



**DATE: 21 December 2020**

**I.T.L. (PRODUCT TESTING) LTD.  
FCC Radio Test Report**

**For**

**Corning Optical Communication Wireless**

**Equipment under test:**

**ONE - Optical Network Evolution Wireless  
Platform**

**MRU (Mid Power Remote Unit)**

**(WCS Section)**

Tested by:

M. Zohar

Approved by:

D. Shidlowky

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This report relates only to items tested.





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# 1 General Information

## 1.1 Administrative Information

|                                |  |
|--------------------------------|--|
| Manufacturer:                  | Corning Optical Communication<br>Wireless                                |
| Manufacturer's Address:        | 8253 1st Street<br>Vienna, VA 22812<br>U.S.A.<br>Tel: +1-703 855-1773    |
| Manufacturer's Representative: | Isaac Nissan   |
| Equipment Under Test (E.U.T):  | ONE - Optical Network Evolution<br>Wireless Platform                     |
| Equipment Model No.:           | MRU (Mid Power Remote Unit)  |
| Equipment Serial No.:          | Not Designated   |
| Date of Receipt of E.U.T:      | September 01, 2020   |
| Start of Test:                 | September 01, 2020   |
| End of Test:                   | November 12, 2020  |
| Test Laboratory Location:      | I.T.L (Product Testing) Ltd.<br>1 Batsheva St,<br>Lod,<br>Israel 7116002 |
| Test Specifications:           | FCC Parts 2; 27  |



## **1.2 List of Accreditations**

The EMC laboratory of I.T.L. is accredited by/registered with the following bodies:

1. The American Association for Laboratory Accreditation (A2LA) (U.S.A.), Certificate No. 1152.01.
2. The Federal Communications Commission (FCC) (U.S.A.), FCC Designation Number is IL1005.
3. The Israel Ministry of the Environment (Israel), Registration No. 1104/01.
4. The Voluntary Control Council for Interference by Information Technology Equipment (VCCI) (Japan), Registration Numbers: C-20025, R-2729, T-20028, G-20068.
5. Department of Innovation, Science and Economic Development (ISED) Canada, CAB identifier: IL1002.

I.T.L. Product Testing Ltd. is accredited by the American Association for Laboratory Accreditation (A2LA) and the results shown in this test report have been determined in accordance with I.T.L.'s terms of accreditation unless stated otherwise in the report.



### **1.3 Product Description**

Modular 7 band Enabled Mid Power Neutral Host Solution –

Supported modular frequency bands

700, ESMR+CELL, PCS, AWS, WCS

Integrated 2.5 GHz expansion ready

Composite Output Power

AWS: 34dBm

PCS, WCS: 33dBm

700, ESMR & CELL: 30dBm

Specifications

100% Modularity

NEBS Class 2 Compliant

Small Footprint – 6 Rack Units

Highlights:

Extended ONE platform design Diversity

100% modular component design

Composite output power: 2W

Small Compact Form Factor (6U)

Non-Service Impacting Upgrades

Lower initial deployment costs

### **1.4 Test Methodology**

Both conducted and radiated testing were performed according to the procedures in KDB 935210 D05 v01r04 April 2020, KDB 971168 D03 v01 and ANSI/TIA-603-E-2016. Radiated testing was performed at an antenna to EUT distance of 3 meters.

### **1.5 Test Facility**

Both conducted and radiated emissions tests were performed at I.T.L.'s testing facility in Lod, Israel. I.T.L.'s EMC Laboratory is accredited by A2LA, certificate No. 1152.01 and its FCC Designation Number is IL1005.

### **1.6 Measurement Uncertainty**

Conducted Emission (CISPR 11, EN 55011, CISPR 32, EN 55032, ANSI C63.4)

0.15 – 30 MHz:

Expanded Uncertainty (95% Confidence, K=2):

± 3.44 dB

Radiated Emission (CISPR 11, EN 55011, CISPR 32, EN 55032, ANSI C63.4) for open site 30-1000MHz:

Expanded Uncertainty (95% Confidence, K=2):

± 4.98 dB



## 2 System Test Configuration

### 2.1 *Justification*

1. The E.U.T was originally FCC certified on 02/21/2017. It originally supported cellular 3G & 4G technology.
2. Currently the manufacturer has made the following C2PC changes:  
Enabling the use of 5G technology via software changes only with the same operation bands. No changes have been made to the hardware.
3. The following tests were performed: RF Output Power, Occupied Bandwidth and Spurious Emissions.
4. The EUT meets the requirements of a C2PC.

### 2.2 *EUT Exercise Software*

The Element Management System ver. 2.0 used for commands delivery. These commands are used to enable/disable the EUT transmission. EUT Embedded SW versions is mru\_da64\_20\_02.bin.

### 2.3 *Special Accessories*

No special accessories were needed in order to achieve compliance.

### 2.4 *Equipment Modifications*

No modifications were necessary in order to achieve compliance.

## 2.5 Configuration of Tested System

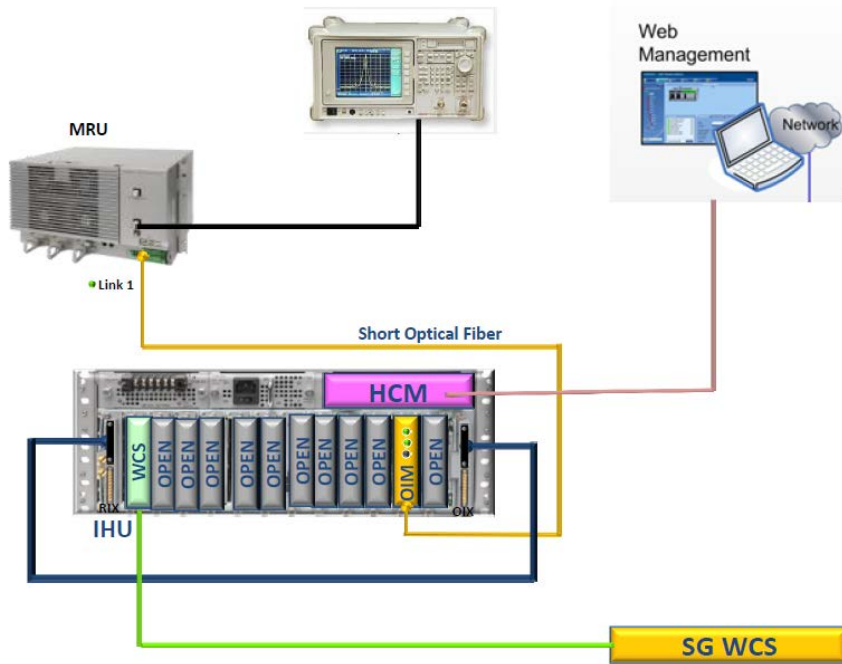


Figure 1. Conducted Test Set-Up

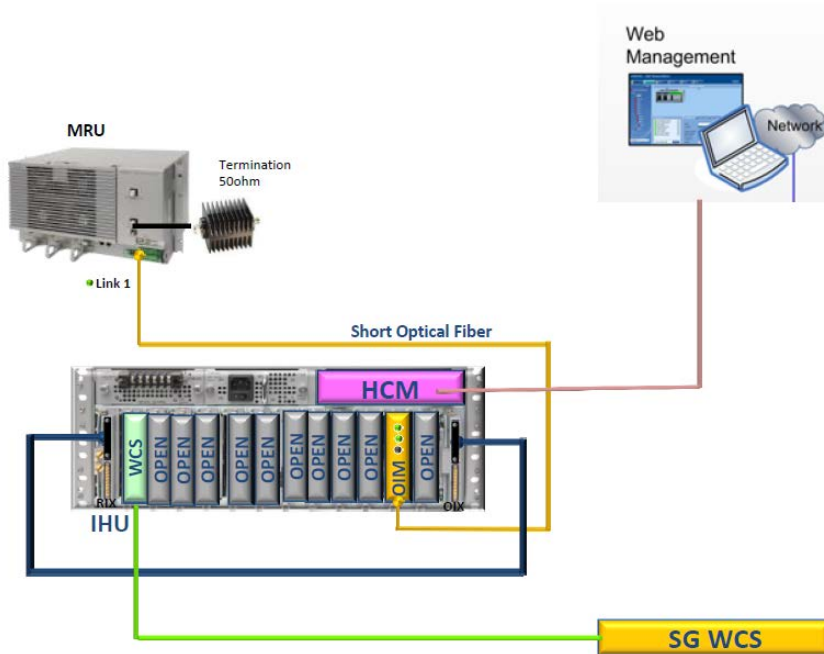


Figure 2. Radiated Test Set-Up



### 3 Test Set-Up Photos

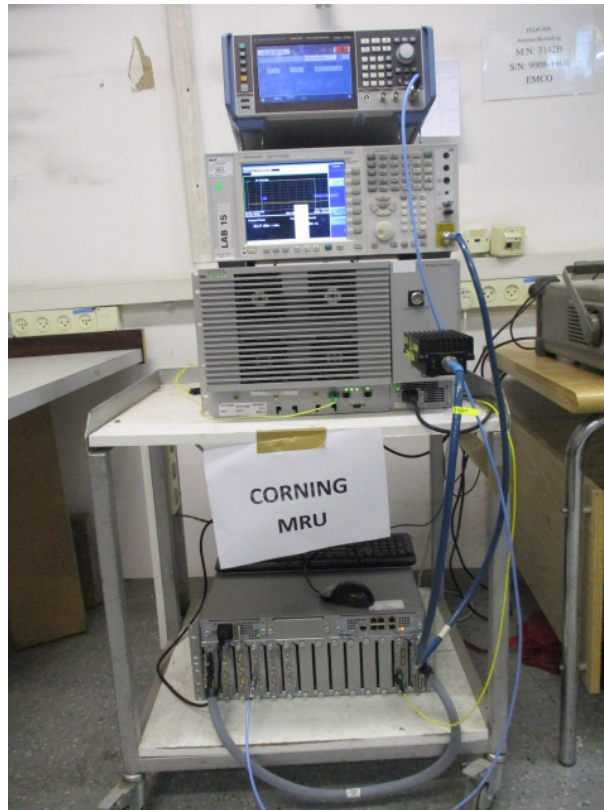


Figure 3. Conducted Emission From Antenna Port Tests

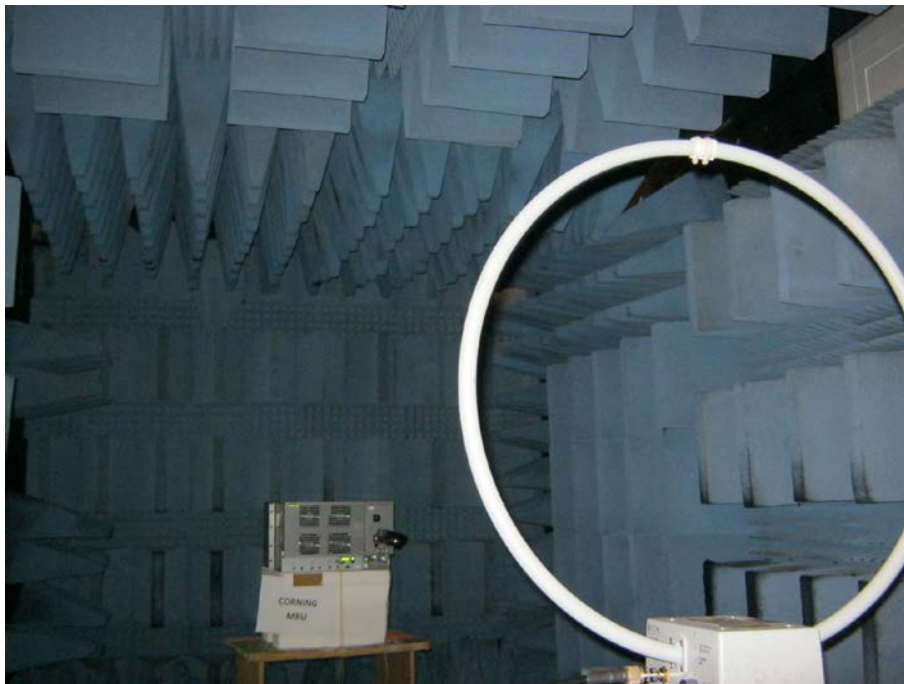


Figure 4. Radiated Emission Test 9kHz - 30MHz



Figure 5. Radiated Emission Test 30 - 200 MHz

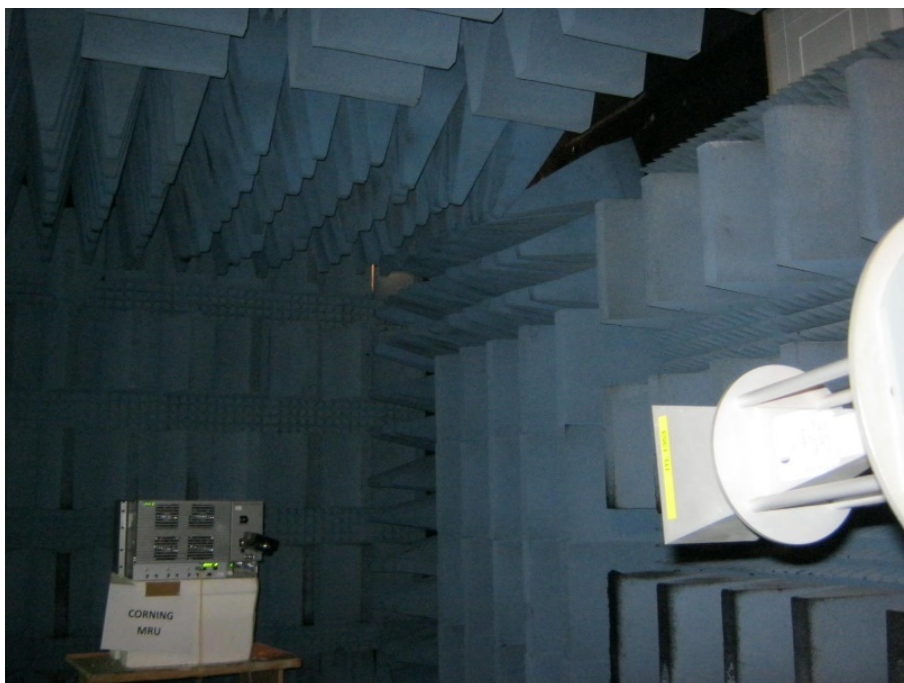


Figure 6. Radiated Emission Test 200 - 1000MHz





**Figure 7. Radiated Emission Test 1-18GHz**



**Figure 8. Radiated Emission Test 18-26.5GHz**



## 4 RF Power Output

### 4.1 **Test Specification**

FCC Part 27, Subpart C (27.50)

KDB 935210 D05 v01r01, Section 3.

### 4.2 **Test Procedure**

(Temperature (22°C)/ Humidity (60%RH))

The E.U.T. antenna terminal was connected to the Spectrum Analyzer through an external attenuator and an appropriate coaxial cable (41.0 dB). Special attention was taken to prevent Spectrum Analyzer RF input overload.

### 4.3 **Test Limit**

Peak Power Output must not exceed 2000 Watts (63dBm).

### 4.4 **Test Results**

JUDGEMENT:                      Passed

See additional information in Table 1 to Table 4 and Figure 9 to Figure 44.



| Modulation | Bandwidth (MHz) | Sub Carrier (kHz) | Operation Frequency (MHz) | Reading (dBm) |
|------------|-----------------|-------------------|---------------------------|---------------|
| 16QAM      | 5               | 15                | 2352.5                    | 32.89         |
|            |                 | 30                | 2352.5                    | 32.41         |
|            |                 | 15                | 2355.0                    | 32.05         |
|            |                 | 30                | 2355.0                    | 32.22         |
|            |                 | 15                | 2357.5                    | 32.63         |
|            |                 | 30                | 2357.5                    | 32.02         |
|            | 10              | 15                | 2355.0                    | 32.77         |
|            |                 | 30                | 2355.0                    | 32.21         |
|            |                 | 60                | 2355.0                    | 32.71         |

**Table 1 RF Power Output 16QAM**

| Modulation | Bandwidth (MHz) | Sub Carrier (kHz) | Operation Frequency (MHz) | Reading (dBm) |
|------------|-----------------|-------------------|---------------------------|---------------|
| 64QAM      | 5               | 15                | 2352.5                    | 32.24         |
|            |                 | 30                | 2352.5                    | 32.09         |
|            |                 | 15                | 2355.0                    | 32.52         |
|            |                 | 30                | 2355.0                    | 32.80         |
|            |                 | 15                | 2357.5                    | 32.12         |
|            |                 | 30                | 2357.5                    | 32.58         |
|            | 10              | 15                | 2355.0                    | 32.04         |
|            |                 | 30                | 2355.0                    | 32.84         |
|            |                 | 60                | 2355.0                    | 32.00         |

**Table 2 RF Power Output 64QAM**



| Modulation | Bandwidth (MHz) | Sub Carrier (kHz) | Operation Frequency (MHz) | Reading (dBm) |
|------------|-----------------|-------------------|---------------------------|---------------|
| 256QAM     | 5               | 15                | 2352.5                    | 32.05         |
|            |                 | 30                | 2352.5                    | 32.80         |
|            |                 | 15                | 2355.0                    | 32.75         |
|            |                 | 30                | 2355.0                    | 32.71         |
|            |                 | 15                | 2357.5                    | 32.56         |
|            |                 | 30                | 2357.5                    | 32.69         |
|            | 10              | 15                | 2355.0                    | 32.57         |
|            |                 | 30                | 2355.0                    | 32.53         |
|            |                 | 60                | 2355.0                    | 32.39         |

Table 3 RF Power Output 256QAM

| Modulation | Bandwidth (MHz) | Sub Carrier (kHz) | Operation Frequency (MHz) | Reading (dBm) |
|------------|-----------------|-------------------|---------------------------|---------------|
| QPSK       | 5               | 15                | 2352.5                    | 32.01         |
|            |                 | 30                | 2352.5                    | 32.10         |
|            |                 | 15                | 2355.0                    | 32.73         |
|            |                 | 30                | 2355.0                    | 32.22         |
|            |                 | 15                | 2357.5                    | 32.60         |
|            |                 | 30                | 2357.5                    | 32.69         |
|            | 10              | 15                | 2355.0                    | 32.74         |
|            |                 | 30                | 2355.0                    | 32.81         |
|            |                 | 60                | 2355.0                    | 32.85         |

Table 4 RF Power Output QPSK

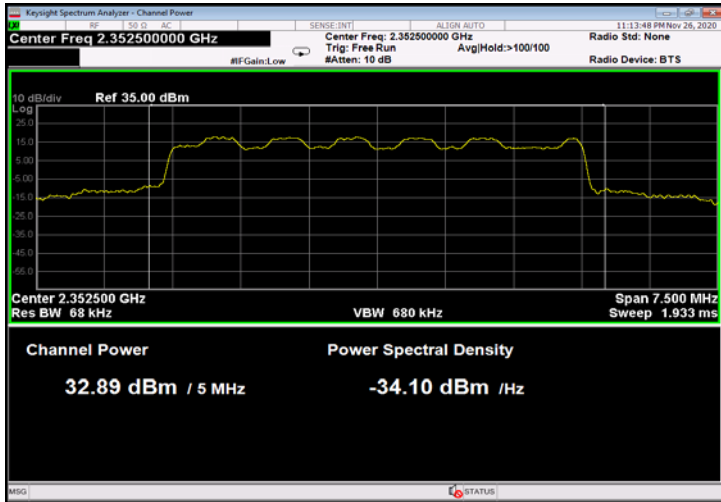


Figure 9: 16QAM 5MHz B.W.; 2352.5MHz, 15kHz

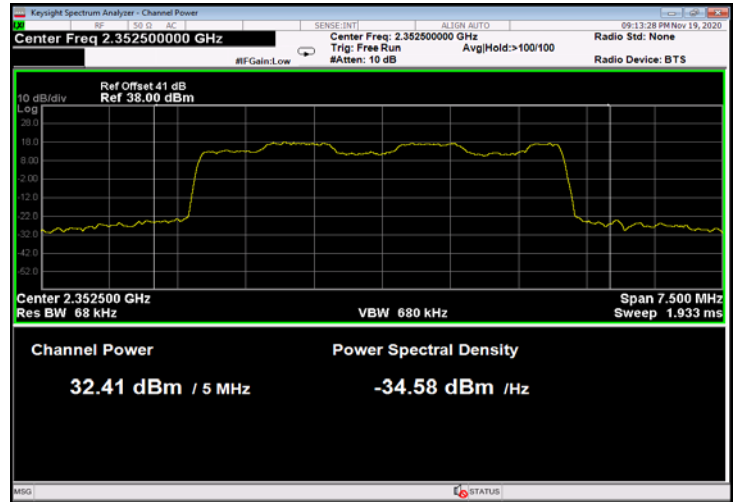


Figure 10: 16QAM 5MHz B.W.; 2352.5MHz, 30kHz

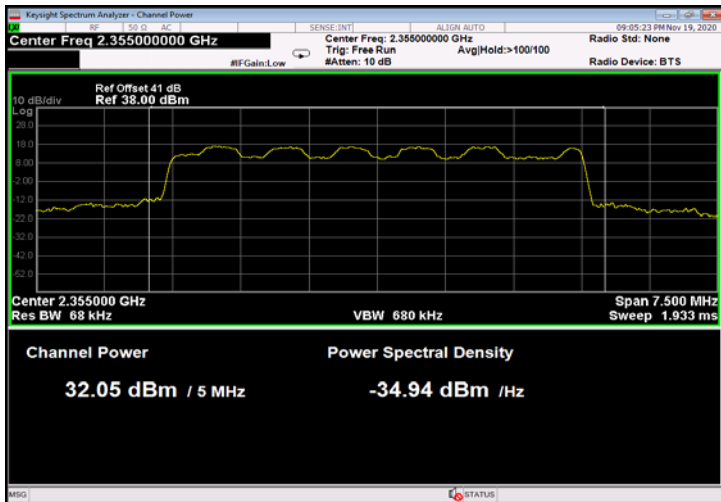


Figure 11: 16QAM 5MHz B.W.; 2355.0MHz, 15kHz

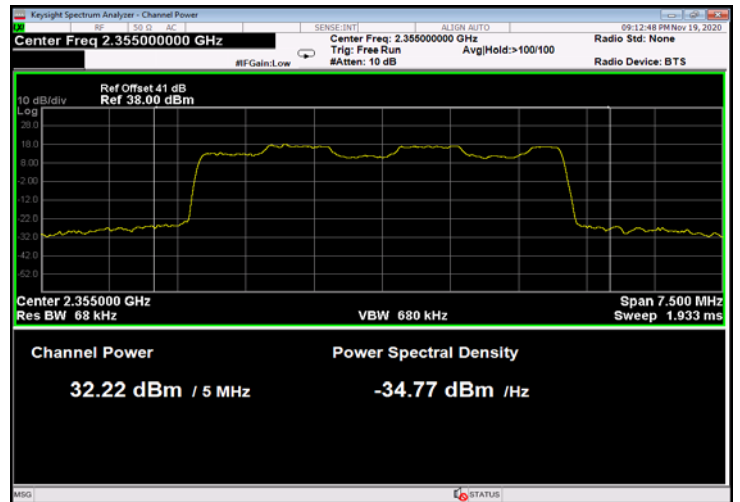


Figure 12: 16QAM 5MHz B.W.; 2355.0MHz, 30kHz

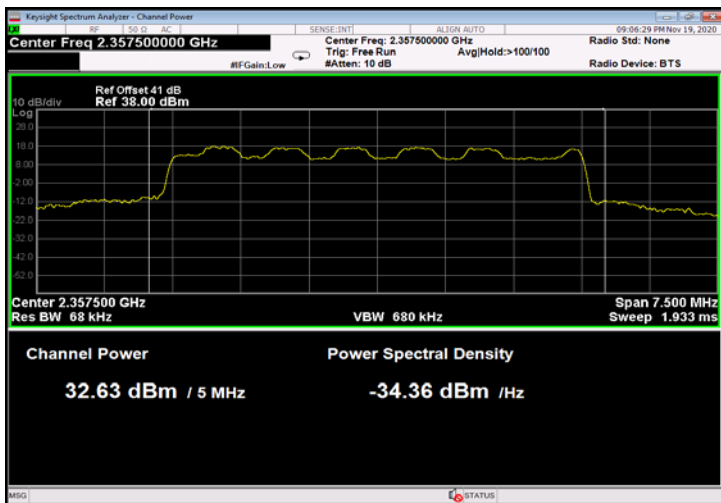


Figure 13: 16QAM 5MHz B.W.; 2357.5MHz, 15kHz

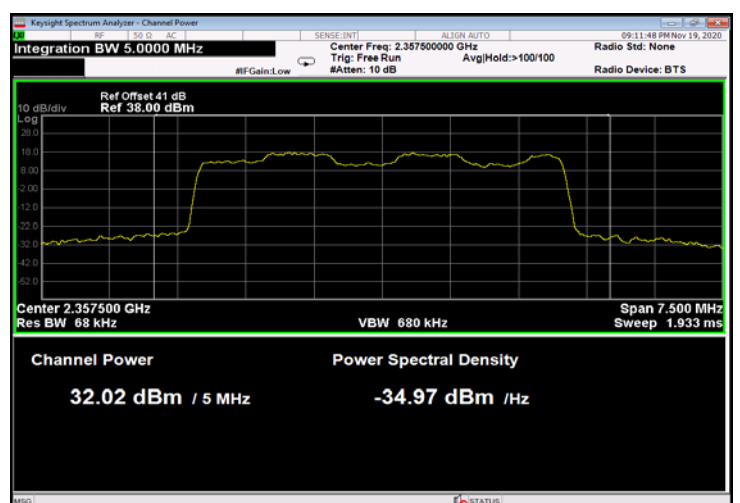


Figure 14: 16QAM 5MHz; 2357.5MHz, 30kHz

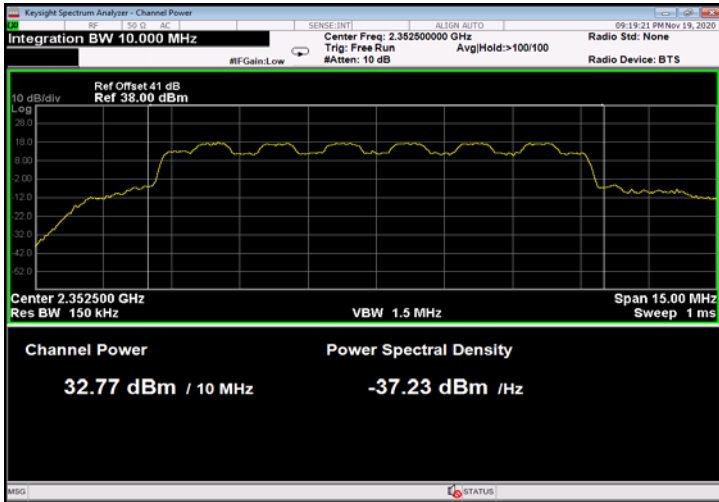


Figure 15: 16QAM 10MHz B.W.; 2355.0MHz, 15kHz

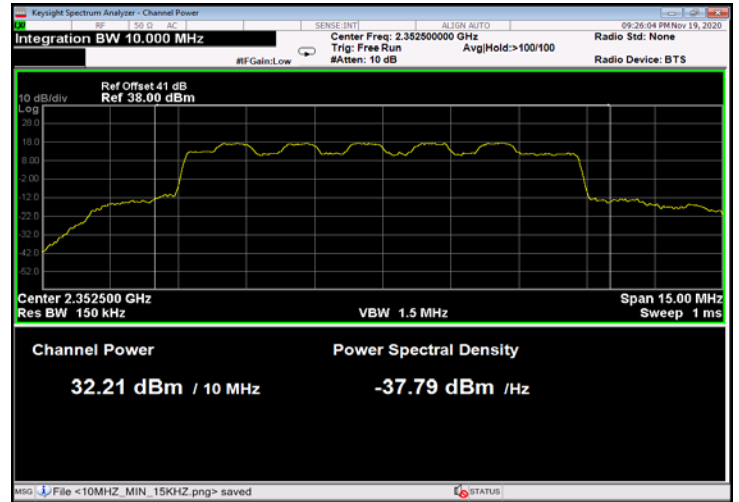


Figure 16: 16QAM 10MHz B.W.; 2355.0MHz, 30kHz

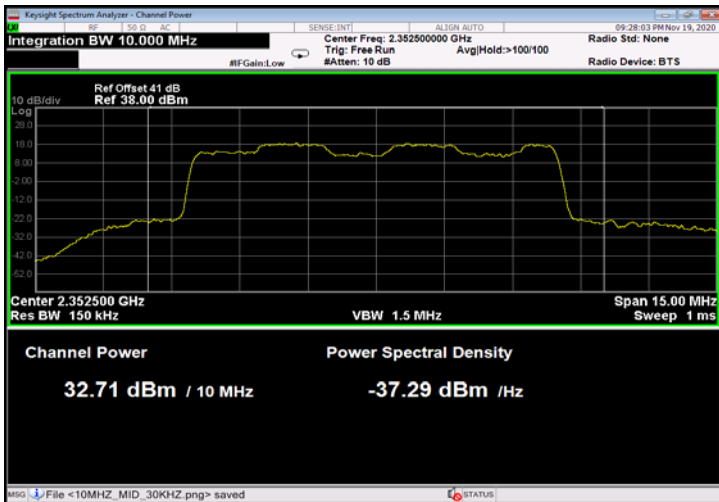


Figure 17: 16QAM 10MHz B.W.; 2355.0MHz, 60kHz

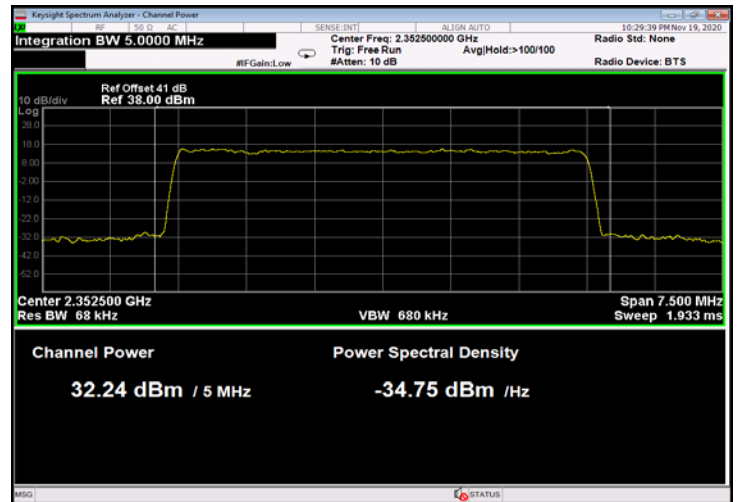


Figure 18: 64QAM 5MHz B.W.; 2352.5MHz, 15kHz

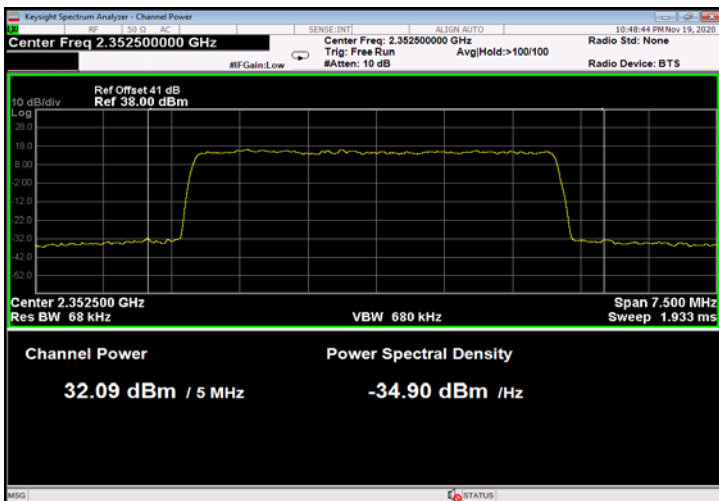


Figure 19: 64QAM 5MHz B.W.; 2352.5MHz, 30kHz

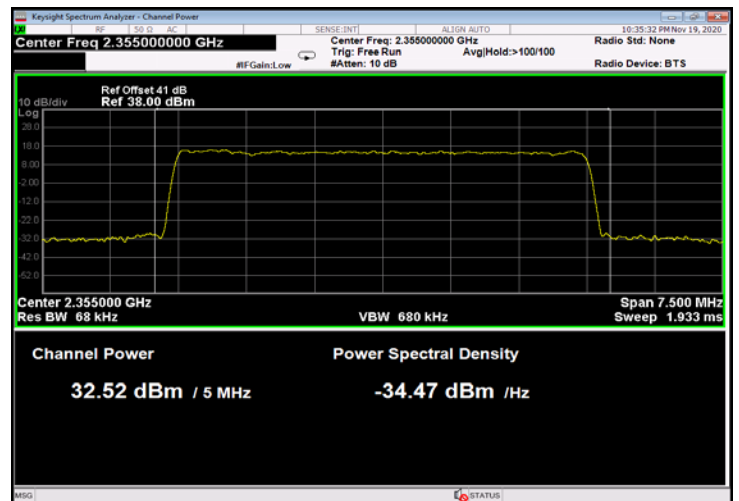


Figure 20: 64QAM 5MHz B.W.; 2355.0MHz, 15kHz



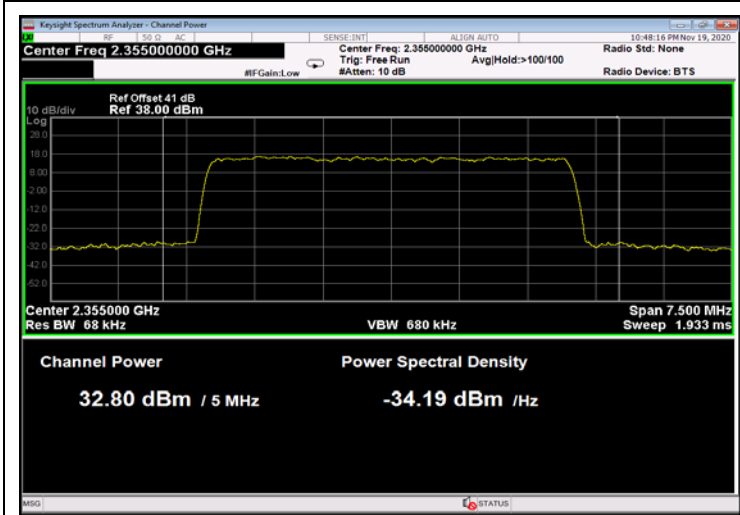


Figure 21: 64QAM 5MHz B.W.; 2355.0MHz, 30kHz

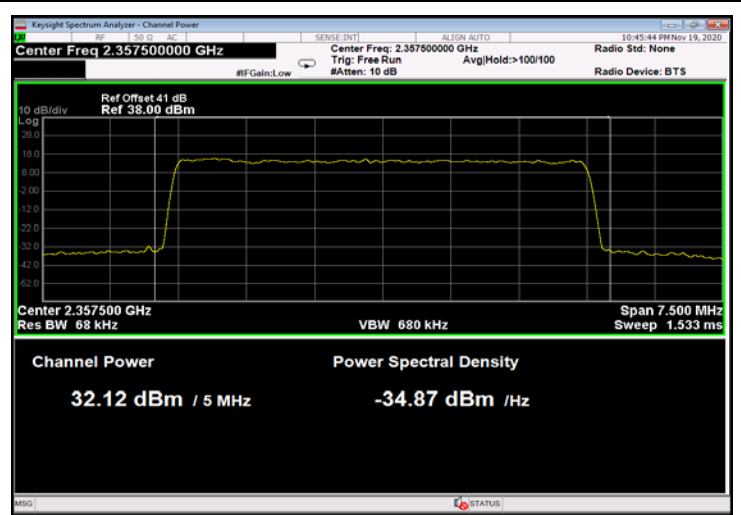


Figure 22: 64QAM 5MHz B.W.; 2357.5MHz, 15kHz

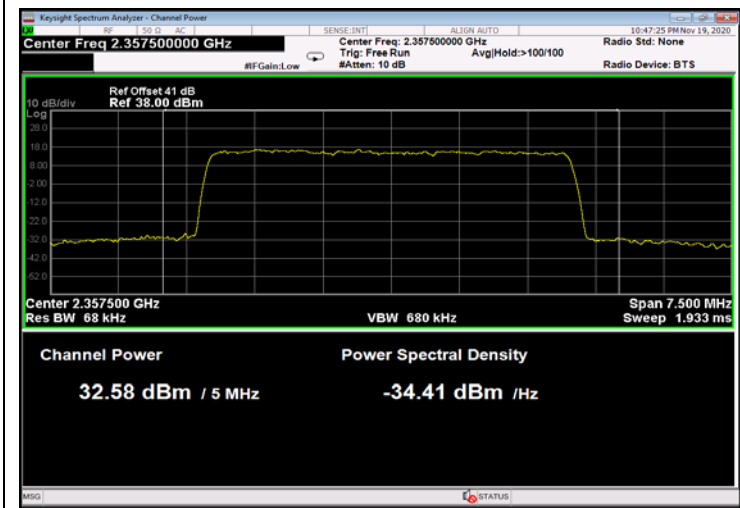


Figure 23: 64QAM 5MHz B.W.; 2357.5MHz, 30kHz

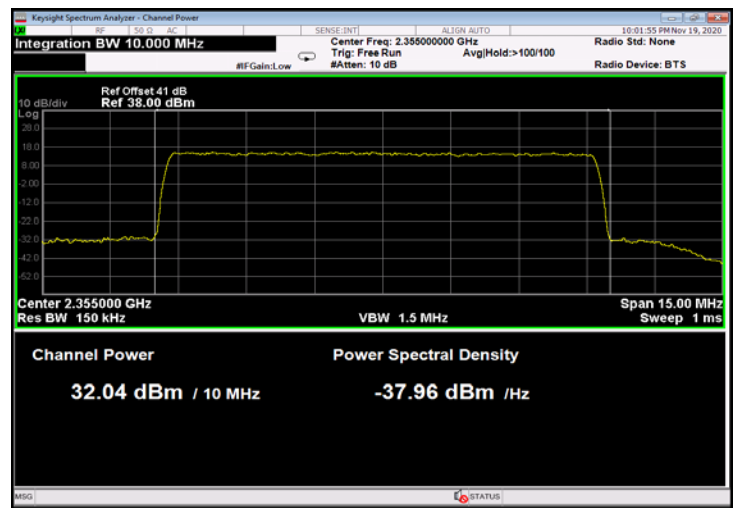


Figure 24: 64QAM 10MHz B.W.; 2355.0MHz, 15kHz

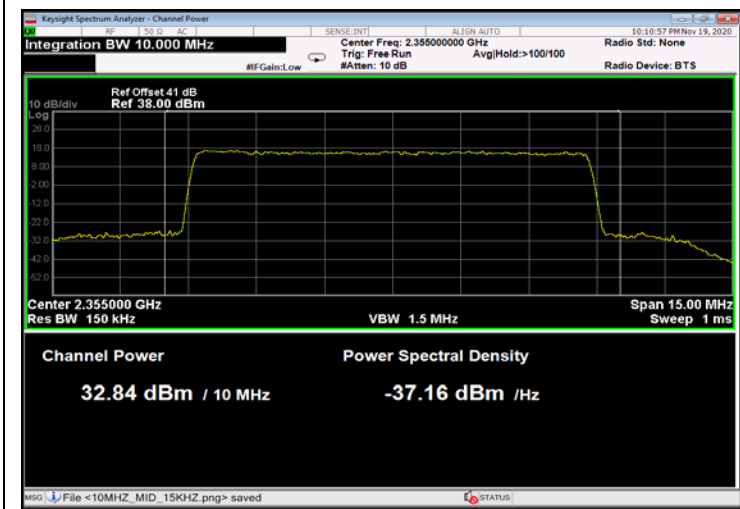


Figure 25: 64QAM 10MHz B.W.; 2355.0MHz, 30kHz

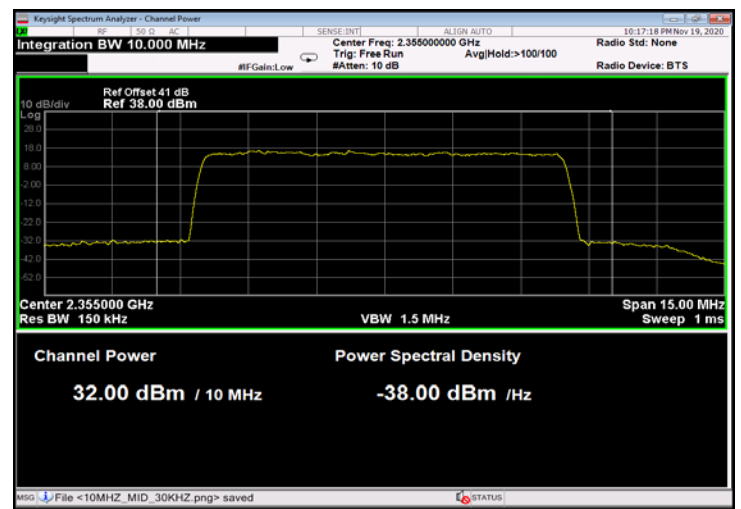


Figure 26: 64QAM 10MHz B.W.; 2355.0MHz, 60kHz

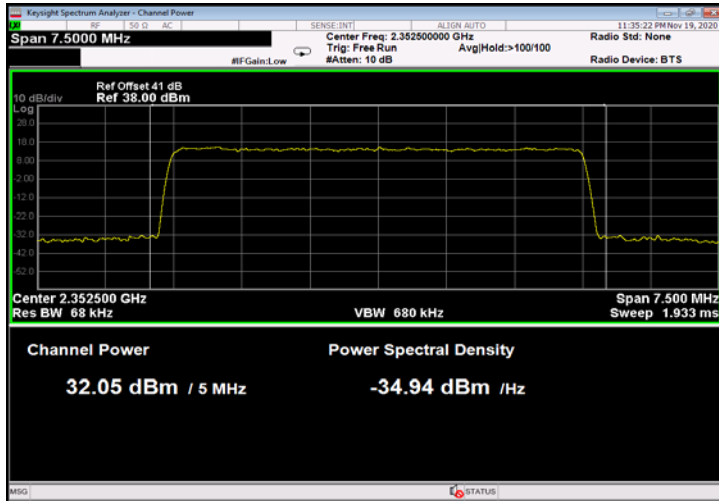


Figure 27: 256QAM 5MHz B.W.;2352.5MHz, 15kHz

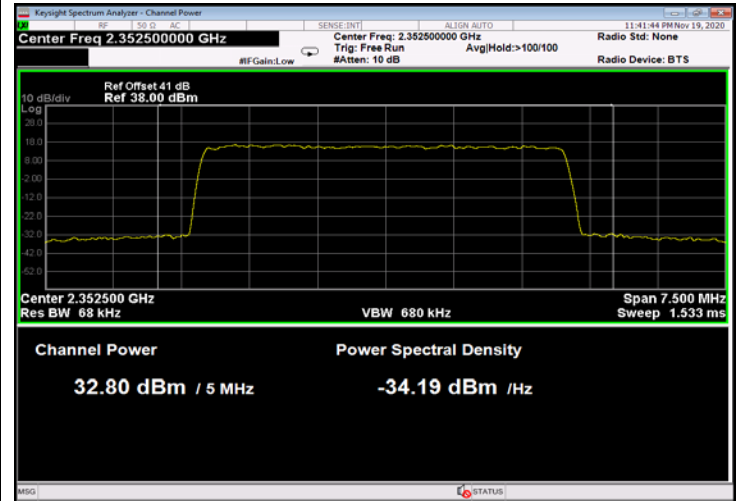


Figure 28: 256QAM 10MHz B.W.; 2352.5MHz, 30kHz

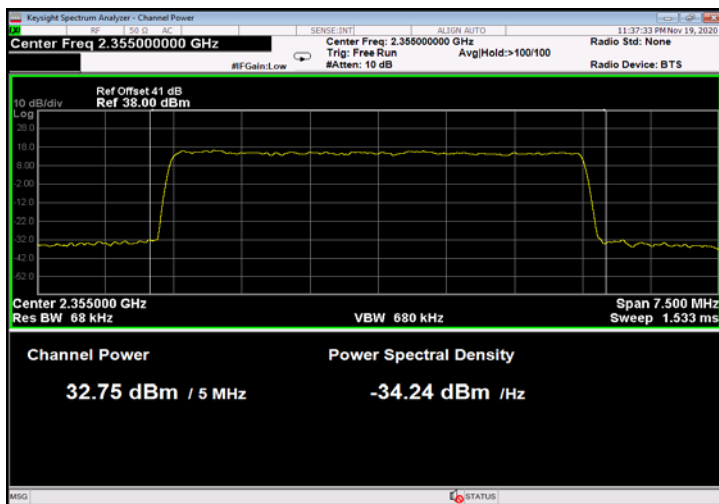


Figure 29: 256QAM 5MHz B.W.; 2355.0MHz, 15kHz

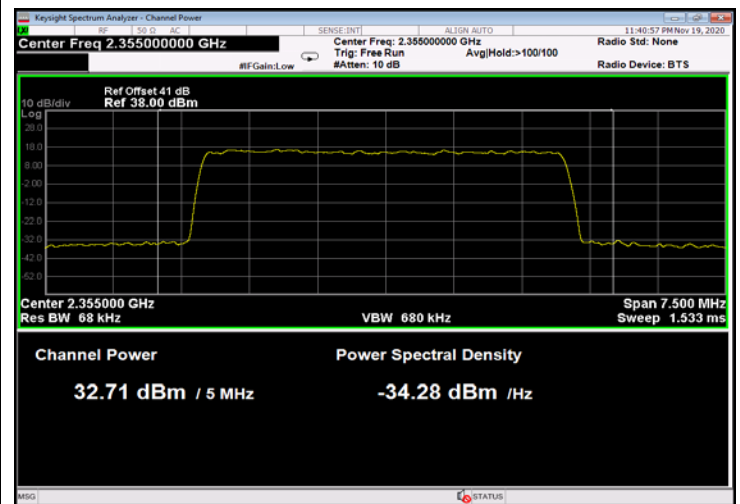


Figure 30: 256QAM 5MHz B.W.; 2355.0MHz, 30kHz

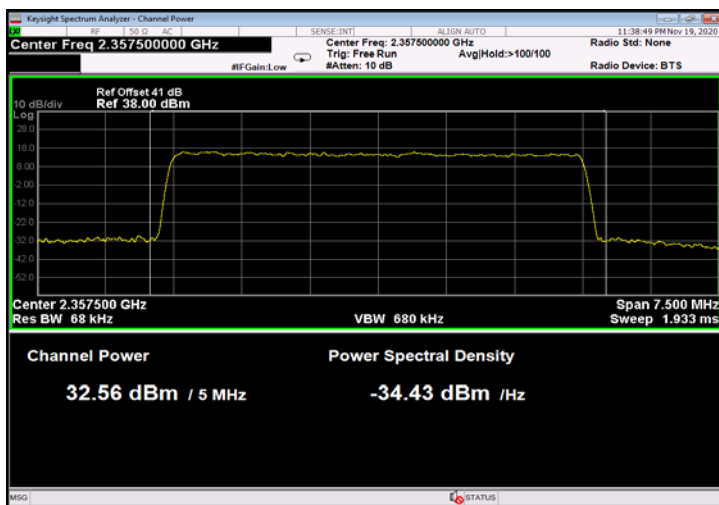


Figure 31: 256QAM 5MHz B.W.; 2357.5MHz, 15kHz

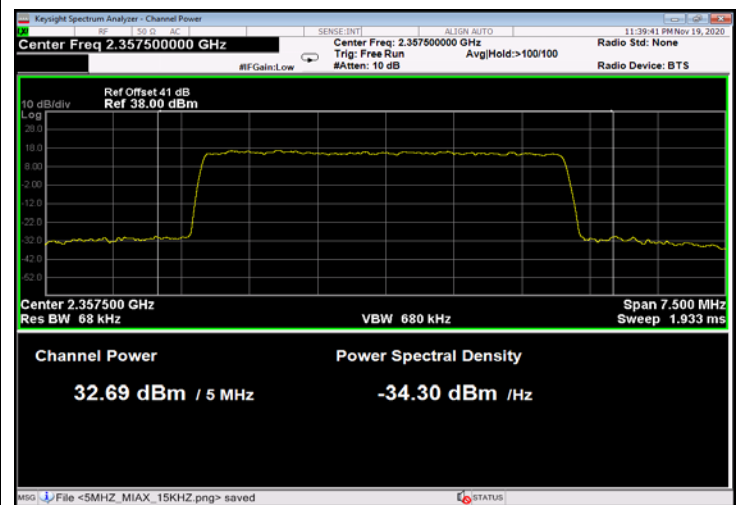


Figure 32: 256QAM 5MHz B.W.; 2357.5MHz, 30kHz

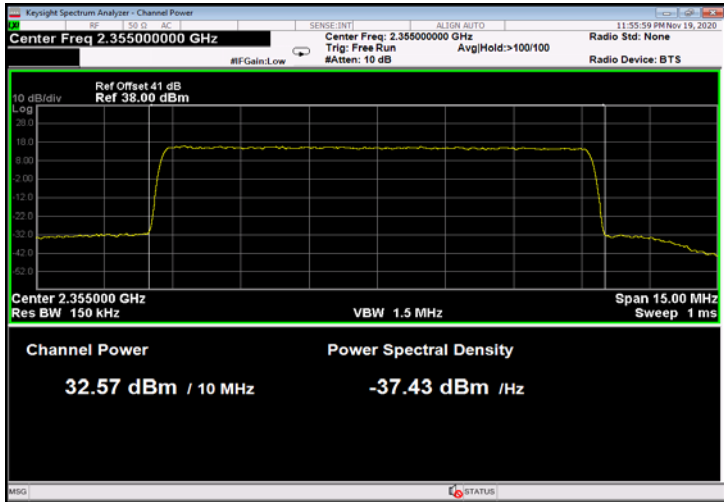


Figure 33: 256QAM 10MHz B.W.; 2355.0MHz, 15kHz

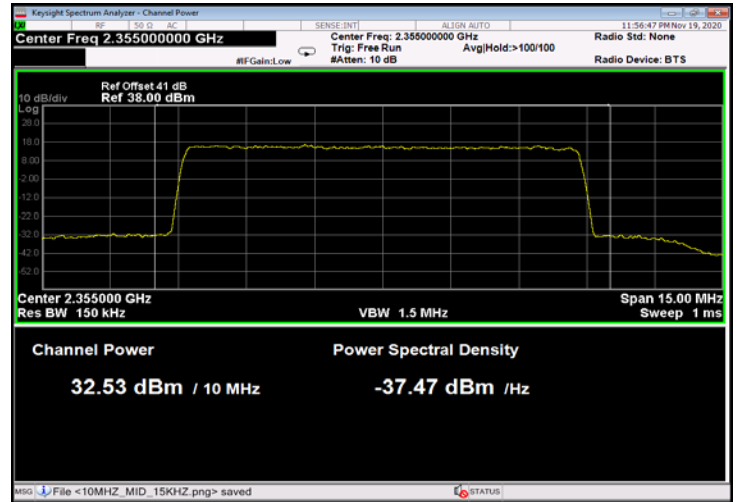


Figure 34: 256QAM 10MHz B.W.; 2355.0MHz, 30kHz

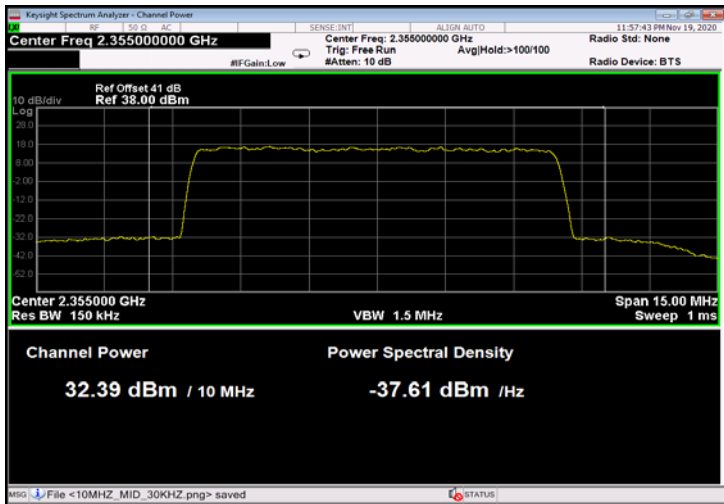


Figure 35: 256QAM 10MHz B.W.; 2355.0MHz, 60kHz

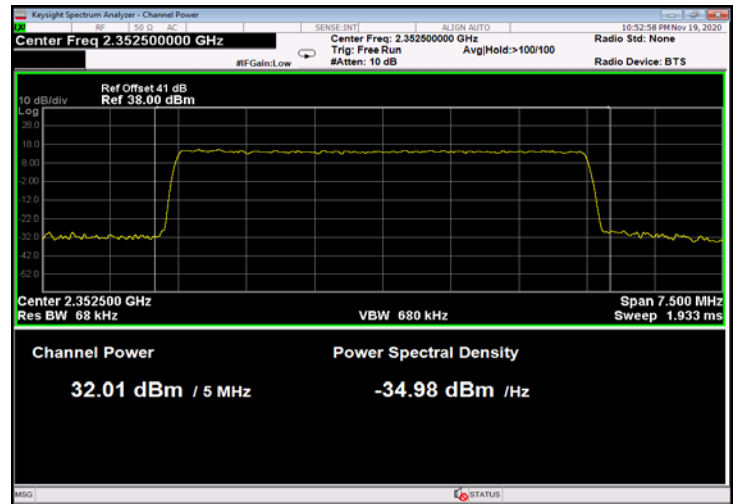


Figure 36: QPSK 5MHz B.W.; 2352.5MHz, 15kHz

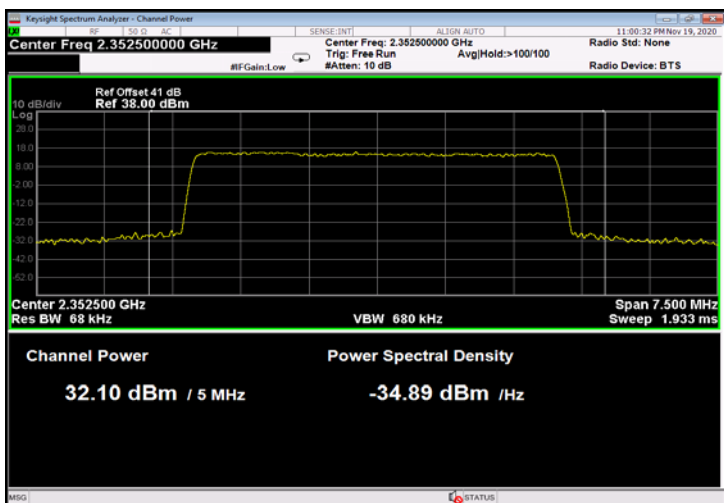


Figure 37: QPSK 5MHz B.W.; 2352.5MHz, 30kHz

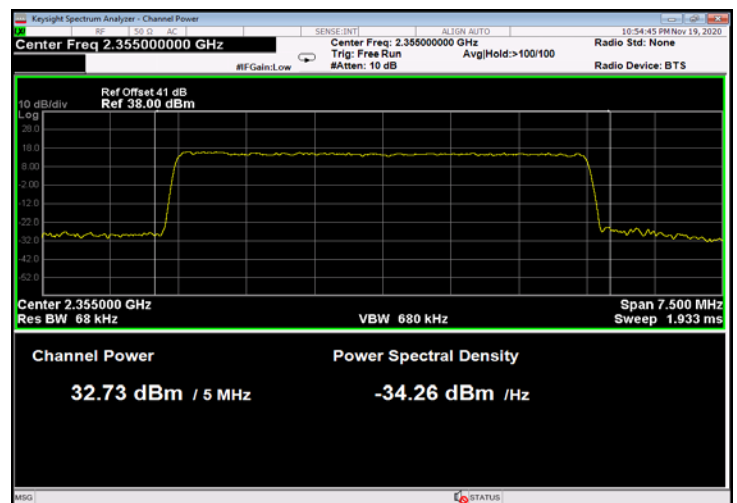


Figure 38: QPSK 5MHz B.W.; 2355.0MHz, 15kHz

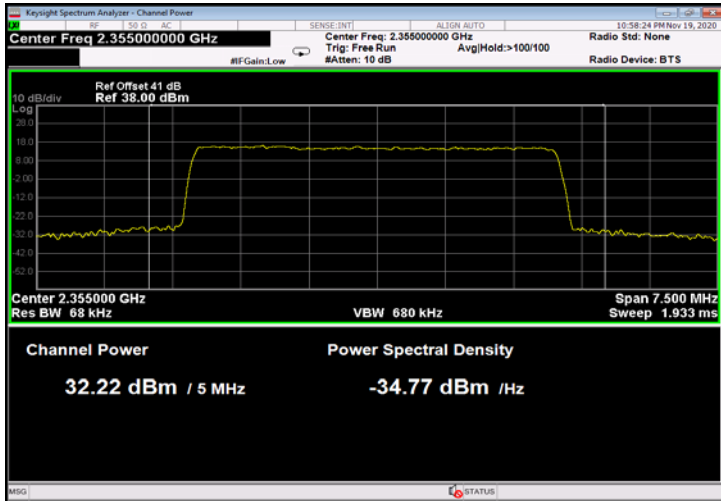


Figure 39: QPSK 5MHz B.W.; 2355.0MHz, 30kHz

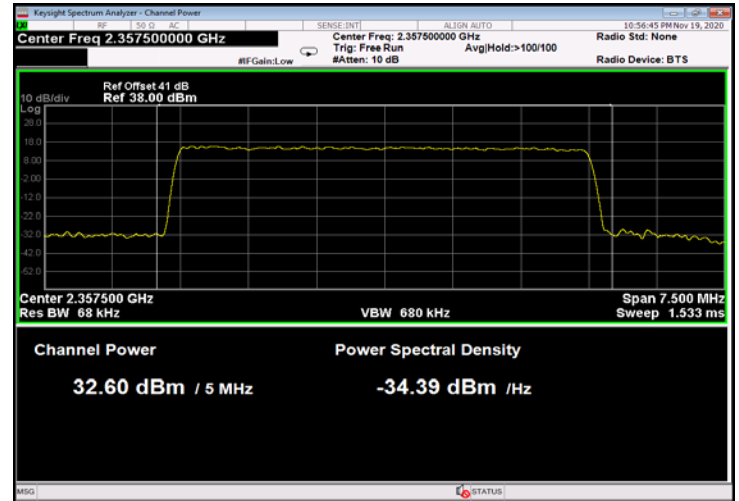


Figure 40: QPSK 5MHz B.W.; 2357.50MHz, 15kHz

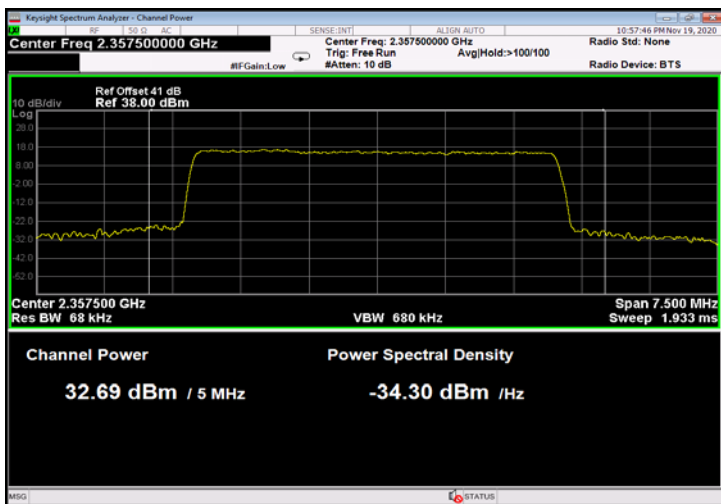


Figure 41: QPSK 5MHz B.W.; 2357.5MHz, 30kHz

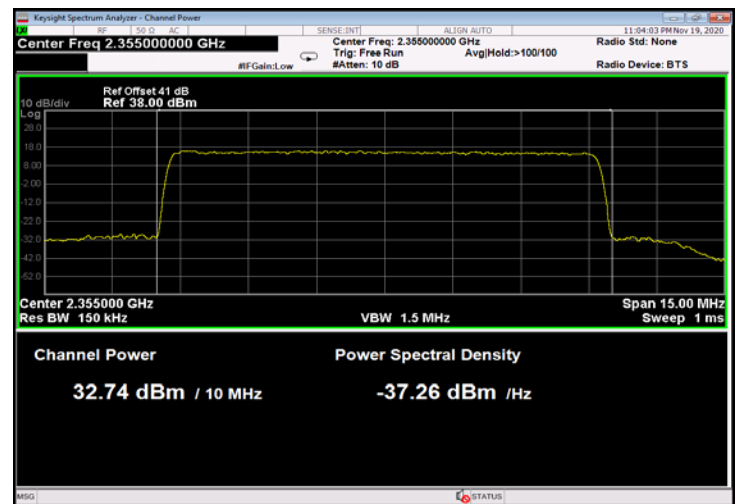


Figure 42: QPSK 10MHz B.W.; 2355.0MHz, 15kHz

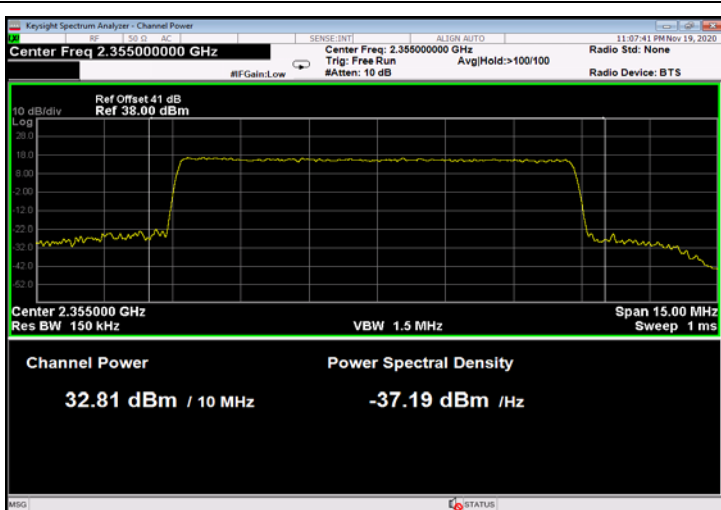


Figure 43: QPSK 10MHz B.W.; 2355.0MHz, 30kHz

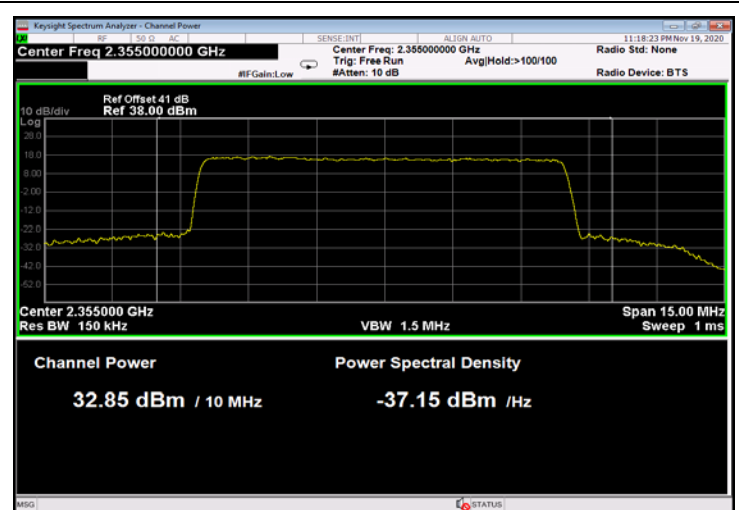


Figure 44: QPSK 10MHz B.W.; 2355.0MHz, 60kHz



#### 4.5 Test Equipment Used; RF Power Output

| Instrument              | Manufacturer         | Model       | Serial Number          | Calibration           |                      |
|-------------------------|----------------------|-------------|------------------------|-----------------------|----------------------|
|                         |                      |             |                        | Last Calibration Date | Next Calibration Due |
| EXA signal Analyzer     | Agilent Technologies | N9010A      | MY52220686             | November 28, 2018     | November 28, 2020    |
| Vector Signal Generator | R&S                  | SMBV100B    | 1423.1003K02-101470-XE | October 2, 2019       | October 2, 2022      |
| 40 dB Attenuator        | Weinschel            | WA 39-40-33 | A1323                  | July 7, 2020          | July 31, 2021        |
| RF Cable                | Huber Suhner         | Sucofelex   | 27504/4PEA             | August 23, 2020       | August 31, 2021      |

**Table 5 Test Equipment Used**



## 5 Occupied Bandwidth

### 5.1 *Test Specification*

FCC Part 2, Section 1049

### 5.2 *Test Procedure*

(Temperature (20°C)/ Humidity (57%RH))

The E.U.T. antenna terminal was connected to the spectrum analyzer through an external attenuator and an appropriate coaxial cable. The spectrum analyzer was set to proper resolution B.W.

OBW function (99%) was employed for this evaluation.

Occupied bandwidth measured was repeated for each modulation.

### 5.3 *Test Limit*

N/A

### 5.4 *Test Results*

JUDGEMENT:                      Passed

See additional information in Table 6 to Table 13 and Figure 45 to Figure 116.

| Modulation | Bandwidth (MHz) | Sub Carrier (kHz) | Operation Frequency (MHz) | Reading (MHz) |
|------------|-----------------|-------------------|---------------------------|---------------|
| 16QAM      | 5               | 15                | 2352.5                    | 4.4840        |
|            |                 | 30                | 2352.5                    | 3.9447        |
|            |                 | 15                | 2355.0                    | 4.4849        |
|            |                 | 30                | 2355.0                    | 3.9442        |
|            |                 | 15                | 2357.5                    | 4.4848        |
|            |                 | 30                | 2357.5                    | 3.9440        |
|            | 10              | 15                | 2355.0                    | 9.2373        |
|            |                 | 30                | 2355.0                    | 8.5627        |
|            |                 | 60                | 2355.0                    | 7.8836        |

**Table 6 Occupied Bandwidth 16QAM - Input**

| Modulation | Bandwidth (MHz) | Sub Carrier (kHz) | Operation Frequency (MHz) | Reading (MHz) |
|------------|-----------------|-------------------|---------------------------|---------------|
| 64QAM      | 5               | 15                | 2352.5                    | 4.4913        |
|            |                 | 30                | 2352.5                    | 3.9439        |
|            |                 | 15                | 2355.0                    | 4.4919        |
|            |                 | 30                | 2355.0                    | 3.9446        |
|            |                 | 15                | 2357.5                    | 4.4919        |
|            |                 | 30                | 2357.5                    | 3.9439        |
|            | 10              | 15                | 2355.0                    | 9.3150        |
|            |                 | 30                | 2355.0                    | 8.5904        |
|            |                 | 60                | 2355.0                    | 7.8881        |

**Table 7 Occupied Bandwidth 64QAM - Input**

| Modulation | Bandwidth (MHz) | Sub Carrier (kHz) | Operation Frequency (MHz) | Reading (MHz) |
|------------|-----------------|-------------------|---------------------------|---------------|
| 256QAM     | 5               | 2352.5            | 2352.5                    | 4.4974        |
|            |                 | 2352.5            | 2352.5                    | 3.9422        |
|            |                 | 2355              | 2355.0                    | 4.4966        |
|            |                 | 2355              | 2355.0                    | 3.9427        |
|            |                 | 2357.5            | 2357.5                    | 4.4974        |
|            |                 | 2357.5            | 2357.5                    | 3.9391        |
|            | 10              | 2355              | 2355.0                    | 9.3004        |
|            |                 | 2355              | 2355.0                    | 8.5877        |
|            |                 | 2355              | 2355.0                    | 7.8845        |

**Table 8 Occupied Bandwidth 256QAM - Input**

| Modulation | Bandwidth (MHz) | Sub Carrier (kHz) | Operation Frequency (MHz) | Reading (MHz) |
|------------|-----------------|-------------------|---------------------------|---------------|
| QPSK       | 5               | 2352.5            | 2352.5                    | 4.4950        |
|            |                 | 2352.5            | 2352.5                    | 3.9666        |
|            |                 | 2355              | 2355.0                    | 4.4967        |
|            |                 | 2355              | 2355.0                    | 3.9672        |
|            |                 | 2357.5            | 2357.5                    | 4.4948        |
|            |                 | 2357.5            | 2357.5                    | 3.9646        |
|            | 10              | 2355              | 2355.0                    | 9.3118        |
|            |                 | 2355              | 2355.0                    | 8.6027        |
|            |                 | 2355              | 2355.0                    | 7.9281        |

**Table 9 Occupied Bandwidth QPSK – Input**



| Modulation | Bandwidth (MHz) | Sub Carrier (kHz) | Operation Frequency (MHz) | Reading (MHz) |
|------------|-----------------|-------------------|---------------------------|---------------|
| 16QAM      | 5               | 2352.5            | 2352.5                    | 4.4970        |
|            |                 | 2352.5            | 2352.5                    | 3.9448        |
|            |                 | 2355              | 2355.0                    | 4.4969        |
|            |                 | 2355              | 2355.0                    | 3.9448        |
|            |                 | 2357.5            | 2357.5                    | 4.4958        |
|            |                 | 2357.5            | 2357.5                    | 3.9433        |
|            | 10              | 2355              | 2355.0                    | 9.3129        |
|            |                 | 2355              | 2355.0                    | 8.5757        |
|            |                 | 2355              | 2355.0                    | 7.8863        |

**Table 10 Occupied Bandwidth 16QAM - Output**

| Modulation | Bandwidth (MHz) | Sub Carrier (kHz) | Operation Frequency (MHz) | Reading (MHz) |
|------------|-----------------|-------------------|---------------------------|---------------|
| 64QAM      | 5               | 2352.5            | 2352.5                    | 4.4934        |
|            |                 | 2352.5            | 2352.5                    | 3.9445        |
|            |                 | 2355              | 2355.0                    | 4.4922        |
|            |                 | 2355              | 2355.0                    | 3.9444        |
|            |                 | 2357.5            | 2357.5                    | 4.4894        |
|            |                 | 2357.5            | 2357.5                    | 3.9471        |
|            | 10              | 2355              | 2355.0                    | 9.3083        |
|            |                 | 2355              | 2355.0                    | 8.5886        |
|            |                 | 2355              | 2355.0                    | 7.8796        |

**Table 11 Occupied Bandwidth 64QAM - Output**

| Modulation | Bandwidth (MHz) | Sub Carrier (kHz) | Operation Frequency (MHz) | Reading (MHz) |
|------------|-----------------|-------------------|---------------------------|---------------|
| 256QAM     | 5               | 2352.5            | 2352.5                    | 4.4970        |
|            |                 | 2352.5            | 2352.5                    | 3.9416        |
|            |                 | 2355              | 2355.0                    | 4.4977        |
|            |                 | 2355              | 2355.0                    | 3.9426        |
|            |                 | 2357.5            | 2357.5                    | 4.4960        |
|            |                 | 2357.5            | 2357.5                    | 3.9389        |
|            | 10              | 2355              | 2355.0                    | 9.2797        |
|            |                 | 2355              | 2355.0                    | 8.5814        |
|            |                 | 2355              | 2355.0                    | 7.8818        |

**Table 12 Occupied Bandwidth 256QAM - Output**

| Modulation | Bandwidth (MHz) | Sub Carrier (kHz) | Operation Frequency (MHz) | Reading (MHz) |
|------------|-----------------|-------------------|---------------------------|---------------|
| QPSK       | 5               | 2352.5            | 2352.5                    | 4.4918        |
|            |                 | 2352.5            | 2352.5                    | 3.9695        |
|            |                 | 2355              | 2355.0                    | 4.4952        |
|            |                 | 2355              | 2355.0                    | 3.9698        |
|            |                 | 2357.5            | 2357.5                    | 4.4939        |
|            |                 | 2357.5            | 2357.5                    | 3.9642        |
|            | 10              | 2355              | 2355.0                    | 9.3017        |
|            |                 | 2355              | 2355.0                    | 8.5934        |
|            |                 | 2355              | 2355.0                    | 7.9286        |

**Table 13 Occupied Bandwidth QPSK – Output**



INPUT

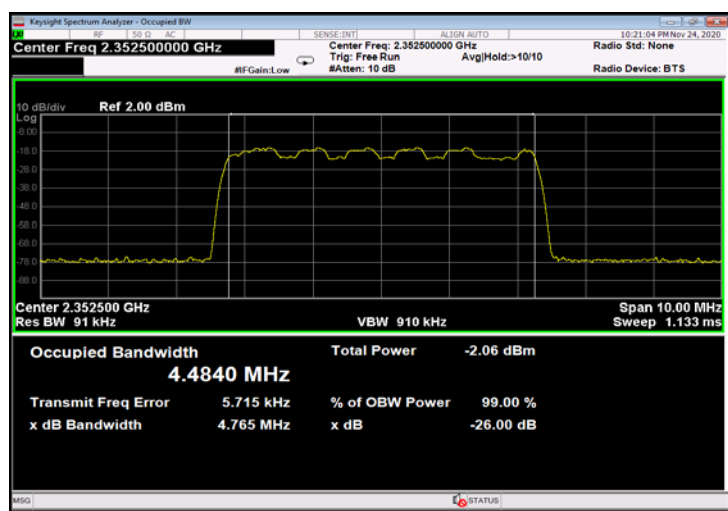


Figure 45: 16QAM 5MHz B.W.; 2352.5MHz, 15kHz - Input

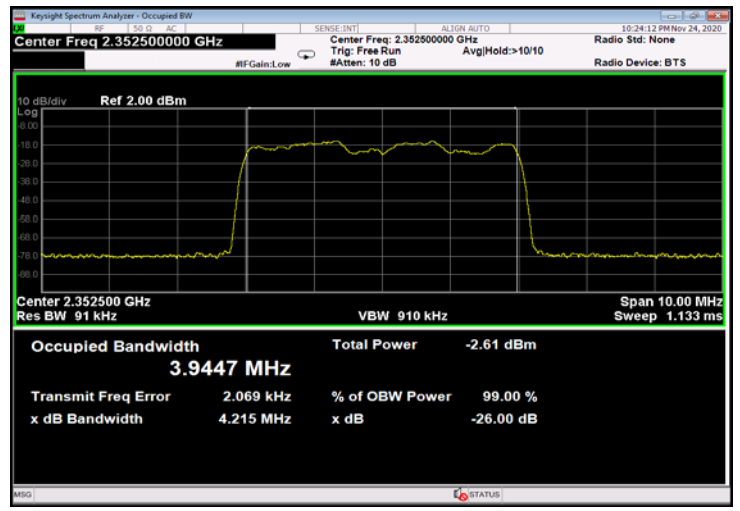


Figure 46: 16QAM 5MHz B.W.; 2352.5MHz, 30kHz- Input

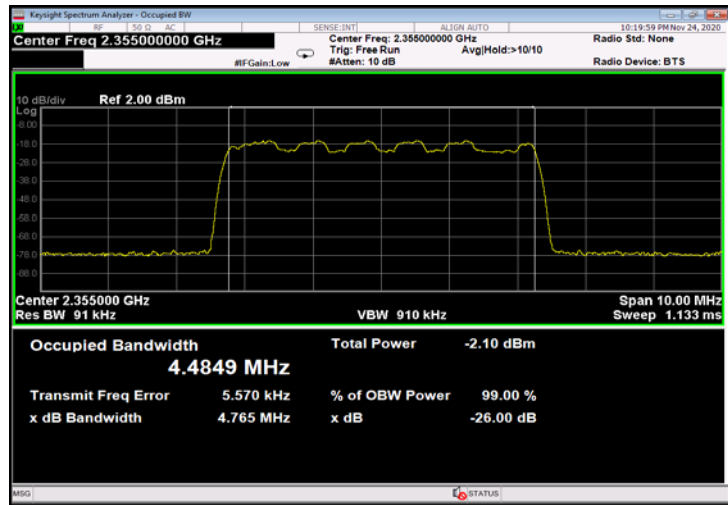


Figure 47: 16QAM 5MHz B.W.; 2355.0MHz, 15kHz- Input

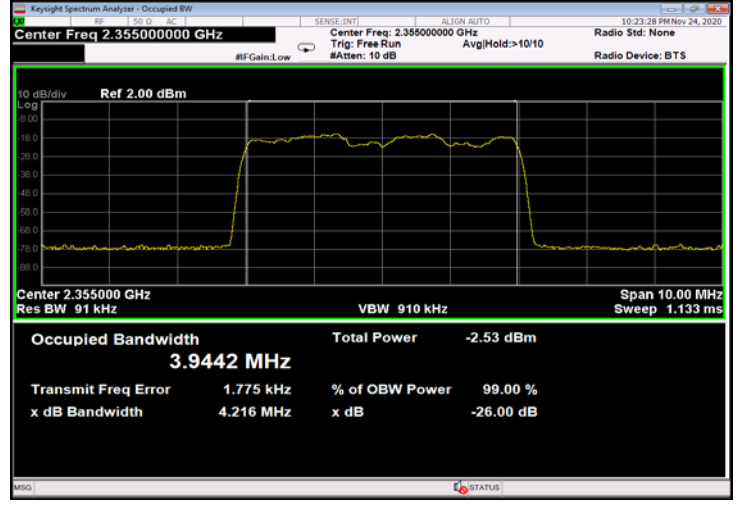


Figure 48: 16QAM 5MHz B.W.; 2355.0MHz, 30kHz- Input

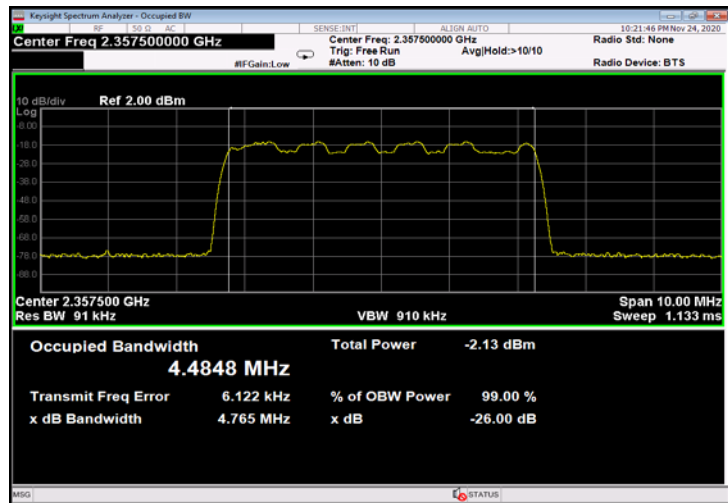


Figure 49: 16QAM 5MHz B.W.; 2357.5MHz, 15kHz- Input

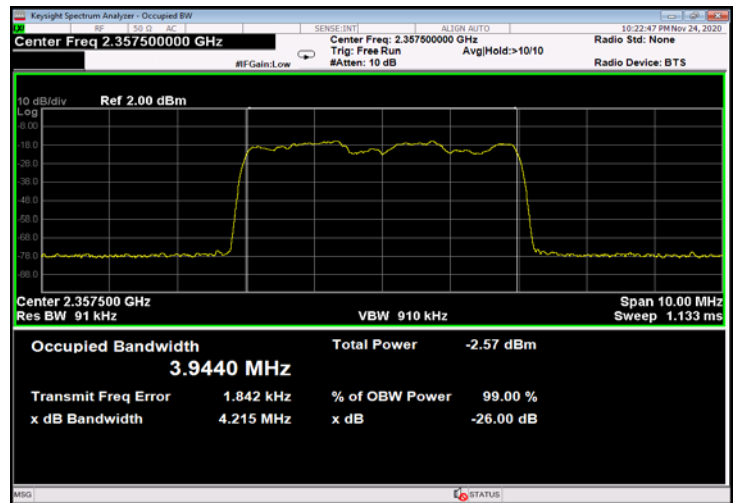


Figure 50: 16QAM 5MHz; 2357.5MHz, 30kHz- Input

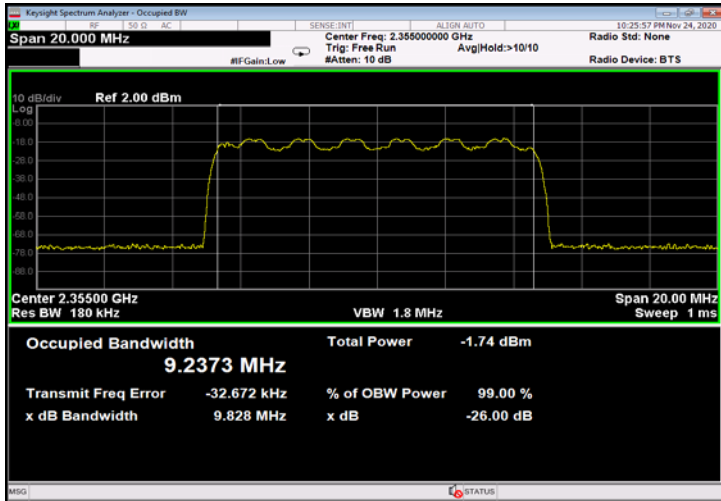


Figure 51: 16QAM 10MHz B.W.; 2355.0MHz, 15kHz- Input

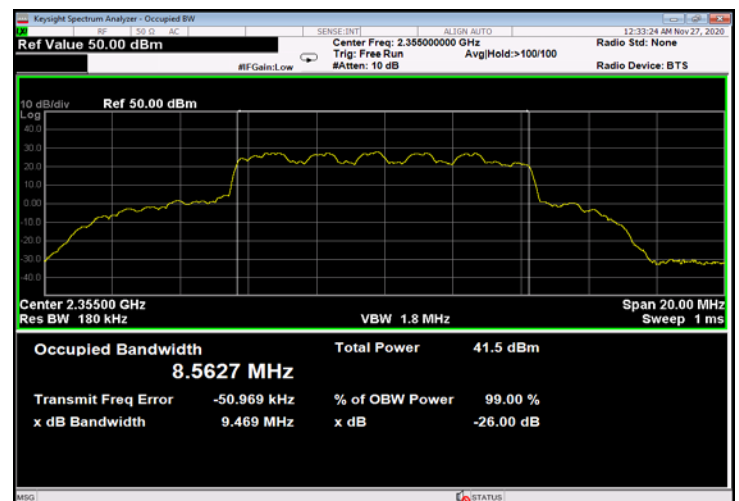


Figure 52: 16QAM 10MHz B.W.; 2355.0MHz, 30kHz- Input

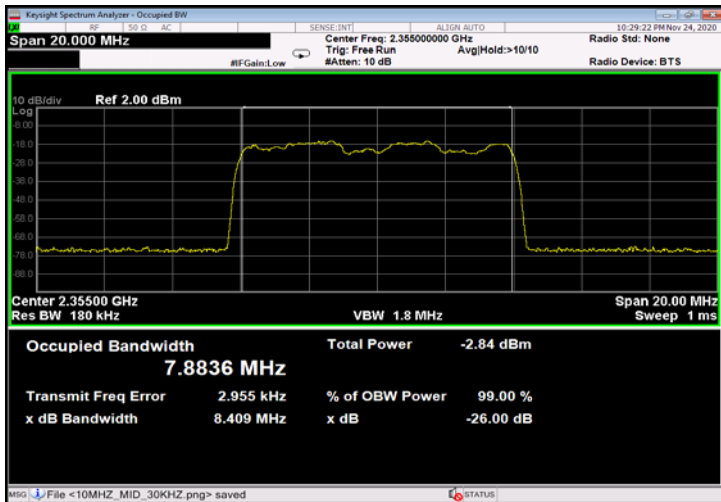


Figure 53: 16QAM 10MHz B.W.; 2355.0MHz, 60kHz- Input

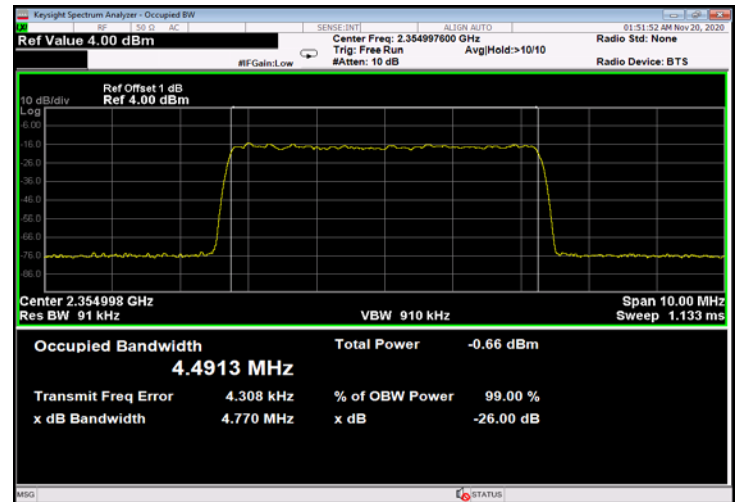


Figure 54: 64QAM 5MHz B.W.; 2352.5MHz, 15kHz - Input

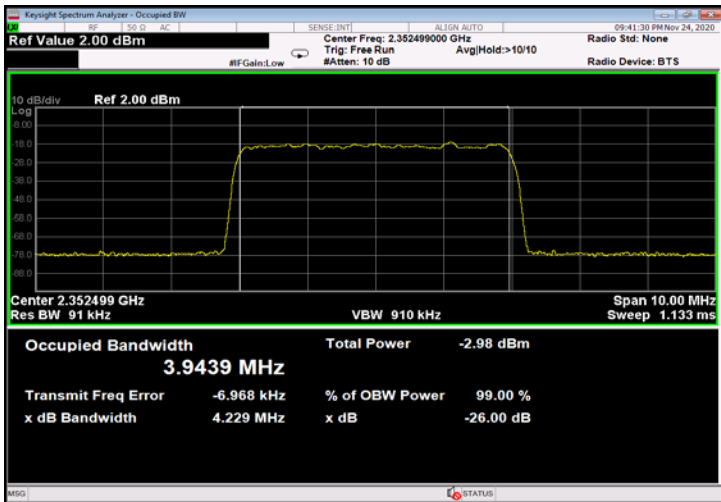


Figure 55: 64QAM 5MHz B.W.; 2352.5MHz, 30kHz - Input

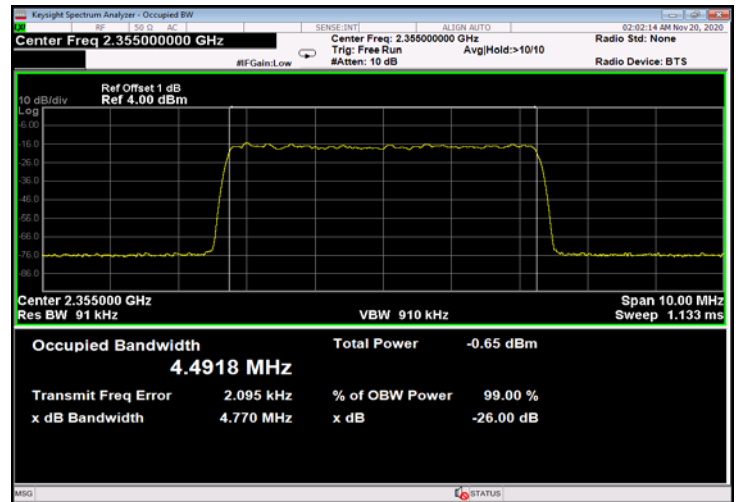


Figure 56: 64QAM 5MHz B.W.; 2355.0MHz, 15kHz - Input

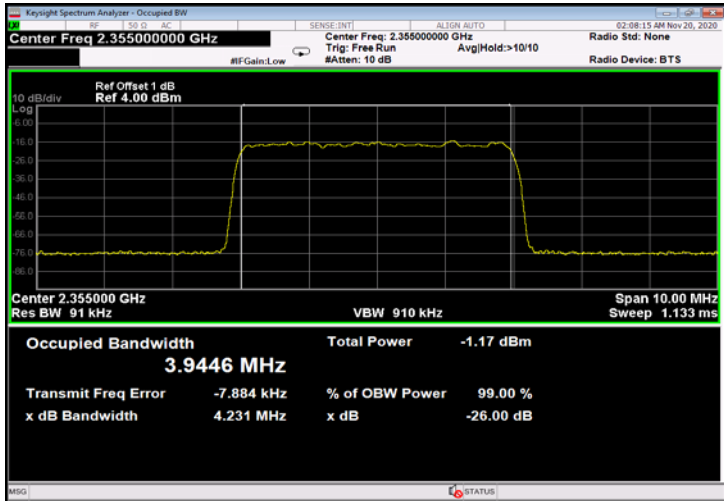


Figure 57: 64QAM 5MHz B.W.; 2355.0MHz, 30kHz - Input

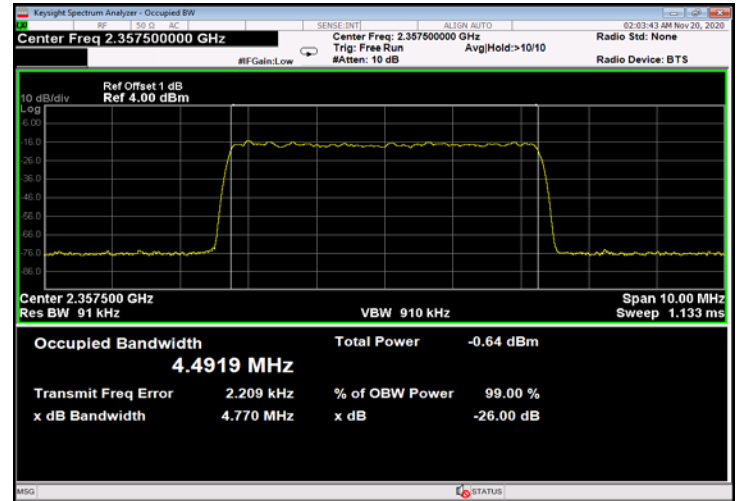


Figure 58: 64QAM 5MHz B.W.; 2357.5MHz, 15kHz - Input

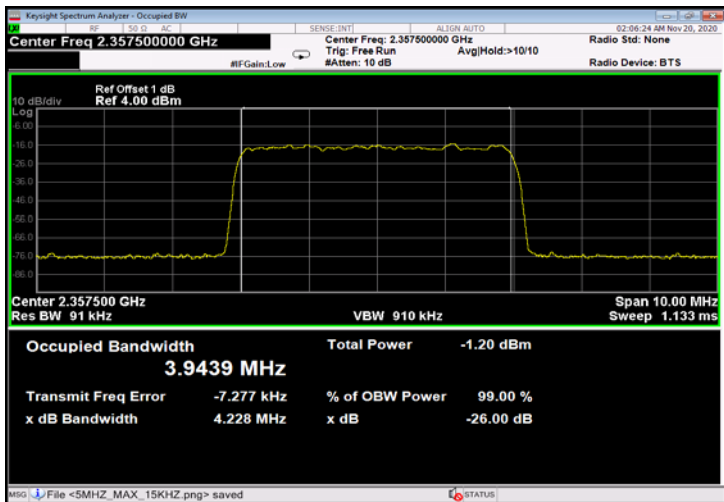


Figure 59: 64QAM 5MHz B.W.; 2357.5MHz, 30kHz - Input

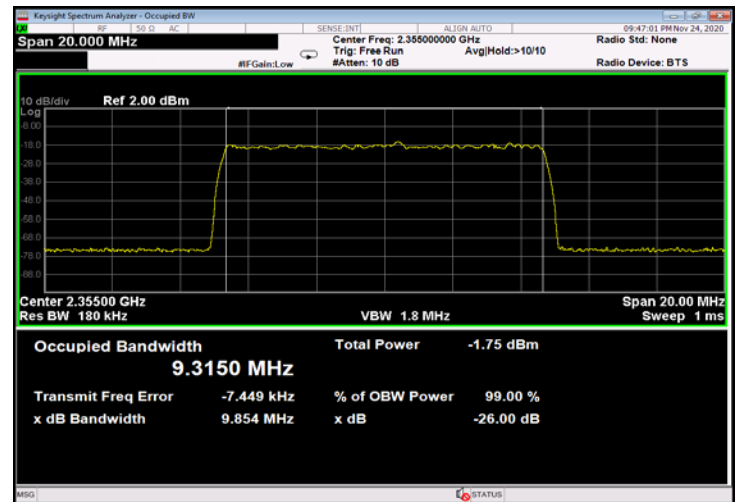


Figure 60: 64QAM 10MHz B.W.; 2355.0MHz, 15kHz - Input

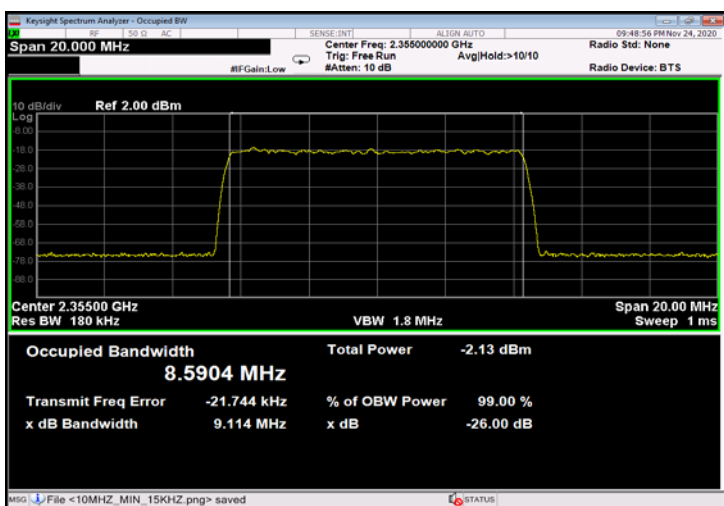


Figure 61: 64QAM 10MHz B.W.; 2355.0MHz, 30kHz - Input

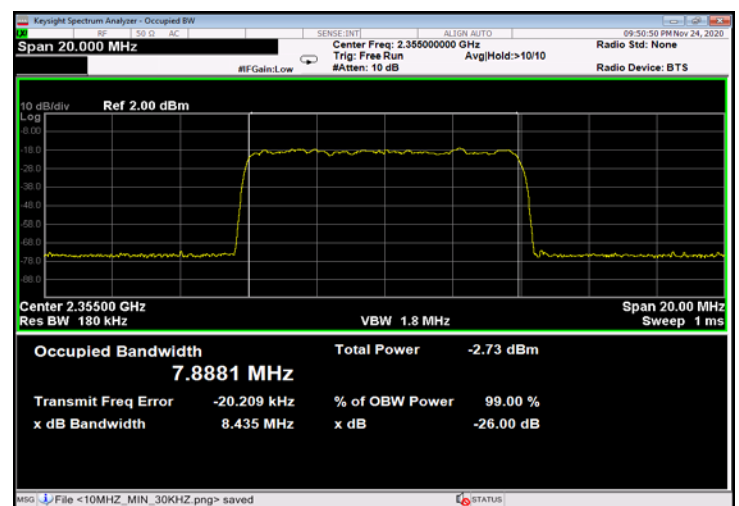


Figure 62: 64QAM 10MHz B.W.; 2355.0MHz, 60kHz - Input

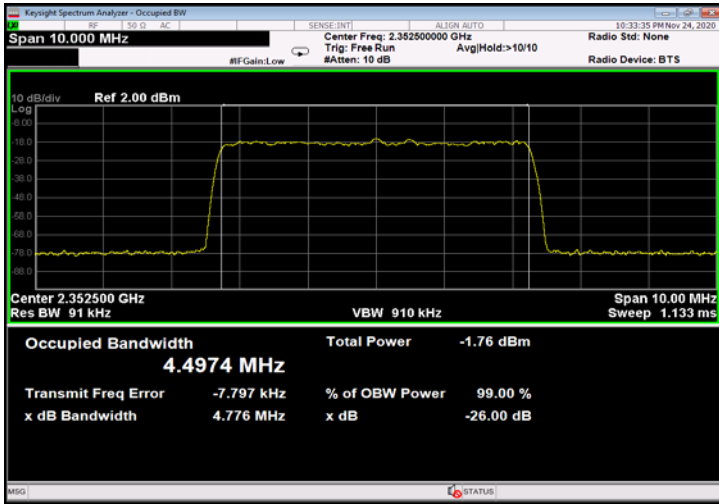


Figure 63: 256QAM 5MHz B.W.; 2352.5MHz, 15kHz - Input

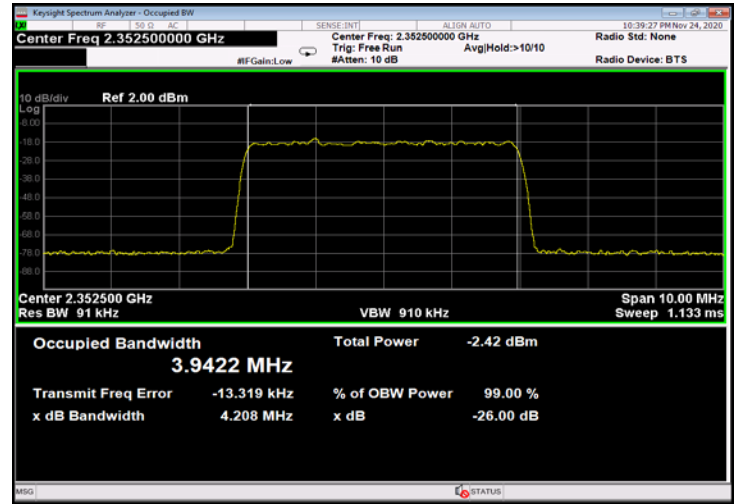


Figure 64: 256QAM 10MHz B.W.; 2352.5MHz, 30kHz - Input

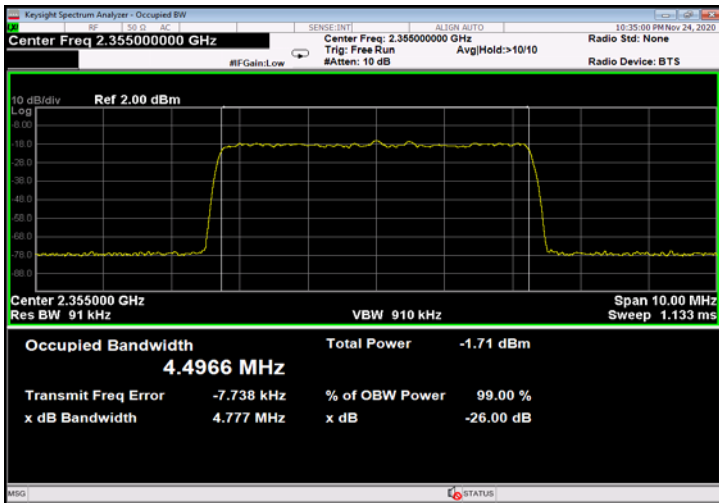


Figure 65: 256QAM 5MHz B.W.; 2355.0MHz, 15kHz - Input

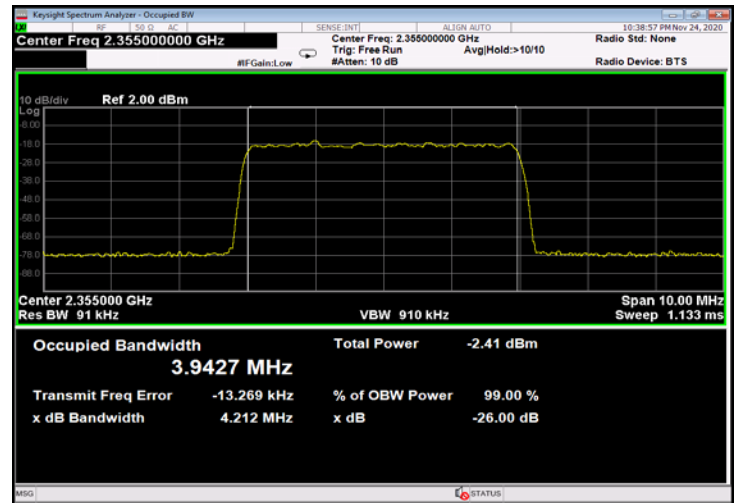


Figure 66: 256QAM 5MHz B.W.; 2355.0MHz, 30kHz - Input

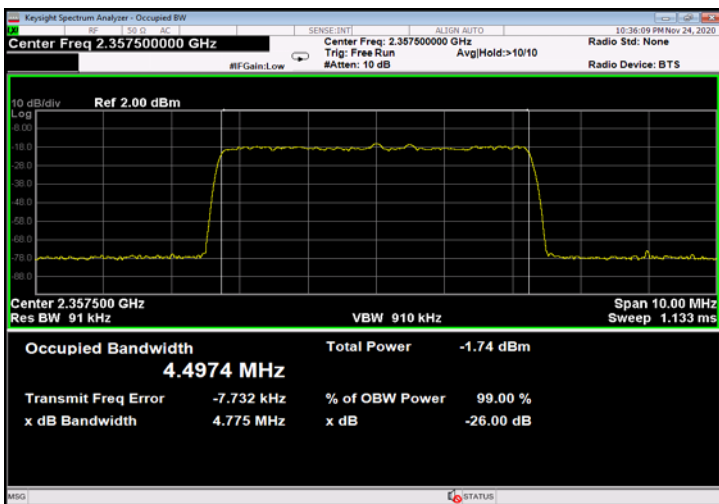


Figure 67: 256QAM 5MHz B.W.; 2357.5MHz, 15kHz - Input

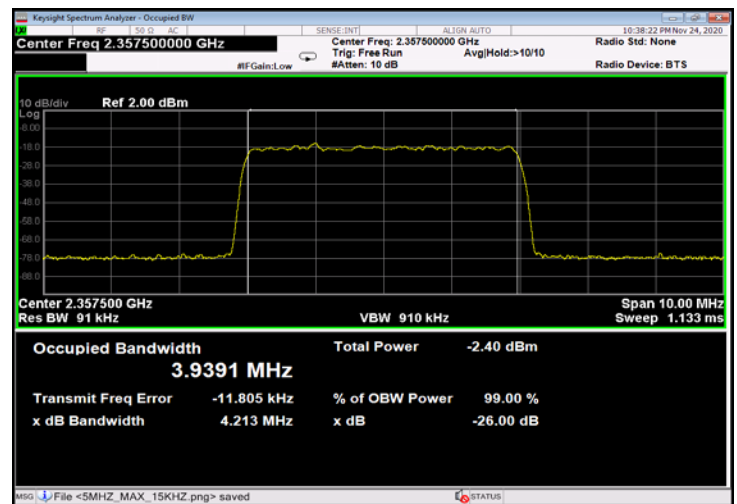


Figure 68: 256QAM 5MHz B.W.; 2357.5MHz, 30kHz - Input



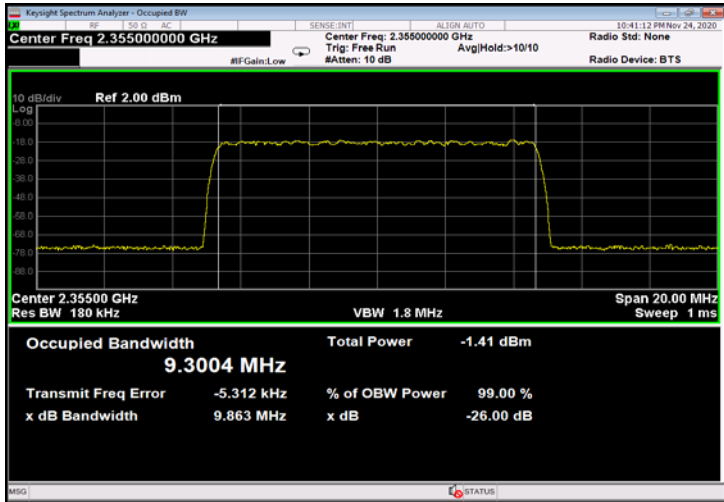


Figure 69: 256QAM 10MHz B.W.; 2355.0MHz, 15kHz - Input

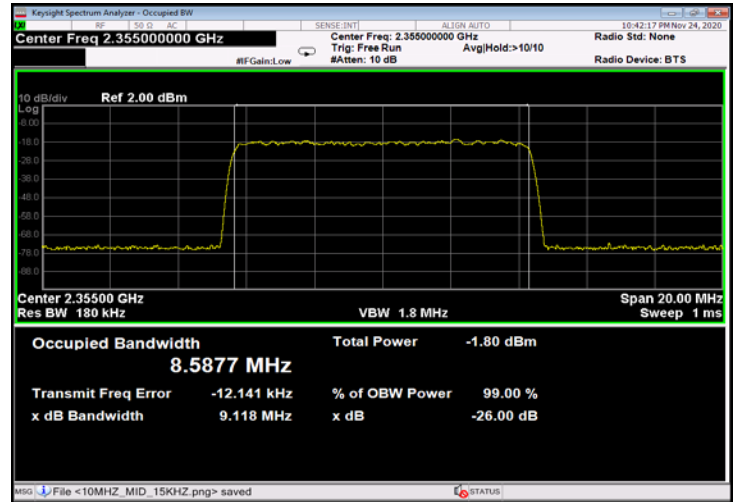


Figure 70: 256QAM 10MHz B.W.; 2355.0MHz, 30kHz - Input

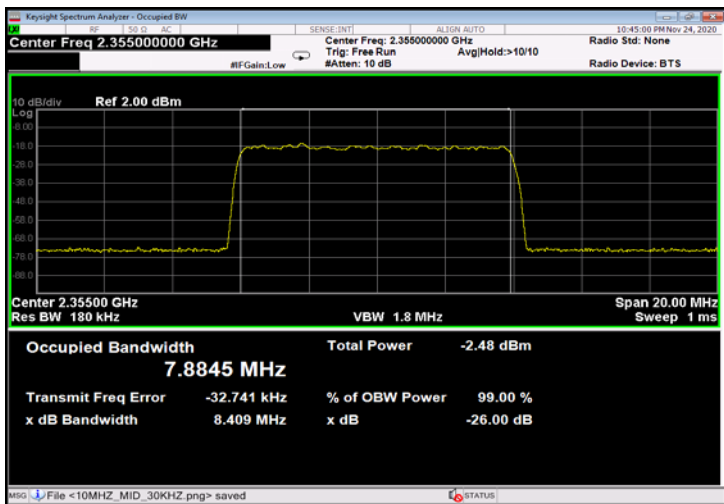


Figure 71: 256QAM 10MHz B.W.; 2355.0MHz, 60kHz - Input

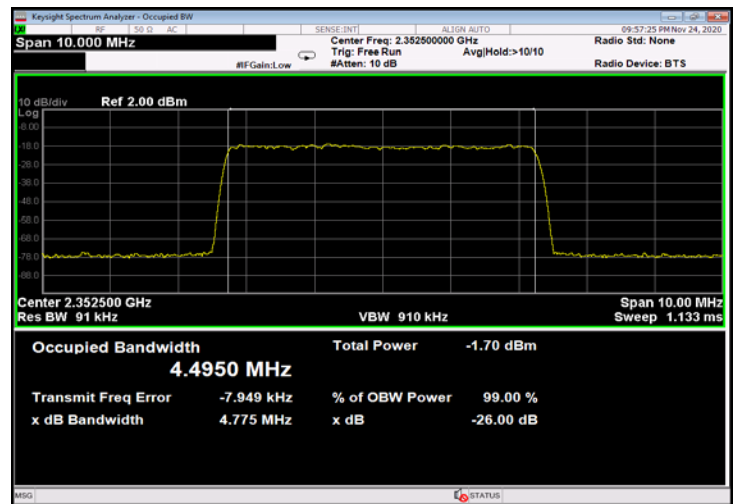


Figure 72: QPSK 5MHz B.W.; 2352.5MHz, 15kHz - Input

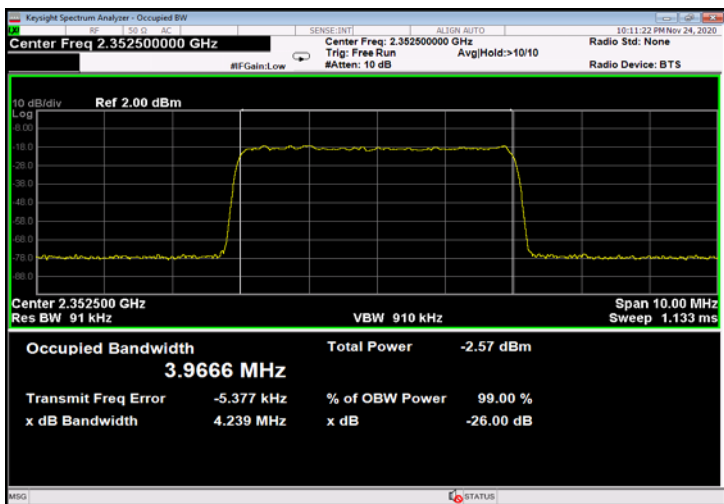


Figure 73: QPSK 5MHz B.W.; 2352.5MHz, 30kHz - Input

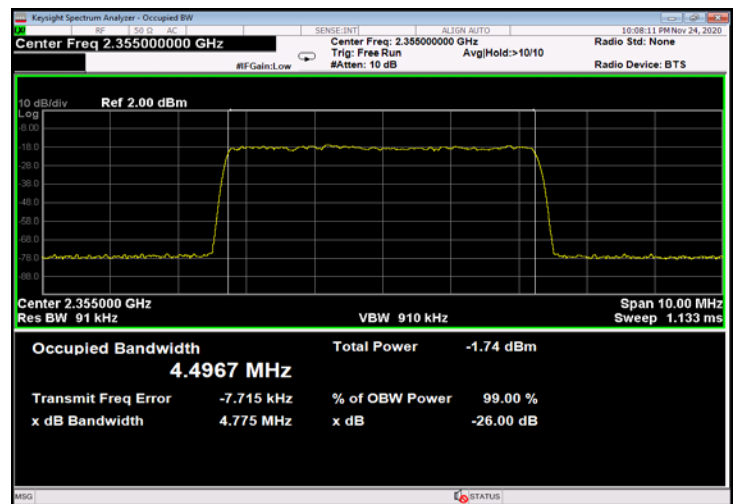


Figure 74: QPSK 5MHz B.W.; 2355.0MHz, 15kHz - Input

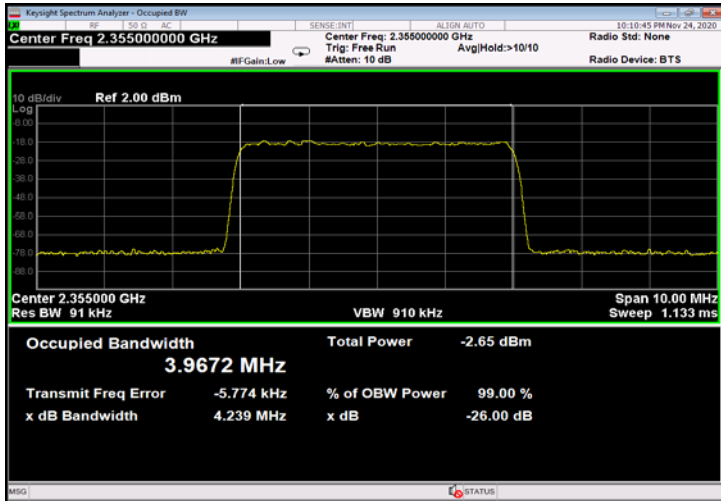


Figure 75: QPSK 5MHz B.W.; 2355.0MHz, 30kHz - Input

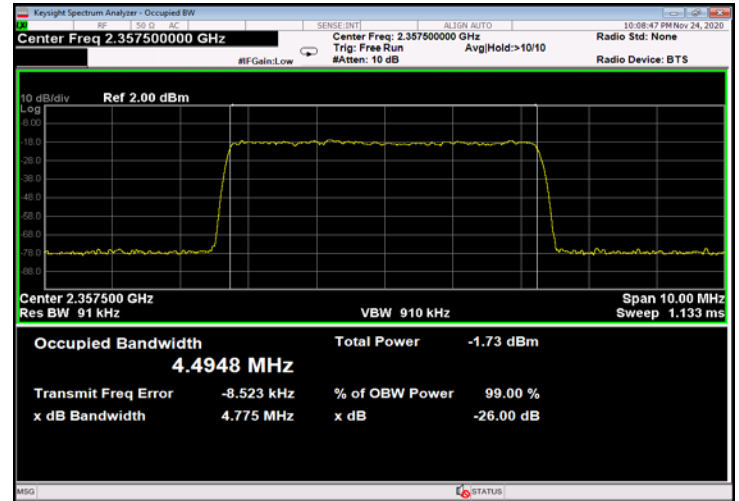


Figure 76: QPSK 5MHz B.W.; 2357.5MHz, 15kHz - Input

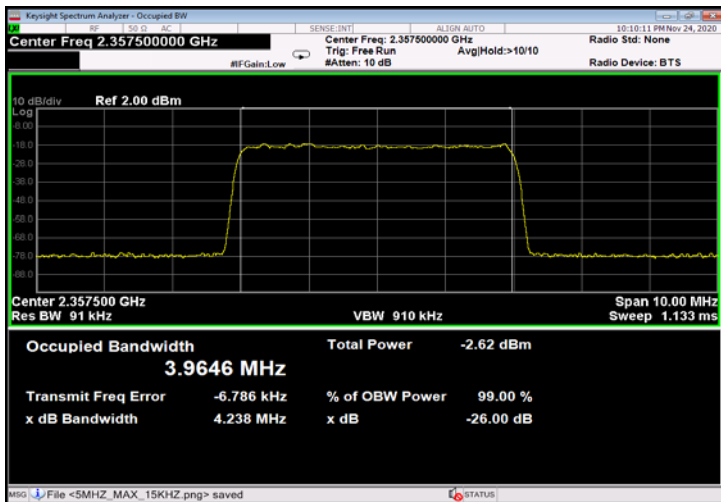


Figure 77: QPSK 5MHz B.W.; 2357.5MHz, 30kHz - Input

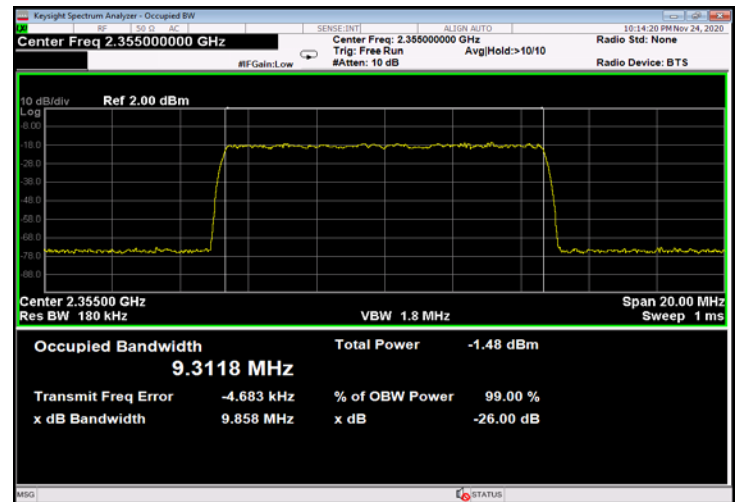


Figure 78: QPSK 10MHz B.W.; 2355.0MHz, 15kHz - Input

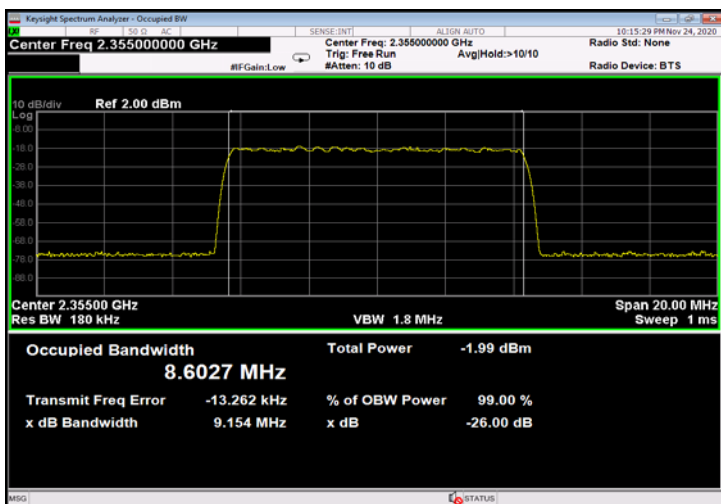


Figure 79: QPSK 10MHz B.W.; 2355.0MHz, 30kHz - Input

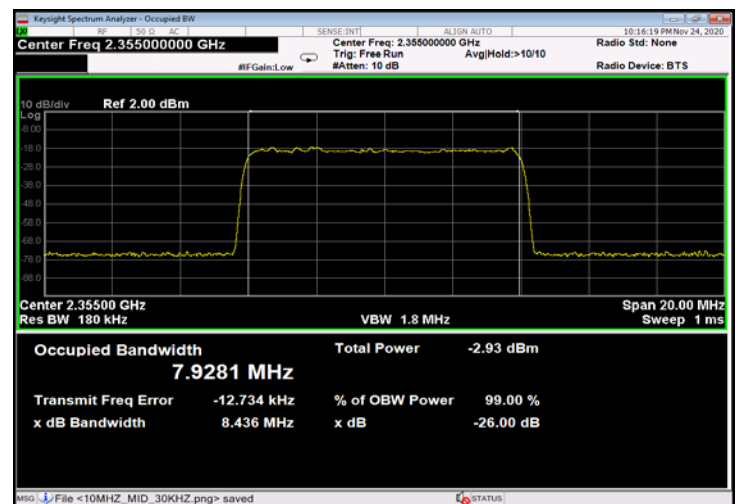
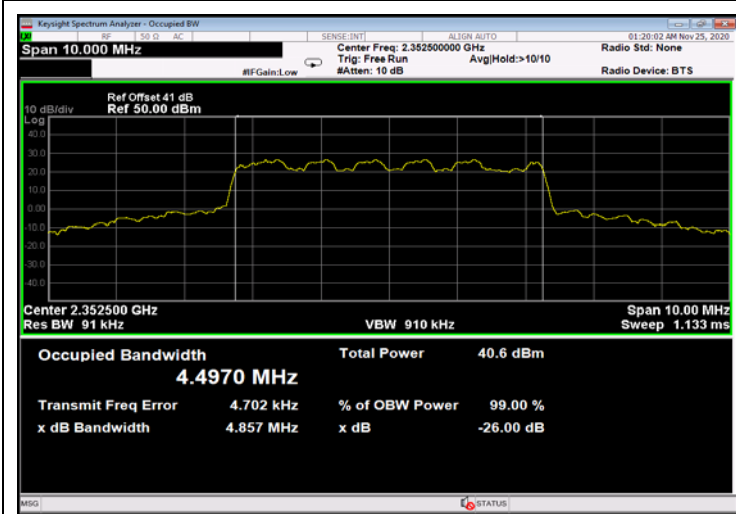


Figure 80: QPSK 10MHz B.W.; 2355.0MHz, 60kHz - Input

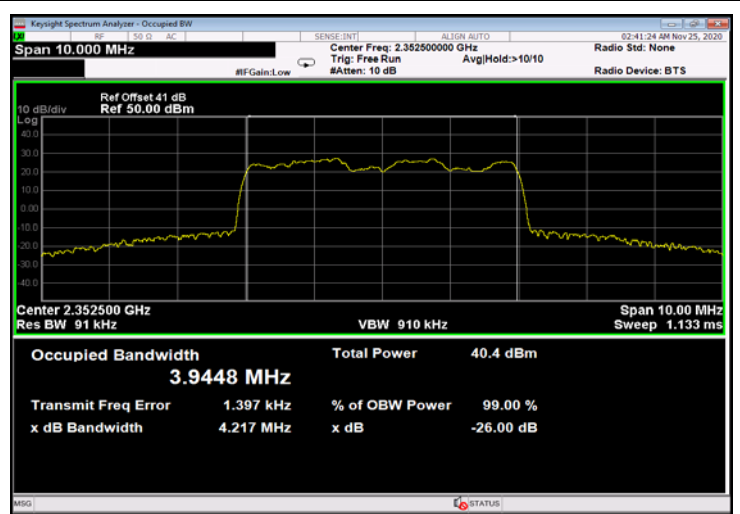




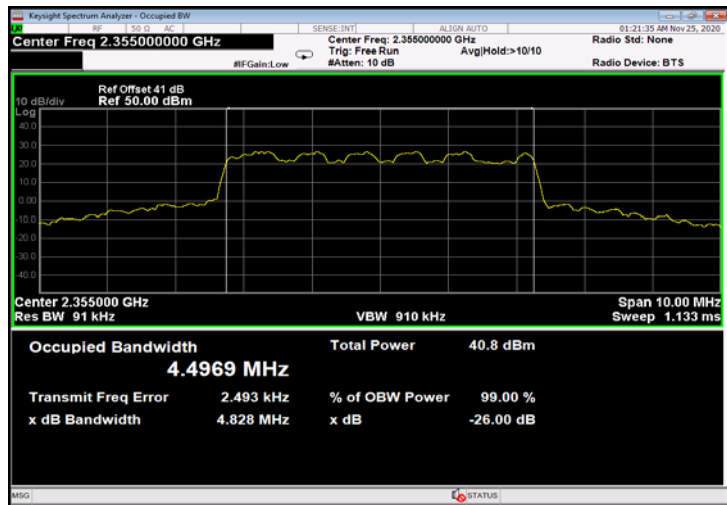
**OUTPUT**



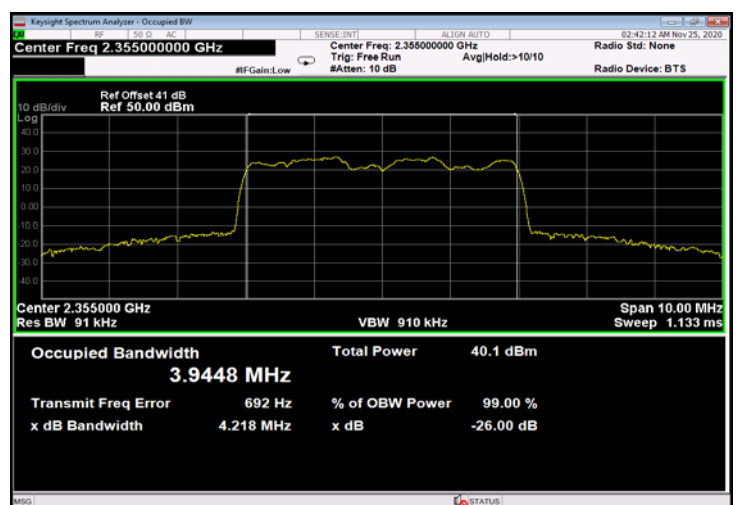
**Figure 81: 16QAM 5MHz B.W.; 2352.5MHz, 15kHz - Output**



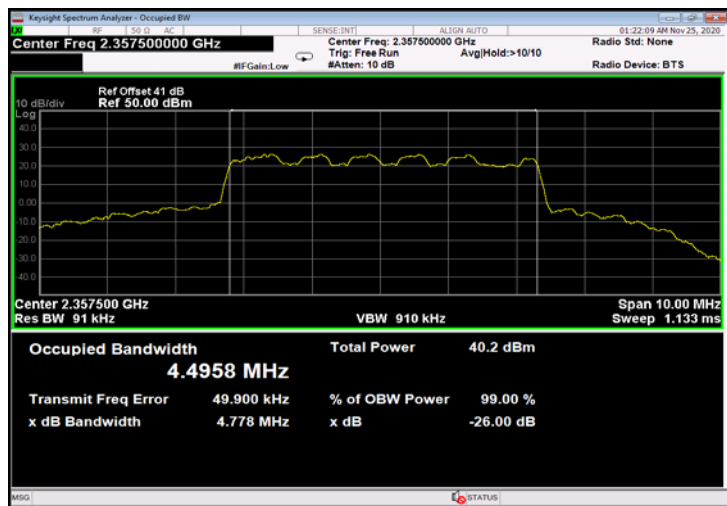
**Figure 82: 16QAM 5MHz B.W.; 2352.5MHz, 30kHz- Output**



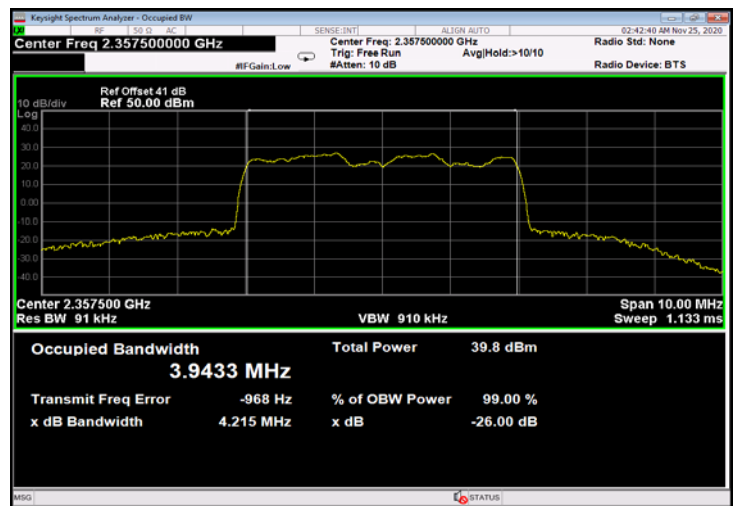
**Figure 83: 16QAM 5MHz B.W.; 2355.0MHz, 15kHz- Output**



**Figure 84: 16QAM 5MHz B.W.; 2355.0MHz, 30kHz- Output**



**Figure 85: 16QAM 5MHz B.W.; 2357.5MHz, 15kHz - Output**



**Figure 86: 16QAM 5MHz; 2357.5MHz, 30kHz- Output**

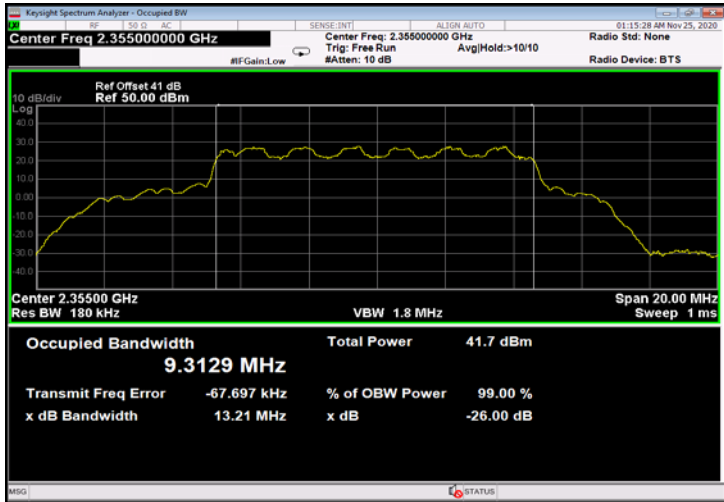


Figure 87: 16QAM 10MHz B.W.; 2355.0MHz, 15kHz- Output

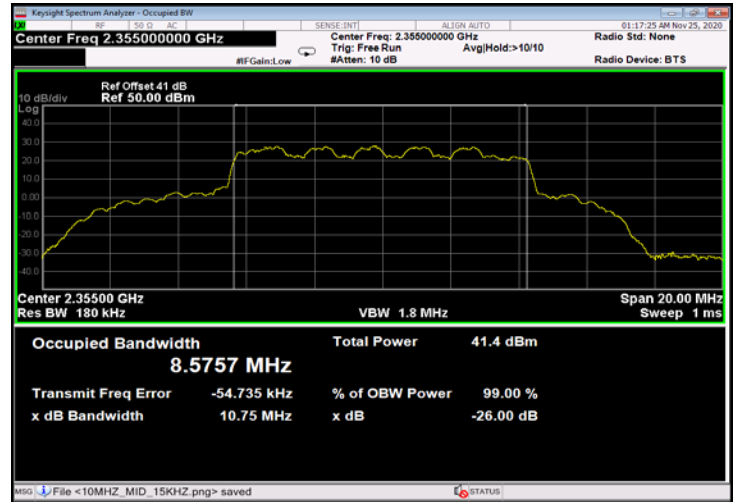


Figure 88: 16QAM 10MHz B.W.; 2355.0MHz, 30kHz- Output

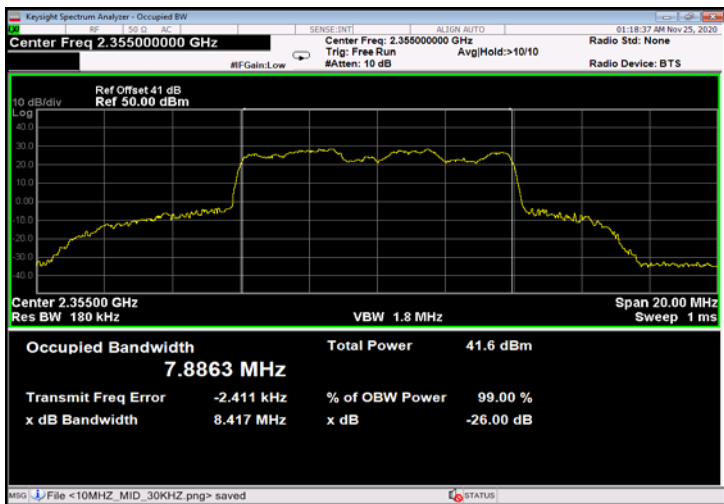


Figure 89: 16QAM 10MHz B.W.; 2355.0MHz, 60kHz- Output

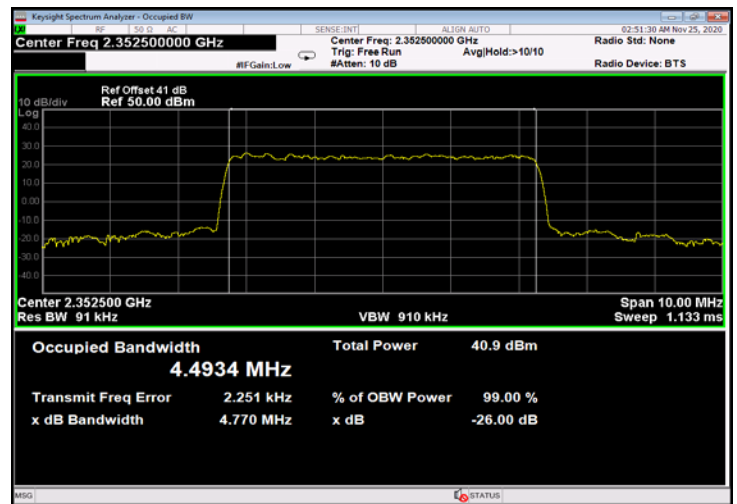


Figure 90: 64QAM 5MHz B.W.; 2352.5MHz, 15kHz - Output

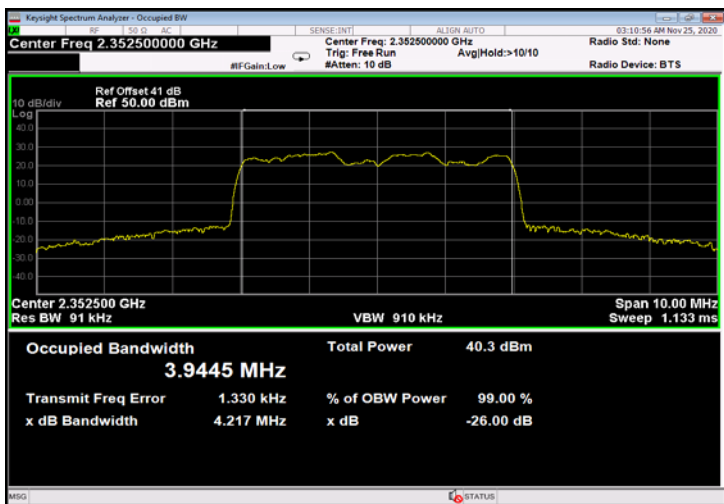


Figure 91: 64QAM 5MHz B.W.; 2352.5MHz, 30kHz - Output

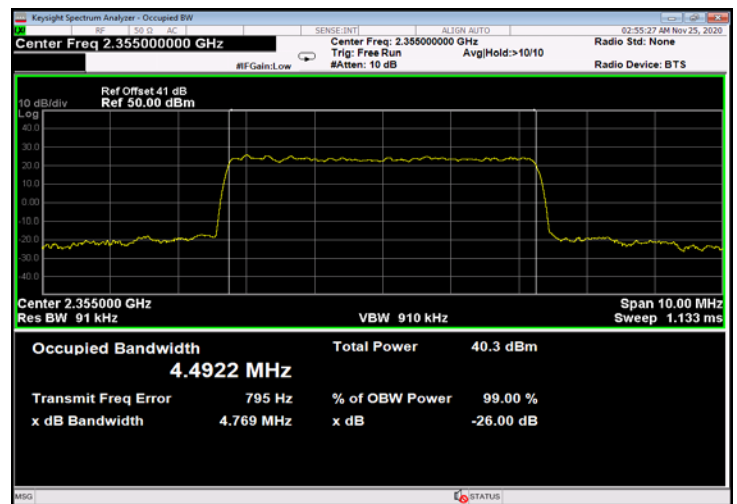


Figure 92: 64QAM 5MHz B.W.; 2355.0MHz, 15kHz - Output