50        | 22.99                             |
|           |            | 1       | 96        | 23.28                             |
|           |            | 48      | 2         | 22.22                             |
|           |            | 48      | 24        | 22.27                             |
|           |            | 48      | 47        | 22.27                             |
|           |            | 96      | 2         | 22.22                             |
|           | 16QAM      | 1       | 2         | 21.98                             |
|           |            | 1       | 50        | 22.05                             |
|           |            | 1       | 96        | 22.03                             |
|           |            | 48      | 2         | 21.29                             |
|           |            | 48      | 24        | 21.18                             |
|           |            | 48      | 47        | 21.21                             |
|           |            | 96      | 2         | 21.25                             |
|           | 64QAM      | 1       | 2         | 20.90                             |
|           |            | 1       | 50        | 20.96                             |
|           |            | 1       | 96        | 21.04                             |
|           |            | 48      | 2         | 20.11                             |
|           |            | 48      | 24        | 20.19                             |
|           |            | 48      | 47        | 20.23                             |
|           |            | 96      | 2         | 20.19                             |

### 9.3 OCCUPIED BANDWIDTH & 26dB BANDWIDTH

| Band Width<br>(MHz) | Frequency<br>(MHz) | Modulation | Resource<br>Block Size | Resource<br>Block Offset | OBW<br>(MHz) | 26dB<br>(MHz) | Limit<br>(MHz) |
|---------------------|--------------------|------------|------------------------|--------------------------|--------------|---------------|----------------|
| 10                  | 5910.0             | QPSK       | 25                     | 0                        | 8.7528       | 9.612         | < 10           |
|                     |                    | 16QAM      |                        |                          | 8.7551       | 9.603         | < 10           |
|                     |                    | 64QAM      |                        |                          | 8.8335       | 9.845         | < 10           |
| 20                  |                    | QPSK       | 50                     | 0                        | 17.373       | 18.95         | < 20           |
|                     |                    | 16QAM      |                        |                          | 17.402       | 18.97         | < 20           |
|                     |                    | 64QAM      |                        |                          | 17.473       | 19.21         | < 20           |

**Note:**

1. In order to simplify the report, attached plots were only the Widest BW channel.
2. Plots of the EUT's Occupied Bandwidth are shown Page 93 ~ 98.

#### 9.4 CONDUCTED SPURIOUS EMISSIONS

| Band Width (MHz) | Test Frequency (MHz) | Measured Frequency (GHz) | Factor (dB) | Measured Value (dBm) | Result (dBm) | Limit (dBm) |
|------------------|----------------------|--------------------------|-------------|----------------------|--------------|-------------|
| 10               | 5900.0               | 5.5297                   | 25.891      | -73.898              | -48.007      | -28.00      |
|                  | 5910.0               | 7.1619                   | 25.891      | -73.747              | -47.856      |             |
|                  | 5920.0               | 7.1818                   | 25.891      | -74.098              | -48.207      |             |
| 20               | 5905.0               | 5.5297                   | 25.891      | -72.389              | -46.498      |             |
|                  | 5910.0               | 5.5297                   | 25.891      | -72.923              | -47.032      |             |
|                  | 5915.0               | 5.5297                   | 25.891      | -72.966              | -47.075      |             |

#### Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 99 ~ 110.
2. Result (dBm) = Measured Value (dBm) + Factor (dB)
3. Factor (dB) = Cable Loss + Attenuator + Duty Cycle factor

| Frequency Range (GHz) | Factor [dB] |
|-----------------------|-------------|
| 0.03 – 1              | 22.570      |
| 1 – 5                 | 25.276      |
| 5 – 10                | 25.891      |
| 10 – 15               | 26.416      |
| 15 – 20               | 26.789      |
| Above 20(26.5)        | 27.431      |

4. Duty Cycle factor(dB) = 0.315

## 9.5 CONDUCTED BAND EDGE

### [Lower Band Edge]

| Band Width (MHz) | Test Frequency (MHz) | Test Frequency Range (MHz)         | Resource Block Size | Resource Block Offset | Measured Frequency (MHz) | Result (dBm) | Limit (dBm) |
|------------------|----------------------|------------------------------------|---------------------|-----------------------|--------------------------|--------------|-------------|
| 10               | 5900                 | Within $\pm 1$ MHz                 | Full                | Lowest                | 5895.000                 | -32.400      | -16.00      |
|                  |                      | Within $\pm 1$ MHz to $\pm 5$ MHz  | Full                | Lowest                | 5894.000                 | -24.209      | -13.00      |
|                  |                      | Within $\pm 5$ MHz to $\pm 30$ MHz | Full                | Lowest                | 5889.975                 | -29.255      | -16.00      |
|                  |                      | Beyond 30 megahertz                | Full                | Lowest                | 5863.280                 | -51.988      | -28.00      |
|                  |                      | Within $\pm 1$ MHz                 | 1                   | Lowest                | 5895.000                 | -32.149      | -16.00      |
|                  |                      | Within $\pm 1$ MHz to $\pm 5$ MHz  | 1                   | Lowest                | 5894.000                 | -27.041      | -13.00      |
|                  |                      | Within $\pm 5$ MHz to $\pm 30$ MHz | 1                   | Lowest                | 5889.975                 | -39.388      | -16.00      |
|                  |                      | Beyond 30 megahertz                | 1                   | Lowest                | 5863.960                 | -51.433      | -28.00      |
| 20               | 5905                 | Within $\pm 1$ MHz                 | Full                | Lowest                | 5894.848                 | -39.035      | -16.00      |
|                  |                      | Within $\pm 1$ MHz to $\pm 5$ MHz  | Full                | Lowest                | 5894.000                 | -29.280      | -13.00      |
|                  |                      | Within $\pm 5$ MHz to $\pm 30$ MHz | Full                | Lowest                | 5888.525                 | -31.251      | -16.00      |
|                  |                      | Beyond 30 megahertz                | Full                | Lowest                | 5864.980                 | -49.023      | -28.00      |
|                  |                      | Within $\pm 1$ MHz                 | 1                   | Lowest                | 5894.988                 | -46.155      | -16.00      |
|                  |                      | Within $\pm 1$ MHz to $\pm 5$ MHz  | 1                   | Lowest                | 5893.984                 | -40.654      | -13.00      |
|                  |                      | Within $\pm 5$ MHz to $\pm 30$ MHz | 1                   | Lowest                | 5879.325                 | -41.495      | -16.00      |
|                  |                      | Beyond 30 megahertz                | 1                   | Lowest                | 5858.080                 | -51.177      | -28.00      |

#### Note:

1. Plots of the EUT's Band Edge are shown Page 111 ~ 142.

## [Upper Band Edge]

| Band Width<br>(MHz) | Test<br>Frequency<br>(MHz) | Test Frequency Range<br>(MHz)      | Resource<br>Block Size | Resource<br>Block Offset | Measured<br>Frequency<br>(MHz) | Result<br>(dBm) | Limit<br>(dBm) |
|---------------------|----------------------------|------------------------------------|------------------------|--------------------------|--------------------------------|-----------------|----------------|
| 10                  | 5920                       | Within $\pm 1$ MHz                 | Full                   | Highest                  | 5925.004                       | -34.769         | -16.00         |
|                     |                            | Within $\pm 1$ MHz to $\pm 5$ MHz  | Full                   | Highest                  | 5926.000                       | -25.093         | -13.00         |
|                     |                            | Within $\pm 5$ MHz to $\pm 30$ MHz | Full                   | Highest                  | 5930.000                       | -30.502         | -16.00         |
|                     |                            | Beyond 30 megahertz                | Full                   | Highest                  | 5973.800                       | -52.117         | -28.00         |
|                     |                            | Within $\pm 1$ MHz                 | 1                      | Highest                  | 5925.000                       | -29.353         | -16.00         |
|                     |                            | Within $\pm 1$ MHz to $\pm 5$ MHz  | 1                      | Highest                  | 5926.000                       | -21.864         | -13.00         |
|                     |                            | Within $\pm 5$ MHz to $\pm 30$ MHz | 1                      | Highest                  | 5930.000                       | -38.812         | -16.00         |
|                     |                            | Beyond 30 megahertz                | 1                      | Highest                  | 5955.120                       | -50.513         | -28.00         |
| 20                  | 5915                       | Within $\pm 1$ MHz                 | Full                   | Highest                  | 5925.336                       | -37.462         | -16.00         |
|                     |                            | Within $\pm 1$ MHz to $\pm 5$ MHz  | Full                   | Highest                  | 5926.008                       | -28.201         | -13.00         |
|                     |                            | Within $\pm 5$ MHz to $\pm 30$ MHz | Full                   | Highest                  | 5930.000                       | -30.009         | -16.00         |
|                     |                            | Beyond 30 megahertz                | Full                   | Highest                  | 5955.080                       | -48.214         | -28.00         |
|                     |                            | Within $\pm 1$ MHz                 | 1                      | Highest                  | 5925.000                       | -39.990         | -16.00         |
|                     |                            | Within $\pm 1$ MHz to $\pm 5$ MHz  | 1                      | Highest                  | 5926.000                       | -39.820         | -13.00         |
|                     |                            | Within $\pm 5$ MHz to $\pm 30$ MHz | 1                      | Highest                  | 5940.000                       | -42.131         | -16.00         |
|                     |                            | Beyond 30 megahertz                | 1                      | Highest                  | 5961.680                       | -50.294         | -28.00         |

**Note:**

1. Plots of the EUT's Band Edge are shown Page 111 ~ 142.

## 10. TEST DATA (Ant 1+Ant 2)

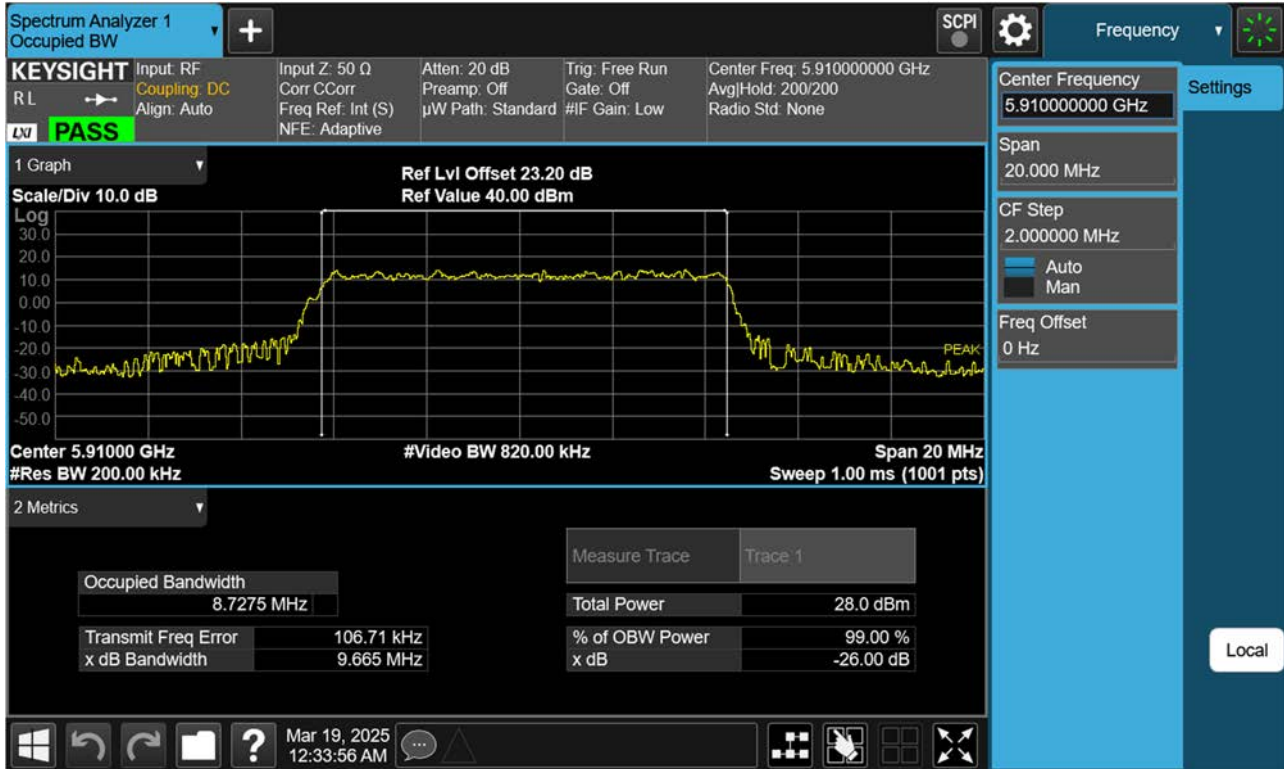
### 10.1 CONDUCTED TRANSMIT POWER

| Bandwidth<br>(MHz) | Modulation | RB<br>Size | RB<br>Offset | Ant 1       |             |             | Ant 2       |             |             | Ant1 + Ant2 |             |             |
|--------------------|------------|------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                    |            |            |              | 5900<br>MHz | 5910<br>MHz | 5920<br>MHz | 5900<br>MHz | 5910<br>MHz | 5920<br>MHz | 5900<br>MHz | 5910<br>MHz | 5920<br>MHz |
| 10                 | QPSK       | 1          | 2            | 19.41       | 19.31       | 18.83       | 19.78       | 20.04       | 19.88       | 22.61       | 22.70       | 22.40       |
|                    |            | 1          | 25           | 19.55       | 19.13       | 18.60       | 20.10       | 20.17       | 20.03       | 22.84       | 22.69       | 22.38       |
|                    |            | 1          | 48           | 19.19       | 19.04       | 18.50       | 19.88       | 20.11       | 19.87       | 22.56       | 22.62       | 22.25       |
|                    |            | 25         | 2            | 18.59       | 18.26       | 17.91       | 18.96       | 19.14       | 19.03       | 21.79       | 21.73       | 21.52       |
|                    |            | 25         | 12           | 18.45       | 18.30       | 17.91       | 19.10       | 19.19       | 19.06       | 21.80       | 21.78       | 21.53       |
|                    |            | 25         | 23           | 18.45       | 18.35       | 17.80       | 19.10       | 19.21       | 19.07       | 21.80       | 21.81       | 21.49       |
|                    |            | 48         | 2            | 18.58       | 18.32       | 17.71       | 19.16       | 19.29       | 19.02       | 21.89       | 21.84       | 21.42       |
|                    | 16QAM      | 1          | 2            | 18.50       | 18.26       | 17.57       | 18.82       | 18.98       | 18.59       | 21.67       | 21.65       | 21.12       |
|                    |            | 1          | 25           | 18.28       | 18.01       | 17.52       | 18.85       | 18.88       | 18.61       | 21.58       | 21.48       | 21.11       |
|                    |            | 1          | 48           | 18.12       | 17.64       | 17.45       | 19.02       | 19.11       | 18.69       | 21.60       | 21.45       | 21.12       |
|                    |            | 25         | 2            | 17.70       | 17.37       | 16.92       | 18.10       | 18.35       | 18.08       | 20.91       | 20.90       | 20.55       |
|                    |            | 25         | 12           | 17.53       | 17.31       | 16.86       | 18.22       | 18.22       | 18.05       | 20.90       | 20.80       | 20.51       |
|                    |            | 25         | 23           | 17.57       | 17.18       | 16.87       | 18.25       | 18.27       | 17.97       | 20.93       | 20.77       | 20.47       |
|                    |            | 48         | 2            | 17.68       | 17.43       | 16.68       | 18.08       | 18.23       | 17.93       | 20.89       | 20.86       | 20.36       |
|                    | 64QAM      | 1          | 2            | 17.53       | 17.33       | 16.80       | 17.70       | 17.93       | 17.98       | 20.63       | 20.65       | 20.44       |
|                    |            | 1          | 25           | 17.50       | 17.16       | 16.64       | 17.71       | 17.84       | 17.97       | 20.62       | 20.52       | 20.37       |
|                    |            | 1          | 48           | 17.40       | 17.01       | 15.68       | 17.87       | 18.03       | 17.50       | 20.65       | 20.56       | 19.69       |
|                    |            | 25         | 2            | 16.63       | 16.32       | 16.28       | 16.87       | 17.19       | 17.01       | 19.76       | 19.79       | 19.67       |
|                    |            | 25         | 12           | 16.74       | 16.39       | 15.93       | 17.05       | 17.31       | 17.00       | 19.91       | 19.88       | 19.51       |
|                    |            | 25         | 23           | 16.50       | 16.37       | 15.82       | 17.02       | 17.18       | 17.13       | 19.78       | 19.80       | 19.53       |
|                    |            | 48         | 2            | 16.72       | 16.35       | 15.79       | 17.07       | 17.32       | 17.17       | 19.91       | 19.87       | 19.54       |

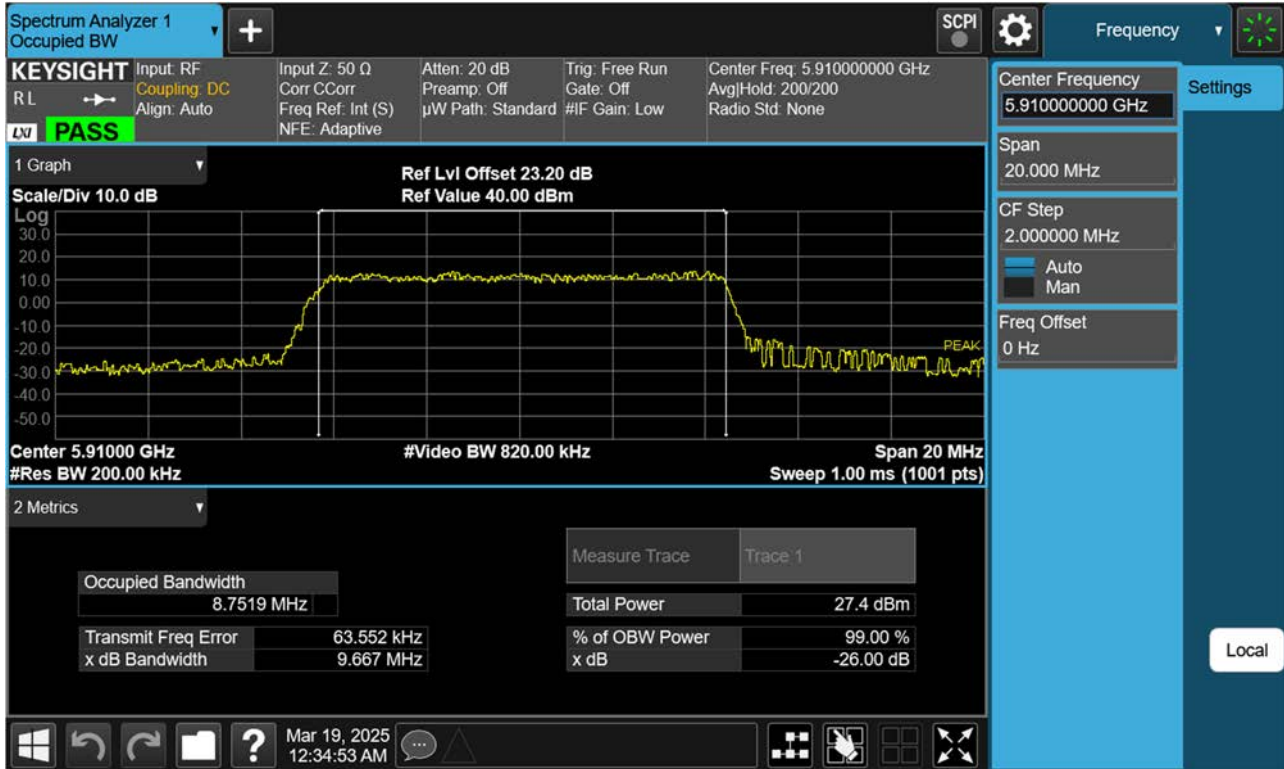
| Bandwidth<br>(MHz) | Modulation | RB Size | RB Offset | Ant 1   | Ant 2   | Ant1 + Ant2 |
|--------------------|------------|---------|-----------|---------|---------|-------------|
|                    |            |         |           | 5910MHz | 5910MHz | 5910MHz     |
| 20                 | QPSK       | 1       | 2         | 19.54   | 20.02   | 22.80       |
|                    |            | 1       | 25        | 19.10   | 19.95   | 22.56       |
|                    |            | 1       | 48        | 18.86   | 19.95   | 22.45       |
|                    |            | 25      | 2         | 18.58   | 19.29   | 21.96       |
|                    |            | 25      | 12        | 18.39   | 19.22   | 21.84       |
|                    |            | 25      | 23        | 18.34   | 19.18   | 21.79       |
|                    |            | 48      | 2         | 18.51   | 19.20   | 21.88       |
|                    | 16QAM      | 1       | 2         | 18.45   | 19.04   | 21.77       |
|                    |            | 1       | 25        | 18.07   | 19.08   | 21.61       |
|                    |            | 1       | 48        | 17.55   | 18.98   | 21.33       |
|                    |            | 25      | 2         | 17.57   | 18.28   | 20.95       |
|                    |            | 25      | 12        | 16.61   | 18.01   | 20.38       |
|                    |            | 25      | 23        | 17.32   | 18.12   | 20.75       |
|                    |            | 48      | 2         | 17.47   | 18.21   | 20.87       |
|                    | 64QAM      | 1       | 2         | 17.54   | 17.96   | 20.77       |
|                    |            | 1       | 25        | 17.30   | 17.99   | 20.67       |
|                    |            | 1       | 48        | 17.00   | 17.97   | 20.52       |
|                    |            | 25      | 2         | 16.57   | 17.07   | 19.84       |
|                    |            | 25      | 12        | 16.31   | 17.27   | 19.83       |
|                    |            | 25      | 23        | 16.19   | 17.18   | 19.72       |
|                    |            | 48      | 2         | 16.53   | 17.21   | 19.89       |

## 11. TEST PLOTS (Ant 1)

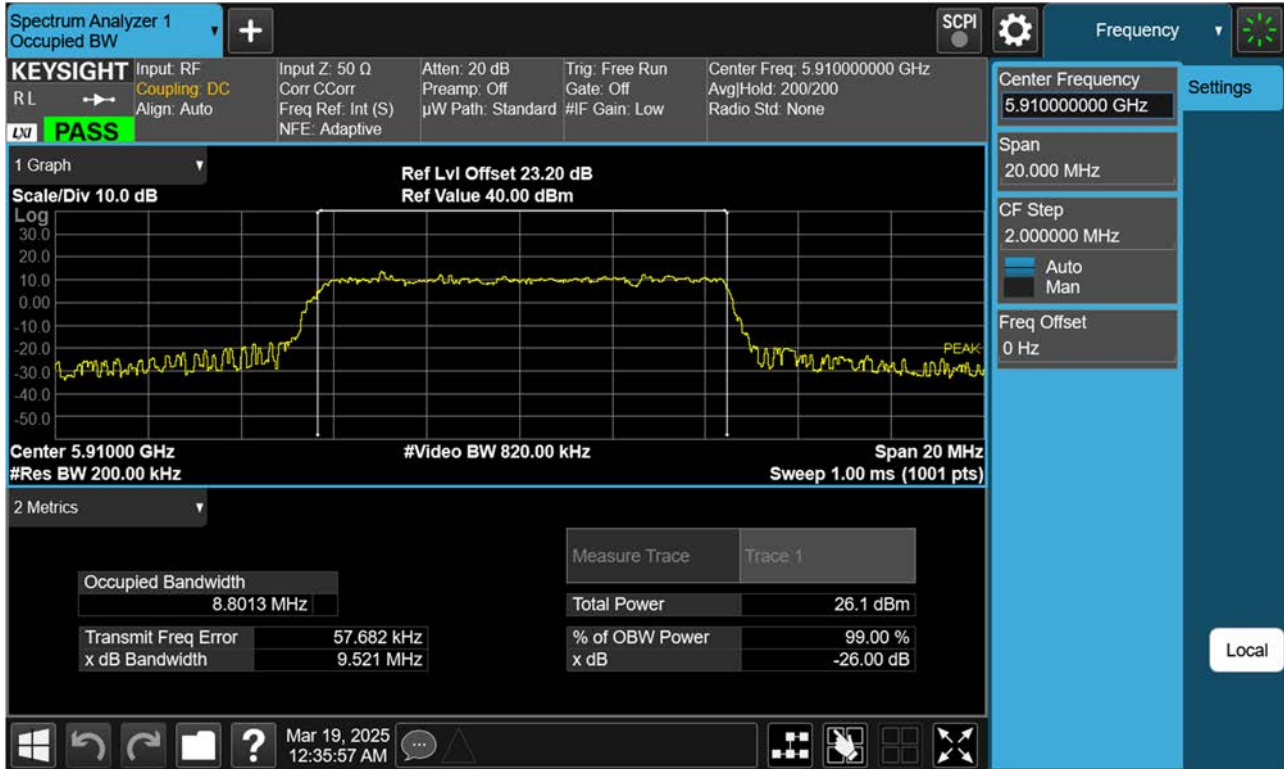
## LTE(CV2X)\_10 M\_ OBW\_Mid \_QPSK\_FullRB



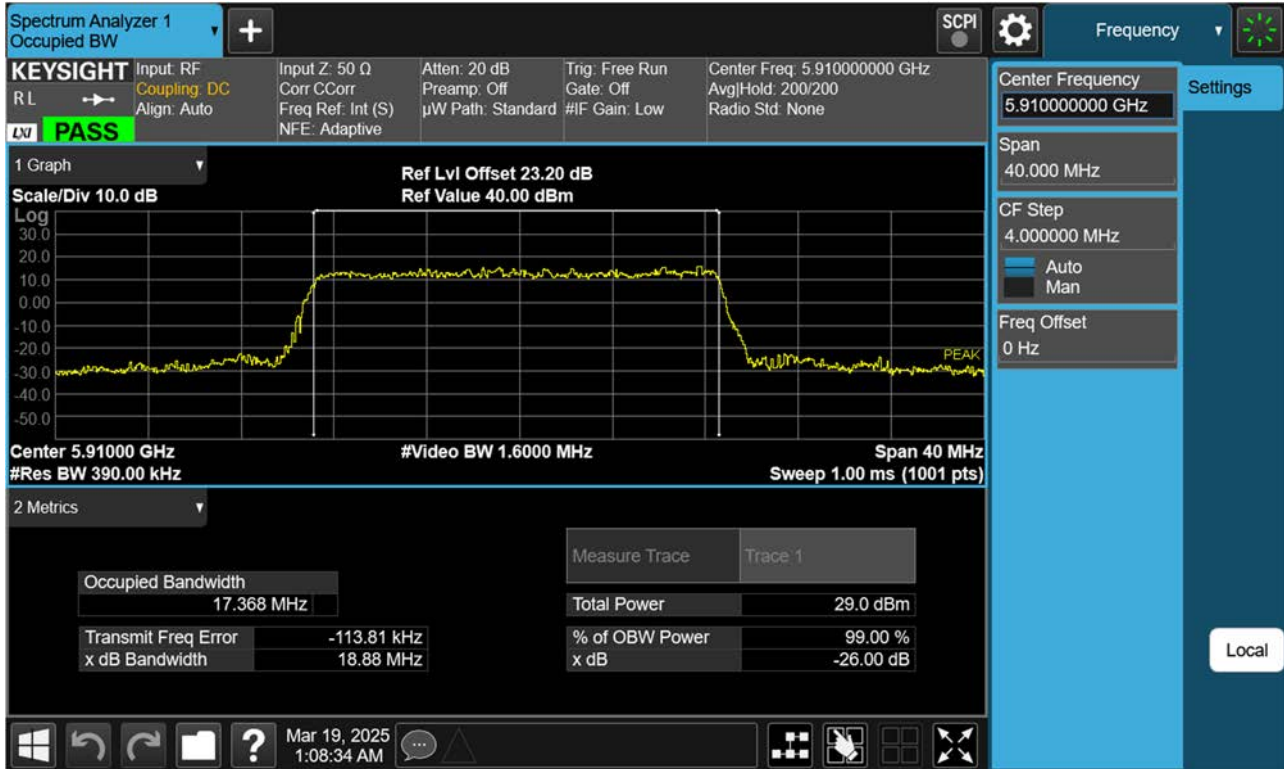
## LTE(CV2X)\_10 M\_ OBW\_Mid\_16QAM\_FullRB



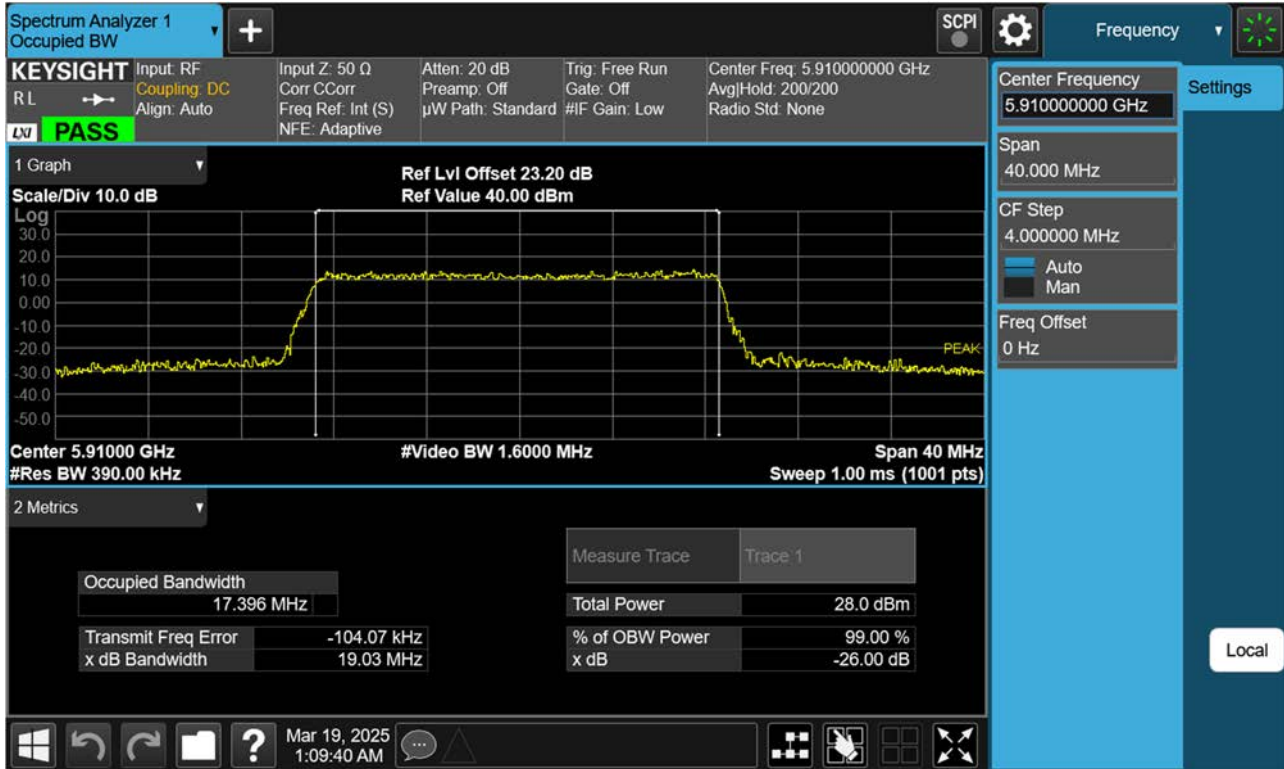
## LTE(CV2X)\_10 M\_OBW\_Mid\_64QAM\_FullRB



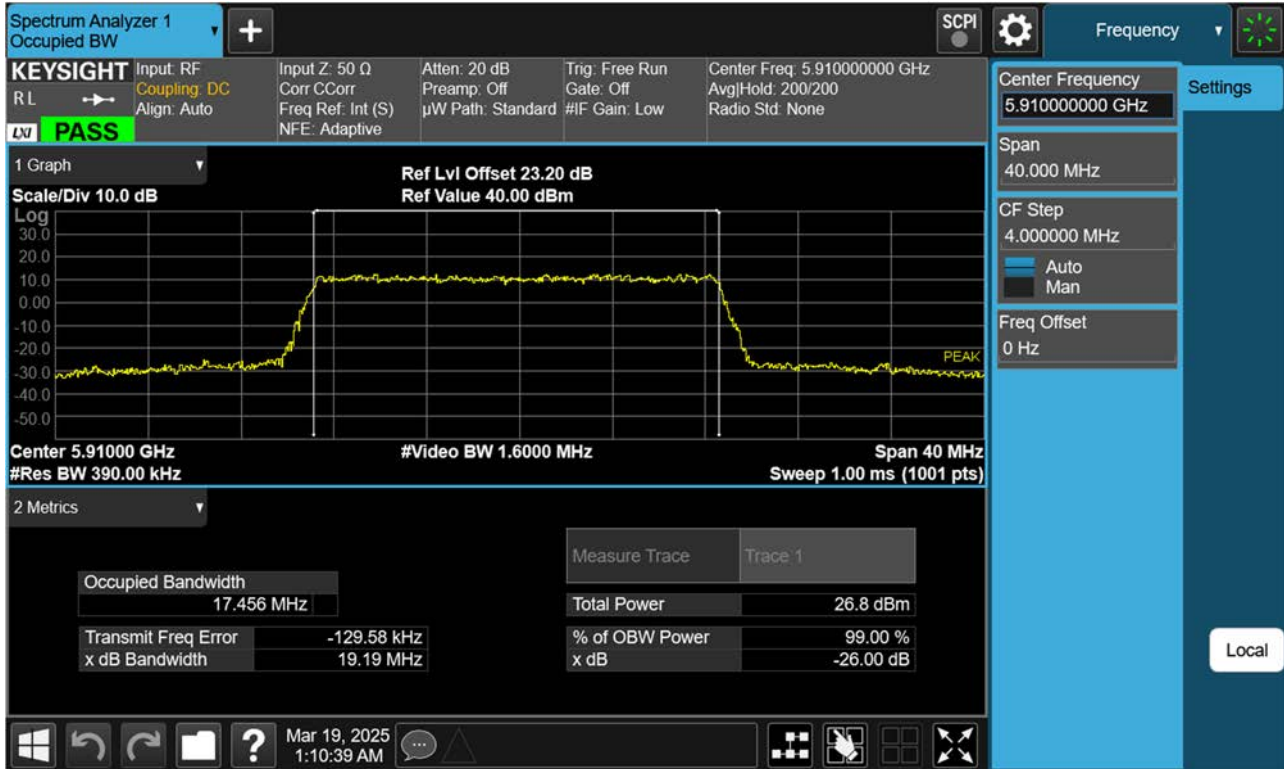
## LTE(CV2X)\_20 M\_ OBW\_Mid \_QPSK\_FullRB



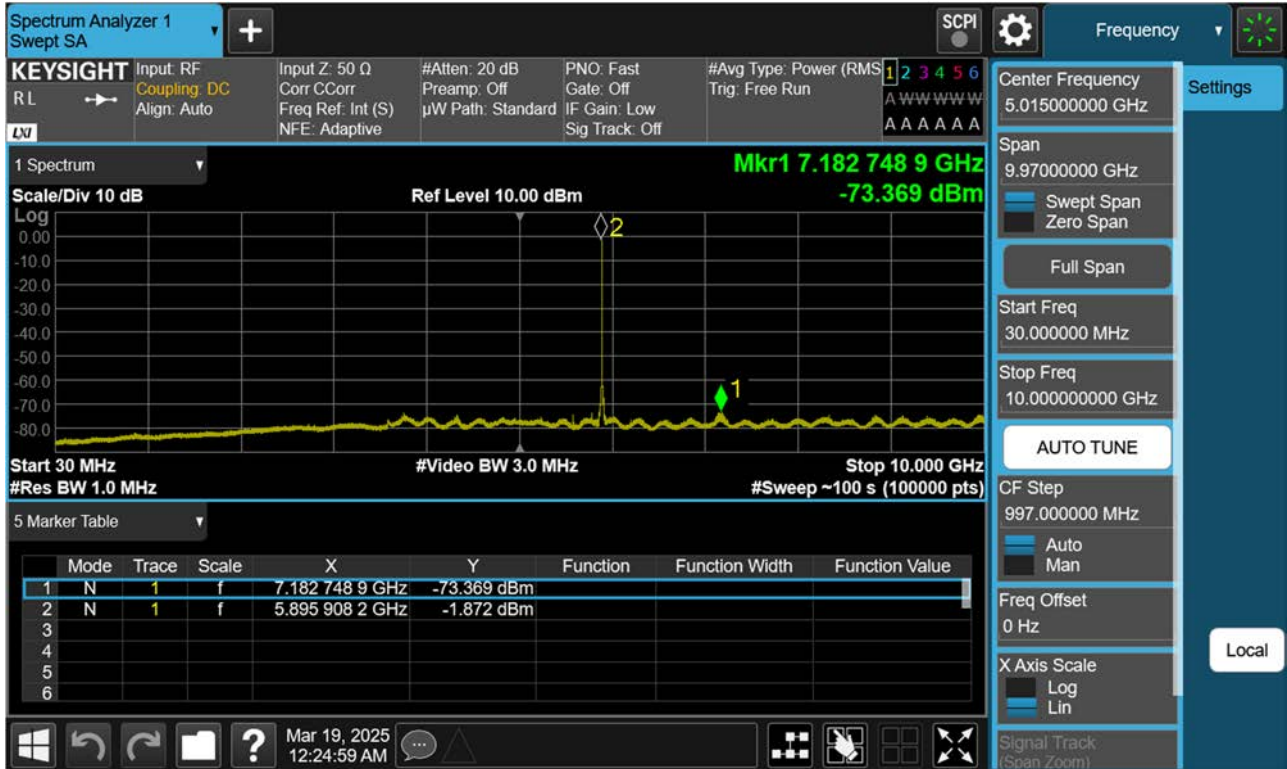
## LTE(CV2X)\_20 M\_ OBW\_Mid\_16QAM\_FullRB



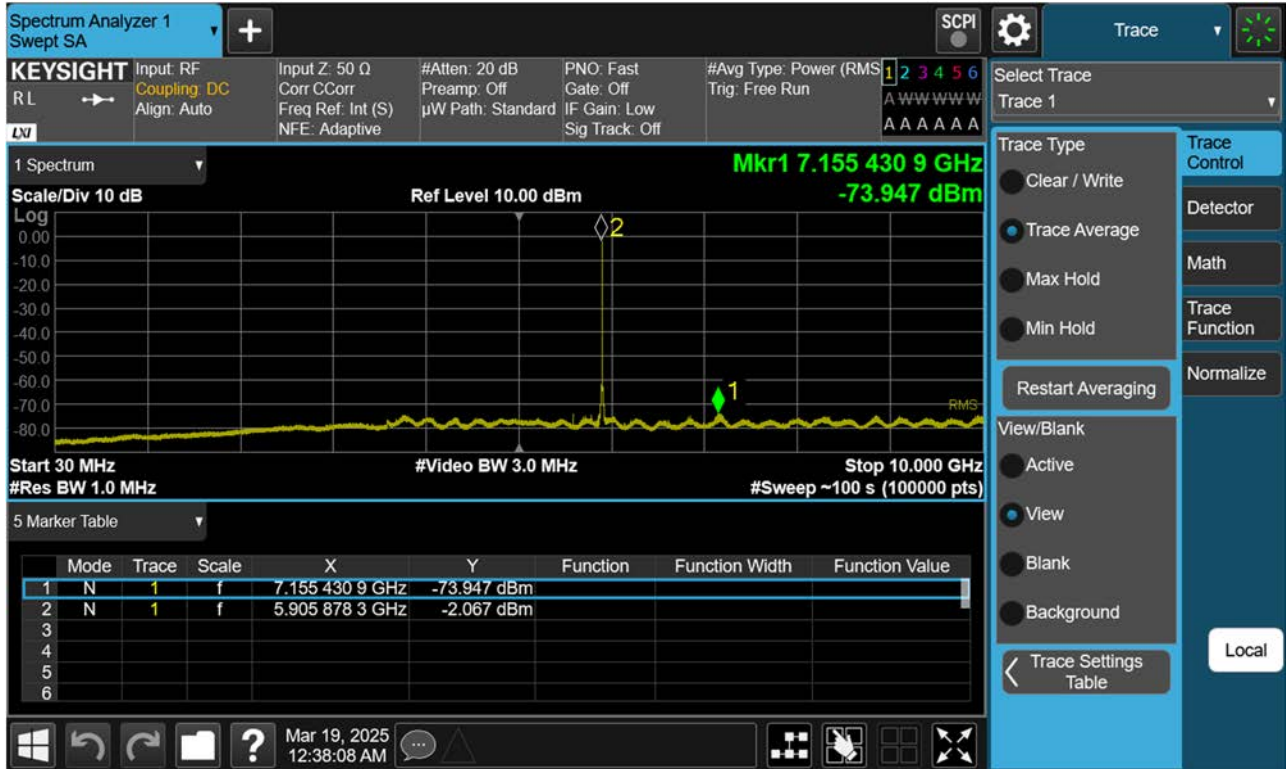
## LTE(CV2X)\_20 M\_ OBW\_Mid\_64QAM\_FullRB



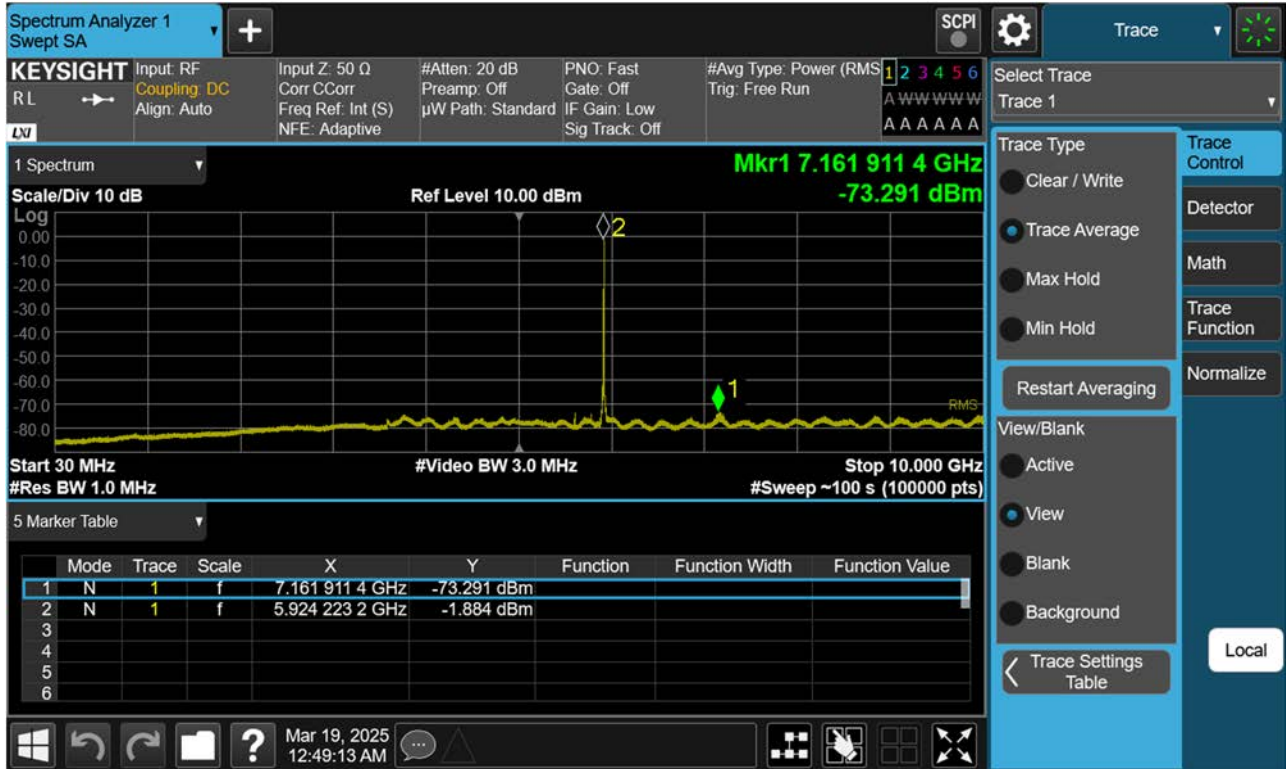
## LTE(CV2X)\_10 M\_CSE(30M-10G)\_Low\_QPSK\_1RB



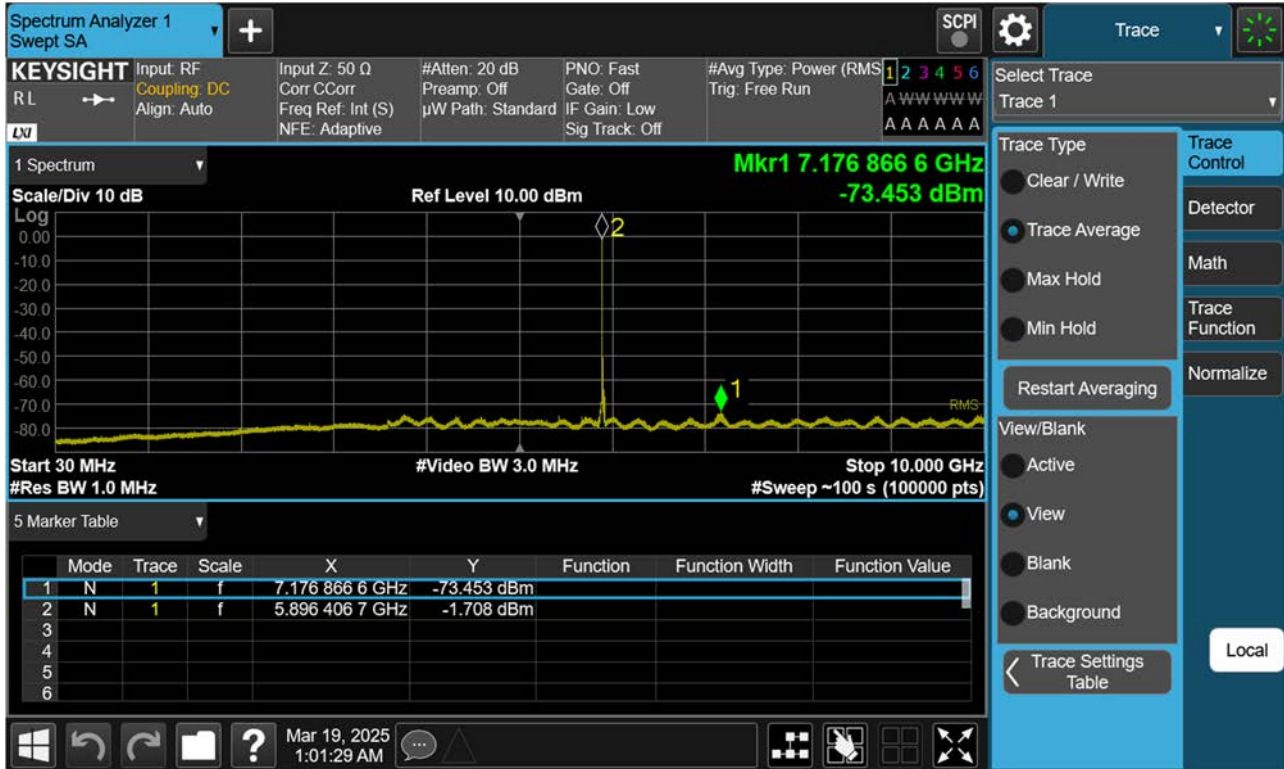
## LTE(CV2X)\_10 M\_CSE(30M-10G)\_Mid\_QPSK\_1RB



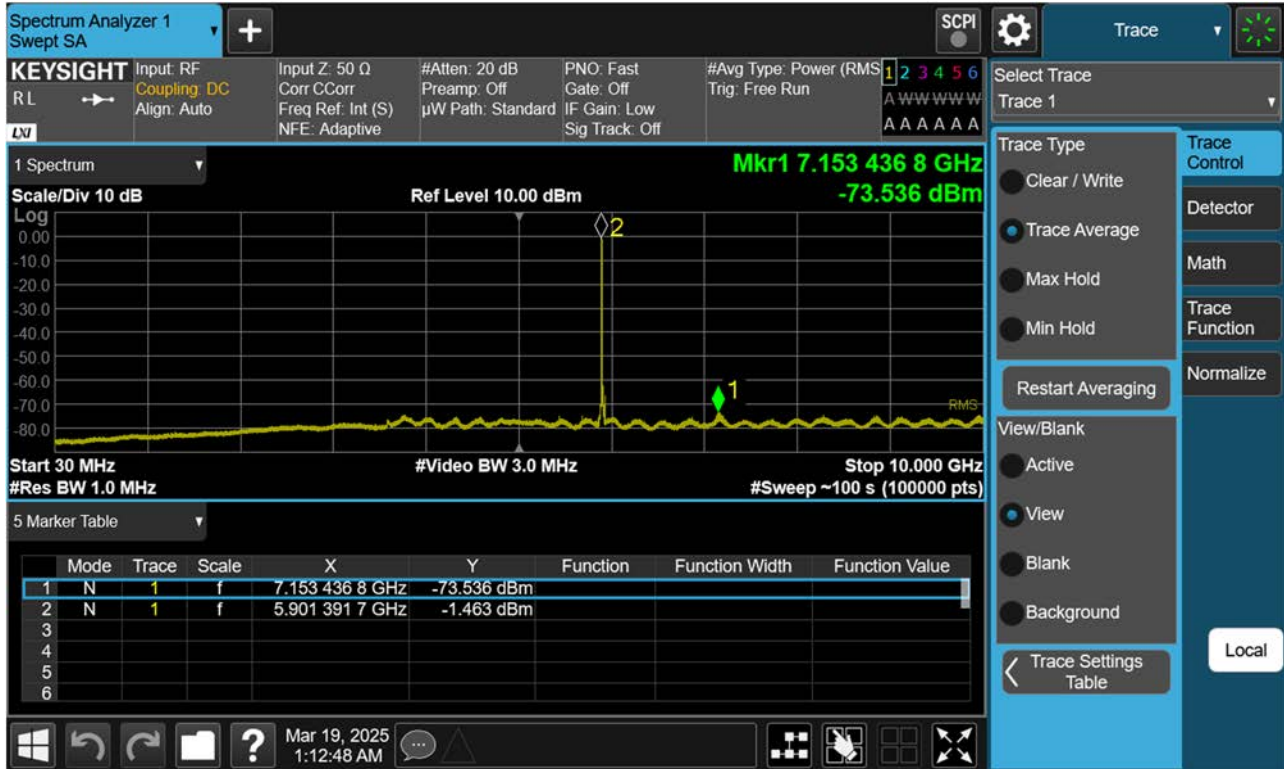
## LTE(CV2X)\_10 M\_CSE(30M-10G)\_High\_QPSK\_1RB



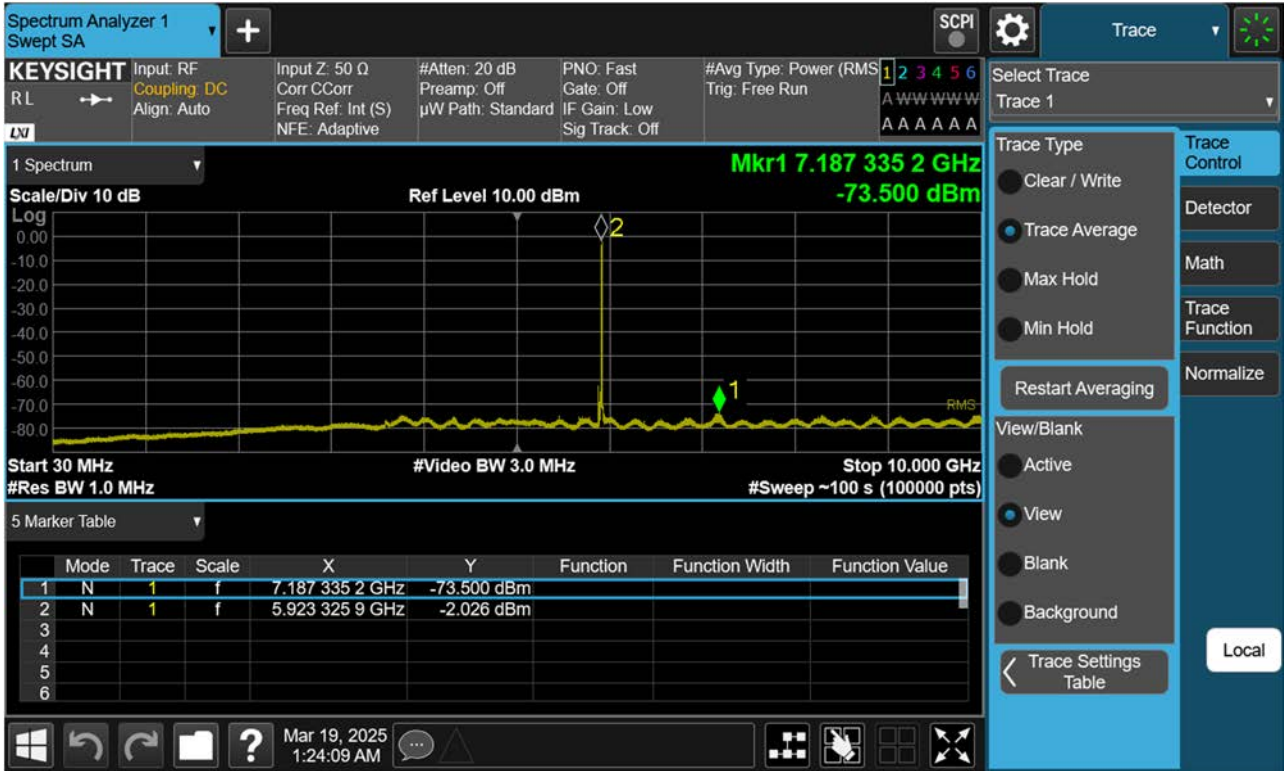
## LTE(CV2X)\_20 M\_CSE(30M-10G)\_Low\_QPSK\_1RB



## LTE(CV2X)\_20 M\_CSE(30M-10G)\_Mid\_QPSK\_1RB



LTE(CV2X)\_20 M\_CSE(30M-10G)\_High\_QPSK\_1RB



## LTE(CV2X)\_10 M\_CSE(Above10G)\_Low\_QPSK\_1RB



## LTE(CV2X)\_10 M\_CSE(Above10G)\_Mid\_QPSK\_1RB



## LTE(CV2X)\_10 M\_CSE(Above10G)\_ High\_QPSK\_1RB



## LTE(CV2X)\_20 M\_CSE(Above10G)\_Low\_QPSK\_1RB



## LTE(CV2X)\_20 M\_CSE(Above10G)\_Mid\_QPSK\_1RB



## LTE(CV2X)\_20 M\_CSE(Above10G)\_ High\_QPSK\_1RB



## LTE(CV2X)\_10 M\_BandEdge\_Low\_QPSK\_FullRB



## LTE(CV2X)\_10 M\_BandEdge(1)\_Low\_QPSK\_FullRB



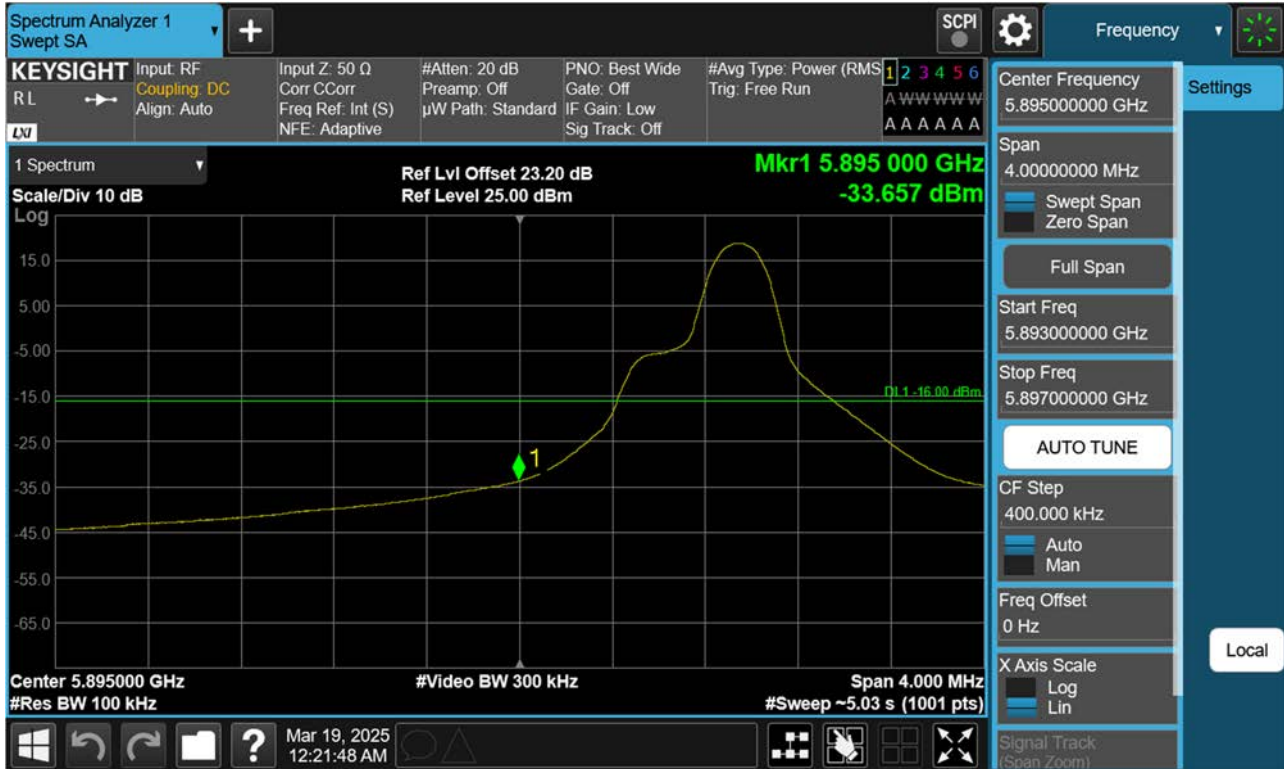
## LTE(CV2X)\_10 M\_BandEdge(2)\_Low\_QPSK\_FullRB



## LTE(CV2X)\_10 M\_BandEdge(3)\_Low\_QPSK\_FullRB



## LTE(CV2X)\_10 M\_BandEdge\_Low\_QPSK\_1RB



## LTE(CV2X)\_10 M\_BandEdge(1)\_Low\_QPSK\_1RB



## LTE(CV2X)\_10 M\_BandEdge(2)\_Low\_QPSK\_1RB



## LTE(CV2X)\_10 M\_BandEdge(3)\_Low\_QPSK\_1RB



## LTE(CV2X)\_10 M\_BandEdge\_High\_QPSK\_FullRB



## LTE(CV2X)\_10 M\_BandEdge(1)\_High\_QPSK\_FullRB



## LTE(CV2X)\_10 M\_BandEdge(2)\_High\_QPSK\_FullRB



## LTE(CV2X)\_10 M\_BandEdge(3)\_High\_QPSK\_FullRB



## LTE(CV2X)\_10 M\_BandEdge\_High\_QPSK\_1RB



## LTE(CV2X)\_10 M\_BandEdge(1)\_High\_QPSK\_1RB



## LTE(CV2X)\_10 M\_BandEdge(2)\_High\_QPSK\_1RB



## LTE(CV2X)\_10 M\_BandEdge(3)\_High\_QPSK\_1RB



## LTE(CV2X)\_20 M\_BandEdge\_Low\_QPSK\_FullRB



## LTE(CV2X)\_20 M\_BandEdge(1)\_Low\_QPSK\_FullRB



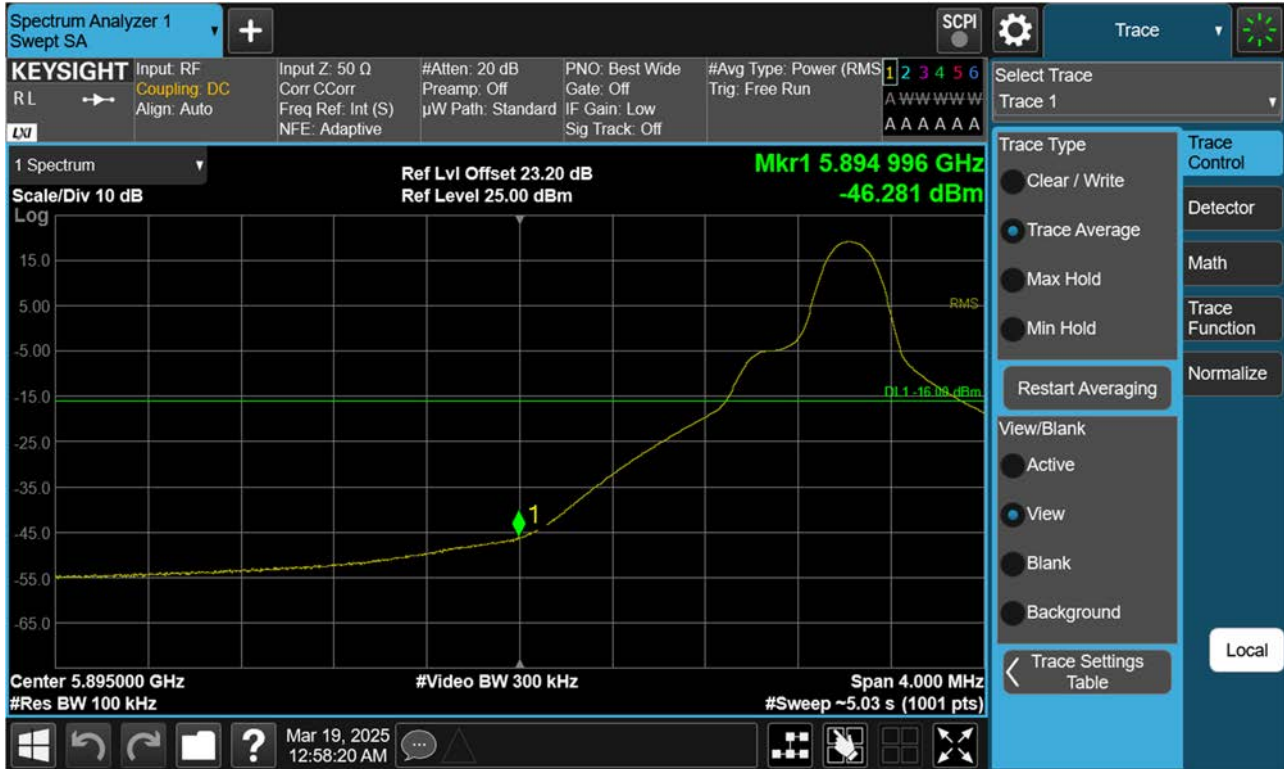
## LTE(CV2X)\_20 M\_BandEdge(2)\_Low\_QPSK\_FullRB



## LTE(CV2X)\_20 M\_BandEdge(3)\_Low\_QPSK\_FullRB



## LTE(CV2X)\_20 M\_BandEdge\_Low\_QPSK\_1RB



## LTE(CV2X)\_20 M\_BandEdge(1)\_Low\_QPSK\_1RB



## LTE(CV2X)\_20 M\_BandEdge(2)\_Low\_QPSK\_1RB



## LTE(CV2X)\_20 M\_BandEdge(3)\_Low\_QPSK\_1RB



## LTE(CV2X)\_20 M\_BandEdge\_High\_QPSK\_FullRB



## LTE(CV2X)\_20 M\_BandEdge(1)\_High\_QPSK\_FullRB



## LTE(CV2X)\_20 M\_BandEdge(2)\_High\_QPSK\_FullRB



## LTE(CV2X)\_20 M\_BandEdge(3)\_High\_QPSK\_FullRB



## LTE(CV2X)\_20 M\_BandEdge\_High\_QPSK\_1RB



## LTE(CV2X)\_20 M\_BandEdge(1)\_High\_QPSK\_1RB



## LTE(CV2X)\_20 M\_BandEdge(2)\_High\_QPSK\_1RB

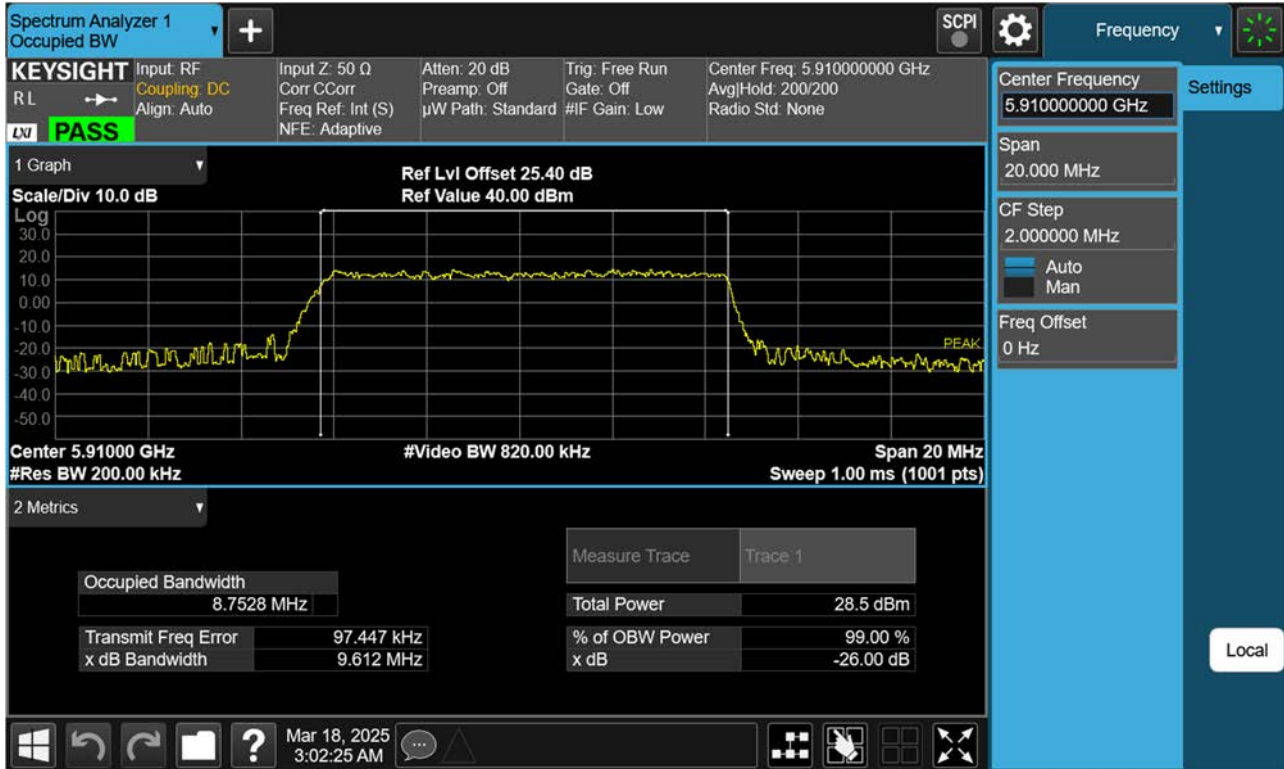


## LTE(CV2X)\_20 M\_BandEdge(3)\_High\_QPSK\_1RB

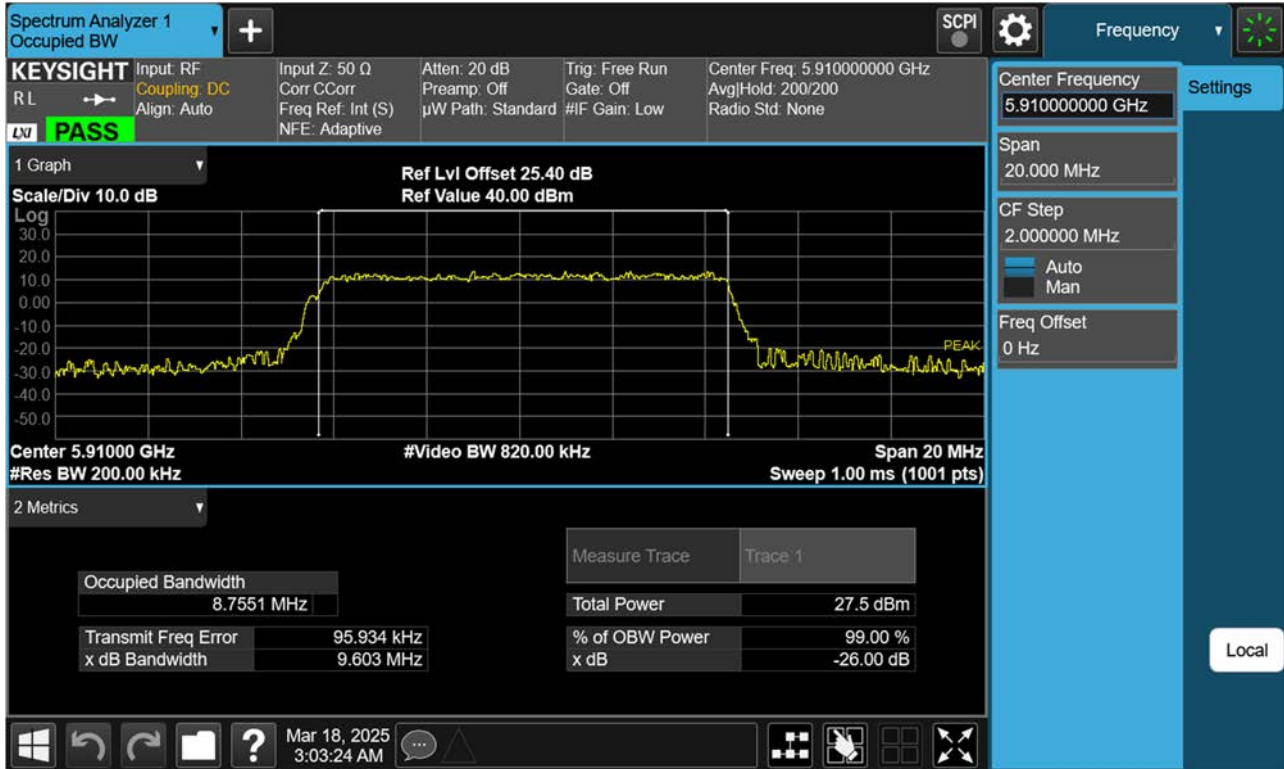


## 12. TEST PLOTS (Ant 2)

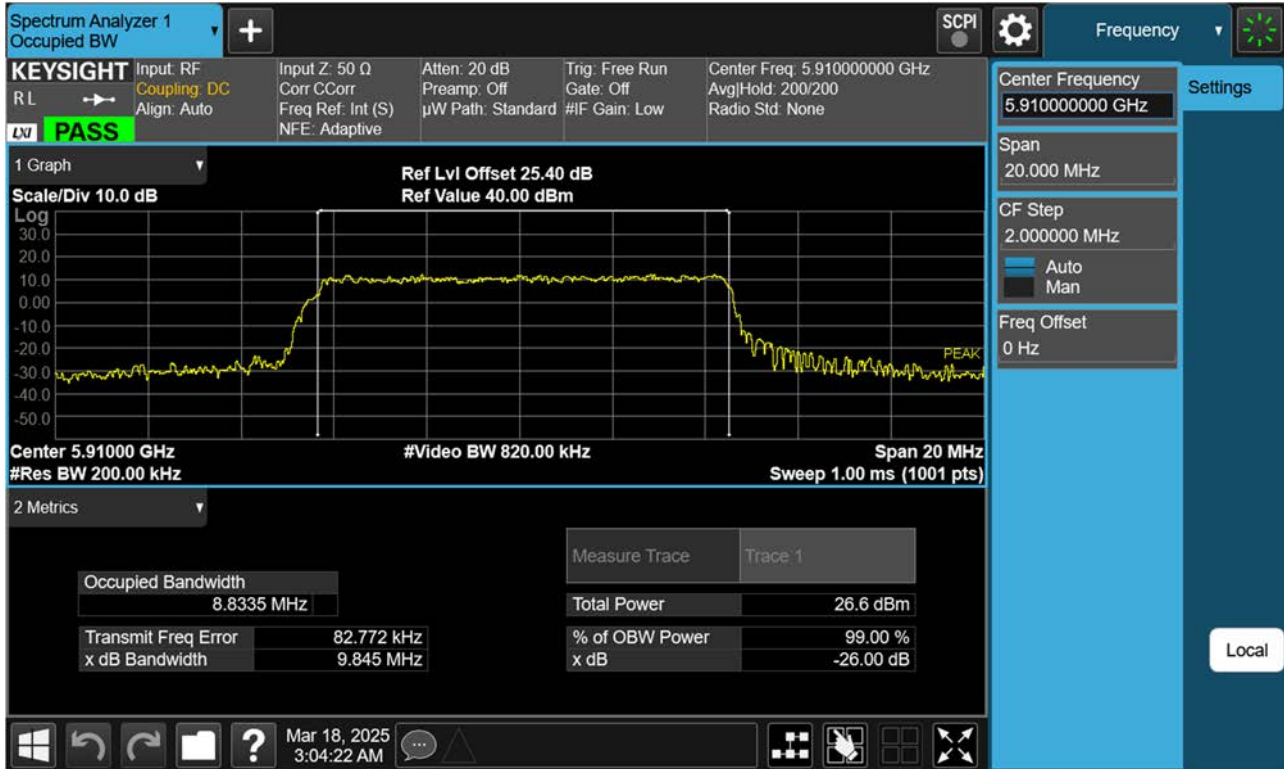
## LTE(CV2X)\_10 M\_ OBW\_Mid \_QPSK\_FullRB



## LTE(CV2X)\_10 M\_OBW\_Mid\_16QAM\_FullRB



## LTE(CV2X)\_10 M\_ OBW\_Mid\_64QAM\_FullRB



**Spectrum Analyzer 1**  
Occupied BW

**KEYSIGHT** Input: RF  
RL → Coupling: DC  
Align: Auto

Input Z: 50 Ω  
Corr CCorr  
Freq Ref: Int (S)  
NFE: Adaptive

Atten: 20 dB  
Preamp: Off  
μW Path: Standard

Trig: Free Run  
Gate: Off  
#IF Gain: Low

Center Freq: 5.91000000 GHz  
Avg/Hold: 200/200  
Radio Std: None

SCPI

Frequency

Settings

Center Frequency  
5.91000000 GHz

Span  
40.000 MHz

CF Step  
4.000000 MHz

Auto  
Man

Freq Offset  
0 Hz

1 Graph  
Ref Lvl Offset 25.40 dB  
Scale/Div 10.0 dB  
Ref Value 40.00 dBm

Log

30.0  
20.0  
10.0  
0.00  
-10.0  
-20.0  
-30.0  
-40.0  
-50.0

Center 5.91000 GHz  
#Res BW 390.00 kHz

#Video BW 1.6000 MHz

Span 40 MHz  
Sweep 1.00 ms (1001 pts)

2 Metrics

Measure Trace Trace 1

Occupied Bandwidth  
17.373 MHz

Transmit Freq Error  
-115.42 kHz

x dB Bandwidth  
18.95 MHz

Total Power  
29.2 dBm

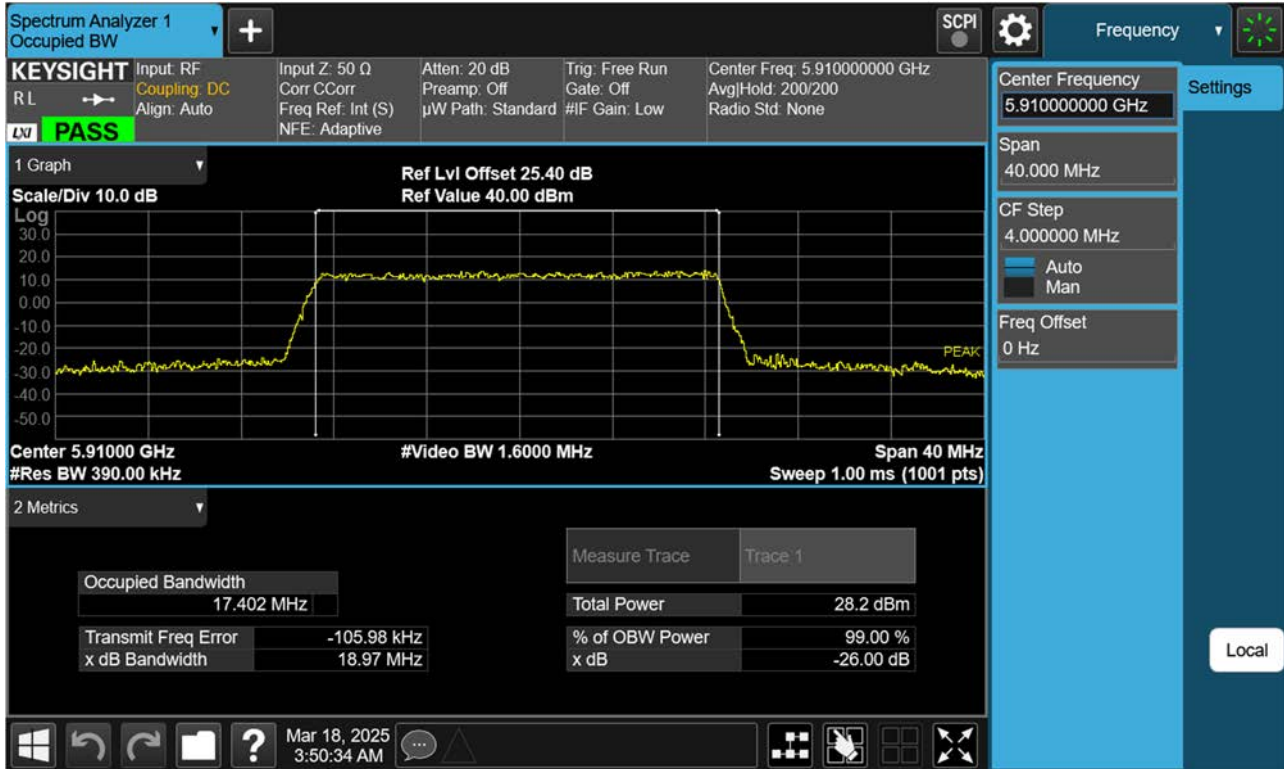
% of OBW Power  
99.00 %

x dB  
-26.00 dB

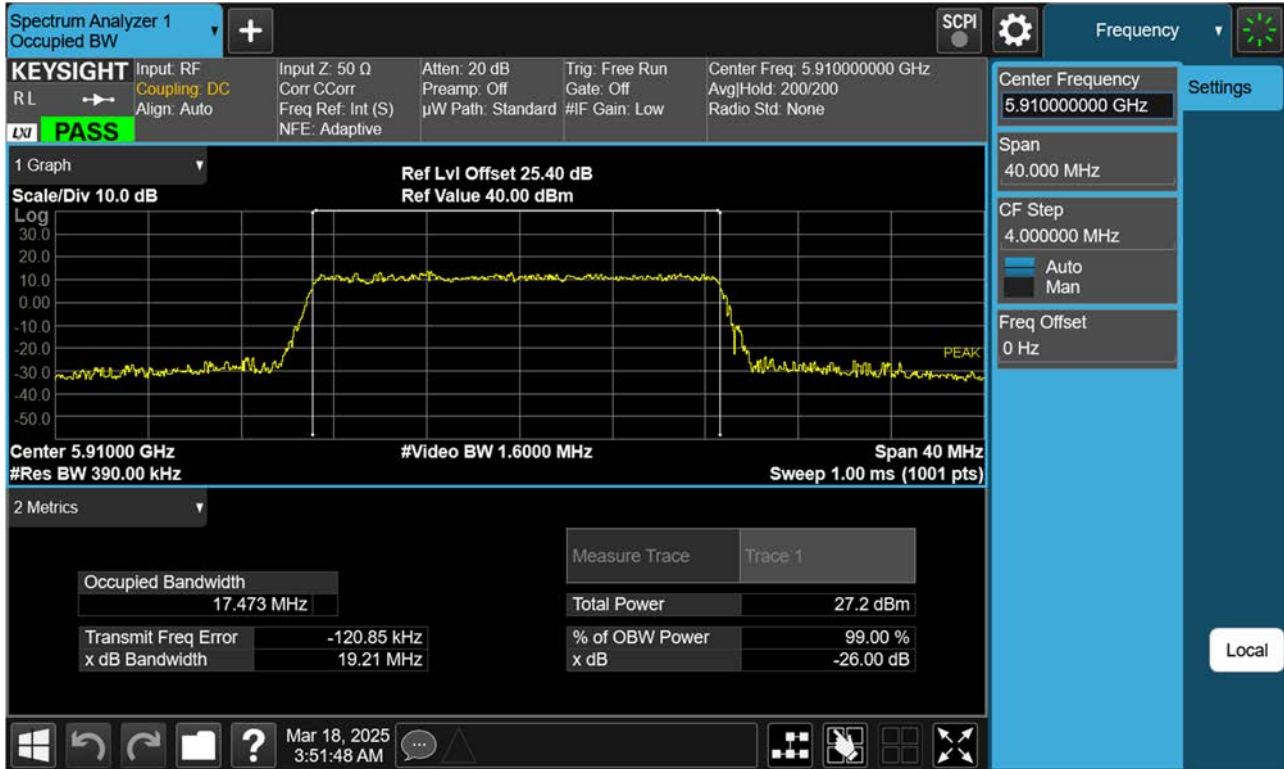
Local

Windows Taskbar: Mar 18, 2025 3:49:34 AM

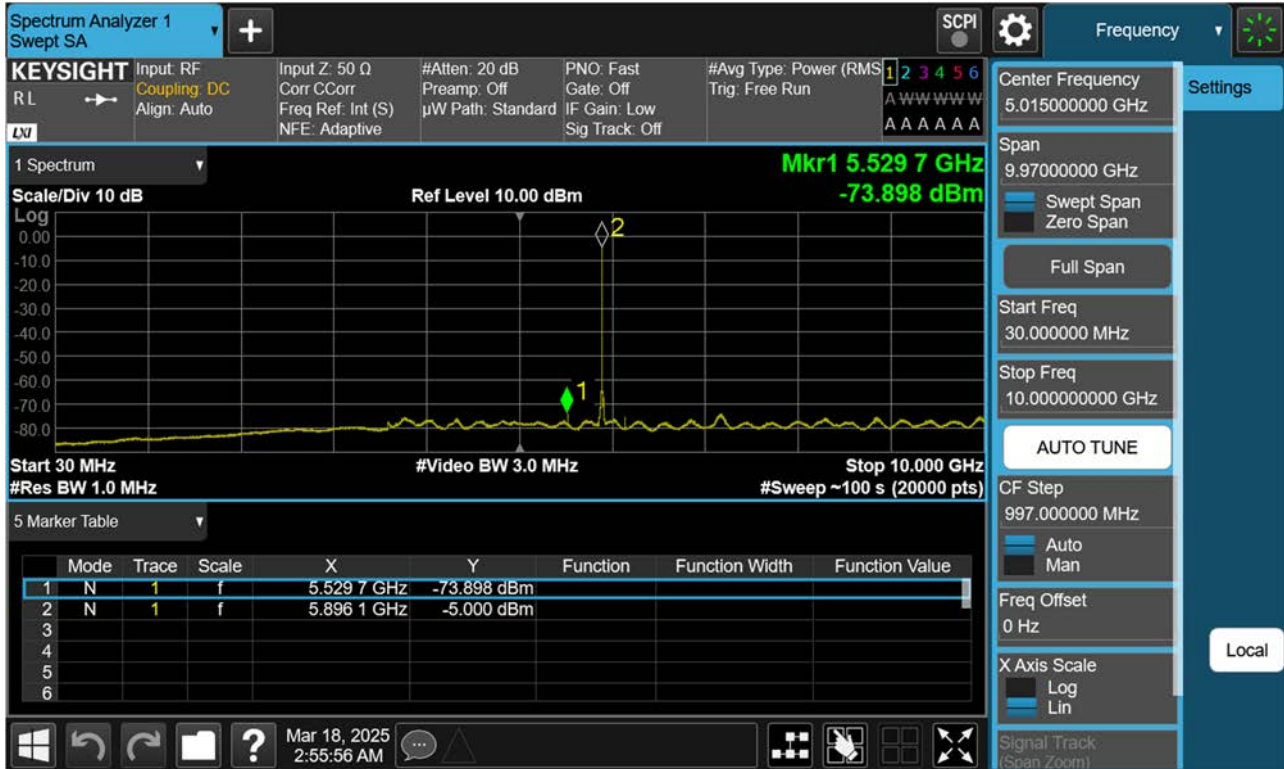
## LTE(CV2X)\_20 M\_ OBW\_Mid\_16QAM\_FullRB



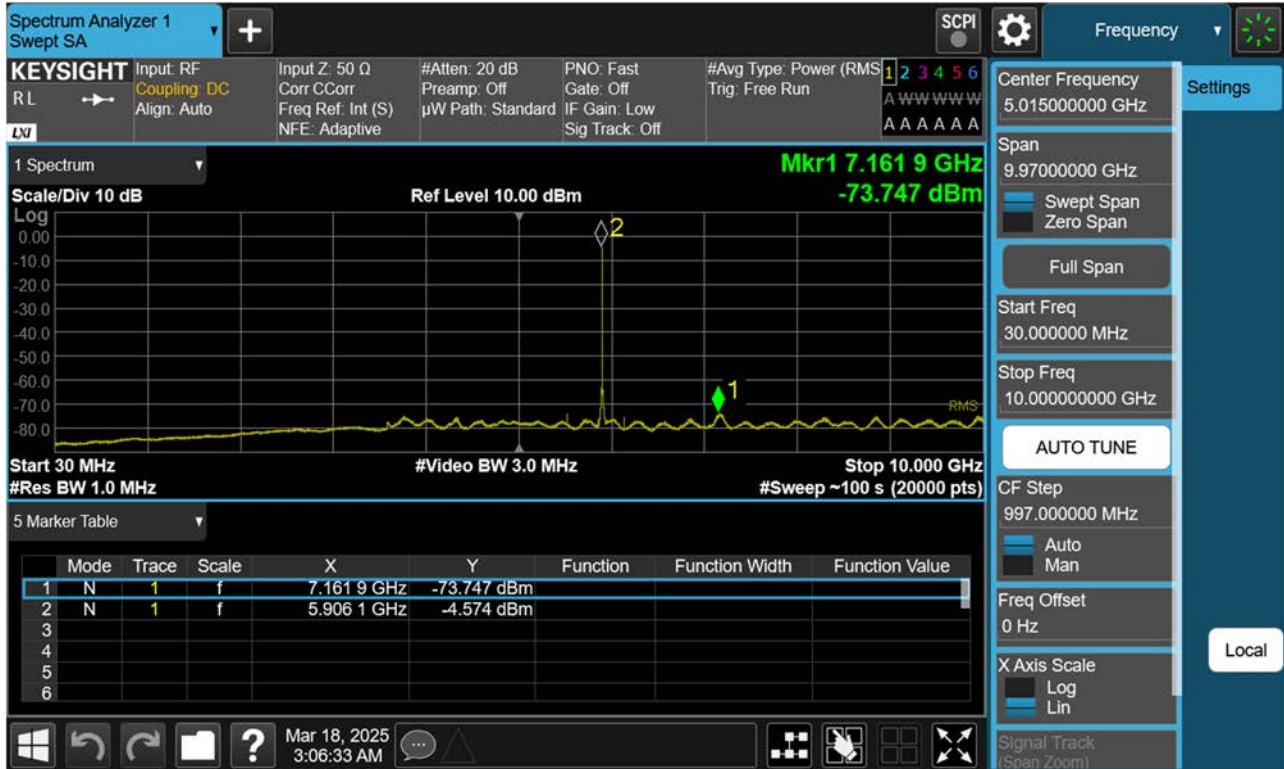
## LTE(CV2X)\_20 M\_ OBW\_Mid\_64QAM\_FullRB



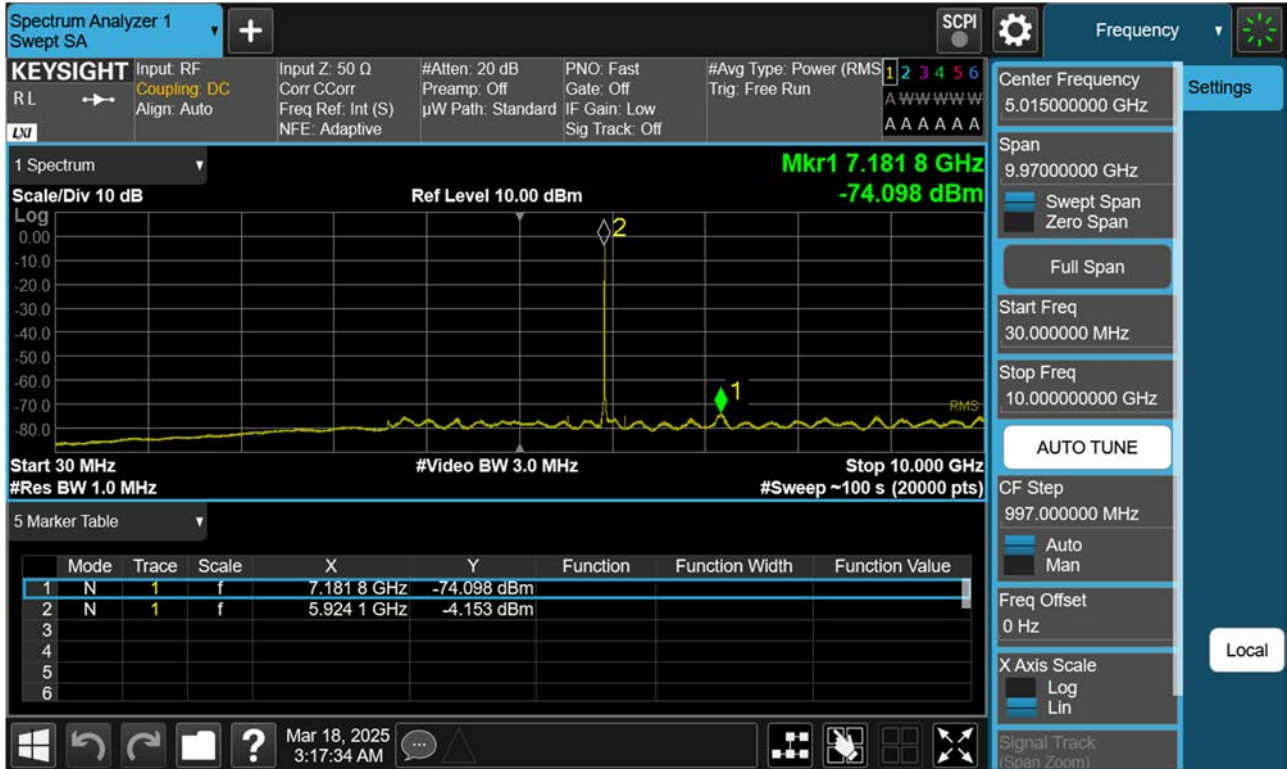
## LTE(CV2X)\_10 M\_CSE(30M-10G)\_Low\_QPSK\_1RB



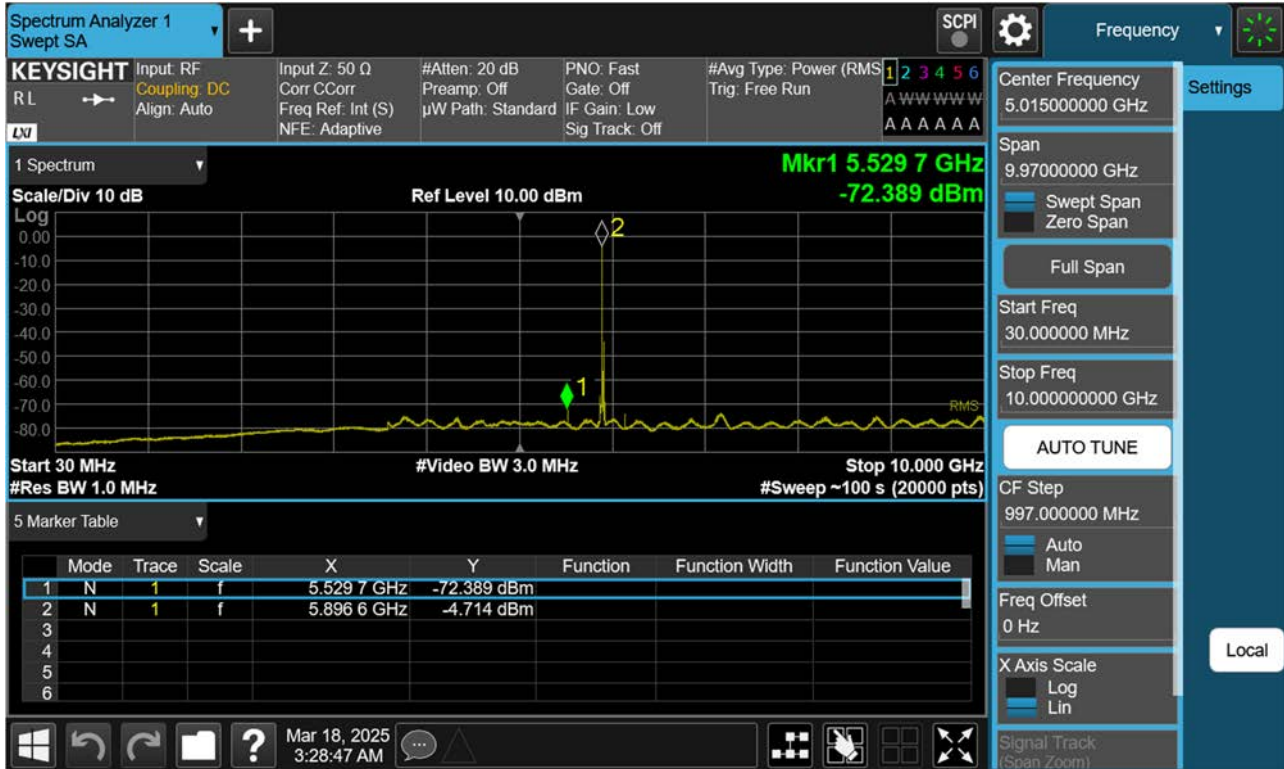
## LTE(CV2X)\_10 M\_CSE(30M-10G)\_Mid\_QPSK\_1RB



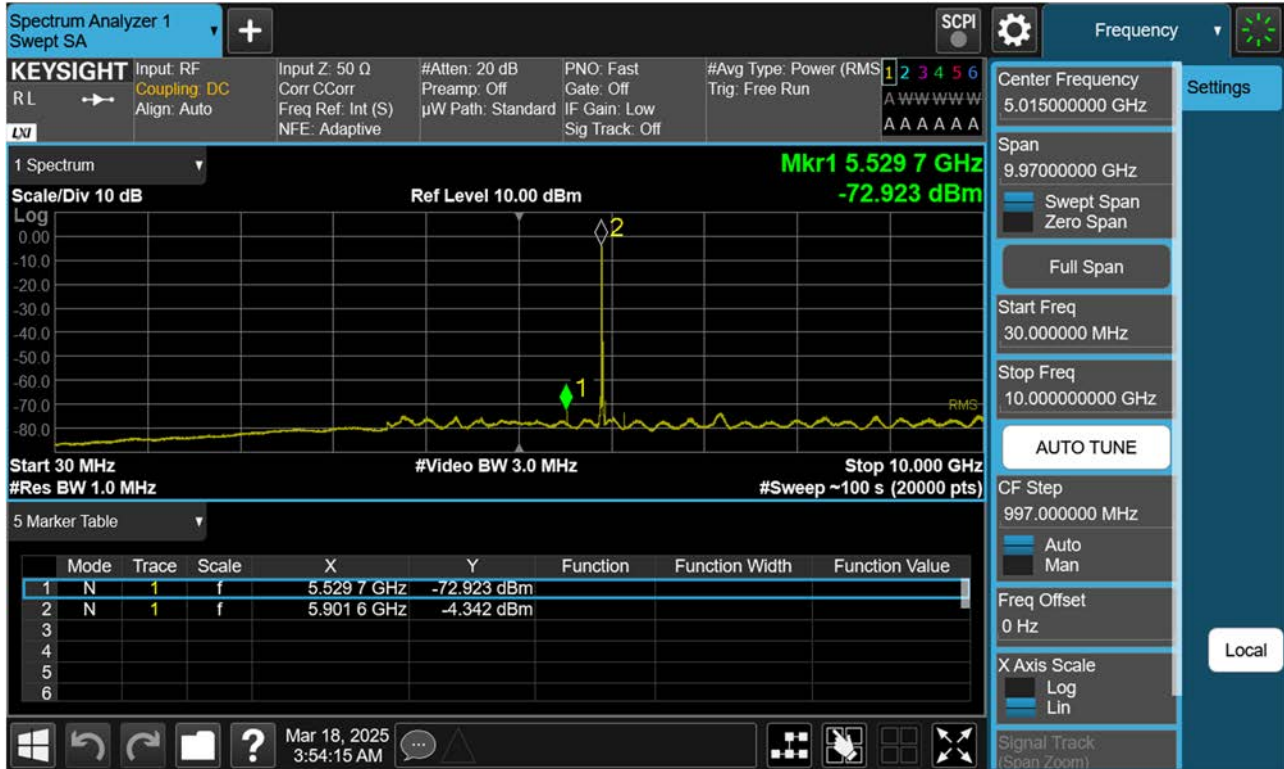
## LTE(CV2X)\_10 M\_CSE(30M-10G)\_High\_QPSK\_1RB



## LTE(CV2X)\_20 M\_CSE(30M-10G)\_Low\_QPSK\_1RB



## LTE(CV2X)\_20 M\_CSE(30M-10G)\_Mid\_QPSK\_1RB



## LTE(CV2X)\_20 M\_CSE(30M-10G)\_High\_QPSK\_1RB

