

## FCC Test Report (Part 30)

**Report No.:** RF191031C08-2

**FCC ID:** PY319400469

**Test Model:** MR5100

**Received Date:** Nov. 04, 2019

**Test Date:** Dec. 11, 2019 ~ May 12, 2020

**Issued Date:** May 13, 2020

**Applicant:** Netgear, Inc.

**Address:** 350 E. Plumeria Drive, San Jose CA 95134, USA

**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Lin Kou Laboratories

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

**Test Location:** No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City  
33383, Taiwan

**FCC Registration /** 788550 / TW0003

**Designation Number:**



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### Release Control Record

| Issue No.     | Description       | Date Issued  |
|---------------|-------------------|--------------|
| RF191031C08-2 | Original release. | May 13, 2020 |

## 1 Certificate of Conformity

**Product:** 5G MHS Travel Router

**Brand:** NETGEAR

**Test Model:** MR5100

**Sample Status:** ENGINEERING SAMPLE

**Applicant:** Netgear, Inc.

**Test Date:** Dec. 11, 2019 ~ May 12, 2020

**Standards:** 47 CFR FCC Part 30

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

**Prepared by :** Pettie Chen , **Date:** May 13, 2020  
Pettie Chen / Senior Specialist

**Approved by :** Dylan Chiou , **Date:** May 13, 2020  
Dylan Chiou / Senior Project Engineer

## 2 Summary of Test Results

| 47 CFR FCC Part 30 |                                       |             |                |                                                                                     |
|--------------------|---------------------------------------|-------------|----------------|-------------------------------------------------------------------------------------|
| FCC Clause         | Test Item                             | Test Result | Test Condition | Remarks                                                                             |
| 2.1047             | Modulation characteristics            | Pass        | -              | Meet the requirement                                                                |
| 2.1049             | Emission Bandwidth                    | Pass        | Radiated       | Meet the requirement of limit.                                                      |
| 30.202             | EIRP                                  | Pass        |                | Meet the requirement of limit.                                                      |
| 2.1051<br>30.203   | Out-of-Band Spurious Emission         | Pass        |                | Meet the requirement of limit.<br>Minimum passing margin is -13.0dB at 17847.00GHz. |
| 2.1053<br>30.203   | Out-of-Band Emission at the Band Edge | Pass        |                | Meet the requirement of limit.                                                      |
| 2.1055             | Frequency Stability                   | Pass        |                | Meet the requirement of limit.                                                      |

Note:

Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

### 2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

| Measurement        | Frequency        | Uncertainty |
|--------------------|------------------|-------------|
| Radiated emissions | 9kHz ~ 30MHz     | 3.04 dB     |
|                    | 30MHz ~ 200MHz   | 3.63 dB     |
|                    | 200MHz ~ 1000MHz | 3.64 dB     |
|                    | 1GHz ~ 18GHz     | 2.29 dB     |
|                    | 18GHz ~ 40GHz    | 2.29 dB     |

### 2.2 Modification Record

There were no modifications required for compliance.

### 3 General Information

#### 3.1 General Description of EUT

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product                     | 5G MHS Travel Router                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Brand                       | NETGEAR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Test Model                  | MR5100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Status of EUT               | ENGINEERING SAMPLE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Power Supply Rating         | 5 or 9Vdc (adapter)<br>5Vdc (host equipment)<br>3.85Vdc (battery)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Modulation Type             | QPSK, 16QAM, 64QAM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Operating Frequency         | 37.649 ~ 39.950 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Supported Channel Bandwidth | 100MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Supported Carrier Component | 1CC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Max. E.I.R.P. Power (RMS)   | 24.25dBm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Antenna Type                | Refer to Note                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Antenna Connector           | NA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Accessory Device            | Adapter x1 , Battery x1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Cable Supplied              | 1m shielded USB cable without core (Brand: NIENYI, model: NYS2371-1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Antenna Information         | <p>There are three operational 5GNR modules (QTM525-5) in MR5100. Only one module is active at a given time. One antenna array is integrated on the backside of each 5GNR module. It consists of 4-element patch antenna array which is dual polarized (V &amp; H). The purpose of the three spatially spaced 5GNR modules are for spatial diversity. The device searches for the best wide beam width (single patch element beam) on the appropriate module to improve the link and then switches to best narrow beam width (4-element patch beam) once it finds the optimal beam location.</p> <p>Each antenna array can change its gain pattern by changing the amplitudes and phases for the signals that are fed into the different antennas or elements in the array. This is controlled by the Qualcomm software, particularly the codebook. The codebook can turn on one, two or 4 elements in the patch array to create a gain pattern called a "beam". All the three 5GNR modules support a total 135 beams or configurations, out of which 90 are single beams (SISO) and 45 are dual beams (MIMO). The maximum gain in V occurs when all the 4 vertically polarized patch feeds are turned on together and maximum gain in H occurs when all the 4 horizontally polarized patch feeds are turned on together, via the codebook amplitude &amp; phase weights. Both H &amp; V can also be excited simultaneously forming a beam-pair for MIMO operation.</p> |

Note:

1. Simultaneously transmission condition.

| Condition | Technology      |               |               |
|-----------|-----------------|---------------|---------------|
| 1         | WLAN 2.4GHz 2Tx | WLAN 5GHz 2Tx | WWAN or 5G NR |

Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.

2. The EUT contains three radio modules for millimeter wave.

| Millimeter wave radio module |        |
|------------------------------|--------|
| Radio Module                 | Status |
| Module 0 (Middle Side)       | Active |
| Module 1 (Left Side)         | Active |
| Module 2 (Right Side)        | Active |

3. The worst beam ID:

| Beam ID     |     |           |
|-------------|-----|-----------|
| Single Beam |     | MIMO Beam |
| 39          | 166 | 39 + 166  |
| 20          | 148 | 20 + 148  |
| 30          | 158 | 30 + 158  |

The worst beams are defined from the EIRP simulation report.

These modes were investigated and the worst case scenario was identified. The worst case data were presented in test report.

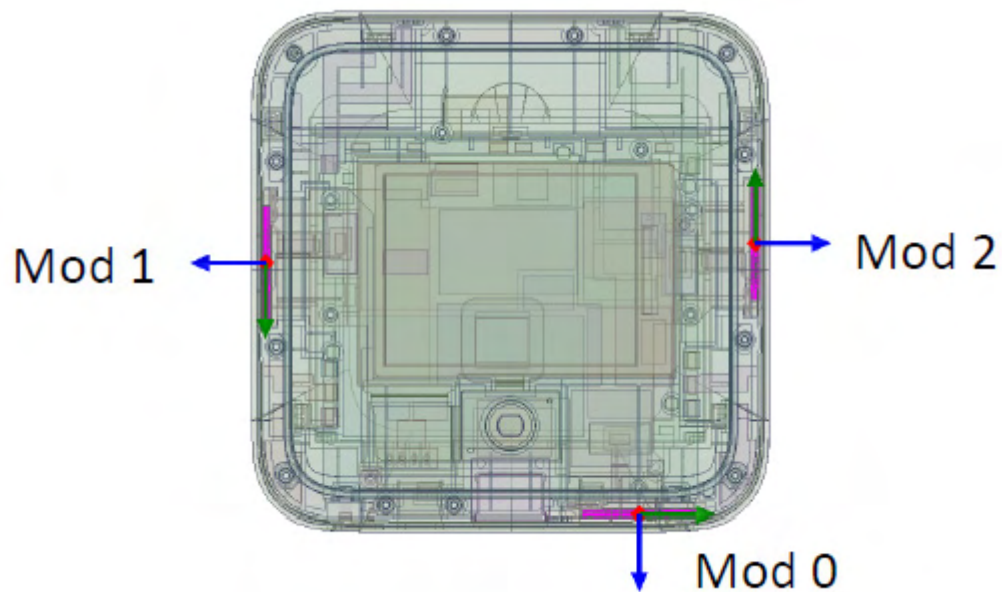
4. The EUT must be supplied with a power adapter or battery as following table:

| Items   | Brand   | Model No. | Spec.                                                                |
|---------|---------|-----------|----------------------------------------------------------------------|
| Adapter | NETGEAR | AD2122F20 | Input: 100-240Vac~50/60Hz, 0.5A<br>Output: 5Vdc / 2.0A or 9Vdc /1.8A |
| Battery | NETGEAR | W-20      | 3.85Vdc, 19.40Wh                                                     |

5. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.



## 6. <Antenna Location>



### 3.2 Description of Test Modes

| Channel Bandwidth (MHz) | Channel | Beam ID                                                                           |
|-------------------------|---------|-----------------------------------------------------------------------------------|
| 100                     | 2239997 | Single Beam: 39, 166, 20, 148, 30, 158<br>MIMO Beam: 39 + 166, 20 + 148, 30 + 158 |
|                         | 2259997 |                                                                                   |
|                         | 2278331 |                                                                                   |

### 3.2.1 Test Mode Applicability and Tested Channel Detail

| EUT CONFIGURE MODE | APPLICABLE TO |    |      |       |       |     |    | DESCRIPTION |
|--------------------|---------------|----|------|-------|-------|-----|----|-------------|
|                    | MC            | EB | EIRP | RE≥1G | RE<1G | OOB | FS |             |
| -                  | √             | √  | √    | √     | √     | √   | √  | -           |

Where **MC**: Modulation characteristics  
**EIRP**: Effective Isotropically Radiated Power  
**RE<1G**: Radiated Emission below 1GHz  
**FS**: Frequency Stability  
**EB**: Emission Bandwidth  
**RE≥1G**: Radiated Emission above 1GHz  
**OOB**: Out-of-Band Emission at the Band Edge

#### Modulation characteristics Measurement

- ☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

| TESTED CHANNEL | MODULATION           | MODE    |
|----------------|----------------------|---------|
| M              | QPSK / 16QAM / 64QAM | Full RB |

#### Radiated Emission Test (Above 1GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

| TESTED CHANNEL | MODULATION | MODE              |
|----------------|------------|-------------------|
| L, M, H        | QPSK       | 1RB / 32RB offset |

#### Radiated Emission Test (Below 1GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

| TESTED CHANNEL | MODULATION | MODE              |
|----------------|------------|-------------------|
| L, M, H        | QPSK       | 1RB / 32RB offset |

### **Out-of-Band Emission at the Band Edge:**

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

| TESTED CHANNEL | MODULATION | MODE                         |
|----------------|------------|------------------------------|
| L              | QPSK       | 1RB / 0RB offset<br>Full RB  |
| H              | QPSK       | 1RB / 65RB offset<br>Full RB |

### **EIRP Power Measurement:**

- ☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

| TESTED CHANNEL | MODULATION           | MODE                                                                  |
|----------------|----------------------|-----------------------------------------------------------------------|
| L, M, H        | QPSK / 16QAM / 64QAM | 1RB / 0RB offset<br>1RB / 32RB offset<br>1RB / 65RB offset<br>Full RB |

### **Frequency Stability Measurement:**

- ☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

| TESTED CHANNEL | MODULATION | MODE |
|----------------|------------|------|
| M              | QPSK       | -    |

### **Emission Bandwidth Measurement:**

- ☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

| TESTED CHANNEL | MODULATION           | MODE                         |
|----------------|----------------------|------------------------------|
| L, M, H        | QPSK / 16QAM / 64QAM | 1RB / 32RB offset<br>Full RB |

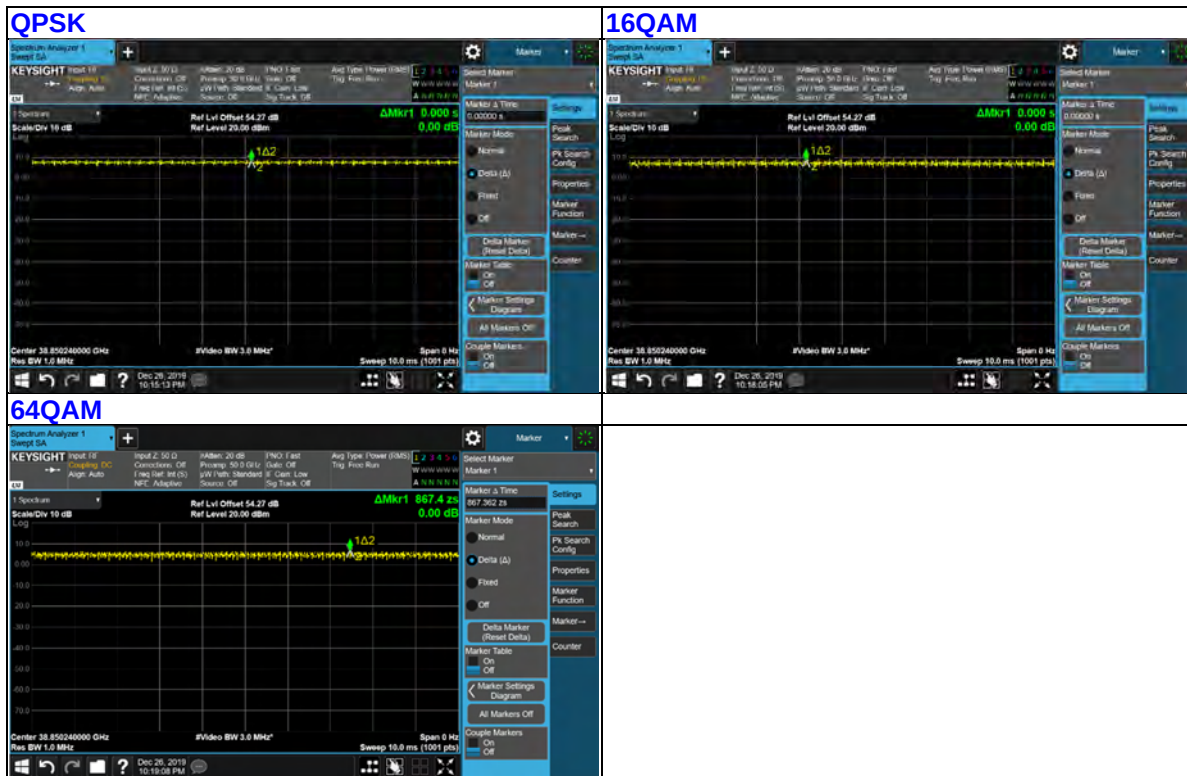
Note: All test result have been consider correction factor for more detail values please refer to "Annex A"

### Test Condition:

| APPLICABLE TO | ENVIRONMENTAL CONDITIONS | INPUT POWER  | TESTED BY |
|---------------|--------------------------|--------------|-----------|
| MC            | 25deg. C, 65%RH          | 120Vac, 60Hz | Leo Tsai  |
| EIRP          | 25deg. C, 65%RH          | 120Vac, 60Hz | Leo Tsai  |
| FS            | 25deg. C, 65%RH          | 120Vac, 60Hz | Leo Tsai  |
| EB            | 25deg. C, 65%RH          | 120Vac, 60Hz | Leo Tsai  |
| RE $\geq$ 1G  | 24deg. C, 68%RH          | 120Vac, 60Hz | Leo Tsai  |
| RE<1G         | 24deg. C, 68%RH          | 120Vac, 60Hz | Leo Tsai  |
| OOB           | 26deg. C, 69%RH          | 120Vac, 60Hz | Leo Tsai  |

### 3.3 Duty Cycle of Test Signal

Duty cycle of test signal is 100 %.



### 3.4 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

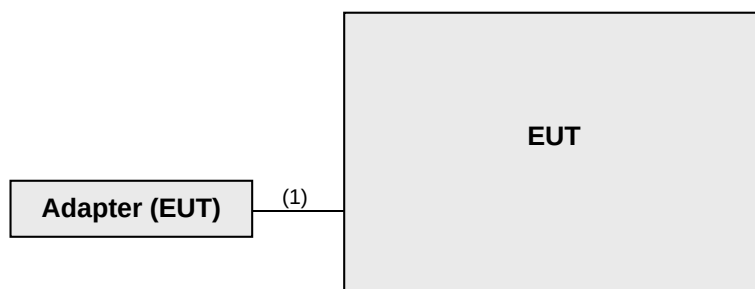
| ID | Product  | Brand  | Model No. | Serial No. | FCC ID           | Remarks |
|----|----------|--------|-----------|------------|------------------|---------|
| A. | Notebook | Lenovo | 81A4      | YD02TWF5   | FCC DoC Approved | -       |

Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item A acted as a communication partner to transfer data.

| ID | Descriptions | Qty. | Length (m) | Shielding (Yes/No) | Cores (Qty.) | Remarks          |
|----|--------------|------|------------|--------------------|--------------|------------------|
| 1. | USB cable    | 1    | 1          | Y                  | 0            | Accessory of EUT |

#### 3.4.1 Configuration of System under Test



### 3.5 General Description of Applied Standards and References

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

**FCC 47 CFR Part 2**

**FCC 47 CFR Part 30**

**ANSI 63.26-2015**

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

#### References Test Guidance:

**KDB 842590 D01 Upper Microwave Flexible Use Service v01**

All test items have been performed as a reference to the above KDB test guidance.

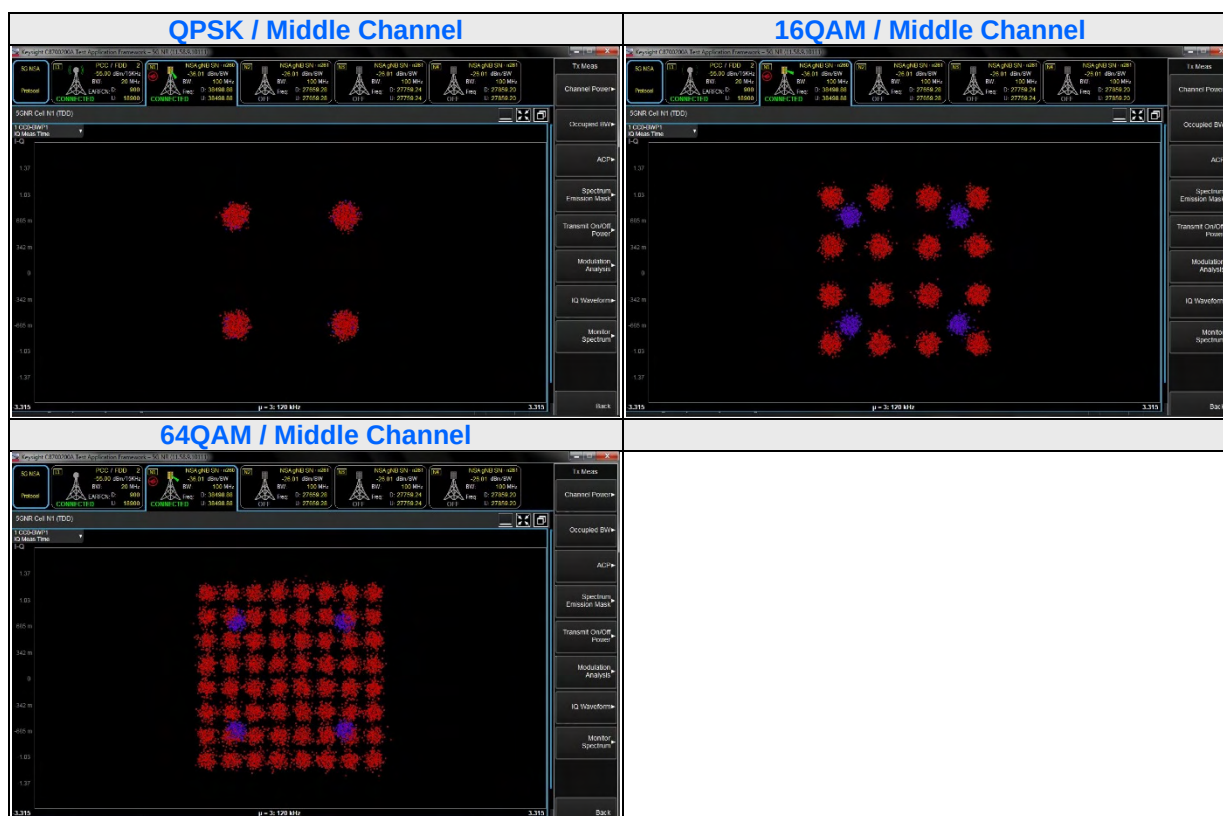
## 4 Test Types and Results

### 4.1 Modulation characteristics

#### 4.1.1 Limits of Modulation characteristics

N/A

#### 4.1.2 Test Result



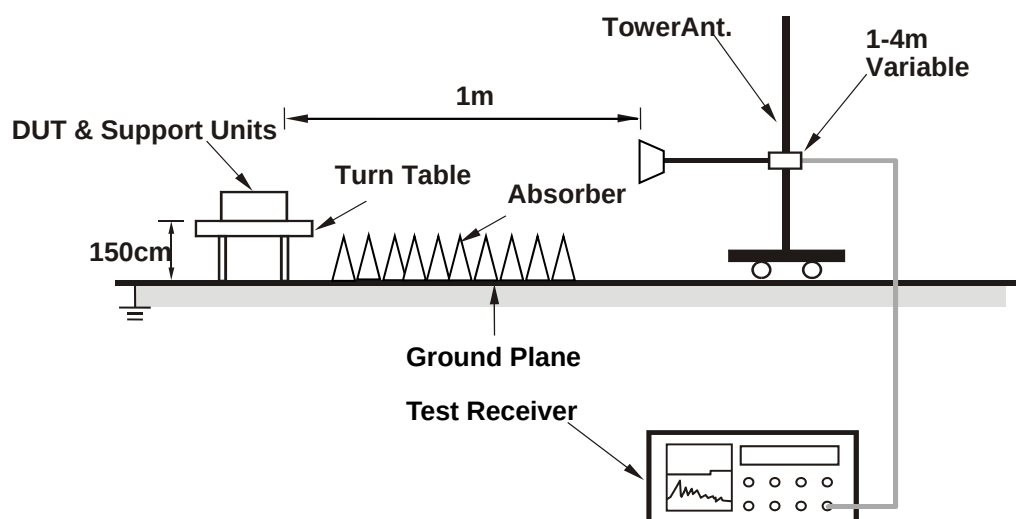
## 4.2 Equivalent Isotropic Radiated Power (EIRP) Measurement

### 4.2.1 Limits of EIRP Measurement

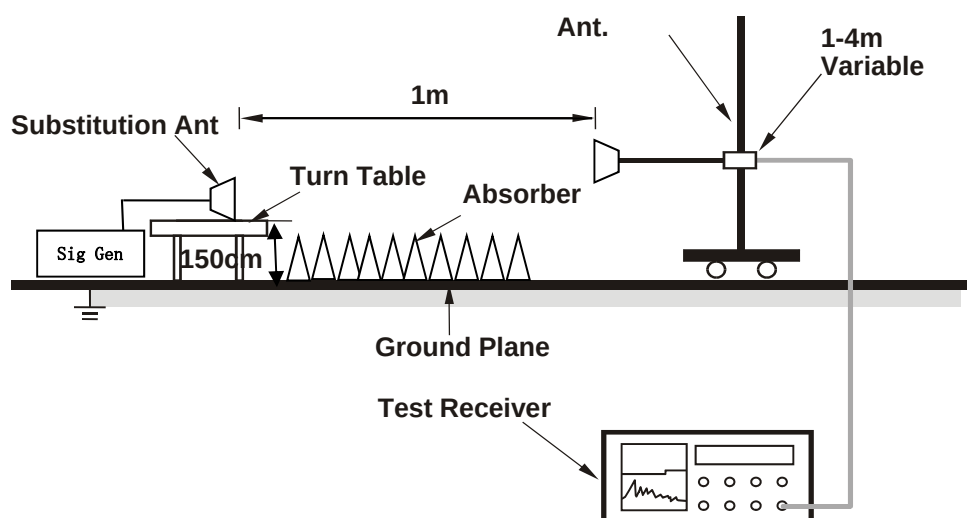
| Device                              |                         | Maximum Limit of EIRP                              |
|-------------------------------------|-------------------------|----------------------------------------------------|
| <input type="checkbox"/>            | Fixed and Base Stations | EIRP 75dBm/100MHz<br>(sum of all antenna elements) |
| <input checked="" type="checkbox"/> | Mobile Stations         | EIRP 43dBm<br>(sum of all antenna elements)        |
| <input type="checkbox"/>            | Transportable Stations  | EIRP 55dBm<br>(sum of all antenna elements)        |

### 4.2.2 Test Setup

#### Test site-up for radiated ERP and/or EIRP measurements



#### Substitution method set-up for radiated emission



#### 4.2.3 Test Instruments

##### For Below 40GHz and Frequency Stability

| Description & Manufacturer                       | Model No.                | Serial No.            | Cal. Date     | Cal. Due      |
|--------------------------------------------------|--------------------------|-----------------------|---------------|---------------|
| Test Receiver<br>ROHDE & SCHWARZ                 | ESIB7                    | 100187                | May 30, 2019  | May 29, 2020  |
| Spectrum Analyzer<br>ROHDE & SCHWARZ             | FSP40                    | 100040                | Sep. 23, 2019 | Sep. 22, 2020 |
| Spectrum Analyzer<br>KEYSIGHT                    | N9030A                   | MY54490561            | Jul. 31, 2019 | Jul. 30, 2020 |
| Spectrum Analyzer<br>KEYSIGHT                    | N9030B                   | MY57140953            | Jun. 28, 2019 | Jun. 27, 2020 |
| *Biconical antenna<br>SCHWARZBECK                | VHBB9124                 | 9124-546              | Jan. 14, 2019 | Jan. 13, 2022 |
| *LOG Antenna<br>SCHWARZBECK                      | VUSLP 9111               | 9111-363              | Jan. 14, 2019 | Jan. 13, 2022 |
| BILOG Antenna<br>SCHWARZBECK                     | VULB9168                 | 9168-155              | Nov. 11, 2019 | Nov. 10, 2020 |
| HORN Antenna<br>SCHWARZBECK                      | BBHA 9120D               | 9120D-1170            | Nov. 24, 2019 | Nov. 23, 2020 |
| HORN Antenna<br>ETS                              | 3117                     | 00034126              | Nov. 24, 2019 | Nov. 23, 2020 |
| HORN Antenna<br>SCHWARZBECK                      | BBHA 9170                | BBHA9170241           | Nov. 24, 2019 | Nov. 23, 2020 |
| HORN Antenna<br>SCHWARZBECK                      | BBHA 9170                | BBHA9170243           | Nov. 24, 2019 | Nov. 23, 2020 |
| Signal Generator                                 | N5173B                   | MY53270724            | Apr. 07, 2019 | Apr. 06, 2020 |
|                                                  |                          |                       | Apr. 01, 2020 | Mar. 31, 2021 |
| Preamplifier (Below 1GHz)<br>Agilent             | 8447D                    | 2944A10631            | Jul. 11, 2019 | Jul. 10, 2020 |
| Preamplifier (1GHz-18GHz)<br>KEYSIGHT            | 83017A                   | MY53270295            | Jun. 11, 2019 | Jun. 10, 2020 |
| Pre-amplifier (18GHz-40GHz)<br>EMC               | EMC184045B               | 980116                | Oct. 08, 2019 | Oct. 07, 2020 |
| RF signal cable<br>HUBER+SUHNER                  | SUCOFLEX 104             | MY 13380+295012/04    | Jul. 11, 2019 | Jul. 10, 2020 |
| RF signal cable<br>HUBER+SUHNER                  | SUCOFLEX 104             | Cable-CH4-03 (250724) | Jul. 11, 2019 | Jul. 10, 2020 |
| RF signal cable<br>HUBER+SUHNER                  | EMC102-KM-KM-600         | 150928                | Aug. 20, 2019 | Aug. 19, 2020 |
| RF signal cable<br>HUBER+SUHNER                  | EMC102-KM-KM-3000        | 150929                | Aug. 20, 2019 | Aug. 19, 2020 |
| RF signal cable<br>Rosnal                        | K1K50-UP0279-K1K50-3000  | 181129-1              | Oct. 08, 2019 | Oct. 07, 2020 |
| Software<br>BV ADT                               | ADT_Radiated_V7.6.15.9.5 | NA                    | NA            | NA            |
| Antenna Tower<br>inn-co GmbH                     | MA 4000                  | 010303                | NA            | NA            |
| Antenna Tower Controller<br>BV ADT               | AT100                    | AT93021703            | NA            | NA            |
| Turn Table<br>BV ADT                             | TT100                    | TT93021703            | NA            | NA            |
| Turn Table Controller<br>BV ADT                  | SC100                    | SC93021703            | NA            | NA            |
| Boresight Antenna Fixture                        | FBA-01                   | FBA-SIP01             | NA            | NA            |
| WIT Standard Temperature<br>And Humidity Chamber | TH-4S-C                  | W981030               | Jun. 03, 2019 | Jun. 02, 2020 |



| Description & Manufacturer    | Model No.    | Serial No. | Cal. Date    | Cal. Due     |
|-------------------------------|--------------|------------|--------------|--------------|
| JFW 20dB attenuation          | 50HF-020-SMA | NA         | NA           | NA           |
| True RMS Clamp Meter<br>Fluke | 325          | 31130711WS | May 21, 2019 | May 20, 2020 |

- Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. \*The calibration interval of the above test instruments is 36 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The test was performed in HwaYa Chamber 4.

**For Above 40GHz:**

| Description & Manufacturer                                                                  | Model No.             | Serial No. | Cal. Date     | Cal. Due      |
|---------------------------------------------------------------------------------------------|-----------------------|------------|---------------|---------------|
| Spectrum Analyzer<br>KEYSIGHT                                                               | N9030A                | MY54490561 | Jul. 31, 2019 | Jul. 30, 2020 |
| *Horn Antenna (33~55GHz)<br>OML                                                             | M22RH                 | 110215-1   | Oct. 17, 2017 | Oct. 16, 2020 |
| *Horn Antenna (50~75GHz)<br>OML                                                             | M15HWD                | 110215-1   | Oct. 17, 2017 | Oct. 16, 2020 |
| *Horn Antenna (75~110GHz)<br>OML                                                            | M10RH                 | 110215-1   | Oct. 17, 2017 | Oct. 16, 2020 |
| *Horn Antenna (110~170GHz)<br>OML                                                           | M06RH                 | 110215-1   | Oct. 17, 2017 | Oct. 16, 2020 |
| *Horn Antenna (140~220GHz)<br>OML                                                           | M05RH                 | 110215-1   | Oct. 17, 2017 | Oct. 16, 2020 |
| *Harmonic Mixer (110~170GHz)<br>OML                                                         | M06HWD                | 110215-1   | Oct. 17, 2017 | Oct. 16, 2020 |
| *Harmonic Mixer (140~220GHz)<br>OML                                                         | M05HWD                | 110215-1   | Oct. 17, 2017 | Oct. 16, 2020 |
| N9029AV15-DC9 - 50-75 GHz<br>VDI Standard Downconverter<br>with 9VDC supply<br>Keysight     | SA Extension<br>WR15  | SAX 381    | CoC           | CoC           |
| N9029AV10-DC9 - 75-110 GHz<br>VDI Standard Downconverter<br>with 9VDC supply<br>Keysight    | SA Extension<br>WR10  | SAX 378    | CoC           | CoC           |
| N9029AV06-DC9 - 110-170 GHz<br>VDI Standard Downconverter<br>with 9VDC supply<br>Keysight   | SA Extension<br>WR6.5 | SAX 377    | CoC           | CoC           |
| N9029AV05-DC9 - 140-220 GHz<br>VDI Standard Downconverter<br>with 9VDC supply<br>Keysight   | SA Extension<br>WR5.1 | SAX 375    | CoC           | CoC           |
| Millimeter-Wave Signal<br>Generator Frequency Extension<br>Module (50~75 GHz)<br>Keysight   | E8257DV15             | SGX 050    | CoC           | CoC           |
| Millimeter-Wave Signal<br>Generator Frequency Extension<br>Module (75~110 GHz)<br>Keysight  | E8257DV10             | SGX 051    | CoC           | CoC           |
| Millimeter-Wave Signal<br>Generator Frequency Extension<br>Module (110~170 GHz)<br>Keysight | E8257DV06-<br>DC9     | SGX 223    | CoC           | CoC           |
| Millimeter-Wave Signal<br>Generator Frequency Extension<br>Module (140~220 GHz)             | VDIWR5.1SGX           | PSGX 007   | CoC           | CoC           |
| PSG analog signal generator<br>Keysight                                                     | E8257D                | MY53401987 | June 21, 2019 | June 20, 2020 |
| Antenna Tower & Turn Table<br>CT                                                            | NA                    | NA         | NA            | NA            |

**Note:**

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. \*The calibration interval of the above test instruments is 36 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The test was performed in HwaYa Chamber 4
4. C.O.C: Certificate of conformance

#### 4.2.4 Test Procedures

- Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m(below or equal 1GHz) and/or 1.5m(above 1GHz) height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- The substitution antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step a. Record the power level of S.G

STEP 1: DUT emission amplitude level = SPEC ANALYZER READING (X dBm)

STEP 2: Adjust SG so that SG + TX Cable loss + TX Ant gain + Free Space Path Loss + RX Ant Factor + RX Cable Loss = Spec Analyzer Reading (X dBm)

- EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.

**Note:** Measurements were taken in the far field of the mm-Wave test signal based on the formula:

$$R \geq (2D^2) / \text{wavelength.}$$

| Measurement Distance                                                    |                                |                                  |
|-------------------------------------------------------------------------|--------------------------------|----------------------------------|
| EUT antenna of far field distance                                       |                                |                                  |
| Measurement Frequency range                                             | Far Field calculation distance | Measurement Distance (Far field) |
| Below 18GHz                                                             | 0.05m                          | 3m                               |
| 18GHz to 40GHz                                                          | 0.3m                           | 1m                               |
| 40GHz to 200GHz                                                         | 0.12m to 0.59m                 | 1m                               |
| Note: EUT Antenna Dimension is 21mm length, 2.2mm thick and 6.7mm high. |                                |                                  |
| Measurement antenna of far field distance                               |                                |                                  |
| Measurement Frequency range                                             | Far Field calculation distance | Measurement Distance (Far field) |
| 40GHz-50GHz                                                             | 30mm                           | 1m                               |
| 50GHz-75GHz                                                             | 25mm                           | 1m                               |
| 75GHz-110GHz                                                            | 18mm                           | 1m                               |
| 110GHz-170GHz                                                           | 12mm                           | 1m                               |
| 170GHz-200GHz                                                           | 8mm                            | 1m                               |

#### 4.2.5 Test Settings

- Radiated power measurements were performed using the spectrum analyzer's channel power measurement function.
- Set the RBW =1~5% of the anticipated RBW=1MHz, and the VBW  $\geq 3 \times$  RBW.
- Set spectrum analyzer detection mode to RMS
- Span = 2x to 3x the OBW
- No. of sweep points  $\geq 2 \times$  span / RBW
- Trigger is set to "free run" for test signals with continuous operation with the sweep times set to "auto". Trigger is set to enable triggering only on full power bursts with the sweep time set less that or equal to the transmission burst duration.
- The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation. For signal with burst transmission, the "gating" function was enabled to ensure that measurements were performed during times in which the transmitter is operating at its maximum power.
- Trace mode = trace averaging (RMS) over 100 sweeps.
- The trace was allowed to stabilize.

#### 4.2.6 Deviation from Test Standard

No deviation.

#### 4.2.7 EUT Operating Conditions

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

#### 4.2.8 Test Result

|                              |            |              |         |
|------------------------------|------------|--------------|---------|
| Beam ID                      | 39         | EUT position | Y-plane |
| Receive Antenna polarization | Horizontal |              |         |

#### QPSK

| Channel No. | Freq. (MHz) | RB Condition | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-------------|--------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| 2239997     | 37649.88    | 1RB0         | -36.29                 | 8.42                  | 10.47                  | 18.89      | 43.00       | -24.11      |
|             |             | 1RB32        | -35.21                 | 9.51                  | 10.47                  | 19.98      | 43.00       | -23.02      |
|             |             | 1RB65        | -36.27                 | 8.45                  | 10.47                  | 18.92      | 43.00       | -24.08      |
|             |             | Full RB      | -36.24                 | 8.48                  | 10.47                  | 18.95      | 43.00       | -24.05      |
| 2259997     | 38849.88    | 1RB0         | -35.45                 | 9.58                  | 9.43                   | 19.01      | 43.00       | -23.99      |
|             |             | 1RB32        | -34.23                 | 10.61                 | 9.43                   | 20.04      | 43.00       | -22.96      |
|             |             | 1RB65        | -35.17                 | 9.67                  | 9.43                   | 19.10      | 43.00       | -23.90      |
|             |             | Full RB      | -35.28                 | 9.56                  | 9.43                   | 18.99      | 43.00       | -24.01      |
| 2278331     | 39949.92    | 1RB0         | -37.43                 | 9.41                  | 9.51                   | 18.92      | 43.00       | -24.08      |
|             |             | 1RB32        | -36.26                 | 10.50                 | 9.51                   | 20.01      | 43.00       | -22.99      |
|             |             | 1RB65        | -37.02                 | 9.74                  | 9.51                   | 19.25      | 43.00       | -23.75      |
|             |             | Full RB      | -37.45                 | 9.31                  | 9.51                   | 18.82      | 43.00       | -24.18      |

#### Remarks:

1. The EIRP was evaluated on vertical and horizontal polarization, the worst case is Horizontal polarization.
2.  $EIRP (dBm) = S.G \text{ Value (dBm)} + \text{Correction Factor (dB)}$ .
3.  $\text{Correction Factor (dB)} = \text{Substitution Antenna Gain (dB)} + \text{Cable Loss (dB)}$ .
4.  $\text{Spectrum reading (dBm)} = \text{DUT emission amplitude level}$ .

### 16QAM

| Channel No. | Freq. (MHz) | RB Condition | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-------------|--------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| 2239997     | 37649.88    | 1RB0         | -37.27                 | 7.45                  | 10.47                  | 17.92      | 43.00       | -25.08      |
|             |             | 1RB32        | -36.27                 | 8.45                  | 10.47                  | 18.92      | 43.00       | -24.08      |
|             |             | 1RB65        | -37.30                 | 7.42                  | 10.47                  | 17.89      | 43.00       | -25.11      |
|             |             | Full RB      | -37.32                 | 7.40                  | 10.47                  | 17.87      | 43.00       | -25.13      |
| 2259997     | 38849.88    | 1RB0         | -36.26                 | 8.58                  | 9.43                   | 18.01      | 43.00       | -24.99      |
|             |             | 1RB32        | -35.23                 | 9.61                  | 9.43                   | 19.04      | 43.00       | -23.96      |
|             |             | 1RB65        | -36.16                 | 8.68                  | 9.43                   | 18.11      | 43.00       | -24.89      |
|             |             | Full RB      | -36.38                 | 8.46                  | 9.43                   | 17.89      | 43.00       | -25.11      |
| 2278331     | 39949.92    | 1RB0         | -38.35                 | 8.41                  | 9.51                   | 17.92      | 43.00       | -25.08      |
|             |             | 1RB32        | -37.27                 | 9.49                  | 9.51                   | 19.00      | 43.00       | -24.00      |
|             |             | 1RB65        | -38.12                 | 8.64                  | 9.51                   | 18.15      | 43.00       | -24.85      |
|             |             | Full RB      | -38.38                 | 8.38                  | 9.51                   | 17.89      | 43.00       | -25.11      |

#### Remarks:

1. The EIRP was evaluated on vertical and horizontal polarization, the worst case is Horizontal polarization.
2.  $EIRP (dBm) = S.G \text{ Value (dBm)} + \text{Correction Factor (dB)}$ .
3.  $\text{Correction Factor (dB)} = \text{Substitution Antenna Gain (dB)} + \text{Cable Loss (dB)}$ .
4.  $\text{Spectrum reading (dBm)} = \text{DUT emission amplitude level}$ .

### 64QAM

| Channel No. | Freq. (MHz) | RB Condition | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-------------|--------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| 2239997     | 37649.88    | 1RB0         | -39.07                 | 5.65                  | 10.47                  | 16.12      | 43.00       | -26.88      |
|             |             | 1RB32        | -37.64                 | 7.08                  | 10.47                  | 17.55      | 43.00       | -25.45      |
|             |             | 1RB65        | -38.90                 | 5.82                  | 10.47                  | 16.29      | 43.00       | -26.71      |
|             |             | Full RB      | -39.09                 | 5.63                  | 10.47                  | 16.10      | 43.00       | -26.90      |
| 2259997     | 38849.88    | 1RB0         | -37.96                 | 6.88                  | 9.43                   | 16.31      | 43.00       | -26.69      |
|             |             | 1RB32        | -36.93                 | 7.91                  | 9.43                   | 17.34      | 43.00       | -25.66      |
|             |             | 1RB65        | -37.84                 | 7.00                  | 9.43                   | 16.43      | 43.00       | -26.57      |
|             |             | Full RB      | -38.08                 | 6.76                  | 9.43                   | 16.19      | 43.00       | -26.81      |
| 2278331     | 39949.92    | 1RB0         | -39.95                 | 6.81                  | 9.51                   | 16.32      | 43.00       | -26.68      |
|             |             | 1RB32        | -38.86                 | 7.90                  | 9.51                   | 17.41      | 43.00       | -25.59      |
|             |             | 1RB65        | -39.78                 | 6.98                  | 9.51                   | 16.49      | 43.00       | -26.51      |
|             |             | Full RB      | -39.98                 | 6.78                  | 9.51                   | 16.29      | 43.00       | -26.71      |

#### Remarks:

1. The EIRP was evaluated on vertical and horizontal polarization, the worst case is Horizontal polarization.
2.  $EIRP (dBm) = S.G \text{ Value (dBm)} + \text{Correction Factor (dB)}$ .
3.  $\text{Correction Factor (dB)} = \text{Substitution Antenna Gain (dB)} + \text{Cable Loss (dB)}$ .
4.  $\text{Spectrum reading (dBm)} = \text{DUT emission amplitude level}$ .

|                              |     |              |         |
|------------------------------|-----|--------------|---------|
| Beam ID                      | 166 | EUT position | Y-plane |
| Receive Antenna polarization |     | Horizontal   |         |

#### QPSK

| Channel No. | Freq. (MHz) | RB Condition | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-------------|--------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| 2239997     | 37649.88    | 1RB0         | -36.28                 | 8.43                  | 10.47                  | 18.90      | 43.00       | -24.10      |
|             |             | 1RB32        | -35.28                 | 9.44                  | 10.47                  | 19.91      | 43.00       | -23.09      |
|             |             | 1RB65        | -36.14                 | 8.58                  | 10.47                  | 19.05      | 43.00       | -23.95      |
|             |             | Full RB      | -36.18                 | 8.54                  | 10.47                  | 19.01      | 43.00       | -23.99      |
| 2259997     | 38849.88    | 1RB0         | -35.45                 | 9.58                  | 9.43                   | 19.01      | 43.00       | -23.99      |
|             |             | 1RB32        | -34.25                 | 10.59                 | 9.43                   | 20.02      | 43.00       | -22.98      |
|             |             | 1RB65        | -35.11                 | 9.73                  | 9.43                   | 19.16      | 43.00       | -23.84      |
|             |             | Full RB      | -35.15                 | 9.69                  | 9.43                   | 19.12      | 43.00       | -23.88      |
| 2278331     | 39949.92    | 1RB0         | -37.38                 | 9.46                  | 9.51                   | 18.97      | 43.00       | -24.03      |
|             |             | 1RB32        | -36.29                 | 10.47                 | 9.51                   | 19.98      | 43.00       | -23.02      |
|             |             | 1RB65        | -37.17                 | 9.59                  | 9.51                   | 19.10      | 43.00       | -23.90      |
|             |             | Full RB      | -37.19                 | 9.57                  | 9.51                   | 19.08      | 43.00       | -23.92      |

#### Remarks:

1. The EIRP was evaluated on vertical and horizontal polarization, the worst case is Horizontal polarization.
2.  $EIRP (dBm) = S.G \text{ Value (dBm)} + \text{Correction Factor (dB)}$ .
3.  $\text{Correction Factor (dB)} = \text{Substitution Antenna Gain (dB)} + \text{Cable Loss (dB)}$ .
4.  $\text{Spectrum reading (dBm)} = \text{DUT emission amplitude level}$ .

#### 16QAM

| Channel No. | Freq. (MHz) | RB Condition | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-------------|--------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| 2239997     | 37649.88    | 1RB0         | -36.99                 | 7.73                  | 10.47                  | 18.20      | 43.00       | -24.80      |
|             |             | 1RB32        | -36.28                 | 8.44                  | 10.47                  | 18.91      | 43.00       | -24.09      |
|             |             | 1RB65        | -37.07                 | 7.65                  | 10.47                  | 18.12      | 43.00       | -24.88      |
|             |             | Full RB      | -37.08                 | 7.64                  | 10.47                  | 18.11      | 43.00       | -24.89      |
| 2259997     | 38849.88    | 1RB0         | -36.26                 | 8.58                  | 9.43                   | 18.01      | 43.00       | -24.99      |
|             |             | 1RB32        | -35.25                 | 9.59                  | 9.43                   | 19.02      | 43.00       | -23.98      |
|             |             | 1RB65        | -36.11                 | 8.73                  | 9.43                   | 18.16      | 43.00       | -24.84      |
|             |             | Full RB      | -36.22                 | 8.62                  | 9.43                   | 18.05      | 43.00       | -24.95      |
| 2278331     | 39949.92    | 1RB0         | -38.28                 | 8.48                  | 9.51                   | 17.99      | 43.00       | -25.01      |
|             |             | 1RB32        | -37.28                 | 9.48                  | 9.51                   | 18.99      | 43.00       | -24.01      |
|             |             | 1RB65        | -38.15                 | 8.61                  | 9.51                   | 18.12      | 43.00       | -24.88      |
|             |             | Full RB      | -38.19                 | 8.57                  | 9.51                   | 18.08      | 43.00       | -24.92      |

#### Remarks:

1. The EIRP was evaluated on vertical and horizontal polarization, the worst case is Horizontal polarization.
2.  $EIRP (dBm) = S.G \text{ Value (dBm)} + \text{Correction Factor (dB)}$ .
3.  $\text{Correction Factor (dB)} = \text{Substitution Antenna Gain (dB)} + \text{Cable Loss (dB)}$ .
4.  $\text{Spectrum reading (dBm)} = \text{DUT emission amplitude level}$ .

## 64QAM

| Channel No. | Freq. (MHz) | RB Condition | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-------------|--------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| 2239997     | 37649.88    | 1RB0         | -38.38                 | 6.34                  | 10.47                  | 16.81      | 43.00       | -26.19      |
|             |             | 1RB32        | -37.78                 | 6.94                  | 10.47                  | 17.41      | 43.00       | -25.59      |
|             |             | 1RB65        | -38.29                 | 6.43                  | 10.47                  | 16.90      | 43.00       | -26.10      |
|             |             | Full RB      | -38.41                 | 6.31                  | 10.47                  | 16.78      | 43.00       | -26.22      |
| 2259997     | 38849.88    | 1RB0         | -37.42                 | 7.42                  | 9.43                   | 16.85      | 43.00       | -26.15      |
|             |             | 1RB32        | -36.95                 | 7.89                  | 9.43                   | 17.32      | 43.00       | -25.68      |
|             |             | 1RB65        | -37.42                 | 7.42                  | 9.43                   | 16.85      | 43.00       | -26.15      |
|             |             | Full RB      | -37.48                 | 7.36                  | 9.43                   | 16.79      | 43.00       | -26.21      |
| 2278331     | 39949.92    | 1RB0         | -40.02                 | 6.74                  | 9.51                   | 16.25      | 43.00       | -26.75      |
|             |             | 1RB32        | -39.05                 | 7.71                  | 9.51                   | 17.22      | 43.00       | -25.78      |
|             |             | 1RB65        | -39.58                 | 7.18                  | 9.51                   | 16.69      | 43.00       | -26.31      |
|             |             | Full RB      | -39.66                 | 7.10                  | 9.51                   | 16.61      | 43.00       | -26.39      |

### Remarks:

1. The EIRP was evaluated on vertical and horizontal polarization, the worst case is Horizontal polarization.
2.  $EIRP (dBm) = S.G \text{ Value (dBm)} + \text{Correction Factor (dB)}$ .
3.  $\text{Correction Factor (dB)} = \text{Substitution Antenna Gain (dB)} + \text{Cable Loss (dB)}$ .
4.  $\text{Spectrum reading (dBm)} = \text{DUT emission amplitude level}$ .

|                              |    |              |         |
|------------------------------|----|--------------|---------|
| Beam ID                      | 20 | EUT position | X-plane |
| Receive Antenna polarization |    | Vertical     |         |

#### QPSK

| Channel No. | Freq. (MHz) | RB Condition | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-------------|--------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| 2239997     | 37649.88    | 1RB0         | -34.52                 | 10.20                 | 10.47                  | 20.67      | 43.00       | -22.33      |
|             |             | 1RB32        | -33.68                 | 11.04                 | 10.47                  | 21.51      | 43.00       | -21.49      |
|             |             | 1RB65        | -34.31                 | 10.41                 | 10.47                  | 20.88      | 43.00       | -22.12      |
|             |             | Full RB      | -34.75                 | 9.97                  | 10.47                  | 20.44      | 43.00       | -22.56      |
| 2259997     | 38849.88    | 1RB0         | -33.46                 | 11.38                 | 9.43                   | 20.81      | 43.00       | -22.19      |
|             |             | 1RB32        | -32.55                 | 12.29                 | 9.43                   | 21.72      | 43.00       | -21.28      |
|             |             | 1RB65        | -33.25                 | 11.59                 | 9.43                   | 21.02      | 43.00       | -21.98      |
|             |             | Full RB      | -33.79                 | 11.05                 | 9.43                   | 20.48      | 43.00       | -22.52      |
| 2278331     | 39949.92    | 1RB0         | -35.56                 | 11.20                 | 9.51                   | 20.71      | 43.00       | -22.29      |
|             |             | 1RB32        | -34.59                 | 12.17                 | 9.51                   | 21.68      | 43.00       | -21.32      |
|             |             | 1RB65        | -35.35                 | 11.41                 | 9.51                   | 20.92      | 43.00       | -22.08      |
|             |             | Full RB      | -35.87                 | 10.89                 | 9.51                   | 20.40      | 43.00       | -22.6       |

#### Remarks:

1. The EIRP was evaluated on vertical and horizontal polarization, the worst case is Horizontal polarization.
2.  $EIRP (dBm) = S.G \text{ Value (dBm)} + \text{Correction Factor (dB)}$ .
3.  $\text{Correction Factor (dB)} = \text{Substitution Antenna Gain (dB)} + \text{Cable Loss (dB)}$ .
4.  $\text{Spectrum reading (dBm)} = \text{DUT emission amplitude level}$ .

#### 16QAM

| Channel No. | Freq. (MHz) | RB Condition | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-------------|--------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| 2239997     | 37649.88    | 1RB0         | -35.49                 | 9.23                  | 10.47                  | 19.70      | 43.00       | -23.30      |
|             |             | 1RB32        | -34.58                 | 10.14                 | 10.47                  | 20.61      | 43.00       | -22.39      |
|             |             | 1RB65        | -35.3                  | 9.42                  | 10.47                  | 19.89      | 43.00       | -23.11      |
|             |             | Full RB      | -35.69                 | 9.03                  | 10.47                  | 19.50      | 43.00       | -23.50      |
| 2259997     | 38849.88    | 1RB0         | -34.45                 | 10.39                 | 9.43                   | 19.82      | 43.00       | -23.18      |
|             |             | 1RB32        | -33.58                 | 11.26                 | 9.43                   | 20.69      | 43.00       | -22.31      |
|             |             | 1RB65        | -34.26                 | 10.58                 | 9.43                   | 20.01      | 43.00       | -22.99      |
|             |             | Full RB      | -34.75                 | 10.09                 | 9.43                   | 19.52      | 43.00       | -23.48      |
| 2278331     | 39949.92    | 1RB0         | -36.56                 | 10.20                 | 9.51                   | 19.71      | 43.00       | -23.29      |
|             |             | 1RB32        | -35.67                 | 11.09                 | 9.51                   | 20.60      | 43.00       | -22.40      |
|             |             | 1RB65        | -36.37                 | 10.39                 | 9.51                   | 19.90      | 43.00       | -23.10      |
|             |             | Full RB      | -36.82                 | 9.94                  | 9.51                   | 19.45      | 43.00       | -23.55      |

#### Remarks:

1. The EIRP was evaluated on vertical and horizontal polarization, the worst case is Horizontal polarization.
2.  $EIRP (dBm) = S.G \text{ Value (dBm)} + \text{Correction Factor (dB)}$ .
3.  $\text{Correction Factor (dB)} = \text{Substitution Antenna Gain (dB)} + \text{Cable Loss (dB)}$ .
4.  $\text{Spectrum reading (dBm)} = \text{DUT emission amplitude level}$ .



## 64QAM

| Channel No. | Freq. (MHz) | RB Condition | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-------------|--------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| 2239997     | 37649.88    | 1RB0         | -37.18                 | 7.54                  | 10.47                  | 18.01      | 43.00       | -24.99      |
|             |             | 1RB32        | -36.24                 | 8.48                  | 10.47                  | 18.95      | 43.00       | -24.05      |
|             |             | 1RB65        | -37.00                 | 7.72                  | 10.47                  | 18.19      | 43.00       | -24.81      |
|             |             | Full RB      | -37.30                 | 7.42                  | 10.47                  | 17.89      | 43.00       | -25.11      |
| 2259997     | 38849.88    | 1RB0         | -36.16                 | 8.68                  | 9.43                   | 18.11      | 43.00       | -24.89      |
|             |             | 1RB32        | -35.16                 | 9.68                  | 9.43                   | 19.11      | 43.00       | -23.89      |
|             |             | 1RB65        | -36.04                 | 8.80                  | 9.43                   | 18.23      | 43.00       | -24.77      |
|             |             | Full RB      | -36.12                 | 8.72                  | 9.43                   | 18.15      | 43.00       | -24.85      |
| 2278331     | 39949.92    | 1RB0         | -38.26                 | 8.50                  | 9.51                   | 18.01      | 43.00       | -24.99      |
|             |             | 1RB32        | -37.36                 | 9.40                  | 9.51                   | 18.91      | 43.00       | -24.09      |
|             |             | 1RB65        | -38.06                 | 8.70                  | 9.51                   | 18.21      | 43.00       | -24.79      |
|             |             | Full RB      | -38.28                 | 8.48                  | 9.51                   | 17.99      | 43.00       | -25.01      |

### Remarks:

1. The EIRP was evaluated on vertical and horizontal polarization, the worst case is Horizontal polarization.
2.  $EIRP (dBm) = S.G \text{ Value (dBm)} + \text{Correction Factor (dB)}$ .
3.  $\text{Correction Factor (dB)} = \text{Substitution Antenna Gain (dB)} + \text{Cable Loss (dB)}$ .
4.  $\text{Spectrum reading (dBm)} = \text{DUT emission amplitude level}$ .

|                              |     |              |         |
|------------------------------|-----|--------------|---------|
| Beam ID                      | 148 | EUT position | X-plane |
| Receive Antenna polarization |     | Vertical     |         |

#### QPSK

| Channel No. | Freq. (MHz) | RB Condition | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-------------|--------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| 2239997     | 37649.88    | 1RB0         | -35.80                 | 8.92                  | 10.47                  | 19.39      | 43.00       | -23.61      |
|             |             | 1RB32        | -34.53                 | 10.19                 | 10.47                  | 20.66      | 43.00       | -22.34      |
|             |             | 1RB65        | -35.26                 | 9.46                  | 10.47                  | 19.93      | 43.00       | -23.07      |
|             |             | Full RB      | -35.44                 | 9.28                  | 10.47                  | 19.75      | 43.00       | -23.25      |
| 2259997     | 38849.88    | 1RB0         | -34.85                 | 9.99                  | 9.43                   | 19.42      | 43.00       | -23.58      |
|             |             | 1RB32        | -33.57                 | 11.27                 | 9.43                   | 20.70      | 43.00       | -22.30      |
|             |             | 1RB65        | -34.26                 | 10.58                 | 9.43                   | 20.01      | 43.00       | -22.99      |
|             |             | Full RB      | -34.39                 | 10.45                 | 9.43                   | 19.88      | 43.00       | -23.12      |
| 2278331     | 39949.92    | 1RB0         | -36.87                 | 9.89                  | 9.51                   | 19.40      | 43.00       | -23.60      |
|             |             | 1RB32        | -35.66                 | 11.10                 | 9.51                   | 20.61      | 43.00       | -22.39      |
|             |             | 1RB65        | -36.29                 | 10.47                 | 9.51                   | 19.98      | 43.00       | -23.02      |
|             |             | Full RB      | -36.56                 | 10.20                 | 9.51                   | 19.71      | 43.00       | -23.29      |

#### Remarks:

1. The EIRP was evaluated on vertical and horizontal polarization, the worst case is Horizontal polarization.
2.  $EIRP (dBm) = S.G \text{ Value (dBm)} + \text{Correction Factor (dB)}$ .
3.  $\text{Correction Factor (dB)} = \text{Substitution Antenna Gain (dB)} + \text{Cable Loss (dB)}$ .
4.  $\text{Spectrum reading (dBm)} = \text{DUT emission amplitude level}$ .

#### 16QAM

| Channel No. | Freq. (MHz) | RB Condition | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-------------|--------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| 2239997     | 37649.88    | 1RB0         | -36.80                 | 7.92                  | 10.47                  | 18.39      | 43.00       | -24.61      |
|             |             | 1RB32        | -35.58                 | 9.14                  | 10.47                  | 19.61      | 43.00       | -23.39      |
|             |             | 1RB65        | -36.25                 | 8.47                  | 10.47                  | 18.94      | 43.00       | -24.06      |
|             |             | Full RB      | -36.48                 | 8.24                  | 10.47                  | 18.71      | 43.00       | -24.29      |
| 2259997     | 38849.88    | 1RB0         | -35.82                 | 9.02                  | 9.43                   | 18.45      | 43.00       | -24.55      |
|             |             | 1RB32        | -34.52                 | 10.32                 | 9.43                   | 19.75      | 43.00       | -23.25      |
|             |             | 1RB65        | -35.29                 | 9.55                  | 9.43                   | 18.98      | 43.00       | -24.02      |
|             |             | Full RB      | -35.57                 | 9.27                  | 9.43                   | 18.70      | 43.00       | -24.30      |
| 2278331     | 39949.92    | 1RB0         | -37.96                 | 8.80                  | 9.51                   | 18.31      | 43.00       | -24.69      |
|             |             | 1RB32        | -36.67                 | 10.09                 | 9.51                   | 19.60      | 43.00       | -23.40      |
|             |             | 1RB65        | -37.38                 | 9.38                  | 9.51                   | 18.89      | 43.00       | -24.11      |
|             |             | Full RB      | -37.59                 | 9.17                  | 9.51                   | 18.68      | 43.00       | -24.32      |

#### Remarks:

1. The EIRP was evaluated on vertical and horizontal polarization, the worst case is Horizontal polarization.
2.  $EIRP (dBm) = S.G \text{ Value (dBm)} + \text{Correction Factor (dB)}$ .
3.  $\text{Correction Factor (dB)} = \text{Substitution Antenna Gain (dB)} + \text{Cable Loss (dB)}$ .
4.  $\text{Spectrum reading (dBm)} = \text{DUT emission amplitude level}$ .

## 64QAM

| Channel No. | Freq. (MHz) | RB Condition | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-------------|--------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| 2239997     | 37649.88    | 1RB0         | -38.18                 | 6.54                  | 10.47                  | 17.01      | 43.00       | -25.99      |
|             |             | 1RB32        | -36.97                 | 7.75                  | 10.47                  | 18.22      | 43.00       | -24.78      |
|             |             | 1RB65        | -37.67                 | 7.05                  | 10.47                  | 17.52      | 43.00       | -25.48      |
|             |             | Full RB      | -37.87                 | 6.85                  | 10.47                  | 17.32      | 43.00       | -25.68      |
| 2259997     | 38849.88    | 1RB0         | -37.26                 | 7.58                  | 9.43                   | 17.01      | 43.00       | -25.99      |
|             |             | 1RB32        | -35.94                 | 8.90                  | 9.43                   | 18.33      | 43.00       | -24.67      |
|             |             | 1RB65        | -36.39                 | 8.45                  | 9.43                   | 17.88      | 43.00       | -25.12      |
|             |             | Full RB      | -36.91                 | 7.93                  | 9.43                   | 17.36      | 43.00       | -25.64      |
| 2278331     | 39949.92    | 1RB0         | -39.37                 | 7.39                  | 9.51                   | 16.90      | 43.00       | -26.10      |
|             |             | 1RB32        | -38.98                 | 7.78                  | 9.51                   | 17.29      | 43.00       | -25.71      |
|             |             | 1RB65        | -38.87                 | 7.89                  | 9.51                   | 17.40      | 43.00       | -25.60      |
|             |             | Full RB      | -38.98                 | 7.78                  | 9.51                   | 17.29      | 43.00       | -25.71      |

### Remarks:

1. The EIRP was evaluated on vertical and horizontal polarization, the worst case is Horizontal polarization.
2.  $EIRP (dBm) = S.G \text{ Value (dBm)} + \text{Correction Factor (dB)}$ .
3.  $\text{Correction Factor (dB)} = \text{Substitution Antenna Gain (dB)} + \text{Cable Loss (dB)}$ .
4.  $\text{Spectrum reading (dBm)} = \text{DUT emission amplitude level}$ .

|                              |    |              |         |
|------------------------------|----|--------------|---------|
| Beam ID                      | 30 | EUT position | X-plane |
| Receive Antenna polarization |    | Vertical     |         |

#### QPSK

| Channel No. | Freq. (MHz) | RB Condition | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-------------|--------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| 2239997     | 37649.88    | 1RB0         | -35.21                 | 9.51                  | 10.47                  | 19.98      | 43.00       | -23.02      |
|             |             | 1RB32        | -34.28                 | 10.44                 | 10.47                  | 20.91      | 43.00       | -22.09      |
|             |             | 1RB65        | -35.09                 | 9.63                  | 10.47                  | 20.10      | 43.00       | -22.90      |
|             |             | Full RB      | -35.07                 | 9.65                  | 10.47                  | 20.12      | 43.00       | -22.88      |
| 2259997     | 38849.88    | 1RB0         | -34.15                 | 10.69                 | 9.43                   | 20.12      | 43.00       | -22.88      |
|             |             | 1RB32        | -33.17                 | 11.67                 | 9.43                   | 21.10      | 43.00       | -21.90      |
|             |             | 1RB65        | -34.02                 | 10.82                 | 9.43                   | 20.25      | 43.00       | -22.75      |
|             |             | Full RB      | -34.01                 | 10.83                 | 9.43                   | 20.26      | 43.00       | -22.74      |
| 2278331     | 39949.92    | 1RB0         | -36.25                 | 10.51                 | 9.51                   | 20.02      | 43.00       | -22.98      |
|             |             | 1RB32        | -35.26                 | 11.50                 | 9.51                   | 21.01      | 43.00       | -21.99      |
|             |             | 1RB65        | -36.10                 | 10.66                 | 9.51                   | 20.17      | 43.00       | -22.83      |
|             |             | Full RB      | -36.12                 | 10.64                 | 9.51                   | 20.15      | 43.00       | -22.85      |

#### Remarks:

1. The EIRP was evaluated on vertical and horizontal polarization, the worst case is Horizontal polarization.
2.  $EIRP (dBm) = S.G \text{ Value (dBm)} + \text{Correction Factor (dB)}$ .
3.  $\text{Correction Factor (dB)} = \text{Substitution Antenna Gain (dB)} + \text{Cable Loss (dB)}$ .
4.  $\text{Spectrum reading (dBm)} = \text{DUT emission amplitude level}$ .

#### 16QAM

| Channel No. | Freq. (MHz) | RB Condition | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-------------|--------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| 2239997     | 37649.88    | 1RB0         | -36.20                 | 8.52                  | 10.47                  | 18.99      | 43.00       | -24.01      |
|             |             | 1RB32        | -35.27                 | 9.45                  | 10.47                  | 19.92      | 43.00       | -23.08      |
|             |             | 1RB65        | -36.14                 | 8.58                  | 10.47                  | 19.05      | 43.00       | -23.95      |
|             |             | Full RB      | -36.07                 | 8.65                  | 10.47                  | 19.12      | 43.00       | -23.88      |
| 2259997     | 38849.88    | 1RB0         | -35.17                 | 9.67                  | 9.43                   | 19.10      | 43.00       | -23.90      |
|             |             | 1RB32        | -34.15                 | 10.69                 | 9.43                   | 20.12      | 43.00       | -22.88      |
|             |             | 1RB65        | -35.06                 | 9.78                  | 9.43                   | 19.21      | 43.00       | -23.79      |
|             |             | Full RB      | -35.07                 | 9.77                  | 9.43                   | 19.20      | 43.00       | -23.80      |
| 2278331     | 39949.92    | 1RB0         | -37.26                 | 9.50                  | 9.51                   | 19.01      | 43.00       | -23.99      |
|             |             | 1RB32        | -36.27                 | 10.49                 | 9.51                   | 20.00      | 43.00       | -23.00      |
|             |             | 1RB65        | -37.17                 | 9.59                  | 9.51                   | 19.10      | 43.00       | -23.90      |
|             |             | Full RB      | -37.14                 | 9.62                  | 9.51                   | 19.13      | 43.00       | -23.87      |

#### Remarks:

1. The EIRP was evaluated on vertical and horizontal polarization, the worst case is Horizontal polarization.
2.  $EIRP (dBm) = S.G \text{ Value (dBm)} + \text{Correction Factor (dB)}$ .
3.  $\text{Correction Factor (dB)} = \text{Substitution Antenna Gain (dB)} + \text{Cable Loss (dB)}$ .
4.  $\text{Spectrum reading (dBm)} = \text{DUT emission amplitude level}$ .

## 64QAM

| Channel No. | Freq. (MHz) | RB Condition | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-------------|--------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| 2239997     | 37649.88    | 1RB0         | -37.90                 | 6.82                  | 10.47                  | 17.29      | 43.00       | -25.71      |
|             |             | 1RB32        | -36.94                 | 7.78                  | 10.47                  | 18.25      | 43.00       | -24.75      |
|             |             | 1RB65        | -37.80                 | 6.92                  | 10.47                  | 17.39      | 43.00       | -25.61      |
|             |             | Full RB      | -37.88                 | 6.84                  | 10.47                  | 17.31      | 43.00       | -25.69      |
| 2259997     | 38849.88    | 1RB0         | -36.77                 | 8.07                  | 9.43                   | 17.50      | 43.00       | -25.50      |
|             |             | 1RB32        | -35.87                 | 8.97                  | 9.43                   | 18.40      | 43.00       | -24.60      |
|             |             | 1RB65        | -36.84                 | 8.00                  | 9.43                   | 17.43      | 43.00       | -25.57      |
|             |             | Full RB      | -36.86                 | 7.98                  | 9.43                   | 17.41      | 43.00       | -25.59      |
| 2278331     | 39949.92    | 1RB0         | -38.96                 | 7.80                  | 9.51                   | 17.31      | 43.00       | -25.69      |
|             |             | 1RB32        | -37.91                 | 8.85                  | 9.51                   | 18.36      | 43.00       | -24.64      |
|             |             | 1RB65        | -38.87                 | 7.89                  | 9.51                   | 17.40      | 43.00       | -25.60      |
|             |             | Full RB      | -38.84                 | 7.92                  | 9.51                   | 17.43      | 43.00       | -25.57      |

### Remarks:

1. The EIRP was evaluated on vertical and horizontal polarization, the worst case is Horizontal polarization.
2.  $EIRP (dBm) = S.G \text{ Value (dBm)} + \text{Correction Factor (dB)}$ .
3.  $\text{Correction Factor (dB)} = \text{Substitution Antenna Gain (dB)} + \text{Cable Loss (dB)}$ .
4.  $\text{Spectrum reading (dBm)} = \text{DUT emission amplitude level}$ .

|                              |          |              |         |
|------------------------------|----------|--------------|---------|
| Beam ID                      | 158      | EUT position | X-plane |
| Receive Antenna polarization | Vertical |              |         |

#### QPSK

| Channel No. | Freq. (MHz) | RB Condition | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-------------|--------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| 2239997     | 37649.88    | 1RB0         | -35.67                 | 9.05                  | 10.47                  | 19.52      | 43.00       | -23.48      |
|             |             | 1RB32        | -34.47                 | 10.25                 | 10.47                  | 20.72      | 43.00       | -22.28      |
|             |             | 1RB65        | -35.27                 | 9.45                  | 10.47                  | 19.92      | 43.00       | -23.08      |
|             |             | Full RB      | -35.17                 | 9.55                  | 10.47                  | 20.02      | 43.00       | -22.98      |
| 2259997     | 38849.88    | 1RB0         | -34.36                 | 10.48                 | 9.43                   | 19.91      | 43.00       | -23.09      |
|             |             | 1RB32        | -33.36                 | 11.48                 | 9.43                   | 20.91      | 43.00       | -22.09      |
|             |             | 1RB65        | -34.10                 | 10.74                 | 9.43                   | 20.17      | 43.00       | -22.83      |
|             |             | Full RB      | -34.12                 | 10.72                 | 9.43                   | 20.15      | 43.00       | -22.85      |
| 2278331     | 39949.92    | 1RB0         | -36.66                 | 10.10                 | 9.51                   | 19.61      | 43.00       | -23.39      |
|             |             | 1RB32        | -35.42                 | 11.34                 | 9.51                   | 20.85      | 43.00       | -22.15      |
|             |             | 1RB65        | -36.15                 | 10.61                 | 9.51                   | 20.12      | 43.00       | -22.88      |
|             |             | Full RB      | -36.18                 | 10.58                 | 9.51                   | 20.09      | 43.00       | -22.91      |

#### Remarks:

1. The EIRP was evaluated on vertical and horizontal polarization, the worst case is Horizontal polarization.
2.  $EIRP (dBm) = S.G \text{ Value (dBm)} + \text{Correction Factor (dB)}$ .
3.  $\text{Correction Factor (dB)} = \text{Substitution Antenna Gain (dB)} + \text{Cable Loss (dB)}$ .
4.  $\text{Spectrum reading (dBm)} = \text{DUT emission amplitude level}$ .

#### 16QAM

| Channel No. | Freq. (MHz) | RB Condition | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-------------|--------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| 2239997     | 37649.88    | 1RB0         | -36.68                 | 8.04                  | 10.47                  | 18.51      | 43.00       | -24.49      |
|             |             | 1RB32        | -35.49                 | 9.23                  | 10.47                  | 19.70      | 43.00       | -23.30      |
|             |             | 1RB65        | -36.29                 | 8.43                  | 10.47                  | 18.90      | 43.00       | -24.10      |
|             |             | Full RB      | -36.18                 | 8.54                  | 10.47                  | 19.01      | 43.00       | -23.99      |
| 2259997     | 38849.88    | 1RB0         | -35.57                 | 9.27                  | 9.43                   | 18.70      | 43.00       | -24.30      |
|             |             | 1RB32        | -34.35                 | 10.49                 | 9.43                   | 19.92      | 43.00       | -23.08      |
|             |             | 1RB65        | -35.17                 | 9.67                  | 9.43                   | 19.10      | 43.00       | -23.90      |
|             |             | Full RB      | -35.19                 | 9.65                  | 9.43                   | 19.08      | 43.00       | -23.92      |
| 2278331     | 39949.92    | 1RB0         | -37.58                 | 9.18                  | 9.51                   | 18.69      | 43.00       | -24.31      |
|             |             | 1RB32        | -36.46                 | 10.30                 | 9.51                   | 19.81      | 43.00       | -23.19      |
|             |             | 1RB65        | -37.18                 | 9.58                  | 9.51                   | 19.09      | 43.00       | -23.91      |
|             |             | Full RB      | -37.26                 | 9.50                  | 9.51                   | 19.01      | 43.00       | -23.99      |

#### Remarks:

1. The EIRP was evaluated on vertical and horizontal polarization, the worst case is Horizontal polarization.
2.  $EIRP (dBm) = S.G \text{ Value (dBm)} + \text{Correction Factor (dB)}$ .
3.  $\text{Correction Factor (dB)} = \text{Substitution Antenna Gain (dB)} + \text{Cable Loss (dB)}$ .
4.  $\text{Spectrum reading (dBm)} = \text{DUT emission amplitude level}$ .

## 64QAM

| Channel No. | Freq. (MHz) | RB Condition | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|-------------|-------------|--------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| 2239997     | 37649.88    | 1RB0         | -38.38                 | 6.34                  | 10.47                  | 16.81      | 43.00       | -26.19      |
|             |             | 1RB32        | -37.18                 | 7.54                  | 10.47                  | 18.01      | 43.00       | -24.99      |
|             |             | 1RB65        | -37.99                 | 6.73                  | 10.47                  | 17.20      | 43.00       | -25.80      |
|             |             | Full RB      | -37.98                 | 6.74                  | 10.47                  | 17.21      | 43.00       | -25.79      |
| 2259997     | 38849.88    | 1RB0         | -37.16                 | 7.68                  | 9.43                   | 17.11      | 43.00       | -25.89      |
|             |             | 1RB32        | -35.94                 | 8.90                  | 9.43                   | 18.33      | 43.00       | -24.67      |
|             |             | 1RB65        | -36.74                 | 8.10                  | 9.43                   | 17.53      | 43.00       | -25.47      |
|             |             | Full RB      | -36.78                 | 8.06                  | 9.43                   | 17.49      | 43.00       | -25.51      |
| 2278331     | 39949.92    | 1RB0         | -39.18                 | 7.58                  | 9.51                   | 17.09      | 43.00       | -25.91      |
|             |             | 1RB32        | -38.05                 | 8.71                  | 9.51                   | 18.22      | 43.00       | -24.78      |
|             |             | 1RB65        | -38.85                 | 7.91                  | 9.51                   | 17.42      | 43.00       | -25.58      |
|             |             | Full RB      | -38.86                 | 7.90                  | 9.51                   | 17.41      | 43.00       | -25.59      |

### Remarks:

1. The EIRP was evaluated on vertical and horizontal polarization, the worst case is Horizontal polarization.
2.  $EIRP (dBm) = S.G \text{ Value (dBm)} + \text{Correction Factor (dB)}$ .
3.  $\text{Correction Factor (dB)} = \text{Substitution Antenna Gain (dB)} + \text{Cable Loss (dB)}$ .
4.  $\text{Spectrum reading (dBm)} = \text{DUT emission amplitude level}$ .

|                              |                     |              |         |
|------------------------------|---------------------|--------------|---------|
| Beam ID                      | 39+166              | EUT position | Y-plane |
| Receive Antenna polarization | Horizontal+Vertical |              |         |

| Modulation | Channel No. | Freq. (MHz) | RB Condition | EIRP (dBm)    |       |           |
|------------|-------------|-------------|--------------|---------------|-------|-----------|
|            |             |             |              | Worst Beam ID |       | MIMO Beam |
|            |             |             |              | 39            | 166   | 39+166    |
| QPSK       | 2239997     | 37649.88    | 1RB0         | 18.89         | 18.90 | 21.91     |
|            |             |             | 1RB32        | 19.98         | 19.91 | 22.96     |
|            |             |             | 1RB65        | 18.92         | 19.05 | 22.00     |
|            |             |             | Full RB      | 18.95         | 19.01 | 21.99     |
|            | 2259997     | 38849.88    | 1RB0         | 19.01         | 19.01 | 22.02     |
|            |             |             | 1RB32        | 20.04         | 20.02 | 23.04     |
|            |             |             | 1RB65        | 19.10         | 19.16 | 22.14     |
|            |             |             | Full RB      | 18.99         | 19.12 | 22.07     |
|            | 2278331     | 39949.92    | 1RB0         | 18.92         | 18.97 | 21.96     |
|            |             |             | 1RB32        | 20.01         | 19.98 | 23.01     |
|            |             |             | 1RB65        | 19.25         | 19.10 | 22.19     |
|            |             |             | Full RB      | 18.82         | 19.08 | 21.96     |
| 16QAM      | 2239997     | 37649.88    | 1RB0         | 17.92         | 18.20 | 21.07     |
|            |             |             | 1RB32        | 18.92         | 18.91 | 21.93     |
|            |             |             | 1RB65        | 17.89         | 18.12 | 21.02     |
|            |             |             | Full RB      | 17.87         | 18.11 | 21.00     |
|            | 2259997     | 38849.88    | 1RB0         | 18.01         | 18.01 | 21.02     |
|            |             |             | 1RB32        | 19.04         | 19.02 | 22.04     |
|            |             |             | 1RB65        | 18.11         | 18.16 | 21.15     |
|            |             |             | Full RB      | 17.89         | 18.05 | 20.98     |
|            | 2278331     | 39949.92    | 1RB0         | 17.92         | 17.99 | 20.97     |
|            |             |             | 1RB32        | 19.00         | 18.99 | 22.01     |
|            |             |             | 1RB65        | 18.15         | 18.12 | 21.15     |
|            |             |             | Full RB      | 17.89         | 18.08 | 21.00     |
| 64QAM      | 2239997     | 37649.88    | 1RB0         | 16.12         | 16.81 | 19.49     |
|            |             |             | 1RB32        | 17.55         | 17.41 | 20.49     |
|            |             |             | 1RB65        | 16.29         | 16.90 | 19.62     |
|            |             |             | Full RB      | 16.10         | 16.78 | 19.46     |
|            | 2259997     | 38849.88    | 1RB0         | 16.31         | 16.85 | 19.60     |
|            |             |             | 1RB32        | 17.34         | 17.32 | 20.34     |
|            |             |             | 1RB65        | 16.43         | 16.85 | 19.66     |
|            |             |             | Full RB      | 16.19         | 16.79 | 19.51     |
|            | 2278331     | 39949.92    | 1RB0         | 16.32         | 16.25 | 19.30     |
|            |             |             | 1RB32        | 17.41         | 17.22 | 20.33     |
|            |             |             | 1RB65        | 16.49         | 16.69 | 19.60     |
|            |             |             | Full RB      | 16.29         | 16.61 | 19.46     |



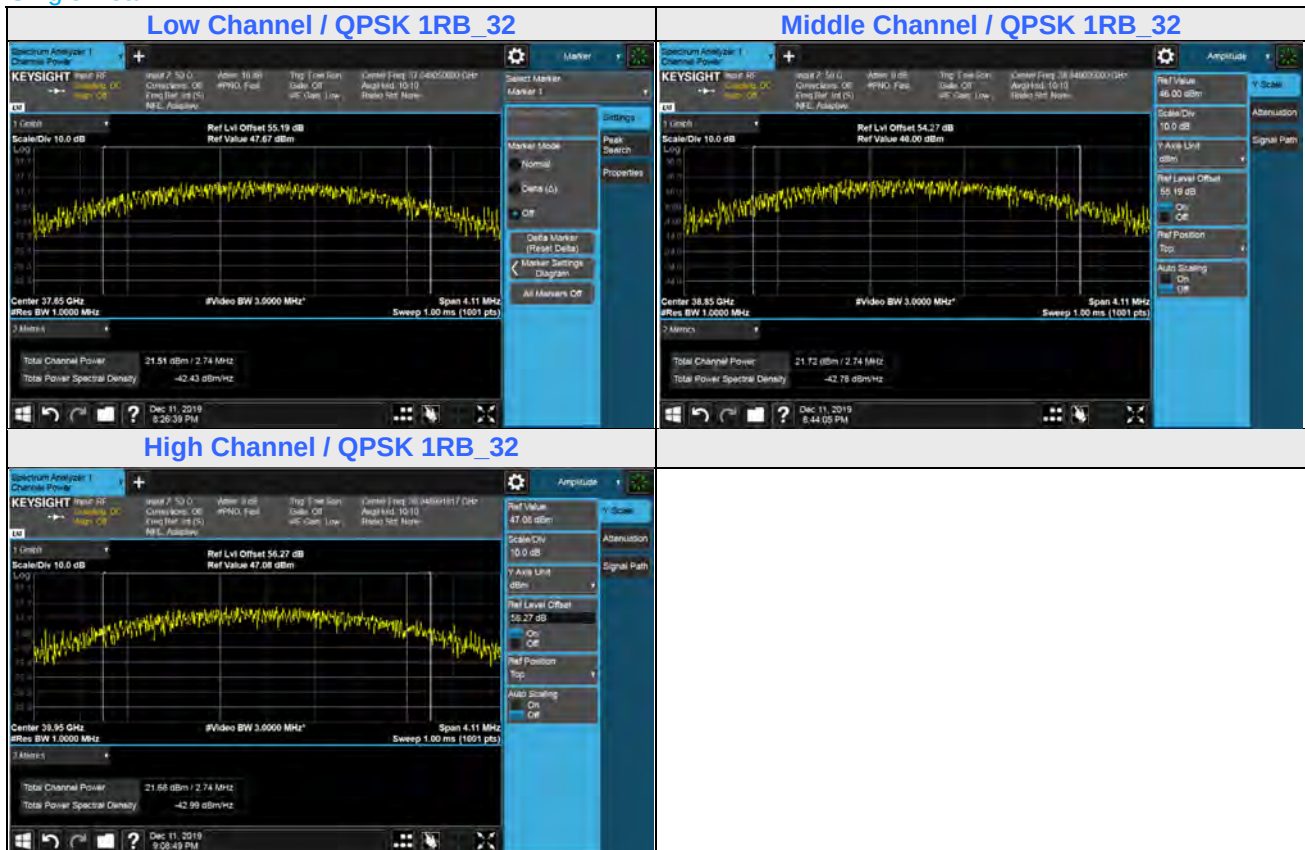
|                              |                     |              |         |
|------------------------------|---------------------|--------------|---------|
| Beam ID                      | 20+148              | EUT position | X-plane |
| Receive Antenna polarization | Horizontal+Vertical |              |         |

| Modulation | Channel No. | Freq. (MHz) | RB Condition | EIRP (dBm)    |       |           |
|------------|-------------|-------------|--------------|---------------|-------|-----------|
|            |             |             |              | Worst Beam ID |       | MIMO Beam |
|            |             |             |              | 20            | 148   | 20+148    |
| QPSK       | 2239997     | 37649.88    | 1RB0         | 20.67         | 19.39 | 23.09     |
|            |             |             | 1RB32        | 21.51         | 20.66 | 24.12     |
|            |             |             | 1RB65        | 20.88         | 19.93 | 23.44     |
|            |             |             | Full RB      | 20.44         | 19.75 | 23.12     |
|            | 2259997     | 38849.88    | 1RB0         | 20.81         | 19.42 | 23.18     |
|            |             |             | 1RB32        | 21.72         | 20.70 | 24.25     |
|            |             |             | 1RB65        | 21.02         | 20.01 | 23.55     |
|            |             |             | Full RB      | 20.48         | 19.88 | 23.20     |
|            | 2278331     | 39949.92    | 1RB0         | 20.71         | 19.40 | 23.11     |
|            |             |             | 1RB32        | 21.68         | 20.61 | 24.19     |
|            |             |             | 1RB65        | 20.92         | 19.98 | 23.49     |
|            |             |             | Full RB      | 20.40         | 19.71 | 23.08     |
| 16QAM      | 2239997     | 37649.88    | 1RB0         | 19.70         | 18.39 | 22.10     |
|            |             |             | 1RB32        | 20.61         | 19.61 | 23.15     |
|            |             |             | 1RB65        | 19.89         | 18.94 | 22.45     |
|            |             |             | Full RB      | 19.50         | 18.71 | 22.13     |
|            | 2259997     | 38849.88    | 1RB0         | 19.82         | 18.45 | 22.20     |
|            |             |             | 1RB32        | 20.69         | 19.75 | 23.26     |
|            |             |             | 1RB65        | 20.01         | 18.98 | 22.54     |
|            |             |             | Full RB      | 19.52         | 18.70 | 22.14     |
|            | 2278331     | 39949.92    | 1RB0         | 19.71         | 18.31 | 22.08     |
|            |             |             | 1RB32        | 20.60         | 19.60 | 23.14     |
|            |             |             | 1RB65        | 19.90         | 18.89 | 22.43     |
|            |             |             | Full RB      | 19.45         | 18.68 | 22.09     |
| 64QAM      | 2239997     | 37649.88    | 1RB0         | 18.01         | 17.01 | 20.55     |
|            |             |             | 1RB32        | 18.95         | 18.22 | 21.61     |
|            |             |             | 1RB65        | 18.19         | 17.52 | 20.88     |
|            |             |             | Full RB      | 17.89         | 17.32 | 20.62     |
|            | 2259997     | 38849.88    | 1RB0         | 18.11         | 17.01 | 20.61     |
|            |             |             | 1RB32        | 19.11         | 18.33 | 21.75     |
|            |             |             | 1RB65        | 18.23         | 17.88 | 21.07     |
|            |             |             | Full RB      | 18.15         | 17.36 | 20.78     |
|            | 2278331     | 39949.92    | 1RB0         | 18.01         | 16.90 | 20.50     |
|            |             |             | 1RB32        | 18.91         | 17.29 | 21.19     |
|            |             |             | 1RB65        | 18.21         | 17.40 | 20.83     |
|            |             |             | Full RB      | 17.99         | 17.29 | 20.66     |

|                              |                     |              |         |
|------------------------------|---------------------|--------------|---------|
| Beam ID                      | 30+158              | EUT position | X-plane |
| Receive Antenna polarization | Horizontal+Vertical |              |         |

| Modulation | Channel No. | Freq. (MHz) | RB Condition | EIRP (dBm)    |       |           |
|------------|-------------|-------------|--------------|---------------|-------|-----------|
|            |             |             |              | Worst Beam ID |       | MIMO Beam |
|            |             |             |              | 30            | 158   | 30+158    |
| QPSK       | 2239997     | 37649.88    | 1RB0         | 19.98         | 19.52 | 22.77     |
|            |             |             | 1RB32        | 20.91         | 20.72 | 23.83     |
|            |             |             | 1RB65        | 20.10         | 19.92 | 23.02     |
|            |             |             | Full RB      | 20.12         | 20.02 | 23.08     |
|            | 2259997     | 38849.88    | 1RB0         | 20.12         | 19.91 | 23.03     |
|            |             |             | 1RB32        | 21.10         | 20.91 | 24.02     |
|            |             |             | 1RB65        | 20.25         | 20.17 | 23.22     |
|            |             |             | Full RB      | 20.26         | 20.15 | 23.22     |
|            | 2278331     | 39949.92    | 1RB0         | 20.02         | 19.61 | 22.83     |
|            |             |             | 1RB32        | 21.01         | 20.85 | 23.94     |
|            |             |             | 1RB65        | 20.17         | 20.12 | 23.16     |
|            |             |             | Full RB      | 20.15         | 20.09 | 23.13     |
| 16QAM      | 2239997     | 37649.88    | 1RB0         | 18.99         | 18.51 | 21.77     |
|            |             |             | 1RB32        | 19.92         | 19.70 | 22.82     |
|            |             |             | 1RB65        | 19.05         | 18.90 | 21.99     |
|            |             |             | Full RB      | 19.12         | 19.01 | 22.08     |
|            | 2259997     | 38849.88    | 1RB0         | 19.10         | 18.70 | 21.91     |
|            |             |             | 1RB32        | 20.12         | 19.92 | 23.03     |
|            |             |             | 1RB65        | 19.21         | 19.10 | 22.17     |
|            |             |             | Full RB      | 19.20         | 19.08 | 22.15     |
|            | 2278331     | 39949.92    | 1RB0         | 19.01         | 18.69 | 21.86     |
|            |             |             | 1RB32        | 20.00         | 19.81 | 22.92     |
|            |             |             | 1RB65        | 19.10         | 19.09 | 22.11     |
|            |             |             | Full RB      | 19.13         | 19.01 | 22.08     |
| 64QAM      | 2239997     | 37649.88    | 1RB0         | 17.29         | 16.81 | 20.07     |
|            |             |             | 1RB32        | 18.25         | 18.01 | 21.14     |
|            |             |             | 1RB65        | 17.39         | 17.20 | 20.31     |
|            |             |             | Full RB      | 17.31         | 17.21 | 20.27     |
|            | 2259997     | 38849.88    | 1RB0         | 17.50         | 17.11 | 20.32     |
|            |             |             | 1RB32        | 18.40         | 18.33 | 21.38     |
|            |             |             | 1RB65        | 17.43         | 17.53 | 20.49     |
|            |             |             | Full RB      | 17.41         | 17.49 | 20.46     |
|            | 2278331     | 39949.92    | 1RB0         | 17.31         | 17.09 | 20.21     |
|            |             |             | 1RB32        | 18.36         | 18.22 | 21.30     |
|            |             |             | 1RB65        | 17.40         | 17.42 | 20.42     |
|            |             |             | Full RB      | 17.43         | 17.41 | 20.43     |

## Single Beam



### 4.3 Emission Bandwidth Measurement

#### 4.3.1 Limit of Emission Bandwidth Measurement

The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

#### 4.3.2 Test Setup

Refer to section 4.1.2

#### 4.3.3 Test Instruments

Refer to section 4.2.3 to get information of above instrument.

#### 4.3.4 Test Procedure

1. The spectrum analyzer's automatic bandwidth measurement function was used to perform the 99% occupied bandwidth and the 26 dB bandwidth measurement.
2. Set the RBW = 1~5% of the anticipated OBW, and the VBW  $\geq 3 \times$  RBW.
3. Set spectrum analyzer detection mode to peak, and the trace mode to max hold
4. Sweep = auto couple
5. Record the test plots and test results.

#### 4.3.5 Deviation from Test Standard

No deviation.

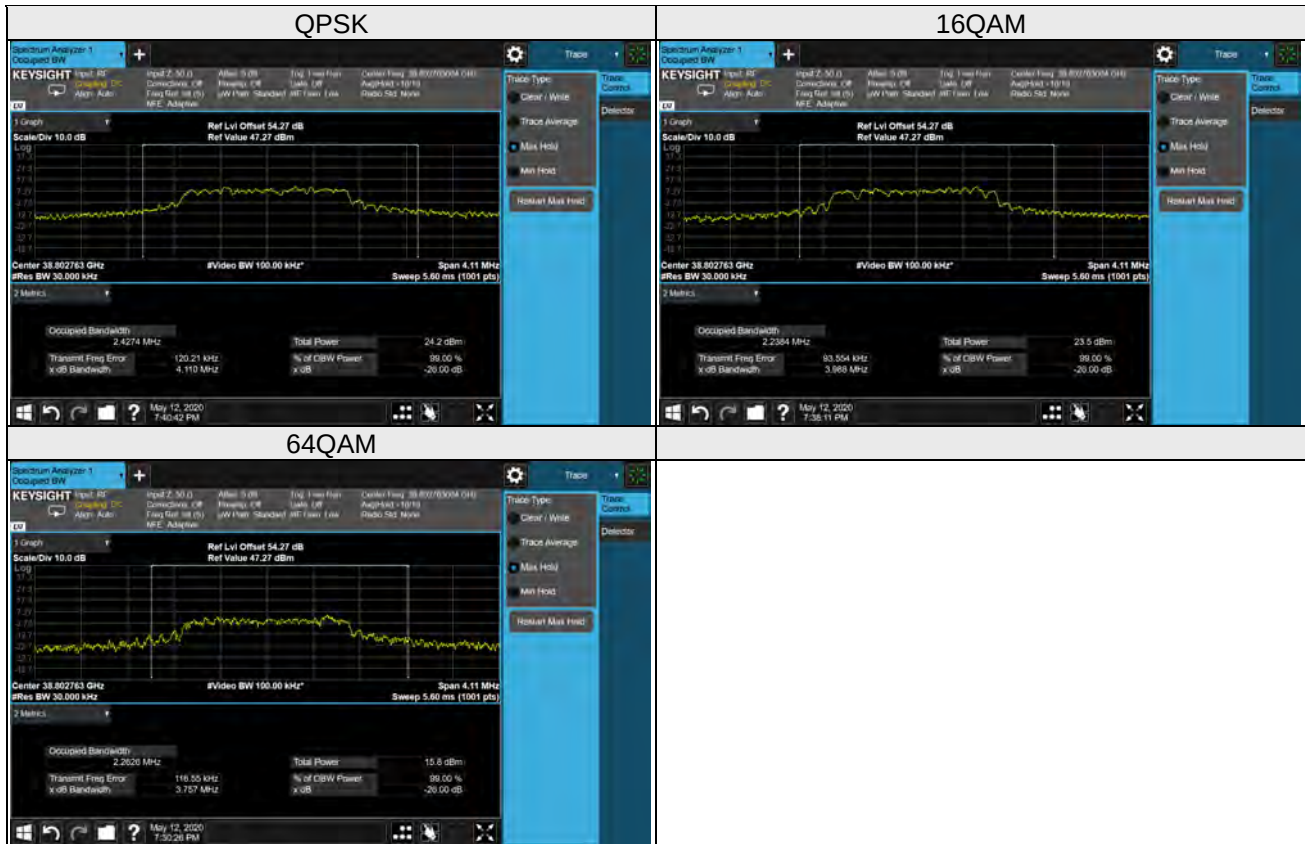
#### 4.3.6 EUT Operating Conditions

The software provided by client to enable the EUT under transmission condition continuously at lowest channel frequencies individually.

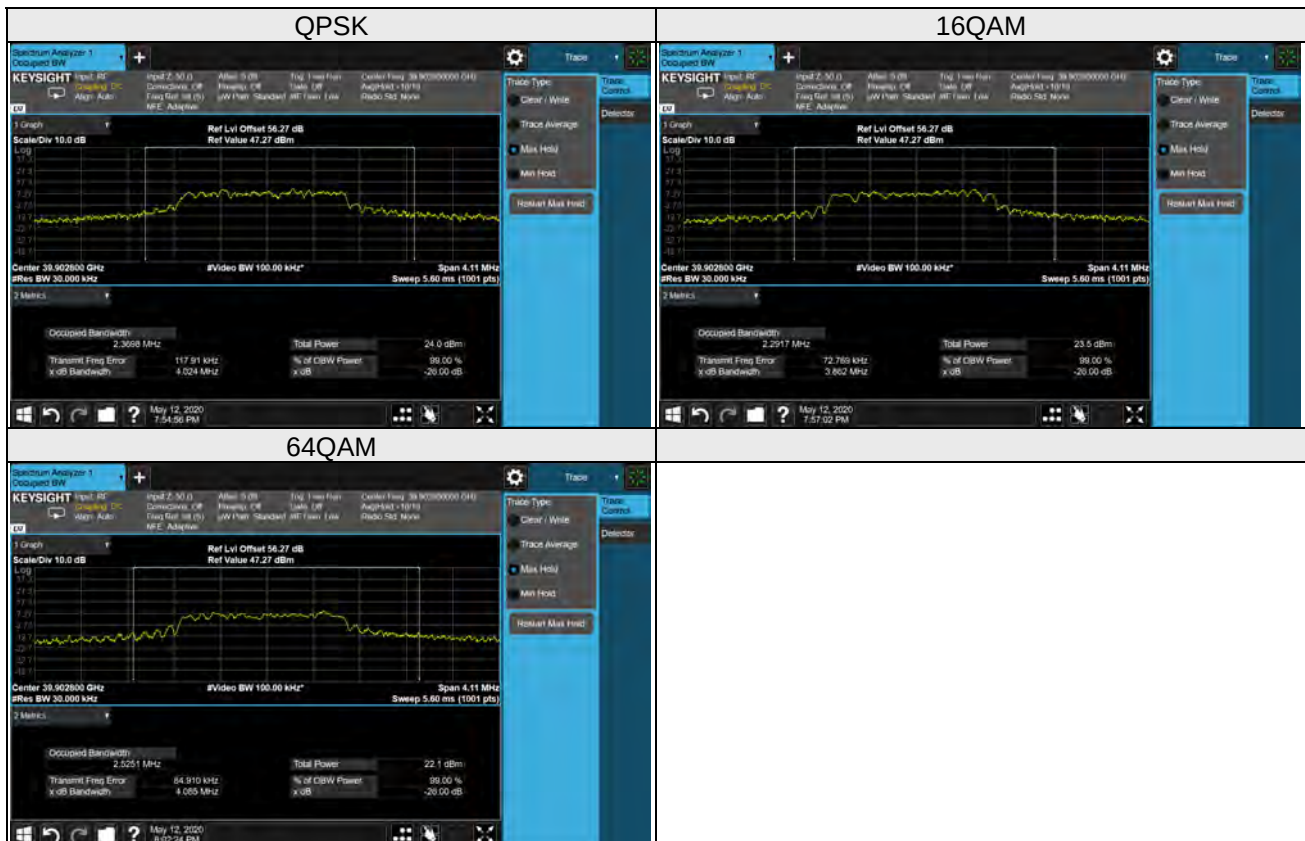




## Middle Channel



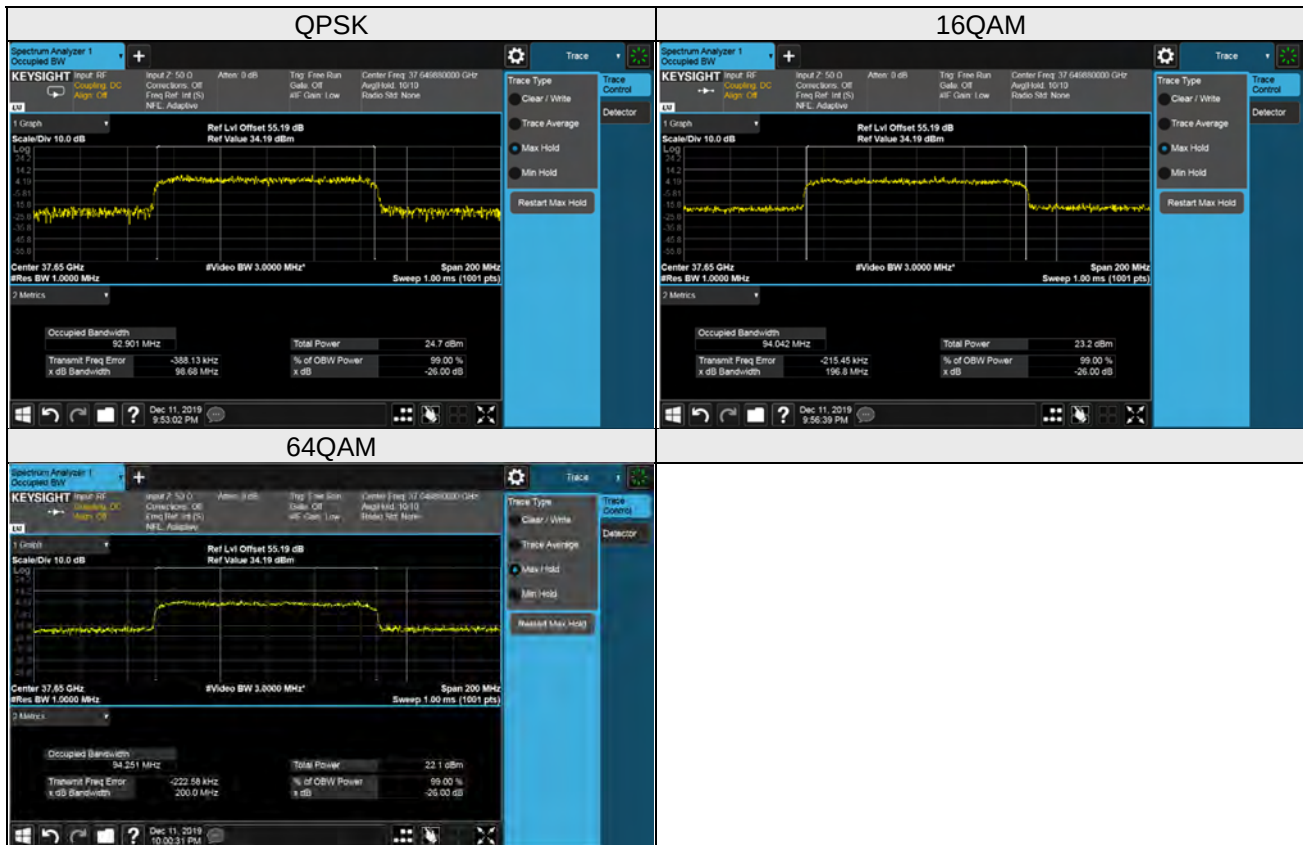
## High Channel



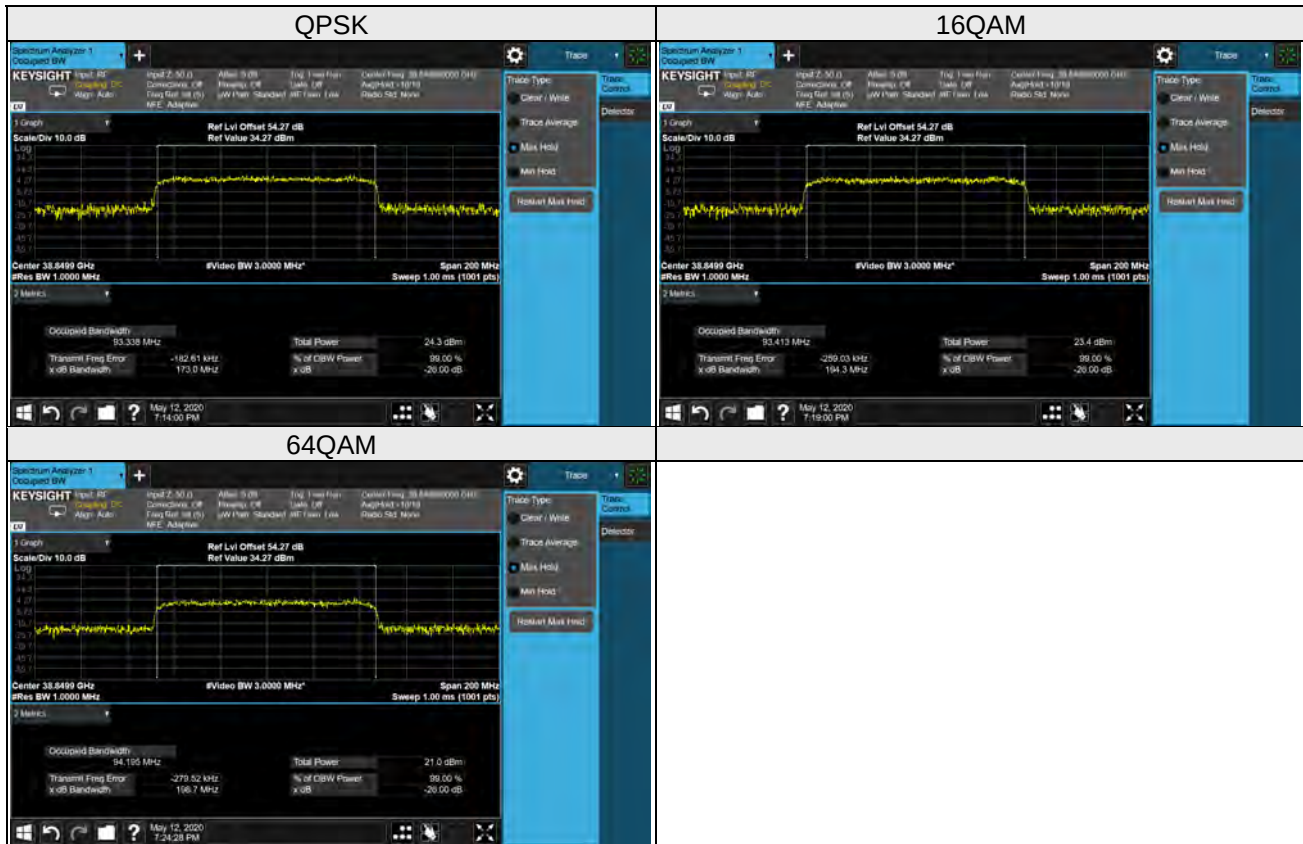
## Full RB

| Channel | Freq. (MHz) | Occupied Bandwidth (MHz) |        |        |
|---------|-------------|--------------------------|--------|--------|
|         |             | QPSK                     | 16QAM  | 64QAM  |
| 2239997 | 37649.88    | 92.901                   | 94.042 | 94.251 |
| 2259997 | 38849.88    | 93.338                   | 93.413 | 94.195 |
| 2278331 | 39949.92    | 93.437                   | 93.656 | 94.603 |

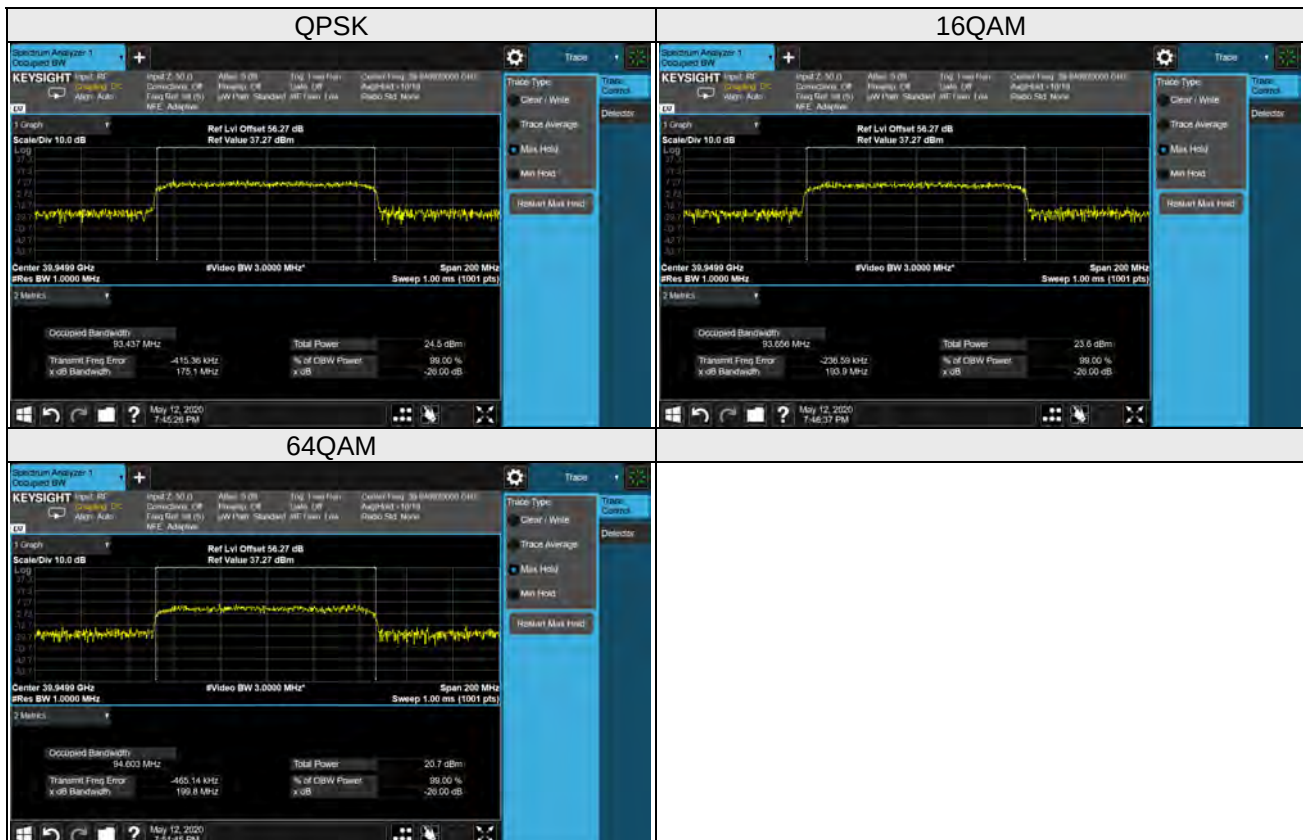
## Low Channel



## Middle Channel



## High Channel





#### 4.4 Out-of-Band Spurious Emission Measurement

##### 4.4.1 Limits of Out-of-Band Spurious Emission Measurement

The conductive power or the total radiated power of any emission outside a licensee's frequency block shall be -13 dBm/MHz or lower. However, in the bands immediately outside and adjacent to the licensee's frequency block, having a bandwidth equal to 10 percent of the channel bandwidth, the conductive power or the total radiated power of any emission shall be -5 dBm/MHz or lower.

##### 4.4.2 Test Instruments

Refer to section 4.2.3 to get information of above instrument.

##### 4.4.3 Test Procedures

- Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m(below or equal 1GHz) and/or 1.5m(above 1GHz) height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- The substitution antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step a. Record the power level of S.G.
- EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.
- E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.R.P power - 2.15dBi.

Note:

- The resolution bandwidth of spectrum analyzer is 100 kHz and the video bandwidth is 300 kHz for below 1GHz.
- The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for above 1GHz.
- When test frequency below 1GHz the test-receiver detector function was use peak mode during the testing.
- When test frequency above 1GHz the detector function was use RMS (average) mode during the testing.
- Measurements were taken in the far field of the mm-Wave test signal based on the formula:  

$$R \geq (2D^2) / \text{wavelength}$$

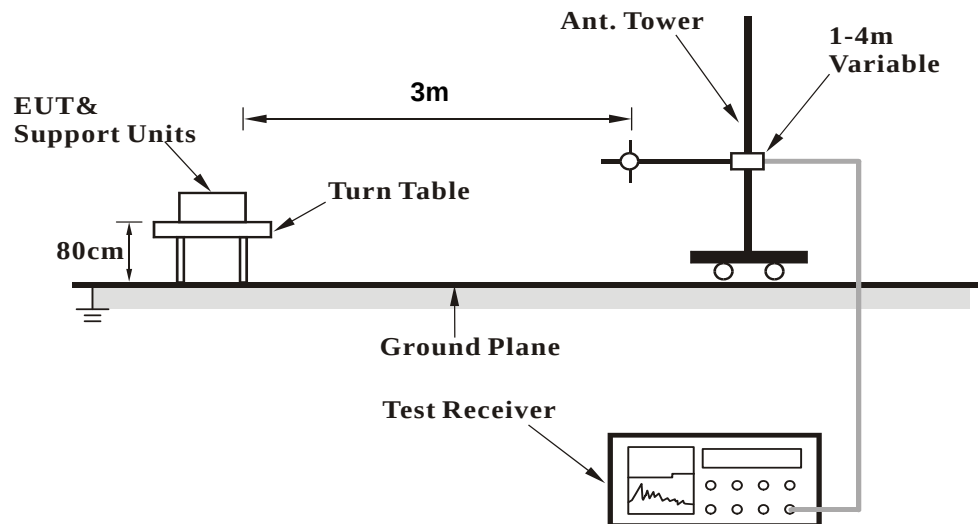
| EUT antenna of far field distance                                       |                                |                                  |
|-------------------------------------------------------------------------|--------------------------------|----------------------------------|
| Measurement Frequency range                                             | Far Field calculation distance | Measurement Distance (Far field) |
| Below 18GHz                                                             | 0.05m                          | 3m                               |
| 18GHz to 40GHz                                                          | 0.3m                           | 1m                               |
| 40GHz to 200GHz                                                         | 0.12m to 0.59m                 | 1m                               |
| Note: EUT Antenna Dimension is 21mm length, 2.2mm thick and 6.7mm high. |                                |                                  |
| Measurement antenna of far field distance                               |                                |                                  |
| Measurement Frequency range                                             | Far Field calculation distance | Measurement Distance (Far field) |
| 40GHz-50GHz                                                             | 30mm                           | 1m                               |
| 50GHz-75GHz                                                             | 25mm                           | 1m                               |
| 75GHz-110GHz                                                            | 18mm                           | 1m                               |
| 110GHz-170GHz                                                           | 12mm                           | 1m                               |
| 170GHz-200GHz                                                           | 8mm                            | 1m                               |

##### 4.4.4 Deviation from Test Standard

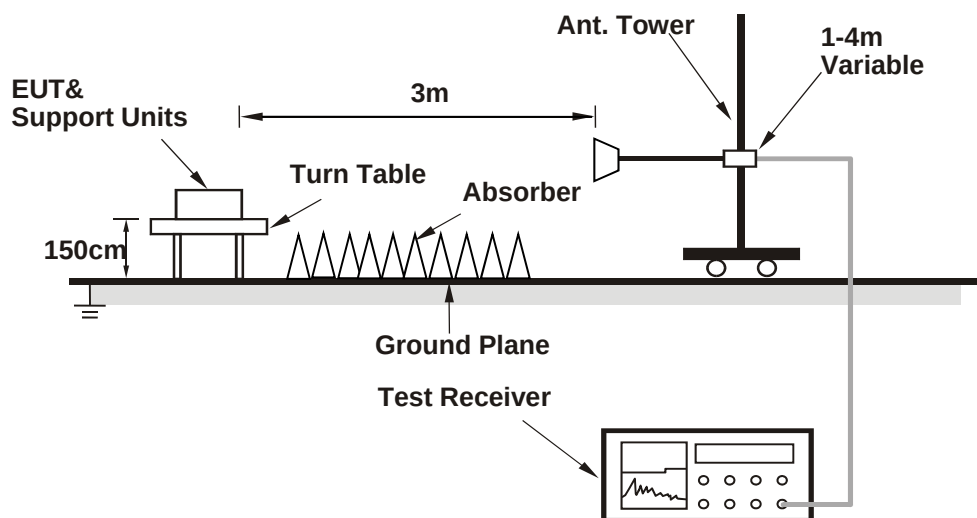
No deviation.

#### 4.4.5 Test Set Up

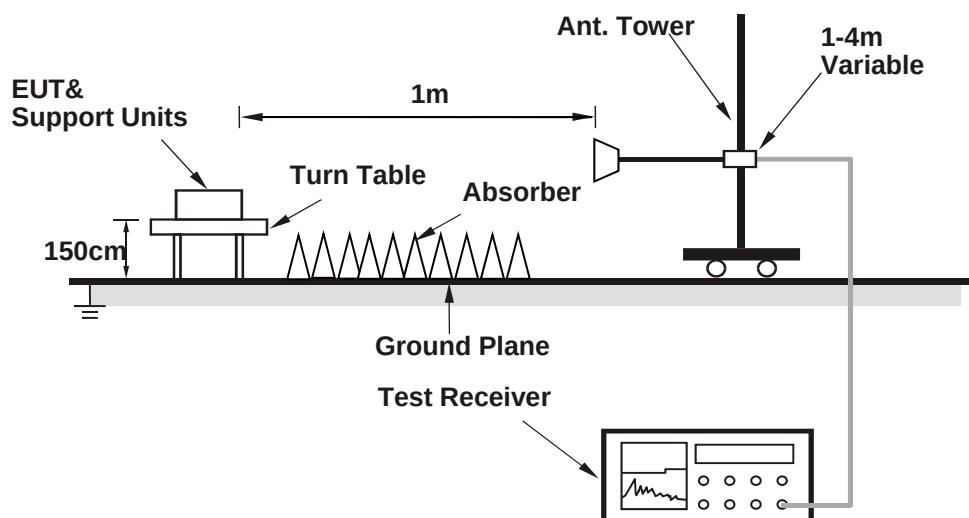
##### <Frequency Range below 1GHz>



##### <Frequency Range 1GHz ~ 18GHz>



### <Frequency Range above 18GHz>



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

#### 4.4.6 EUT Operating Conditions

- Connected the Adapter to EUT.
- Prepared notebook to act as communication partner and placed it outside of testing area.
- The communication partner connected with EUT via a RJ45 cable and ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
- The communication partner sent data to EUT by command "PING".

#### 4.4.7 Test Result

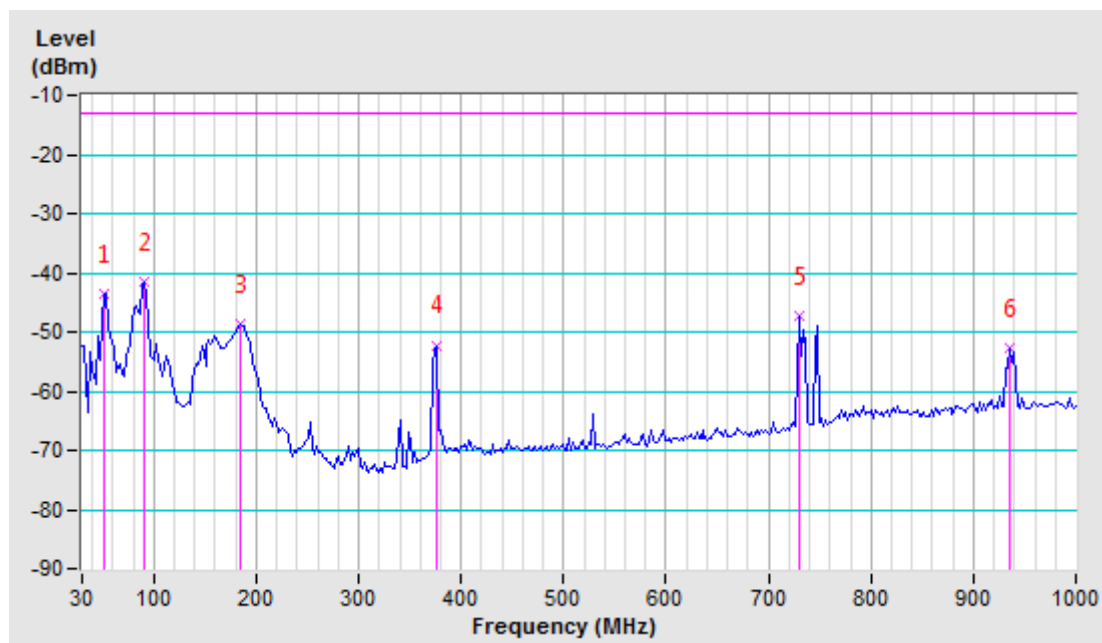
##### Below 1GHz Data:

|         |     |                 |                |
|---------|-----|-----------------|----------------|
| Beam ID | 20  | Frequency Range | Below 1000 MHz |
| Channel | Low | Polarity        | Horizontal     |

| Test Distance: 3 M |             |                        |                       |                        |            |             |             |
|--------------------|-------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                | Freq. (MHz) | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                  | 51.34       | -42.3                  | -43.0                 | -0.5                   | -43.5      | -13.0       | -30.5       |
| 2                  | 90.14       | -34.1                  | -40.4                 | -1.2                   | -41.6      | -13.0       | -28.6       |
| 3                  | 185.20      | -40.2                  | -47.3                 | -1.5                   | -48.8      | -13.0       | -35.8       |
| 4                  | 375.32      | -50.5                  | -50.3                 | -1.9                   | -52.2      | -13.0       | -39.2       |
| 5                  | 730.34      | -50.5                  | -44.7                 | -2.5                   | -47.2      | -13.0       | -34.2       |
| 6                  | 935.98      | -59.6                  | -51.4                 | -1.2                   | -52.6      | -13.0       | -39.6       |

##### Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).
3. Spectrum reading (dBm) = Spectrum reading value without factor,  
Factor = free space loss + antenna factor (dB/m) and cable loss.

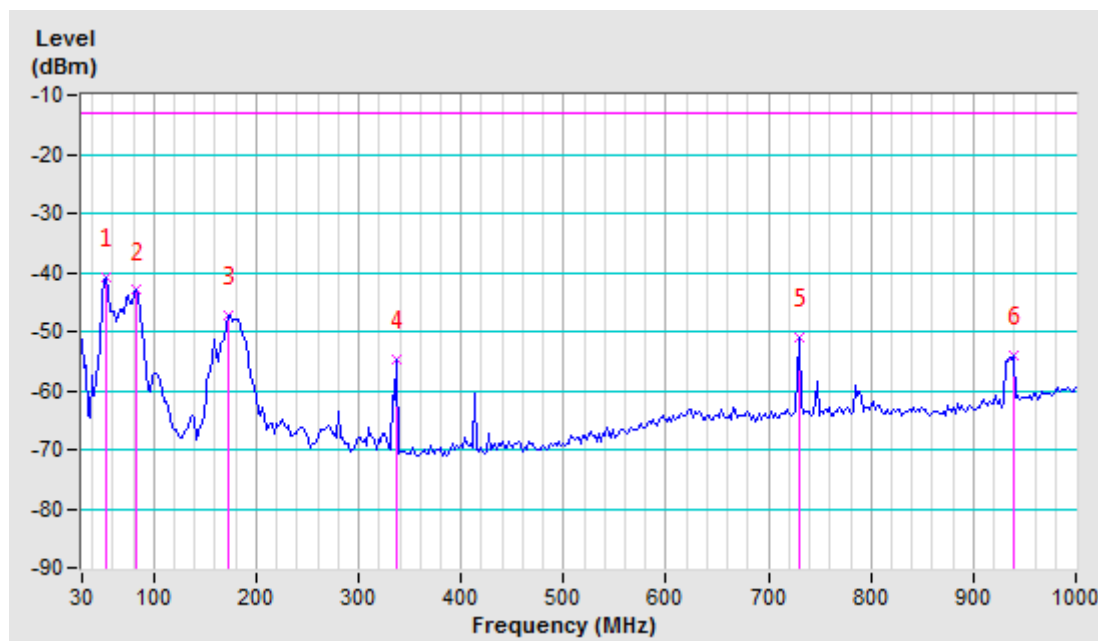


|         |     |                 |                |
|---------|-----|-----------------|----------------|
| Beam ID | 20  | Frequency Range | Below 1000 MHz |
| Channel | Low | Polarity        | Vertical       |

| Test Distance: 3 M |             |                        |                       |                        |            |             |             |
|--------------------|-------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                | Freq. (MHz) | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                  | 53.28       | -34.4                  | -40.4                 | -0.5                   | -40.9      | -13.0       | -27.9       |
| 2                  | 82.38       | -39.1                  | -41.9                 | -1.2                   | -43.1      | -13.0       | -30.1       |
| 3                  | 173.56      | -47.1                  | -45.7                 | -1.5                   | -47.2      | -13.0       | -34.2       |
| 4                  | 336.52      | -53.8                  | -52.9                 | -1.8                   | -54.7      | -13.0       | -41.7       |
| 5                  | 730.34      | -56.7                  | -48.5                 | -2.5                   | -51.0      | -13.0       | -38.0       |
| 6                  | 939.86      | -62.9                  | -52.9                 | -1.2                   | -54.1      | -13.0       | -41.1       |

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).
3. Spectrum reading (dBm) = Spectrum reading value without factor,  
Factor = free space loss + antenna factor (dB/m) and cable loss.

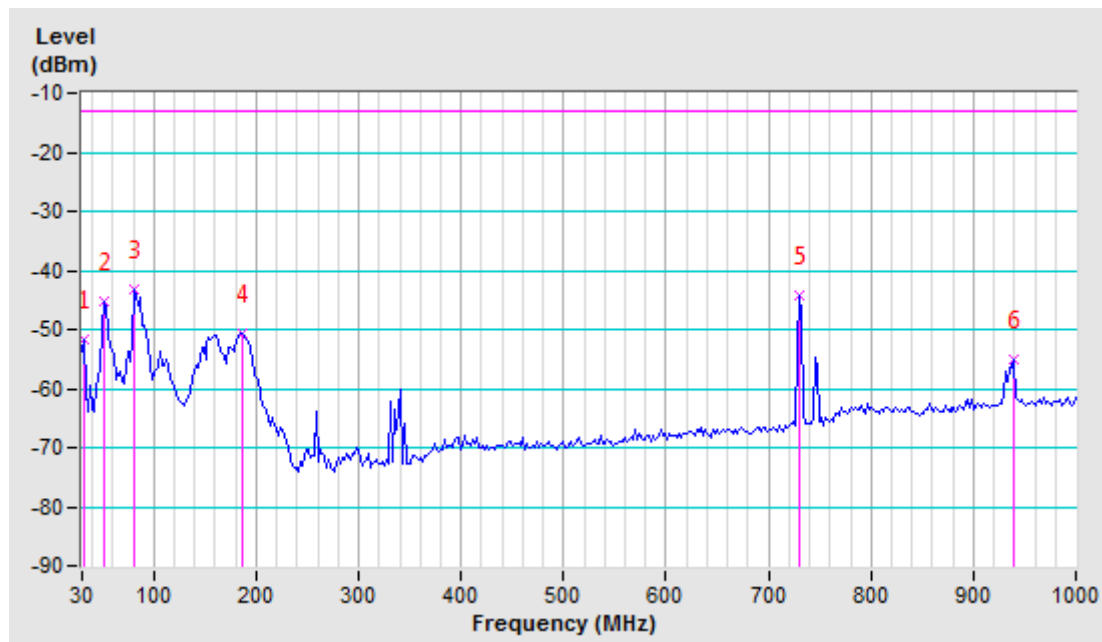


|         |     |                 |                |
|---------|-----|-----------------|----------------|
| Beam ID | 20  | Frequency Range | Below 1000 MHz |
| Channel | Mid | Polarity        | Horizontal     |

| Test Distance: 3 M |             |                        |                       |                        |            |             |             |
|--------------------|-------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                | Freq. (MHz) | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                  | 31.94       | -55.3                  | -51.2                 | -0.5                   | -51.7      | -13.0       | -38.7       |
| 2                  | 51.34       | -44.2                  | -44.9                 | -0.5                   | -45.4      | -13.0       | -32.4       |
| 3                  | 80.44       | -37.3                  | -42.0                 | -1.2                   | -43.2      | -13.0       | -30.2       |
| 4                  | 187.14      | -42.0                  | -49.1                 | -1.5                   | -50.6      | -13.0       | -37.6       |
| 5                  | 730.34      | -47.6                  | -41.8                 | -2.5                   | -44.3      | -13.0       | -31.3       |
| 6                  | 939.86      | -62.2                  | -53.9                 | -1.2                   | -55.1      | -13.0       | -42.1       |

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).
3. Spectrum reading (dBm) = Spectrum reading value without factor,  
Factor = free space loss + antenna factor (dB/m) and cable loss.

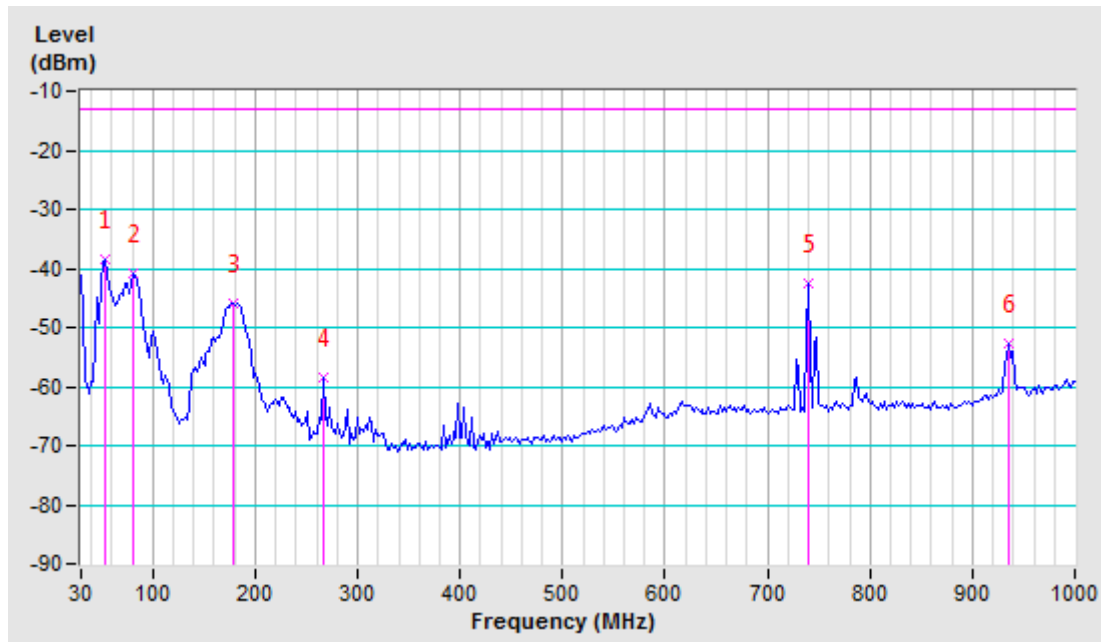


|         |     |                 |                |
|---------|-----|-----------------|----------------|
| Beam ID | 20  | Frequency Range | Below 1000 MHz |
| Channel | Mid | Polarity        | Vertical       |

| Test Distance: 3 M |             |                        |                       |                        |            |             |             |
|--------------------|-------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                | Freq. (MHz) | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                  | 53.28       | -31.9                  | -37.9                 | -0.5                   | -38.4      | -13.0       | -25.4       |
| 2                  | 80.44       | -37.2                  | -39.6                 | -1.2                   | -40.8      | -13.0       | -27.8       |
| 3                  | 179.38      | -44.6                  | -44.3                 | -1.5                   | -45.8      | -13.0       | -32.8       |
| 4                  | 266.68      | -61.4                  | -56.7                 | -1.7                   | -58.4      | -13.0       | -45.4       |
| 5                  | 740.04      | -48.3                  | -40.2                 | -2.5                   | -42.7      | -13.0       | -29.7       |
| 6                  | 935.98      | -61.3                  | -51.4                 | -1.2                   | -52.6      | -13.0       | -39.6       |

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).
3. Spectrum reading (dBm) = Spectrum reading value without factor,  
Factor = free space loss + antenna factor (dB/m) and cable loss.

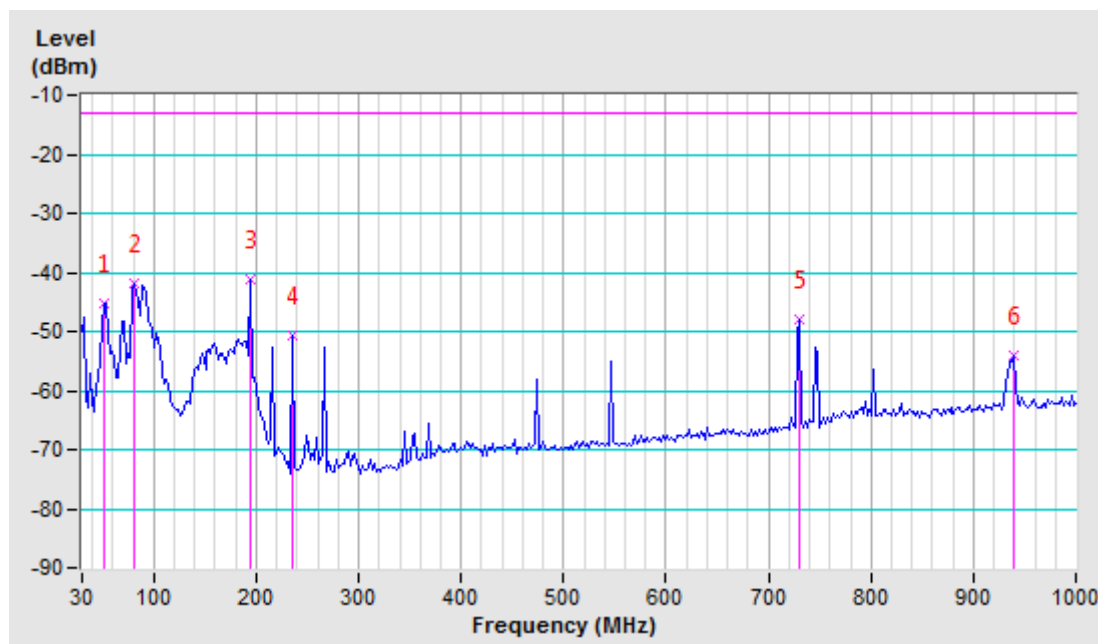


|         |      |                 |                |
|---------|------|-----------------|----------------|
| Beam ID | 20   | Frequency Range | Below 1000 MHz |
| Channel | High | Polarity        | Horizontal     |

| Test Distance: 3 M |             |                        |                       |                        |            |             |             |
|--------------------|-------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                | Freq. (MHz) | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                  | 51.34       | -43.9                  | -44.6                 | -0.5                   | -45.1      | -13.0       | -32.1       |
| 2                  | 80.44       | -35.9                  | -40.6                 | -1.2                   | -41.8      | -13.0       | -28.8       |
| 3                  | 194.90      | -32.2                  | -39.7                 | -1.5                   | -41.2      | -13.0       | -28.2       |
| 4                  | 235.64      | -42.4                  | -49.2                 | -1.6                   | -50.8      | -13.0       | -37.8       |
| 5                  | 730.34      | -51.1                  | -45.3                 | -2.5                   | -47.8      | -13.0       | -34.8       |
| 6                  | 939.86      | -61.3                  | -53.0                 | -1.2                   | -54.2      | -13.0       | -41.2       |

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).
3. Spectrum reading (dBm) = Spectrum reading value without factor,  
Factor = free space loss + antenna factor (dB/m) and cable loss.



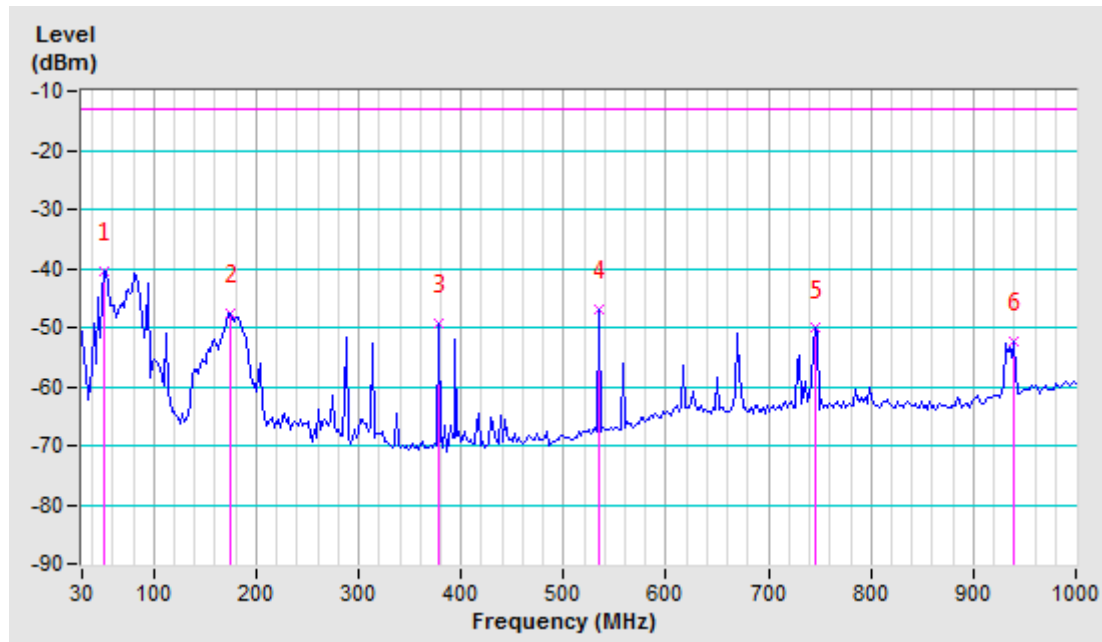


|         |      |                 |                |
|---------|------|-----------------|----------------|
| Beam ID | 20   | Frequency Range | Below 1000 MHz |
| Channel | High | Polarity        | Vertical       |

| Test Distance: 3 M |             |                        |                       |                        |            |             |             |
|--------------------|-------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                | Freq. (MHz) | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                  | 51.34       | -33.7                  | -39.9                 | -0.5                   | -40.4      | -13.0       | -27.4       |
| 2                  | 175.50      | -47.2                  | -46.2                 | -1.5                   | -47.7      | -13.0       | -34.7       |
| 3                  | 377.26      | -48.0                  | -47.4                 | -1.9                   | -49.3      | -13.0       | -36.3       |
| 4                  | 534.40      | -47.4                  | -44.7                 | -2.2                   | -46.9      | -13.0       | -33.9       |
| 5                  | 745.86      | -55.8                  | -47.7                 | -2.5                   | -50.2      | -13.0       | -37.2       |
| 6                  | 939.86      | -61.1                  | -51.1                 | -1.2                   | -52.3      | -13.0       | -39.3       |

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).
3. Spectrum reading (dBm) = Spectrum reading value without factor,  
Factor = free space loss + antenna factor (dB/m) and cable loss.

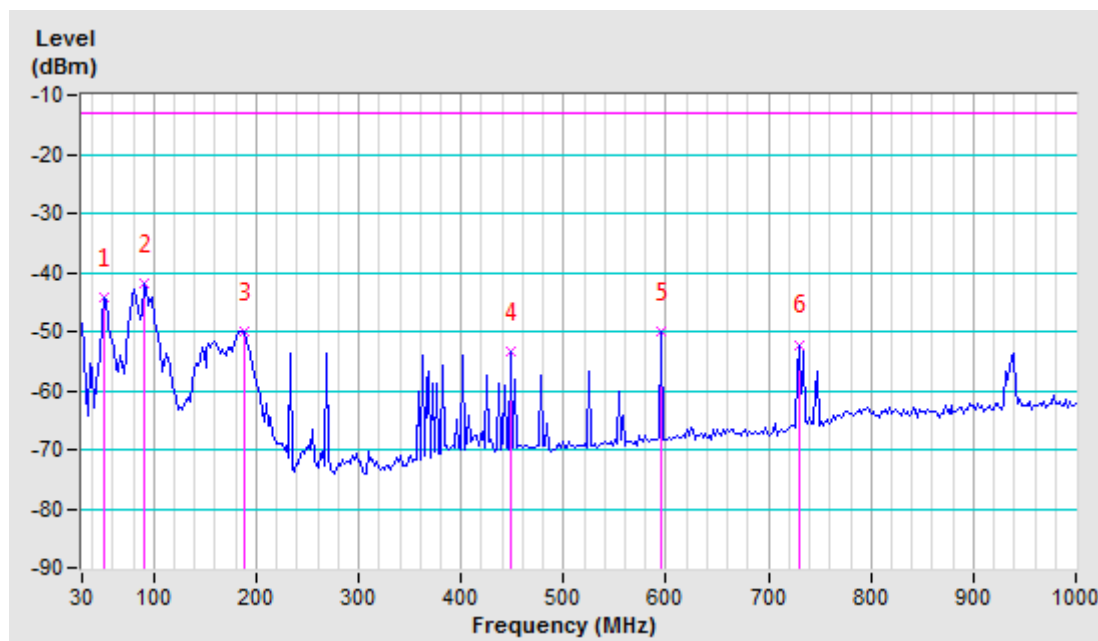


|         |        |                 |                |
|---------|--------|-----------------|----------------|
| Beam ID | 20+148 | Frequency Range | Below 1000 MHz |
| Channel | Low    | Polarity        | Horizontal     |

| Test Distance: 3 M |             |                        |                       |                        |            |             |             |
|--------------------|-------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                | Freq. (MHz) | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                  | 51.34       | -42.9                  | -43.6                 | -0.5                   | -44.1      | -13.0       | -31.1       |
| 2                  | 90.14       | -34.4                  | -40.7                 | -1.2                   | -41.9      | -13.0       | -28.9       |
| 3                  | 189.08      | -41.2                  | -48.4                 | -1.5                   | -49.9      | -13.0       | -36.9       |
| 4                  | 449.04      | -52.4                  | -51.4                 | -2.1                   | -53.5      | -13.0       | -40.5       |
| 5                  | 594.54      | -50.3                  | -47.7                 | -2.3                   | -50.0      | -13.0       | -37.0       |
| 6                  | 730.34      | -55.5                  | -49.7                 | -2.5                   | -52.2      | -13.0       | -39.2       |

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).
3. Spectrum reading (dBm) = Spectrum reading value without factor,  
Factor = free space loss + antenna factor (dB/m) and cable loss.

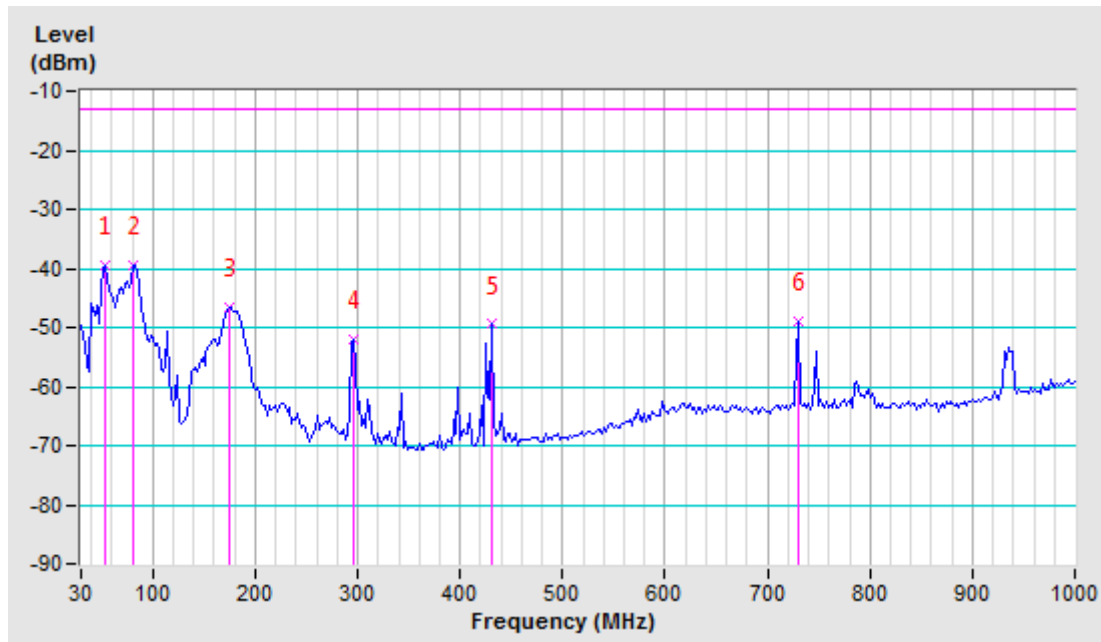


|         |        |                 |                |
|---------|--------|-----------------|----------------|
| Beam ID | 20+148 | Frequency Range | Below 1000 MHz |
| Channel | Low    | Polarity        | Vertical       |

| Test Distance: 3 M |             |                        |                       |                        |            |             |             |
|--------------------|-------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                | Freq. (MHz) | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                  | 53.28       | -33.0                  | -39.0                 | -0.5                   | -39.5      | -13.0       | -26.5       |
| 2                  | 80.44       | -35.8                  | -38.2                 | -1.2                   | -39.4      | -13.0       | -26.4       |
| 3                  | 175.50      | -46.2                  | -45.2                 | -1.5                   | -46.7      | -13.0       | -33.7       |
| 4                  | 295.78      | -51.3                  | -50.3                 | -1.8                   | -52.1      | -13.0       | -39.1       |
| 5                  | 431.58      | -48.1                  | -47.5                 | -2.0                   | -49.5      | -13.0       | -36.5       |
| 6                  | 730.34      | -54.6                  | -46.4                 | -2.5                   | -48.9      | -13.0       | -35.9       |

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).
3. Spectrum reading (dBm) = Spectrum reading value without factor,  
Factor = free space loss + antenna factor (dB/m) and cable loss.

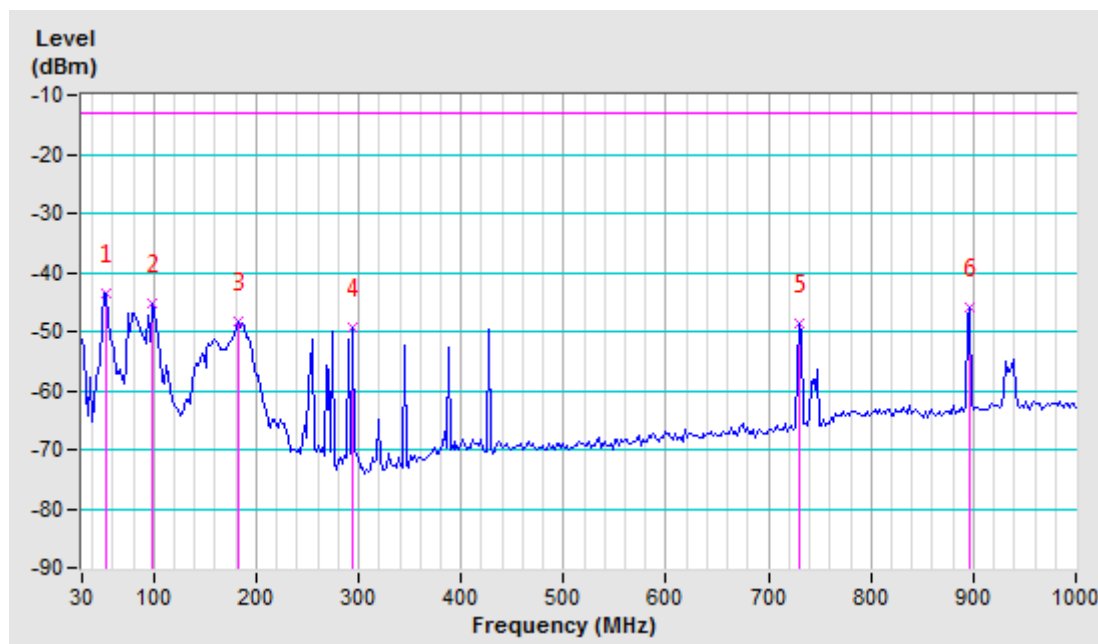


|         |        |                 |                |
|---------|--------|-----------------|----------------|
| Beam ID | 20+148 | Frequency Range | Below 1000 MHz |
| Channel | Mid    | Polarity        | Horizontal     |

| Test Distance: 3 M |             |                        |                       |                        |            |             |             |
|--------------------|-------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                | Freq. (MHz) | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                  | 53.28       | -41.9                  | -43.0                 | -0.5                   | -43.5      | -13.0       | -30.5       |
| 2                  | 97.90       | -37.7                  | -44.0                 | -1.2                   | -45.2      | -13.0       | -32.2       |
| 3                  | 183.26      | -39.9                  | -46.9                 | -1.5                   | -48.4      | -13.0       | -35.4       |
| 4                  | 293.84      | -45.6                  | -47.4                 | -1.8                   | -49.2      | -13.0       | -36.2       |
| 5                  | 730.34      | -52.1                  | -46.3                 | -2.5                   | -48.8      | -13.0       | -35.8       |
| 6                  | 897.18      | -52.6                  | -44.9                 | -1.1                   | -46.0      | -13.0       | -33.0       |

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).
3. Spectrum reading (dBm) = Spectrum reading value without factor,  
Factor = free space loss + antenna factor (dB/m) and cable loss.

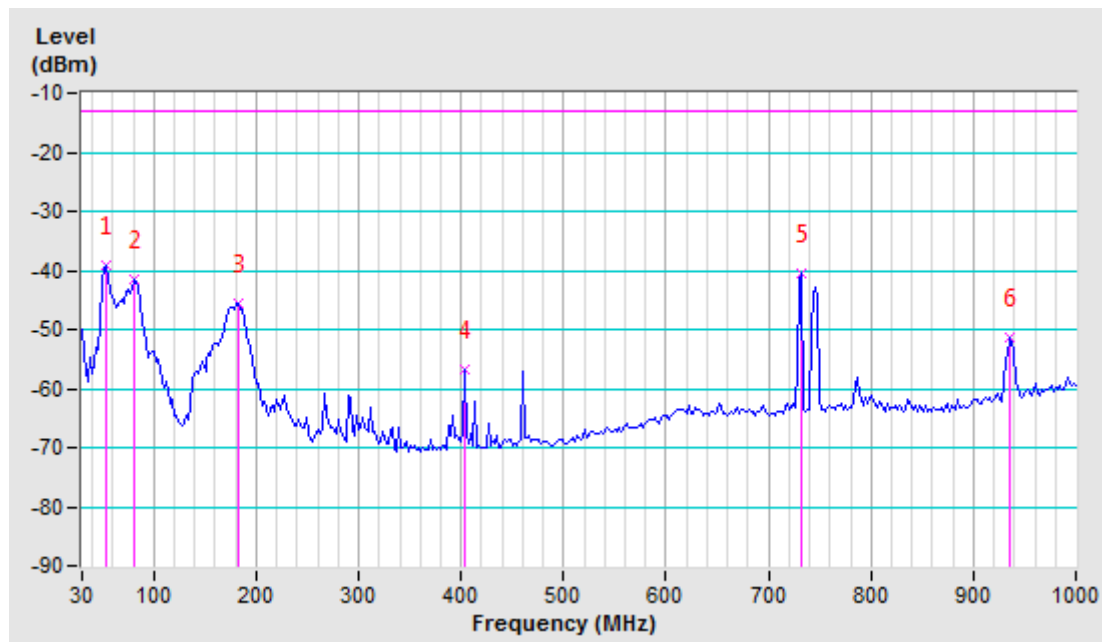


|         |        |                 |                |
|---------|--------|-----------------|----------------|
| Beam ID | 20+148 | Frequency Range | Below 1000 MHz |
| Channel | Mid    | Polarity        | Vertical       |

| Test Distance: 3 M |             |                        |                       |                        |            |             |             |
|--------------------|-------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                | Freq. (MHz) | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                  | 53.28       | -32.7                  | -38.7                 | -0.5                   | -39.2      | -13.0       | -26.2       |
| 2                  | 80.44       | -37.9                  | -40.3                 | -1.2                   | -41.5      | -13.0       | -28.5       |
| 3                  | 183.26      | -43.8                  | -44.1                 | -1.5                   | -45.6      | -13.0       | -32.6       |
| 4                  | 404.42      | -55.7                  | -54.7                 | -2.0                   | -56.7      | -13.0       | -43.7       |
| 5                  | 732.28      | -46.1                  | -38.0                 | -2.5                   | -40.5      | -13.0       | -27.5       |
| 6                  | 935.98      | -60.0                  | -50.1                 | -1.2                   | -51.3      | -13.0       | -38.3       |

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).
3. Spectrum reading (dBm) = Spectrum reading value without factor,  
Factor = free space loss + antenna factor (dB/m) and cable loss.

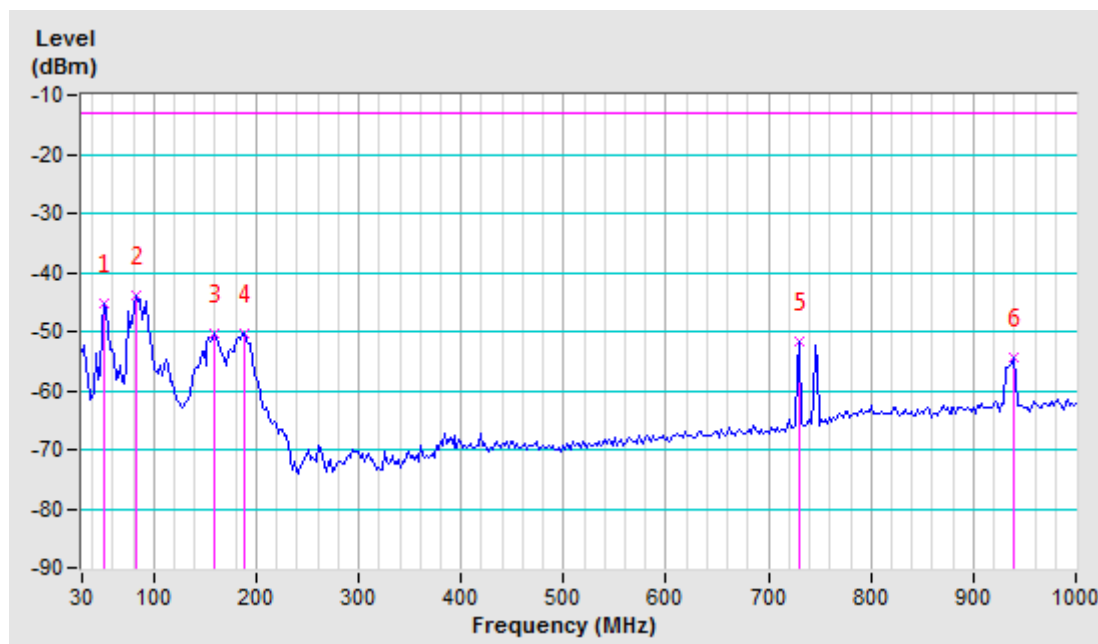


|         |        |                 |                |
|---------|--------|-----------------|----------------|
| Beam ID | 20+148 | Frequency Range | Below 1000 MHz |
| Channel | High   | Polarity        | Horizontal     |

| Test Distance: 3 M |             |                        |                       |                        |            |             |             |
|--------------------|-------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                | Freq. (MHz) | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                  | 51.34       | -44.2                  | -44.9                 | -0.5                   | -45.4      | -13.0       | -32.4       |
| 2                  | 82.38       | -37.3                  | -42.6                 | -1.2                   | -43.8      | -13.0       | -30.8       |
| 3                  | 159.98      | -45.2                  | -49.1                 | -1.4                   | -50.5      | -13.0       | -37.5       |
| 4                  | 189.08      | -41.6                  | -48.8                 | -1.5                   | -50.3      | -13.0       | -37.3       |
| 5                  | 730.34      | -55.1                  | -49.3                 | -2.5                   | -51.8      | -13.0       | -38.8       |
| 6                  | 939.86      | -61.6                  | -53.3                 | -1.2                   | -54.5      | -13.0       | -41.5       |

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).
3. Spectrum reading (dBm) = Spectrum reading value without factor,  
Factor = free space loss + antenna factor (dB/m) and cable loss.

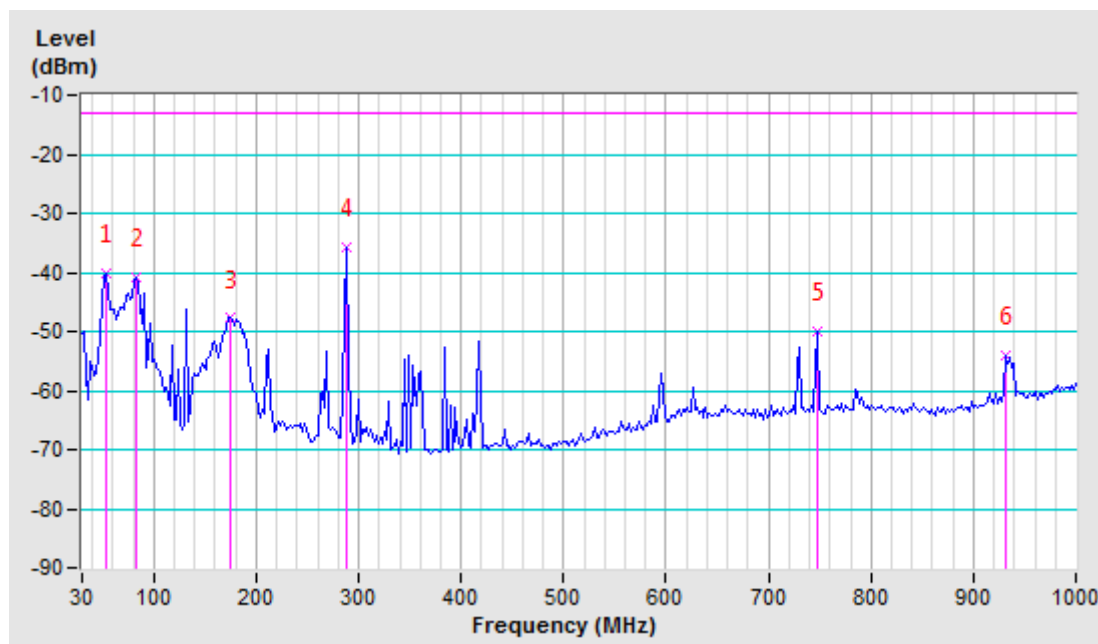


|         |        |                 |                |
|---------|--------|-----------------|----------------|
| Beam ID | 20+148 | Frequency Range | Below 1000 MHz |
| Channel | High   | Polarity        | Vertical       |

| Test Distance: 3 M |             |                        |                       |                        |            |             |             |
|--------------------|-------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                | Freq. (MHz) | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                  | 53.28       | -33.7                  | -39.7                 | -0.5                   | -40.2      | -13.0       | -27.2       |
| 2                  | 82.38       | -37.0                  | -39.8                 | -1.2                   | -41.0      | -13.0       | -28.0       |
| 3                  | 175.50      | -47.3                  | -46.3                 | -1.5                   | -47.8      | -13.0       | -34.8       |
| 4                  | 288.02      | -36.3                  | -34.2                 | -1.7                   | -35.9      | -13.0       | -22.9       |
| 5                  | 747.80      | -55.5                  | -47.4                 | -2.5                   | -49.9      | -13.0       | -36.9       |
| 6                  | 932.10      | -62.5                  | -52.8                 | -1.2                   | -54.0      | -13.0       | -41.0       |

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).
3. Spectrum reading (dBm) = Spectrum reading value without factor,  
Factor = free space loss + antenna factor (dB/m) and cable loss.



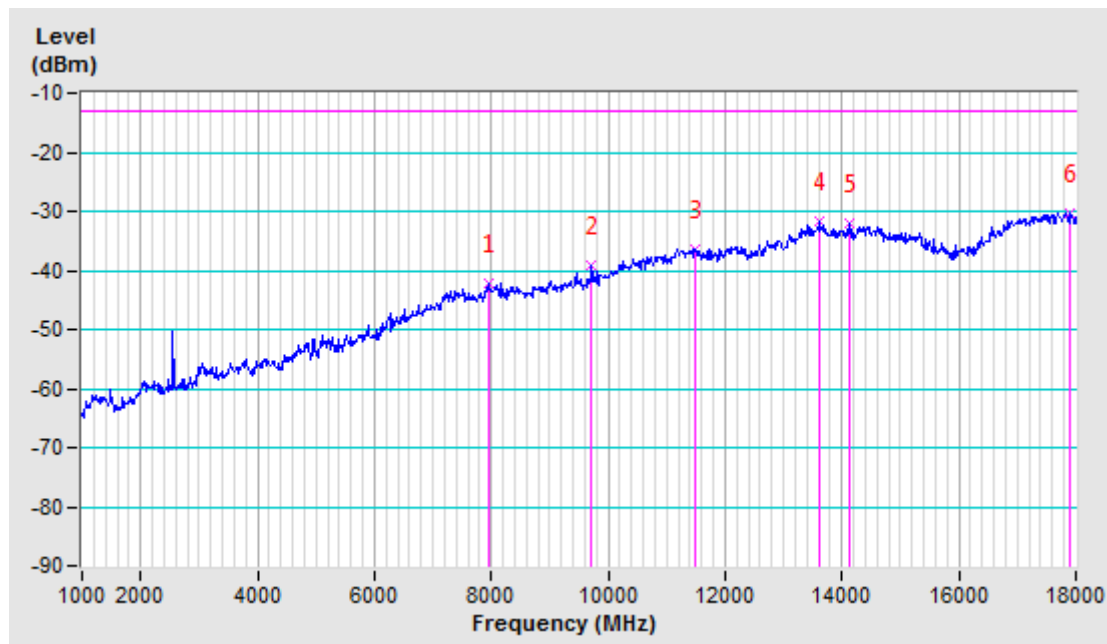
# Above 1GHz Data:

|         |     |                 |              |
|---------|-----|-----------------|--------------|
| Beam ID | 20  | Frequency Range | 1GHz ~ 18GHz |
| Channel | Low | Polarity        | Horizontal   |

| Test Distance: 3 M |             |                        |                       |                        |            |             |             |
|--------------------|-------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                | Freq. (MHz) | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                  | 7953.00     | -67.3                  | -37.0                 | -5.1                   | -42.1      | -13.0       | -29.1       |
| 2                  | 9721.00     | -66.4                  | -33.1                 | -5.9                   | -39.0      | -13.0       | -26.0       |
| 3                  | 11472.00    | -67.8                  | -29.9                 | -6.6                   | -36.5      | -13.0       | -23.5       |
| 4                  | 13614.00    | -67.1                  | -24.2                 | -7.5                   | -31.7      | -13.0       | -18.7       |
| 5                  | 14124.00    | -66.9                  | -24.6                 | -7.6                   | -32.2      | -13.0       | -19.2       |
| 6                  | 17898.00    | -67.7                  | -20.7                 | -9.7                   | -30.4      | -13.0       | -17.4       |

## Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).
3. Spectrum reading (dBm) = Spectrum reading value without factor,  
Factor = free space loss + antenna factor (dB/m) and cable loss.



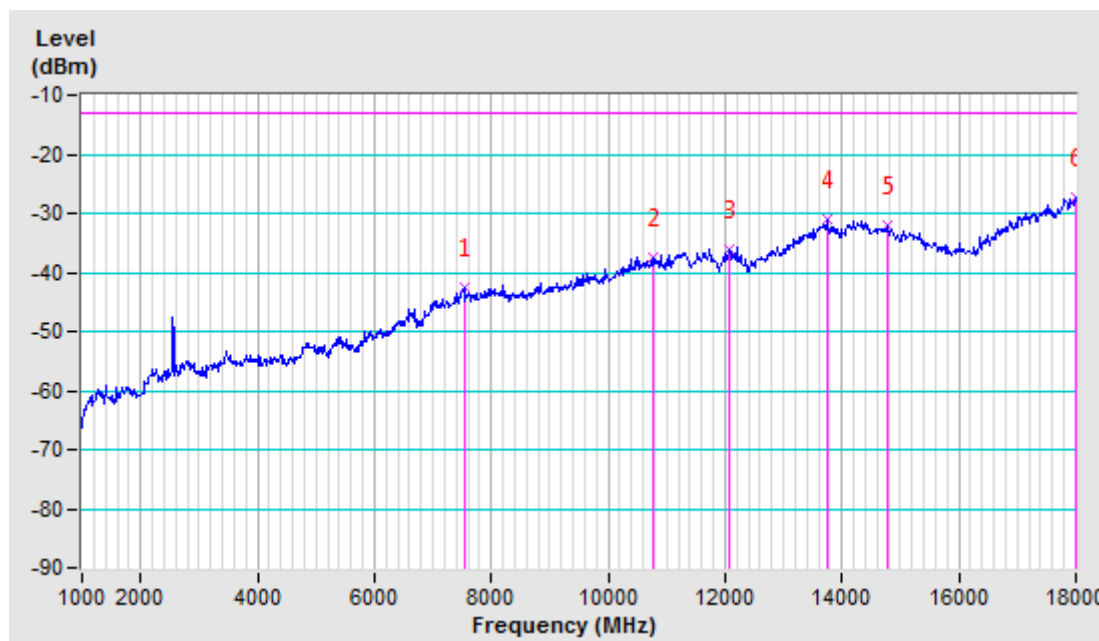


|         |     |                 |              |
|---------|-----|-----------------|--------------|
| Beam ID | 20  | Frequency Range | 1GHz ~ 18GHz |
| Channel | Low | Polarity        | Vertical     |

| Test Distance: 3 M |             |                        |                       |                        |            |             |             |
|--------------------|-------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                | Freq. (MHz) | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                  | 7545.00     | -66.9                  | -37.6                 | -4.9                   | -42.5      | -13.0       | -29.5       |
| 2                  | 10775.00    | -66.9                  | -31.1                 | -6.4                   | -37.5      | -13.0       | -24.5       |
| 3                  | 12084.00    | -66.6                  | -29.2                 | -6.8                   | -36.0      | -13.0       | -23.0       |
| 4                  | 13733.00    | -66.4                  | -23.5                 | -7.4                   | -30.9      | -13.0       | -17.9       |
| 5                  | 14787.00    | -66.7                  | -24.0                 | -7.9                   | -31.9      | -13.0       | -18.9       |
| 6                  | 18000.00    | -67.6                  | -17.7                 | -9.7                   | -27.4      | -13.0       | -14.4       |

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).
3. Spectrum reading (dBm) = Spectrum reading value without factor,  
Factor = free space loss + antenna factor (dB/m) and cable loss.

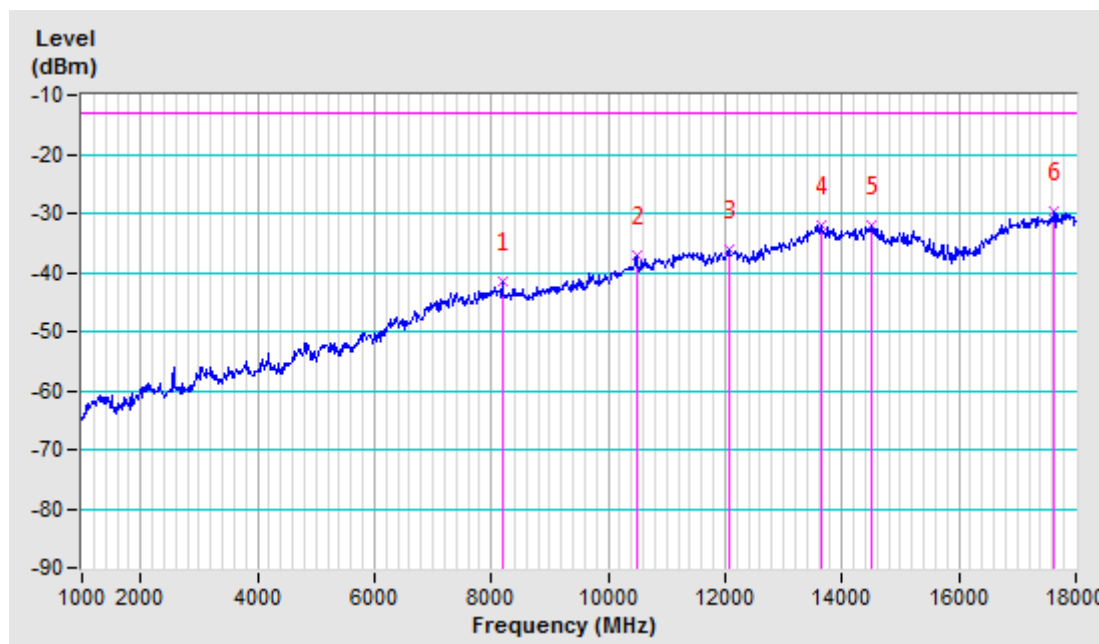


|         |     |                 |              |
|---------|-----|-----------------|--------------|
| Beam ID | 20  | Frequency Range | 1GHz ~ 18GHz |
| Channel | Mid | Polarity        | Horizontal   |

| Test Distance: 3 M |             |                        |                       |                        |            |             |             |
|--------------------|-------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                | Freq. (MHz) | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                  | 8191.00     | -66.4                  | -36.5                 | -5.1                   | -41.6      | -13.0       | -28.6       |
| 2                  | 10486.00    | -66.8                  | -30.8                 | -6.3                   | -37.1      | -13.0       | -24.1       |
| 3                  | 12067.00    | -67.5                  | -29.3                 | -6.8                   | -36.1      | -13.0       | -23.1       |
| 4                  | 13631.00    | -67.4                  | -24.6                 | -7.5                   | -32.1      | -13.0       | -19.1       |
| 5                  | 14498.00    | -67.4                  | -24.3                 | -7.8                   | -32.1      | -13.0       | -19.1       |
| 6                  | 17609.00    | -66.8                  | -20.2                 | -9.6                   | -29.8      | -13.0       | -16.8       |

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).
3. Spectrum reading (dBm) = Spectrum reading value without factor,  
Factor = free space loss + antenna factor (dB/m) and cable loss.

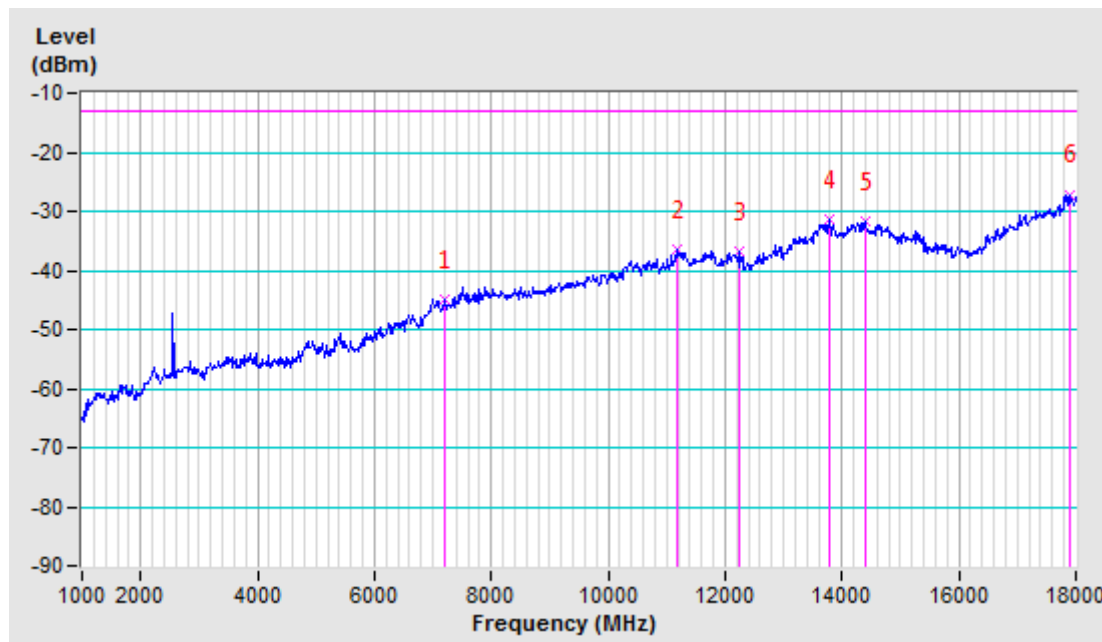


|         |     |                 |              |
|---------|-----|-----------------|--------------|
| Beam ID | 20  | Frequency Range | 1GHz ~ 18GHz |
| Channel | Mid | Polarity        | Vertical     |

| Test Distance: 3 M |             |                        |                       |                        |            |             |             |
|--------------------|-------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                | Freq. (MHz) | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                  | 7205.00     | -68.1                  | -40.1                 | -4.7                   | -44.8      | -13.0       | -31.8       |
| 2                  | 11166.00    | -67.0                  | -30.0                 | -6.5                   | -36.5      | -13.0       | -23.5       |
| 3                  | 12237.00    | -66.8                  | -29.9                 | -6.9                   | -36.8      | -13.0       | -23.8       |
| 4                  | 13801.00    | -66.6                  | -23.8                 | -7.5                   | -31.3      | -13.0       | -18.3       |
| 5                  | 14396.00    | -67.6                  | -24.0                 | -7.7                   | -31.7      | -13.0       | -18.7       |
| 6                  | 17898.00    | -66.5                  | -17.4                 | -9.7                   | -27.1      | -13.0       | -14.1       |

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).
3. Spectrum reading (dBm) = Spectrum reading value without factor,  
Factor = free space loss + antenna factor (dB/m) and cable loss.

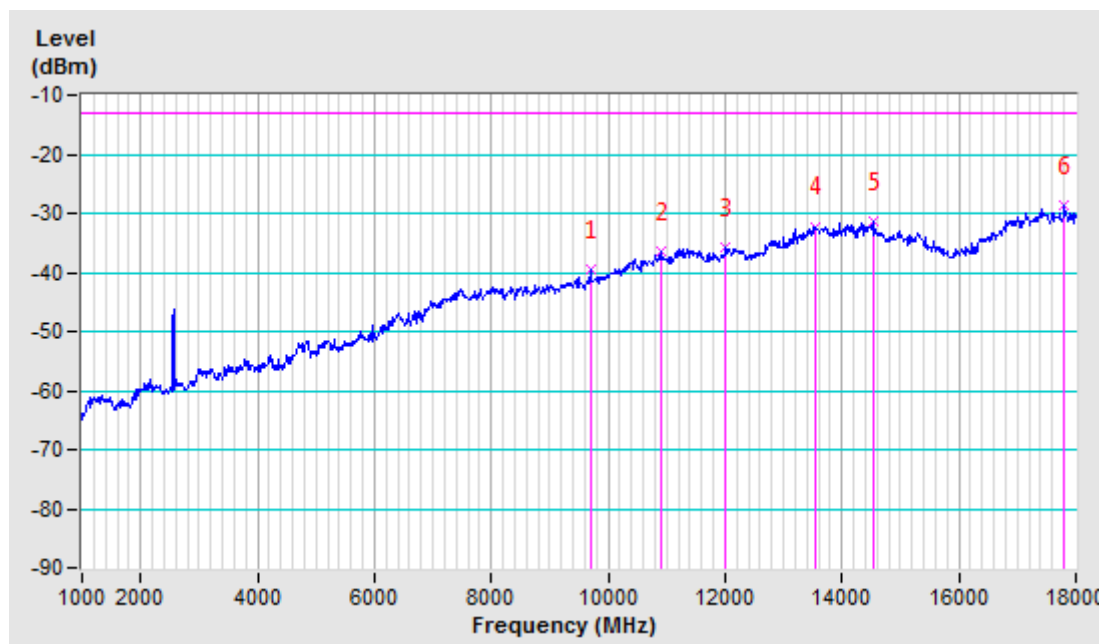


|         |      |                 |              |
|---------|------|-----------------|--------------|
| Beam ID | 20   | Frequency Range | 1GHz ~ 18GHz |
| Channel | High | Polarity        | Horizontal   |

| Test Distance: 3 M |             |                        |                       |                        |            |             |             |
|--------------------|-------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                | Freq. (MHz) | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                  | 9704.00     | -66.7                  | -33.6                 | -5.8                   | -39.4      | -13.0       | -26.4       |
| 2                  | 10894.00    | -66.9                  | -30.0                 | -6.3                   | -36.3      | -13.0       | -23.3       |
| 3                  | 12016.00    | -67.1                  | -29.1                 | -6.8                   | -35.9      | -13.0       | -22.9       |
| 4                  | 13529.00    | -67.3                  | -24.8                 | -7.4                   | -32.2      | -13.0       | -19.2       |
| 5                  | 14549.00    | -66.3                  | -23.5                 | -7.9                   | -31.4      | -13.0       | -18.4       |
| 6                  | 17796.00    | -66.5                  | -18.8                 | -9.8                   | -28.6      | -13.0       | -15.6       |

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).
3. Spectrum reading (dBm) = Spectrum reading value without factor,  
Factor = free space loss + antenna factor (dB/m) and cable loss.

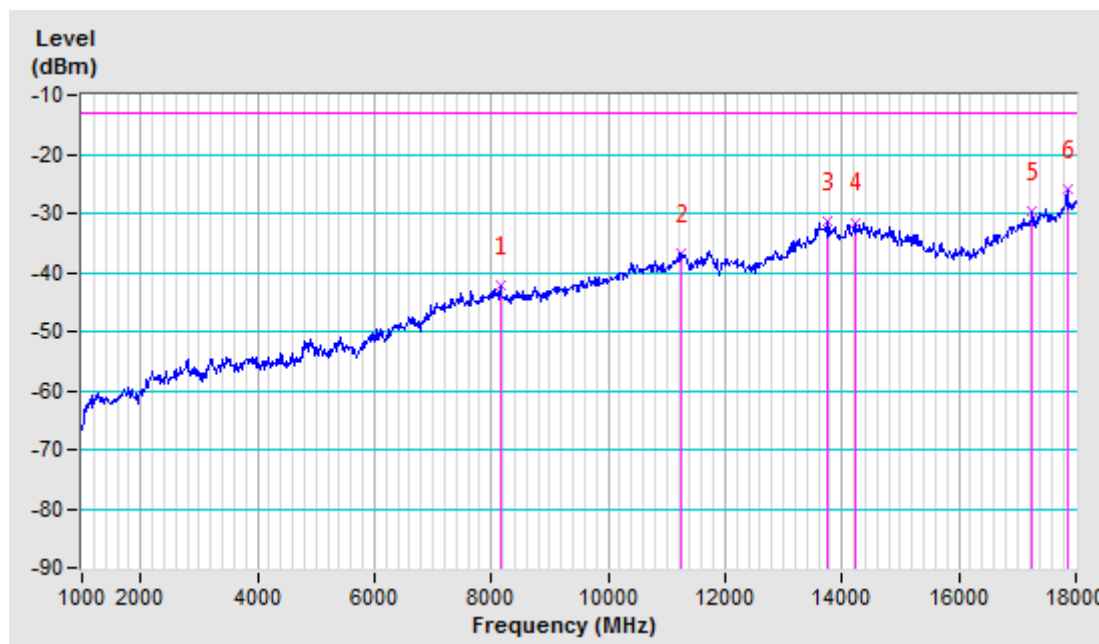


|         |      |                 |              |
|---------|------|-----------------|--------------|
| Beam ID | 20   | Frequency Range | 1GHz ~ 18GHz |
| Channel | High | Polarity        | Vertical     |

| Test Distance: 3 M |             |                        |                       |                        |            |             |             |
|--------------------|-------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                | Freq. (MHz) | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                  | 8157.00     | -66.8                  | -37.0                 | -5.1                   | -42.1      | -13.0       | -29.1       |
| 2                  | 11234.00    | -67.7                  | -30.2                 | -6.5                   | -36.7      | -13.0       | -23.7       |
| 3                  | 13767.00    | -66.8                  | -23.9                 | -7.5                   | -31.4      | -13.0       | -18.4       |
| 4                  | 14243.00    | -67.4                  | -23.8                 | -7.7                   | -31.5      | -13.0       | -18.5       |
| 5                  | 17252.00    | -66.2                  | -20.0                 | -9.5                   | -29.5      | -13.0       | -16.5       |
| 6                  | 17847.00    | -65.5                  | -16.3                 | -9.7                   | -26.0      | -13.0       | -13.0       |

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).
3. Spectrum reading (dBm) = Spectrum reading value without factor,  
Factor = free space loss + antenna factor (dB/m) and cable loss.

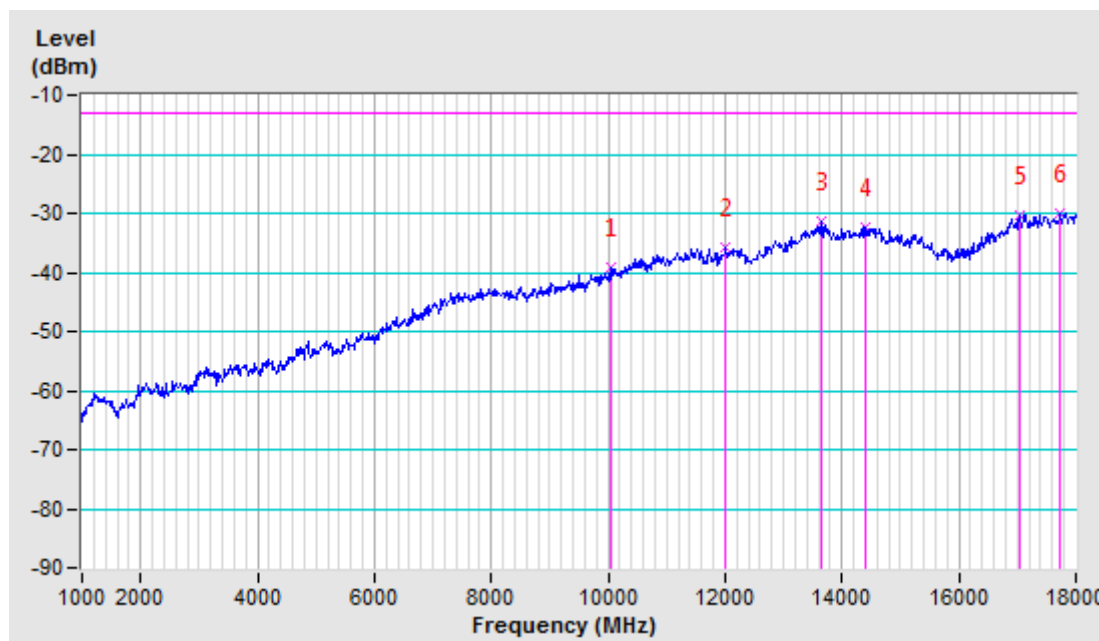


|         |        |                 |              |
|---------|--------|-----------------|--------------|
| Beam ID | 20+148 | Frequency Range | 1GHz ~ 18GHz |
| Channel | Low    | Polarity        | Horizontal   |

| Test Distance: 3 M |             |                        |                       |                        |            |             |             |
|--------------------|-------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                | Freq. (MHz) | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                  | 10044.00    | -67.2                  | -33.1                 | -6.1                   | -39.2      | -13.0       | -26.2       |
| 2                  | 12016.00    | -67.0                  | -29.0                 | -6.8                   | -35.8      | -13.0       | -22.8       |
| 3                  | 13648.00    | -66.7                  | -24.0                 | -7.5                   | -31.5      | -13.0       | -18.5       |
| 4                  | 14413.00    | -67.3                  | -24.6                 | -7.7                   | -32.3      | -13.0       | -19.3       |
| 5                  | 17031.00    | -66.1                  | -20.7                 | -9.5                   | -30.2      | -13.0       | -17.2       |
| 6                  | 17728.00    | -67.0                  | -20.2                 | -9.7                   | -29.9      | -13.0       | -16.9       |

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).
3. Spectrum reading (dBm) = Spectrum reading value without factor,  
Factor = free space loss + antenna factor (dB/m) and cable loss.

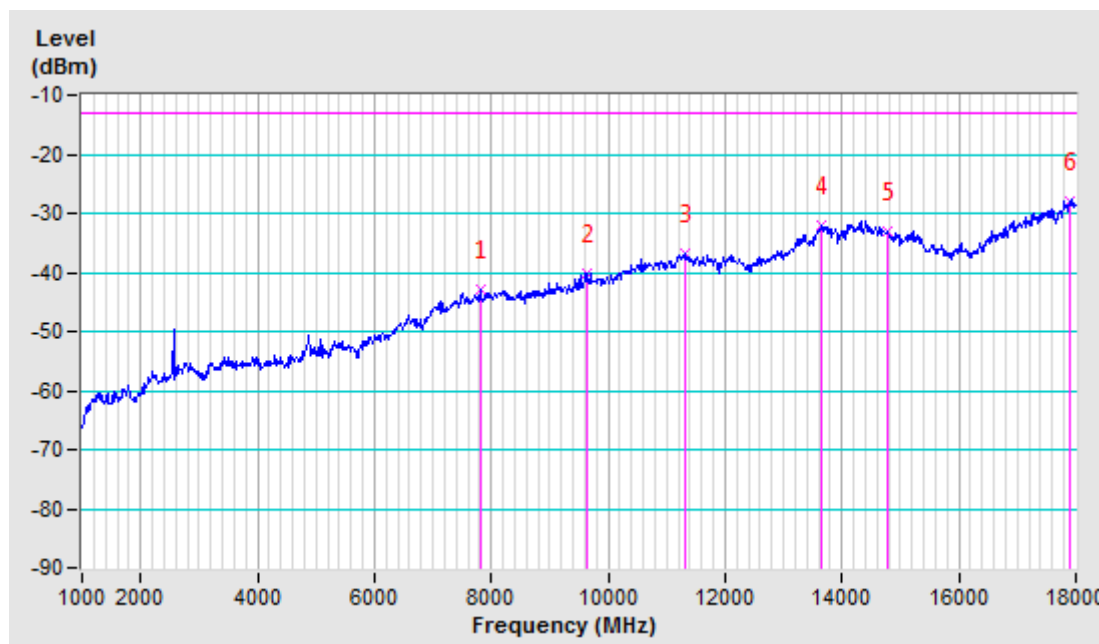


|         |        |                 |              |
|---------|--------|-----------------|--------------|
| Beam ID | 20+148 | Frequency Range | 1GHz ~ 18GHz |
| Channel | Low    | Polarity        | Vertical     |

| Test Distance: 3 M |             |                        |                       |                        |            |             |             |
|--------------------|-------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                | Freq. (MHz) | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                  | 7817.00     | -67.1                  | -37.8                 | -5.0                   | -42.8      | -13.0       | -29.8       |
| 2                  | 9636.00     | -67.3                  | -34.3                 | -5.8                   | -40.1      | -13.0       | -27.1       |
| 3                  | 11319.00    | -67.5                  | -30.1                 | -6.6                   | -36.7      | -13.0       | -23.7       |
| 4                  | 13648.00    | -67.5                  | -24.5                 | -7.5                   | -32.0      | -13.0       | -19.0       |
| 5                  | 14787.00    | -67.8                  | -25.1                 | -7.9                   | -33.0      | -13.0       | -20.0       |
| 6                  | 17898.00    | -67.3                  | -18.2                 | -9.7                   | -27.9      | -13.0       | -14.9       |

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).
3. Spectrum reading (dBm) = Spectrum reading value without factor,  
Factor = free space loss + antenna factor (dB/m) and cable loss.

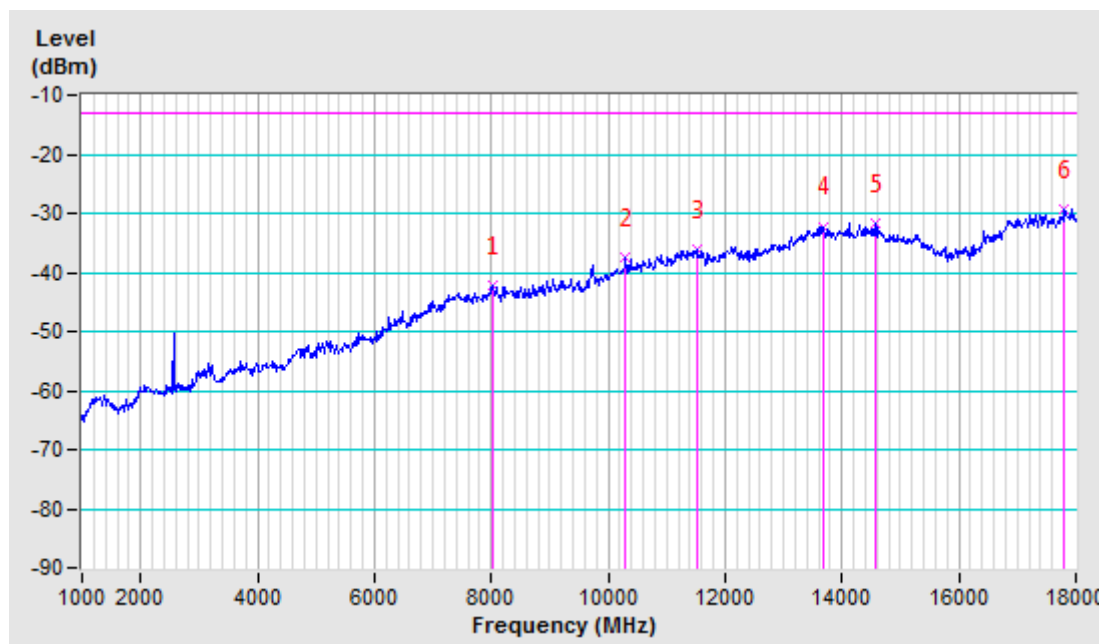


|         |        |                 |              |
|---------|--------|-----------------|--------------|
| Beam ID | 20+148 | Frequency Range | 1GHz ~ 18GHz |
| Channel | Mid    | Polarity        | Horizontal   |

| Test Distance: 3 M |             |                        |                       |                        |            |             |             |
|--------------------|-------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                | Freq. (MHz) | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                  | 8021.00     | -67.7                  | -37.2                 | -5.1                   | -42.3      | -13.0       | -29.3       |
| 2                  | 10299.00    | -66.8                  | -31.2                 | -6.2                   | -37.4      | -13.0       | -24.4       |
| 3                  | 11506.00    | -67.3                  | -29.4                 | -6.6                   | -36.0      | -13.0       | -23.0       |
| 4                  | 13665.00    | -67.3                  | -24.8                 | -7.4                   | -32.2      | -13.0       | -19.2       |
| 5                  | 14566.00    | -66.6                  | -23.9                 | -7.9                   | -31.8      | -13.0       | -18.8       |
| 6                  | 17796.00    | -67.2                  | -19.5                 | -9.8                   | -29.3      | -13.0       | -16.3       |

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).
3. Spectrum reading (dBm) = Spectrum reading value without factor,  
Factor = free space loss + antenna factor (dB/m) and cable loss.



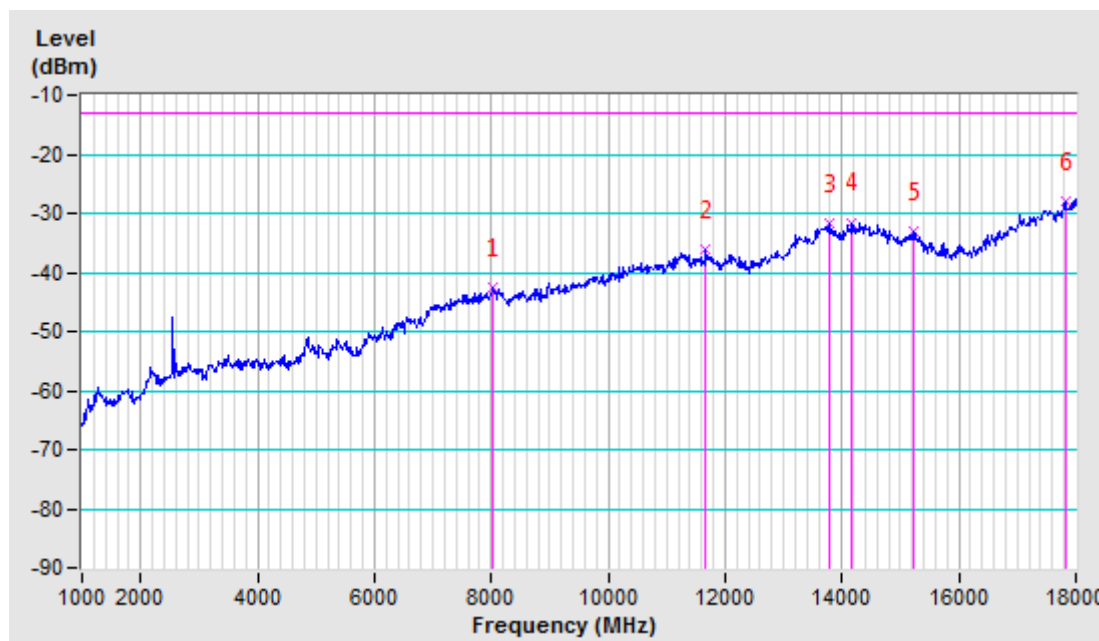


|         |        |                 |              |
|---------|--------|-----------------|--------------|
| Beam ID | 20+148 | Frequency Range | 1GHz ~ 18GHz |
| Channel | Mid    | Polarity        | Vertical     |

| Test Distance: 3 M |             |                        |                       |                        |            |             |             |
|--------------------|-------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                | Freq. (MHz) | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                  | 8038.00     | -67.3                  | -37.5                 | -5.1                   | -42.6      | -13.0       | -29.6       |
| 2                  | 11676.00    | -66.8                  | -29.4                 | -6.7                   | -36.1      | -13.0       | -23.1       |
| 3                  | 13784.00    | -67.0                  | -24.2                 | -7.5                   | -31.7      | -13.0       | -18.7       |
| 4                  | 14175.00    | -67.2                  | -23.9                 | -7.6                   | -31.5      | -13.0       | -18.5       |
| 5                  | 15212.00    | -67.2                  | -25.1                 | -8.0                   | -33.1      | -13.0       | -20.1       |
| 6                  | 17813.00    | -67.6                  | -18.3                 | -9.7                   | -28.0      | -13.0       | -15.0       |

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).
3. Spectrum reading (dBm) = Spectrum reading value without factor,  
Factor = free space loss + antenna factor (dB/m) and cable loss.

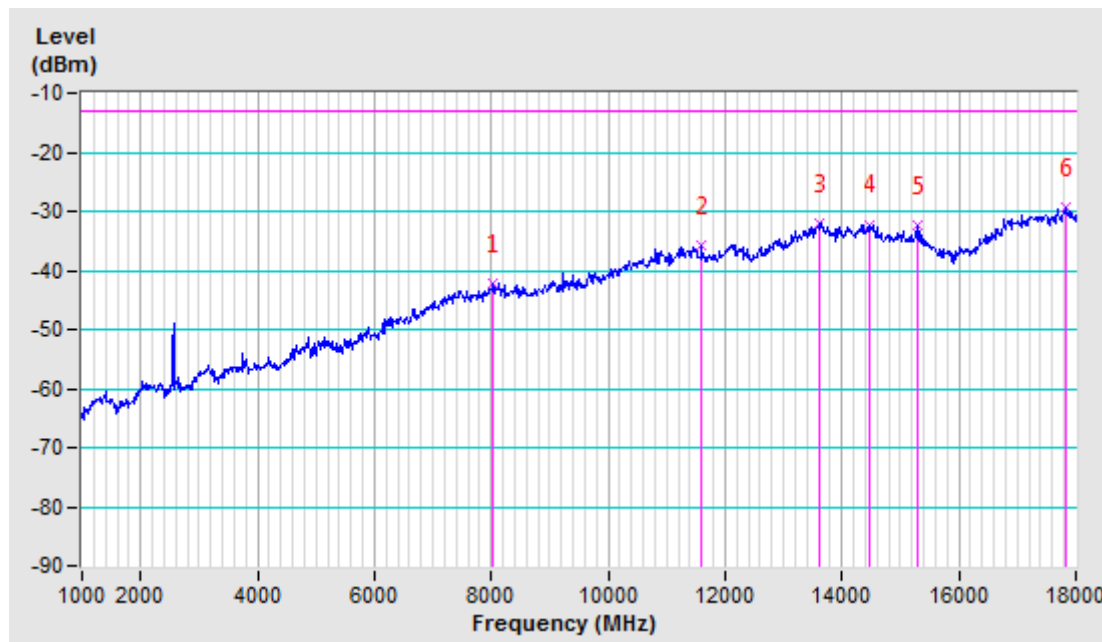


|         |        |                 |              |
|---------|--------|-----------------|--------------|
| Beam ID | 20+148 | Frequency Range | 1GHz ~ 18GHz |
| Channel | High   | Polarity        | Horizontal   |

| Test Distance: 3 M |             |                        |                       |                        |            |             |             |
|--------------------|-------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                | Freq. (MHz) | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                  | 8038.00     | -67.6                  | -37.2                 | -5.1                   | -42.3      | -13.0       | -29.3       |
| 2                  | 11591.00    | -66.5                  | -29.2                 | -6.7                   | -35.9      | -13.0       | -22.9       |
| 3                  | 13614.00    | -67.5                  | -24.6                 | -7.5                   | -32.1      | -13.0       | -19.1       |
| 4                  | 14464.00    | -67.4                  | -24.4                 | -7.8                   | -32.2      | -13.0       | -19.2       |
| 5                  | 15297.00    | -66.0                  | -24.4                 | -8.1                   | -32.5      | -13.0       | -19.5       |
| 6                  | 17830.00    | -67.1                  | -19.6                 | -9.7                   | -29.3      | -13.0       | -16.3       |

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).
3. Spectrum reading (dBm) = Spectrum reading value without factor,  
Factor = free space loss + antenna factor (dB/m) and cable loss.

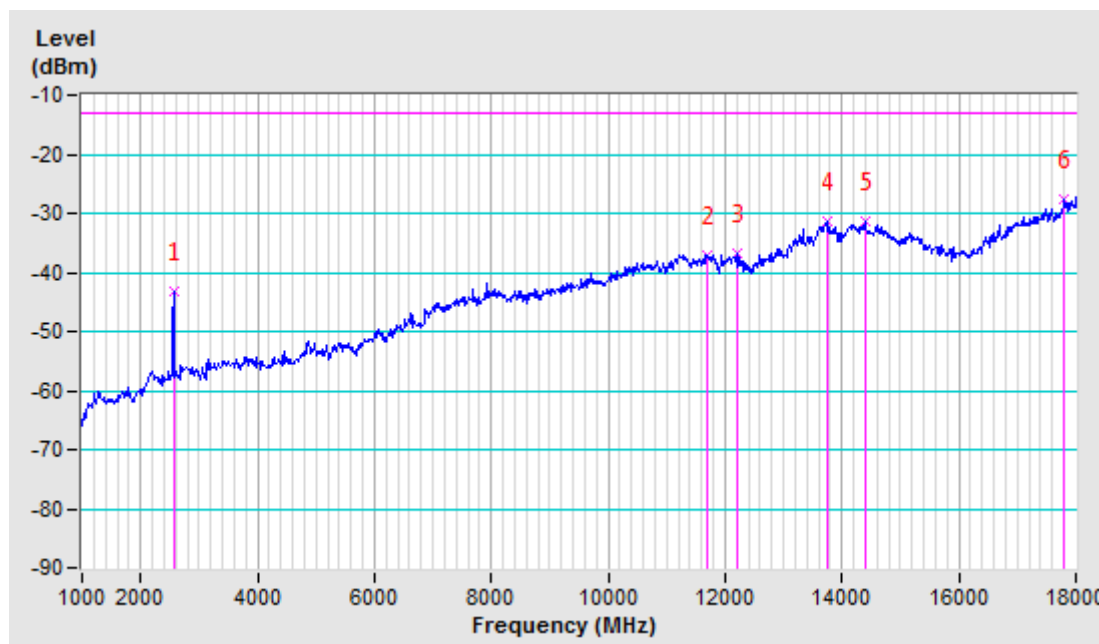


|         |        |                 |              |
|---------|--------|-----------------|--------------|
| Beam ID | 20+148 | Frequency Range | 1GHz ~ 18GHz |
| Channel | High   | Polarity        | Vertical     |

| Test Distance: 3 M |             |                        |                       |                        |            |             |             |
|--------------------|-------------|------------------------|-----------------------|------------------------|------------|-------------|-------------|
| No.                | Freq. (MHz) | Spectrum Reading (dBm) | S.G Power Value (dBm) | Correction Factor (dB) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
| 1                  | 2564.00     | -54.6                  | -41.3                 | -2.0                   | -43.3      | -13.0       | -30.3       |
| 2                  | 11710.00    | -67.9                  | -30.3                 | -6.7                   | -37.0      | -13.0       | -24.0       |
| 3                  | 12203.00    | -67.1                  | -30.0                 | -6.9                   | -36.9      | -13.0       | -23.9       |
| 4                  | 13733.00    | -66.7                  | -23.8                 | -7.4                   | -31.2      | -13.0       | -18.2       |
| 5                  | 14396.00    | -67.1                  | -23.5                 | -7.7                   | -31.2      | -13.0       | -18.2       |
| 6                  | 17796.00    | -67.2                  | -17.8                 | -9.8                   | -27.6      | -13.0       | -14.6       |

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).
3. Spectrum reading (dBm) = Spectrum reading value without factor,  
Factor = free space loss + antenna factor (dB/m) and cable loss.



|         |     |                  |                 |
|---------|-----|------------------|-----------------|
| Beam ID | 20  | Frequency Range  | 18GHz-37.575GHz |
| Channel | Low | Antenna polarity | Horizontal      |

Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |     |                  |                 |
|---------|-----|------------------|-----------------|
| Beam ID | 20  | Frequency Range  | 18GHz-37.575GHz |
| Channel | Low | Antenna polarity | Vertical        |

Test distance at 1m

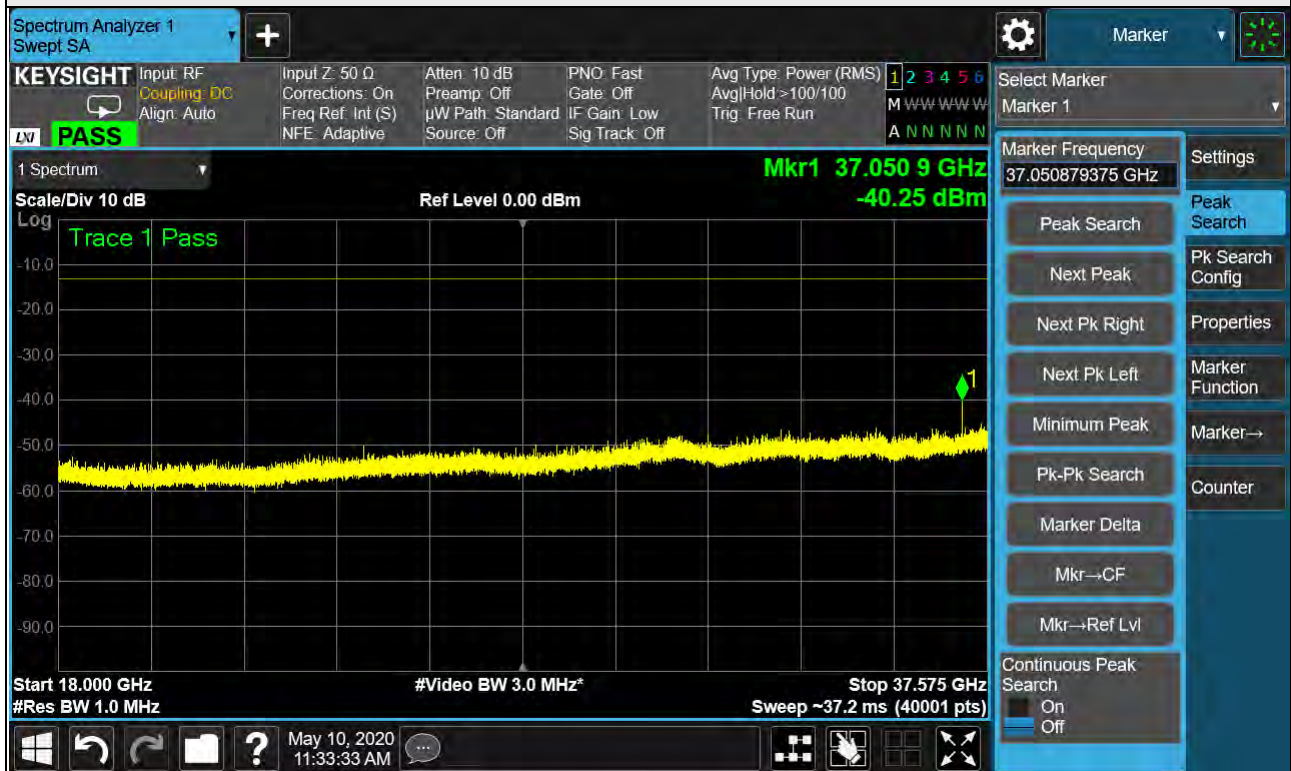


Note: The test results already include the correction factor (corrections: On).



|         |     |                  |                 |
|---------|-----|------------------|-----------------|
| Beam ID | 20  | Frequency Range  | 18GHz-37.575GHz |
| Channel | Mid | Antenna polarity | Horizontal      |

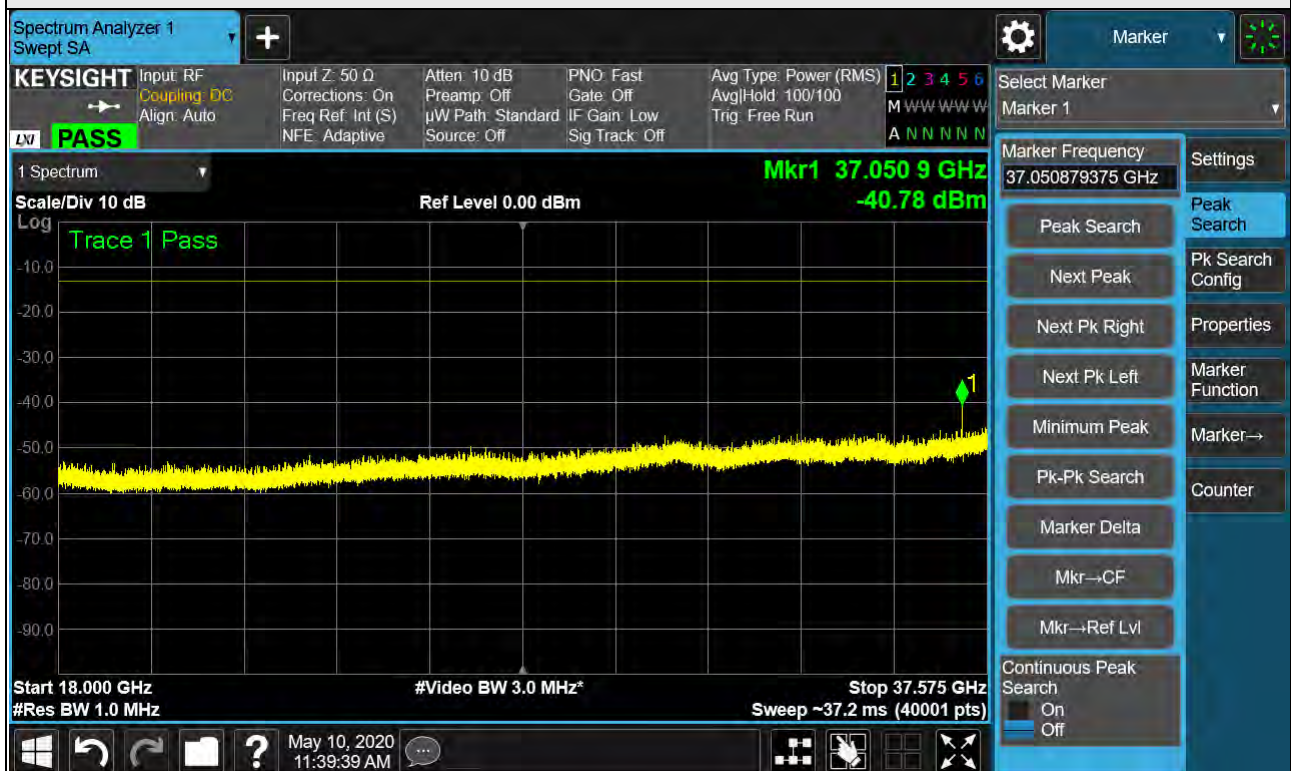
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |     |                  |                 |
|---------|-----|------------------|-----------------|
| Beam ID | 20  | Frequency Range  | 18GHz-37.575GHz |
| Channel | Mid | Antenna polarity | Vertical        |

Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |      |                  |                 |
|---------|------|------------------|-----------------|
| Beam ID | 20   | Frequency Range  | 18GHz-37.575GHz |
| Channel | High | Antenna polarity | Horizontal      |

Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |      |                  |                 |
|---------|------|------------------|-----------------|
| Beam ID | 20   | Frequency Range  | 18GHz-37.575GHz |
| Channel | High | Antenna polarity | Vertical        |

Test distance at 1m

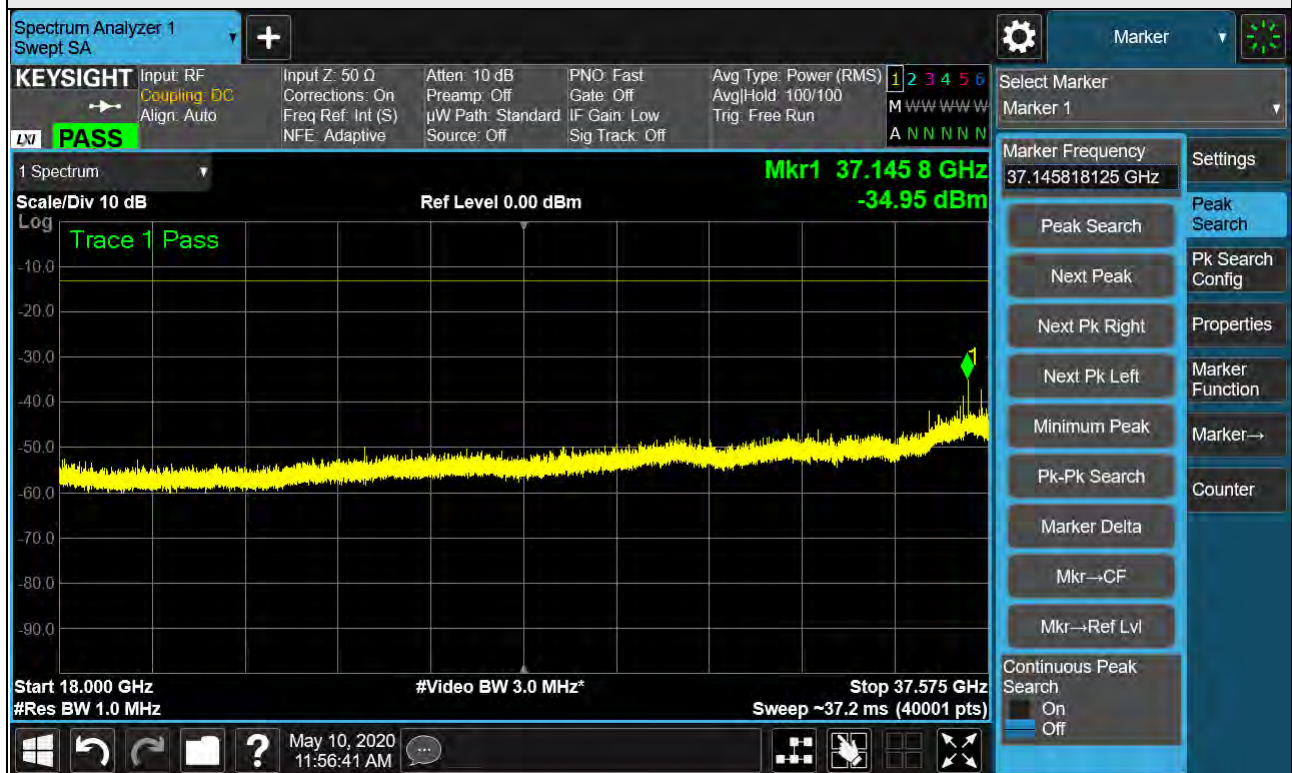


Note: The test results already include the correction factor (corrections: On).



|         |        |                  |                 |
|---------|--------|------------------|-----------------|
| Beam ID | 20+148 | Frequency Range  | 18GHz-37.575GHz |
| Channel | Low    | Antenna polarity | Horizontal      |

Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |        |                  |                 |
|---------|--------|------------------|-----------------|
| Beam ID | 20+148 | Frequency Range  | 18GHz-37.575GHz |
| Channel | Low    | Antenna polarity | Vertical        |

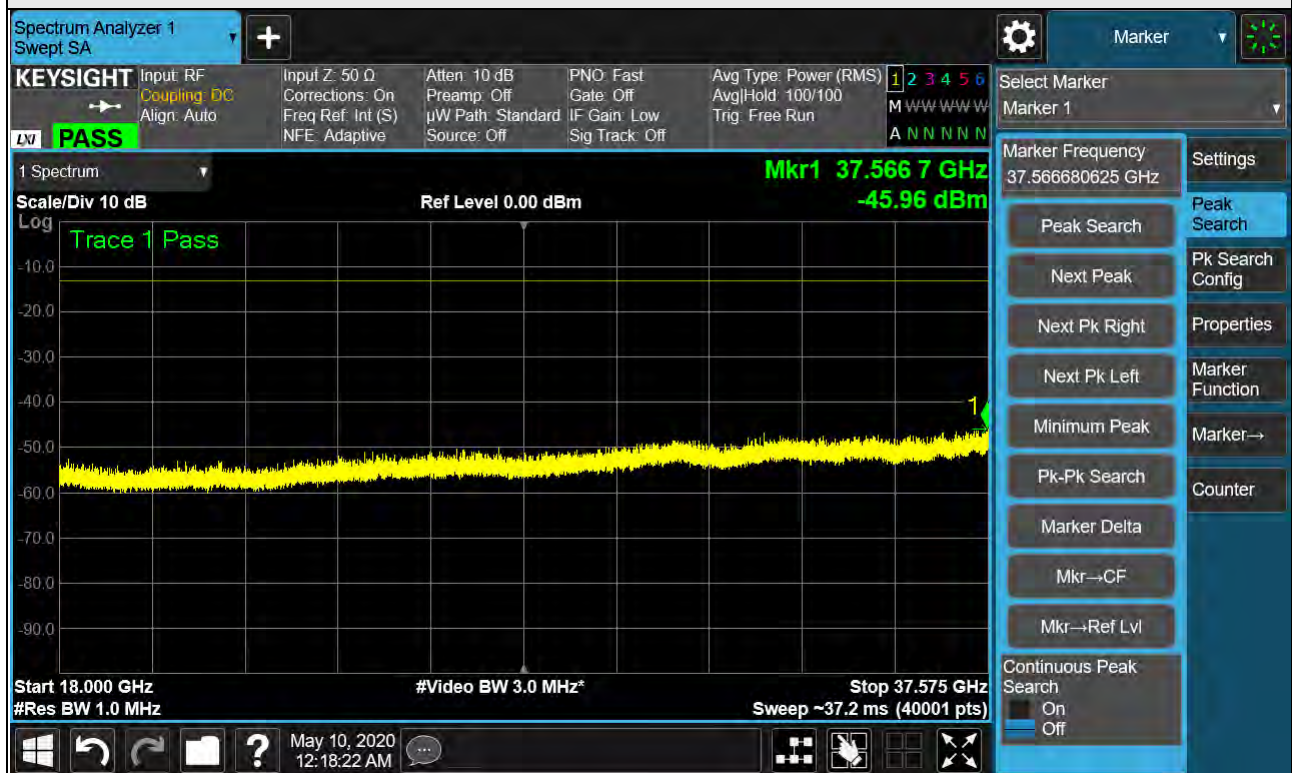
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |        |                  |                 |
|---------|--------|------------------|-----------------|
| Beam ID | 20+148 | Frequency Range  | 18GHz-37.575GHz |
| Channel | Mid    | Antenna polarity | Horizontal      |

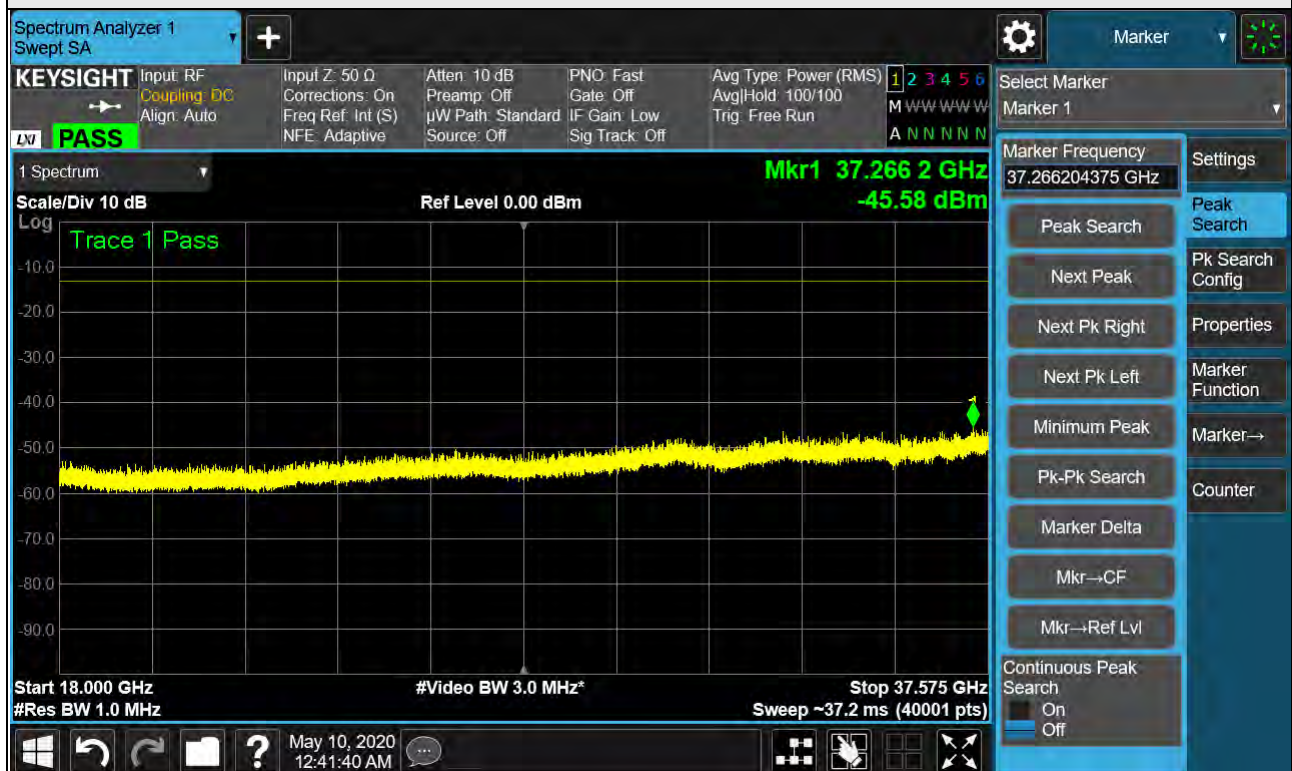
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |        |                  |                 |
|---------|--------|------------------|-----------------|
| Beam ID | 20+148 | Frequency Range  | 18GHz-37.575GHz |
| Channel | Mid    | Antenna polarity | Vertical        |

Test distance at 1m

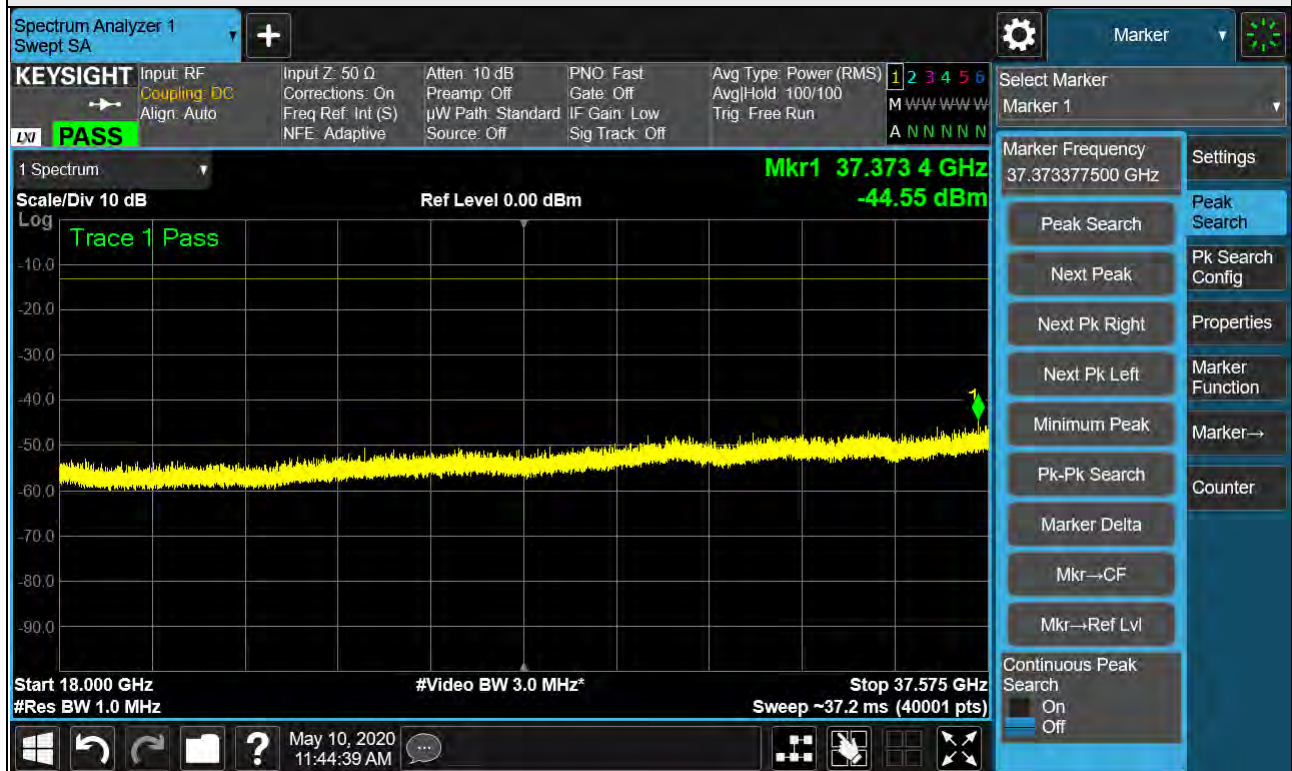


Note: The test results already include the correction factor (corrections: On).



|         |        |                  |                 |
|---------|--------|------------------|-----------------|
| Beam ID | 20+148 | Frequency Range  | 18GHz-37.575GHz |
| Channel | High   | Antenna polarity | Horizontal      |

Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |        |                  |                 |
|---------|--------|------------------|-----------------|
| Beam ID | 20+148 | Frequency Range  | 18GHz-37.575GHz |
| Channel | High   | Antenna polarity | Vertical        |

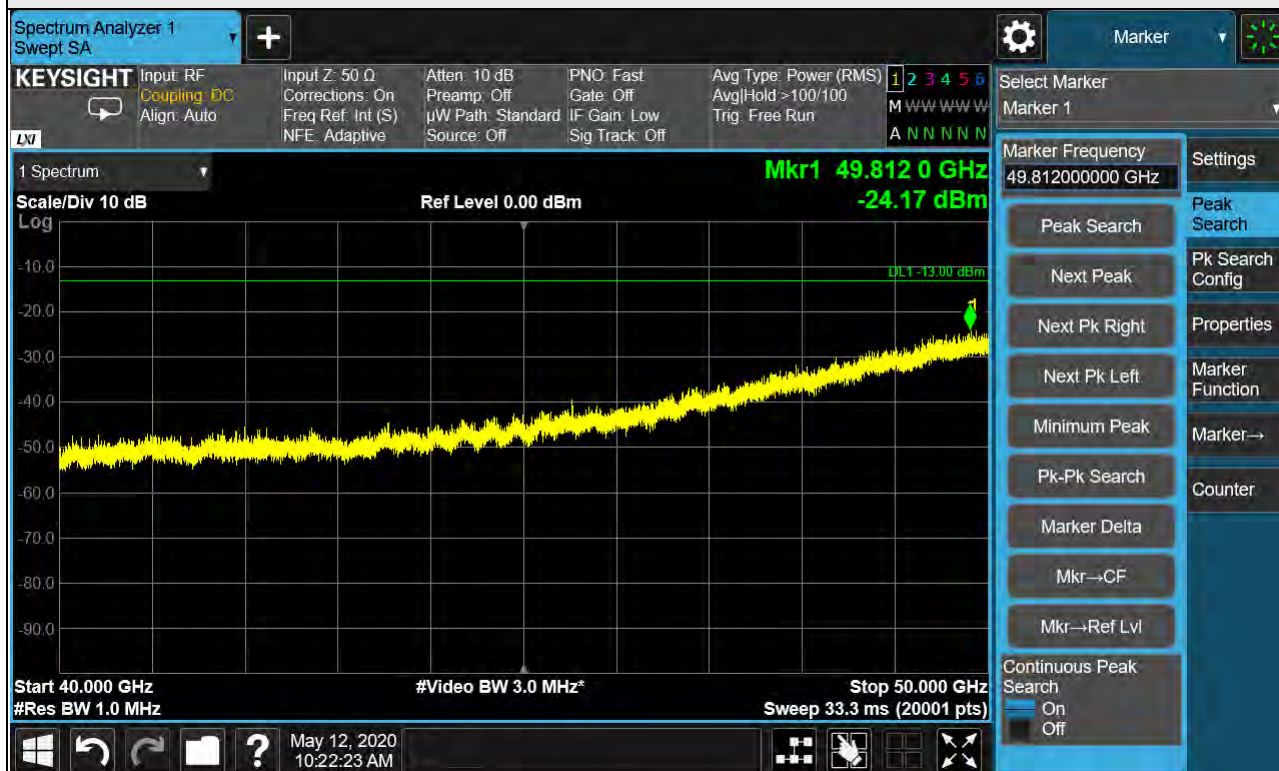
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |     |                  |                 |
|---------|-----|------------------|-----------------|
| Beam ID | 20  | Frequency Range  | 40.025GHz-50GHz |
| Channel | Low | Antenna polarity | Horizontal      |

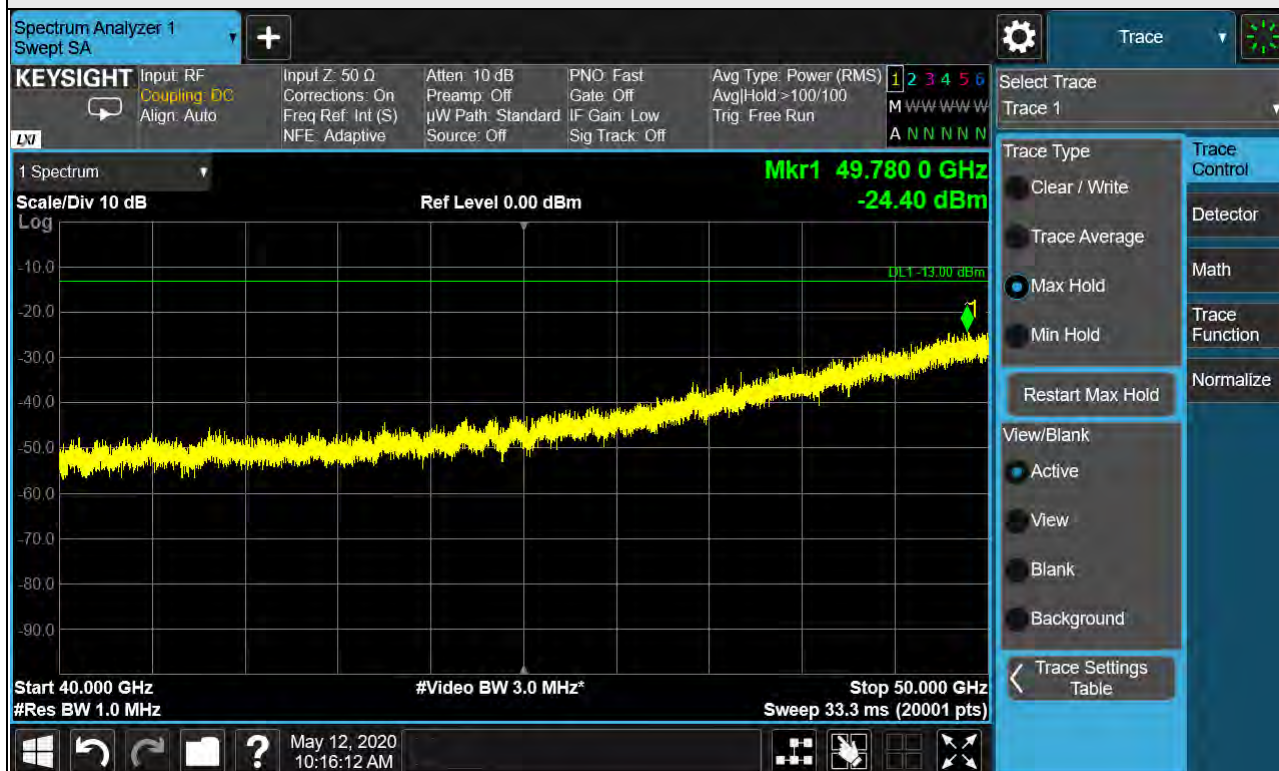
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |     |                  |                 |
|---------|-----|------------------|-----------------|
| Beam ID | 20  | Frequency Range  | 40.025GHz-50GHz |
| Channel | Low | Antenna polarity | Vertical        |

Test distance at 1m

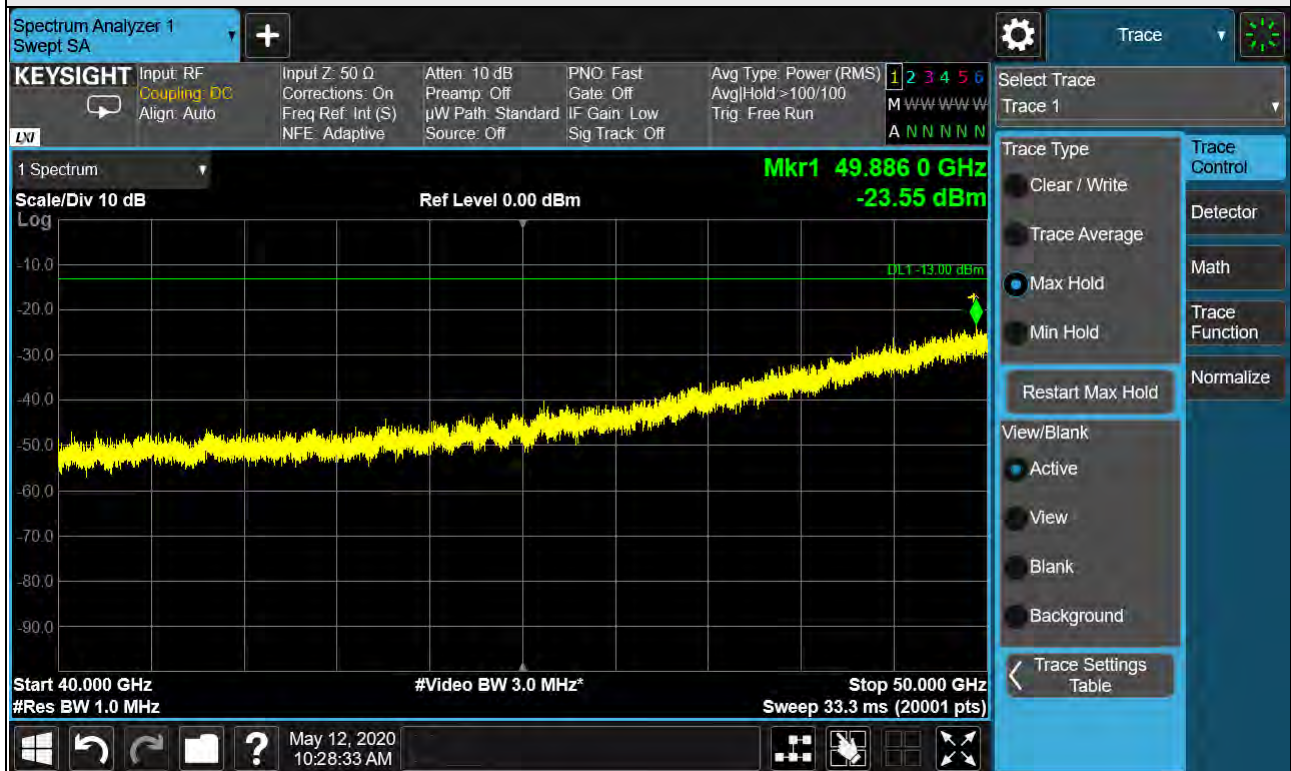


Note: The test results already include the correction factor (corrections: On).



|         |     |                  |                 |
|---------|-----|------------------|-----------------|
| Beam ID | 20  | Frequency Range  | 40.025GHz-50GHz |
| Channel | Mid | Antenna polarity | Horizontal      |

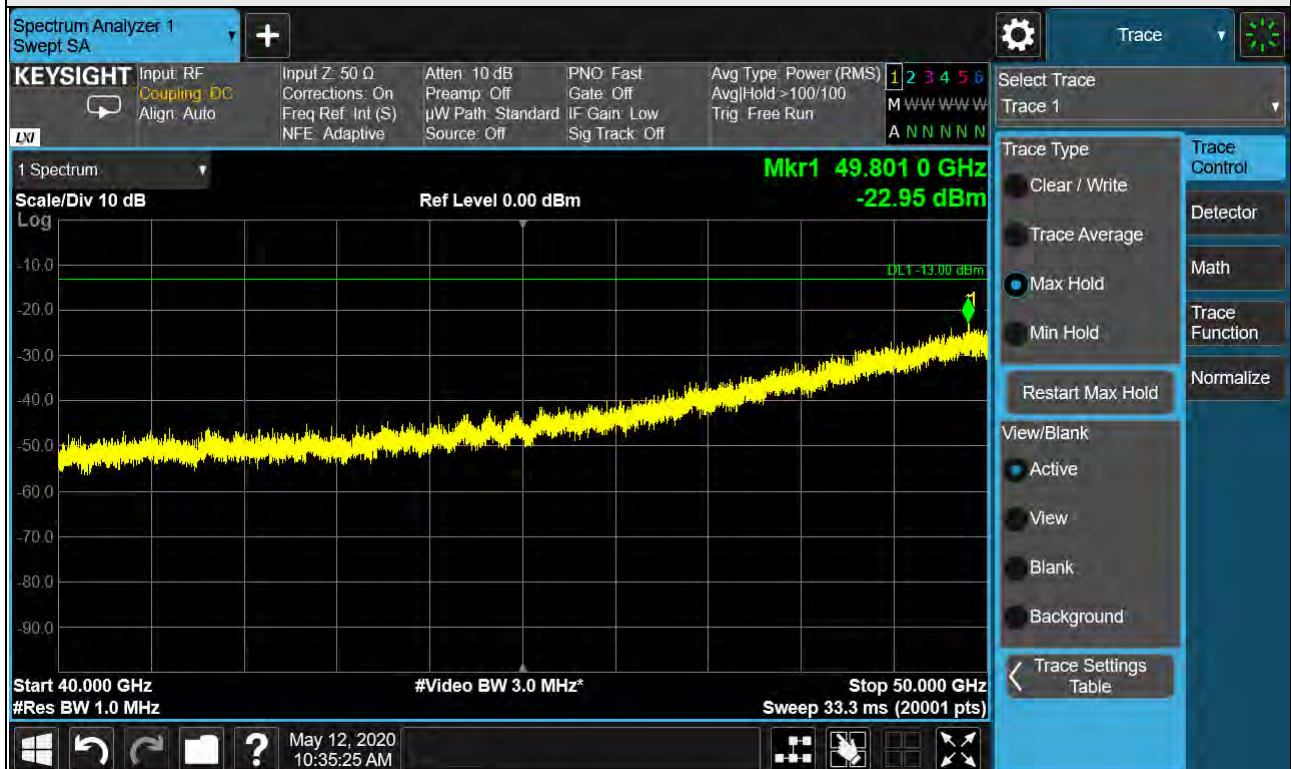
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |     |                  |                 |
|---------|-----|------------------|-----------------|
| Beam ID | 20  | Frequency Range  | 40.025GHz-50GHz |
| Channel | Mid | Antenna polarity | Vertical        |

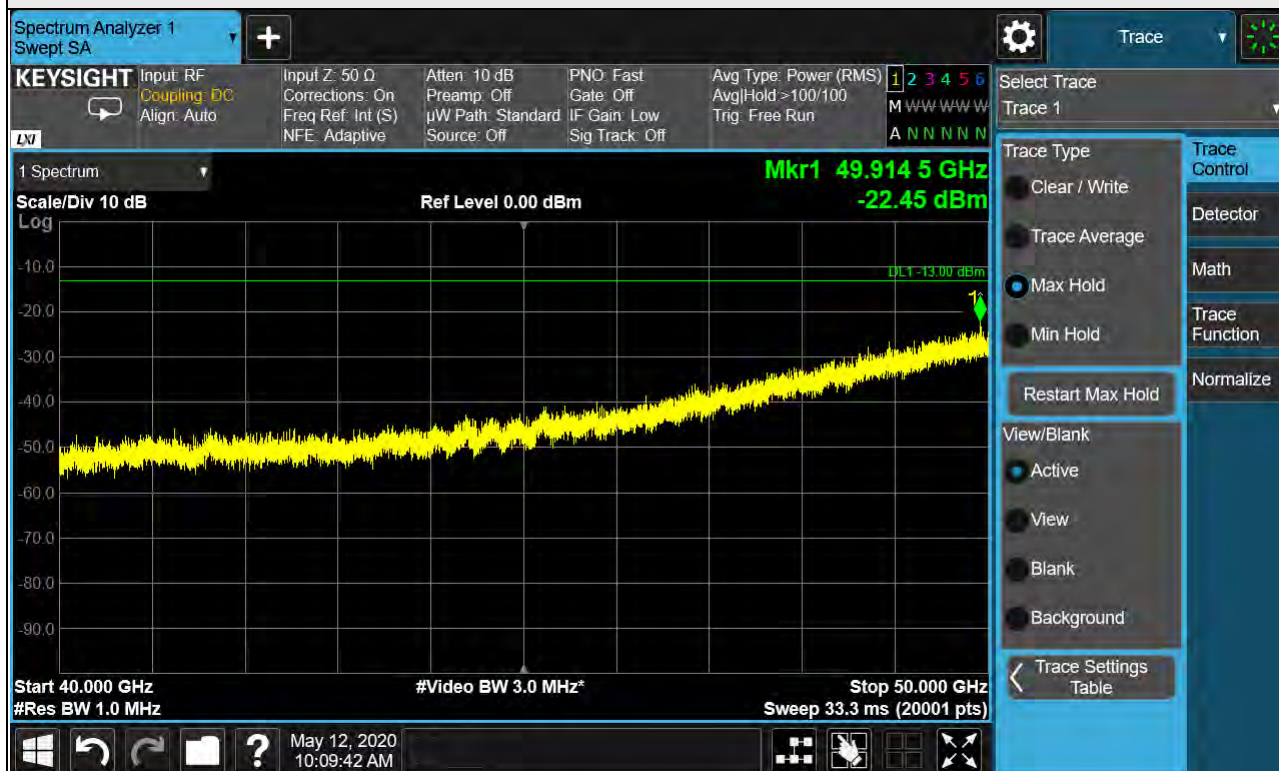
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |      |                  |                 |
|---------|------|------------------|-----------------|
| Beam ID | 20   | Frequency Range  | 40.025GHz-50GHz |
| Channel | High | Antenna polarity | Horizontal      |

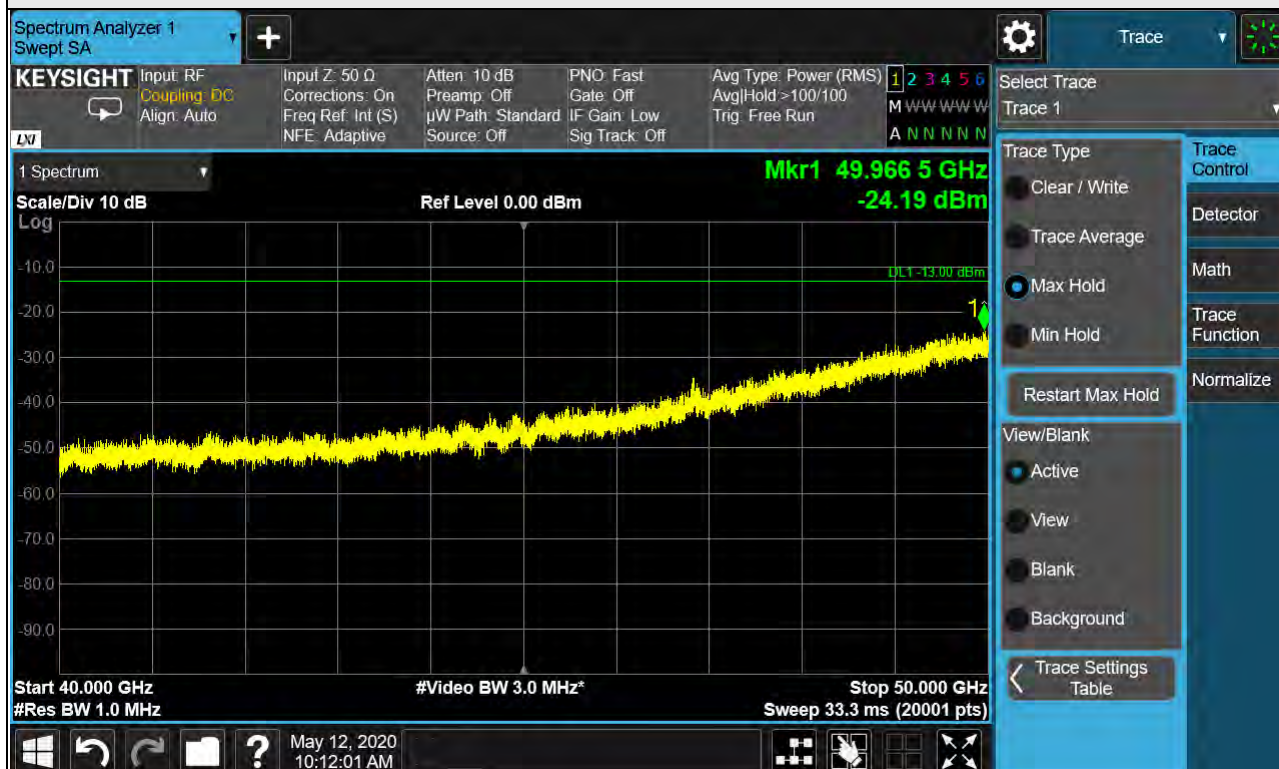
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |      |                  |                 |
|---------|------|------------------|-----------------|
| Beam ID | 20   | Frequency Range  | 40.025GHz-50GHz |
| Channel | High | Antenna polarity | Vertical        |

Test distance at 1m

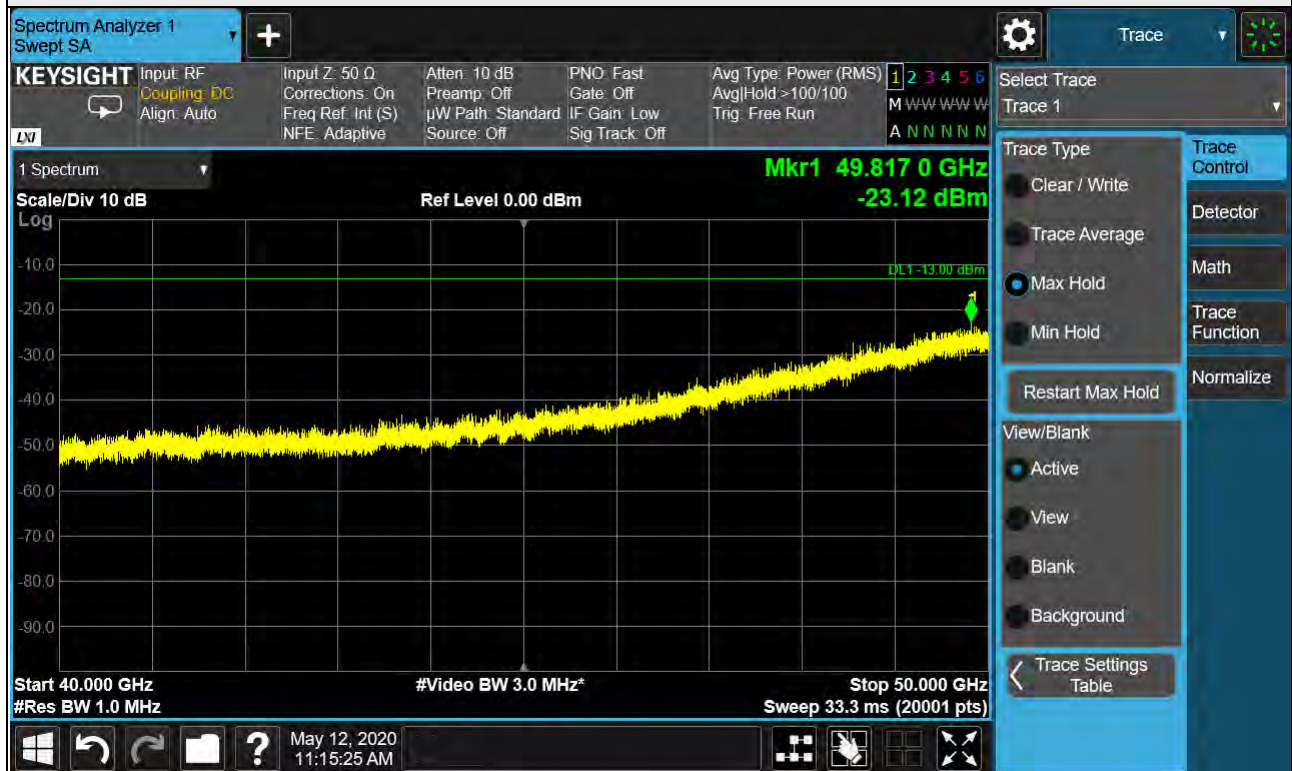


Note: The test results already include the correction factor (corrections: On).



|         |     |                  |                 |
|---------|-----|------------------|-----------------|
| Beam ID | 30  | Frequency Range  | 40.025GHz-50GHz |
| Channel | Low | Antenna polarity | Horizontal      |

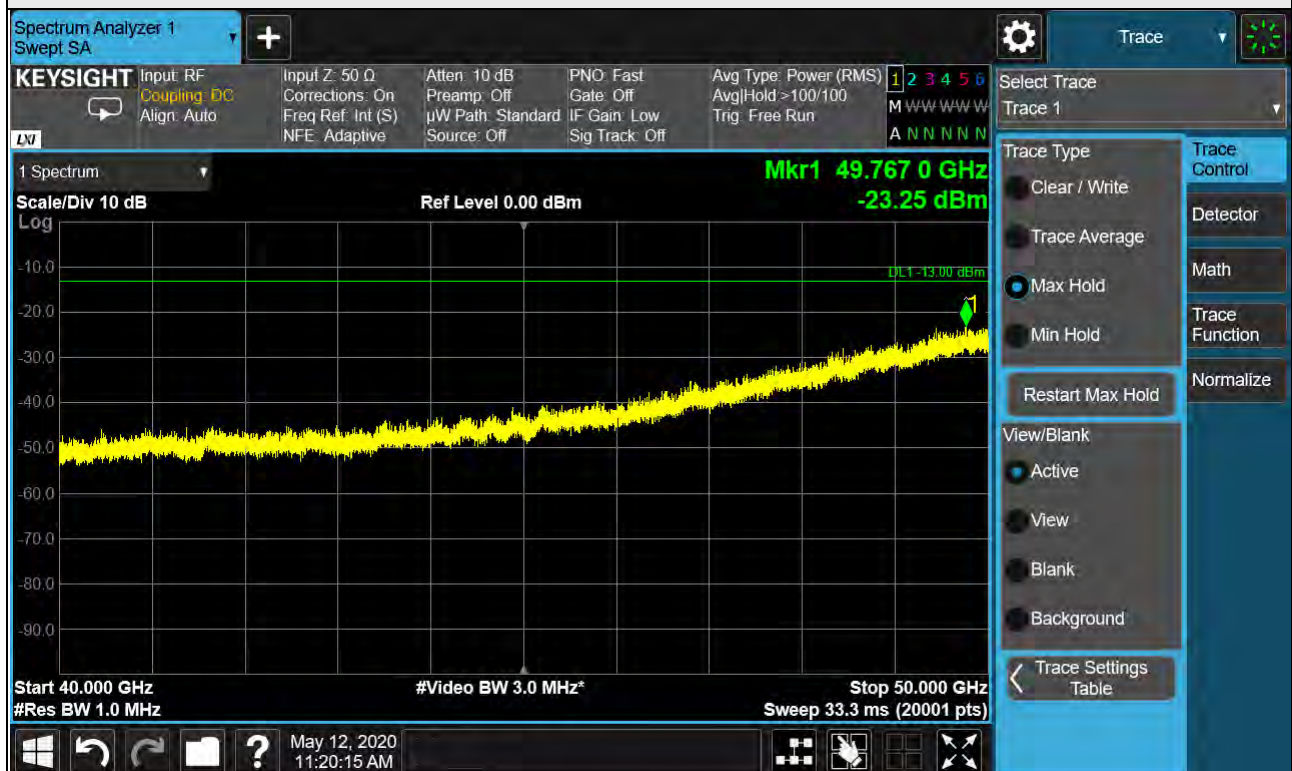
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |     |                  |                 |
|---------|-----|------------------|-----------------|
| Beam ID | 30  | Frequency Range  | 40.025GHz-50GHz |
| Channel | Low | Antenna polarity | Vertical        |

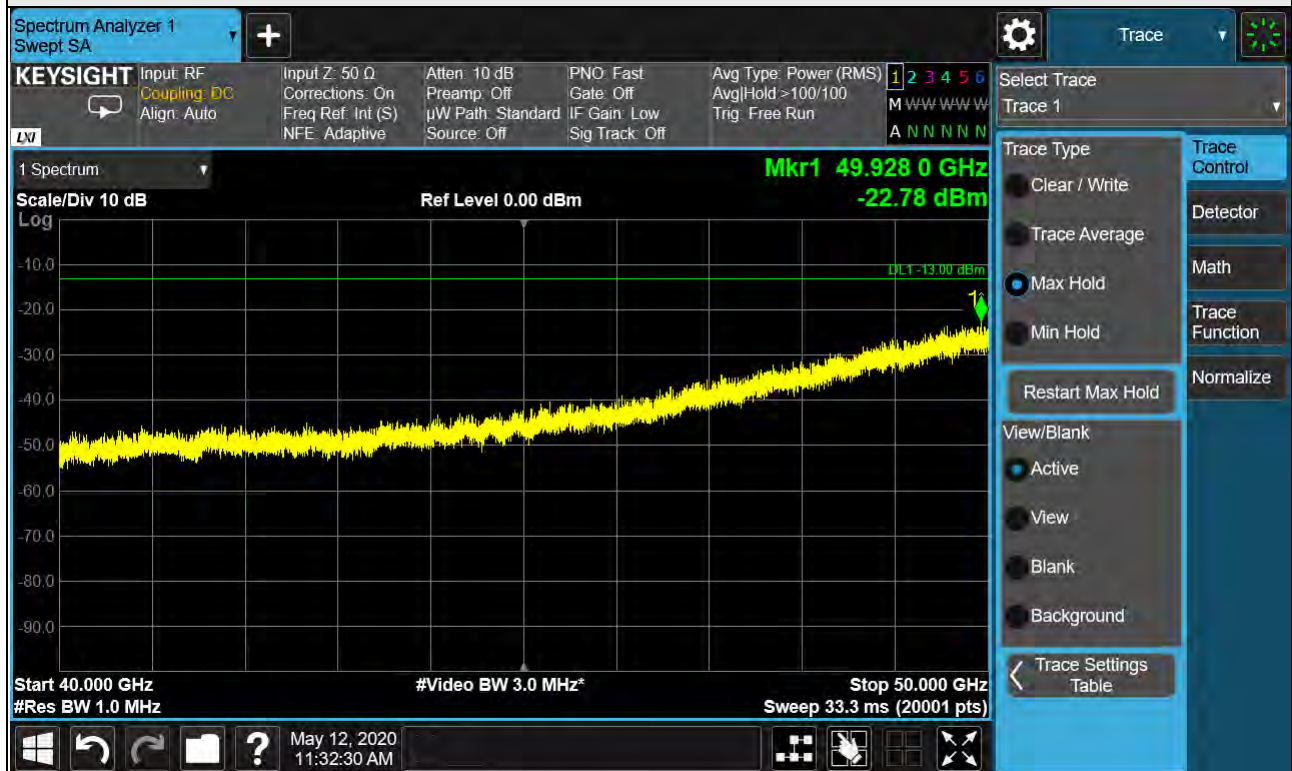
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |     |                  |                 |
|---------|-----|------------------|-----------------|
| Beam ID | 30  | Frequency Range  | 40.025GHz-50GHz |
| Channel | Mid | Antenna polarity | Horizontal      |

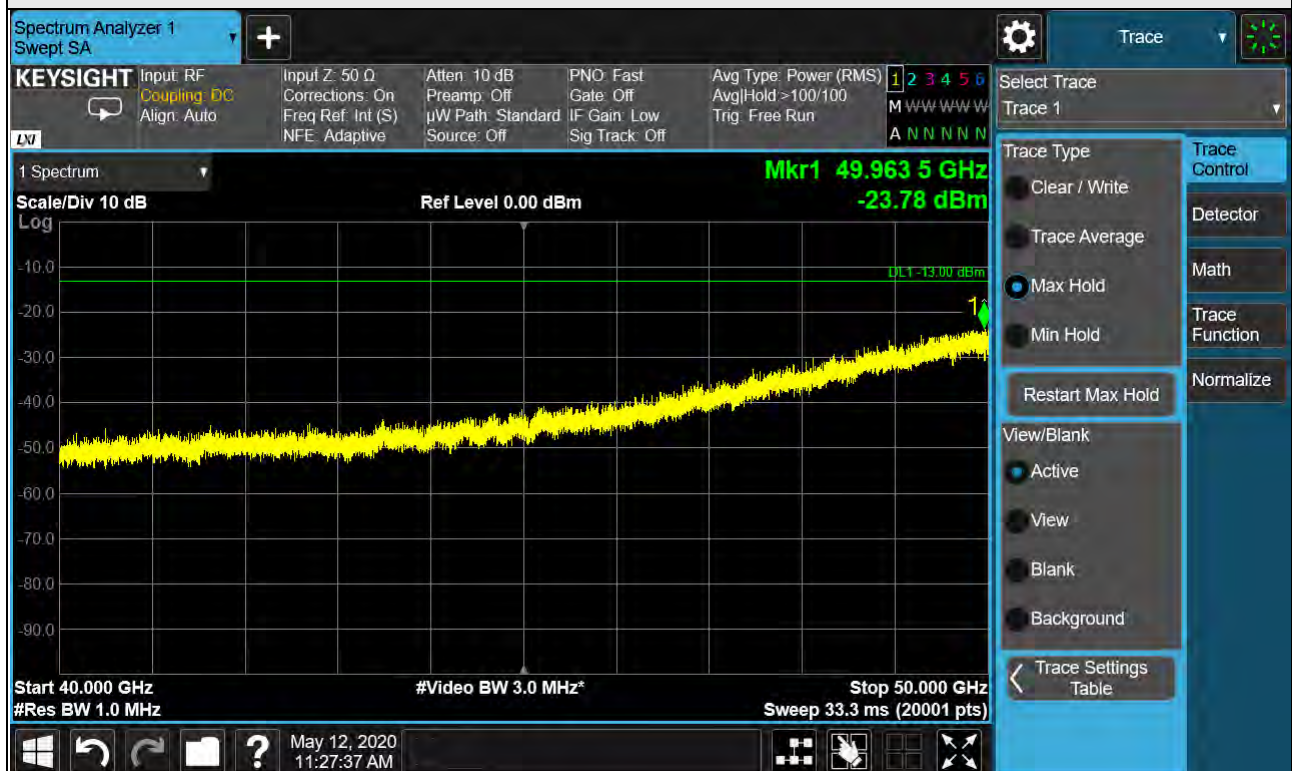
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |     |                  |                 |
|---------|-----|------------------|-----------------|
| Beam ID | 30  | Frequency Range  | 40.025GHz-50GHz |
| Channel | Mid | Antenna polarity | Vertical        |

Test distance at 1m

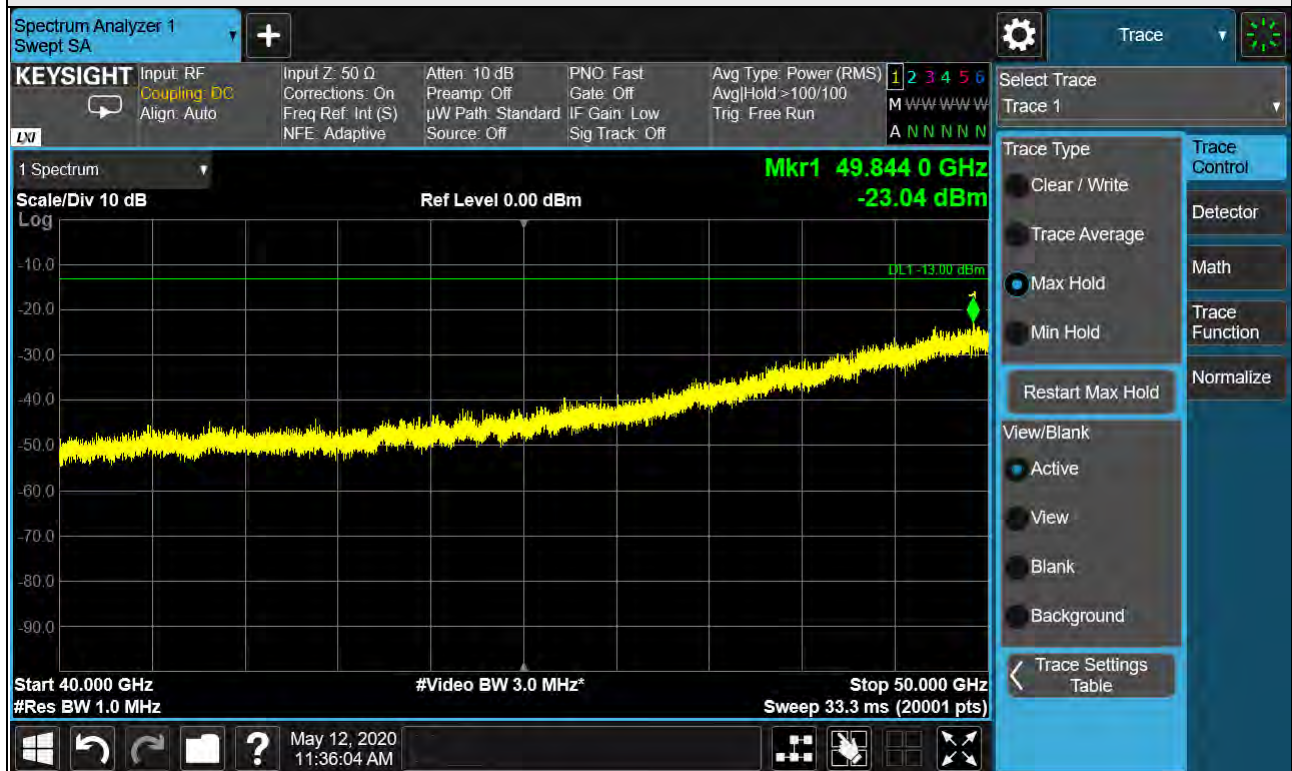


Note: The test results already include the correction factor (corrections: On).



|         |      |                  |                 |
|---------|------|------------------|-----------------|
| Beam ID | 30   | Frequency Range  | 40.025GHz-50GHz |
| Channel | High | Antenna polarity | Horizontal      |

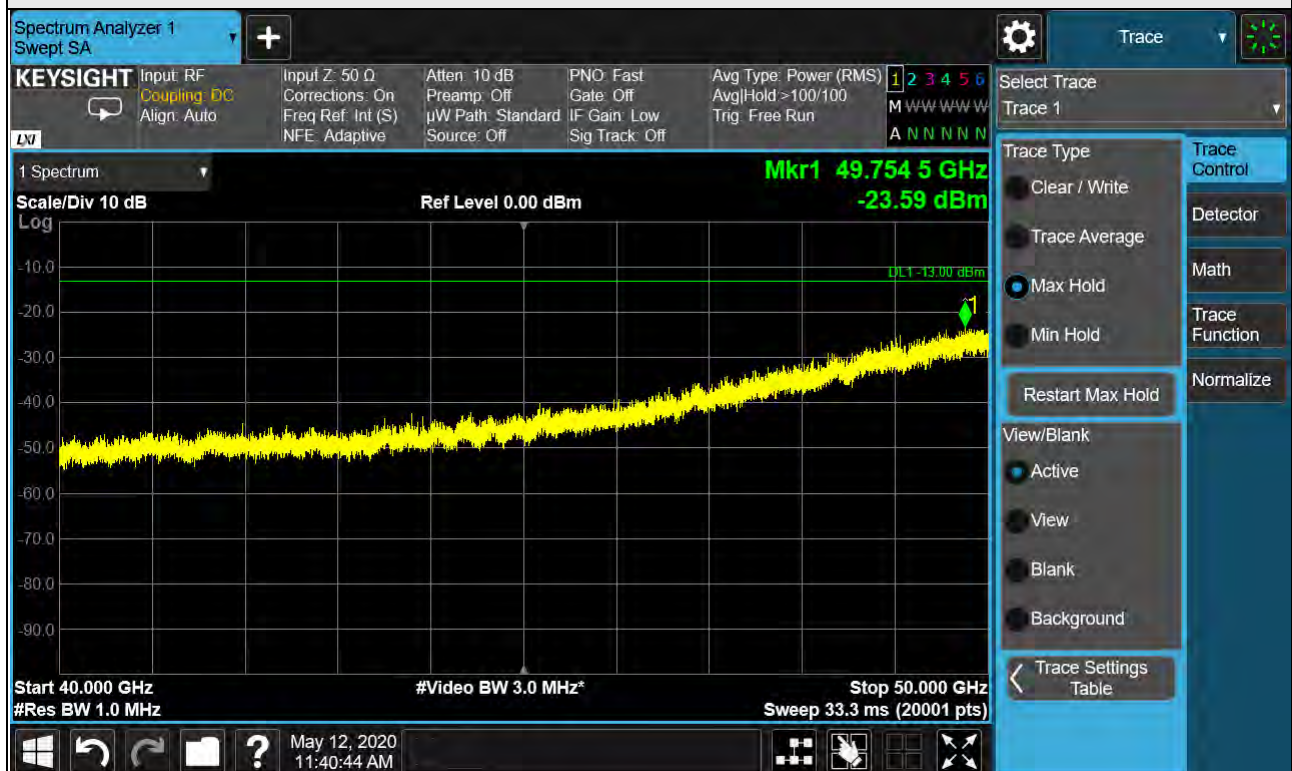
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |      |                  |                 |
|---------|------|------------------|-----------------|
| Beam ID | 30   | Frequency Range  | 40.025GHz-50GHz |
| Channel | High | Antenna polarity | Vertical        |

Test distance at 1m

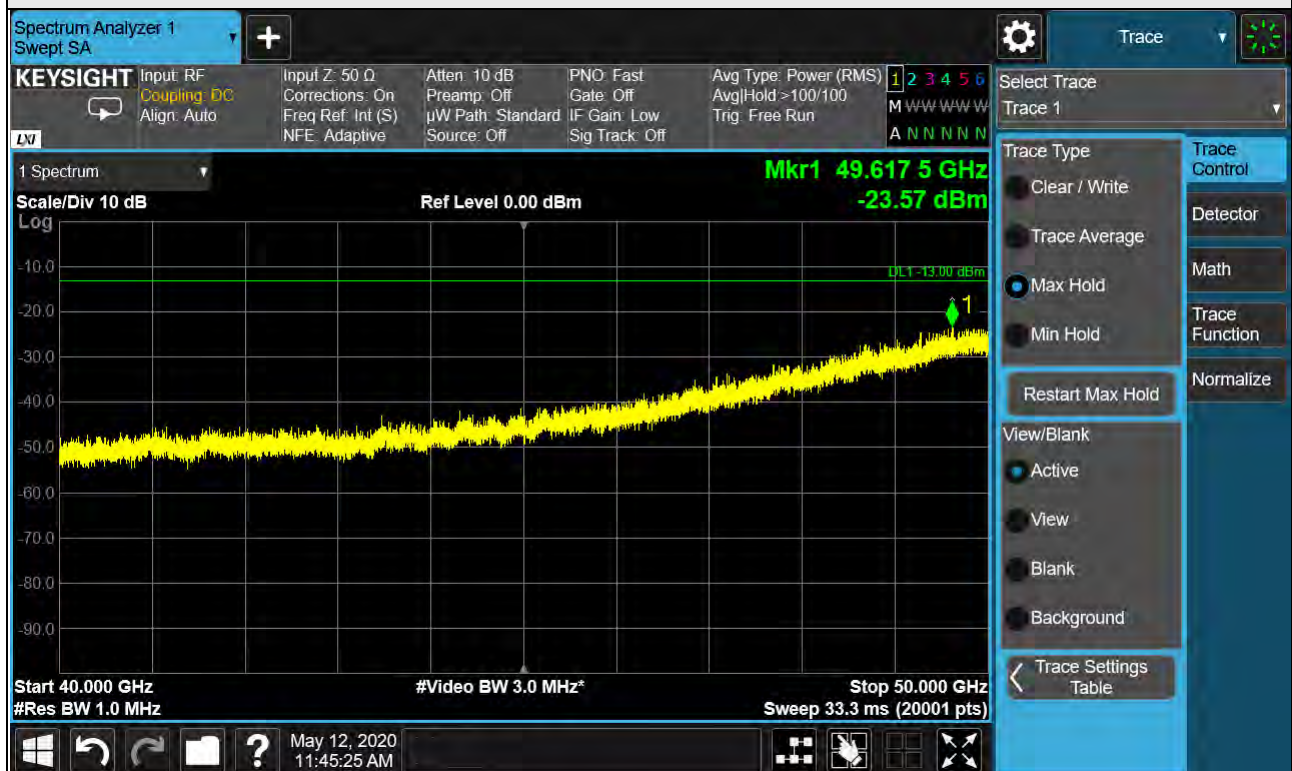


Note: The test results already include the correction factor (corrections: On).



|         |     |                  |                 |
|---------|-----|------------------|-----------------|
| Beam ID | 39  | Frequency Range  | 40.025GHz-50GHz |
| Channel | Low | Antenna polarity | Horizontal      |

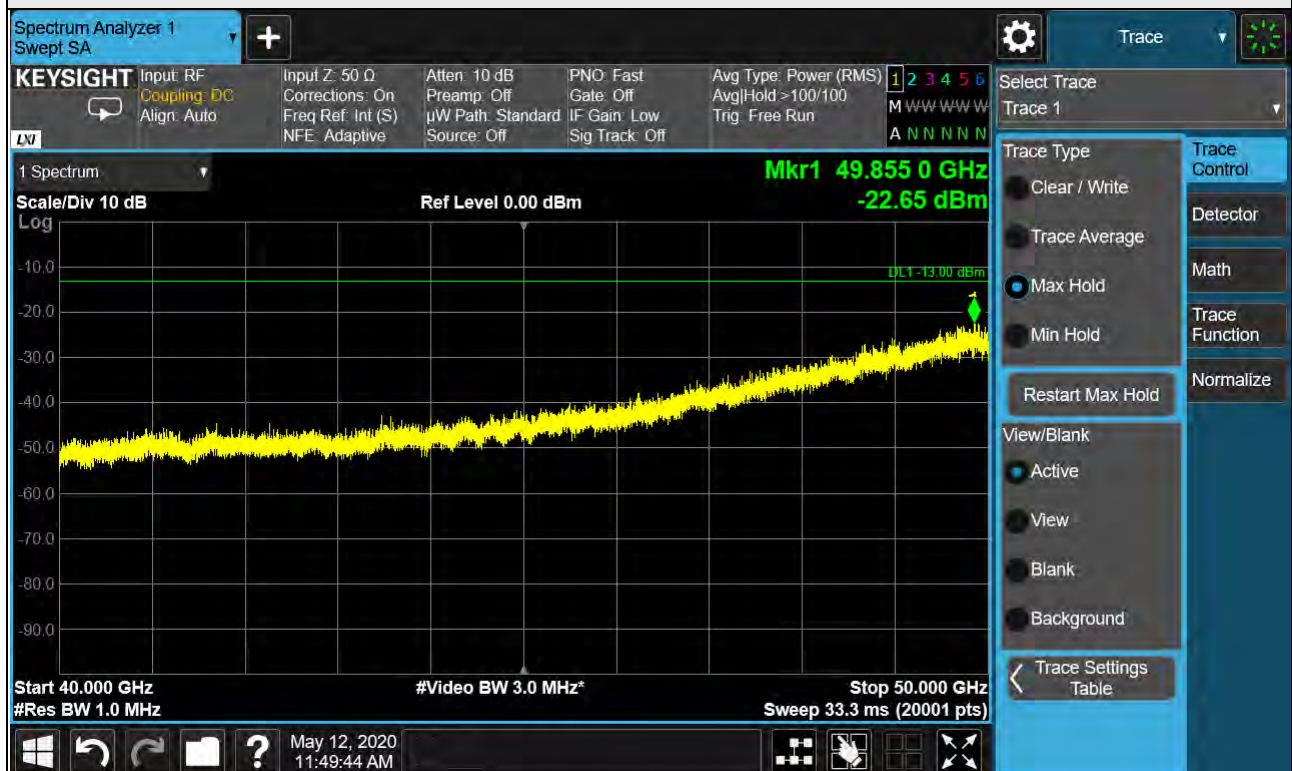
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |     |                  |                 |
|---------|-----|------------------|-----------------|
| Beam ID | 39  | Frequency Range  | 40.025GHz-50GHz |
| Channel | Low | Antenna polarity | Vertical        |

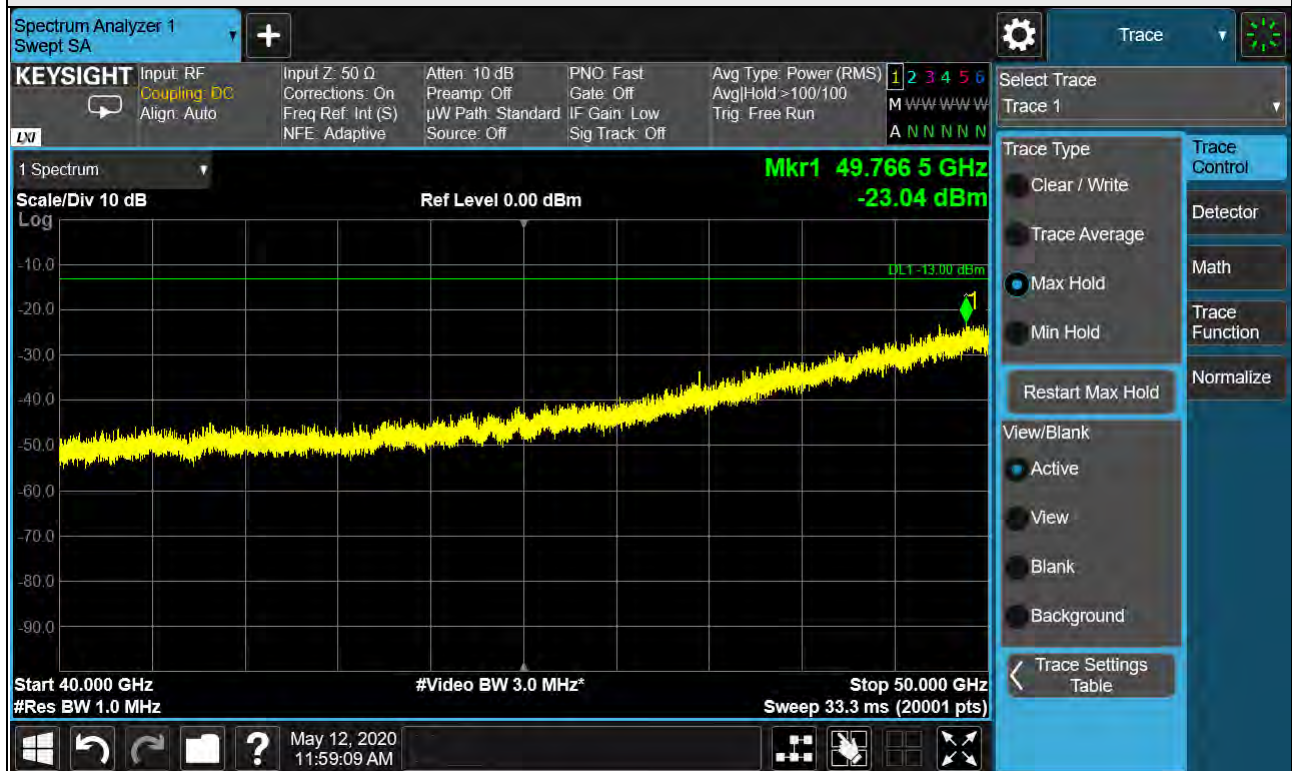
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |     |                  |                 |
|---------|-----|------------------|-----------------|
| Beam ID | 39  | Frequency Range  | 40.025GHz-50GHz |
| Channel | Mid | Antenna polarity | Horizontal      |

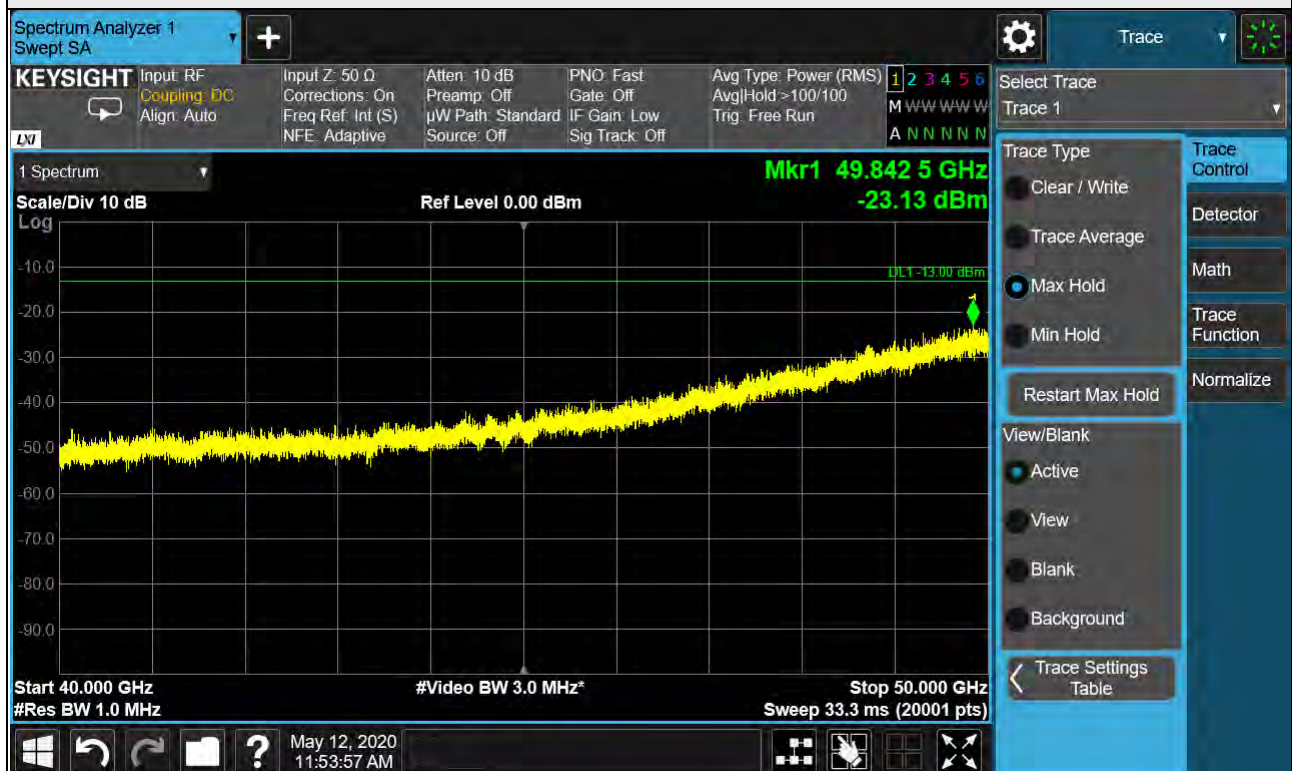
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |     |                  |                 |
|---------|-----|------------------|-----------------|
| Beam ID | 39  | Frequency Range  | 40.025GHz-50GHz |
| Channel | Mid | Antenna polarity | Vertical        |

Test distance at 1m

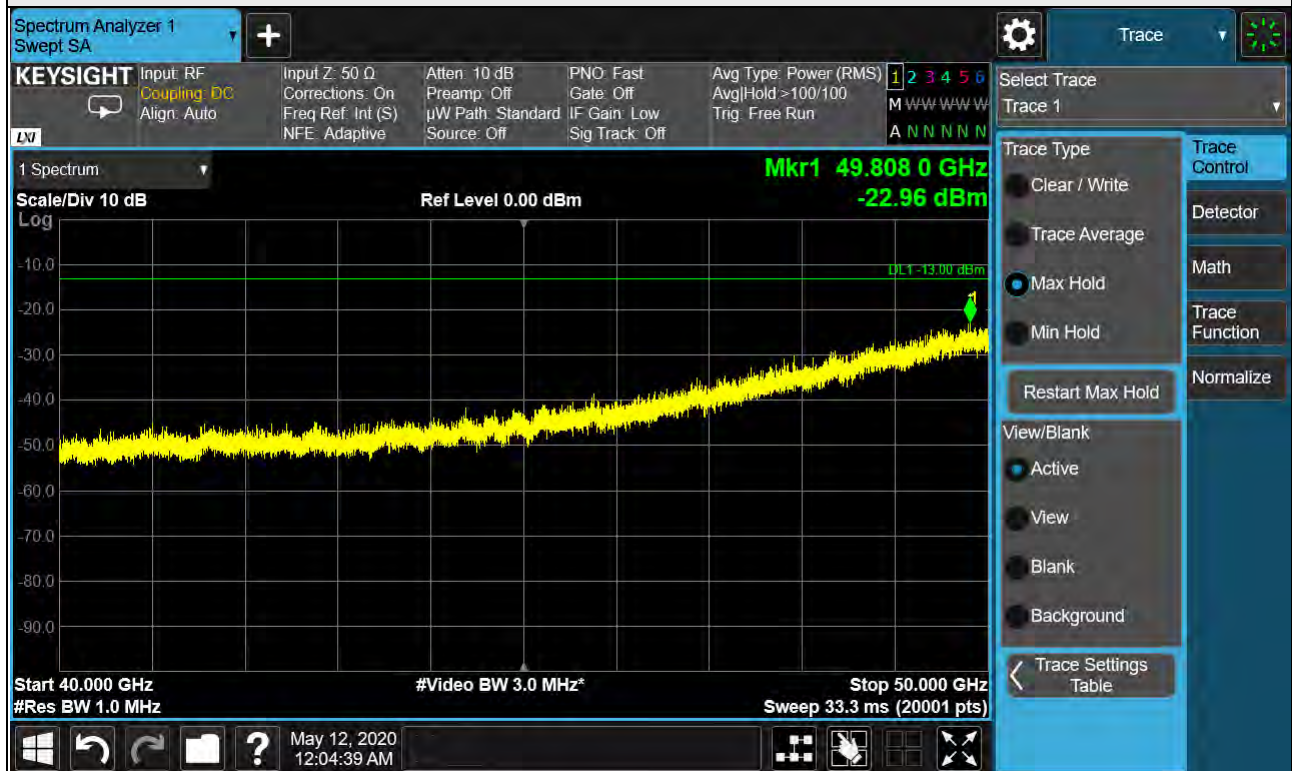


Note: The test results already include the correction factor (corrections: On).



|         |      |                  |                 |
|---------|------|------------------|-----------------|
| Beam ID | 39   | Frequency Range  | 40.025GHz-50GHz |
| Channel | High | Antenna polarity | Horizontal      |

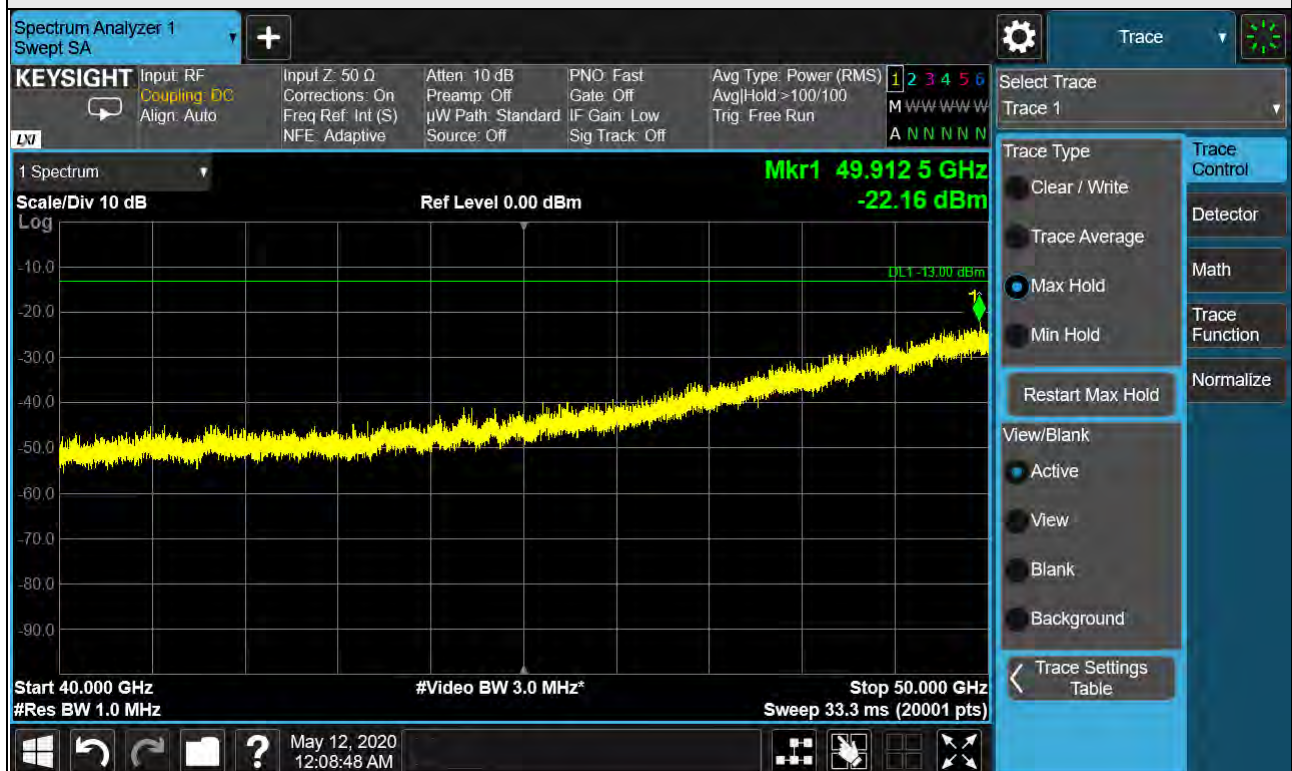
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |      |                  |                 |
|---------|------|------------------|-----------------|
| Beam ID | 39   | Frequency Range  | 40.025GHz-50GHz |
| Channel | High | Antenna polarity | Vertical        |

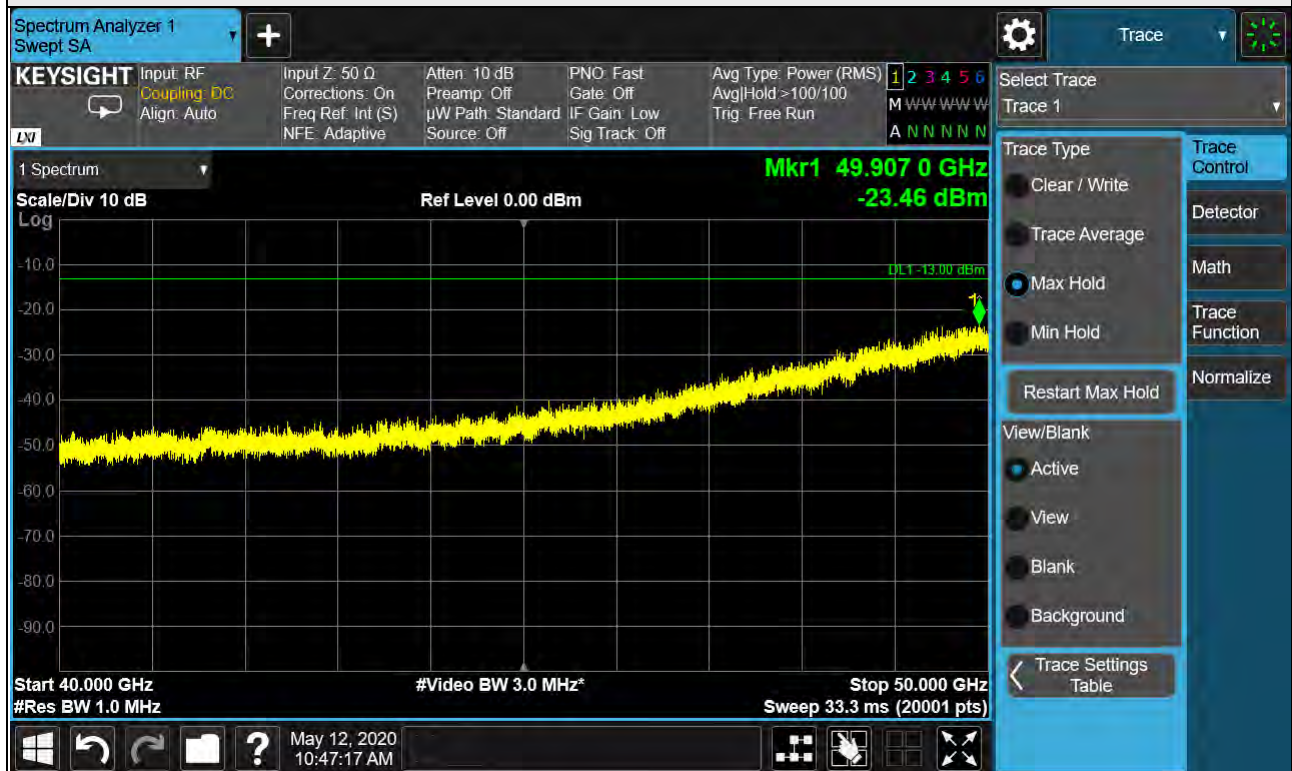
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |        |                  |                 |
|---------|--------|------------------|-----------------|
| Beam ID | 20+148 | Frequency Range  | 40.025GHz-50GHz |
| Channel | Low    | Antenna polarity | Horizontal      |

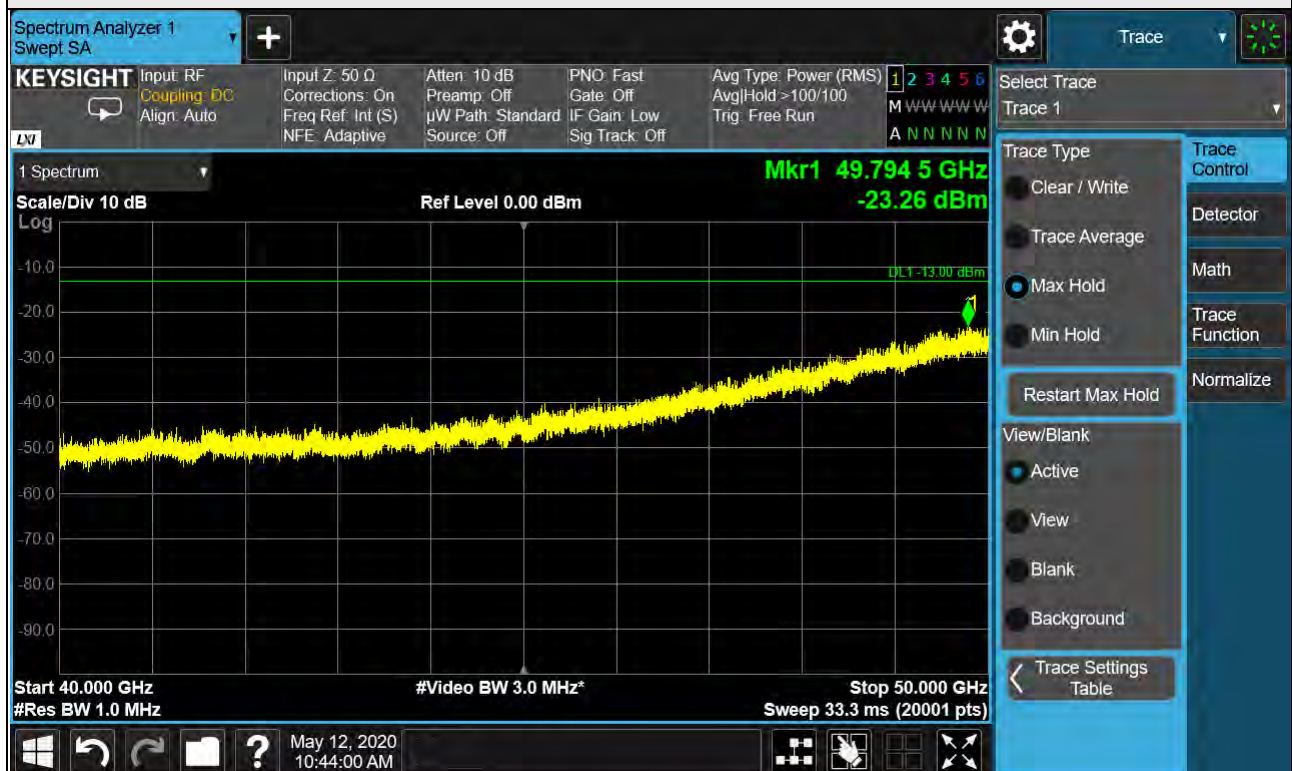
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |        |                  |                 |
|---------|--------|------------------|-----------------|
| Beam ID | 20+148 | Frequency Range  | 40.025GHz-50GHz |
| Channel | Low    | Antenna polarity | Vertical        |

Test distance at 1m

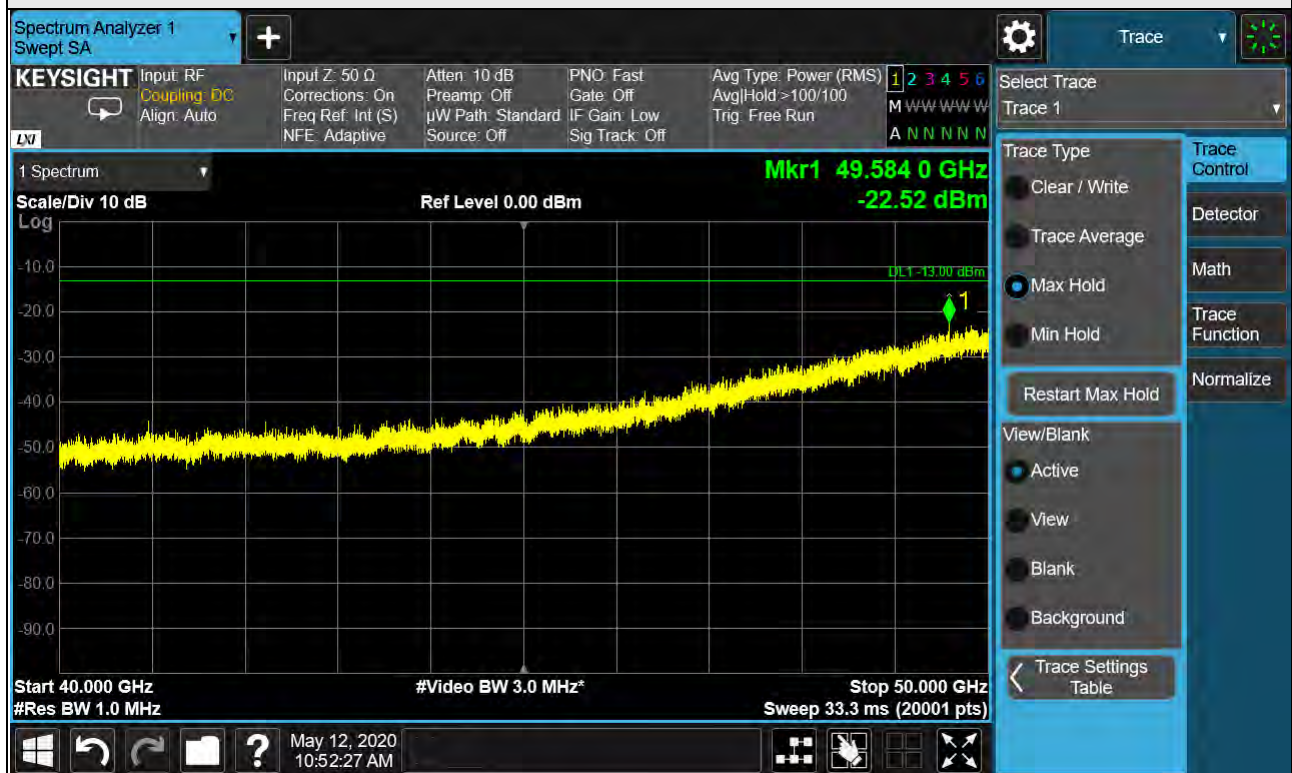


Note: The test results already include the correction factor (corrections: On).



|         |        |                  |                 |
|---------|--------|------------------|-----------------|
| Beam ID | 20+148 | Frequency Range  | 40.025GHz-50GHz |
| Channel | Mid    | Antenna polarity | Horizontal      |

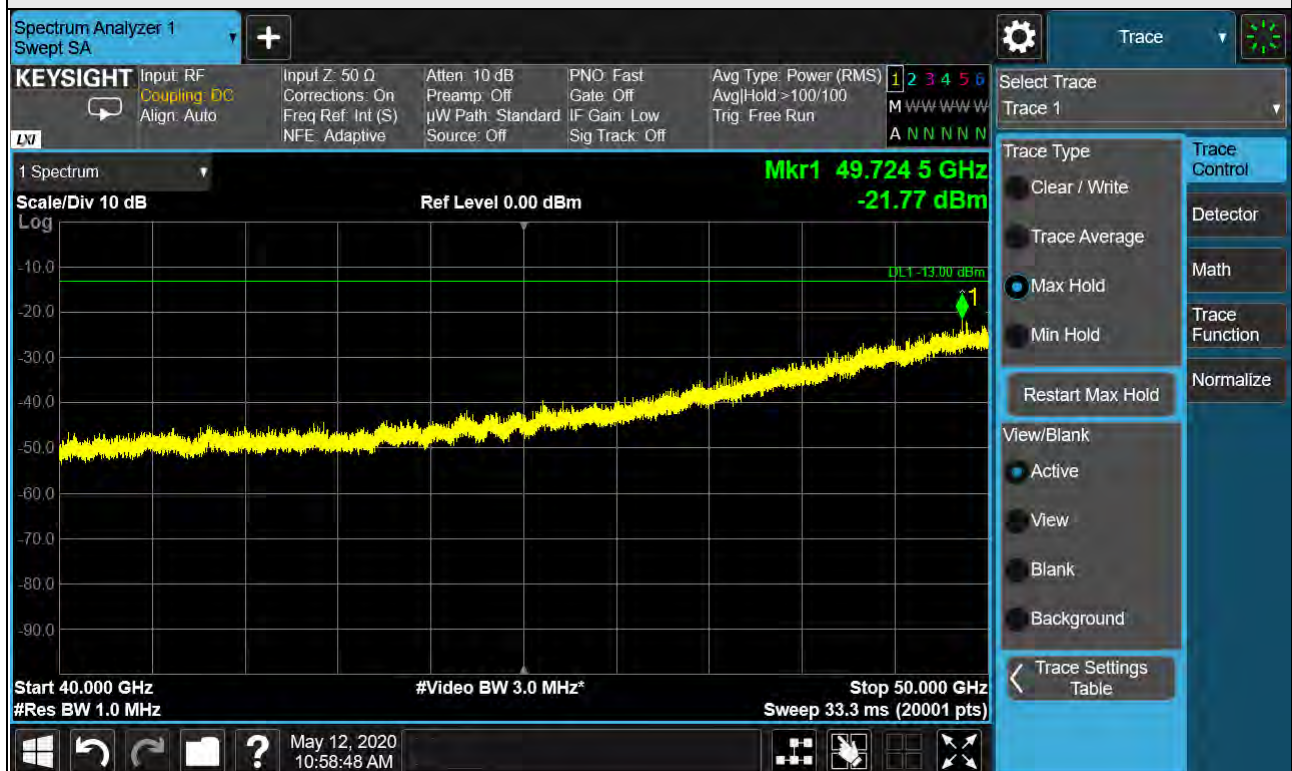
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |        |                  |                 |
|---------|--------|------------------|-----------------|
| Beam ID | 20+148 | Frequency Range  | 40.025GHz-50GHz |
| Channel | Mid    | Antenna polarity | Vertical        |

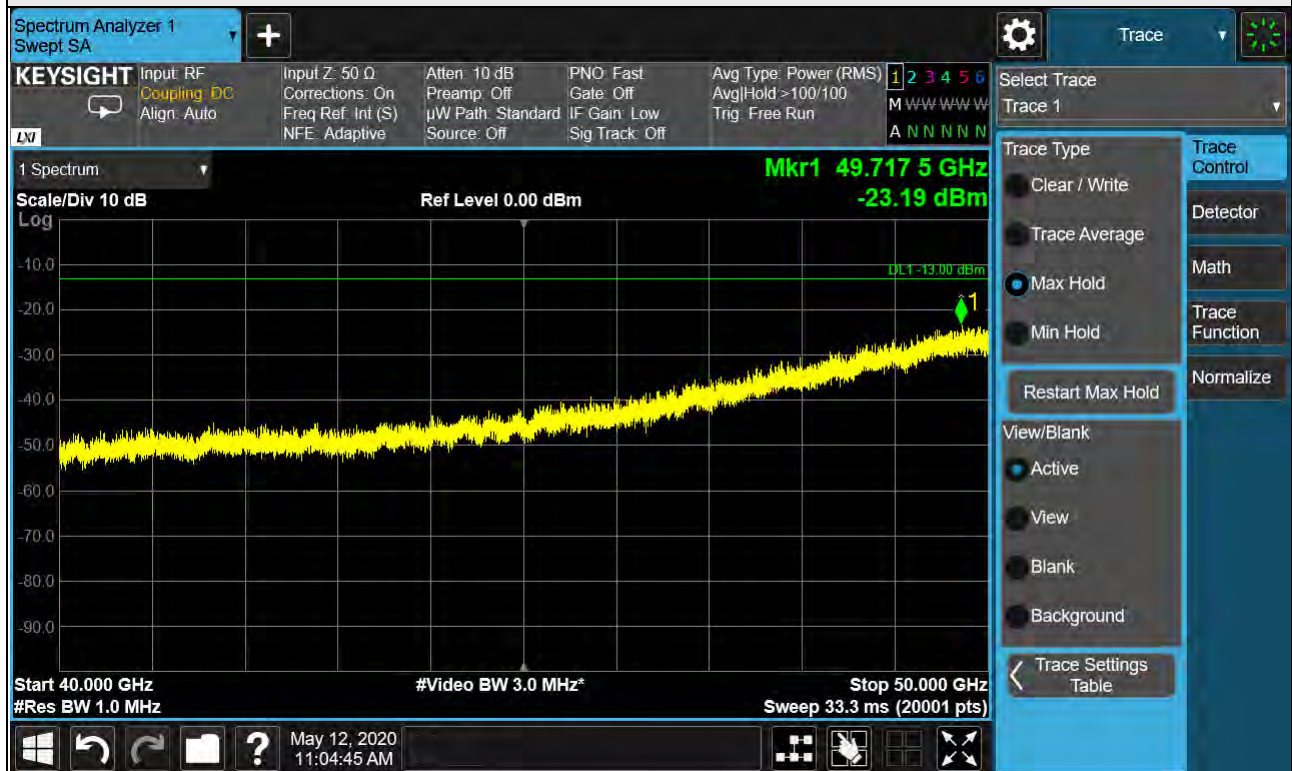
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |        |                  |                 |
|---------|--------|------------------|-----------------|
| Beam ID | 20+148 | Frequency Range  | 40.025GHz-50GHz |
| Channel | High   | Antenna polarity | Horizontal      |

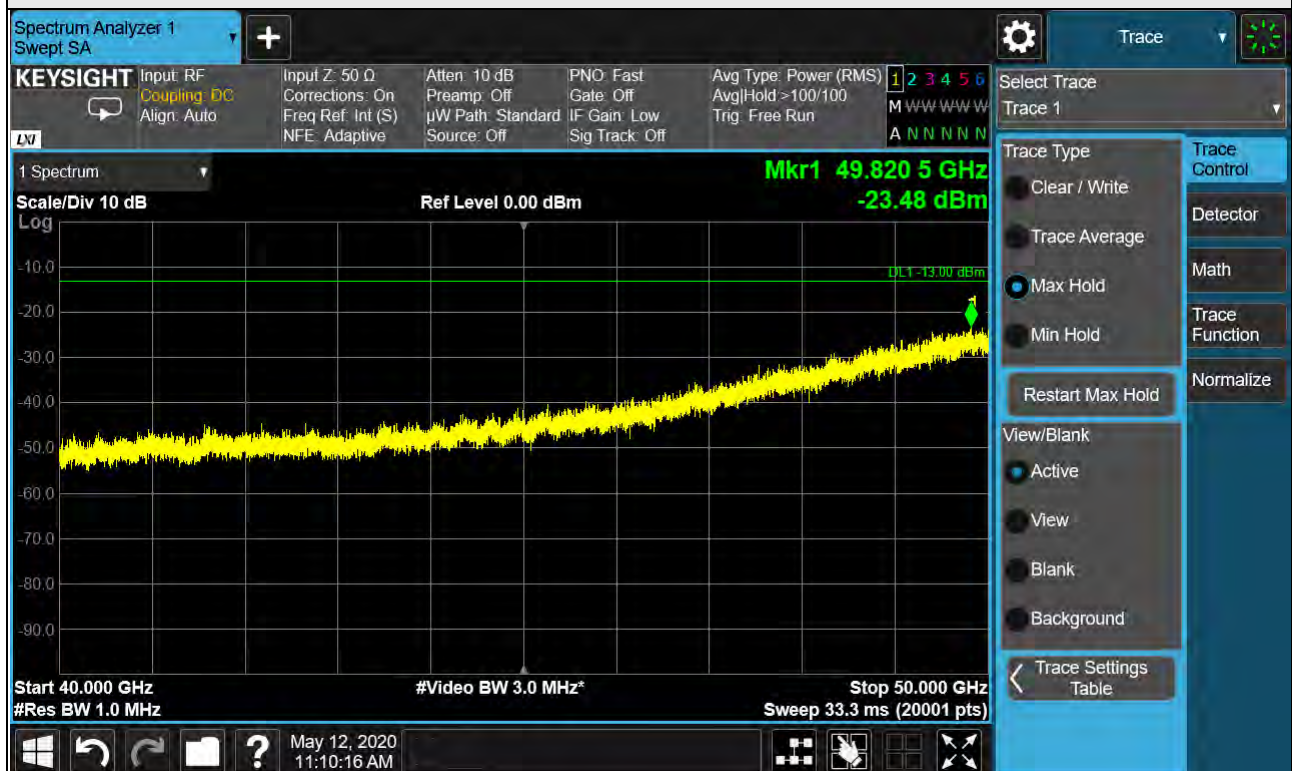
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |        |                  |                 |
|---------|--------|------------------|-----------------|
| Beam ID | 20+148 | Frequency Range  | 40.025GHz-50GHz |
| Channel | High   | Antenna polarity | Vertical        |

Test distance at 1m

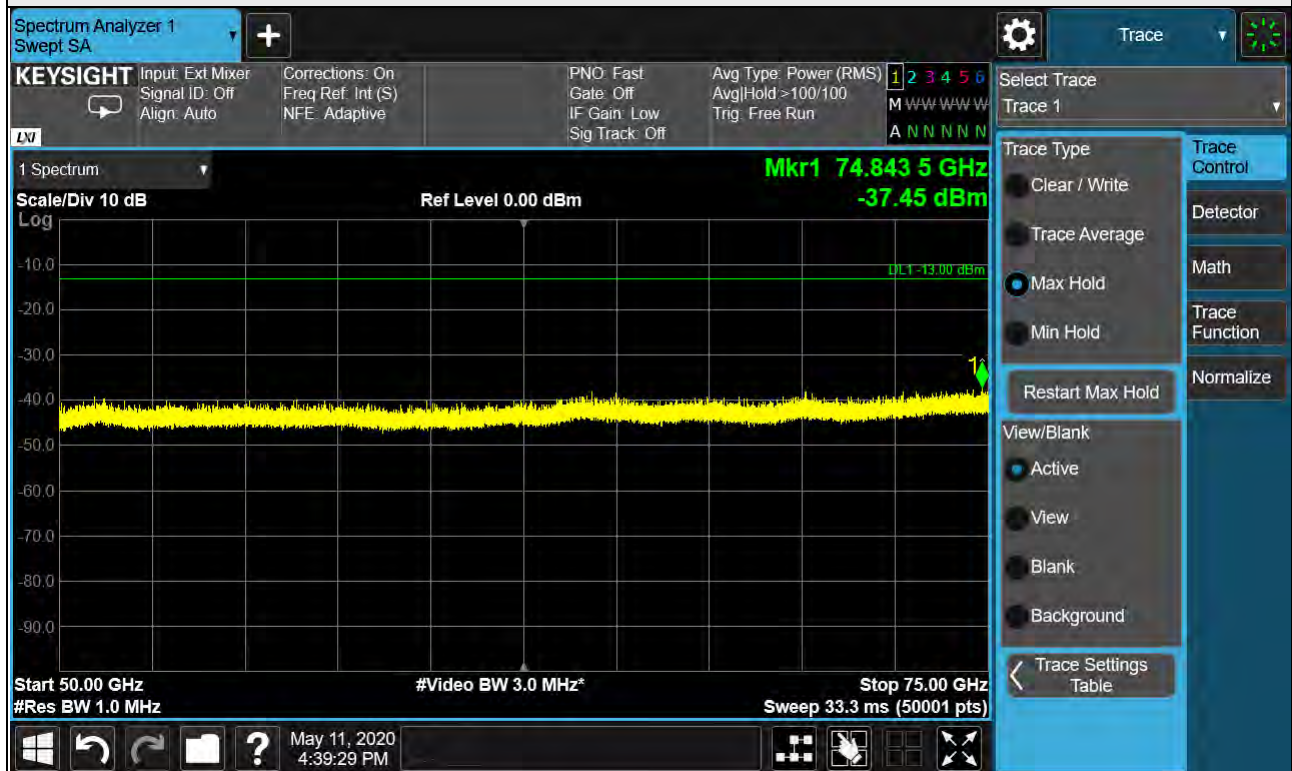


Note: The test results already include the correction factor (corrections: On).



|         |     |                  |             |
|---------|-----|------------------|-------------|
| Beam ID | 20  | Frequency Range  | 50GHz-75GHz |
| Channel | Low | Antenna polarity | Horizontal  |

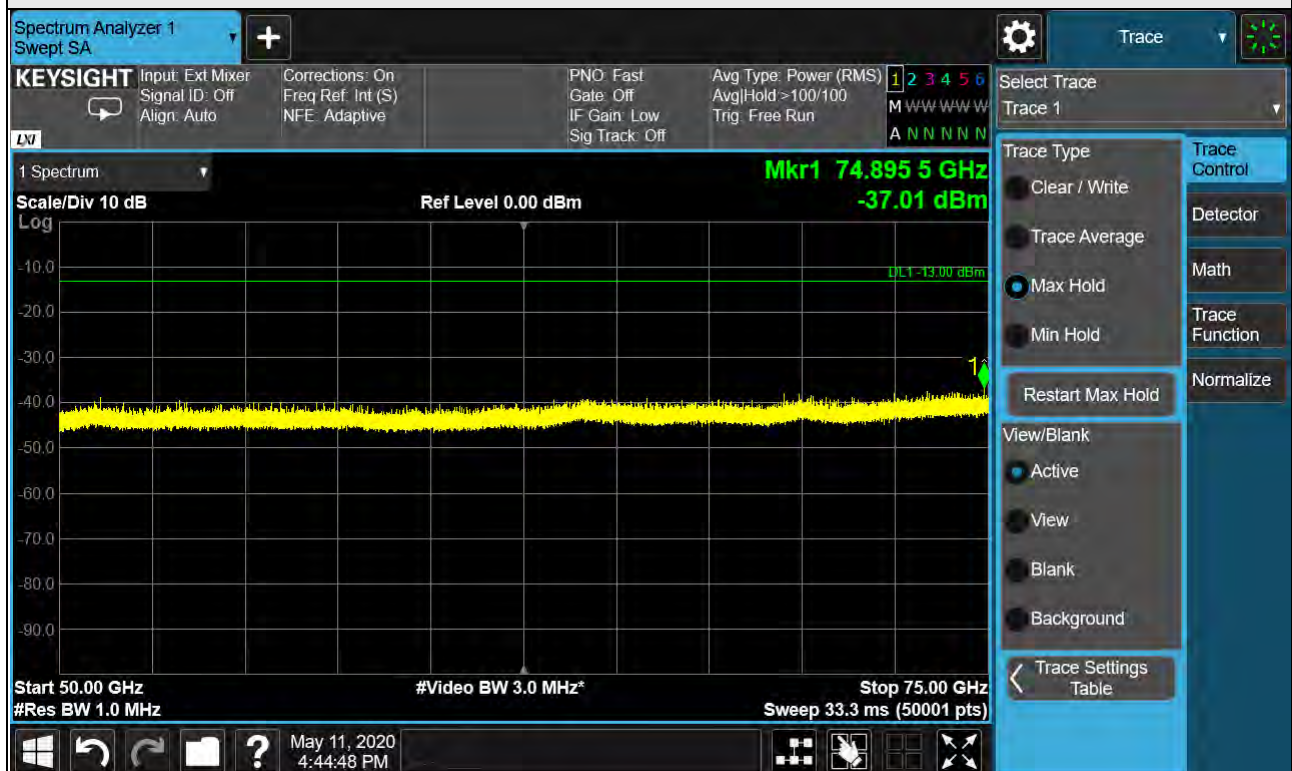
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |     |                  |             |
|---------|-----|------------------|-------------|
| Beam ID | 20  | Frequency Range  | 50GHz-75GHz |
| Channel | Low | Antenna polarity | Vertical    |

Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |     |                  |             |
|---------|-----|------------------|-------------|
| Beam ID | 20  | Frequency Range  | 50GHz-75GHz |
| Channel | Mid | Antenna polarity | Horizontal  |

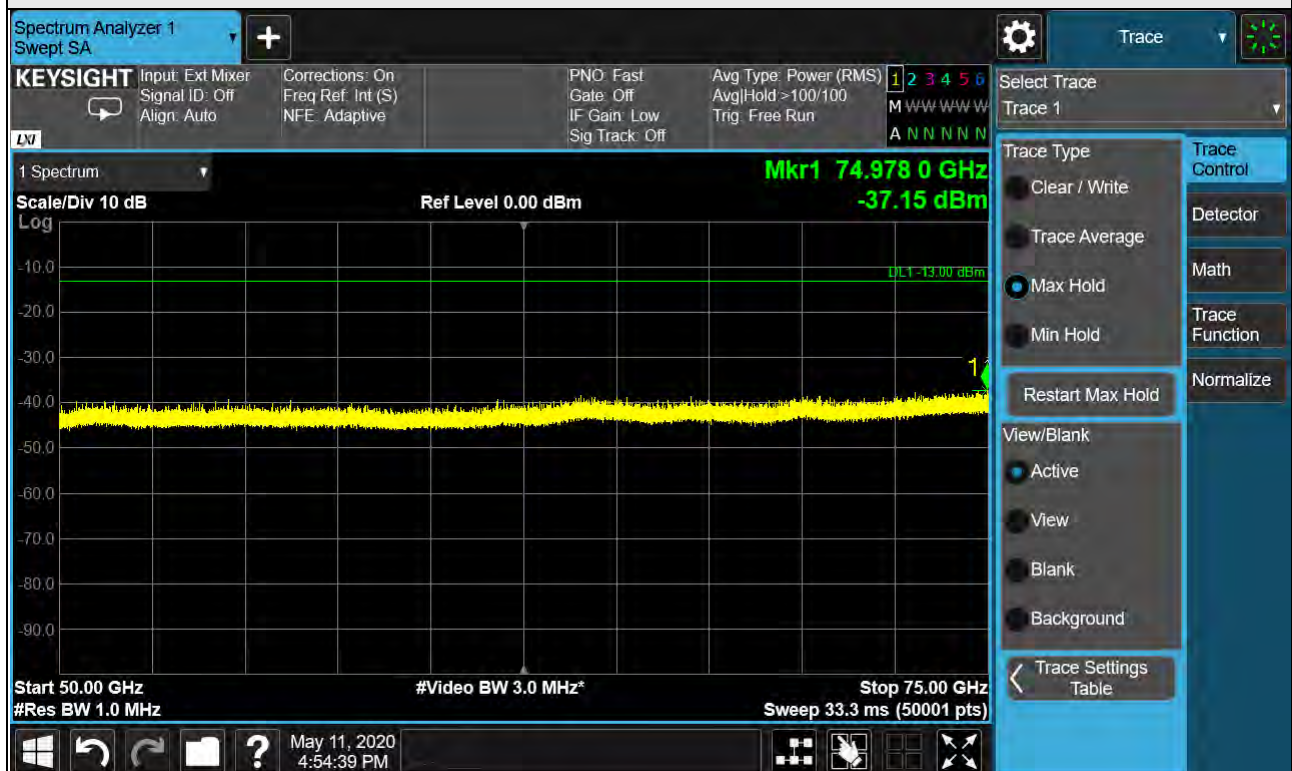
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |     |                  |             |
|---------|-----|------------------|-------------|
| Beam ID | 20  | Frequency Range  | 50GHz-75GHz |
| Channel | Mid | Antenna polarity | Vertical    |

Test distance at 1m

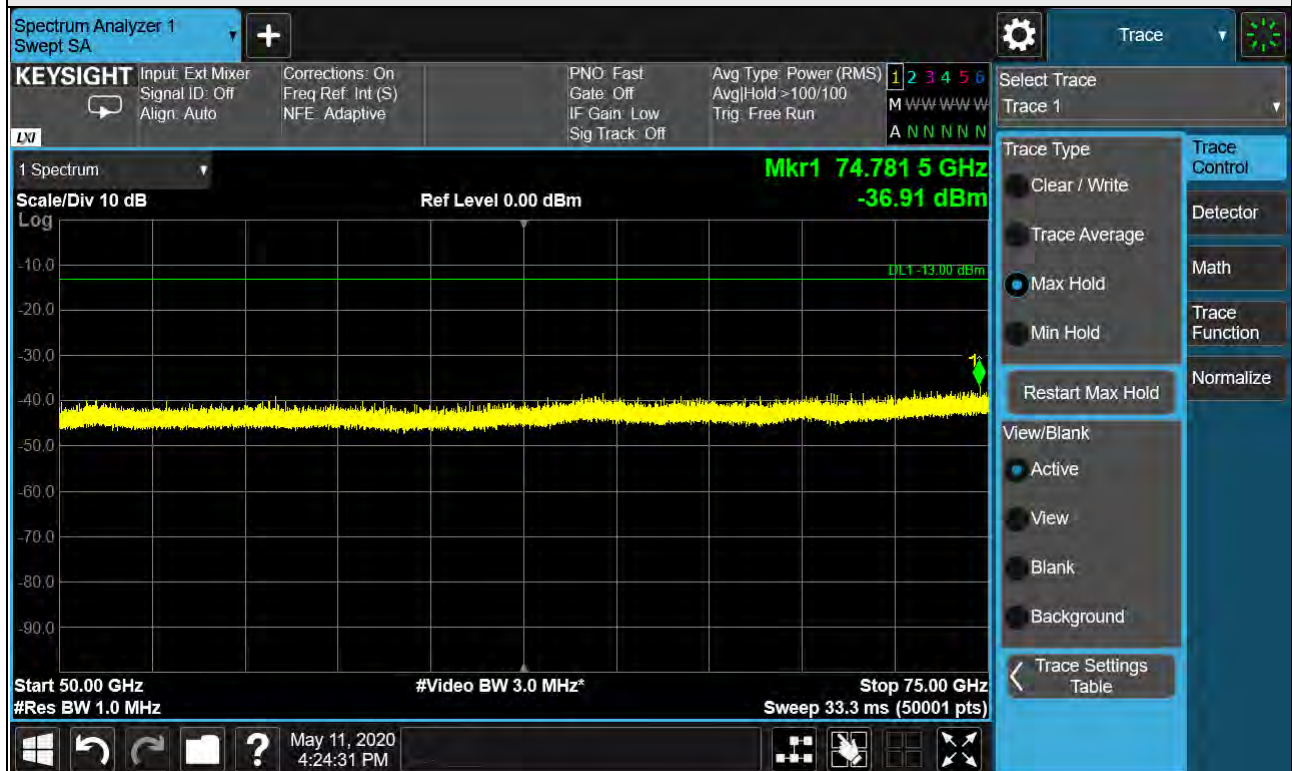


Note: The test results already include the correction factor (corrections: On).



|         |      |                  |             |
|---------|------|------------------|-------------|
| Beam ID | 20   | Frequency Range  | 50GHz-75GHz |
| Channel | High | Antenna polarity | Horizontal  |

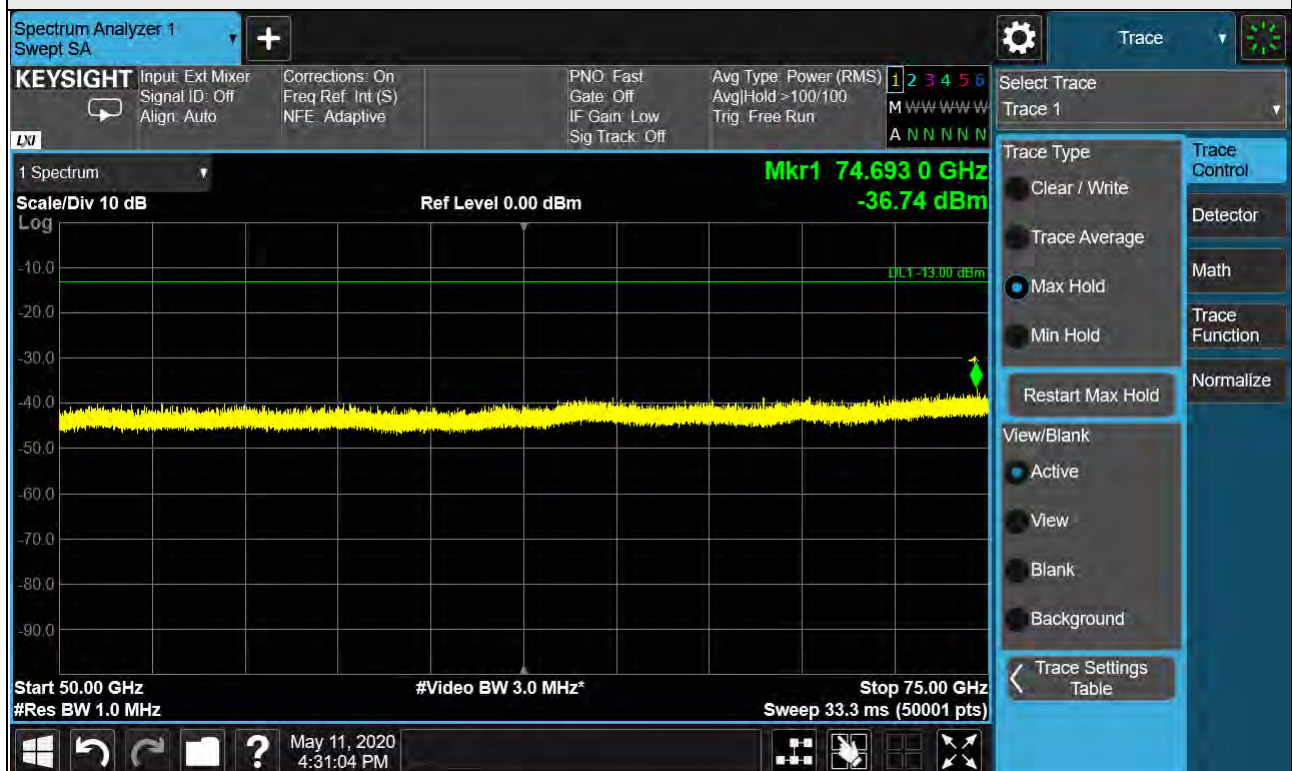
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |      |                  |             |
|---------|------|------------------|-------------|
| Beam ID | 20   | Frequency Range  | 50GHz-75GHz |
| Channel | High | Antenna polarity | Vertical    |

Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |     |                  |             |
|---------|-----|------------------|-------------|
| Beam ID | 30  | Frequency Range  | 50GHz-75GHz |
| Channel | Low | Antenna polarity | Horizontal  |

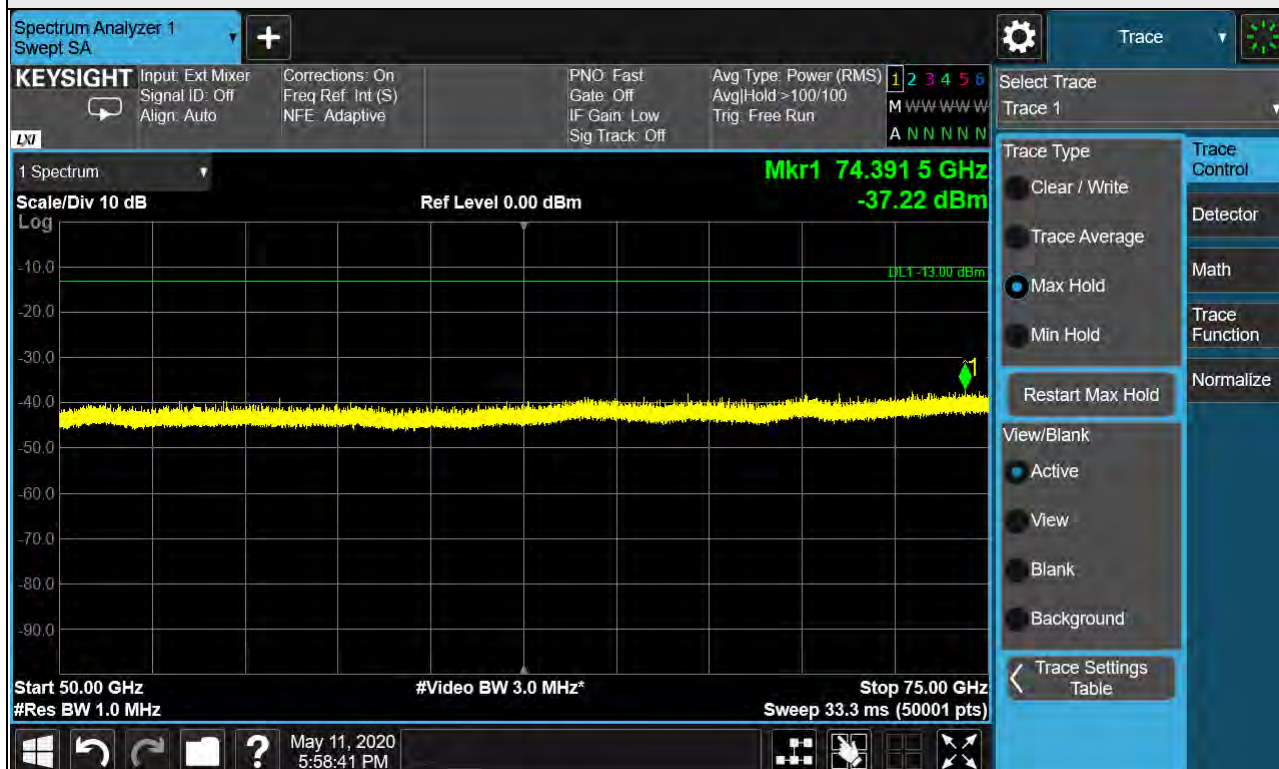
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |     |                  |             |
|---------|-----|------------------|-------------|
| Beam ID | 30  | Frequency Range  | 50GHz-75GHz |
| Channel | Low | Antenna polarity | Vertical    |

Test distance at 1m

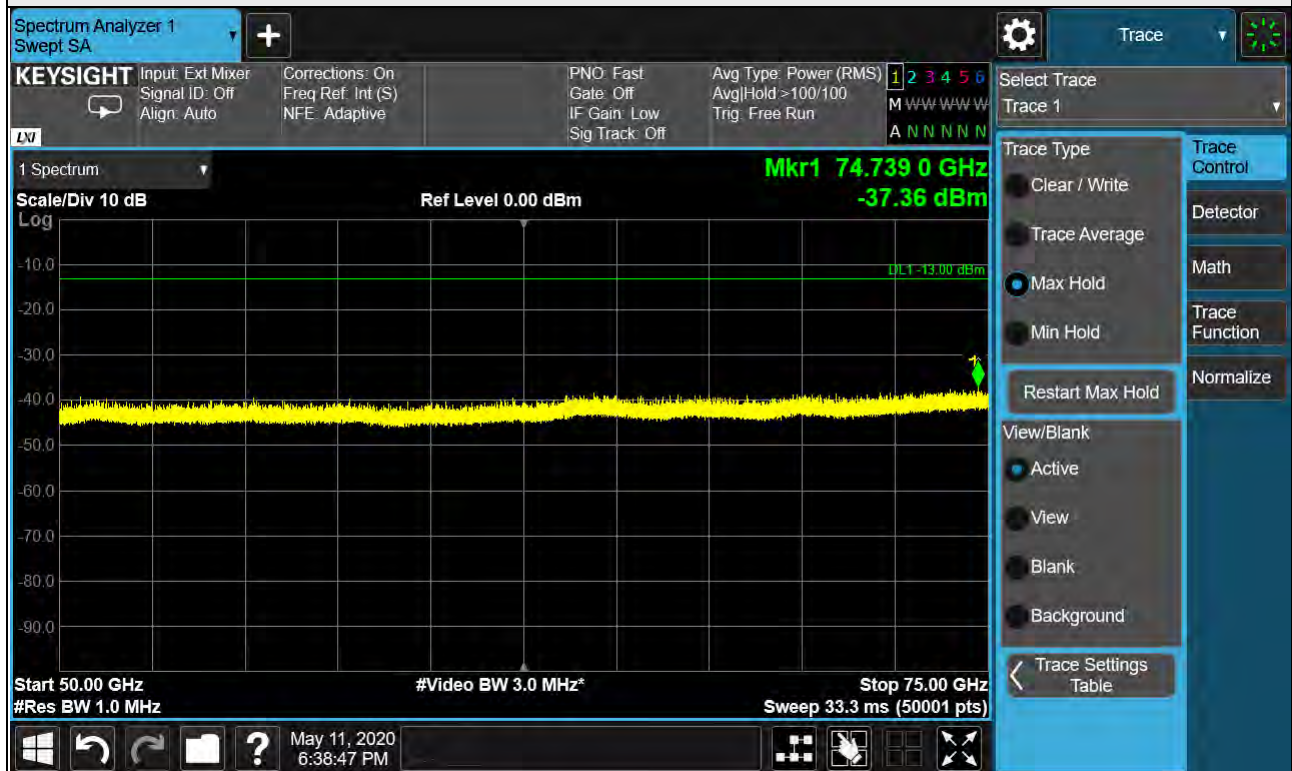


Note: The test results already include the correction factor (corrections: On).



|         |     |                  |             |
|---------|-----|------------------|-------------|
| Beam ID | 30  | Frequency Range  | 50GHz-75GHz |
| Channel | Mid | Antenna polarity | Horizontal  |

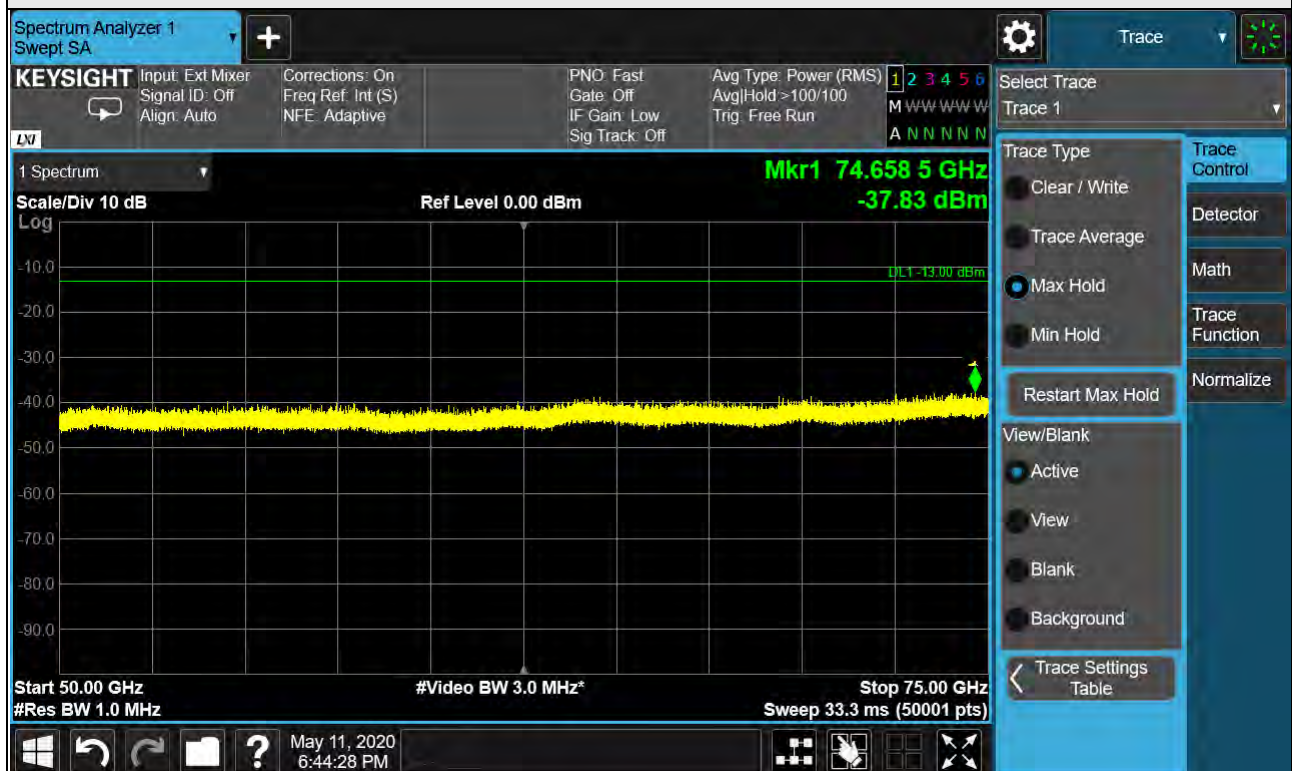
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |     |                  |             |
|---------|-----|------------------|-------------|
| Beam ID | 30  | Frequency Range  | 50GHz-75GHz |
| Channel | Mid | Antenna polarity | Vertical    |

Test distance at 1m



Note: The test results already include the correction factor (corrections: On).



|         |      |                  |             |
|---------|------|------------------|-------------|
| Beam ID | 30   | Frequency Range  | 50GHz-75GHz |
| Channel | High | Antenna polarity | Horizontal  |

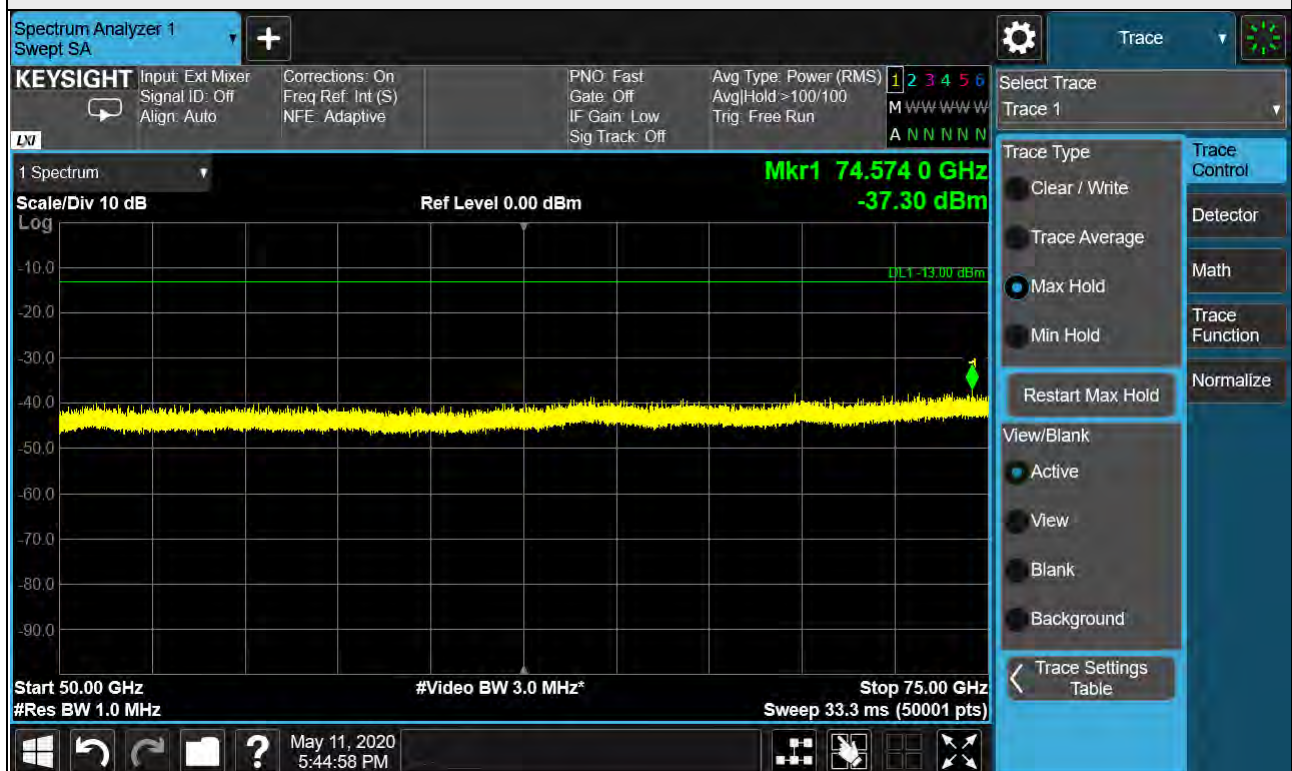
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |      |                  |             |
|---------|------|------------------|-------------|
| Beam ID | 30   | Frequency Range  | 50GHz-75GHz |
| Channel | High | Antenna polarity | Vertical    |

Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |     |                  |             |
|---------|-----|------------------|-------------|
| Beam ID | 39  | Frequency Range  | 50GHz-75GHz |
| Channel | Low | Antenna polarity | Horizontal  |

Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |     |                  |             |
|---------|-----|------------------|-------------|
| Beam ID | 39  | Frequency Range  | 50GHz-75GHz |
| Channel | Low | Antenna polarity | Vertical    |

Test distance at 1m

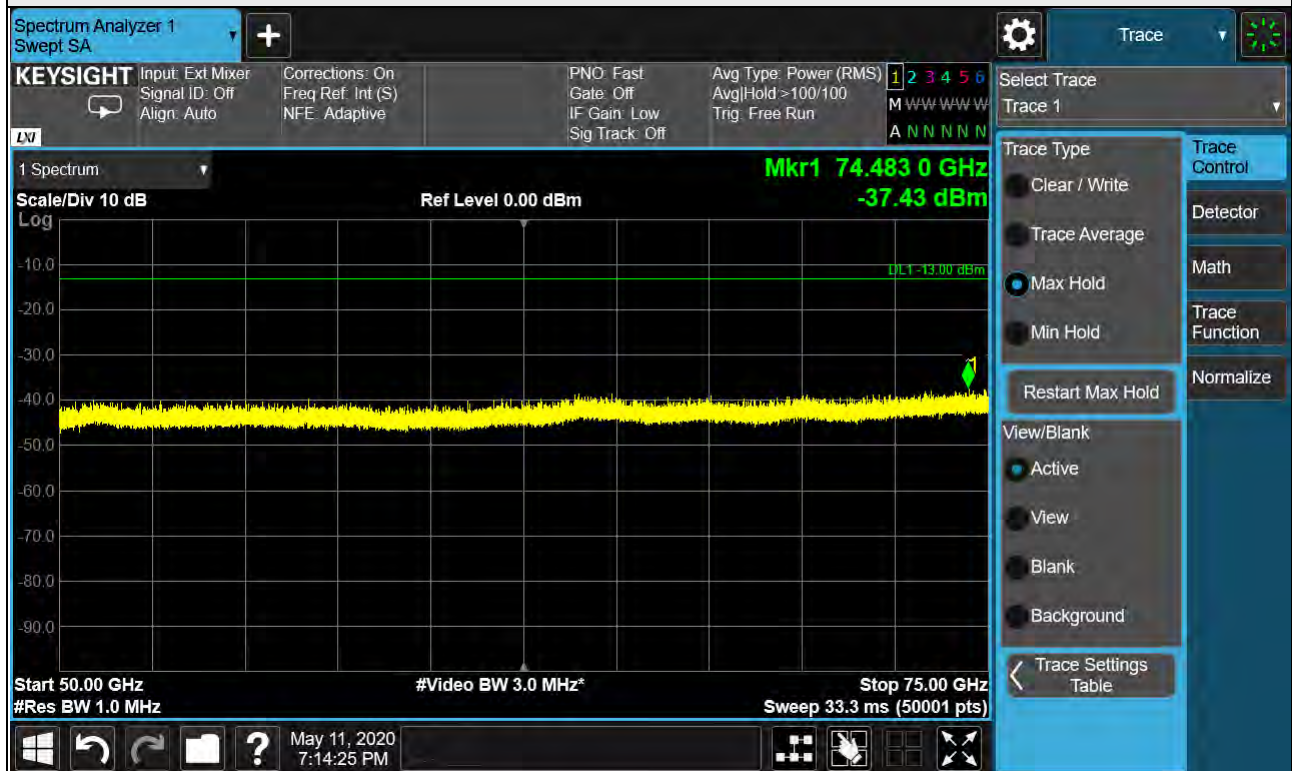


Note: The test results already include the correction factor (corrections: On).



|         |     |                  |             |
|---------|-----|------------------|-------------|
| Beam ID | 39  | Frequency Range  | 50GHz-75GHz |
| Channel | Mid | Antenna polarity | Horizontal  |

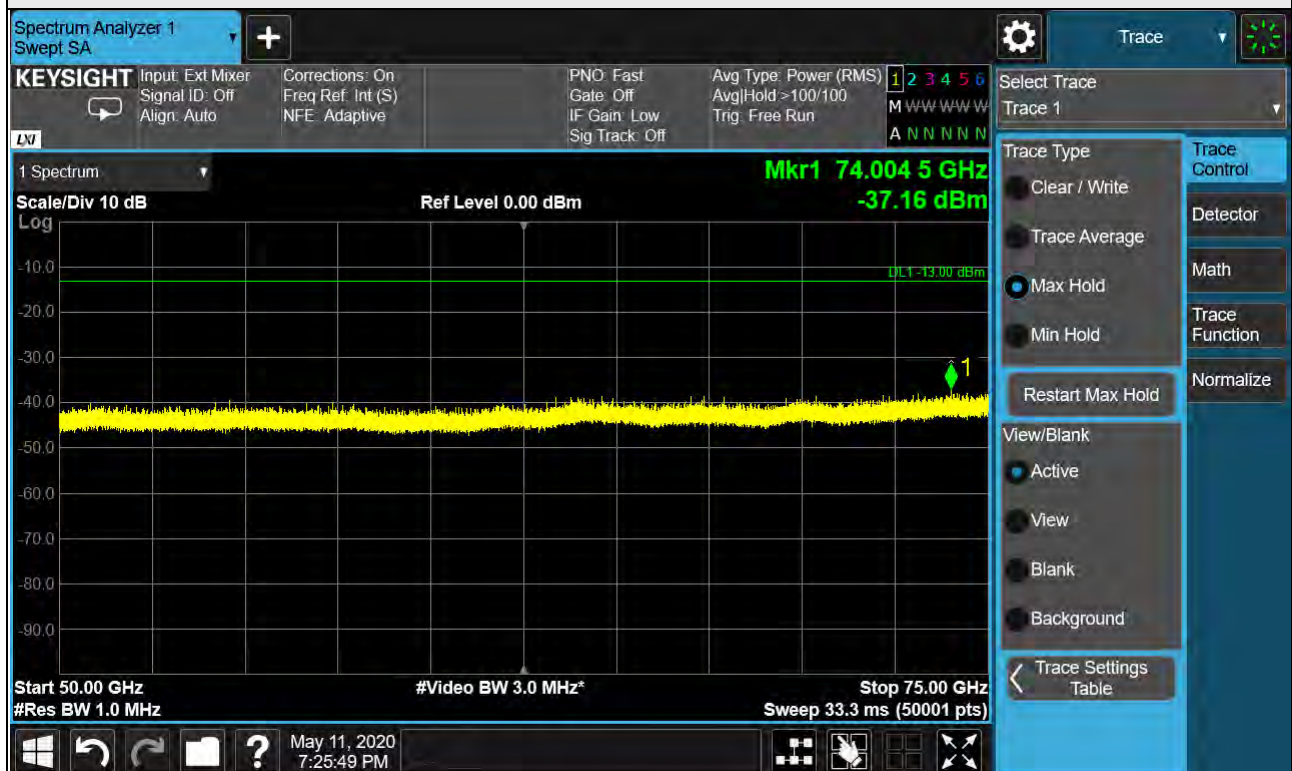
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |     |                  |             |
|---------|-----|------------------|-------------|
| Beam ID | 39  | Frequency Range  | 50GHz-75GHz |
| Channel | Mid | Antenna polarity | Vertical    |

Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |      |                  |             |
|---------|------|------------------|-------------|
| Beam ID | 39   | Frequency Range  | 50GHz-75GHz |
| Channel | High | Antenna polarity | Horizontal  |

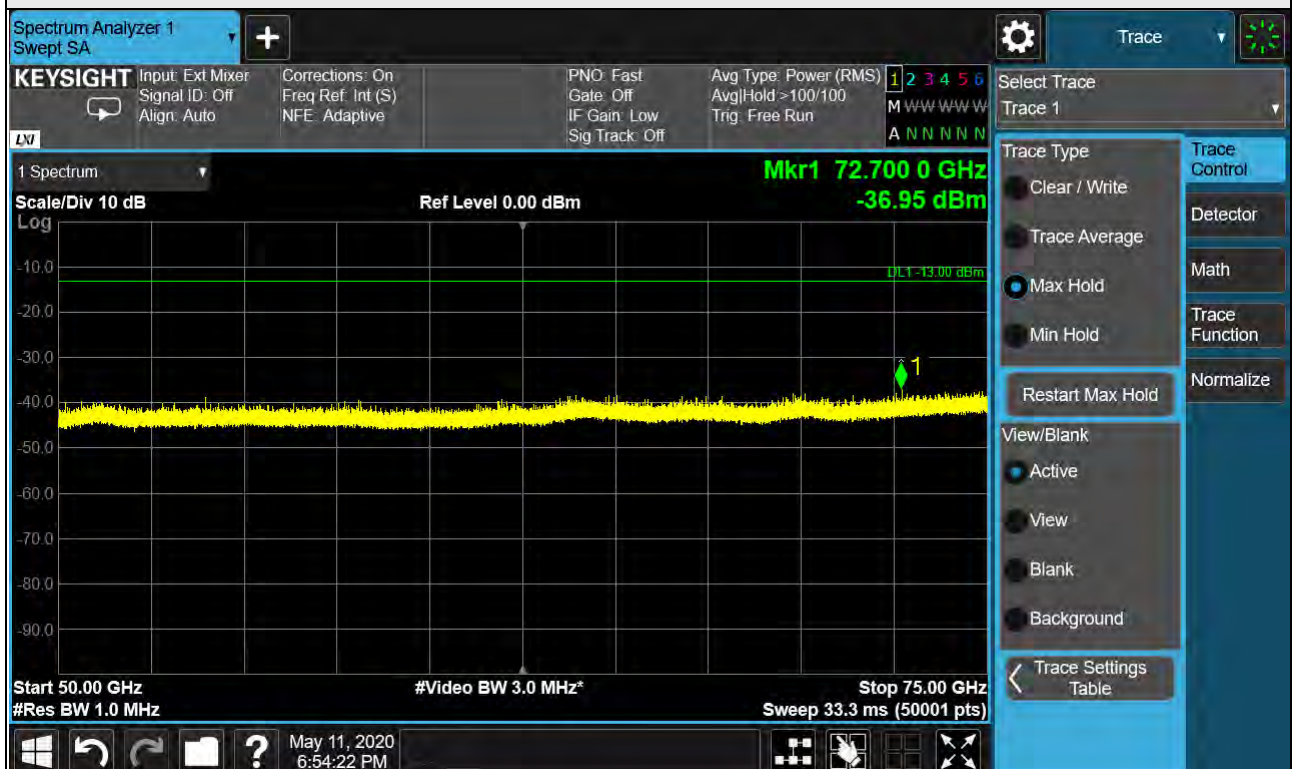
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |      |                  |             |
|---------|------|------------------|-------------|
| Beam ID | 39   | Frequency Range  | 50GHz-75GHz |
| Channel | High | Antenna polarity | Vertical    |

Test distance at 1m



Note: The test results already include the correction factor (corrections: On).



|         |        |                  |             |
|---------|--------|------------------|-------------|
| Beam ID | 20+148 | Frequency Range  | 50GHz-75GHz |
| Channel | Low    | Antenna polarity | Horizontal  |

Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |        |                  |             |
|---------|--------|------------------|-------------|
| Beam ID | 20+148 | Frequency Range  | 50GHz-75GHz |
| Channel | Low    | Antenna polarity | Vertical    |

Test distance at 1m



Note: The test results already include the correction factor (corrections: On).



|         |        |                  |             |
|---------|--------|------------------|-------------|
| Beam ID | 20+148 | Frequency Range  | 50GHz-75GHz |
| Channel | Mid    | Antenna polarity | Horizontal  |

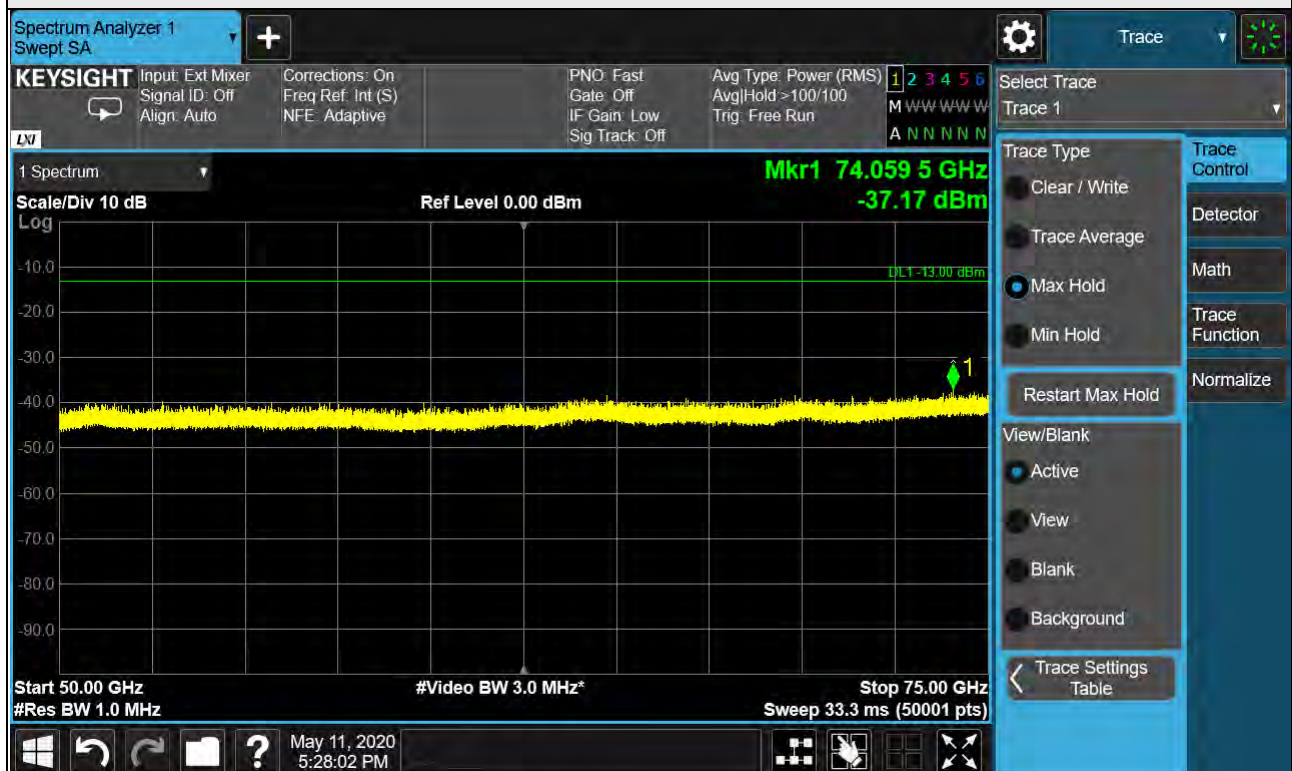
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |        |                  |             |
|---------|--------|------------------|-------------|
| Beam ID | 20+148 | Frequency Range  | 50GHz-75GHz |
| Channel | Mid    | Antenna polarity | Vertical    |

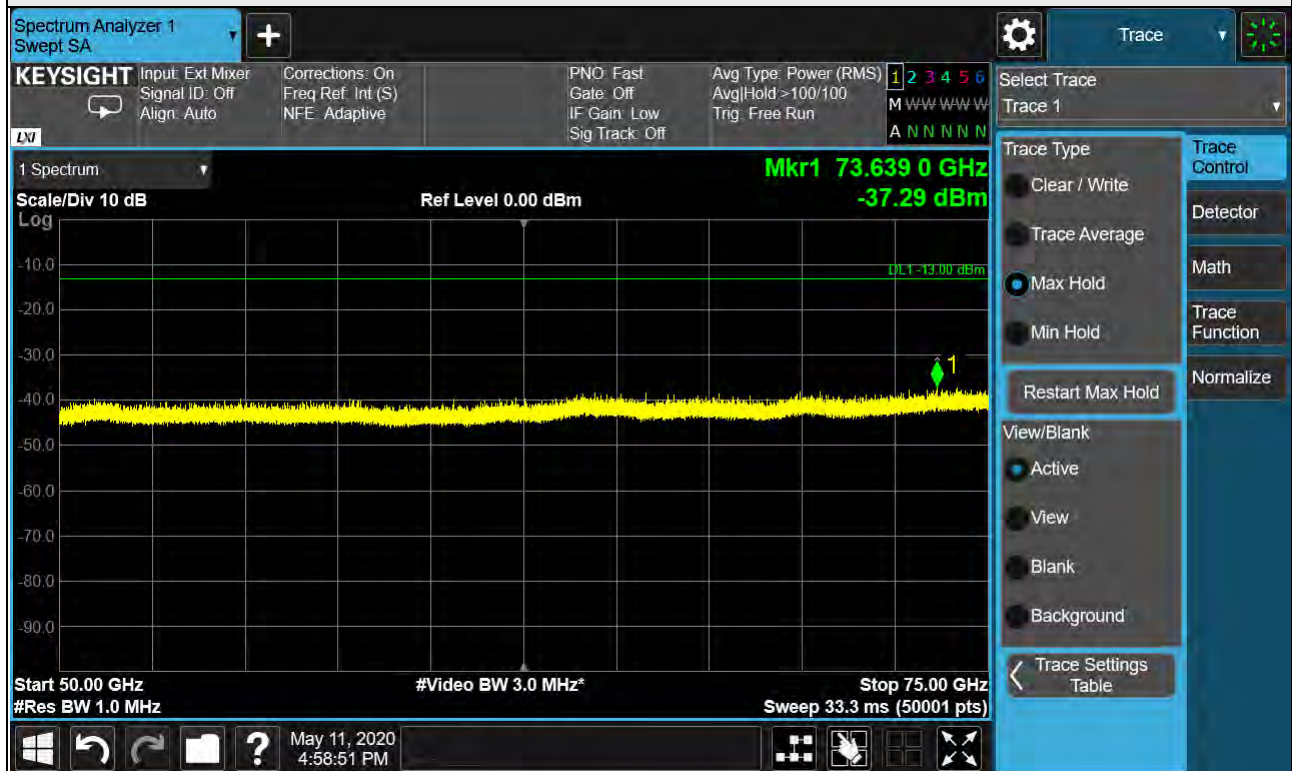
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |        |                  |             |
|---------|--------|------------------|-------------|
| Beam ID | 20+148 | Frequency Range  | 50GHz-75GHz |
| Channel | High   | Antenna polarity | Horizontal  |

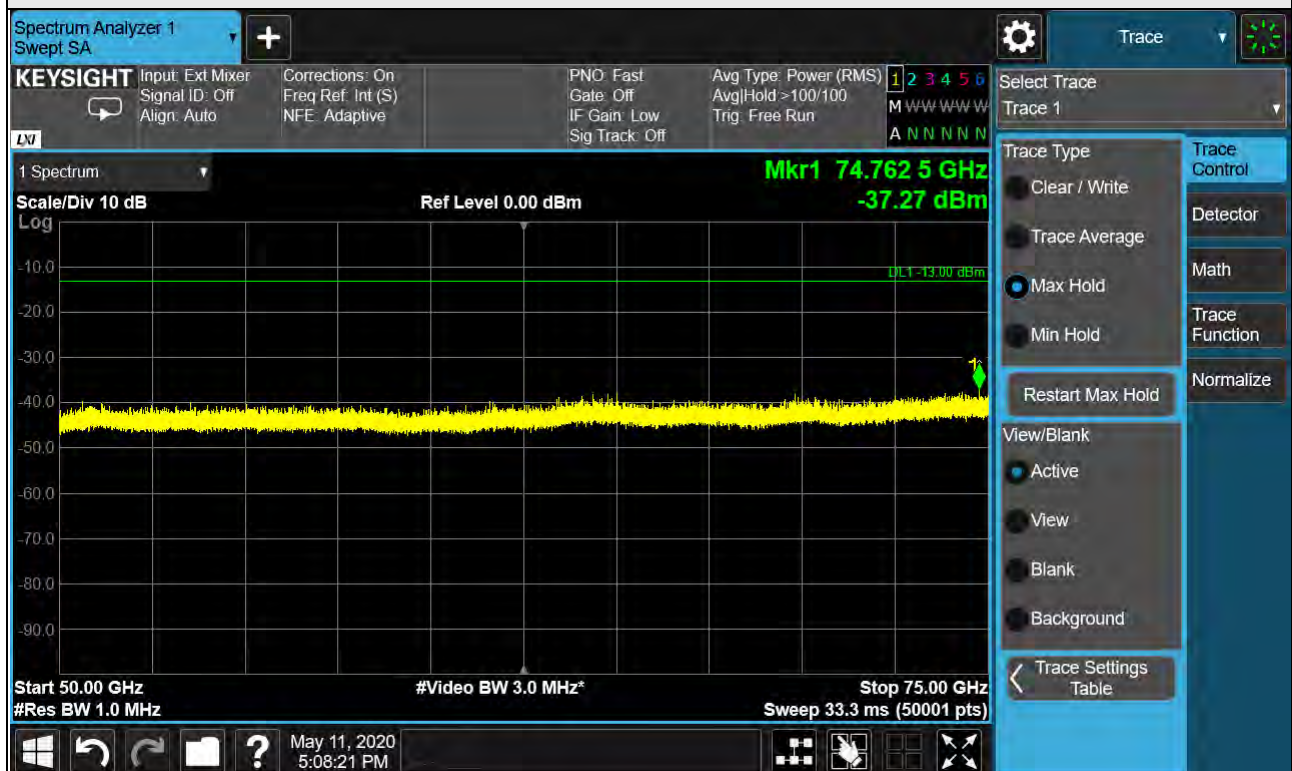
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |        |                  |             |
|---------|--------|------------------|-------------|
| Beam ID | 20+148 | Frequency Range  | 50GHz-75GHz |
| Channel | High   | Antenna polarity | Vertical    |

Test distance at 1m

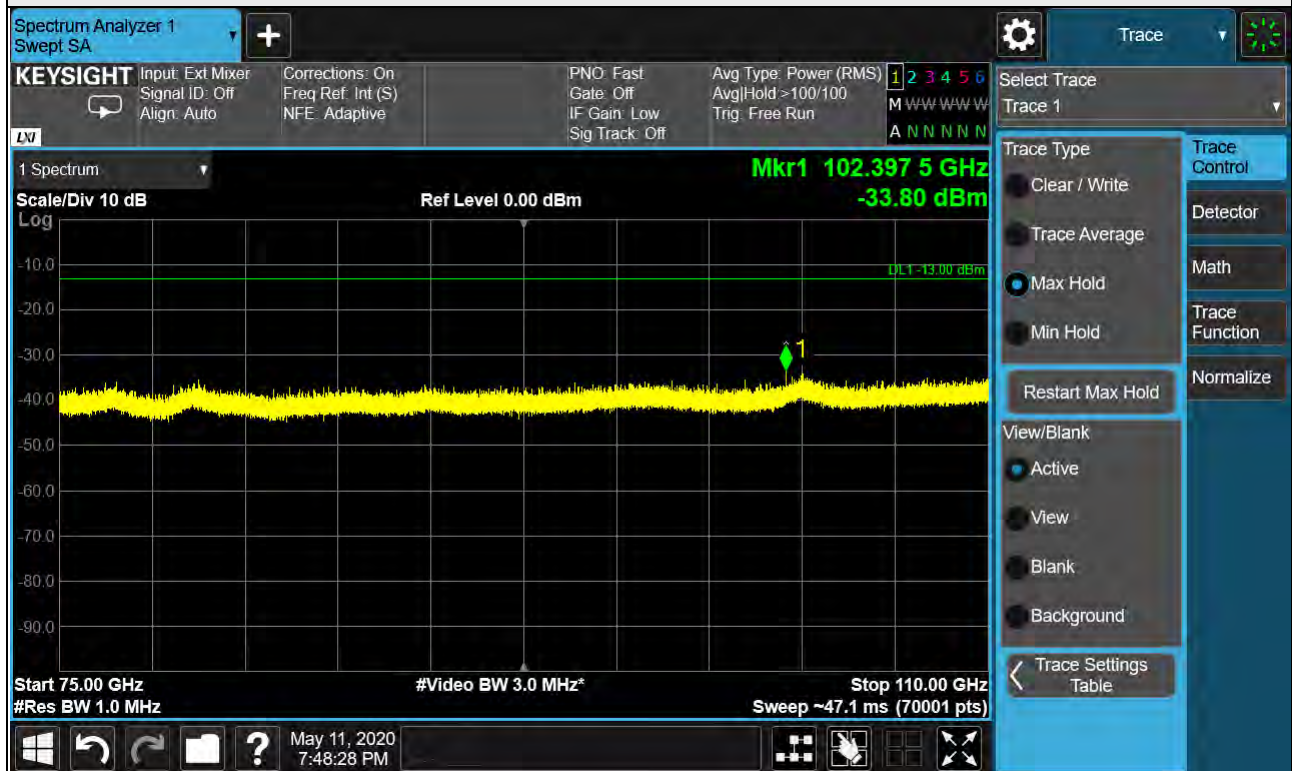


Note: The test results already include the correction factor (corrections: On).



|         |     |                  |              |
|---------|-----|------------------|--------------|
| Beam ID | 20  | Frequency Range  | 75GHz-110GHz |
| Channel | Low | Antenna polarity | Horizontal   |

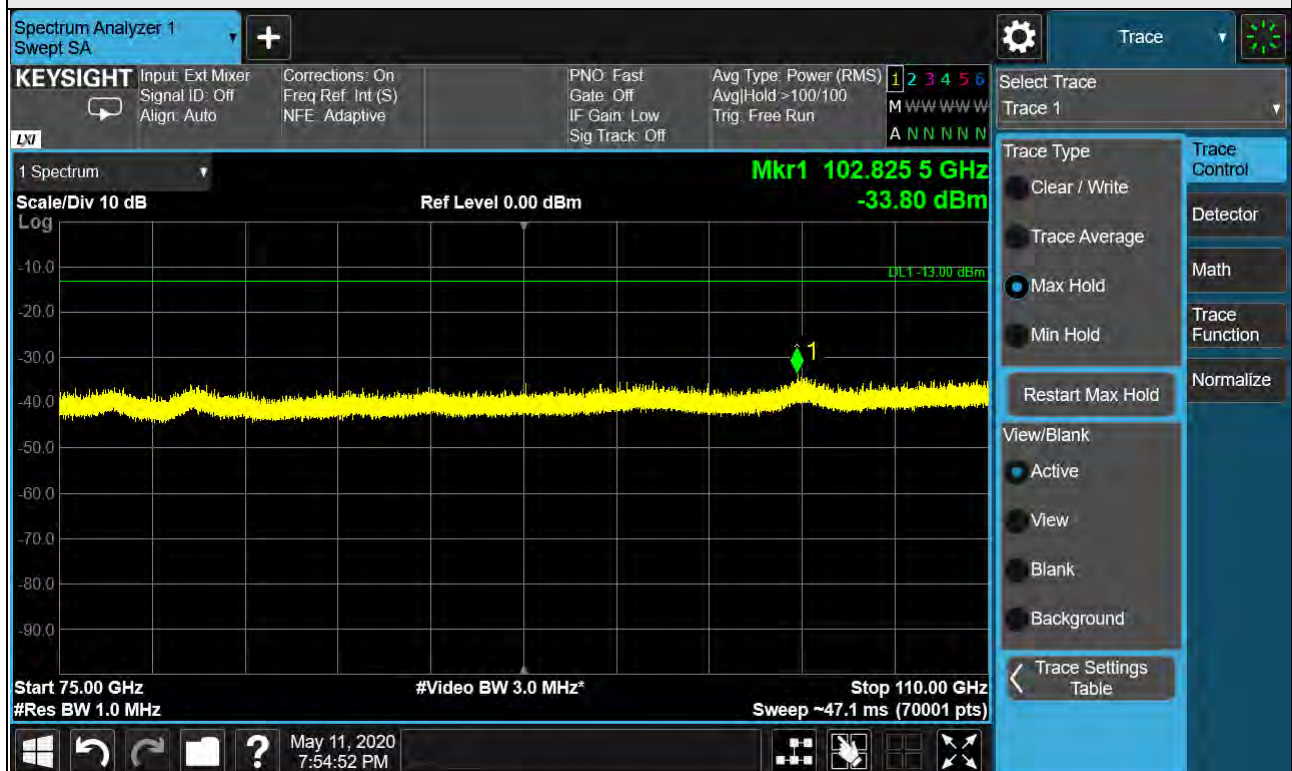
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |     |                  |              |
|---------|-----|------------------|--------------|
| Beam ID | 20  | Frequency Range  | 75GHz-110GHz |
| Channel | Low | Antenna polarity | Vertical     |

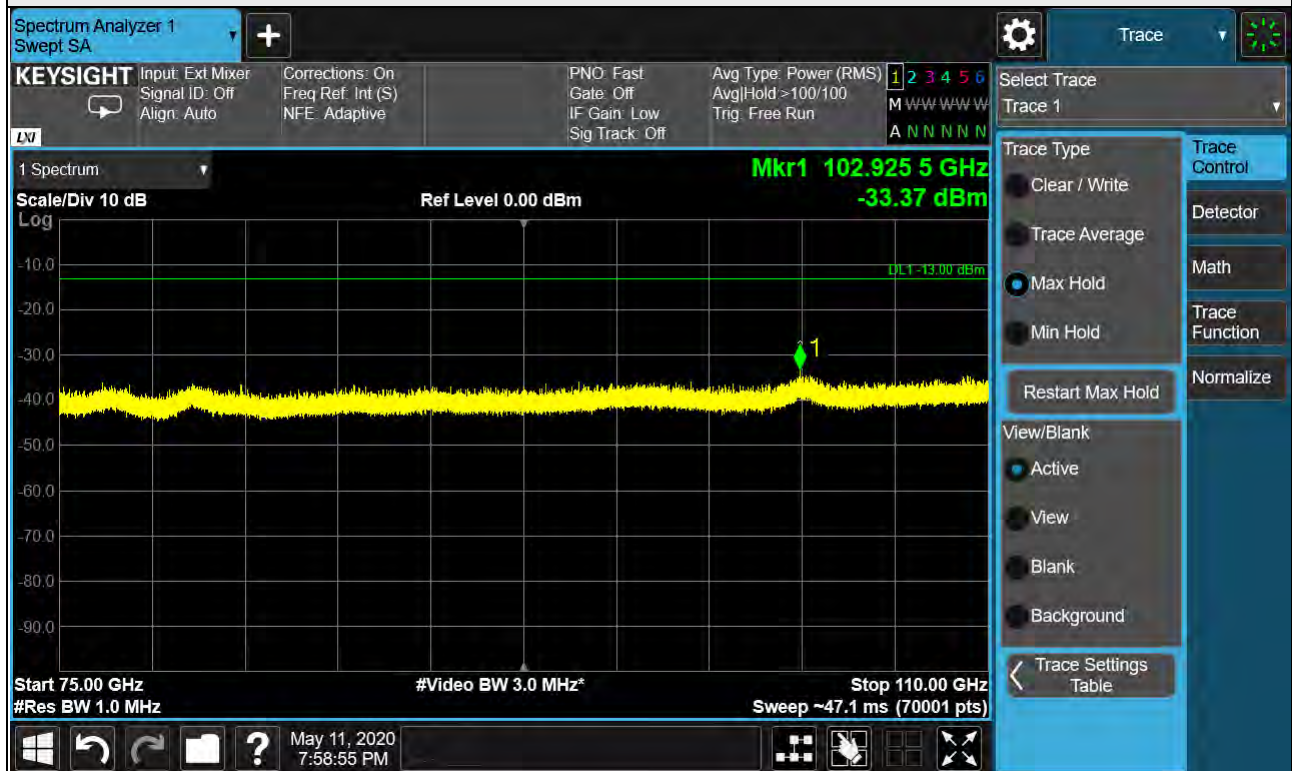
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |     |                  |              |
|---------|-----|------------------|--------------|
| Beam ID | 20  | Frequency Range  | 75GHz-110GHz |
| Channel | Mid | Antenna polarity | Horizontal   |

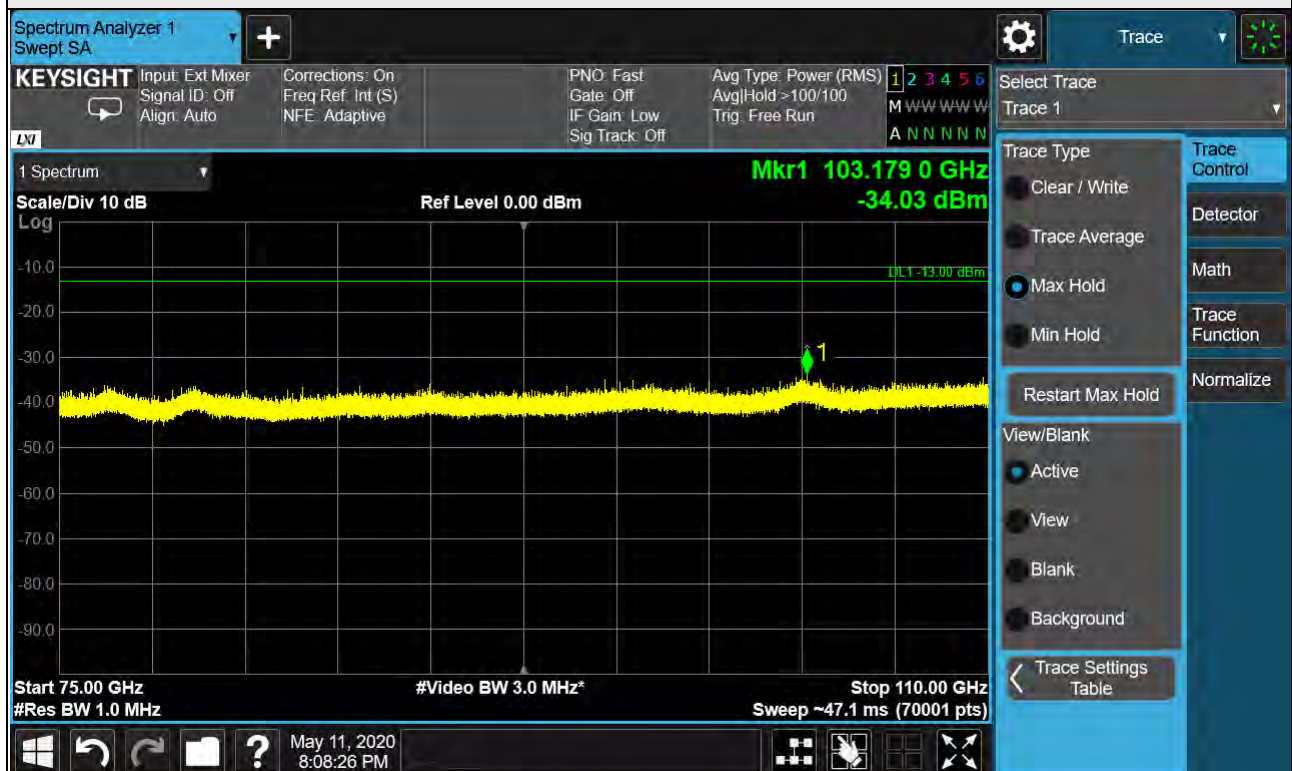
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |     |                  |              |
|---------|-----|------------------|--------------|
| Beam ID | 20  | Frequency Range  | 75GHz-110GHz |
| Channel | Mid | Antenna polarity | Vertical     |

Test distance at 1m

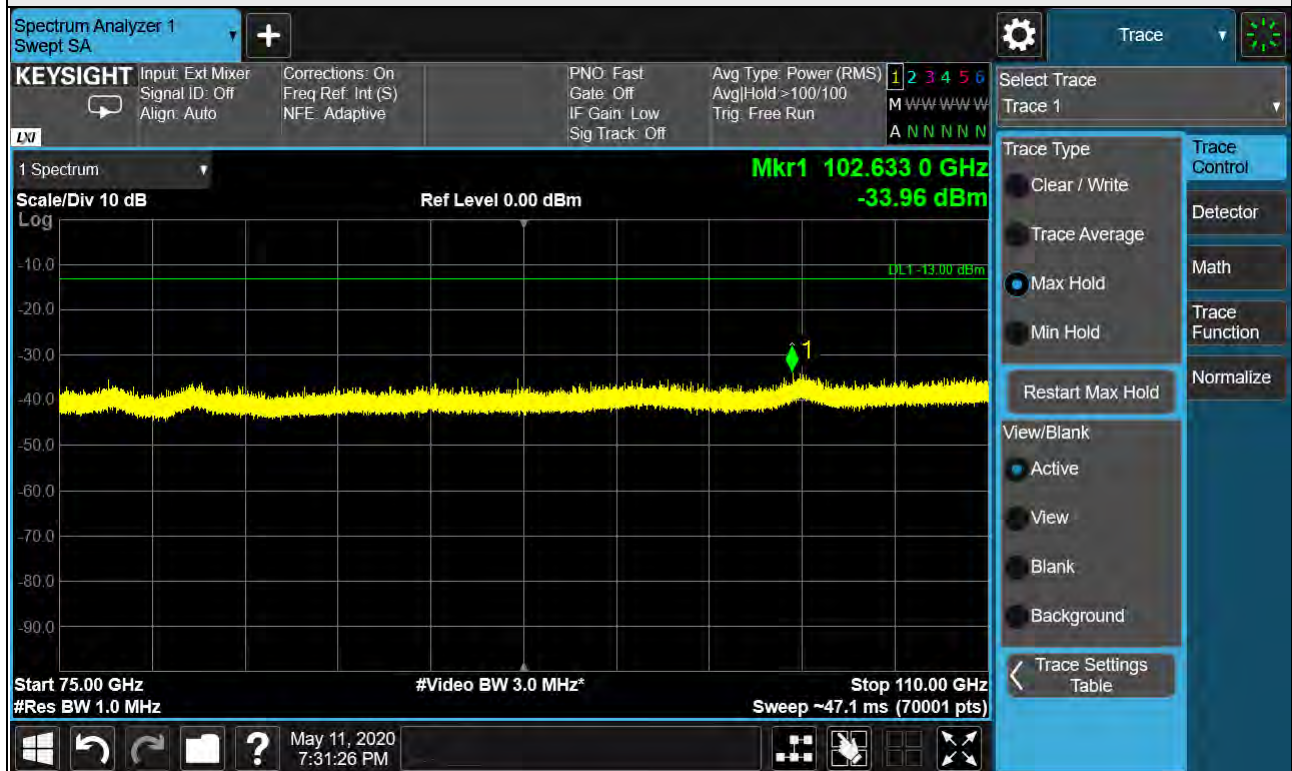


Note: The test results already include the correction factor (corrections: On).



|         |      |                  |              |
|---------|------|------------------|--------------|
| Beam ID | 20   | Frequency Range  | 75GHz-110GHz |
| Channel | High | Antenna polarity | Horizontal   |

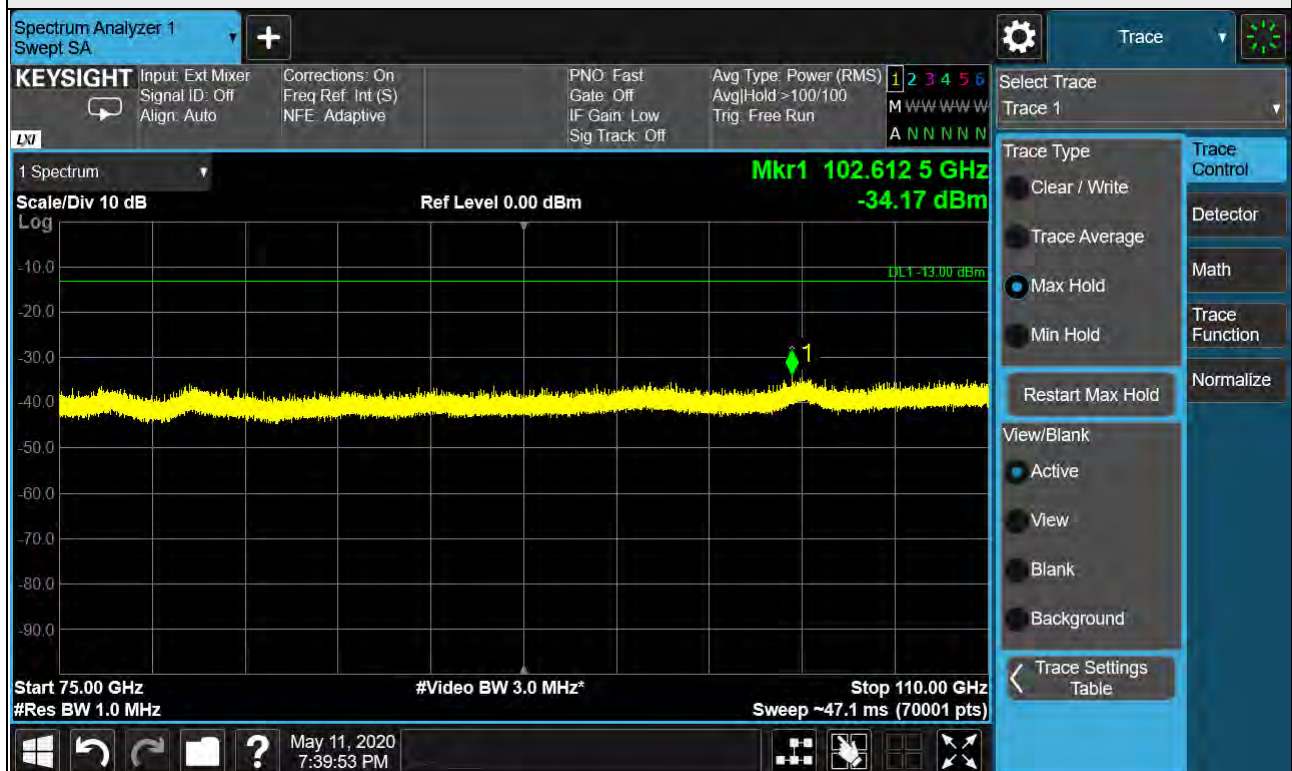
Test distance at 1m



Note: The test results already include the correction factor (corrections: On).

|         |      |                  |              |
|---------|------|------------------|--------------|
| Beam ID | 20   | Frequency Range  | 75GHz-110GHz |
| Channel | High | Antenna polarity | Vertical     |

Test distance at 1m



Note: The test results already include the correction factor (corrections: On).