



**F2 Labs**  
**16740 Peters Road**  
**Middlefield, Ohio 44062**  
**United States of America**  
**[www.f2labs.com](http://www.f2labs.com)**

## **CERTIFICATION TEST REPORT**

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**Manufacturer:** Avnet Inc.  
2211 South 47<sup>th</sup> Street  
Phoenix, Arizona 85034 USA

**Applicant:** Same as Above

**Product Name:** Azure Sphere MT3620 Modules

**Product Description:** Microsoft Azure Sphere certified Wi-Fi SoC module for highly-secured IoT applications (Dual UFL connector version for external antennas, RX and TX diversity and Industrial temperature operating range)

**Operating Voltage/Frequency:** 3.3V DC

**Modular Radio Model:** AES-MS-MT3620-M-G

**Radio Module FCC ID:** 2AF62-AVT3620C

**Testing Commenced:** Jan. 24, 2020

**Testing Ended:** Aug. 25, 2020

**Summary of Test Results:** In Compliance

The EUT complies with the EMC requirements when manufactured identically as the unit tested in this report, including any required modifications. Any changes to the design or build of this unit subsequent to this testing may deem it non-compliant.

**Rule(s):**

- **FCC Part 15 Subpart E – Unlicensed National Information Infrastructure Devices, Section 15.407 General technical requirements**
- **FCC15.207 - Conducted Limits**



Order Number: F2P20567A-R1

Applicant: Avnet Inc.  
FCC ID: 2AF62-AVT3620C

A handwritten signature in black ink, appearing to read 'Julius Chiller'.

**Evaluation Conducted by:**

Julius Chiller, EMC/Wireless Engineer

A handwritten signature in black ink, appearing to read 'Ken Littell'.

**Report Reviewed by:**

Ken Littell, Director of EMC & Wireless Operations

F2 Labs  
26501 Ridge Road  
Damascus, MD 20872  
Ph 301.253.4500

F2 Labs  
16740 Peters Road  
Middlefield, OH 44062  
Ph 440.632.5541

F2 Labs  
8583 Zionsville Road  
Indianapolis, IN 46268  
Ph 317.610.0611



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## **1 ADMINISTRATIVE INFORMATION**

### **1.1 Measurement Location:**

F2 Labs in Middlefield, Ohio. Site description and attenuation data are on file with the FCC's Sampling and Measurement Branch at the FCC Laboratory in Columbia, MD.

### **1.2 Measurement Procedure:**

All measurements were performed according to ANSI C63.10:2013 and recommended FCC procedure of measurement of DTS operating under Section 15.407 and in KDB789033 v2r01. A list of the measurement equipment can be found in Section 6.



### 1.3 Uncertainty Budget:

The uncertainty in EMC measurements arises from several factors which affect the results, some associated with environmental conditions in the measurement room, the test equipment being used, and the measurement techniques adopted.

The measurement uncertainty budgets detailed below are calculated from the test and calibration data and are expressed with a 95% confidence factor using a coverage factor of  $k=2$ . The Uncertainty for a laboratory is referred to as  $U_{lab}$ . For Radiated and Conducted Emissions, the Expanded Uncertainty is compared to the  $U_{cispr}$  values to determine if a specific margin is required to deem compliance.

#### $U_{lab}$

| Measurement Range                                   | Combined Uncertainty | Expanded Uncertainty |
|-----------------------------------------------------|----------------------|----------------------|
| Radiated Emissions <1 GHz @ 3m                      | 2.54                 | 5.07dB               |
| Radiated Emissions <1 GHz @ 10m                     | 2.55                 | 5.09dB               |
| Radiated Emissions 1 GHz to 2.7 GHz                 | 1.81                 | 3.62dB               |
| Radiated Emissions 2.7 GHz to 18 GHz                | 1.55                 | 3.10dB               |
| AC Power Line Conducted Emissions, 150kHz to 30 MHz | 1.38                 | 2.76dB               |
| AC Power Line Conducted Emissions, 9kHz to 150kHz   | 1.66                 | 3.32dB               |

#### $U_{cispr}$

| Measurement Range                                   | Expanded Uncertainty |
|-----------------------------------------------------|----------------------|
| Radiated Emissions <1 GHz @ 3m                      | 5.2dB                |
| Radiated Emissions <1 GHz @ 10m                     | 5.2dB                |
| Radiated Emissions 1 GHz to 2.7 GHz                 | Under Consideration  |
| Radiated Emissions 2.7 GHz to 18 GHz                | Under Consideration  |
| AC Power Line Conducted Emissions, 150kHz to 30 MHz | 3.6dB                |
| AC Power Line Conducted Emissions, 9kHz to 150kHz   | 4.0dB                |

If  $U_{lab}$  is less than or equal to  $U_{cispr}$ , then:

- compliance is deemed to occur if no measured disturbance exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance exceeds the disturbance limit.

If  $U_{lab}$  is greater than  $U_{cispr}$  in table 1, then:

- compliance is deemed to occur if no measured disturbance, increased by ( $U_{lab} - U_{cispr}$ ), exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance, increased by ( $U_{lab} - U_{cispr}$ ), exceeds the disturbance limit.

Note: Only measurements listed in the tables above that relate to tests included in this Test Report are applicable.



Order Number: F2P20567A-R1

Applicant: Avnet Inc.  
FCC ID: 2AF62-AVT3620C

#### 1.4 Document History

| Document Number  | Description | Issue Date    | Approved By |
|------------------|-------------|---------------|-------------|
| F2P20567A-R1-01E | First Issue | Aug. 25, 2020 | K. Littell  |
|                  |             |               |             |
|                  |             |               |             |

**2 SUMMARY OF TEST RESULTS**

| Test Name                                               | Standard(s)                                                  | Results  |
|---------------------------------------------------------|--------------------------------------------------------------|----------|
| Radiated Spurious Emissions: 5.25-5.35 & 5.47-5.725 GHz | CFR 47 Part 15.407/ KDB789033                                | Complies |
| Occupied Bandwidth                                      | CFR 47 Part 15.407(e) / Part 15.209 / KDB789033              | Complies |
| Output Power                                            | CFR 47 Part 15.407(a)(1)(iv) / Part 15.407(a)(3) / KDB789033 | Complies |
| Power Spectral Density                                  | CFR 47 Part 15.407(a)(1)(iv) / Part 15.407(a)(3) / KDB789033 | Complies |
| Voltage Variations                                      | CFR 47 Part 15.31(e)                                         | Complies |
| Conducted Emissions                                     | CFR 47 Part 15.207(a)                                        | Complies |

| Modifications Made to the Equipment    |
|----------------------------------------|
| No modifications were made to the EUT. |

**3 TABLE OF MEASURED RESULTS**

For the UNI II band, 5260 MHz was the low channel, 5300 MHz was the mid channel, and 5320 MHz was the high channel.

For the U-NII-2C band, 5500 MHz was the low channel, 5600 MHz was the mid channel, and 5700 MHz was the high channel.

| Test                           |                                |      | Low Channel<br>(5260 MHz)<br>(5500 MHz) | Mid Channel<br>(5300 MHz)<br>(5600 MHz) | High Channel<br>(5320 MHz)<br>(5700 MHz) |
|--------------------------------|--------------------------------|------|-----------------------------------------|-----------------------------------------|------------------------------------------|
| Output Power                   | U-NII-2A                       | CCK  | 15.56mW, 11.92dBm                       | 17.06mW, 12.32dBm                       | 17.70mW, 12.48dBm                        |
|                                |                                | OFDM | 23.34mW, 13.68dBm                       | 25.12mW, 14.00dBm                       | 26.18mW, 14.18dBm                        |
|                                |                                | MCS7 | 22.64mW, 13.55dBm                       | 25.3mW, 14.03dBm                        | 26.0mW, 14.15dBm                         |
|                                | U-NII-2C                       | CCK  | 13.52mW, 11.31dBm                       | 17.58mW, 12.45dBm                       | 17.3mW, 12.38dBm                         |
|                                |                                | OFDM | 23.12mW, 13.64dBm                       | 23.33mW, 13.68dBm                       | 23.28mW, 13.67dBm                        |
|                                |                                | MCS7 | 21.28mW, 13.28dBm                       | 23.28mW, 13.67dBm                       | 23.33mW, 13.68dBm                        |
| Output Power Limits            | 5.25-5.35 GHz & 5.47-5.725 GHz |      | 250mW, 24dBm                            | 250mW, 24dBm                            | 250mW, 24dBm                             |
| Peak Power Spectral Density    | U-NII-2A, CCK                  |      | 4.11dBm                                 | 4.35dBm                                 | 4.30dBm                                  |
|                                | U-NII-2A, OFDM                 |      | 3.58dBm                                 | 3.39dBm                                 | 3.71dBm                                  |
|                                | U-NII-2A, MCS7                 |      | 3.64dBm                                 | 3.61dBm                                 | 5.30dBm                                  |
|                                | U-NII-2C, CCK                  |      | 3.72dBm                                 | 4.29dBm                                 | 3.96dBm                                  |
|                                | U-NII-2C, OFDM                 |      | 3.33dBm                                 | 3.44dBm                                 | 3.60dBm                                  |
|                                | U-NII-2C, MCS7                 |      | 3.35dBm                                 | 3.65dBm                                 | 3.78dBm                                  |
|                                | Limit:                         |      | 11dBm/1 MHz                             | 11dBm/1 MHz                             | 11dBm/1 MHz                              |
| -26dB Occupied Bandwidth (MHz) | UNI                            | CCK  | 17.051                                  | 16.973                                  | 16.959                                   |
|                                |                                | OFDM | 19.683                                  | 19.832                                  | 19.607                                   |
|                                |                                | MCS7 | 19.636                                  | 19.68                                   | 19.774                                   |
|                                | U-NII-2C                       | CCK  | 16.968                                  | 16.956                                  | 17.001                                   |
|                                |                                | OFDM | 19.674                                  | 19.925                                  | 19.685                                   |
|                                |                                | HT20 | 19.785                                  | 19.682                                  | 19.718                                   |



| Test                               |      |        | Low Channel<br>(5260 MHz) | Mid Channel<br>(5300 MHz) | High Channel<br>(5320 MHz) |
|------------------------------------|------|--------|---------------------------|---------------------------|----------------------------|
| *Voltage<br>Variations<br>UNII IIA | CCK  | 3.3V   | 11.92dBm                  | 12.32dBm                  | 12.48dBm                   |
|                                    |      | @ 85%  | 11.43dBm                  | 10.60dBm                  | 12.06dBm                   |
|                                    |      | @ 115% | 10.58dBm                  | 10.38dBm                  | 11.53dBm                   |
|                                    | OFDM | 3.3V   | 13.68dBm                  | 14.00dBm                  | 14.18dBm                   |
|                                    |      | @ 85%  | 13.69dBm                  | 13.72dBm                  | 14.28dBm                   |
|                                    |      | @ 115% | 13.49dBm                  | 13.92dBm                  | 14.18dBm                   |
|                                    | MCS7 | 3.3V   | 13.55dBm                  | 1.03dBm                   | 14.15dBm                   |
|                                    |      | @ 85%  | 13.41dBm                  | 13.80dBm                  | 13.93dBm                   |
|                                    |      | @ 115% | 13.38dBm                  | 13.92dBm                  | 14.10dBm                   |
| Test                               |      |        | Low Channel<br>(5500 MHz) | Mid Channel<br>(5600 MHz) | High Channel<br>(5700 MHz) |
| *Voltage<br>Variations<br>UNII IIC | CCK  | 3.3V   | 11.31dBm                  | 12.45dBm                  | 12.38dBm                   |
|                                    |      | @ 85%  | 10.85dBm                  | 12.09dBm                  | 12.16dBm                   |
|                                    |      | @ 115% | 10.45dBm                  | 11.80dBm                  | 12.12dBm                   |
|                                    | OFDM | 3.3V   | 13.64dBm                  | 13.68dBm                  | 13.67dBm                   |
|                                    |      | @ 85%  | 13.45dBm                  | 13.47dBm                  | 13.33dBm                   |
|                                    |      | @ 115% | 12.60dBm                  | 13.84dBm                  | 13.76dBm                   |
|                                    | MCS7 | 3.3V   | 13.28dBm                  | 13.67dBm                  | 13.68dBm                   |
|                                    |      | @ 85%  | 12.98dBm                  | 13.47dBm                  | 13.37dBm                   |
|                                    |      | @ 115% | 12.16dBm                  | 12.58dBm                  | 13.81dBm                   |



#### **4 ENGINEERING STATEMENT**

This report has been prepared on behalf of Avnet Inc. to provide documentation for the testing described herein. This equipment has been tested and found to comply with Part 15.407 of the FCC Rules using ANSI C63.10 and KDB789033 standards. The test results found in this test report relate only to the items tested.



## **5 EUT INFORMATION AND DATA**

### **5.1 Equipment Under Test:**

Product: Azure Sphere MT3620 Modules

Model: AES-MS-MT360-M-G

Serial No.: 0002B501E625

Firmware: Azure Sphere Client API Ver. 19.02.4.2632

FCC ID: 2AF62-AVT3620C

### **5.2 Trade Name:**

Avnet Inc.

### **5.3 Power Supply:**

3.3V DC

### **5.4 Applicable Rules:**

CFR 47, Part 15.407, subpart E

### **5.5 Equipment Category:**

Radio Transmitter-UNII

### **5.6 Antenna:**

5.2dBi Integral Antenna

### **5.7 Accessories:**

PC: Dell 15-3000, Ser. No. 8486780294

Charger: Dell OKXITW

### **5.8 Test Item Condition:**

The equipment to be tested was received in good condition.



## 5.9 Testing Algorithm:

The EUT was set up in a test mode to continuously transmit at low, mid and high frequencies of the 5.25-5.35 GHz and 5.47- 5.725 GHz spectrum.

For the 5.25-5.35 GHz band, 5.26 GHz was the Center frequency for the low channel, 5.30 GHz was the Center frequency for the mid channel, and 5.32 GHz was the Center frequency for the high channel.

For the 5.47-5.725 band, 5.50 GHz was the Center frequency for the low channel, 5.60 GHz was the Center frequency for the mid channel, and 5.70 GHz was the Center frequency for the high channel.

No channel used a channel bandwidth greater than 20 MHz.

EUT was powered with 3.3V DC from the client supplied development PCB. Power and Voltage Variations measurements were made using an F2 Labs variable DC power supply. The highest emissions were recorded in the data tables.

**6 LIST OF MEASUREMENT INSTRUMENTATION**

| Equipment Type                  | Asset Number           | Manufacturer        | Model                                   | Serial Number | Calibration Due Date |
|---------------------------------|------------------------|---------------------|-----------------------------------------|---------------|----------------------|
| Shielded Chamber 2014           | CL166-E                | AlbatrossProjects   | B83117-DF435-T261                       | US140023      | Jan. 2, 2021         |
| Temp/Hum. Recorder              | CL261                  | Extech              | 445814                                  | 04            | Feb. 12, 2021        |
| Receiver                        | CL151                  | Rohde & Schwarz     | ESU40                                   | 100319        | Oct. 21, 2020        |
| Receiver                        | CL204                  | Rohde & Schwarz     | ESR7                                    | 101714        | Oct. 16, 2020        |
| Antenna, Bilog                  | CL211                  | Sunol Sciences      | JB1                                     | A021017       | Oct. 3, 2021         |
| Low Loss Cable Set              | --                     | Pasternack          | PE3C0666-252 / PE3C066-50CM             | None Spec.    | July 16, 2020        |
| Horn Antenna                    | CL098                  | Emco                | 3115                                    | 9809-5580     | Jan. 31, 2021        |
| Antenna, Horn                   | CL114                  | A. H. Systems, Inc. | SAS-572                                 | 237           | Feb. 4, 2021         |
| Pre-Amplifier                   | CL153                  | Agilent             | 83006-69007                             | MY39500791    | Aug. 5, 2020         |
| Amplifier w/Monopole & 18" Loop | CL163-Loop             | AH Systems, Inc.    | EHA-52B                                 | 100           | July 24, 2020        |
| Horn Antenna                    | CL188                  | Com-Power           | AH-640                                  | 091065        | July 23, 2021        |
| Software:                       | Tile Version 3.4.B.3.  |                     | Software Verified: Jan. 24-Feb. 4, 2020 |               |                      |
| Software:                       | EMC 32, Version 8.53.0 |                     | Software Verified: Jan. 24-Feb. 4, 2020 |               |                      |
| LISN                            | CL181                  | Com-Power           | LI-125A                                 | 191226        | 2020-09-06           |
| LISN                            | CL182                  | Com-Power           | LI-125A                                 | 191225        | 2020-09-06           |
| Spectrum Analyzer               | CL147                  | Agilent             | E7402A                                  | MY45101241    | 2021-01-06           |
| Transient Limiter               | CL102                  | Hewlett Packard     | 11947A                                  | 3107A03325    | 2021-02-17           |



## **7 OCCUPIED BANDWIDTH**

### **7.1 Requirements:**

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the -26dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage.

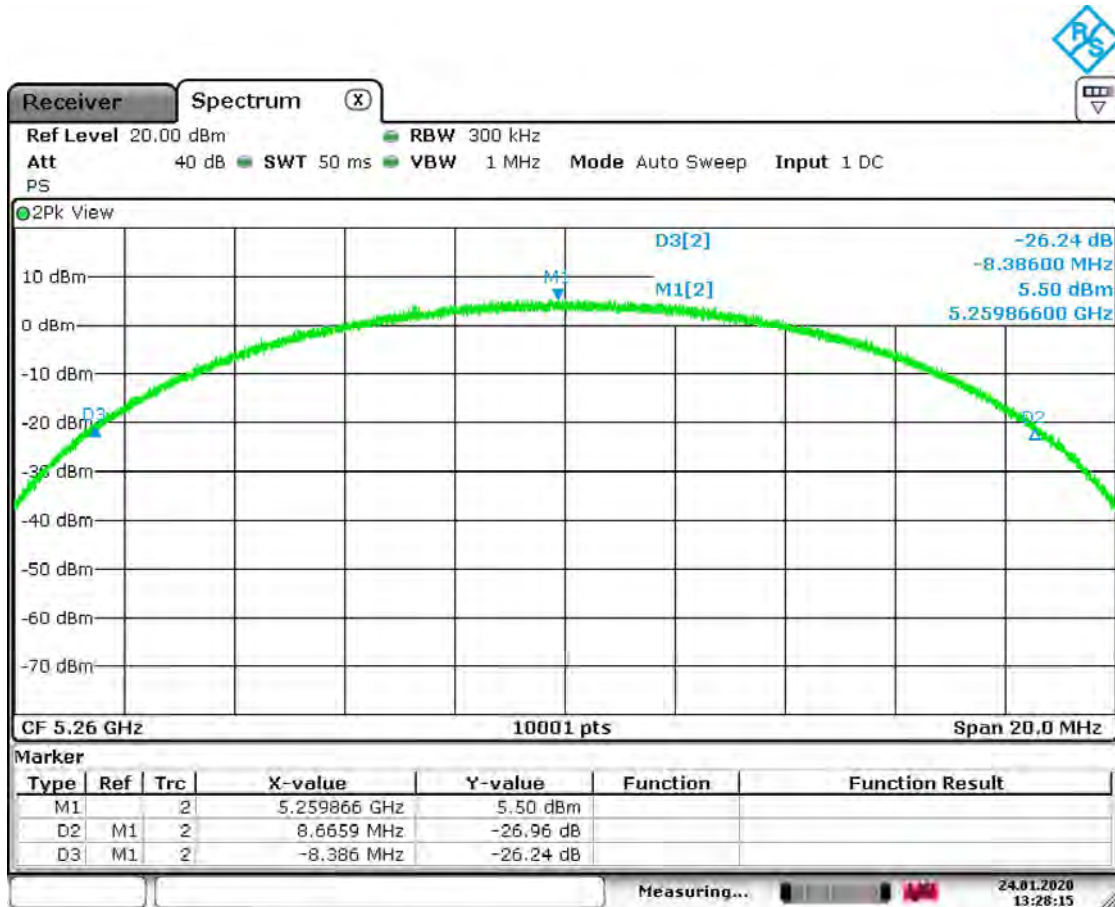
Bandwidth measurements were made at the low, mid and high frequencies. The bandwidth was measured using the analyzer's marker function.



## 7.2 Occupied Bandwidth Test Data

|               |                       |                    |            |
|---------------|-----------------------|--------------------|------------|
| Test Date(s): | Jan. 24, 2020         | Test Engineer(s):  | J. Chiller |
| Standards:    | CFR 47 Part 15.215(c) | Air Temperature:   | 22.9°C     |
|               |                       | Relative Humidity: | 23%        |

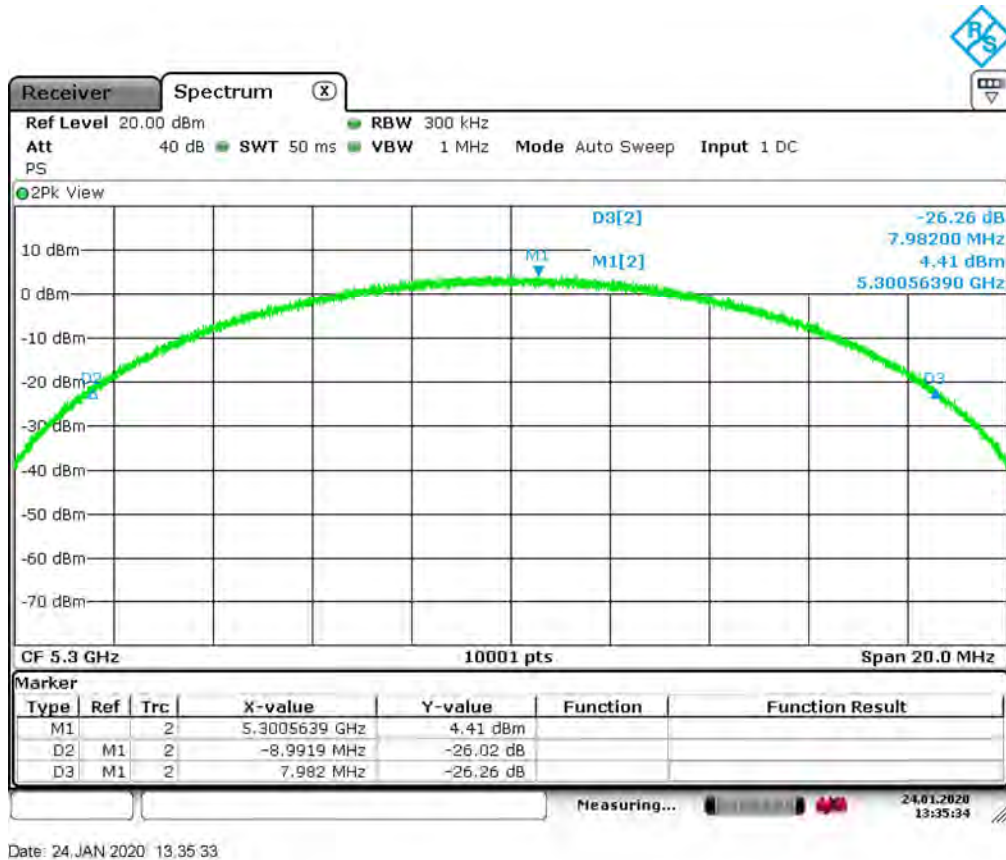
## UNI II: CCK, -26dB OBW, Low Channel



Date: 24, JAN. 2020 13:28:15

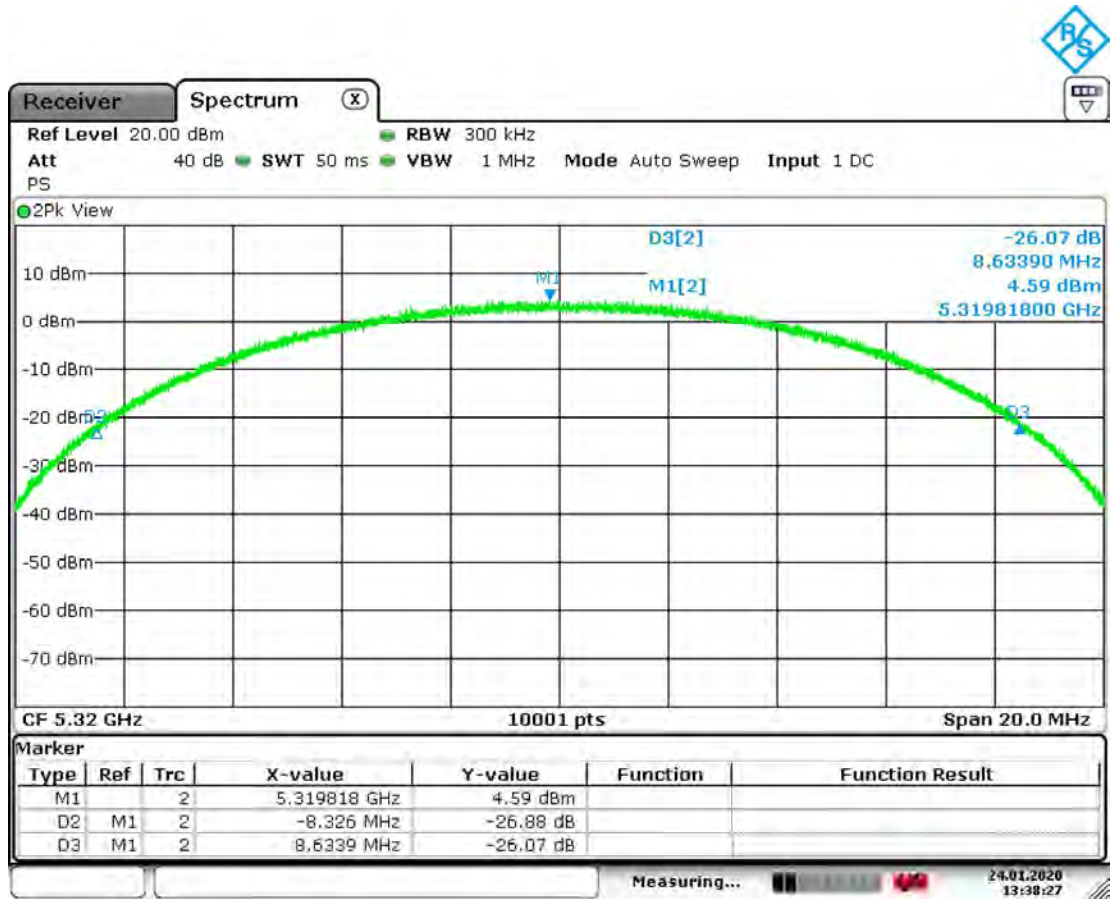


## UNI II: CCK, -26dB OBW, Mid Channel





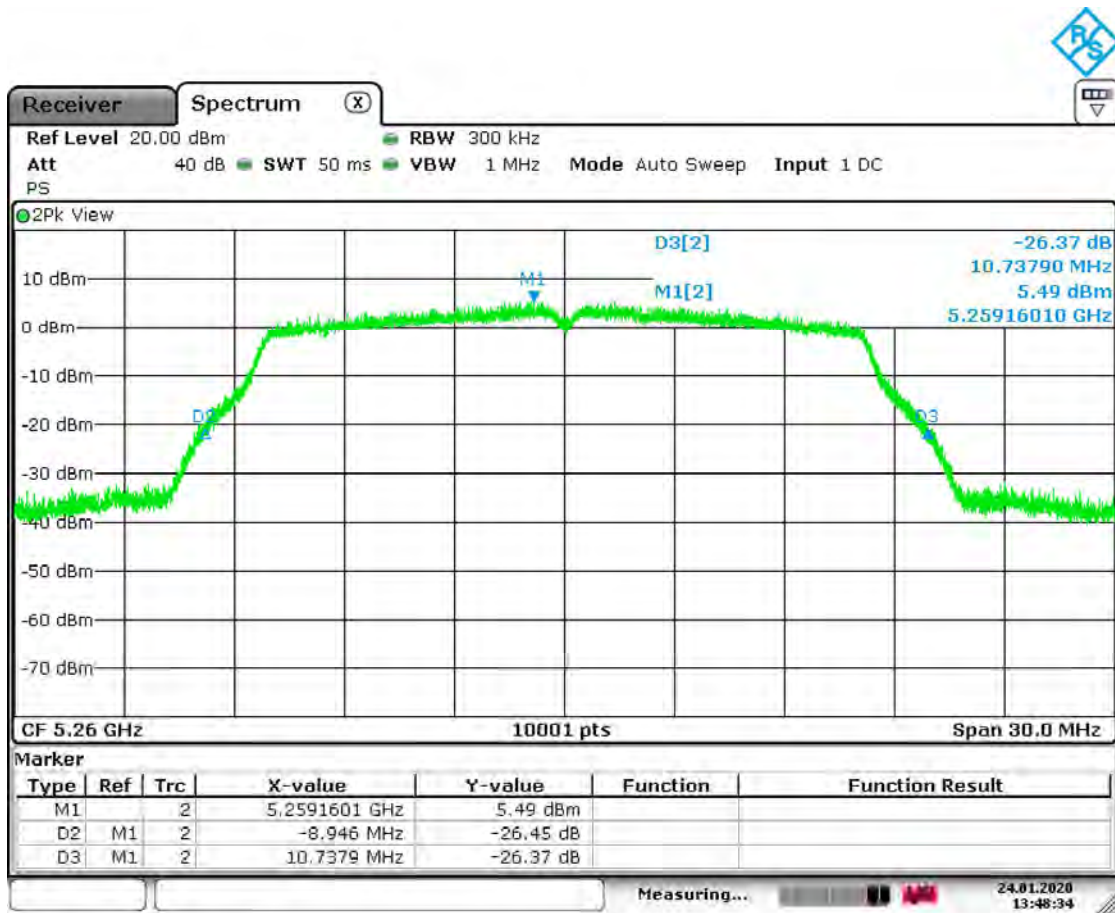
UNI II: CCK, -26dB OBW, High Channel



Date: 24.JAN.2020 13:38:27



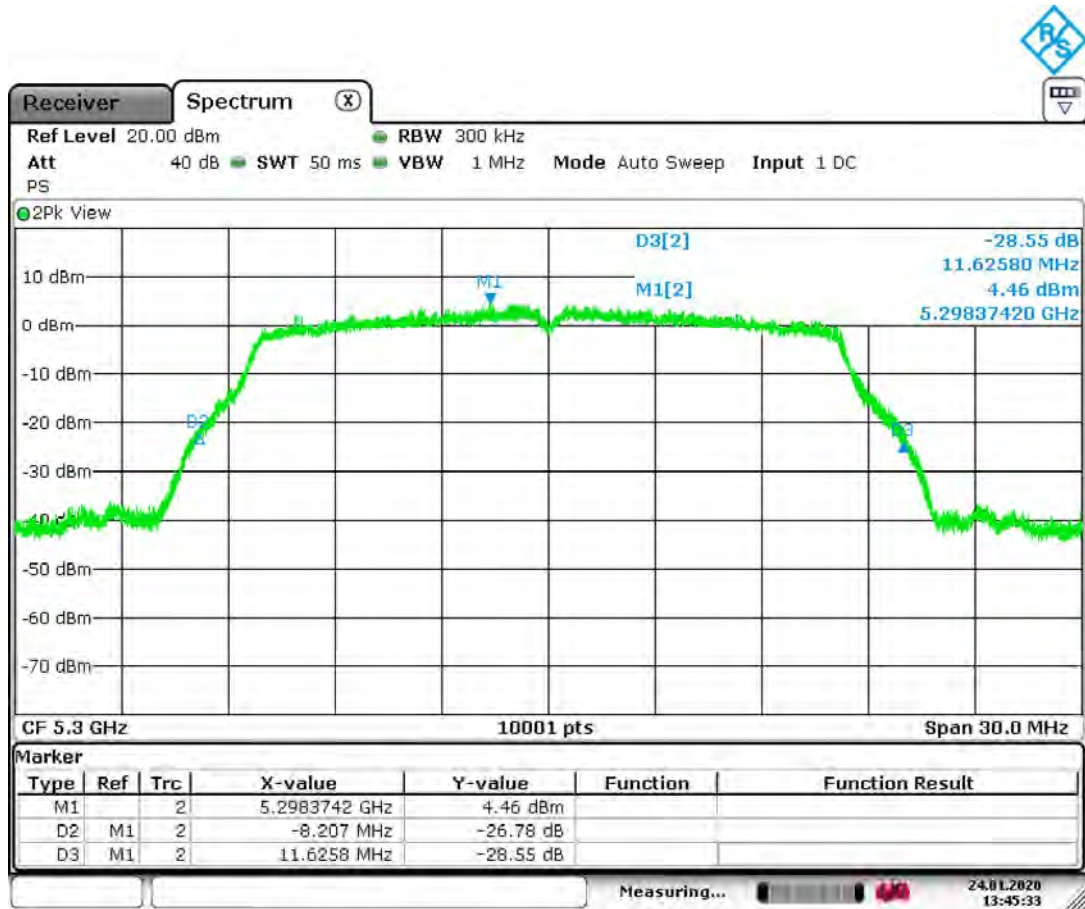
UNI II: OFDM, -26dB OBW, Low Channel



Date: 24, JAN. 2020 13:48:35



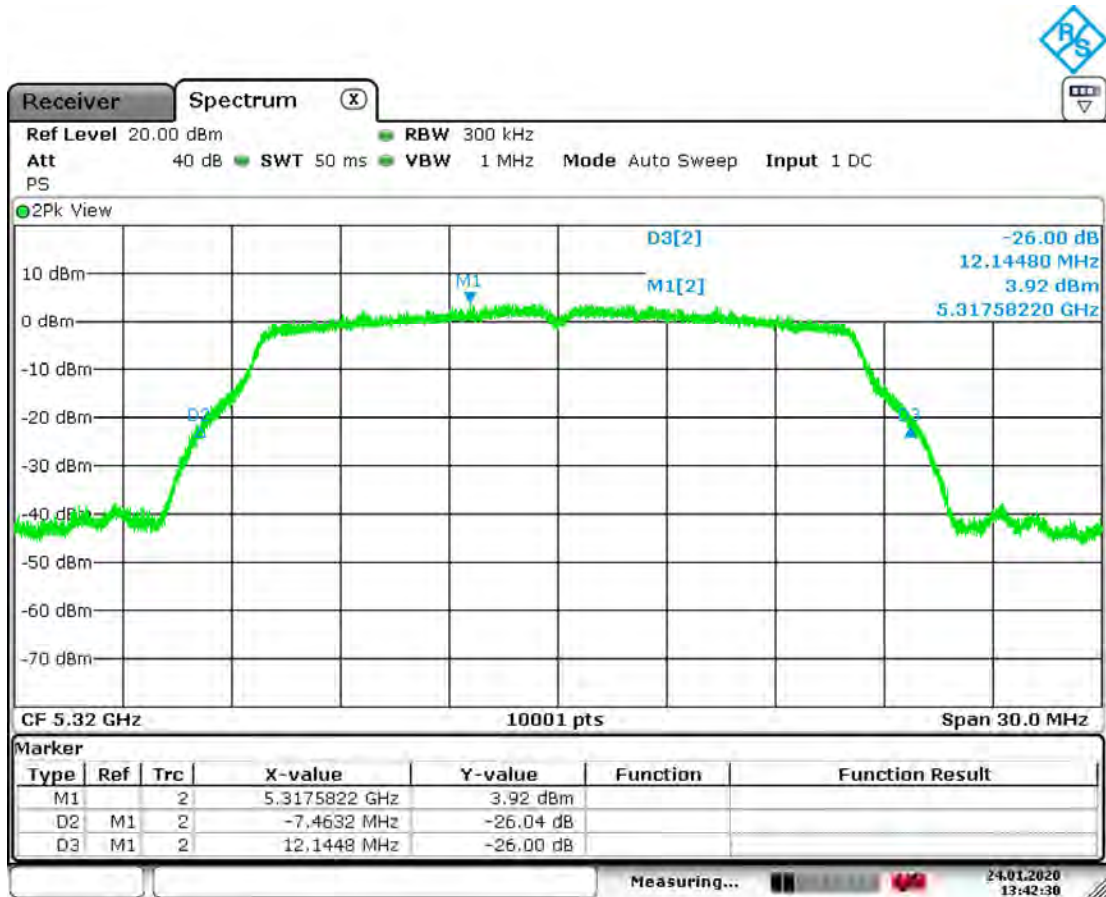
UNI II: OFDM, -26dB OBW, Mid Channel



Date: 24.JAN.2020 13:45:33



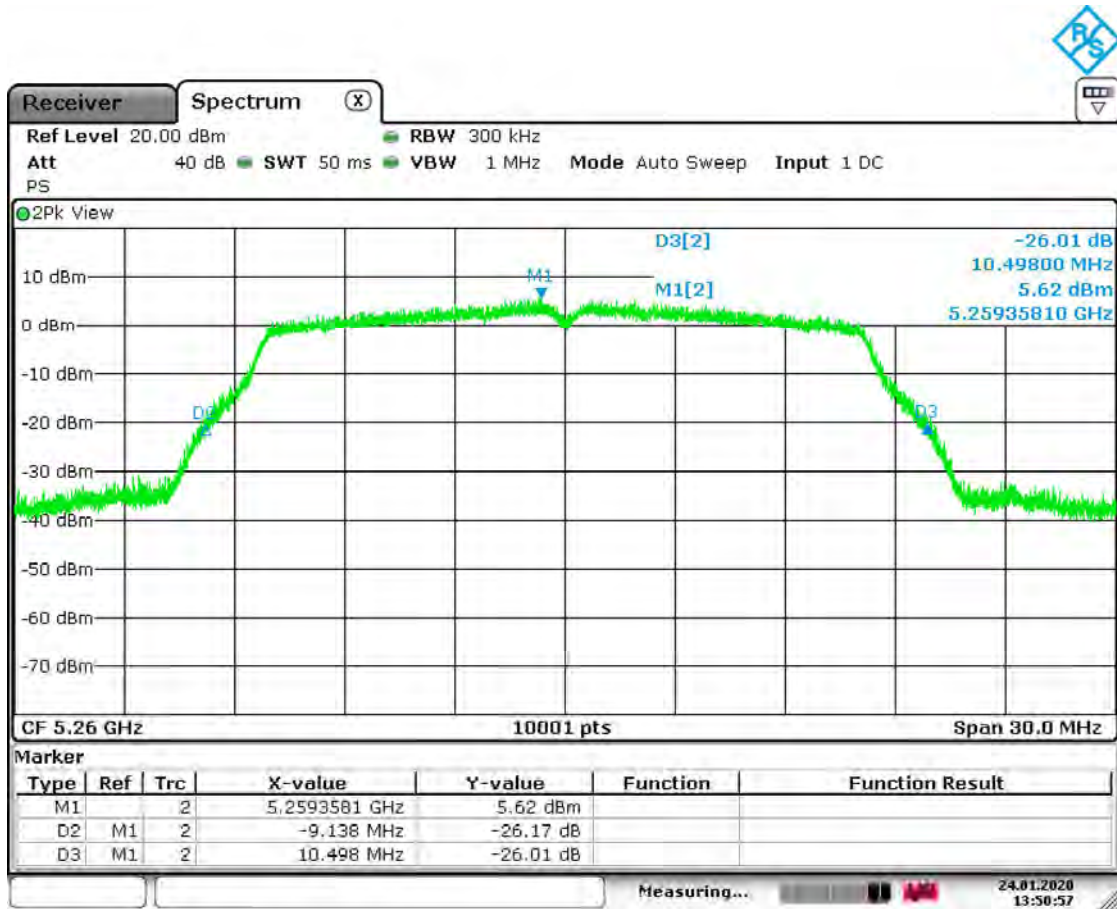
UNI II: OFDM, -26dB OBW, High Channel



Date: 24.JAN.2020 13:42:31



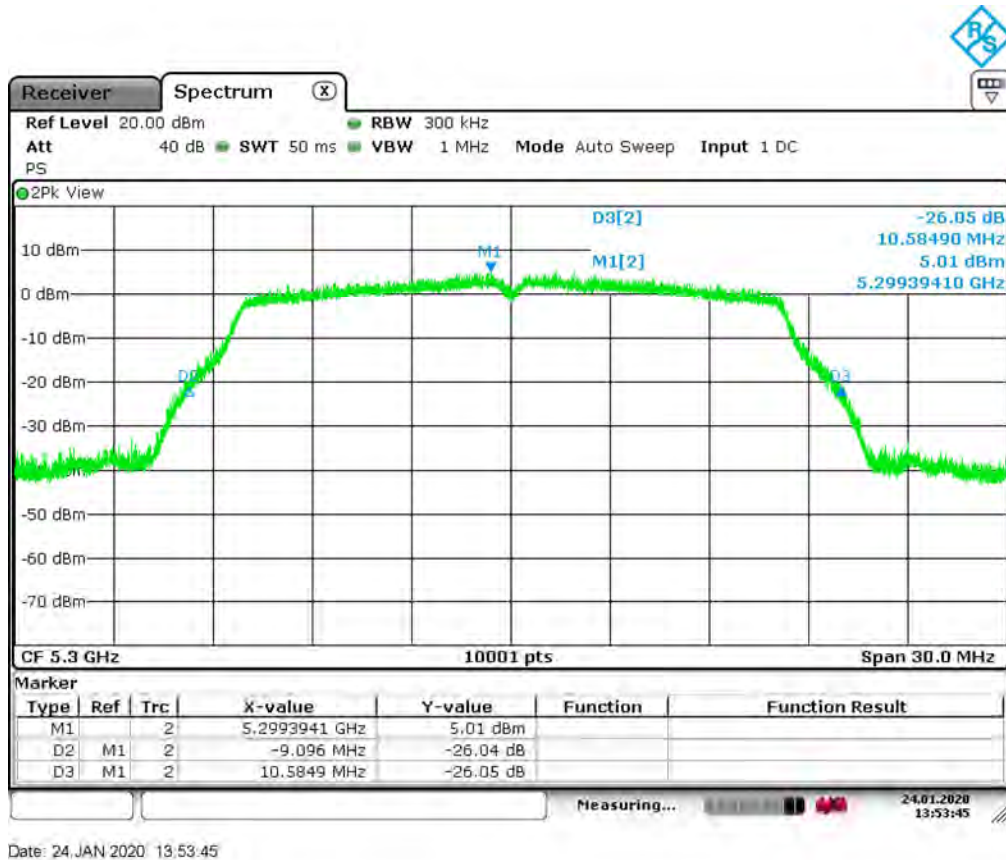
UNI II: MCS7, -26dB OBW, Low Channel



Date: 24.JAN.2020 13:50:58

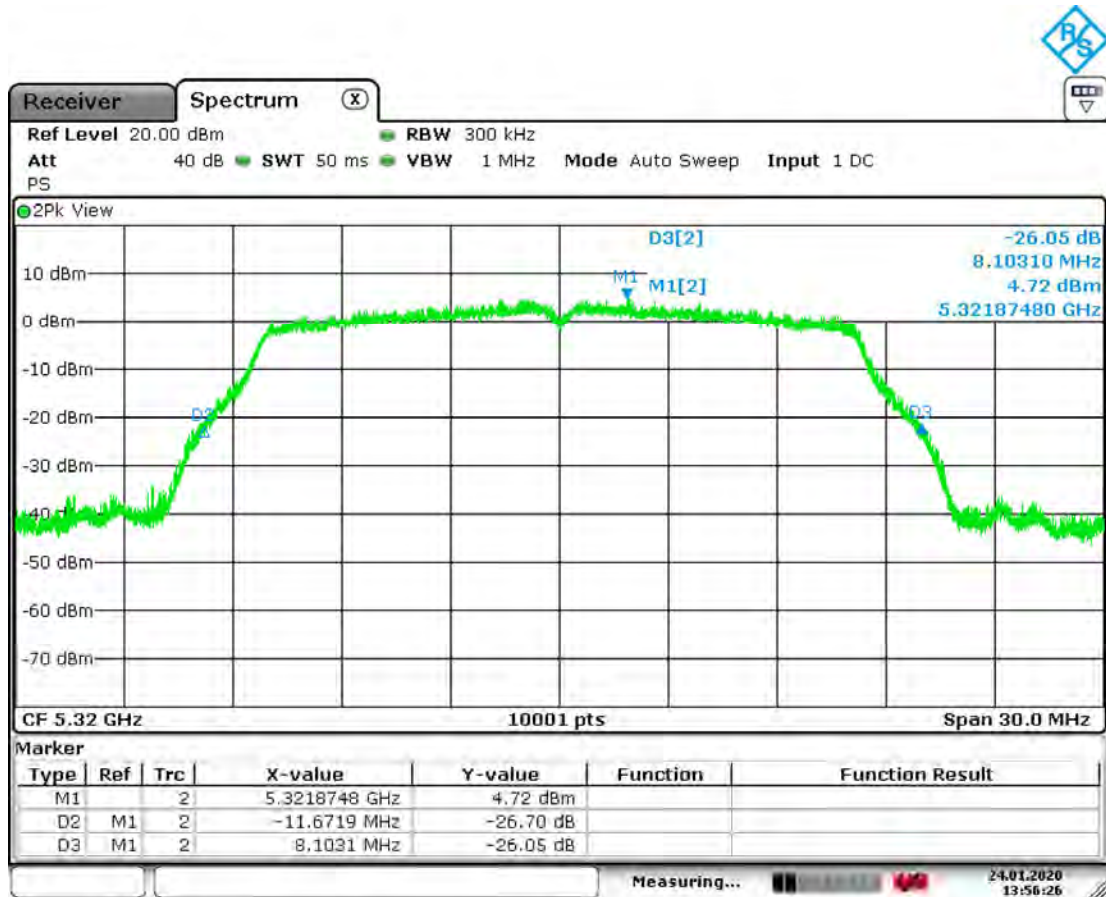


UNI II: MCS7, -26dB OBW, Mid Channel





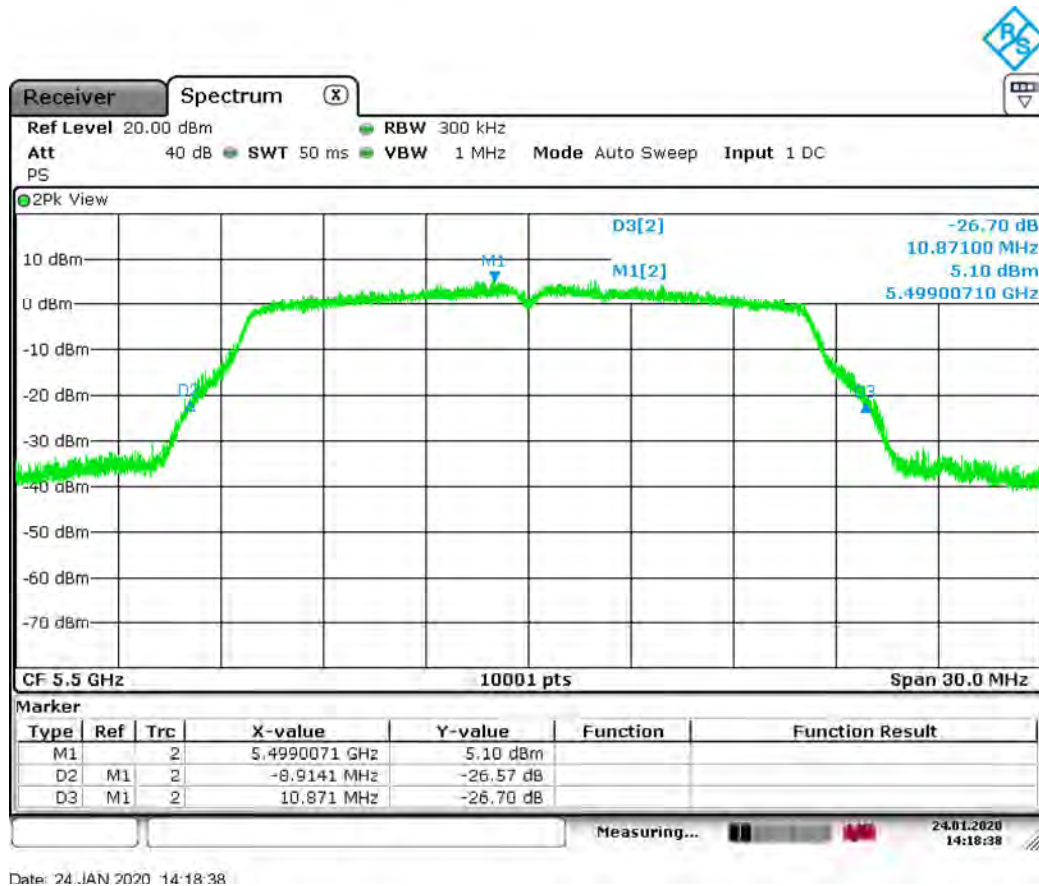
UNI II: MCS7, -26dB OBW, High Channel



Date: 24.JAN.2020 13:56:26



U-NII-2C: CCK, -26dB OBW, Low Channel

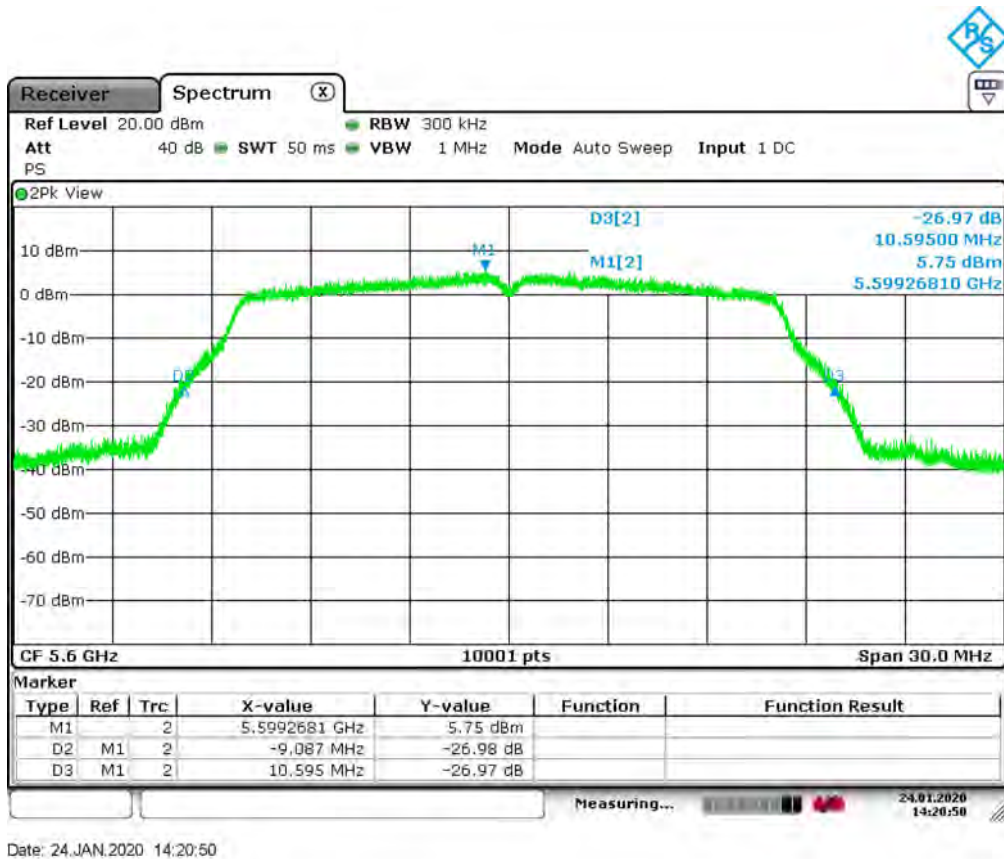




Order Number: F2P20567A-R1

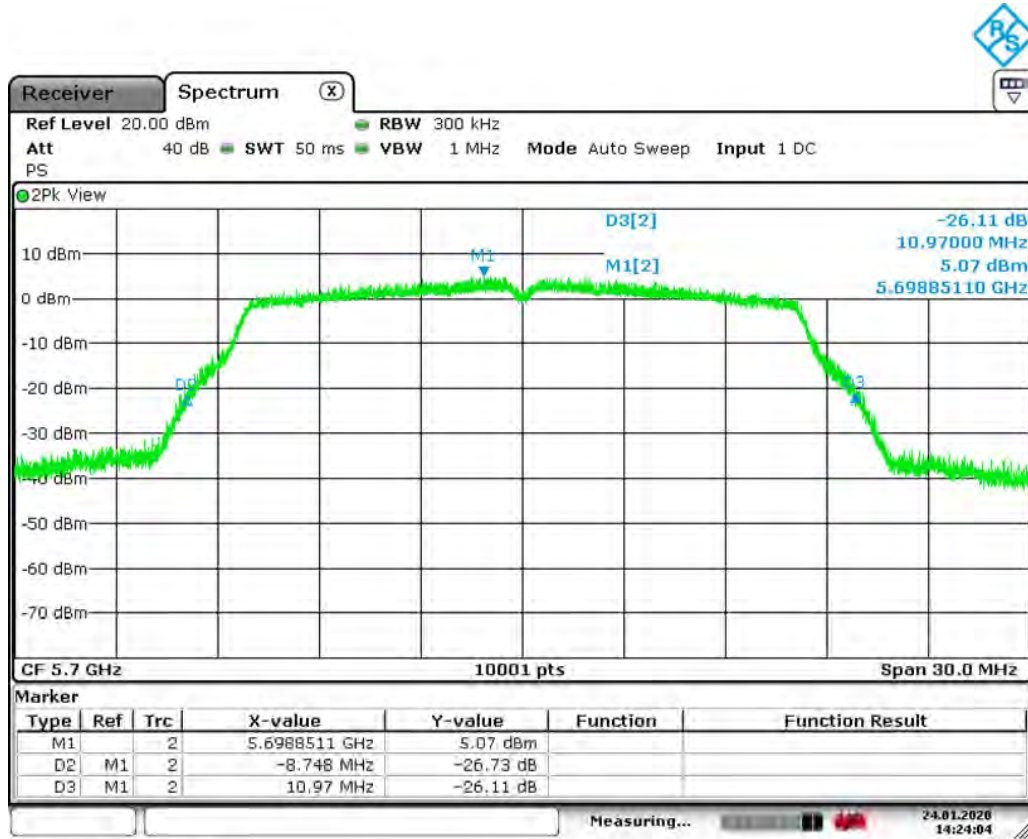
Applicant: Avnet Inc.  
FCC ID: 2AF62-AVT3620C

### 5 U-NII-2C: CCK, -26dB OBW, Mid Channel





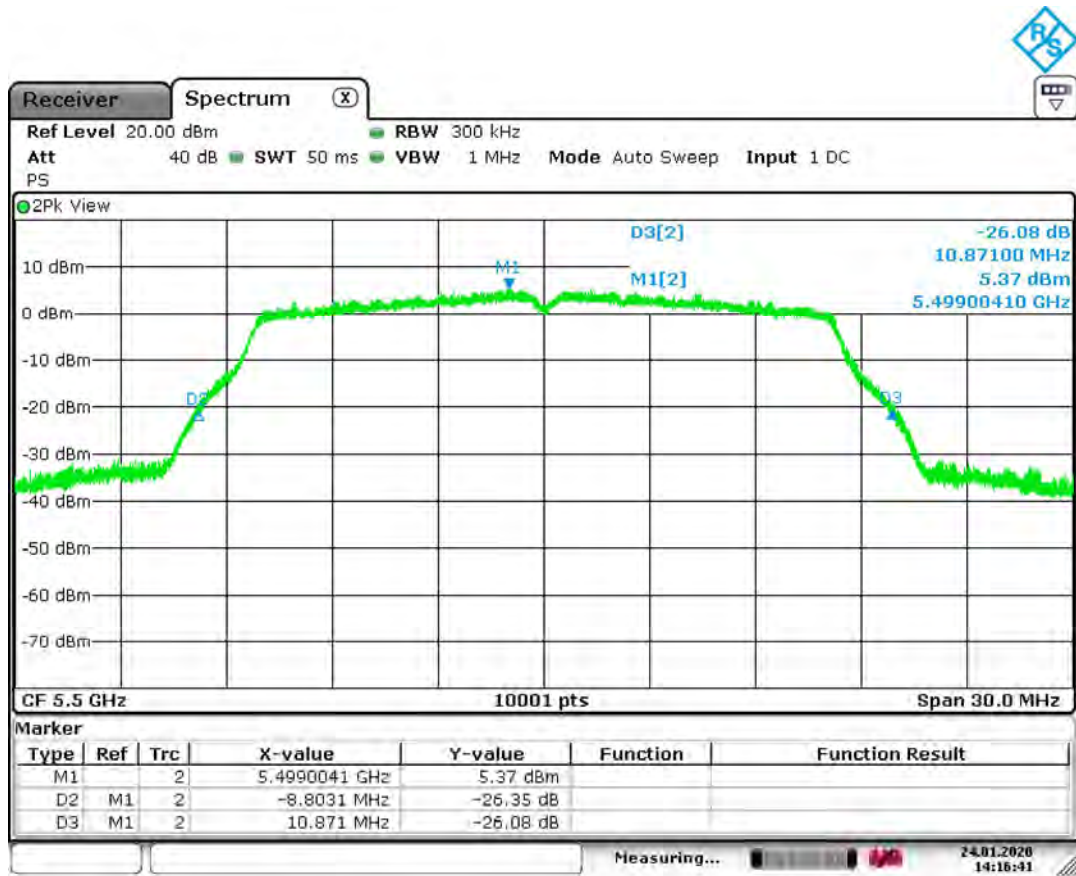
U-NII-2C: CCK, -26dB OBW, High Channel



Date: 24.JAN.2020 14:24:04



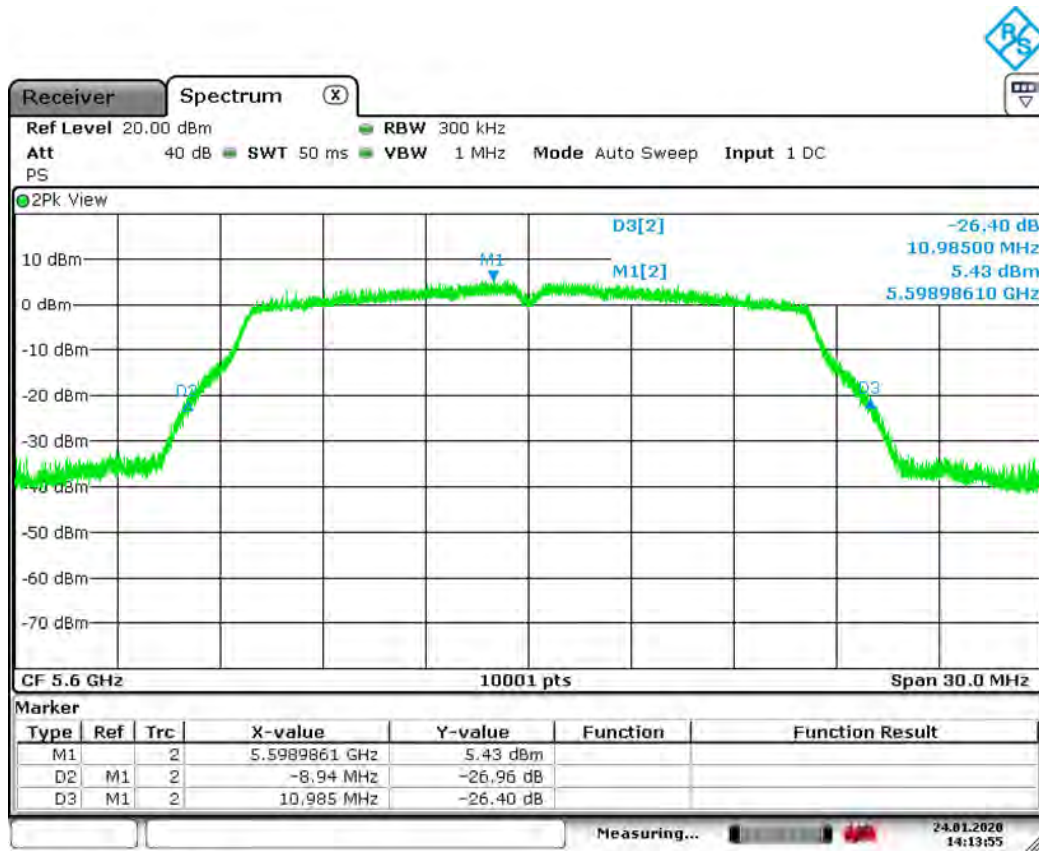
U-NII-2C: OFDM, -26dB OBW, Low Channel



Date: 24.JAN.2020 14:16:41



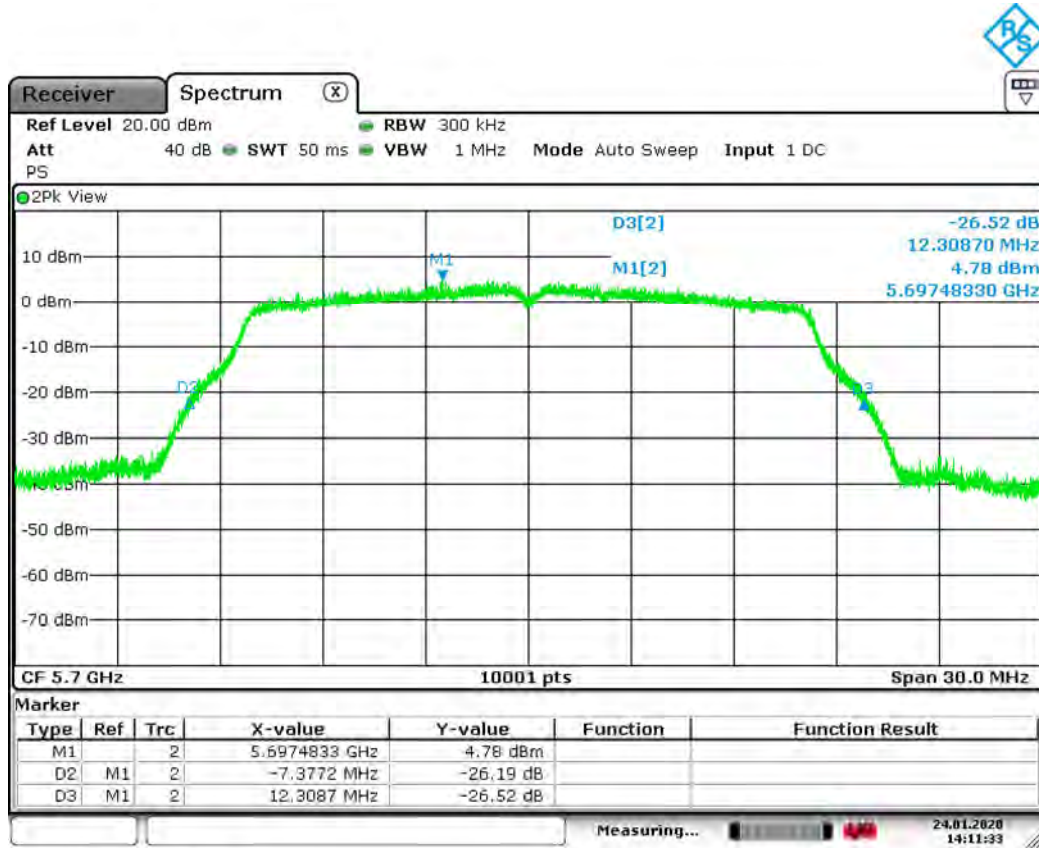
## U-NII-2C: OFDM, -26dB OBW, Mid Channel



Date: 24.JAN.2020 14:13:58



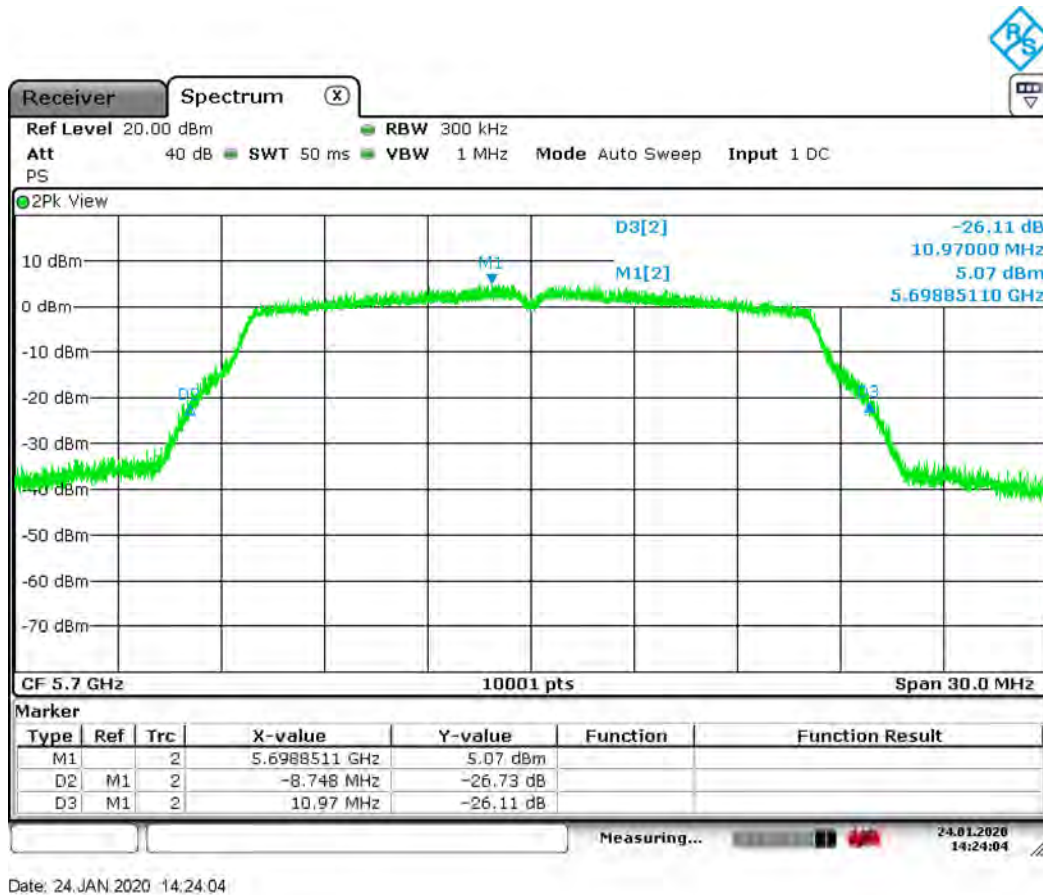
## U-NII-2C: OFDM, -26dB OBW, High Channel



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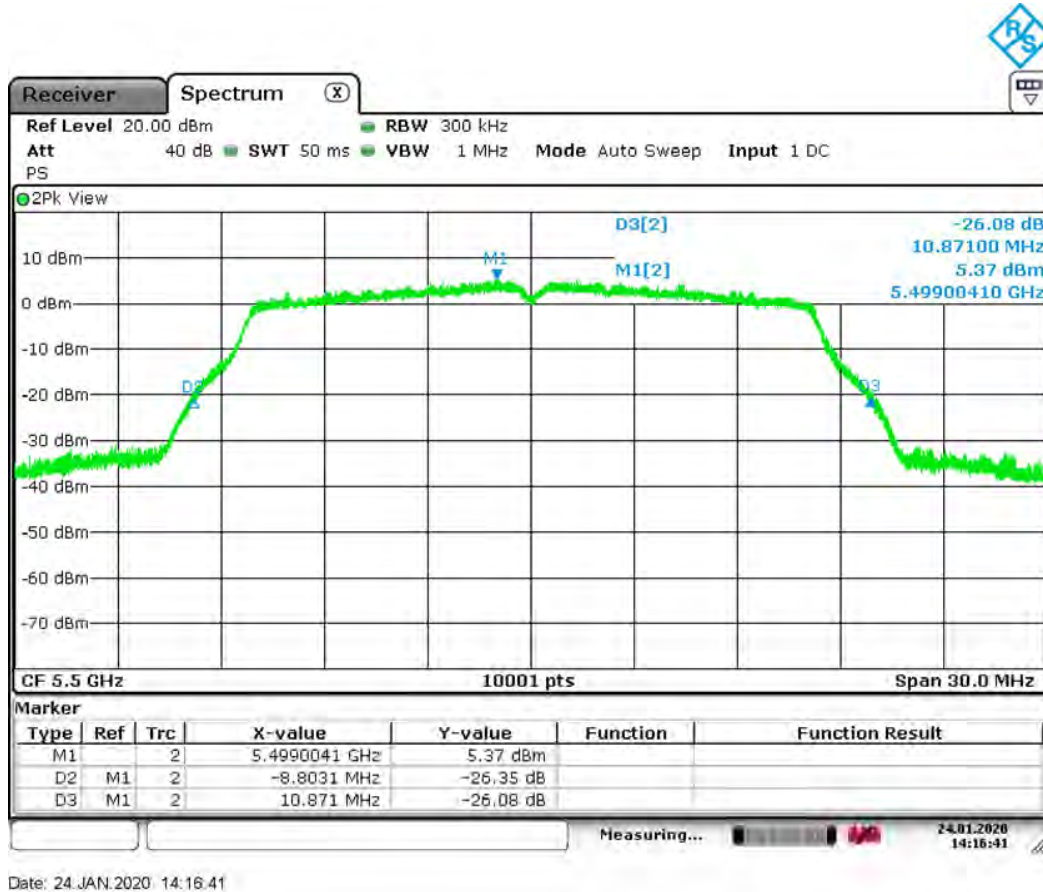


U-NII-2C: MCS7, -26dB OBW, Low Channel



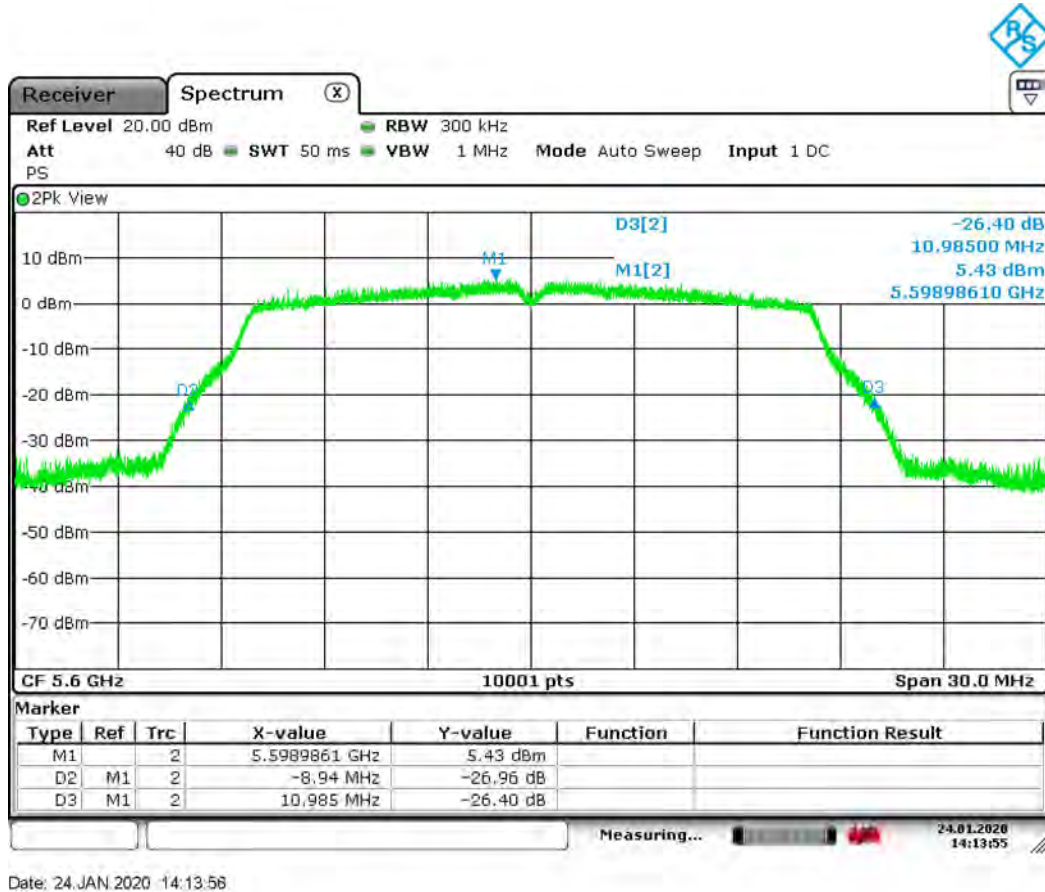


U-NII-2C: MCS7, -26dB OBW, Mid Channel





U-NII-2C: MCS7, -26dB OBW, High Channel





## 8 OUTPUT POWER

The EUT antenna port was fitted with an SMA connector and directly connected to the input of the receiver.

### **Requirements:**

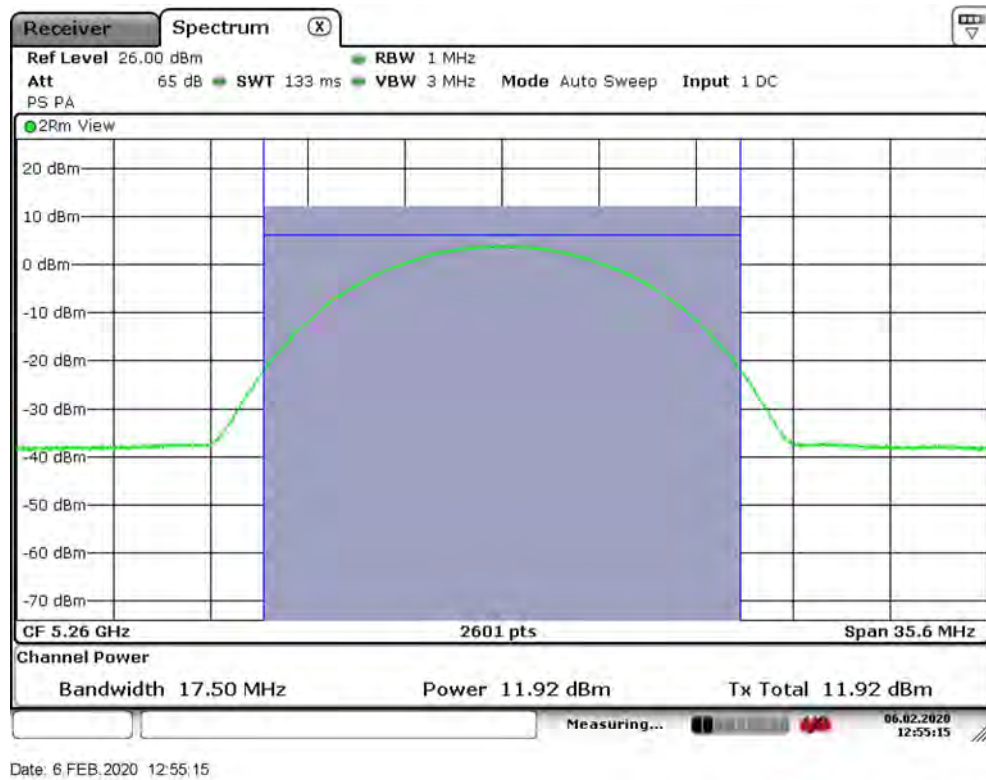
For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW (24 dBm) provided the maximum antenna gain does not exceed 6 dBi.



## 8.2 Output Power Test Data

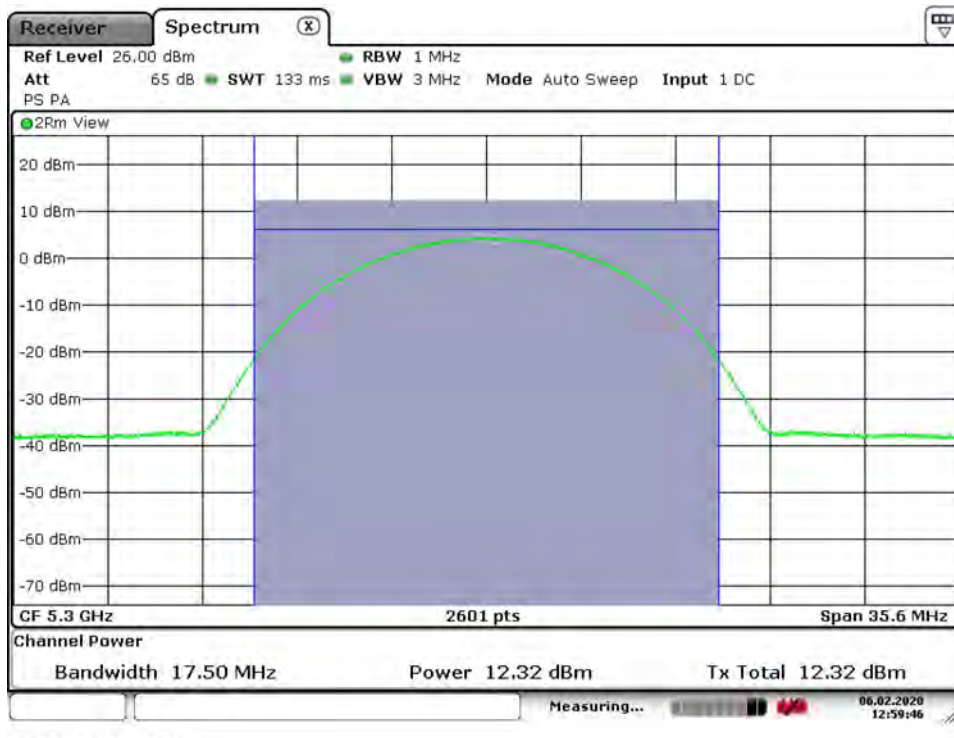
|                   |                                          |                           |            |
|-------------------|------------------------------------------|---------------------------|------------|
| <b>Test Date:</b> | Feb. 6, 2020                             | <b>Test Engineer:</b>     | J. Chiller |
| <b>Standards:</b> | CFR 47 Part 15.407(a)(1,3);<br>KDB789033 | <b>Air Temperature:</b>   | 21.9°C     |
|                   |                                          | <b>Relative Humidity:</b> | 33%        |

## U-NII-2A, CCK, Low Channel





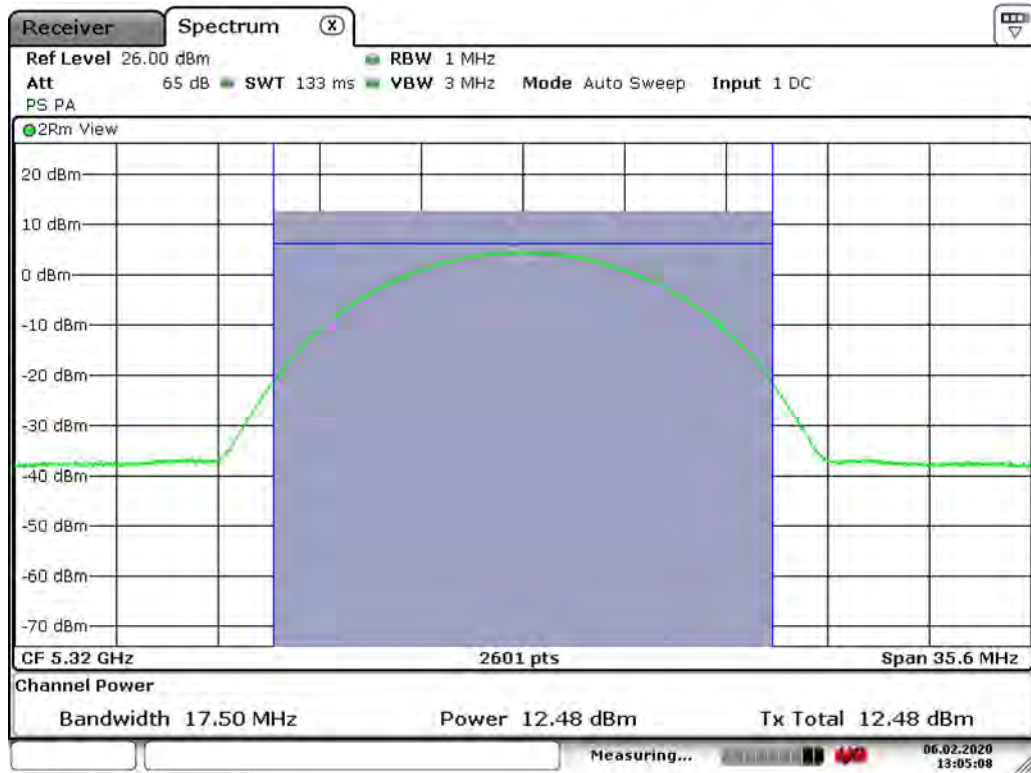
U-NII-2A, CCK, Mid Channel



Date: 6.FEB.2020 12:59:46



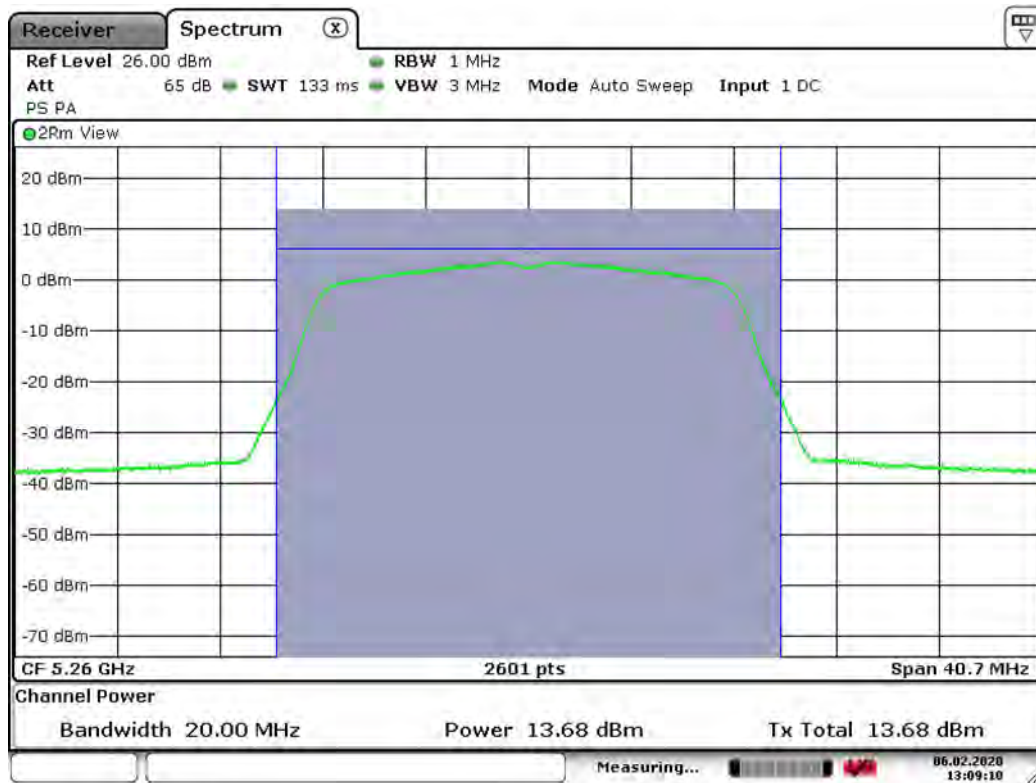
U-NII-2A, CCK, High Channel



Date: 6.FEB.2020 13:05:08



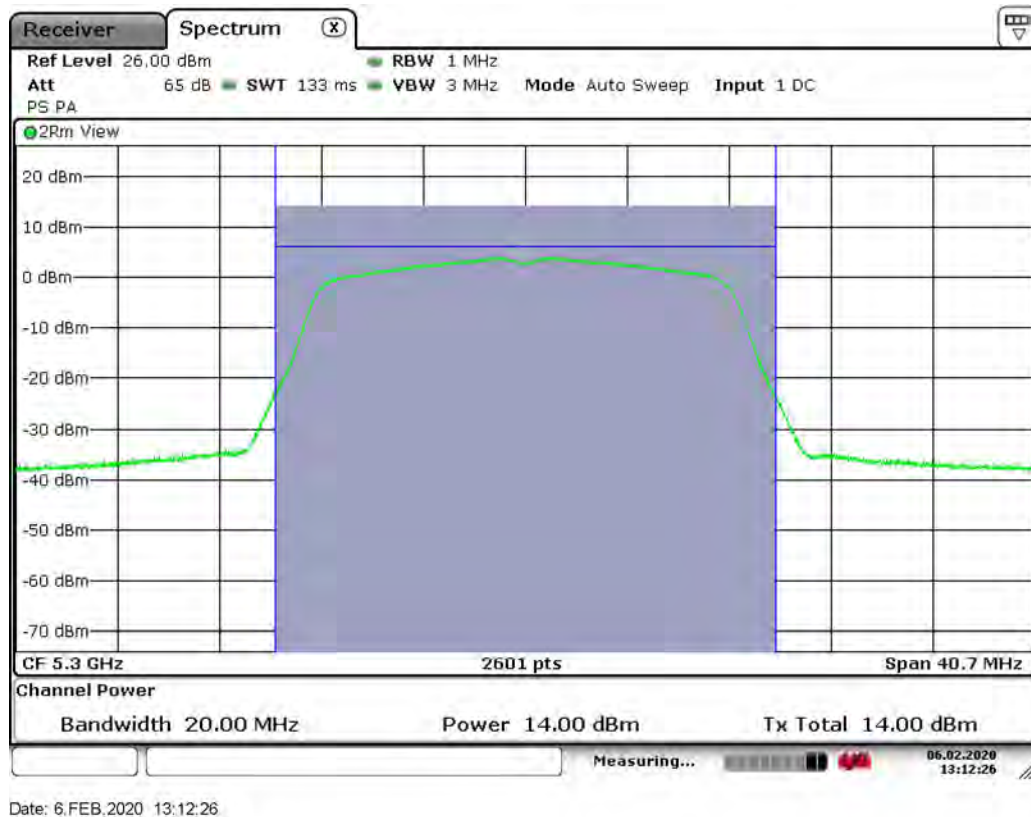
U-NII-2A, OFDM, Low Channel



Date: 6.FEB.2020 13:09:10



U-NII-2A, OFDM, Mid Channel





U-NII-2A, OFDM, High Channel





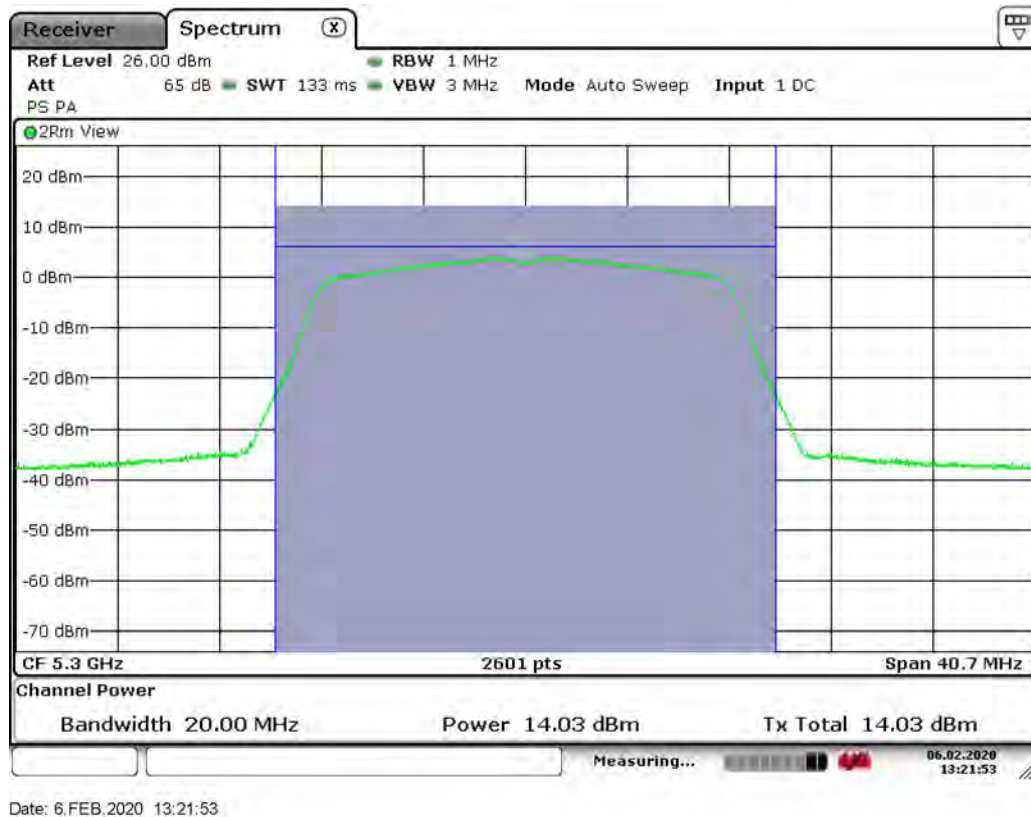
### U-NII-2A, MCS7, Low Channel



Date: 6.FEB.2020 13:18:35

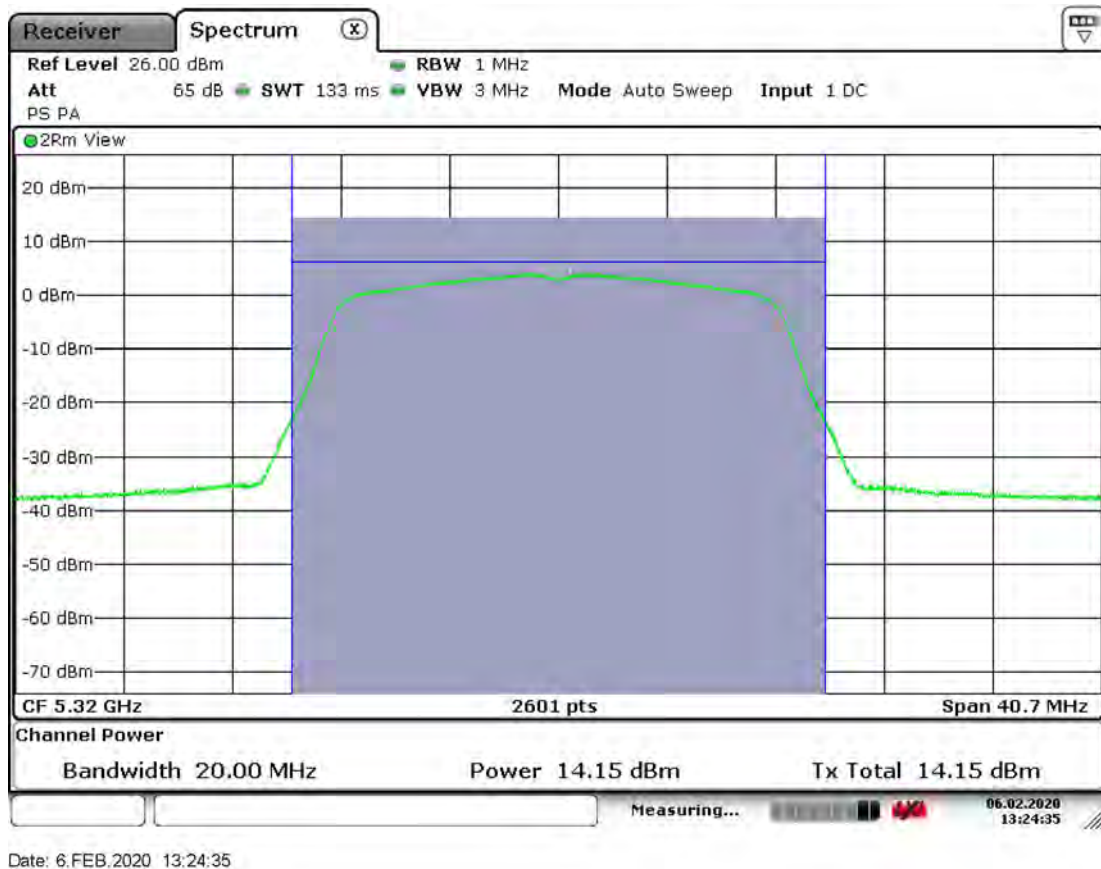


U-NII-2A, MCS7, Mid Channel



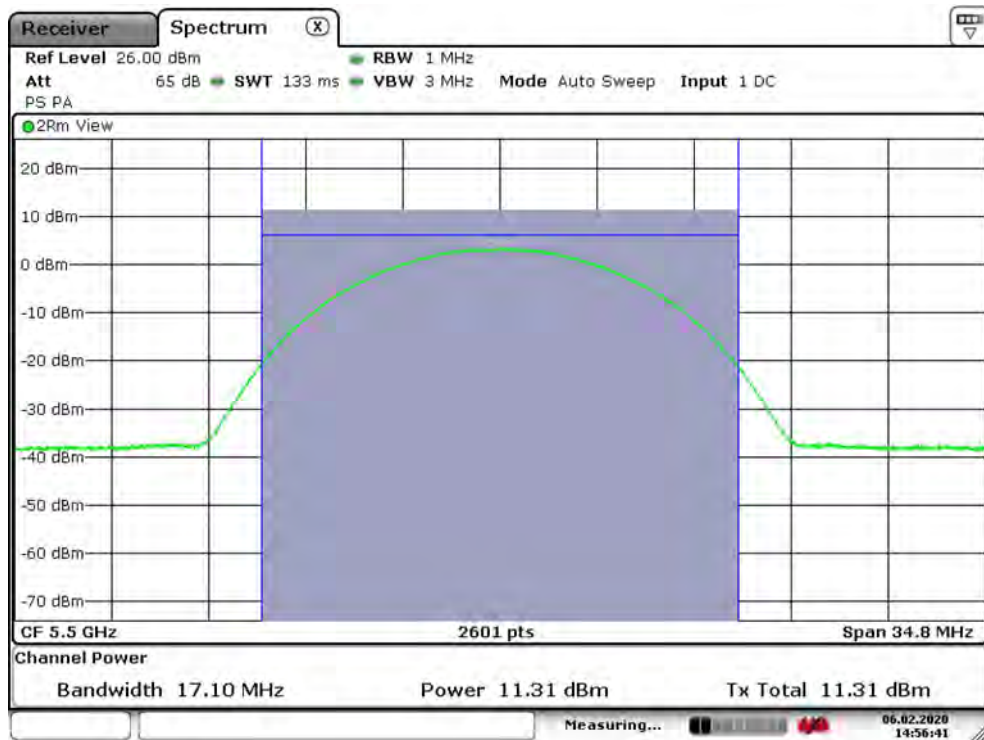


U-NII-2A, MCS7, High Channel





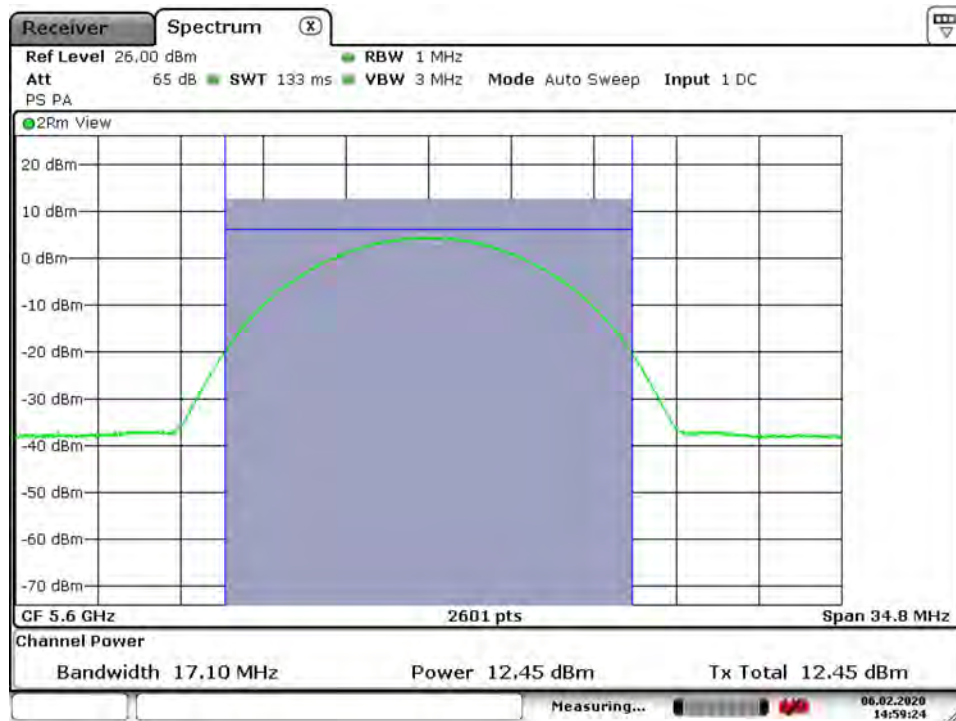
U-NII-2C, CCK, Low Channel



Date: 6 FEB. 2020 14:56:42



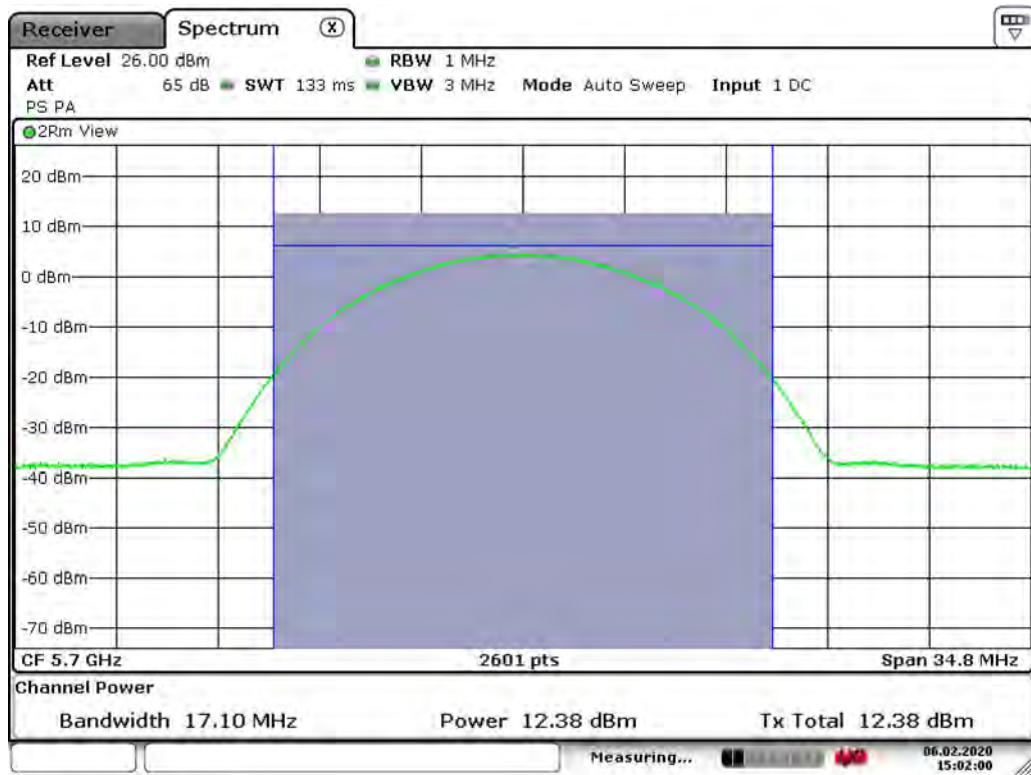
U-NII-2C, CCK, Mid Channel



Date: 6.FEB.2020 14:59:24



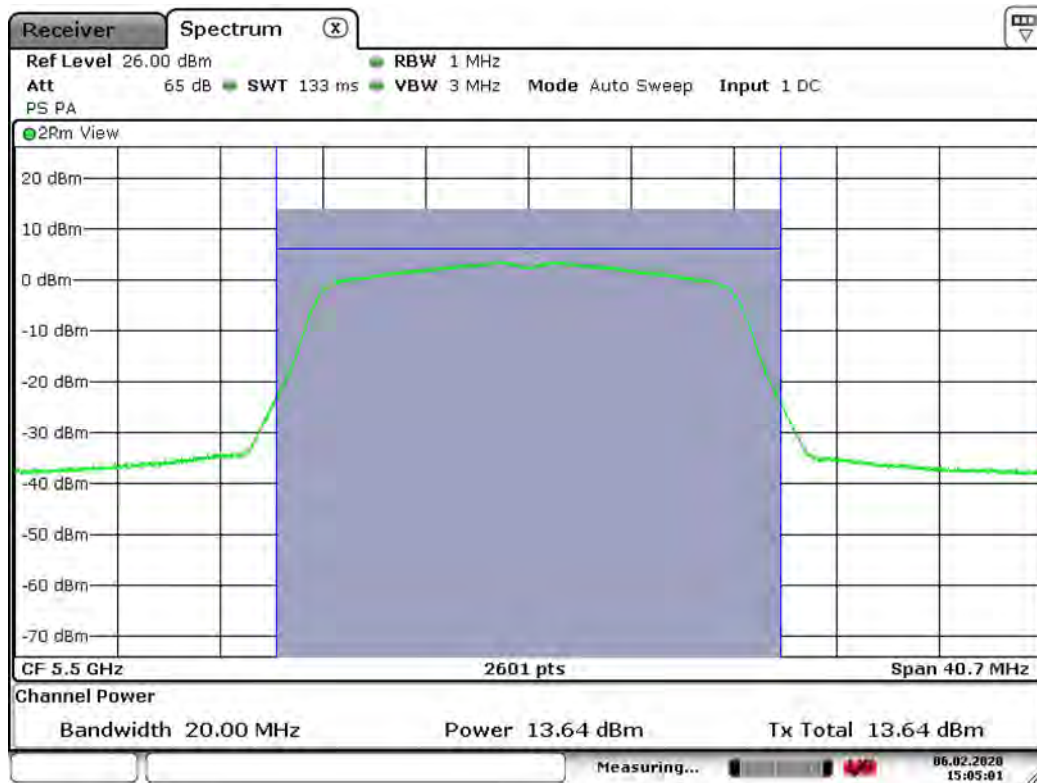
U-NII-2C, CCK, High Channel



Date: 6.FEB.2020 15:02:00



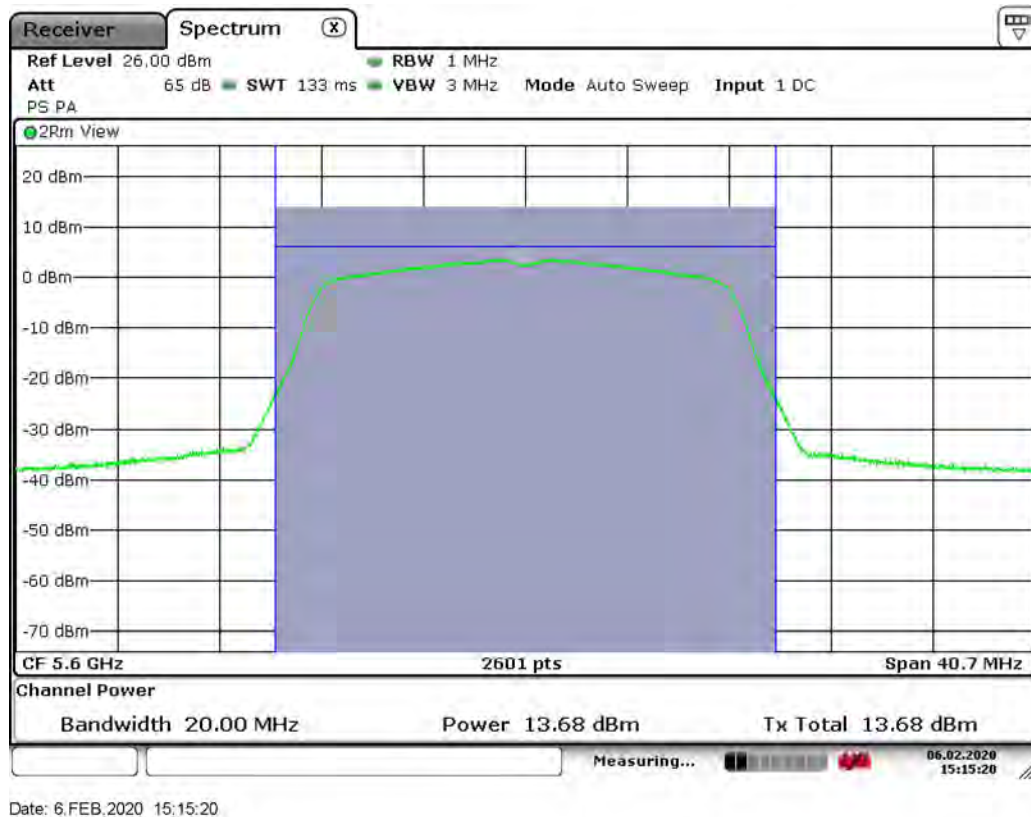
U-NII-2C, OFDM, Low Channel



Date: 6.FEB.2020 15:05:02

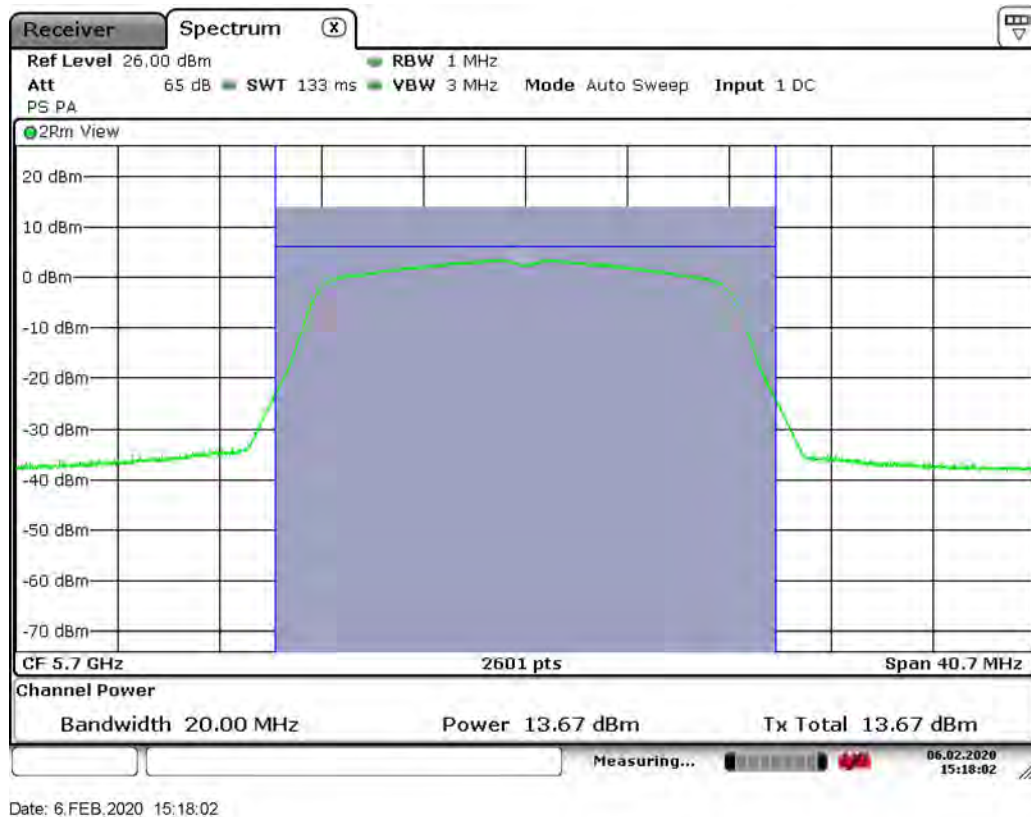


U-NII-2C, OFDM, Mid Channel



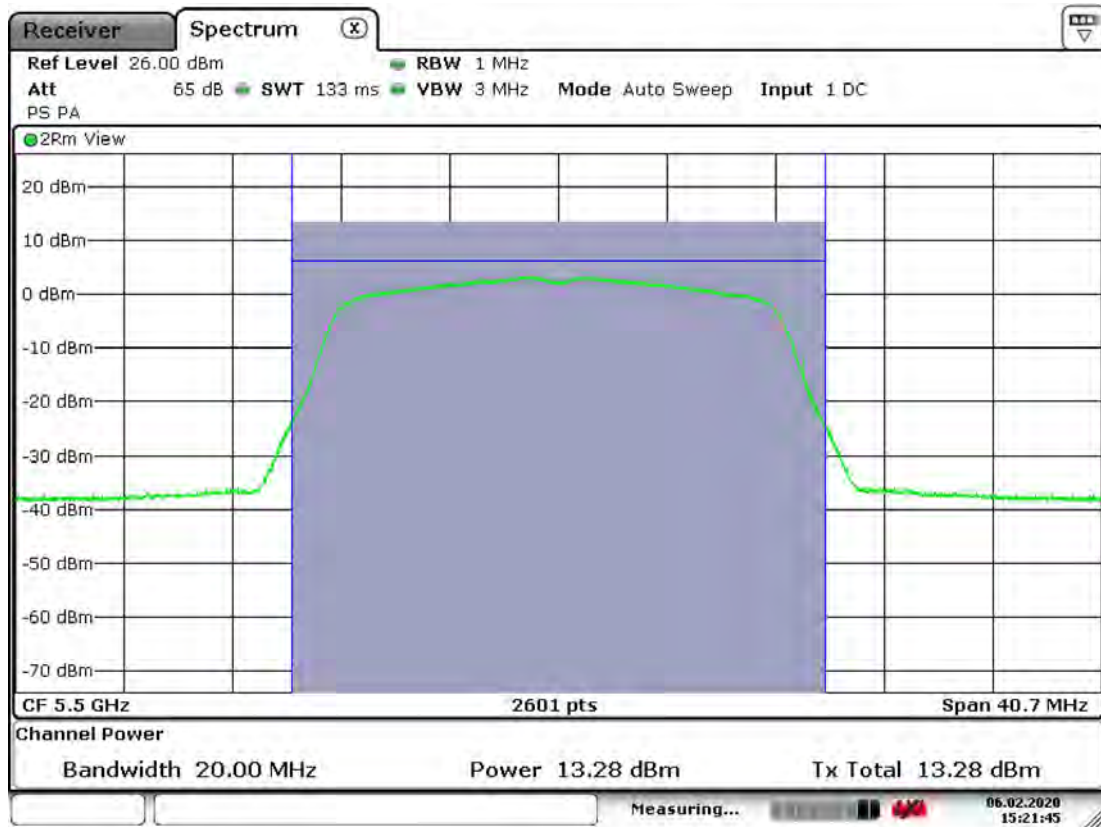


### U-NII-2C, OFDM, High Channel





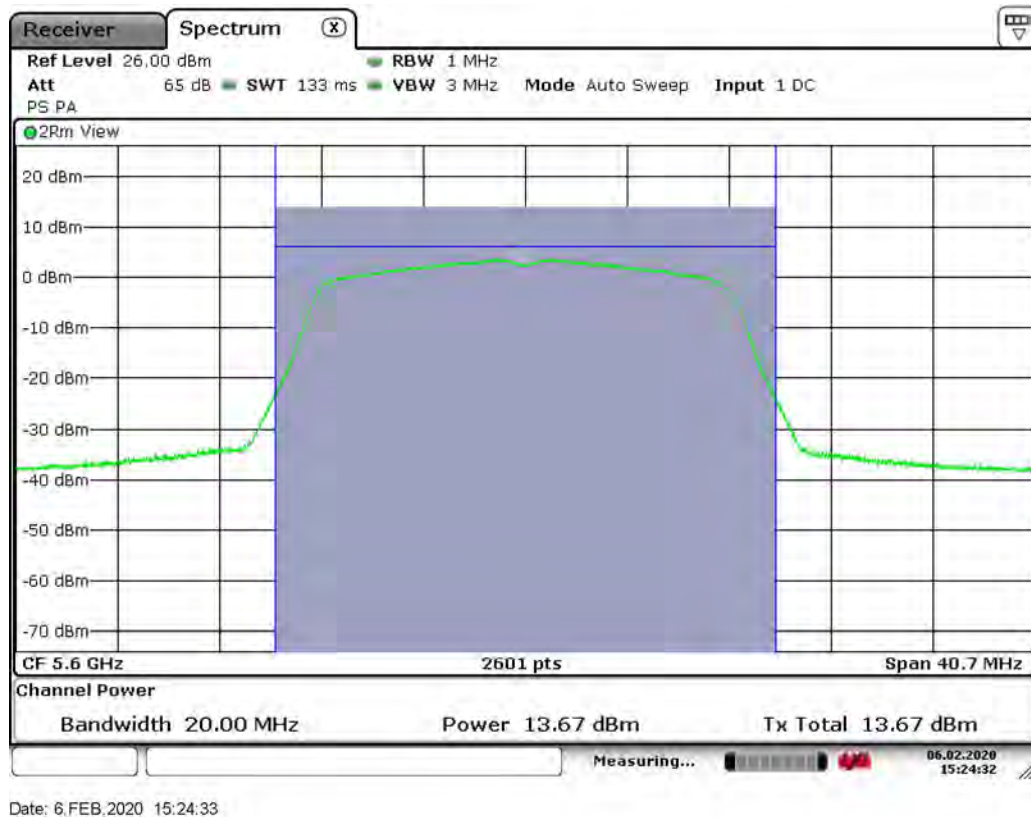
U-NII-2C, MCS7, Low Channel



Date: 6.FEB.2020 15:21:45

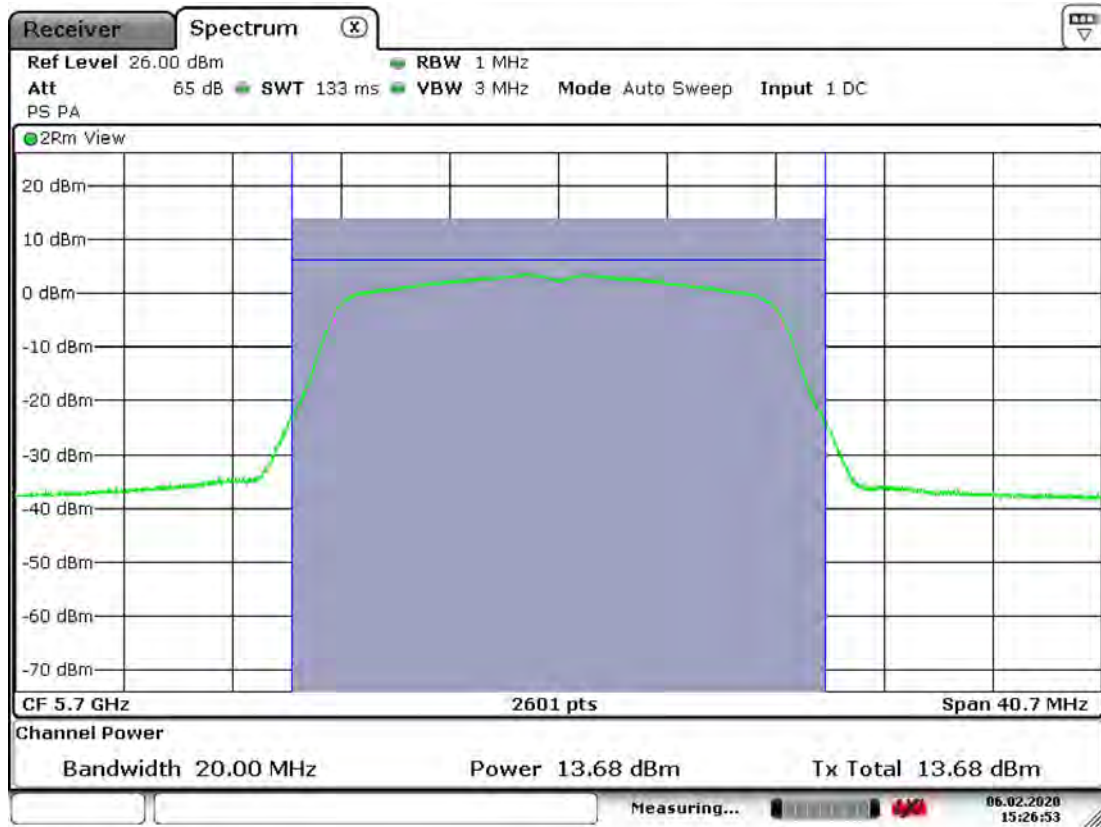


U-NII-2C, MCS7, Mid Channel





U-NII-2C, MCS7, High Channel



Date: 6.FEB.2020 15:26:54



## 9 PEAK POWER SPECTRAL DENSITY (PSD)

Peak power spectral density measurements were performed.

### 9.1 Requirements:

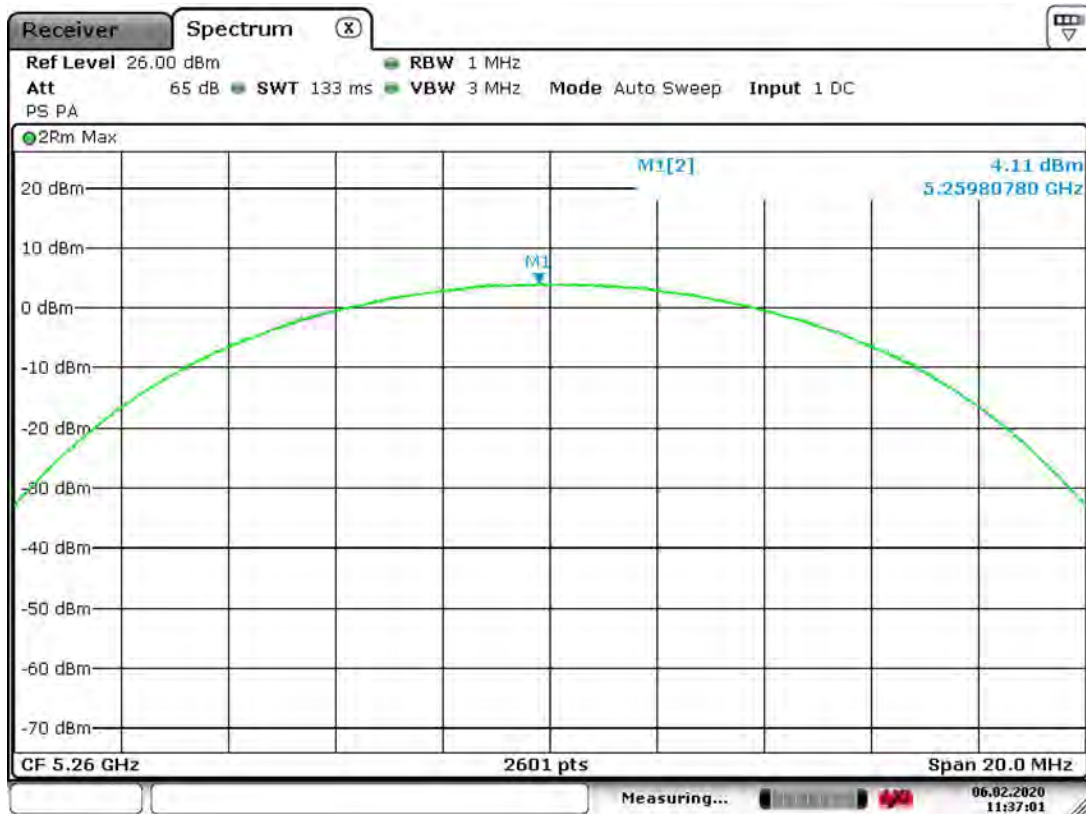
For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or  $11 \text{ Bm} + 10 \log B$ , where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.



## 9.2 Peak Power Spectral Density Test Data

|               |                                          |                    |            |
|---------------|------------------------------------------|--------------------|------------|
| Test Date(s): | Feb. 6, 2020                             | Test Engineer:     | J. Chiller |
| Standards:    | CFR 47 Part 15.407(a)(1,3);<br>KDB789033 | Air Temperature:   | 22.9°C     |
|               |                                          | Relative Humidity: | 33%        |

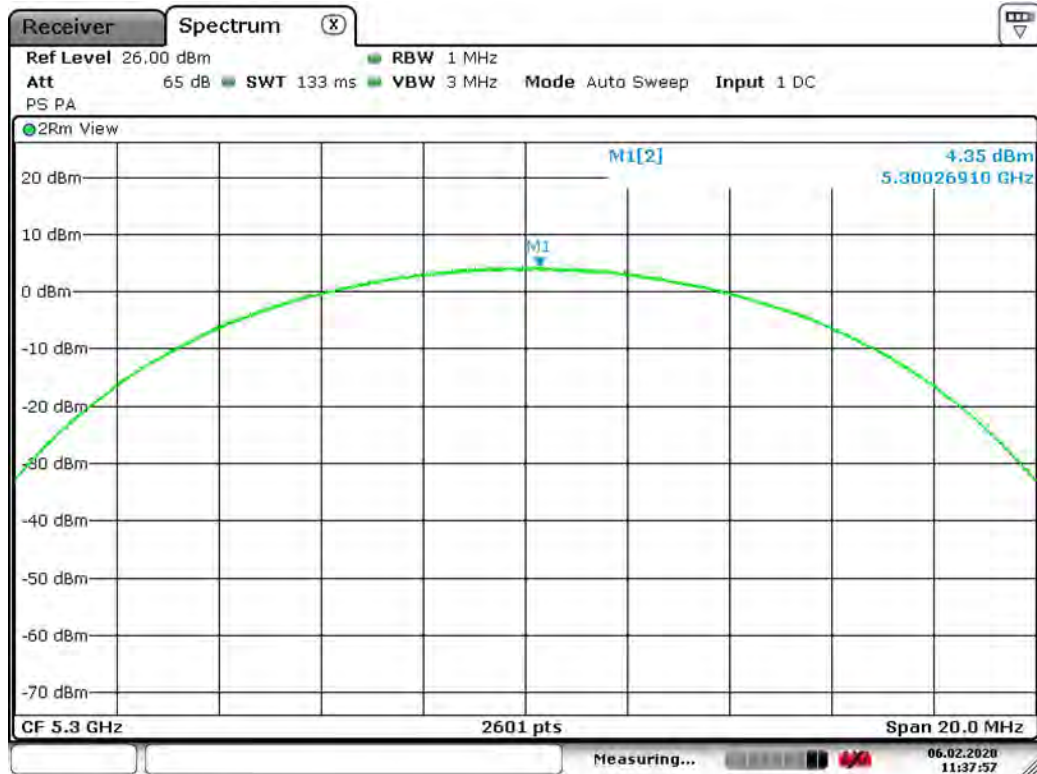
## U-NII-2A, CCK, Low Channel



Date: 6.FEB.2020 11:37:01



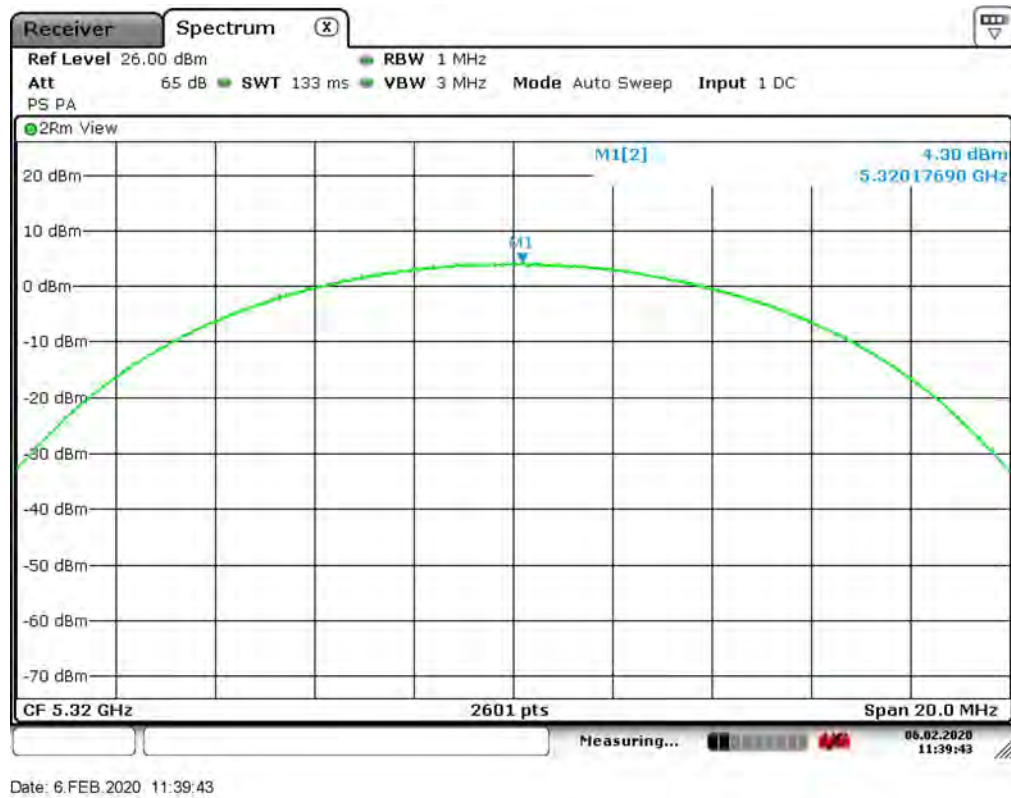
U-NII-2A, CCK, Mid Channel



Date: 6.FEB.2020 11:37:57

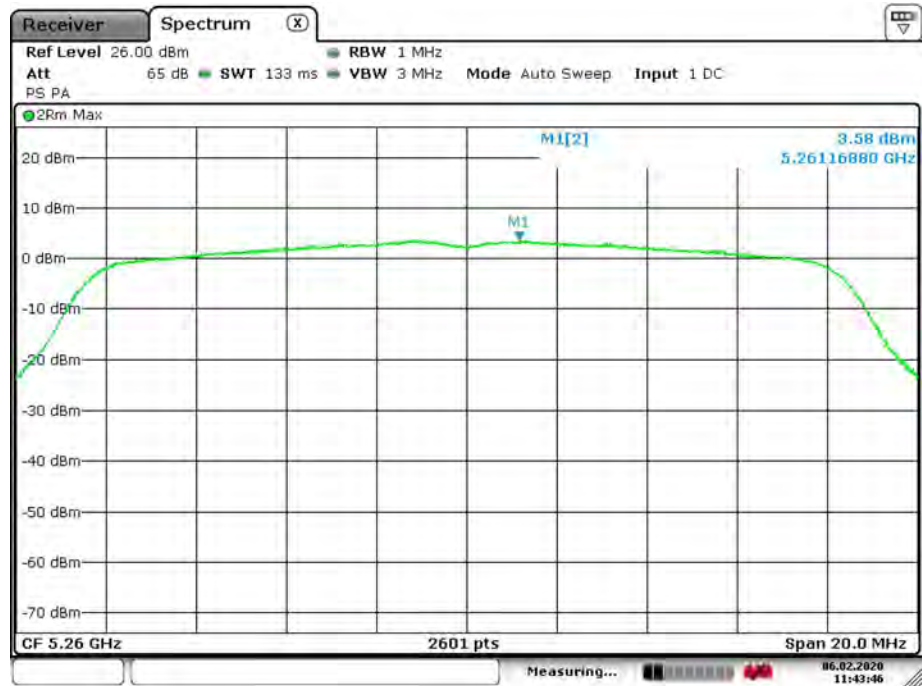


U-NII-2A, CCK, High Channel





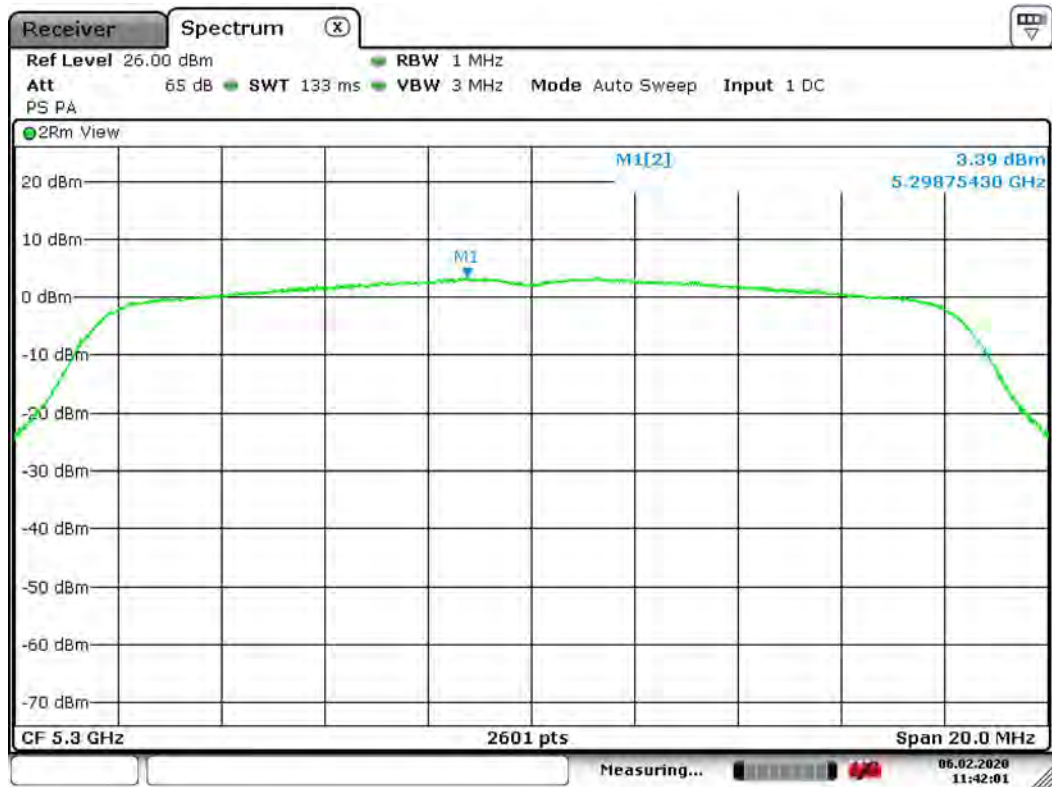
### U-NII-2A, OFDM, Low Channel



Date: 6.FEB.2020 11:43:47



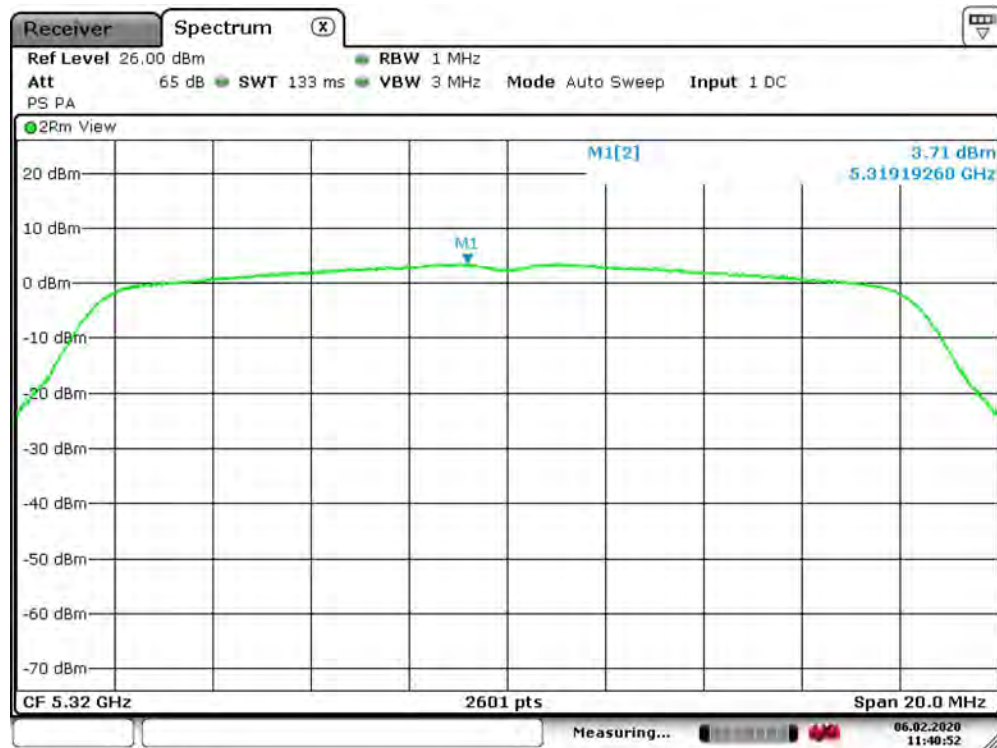
U-NII-2A, OFDM, Mid Channel



Date: 6.FEB.2020 11:42:01



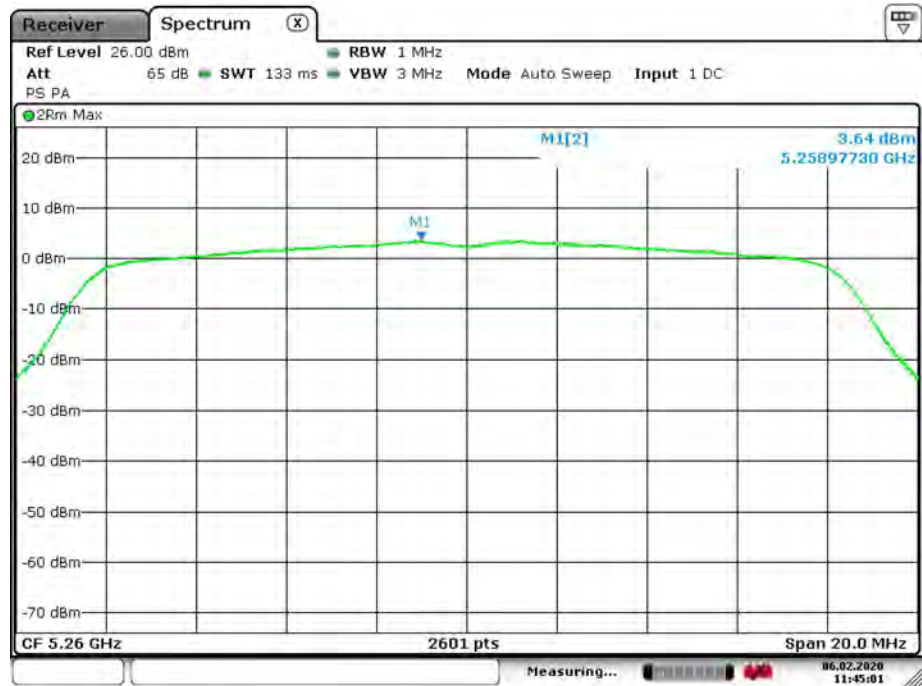
### U-NII-2A, OFDM, High Channel



Date: 6.FEB.2020 11:40:52



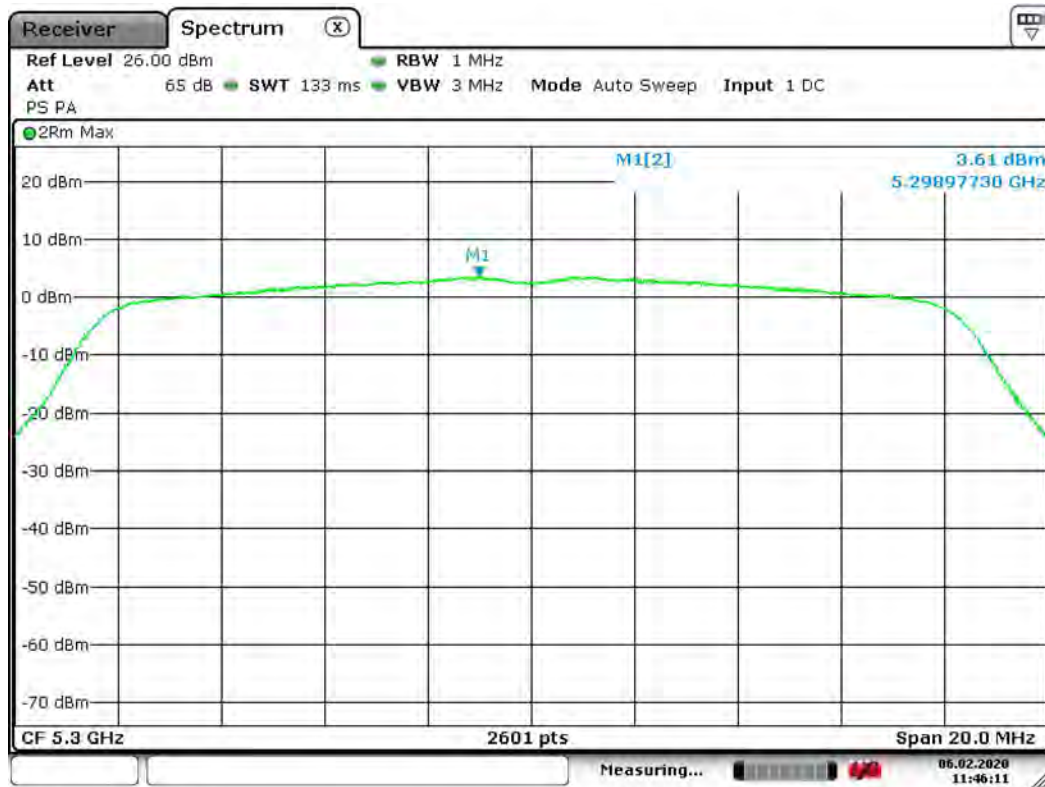
U-NII-2A, MCS7, Low Channel



Date: 6.FEB.2020 11:45:02



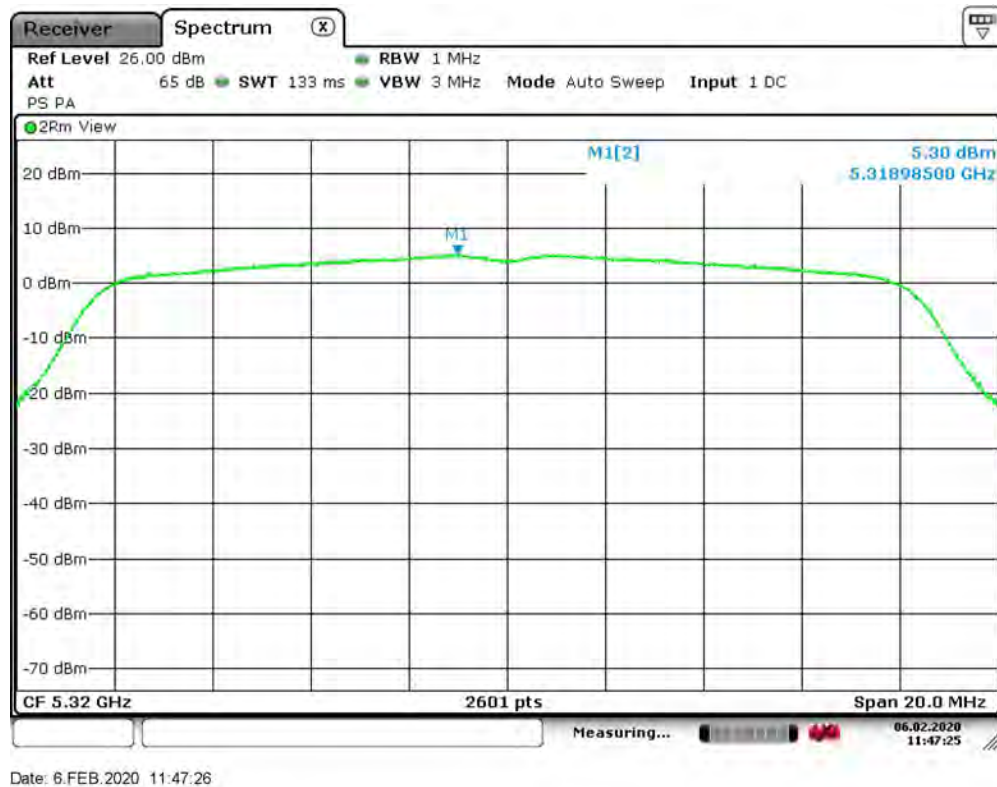
U-NII-2A, MCS7, Mid Channel



Date: 6.FEB.2020 11:46:11

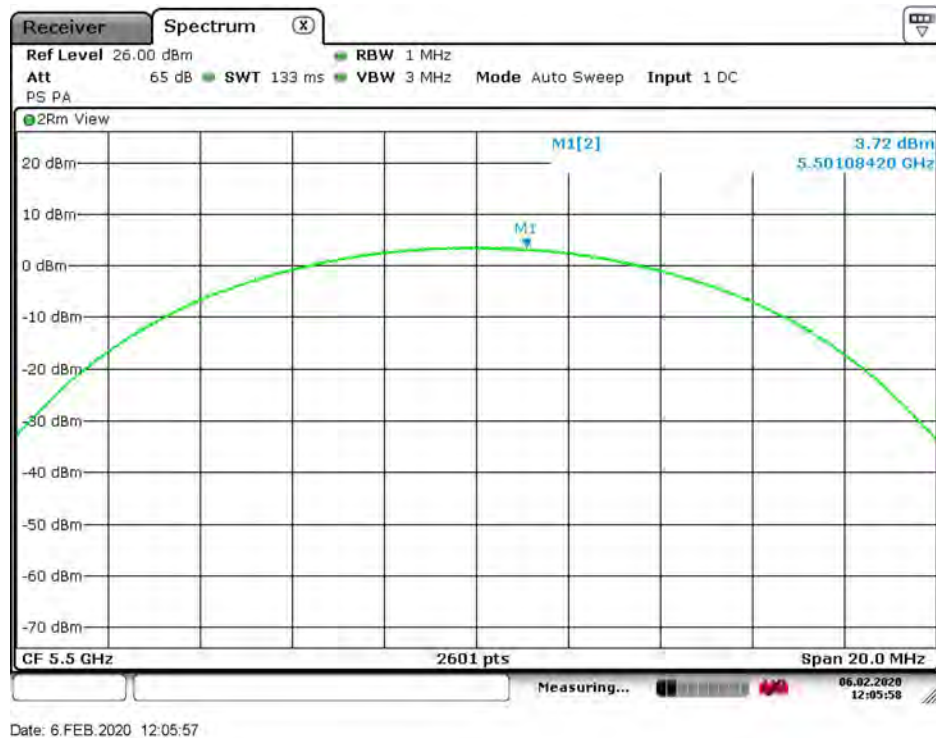


U-NII-2A, MCS7, High Channel



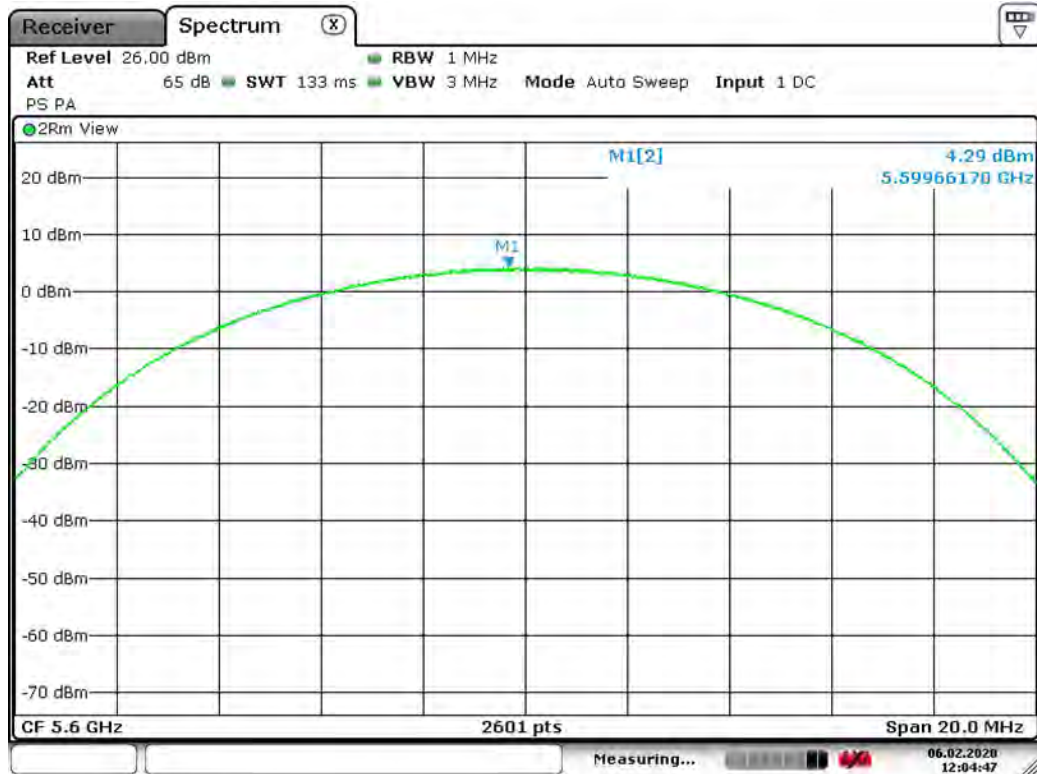


U-NII-2C, CCK, Low Channel





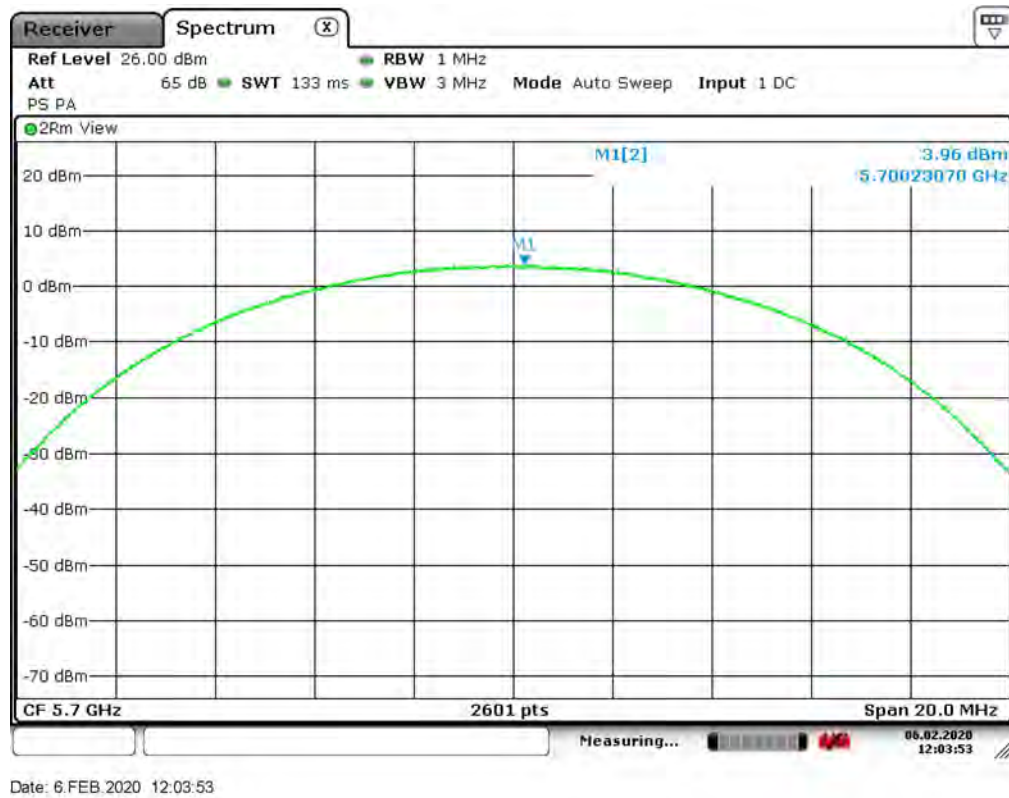
U-NII-2C, CCK, Mid Channel



Date: 6.FEB.2020 12:04:47

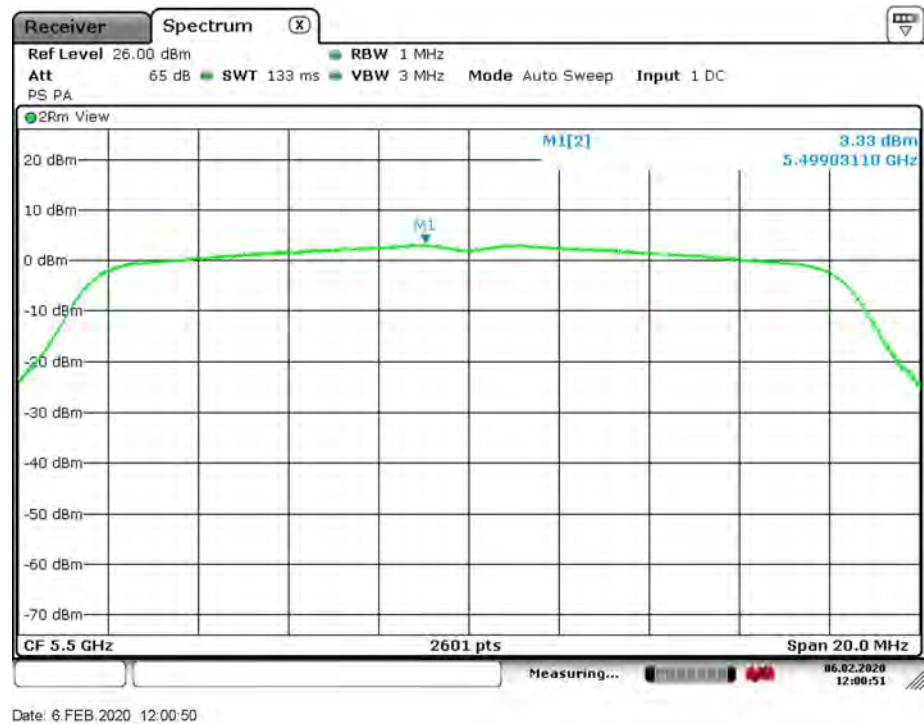


U-NII-2C, CCK, High Channel



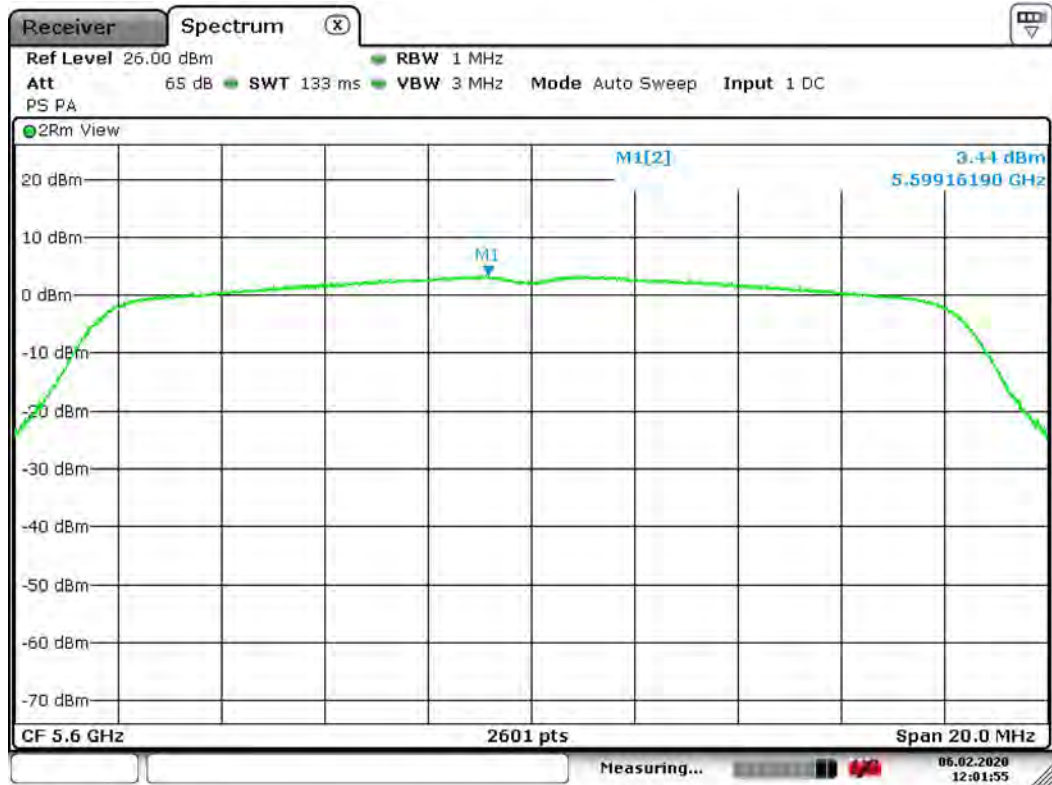


### U-NII-2C, OFDM, Low Channel





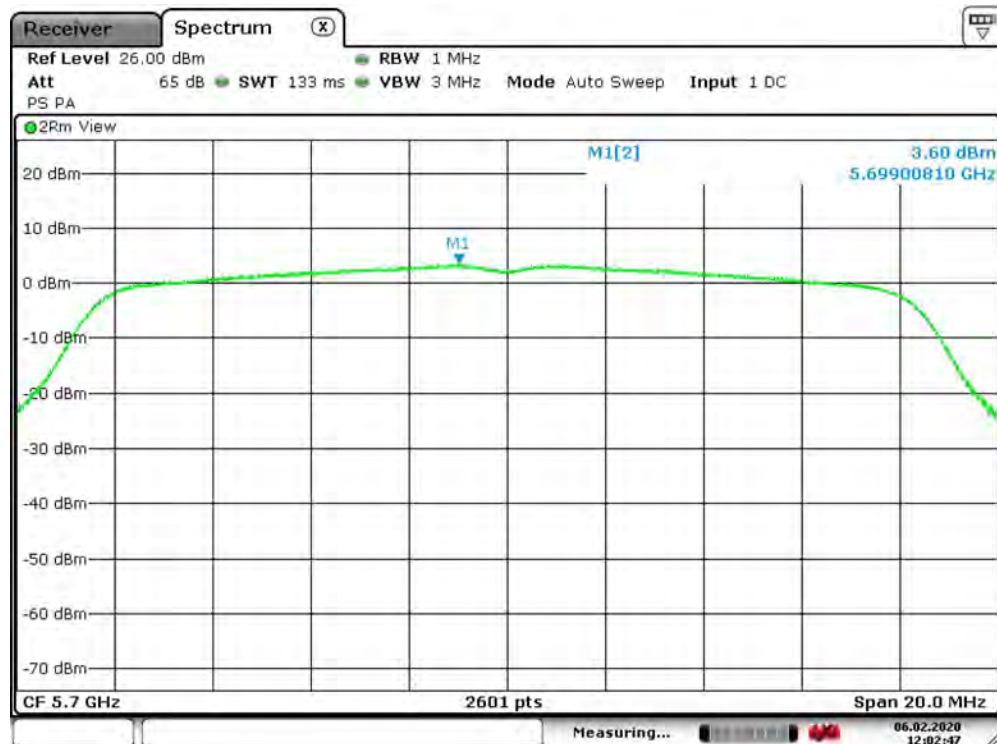
U-NII-2C, OFDM, Mid Channel



Date: 6.FEB.2020 12:01:56



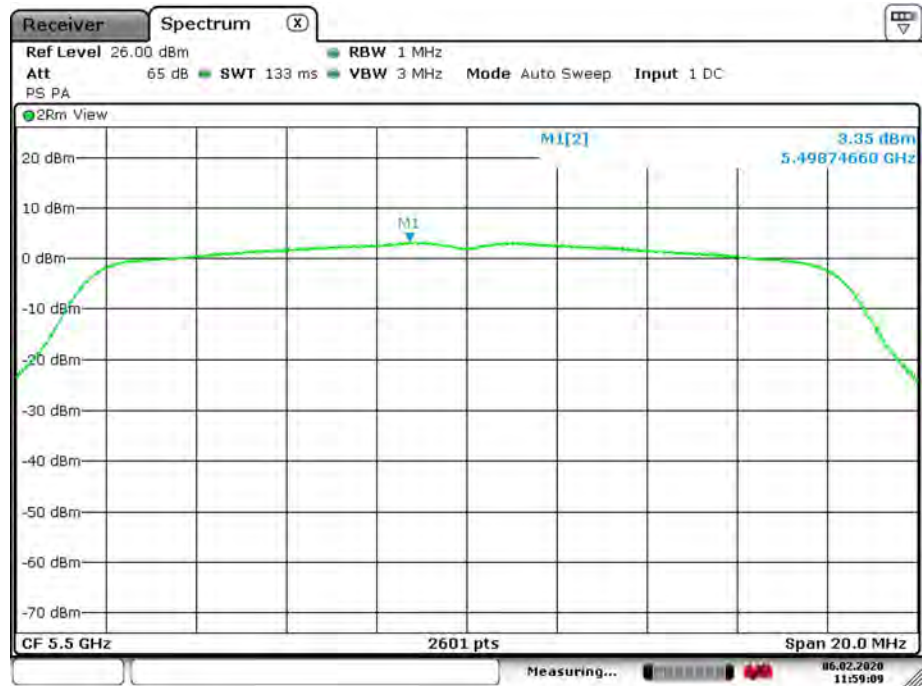
U-NII-2C, OFDM, High Channel



Date: 6.FEB.2020 12:02:47



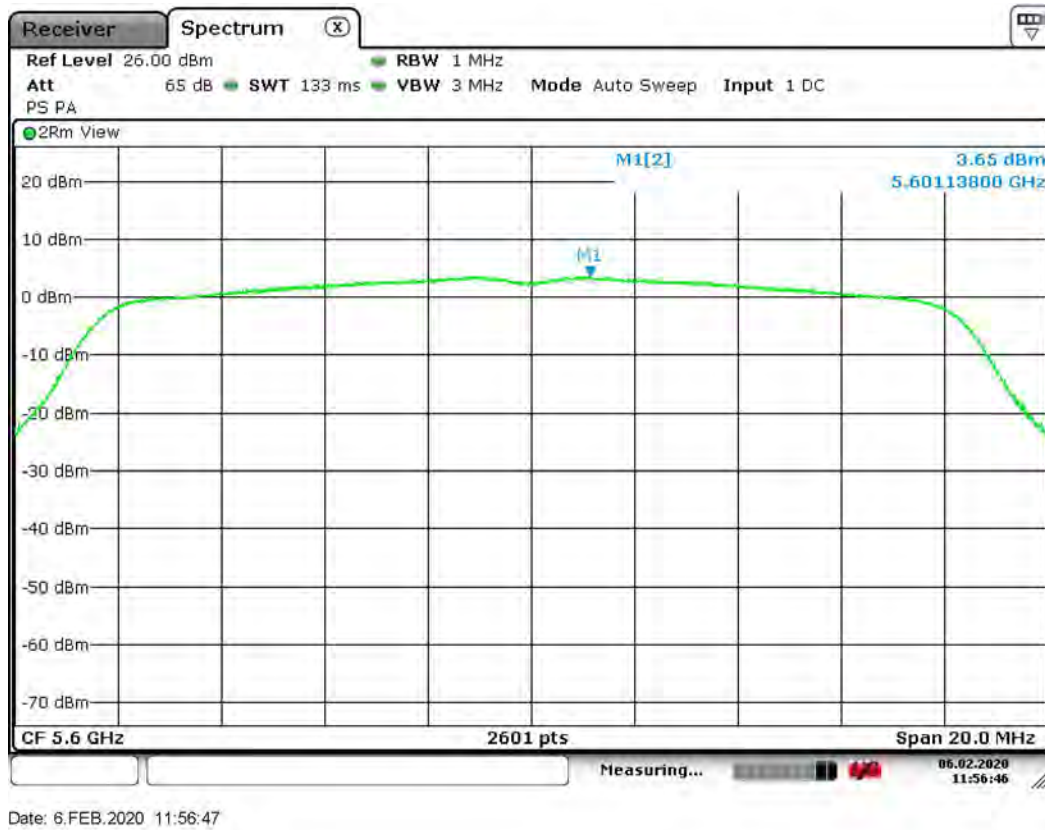
U-NII-2C, MCS7, Low Channel



Date: 6.FEB.2020 11:59:09

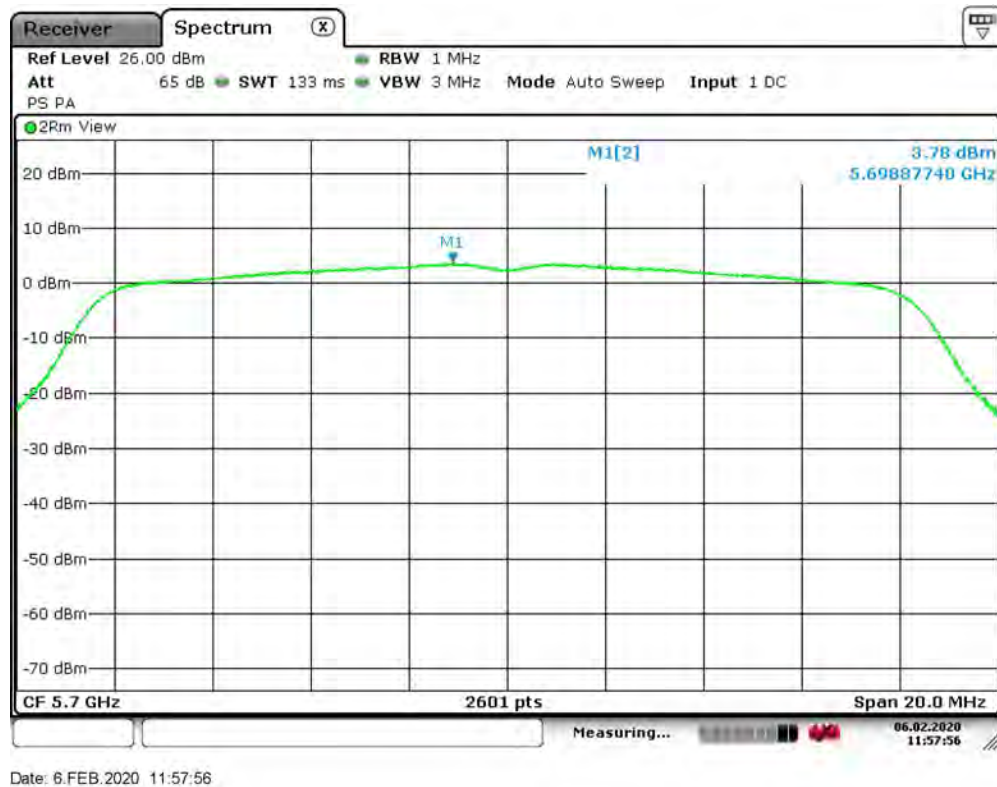


U-NII-2C, MCS7, Mid Channel





U-NII-2C, MCS7, High Channel





## 10 RADIATED SPURIOUS EMISSION

The EUT antenna port was fitted with its integral/internal antenna. Radiated emissions were measured in a Semi-Anechoic Chamber. All emissions generated that fall in the restricted bands per FCC Part 15.205 were examined.

### 10.1 Requirements:

*Undesirable emission limits.* Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

The -27 dBm/MHz limit was converted to 68.23 dBuV/m at 3 meters for radiated emissions testing. The data presented confirms all unwanted emissions do not exceed this limit.



## 10.2 Radiated Spurious Emission Test Data

|                      |                                                |                           |            |
|----------------------|------------------------------------------------|---------------------------|------------|
| <b>Test Date(s):</b> | Feb. 4, 2020; Aug. 25, 2020                    | <b>Test Engineer:</b>     | J. Chiller |
| <b>Standards:</b>    | CFR 47 Part 15.407;<br>Part 15.209 / KDB789033 | <b>Air Temperature:</b>   | 23.8°C     |
|                      |                                                | <b>Relative Humidity:</b> | 23%        |

Notes: Plots are peak, max hold prescan data included only to determine what frequencies to investigate and measure. The EUT was initially placed in a semi-anechoic chamber, and rotated in all three orthogonal positions to maximize the emissions. The orthogonal position that showed the highest emissions was used. Characterization measurements were then performed to determine at which frequencies significant emissions occurred. These graphs are shown below.

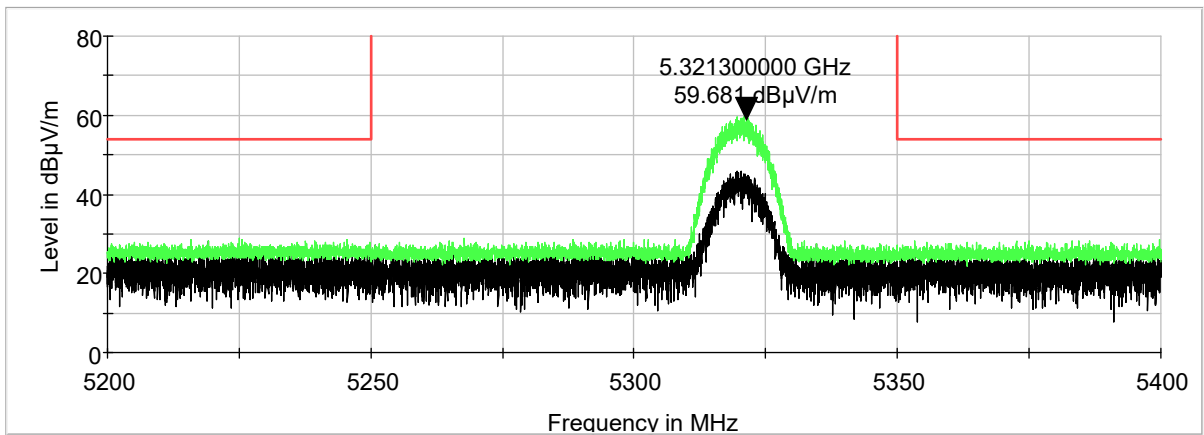
The equipment was fully exercised with all cabling attached to the EUT and was positioned in a semi-anechoic chamber for maximum emissions. While the equipment was energized, the receiving antenna was scanned from 1.0 meter to 4.0 meters in both vertical and horizontal polarities while the turntable was adjusted 360 degrees to determine the maximum field strength. The tables of measured results can be found below.

In the following plots, emissions to be found by the EUT were measured and listed in tables. The black lines are active scans while the green lines are the max peak scan of the unit during rotations. The plots are for reference only and the limit lines are not actual limit lines but merely a guide. Measurements from all channels are included in the data table.

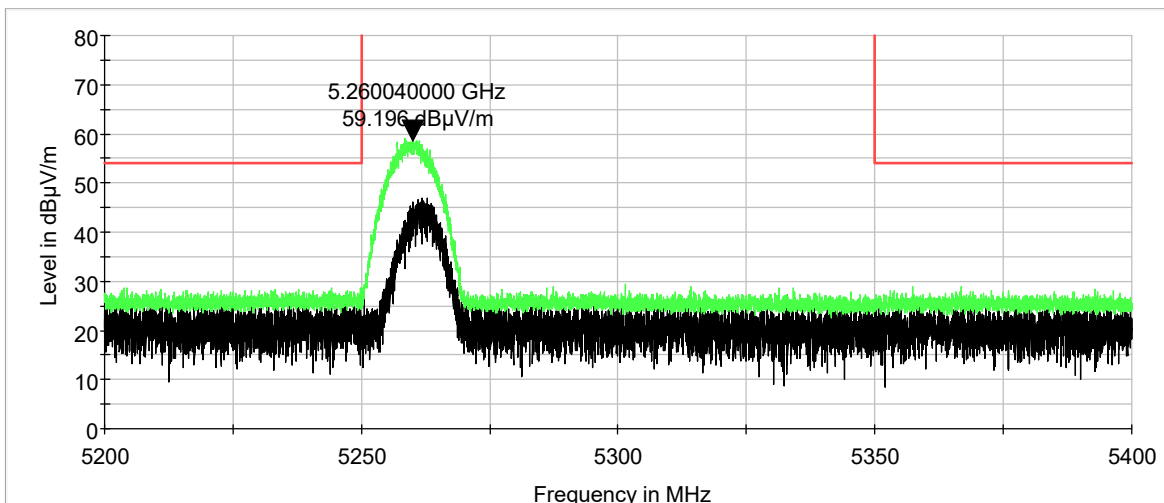


### Radiated Band Edge

#### U-NII-2A, CCK – Low Band Edge, Vertical

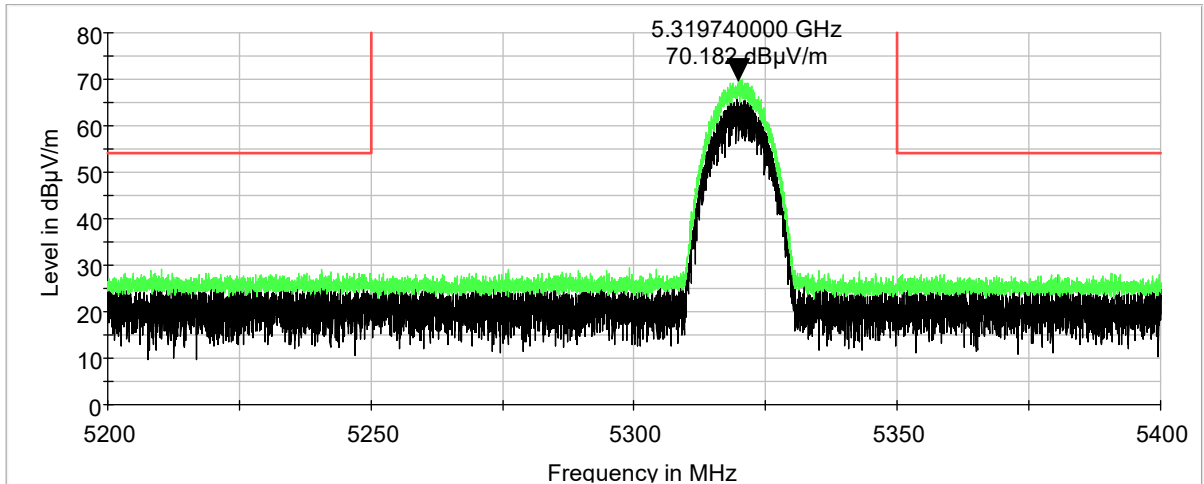


#### U-NII-2A, CCK – High Band Edge, Vertical

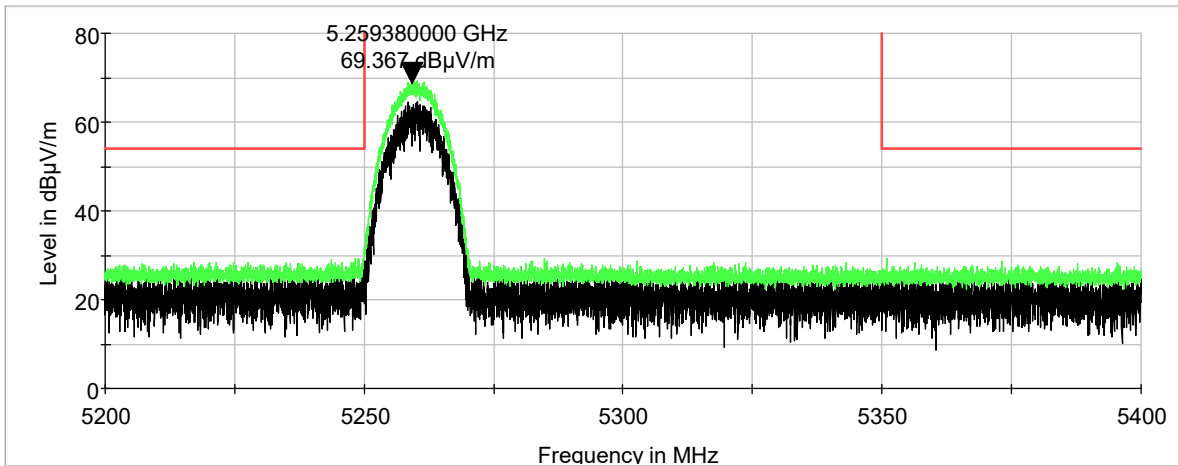




### U-NII-2A, CCK – Low Band Edge, Horizontal



### U-NII-2A, CCK – High Band Edge, Horizontal

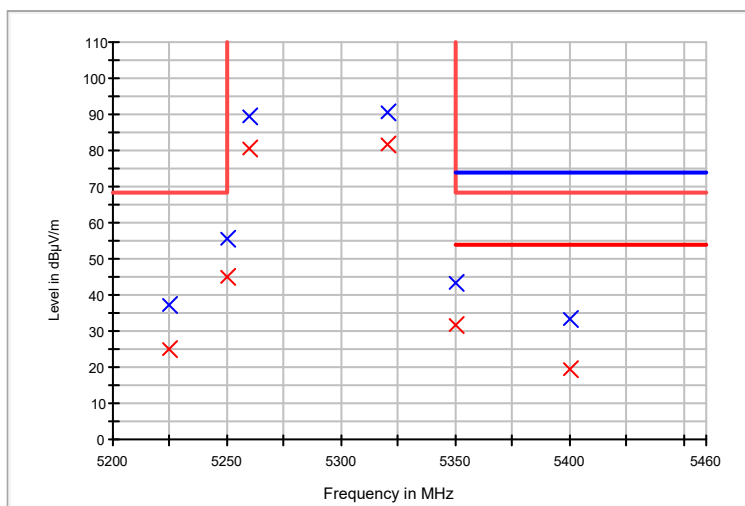




## Radiated Band Edge

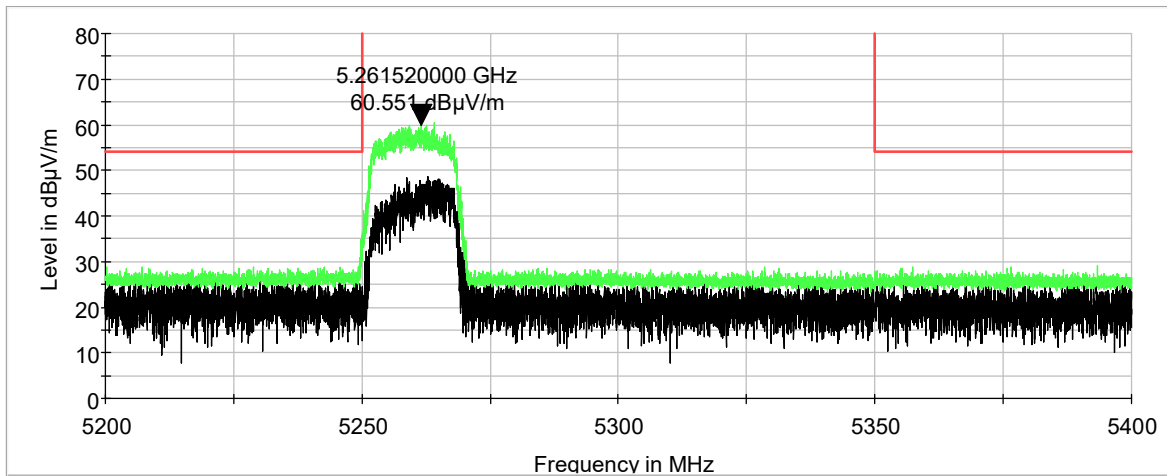
### U-NII-2A, CCK - Measurements

| Frequency (MHz) | MaxPeak (dBμV/m) | Average (dBμV/m) | Bandwidth (kHz) | Height (cm) | Polarization | Azimuth (deg) | Corr. (dB) | Margin - AVG (dB) | Limit - AVG (dBμV/m) |
|-----------------|------------------|------------------|-----------------|-------------|--------------|---------------|------------|-------------------|----------------------|
| 5225.000000     | 37.1             | 25.2             | 1000.000        | 150.0       | H            | 336.0         | -22.8      | 43.0              | 68.2                 |
| 5250.000000     | 55.3             | 45.1             | 1000.000        | 150.0       | H            | 336.0         | -22.7      | 23.1              | 68.2                 |
| 5260.000000     | 89.4             | 80.5             | 1000.000        | 150.0       | H            | 338.0         | -22.6      | -----             | -----                |
| 5320.000000     | 90.6             | 81.7             | 1000.000        | 150.0       | H            | 328.0         | -22.4      | -----             | -----                |
| 5350.000000     | 43.1             | 31.6             | 1000.000        | 150.0       | H            | 328.0         | -22.3      | 36.6              | 68.2                 |
| 5400.000000     | 33.4             | 19.5             | 1000.000        | 150.0       | H            | 328.0         | -22.2      | 48.7              | 68.2                 |

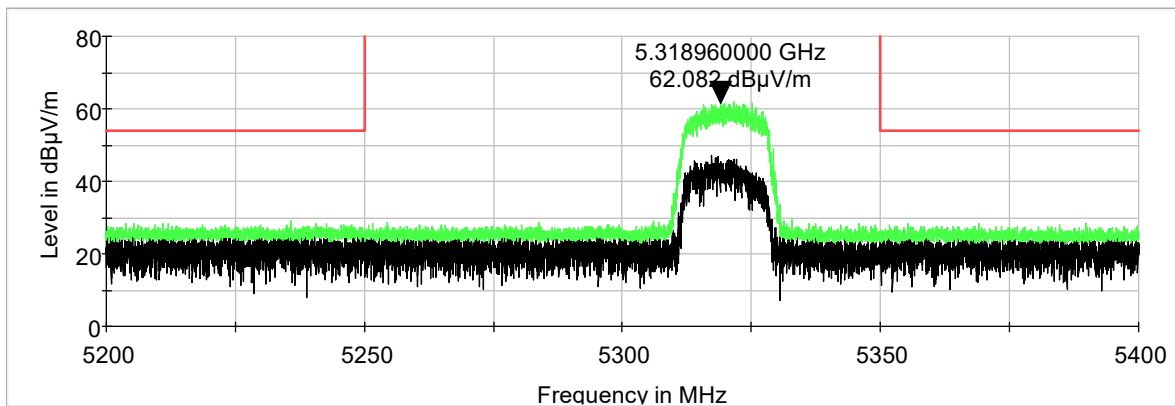




### U-NII-2A, OFDM – Low Band Edge, Vertical

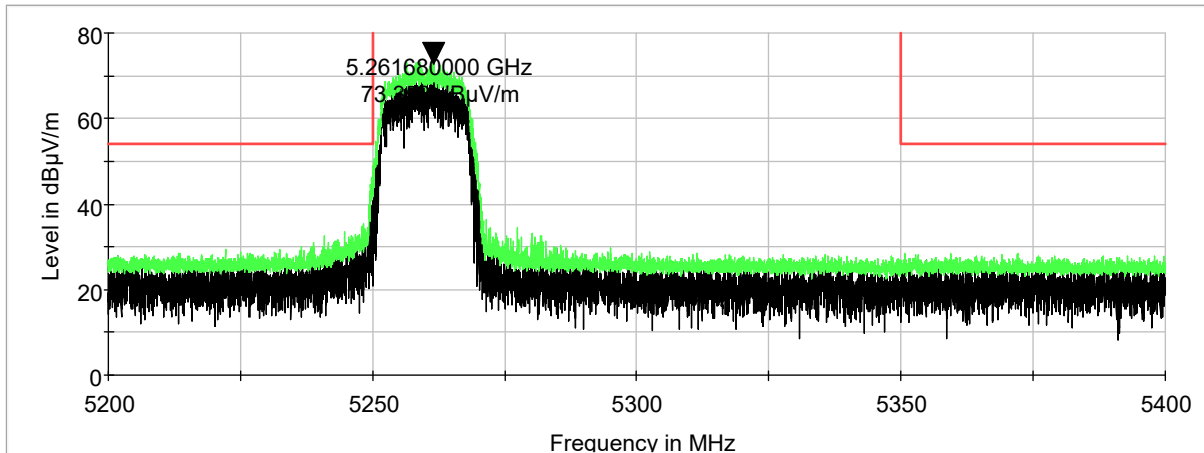


### U-NII-2A, OFDM – High Band Edge, Vertical

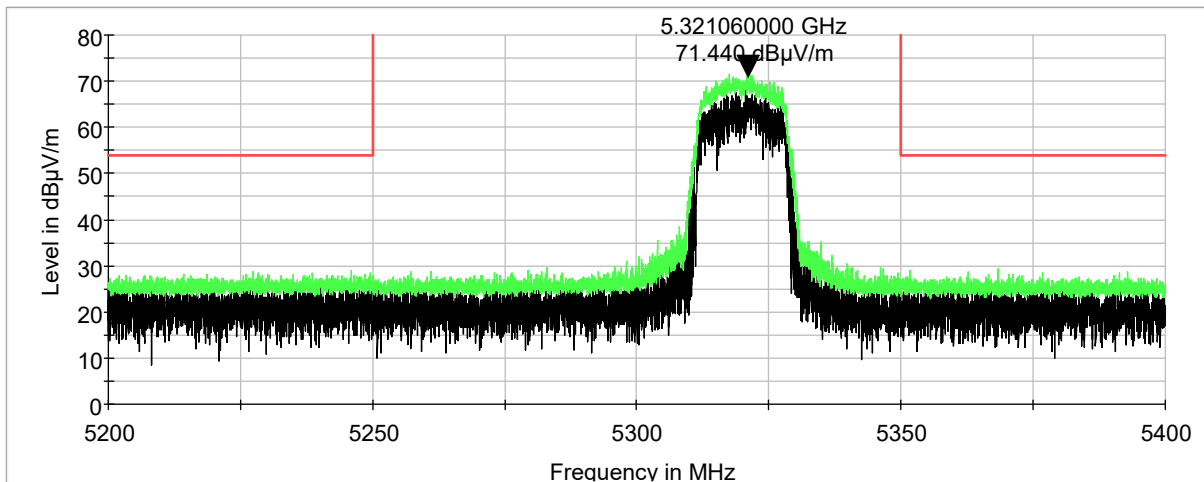




### U-NII-2A, OFDM – Low Band Edge, Horizontal



### U-NII-2A, OFDM – High Band Edge, Horizontal

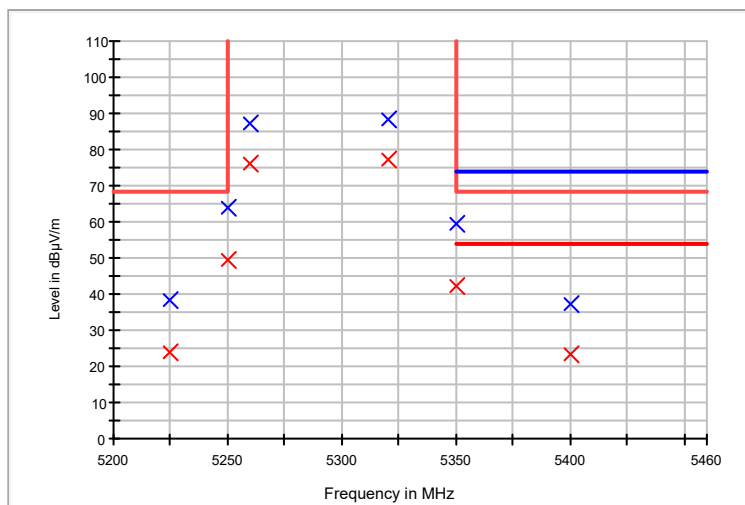




## Radiated Band Edge

## U-NII-2A, OFDM - Measurements

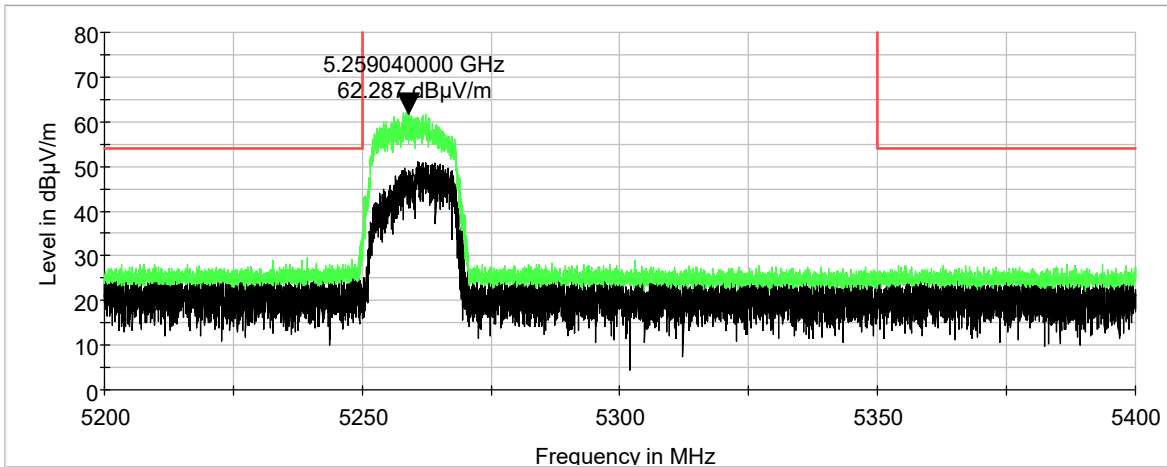
| Frequency (MHz) | MaxPeak (dBμV/m) | Average (dBμV/m) | Bandwidth (kHz) | Height (cm) | Polarization | Azimuth (deg) | Corr. (dB) | Margin - AVG (dB) | Limit - AVG (dBμV/m) |
|-----------------|------------------|------------------|-----------------|-------------|--------------|---------------|------------|-------------------|----------------------|
| 5225.000000     | 38.5             | 23.9             | 1000.000        | 150.0       | H            | 181.0         | -22.8      | 44.3              | 68.2                 |
| 5250.000000     | 64.1             | 49.3             | 1000.000        | 150.0       | H            | 161.0         | -22.7      | 18.9              | 68.2                 |
| 5260.000000     | 87.2             | 76.2             | 1000.000        | 150.0       | H            | 42.0          | -22.6      | -----             | -----                |
| 5320.000000     | 88.3             | 77.1             | 1000.000        | 150.0       | H            | 42.0          | -22.4      | -----             | -----                |
| 5350.000000     | 59.3             | 42.4             | 1000.000        | 150.0       | H            | 42.0          | -22.3      | 25.8              | 68.2                 |
| 5400.000000     | 37.3             | 23.1             | 1000.000        | 150.0       | H            | 42.0          | -22.2      | 45.1              | 68.2                 |



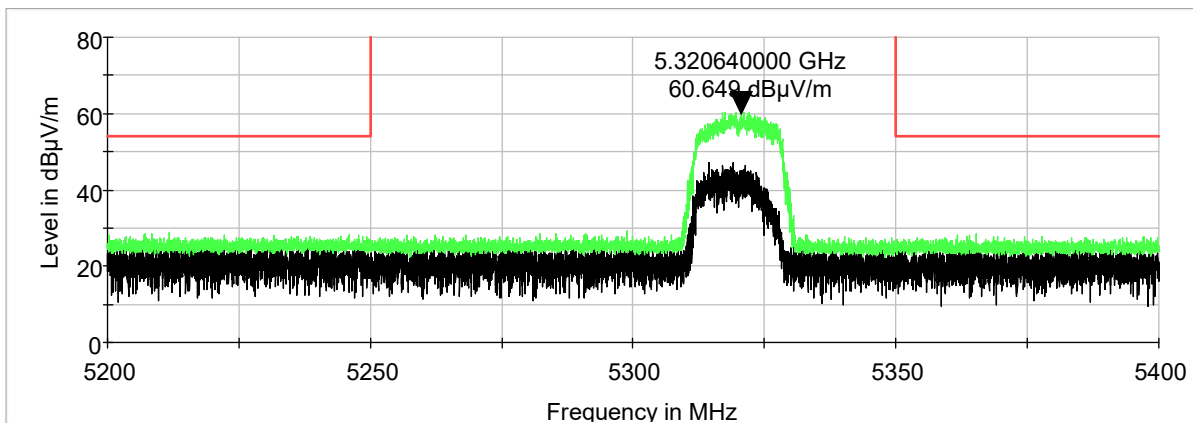


## Radiated Band Edge

### U-NII-2A, MCS7 – Low Band Edge, Vertical

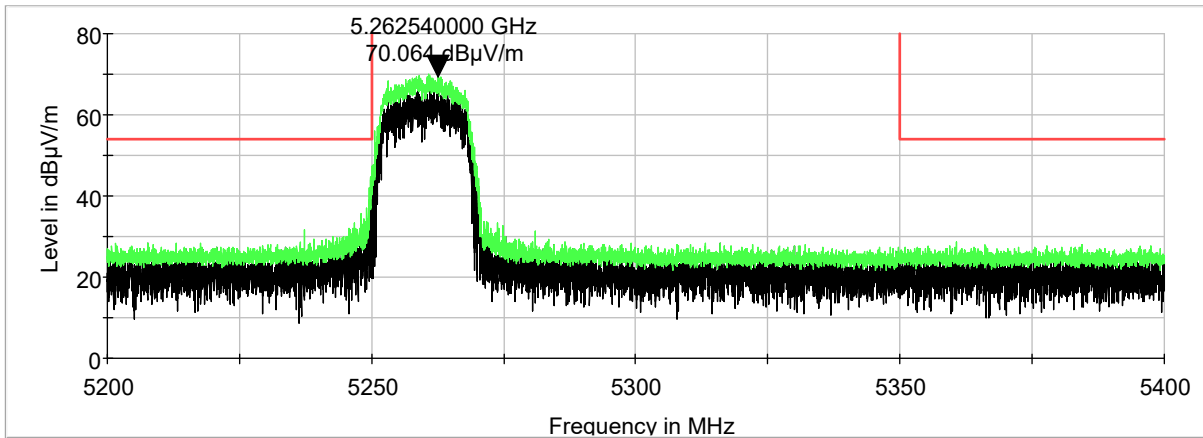


### U-NII-2A, MCS7 – High Band Edge, Vertical

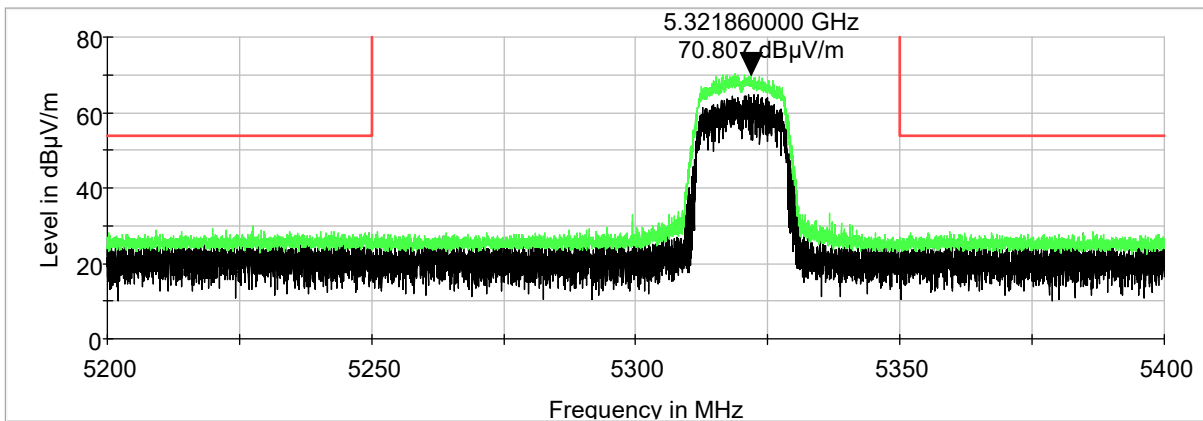




### U-NII-2A, MCS7 – Low Band Edge, Horizontal



### U-NII-2A, MCS7 – High Band Edge, Horizontal

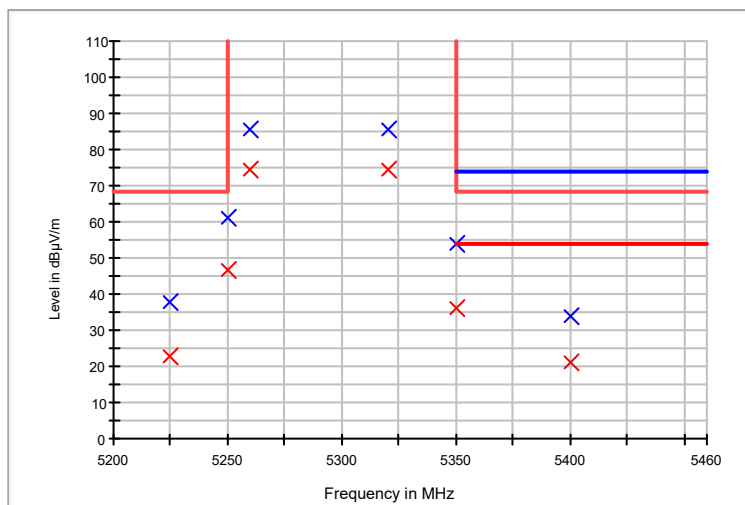




## Radiated Band Edge

## U-NII-2A, MCS7 - Measurements

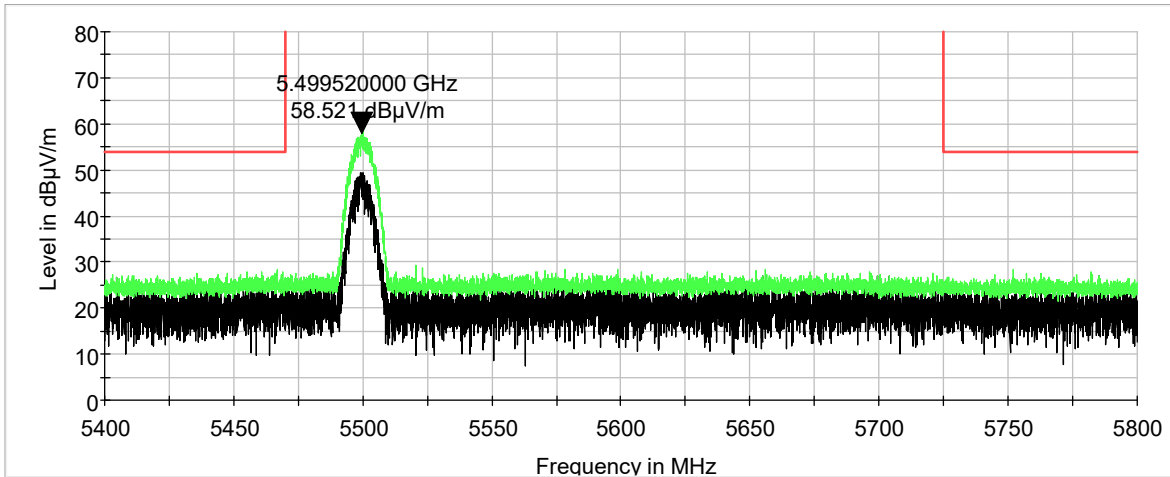
| Frequency (MHz) | MaxPeak (dBμV/m) | Average (dBμV/m) | Bandwidth (kHz) | Height (cm) | Polarization | Azimuth (deg) | Corr. (dB) | Margin - AVG (dB) | Limit - AVG (dBμV/m) |
|-----------------|------------------|------------------|-----------------|-------------|--------------|---------------|------------|-------------------|----------------------|
| 5225.000000     | 37.9             | 22.7             | 1000.000        | 150.0       | H            | 52.0          | -22.8      | 45.5              | 68.2                 |
| 5250.000000     | 61.2             | 46.6             | 1000.000        | 150.0       | H            | 52.0          | -22.7      | 21.6              | 68.2                 |
| 5260.000000     | 85.5             | 74.7             | 1000.000        | 150.0       | H            | 52.0          | -22.6      | -----             | -----                |
| 5320.000000     | 85.5             | 74.7             | 1000.000        | 150.0       | H            | 52.0          | -22.4      | -----             | -----                |
| 5350.000000     | 53.7             | 36.0             | 1000.000        | 150.0       | H            | 52.0          | -22.3      | 32.2              | 68.2                 |
| 5400.000000     | 34.0             | 21.3             | 1000.000        | 150.0       | H            | 52.0          | -22.2      | 46.9              | 68.2                 |



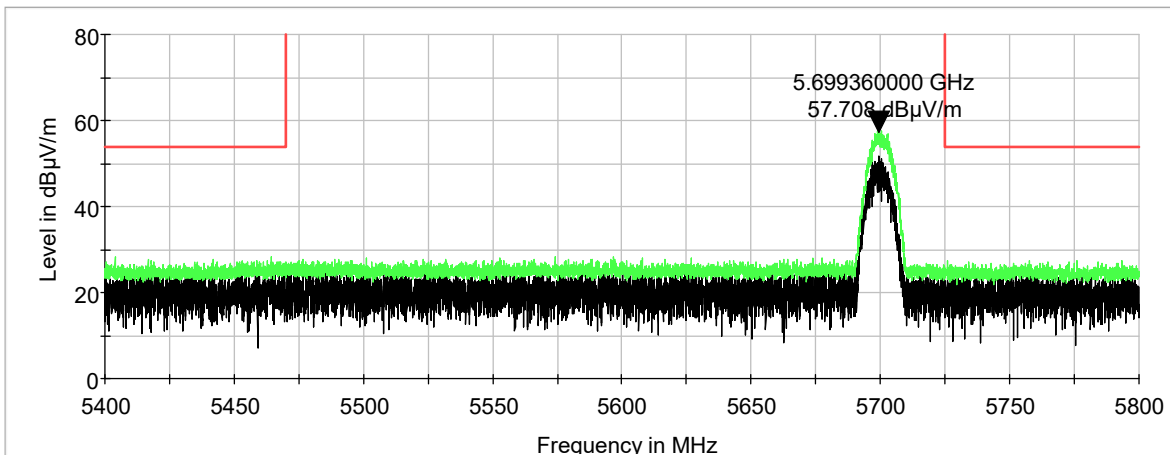


## Radiated Band Edge

### U-NII-2C, CCK – Low Band Edge, Vertical

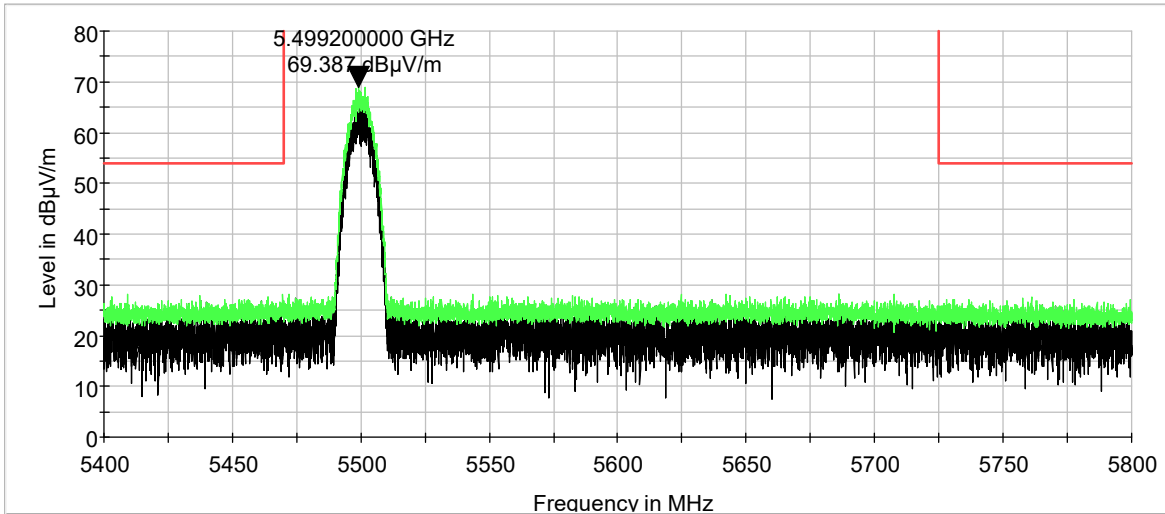


### U-NII-2C, CCK – High Band Edge, Vertical

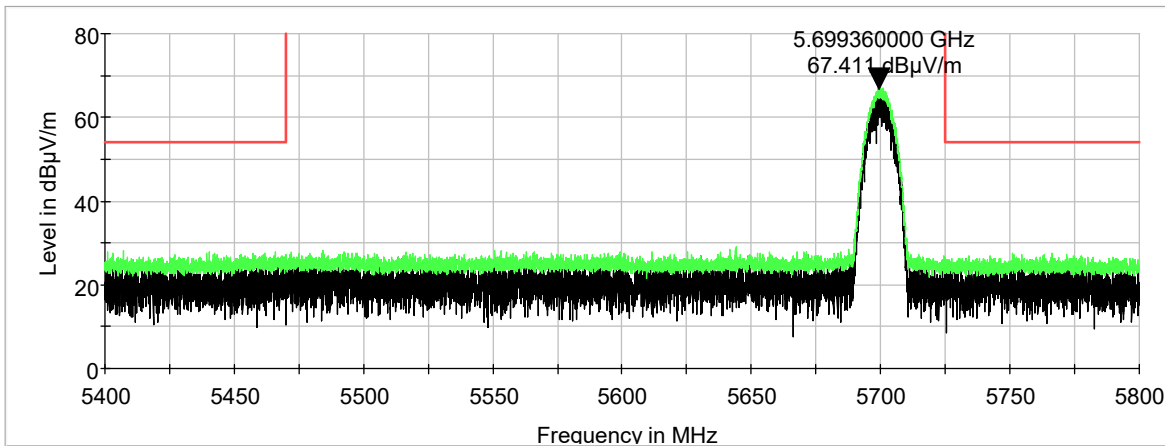




### U-NII-2C, CCK – Low Band Edge, Horizontal



### U-NII-2C, CCK – High Band Edge, Horizontal

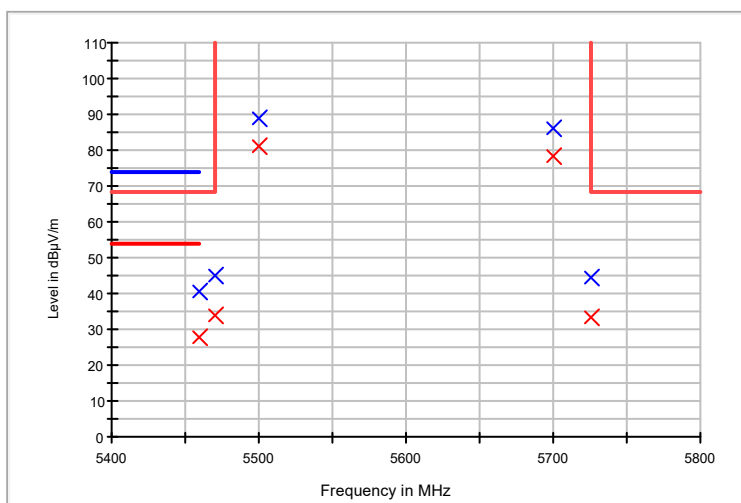




## Radiated Band Edge

### U-NII-2C, CCK - Measurements

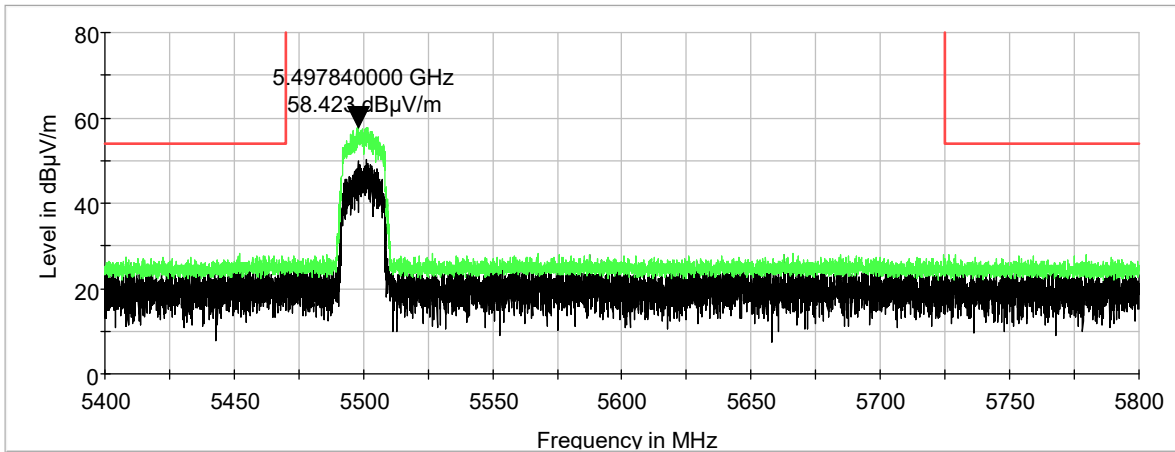
| Frequency (MHz) | MaxPeak (dBμV/m) | Average (dBμV/m) | Bandwidth (kHz) | Height (cm) | Polarization | Azimuth (deg) | Corr. (dB) | Margin - AVG (dB) | Limit - AVG (dBμV/m) |
|-----------------|------------------|------------------|-----------------|-------------|--------------|---------------|------------|-------------------|----------------------|
| 5460.000000     | 40.4             | 27.7             | 1000.000        | 150.0       | H            | 41.0          | -22.0      | 26.3              | 54.0                 |
| 5470.000000     | 45.2             | 33.8             | 1000.000        | 150.0       | H            | 41.0          | -21.9      | 34.4              | 68.2                 |
| 5500.000000     | 88.9             | 81.2             | 1000.000        | 150.0       | H            | 41.0          | -21.8      | -----             | -----                |
| 5700.000000     | 85.9             | 78.1             | 1000.000        | 150.0       | H            | 33.0          | -21.5      | -----             | -----                |
| 5725.000000     | 44.3             | 33.6             | 1000.000        | 150.0       | H            | 33.0          | -21.5      | 34.6              | 68.2                 |



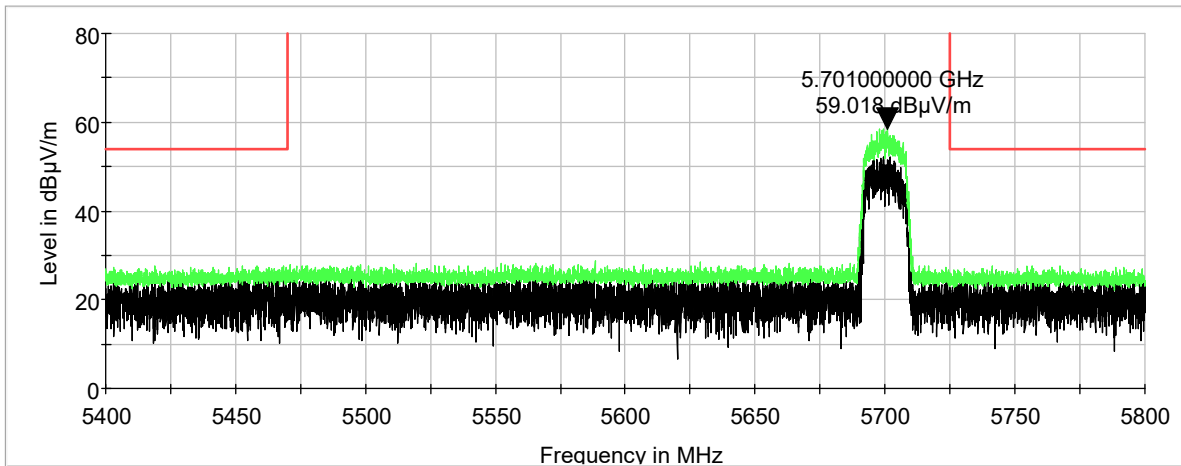


## Radiated Band Edge

### U-NII-2C, OFDM – Low Band Edge, Vertical

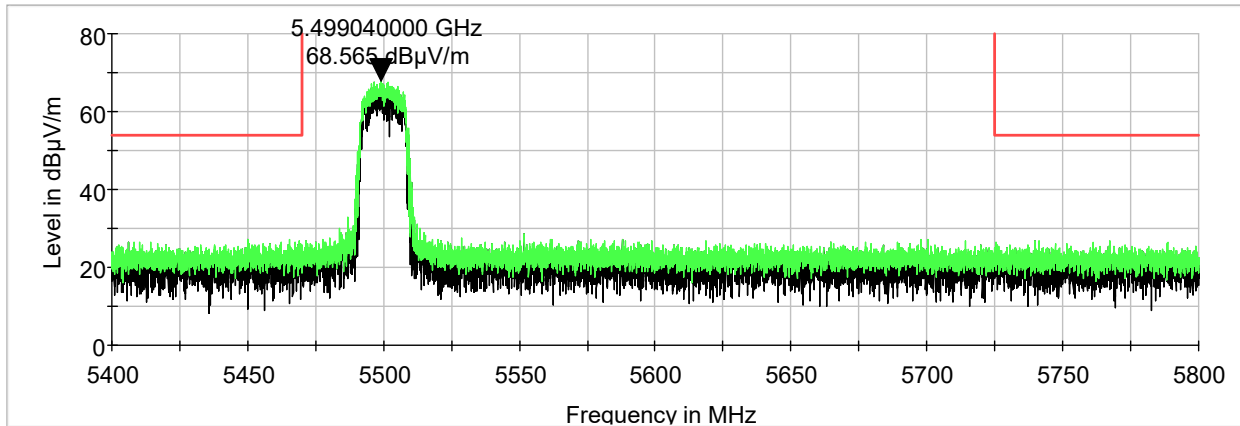


### U-NII-2C, OFDM – High Band Edge, Vertical

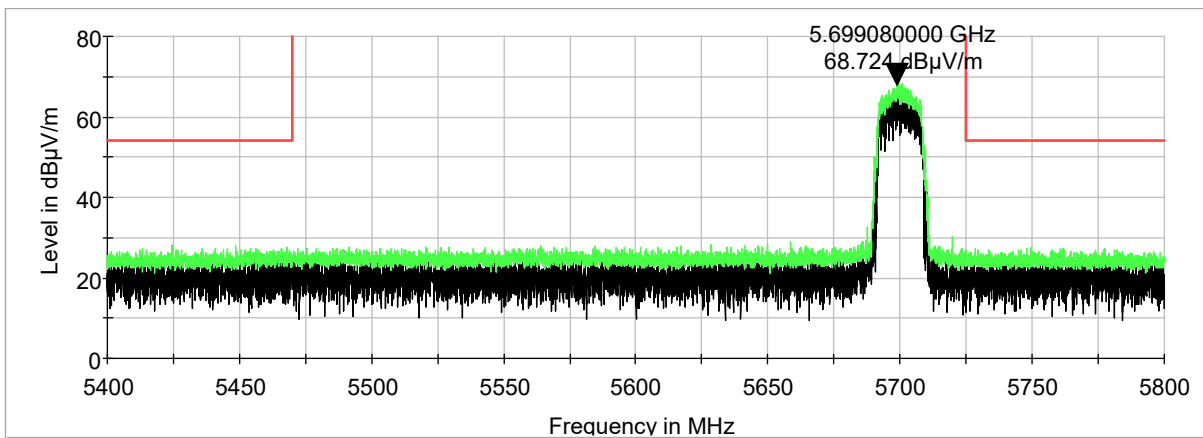




### U-NII-2C, OFDM – Low Band Edge, Horizontal



### U-NII-2C, OFDM – High Band Edge, Horizontal

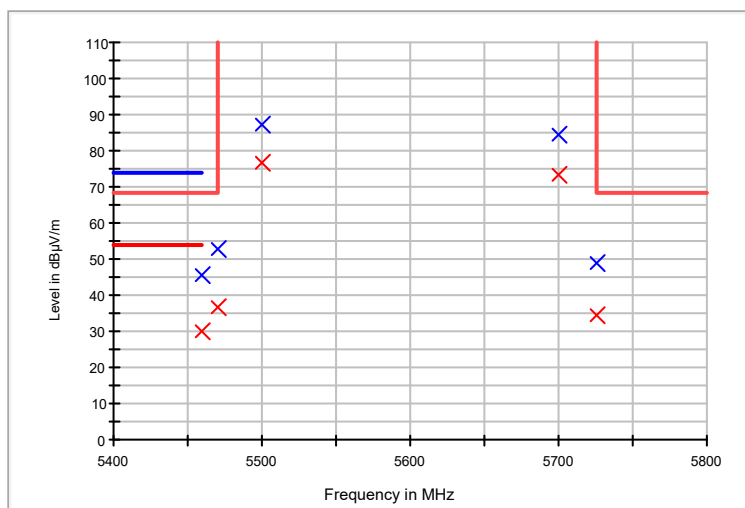




## Radiated Band Edge

## U-NII-2C, OFDM - Measurements

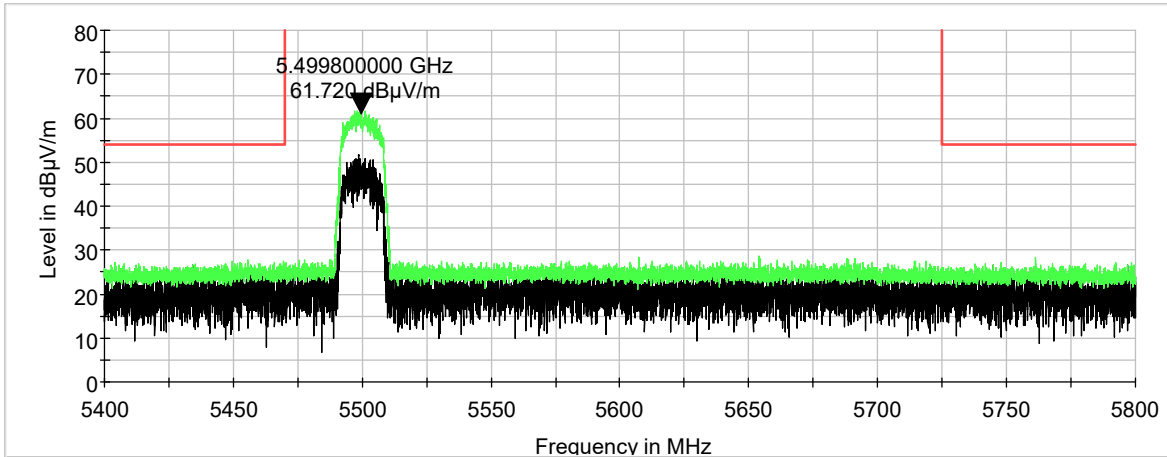
| Frequency (MHz) | MaxPeak (dBμV/m) | Average (dBμV/m) | Bandwidth (kHz) | Height (cm) | Polarization | Azimuth (deg) | Corr. (dB) | Margin - AVG (dB) | Limit - AVG (dBμV/m) |
|-----------------|------------------|------------------|-----------------|-------------|--------------|---------------|------------|-------------------|----------------------|
| 5460.000000     | 45.8             | 30.2             | 1000.000        | 150.0       | H            | 50.0          | -22.0      | 23.8              | 54.0                 |
| 5470.000000     | 52.5             | 36.6             | 1000.000        | 150.0       | H            | 50.0          | -21.9      | 31.6              | 68.2                 |
| 5500.000000     | 87.5             | 76.5             | 1000.000        | 150.0       | H            | 50.0          | -21.8      | -----             | -----                |
| 5700.000000     | 84.4             | 73.1             | 1000.000        | 150.0       | H            | 50.0          | -21.5      | -----             | -----                |
| 5725.000000     | 48.8             | 34.7             | 1000.000        | 150.0       | H            | 50.0          | -21.5      | 33.5              | 68.2                 |



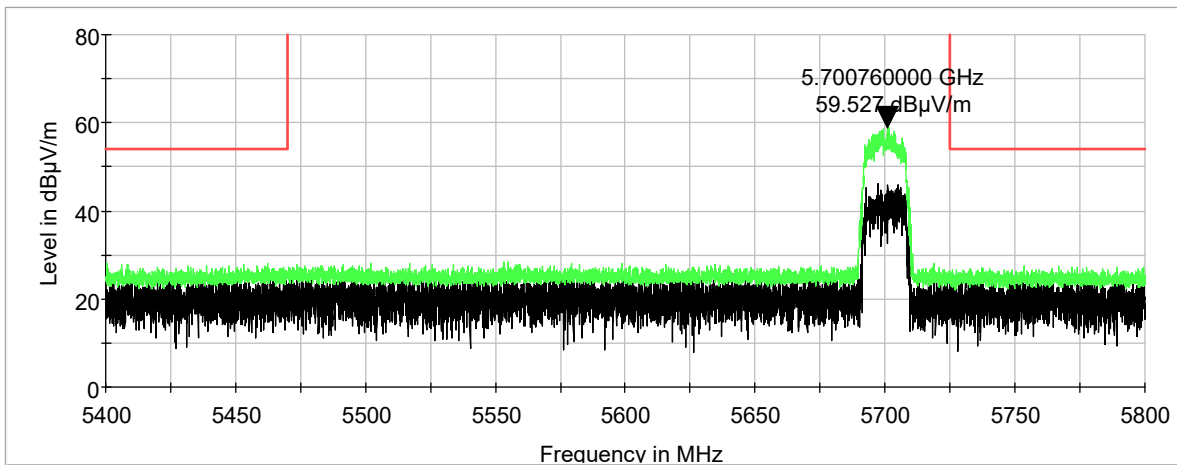


## Radiated Band Edge

### U-NII-2C, MCS7 – Low Band Edge, Vertical

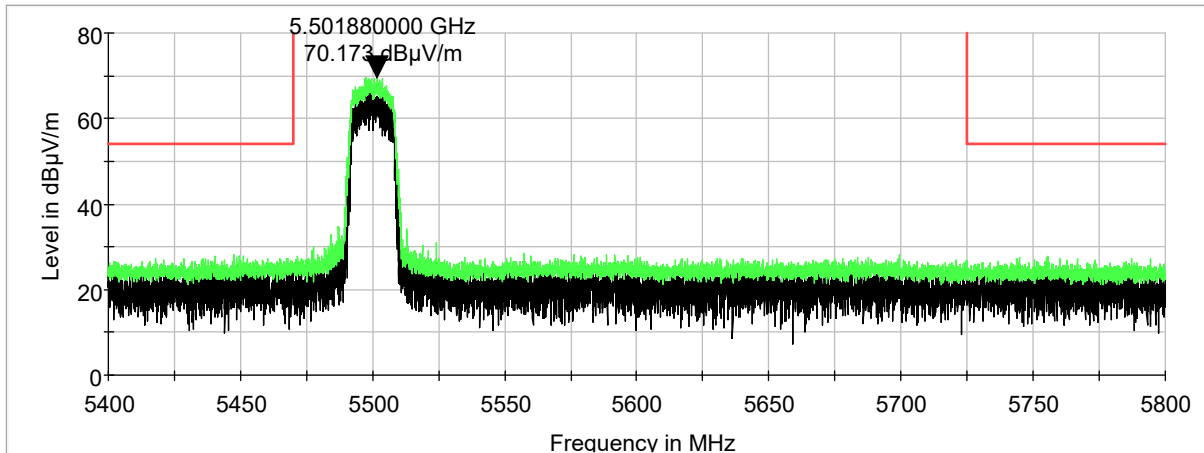


### U-NII-2C, MCS7 – High Band Edge, Vertical

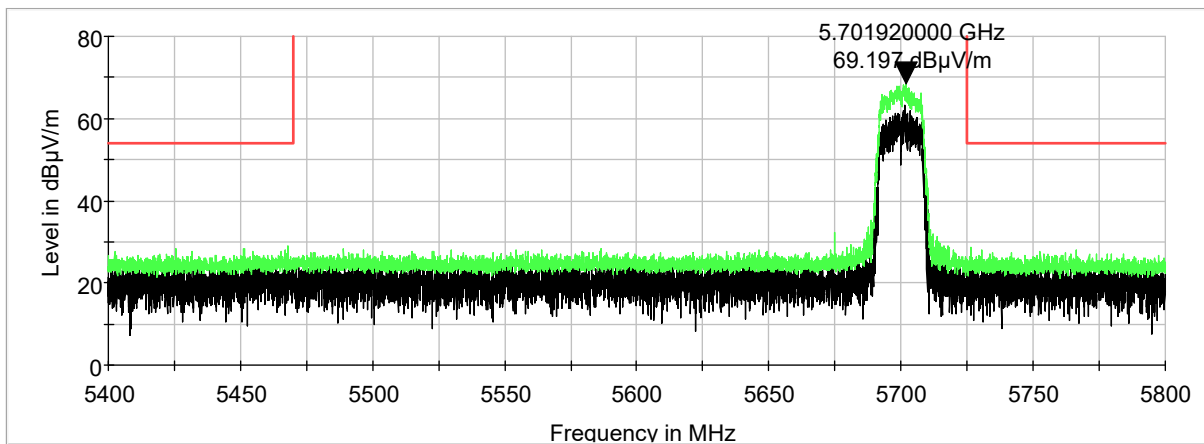




### U-NII-2C, MCS7 – Low Band Edge, Horizontal



### U-NII-2C, MCS7 – High Band Edge, Horizontal

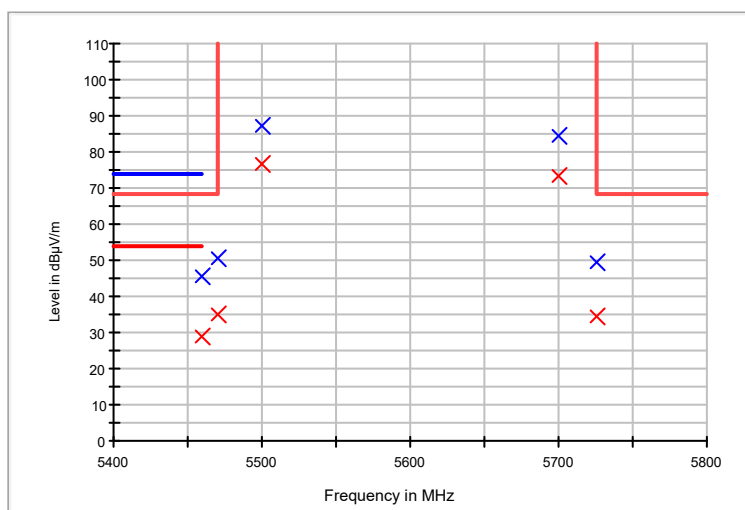




## Radiated Band Edge

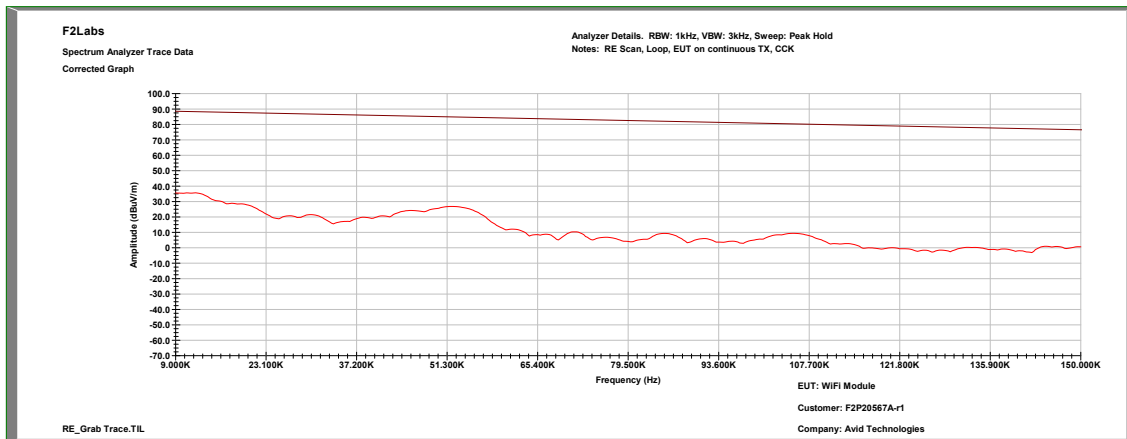
## U-NII-2C, MCS7 - Measurements

| Frequency (MHz) | MaxPeak (dBμV/m) | Average (dBμV/m) | Bandwidth (kHz) | Height (cm) | Polarization | Azimuth (deg) | Corr. (dB) | Margin - AVG (dB) | Limit - AVG (dBμV/m) |
|-----------------|------------------|------------------|-----------------|-------------|--------------|---------------|------------|-------------------|----------------------|
| 5460.000000     | 45.5             | 28.8             | 1000.000        | 150.0       | H            | 52.0          | -22.0      | 25.2              | 54.0                 |
| 5470.000000     | 50.6             | 35.1             | 1000.000        | 150.0       | H            | 52.0          | -21.9      | 33.1              | 68.2                 |
| 5500.000000     | 87.4             | 76.5             | 1000.000        | 150.0       | H            | 52.0          | -21.8      | -----             | -----                |
| 5700.000000     | 84.4             | 73.1             | 1000.000        | 150.0       | H            | 20.0          | -21.5      | -----             | -----                |
| 5725.000000     | 49.6             | 34.4             | 1000.000        | 150.0       | H            | 20.0          | -21.5      | 33.8              | 68.2                 |

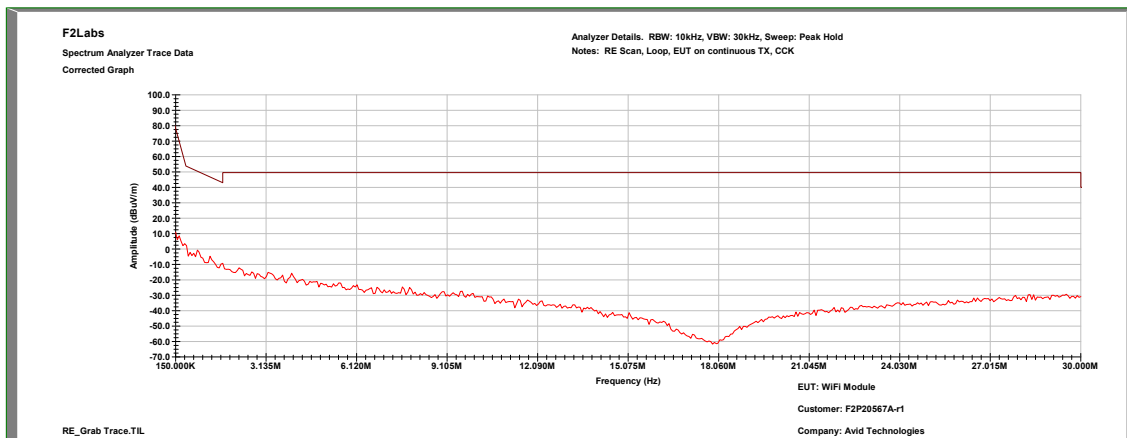




### Radiated Spurious Emissions: U-NII-2A, CCK, Mid Channel, 9k to 150k

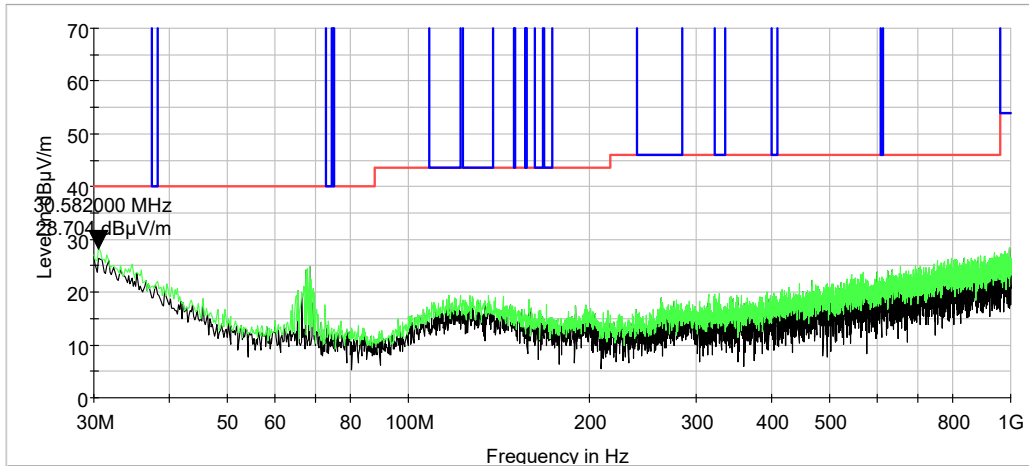


### Radiated Spurious Emissions: U-NII-2A, CCK, Mid Channel, 150k to 30 MHz

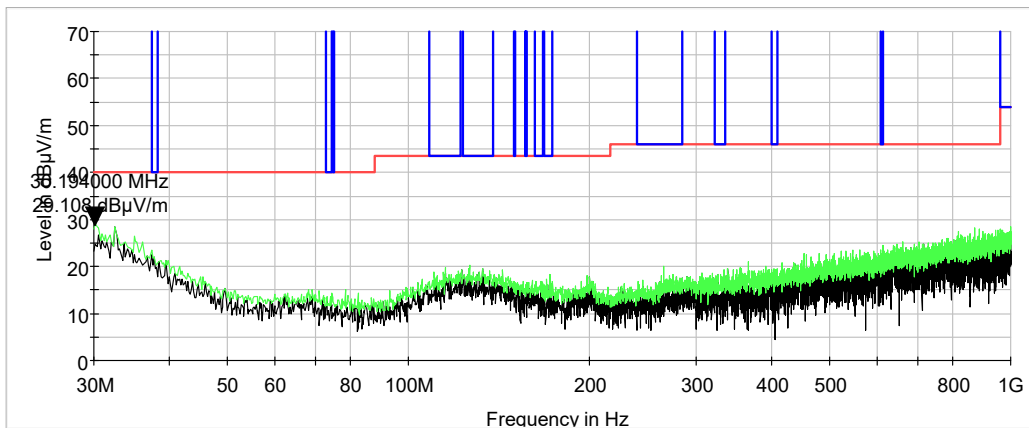




**Radiated Spurious Emissions:  
U-NII-2A, CCK, Mid Channel, 30 MHz to 1 GHz, Vertical**

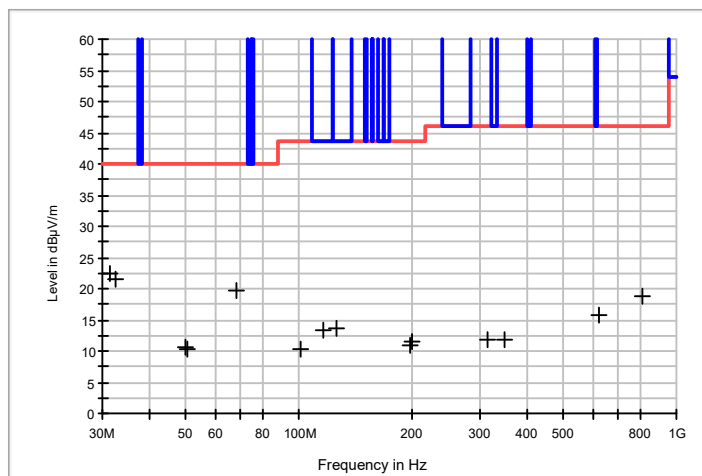


**Radiated Spurious Emissions:  
U-NII-2A, CCK, Mid Channel, 30 MHz to 1 GHz, Horizontal**



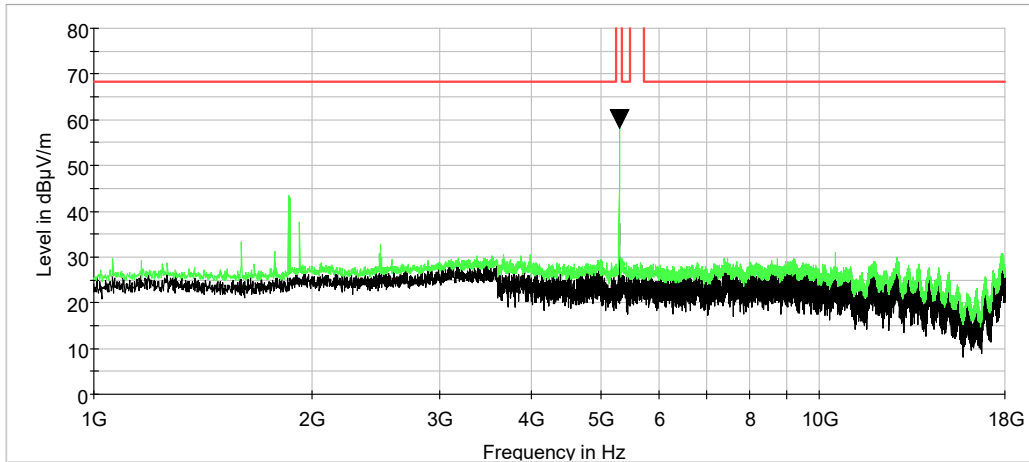
**Radiated Spurious Emissions:  
U-NII-2A, CCK, 30 MHz to 1000 MHz**

| Frequency (MHz) | Antenna Polarization | Antenna Height (cm) | Azimuth (degrees) | Reading (dBμV) | Cable Loss & Antenna Factor (dB) | Emission (dBμV/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------|----------------------|---------------------|-------------------|----------------|----------------------------------|-------------------|----------------|-------------|
| 31.560000       | V                    | 100.00              | 0.00              | 17.0           | 5.5                              | 22.50             | 40.0           | -17.5       |
| 32.520000       | H                    | 100.00              | 0.00              | 16.9           | 4.7                              | 21.60             | 40.0           | -18.4       |
| 49.600000       | V                    | 100.00              | 0.00              | 17.0           | -6.4                             | 10.60             | 40.0           | -29.4       |
| 50.160000       | H                    | 100.00              | 0.00              | 17.0           | -6.6                             | 10.40             | 40.0           | -29.6       |
| 68.400000       | V                    | 100.00              | 0.00              | 26.7           | -7.1                             | 19.60             | 40.0           | -20.4       |
| 100.800000      | H                    | 100.00              | 0.00              | 15.7           | -5.3                             | 10.40             | 43.5           | -33.1       |
| 115.760000      | V                    | 100.00              | 0.00              | 15.5           | -2.1                             | 13.40             | 43.5           | -30.1       |
| 125.840000      | H                    | 100.00              | 0.00              | 15.3           | -1.6                             | 13.70             | 43.5           | -29.8       |
| 196.240000      | V                    | 100.00              | 0.00              | 14.0           | -3.0                             | 11.00             | 43.5           | -32.5       |
| 199.960000      | H                    | 100.00              | 0.00              | 13.9           | -2.5                             | 11.40             | 43.5           | -32.1       |
| 314.800000      | V                    | 100.00              | 0.00              | 13.0           | -1.2                             | 11.80             | 46.0           | -34.2       |
| 349.920000      | H                    | 100.00              | 0.00              | 12.3           | -0.6                             | 11.70             | 46.0           | -34.3       |
| 624.800000      | V                    | 100.00              | 0.00              | 11.5           | 4.2                              | 15.70             | 46.0           | -30.3       |
| 814.360000      | H                    | 100.00              | 0.00              | 12.2           | 6.5                              | 18.70             | 46.0           | -27.3       |

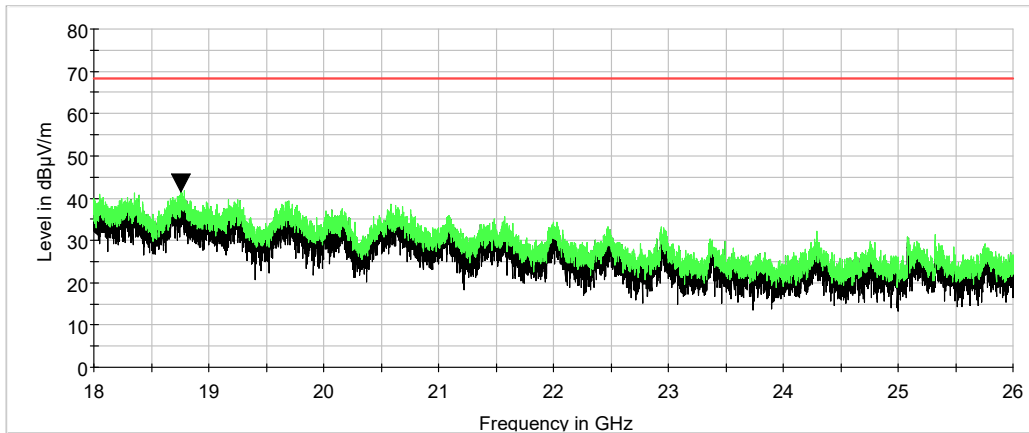




**Radiated Spurious Emissions:  
U-NII-2A, CCK, Mid Channel, 1 GHz to 18 GHz, Vertical**



**Radiated Spurious Emissions:  
U-NII-2A, CCK, Mid Channel, 18 GHz to 26 GHz, Vertical**

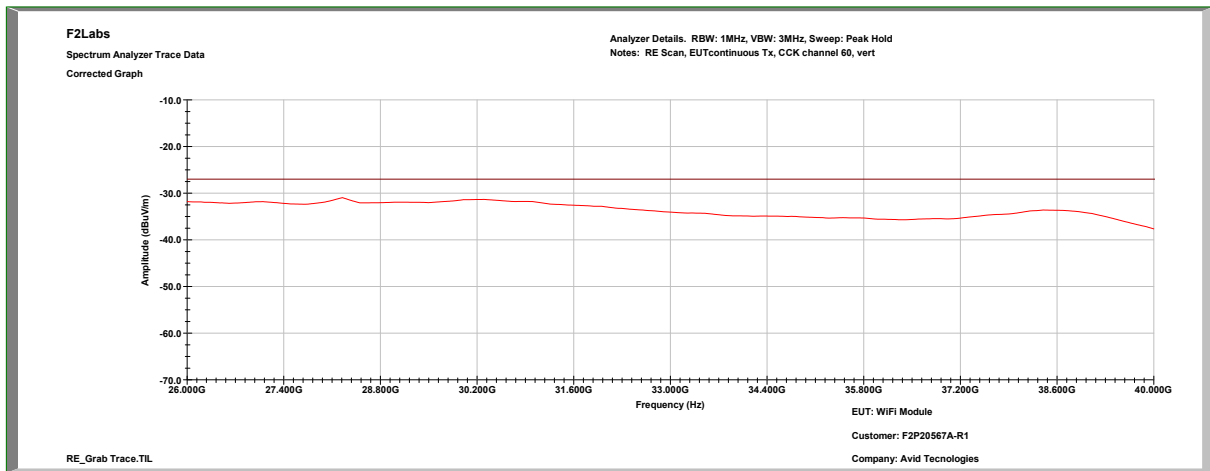




Order Number: F2P20567A-R1

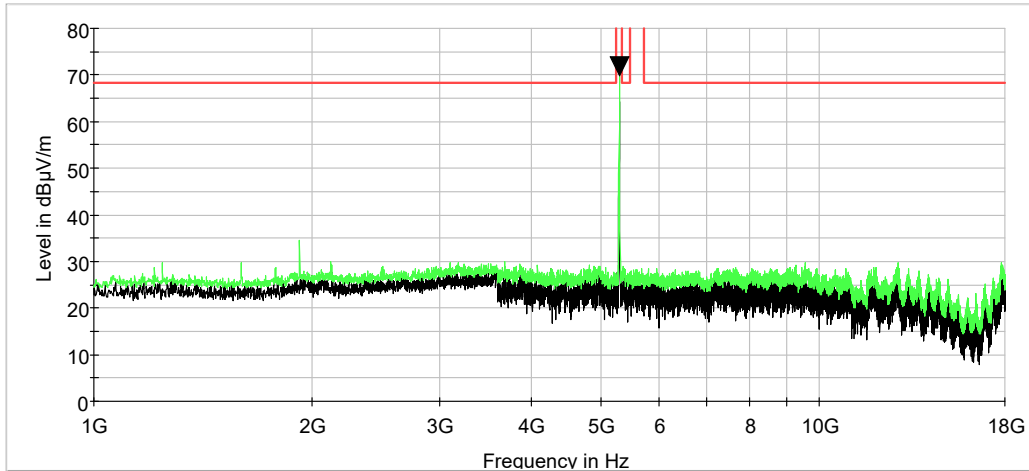
Applicant: Avnet Inc.  
FCC ID: 2AF62-AVT3620C

**Radiated Spurious Emissions:  
U-NII-2A, CCK, Mid Channel, 26 GHz to 40 GHz, Vertical**

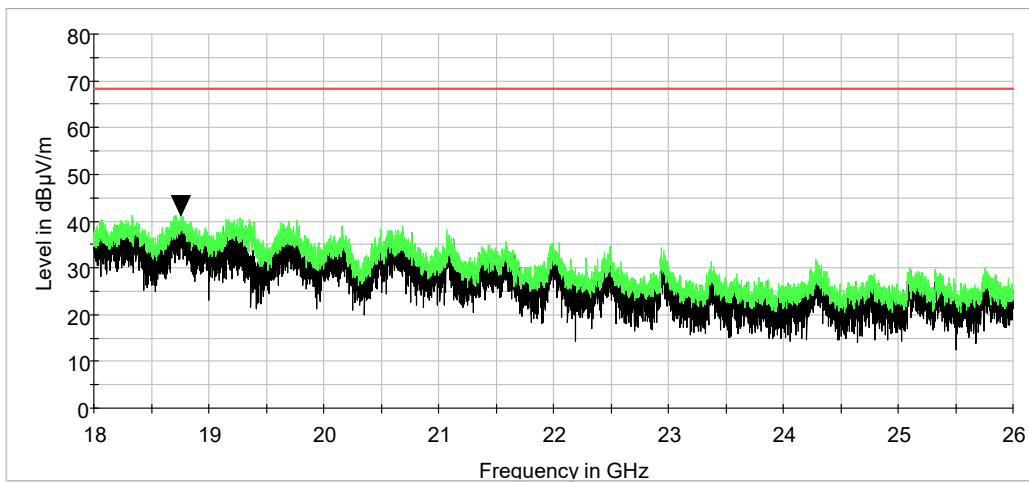




**Radiated Spurious Emissions:  
U-NII-2A, CCK, Mid Channel, 1 GHz to 18 GHz, Horizontal**



**Radiated Spurious Emissions:  
U-NII-2A, CCK, Mid Channel, 18 GHz to 26 GHz, Horizontal**

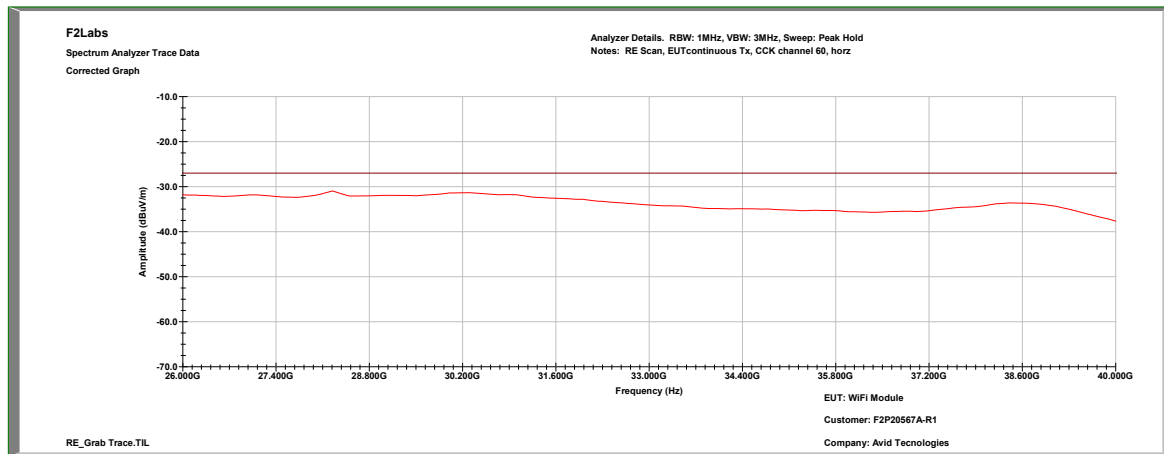




Order Number: F2P20567A-R1

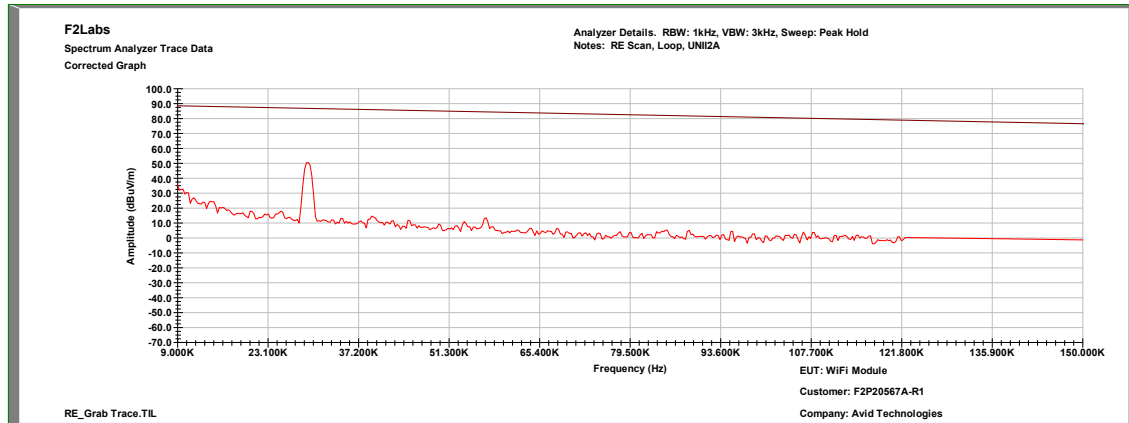
Applicant: Avnet Inc.  
FCC ID: 2AF62-AVT3620C

**Radiated Spurious Emissions:  
U-NII-2A, CCK, Mid Channel, 26 GHz to 40 GHz, Horizontal**

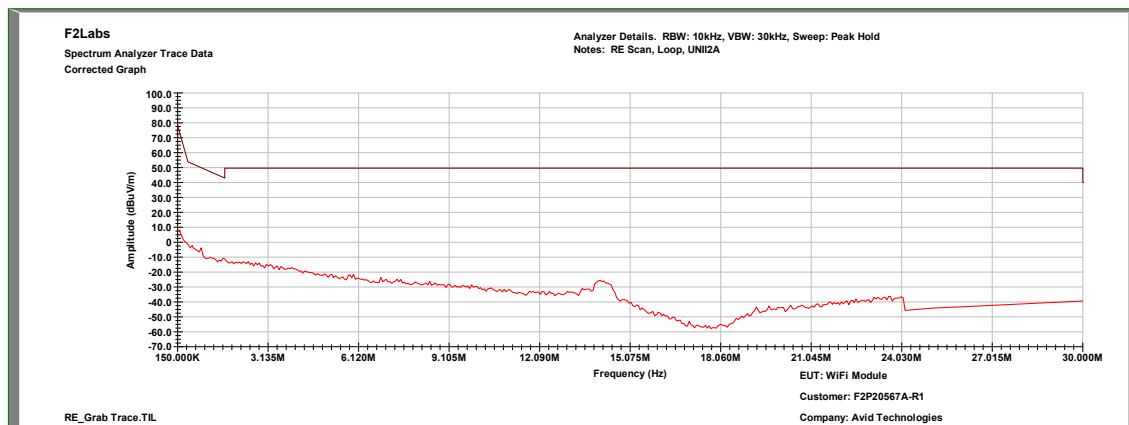




### Radiated Spurious Emissions: U-NII-2A, OFDM, Mid Channel, 9k to 150k

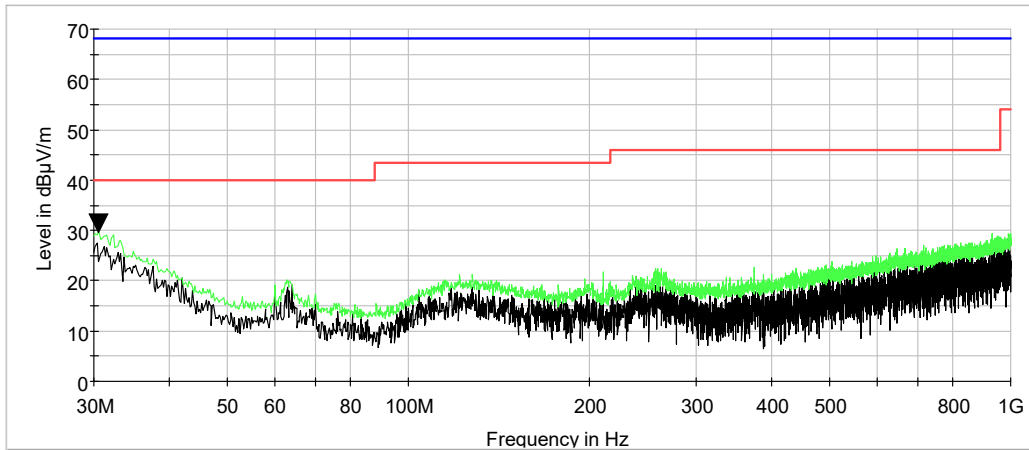


### Radiated Spurious Emissions: U-NII-2A, OFDM, Mid Channel, 150k to 30 MHz

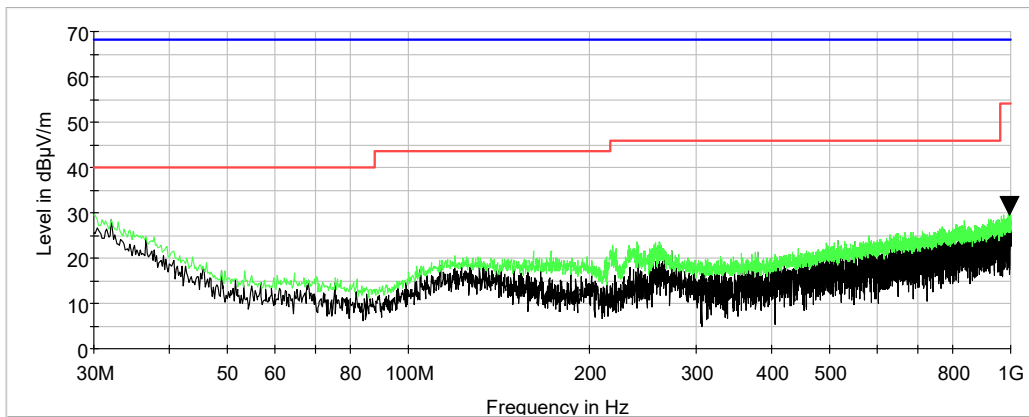




**Radiated Spurious Emissions:  
U-NII-2A, OFDM, Mid Channel, 30 MHz to 1 GHz, Vertical**

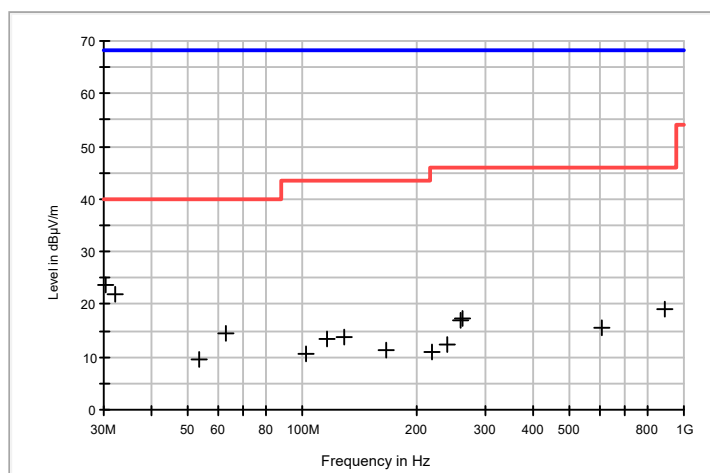


**Radiated Spurious Emissions:  
U-NII-2A, OFDM, Mid Channel, 30 MHz to 1 GHz, Horizontal**



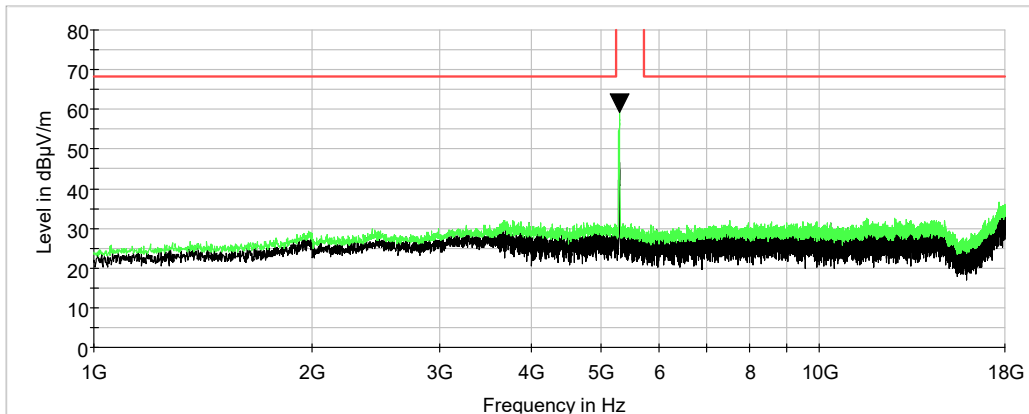
**Radiated Spurious Emissions:  
U-NII-2A, OFDM, 30 MHz to 1000 MHz**

| Frequency (MHz) | Antenna Polarization | Antenna Height (cm) | Azimuth (degrees) | Reading (dBμV) | Cable Loss & Antenna Factor (dB) | Emission (dBμV/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------|----------------------|---------------------|-------------------|----------------|----------------------------------|-------------------|----------------|-------------|
| 30.400000       | V                    | 100.00              | 0.00              | 17.4           | 6.4                              | 23.80             | 40.0           | -16.2       |
| 32.120000       | H                    | 100.00              | 0.00              | 17.1           | 5.0                              | 22.10             | 40.0           | -17.9       |
| 53.480000       | H                    | 100.00              | 0.00              | 16.8           | -7.3                             | 9.50              | 40.0           | -30.5       |
| 63.000000       | V                    | 100.00              | 0.00              | 21.7           | -7.3                             | 14.40             | 40.0           | -25.6       |
| 101.400000      | V                    | 100.00              | 0.00              | 15.8           | -5.1                             | 10.70             | 43.5           | -32.8       |
| 115.360000      | H                    | 100.00              | 0.00              | 15.6           | -2.1                             | 13.50             | 43.5           | -30.0       |
| 127.760000      | V                    | 100.00              | 0.00              | 15.4           | -1.6                             | 13.80             | 43.5           | -29.7       |
| 165.800000      | V                    | 100.00              | 0.00              | 14.7           | -3.4                             | 11.30             | 43.5           | -32.2       |
| 218.360000      | H                    | 100.00              | 0.00              | 15.3           | -4.4                             | 10.90             | 46.0           | -35.1       |
| 239.920000      | H                    | 100.00              | 0.00              | 16.0           | -3.6                             | 12.40             | 46.0           | -33.6       |
| 258.920000      | V                    | 100.00              | 0.00              | 20.2           | -3.1                             | 17.10             | 46.0           | -28.9       |
| 261.040000      | H                    | 100.00              | 0.00              | 20.3           | -2.9                             | 17.40             | 46.0           | -28.6       |
| 607.360000      | V                    | 100.00              | 0.00              | 11.8           | 3.8                              | 15.60             | 46.0           | -30.4       |
| 892.720000      | V                    | 100.00              | 0.00              | 11.8           | 7.2                              | 19.00             | 46.0           | -27.0       |





**Radiated Spurious Emissions:  
U-NII-2A, OFDM, Mid Channel, 1 GHz to 18 GHz, Vertical**

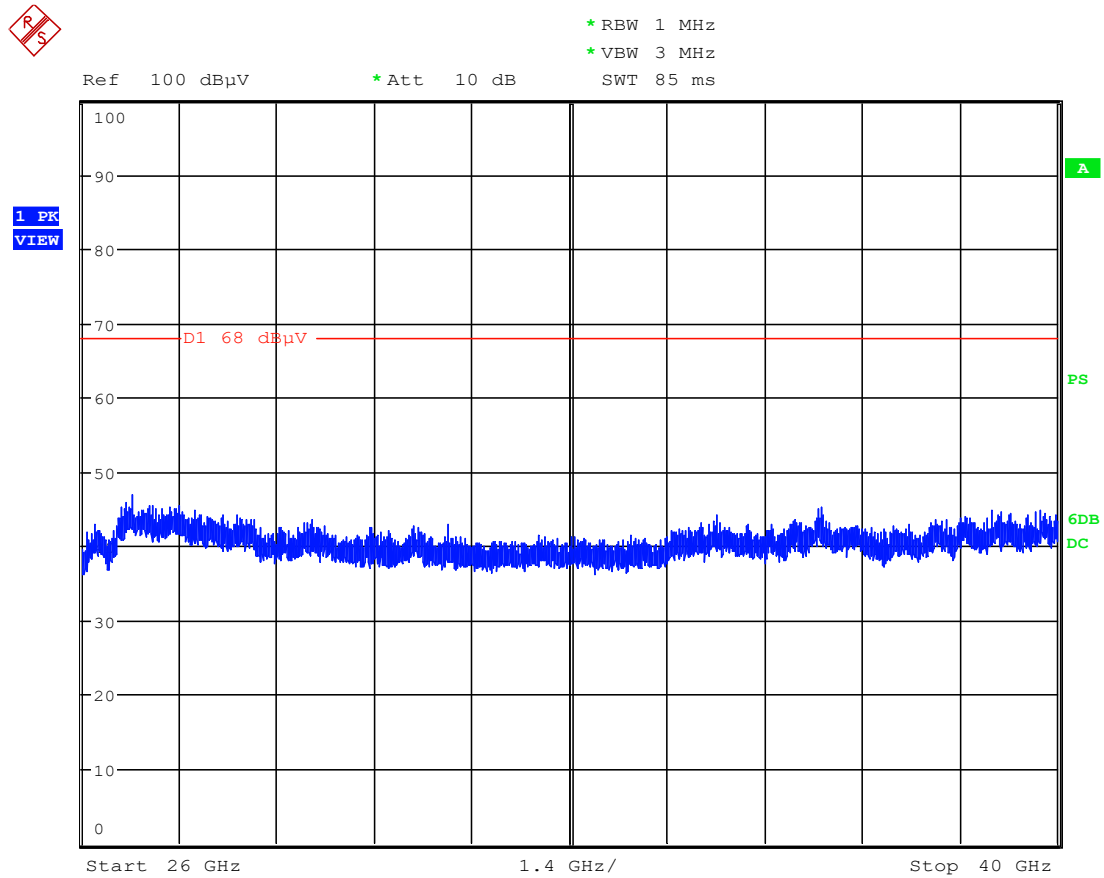


**Radiated Spurious Emissions:  
U-NII-2A, OFDM, Mid Channel, 18 GHz to 26 GHz, Vertical**





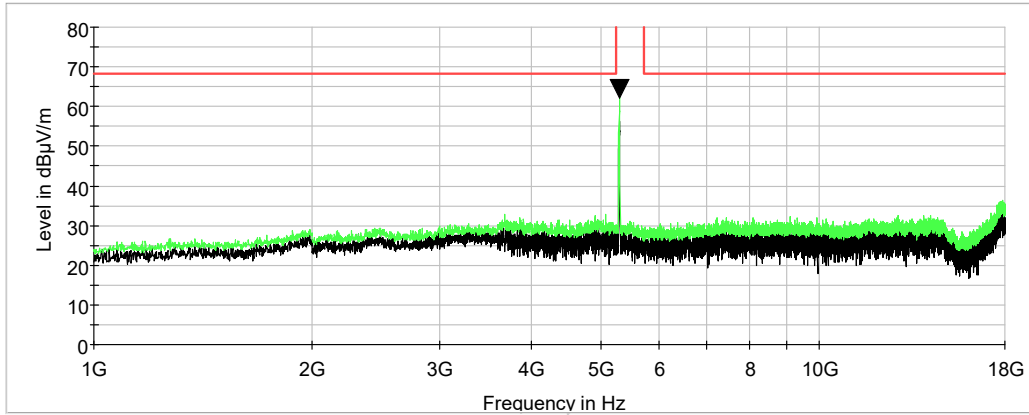
**Radiated Spurious Emissions:**  
**U-NII-2A, OFDM, Mid Channel, 26 GHz to 40 GHz, Vertical**



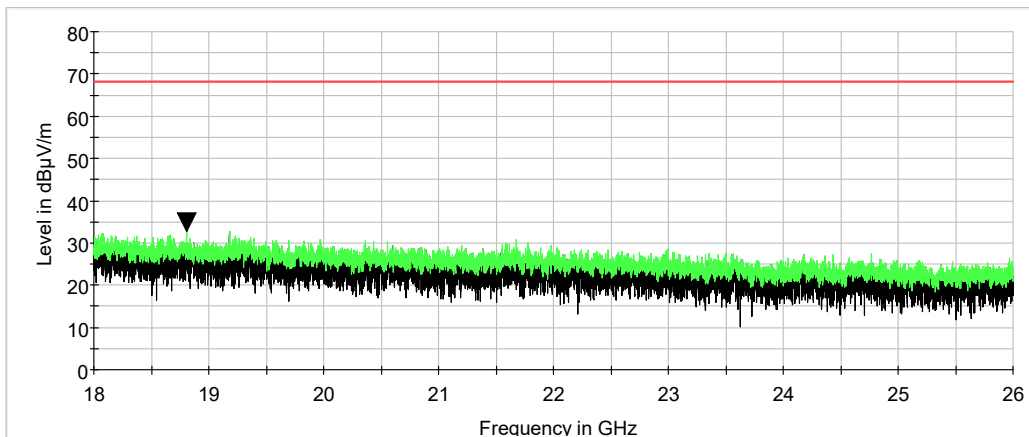
Date: 4.FEB.2020 14:41:35



**Radiated Spurious Emissions:  
U-NII-2A, OFDM, Mid Channel, 1 GHz to 18 GHz, Horizontal**

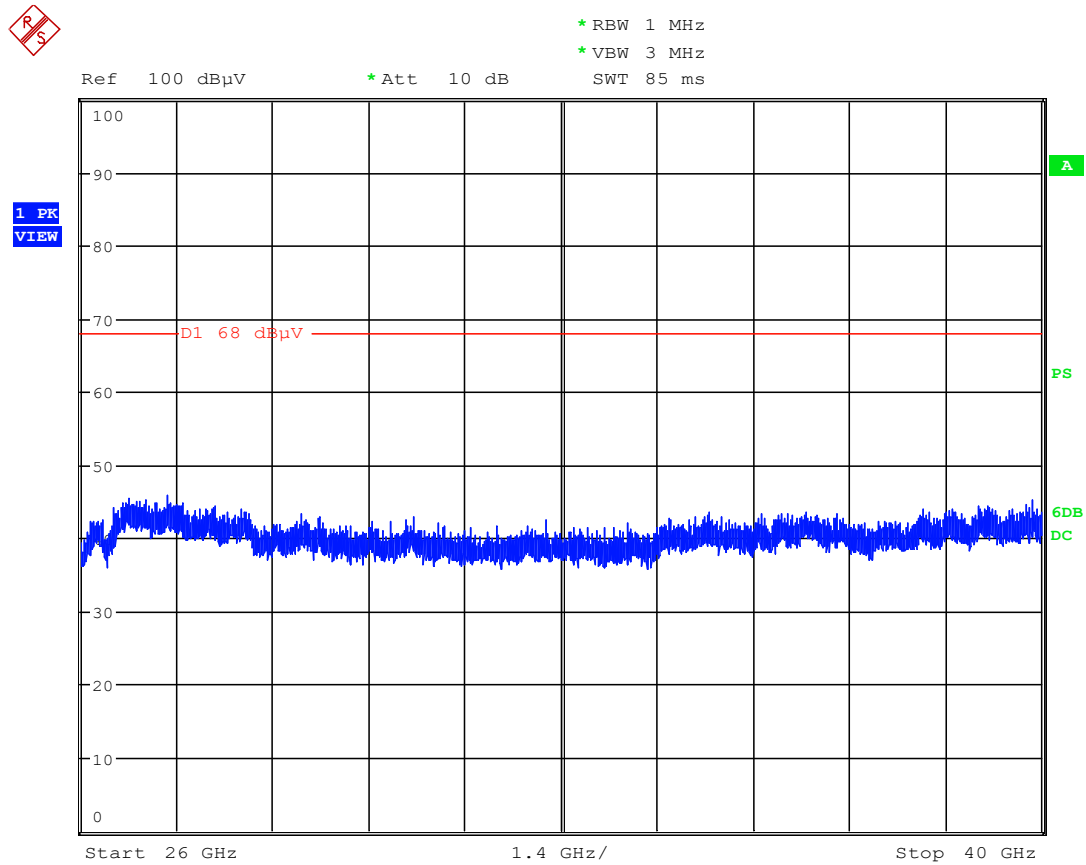


**Radiated Spurious Emissions:  
U-NII-2A, OFDM, Mid Channel, 18 GHz to 26 GHz, Horizontal**





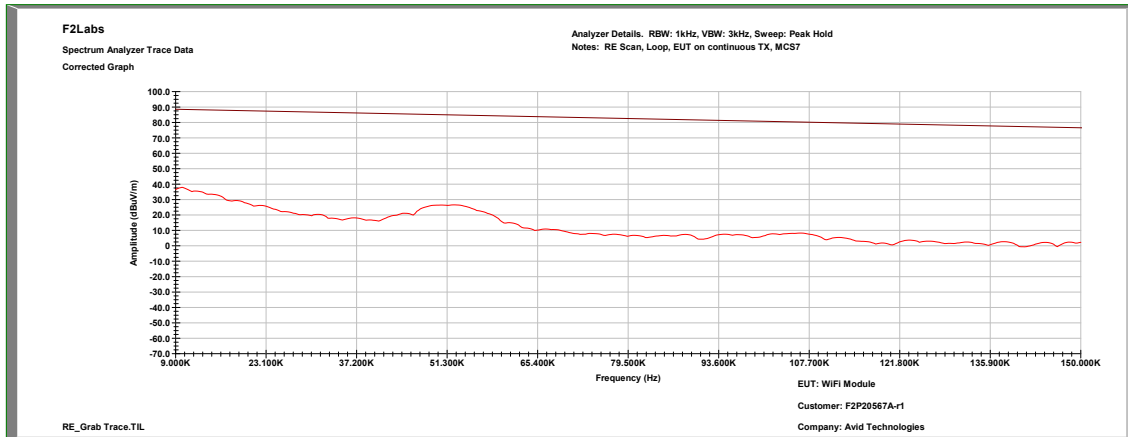
**Radiated Spurious Emissions:  
U-NII-2A, OFDM, Mid Channel, 26 GHz to 40 GHz, Horizontal**



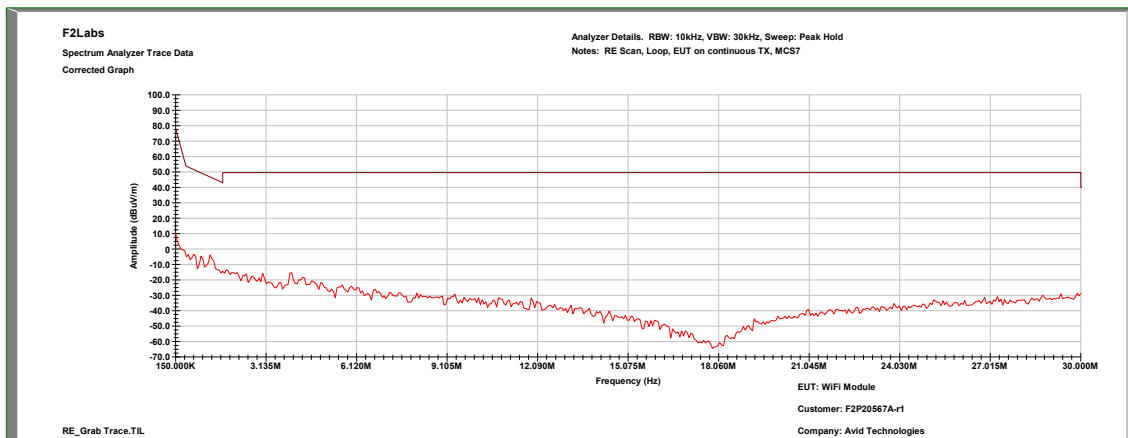
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### Radiated Spurious Emissions: U-NII-2A, MCS7, Mid Channel, 9k to 150k

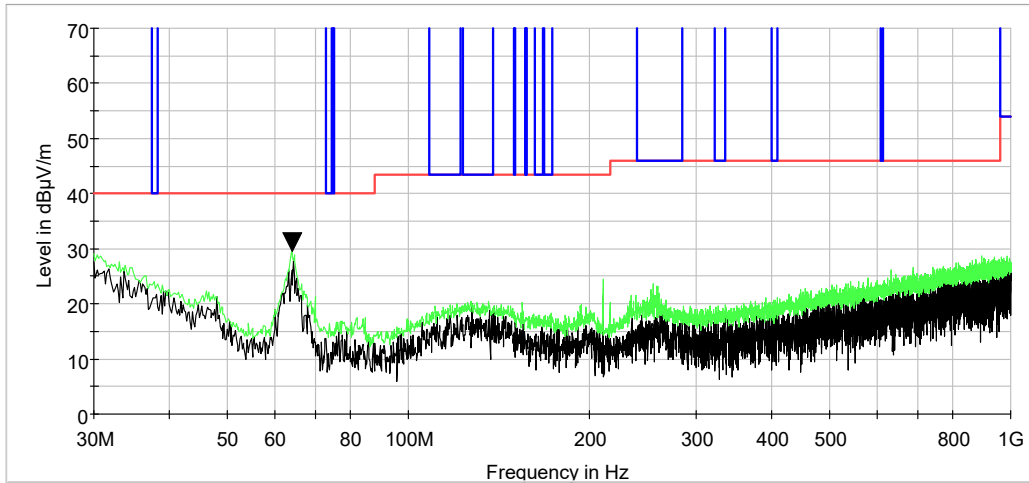


### Radiated Spurious Emissions: U-NII-2A, MCS7, Mid Channel, 150k to 30 MHz

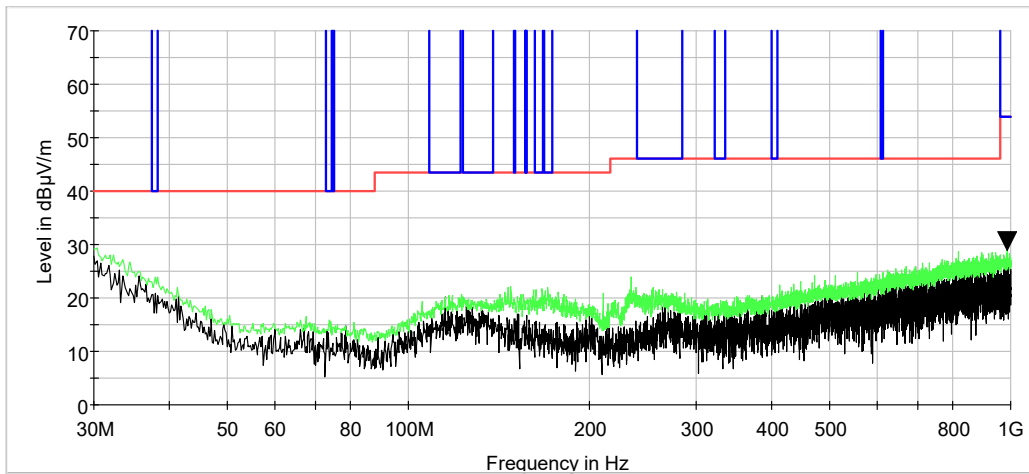




**Radiated Spurious Emissions:  
U-NII-2A, MCS7, Mid Channel, 30 MHz to 1 GHz, Vertical**

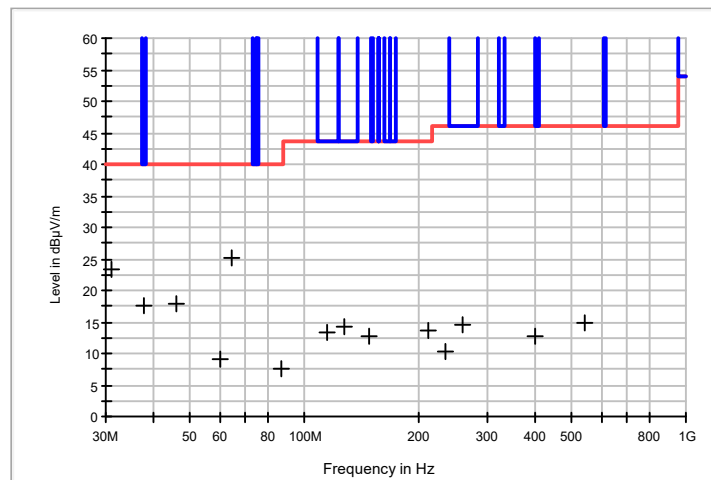


**Radiated Spurious Emissions:  
U-NII-2A, MCS7, Mid Channel, 30 MHz to 1 GHz, Horizontal**



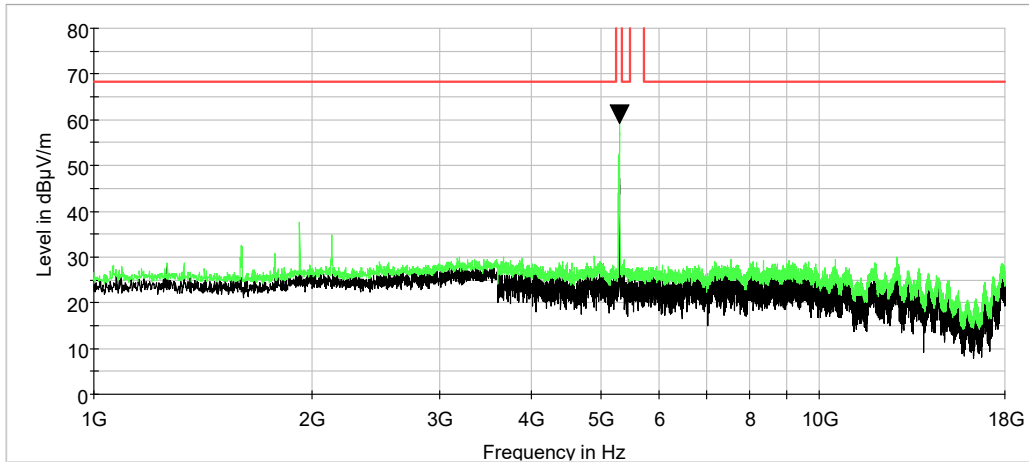
**Radiated Spurious Emissions:  
U-NII-2A, MCS7, 30 MHz to 1000 MHz**

| Frequency (MHz) | Antenna Polarization | Antenna Height (cm) | Azimuth (degrees) | Reading (dBμV) | Cable Loss & Antenna Factor (dB) | Emission (dBμV/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------|----------------------|---------------------|-------------------|----------------|----------------------------------|-------------------|----------------|-------------|
| 30.960000       | V                    | 100.00              | 0.00              | 17.3           | 5.9                              | 23.20             | 40.0           | -16.8       |
| 37.960000       | H                    | 100.00              | 0.00              | 16.8           | 0.8                              | 17.60             | 40.0           | -22.4       |
| 46.120000       | V                    | 100.00              | 0.00              | 22.5           | -4.8                             | 17.70             | 40.0           | -22.3       |
| 59.880000       | H                    | 100.00              | 0.00              | 16.5           | -7.5                             | 9.00              | 40.0           | -31.0       |
| 63.960000       | V                    | 100.00              | 0.00              | 32.3           | -7.2                             | 25.10             | 40.0           | -14.9       |
| 86.280000       | H                    | 100.00              | 0.00              | 15.6           | -8.1                             | 7.50              | 40.0           | -32.5       |
| 114.960000      | H                    | 100.00              | 0.00              | 15.5           | -2.2                             | 13.30             | 43.5           | -30.2       |
| 127.200000      | V                    | 100.00              | 0.00              | 15.7           | -1.6                             | 14.10             | 43.5           | -29.4       |
| 147.960000      | H                    | 100.00              | 0.00              | 15.7           | -2.9                             | 12.80             | 43.5           | -30.7       |
| 210.440000      | V                    | 100.00              | 0.00              | 18.4           | -4.7                             | 13.70             | 43.5           | -29.8       |
| 234.480000      | H                    | 100.00              | 0.00              | 14.2           | -3.8                             | 10.40             | 46.0           | -35.6       |
| 258.160000      | V                    | 100.00              | 0.00              | 17.7           | -3.2                             | 14.50             | 46.0           | -31.5       |
| 401.320000      | H                    | 100.00              | 0.00              | 12.1           | 0.6                              | 12.70             | 46.0           | -33.3       |
| 543.120000      | V                    | 100.00              | 0.00              | 11.6           | 3.1                              | 14.70             | 46.0           | -31.3       |

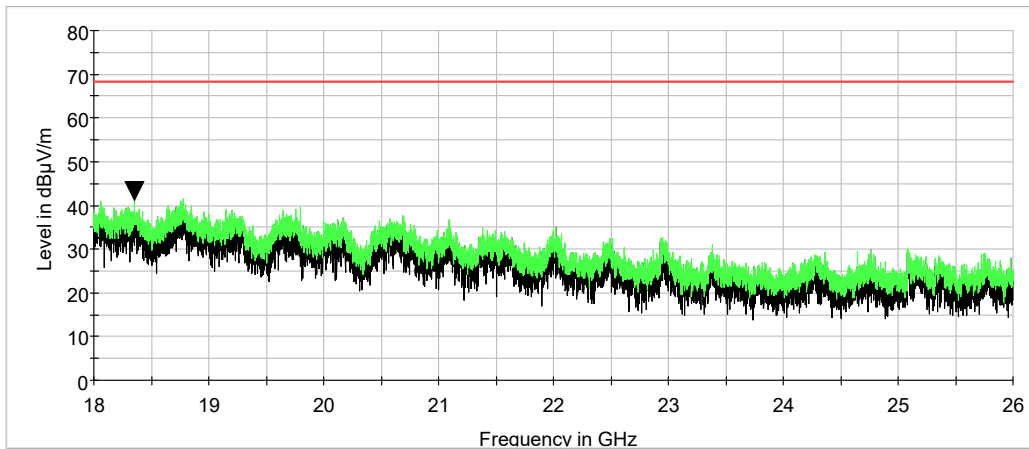




**Radiated Spurious Emissions:  
U-NII-2A, MCS7, Mid Channel, 1 GHz to 18 GHz, Vertical**



**Radiated Spurious Emissions:  
U-NII-2A, MCS7, Mid Channel, 18 GHz to 26 GHz, Vertical**

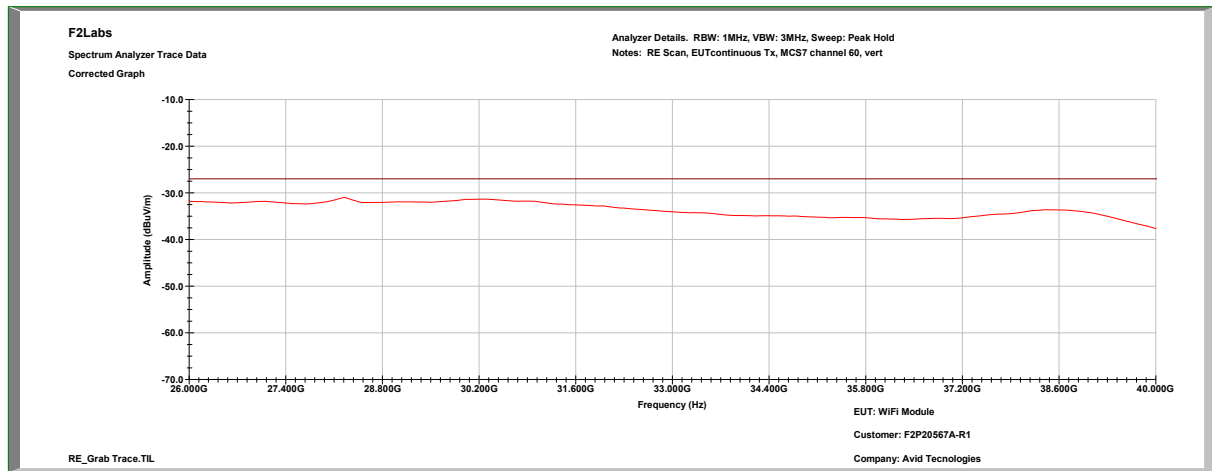




Order Number: F2P20567A-R1

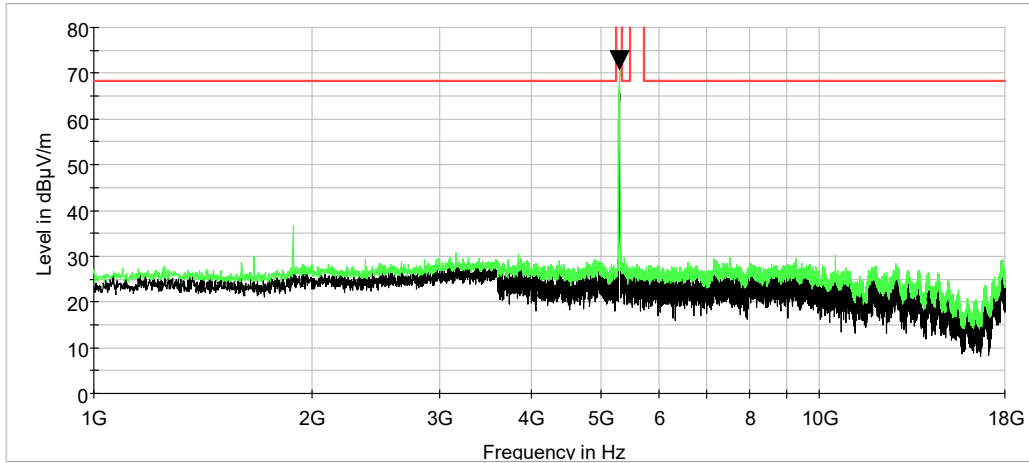
Applicant: Avnet Inc.  
FCC ID: 2AF62-AVT3620C

**Radiated Spurious Emissions:  
U-NII-2A, MCS7, Mid Channel, 26 GHz to 40 GHz, Vertical**

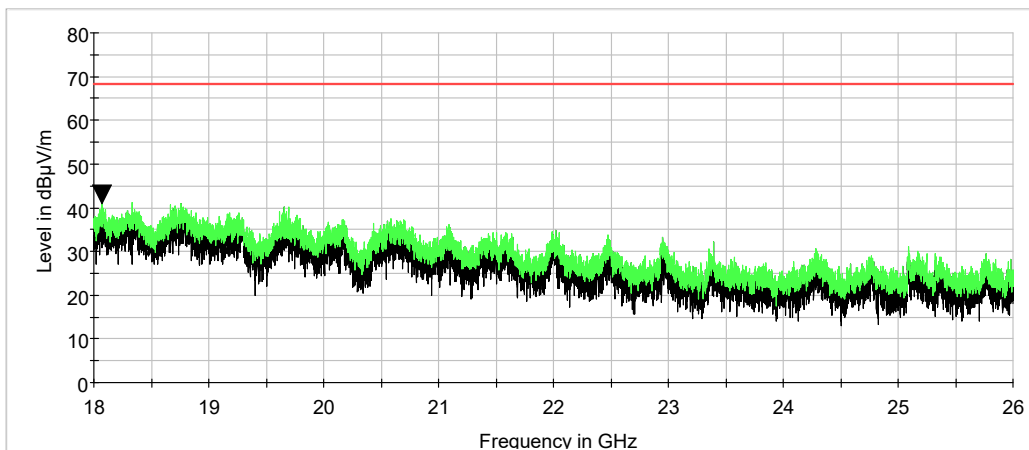




**Radiated Spurious Emissions:  
U-NII-2A, MCS7, Mid Channel, 1 GHz to 18 GHz, Horizontal**



**Radiated Spurious Emissions:  
U-NII-2A, MCS7, Mid Channel, 18 GHz to 26 GHz, Horizontal**

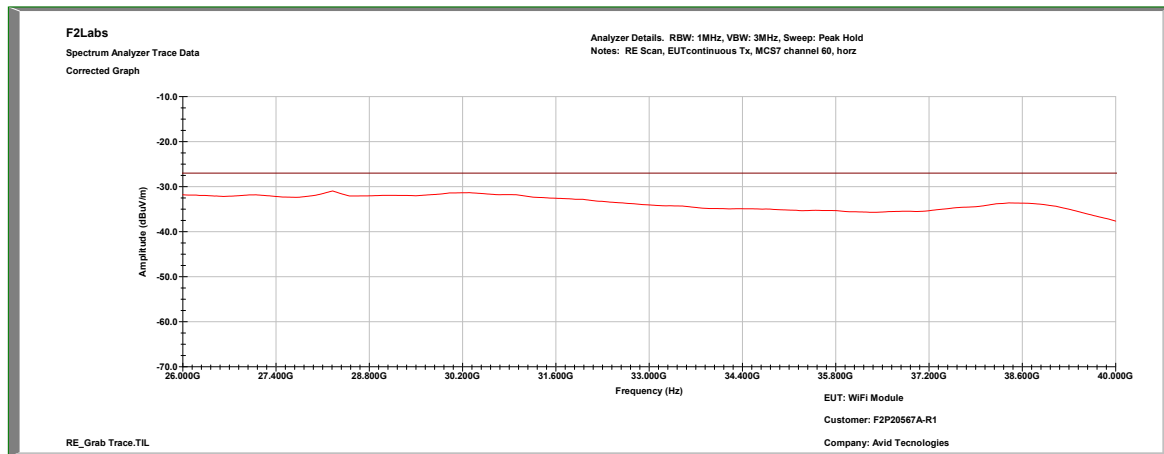




Order Number: F2P20567A-R1

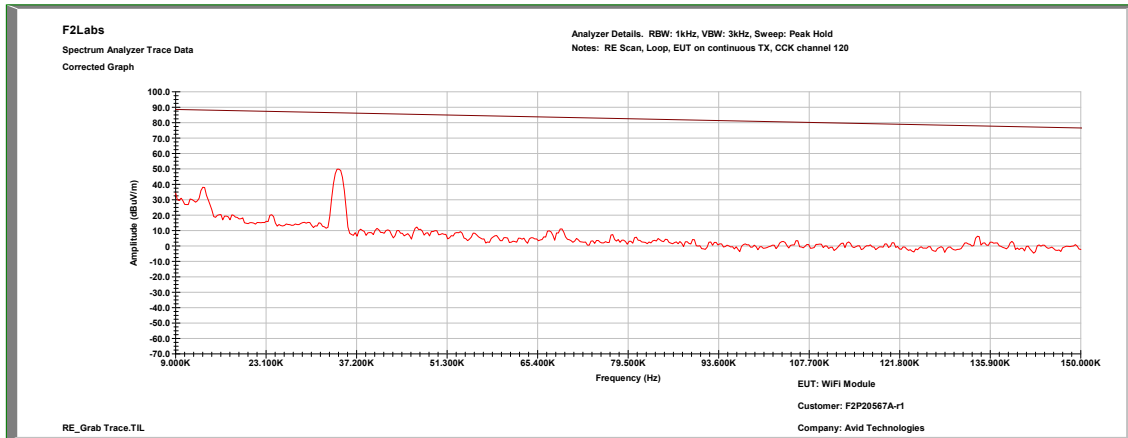
Applicant: Avnet Inc.  
FCC ID: 2AF62-AVT3620C

**Radiated Spurious Emissions:  
U-NII-2A, MCS7, Mid Channel, 26 GHz to 40 GHz, Horizontal**

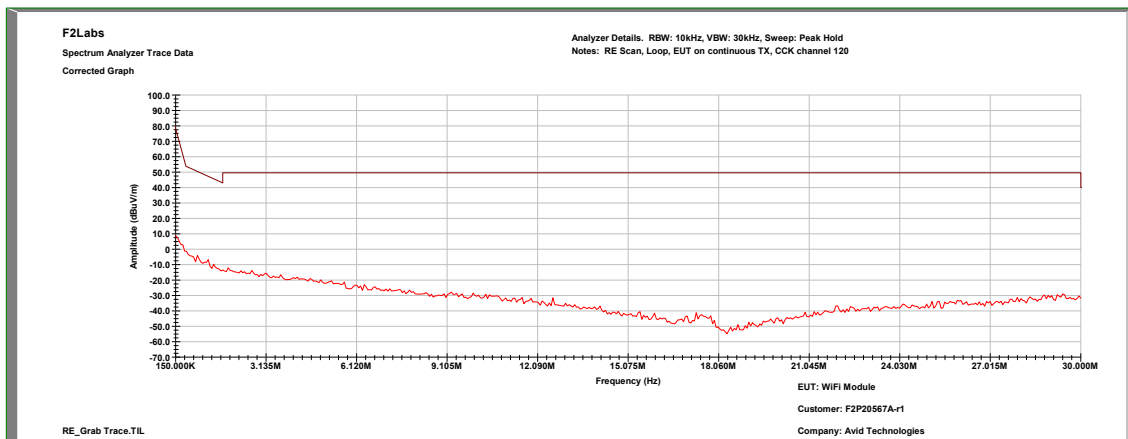




## U-NII-2C, CCK, Mid Channel, 9k to 150k

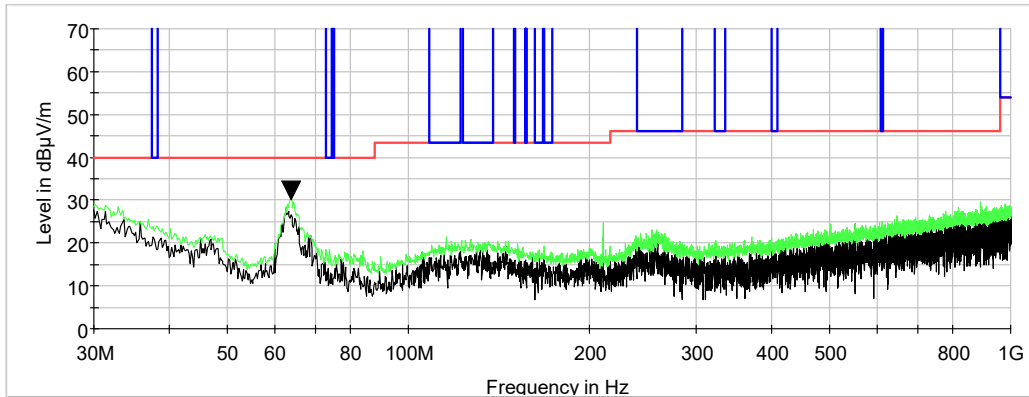


## Radiated Spurious Emissions: U-NII-2C, CCK, Mid Channel, 150k to 30 MHz

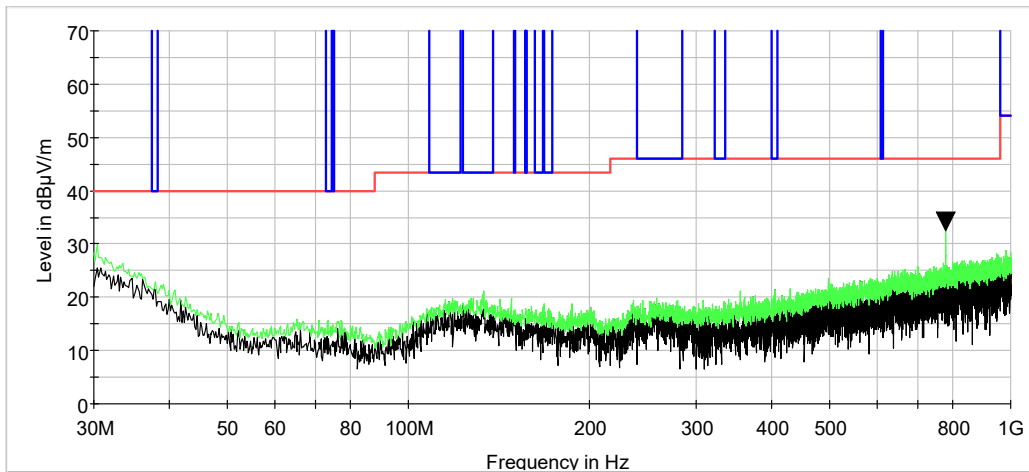




**Radiated Spurious Emissions:  
U-NII-2C, CCK, Mid Channel, 30 MHz to 1 GHz, Vertical**

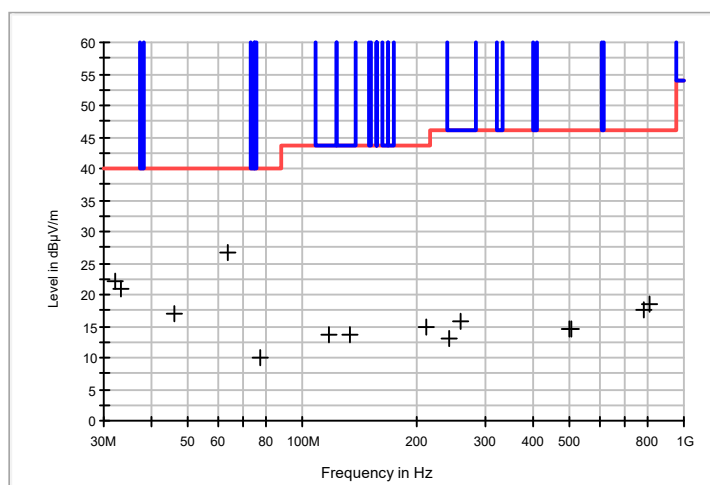


**Radiated Spurious Emissions:  
U-NII-2C, CCK, Mid Channel, 30 MHz to 1 GHz, Horizontal**



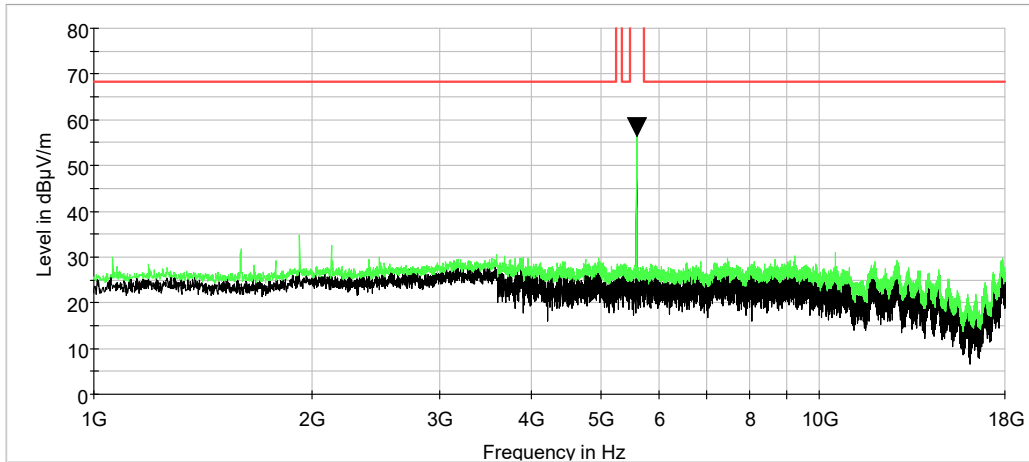
**Radiated Spurious Emissions:  
U-NII-2C, CCK, 30 MHz to 1000 MHz**

| Frequency (MHz) | Antenna Polarization | Antenna Height (cm) | Azimuth (degrees) | Reading (dB $\mu$ V) | Cable Loss & Antenna Factor (dB) | Emission (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) |
|-----------------|----------------------|---------------------|-------------------|----------------------|----------------------------------|-------------------------|----------------------|-------------|
| 32.320000       | V                    | 100.00              | 0.00              | 17.3                 | 4.9                              | 22.20                   | 40.0                 | -17.8       |
| 33.120000       | H                    | 100.00              | 0.00              | 16.7                 | 4.3                              | 21.00                   | 40.0                 | -19.0       |
| 45.720000       | V                    | 100.00              | 340.00            | 21.7                 | -4.6                             | 17.10                   | 40.0                 | -22.9       |
| 63.560000       | V                    | 102.00              | 340.00            | 33.8                 | -7.3                             | 26.50                   | 40.0                 | -13.5       |
| 77.520000       | H                    | 100.00              | 0.00              | 17.4                 | -7.5                             | 9.90                    | 40.0                 | -30.1       |
| 116.720000      | V                    | 100.00              | 340.00            | 15.5                 | -2.0                             | 13.50                   | 43.5                 | -30.0       |
| 133.200000      | H                    | 100.00              | 0.00              | 15.2                 | -1.7                             | 13.50                   | 43.5                 | -30.0       |
| 210.440000      | V                    | 100.00              | 340.00            | 19.5                 | -4.7                             | 14.80                   | 43.5                 | -28.7       |
| 242.440000      | H                    | 100.00              | 0.00              | 16.5                 | -3.5                             | 13.00                   | 46.0                 | -33.0       |
| 259.120000      | V                    | 100.00              | 340.00            | 18.8                 | -3.1                             | 15.70                   | 46.0                 | -30.3       |
| 500.840000      | V                    | 100.00              | 340.00            | 11.9                 | 2.7                              | 14.60                   | 46.0                 | -31.4       |
| 504.720000      | H                    | 100.00              | 0.00              | 12.0                 | 2.7                              | 14.70                   | 46.0                 | -31.3       |
| 780.400000      | H                    | 100.00              | 0.00              | 11.5                 | 6.1                              | 17.60                   | 46.0                 | -28.4       |
| 808.120000      | V                    | 100.00              | 340.00            | 12.1                 | 6.3                              | 18.40                   | 46.0                 | -27.6       |

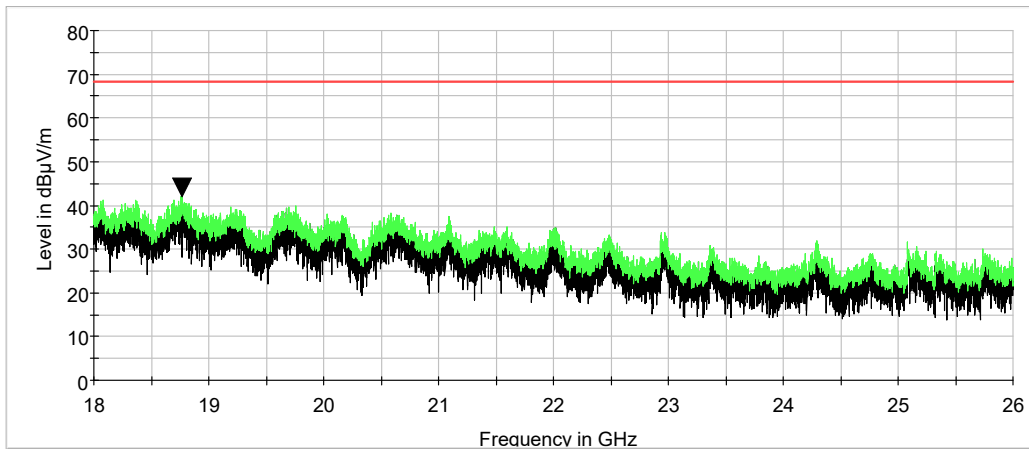




**Radiated Spurious Emissions:  
U-NII-2C, CCK, Mid Channel, 1 GHz to 18 GHz, Vertical**



**Radiated Spurious Emissions:  
U-NII-2C, CCK, Mid Channel, 18 GHz to 26 GHz, Vertical**

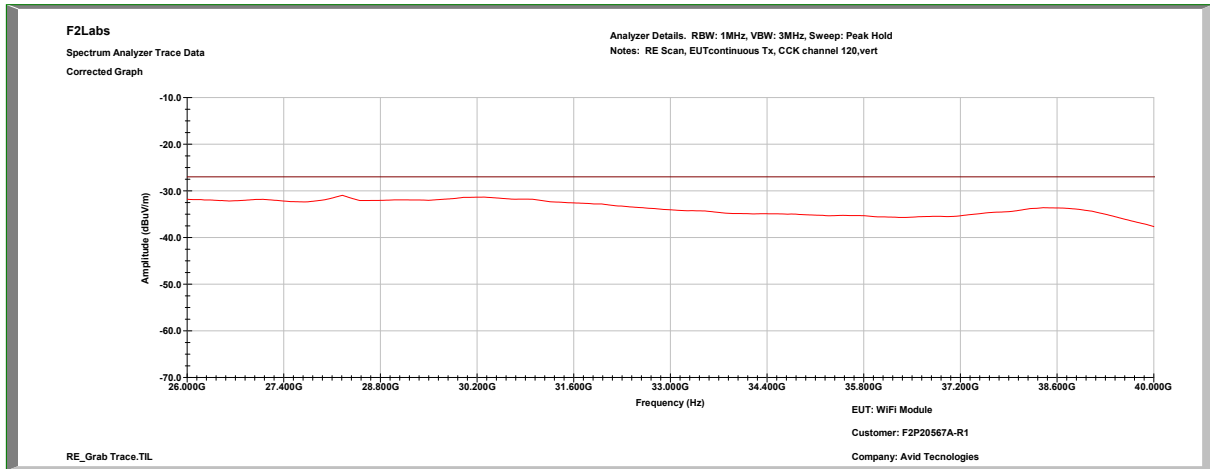




Order Number: F2P20567A-R1

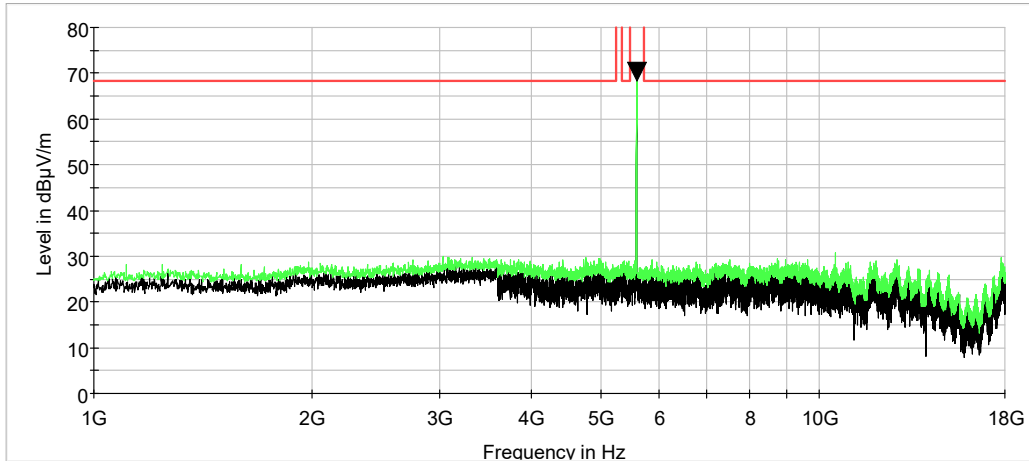
Applicant: Avnet Inc.  
FCC ID: 2AF62-AVT3620C

**Radiated Spurious Emissions:  
U-NII-2C, CCK, Mid Channel, 26 GHz to 40 GHz, Vertical**

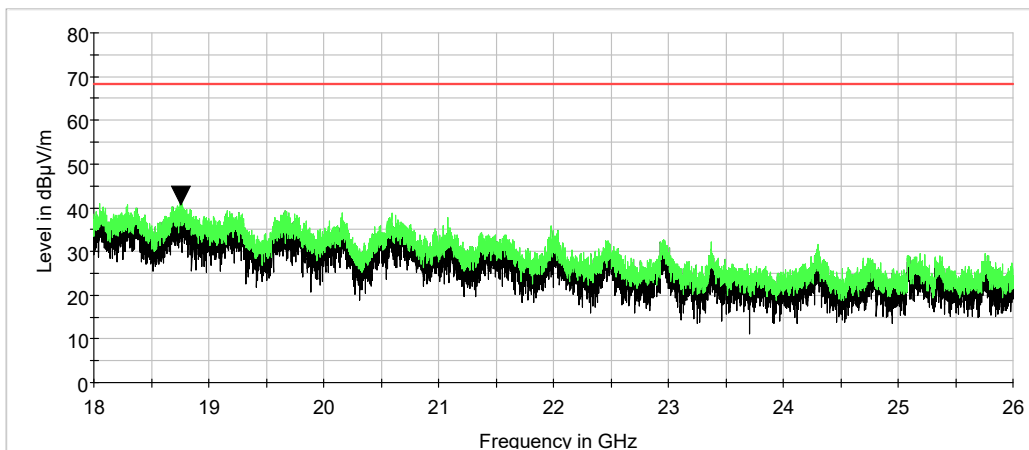




**Radiated Spurious Emissions:  
U-NII-2C, CCK, Mid Channel, 1 GHz to 18 GHz, Horizontal**



**Radiated Spurious Emissions:  
U-NII-2C, CCK, Mid Channel, 18 GHz to 26 GHz, Horizontal**

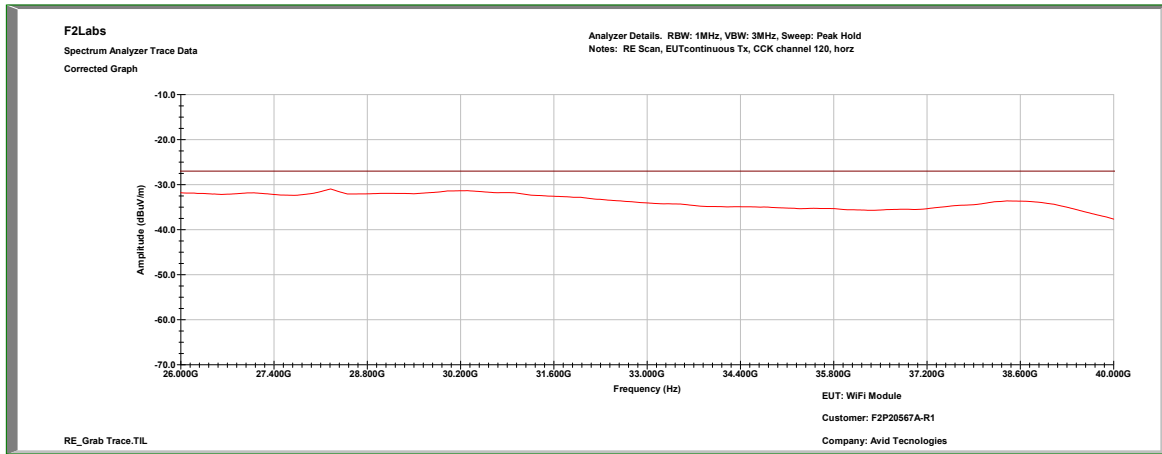




Order Number: F2P20567A-R1

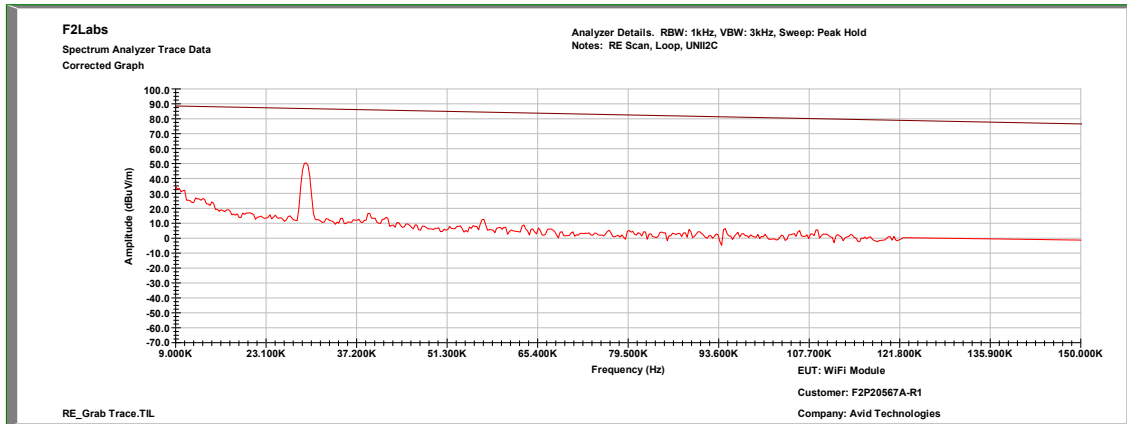
Applicant: Avnet Inc.  
FCC ID: 2AF62-AVT3620C

**Radiated Spurious Emissions:  
U-NII-2C, CCK, Mid Channel, 26 GHz to 40 GHz, Horizontal**

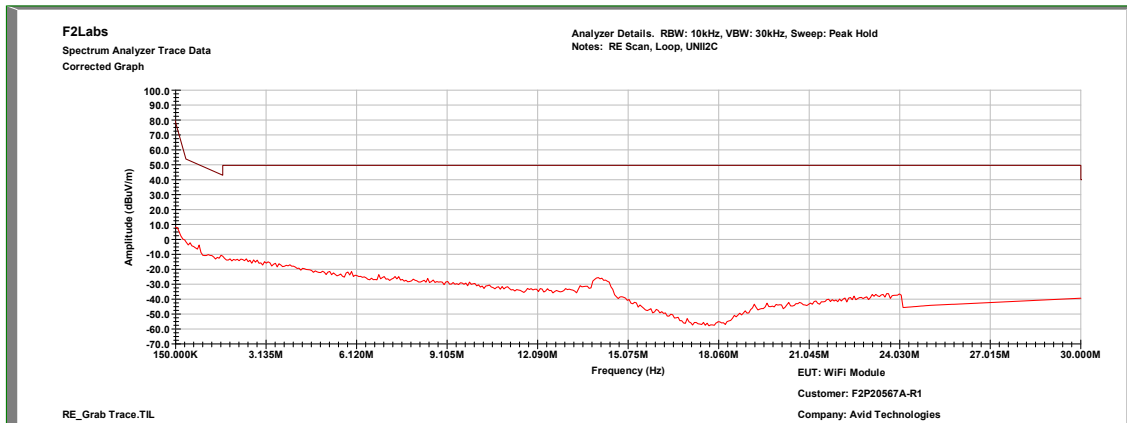




**Radiated Spurious Emissions:  
U-NII-2C, OFDM, Mid Channel, 9k to 150k**

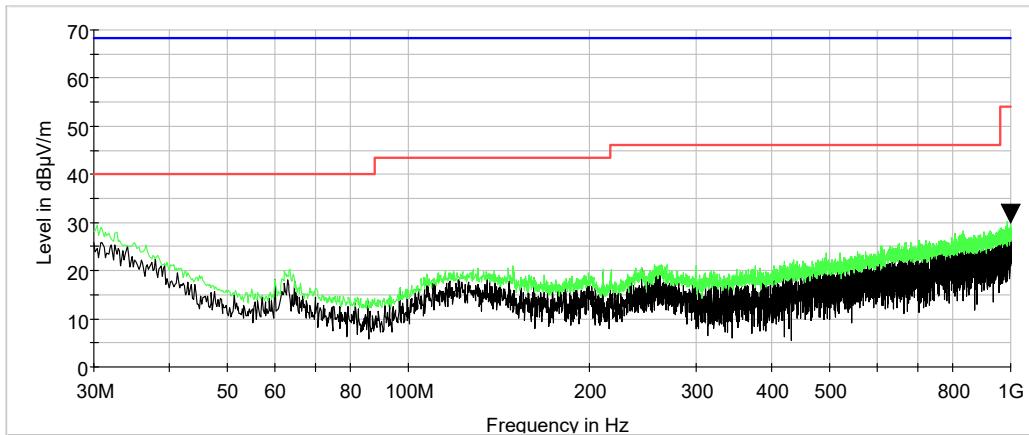


**Radiated Spurious Emissions:  
U-NII-2C, OFDM, Mid Channel, 150k to 30 MHz**





**Radiated Spurious Emissions:  
U-NII-2C, OFDM, Mid Channel, 30 MHz to 1 GHz, Vertical**



**Radiated Spurious Emissions:  
U-NII-2C, OFDM, Mid Channel, 30 MHz to 1 GHz, Horizontal**

