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# Report On

FCC Testing of the
Ericsson AB Radio 2205 B46 KRC 161 609/1
LAA (B46A and B46D) Remote Radio Unit In accordance with FCC CFR 47 Part 15E

COMMERCIAL-IN-CONFIDENCE

FCC ID: TA8AKRC161609-1

| PREPARED BY | APPROVED BY | DATED |
|---|---|---|
| Zhao Lei | | 07 July 2017 |
| Lei Zhao<br>Project Engineer | Matthew Russell<br>Authorised Signatory | |

Document 75938768 Report 01 Issue 1 July 2017

Product Service

**CONTENTS**

## SECTION 1

## REPORT INFORMATION

## 1.1 REPORT DETAILS

The information contained in this report is intended to show verification of the Ericsson Radio 2205 B46 KRC 161 609/1 Remote Radio Unit to the requirements of FCC CFR 47 Part 15E.

Testing was carried out in support of an application for Grant of Radio 2205 B46 KRC 161 609/1 in LAA mode.

| | |
|---|---|
| Manufacturer | Ericsson AB |
| Address | Isafjordsgatan 10<br>SE-164 80<br>Stockholm 16480<br>Sweden |
| Product Name | Radio 2205 B46 |
| Product Number | KRC 161 609/1 |
| Serial Number(s) | D825784303<br>D825931354<br>D825796609 |
| Software Version | CXP9033743/2 Rev R1C07 |
| Hardware Version | R1B |
| Test Specification/Issue/Date | FCC CFR 47 Part 15: 2016 |
| Start of Test | 15 June 2017 |
| Finish of Test | 30 June 2017 |
| Name of Engineer(s) | Lei Zhao |
| Related Document(s) | ANSI C63.4: 2014<br>ANSI/TIA-603-D:2010<br>FCC CFR 47 Part 2: 2016<br>3GPP TS 36.141 V13.6.0 (2017-01)<br>KDB 789033 D02 v01r04<br>KDB 662911 D01 v02r01 |

## 1.2 BRIEF SUMMARY OF RESULTS

A brief summary of results for each configuration, in accordance with FCC CFR 47 Part 2 and Part 15 is shown below.

| Section | Spec Clause | | Test Description | Result |
|---|---|---|---|---|
| | Part 2 | Part 15E | | |
| 2.1 | 2.1046 | 15.407 (a)(1)(3) | Maximum Output Power and Outdoor Maximum Equivalent Isotropically Radiated Power (EIRP) | Pass |
| 2.2 | 2.1046 | 15.407 (a)(5) | Maximum Power Spectral Density | Pass |
| 2.3 | 2.1049(h) | 15.407 (a)<br>15.407 (e) | 26 dB Bandwidth and 99% Occupied Bandwidth | Pass |
| 2.4 | 2.1051 | 15.407 (b)<br>15.209 | Undesirable Emission – Conducted | Pass |
| 2.5 | 2.1051 | 15.407 (b)<br>15. 205<br>15.209 | Undesirable Emission at Band Edge | Pass |
| 2.6 | 2.1053 | 15.407 (b)<br>15. 205<br>15.209 | Undesirable Emission – Radiated | Pass |
| 2.7 | 2.1055 | 15.407 (g) | Frequency Stability | Pass |
| 2.8 | 2.1051 | 15.407 (b)<br>15.207 | Conducted Emission | Pass |

## 1.3 CONFIGURATION DESCRIPTION

**Configuration A**
Configuration A1 - Maximum 20.5 dBm for ports equipped with directional 9.5dBi Antenna at Band B46A or UNII-1
Configuration A2 - Maximum 20.5 dBm for ports equipped with directional 9.5dBi Antenna at Band B46D or UNII-3

**Configuration B**
Configuration B1 - Maximum 25.0dBm for ports be equipped with directional 6dBi Antenna at Band B46A or UNII-1
Configuration B1 - Maximum 25.0dBm for ports be equipped with directional 6dBi Antenna at Band B46D or UNII-3

| Configuration Code | Carrier(s) | Configuration Description |
|---|---|---|
| L-MIMO-SC | 1C | LTE MIMO, Single Carrier |
| L-MIMO-MC 1 | 2C | LTE MIMO, Multi Carrier x2 |
| L-MIMO-MC 2 | 3C | LTE MIMO, Multi Carrier x3 |

The settings below were deemed representative for all traffic scenarios when settings with different modulations, channel bandwidths, number of carriers and RF configurations have been tested to find the worst case setting. The settings below were used for all measurements unless otherwise noted:

LTE:
MIMO mode single carrier: E-TM1.1
MIMO mode multi carrier (x2): E-TM1.1
MIMO mode multi carrier (x3): E-TM1.1

MIMO mode single carrier: E-TM3.2
MIMO mode multi carrier (x2): E-TM3.2
MIMO mode multi carrier (x3): E-TM3.2

MIMO mode single carrier: E-TM3.1
MIMO mode multi carrier (x2): E-TM3.1
MIMO mode multi carrier (x3): E-TM3.1

MIMO mode single carrier: E-TM3.1a
MIMO mode multi carrier (x2): E-TM3.1a
MIMO mode multi carrier (x3): E-TM3.1a

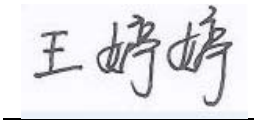
The EUT includes two TX ports and it can be configured to transmit in MIMO mode for LTE carriers, MIMO mode for LTE was used for measurements as the worst configuration.

The complete testing was performed with the EUT transmiting at maximum RF power unless otherwise stated.

For LAA (Radio Access Technology) MIMO mode, all the Maximum Output Power and Maximum Power Spectral Density was tested on all TX output connector RF A and B. All the other TX measurements of LAA MIMO mode, were performed on the combined TX output connector RF A of the EUT as the representative port.

## 1.4 DECLARATION OF BUILD STATUS

| MAIN EUT | |
|---|---|
| **MANUFACTURING DESCRIPTION** | Remote Radio Unit |
| **MANUFACTURER** | Ericsson AB |
| **PRODUCT NAME** | Radio 2205 B46 |
| **PRODUCT NUMBER** | KRC 161 609/1 |
| **TRANSMITTER OPERATING RANGE** | TX: 5155.8 MHz - 5250 MHz, 5725 MHz – 5850 MHz |
| **MODULATIONS** | LTE: QPSK, 16QAM, 64QAM, 256QAM |
| **ITU DESIGNATION OF EMISSION** | LTE: 20M0F9W |
| **NUMBER OF CARRIERS** | Maximum 3 carriers |
| **SUPPORTED CHANNEL BANDWIDTH CONFIGURATION** | 20 MHz |
| **OUTPUT POWER (RMS) (W or dBm)** | Maximum 20.5 dBm for ports be equipped with directional 10.5 dBi Antenna Gain<br>Maximum 25.0 dBm for ports be equipped with directional 6.0 dBi Antenna Gain |
| **INSTANTANEOUS BANDWIDTH** | 60 MHz |
| **NUMBER OF ANTENNA PORTS** | 2 TX ports |
| **FCC ID** | TA8AKRC161609-1 |
| **Power source** | 36 V DC |
| **TECHNICAL DESCRIPTION (a brief description of the intended use and operation)** | The equipment is the Remote Radio Part designed for use in LTE cellular telephone system and for LAA to extend benefits of LTE on unlicensed spectrum. |

**Signature** 

**Date** 15 June 2017

**D of B S Serial No** 75939386/01

No responsibility will be accepted by TÜV SÜD Product Service UK Limited as to the accuracy of the information declared in this document by the manufacturer.

## 1.5 PRODUCT INFORMATION

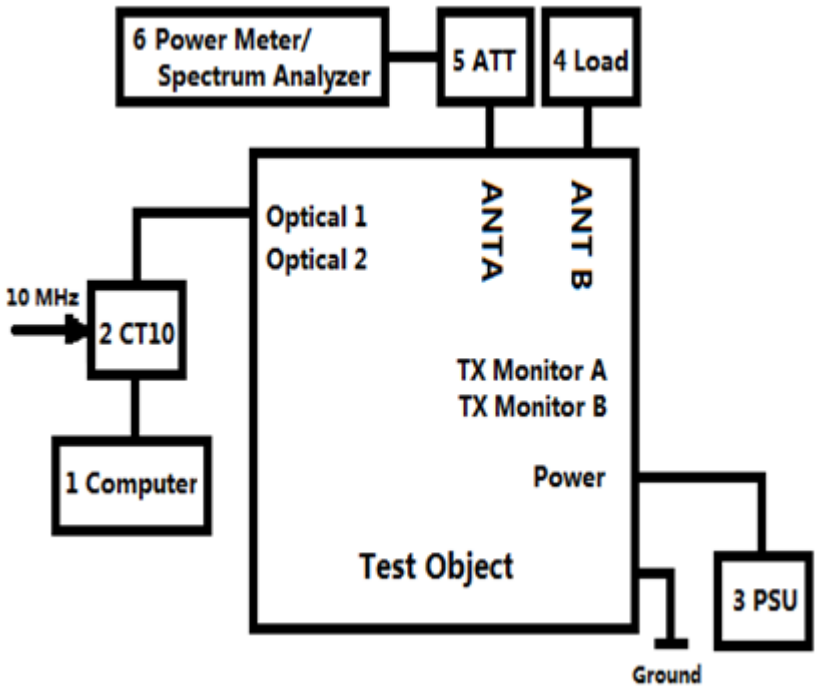
### 1.5.1 Technical Description

The Equipment Under Test (EUT) is shown in the photograph below. The Radio 2205 B46 KRC 161 609/1 operates from 36 V DC with PSU AC 10 or PSU 48 05. A full technical description can be found in the Manufacturer's documentation.


Equipment Under Test

## 1.6 TEST SETUP

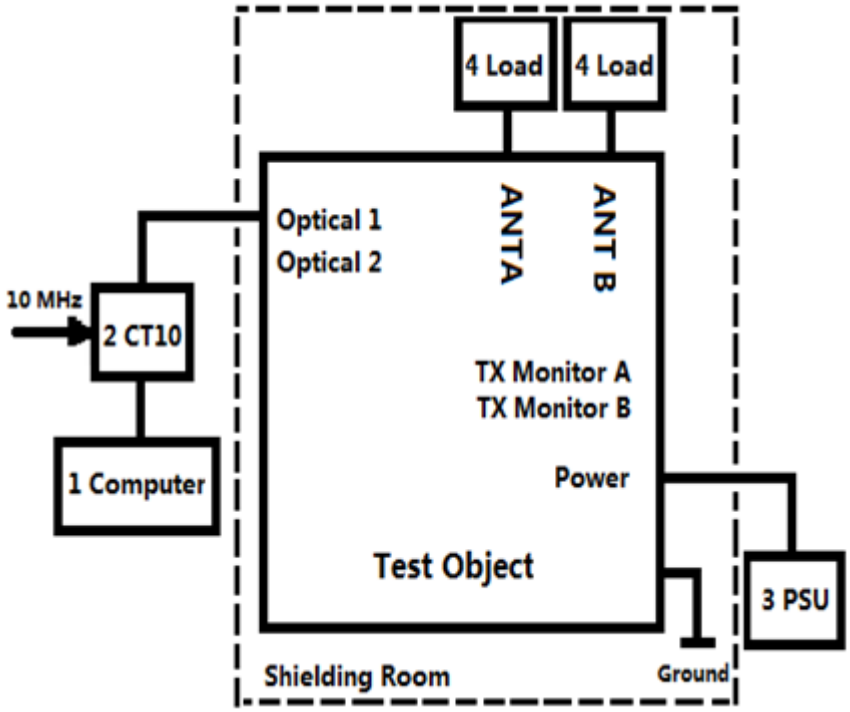
**Test Setup, Conducted Measurement:**




| Product Name | Product Number | Version | Serial Number |
|---|---|---|---|
| Radio 2205 B46 | KRC 161 609/1 | R1B | D825784303<br>D825931354 |

| No. | Auxiliary Equipment | Part Number / Model Type | Version | Serial Number |
|---|---|---|---|---|
| 1 | Computer | HP EliteBook 8540w | -- | CND1234694 |
| 2 | CT10 | LPC 102 487/1 | R1C | T01F410050 |
| 3 | PSU | N5767A | -- | BAMS-1001652011 |
| 4 | Load | 53K17R-005 | -- | -- |
| 5 | 20dB Attenuator | 53AS102-K20 | -- | -- |
| 6 | Spectrum Analyzer | N9030A | -- | MY54490502 |
| | Power Meter | NRP2 | -- | 104221 |
| | Power Sensor | NRP-Z11 | -- | 121215 |
| | Power Sensor | NRP-Z11 | -- | 121220 |

**Test Setup, Radiated Measurement:**




| Product Name | Product Number | Version | Serial Number |
|---|---|---|---|
| Radio 2205 B46 | KRC 161 609/1 | R1B | D825796609 |

| No. | Auxiliary Equipment | Part Number / Model Type | Version | Serial Number |
|---|---|---|---|---|
| 1 | Computer | HP EliteBook Folio 9470m | -- | AP538738 |
| 2 | CT10 | LPC 102 487/1 | R1C | T01F262515 |
| 3 | PSU | N5767A | -- | BAMS-1001607355 |
| 4 | Load | 53K17R-005 | -- | -- |
| | Load | 53K17R-005 | -- | -- |

## 1.7 TEST CONDITIONS

For all tests the EUT was set up in accordance with the relevant test standard and to represent typical operating conditions. Tests were applied with the EUT situated in a shielded enclosure, test laboratories or a chamber as appropriate.

All test cases were tested with the EUT supplied with 36 V DC via PSU AC 10 or PSU 48 05.

## 1.8 DEVIATION FROM THE STANDARD

No deviations from the applicable test standards or test plan were made during testing.

## 1.9 MODIFICATION RECORD

Modification State 0 - No modifications were made to the EUT during testing.

## 1.10 ALTERNATIVE TEST SITE

Under our group UKAS Accreditation, TÜV SÜD Product Service conducted the following tests at Ericsson in Beijing, China:

- Maximum Output Power and Outdoor Maximum E.I.R.P – Conducted
- Maximum Power Spectral Density
- 26 dB Bandwidth and 99% Occupied Bandwidth
- Undesirable Emission – Conducted
- Spurious Emission at Band Edge
- Frequency Stability

Testing listed below has been performed under the following site registrations:

- Undesirable Emission - Radiated
- Conducted Emissions

FCC Accreditation 910917:
The State Radio Monitoring Centre, No.80 Beilishi Road, Xicheng District, Beijing, China

## SECTION 2

## TEST DETAILS

## 2.1 MAXIMUM OUTPUT POWER AND OUTDOOR MAXIMUM E.I.R.P. – CONDUCTED

### 2.1.1 Specification Reference

FCC CFR 47 Part 2, Clause 2.1046
FCC CFR 47 Part 15, Clause 15.407 (a)(1)(3)

### 2.1.2 Equipment Under Test

Radio 2205 B46, KRC 161 609/1, S/N: D825784303

### 2.1.3 Date of Test and Modification State

15 and 16 June 2017 - Modification State 0

### 2.1.4 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 4.1.

### 2.1.5 Environmental Conditions

| | |
|---|---|
| Ambient Temperature | 23.8 - 24.0°C |
| Relative Humidity | 47.0 - 53.0% |

### 2.1.6 Test Method

The test was applied in accordance with the test method requirements of FCC CFR 47 Part 15, Clause 15.407 (a)(1)(3).

Using a power meter and attenuator(s), the output power of the EUT was measured at the antenna terminal in accordance with FCC KDB 789033 D02. The path loss between the EUT and the power sensor was measured and recorded for the test band. The path loss was entered as an offset into the Power Meter and Spectrum Analyzer.

The EUT was configured to transmit on maximum power on the configurations defined in the tables below. In case of the EUT was configured to MIMO mode, since the EUT transmits on two antennas simultaneously in the same frequency range for MIMO devices, i.e., TX MIMO mode, using the Measure-and-Sum approach, the output power at both antennas were tested, and the total output power were then summed mathematically in linear power units according to FCC KDB 662911 D01.

Outdoor Maximum E.I.R.P was calculated in accordance with FCC CFR 47 Part 15, Clause 15.407 (a)(1)(3).

The RMS Power was measured and Outdoor Maximum E.I.R.P calculated and recorded with the results being compared with the limits.

### 2.1.7 Test Results

Configuration A1

L-MIMO-SC

Maximum Output Power 20.5dBm per port

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position B 5180.0MHz | Channel Position M 5220.0MHz | Channel Position T 5240.0MHz |
| A | QPSK / 20.0 MHz | 20.81 | 20.86 | 20.84 |
| B | | 20.81 | 20.91 | 20.76 |
| Total | | 23.82 | 23.90 | 23.81 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position B 5180.0MHz | Channel Position M 5220.0MHz | Channel Position T 5240.0MHz |
| A | 16QAM / 20.0 MHz | 20.85 | 20.83 | 20.82 |
| B | | 20.84 | 20.88 | 20.78 |
| Total | | 23.86 | 23.87 | 23.81 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position B 5180.0MHz | Channel Position M 5220.0MHz | Channel Position T 5240.0MHz |
| A | 64QAM / 20.0 MHz | 20.90 | 20.89 | 20.80 |
| B | | 20.89 | 20.87 | 20.76 |
| Total | | 23.91 | 23.89 | 23.79 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position B 5180.0MHz | Channel Position M 5220.0MHz | Channel Position T 5240.0MHz |
| A | 256QAM / 20.0 MHz | 20.88 | 20.88 | 20.86 |
| B | | 20.88 | 20.81 | 20.74 |
| Total | | 23.89 | 23.86 | 23.81 |

L-MIMO-MC 1 (2C)

Maximum Output Power 20.5dBm per port

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5180.0MHz + 5220.0MHz | Channel Position $M_{RFBW}$ - | Channel Position $T_{RFBW}$ 5200.0MHz + 5240.0MHz |
| A | QPSK / 20.0 MHz | 20.78 | - | 20.87 |
| B | | 20.85 | - | 20.94 |
| Total | | 23.83 | - | 23.92 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5180.0MHz + 5220.0MHz | Channel Position $M_{RFBW}$ - | Channel Position $T_{RFBW}$ 5200.0MHz + 5240.0MHz |
| A | 16QAM / 20.0 MHz | 20.80 | - | 20.90 |
| B | | 20.90 | - | 20.84 |
| Total | | 23.86 | - | 23.88 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5180.0MHz + 5220.0MHz | Channel Position $M_{RFBW}$ - | Channel Position $T_{RFBW}$ 5200.0MHz + 5240.0MHz |
| A | 64QAM / 20.0 MHz | 20.88 | - | 20.88 |
| B | | 20.91 | - | 20.85 |
| Total | | 23.91 | - | 23.88 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5180.0MHz + 5220.0MHz | Channel Position $M_{RFBW}$ - | Channel Position $T_{RFBW}$ 5200.0MHz + 5240.0MHz |
| A | 256QAM / 20.0 MHz | 20.82 | - | 20.93 |
| B | | 20.89 | - | 20.85 |
| Total | | 23.87 | - | 23.90 |

Configuration L-MIMO-MC 3 (3C)

Maximum Output Power 20.5dBm per port

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5180.0MHz + 5200.0MHz + 5220.0MHz | Channel Position $M_{RFBW}$ - | Channel Position $T_{RFBW}$ 5200.0MHz + 5220.0MHz + 5240.0MHz |
| A | QPSK / 20.0 MHz | 20.83 | - | 20.87 |
| B | | 20.86 | - | 20.77 |
| Total | | 23.86 | - | 23.83 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5180.0MHz + 5200.0MHz + 5220.0MHz | Channel Position $M_{RFBW}$ - | Channel Position $T_{RFBW}$ 5200.0MHz + 5220.0MHz + 5240.0MHz |
| A | 16QAM / 20.0 MHz | 20.91 | - | 20.88 |
| B | | 20.79 | - | 20.83 |
| Total | | 23.86 | - | 23.87 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5180.0MHz + 5200.0MHz + 5220.0MHz | Channel Position $M_{RFBW}$ - | Channel Position $T_{RFBW}$ 5200.0MHz + 5220.0MHz + 5240.0MHz |
| A | 64QAM / 20.0 MHz | 20.89 | - | 20.86 |
| B | | 20.83 | - | 20.87 |
| Total | | 23.87 | - | 23.88 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5180.0MHz + 5200.0MHz + 5220.0MHz | Channel Position $M_{RFBW}$ - | Channel Position $T_{RFBW}$ 5200.0MHz + 5220.0MHz + 5240.0MHz |
| A | 256QAM / 20.0 MHz | 20.80 | - | 20.91 |
| B | | 20.85 | - | 20.83 |
| Total | | 23.84 | - | 23.88 |

Configuration A2

L-MIMO-SC

Maximum Output Power 20.5dBm per port

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position B 5745.0MHz | Channel Position M 5785.0MHz | Channel Position T 5825.0MHz |
| A | QPSK / 20.0 MHz | 20.28 | 20.45 | 20.50 |
| B | | 20.24 | 20.38 | 20.40 |
| Total | | 23.27 | 23.43 | 23.46 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position B 5745.0MHz | Channel Position M 5785.0MHz | Channel Position T 5825.0MHz |
| A | 16QAM / 20.0 MHz | 20.31 | 20.47 | 20.44 |
| B | | 20.25 | 20.31 | 20.40 |
| Total | | 23.29 | 23.40 | 23.43 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position B 5745.0MHz | Channel Position M 5785.0MHz | Channel Position T 5825.0MHz |
| A | 64QAM / 20.0 MHz | 20.26 | 20.40 | 20.40 |
| B | | 20.33 | 20.32 | 20.39 |
| Total | | 23.31 | 23.37 | 23.41 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position B 5745.0MHz | Channel Position M 5785.0MHz | Channel Position T 5825.0MHz |
| A | 256QAM / 20.0 MHz | 20.20 | 20.40 | 20.47 |
| B | | 20.32 | 20.26 | 20.44 |
| Total | | 23.27 | 23.34 | 23.47 |

L-MIMO-MC 1 (2C)

Maximum Output Power 20.5dBm per port

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5745.0MHz + 5785.0MHz | Channel Position $M_{RFBW}$ 5765.0MHz + 5805.0MHz | Channel Position $T_{RFBW}$ 5785.0MHz + 5825.0MHz |
| A | QPSK / 20.0 MHz | 20.28 | 20.35 | 20.51 |
| B | | 20.24 | 20.31 | 20.38 |
| Total | | 23.27 | 23.34 | 23.46 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5745.0MHz + 5785.0MHz | Channel Position $M_{RFBW}$ 5765.0MHz + 5805.0MHz | Channel Position $T_{RFBW}$ 5785.0MHz + 5825.0MHz |
| A | 16QAM / 20.0 MHz | 20.34 | 20.38 | 20.41 |
| B | | 20.28 | 20.31 | 20.33 |
| Total | | 23.32 | 23.36 | 23.38 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5745.0MHz + 5785.0MHz | Channel Position $M_{RFBW}$ 5765.0MHz + 5805.0MHz | Channel Position $T_{RFBW}$ 5785.0MHz + 5825.0MHz |
| A | 64QAM / 20.0 MHz | 20.34 | 20.28 | 20.44 |
| B | | 20.31 | 20.29 | 20.32 |
| Total | | 23.34 | 23.30 | 23.39 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5745.0MHz + 5785.0MHz | Channel Position $M_{RFBW}$ 5765.0MHz + 5805.0MHz | Channel Position $T_{RFBW}$ 5785.0MHz + 5825.0MHz |
| A | 256QAM / 20.0 MHz | 20.35 | 20.35 | 20.42 |
| B | | 20.20 | 20.30 | 20.23 |
| Total | | 23.29 | 23.34 | 23.34 |

L-MIMO-MC 3 (3C)

Maximum Output Power 20.5dBm per port

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5745.0MHz + 5765.0MHz + 5785.0MHz | Channel Position $M_{RFBW}$ 5765.0MHz + 5785.0MHz + 5805.0MHz | Channel Position $T_{RFBW}$ 5785.0MHz + 5805.0MHz + 5825.0MHz |
| A | QPSK / 20.0 MHz | 20.27 | 20.37 | 20.46 |
| B | | 20.17 | 20.31 | 20.35 |
| Total | | 23.23 | 23.35 | 23.42 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5745.0MHz + 5765.0MHz + 5785.0MHz | Channel Position $M_{RFBW}$ 5765.0MHz + 5785.0MHz + 5805.0MHz | Channel Position $T_{RFBW}$ 5785.0MHz + 5805.0MHz + 5825.0MHz |
| A | 16QAM / 20.0 MHz | 20.28 | 20.31 | 20.40 |
| B | | 20.24 | 20.29 | 20.42 |
| Total | | 23.27 | 23.31 | 23.42 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5745.0MHz + 5765.0MHz + 5785.0MHz | Channel Position $M_{RFBW}$ 5765.0MHz + 5785.0MHz + 5805.0MHz | Channel Position $T_{RFBW}$ 5785.0MHz + 5805.0MHz + 5825.0MHz |
| A | 64QAM / 20.0 MHz | 20.31 | 20.35 | 20.44 |
| B | | 20.21 | 20.30 | 20.40 |
| Total | | 23.27 | 23.34 | 23.43 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5745.0MHz + 5765.0MHz + 5785.0MHz | Channel Position $M_{RFBW}$ 5765.0MHz + 5785.0MHz + 5805.0MHz | Channel Position $T_{RFBW}$ 5785.0MHz + 5805.0MHz + 5825.0MHz |
| A | 256QAM / 20.0 MHz | 20.17 | 20.25 | 20.42 |
| B | | 20.13 | 20.14 | 20.30 |
| Total | | 23.16 | 23.21 | 23.37 |

Configuration B1

L-MIMO-SC

Maximum Output Power 25.0dBm per port

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position B 5180.0MHz | Channel Position M 5220.0MHz | Channel Position T 5240.0MHz |
| A | QPSK / 20.0 MHz | 25.34 | 25.32 | 25.30 |
| B | | 25.22 | 25.35 | 25.22 |
| Total | | 28.29 | 28.35 | 28.27 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position B 5180.0MHz | Channel Position M 5220.0MHz | Channel Position T 5240.0MHz |
| A | 16QAM / 20.0 MHz | 25.27 | 25.27 | 25.26 |
| B | | 25.28 | 25.27 | 25.16 |
| Total | | 28.29 | 28.28 | 28.22 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position B 5180.0MHz | Channel Position M 5220.0MHz | Channel Position T 5240.0MHz |
| A | 64QAM / 20.0 MHz | 25.32 | 25.31 | 25.29 |
| B | | 25.27 | 25.31 | 25.29 |
| Total | | 28.31 | 28.32 | 28.30 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position B 5180.0MHz | Channel Position M 5220.0MHz | Channel Position T 5240.0MHz |
| A | 256QAM / 20.0 MHz | 25.25 | 25.24 | 25.22 |
| B | | 25.19 | 25.24 | 25.24 |
| Total | | 28.23 | 28.25 | 28.24 |

L-MIMO-MC 1 (2C)

Maximum Output Power 25.0dBm per port

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5180.0MHz + 5220.0MHz | Channel Position $M_{RFBW}$ - | Channel Position $T_{RFBW}$ 5200.0MHz + 5240.0MHz |
| A | QPSK / 20.0 MHz | 25.34 | - | 25.31 |
| B | | 25.24 | - | 25.25 |
| Total | | 28.30 | - | 28.29 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5180.0MHz + 5220.0MHz | Channel Position $M_{RFBW}$ - | Channel Position $T_{RFBW}$ 5200.0MHz + 5240.0MHz |
| A | 16QAM / 20.0 MHz | 25.24 | - | 25.35 |
| B | | 25.30 | - | 25.29 |
| Total | | 28.28 | - | 28.33 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5180.0MHz + 5220.0MHz | Channel Position $M_{RFBW}$ - | Channel Position $T_{RFBW}$ 5200.0MHz + 5240.0MHz |
| A | 64QAM / 20.0 MHz | 25.28 | - | 25.31 |
| B | | 25.26 | - | 25.29 |
| Total | | 28.28 | - | 28.31 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5180.0MHz + 5220.0MHz | Channel Position $M_{RFBW}$ - | Channel Position $T_{RFBW}$ 5200.0MHz + 5240.0MHz |
| A | 256QAM / 20.0 MHz | 25.22 | - | 25.40 |
| B | | 25.31 | - | 25.28 |
| Total | | 28.28 | - | 28.35 |

L-MIMO-MC 3 (3C)

Maximum Output Power 25.0dBm per port

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5180.0MHz + 5200.0MHz + 5220.0MHz | Channel Position $M_{RFBW}$ - | Channel Position $T_{RFBW}$ 5200.0MHz + 5220.0MHz + 5240.0MHz |
| A | QPSK / 20.0 MHz | 25.27 | - | 25.21 |
| B | | 25.24 | - | 25.24 |
| Total | | 28.27 | - | 28.24 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5180.0MHz + 5200.0MHz + 5220.0MHz | Channel Position $M_{RFBW}$ - | Channel Position $T_{RFBW}$ 5200.0MHz + 5220.0MHz + 5240.0MHz |
| A | 16QAM / 20.0 MHz | 25.31 | - | 25.31 |
| B | | 25.23 | - | 25.19 |
| Total | | 28.28 | - | 28.26 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5180.0MHz + 5200.0MHz + 5220.0MHz | Channel Position $M_{RFBW}$ - | Channel Position $T_{RFBW}$ 5200.0MHz + 5220.0MHz + 5240.0MHz |
| A | 64QAM / 20.0 MHz | 25.33 | - | 25.26 |
| B | | 25.24 | - | 25.28 |
| Total | | 28.30 | - | 28.28 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5180.0MHz + 5200.0MHz + 5220.0MHz | Channel Position $M_{RFBW}$ - | Channel Position $T_{RFBW}$ 5200.0MHz + 5220.0MHz + 5240.0MHz |
| A | 256QAM / 20.0 MHz | 25.25 | - | 25.23 |
| B | | 25.19 | - | 25.27 |
| Total | | 28.23 | - | 28.26 |

Configuration B2

L-MIMO-SC

Maximum Output Power 25.0dBm per port

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position B 5745.0MHz | Channel Position M 5785.0MHz | Channel Position T 5825.0MHz |
| A | QPSK / 20.0 MHz | 24.71 | 24.85 | 24.88 |
| B | | 24.73 | 24.83 | 24.76 |
| Total | | 27.73 | 27.85 | 27.83 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position B 5745.0MHz | Channel Position M 5785.0MHz | Channel Position T 5825.0MHz |
| A | 16QAM / 20.0 MHz | 24.69 | 24.82 | 24.91 |
| B | | 24.74 | 24.79 | 24.80 |
| Total | | 27.73 | 27.82 | 27.87 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position B 5745.0MHz | Channel Position M 5785.0MHz | Channel Position T 5825.0MHz |
| A | 64QAM / 20.0 MHz | 24.72 | 24.90 | 24.88 |
| B | | 24.68 | 24.80 | 24.83 |
| Total | | 27.71 | 27.86 | 27.87 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position B 5745.0MHz | Channel Position M 5785.0MHz | Channel Position T 5825.0MHz |
| A | 256QAM / 20.0 MHz | 24.72 | 24.81 | 24.95 |
| B | | 24.67 | 24.79 | 24.84 |
| Total | | 27.71 | 27.81 | 27.91 |

L-MIMO-MC 1 (2C)

Maximum Output Power 25.0dBm per port

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5745.0MHz + 5785.0MHz | Channel Position $M_{RFBW}$ 5765.0MHz + 5805.0MHz | Channel Position $T_{RFBW}$ 5785.0MHz + 5825.0MHz |
| A | QPSK / 20.0 MHz | 24.73 | 24.82 | 24.82 |
| B | | 24.65 | 24.70 | 24.75 |
| Total | | 27.70 | 27.77 | 27.80 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5745.0MHz + 5785.0MHz | Channel Position $M_{RFBW}$ 5765.0MHz + 5805.0MHz | Channel Position $T_{RFBW}$ 5785.0MHz + 5825.0MHz |
| A | 16QAM / 20.0 MHz | 24.74 | 24.77 | 24.87 |
| B | | 24.66 | 24.73 | 24.70 |
| Total | | 27.71 | 27.76 | 27.80 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5745.0MHz + 5785.0MHz | Channel Position $M_{RFBW}$ 5765.0MHz + 5805.0MHz | Channel Position $T_{RFBW}$ 5785.0MHz + 5825.0MHz |
| A | 64QAM / 20.0 MHz | 24.78 | 24.79 | 24.88 |
| B | | 24.60 | 24.77 | 24.68 |
| Total | | 27.70 | 27.79 | 27.79 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5745.0MHz + 5785.0MHz | Channel Position $M_{RFBW}$ 5765.0MHz + 5805.0MHz | Channel Position $T_{RFBW}$ 5785.0MHz + 5825.0MHz |
| A | 256QAM / 20.0 MHz | 24.71 | 24.78 | 24.90 |
| B | | 24.66 | 24.70 | 24.75 |
| Total | | 27.70 | 27.75 | 27.84 |

Configuration L-MIMO-MC 3 (3C)

Maximum Output Power 25.0dBm per port

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5745.0MHz + 5765.0MHz + 5785.0MHz | Channel Position $M_{RFBW}$ 5765.0MHz + 5785.0MHz + 5805.0MHz | Channel Position $T_{RFBW}$ 5785.0MHz + 5805.0MHz + 5825.0MHz |
| A | QPSK / 20.0 MHz | 24.60 | 24.73 | 24.85 |
| B | | 24.59 | 24.68 | 24.72 |
| Total | | 27.61 | 27.72 | 27.80 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5745.0MHz + 5765.0MHz + 5785.0MHz | Channel Position $M_{RFBW}$ 5765.0MHz + 5785.0MHz + 5805.0MHz | Channel Position $T_{RFBW}$ 5785.0MHz + 5805.0MHz + 5825.0MHz |
| A | 16QAM / 20.0 MHz | 24.68 | 24.69 | 24.88 |
| B | | 24.64 | 24.73 | 24.78 |
| Total | | 27.67 | 27.72 | 27.84 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5745.0MHz + 5765.0MHz + 5785.0MHz | Channel Position $M_{RFBW}$ 5765.0MHz + 5785.0MHz + 5805.0MHz | Channel Position $T_{RFBW}$ 5785.0MHz + 5805.0MHz + 5825.0MHz |
| A | 64QAM / 20.0 MHz | 24.72 | 24.74 | 24.86 |
| B | | 24.52 | 24.69 | 24.75 |
| Total | | 27.63 | 27.73 | 27.82 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Conducted Output Power (dBm) | | |
|---|---|---|---|---|
| | | Channel Position $B_{RFBW}$ 5745.0MHz + 5765.0MHz + 5785.0MHz | Channel Position $M_{RFBW}$ 5765.0MHz + 5785.0MHz + 5805.0MHz | Channel Position $T_{RFBW}$ 5785.0MHz + 5805.0MHz + 5825.0MHz |
| A | 256QAM / 20.0 MHz | 24.67 | 24.81 | 24.84 |
| B | | 24.61 | 24.67 | 24.76 |
| Total | | 27.65 | 27.75 | 27.81 |

Maximum Output Power and Maximum E.I.R.P.

| | Configuration A1 | Configuration A2 | Configuration B1 | Configuration B2 |
|---|---|---|---|---|
| Maximum Total Output Power (dBm) | 23.92 | 23.47 | 28.35 | 27.91 |
| Maxmum E.I.R.P. (dBm) | 34.42 | 33.97 | 35.35 | 34.91 |
| Outdoor Maxmum E.I.R.P * | < 16.92 | < 16.47 | < 19.35 | < 18.91 |

* The Maxmum Gain at elevation angle above 30 degrees was less than -7dBi for Configration A and less than -9dBi for Configuration B.

| Limit | |
|---|---|
| Maxmum Output Power and E.I.R.P. | ≤1W (30 dBm) provided the maximum antenna gain does not exceed 6 dBi, 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. |
| Outdoor Maxmum E.I.R.P | ≤125mW (21 dBm) at any elevation angle above 30 degrees as measured from the horizon |

Remarks

The Maximum Output Power and the Maximum E.I.R.P. of the EUT is sufficient to keep it within the range of the rated transmitter power and E.I.R.P. that the manufacture declared and the requirements of FCC standards.

## 2.2 MAXIMUM POWER SPECTRAL DENSITY

### 2.2.1 Specification Reference

FCC CFR 47 Part 2, Clause 2.1046
FCC CFR 47 Part 15, Clause 15.407 (a)(5)

### 2.2.2 Equipment Under Test

Radio 2205 B46, KRC 161 609/1, S/N: D825784303

### 2.2.3 Date of Test and Modification State

16 and 19 June 2017 - Modification State 0

### 2.2.4 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 4.1.

### 2.2.5 Environmental Conditions

| | |
|---|---|
| Ambient Temperature | 23.8 - 24.9°C |
| Relative Humidity | 53.0 - 53.0% |

### 2.2.6 Test Method

The test was applied in accordance with the test method requirements of FCC CFR 47 Part 15, Clause 15.407 (a)(5).

Using a Spectrum Analyzer and attenuator(s), the Power Spectral Density (PSD) of the EUT was measured at the antenna terminal. The path loss between the EUT and the Spectrum Analyzer was measured and recorded for the test band. The path loss was entered as an offset into the Spectrum Analyzer.

The EUT was configured to transmit on maximum power on the configurations defined in the tables below. Since the EUT transmits on two antennas simultaneously in the same frequency range for MIMO devices, i.e., TX MIMO mode, using the Measure-and-Sum approach, the PSD at both antennas were tested, and the total PSD were then summed mathematically in linear power units according to FCC KDB 662911 D01.

The PSD was measured and recorded with the results being compared with the limits.

### 2.2.8 Test Results

Configuration A1

L-MIMO-SC

Maximum Output Power 20.5dBm per port

| Antenna | Modulation / Carrier Bandwidth (MHz) | Power Spectral Density (dBm) | | |
|---|---|---|---|---|
| | | Channel Position B 5180.0MHz | Channel Position M 5220.0MHz | Channel Position T 5240.0MHz |
| A | QPSK / 20.0 MHz | 7.941 | 8.143 | 8.432 |
| B | | 8.080 | 8.087 | 8.694 |
| Total | | 11.021 | 11.125 | 11.575 |

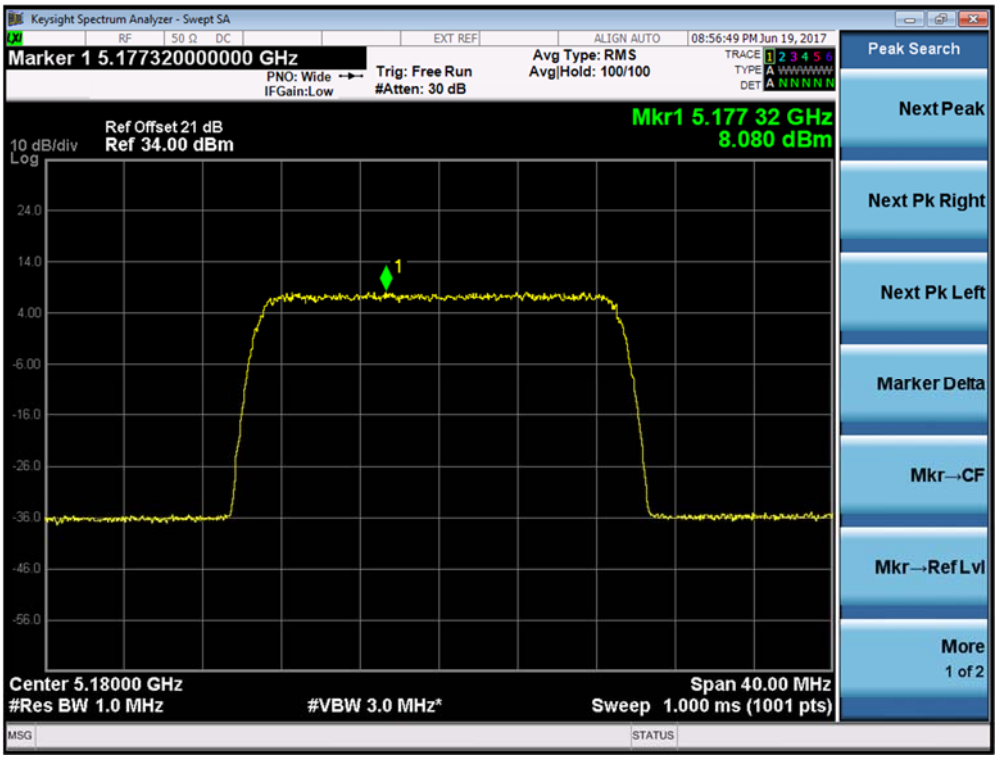
| Antenna | Modulation / Carrier Bandwidth (MHz) | Power Spectral Density (dBm) | | |
|---|---|---|---|---|
| | | Channel Position B 5180.0MHz | Channel Position M 5220.0MHz | Channel Position T 5240.0MHz |
| A | 16QAM / 20.0 MHz | 8.755 | 8.914 | 8.854 |
| B | | 8.773 | 9.159 | 9.123 |
| Total | | 11.754 | 12.049 | 12.001 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Power Spectral Density (dBm) | | |
|---|---|---|---|---|
| | | Channel Position B 5180.0MHz | Channel Position M 5220.0MHz | Channel Position T 5240.0MHz |
| A | 64QAM / 20.0 MHz | 7.877 | 7.974 | 8.207 |
| B | | 7.970 | 8.250 | 8.333 |
| Total | | 10.934 | 11.124 | 11.281 |

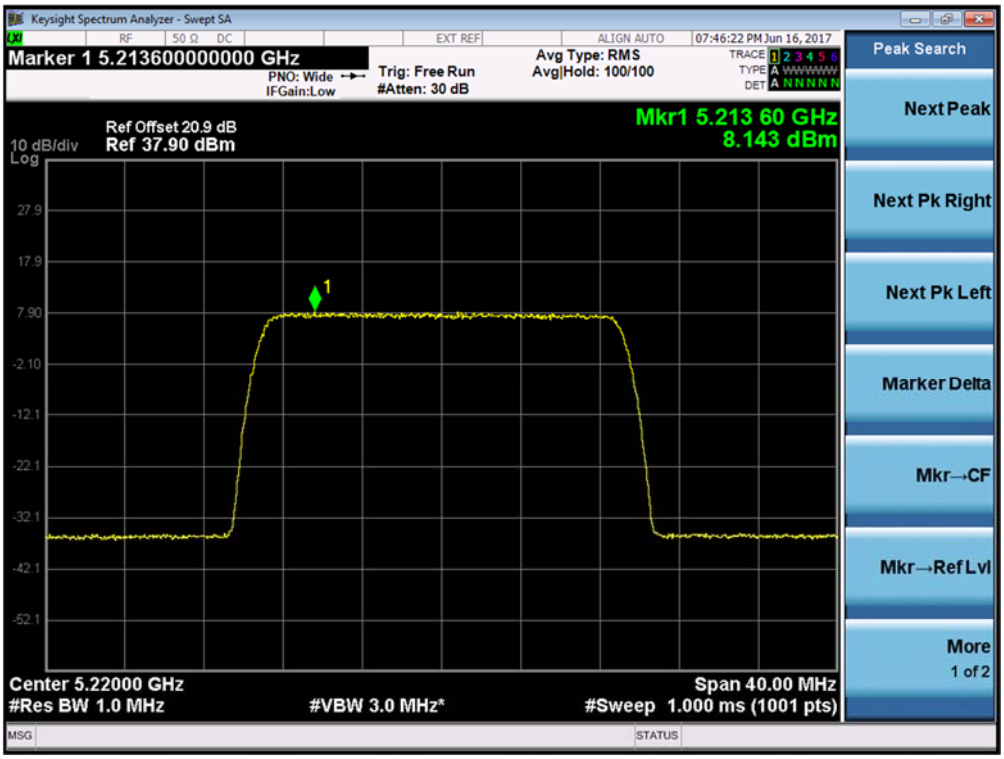
| Antenna | Modulation / Carrier Bandwidth (MHz) | Power Spectral Density (dBm) | | |
|---|---|---|---|---|
| | | Channel Position B 5180.0MHz | Channel Position M 5220.0MHz | Channel Position T 5240.0MHz |
| A | 256QAM / 20.0 MHz | 7.917 | 7.995 | 8.255 |
| B | | 8.168 | 8.180 | 7.993 |
| Total | | 11.055 | 11.099 | 11.136 |

Channel Position B - QPSK - Antenna A/ Bandwidth 20.0 MHz

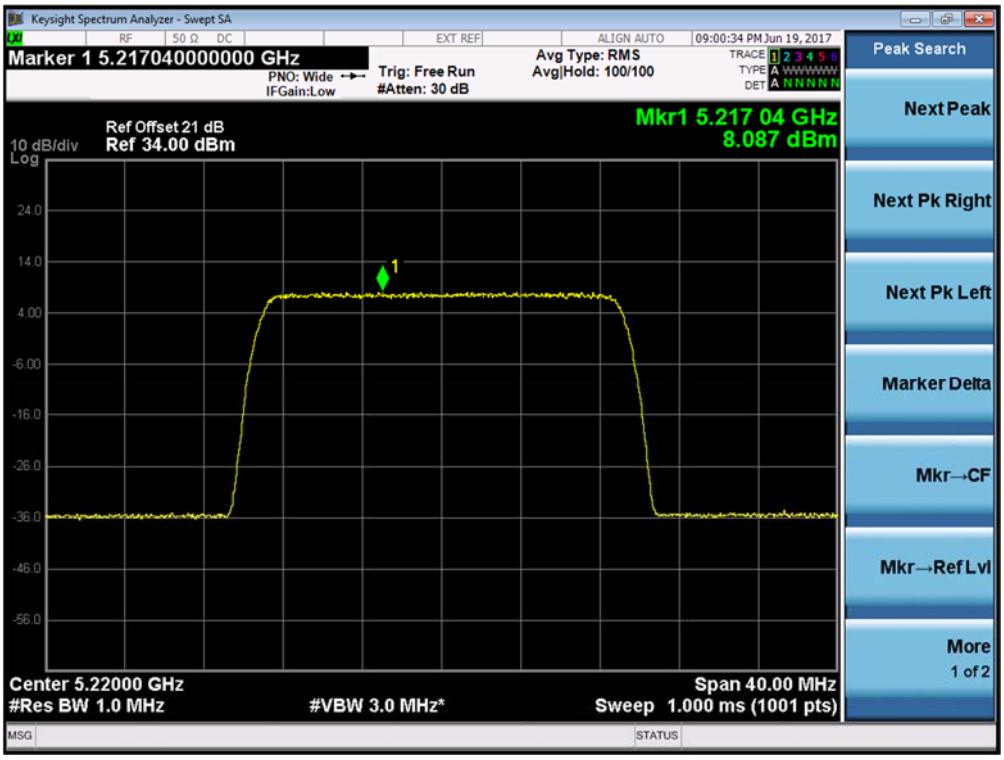

Channel Position B - QPSK - Antenna B/ Bandwidth 20.0 MHz



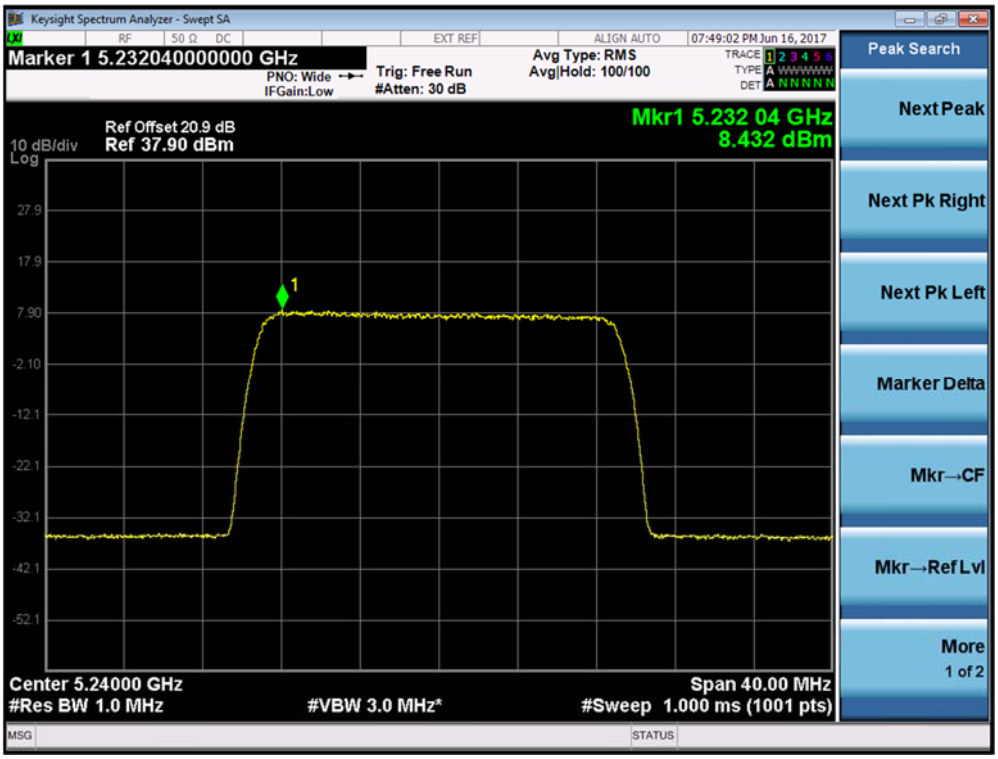
Channel Position M - QPSK - Antenna A/ Bandwidth 20.0 MHz



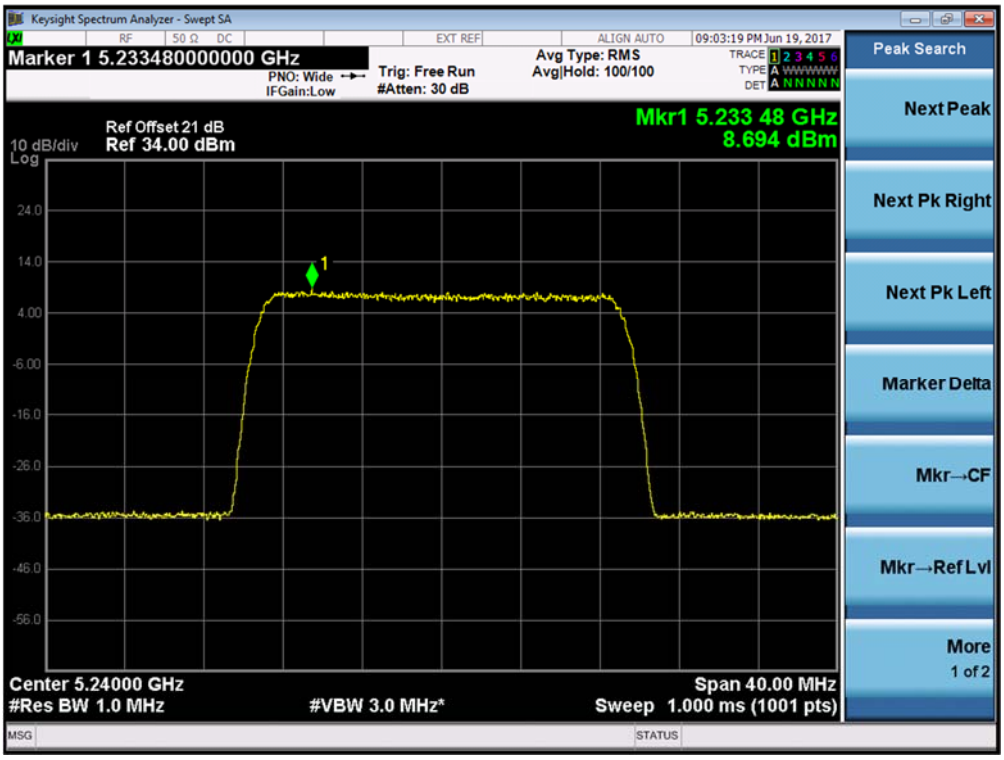

Channel Position M - QPSK - Antenna B/ Bandwidth 20.0 MHz



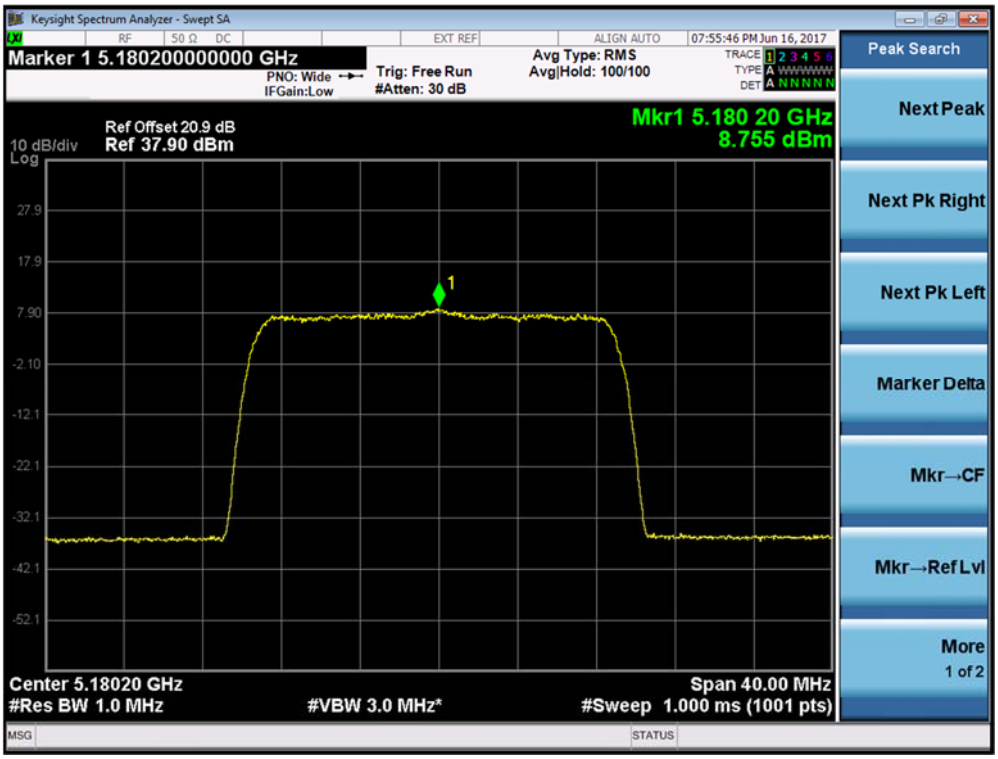
Channel Position T - QPSK - Antenna A/ Bandwidth 20.0 MHz



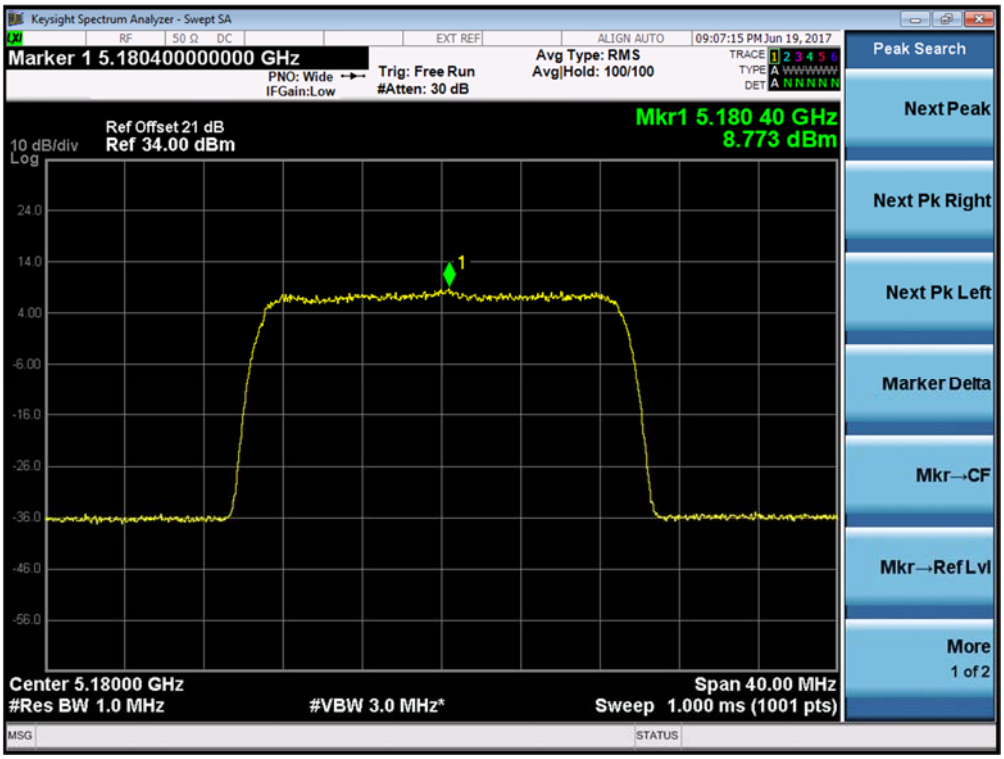

Channel Position T - QPSK - Antenna B/ Bandwidth 20.0 MHz



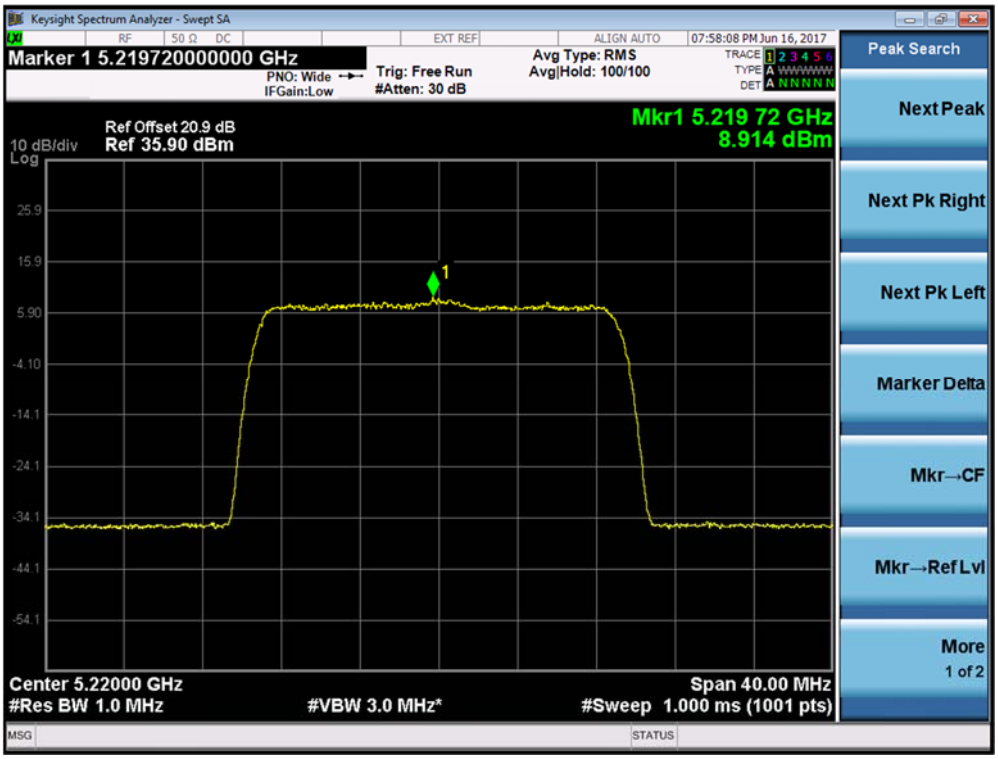
Channel Position B - 16QAM - Antenna A/ Bandwidth 20.0 MHz



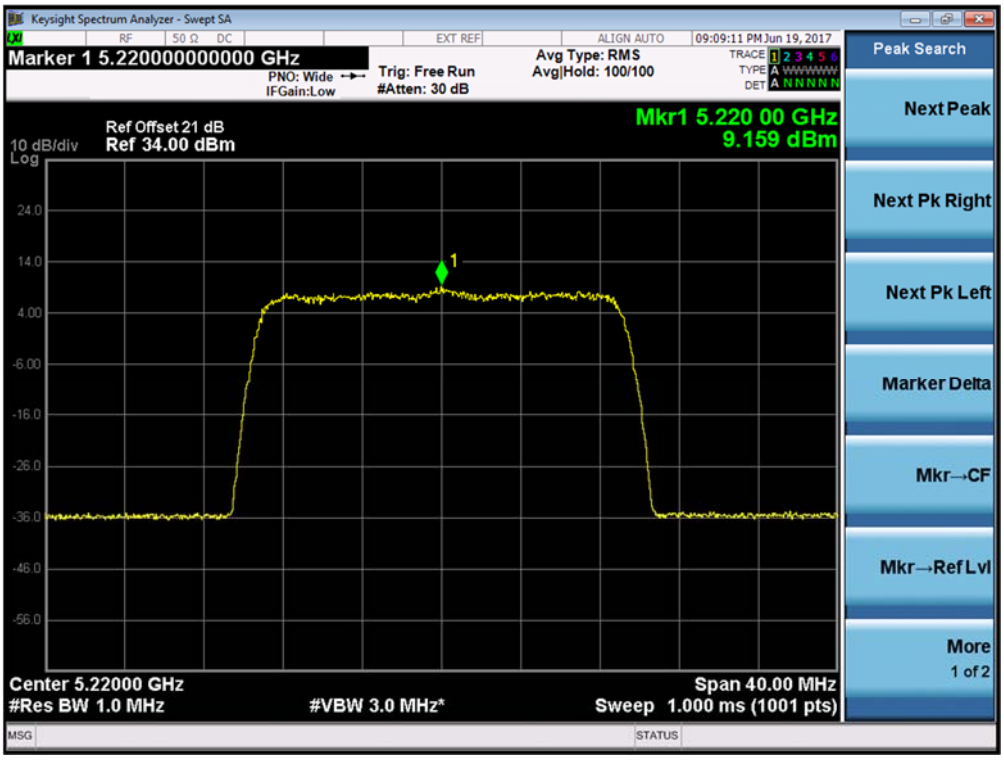

Channel Position B - 16QAM - Antenna B/ Bandwidth 20.0 MHz



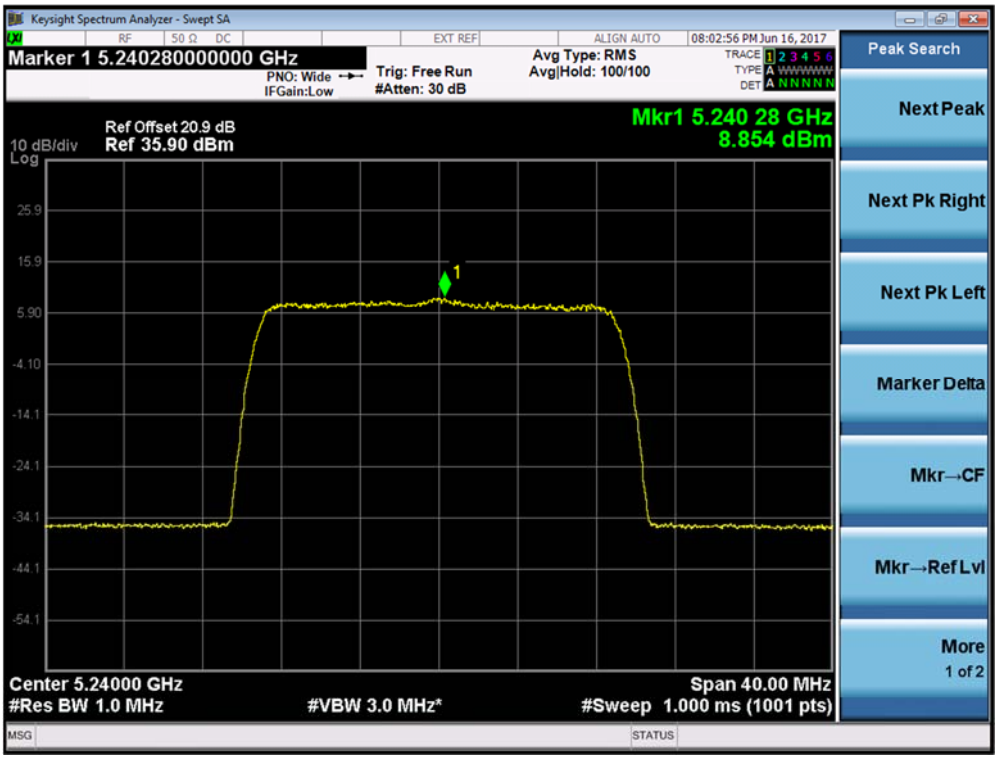
Channel Position M - 16QAM - Antenna A/ Bandwidth 20.0 MHz



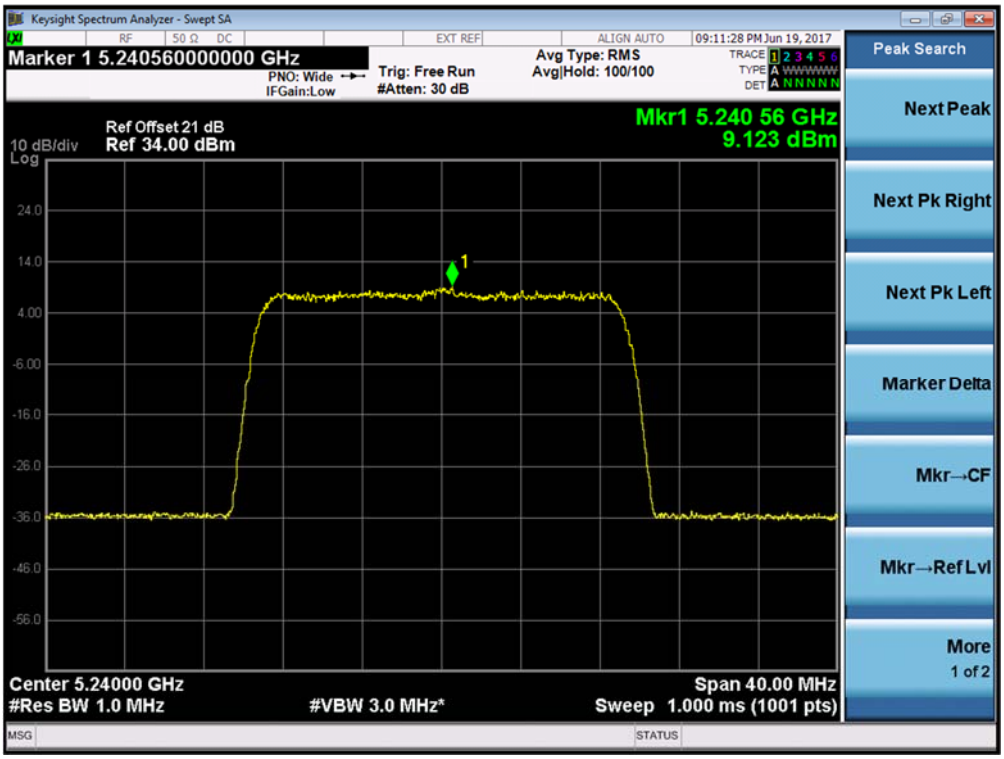

Channel Position M - 16QAM - Antenna B/ Bandwidth 20.0 MHz



Channel Position T - 16QAM - Antenna A/ Bandwidth 20.0 MHz

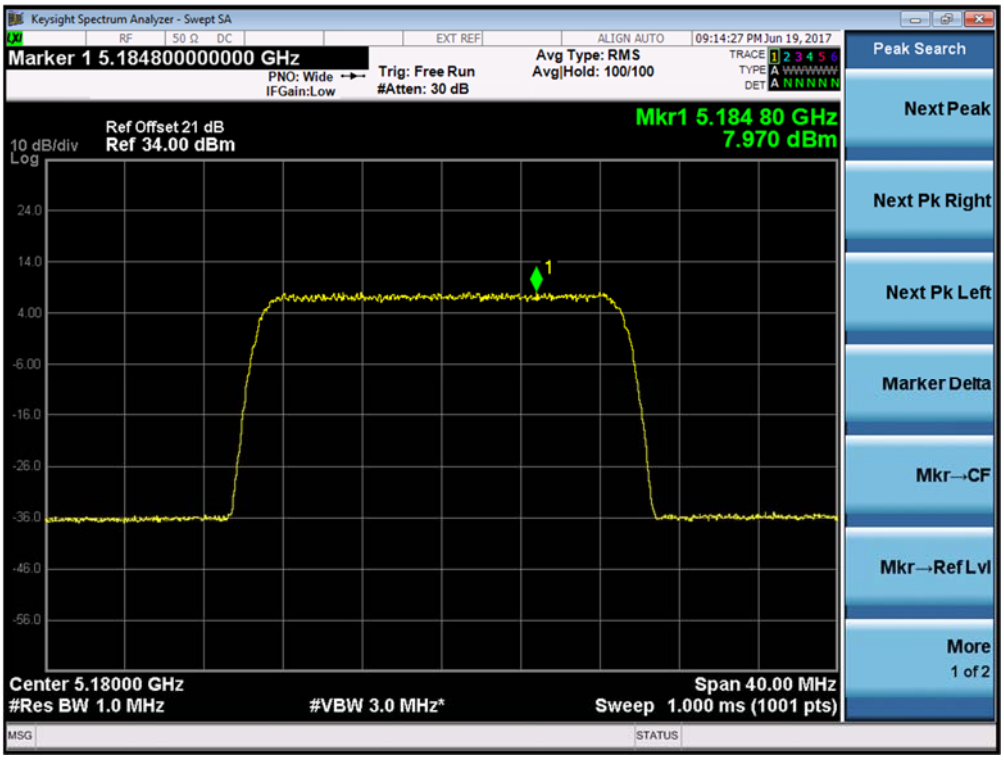



Channel Position T - 16QAM - Antenna B/ Bandwidth 20.0 MHz

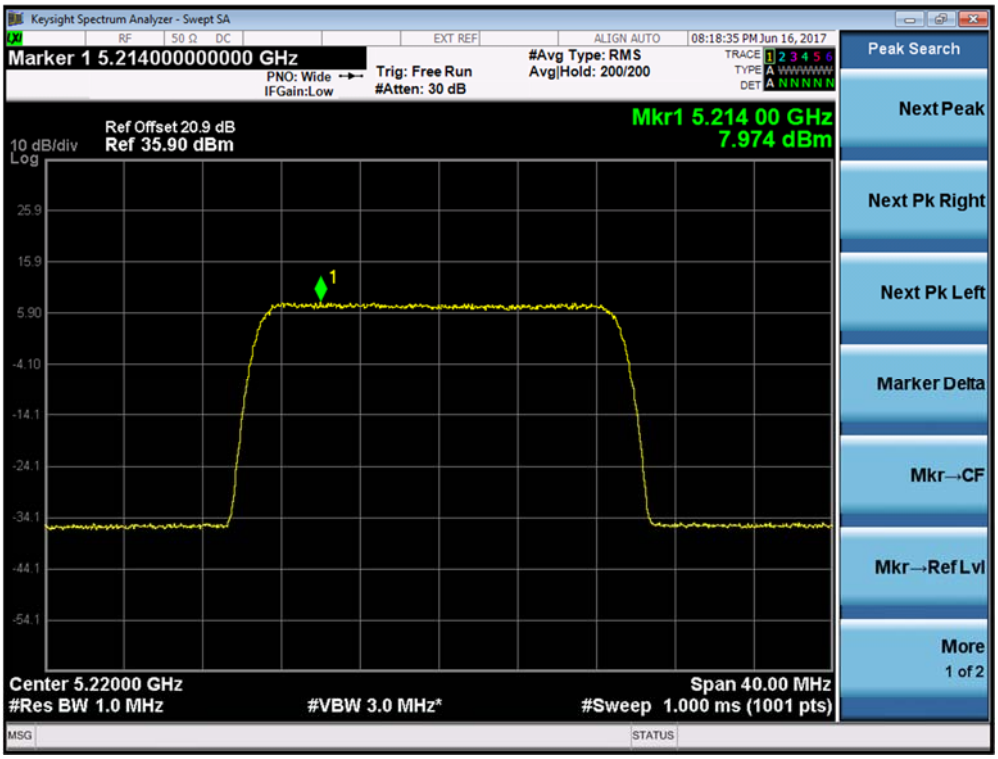


Channel Position B - 64QAM - Antenna A/ Bandwidth 20.0 MHz

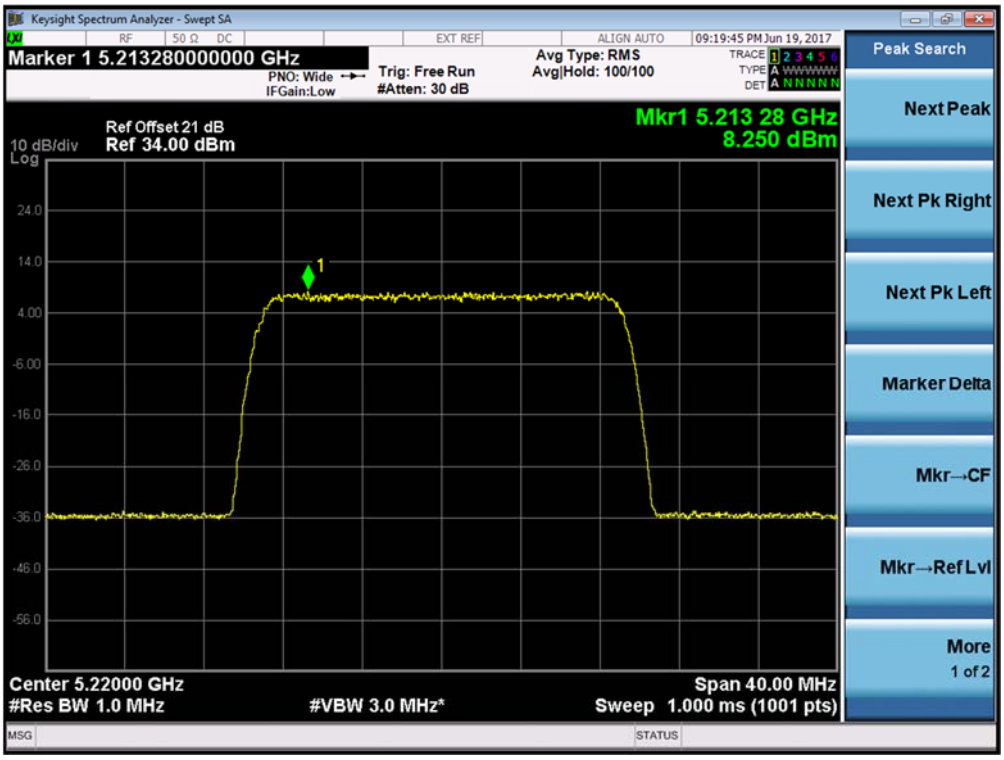

Channel Position B - 64QAM - Antenna B/ Bandwidth 20.0 MHz



Channel Position M - 64QAM - Antenna A/ Bandwidth 20.0 MHz




Channel Position M - 64QAM - Antenna B/ Bandwidth 20.0 MHz

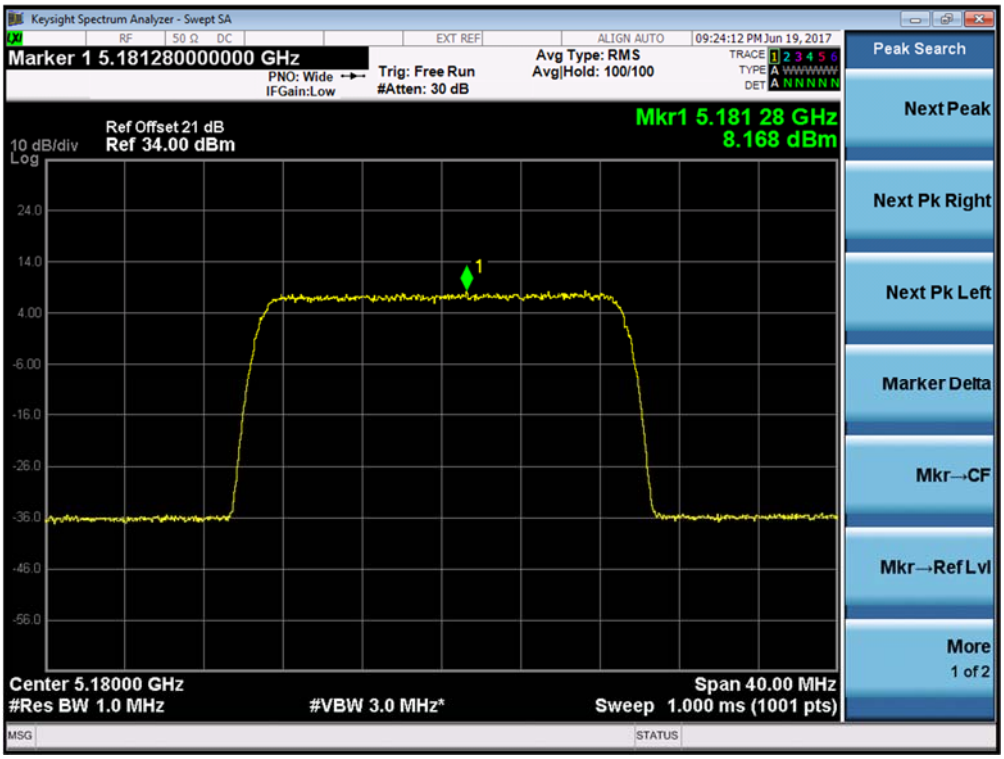


Channel Position T - 64QAM - Antenna A/ Bandwidth 20.0 MHz

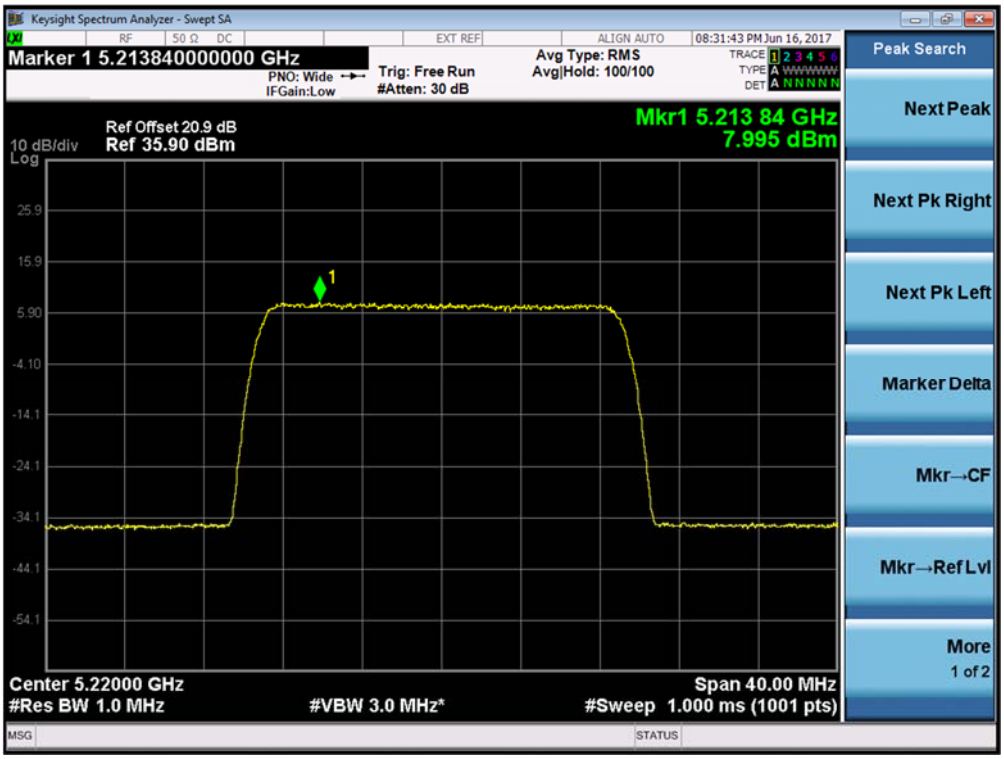

Channel Position T - 64QAM - Antenna B/ Bandwidth 20.0 MHz

Channel Position B - 256QAM - Antenna A/ Bandwidth 20.0 MHz

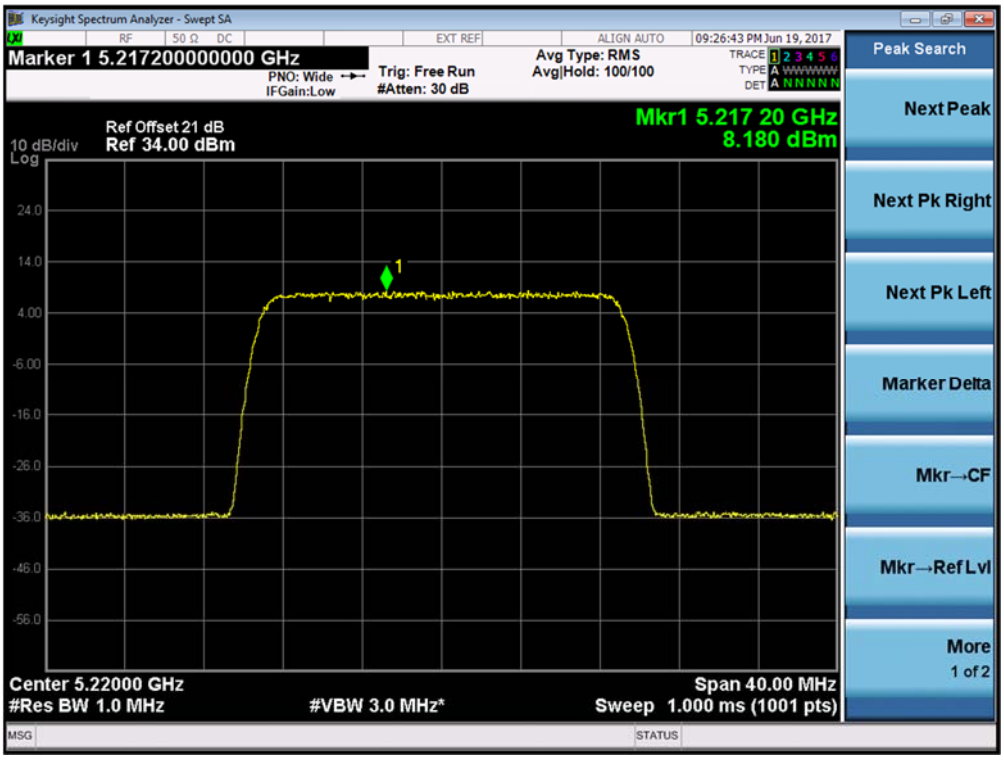

Channel Position B - 256QAM - Antenna B/ Bandwidth 20.0 MHz



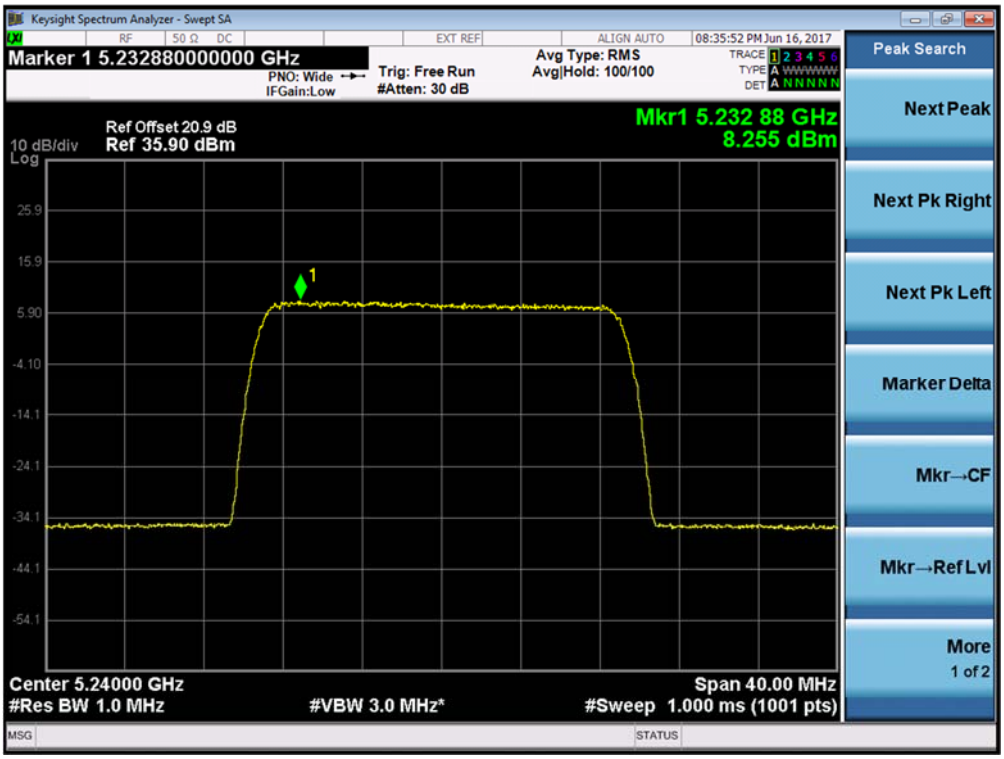
Channel Position M - 256QAM - Antenna A/ Bandwidth 20.0 MHz



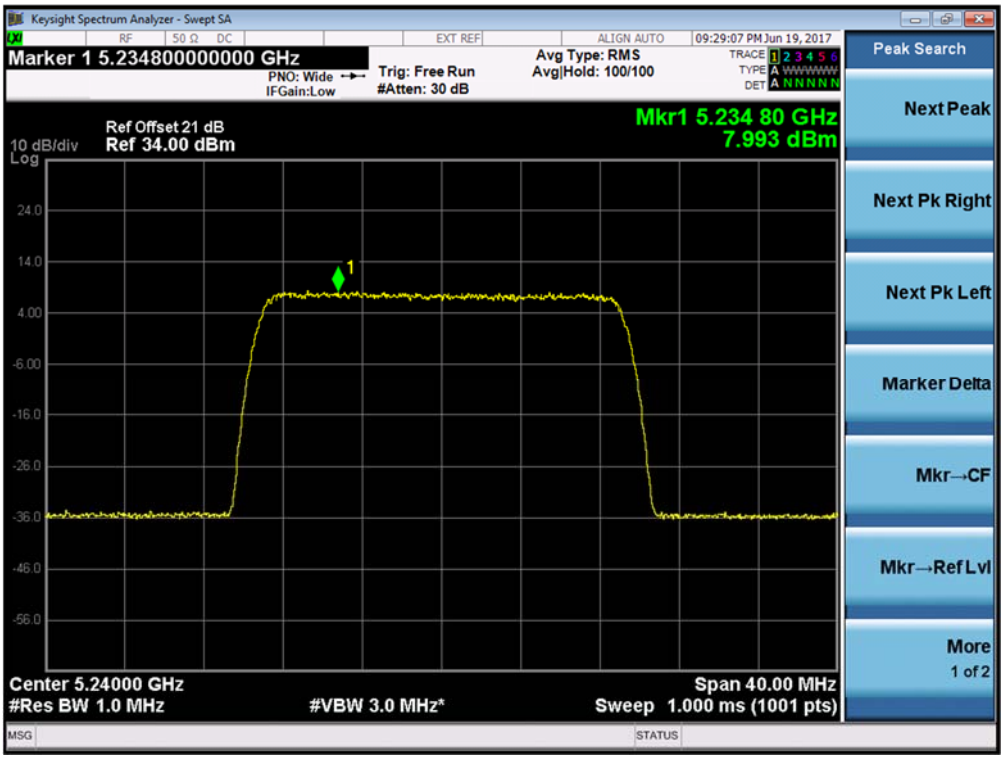

Channel Position M - 256QAM - Antenna B/ Bandwidth 20.0 MHz



Channel Position T - 256QAM - Antenna A/ Bandwidth 20.0 MHz




Channel Position T - 256QAM - Antenna B/ Bandwidth 20.0 MHz



Configuration A2

L-MIMO-SC

Maximum Output Power 20.5dBm per port

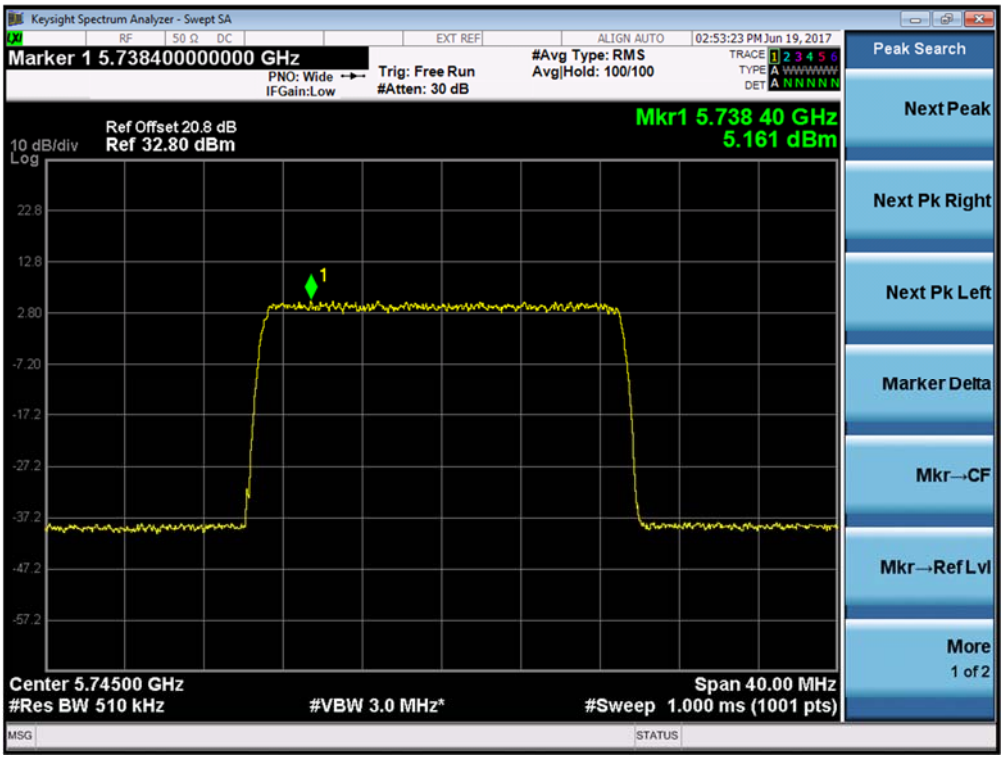
| Antenna | Modulation / Carrier Bandwidth (MHz) | Power Spectral Density (dBm) | | |
|---|---|---|---|---|
| | | Channel Position B 5745.0MHz | Channel Position M 5785.0MHz | Channel Position T 5825.0MHz |
| A | QPSK / 20.0 MHz | 5.161 | 5.122 | 4.816 |
| B | | 5.249 | 5.083 | 4.819 |
| Total | | 8.216 | 8.113 | 7.828 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Power Spectral Density (dBm) | | |
|---|---|---|---|---|
| | | Channel Position B 5745.0MHz | Channel Position M 5785.0MHz | Channel Position T 5825.0MHz |
| A | 16QAM / 20.0 MHz | 5.889 | 5.345 | 5.507 |
| B | | 5.891 | 5.473 | 5.560 |
| Total | | 8.900 | 8.420 | 8.544 |

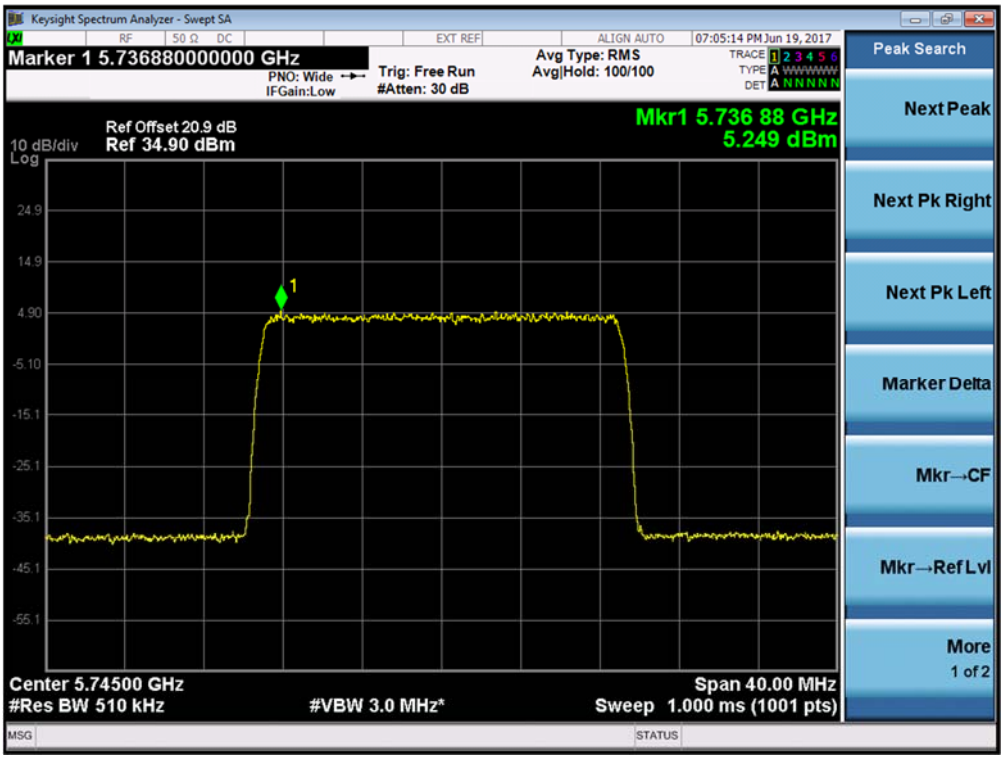
| Antenna | Modulation / Carrier Bandwidth (MHz) | Power Spectral Density (dBm) | | |
|---|---|---|---|---|
| | | Channel Position B 5745.0MHz | Channel Position M 5785.0MHz | Channel Position T 5825.0MHz |
| A | 64QAM / 20.0 MHz | 5.351 | 5.206 | 4.818 |
| B | | 5.570 | 5.102 | 4.851 |
| Total | | 8.472 | 8.165 | 7.845 |

| Antenna | Modulation / Carrier Bandwidth (MHz) | Power Spectral Density (dBm) | | |
|---|---|---|---|---|
| | | Channel Position B 5745.0MHz | Channel Position M 5785.0MHz | Channel Position T 5825.0MHz |
| A | 256QAM / 20.0 MHz | 5.484 | 5.098 | 4.864 |
| B | | 5.294 | 5.124 | 4.918 |
| Total | | 8.400 | 8.121 | 7.901 |

Channel Position B - QPSK - Antenna A/ Bandwidth 20.0 MHz

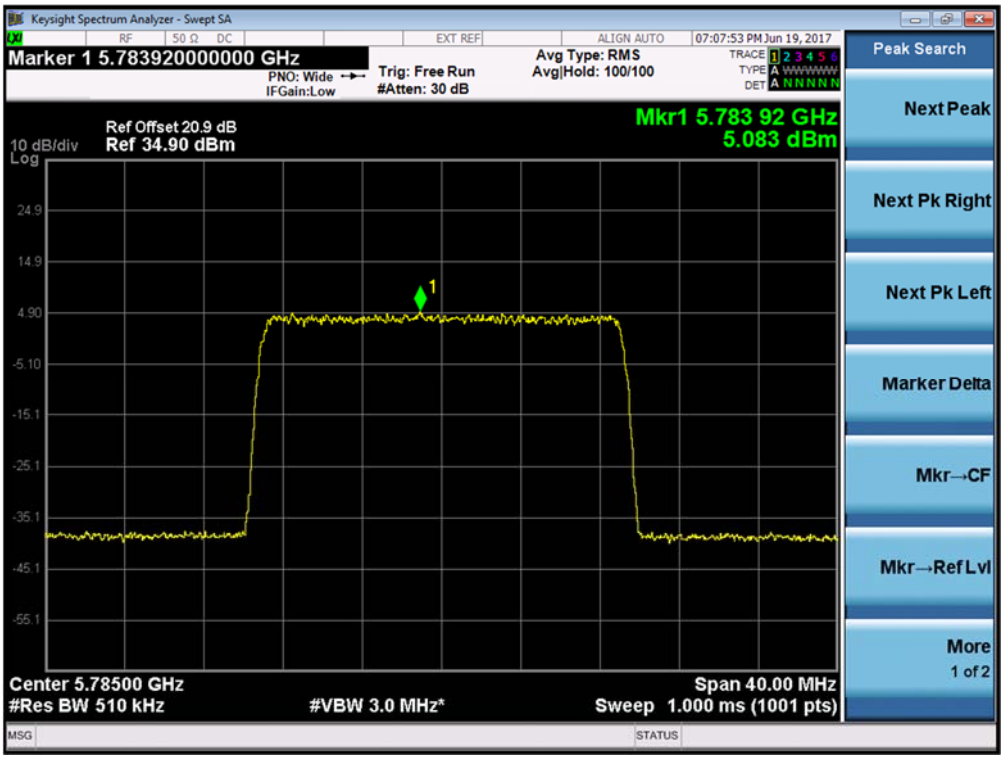



Channel Position B - QPSK - Antenna B/ Bandwidth 20.0 MHz

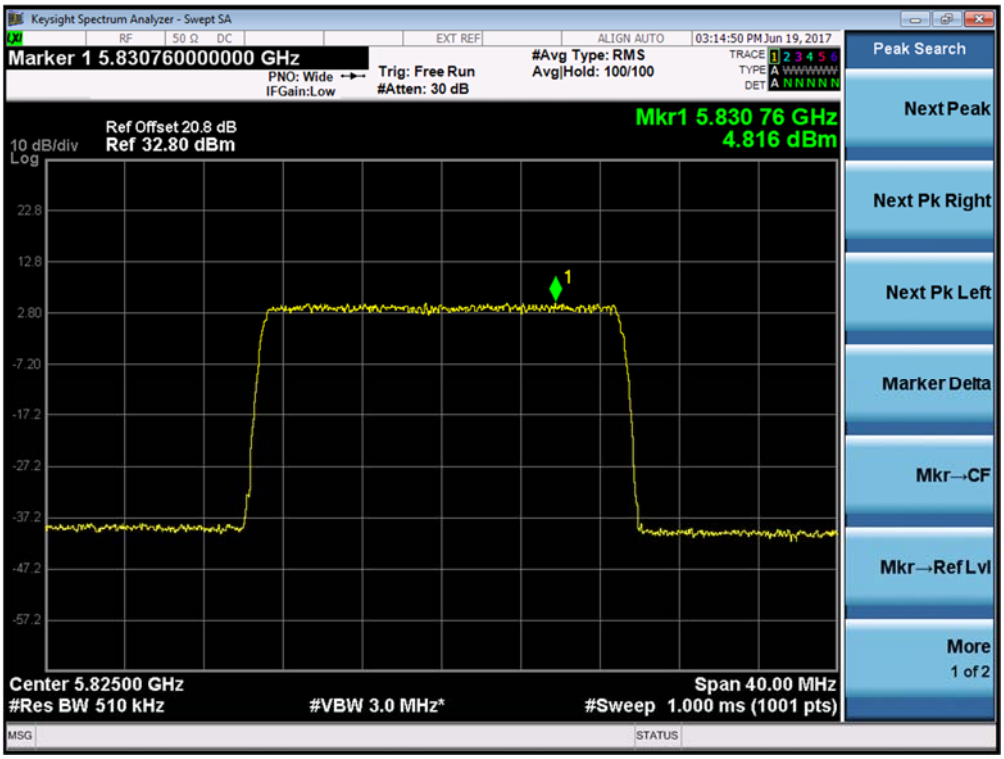


Channel Position M - QPSK - Antenna A/ Bandwidth 20.0 MHz

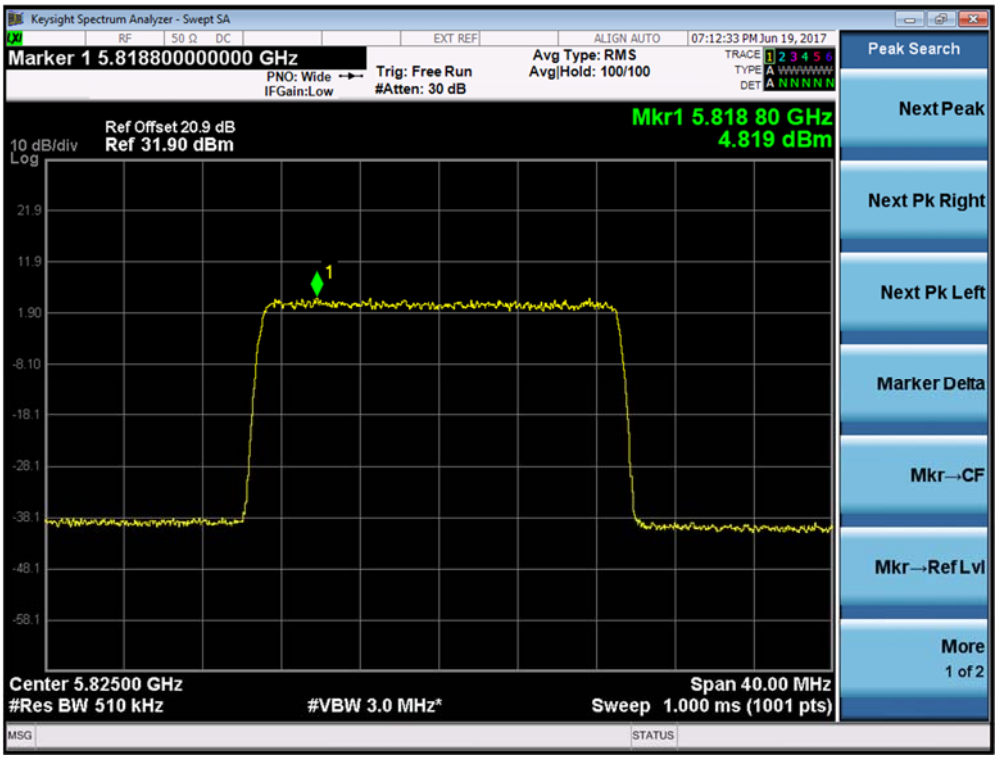

Channel Position M - QPSK - Antenna B/ Bandwidth 20.0 MHz



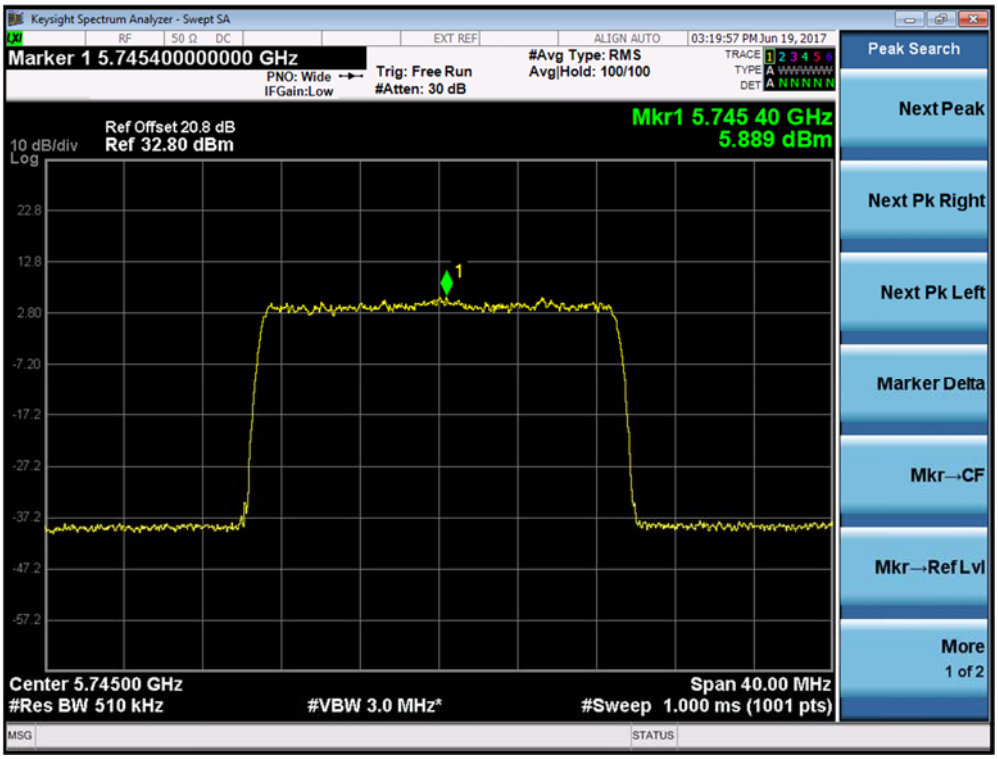
Channel Position T - QPSK - Antenna A/ Bandwidth 20.0 MHz



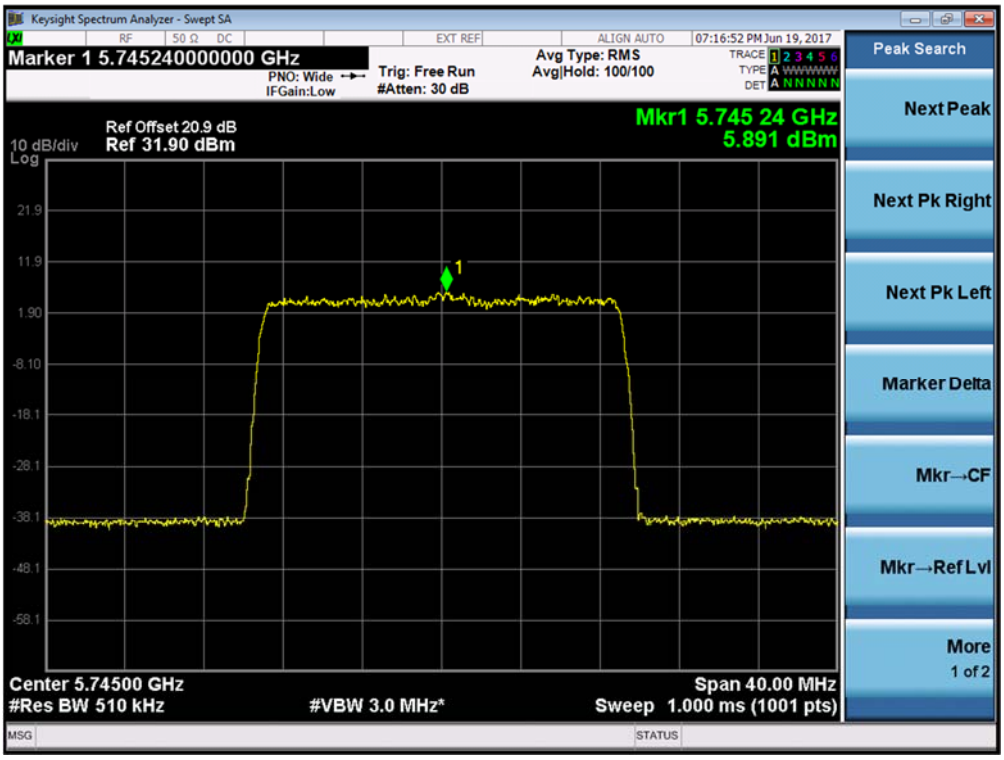

Channel Position T - QPSK - Antenna B/ Bandwidth 20.0 MHz



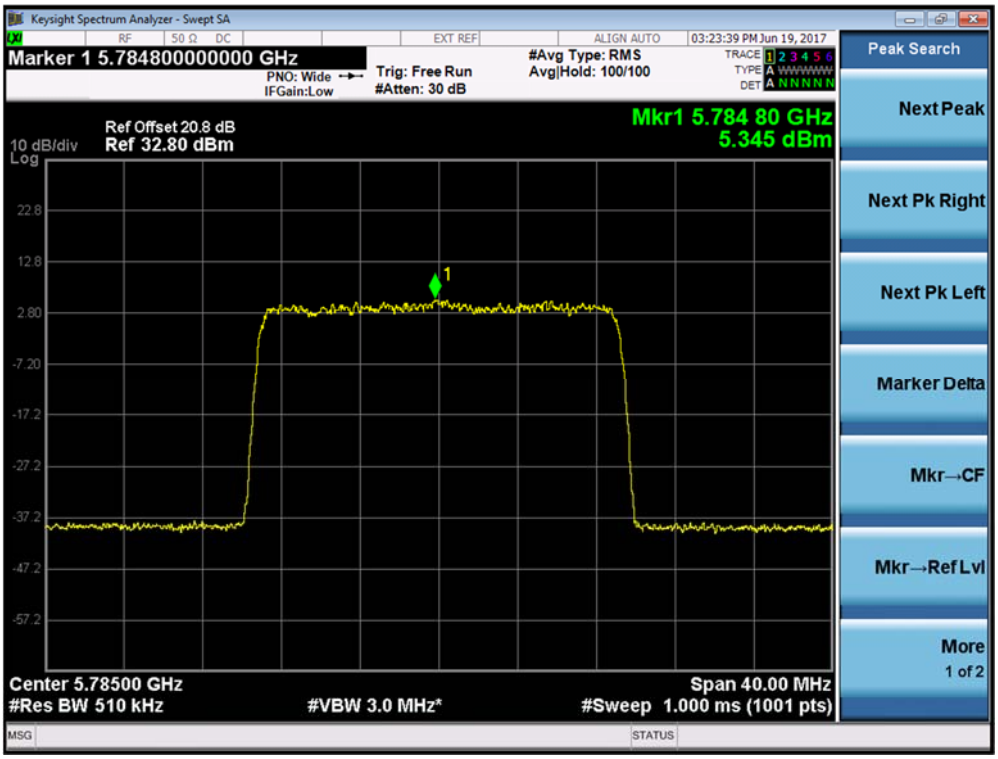
Channel Position B - 16QAM - Antenna A/ Bandwidth 20.0 MHz



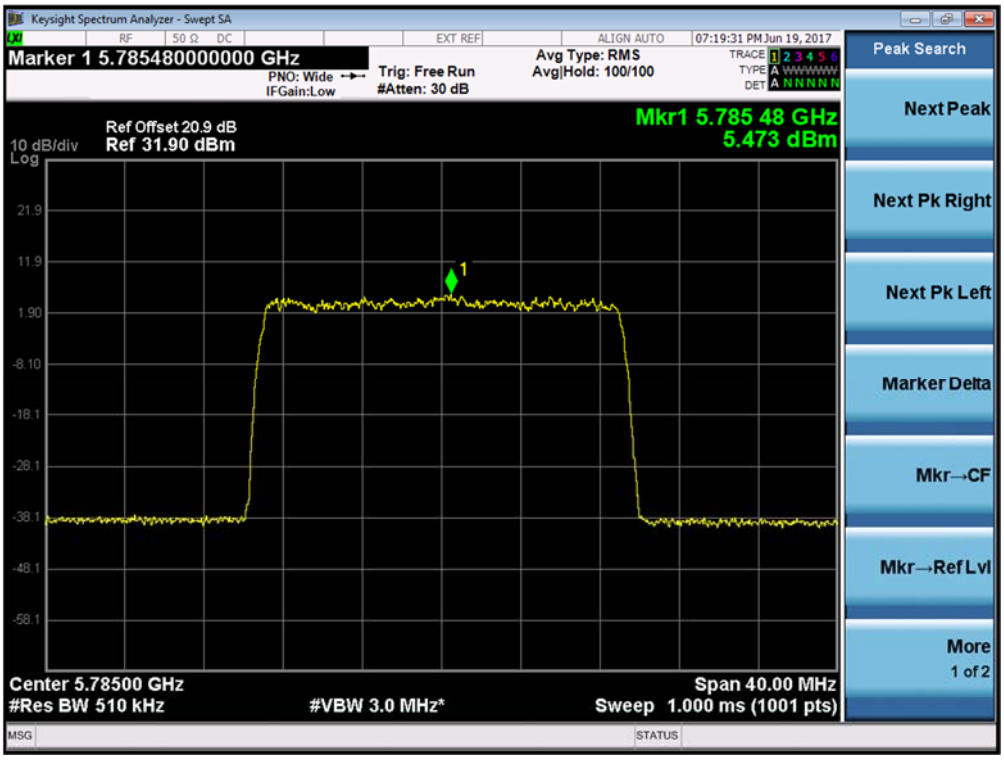

Channel Position B - 16QAM - Antenna B/ Bandwidth 20.0 MHz



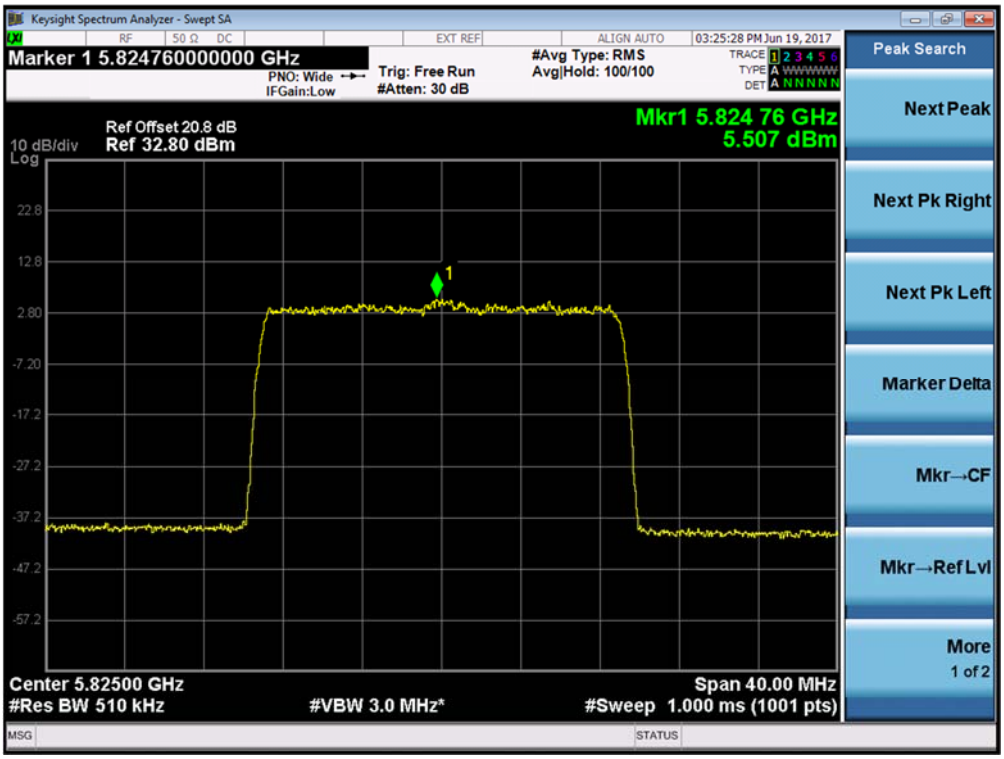
Channel Position M - 16QAM - Antenna A/ Bandwidth 20.0 MHz



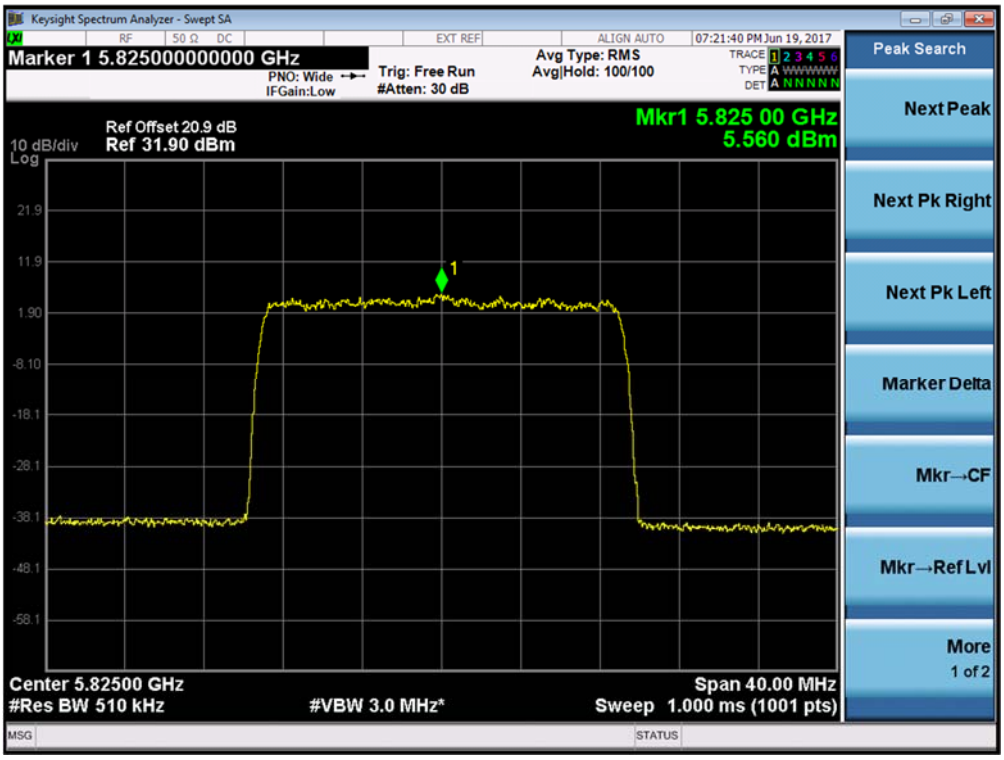

Channel Position M - 16QAM - Antenna B/ Bandwidth 20.0 MHz



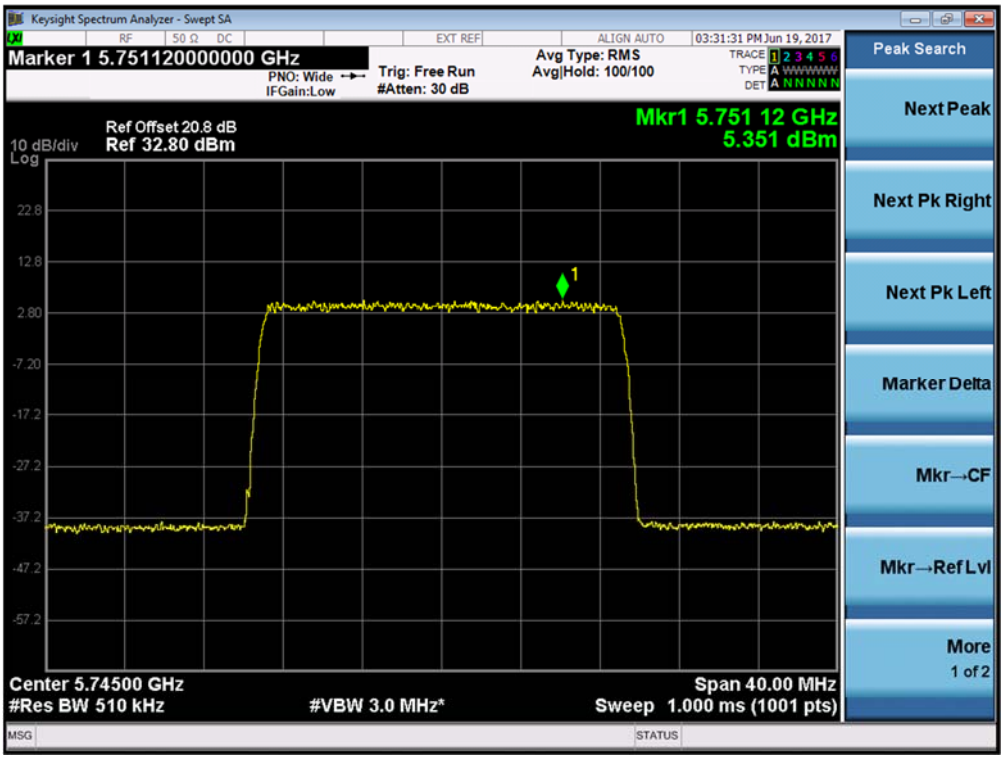
Channel Position T - 16QAM - Antenna A/ Bandwidth 20.0 MHz



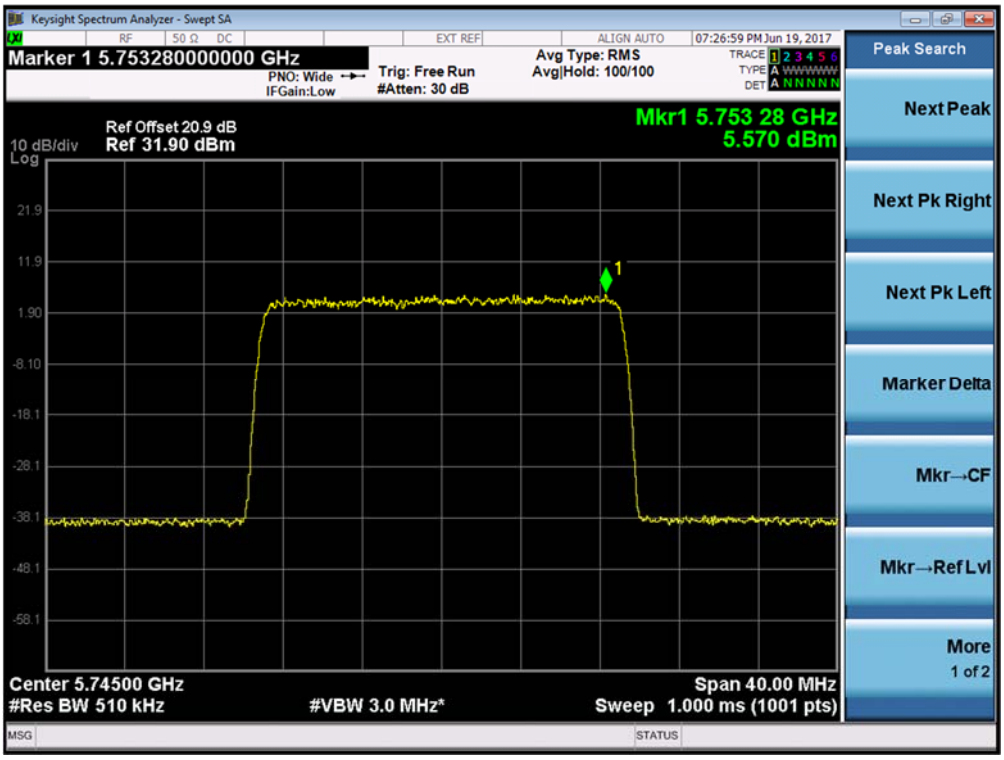

Channel Position T - 16QAM - Antenna B/ Bandwidth 20.0 MHz



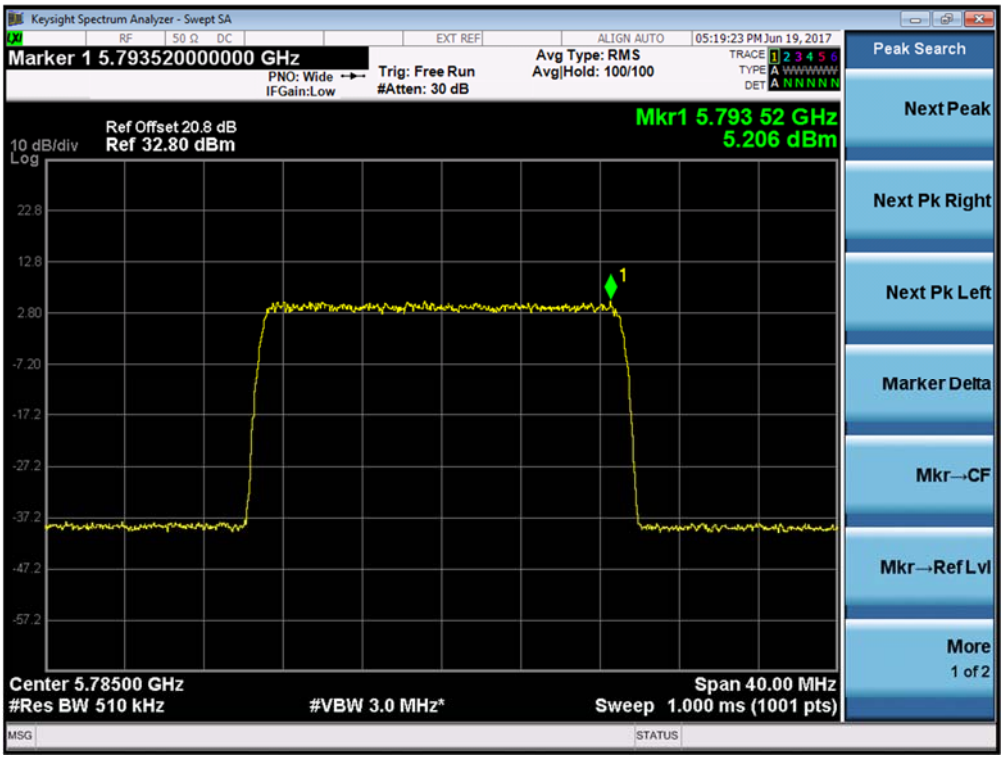
Channel Position B - 64QAM - Antenna A/ Bandwidth 20.0 MHz



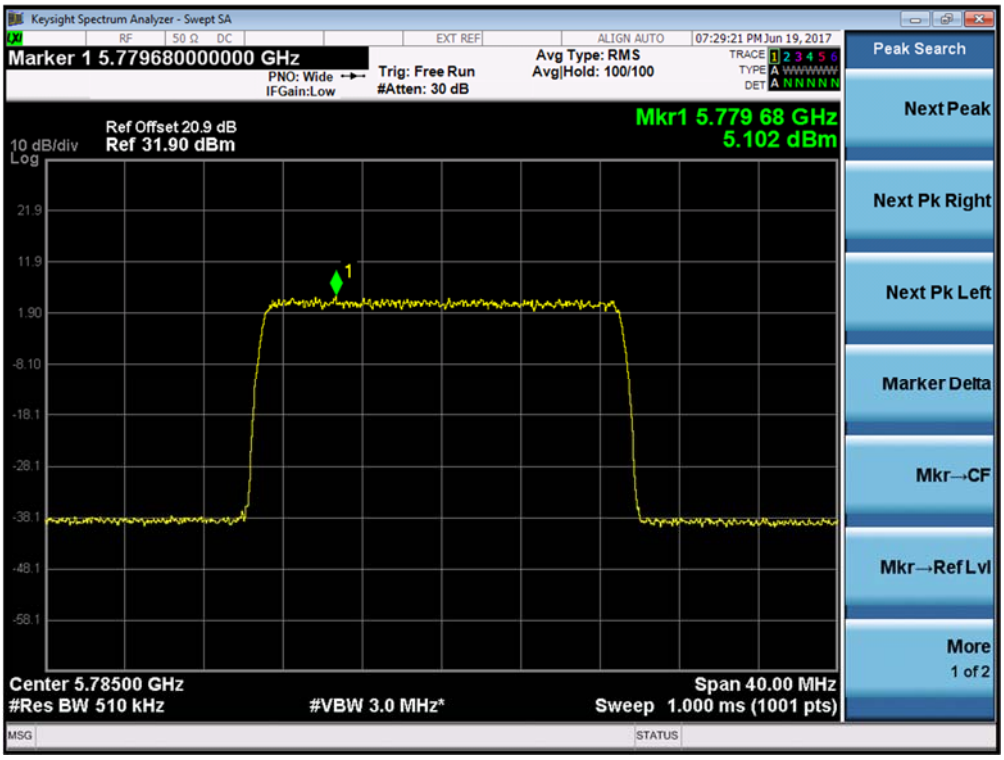

Channel Position B - 64QAM - Antenna B/ Bandwidth 20.0 MHz



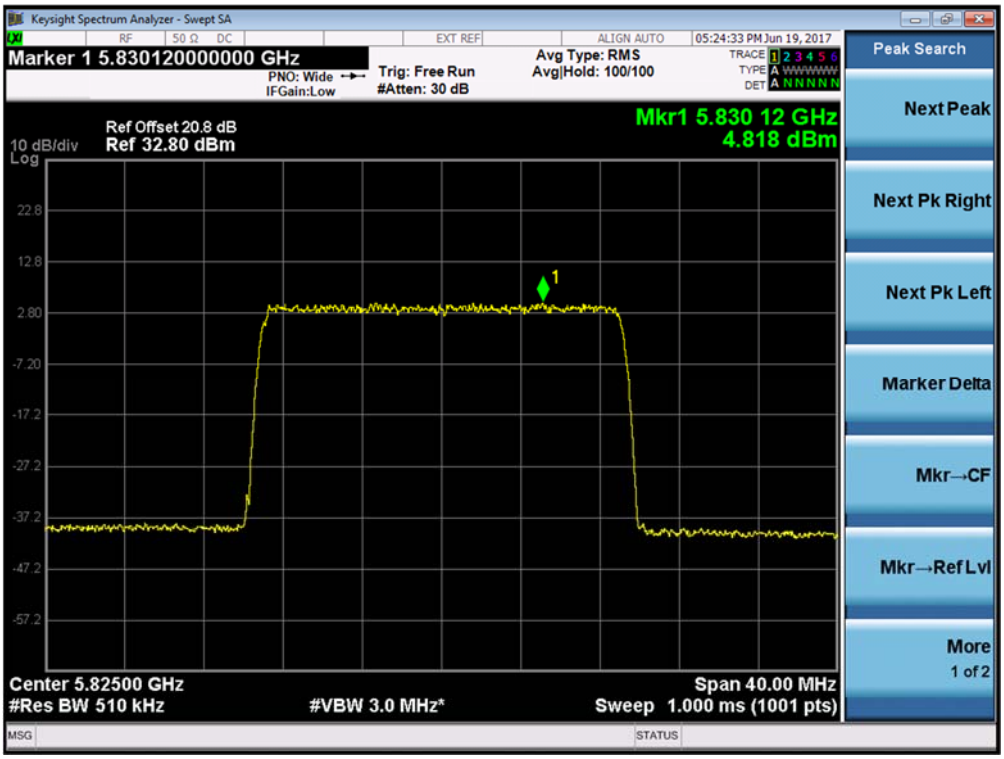
Channel Position M - 64QAM - Antenna A/ Bandwidth 20.0 MHz



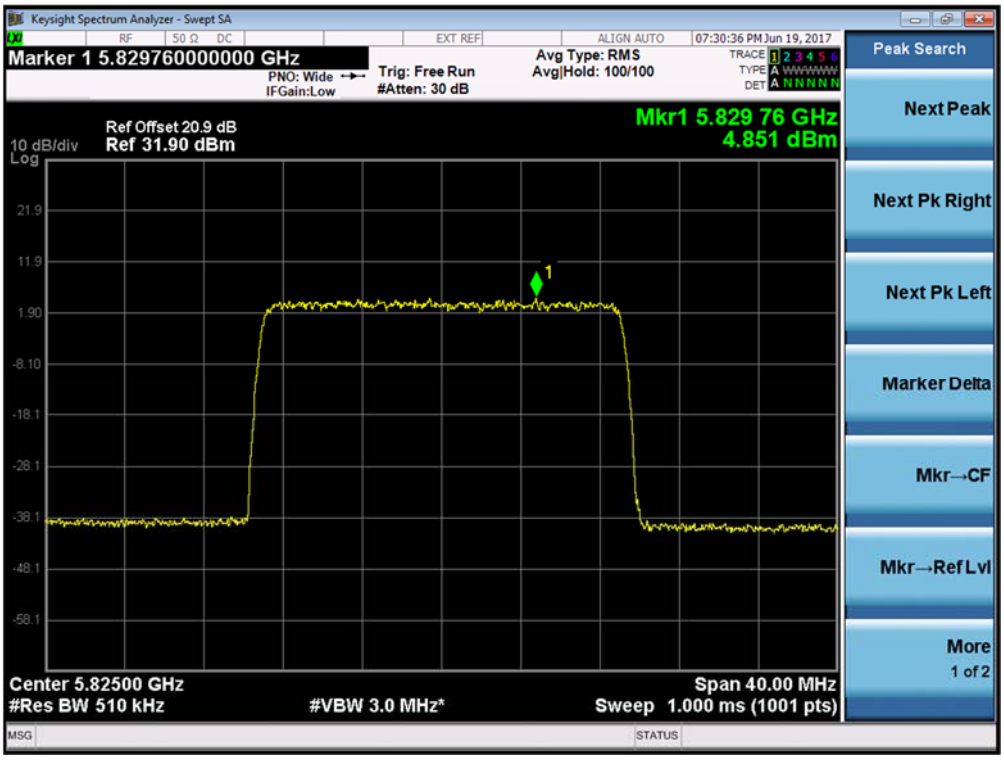

Channel Position M - 64QAM - Antenna B/ Bandwidth 20.0 MHz



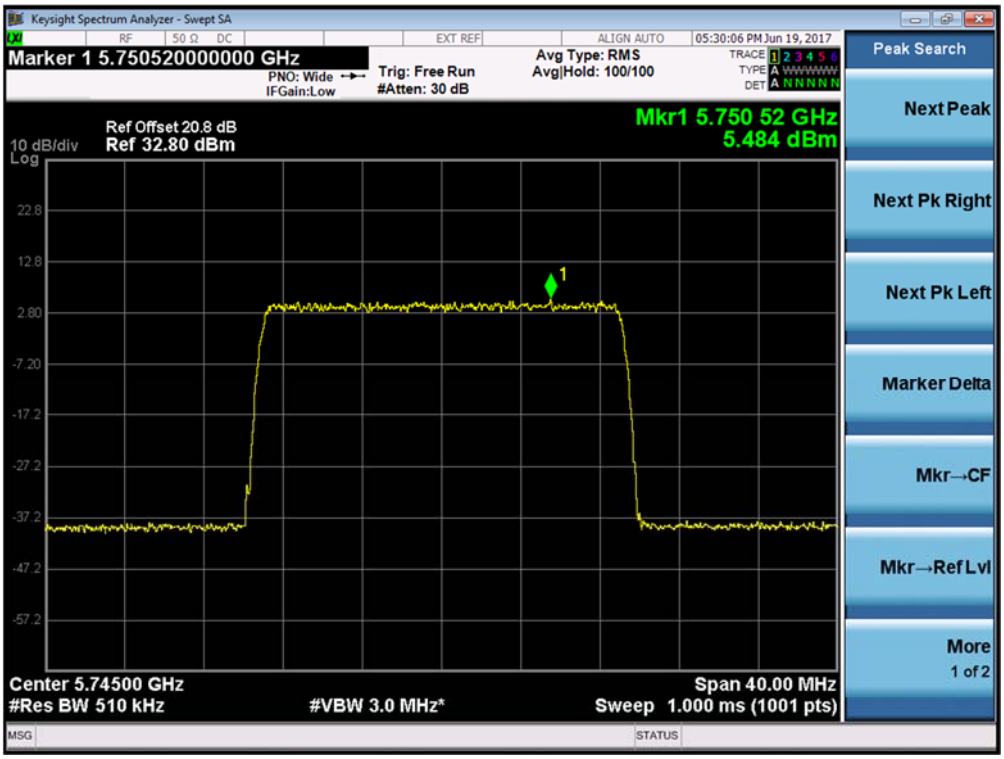
Channel Position T - 64QAM - Antenna A/ Bandwidth 20.0 MHz



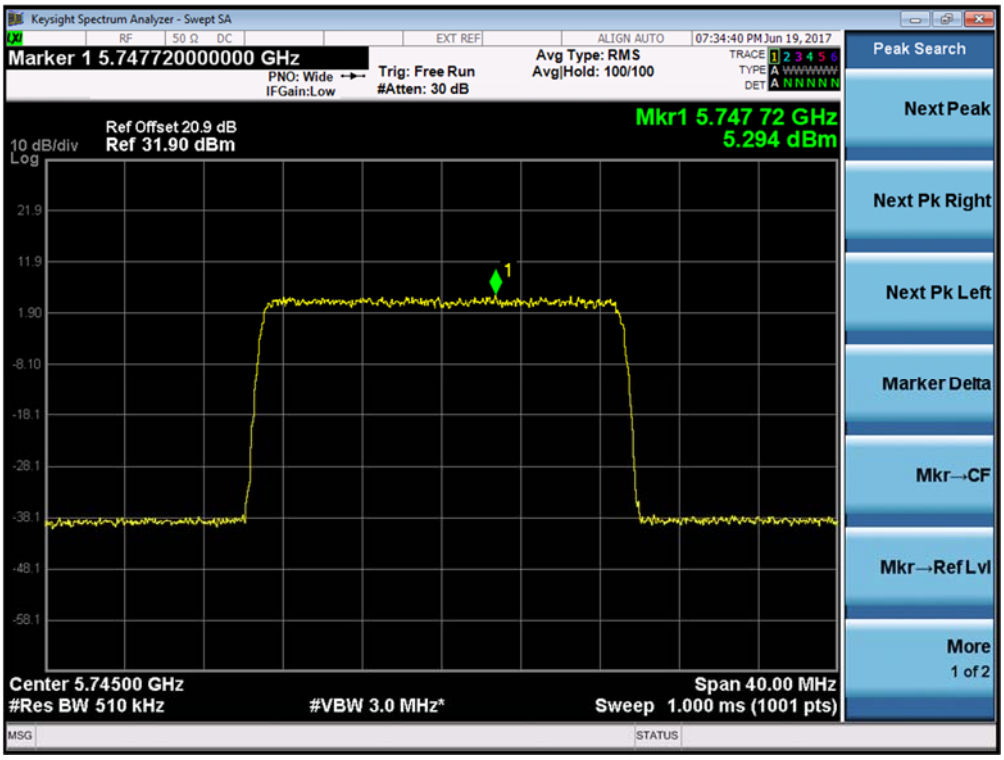

Channel Position T - 64QAM - Antenna B/ Bandwidth 20.0 MHz



Channel Position B - 256QAM - Antenna A/ Bandwidth 20.0 MHz

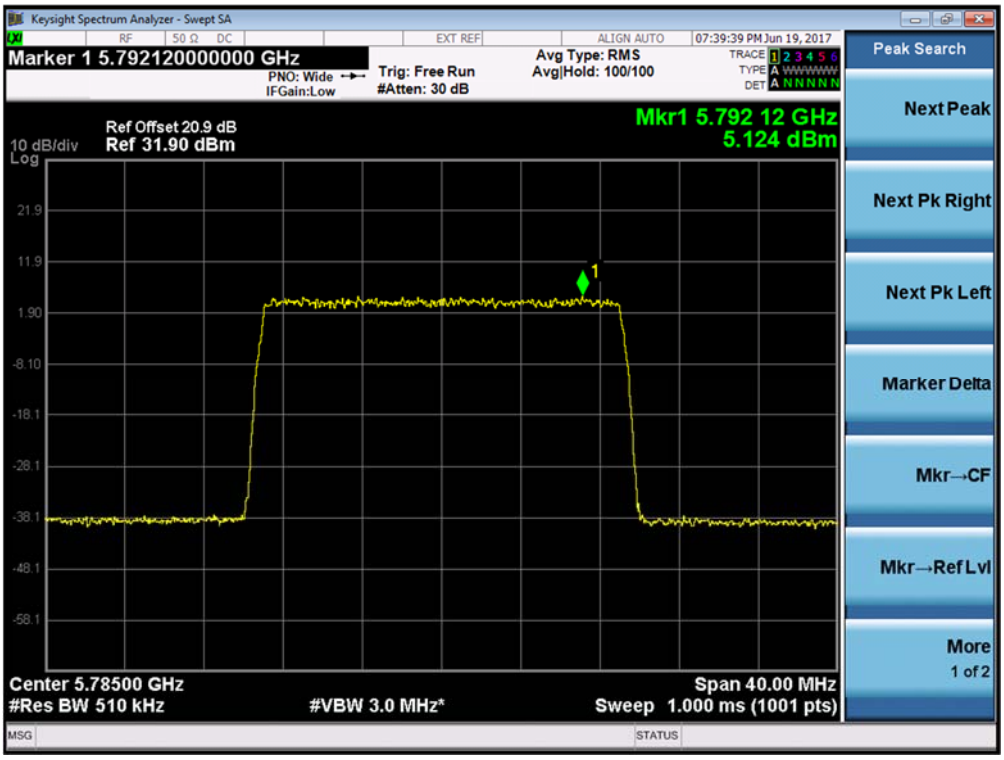



Channel Position B - 256QAM - Antenna B/ Bandwidth 20.0 MHz



Channel Position M - 256QAM - Antenna A/ Bandwidth 20.0 MHz


Channel Position M - 256QAM - Antenna B/ Bandwidth 20.0 MHz



Channel Position T - 256QAM - Antenna A/ Bandwidth 20.0 MHz


Channel Position T - 256QAM - Antenna B/ Bandwidth 20.0 MHz