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# Report On

FCC and IC Testing of the  
Ericsson AB (1900MHz) Radio 2219 B2 KRC 161 627/1 Remote Radio  
Unit In accordance with FCC CFR 47 Part 24 and Industry Canada  
RSS-133: Issue 6

COMMERCIAL-IN-CONFIDENCE

FCC ID: TA8AKRC161627-1  
IC: 287AB-AS1616271

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Product Service

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## **SECTION 1**

### **REPORT INFORMATION**



Product Service

## 1.1 REPORT DETAILS

The information contained in this report is intended to show verification of the Ericsson Radio 2219 B2 KRC 161 627/1 Remote Radio Unit to the requirements of FCC CFR 47 Part 24 and Industry Canada RSS-133.

Testing was carried out in support of an application for Grant of Radio 2219 B2 KRC 161 627/1 in GSM / WCDMA / LTE / GSM & WCDMA / GSM & LTE / WCDMA & LTE MSR mode.

|                               |                                                                                                                                                                                                         |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Manufacturer                  | Ericsson AB                                                                                                                                                                                             |
| Address                       | Isafjordsgatan 10<br>SE-164 80<br>Stockholm 16480<br>Sweden                                                                                                                                             |
| Product Name                  | Radio 2219 B2                                                                                                                                                                                           |
| Product Number                | KRC 161 627/1                                                                                                                                                                                           |
| HVIN                          | AS1616271                                                                                                                                                                                               |
| Serial Number(s)              | D825490218, D825544531                                                                                                                                                                                  |
| Software Version              | CXP9013268/9 Rev R65FC09<br>CXP9013268/9 Rev R66FS05                                                                                                                                                    |
| Hardware Version              | R1A                                                                                                                                                                                                     |
| Test Specification/Issue/Date | FCC CFR 47 Part 24: 2015<br>Industry Canada RSS-133 Issue 6: 2013                                                                                                                                       |
| Start of Test                 | 21 April 2017                                                                                                                                                                                           |
| Finish of Test                | 10 May 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: 2015<br>Industry Canada RSS-GEN Issue 4: 2014<br>Industry Canada SRSP-510 Issue 5: 2009<br>KDB 971168 D01 v02r02<br>KDB 662911 D01 v02r01 |

At the time of test FCC CFR Parts 2 and 24:2016 were not on our UKAS schedule, however a Gap Analysis has now been completed and FCC CFR Parts 2 and 24:2016 have been added to our UKAS Scope. The Gap Analysis showed that there are no changes to the requirements for this product and so the product can be considered to be compliant with FCC CFR Parts 2 and 24:2016.

## 1.2 BRIEF SUMMARY OF RESULTS

A brief summary of results for each configuration, in accordance with FCC CFR 47 Part 2, Part 24 and RSS-133 is shown below.

| Section | Spec Clause |                        |                | Test Description                                           | Result           |
|---------|-------------|------------------------|----------------|------------------------------------------------------------|------------------|
|         | Part 2      | Part 24                | RSS 133        |                                                            |                  |
| 2.1     | 2.1046      | 24.232(a)<br>24.232(d) | 6.4            | Maximum Output Power and Peak to Average Ratio – Conducted | Pass             |
|         | -           | 24.232(a)              | 6.4            | Equivalent Isotropically Radiated Power (EIRP)             | N/A <sup>1</sup> |
| 2.2     | 2.1049(h)   | 24.238(b)              | RSS-Gen<br>6.6 | Occupied Bandwidth                                         | Pass             |
| 2.3     | 2.1051      | 24.238(b)              | 6.5            | Spurious Emissions at Band Edge                            | Pass             |
| 2.4     | 2.1053      | 24.238(a)              | 6.5            | Radiated Spurious Emissions                                | Pass             |
| 2.5     | 2.1051      | 24.238(a)              | 6.5            | Conducted Spurious Emissions                               | Pass             |
| 2.6     | 2.1055      | 24.235                 | 6.3            | Frequency Stability                                        | Pass             |
|         | -           | -                      | 6.6            | Receiver Spurious Emission                                 | N/A              |

N/A<sup>1</sup> – Not Applicable, due to no integral antenna

N/A – Not Applicable

### 1.3 CONFIGURATION DESCRIPTION

| Configuration Code | Carrier(s) | Configuration Description                     |
|--------------------|------------|-----------------------------------------------|
| G-SC               | 1C         | GSM Single Antenna, Single Carrier            |
| G-MC 1             | 2C         | GSM Single Antenna, Multi Carrier x2          |
| G-MC 2             | 3C         | GSM Single Antenna, Multi Carrier x3          |
| G-MC 3             | 4C         | GSM Single Antenna, Multi Carrier x4          |
| W-SC               | 1C         | WCDMA Single Antenna, Single Carrier          |
| W-MC 1             | 2C         | WCDMA Single Antenna, Multi Carrier x2        |
| W-MC 2             | 4C         | WCDMA Single Antenna, Multi Carrier x4        |
| W-MIMO-SC          | 1C         | WCDMA MIMO, Single Carrier                    |
| W-MIMO-MC 1        | 2C         | WCDMA MIMO, Multi Carrier x2                  |
| W-MIMO-MC 2        | 4C         | WCDMA MIMO, Multi Carrier x4                  |
| 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                    |
| L-MIMO-MC 3        | 4C         | LTE MIMO, Multi Carrier x4                    |
| G+W-MC 1           | 1G+1W      | GSM+WCDMA Single Antenna, One Tx, 1GSM+1WCDMA |
| G+W-MC 2           | 4G+2W      | GSM+WCDMA Single Antenna, One Tx, 4GSM+2WCDMA |
| G+W-MIMO-MC 1      | 1G+1W      | GSM+WCDMA MIMO, 1GSM+1WCDMA                   |
| G+W-MIMO-MC 2      | 4G+2W      | GSM+WCDMA MIMO, 4GSM+2WCDMA                   |
| G+W-MIMO-MC 3      | 2G+1W      | GSM+WCDMA MIMO, 2GSM+1WCDMA                   |
| G+L-MIMO-MC 1      | 1G+1L      | GSM+LTE MIMO, 1GSM+1LTE                       |
| G+L-MIMO-MC 2      | 4G+2L      | GSM+LTE MIMO, 4GSM+2LTE                       |
| G+L-MIMO-MC 3      | 2G+2L      | GSM+LTE MIMO, 2GSM+2LTE                       |
| G+L-MIMO-MC 4      | 2G+1L      | GSM+LTE MIMO, 2GSM+1LTE                       |
| G+L-MIMO-MC 5      | 4G+1L      | GSM+LTE MIMO, 4GSM+1LTE                       |
| W+L-MC 1           | 1W+1L      | WCDMA+LTE Single Antenna, One Tx, 1WCDMA+1LTE |
| W+L-MC 2           | 3W+3L      | WCDMA+LTE Single Antenna, One Tx, 3WCDMA+3LTE |
| W+L-MC 3           | 3W+2L      | WCDMA+LTE Single Antenna, One Tx, 3WCDMA+2LTE |
| W+L-MC 4           | 2W+2L      | WCDMA+LTE Single Antenna, One Tx, 2WCDMA+2LTE |
| W+L-MC 5           | 2W+1L      | WCDMA+LTE Single Antenna, One Tx, 2WCDMA+1LTE |
| W+L-MIMO-MC 1      | 1W+1L      | WCDMA+LTE MIMO, 1WCDMA+1LTE                   |
| W+L-MIMO-MC 2      | 3W+3L      | WCDMA+LTE MIMO, 3WCDMA+3LTE                   |
| W+L-MIMO-MC 3      | 3W+2L      | WCDMA+LTE MIMO, 3WCDMA+2LTE                   |
| W+L-MIMO-MC 4      | 2W+2L      | WCDMA+LTE MIMO, 2WCDMA+2LTE                   |
| W+L-MIMO-MC 5      | 2W+1L      | WCDMA+LTE MIMO, 2WCDMA+1LTE                   |



Product Service

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

**GSM:**

Single carrier: GMSK  
Multi carrier (x2): GMSK  
Multi carrier (x3): GMSK  
Multi carrier (x4): GMSK

Single carrier: 8-PSK  
Multi carrier (x2): 8-PSK  
Multi carrier (x3): 8-PSK  
Multi carrier (x4): 8-PSK

Single carrier: AQPSK  
Multi carrier (x2): AQPSK  
Multi carrier (x3): AQPSK  
Multi carrier (x4): AQPSK

**WCDMA:**

**Non-MIMO:**

Single carrier TM1: 64 DPCHs at 30ksps (SF=128)  
Multi carrier TM1 (x2): 32 DPCHs at 30ksps (SF=128) in each carrier  
Multi carrier TM1 (x3): 32 DPCHs at 30ksps (SF=128) in each carrier  
Multi carrier TM1 (x4): 32 DPCHs at 30ksps (SF=128) in each carrier

**MIMO:**

Single carrier TM5: 30 DPCHs at 30ksps (SF=128) and 8 HS-PDSCHs at 240 ksps (SF16)  
Multi carrier TM5 (x2): 30 DPCHs at 30ksps (SF=128) and 8 HS-PDSCHs at 240 ksps (SF16)  
Multi carrier TM5 (x3): 30 DPCHs at 30ksps (SF=128) and 8 HS-PDSCHs at 240 ksps (SF16)  
Multi carrier TM5 (x4): 30 DPCHs at 30ksps (SF=128) and 8 HS-PDSCHs at 240 ksps (SF16)

**MIMO:**

Single carrier TM6: 30 DPCHs at 30ksps (SF=128) and 8 HS-PDSCHs at 240 ksps (SF16)  
Multi carrier TM6 (x2): 30 DPCHs at 30ksps (SF=128) and 8 HS-PDSCHs at 240 ksps (SF16)  
Multi carrier TM6 (x3): 30 DPCHs at 30ksps (SF=128) and 8 HS-PDSCHs at 240 ksps (SF16)  
Multi carrier TM6 (x4): 30 DPCHs at 30ksps (SF=128) and 8 HS-PDSCHs at 240 ksps (SF16)

**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 multi carrier (x4): 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 multi carrier (x4): 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 multi carrier (x4): E-TM3.1



Product Service

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

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

For WCDMA or LTE single RAT (Radio Access Technology) MIMO mode, the maximum output power was tested on all TX/RX output connector RF A and B. All the other TX measurements of WCDMA or LTE single RAT MIMO mode and all the measurements of other Non-MIMO mode, were performed on the combined TX/RX output connector RF A of the EUT as the representative port.



Product Service

**1.4 DECLARATION OF BUILD STATUS**

|                                                                                          |                                                                                                                                                                                                                                                   |
|------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>MAIN EUT</b>                                                                          |                                                                                                                                                                                                                                                   |
| <b>MANUFACTURING DESCRIPTION</b>                                                         | Remote Radio Unit                                                                                                                                                                                                                                 |
| <b>MANUFACTURER</b>                                                                      | Ericsson AB                                                                                                                                                                                                                                       |
| <b>PRODUCT NAME</b>                                                                      | Radio 2219 B2                                                                                                                                                                                                                                     |
| <b>PRODUCT NUMBER</b>                                                                    | KRC 161 627/1                                                                                                                                                                                                                                     |
| <b>HVIN</b>                                                                              | AS1616271                                                                                                                                                                                                                                         |
| <b>TRANSMITTER OPERATING RANGE</b>                                                       | TX: 1930 MHz - 1990 MHz<br>RX: 1850 MHz - 1910 MHz                                                                                                                                                                                                |
| <b>MODULATIONS</b>                                                                       | GSM: GMSK, 8-PSK, AQPSK<br>WCDMA: QPSK, 16QAM, 64QAM<br>LTE: QPSK, 16QAM, 64QAM, 256QAM                                                                                                                                                           |
| <b>ITU DESIGNATION OF EMISSION</b>                                                       | GSM: 245KGXW, 245KG7W<br>WCDMA: 5M00F9W<br>LTE: 1M40F9W, 3M00F9W, 5M00F9W, 10M0F9W, 15M0F9W, 20M0F9W                                                                                                                                              |
| <b>NUMBER OF CARRIERS</b>                                                                | Maximum 4 carriers for single RAT per port, Maximum 6 carriers for Multi-RAT per port.                                                                                                                                                            |
| <b>SUPPORTED CHANNEL BANDWIDTH CONFIGURATION</b>                                         | GSM: 250kHz<br>WCDMA: 3.8MHz to 5MHz<br>LTE: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz and 20MHz                                                                                                                                                           |
| <b>OUTPUT POWER (RMS) (W or dBm)</b>                                                     | Maximum 49.0dBm (80W) per port for all modes except maximum 43.0dBm (20W) per carrier per port for GSM, LTE 1.4MHz and 3MHz                                                                                                                       |
| <b>INSTANTANEOUS BANDWIDTH</b>                                                           | 40MHz for all modes, but only 12.8MHz for GSM single RAT and 20MHz for LTE 1.4MHz & 3MHz BW single RAT, 20MHz for GSM carrier(s) in GSM&LTE and GSM&WCDMA MSR modes, 20MHz for LTE 1.4MHz & 3MHz BW carrier(s) in GSM&LTE and WCDMA&LTE MSR modes |
| <b>NUMBER OF ANTENNA PORTS</b>                                                           | 2 TX/RX ports                                                                                                                                                                                                                                     |
| <b>FCC ID</b>                                                                            | TA8AKRC161627-1                                                                                                                                                                                                                                   |
| <b>IC</b>                                                                                | 287AB-AS1616271                                                                                                                                                                                                                                   |
| <b>Power source</b>                                                                      | -48V DC                                                                                                                                                                                                                                           |
| <b>TECHNICAL DESCRIPTION<br/>(a brief description of the intended use and operation)</b> | The equipment is the Remote Radio Part of GSM / WCDMA / LTE / GSM & WCDMA / GSM & LTE / WCDMA & LTE MSR Base Station.                                                                                                                             |

Signature

Date

21 April 2017

D of B S Serial No

75938768/01

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) Radio 2219 B2 KRC 161 627/1 is an Ericsson Remote Radio Unit working in the public mobile service 1900MHz band which provides communication connections to 1900MHz network in GSM / WCDMA / LTE modes and GSM & WCDMA / GSM & LTE / WCDMA & LTE MSR modes. The Radio 2219 B2 KRC 161 627/1 operates from a -48V DC supply.

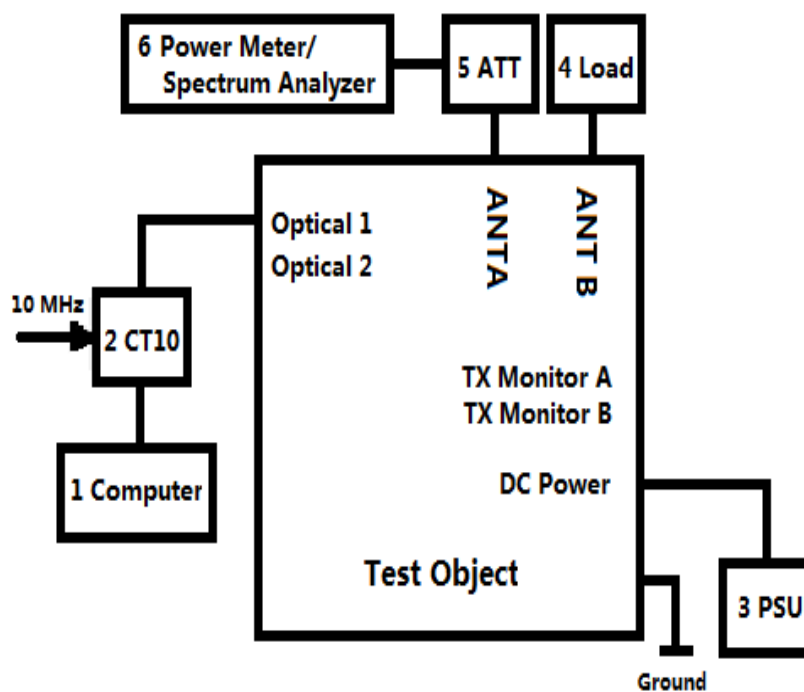
The Equipment Under Test (EUT) is shown in the photograph below. A full technical description can be found in the Manufacturer's documentation.



Equipment Under Test

## 1.6 TEST SETUP

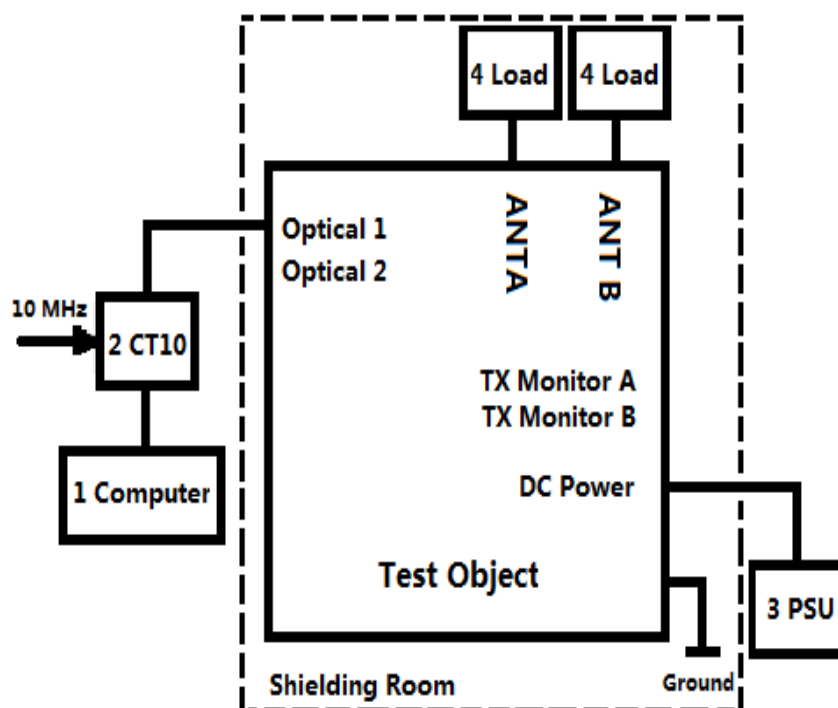
Test Setup, Conducted Measurement:



| Product Name  | Product Number | Version | Serial Number |
|---------------|----------------|---------|---------------|
| Radio 2219 B2 | KRC 161 627/1  | R1A     | D825490218    |

| No. | Auxiliary Equipment | Part Number / Model Type | Version | Serial Number |
|-----|---------------------|--------------------------|---------|---------------|
| 1   | Computer            | HP EliteBook 8540w       | --      | CND1234694    |
| 2   | CT10                | LPC 102 487/1            | R1C     | T01F62515     |
| 3   | PSU                 | Keysight 5767A           | --      | US15C4120P    |
| 4   | Load                | TF150                    | --      | 11081907      |
| 5   | 40dB Attenuator     | 66-40-33                 | --      | CD4019        |
| 6   | Spectrum Analyzer   | N9030A                   | --      | MY54490502    |
|     | Power Meter         | NRP                      | --      | 101593        |
|     | Power Sensor        | NRP-Z11                  | --      | 121216        |
|     | Power Sensor        | NRP-Z51                  | --      | 102309        |

# Test Setup, Radiated Measurement:



| Product Name  | Product Number | Version | Serial Number |
|---------------|----------------|---------|---------------|
| Radio 2219 B2 | KRC 161 627/1  | R1A     | D825544531    |

| No. | Auxiliary Equipment | Part Number / Model Type | Version | Serial Number |
|-----|---------------------|--------------------------|---------|---------------|
| 1   | Computer            | HP EliteBook 8540w       | --      | CND1234642    |
| 2   | CT10                | LPC 102 487/1            | R1C     | T01F282579    |
| 3   | PSU                 | BML 901 341/1            | R1B     | BR83767592    |
| 4   | Load                | TF150                    | --      | 090323432     |
|     | Load                | TF100                    | --      | 090323433     |

## **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 case were tested with the EUT supplied with -48V DC by an external power supply.

## **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 Peak to Average Ratio – Conducted
- Occupied Bandwidth
- Band Edge
- Conducted Spurious Emissions
- Frequency Stability

Only Radiated Spurious Emissions testing has been performed under the following site registrations:

FCC Accreditation 910917:

The State Radio Monitoring Centre, No.80 Beilishi Road, Xicheng District, Beijing, China

Industry Canada Accreditation 7308A-1:

The State Radio Monitoring Centre, No.80 Beilishi Road, Xicheng District, Beijing, China



Product Service

## **SECTION 2**

### **TEST DETAILS**



Product Service

## **2.1 MAXIMUM OUTPUT POWER AND PEAK TO AVERAGE RATIO - CONDUCTED**

### **2.1.1 Specification Reference**

FCC CFR 47 Part 2, Clause 2.1046  
FCC CFR 47 Part 24, Clause 24.232 (a) (d)  
Industry Canada RSS-133, Clause 6.4

### **2.1.2 Equipment Under Test**

Radio 2219 B2, KRC 161 627/1, S/N: D825490218

### **2.1.3 Date of Test and Modification State**

21, 24, 25 and 26 April 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 3.1.

### **2.1.5 Environmental Conditions**

|                     |               |
|---------------------|---------------|
| Ambient Temperature | 21.5 - 22.1°C |
| Relative Humidity   | 24.0 - 30.0%  |

### **2.1.6 Test Method**

The test was applied in accordance with the test method requirements of FCC Part 24 and Industry Canada RSS-133.

Using a power meter and attenuator(s), the output power of the EUT was measured at the antenna terminal. 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.

A peak to average ratio measurement is performed at the conducted ports of the EUT for single carrier for single RAT mode. The spectrum analyzers Complementary Cumulative Distribution Function (CCDF) was used and 0.1% probability value recorded.

The RMS Power and Peak to Average Ratio was measured and recorded with the results being compared with the limits.



Product Service

## 2.1.7 Test Results

Configuration G-SC

Maximum Output Power 43.0dBm per port

| Antenna | Modulation | RMS Output Power / Peak to Average Ratio (PAR) |                    |             |                                 |                    |             |                                 |                    |             |
|---------|------------|------------------------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|
|         |            | Channel Position B<br>1930.4MHz                |                    |             | Channel Position M<br>1960.0MHz |                    |             | Channel Position T<br>1989.6MHz |                    |             |
|         |            | Power<br>(dBm)                                 | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | GMSK       | 42.65                                          | -                  | 0.23        | 42.73                           | -                  | 0.23        | 42.72                           | -                  | 0.23        |
|         | 8-PSK      | 42.19                                          | -                  | 3.39        | 42.30                           | -                  | 3.37        | 42.30                           | -                  | 3.38        |
|         | AQPSK      | 42.59                                          | -                  | 3.53        | 42.65                           | -                  | 3.56        | 42.31                           | -                  | 3.54        |

Configuration G-MC 1 (2C)

Maximum Output Power 46.0dBm per port

| Antenna | Modulation | RMS Output Power / Peak to Average Ratio (PAR)              |                    |             |                                                             |                    |             |                                                             |                    |             |
|---------|------------|-------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------|--------------------|-------------|
|         |            | Channel Position B <sub>RFBW</sub><br>1930.4MHz + 1949.8MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1950.2MHz + 1969.8MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1970.2MHz + 1989.6MHz |                    |             |
|         |            | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | GMSK       | 45.43                                                       | -                  | -           | 45.58                                                       | -                  | -           | 45.56                                                       | -                  | -           |
|         | 8-PSK      | 43.50                                                       | -                  | -           | 43.66                                                       | -                  | -           | 43.55                                                       | -                  | -           |
|         | AQPSK      | 43.77                                                       | -                  | -           | 44.01                                                       | -                  | -           | 43.90                                                       | -                  | -           |

Configuration G-MC 3 (4C)

Maximum Output Power 49.0dBm per port

| Antenna | Modulation | RMS Output Power / Peak to Average Ratio (PAR)                                         |                    |             |                                                                                      |                    |             |                                                                                        |                    |             |
|---------|------------|----------------------------------------------------------------------------------------|--------------------|-------------|--------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------|--------------------|-------------|
|         |            | Channel Position B <sub>RFBW</sub><br>1930.4MHz + 1934.4MHz +<br>1938.4MHz + 1942.8MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1956.0MHz + 1960.0MHz +<br>1964.0MHz+1968.4MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1977.2MHz + 1982.0MHz +<br>1986.0MHz + 1989.6MHz |                    |             |
|         |            | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                       | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | GMSK       | 47.91                                                                                  | -                  | -           | 48.26                                                                                | -                  | -           | 48.07                                                                                  | -                  | -           |
|         | 8-PSK      | 45.85                                                                                  | -                  | -           | 46.24                                                                                | -                  | -           | 46.06                                                                                  | -                  | -           |
|         | AQPSK      | 46.18                                                                                  | -                  | -           | 46.56                                                                                | -                  | -           | 46.40                                                                                  | -                  | -           |



Product Service

## Configuration W-SC

Maximum Output Power 49.0dBm per port

| Antenna | Modulation / Carrier Bandwidth (MHz) | RMS Output Power / Peak to Average Ratio (PAR) |                 |          |                                 |                 |          |                                 |                 |          |
|---------|--------------------------------------|------------------------------------------------|-----------------|----------|---------------------------------|-----------------|----------|---------------------------------|-----------------|----------|
|         |                                      | Channel Position B<br>1932.4MHz                |                 |          | Channel Position M<br>1960.0MHz |                 |          | Channel Position T<br>1987.6MHz |                 |          |
|         |                                      | Power (dBm)                                    | Power (dBm/MHz) | PAR (dB) | Power (dBm)                     | Power (dBm/MHz) | PAR (dB) | Power (dBm)                     | Power (dBm/MHz) | PAR (dB) |
| A       | QPSK / 5.0 MHz                       | 48.54                                          | 43.20           | 6.89     | 48.89                           | 43.59           | 6.87     | 49.60                           | 43.25           | 6.89     |

## Configuration W-MC 1 (2C)

Maximum Output Power 49.0dBm per port

| Antenna | Modulation / Carrier Bandwidth (MHz) | RMS Output Power / Peak to Average Ratio (PAR)              |                 |          |                                                             |                 |          |                                                             |                 |          |
|---------|--------------------------------------|-------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------|-----------------|----------|
|         |                                      | Channel Position B <sub>RFBW</sub><br>1932.4MHz + 1967.6MHz |                 |          | Channel Position M <sub>RFBW</sub><br>1942.4MHz + 1977.6MHz |                 |          | Channel Position T <sub>RFBW</sub><br>1952.4MHz + 1987.6MHz |                 |          |
|         |                                      | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) |
| A       | QPSK / 5.0 MHz                       | 48.38                                                       | -               | -        | 48.58                                                       | -               | -        | 49.60                                                       | -               | -        |

## Configuration W-MC 2 (4C)

Maximum Output Power 49.0dBm per port

| Antenna | Modulation / Carrier Bandwidth (MHz) | RMS Output Power / Peak to Average Ratio (PAR)                                      |                 |          |                                                                                     |                 |          |                                                                                     |                 |          |
|---------|--------------------------------------|-------------------------------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------------------------------|-----------------|----------|
|         |                                      | Channel Position B <sub>RFBW</sub><br>1932.4MHz + 1937.4MHz + 1962.4MHz + 1967.6MHz |                 |          | Channel Position M <sub>RFBW</sub><br>1942.4MHz + 1947.4MHz + 1972.4MHz + 1977.6MHz |                 |          | Channel Position T <sub>RFBW</sub><br>1952.6MHz + 1967.6MHz + 1982.6MHz + 1987.6MHz |                 |          |
|         |                                      | Power (dBm)                                                                         | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                                         | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                                         | Power (dBm/MHz) | PAR (dB) |
| A       | QPSK / 5.0 MHz                       | 48.41                                                                               | -               | -        | 48.58                                                                               | -               | -        | 48.60                                                                               | -               | -        |



Product Service

## Configuration W-MIMO-SC

Maximum Output Power 47.0dBm per port

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR) |                    |             |                                 |                    |             |                                 |                    |             |
|---------|-----------------------------------------------|------------------------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|
|         |                                               | Channel Position B<br>1932.4MHz                |                    |             | Channel Position M<br>1960.0MHz |                    |             | Channel Position T<br>1987.6MHz |                    |             |
|         |                                               | Power<br>(dBm)                                 | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 16QAM /<br>5.0 MHz                            | 46.85                                          | 41.50              | 6.77        | 47.04                           | 41.51              | 6.76        | 46.95                           | 41.47              | 6.77        |
| B       |                                               | 46.90                                          | 41.44              | 6.77        | 47.15                           | 41.65              | 6.77        | 47.19                           | 41.82              | 6.77        |
| Total   |                                               | 49.89                                          | -                  | -           | 50.11                           | -                  | -           | 50.08                           | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR) |                    |             |                                 |                    |             |                                 |                    |             |
|---------|-----------------------------------------------|------------------------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|
|         |                                               | Channel Position B<br>1932.4MHz                |                    |             | Channel Position M<br>1960.0MHz |                    |             | Channel Position T<br>1987.6MHz |                    |             |
|         |                                               | Power<br>(dBm)                                 | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 64QAM /<br>5.0 MHz                            | 46.84                                          | 41.40              | 6.77        | 47.01                           | 41.56              | 6.76        | 46.93                           | 41.55              | 6.77        |
| B       |                                               | 46.91                                          | 41.64              | 6.77        | 47.14                           | 41.94              | 6.77        | 47.17                           | 41.84              | 6.77        |
| Total   |                                               | 49.89                                          | -                  | -           | 50.09                           | -                  | -           | 50.06                           | -                  | -           |

## Configuration W-MIMO-MC 1 (2C)

Maximum Output Power 49.0dBm per port

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR)              |                    |             |                                                             |                    |             |                                                             |                    |             |
|---------|-----------------------------------------------|-------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------|--------------------|-------------|
|         |                                               | Channel Position B <sub>RFBW</sub><br>1932.4MHz + 1967.4MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1942.4MHz + 1977.4MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1952.6MHz + 1987.6MHz |                    |             |
|         |                                               | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 16QAM /<br>5.0 MHz                            | 48.32                                                       | -                  | -           | 48.60                                                       | -                  | -           | 48.59                                                       | -                  | -           |
| B       |                                               | 48.57                                                       | -                  | -           | 48.77                                                       | -                  | -           | 48.65                                                       | -                  | -           |
| Total   |                                               | 51.46                                                       | -                  | -           | 51.70                                                       | -                  | -           | 51.63                                                       | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR)              |                    |             |                                                             |                    |             |                                                             |                    |             |
|---------|-----------------------------------------------|-------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------|--------------------|-------------|
|         |                                               | Channel Position B <sub>RFBW</sub><br>1932.4MHz + 1967.4MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1942.4MHz + 1977.4MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1952.6MHz + 1987.6MHz |                    |             |
|         |                                               | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 64QAM /<br>5.0 MHz                            | 48.34                                                       | -                  | -           | 48.56                                                       | -                  | -           | 48.60                                                       | -                  | -           |
| B       |                                               | 48.58                                                       | -                  | -           | 48.70                                                       | -                  | -           | 48.66                                                       | -                  | -           |
| Total   |                                               | 51.47                                                       | -                  | -           | 51.64                                                       | -                  | -           | 51.64                                                       | -                  | -           |



Product Service

Configuration W-MIMO-MC 2 (4C)

Maximum Output Power 49.0dBm per port

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR)                                         |                    |             |                                                                                       |                    |             |                                                                                        |                    |             |
|---------|-----------------------------------------------|----------------------------------------------------------------------------------------|--------------------|-------------|---------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                               | Channel Position B <sub>RFBW</sub><br>1932.4MHz + 1937.4MHz +<br>1962.4MHz + 1967.4MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1942.4MHz + 1947.4MHz +<br>1962.4MHz +1977.4MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1952.6MHz + 1957.6MHz +<br>1982.6MHz + 1987.6MHz |                    |             |
|         |                                               | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                        | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
|         | A                                             | 16QAM /<br>5.0 MHz                                                                     | 48.37              | -           | -                                                                                     | 48.56              | -           | -                                                                                      | 48.60              | -           |
| B       | 48.59                                         |                                                                                        | -                  | -           | 48.76                                                                                 | -                  | -           | 48.63                                                                                  | -                  | -           |
| Total   |                                               | 51.49                                                                                  | -                  | -           | 51.67                                                                                 | -                  | -           | 51.63                                                                                  | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR)                                         |                    |             |                                                                                       |                    |             |                                                                                        |                    |             |
|---------|-----------------------------------------------|----------------------------------------------------------------------------------------|--------------------|-------------|---------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                               | Channel Position B <sub>RFBW</sub><br>1932.4MHz + 1937.4MHz +<br>1962.4MHz + 1967.4MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1942.4MHz + 1947.4MHz +<br>1962.4MHz +1977.4MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1952.6MHz + 1957.6MHz +<br>1982.6MHz + 1987.6MHz |                    |             |
|         |                                               | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                        | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 64QAM /<br>5.0 MHz                            | 48.37                                                                                  | -                  | -           | 48.60                                                                                 | -                  | -           | 48.60                                                                                  | -                  | -           |
| B       |                                               | 48.61                                                                                  | -                  | -           | 48.78                                                                                 | -                  | -           | 48.65                                                                                  | -                  | -           |
| Total   |                                               | 51.50                                                                                  | -                  | -           | 51.70                                                                                 | -                  | -           | 51.64                                                                                  | -                  | -           |



Product Service

# Configuration L-MIMO-SC

Maximum Output Power 43.0dBm per port

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR) |                    |             |                                 |                    |             |                                 |                    |             |
|---------|-----------------------------------------------|------------------------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|
|         |                                               | Channel Position B<br>1930.7MHz                |                    |             | Channel Position M<br>1960.0MHz |                    |             | Channel Position T<br>1989.3MHz |                    |             |
|         |                                               | Power<br>(dBm)                                 | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | QPSK /<br>1.4 MHz                             | 42.83                                          | 42.27              | 8.29        | 42.99                           | 42.32              | 8.37        | 42.90                           | 42.34              | 8.32        |
| B       |                                               | 42.81                                          | 42.34              | 8.21        | 43.18                           | 42.74              | 8.25        | 43.28                           | 42.74              | 8.15        |
| Total   |                                               | 45.83                                          | -                  | -           | 46.10                           | -                  | -           | 46.10                           | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR) |                    |             |                                 |                    |             |                                 |                    |             |
|---------|-----------------------------------------------|------------------------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|
|         |                                               | Channel Position B<br>1930.7MHz                |                    |             | Channel Position M<br>1960.0MHz |                    |             | Channel Position T<br>1989.3MHz |                    |             |
|         |                                               | Power<br>(dBm)                                 | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 16QAM /<br>1.4 MHz                            | -                                              | -                  | -           | 42.98                           | 42.58              | 8.21        | -                               | -                  | -           |
| B       |                                               | -                                              | -                  | -           | 43.19                           | 42.67              | 8.09        | -                               | -                  | -           |
| Total   |                                               | -                                              | -                  | -           | 46.10                           | -                  | -           | -                               | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR) |                    |             |                                 |                    |             |                                 |                    |             |
|---------|-----------------------------------------------|------------------------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|
|         |                                               | Channel Position B<br>1930.7MHz                |                    |             | Channel Position M<br>1960.0MHz |                    |             | Channel Position T<br>1989.3MHz |                    |             |
|         |                                               | Power<br>(dBm)                                 | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 64QAM /<br>1.4 MHz                            | -                                              | -                  | -           | 42.95                           | 42.41              | 8.20        | -                               | -                  | -           |
| B       |                                               | -                                              | -                  | -           | 43.14                           | 42.54              | 8.22        | -                               | -                  | -           |
| Total   |                                               | -                                              | -                  | -           | 46.06                           | -                  | -           | -                               | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR) |                    |             |                                 |                    |             |                                 |                    |             |
|---------|-----------------------------------------------|------------------------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|
|         |                                               | Channel Position B<br>1930.7MHz                |                    |             | Channel Position M<br>1960.0MHz |                    |             | Channel Position T<br>1989.3MHz |                    |             |
|         |                                               | Power<br>(dBm)                                 | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 256QAM /<br>1.4 MHz                           | -                                              | -                  | -           | 42.99                           | 42.40              | 8.28        | -                               | -                  | -           |
| B       |                                               | -                                              | -                  | -           | 43.14                           | 42.55              | 8.06        | -                               | -                  | -           |
| Total   |                                               | -                                              | -                  | -           | 46.08                           | -                  | -           | -                               | -                  | -           |



Product Service

Maximum Output Power 43.0dBm per port

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR) |                    |             |                                 |                    |             |                                 |                    |             |
|---------|-----------------------------------------------|------------------------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|
|         |                                               | Channel Position B<br>1931.5MHz                |                    |             | Channel Position M<br>1960.0MHz |                    |             | Channel Position T<br>1988.5MHz |                    |             |
|         |                                               | Power<br>(dBm)                                 | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | QPSK /<br>3.0 MHz                             | -                                              | -                  | -           | 43.05                           | 39.23              | 8.30        | -                               | -                  | -           |
| B       |                                               | -                                              | -                  | -           | 43.15                           | 39.31              | 8.15        | -                               | -                  | -           |
| Total   |                                               | -                                              | -                  | -           | 46.11                           | -                  |             | -                               | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR) |                    |             |                                 |                    |             |                                 |                    |             |
|---------|-----------------------------------------------|------------------------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|
|         |                                               | Channel Position B<br>1931.5MHz                |                    |             | Channel Position M<br>1960.0MHz |                    |             | Channel Position T<br>1988.5MHz |                    |             |
|         |                                               | Power<br>(dBm)                                 | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 16QAM /<br>3.0 MHz                            | -                                              | -                  | -           | 43.03                           | 39.48              | 8.27        | -                               | -                  | -           |
| B       |                                               | -                                              | -                  | -           | 43.14                           | 39.70              | 8.25        | -                               | -                  | -           |
| Total   |                                               | -                                              | -                  | -           | 46.10                           | -                  | -           | -                               | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR) |                    |             |                                 |                    |             |                                 |                    |             |
|---------|-----------------------------------------------|------------------------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|
|         |                                               | Channel Position B<br>1931.5MHz                |                    |             | Channel Position M<br>1960.0MHz |                    |             | Channel Position T<br>1988.5MHz |                    |             |
|         |                                               | Power<br>(dBm)                                 | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 64QAM /<br>3.0 MHz                            | -                                              | -                  | -           | 43.01                           | 39.18              | 8.20        | -                               | -                  | -           |
| B       |                                               | -                                              | -                  | -           | 43.14                           | 39.29              | 8.32        | -                               | -                  | -           |
| Total   |                                               | -                                              | -                  | -           | 46.09                           | -                  | -           | -                               | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR) |                    |             |                                 |                    |             |                                 |                    |             |
|---------|-----------------------------------------------|------------------------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|
|         |                                               | Channel Position B<br>1931.5MHz                |                    |             | Channel Position M<br>1960.0MHz |                    |             | Channel Position T<br>1988.5MHz |                    |             |
|         |                                               | Power<br>(dBm)                                 | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 256QAM /<br>3.0 MHz                           | -                                              | -                  | -           | 43.02                           | 39.19              | 8.27        | -                               | -                  | -           |
| B       |                                               | -                                              | -                  | -           | 43.12                           | 39.28              | 8.27        | -                               | -                  | -           |
| Total   |                                               | -                                              | -                  | -           | 46.08                           | -                  | -           | -                               | -                  | -           |



Product Service

Maximum Output Power 49.0dBm per port

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR) |                    |             |                                 |                    |             |                                 |                    |             |
|---------|-----------------------------------------------|------------------------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|
|         |                                               | Channel Position B<br>1932.5MHz                |                    |             | Channel Position M<br>1960.0MHz |                    |             | Channel Position T<br>1987.5MHz |                    |             |
|         |                                               | Power<br>(dBm)                                 | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | QPSK /<br>5.0 MHz                             | 48.14                                          | 42.246             | 7.04        | 48.54                           | 42.526             | 7.04        | 48.30                           | 42.180             | 7.04        |
| B       |                                               | 48.25                                          | 42.263             | 7.07        | 48.72                           | 42.683             | 7.06        | 48.56                           | 42.473             | 7.06        |
| Total   |                                               | 51.21                                          | -                  | -           | 51.64                           | -                  | -           | 51.44                           | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR) |                    |             |                                 |                    |             |                                 |                    |             |
|---------|-----------------------------------------------|------------------------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|
|         |                                               | Channel Position B<br>1932.5MHz                |                    |             | Channel Position M<br>1960.0MHz |                    |             | Channel Position T<br>1987.5MHz |                    |             |
|         |                                               | Power<br>(dBm)                                 | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 16QAM /<br>5.0 MHz                            | -                                              | -                  | -           | 48.55                           | 43.008             | 7.03        | -                               | -                  | -           |
| B       |                                               | -                                              | -                  | -           | 48.69                           | 43.065             | 7.05        | -                               | -                  | -           |
| Total   |                                               | -                                              | -                  | -           | 51.63                           | -                  | -           | -                               | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR) |                    |             |                                 |                    |             |                                 |                    |             |
|---------|-----------------------------------------------|------------------------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|
|         |                                               | Channel Position B<br>1932.5MHz                |                    |             | Channel Position M<br>1960.0MHz |                    |             | Channel Position T<br>1987.5MHz |                    |             |
|         |                                               | Power<br>(dBm)                                 | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 64QAM /<br>5.0 MHz                            | -                                              | -                  | -           | 48.56                           | 42.569             | 7.04        | -                               | -                  | -           |
| B       |                                               | -                                              | -                  | -           | 48.70                           | 42.715             | 7.05        | -                               | -                  | -           |
| Total   |                                               | -                                              | -                  | -           | 51.64                           | -                  | -           | -                               | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR) |                    |             |                                 |                    |             |                                 |                    |             |
|---------|-----------------------------------------------|------------------------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|
|         |                                               | Channel Position B<br>1932.5MHz                |                    |             | Channel Position M<br>1960.0MHz |                    |             | Channel Position T<br>1987.5MHz |                    |             |
|         |                                               | Power<br>(dBm)                                 | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 256QAM /<br>5.0 MHz                           | -                                              | -                  | -           | 48.54                           | 42.564             | 7.06        | -                               | -                  | -           |
| B       |                                               | -                                              | -                  | -           | 48.68                           | 42.734             | 7.06        | -                               | -                  | -           |
| Total   |                                               | -                                              | -                  | -           | 51.62                           | -                  | -           | -                               | -                  | -           |



Product Service

Maximum Output Power 49.0dBm per port

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR) |                    |             |                                 |                    |             |                                 |                    |             |
|---------|-----------------------------------------------|------------------------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|
|         |                                               | Channel Position B<br>1935.0MHz                |                    |             | Channel Position M<br>1960.0MHz |                    |             | Channel Position T<br>1985.0MHz |                    |             |
|         |                                               | Power<br>(dBm)                                 | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | QPSK /<br>10.0 MHz                            | -                                              | -                  | -           | 48.50                           | 40.06              | 7.00        | -                               | -                  | -           |
| B       |                                               | -                                              | -                  | -           | 48.99                           | 40.23              | 7.02        | -                               | -                  | -           |
| Total   |                                               | -                                              | -                  | -           | 51.76                           |                    | -           | -                               | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR) |                    |             |                                 |                    |             |                                 |                    |             |
|---------|-----------------------------------------------|------------------------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|
|         |                                               | Channel Position B<br>1935.0MHz                |                    |             | Channel Position M<br>1960.0MHz |                    |             | Channel Position T<br>1985.0MHz |                    |             |
|         |                                               | Power<br>(dBm)                                 | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 16QAM /<br>10.0 MHz                           | -                                              | -                  | -           | 48.86                           | 40.51              | 7.00        | -                               | -                  | -           |
| B       |                                               | -                                              | -                  | -           | 49.00                           | 40.67              | 7.02        | -                               | -                  | -           |
| Total   |                                               | -                                              | -                  | -           | 51.94                           | -                  | -           | -                               | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR) |                    |             |                                 |                    |             |                                 |                    |             |
|---------|-----------------------------------------------|------------------------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|
|         |                                               | Channel Position B<br>1935.0MHz                |                    |             | Channel Position M<br>1960.0MHz |                    |             | Channel Position T<br>1985.0MHz |                    |             |
|         |                                               | Power<br>(dBm)                                 | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 64QAM /<br>10.0 MHz                           | -                                              | -                  | -           | 48.86                           | 40.19              | 7.01        | -                               | -                  | -           |
| B       |                                               | -                                              | -                  | -           | 49.01                           | 40.31              | 7.01        | -                               | -                  | -           |
| Total   |                                               | -                                              | -                  | -           | 51.95                           | -                  | -           | -                               | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR) |                    |             |                                 |                    |             |                                 |                    |             |
|---------|-----------------------------------------------|------------------------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|
|         |                                               | Channel Position B<br>1935.0MHz                |                    |             | Channel Position M<br>1960.0MHz |                    |             | Channel Position T<br>1985.0MHz |                    |             |
|         |                                               | Power<br>(dBm)                                 | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 256QAM /<br>10.0 MHz                          | -                                              | -                  | -           | 48.89                           | 40.24              | 7.01        | -                               | -                  | -           |
| B       |                                               | -                                              | -                  | -           | 49.04                           | 40.14              | 7.02        | -                               | -                  | -           |
| Total   |                                               | -                                              | -                  | -           | 51.98                           | -                  | -           | -                               | -                  | -           |



Product Service

Maximum Output Power 49.0dBm per port

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR) |                    |             |                                 |                    |             |                                 |                    |             |
|---------|-----------------------------------------------|------------------------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|
|         |                                               | Channel Position B<br>1937.5MHz                |                    |             | Channel Position M<br>1960.0MHz |                    |             | Channel Position T<br>1982.5MHz |                    |             |
|         |                                               | Power<br>(dBm)                                 | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | QPSK /<br>15.0 MHz                            | -                                              | -                  | -           | 48.84                           | 38.27              | 7.02        | -                               | -                  | -           |
| B       |                                               | -                                              | -                  | -           | 48.94                           | 38.42              | 7.03        | -                               | -                  | -           |
| Total   |                                               | -                                              | -                  | -           | 51.90                           | -                  | -           | -                               | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR) |                    |             |                                 |                    |             |                                 |                    |             |
|---------|-----------------------------------------------|------------------------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|
|         |                                               | Channel Position B<br>1937.5MHz                |                    |             | Channel Position M<br>1960.0MHz |                    |             | Channel Position T<br>1982.5MHz |                    |             |
|         |                                               | Power<br>(dBm)                                 | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 16QAM /<br>15.0 MHz                           | -                                              | -                  | -           | 48.85                           | 39.11              | 7.01        | -                               | -                  | -           |
| B       |                                               | -                                              | -                  | -           | 48.94                           | 39.16              | 7.03        | -                               | -                  | -           |
| Total   |                                               | -                                              | -                  | -           | 51.91                           | -                  | -           | -                               | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR) |                    |             |                                 |                    |             |                                 |                    |             |
|---------|-----------------------------------------------|------------------------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|
|         |                                               | Channel Position B<br>1937.5MHz                |                    |             | Channel Position M<br>1960.0MHz |                    |             | Channel Position T<br>1982.5MHz |                    |             |
|         |                                               | Power<br>(dBm)                                 | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 64QAM /<br>15.0 MHz                           | -                                              | -                  | -           | 48.85                           | 38.26              | 7.04        | -                               | -                  | -           |
| B       |                                               | -                                              | -                  | -           | 48.96                           | 38.46              | 7.02        | -                               | -                  | -           |
| Total   |                                               | -                                              | -                  | -           | 51.92                           | -                  | -           | -                               | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR) |                    |             |                                 |                    |             |                                 |                    |             |
|---------|-----------------------------------------------|------------------------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|
|         |                                               | Channel Position B<br>1937.5MHz                |                    |             | Channel Position M<br>1960.0MHz |                    |             | Channel Position T<br>1982.5MHz |                    |             |
|         |                                               | Power<br>(dBm)                                 | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 256QAM /<br>15.0 MHz                          | -                                              | -                  | -           | 48.94                           | 38.26              | 7.03        | -                               | -                  | -           |
| B       |                                               | -                                              | -                  | -           | 48.96                           | 38.71              | 7.03        | -                               | -                  | -           |
| Total   |                                               | -                                              | -                  | -           | 51.96                           | -                  | -           | -                               | -                  | -           |



Product Service

Maximum Output Power 49.0dBm per port

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR) |                    |             |                                 |                    |             |                                 |                    |             |
|---------|-----------------------------------------------|------------------------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|
|         |                                               | Channel Position B<br>1940.0MHz                |                    |             | Channel Position M<br>1960.0MHz |                    |             | Channel Position T<br>1980.0MHz |                    |             |
|         |                                               | Power<br>(dBm)                                 | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | QPSK /<br>20.0 MHz                            | 48.52                                          | 36.89              | 7.10        | 48.87                           | 37.11              | 6.91        | 48.76                           | 37.01              | 6.99        |
| B       |                                               | 48.82                                          | 37.12              | 7.11        | 48.94                           | 37.22              | 6.92        | 48.97                           | 37.18              | 7.01        |
| Total   |                                               | 51.68                                          | -                  | -           | 51.92                           | -                  | -           | 51.88                           | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR) |                    |             |                                 |                    |             |                                 |                    |             |
|---------|-----------------------------------------------|------------------------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|
|         |                                               | Channel Position B<br>1940.0MHz                |                    |             | Channel Position M<br>1960.0MHz |                    |             | Channel Position T<br>1980.0MHz |                    |             |
|         |                                               | Power<br>(dBm)                                 | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 16QAM /<br>20.0 MHz                           | -                                              | -                  | -           | 48.87                           | 37.14              | 6.91        | -                               | -                  | -           |
| D       |                                               | -                                              | -                  | -           | 48.94                           | 37.61              | 6.92        | -                               | -                  | -           |
| Total   |                                               | -                                              | -                  | -           | 51.92                           | -                  | -           | -                               | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR) |                    |             |                                 |                    |             |                                 |                    |             |
|---------|-----------------------------------------------|------------------------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|
|         |                                               | Channel Position B<br>1940.0MHz                |                    |             | Channel Position M<br>1960.0MHz |                    |             | Channel Position T<br>1980.0MHz |                    |             |
|         |                                               | Power<br>(dBm)                                 | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 64QAM /<br>20.0 MHz                           | -                                              | -                  | -           | 48.87                           | 37.19              | 6.92        | -                               | -                  | -           |
| D       |                                               | -                                              | -                  | -           | 48.95                           | 37.14              | 6.92        | -                               | -                  | -           |
| Total   |                                               | -                                              | -                  | -           | 51.92                           | -                  | -           | -                               | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR) |                    |             |                                 |                    |             |                                 |                    |             |
|---------|-----------------------------------------------|------------------------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|---------------------------------|--------------------|-------------|
|         |                                               | Channel Position B<br>1940.0MHz                |                    |             | Channel Position M<br>1960.0MHz |                    |             | Channel Position T<br>1980.0MHz |                    |             |
|         |                                               | Power<br>(dBm)                                 | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                  | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 256QAM /<br>20.0 MHz                          | -                                              | -                  | -           | 48.87                           | 37.00              | 6.92        | -                               | -                  | -           |
| D       |                                               | -                                              | -                  | -           | 48.95                           | 37.30              | 6.92        | -                               | -                  | -           |
| Total   |                                               | -                                              | -                  | -           | 51.92                           | -                  | -           | -                               | -                  | -           |

Configuration L-MIMO-MC 1 (2C)

Maximum Output Power 46.0dBm per port

| Antenna | Modulation / Carrier Bandwidth (MHz) | RMS Output Power / Peak to Average Ratio (PAR)               |                 |          |                                                             |                 |          |                                                             |                 |          |
|---------|--------------------------------------|--------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------|-----------------|----------|
|         |                                      | Channel Position B <sub>RFBW</sub><br>1930.7MHz + 1949.3 MHz |                 |          | Channel Position M <sub>RFBW</sub><br>1950.7MHz + 1969.3MHz |                 |          | Channel Position T <sub>RFBW</sub><br>1970.7MHz + 1989.3MHz |                 |          |
|         |                                      | Power (dBm)                                                  | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) |
| A       | QPSK / 1.4 MHz                       | 45.50                                                        | -               | -        | 45.66                                                       | -               | -        | 45.68                                                       | -               | -        |
| B       |                                      | 45.84                                                        | -               | -        | 45.90                                                       | -               | -        | 45.96                                                       | -               | -        |
| Total   |                                      | 48.68                                                        | -               | -        | 48.79                                                       | -               | -        | 48.83                                                       | -               | -        |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR)               |                    |             |                                                             |                    |             |                                                             |                    |             |
|---------|-----------------------------------------------|--------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------|--------------------|-------------|
|         |                                               | Channel Position B <sub>RFBW</sub><br>1930.7MHz + 1949.3 MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1950.7MHz + 1969.3MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1970.7MHz + 1989.3MHz |                    |             |
|         |                                               | Power<br>(dBm)                                               | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 16QAM /<br>1.4 MHz                            | -                                                            | -                  | -           | 45.73                                                       | -                  | -           | -                                                           | -                  | -           |
| B       |                                               | -                                                            | -                  | -           | 45.94                                                       | -                  | -           | -                                                           | -                  | -           |
| Total   |                                               | -                                                            | -                  | -           | 48.85                                                       | -                  | -           | -                                                           | -                  | -           |

| Antenna | Modulation / Carrier Bandwidth (MHz) | RMS Output Power / Peak to Average Ratio (PAR)               |                 |          |                                                             |                 |          |                                                             |                 |          |
|---------|--------------------------------------|--------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------|-----------------|----------|
|         |                                      | Channel Position B <sub>RFBW</sub><br>1930.7MHz + 1949.3 MHz |                 |          | Channel Position M <sub>RFBW</sub><br>1950.7MHz + 1969.3MHz |                 |          | Channel Position T <sub>RFBW</sub><br>1970.7MHz + 1989.3MHz |                 |          |
|         |                                      | Power (dBm)                                                  | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) |
| A       | 64QAM / 1.4 MHz                      | -                                                            | -               | -        | 45.70                                                       | -               | -        | -                                                           | -               | -        |
| B       |                                      | -                                                            | -               | -        | 45.91                                                       | -               | -        | -                                                           | -               | -        |
| Total   |                                      | -                                                            | -               | -        | 48.82                                                       | -               | -        | -                                                           | -               | -        |

| Antenna | Modulation / Carrier Bandwidth (MHz) | RMS Output Power / Peak to Average Ratio (PAR)               |                 |          |                                                             |                 |          |                                                             |                 |          |
|---------|--------------------------------------|--------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------|-----------------|----------|
|         |                                      | Channel Position B <sub>RFBW</sub><br>1930.7MHz + 1949.3 MHz |                 |          | Channel Position M <sub>RFBW</sub><br>1950.7MHz + 1969.3MHz |                 |          | Channel Position T <sub>RFBW</sub><br>1970.7MHz + 1989.3MHz |                 |          |
|         |                                      | Power (dBm)                                                  | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) |
| A       | 256QAM / 1.4 MHz                     | -                                                            | -               | -        | 45.70                                                       | -               | -        | -                                                           | -               | -        |
| B       |                                      | -                                                            | -               | -        | 45.93                                                       | -               | -        | -                                                           | -               | -        |
| Total   |                                      | -                                                            | -               | -        | 48.83                                                       | -               | -        | -                                                           | -               | -        |



Product Service

Maximum Output Power 46.0dBm per port

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR)              |                    |             |                                                             |                    |             |                                                             |                    |             |
|---------|-----------------------------------------------|-------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------|--------------------|-------------|
|         |                                               | Channel Position B <sub>RFBW</sub><br>1931.5MHz + 1948.5MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1951.5MHz + 1968.5MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1971.5MHz + 1988.5MHz |                    |             |
|         |                                               | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | QPSK /<br>3.0 MHz                             | 45.51                                                       | -                  | -           | 45.77                                                       | -                  | -           | 45.72                                                       | -                  | -           |
| B       |                                               | 45.84                                                       | -                  | -           | 45.99                                                       | -                  | -           | 46.01                                                       | -                  | -           |
| Total   |                                               | 48.69                                                       | -                  | -           | 48.89                                                       | -                  | -           | 48.88                                                       | -                  | -           |

| Antenna | Modulation / Carrier Bandwidth (MHz) | RMS Output Power / Peak to Average Ratio (PAR)              |                 |          |                                                             |                 |          |                                                             |                 |          |
|---------|--------------------------------------|-------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------|-----------------|----------|
|         |                                      | Channel Position B <sub>RFBW</sub><br>1931.5MHz + 1948.5MHz |                 |          | Channel Position M <sub>RFBW</sub><br>1951.5MHz + 1968.5MHz |                 |          | Channel Position T <sub>RFBW</sub><br>1971.5MHz + 1988.5MHz |                 |          |
|         |                                      | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) |
| A       | 16QAM / 3.0 MHz                      | -                                                           | -               | -        | 45.75                                                       | -               | -        | -                                                           | -               | -        |
| B       |                                      | -                                                           | -               | -        | 46.00                                                       | -               | -        | -                                                           | -               | -        |
| Total   |                                      | -                                                           | -               | -        | 48.89                                                       | -               | -        | -                                                           | -               | -        |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR)              |                    |             |                                                             |                    |             |                                                             |                    |             |
|---------|-----------------------------------------------|-------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------|--------------------|-------------|
|         |                                               | Channel Position B <sub>RFBW</sub><br>1931.5MHz + 1948.5MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1951.5MHz + 1968.5MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1971.5MHz + 1988.5MHz |                    |             |
|         |                                               | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 64QAM /<br>3.0 MHz                            | -                                                           | -                  | -           | 45.72                                                       | -                  | -           | -                                                           | -                  | -           |
| B       |                                               | -                                                           | -                  | -           | 45.98                                                       | -                  | -           | -                                                           | -                  | -           |
| Total   |                                               | -                                                           | -                  | -           | 48.86                                                       | -                  | -           | -                                                           | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR)              |                    |             |                                                             |                    |             |                                                             |                    |             |
|---------|-----------------------------------------------|-------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------|--------------------|-------------|
|         |                                               | Channel Position B <sub>RFBW</sub><br>1931.5MHz + 1948.5MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1951.5MHz + 1968.5MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1971.5MHz + 1988.5MHz |                    |             |
|         |                                               | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 256QAM /<br>3.0 MHz                           | -                                                           | -                  | -           | 45.71                                                       | -                  | -           | -                                                           | -                  | -           |
| B       |                                               | -                                                           | -                  | -           | 45.95                                                       | -                  | -           | -                                                           | -                  | -           |
| Total   |                                               | -                                                           | -                  | -           | 48.84                                                       | -                  | -           | -                                                           | -                  | -           |



Product Service

Maximum Output Power 49.0dBm per port

| Antenna | Modulation / Carrier Bandwidth (MHz) | RMS Output Power / Peak to Average Ratio (PAR)              |                 |          |                                                             |                 |          |                                                             |                 |          |
|---------|--------------------------------------|-------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------|-----------------|----------|
|         |                                      | Channel Position B <sub>RFBW</sub><br>1932.5MHz + 1967.5MHz |                 |          | Channel Position M <sub>RFBW</sub><br>1942.5MHz + 1977.5MHz |                 |          | Channel Position T <sub>RFBW</sub><br>1952.5MHz + 1987.5MHz |                 |          |
|         |                                      | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) |
| A       | QPSK / 5.0 MHz                       | 47.83                                                       | -               | -        | 48.05                                                       | -               | -        | 48.08                                                       | -               | -        |
| B       |                                      | 47.95                                                       | -               | -        | 48.10                                                       | -               | -        | 48.03                                                       | -               | -        |
| Total   |                                      | 50.90                                                       | -               | -        | 51.09                                                       | -               | -        | 51.07                                                       | -               | -        |

| Antenna | Modulation / Carrier Bandwidth (MHz) | RMS Output Power / Peak to Average Ratio (PAR)              |                 |          |                                                             |                 |          |                                                             |                 |          |
|---------|--------------------------------------|-------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------|-----------------|----------|
|         |                                      | Channel Position B <sub>RFBW</sub><br>1932.5MHz + 1967.5MHz |                 |          | Channel Position M <sub>RFBW</sub><br>1942.5MHz + 1977.5MHz |                 |          | Channel Position T <sub>RFBW</sub><br>1952.5MHz + 1987.5MHz |                 |          |
|         |                                      | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) |
| A       | 16QAM / 5.0 MHz                      | -                                                           | -               | -        | 48.02                                                       | -               | -        | -                                                           | -               | -        |
| B       |                                      | -                                                           | -               | -        | 48.09                                                       | -               | -        | -                                                           | -               | -        |
| Total   |                                      | -                                                           | -               | -        | 51.07                                                       | -               | -        | -                                                           | -               | -        |

| Antenna | Modulation / Carrier Bandwidth (MHz) | RMS Output Power / Peak to Average Ratio (PAR)              |                 |          |                                                             |                 |          |                                                             |                 |          |
|---------|--------------------------------------|-------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------|-----------------|----------|
|         |                                      | Channel Position B <sub>RFBW</sub><br>1932.5MHz + 1967.5MHz |                 |          | Channel Position M <sub>RFBW</sub><br>1942.5MHz + 1977.5MHz |                 |          | Channel Position T <sub>RFBW</sub><br>1952.5MHz + 1987.5MHz |                 |          |
|         |                                      | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) |
| A       | 64QAM / 5.0 MHz                      | -                                                           | -               | -        | 48.02                                                       | -               | -        | -                                                           | -               | -        |
| B       |                                      | -                                                           | -               | -        | 48.09                                                       | -               | -        | -                                                           | -               | -        |
| Total   |                                      | -                                                           | -               | -        | 51.07                                                       |                 | -        | -                                                           | -               | -        |

| Antenna | Modulation / Carrier Bandwidth (MHz) | RMS Output Power / Peak to Average Ratio (PAR)              |                 |          |                                                             |                 |          |                                                             |                 |          |
|---------|--------------------------------------|-------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------|-----------------|----------|
|         |                                      | Channel Position B <sub>RFBW</sub><br>1932.5MHz + 1967.5MHz |                 |          | Channel Position M <sub>RFBW</sub><br>1942.5MHz + 1977.5MHz |                 |          | Channel Position T <sub>RFBW</sub><br>1952.5MHz + 1987.5MHz |                 |          |
|         |                                      | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) |
| A       | 256QAM / 5.0 MHz                     | -                                                           | -               | -        | 48.01                                                       | -               | -        | -                                                           | -               | -        |
| B       |                                      | -                                                           | -               | -        | 48.09                                                       | -               | -        | -                                                           | -               | -        |
| Total   |                                      | -                                                           | -               | -        | 51.06                                                       | -               | -        | -                                                           | -               | -        |



Product Service

Maximum Output Power 49.0dBm per port

| Antenna | Modulation / Carrier Bandwidth (MHz) | RMS Output Power / Peak to Average Ratio (PAR)              |                 |          |                                                             |                 |          |                                                             |                 |          |
|---------|--------------------------------------|-------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------|-----------------|----------|
|         |                                      | Channel Position B <sub>RFBW</sub><br>1935.0MHz + 1965.0MHz |                 |          | Channel Position M <sub>RFBW</sub><br>1945.0MHz + 1975.0MHz |                 |          | Channel Position T <sub>RFBW</sub><br>1955.0MHz + 1985.0MHz |                 |          |
|         |                                      | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) |
| A       | QPSK / 10.0 MHz                      | -                                                           | -               | -        | 48.02                                                       | -               | -        | -                                                           | -               | -        |
| B       |                                      | -                                                           | -               | -        | 48.12                                                       | -               | -        | -                                                           | -               | -        |
| Total   |                                      | -                                                           | -               | -        | 51.08                                                       | -               | -        | -                                                           | -               | -        |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR)              |                    |             |                                                             |                    |             |                                                             |                    |             |
|---------|-----------------------------------------------|-------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------|--------------------|-------------|
|         |                                               | Channel Position B <sub>RFBW</sub><br>1935.0MHz + 1965.0MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1945.0MHz + 1975.0MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1955.0MHz + 1985.0MHz |                    |             |
|         |                                               | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 16QAM /<br>10.0 MHz                           | -                                                           | -                  | -           | 48.02                                                       | -                  | -           | -                                                           | -                  | -           |
| B       |                                               | -                                                           | -                  | -           | 48.11                                                       | -                  | -           | -                                                           | -                  | -           |
| Total   |                                               | -                                                           | -                  | -           | 51.08                                                       | -                  | -           | -                                                           | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR)              |                    |             |                                                             |                    |             |                                                             |                    |             |
|---------|-----------------------------------------------|-------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------|--------------------|-------------|
|         |                                               | Channel Position B <sub>RFBW</sub><br>1935.0MHz + 1965.0MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1945.0MHz + 1975.0MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1955.0MHz + 1985.0MHz |                    |             |
|         |                                               | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 64QAM /<br>10.0 MHz                           | -                                                           | -                  | -           | 48.01                                                       | -                  | -           | -                                                           | -                  | -           |
| B       |                                               | -                                                           | -                  | -           | 48.13                                                       | -                  | -           | -                                                           | -                  | -           |
| Total   |                                               | -                                                           | -                  | -           | 51.08                                                       | -                  | -           | -                                                           | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR)              |                    |             |                                                             |                    |             |                                                             |                    |             |
|---------|-----------------------------------------------|-------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------|--------------------|-------------|
|         |                                               | Channel Position B <sub>RFBW</sub><br>1935.0MHz + 1965.0MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1945.0MHz + 1975.0MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1955.0MHz + 1985.0MHz |                    |             |
|         |                                               | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 256QAM /<br>10.0 MHz                          | -                                                           | -                  | -           | 48.00                                                       | -                  | -           | -                                                           | -                  | -           |
| B       |                                               | -                                                           | -                  | -           | 48.12                                                       | -                  | -           | -                                                           | -                  | -           |
| Total   |                                               | -                                                           | -                  | -           | 51.07                                                       | -                  | -           | -                                                           | -                  | -           |



Product Service

Maximum Output Power 49.0dBm per port

| Antenna | Modulation / Carrier Bandwidth (MHz) | RMS Output Power / Peak to Average Ratio (PAR)              |                 |          |                                                             |                 |          |                                                             |                 |          |
|---------|--------------------------------------|-------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------|-----------------|----------|
|         |                                      | Channel Position B <sub>RFBW</sub><br>1937.5MHz + 1962.5MHz |                 |          | Channel Position M <sub>RFBW</sub><br>1947.5MHz + 1972.5MHz |                 |          | Channel Position T <sub>RFBW</sub><br>1957.5MHz + 1982.5MHz |                 |          |
|         |                                      | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) |
| A       | QPSK / 15.0 MHz                      | -                                                           | -               | -        | 48.05                                                       | -               | -        | -                                                           | -               | -        |
| B       |                                      | -                                                           | -               | -        | 48.15                                                       | -               | -        | -                                                           | -               | -        |
| Total   |                                      | -                                                           | -               | -        | 51.11                                                       | -               | -        | -                                                           | -               | -        |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR)              |                    |             |                                                             |                    |             |                                                             |                    |             |
|---------|-----------------------------------------------|-------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------|--------------------|-------------|
|         |                                               | Channel Position B <sub>RFBW</sub><br>1937.5MHz + 1962.5MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1947.5MHz + 1972.5MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1957.5MHz + 1982.5MHz |                    |             |
|         |                                               | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 16QAM /<br>15.0 MHz                           | -                                                           | -                  | -           | 48.03                                                       | -                  | -           | -                                                           | -                  | -           |
| B       |                                               | -                                                           | -                  | -           | 48.15                                                       | -                  | -           | -                                                           | -                  | -           |
| Total   |                                               | -                                                           | -                  | -           | 51.10                                                       | -                  | -           | -                                                           | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR)              |                    |             |                                                             |                    |             |                                                             |                    |             |
|---------|-----------------------------------------------|-------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------|--------------------|-------------|
|         |                                               | Channel Position B <sub>RFBW</sub><br>1937.5MHz + 1962.5MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1947.5MHz + 1972.5MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1957.5MHz + 1982.5MHz |                    |             |
|         |                                               | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 64QAM /<br>15.0 MHz                           | -                                                           | -                  | -           | 48.03                                                       | -                  | -           | -                                                           | -                  | -           |
| B       |                                               | -                                                           | -                  | -           | 48.15                                                       | -                  | -           | -                                                           | -                  | -           |
| Total   |                                               | -                                                           | -                  | -           | 51.10                                                       | -                  | -           | -                                                           | -                  | -           |

| Antenna | Modulation / Carrier Bandwidth (MHz) | RMS Output Power / Peak to Average Ratio (PAR)              |                 |          |                                                             |                 |          |                                                             |                 |          |
|---------|--------------------------------------|-------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------|-----------------|----------|
|         |                                      | Channel Position B <sub>RFBW</sub><br>1937.5MHz + 1962.5MHz |                 |          | Channel Position M <sub>RFBW</sub><br>1947.5MHz + 1972.5MHz |                 |          | Channel Position T <sub>RFBW</sub><br>1957.5MHz + 1982.5MHz |                 |          |
|         |                                      | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) |
| A       | 256QAM / 15.0 MHz                    | -                                                           | -               | -        | 48.02                                                       | -               | -        | -                                                           | -               | -        |
| B       |                                      | -                                                           | -               | -        | 48.14                                                       | -               | -        | -                                                           | -               | -        |
| Total   |                                      | -                                                           | -               | -        | 51.09                                                       | -               | -        | -                                                           | -               | -        |



Product Service

Maximum Output Power 49.0dBm per port

| Antenna | Modulation / Carrier Bandwidth (MHz) | RMS Output Power / Peak to Average Ratio (PAR)              |                 |          |                                                             |                 |          |                                                             |                 |          |
|---------|--------------------------------------|-------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------|-----------------|----------|
|         |                                      | Channel Position B <sub>RFBW</sub><br>1940.0MHz + 1960.0MHz |                 |          | Channel Position M <sub>RFBW</sub><br>1950.0MHz + 1970.0MHz |                 |          | Channel Position T <sub>RFBW</sub><br>1960.0MHz + 1980.0MHz |                 |          |
|         |                                      | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) |
| A       | QPSK / 20.0 MHz                      | 48.75                                                       | -               | -        | 48.85                                                       | -               | -        | 48.90                                                       | -               | -        |
| B       |                                      | 48.87                                                       | -               | -        | 48.95                                                       | -               | -        | 48.90                                                       | -               | -        |
| Total   |                                      | 51.82                                                       | -               | -        | 51.91                                                       | -               | -        | 51.91                                                       | -               | -        |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR)              |                    |             |                                                             |                    |             |                                                             |                    |             |
|---------|-----------------------------------------------|-------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------|--------------------|-------------|
|         |                                               | Channel Position B <sub>RFBW</sub><br>1940.0MHz + 1960.0MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1950.0MHz + 1970.0MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1960.0MHz + 1980.0MHz |                    |             |
|         |                                               | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 16QAM /<br>20.0 MHz                           | -                                                           | -                  | -           | 48.84                                                       | -                  | -           | -                                                           | -                  | -           |
| B       |                                               | -                                                           | -                  | -           | 48.94                                                       | -                  | -           | -                                                           | -                  | -           |
| Total   |                                               | -                                                           | -                  | -           | 51.90                                                       | -                  | -           | -                                                           | -                  | -           |

| Antenna | Modulation / Carrier Bandwidth (MHz) | RMS Output Power / Peak to Average Ratio (PAR)              |                 |          |                                                             |                 |          |                                                             |                 |          |
|---------|--------------------------------------|-------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------|-----------------|----------|
|         |                                      | Channel Position B <sub>RFBW</sub><br>1940.0MHz + 1960.0MHz |                 |          | Channel Position M <sub>RFBW</sub><br>1950.0MHz + 1970.0MHz |                 |          | Channel Position T <sub>RFBW</sub><br>1960.0MHz + 1980.0MHz |                 |          |
|         |                                      | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                 | Power (dBm/MHz) | PAR (dB) |
| A       | 64QAM / 20.0 MHz                     | -                                                           | -               | -        | 48.84                                                       | -               | -        | -                                                           | -               | -        |
| B       |                                      | -                                                           | -               | -        | 48.95                                                       | -               | -        | -                                                           | -               | -        |
| Total   |                                      | -                                                           | -               | -        | 51.91                                                       | -               | -        | -                                                           | -               | -        |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR)              |                    |             |                                                             |                    |             |                                                             |                    |             |
|---------|-----------------------------------------------|-------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------|--------------------|-------------|
|         |                                               | Channel Position B <sub>RFBW</sub><br>1940.0MHz + 1960.0MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1950.0MHz + 1970.0MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1960.0MHz + 1980.0MHz |                    |             |
|         |                                               | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                              | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 256QAM /<br>20.0 MHz                          | -                                                           | -                  | -           | 48.84                                                       | -                  | -           | -                                                           | -                  | -           |
| B       |                                               | -                                                           | -                  | -           | 48.94                                                       | -                  | -           | -                                                           | -                  | -           |
| Total   |                                               | -                                                           | -                  | -           | 51.90                                                       | -                  | -           | -                                                           | -                  | -           |



Product Service

# Configuration L-MIMO-MC 3 (4C)

Maximum Output Power 49.0dBm per port

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR)                                         |                    |             |                                                                                        |                    |             |                                                                                        |                    |             |
|---------|-----------------------------------------------|----------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                               | Channel Position B <sub>RFBW</sub><br>1930.7MHz + 1946.5MHz +<br>1947.9MHz + 1949.3MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1950.7MHz + 1966.5MHz +<br>1967.9MHz + 1969.3MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1970.7MHz + 1986.5MHz +<br>1987.9MHz + 1989.3MHz |                    |             |
|         |                                               | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | QPSK /<br>1.4 MHz                             | 47.26                                                                                  | -                  | -           | 47.42                                                                                  | -                  | -           | 47.28                                                                                  | -                  | -           |
| B       |                                               | 47.52                                                                                  | -                  | -           | 47.57                                                                                  | -                  | -           | 47.52                                                                                  | -                  | -           |
| Total   |                                               | 50.40                                                                                  | -                  | -           | 50.51                                                                                  | -                  | -           | 50.41                                                                                  | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR)                                         |                    |             |                                                                                        |                    |             |                                                                                        |                    |             |
|---------|-----------------------------------------------|----------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                               | Channel Position B <sub>RFBW</sub><br>1930.7MHz + 1946.5MHz +<br>1947.9MHz + 1949.3MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1950.7MHz + 1966.5MHz +<br>1967.9MHz + 1969.3MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1970.7MHz + 1986.5MHz +<br>1987.9MHz + 1989.3MHz |                    |             |
|         |                                               | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 16QAM /<br>1.4 MHz                            | -                                                                                      | -                  | -           | 47.55                                                                                  | -                  | -           | -                                                                                      | -                  | -           |
| B       |                                               | -                                                                                      | -                  | -           | 47.68                                                                                  | -                  | -           | -                                                                                      | -                  | -           |
| Total   |                                               | -                                                                                      | -                  | -           | 50.63                                                                                  | -                  | -           | -                                                                                      | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR)                                         |                    |             |                                                                                        |                    |             |                                                                                        |                    |             |
|---------|-----------------------------------------------|----------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                               | Channel Position B <sub>RFBW</sub><br>1930.7MHz + 1946.5MHz +<br>1947.9MHz + 1949.3MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1950.7MHz + 1966.5MHz +<br>1967.9MHz + 1969.3MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1970.7MHz + 1986.5MHz +<br>1987.9MHz + 1989.3MHz |                    |             |
|         |                                               | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 64QAM /<br>1.4 MHz                            | -                                                                                      | -                  | -           | 47.45                                                                                  | -                  | -           | -                                                                                      | -                  | -           |
| B       |                                               | -                                                                                      | -                  | -           | 47.62                                                                                  | -                  | -           | -                                                                                      | -                  | -           |
| Total   |                                               | -                                                                                      | -                  | -           | 50.55                                                                                  | -                  | -           | -                                                                                      | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR)                                         |                    |             |                                                                                        |                    |             |                                                                                        |                    |             |
|---------|-----------------------------------------------|----------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                               | Channel Position B <sub>RFBW</sub><br>1930.7MHz + 1946.5MHz +<br>1947.9MHz + 1949.3MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1950.7MHz + 1966.5MHz +<br>1967.9MHz + 1969.3MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1970.7MHz + 1986.5MHz +<br>1987.9MHz + 1989.3MHz |                    |             |
|         |                                               | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 256QAM /<br>1.4 MHz                           | -                                                                                      | -                  | -           | 47.48                                                                                  | -                  | -           | -                                                                                      | -                  | -           |
| B       |                                               | -                                                                                      | -                  | -           | 47.64                                                                                  | -                  | -           | -                                                                                      | -                  | -           |
| Total   |                                               | -                                                                                      | -                  | -           | 50.57                                                                                  | -                  | -           | -                                                                                      | -                  | -           |

Maximum Output Power 49.0dBm per port

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR)                                         |                    |             |                                                                                        |                    |             |                                                                                        |                    |             |
|---------|-----------------------------------------------|----------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                               | Channel Position B <sub>RFBW</sub><br>1931.5MHz + 1942.5MHz +<br>1945.5MHz + 1948.5MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1951.5MHz + 1962.5MHz +<br>1965.5MHz + 1968.5MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1971.5MHz + 1982.5MHz +<br>1985.5MHz + 1988.5MHz |                    |             |
|         |                                               | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | QPSK /<br>3.0 MHz                             | 47.17                                                                                  | -                  | -           | 47.40                                                                                  | -                  | -           | 47.31                                                                                  | -                  | -           |
| B       |                                               | 47.39                                                                                  | -                  | -           | 47.61                                                                                  | -                  | -           | 47.50                                                                                  | -                  | -           |
| Total   |                                               | 50.29                                                                                  | -                  | -           | 50.52                                                                                  | -                  | -           | 50.42                                                                                  | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR)                                         |                    |             |                                                                                        |                    |             |                                                                                        |                    |             |
|---------|-----------------------------------------------|----------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                               | Channel Position B <sub>RFBW</sub><br>1931.5MHz + 1942.5MHz +<br>1945.5MHz + 1948.5MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1951.5MHz + 1962.5MHz +<br>1965.5MHz + 1968.5MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1971.5MHz + 1982.5MHz +<br>1985.5MHz + 1988.5MHz |                    |             |
|         |                                               | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 16QAM /<br>3.0 MHz                            | -                                                                                      | -                  | -           | 47.41                                                                                  | -                  | -           | -                                                                                      | -                  | -           |
| B       |                                               | -                                                                                      | -                  | -           | 47.56                                                                                  | -                  | -           | -                                                                                      | -                  | -           |
| Total   |                                               | -                                                                                      | -                  | -           | 50.50                                                                                  | -                  | -           | -                                                                                      | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR)                                         |                    |             |                                                                                        |                    |             |                                                                                        |                    |             |
|---------|-----------------------------------------------|----------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                               | Channel Position B <sub>RFBW</sub><br>1931.5MHz + 1942.5MHz +<br>1945.5MHz + 1948.5MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1951.5MHz + 1962.5MHz +<br>1965.5MHz + 1968.5MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1971.5MHz + 1982.5MHz +<br>1985.5MHz + 1988.5MHz |                    |             |
|         |                                               | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 64QAM /<br>3.0 MHz                            | -                                                                                      | -                  | -           | 47.38                                                                                  | -                  | -           | -                                                                                      | -                  | -           |
| B       |                                               | -                                                                                      | -                  | -           | 47.54                                                                                  | -                  | -           | -                                                                                      | -                  | -           |
| Total   |                                               | -                                                                                      | -                  | -           | 50.47                                                                                  | -                  | -           | -                                                                                      | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR)                                         |                    |             |                                                                                        |                    |             |                                                                                        |                    |             |
|---------|-----------------------------------------------|----------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                               | Channel Position B <sub>RFBW</sub><br>1931.5MHz + 1942.5MHz +<br>1945.5MHz + 1948.5MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1951.5MHz + 1962.5MHz +<br>1965.5MHz + 1968.5MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1971.5MHz + 1982.5MHz +<br>1985.5MHz + 1988.5MHz |                    |             |
|         |                                               | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 256QAM /<br>3.0 MHz                           | -                                                                                      | -                  | -           | 47.39                                                                                  | -                  | -           | -                                                                                      | -                  | -           |
| B       |                                               | -                                                                                      | -                  | -           | 47.53                                                                                  | -                  | -           | -                                                                                      | -                  | -           |
| Total   |                                               | -                                                                                      | -                  | -           | 50.47                                                                                  | -                  | -           | -                                                                                      | -                  | -           |



Product Service

Maximum Output Power 49.0dBm per port

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR)                                         |                    |             |                                                                                        |                    |             |                                                                                        |                    |             |
|---------|-----------------------------------------------|----------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                               | Channel Position B <sub>RFBW</sub><br>1932.5MHz + 1957.5MHz +<br>1962.5MHz + 1967.5MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1942.5MHz + 1967.5MHz +<br>1972.5MHz + 1977.5MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1952.5MHz + 1977.5MHz +<br>1982.5MHz + 1987.5MHz |                    |             |
|         |                                               | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | QPSK /<br>5.0 MHz                             | 48.20                                                                                  | -                  | -           | 48.40                                                                                  | -                  | -           | 48.39                                                                                  | -                  | -           |
| B       |                                               | 48.41                                                                                  | -                  | -           | 48.47                                                                                  | -                  | -           | 48.41                                                                                  | -                  | -           |
| Total   |                                               | 51.32                                                                                  | -                  | -           | 51.45                                                                                  | -                  | -           | 51.41                                                                                  | -                  | -           |

| Antenna | Modulation / Carrier Bandwidth (MHz) | RMS Output Power / Peak to Average Ratio (PAR)                                      |                 |          |                                                                                     |                 |          |                                                                                     |                 |          |
|---------|--------------------------------------|-------------------------------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------------------------------|-----------------|----------|
|         |                                      | Channel Position B <sub>RFBW</sub><br>1932.5MHz + 1957.5MHz + 1962.5MHz + 1967.5MHz |                 |          | Channel Position M <sub>RFBW</sub><br>1942.5MHz + 1967.5MHz + 1972.5MHz + 1977.5MHz |                 |          | Channel Position T <sub>RFBW</sub><br>1952.5MHz + 1977.5MHz + 1982.5MHz + 1987.5MHz |                 |          |
|         |                                      | Power (dBm)                                                                         | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                                         | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                                         | Power (dBm/MHz) | PAR (dB) |
| A       | 16QAM / 5.0 MHz                      | -                                                                                   | -               | -        | 48.34                                                                               | -               | -        | -                                                                                   | -               | -        |
| B       |                                      | -                                                                                   | -               | -        | 48.50                                                                               | -               | -        | -                                                                                   | -               | -        |
| Total   |                                      | -                                                                                   | -               | -        | 51.43                                                                               | -               | -        | -                                                                                   | -               | -        |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR)                                         |                    |             |                                                                                        |                    |             |                                                                                        |                    |             |
|---------|-----------------------------------------------|----------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                               | Channel Position B <sub>RFBW</sub><br>1932.5MHz + 1957.5MHz +<br>1962.5MHz + 1967.5MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1942.5MHz + 1967.5MHz +<br>1972.5MHz + 1977.5MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1952.5MHz + 1977.5MHz +<br>1982.5MHz + 1987.5MHz |                    |             |
|         |                                               | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 64QAM /<br>5.0 MHz                            | -                                                                                      | -                  | -           | 48.34                                                                                  | -                  | -           | -                                                                                      | -                  | -           |
| B       |                                               | -                                                                                      | -                  | -           | 48.43                                                                                  | -                  | -           | -                                                                                      | -                  | -           |
| Total   |                                               | -                                                                                      | -                  | -           | 51.40                                                                                  | -                  | -           | -                                                                                      | -                  | -           |

| Antenna | Modulation / Carrier Bandwidth (MHz) | RMS Output Power / Peak to Average Ratio (PAR)                                      |                 |          |                                                                                     |                 |          |                                                                                     |                 |          |
|---------|--------------------------------------|-------------------------------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------------------------------|-----------------|----------|
|         |                                      | Channel Position B <sub>RFBW</sub><br>1932.5MHz + 1957.5MHz + 1962.5MHz + 1967.5MHz |                 |          | Channel Position M <sub>RFBW</sub><br>1942.5MHz + 1967.5MHz + 1972.5MHz + 1977.5MHz |                 |          | Channel Position T <sub>RFBW</sub><br>1952.5MHz + 1977.5MHz + 1982.5MHz + 1987.5MHz |                 |          |
|         |                                      | Power (dBm)                                                                         | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                                         | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                                         | Power (dBm/MHz) | PAR (dB) |
| A       | 256QAM / 5.0 MHz                     | -                                                                                   | -               | -        | 48.25                                                                               | -               | -        | -                                                                                   | -               | -        |
| B       |                                      | -                                                                                   | -               | -        | 48.43                                                                               | -               | -        | -                                                                                   | -               | -        |
| Total   |                                      | -                                                                                   | -               | -        | 51.35                                                                               | -               | -        | -                                                                                   | -               | -        |



Product Service

Maximum Output Power 49.0dBm per port

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR)                                        |                    |             |                                                                                       |                    |             |                                                                                        |                    |             |
|---------|-----------------------------------------------|---------------------------------------------------------------------------------------|--------------------|-------------|---------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                               | Channel Position B <sub>RFBW</sub><br>1935.0MHz +1945.0MHz +<br>1955.0MHz + 1965.0MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1945.0MHz +1955.0MHz +<br>1965.0MHz + 1975.0MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1955.0MHz + 1965.0MHz +<br>1975.0MHz + 1985.0MHz |                    |             |
|         |                                               | Power<br>(dBm)                                                                        | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                        | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | QPSK /<br>10.0 MHz                            | 48.65                                                                                 | -                  | -           | 48.77                                                                                 | -                  | -           | 48.86                                                                                  | -                  | -           |
| B       |                                               | 48.96                                                                                 | -                  | -           | 48.97                                                                                 | -                  | -           | 48.91                                                                                  | -                  | -           |
| Total   |                                               | 51.82                                                                                 | -                  | -           | 51.88                                                                                 | -                  | -           | 51.90                                                                                  | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR)                                        |                    |             |                                                                                       |                    |             |                                                                                        |                    |             |
|---------|-----------------------------------------------|---------------------------------------------------------------------------------------|--------------------|-------------|---------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                               | Channel Position B <sub>RFBW</sub><br>1935.0MHz +1945.0MHz +<br>1955.0MHz + 1965.0MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1945.0MHz +1955.0MHz +<br>1965.0MHz + 1975.0MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1955.0MHz + 1965.0MHz +<br>1975.0MHz + 1985.0MHz |                    |             |
|         |                                               | Power<br>(dBm)                                                                        | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                        | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 16QAM /<br>10.0 MHz                           | -                                                                                     | -                  | -           | 48.78                                                                                 | -                  | -           | -                                                                                      | -                  | -           |
| B       |                                               | -                                                                                     | -                  | -           | 48.96                                                                                 | -                  | -           | -                                                                                      | -                  | -           |
| Total   |                                               | -                                                                                     | -                  | -           | 51.88                                                                                 | -                  | -           | -                                                                                      | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR)                                        |                    |             |                                                                                       |                    |             |                                                                                        |                    |             |
|---------|-----------------------------------------------|---------------------------------------------------------------------------------------|--------------------|-------------|---------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                               | Channel Position B <sub>RFBW</sub><br>1935.0MHz +1945.0MHz +<br>1955.0MHz + 1965.0MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1945.0MHz +1955.0MHz +<br>1965.0MHz + 1975.0MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1955.0MHz + 1965.0MHz +<br>1975.0MHz + 1985.0MHz |                    |             |
|         |                                               | Power<br>(dBm)                                                                        | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                        | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 64QAM /<br>10.0 MHz                           | -                                                                                     | -                  | -           | 48.80                                                                                 | -                  | -           | -                                                                                      | -                  | -           |
| B       |                                               | -                                                                                     | -                  | -           | 48.98                                                                                 | -                  | -           | -                                                                                      | -                  | -           |
| Total   |                                               | -                                                                                     | -                  | -           | 51.90                                                                                 | -                  | -           | -                                                                                      | -                  | -           |

| Antenna | Modulation /<br>Carrier<br>Bandwidth<br>(MHz) | RMS Output Power / Peak to Average Ratio (PAR)                                        |                    |             |                                                                                       |                    |             |                                                                                        |                    |             |
|---------|-----------------------------------------------|---------------------------------------------------------------------------------------|--------------------|-------------|---------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                               | Channel Position B <sub>RFBW</sub><br>1935.0MHz +1945.0MHz +<br>1955.0MHz + 1965.0MHz |                    |             | Channel Position M <sub>RFBW</sub><br>1945.0MHz +1955.0MHz +<br>1965.0MHz + 1975.0MHz |                    |             | Channel Position T <sub>RFBW</sub><br>1955.0MHz + 1965.0MHz +<br>1975.0MHz + 1985.0MHz |                    |             |
|         |                                               | Power<br>(dBm)                                                                        | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                        | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 256QAM /<br>10.0 MHz                          | -                                                                                     | -                  | -           | 48.82                                                                                 | -                  | -           | -                                                                                      | -                  | -           |
| B       |                                               | -                                                                                     | -                  | -           | 48.99                                                                                 | -                  | -           | -                                                                                      | -                  | -           |
| Total   |                                               | -                                                                                     | -                  | -           | 51.92                                                                                 | -                  | -           | -                                                                                      | -                  | -           |



Product Service

#### Configuration G+W-MC 1 (1G+1W)

Maximum Output Power 49.0dBm per port

| Antenna | GSM Modulation / WCDMA Modulation Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                      |                 |          |                                                                     |                 |          |                                                                     |                 |          |
|---------|---------------------------------------------|---------------------------------------------------------------------|-----------------|----------|---------------------------------------------------------------------|-----------------|----------|---------------------------------------------------------------------|-----------------|----------|
|         |                                             | Channel Position B <sub>RFBW</sub><br>(G) 1930.4MHz + (W) 1967.6MHz |                 |          | Channel Position M <sub>RFBW</sub><br>(G) 1940.2MHz + (W) 1977.6MHz |                 |          | Channel Position T <sub>RFBW</sub><br>(G) 1950.2MHz + (W) 1987.6MHz |                 |          |
|         |                                             | Power (dBm)                                                         | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                         | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                         | Power (dBm/MHz) | PAR (dB) |
| A       | GMSK / QPSK 5.0MHz                          | 48.17                                                               | -               | -        | 48.16                                                               | -               | -        | 48.13                                                               | -               | -        |

#### Configuration G+W-MC 2 (4G+2W)

Maximum Output Power 49.0dBm per port

| Antenna | GSM Modulation / WCDMA Modulation Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                                                                      |                 |          |                                                                                                                                     |                 |          |                                                                                                                                     |                 |          |
|---------|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------|
|         |                                             | Channel Position B <sub>RFBW</sub><br>(G) 1930.4MHz + (G) 1932.2MHz + (G) 1934.0MHz + (G) 1935.8MHz + (W) 1962.6MHz + (W) 1967.6MHz |                 |          | Channel Position M <sub>RFBW</sub><br>(G) 1940.2MHz + (G) 1942.0MHz + (G) 1943.8MHz + (G) 1945.8MHz + (W) 1972.6MHz + (W) 1977.6MHz |                 |          | Channel Position T <sub>RFBW</sub><br>(G) 1950.2MHz + (G) 1952.0MHz + (G) 1953.8MHz + (G) 1955.8MHz + (W) 1982.6MHz + (W) 1987.6MHz |                 |          |
|         |                                             | Power (dBm)                                                                                                                         | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                                                                                         | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                                                                                         | Power (dBm/MHz) | PAR (dB) |
| A       | GMSK / QPSK 5.0MHz                          | 47.42                                                                                                                               | -               | -        | 47.66                                                                                                                               | -               | -        | 47.76                                                                                                                               | -               | -        |

#### Configuration G+W-MIMO-MC 1 (1G+1W)

Maximum Output Power 48.5dBm per port

| Antenna | GSM Modulation / WCDMA Modulation Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                      |                 |          |                                                                     |                 |          |                                                                     |                 |          |
|---------|---------------------------------------------|---------------------------------------------------------------------|-----------------|----------|---------------------------------------------------------------------|-----------------|----------|---------------------------------------------------------------------|-----------------|----------|
|         |                                             | Channel Position B <sub>RFBW</sub><br>(G) 1930.4MHz + (W) 1967.6MHz |                 |          | Channel Position M <sub>RFBW</sub><br>(G) 1940.2MHz + (W) 1977.6MHz |                 |          | Channel Position T <sub>RFBW</sub><br>(G) 1950.2MHz + (W) 1987.6MHz |                 |          |
|         |                                             | Power (dBm)                                                         | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                         | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                         | Power (dBm/MHz) | PAR (dB) |
| A       | GMSK / 16QAM 5.0MHz                         | 48.26                                                               | -               | -        | 48.33                                                               | -               | -        | 48.22                                                               | -               | -        |

#### Configuration G+W-MIMO-MC 2 (4G+2W)

Maximum Output Power 49.0dBm per port

| Antenna | GSM Modulation / WCDMA Modulation Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                                                                      |                 |          |                                                                                                                                     |                 |          |                                                                                                                                     |                 |          |
|---------|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------|
|         |                                             | Channel Position B <sub>RFBW</sub><br>(G) 1930.4MHz + (G) 1932.2MHz + (G) 1934.0MHz + (G) 1935.8MHz + (W) 1962.6MHz + (W) 1967.6MHz |                 |          | Channel Position M <sub>RFBW</sub><br>(G) 1940.2MHz + (G) 1942.0MHz + (G) 1943.8MHz + (G) 1945.8MHz + (W) 1972.6MHz + (W) 1977.6MHz |                 |          | Channel Position T <sub>RFBW</sub><br>(G) 1950.2MHz + (G) 1952.0MHz + (G) 1953.8MHz + (G) 1955.8MHz + (W) 1982.6MHz + (W) 1987.6MHz |                 |          |
|         |                                             | Power (dBm)                                                                                                                         | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                                                                                         | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                                                                                         | Power (dBm/MHz) | PAR (dB) |
| A       | GMSK / 16QAM 5.0MHz                         | 47.43                                                                                                                               | -               | -        | 47.69                                                                                                                               | -               | -        | 47.89                                                                                                                               | -               | -        |



Product Service

Configuration G+L-MIMO-MC 1 (1G+1L)

Maximum Output Power 46.0dBm per port

| Antenna | GSM<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                         |                    |             |                                                                        |                    |             |                                                                        |                    |             |
|---------|-------------------------------------------------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|
|         |                                                       | Channel Position B <sub>RFBW</sub><br>(G) 1930.4MHz + (L)<br>1949.3MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(G) 1950.2MHz + (L)<br>1969.3MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(G) 1970.2MHz + (L)<br>1989.3MHz |                    |             |
|         |                                                       | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | GMSK /<br>QPSK<br>1.4MHz                              | 45.6                                                                   | -                  | -           | 45.66                                                                  | -                  | -           | 45.6                                                                   | -                  | -           |

| Antenna | GSM<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                         |                    |             |                                                                        |                    |             |                                                                        |                    |             |
|---------|-------------------------------------------------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|
|         |                                                       | Channel Position B <sub>RFBW</sub><br>(G) 1930.4MHz + (L)<br>1948.5MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(G) 1950.2MHz + (L)<br>1968.5MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(G) 1970.2MHz + (L)<br>1988.5MHz |                    |             |
|         |                                                       | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | GMSK /<br>QPSK<br>3.0MHz                              | 45.46                                                                  | -                  | -           | 45.58                                                                  | -                  | -           | 45.60                                                                  | -                  | -           |

Maximum Output Power 49.0dBm per port

| Antenna | GSM<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                         |                    |             |                                                                        |                    |             |                                                                        |                    |             |
|---------|-------------------------------------------------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|
|         |                                                       | Channel Position B <sub>RFBW</sub><br>(G) 1930.4MHz + (L)<br>1967.5MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(G) 1940.2MHz + (L)<br>1977.5MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(G) 1950.2MHz + (L)<br>1987.5MHz |                    |             |
|         |                                                       | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | GMSK /<br>QPSK<br>5.0MHz                              | 48.06                                                                  | -                  | -           | 48.27                                                                  | -                  | -           | 48.21                                                                  | -                  | -           |

| Antenna | GSM<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                         |                    |             |                                                                        |                    |             |                                                                        |                    |             |
|---------|-------------------------------------------------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|
|         |                                                       | Channel Position B <sub>RFBW</sub><br>(G) 1930.4MHz + (L)<br>1965.0MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(G) 1940.2MHz + (L)<br>1975.0MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(G) 1950.2MHz + (L)<br>1985.0MHz |                    |             |
|         |                                                       | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | GMSK /<br>QPSK<br>10.0MHz                             | 47.96                                                                  | -                  | -           | 48.12                                                                  | -                  | -           | 48.13                                                                  | -                  | -           |

| Antenna | GSM<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                         |                    |             |                                                                        |                    |             |                                                                        |                    |             |
|---------|-------------------------------------------------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|
|         |                                                       | Channel Position B <sub>RFBW</sub><br>(G) 1930.4MHz + (L)<br>1962.5MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(G) 1940.2MHz + (L)<br>1972.5MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(G) 1950.2MHz + (L)<br>1982.5MHz |                    |             |
|         |                                                       | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | GMSK /<br>QPSK<br>15.0MHz                             | 48.04                                                                  | -                  | -           | 48.24                                                                  | -                  | -           | 48.19                                                                  | -                  | -           |



Product Service

| Antenna | GSM<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                         |                    |             |                                                                        |                    |             |                                                                        |                    |             |
|---------|-------------------------------------------------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|
|         |                                                       | Channel Position B <sub>RFBW</sub><br>(G) 1930.4MHz + (L)<br>1960.0MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(G) 1940.2MHz + (L)<br>1970.0MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(G) 1950.2MHz + (L)<br>1980.0MHz |                    |             |
|         |                                                       | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | GMSK /<br>QPSK<br>20.0MHz                             | 48.19                                                                  | -                  | -           | 48.39                                                                  | -                  | -           | 48.45                                                                  | -                  | -           |

Configuration G+L-MIMO-MC 2 (4G+2L)

Maximum Output Power 49.0dBm per port

| Antenna | GSM<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                                                                                     |                    |             |                                                                                                                                                    |                    |             |                                                                                                                                                    |                    |             |
|---------|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                                       | Channel Position B <sub>RFBW</sub><br>(G) 1930.4MHz + (G)<br>1931.0MHz + (L)<br>1939.3MHz + (L)<br>1940.7MHz + (G)<br>1949.4MHz + (G)<br>1950.0MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(G) 1950.2MHz + (G)<br>1950.8MHz + (L)<br>1959.3MHz + (L)<br>1960.7MHz + (G)<br>1969.2MHz + (G)<br>1969.8MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(G) 1970.2MHz + (G)<br>1970.8MHz + (L)<br>1979.3MHz + (L)<br>1980.7MHz + (G)<br>1989.0MHz + (G)<br>1989.6MHz |                    |             |
|         |                                                       | Power<br>(dBm)                                                                                                                                     | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                                                                     | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                                                                     | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | GMSK /<br>QPSK<br>1.4MHz                              | 47.07                                                                                                                                              | -                  | -           | 47.40                                                                                                                                              | -                  | -           | 47.29                                                                                                                                              | -                  | -           |

| Antenna | GSM<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                                                                                     |                    |             |                                                                                                                                                    |                    |             |                                                                                                                                                    |                    |             |
|---------|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                                       | Channel Position B <sub>RFBW</sub><br>(G) 1930.4MHz + (G)<br>1931.0MHz + (L)<br>1938.5MHz + (L)<br>1941.5MHz + (G)<br>1949.4MHz + (G)<br>1950.0MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(G) 1950.2MHz + (G)<br>1950.8MHz + (L)<br>1958.5MHz + (L)<br>1961.5MHz + (G)<br>1969.2MHz + (G)<br>1969.8MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(G) 1970.2MHz + (G)<br>1970.8MHz + (L)<br>1978.5MHz + (L)<br>1981.5MHz + (G)<br>1989.0MHz + (G)<br>1989.6MHz |                    |             |
|         |                                                       | Power<br>(dBm)                                                                                                                                     | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                                                                     | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                                                                     | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | GMSK /<br>QPSK<br>3.0MHz                              | 47.09                                                                                                                                              | -                  | -           | 47.41                                                                                                                                              | -                  | -           | 47.26                                                                                                                                              | -                  | -           |

| Antenna | GSM<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                                                                                     |                    |             |                                                                                                                                                    |                    |             |                                                                                                                                                    |                    |             |
|---------|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                                       | Channel Position B <sub>RFBW</sub><br>(G) 1930.4MHz + (G)<br>1932.2MHz + (G)<br>1934.0MHz + (G)<br>1935.8MHz + (L)<br>1962.5MHz + (L)<br>1967.5MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(G) 1940.2MHz + (G)<br>1942.0MHz + (G)<br>1943.8MHz + (G)<br>1945.8MHz + (L)<br>1972.5MHz + (L)<br>1977.5MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(G) 1950.2MHz + (G)<br>1952.2MHz + (G)<br>1953.8MHz + (G)<br>1955.8MHz + (L)<br>1982.5MHz + (L)<br>1987.5MHz |                    |             |
|         |                                                       | Power<br>(dBm)                                                                                                                                     | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                                                                     | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                                                                     | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | GMSK /<br>QPSK<br>5.0MHz                              | 47.25                                                                                                                                              | -                  | -           | 47.49                                                                                                                                              | -                  | -           | 47.59                                                                                                                                              | -                  | -           |



Product Service

| Antenna | GSM<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                                                                                     |                    |             |                                                                                                                                                    |                    |             |                                                                                                                                                    |                    |             |
|---------|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                                       | Channel Position B <sub>RFBW</sub><br>(G) 1930.4MHz + (G)<br>1932.2MHz + (G)<br>1934.0MHz + (G)<br>1935.8MHz + (L)<br>1955.0MHz + (L)<br>1965.0MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(G) 1940.2MHz + (G)<br>1942.0MHz + (G)<br>1943.8MHz + (G)<br>1945.8MHz + (L)<br>1965.0MHz + (L)<br>1975.0MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(G) 1950.2MHz + (G)<br>1952.2MHz + (G)<br>1953.8MHz + (G)<br>1955.8MHz + (L)<br>1975.0MHz + (L)<br>1985.0MHz |                    |             |
|         |                                                       | Power<br>(dBm)                                                                                                                                     | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                                                                     | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                                                                     | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | GMSK /<br>QPSK<br>10.0MHz                             | 47.80                                                                                                                                              | -                  | -           | 48.07                                                                                                                                              | -                  | -           | 48.18                                                                                                                                              | -                  | -           |

| Antenna | GSM<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                                                                                     |                    |             |                                                                                                                                                    |                    |             |                                                                                                                                                    |                    |             |
|---------|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                                       | Channel Position B <sub>RFBW</sub><br>(G) 1930.4MHz + (G)<br>1932.2MHz + (G)<br>1934.0MHz + (G)<br>1935.8MHz + (L)<br>1947.5MHz + (L)<br>1962.5MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(G) 1940.2MHz + (G)<br>1942.0MHz + (G)<br>1943.8MHz + (G)<br>1945.8MHz + (L)<br>1957.5MHz + (L)<br>1972.5MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(G) 1950.2MHz + (G)<br>1952.2MHz + (G)<br>1953.8MHz + (G)<br>1955.8MHz + (L)<br>1967.5MHz + (L)<br>1982.5MHz |                    |             |
|         |                                                       | Power<br>(dBm)                                                                                                                                     | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                                                                     | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                                                                     | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | GMSK /<br>QPSK<br>15.0MHz                             | 47.99                                                                                                                                              | -                  | -           | 48.27                                                                                                                                              | -                  | -           | 48.39                                                                                                                                              | -                  | -           |

## Configuration G+L-MIMO-MC 3 (2G+2L)

Maximum Output Power 49.0dBm per port

| Antenna | GSM<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                                              |                    |             |                                                                                                             |                    |             |                                                                                                            |                    |             |
|---------|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                                       | Channel Position B <sub>RFBW</sub><br>(G) 1930.4MHz+ (L)<br>1939.3MHz + (L)<br>1940.7MHz + (G)<br>1950.0MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(G) 1950.2MHz + (L)<br>1959.3MHz + (L)<br>1960.7MHz+ (G)<br>1969.8MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(G) 1970.2MHz+ (L)<br>1979.3MHz + (L)<br>1980.7MHz+ (G)<br>1989.6MHz |                    |             |
|         |                                                       | Power<br>(dBm)                                                                                              | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                              | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                             | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | GMSK /<br>QPSK<br>1.4MHz                              | 47.03                                                                                                       | -                  | -           | 47.36                                                                                                       | -                  | -           | 47.27                                                                                                      | -                  | -           |

| Antenna | GSM<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                                             |                    |             |                                                                                                            |                    |             |                                                                                                              |                    |             |
|---------|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------------------------------------------|--------------------|-------------|--------------------------------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                                       | Channel Position B <sub>RFBW</sub><br>(G) 1930.4MHz+ (L)<br>1938.5MHz + (L)<br>1941.5MHz+ (G)<br>1950.0MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(G) 1950.2MHz+ (L)<br>1958.5MHz + (L)<br>1961.5MHz+ (G)<br>1969.8MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(G) 1970.2MHz + (L)<br>1978.5MHz + (L)<br>1981.5MHz + (G)<br>1989.6MHz |                    |             |
|         |                                                       | Power<br>(dBm)                                                                                             | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                             | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                               | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | GMSK /<br>QPSK<br>3.0MHz                              | 47.07                                                                                                      | -                  | -           | 47.51                                                                                                      | -                  | -           | 47.41                                                                                                        | -                  | -           |

| Antenna | GSM<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                                               |                    |             |                                                                                                              |                    |             |                                                                                                              |                    |             |
|---------|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|--------------------|-------------|--------------------------------------------------------------------------------------------------------------|--------------------|-------------|--------------------------------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                                       | Channel Position B <sub>RFBW</sub><br>(G) 1930.4MHz + (G)<br>1935.8MHz + (L)<br>1962.5MHz + (L)<br>1967.5MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(G) 1940.2MHz + (G)<br>1945.8MHz + (L)<br>1972.5MHz + (L)<br>1977.5MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(G) 1950.2MHz + (G)<br>1955.8MHz + (L)<br>1982.5MHz + (L)<br>1987.5MHz |                    |             |
|         |                                                       | Power<br>(dBm)                                                                                               | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                               | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                               | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | GMSK /<br>QPSK<br>5.0MHz                              | 47.33                                                                                                        | -                  | -           | 47.55                                                                                                        | -                  | -           | 47.53                                                                                                        | -                  | -           |

| Antenna | GSM<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                                               |                    |             |                                                                                                              |                    |             |                                                                                                              |                    |             |
|---------|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|--------------------|-------------|--------------------------------------------------------------------------------------------------------------|--------------------|-------------|--------------------------------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                                       | Channel Position B <sub>RFBW</sub><br>(G) 1930.4MHz + (G)<br>1935.8MHz + (L)<br>1955.0MHz + (L)<br>1965.0MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(G) 1940.2MHz + (G)<br>1945.8MHz + (L)<br>1965.0MHz + (L)<br>1975.0MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(G) 1950.2MHz + (G)<br>1955.8MHz + (L)<br>1975.0MHz + (L)<br>1985.0MHz |                    |             |
|         |                                                       | Power<br>(dBm)                                                                                               | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                               | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                               | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | GMSK /<br>QPSK<br>10.0MHz                             | 48.10                                                                                                        | -                  | -           | 48.35                                                                                                        | -                  | -           | 48.44                                                                                                        | -                  | -           |

| Antenna | GSM<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                                               |                    |             |                                                                                                              |                    |             |                                                                                                              |                    |             |
|---------|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|--------------------|-------------|--------------------------------------------------------------------------------------------------------------|--------------------|-------------|--------------------------------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                                       | Channel Position B <sub>RFBW</sub><br>(G) 1930.4MHz + (G)<br>1935.8MHz + (L)<br>1947.5MHz + (L)<br>1962.5MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(G) 1940.2MHz + (G)<br>1945.8MHz + (L)<br>1957.5MHz + (L)<br>1972.5MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(G) 1950.2MHz + (G)<br>1955.8MHz + (L)<br>1967.5MHz + (L)<br>1982.5MHz |                    |             |
|         |                                                       | Power<br>(dBm)                                                                                               | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                               | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                               | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | GMSK /<br>QPSK<br>15.0MHz                             | 48.13                                                                                                        | -                  | -           | 48.28                                                                                                        | -                  | -           | 48.39                                                                                                        | -                  | -           |



Product Service

Configuration G+L-MIMO-MC 4 (2G+1L)

Maximum Output Power 47.8dBm per port

| Antenna | GSM Modulation / LTE Modulation Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                            |                 |          |                                                                                           |                 |          |                                                                                           |                 |          |
|---------|-------------------------------------------|-------------------------------------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------------------------------------|-----------------|----------|
|         |                                           | Channel Position B <sub>RFBW</sub><br>(G) 1930.4MHz + (G)<br>1935.8MHz + (L)<br>1949.3MHz |                 |          | Channel Position M <sub>RFBW</sub><br>(G) 1950.2MHz + (G)<br>1955.8MHz + (L)<br>1969.3MHz |                 |          | Channel Position T <sub>RFBW</sub><br>(G) 1970.2MHz + (G)<br>1975.8MHz + (L)<br>1989.3MHz |                 |          |
|         |                                           | Power (dBm)                                                                               | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                                               | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                                               | Power (dBm/MHz) | PAR (dB) |
| A       | GMSK / QPSK 1.4MHz                        | 46.73                                                                                     | -               | -        | 47.02                                                                                     | -               | -        | 46.93                                                                                     | -               | -        |

| Antenna | GSM Modulation / LTE Modulation Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                            |                 |          |                                                                                           |                 |          |                                                                                           |                 |          |
|---------|-------------------------------------------|-------------------------------------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------------------------------------|-----------------|----------|
|         |                                           | Channel Position B <sub>RFBW</sub><br>(G) 1930.4MHz + (G)<br>1935.8MHz + (L)<br>1948.5MHz |                 |          | Channel Position M <sub>RFBW</sub><br>(G) 1950.2MHz + (G)<br>1955.8MHz + (L)<br>1968.5MHz |                 |          | Channel Position T <sub>RFBW</sub><br>(G) 1970.2MHz + (G)<br>1975.8MHz + (L)<br>1988.5MHz |                 |          |
|         |                                           | Power (dBm)                                                                               | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                                               | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                                               | Power (dBm/MHz) | PAR (dB) |
| A       | GMSK / QPSK 3.0MHz                        | 47.66                                                                                     | -               | -        | 47.01                                                                                     | -               | -        | 46.91                                                                                     | -               | -        |

Maximum Output Power 49.0dBm per port

| Antenna | GSM Modulation / LTE Modulation Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                            |                 |          |                                                                                           |                 |          |                                                                                           |                 |          |
|---------|-------------------------------------------|-------------------------------------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------------------------------------|-----------------|----------|
|         |                                           | Channel Position B <sub>RFBW</sub><br>(G) 1930.4MHz + (G)<br>1935.8MHz + (L)<br>1967.5MHz |                 |          | Channel Position M <sub>RFBW</sub><br>(G) 1940.2MHz + (G)<br>1945.8MHz + (L)<br>1977.5MHz |                 |          | Channel Position T <sub>RFBW</sub><br>(G) 1950.2MHz + (G)<br>1955.8MHz + (L)<br>1987.5MHz |                 |          |
|         |                                           | Power (dBm)                                                                               | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                                               | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                                               | Power (dBm/MHz) | PAR (dB) |
| A       | GMSK / QPSK 5.0MHz                        | 47.22                                                                                     | -               | -        | 47.43                                                                                     | -               | -        | 47.47                                                                                     | -               | -        |

| Antenna | GSM Modulation / LTE Modulation Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                            |                 |          |                                                                                           |                 |          |                                                                                           |                 |          |
|---------|-------------------------------------------|-------------------------------------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------------------------------------|-----------------|----------|
|         |                                           | Channel Position B <sub>RFBW</sub><br>(G) 1930.4MHz + (G)<br>1935.8MHz + (L)<br>1965.0MHz |                 |          | Channel Position M <sub>RFBW</sub><br>(G) 1940.2MHz + (G)<br>1945.8MHz + (L)<br>1975.0MHz |                 |          | Channel Position T <sub>RFBW</sub><br>(G) 1950.2MHz + (G)<br>1955.8MHz + (L)<br>1985.0MHz |                 |          |
|         |                                           | Power (dBm)                                                                               | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                                               | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                                               | Power (dBm/MHz) | PAR (dB) |
| A       | GMSK / QPSK 10.0MHz                       | 47.67                                                                                     | -               | -        | 47.98                                                                                     | -               | -        | 47.95                                                                                     | -               | -        |

| Antenna | GSM Modulation / LTE Modulation Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                            |                 |          |                                                                                           |                 |          |                                                                                           |                 |          |
|---------|-------------------------------------------|-------------------------------------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------------------------------------|-----------------|----------|-------------------------------------------------------------------------------------------|-----------------|----------|
|         |                                           | Channel Position B <sub>RFBW</sub><br>(G) 1930.4MHz + (G)<br>1935.8MHz + (L)<br>1962.5MHz |                 |          | Channel Position M <sub>RFBW</sub><br>(G) 1940.2MHz + (G)<br>1945.8MHz + (L)<br>1972.5MHz |                 |          | Channel Position T <sub>RFBW</sub><br>(G) 1950.2MHz + (G)<br>1955.8MHz + (L)<br>1982.5MHz |                 |          |
|         |                                           | Power (dBm)                                                                               | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                                               | Power (dBm/MHz) | PAR (dB) | Power (dBm)                                                                               | Power (dBm/MHz) | PAR (dB) |
| A       | GMSK / QPSK 15.0MHz                       | 47.96                                                                                     | -               | -        | 48.19                                                                                     | -               | -        | 48.27                                                                                     | -               | -        |



Product Service

| Antenna | GSM<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                            |                    |             |                                                                                           |                    |             |                                                                                           |                    |             |
|---------|-------------------------------------------------------|-------------------------------------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                                       | Channel Position B <sub>RFBW</sub><br>(G) 1930.4MHz + (G)<br>1935.8MHz + (L)<br>1960.0MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(G) 1940.2MHz + (G)<br>1945.8MHz + (L)<br>1970.0MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(G) 1950.2MHz + (G)<br>1955.8MHz + (L)<br>1980.0MHz |                    |             |
|         |                                                       | Power<br>(dBm)                                                                            | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                            | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                            | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | GMSK /<br>QPSK<br>20.0MHz                             | 48.08                                                                                     | -                  | -           | 48.32                                                                                     | -                  | -           | 48.39                                                                                     | -                  | -           |

Configuration G+L-MIMO-MC 5 (4G+1L)

Maximum Output Power 49.0dBm per port

| Antenna | GSM<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                                                                  |                    |             |                                                                                                                                 |                    |             |                                                                                                                                 |                    |             |
|---------|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|---------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|---------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                                       | Channel Position B <sub>RFBW</sub><br>(G) 1930.4MHz + (G)<br>1932.2MHz + (G)<br>1934.0MHz + (G)<br>1935.8MHz + (L)<br>1960.0MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(G) 1940.2MHz + (G)<br>1942.0MHz + (G)<br>1943.8MHz + (G)<br>1945.8MHz + (L)<br>1970.0MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(G) 1950.2MHz + (G)<br>1952.2MHz + (G)<br>1953.8MHz + (G)<br>1955.8MHz + (L)<br>1980.0MHz |                    |             |
|         |                                                       | Power<br>(dBm)                                                                                                                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                                                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                                                  | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | GMSK /<br>QPSK<br>20.0MHz                             | 47.51                                                                                                                           | -                  | -           | 47.81                                                                                                                           | -                  | -           | 47.91                                                                                                                           | -                  | -           |



Product Service

# Configuration W+L-MC 1 (1W+1L)

Maximum Output Power 49.0dBm per port

| Antenna | WCDMA<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                         |                    |             |                                                                        |                    |             |                                                                        |                    |             |
|---------|---------------------------------------------------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|
|         |                                                         | Channel Position B <sub>RFBW</sub><br>(W) 1932.4MHz + (L)<br>1969.3MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(W) 1942.4MHz + (L)<br>1979.3MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(W) 1952.4MHz + (L)<br>1989.3MHz |                    |             |
|         |                                                         | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | QPSK / QPSK<br>1.4 MHz                                  | 47.72                                                                  | -                  | -           | 48.01                                                                  | -                  | -           | 48.07                                                                  | -                  | -           |

| Antenna | WCDMA<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                         |                    |             |                                                                        |                    |             |                                                                        |                    |             |
|---------|---------------------------------------------------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|
|         |                                                         | Channel Position B <sub>RFBW</sub><br>(W) 1932.4MHz + (L)<br>1968.5MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(W) 1942.4MHz + (L)<br>1978.5MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(W) 1952.4MHz + (L)<br>1988.5MHz |                    |             |
|         |                                                         | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | QPSK / QPSK<br>3.0 MHz                                  | 47.74                                                                  | -                  | -           | 48.05                                                                  | -                  | -           | 48.05                                                                  | -                  | -           |

| Antenna | WCDMA<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                         |                    |             |                                                                        |                    |             |                                                                        |                    |             |
|---------|---------------------------------------------------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|
|         |                                                         | Channel Position B <sub>RFBW</sub><br>(W) 1932.4MHz + (L)<br>1967.5MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(W) 1942.4MHz + (L)<br>1977.5MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(W) 1952.4MHz + (L)<br>1987.5MHz |                    |             |
|         |                                                         | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | QPSK / QPSK<br>5.0 MHz                                  | 47.90                                                                  | -                  | -           | 48.13                                                                  | -                  | -           | 48.17                                                                  | -                  | -           |

| Antenna | WCDMA<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                         |                    |             |                                                                        |                    |             |                                                                        |                    |             |
|---------|---------------------------------------------------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|
|         |                                                         | Channel Position B <sub>RFBW</sub><br>(W) 1932.4MHz + (L)<br>1965.0MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(W) 1942.4MHz + (L)<br>1975.0MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(W) 1952.4MHz + (L)<br>1985.0MHz |                    |             |
|         |                                                         | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | QPSK / QPSK<br>10.0 MHz                                 | 47.86                                                                  | -                  | -           | 48.09                                                                  | -                  | -           | 48.11                                                                  | -                  | -           |

| Antenna | WCDMA<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                         |                    |             |                                                                        |                    |             |                                                                        |                    |             |
|---------|---------------------------------------------------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|
|         |                                                         | Channel Position B <sub>RFBW</sub><br>(W) 1932.4MHz + (L)<br>1962.5MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(W) 1942.4MHz + (L)<br>1972.5MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(W) 1952.4MHz + (L)<br>1982.5MHz |                    |             |
|         |                                                         | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | QPSK / QPSK<br>15.0 MHz                                 | 47.83                                                                  | -                  | -           | 48.07                                                                  | -                  | -           | 48.16                                                                  | -                  | -           |

| Antenna | WCDMA<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                         |                    |             |                                                                        |                    |             |                                                                        |                    |             |
|---------|---------------------------------------------------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|
|         |                                                         | Channel Position B <sub>RFBW</sub><br>(W) 1932.4MHz + (L)<br>1960.0MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(W) 1942.4MHz + (L)<br>1970.0MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(W) 1952.4MHz + (L)<br>1980.0MHz |                    |             |
|         |                                                         | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | QPSK / QPSK<br>20.0 MHz                                 | 47.86                                                                  | -                  | -           | 48.05                                                                  | -                  | -           | 48.08                                                                  | -                  | -           |



Product Service

### Configuration W+L-MC 2 (3W+3L)

Maximum Output Power 49.0dBm per port

| Antenna | WCDMA<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                                                                                    |                    |             |                                                                                                                                                    |                    |             |                                                                                                                                                    |                    |             |
|---------|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                                         | Channel Position B <sub>RFBW</sub><br>(W) 1932.4MHz + (W)<br>1937.4MHz +(W)<br>1942.4MHz + (L)<br>1966.5MHz + (L)<br>1967.9MHz + (L)<br>1969.3MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(W) 1942.4MHz + (W)<br>1947.4MHz + (W)<br>1952.4MHz + (L)<br>1976.5MHz + (L)<br>1977.9MHz + (L)<br>1979.3MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(W) 1952.4MHz + (W)<br>1957.4MHz + (W)<br>1962.4MHz + (L)<br>1986.5MHz + (L)<br>1987.9MHz + (L)<br>1989.3MHz |                    |             |
|         |                                                         | Power<br>(dBm)                                                                                                                                    | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                                                                     | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                                                                     | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | QPSK / QPSK<br>1.4 MHz                                  | 48.10                                                                                                                                             | -                  | -           | 48.23                                                                                                                                              | -                  | -           | 48.16                                                                                                                                              | -                  | -           |

| Antenna | WCDMA<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                                                                                    |                    |             |                                                                                                                                                    |                    |             |                                                                                                                                                    |                    |             |
|---------|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                                         | Channel Position B <sub>RFBW</sub><br>(W) 1932.4MHz + (W)<br>1937.4MHz +(W)<br>1942.4MHz + (L)<br>1962.5MHz + (L)<br>1965.5MHz + (L)<br>1968.5MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(W) 1942.4MHz + (W)<br>1947.4MHz + (W)<br>1952.4MHz + (L)<br>1972.5MHz + (L)<br>1975.5MHz + (L)<br>1978.5MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(W) 1952.4MHz + (W)<br>1957.4MHz + (W)<br>1962.4MHz + (L)<br>1982.5MHz + (L)<br>1985.5MHz + (L)<br>1988.5MHz |                    |             |
|         |                                                         | Power<br>(dBm)                                                                                                                                    | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                                                                     | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                                                                     | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | QPSK / QPSK<br>3.0 MHz                                  | 48.02                                                                                                                                             | -                  | -           | 48.16                                                                                                                                              | -                  | -           | 48.21                                                                                                                                              | -                  | -           |

| Antenna | WCDMA<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                                                                                    |                    |             |                                                                                                                                                    |                    |             |                                                                                                                                                    |                    |             |
|---------|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                                         | Channel Position B <sub>RFBW</sub><br>(W) 1932.4MHz + (W)<br>1937.4MHz +(W)<br>1942.4MHz + (L)<br>1957.5MHz + (L)<br>1962.5MHz + (L)<br>1967.5MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(W) 1942.4MHz + (W)<br>1947.4MHz + (W)<br>1952.4MHz + (L)<br>1967.5MHz + (L)<br>1972.5MHz + (L)<br>1977.5MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(W) 1952.4MHz + (W)<br>1957.4MHz + (W)<br>1962.4MHz + (L)<br>1977.5MHz + (L)<br>1982.5MHz + (L)<br>1987.5MHz |                    |             |
|         |                                                         | Power<br>(dBm)                                                                                                                                    | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                                                                     | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                                                                     | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | QPSK / QPSK<br>5.0 MHz                                  | 48.14                                                                                                                                             | -                  | -           | 48.27                                                                                                                                              | -                  | -           | 48.34                                                                                                                                              | -                  | -           |

### Configuration W+L-MC 3 (3W+2L)

Maximum Output Power 49.0dBm per port

| Antenna | WCDMA<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                                                                 |                    |             |                                                                                                                                 |                    |             |                                                                                                                                 |                    |             |
|---------|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|---------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|---------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                                         | Channel Position B <sub>RFBW</sub><br>(W) 1932.4MHz + (W)<br>1937.4MHz +(W)<br>1942.4MHz + (L)<br>1955.0MHz + (L)<br>1965.0MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(W) 1942.4MHz + (W)<br>1947.4MHz + (W)<br>1952.4MHz + (L)<br>1965.0MHz + (L)<br>1975.0MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(W) 1952.4MHz + (W)<br>1957.4MHz + (W)<br>1962.4MHz + (L)<br>1975.0MHz + (L)<br>1985.0MHz |                    |             |
|         |                                                         | Power<br>(dBm)                                                                                                                 | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                                                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                                                  | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | QPSK / QPSK<br>10.0 MHz                                 | 48.11                                                                                                                          | -                  | -           | 48.31                                                                                                                           | -                  | -           | 48.38                                                                                                                           | -                  | -           |

Configuration W+L-MC 4 (2W+2L)

Maximum Output Power 49.0dBm per port

| Antenna | WCDMA<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                                            |                    |             |                                                                                                           |                    |             |                                                                                                           |                    |             |
|---------|---------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------|-------------|-----------------------------------------------------------------------------------------------------------|--------------------|-------------|-----------------------------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                                         | Channel Position B <sub>RFBW</sub><br>(W) 1932.4MHz +(W)<br>1937.4MHz +(L)<br>1947.5MHz +(L)<br>1962.5MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(W) 1942.4MHz +<br>(W)1947.4MHz +(L)<br>1957.5MHz +(L)<br>1972.5MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(W) 1952.4MHz +(W)<br>1957.4MHz +(L)<br>1967.5MHz +(L)<br>1982.5MHz |                    |             |
|         |                                                         | Power<br>(dBm)                                                                                            | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                            | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                            | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | QPSK / QPSK<br>15.0 MHz                                 | 47.98                                                                                                     | -                  | -           | 48.19                                                                                                     | -                  | -           | 48.29                                                                                                     | -                  | -           |

Configuration W+L-MC 5 (2W+1L)

Maximum Output Power 49.0dBm per port

| Antenna | WCDMA<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                          |                    |             |                                                                                         |                    |             |                                                                                         |                    |             |
|---------|---------------------------------------------------------|-----------------------------------------------------------------------------------------|--------------------|-------------|-----------------------------------------------------------------------------------------|--------------------|-------------|-----------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                                         | Channel Position B <sub>RFBW</sub><br>(W) 1932.4MHz +(W)<br>1937.4MHz +(L)<br>1960.0MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(W) 1942.4MHz +<br>(W)1947.4MHz +(L)<br>1970.0MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(W) 1952.4MHz +(W)<br>1957.4MHz +(L)<br>1980.0MHz |                    |             |
|         |                                                         | Power<br>(dBm)                                                                          | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                          | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                          | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | QPSK / QPSK<br>20.0 MHz                                 | 47.94                                                                                   | -                  | -           | 48.17                                                                                   | -                  | -           | 48.27                                                                                   | -                  | -           |

Configuration W+L-MIMO-MC 1 (1W+1L)

Maximum Output Power 48.5dBm per port

| Antenna | WCDMA<br>Modulation /<br>LTE Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                         |                    |             |                                                                        |                    |             |                                                                        |                    |             |
|---------|------------------------------------------------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|
|         |                                                      | Channel Position B <sub>RFBW</sub><br>(W) 1932.4MHz + (L)<br>1969.3MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(W) 1942.4MHz + (L)<br>1979.3MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(W) 1952.4MHz + (L)<br>1989.3MHz |                    |             |
|         |                                                      | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 16QAM / QPSK<br>1.4 MHz                              | 47.89                                                                  | -                  | -           | 48.15                                                                  | -                  | -           | 48.22                                                                  | -                  | -           |
| B       |                                                      | 48.08                                                                  | -                  | -           | 48.25                                                                  | -                  | -           | 48.22                                                                  | -                  | -           |
| Total   |                                                      | 51.00                                                                  | -                  | -           | 51.21                                                                  | -                  | -           | 51.23                                                                  | -                  | -           |

| Antenna | WCDMA<br>Modulation /<br>LTE Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                         |                    |             |                                                                        |                    |             |                                                                        |                    |             |
|---------|------------------------------------------------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|
|         |                                                      | Channel Position B <sub>RFBW</sub><br>(W) 1932.4MHz + (L)<br>1968.5MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(W) 1942.4MHz + (L)<br>1978.5MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(W) 1952.4MHz + (L)<br>1988.5MHz |                    |             |
|         |                                                      | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 16QAM / QPSK<br>3.0 MHz                              | 47.92                                                                  | -                  | -           | 48.21                                                                  | -                  | -           | 48.27                                                                  | -                  | -           |
| B       |                                                      | 48.12                                                                  | -                  | -           | 48.31                                                                  | -                  | -           | 48.29                                                                  | -                  | -           |
| Total   |                                                      | 51.03                                                                  | -                  | -           | 51.27                                                                  | -                  | -           | 51.29                                                                  | -                  | -           |

Maximum Output Power 49.0dBm per port

| Antenna | WCDMA<br>Modulation /<br>LTE Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                         |                    |             |                                                                        |                    |             |                                                                        |                    |             |
|---------|------------------------------------------------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|
|         |                                                      | Channel Position B <sub>RFBW</sub><br>(W) 1932.4MHz + (L)<br>1967.5MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(W) 1942.4MHz + (L)<br>1977.5MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(W) 1952.4MHz + (L)<br>1987.5MHz |                    |             |
|         |                                                      | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 16QAM / QPSK<br>5.0 MHz                              | 48.01                                                                  | -                  | -           | 48.24                                                                  | -                  | -           | 48.29                                                                  | -                  | -           |
| B       |                                                      | 48.17                                                                  | -                  | -           | 48.34                                                                  | -                  | -           | 48.28                                                                  | -                  | -           |
| Total   |                                                      | 51.10                                                                  | -                  | -           | 51.30                                                                  | -                  | -           | 51.30                                                                  | -                  | -           |

| Antenna | WCDMA<br>Modulation /<br>LTE Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                        |                    |             |                                                                        |                    |             |                                                                        |                    |             |
|---------|------------------------------------------------------|-----------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|
|         |                                                      | Channel Position B <sub>RFBW</sub><br>(W) 1932.4MHz +(L)<br>1965.0MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(W) 1942.4MHz + (L)<br>1975.0MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(W) 1952.4MHz + (L)<br>1985.0MHz |                    |             |
|         |                                                      | Power<br>(dBm)                                                        | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 16QAM / QPSK                                         | 47.93                                                                 | -                  | -           | 48.18                                                                  | -                  | -           | 48.30                                                                  | -                  | -           |
| B       | 10.0 MHz                                             | 48.13                                                                 | -                  | -           | 48.30                                                                  | -                  | -           | 48.28                                                                  | -                  | -           |
| Total   |                                                      | 51.04                                                                 | -                  | -           | 51.25                                                                  | -                  | -           | 51.30                                                                  | -                  | -           |

| Antenna | WCDMA<br>Modulation /<br>LTE Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                         |                    |             |                                                                        |                    |             |                                                                        |                    |             |
|---------|------------------------------------------------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|
|         |                                                      | Channel Position B <sub>RFBW</sub><br>(W) 1932.4MHz + (L)<br>1962.5MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(W) 1942.4MHz + (L)<br>1972.5MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(W) 1952.4MHz + (L)<br>1982.5MHz |                    |             |
|         |                                                      | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 16QAM / QPSK<br>15.0 MHz                             | 47.81                                                                  | -                  | -           | 48.13                                                                  | -                  | -           | 48.26                                                                  | -                  | -           |
| B       |                                                      | 48.14                                                                  | -                  | -           | 48.30                                                                  | -                  | -           | 48.27                                                                  | -                  | -           |
| Total   |                                                      | 50.99                                                                  | -                  | -           | 51.23                                                                  | -                  | -           | 51.28                                                                  | -                  | -           |



Product Service

| Antenna | WCDMA<br>Modulation /<br>LTE Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                         |                    |             |                                                                        |                    |             |                                                                        |                    |             |
|---------|------------------------------------------------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------|--------------------|-------------|
|         |                                                      | Channel Position B <sub>RFBW</sub><br>(W) 1932.4MHz + (L)<br>1960.0MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(W) 1942.4MHz + (L)<br>1970.0MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(W) 1952.4MHz + (L)<br>1980.0MHz |                    |             |
|         |                                                      | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                         | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 16QAM / QPSK<br>20.0 MHz                             | 47.79                                                                  | -                  | -           | 48.11                                                                  | -                  | -           | 48.21                                                                  | -                  | -           |
| B       |                                                      | 48.07                                                                  | -                  | -           | 48.28                                                                  | -                  | -           | 48.27                                                                  | -                  | -           |
| Total   |                                                      | 50.94                                                                  | -                  | -           | 51.21                                                                  | -                  | -           | 51.25                                                                  | -                  | -           |

Configuration W+L-MIMO-MC 2 (3W+3L)

Maximum Output Power 49.0dBm per port

| Antenna | WCDMA<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                                                                                     |                            |             |                                                                                                                                                    |                    |             |                                                                                                                                                    |                    |             |
|---------|---------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                                         | Channel Position B <sub>RFBW</sub><br>(W) 1932.4MHz + (W)<br>1937.4MHz + (W)<br>1942.4MHz + (L)<br>1966.5MHz + (L)<br>1967.9MHz + (L)<br>1969.3MHz |                            |             | Channel Position M <sub>RFBW</sub><br>(W) 1942.4MHz + (W)<br>1947.4MHz + (W)<br>1952.4MHz + (L)<br>1976.5MHz + (L)<br>1977.9MHz + (L)<br>1979.3MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(W) 1952.4MHz + (W)<br>1957.4MHz + (W)<br>1962.4MHz + (L)<br>1986.5MHz + (L)<br>1987.9MHz + (L)<br>1989.3MHz |                    |             |
|         |                                                         | Power<br>(dBm)                                                                                                                                     | Power<br>(dBm/MHz)         | PAR<br>(dB) | Power<br>(dBm)                                                                                                                                     | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                                                                     | Power<br>(dBm/MHz) | PAR<br>(dB) |
|         |                                                         | A                                                                                                                                                  | 16QAM /<br>QPSK<br>1.4 MHz | 48.02       | -                                                                                                                                                  | -                  | 48.15       | -                                                                                                                                                  | -                  | 48.17       |
| B       | 48.29                                                   | -                                                                                                                                                  |                            | -           | 48.32                                                                                                                                              | -                  | -           | 48.26                                                                                                                                              | -                  | -           |
| Total   |                                                         | 51.17                                                                                                                                              | -                          | -           | 51.25                                                                                                                                              | -                  | -           | 51.23                                                                                                                                              | -                  | -           |

| Antenna | WCDMA<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                                                                                     |                            |             |                                                                                                                                                    |                    |             |                                                                                                                                                    |                    |             |
|---------|---------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                                         | Channel Position B <sub>RFBW</sub><br>(W) 1932.4MHz + (W)<br>1937.4MHz + (W)<br>1942.4MHz + (L)<br>1962.5MHz + (L)<br>1965.5MHz + (L)<br>1968.5MHz |                            |             | Channel Position M <sub>RFBW</sub><br>(W) 1942.4MHz + (W)<br>1947.4MHz + (W)<br>1952.4MHz + (L)<br>1972.5MHz + (L)<br>1975.5MHz + (L)<br>1978.5MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(W) 1952.4MHz + (W)<br>1957.4MHz + (W)<br>1962.4MHz + (L)<br>1982.5MHz + (L)<br>1985.5MHz + (L)<br>1988.5MHz |                    |             |
|         |                                                         | Power<br>(dBm)                                                                                                                                     | Power<br>(dBm/MHz)         | PAR<br>(dB) | Power<br>(dBm)                                                                                                                                     | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                                                                     | Power<br>(dBm/MHz) | PAR<br>(dB) |
|         |                                                         | A                                                                                                                                                  | 16QAM /<br>QPSK<br>3.0 MHz | 47.99       | -                                                                                                                                                  | -                  | 48.16       | -                                                                                                                                                  | -                  | 48.19       |
| B       | 48.19                                                   | -                                                                                                                                                  |                            | -           | 48.32                                                                                                                                              | -                  | -           | 48.25                                                                                                                                              | -                  | -           |
| Total   |                                                         | 51.10                                                                                                                                              | -                          | -           | 51.25                                                                                                                                              | -                  | -           | 51.23                                                                                                                                              | -                  | -           |

| Antenna | WCDMA<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                                                                                     |                            |             |                                                                                                                                                    |                    |             |                                                                                                                                                    |                    |             |
|---------|---------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                                         | Channel Position B <sub>RFBW</sub><br>(W) 1932.4MHz + (W)<br>1937.4MHz + (W)<br>1942.4MHz + (L)<br>1957.5MHz + (L)<br>1962.5MHz + (L)<br>1967.5MHz |                            |             | Channel Position M <sub>RFBW</sub><br>(W) 1942.4MHz + (W)<br>1947.4MHz + (W)<br>1952.4MHz + (L)<br>1967.5MHz + (L)<br>1972.5MHz + (L)<br>1977.5MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(W) 1952.4MHz + (W)<br>1957.4MHz + (W)<br>1962.4MHz + (L)<br>1977.5MHz + (L)<br>1982.5MHz + (L)<br>1987.5MHz |                    |             |
|         |                                                         | Power<br>(dBm)                                                                                                                                     | Power<br>(dBm/MHz)         | PAR<br>(dB) | Power<br>(dBm)                                                                                                                                     | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                                                                     | Power<br>(dBm/MHz) | PAR<br>(dB) |
|         |                                                         | A                                                                                                                                                  | 16QAM /<br>QPSK<br>5.0 MHz | 48.11       | -                                                                                                                                                  | -                  | 48.31       | -                                                                                                                                                  | -                  | 48.33       |
| B       | 48.36                                                   | -                                                                                                                                                  |                            | -           | 48.43                                                                                                                                              | -                  | -           | 48.36                                                                                                                                              | -                  | -           |
| Total   |                                                         | 51.25                                                                                                                                              | -                          | -           | 51.38                                                                                                                                              | -                  | -           | 51.36                                                                                                                                              | -                  | -           |



Product Service

### Configuration W+L-MIMO-MC 3 (3W+2L)

Maximum Output Power 49.0dBm per port

| Antenna | WCDMA<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                                                                  |                             |             |                                                                                                                                 |                    |             |                                                                                                                                 |                    |             |
|---------|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-------------|---------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|---------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                                         | Channel Position B <sub>RFBW</sub><br>(W) 1932.4MHz + (W)<br>1937.4MHz + (W)<br>1942.4MHz + (L)<br>1955.0MHz + (L)<br>1965.0MHz |                             |             | Channel Position M <sub>RFBW</sub><br>(W) 1942.4MHz + (W)<br>1947.4MHz + (W)<br>1952.4MHz + (L)<br>1965.0MHz + (L)<br>1975.0MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(W) 1952.4MHz + (W)<br>1957.4MHz + (W)<br>1962.4MHz + (L)<br>1975.0MHz + (L)<br>1985.0MHz |                    |             |
|         |                                                         | Power<br>(dBm)                                                                                                                  | Power<br>(dBm/MHz)          | PAR<br>(dB) | Power<br>(dBm)                                                                                                                  | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                                                  | Power<br>(dBm/MHz) | PAR<br>(dB) |
|         |                                                         | A                                                                                                                               | 16QAM /<br>QPSK<br>10.0 MHz | 48.13       | -                                                                                                                               | -                  | 48.33       | -                                                                                                                               | -                  | 48.41       |
| B       | 48.30                                                   | -                                                                                                                               |                             | -           | 48.44                                                                                                                           | -                  | -           | 48.36                                                                                                                           | -                  | -           |
| Total   |                                                         | 51.23                                                                                                                           | -                           | -           | 51.40                                                                                                                           | -                  | -           | 51.40                                                                                                                           | -                  | -           |

### Configuration W+L-MIMO-MC 4 (2W+2L)

Maximum Output Power 49.0dBm per port

| Antenna | WCDMA<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                                              |                             |             |                                                                                                             |                    |             |                                                                                                              |                    |             |
|---------|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-----------------------------|-------------|-------------------------------------------------------------------------------------------------------------|--------------------|-------------|--------------------------------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                                         | Channel Position B <sub>RFBW</sub><br>(W) 1932.4MHz +(W)<br>1937.4MHz + (L)<br>1947.5MHz + (L)<br>1962.5MHz |                             |             | Channel Position M <sub>RFBW</sub><br>(W) 1942.4MHz +<br>(W)1947.4MHz + (L)<br>1957.5MHz + (L)<br>1972.5MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(W) 1952.4MHz + (W)<br>1957.4MHz + (L)<br>1967.5MHz + (L)<br>1982.5MHz |                    |             |
|         |                                                         | Power<br>(dBm)                                                                                              | Power<br>(dBm/MHz)          | PAR<br>(dB) | Power<br>(dBm)                                                                                              | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                                               | Power<br>(dBm/MHz) | PAR<br>(dB) |
|         |                                                         | A                                                                                                           | 16QAM /<br>QPSK<br>15.0 MHz | 47.98       | -                                                                                                           | -                  | 48.22       | -                                                                                                            | -                  | 48.29       |
| B       | 48.23                                                   | -                                                                                                           |                             | -           | 48.37                                                                                                       | -                  | -           | 48.30                                                                                                        | -                  | -           |
| Total   |                                                         | 51.12                                                                                                       | -                           | -           | 51.31                                                                                                       | -                  | -           | 51.31                                                                                                        | -                  | -           |

### Configuration W+L-MIMO-MC 5 (2W+1L)

Maximum Output Power 46.0dBm per port

| Antenna | WCDMA<br>Modulation /<br>LTE<br>Modulation<br>Bandwidth | RMS Output Power / Peak to Average Ratio (PAR)                                           |                    |             |                                                                                          |                    |             |                                                                                           |                    |             |
|---------|---------------------------------------------------------|------------------------------------------------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------------------------|--------------------|-------------|-------------------------------------------------------------------------------------------|--------------------|-------------|
|         |                                                         | Channel Position B <sub>RFBW</sub><br>(W) 1932.4MHz +(W)<br>1937.4MHz + (L)<br>1960.0MHz |                    |             | Channel Position M <sub>RFBW</sub><br>(W) 1942.4MHz +<br>(W)1947.4MHz + (L)<br>1970.0MHz |                    |             | Channel Position T <sub>RFBW</sub><br>(W) 1952.4MHz + (W)<br>1957.4MHz + (L)<br>1980.0MHz |                    |             |
|         |                                                         | Power<br>(dBm)                                                                           | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                           | Power<br>(dBm/MHz) | PAR<br>(dB) | Power<br>(dBm)                                                                            | Power<br>(dBm/MHz) | PAR<br>(dB) |
| A       | 16QAM /<br>QPSK<br>20.0 MHz                             | 47.96                                                                                    | -                  | -           | 48.19                                                                                    | -                  | -           | 48.29                                                                                     | -                  | -           |
| B       |                                                         | 48.18                                                                                    | -                  | -           | 48.35                                                                                    | -                  | -           | 48.31                                                                                     | -                  | -           |
| Total   |                                                         | 51.08                                                                                    |                    | -           | 51.28                                                                                    | -                  | -           | 51.31                                                                                     |                    | -           |

#### Note :

This unit is tested without antenna. ERP/EIRP compliance is addressed at the time of licensing, as required by the responsible IC Bureau(s). Licensees are required to take into account maximum allowed antenna gain used in combination with above power settings to prevent the radiated output power to exceed the limits.



Product Service

| Limit                 |                                                                                                                                                                             |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Output Power          | FCC: (ERP) 1640 W or 62.15 dBm for emission bandwidth $\leq$ 1MHz<br>1640 W/MHz or 62.15 dBm/MHz for emission bandwidth > 1MHz<br>IC: (e.i.r.p) 1640 W/MHz or 62.15 dBm/MHz |
| Peak to Average Ratio | 13 dB                                                                                                                                                                       |

#### Remarks

The maximum output power of the EUT is sufficient to keep it within the range of the rated transmitter power that the manufacture declared and the requirements of FCC and IC standards. The peak to average ratio is under the limit of 13dB.

## **2.2 OCCUPIED BANDWIDTH**

### **2.2.1 Specification Reference**

FCC CFR 47 Part 2, Clause 2.1049(h)  
FCC CFR 47 Part 24, Clause 24.238 (b)  
Industry Canada RSS-GEN, Clause 6.6

### **2.2.2 Equipment Under Test**

Radio 2219 B2, KRC 161 627/1, S/N: D825490218

### **2.2.3 Date of Test and Modification State**

26 April to 08 May 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 3.1.

### **2.2.5 Environmental Conditions**

|                     |               |
|---------------------|---------------|
| Ambient Temperature | 21.4 - 22.3°C |
| Relative Humidity   | 22.0 - 40.0%  |

### **2.2.6 Test Method**

The test was applied in accordance with the test method requirements of FCC Part 24 and Industry Canada RSS-GEN.

The EUT was set to transmit at maximum power and testing was carried out on bottom, middle and top channels. Using the Occupied Bandwidth measurement function in the spectrum analyser, the 26dB bandwidth was measured in accordance with FCC KDB 971168 D01 Power Meas License Digital Systems v02r02 Clause 4.2. In addition, measurements of 99% occupied bandwidths were made in accordance with Industry Canada RSS-GEN Clause 6.6. The RBW was configured to 1% of the theoretical channel bandwidth, meeting the requirement of being between 1 to 5% of the Occupied Bandwidth described in the KDB aforementioned.

The results are shown in the plots below.

## 2.2.7 Test Results

Configuration G-SC

Maximum Output Power 43.0dBm per port

-26dBc Occupied Bandwidth for FCC requirement

| Modulation / Bandwidth | Occupied Bandwidth (kHz)        |                                 |                                 |
|------------------------|---------------------------------|---------------------------------|---------------------------------|
|                        | Channel Position B<br>1930.4MHz | Channel Position M<br>1960.0MHz | Channel Position T<br>1989.6MHz |
| GMSK                   | 320.90                          | 319.70                          | 318.90                          |
| 8-PSK                  | 314.20                          | 313.50                          | 314.60                          |
| AQPSK                  | 318.90                          | 318.60                          | 316.70                          |

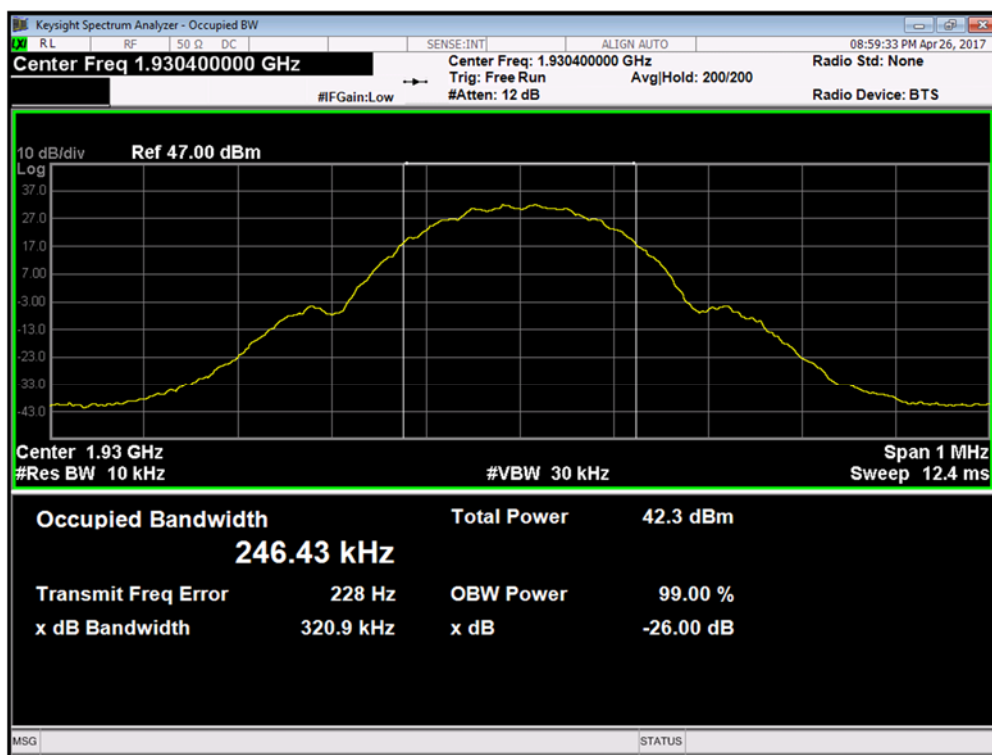
99% Occupied Bandwidth for IC requirement

| Modulation / Bandwidth | Occupied Bandwidth (kHz)        |                                 |                                 |
|------------------------|---------------------------------|---------------------------------|---------------------------------|
|                        | Channel Position B<br>1930.4MHz | Channel Position M<br>1960.0MHz | Channel Position T<br>1989.6MHz |
| GMSK                   | 246.43                          | 245.71                          | 245.58                          |
| 8-PSK                  | 245.01                          | 243.37                          | 245.15                          |
| AQPSK                  | 241.64                          | 241.05                          | 241.98                          |

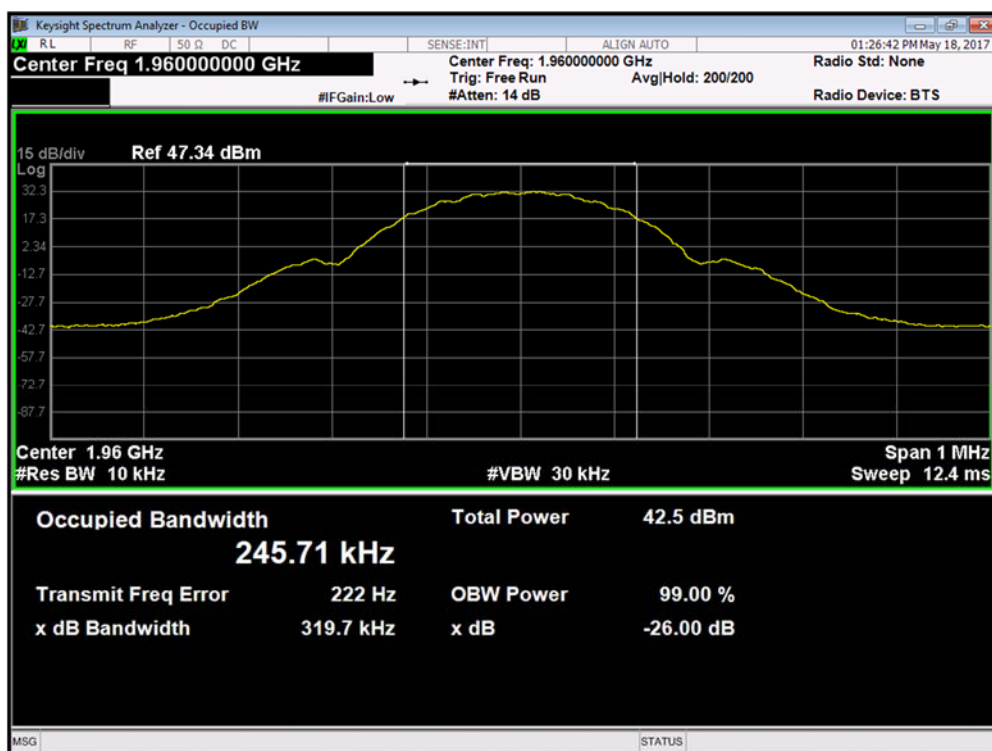


Product Service

### Channel Position B - GMSK



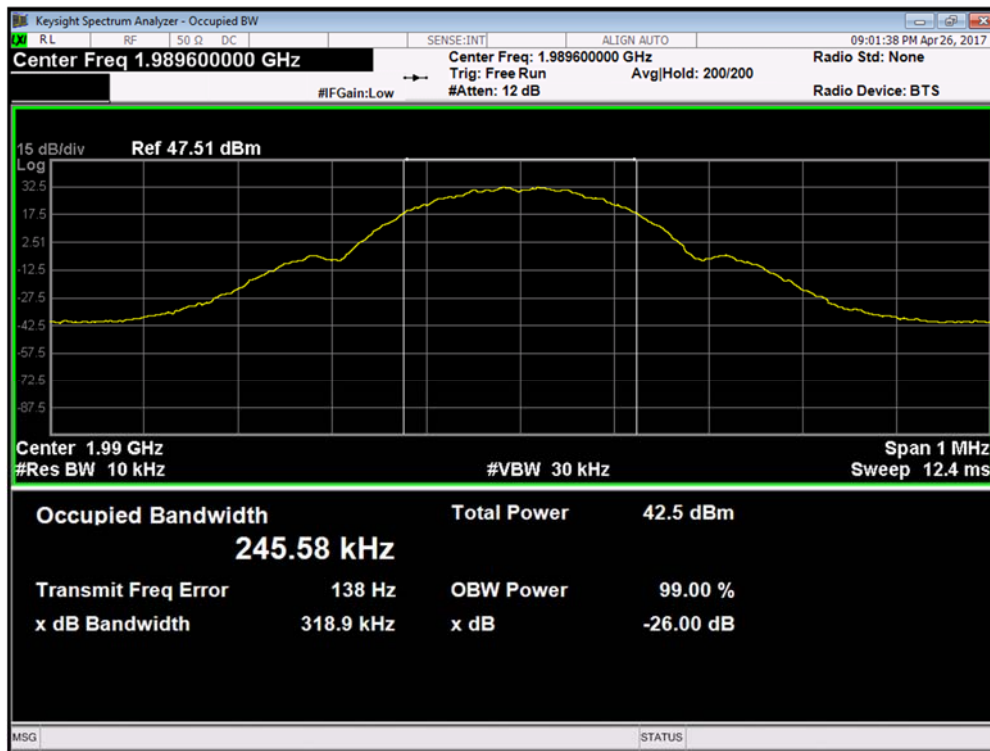
### Channel Position M - GMSK



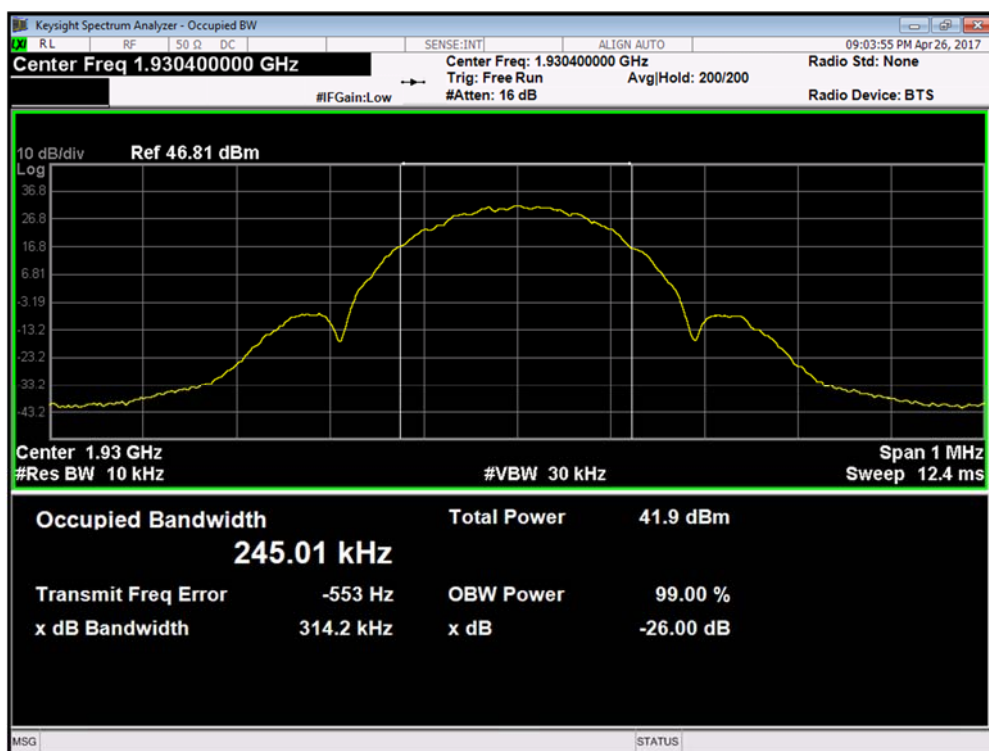


Product Service

### Channel Position T - GMSK



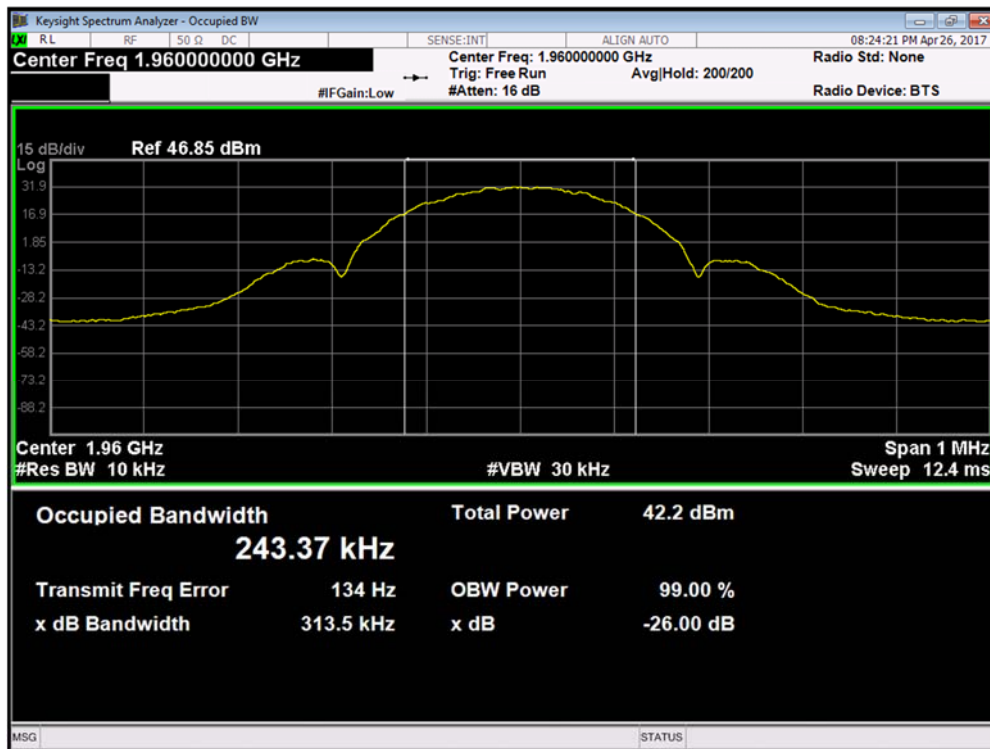
### Channel Position B - 8-PSK



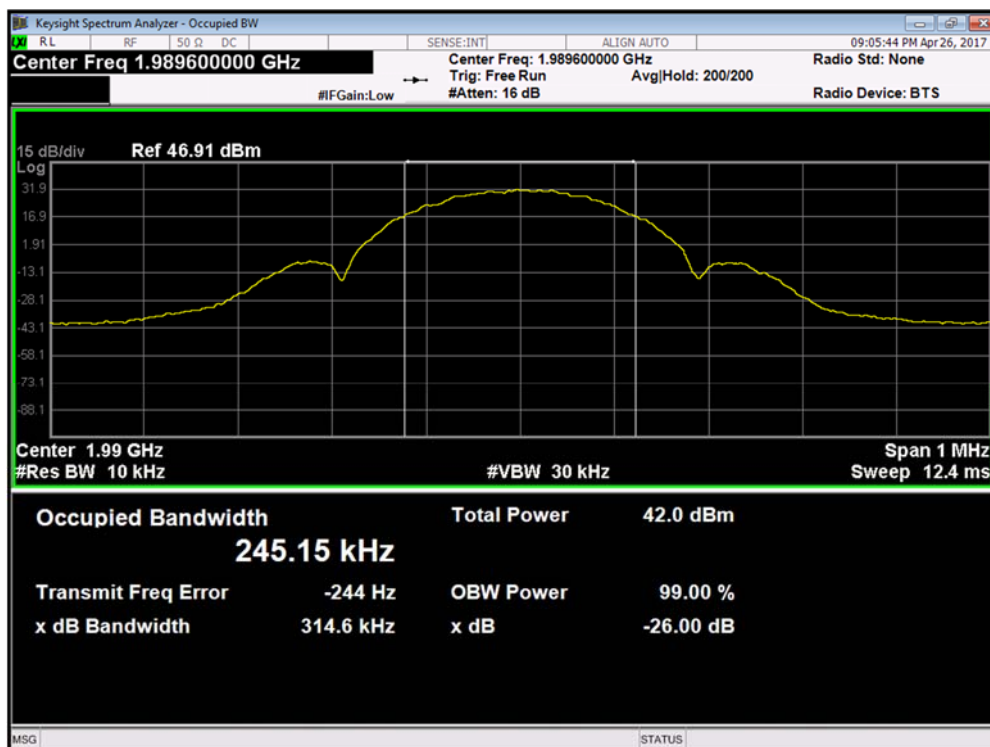


Product Service

### Channel Position M - 8-PSK



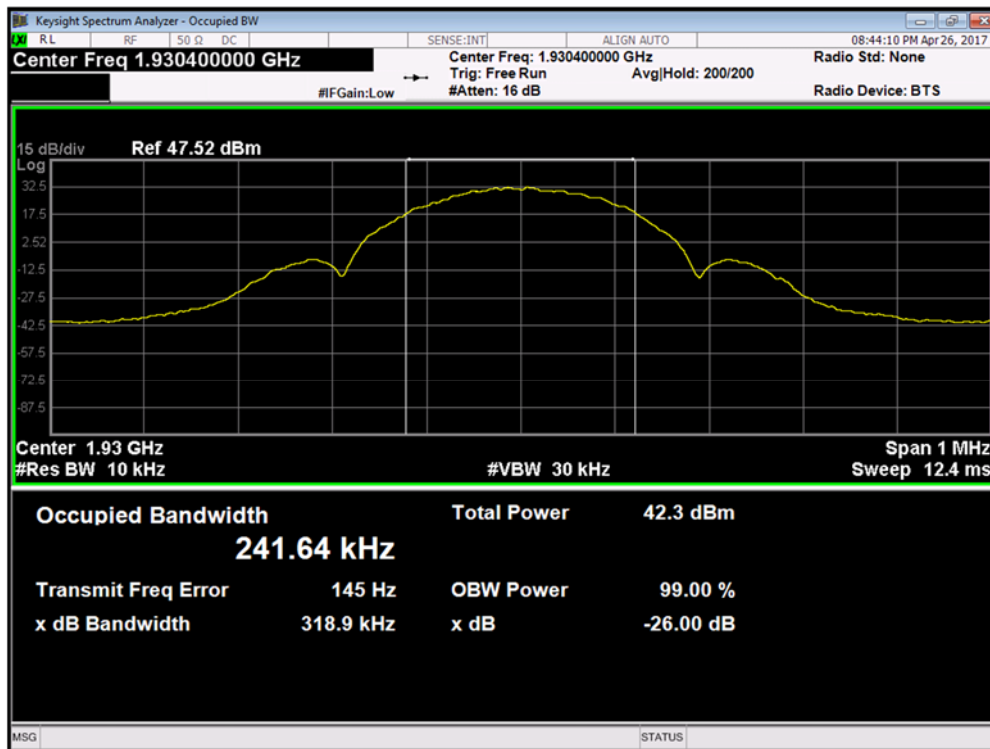
### Channel Position T - 8-PSK



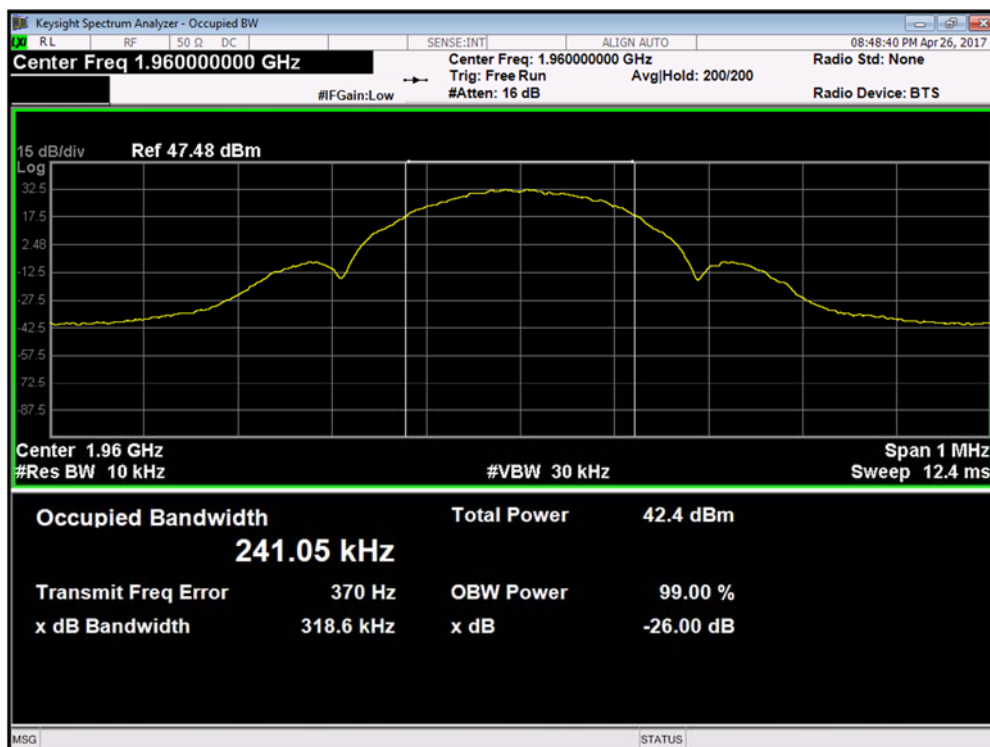


Product Service

### Channel Position B - AQPSK



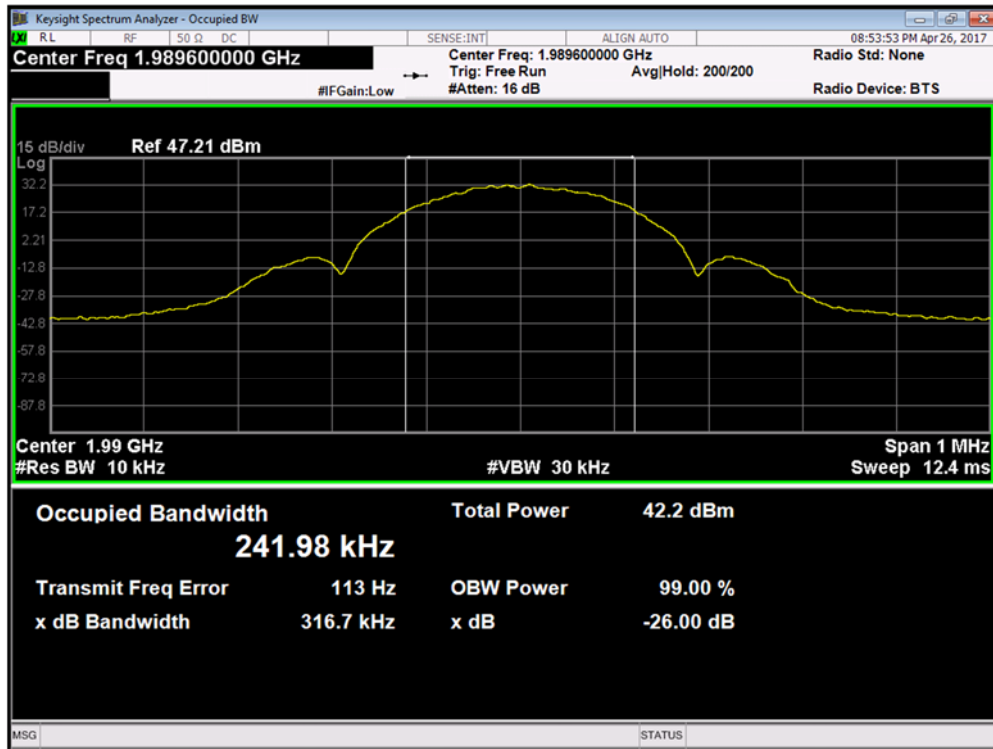
### Channel Position M - AQPSK





Product Service

### Channel Position T - AQPSK





Product Service

## Configuration W-SC

Maximum Output Power 49.0dBm per port

-26dBc Occupied Bandwidth for FCC requirement

| Modulation / Bandwidth | Occupied Bandwidth (MHz)        |                                 |                                 |
|------------------------|---------------------------------|---------------------------------|---------------------------------|
|                        | Channel Position B<br>1932.4MHz | Channel Position M<br>1960.0MHz | Channel Position T<br>1987.6MHz |
| QPSK / 5.0 MHz         | 4.667                           | 4.665                           | 4.671                           |

| Modulation / Bandwidth | Occupied Bandwidth (MHz)        |                                 |                                 |
|------------------------|---------------------------------|---------------------------------|---------------------------------|
|                        | Channel Position B<br>1932.4MHz | Channel Position M<br>1960.0MHz | Channel Position T<br>1987.6MHz |
| QPSK / 3.8 MHz         | 3.749                           | 3.747                           | 3.747                           |

99% Occupied Bandwidth for IC requirement

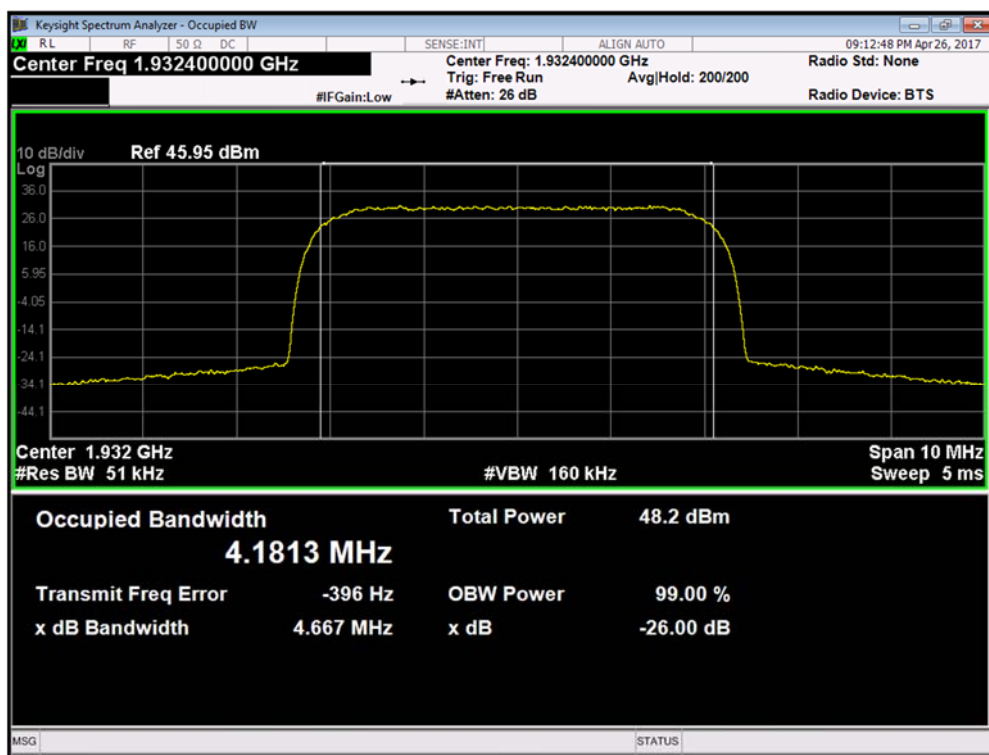
| Modulation / Bandwidth | Occupied Bandwidth (MHz)        |                                 |                                 |
|------------------------|---------------------------------|---------------------------------|---------------------------------|
|                        | Channel Position B<br>1932.4MHz | Channel Position M<br>1960.0MHz | Channel Position T<br>1987.6MHz |
| QPSK / 5.0 MHz         | 4.181                           | 4.166                           | 4.164                           |

| Modulation / Bandwidth | Occupied Bandwidth (MHz)        |                                 |                                 |
|------------------------|---------------------------------|---------------------------------|---------------------------------|
|                        | Channel Position B<br>1932.4MHz | Channel Position M<br>1960.0MHz | Channel Position T<br>1987.6MHz |
| QPSK / 3.8 MHz         | 3.570                           | 3.571                           | 3.572                           |

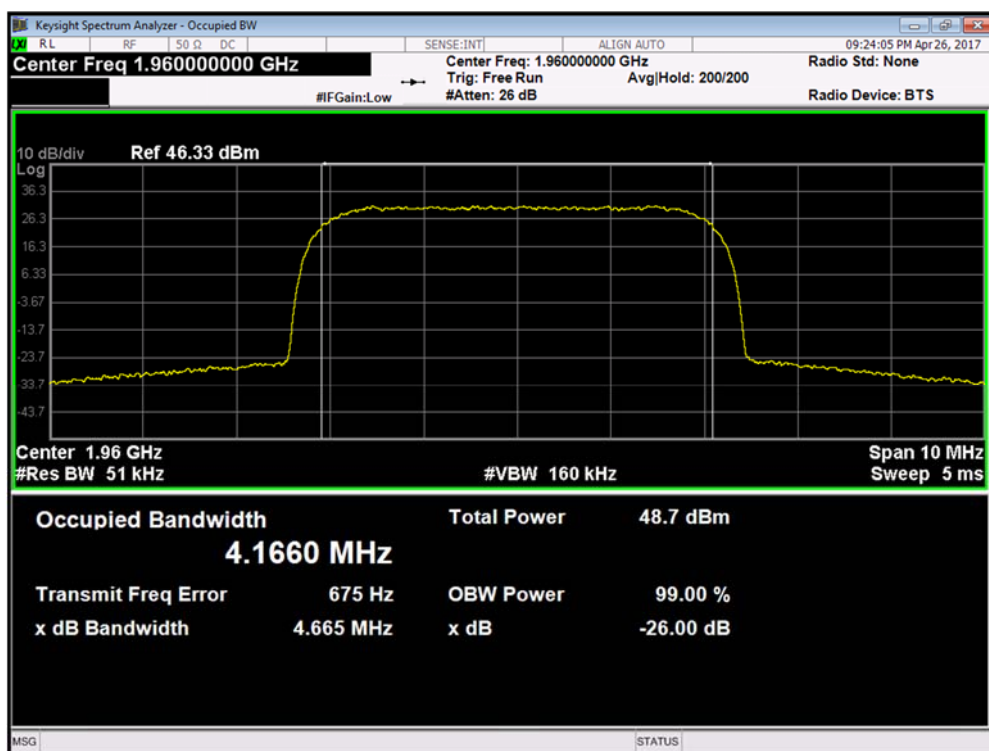


Product Service

### Channel Position B - QPSK / Bandwidth 5.0 MHz



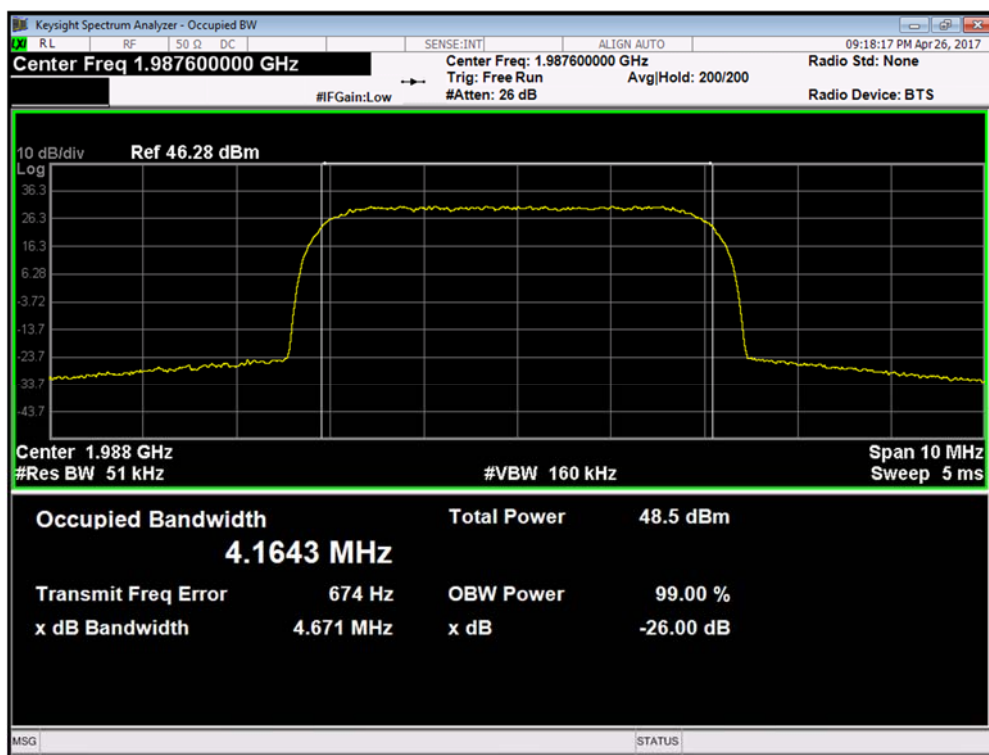
### Channel Position M - QPSK / Bandwidth 5.0 MHz



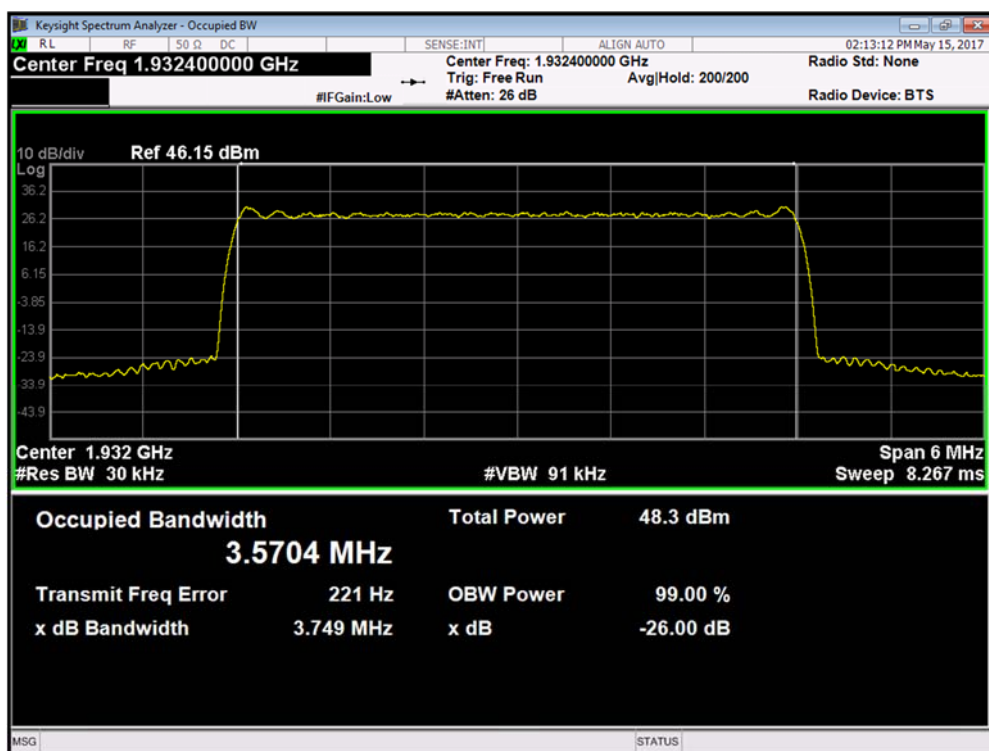


Product Service

### Channel Position T - QPSK / Bandwidth 5.0 MHz



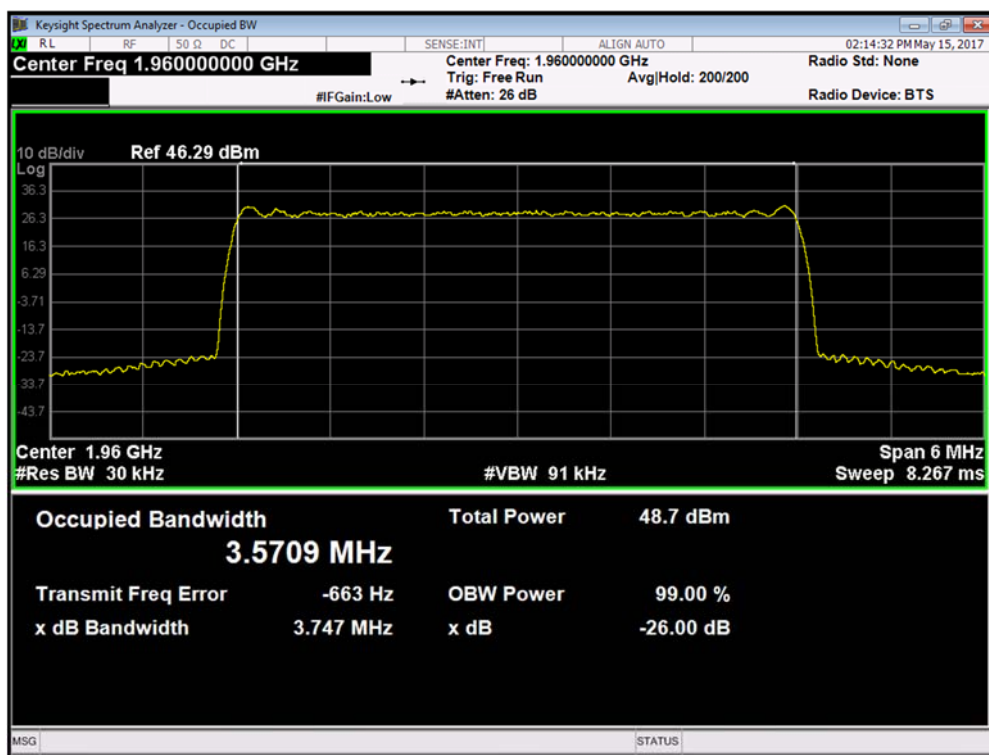
### Channel Position B - QPSK / Bandwidth 3.8 MHz



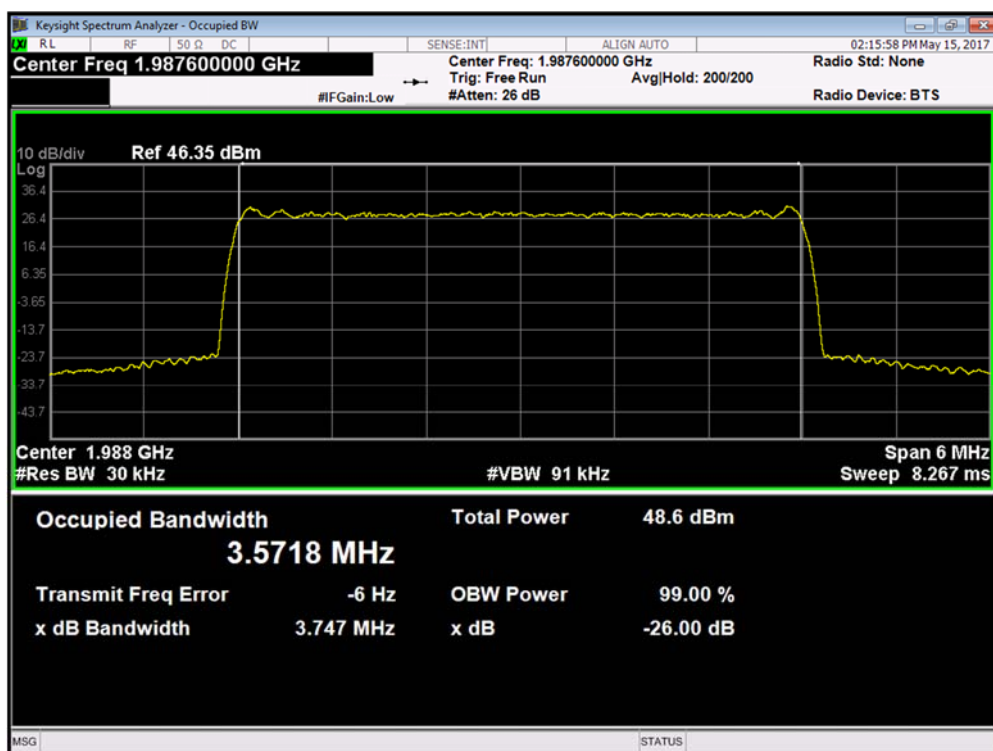


Product Service

### Channel Position M - QPSK / Bandwidth 3.8 MHz



### Channel Position T - QPSK / Bandwidth 3.8 MHz



Configuration W-MIMO-SC

Maximum Output Power 47.0dBm per port

-26dBc Occupied Bandwidth for FCC requirement

| Modulation / Bandwidth | Occupied Bandwidth (MHz)        |                                 |                                 |
|------------------------|---------------------------------|---------------------------------|---------------------------------|
|                        | Channel Position B<br>1932.4MHz | Channel Position M<br>1960.0MHz | Channel Position T<br>1987.6MHz |
| 16QAM / 5.0 MHz        | 4.662                           | 4.664                           | 4.659                           |
| 64QAM / 5.0 MHz        | 4.666                           | 4.665                           | 4.664                           |

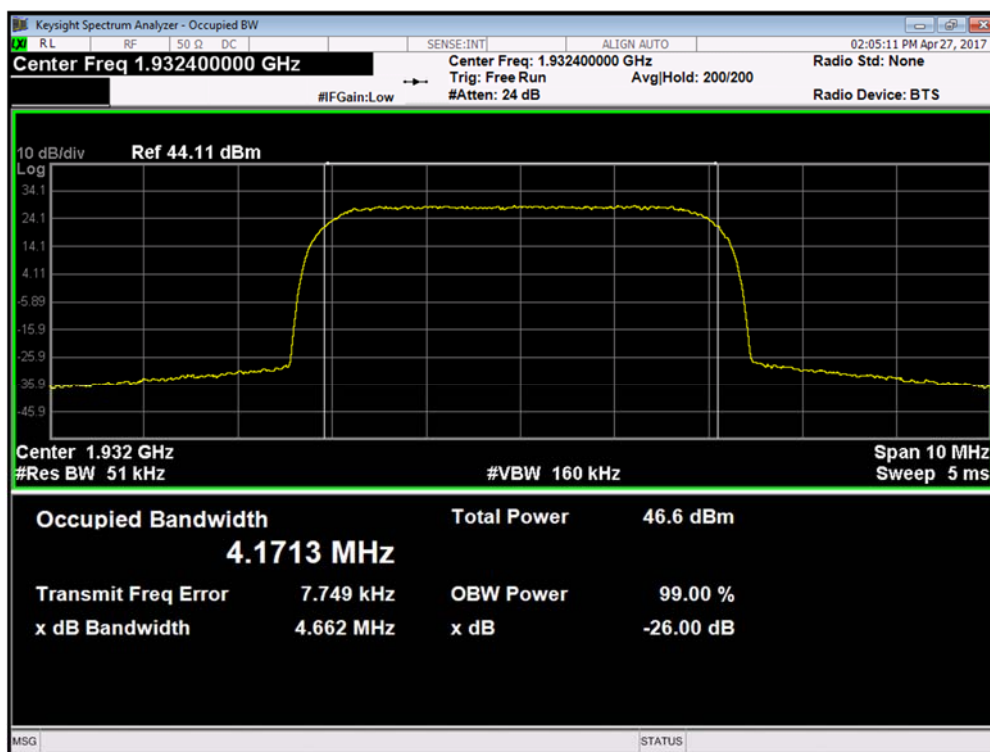
99% Occupied Bandwidth for IC requirement

| Modulation / Bandwidth | Occupied Bandwidth (MHz)        |                                 |                                 |
|------------------------|---------------------------------|---------------------------------|---------------------------------|
|                        | Channel Position B<br>1932.4MHz | Channel Position M<br>1960.0MHz | Channel Position T<br>1987.6MHz |
| 16QAM / 5.0 MHz        | 4.171                           | 4.166                           | 4.169                           |
| 64QAM / 5.0 MHz        | 4.173                           | 4.174                           | 4.170                           |

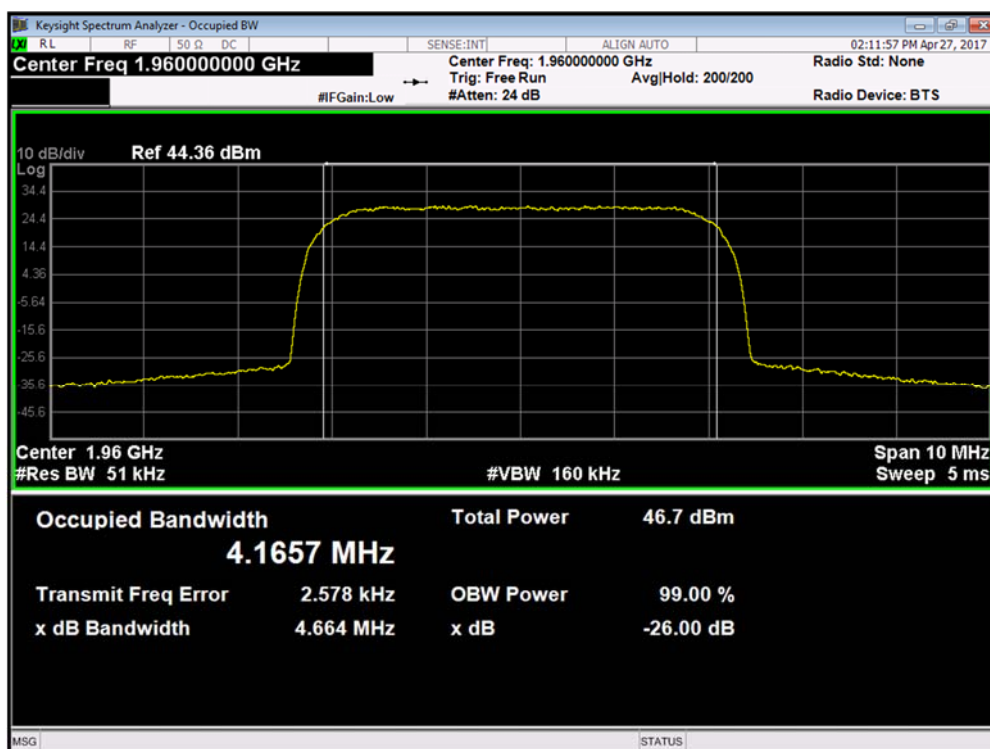


Product Service

### Channel Position B - 16QAM / Bandwidth 5.0 MHz



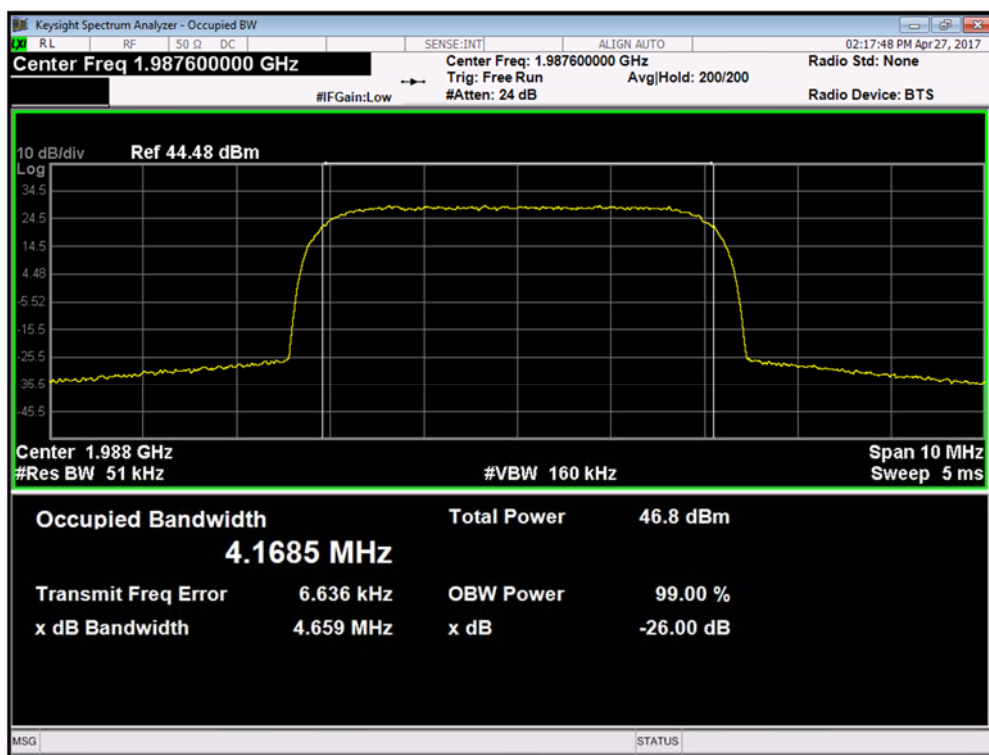
### Channel Position M - 16QAM / Bandwidth 5.0 MHz



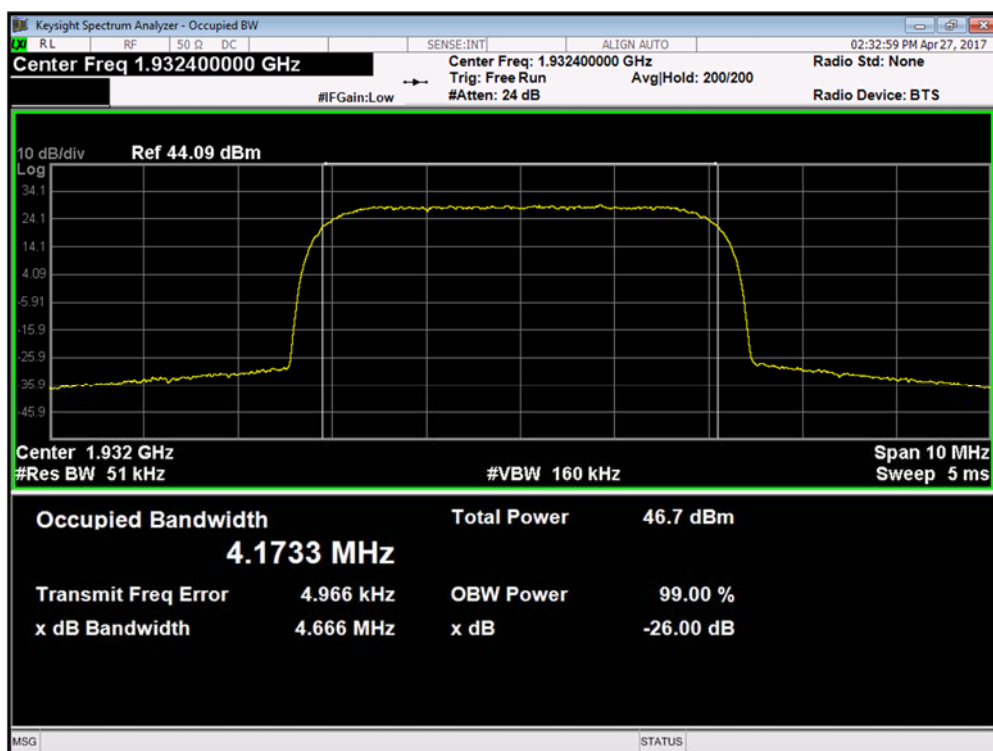


Product Service

### Channel Position T - 16QAM / Bandwidth 5.0 MHz



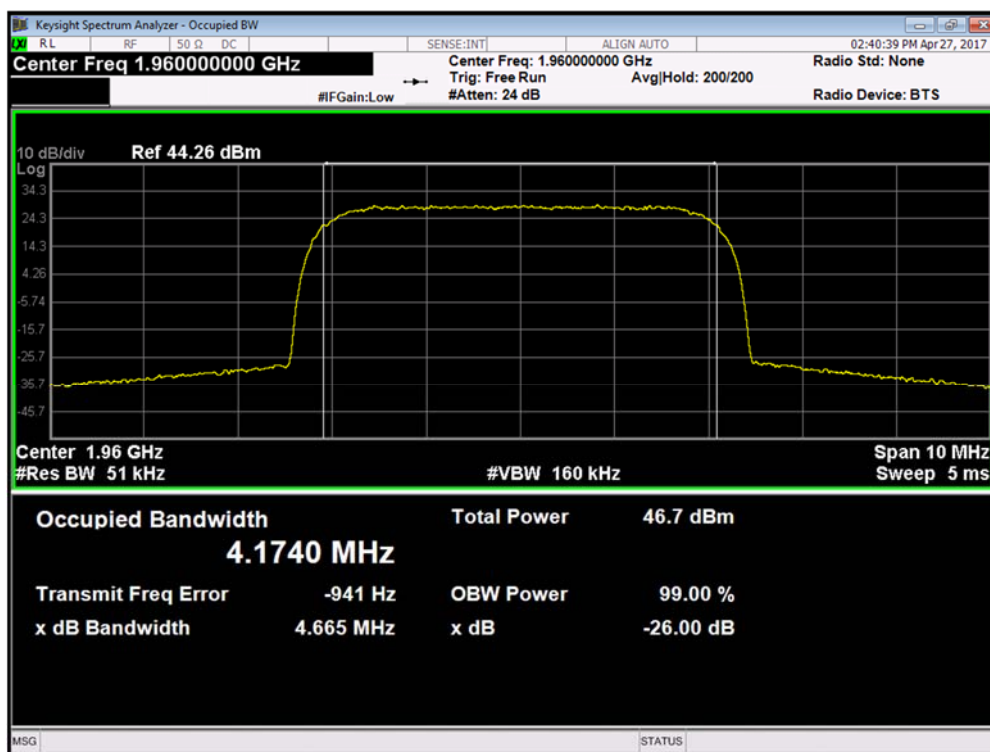
### Channel Position B - 64QAM / Bandwidth 5.0 MHz



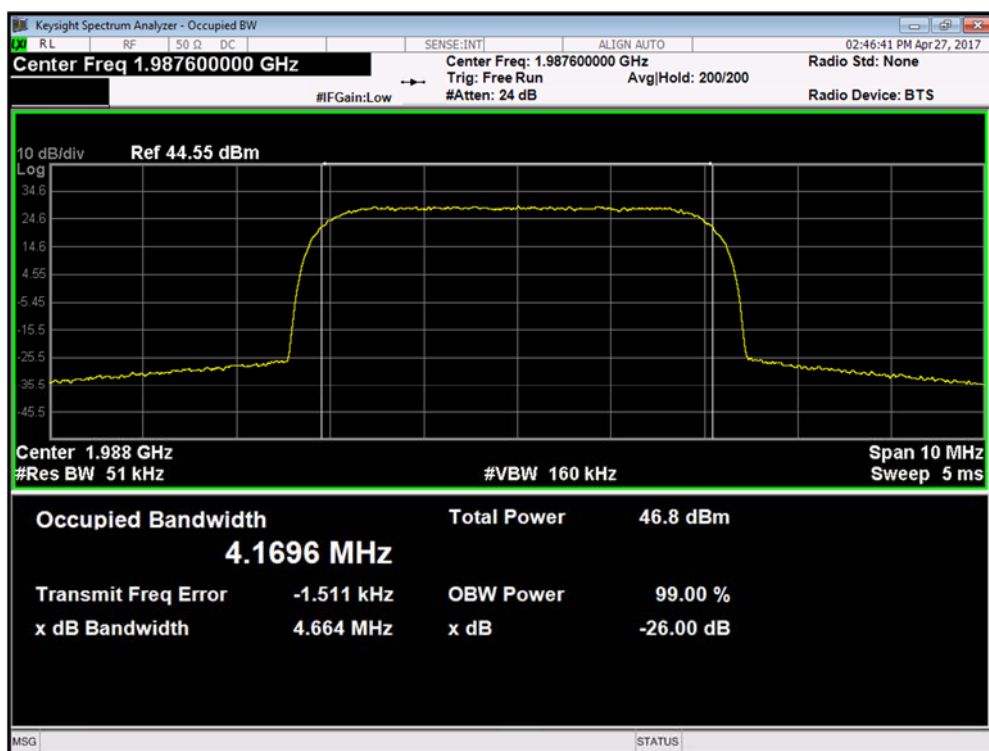


Product Service

### Channel Position M - 64QAM / Bandwidth 5.0 MHz



### Channel Position T - 64QAM / Bandwidth 5.0 MHz





Product Service

## Configuration L-MIMO-SC

Maximum Output Power 43.0dBm per port for 1.4MHz and 3.0MHz bandwidth.

Maximum Output Power 49.0dBm per port for 5.0MHz to 20.0MHz bandwidth.

### -26dBc Occupied Bandwidth for FCC requirement

| Modulation / Bandwidth | Occupied Bandwidth (MHz)        |                                 |                                 |
|------------------------|---------------------------------|---------------------------------|---------------------------------|
|                        | Channel Position B<br>1930.7MHz | Channel Position M<br>1960.0MHz | Channel Position T<br>1989.3MHz |
| QPSK / 1.4 MHz         | 1.238                           | 1.241                           | 1.234                           |
| 16QAM / 1.4 MHz        | -                               | 1.226                           | -                               |
| 64QAM / 1.4 MHz        | -                               | 1.231                           | -                               |
| 256QAM / 1.4 MHz       | -                               | 1.230                           | -                               |

| Modulation / Bandwidth | Occupied Bandwidth (MHz)        |                                 |                                 |
|------------------------|---------------------------------|---------------------------------|---------------------------------|
|                        | Channel Position B<br>1931.5MHz | Channel Position M<br>1960.0MHz | Channel Position T<br>1988.5MHz |
| QPSK / 3.0 MHz         | -                               | 2.852                           | -                               |
| 16QAM / 3.0 MHz        | -                               | 2.856                           | -                               |
| 64QAM / 3.0 MHz        | -                               | 2.849                           | -                               |
| 256QAM / 3.0 MHz       | -                               | 2.857                           | -                               |

| Modulation / Bandwidth | Occupied Bandwidth (MHz)        |                                 |                                 |
|------------------------|---------------------------------|---------------------------------|---------------------------------|
|                        | Channel Position B<br>1932.5MHz | Channel Position M<br>1960.0MHz | Channel Position T<br>1987.5MHz |
| QPSK / 5.0 MHz         | 4.734                           | 4.731                           | 4.730                           |
| 16QAM / 5.0 MHz        | -                               | 4.695                           | -                               |
| 64QAM / 5.0 MHz        | -                               | 4.738                           | -                               |
| 256QAM / 5.0 MHz       | -                               | 4.741                           | -                               |

| Modulation / Bandwidth | Occupied Bandwidth (MHz)        |                                 |                                 |
|------------------------|---------------------------------|---------------------------------|---------------------------------|
|                        | Channel Position B<br>1935.0MHz | Channel Position M<br>1960.0MHz | Channel Position T<br>1985.0MHz |
| QPSK / 10.0 MHz        | -                               | 9.324                           | -                               |
| 16QAM / 10.0 MHz       | -                               | 9.309                           | -                               |
| 64QAM / 10.0 MHz       | -                               | 9.326                           | -                               |
| 256QAM / 10.0 MHz      | -                               | 9.378                           | -                               |

| Modulation / Bandwidth | Occupied Bandwidth (MHz)        |                                 |                                 |
|------------------------|---------------------------------|---------------------------------|---------------------------------|
|                        | Channel Position B<br>1937.5MHz | Channel Position M<br>1960.0MHz | Channel Position T<br>1982.5MHz |
| QPSK / 15.0 MHz        | -                               | 14.070                          | -                               |
| 16QAM / 15.0 MHz       | -                               | 13.940                          | -                               |
| 64QAM / 15.0 MHz       | -                               | 13.970                          | -                               |
| 256QAM / 15.0 MHz      | -                               | 13.960                          | -                               |

| Modulation / Bandwidth | Occupied Bandwidth (MHz)        |                                 |                                 |
|------------------------|---------------------------------|---------------------------------|---------------------------------|
|                        | Channel Position B<br>1940.0MHz | Channel Position M<br>1960.0MHz | Channel Position T<br>1980.0MHz |
| QPSK / 20.0 MHz        | 18.550                          | 18.660                          | 18.600                          |
| 16QAM / 20.0 MHz       | -                               | 18.520                          | -                               |
| 64QAM / 20.0 MHz       | -                               | 18.570                          | -                               |
| 256QAM / 20.0 MHz      | -                               | 18.590                          | -                               |



Product Service

99% Occupied Bandwidth for IC requirement

| Modulation / Bandwidth | Occupied Bandwidth (MHz)        |                                 |                                 |
|------------------------|---------------------------------|---------------------------------|---------------------------------|
|                        | Channel Position B<br>1930.7MHz | Channel Position M<br>1960.0MHz | Channel Position T<br>1989.3MHz |
| QPSK / 1.4 MHz         | 1.088                           | 1.089                           | 1.089                           |
| 16QAM / 1.4 MHz        | -                               | 1.087                           | -                               |
| 64QAM / 1.4 MHz        | -                               | 1.087                           | -                               |
| 256QAM / 1.4 MHz       | -                               | 1.088                           | -                               |

| Modulation / Bandwidth | Occupied Bandwidth (MHz)        |                                 |                                 |
|------------------------|---------------------------------|---------------------------------|---------------------------------|
|                        | Channel Position B<br>1931.5MHz | Channel Position M<br>1960.0MHz | Channel Position T<br>1988.5MHz |
| QPSK / 3.0 MHz         | -                               | 2.691                           | -                               |
| 16QAM / 3.0 MHz        | -                               | 2.689                           | -                               |
| 64QAM / 3.0 MHz        | -                               | 2.691                           | -                               |
| 256QAM / 3.0 MHz       | -                               | 2.690                           | -                               |

| Modulation / Bandwidth | Occupied Bandwidth (MHz)        |                                 |                                 |
|------------------------|---------------------------------|---------------------------------|---------------------------------|
|                        | Channel Position B<br>1932.5MHz | Channel Position M<br>1960.0MHz | Channel Position T<br>1987.5MHz |
| QPSK / 5.0 MHz         | 4.480                           | 4.477                           | 4.478                           |
| 16QAM / 5.0 MHz        | -                               | 4.460                           | -                               |
| 64QAM / 5.0 MHz        | -                               | 4.479                           | -                               |
| 256QAM / 5.0 MHz       | -                               | 4.478                           | -                               |

| Modulation / Bandwidth | Occupied Bandwidth (MHz)        |                                 |                                 |
|------------------------|---------------------------------|---------------------------------|---------------------------------|
|                        | Channel Position B<br>1935.0MHz | Channel Position M<br>1960.0MHz | Channel Position T<br>1985.0MHz |
| QPSK / 10.0 MHz        | -                               | 8.938                           | -                               |
| 16QAM / 10.0 MHz       | -                               | 8.939                           | -                               |
| 64QAM / 10.0 MHz       | -                               | 8.937                           | -                               |
| 256QAM / 10.0 MHz      | -                               | 8.934                           | -                               |

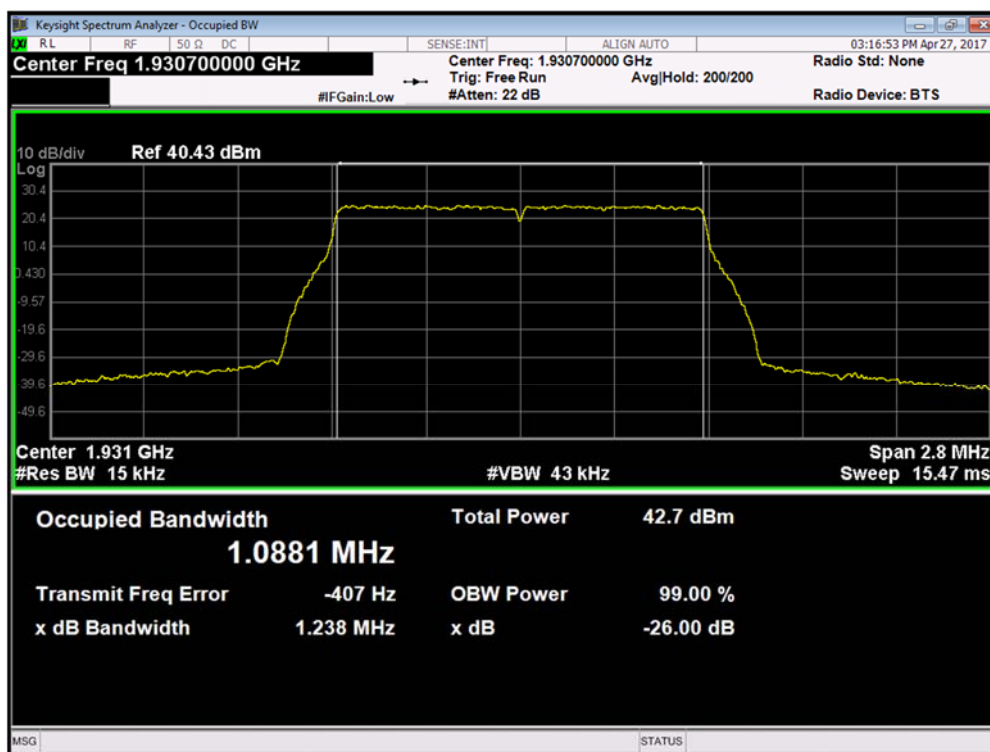
| Modulation / Bandwidth | Occupied Bandwidth (MHz)        |                                 |                                 |
|------------------------|---------------------------------|---------------------------------|---------------------------------|
|                        | Channel Position B<br>1937.5MHz | Channel Position M<br>1960.0MHz | Channel Position T<br>1982.5MHz |
| QPSK / 15.0 MHz        | -                               | 13.397                          | -                               |
| 16QAM / 15.0 MHz       | -                               | 13.394                          | -                               |
| 64QAM / 15.0 MHz       | -                               | 13.396                          | -                               |
| 256QAM / 15.0 MHz      | -                               | 13.399                          | -                               |

| Modulation / Bandwidth | Occupied Bandwidth (MHz)        |                                 |                                 |
|------------------------|---------------------------------|---------------------------------|---------------------------------|
|                        | Channel Position B<br>1940.0MHz | Channel Position M<br>1960.0MHz | Channel Position T<br>1980.0MHz |
| QPSK / 20.0 MHz        | 17.865                          | 17.845                          | 17.854                          |
| 16QAM / 20.0 MHz       | -                               | 17.841                          | -                               |
| 64QAM / 20.0 MHz       | -                               | 17.860                          | -                               |
| 256QAM / 20.0 MHz      | -                               | 17.851                          | -                               |

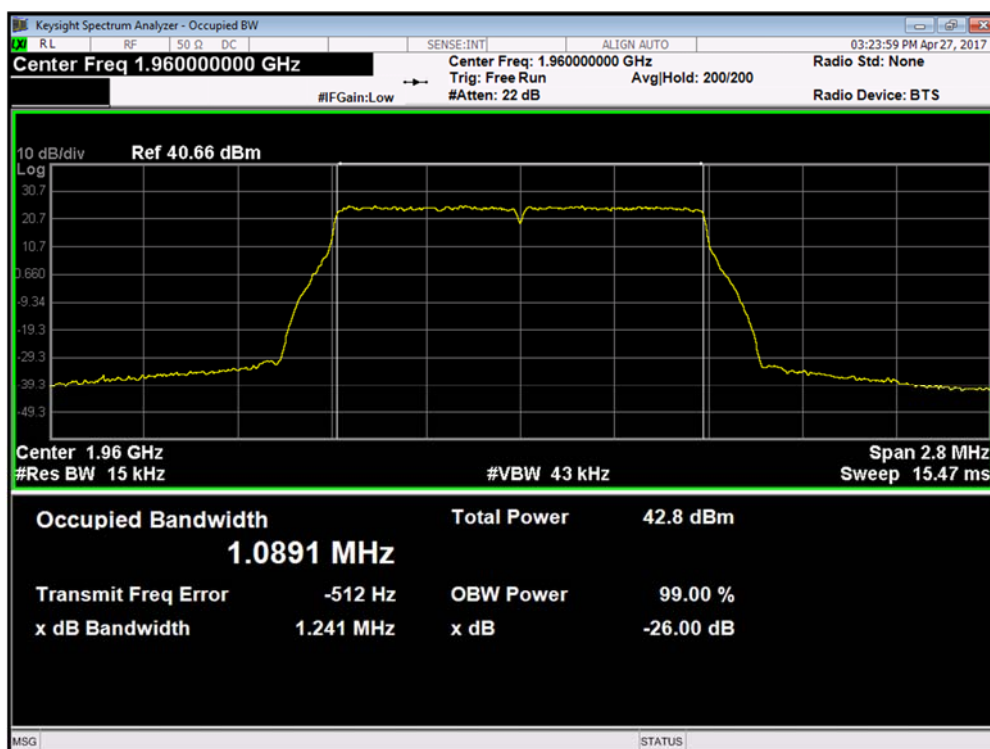


Product Service

### Channel Position B - QPSK / Bandwidth 1.4 MHz



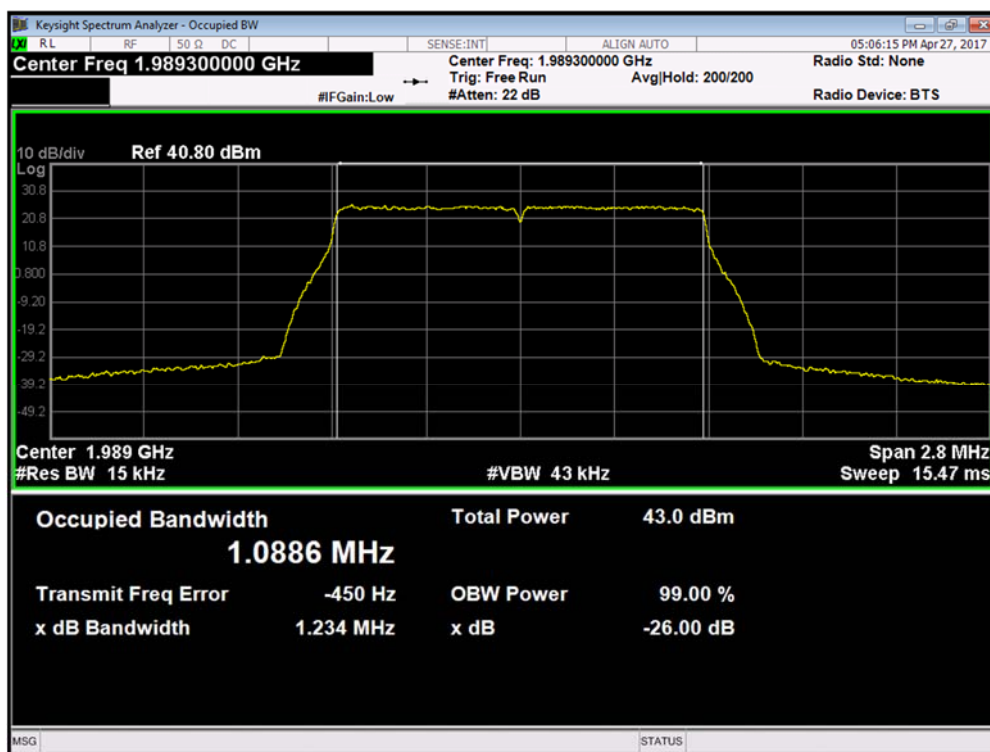
### Channel Position M - QPSK / Bandwidth 1.4 MHz



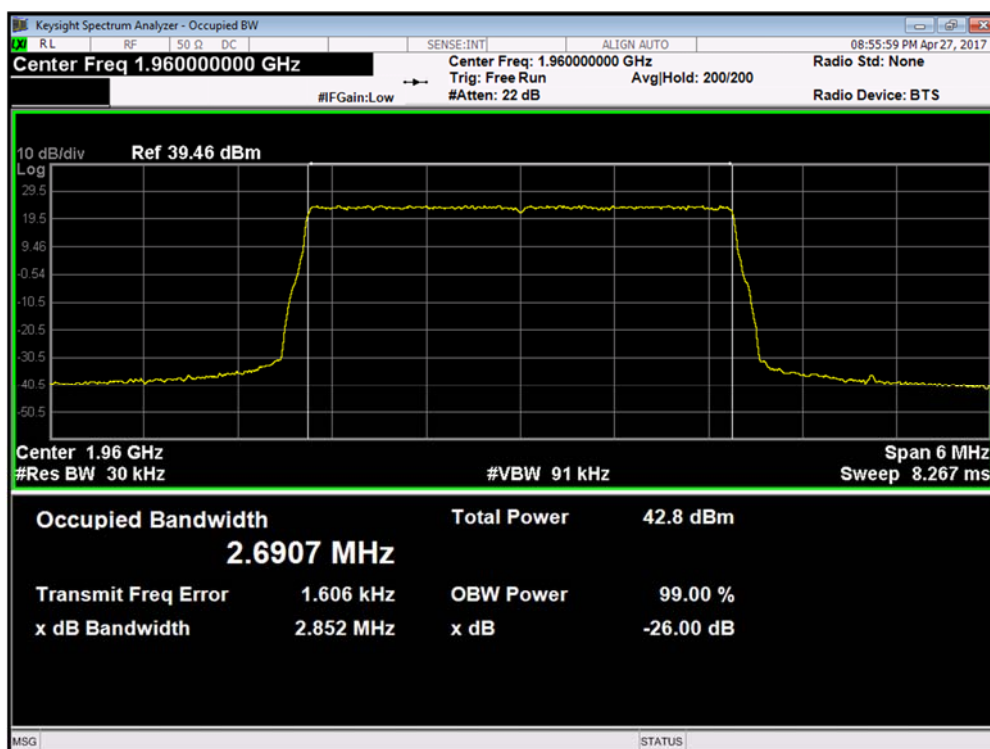


Product Service

### Channel Position T - QPSK / Bandwidth 1.4 MHz



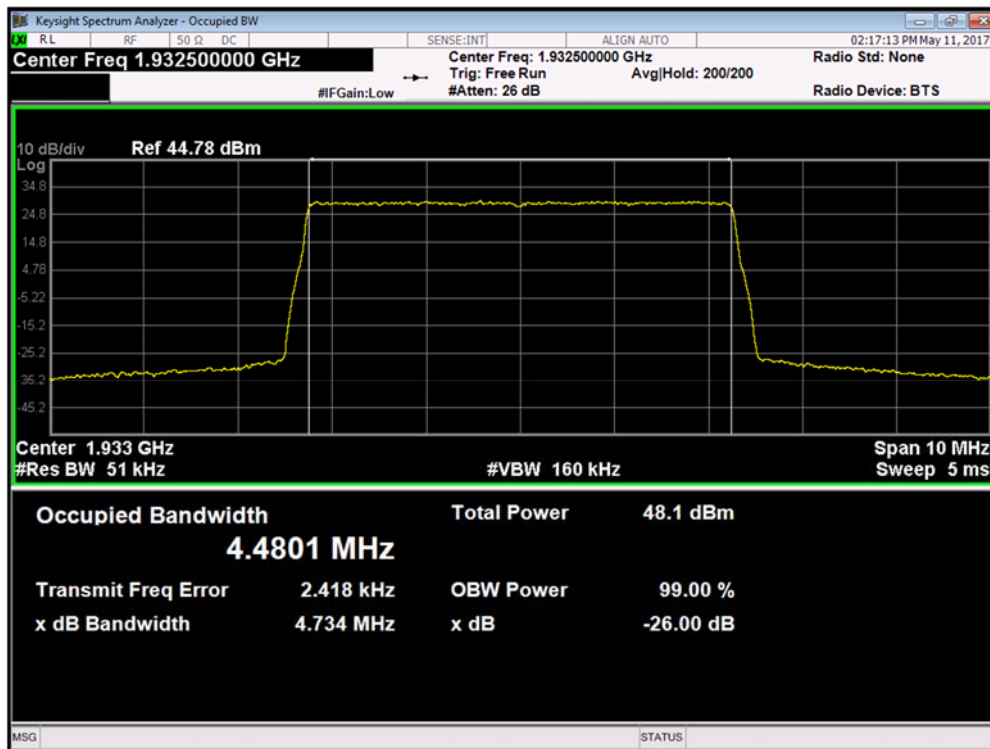
### Channel Position M - QPSK / Bandwidth 3.0 MHz



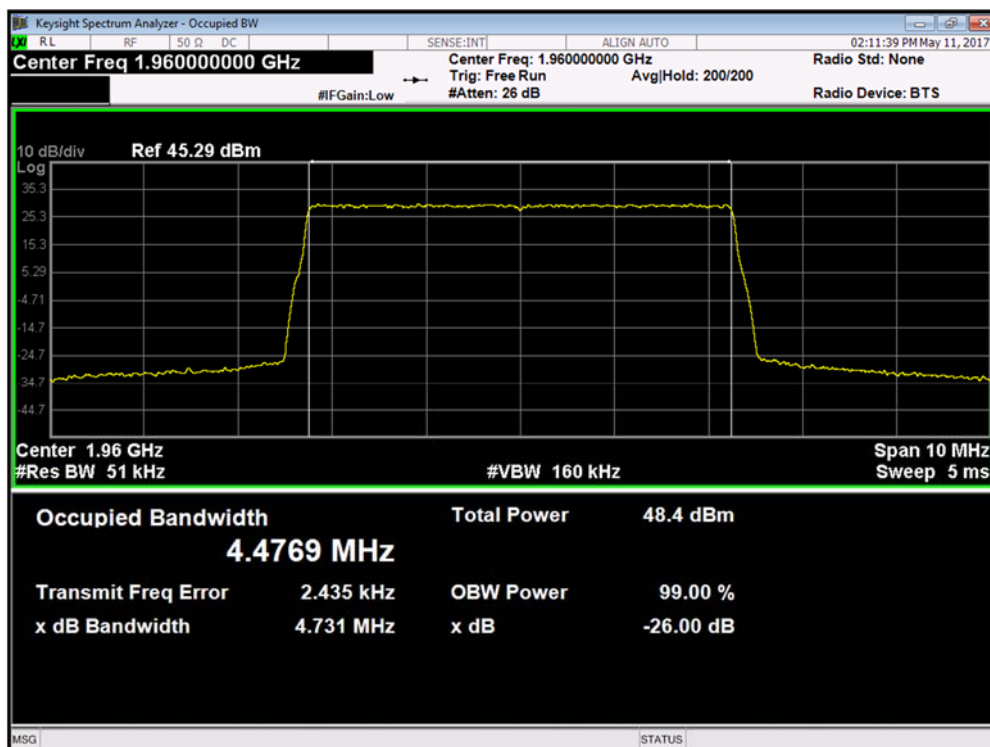


Product Service

### Channel Position B - QPSK / Bandwidth 5.0 MHz



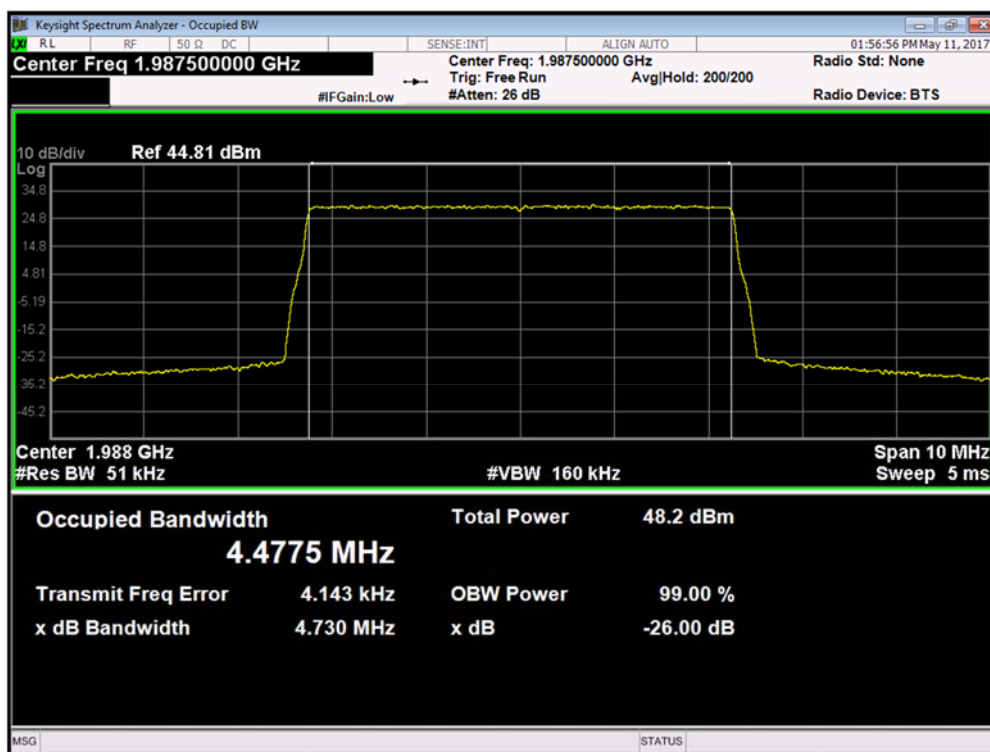
### Channel Position M - QPSK / Bandwidth 5.0 MHz



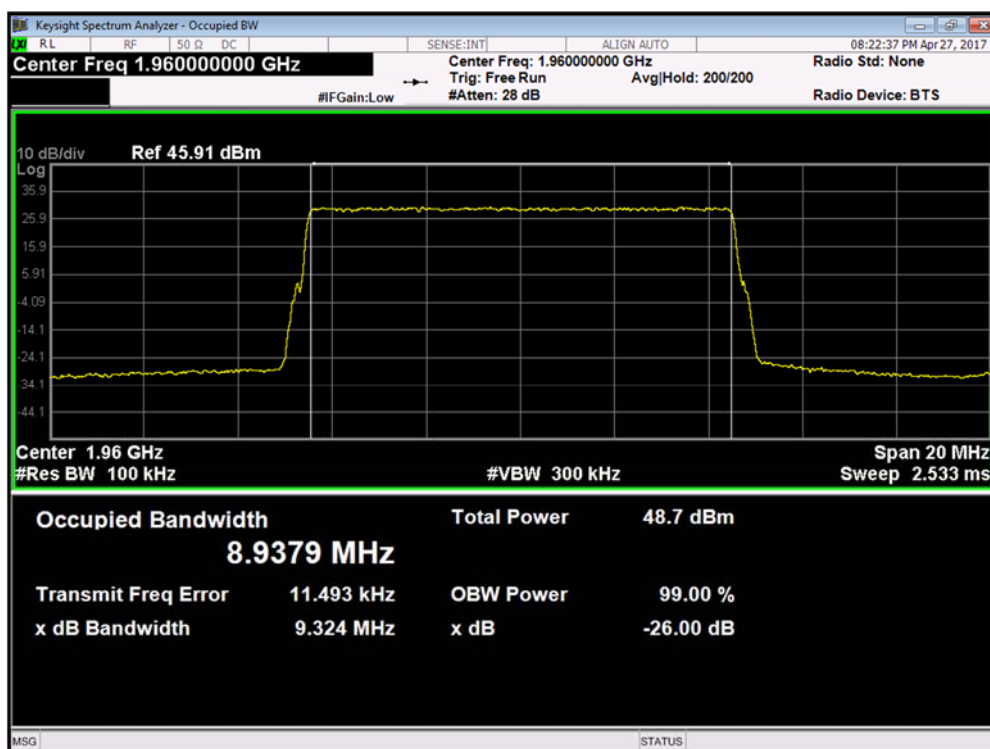


Product Service

### Channel Position T - QPSK / Bandwidth 5.0 MHz



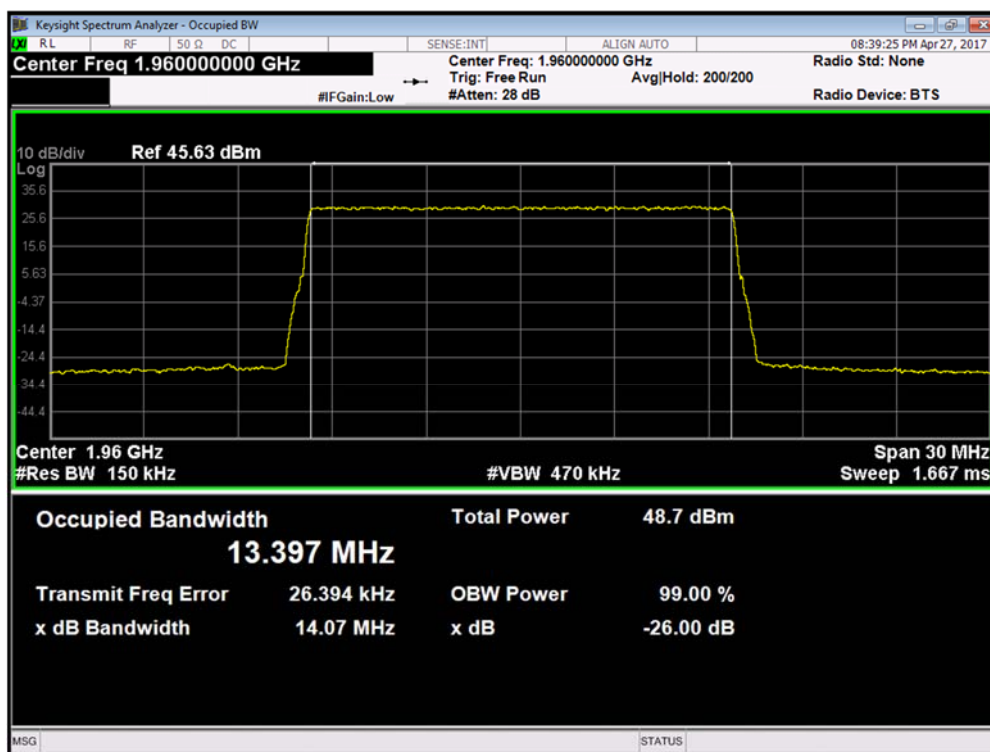
### Channel Position M - QPSK / Bandwidth 10.0 MHz



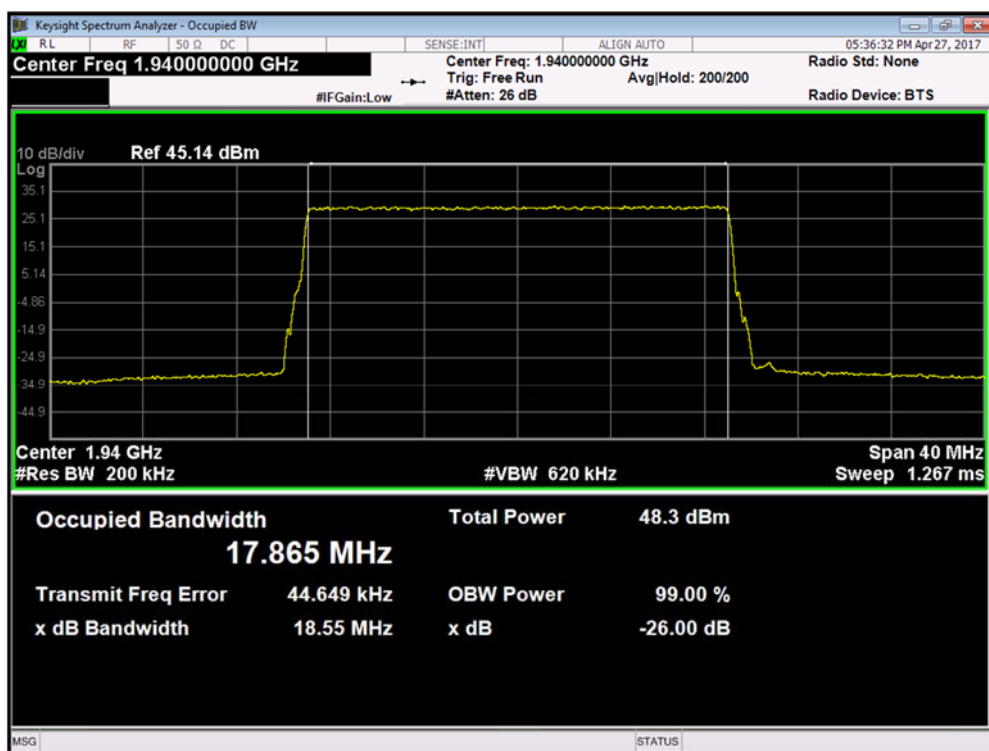


Product Service

### Channel Position M - QPSK / Bandwidth 15.0 MHz



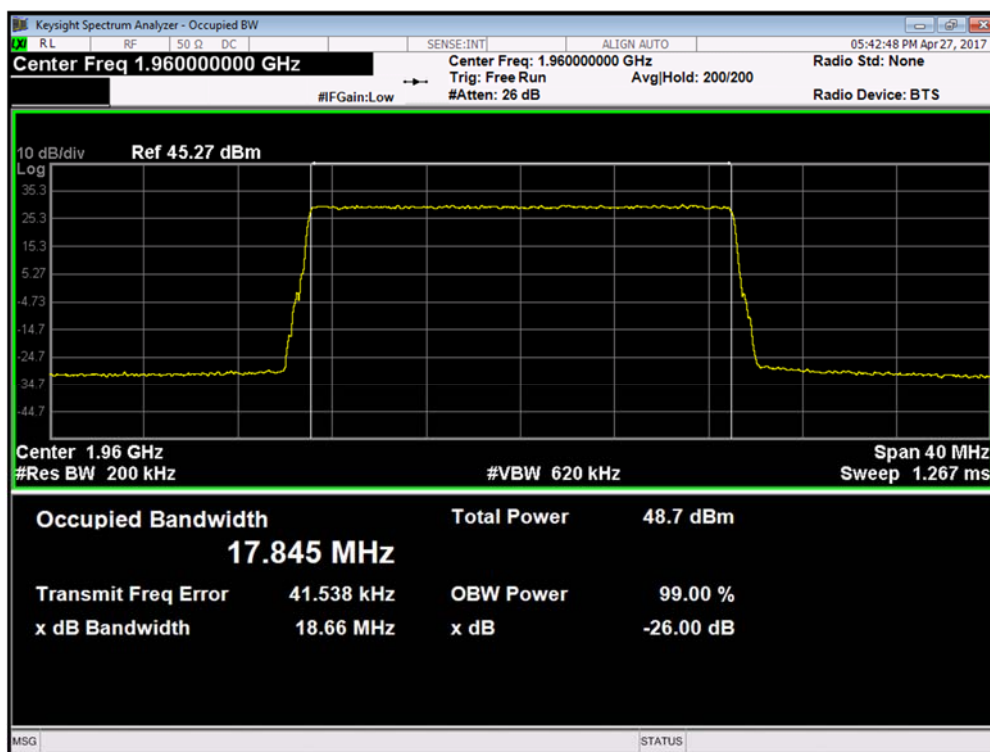
### Channel Position B - QPSK / Bandwidth 20.0 MHz



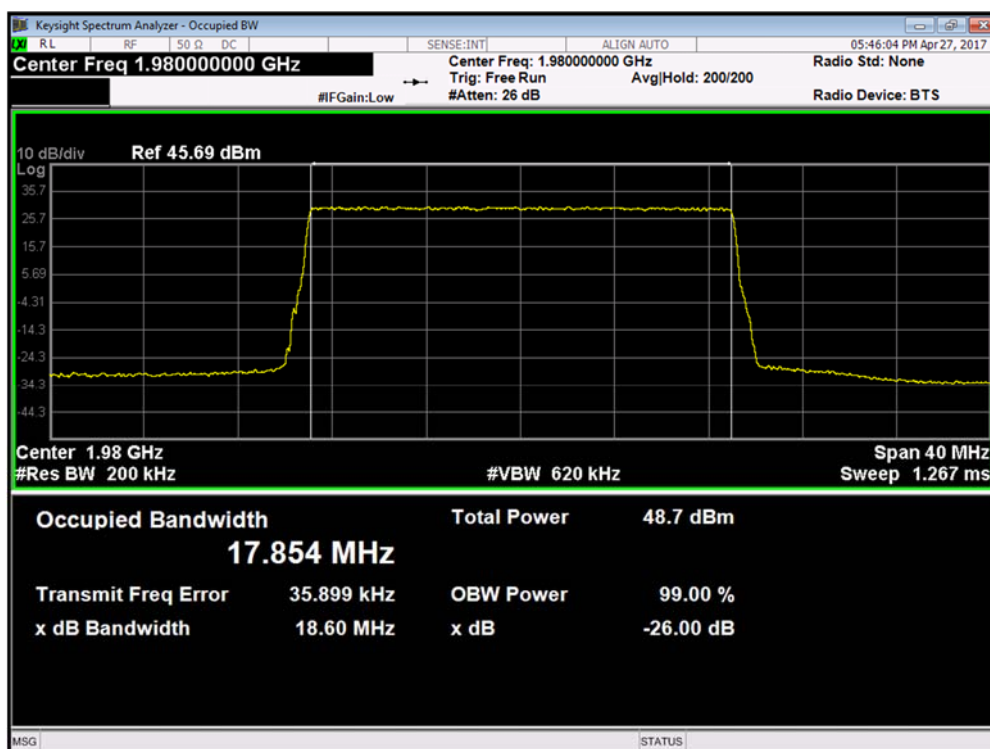


Product Service

### Channel Position M - QPSK / Bandwidth 20.0 MHz



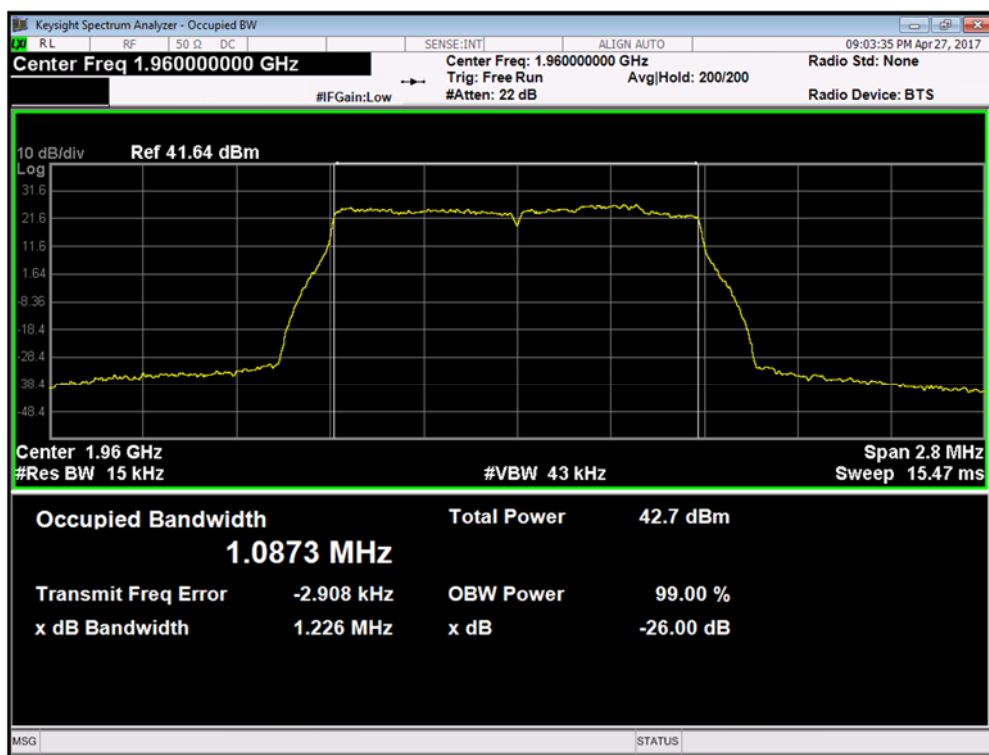
### Channel Position T - QPSK / Bandwidth 20.0 MHz



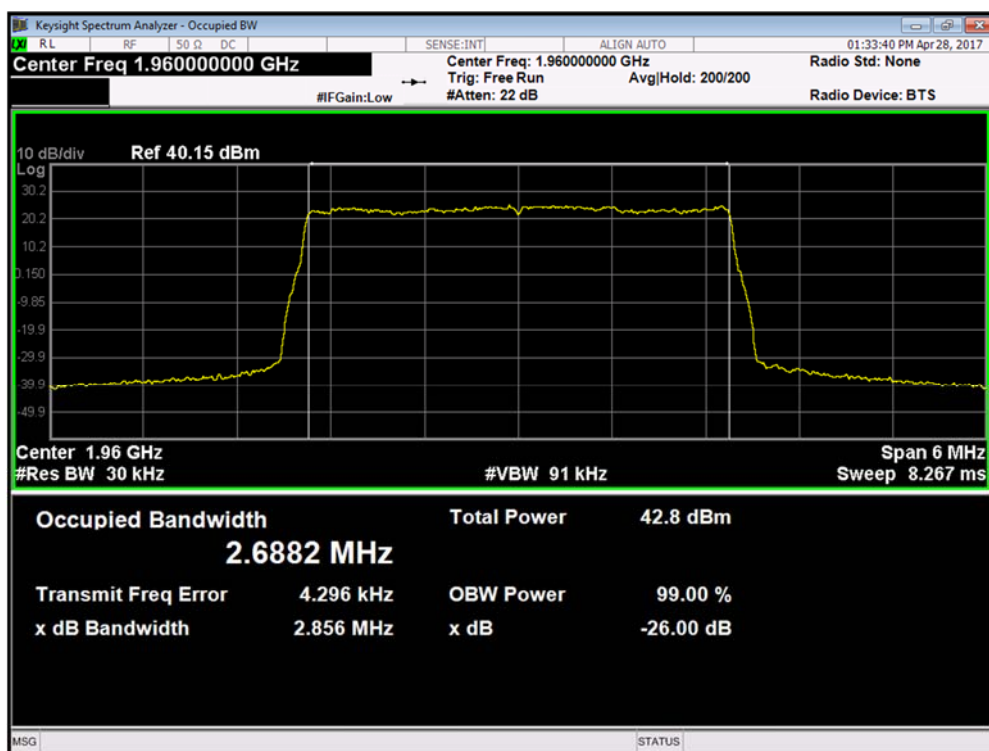


Product Service

### Channel Position M - 16QAM / Bandwidth 1.4 MHz



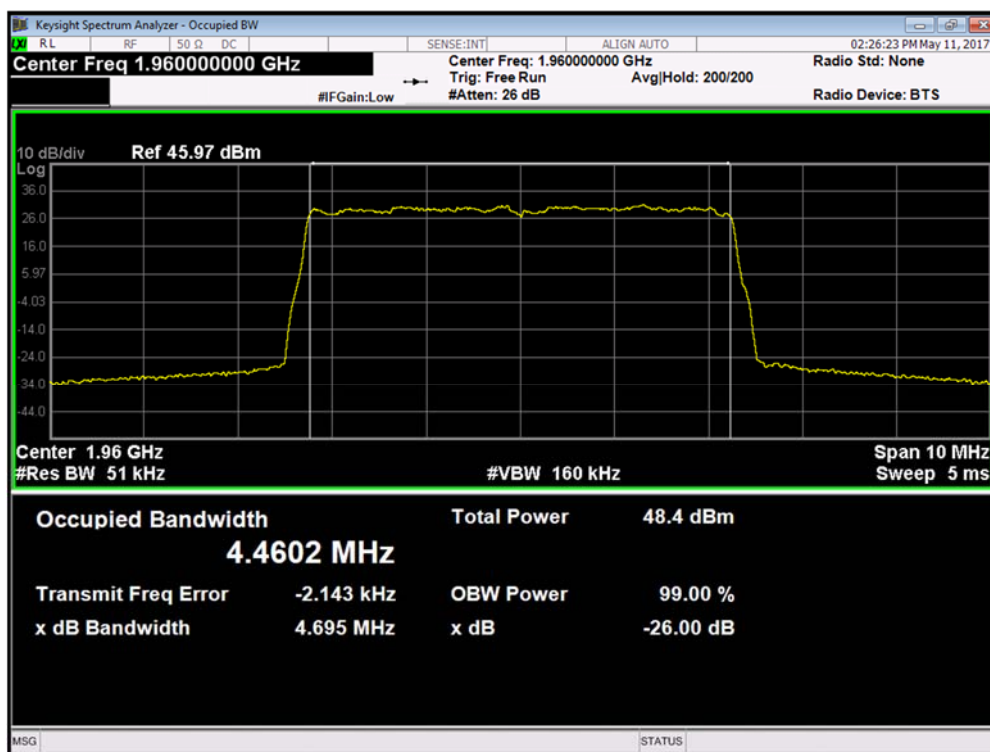
### Channel Position M - 16QAM / Bandwidth 3.0 MHz



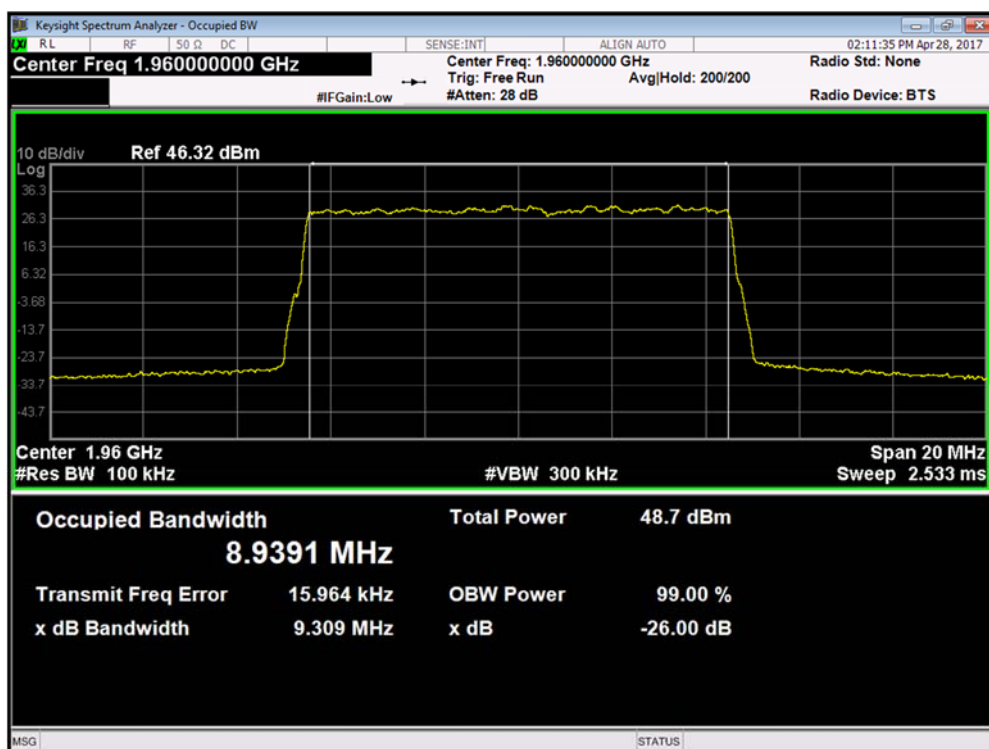


Product Service

### Channel Position M - 16QAM / Bandwidth 5.0 MHz



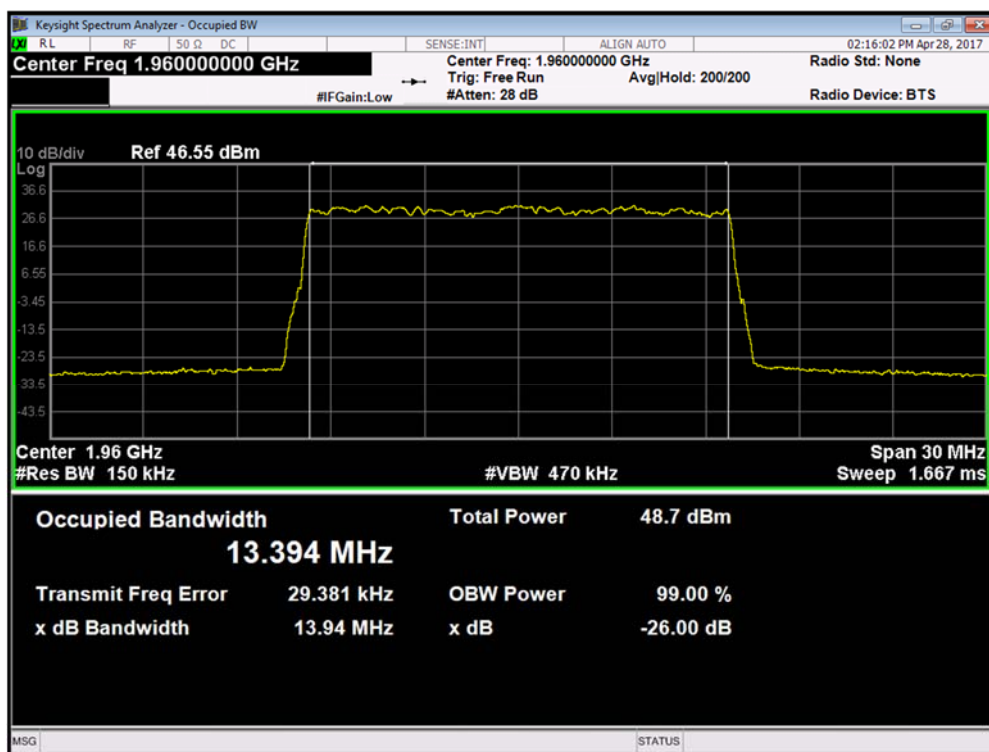
### Channel Position M - 16QAM / Bandwidth 10.0 MHz



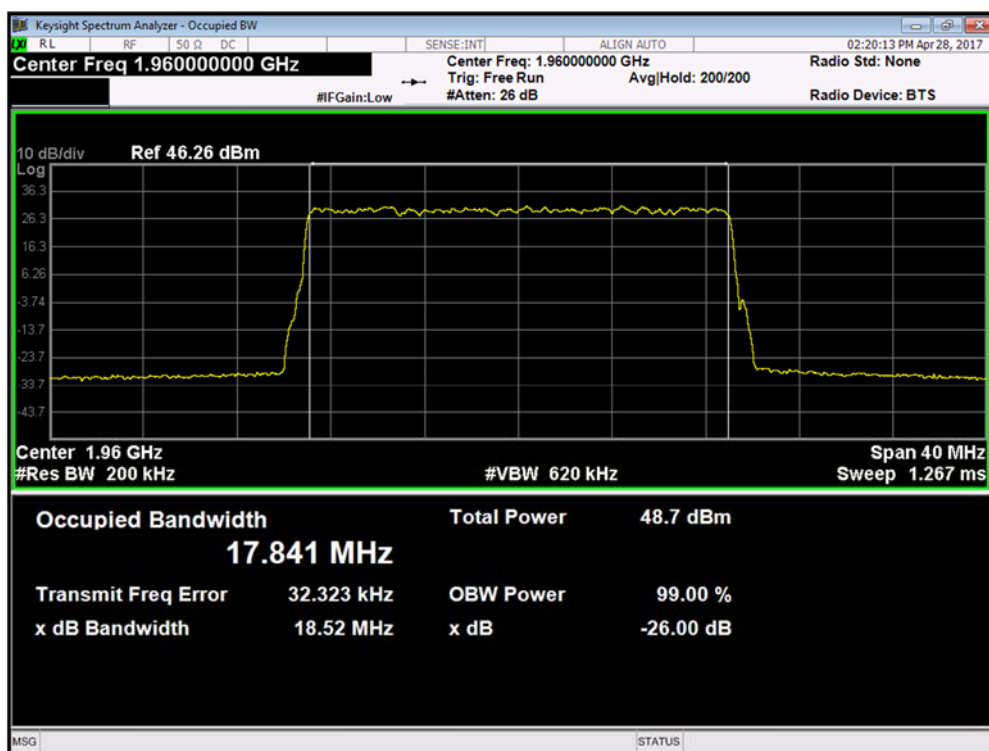


Product Service

### Channel Position M - 16QAM / Bandwidth 15.0 MHz



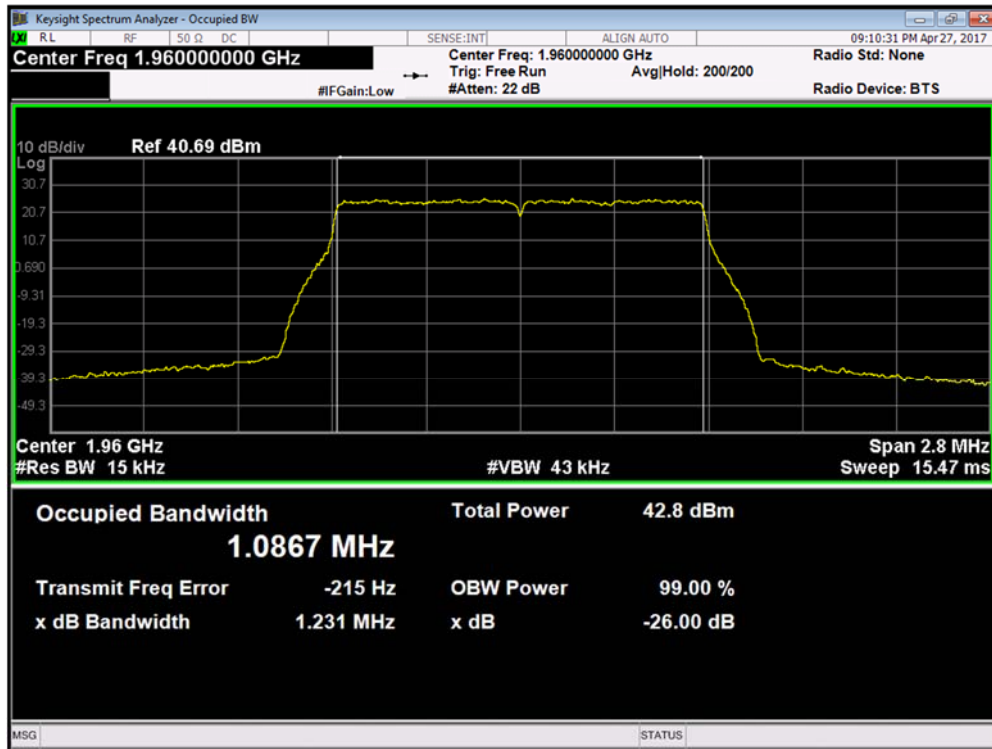
### Channel Position M - 16QAM / Bandwidth 20.0 MHz



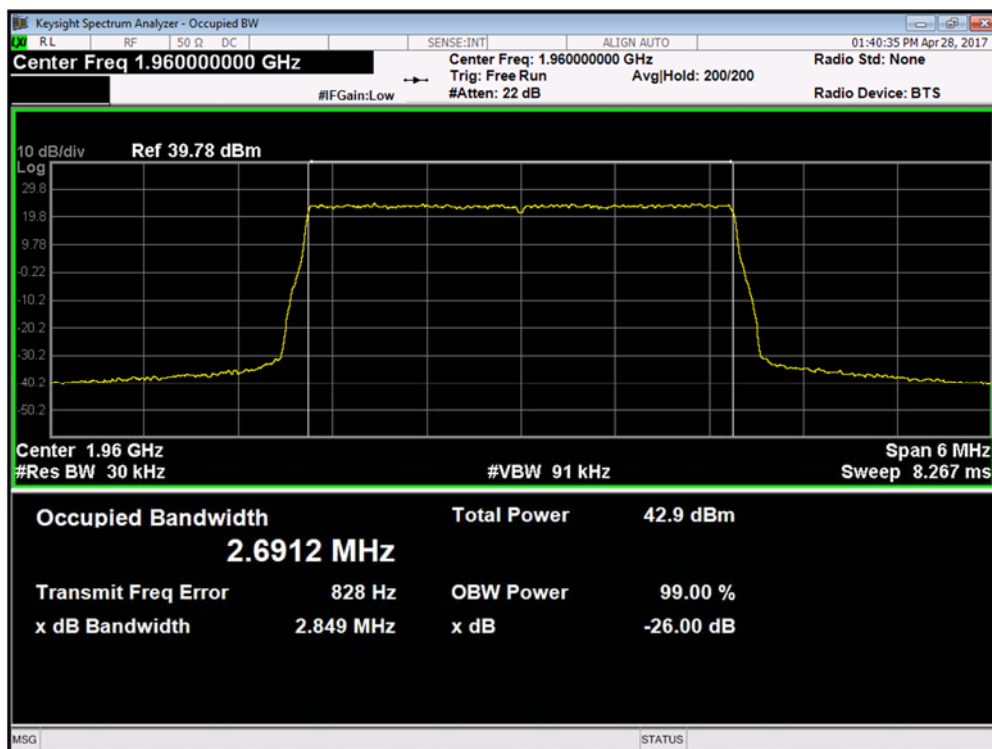


Product Service

### Channel Position M - 64QAM / Bandwidth 1.4 MHz



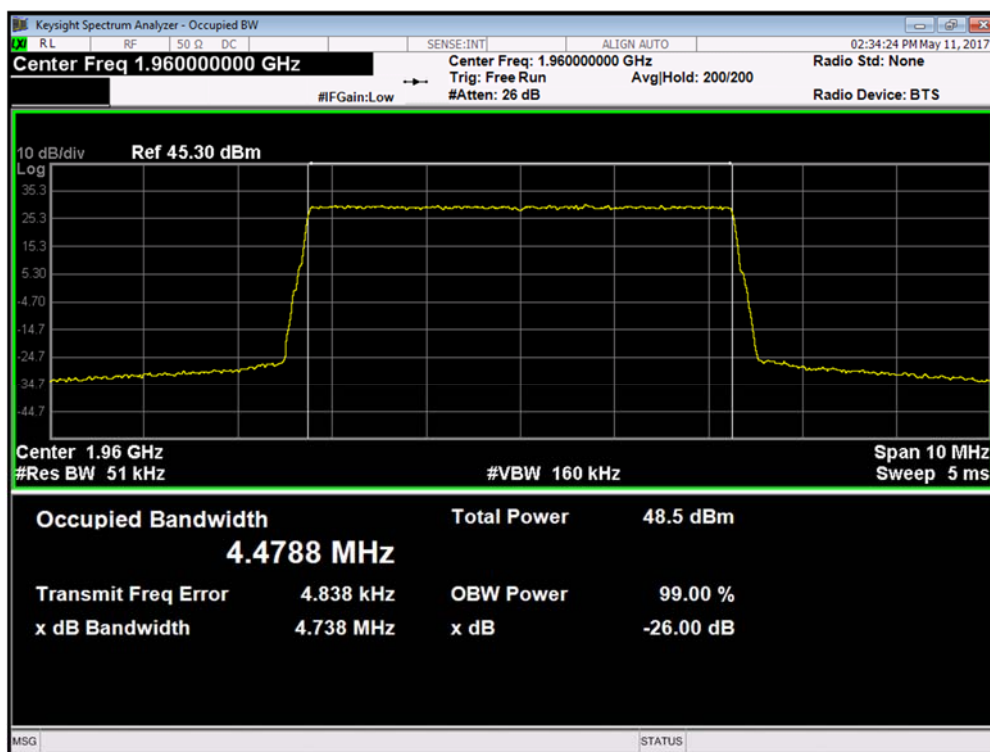
### Channel Position M - 64QAM / Bandwidth 3.0 MHz



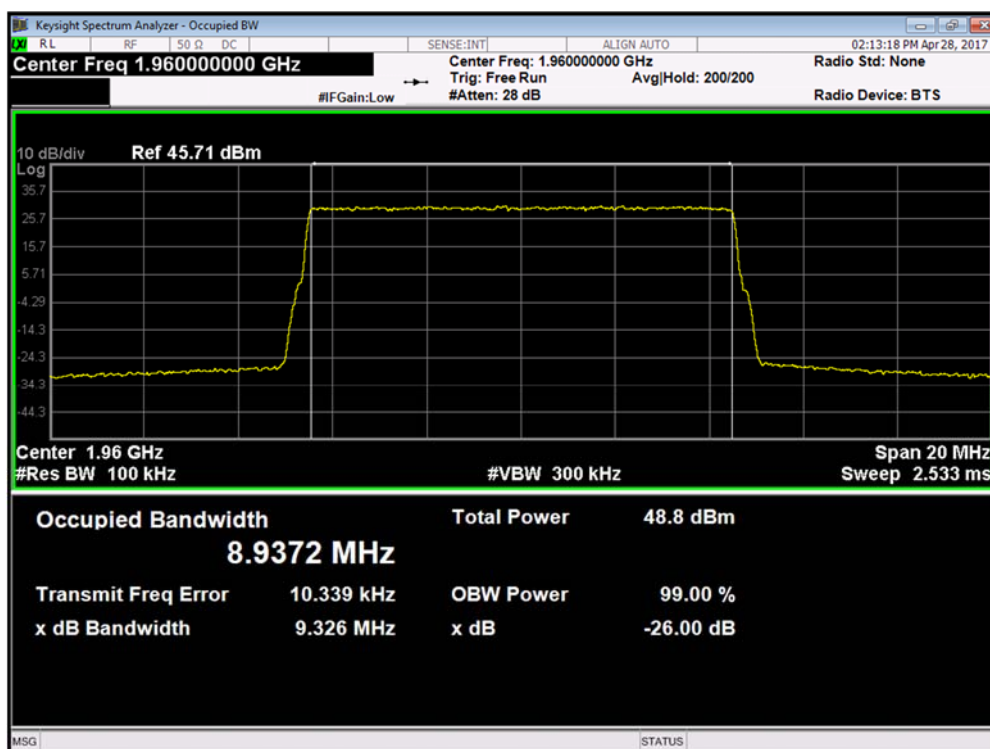


Product Service

### Channel Position M - 64QAM / Bandwidth 5.0 MHz



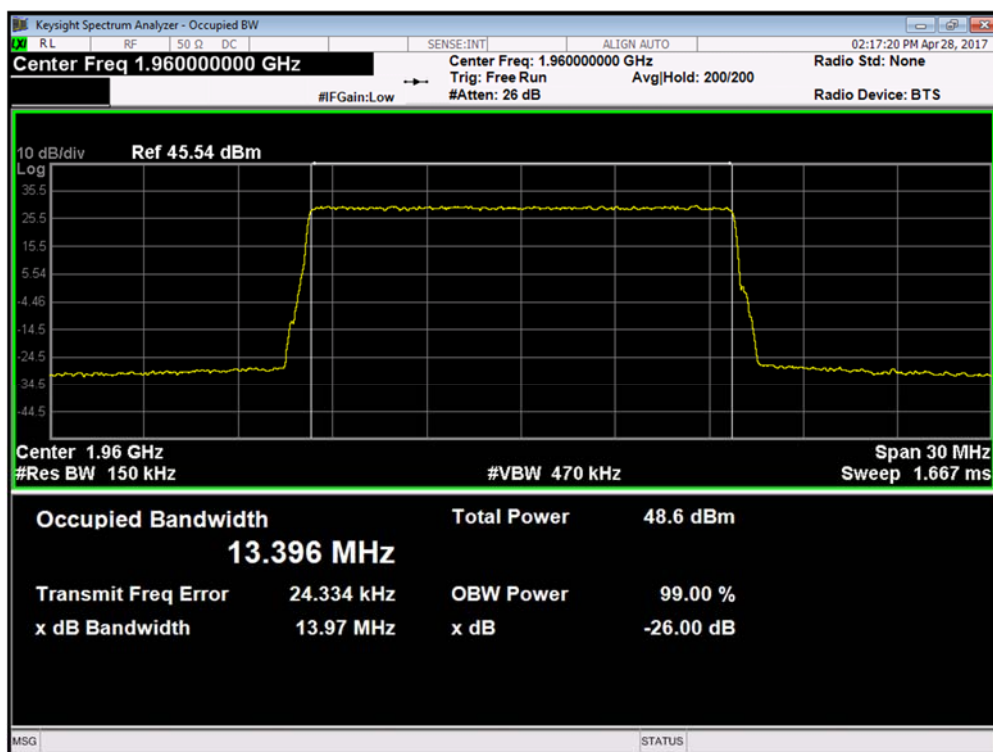
### Channel Position M - 64QAM / Bandwidth 10.0 MHz



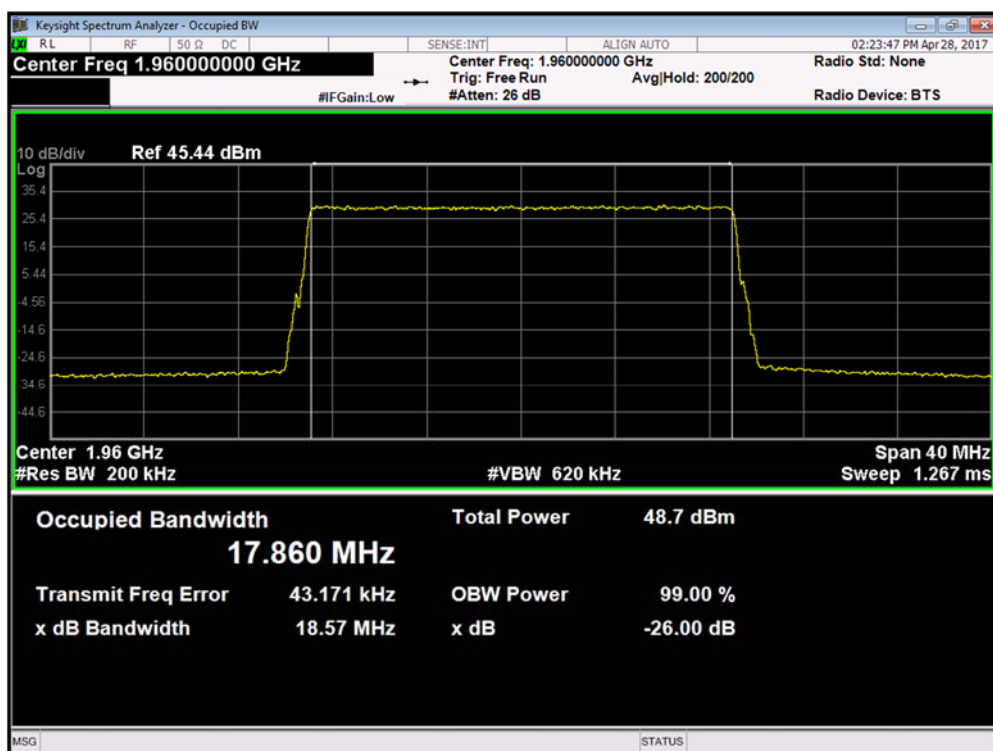


Product Service

### Channel Position M - 64QAM / Bandwidth 15.0 MHz



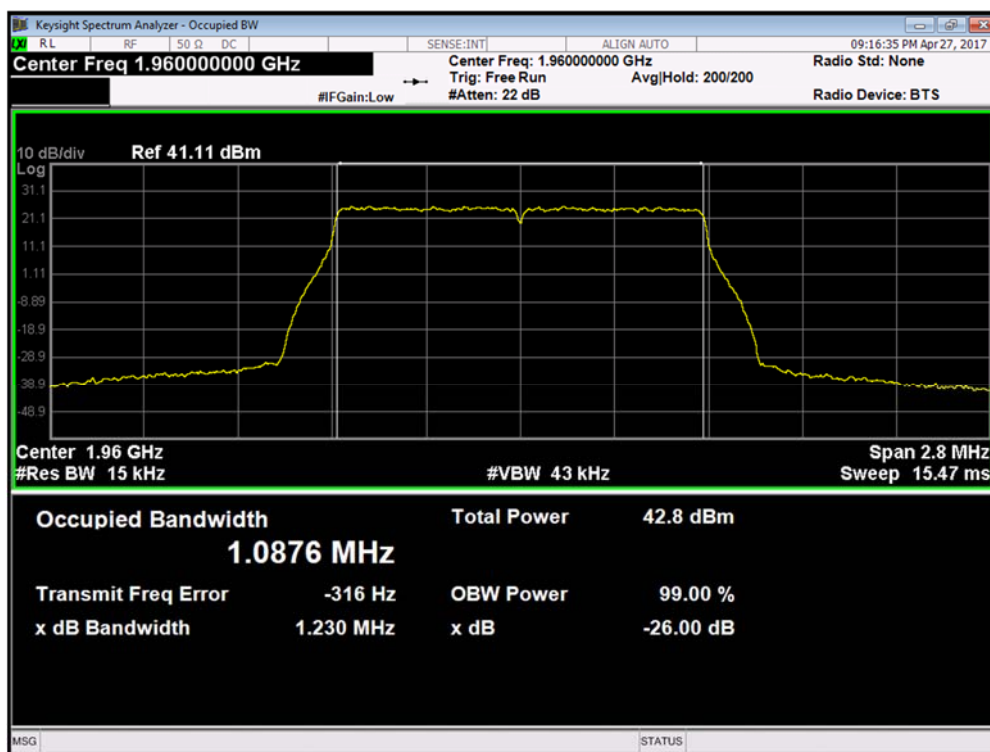
### Channel Position M - 64QAM / Bandwidth 20.0 MHz



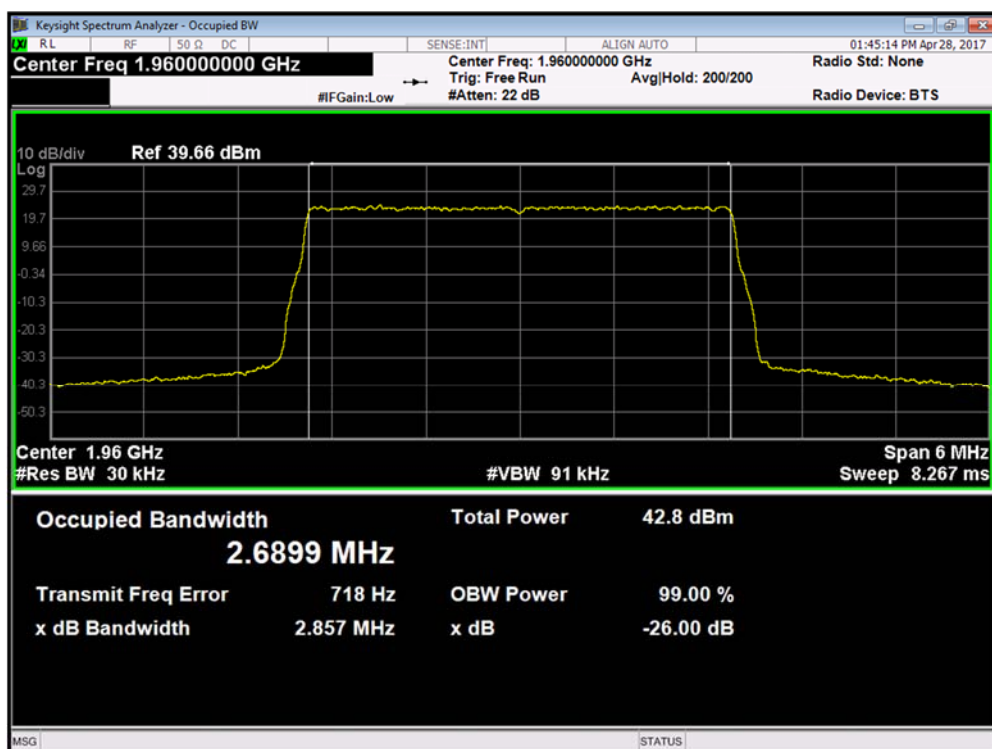


Product Service

### Channel Position M - 256QAM / Bandwidth 1.4 MHz



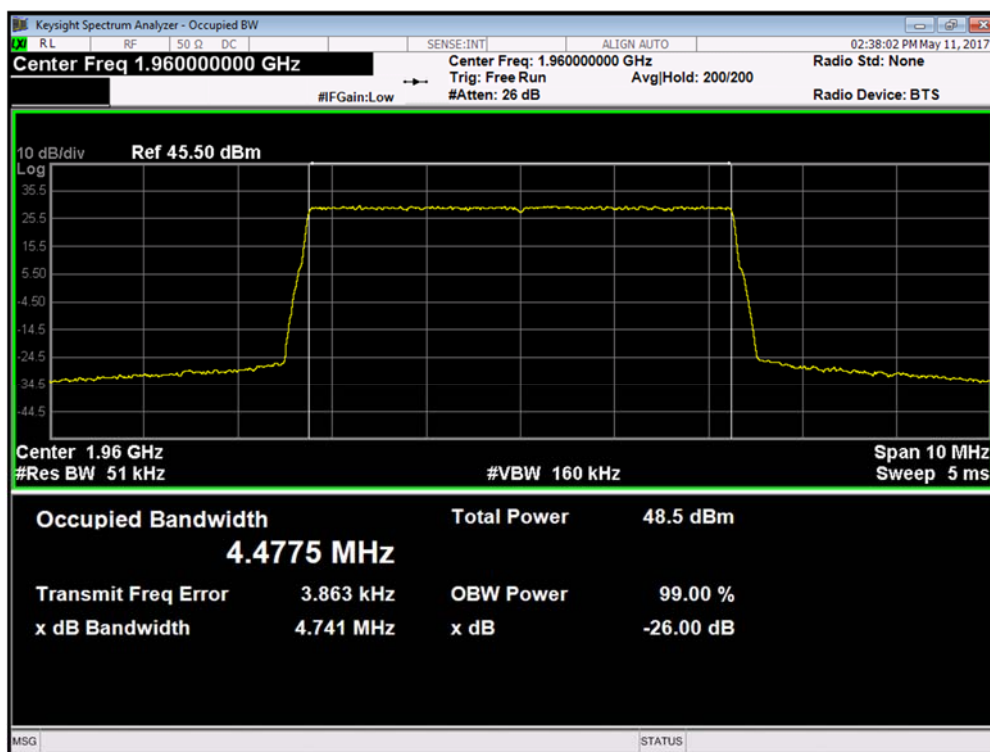
### Channel Position M - 256QAM / Bandwidth 3.0 MHz



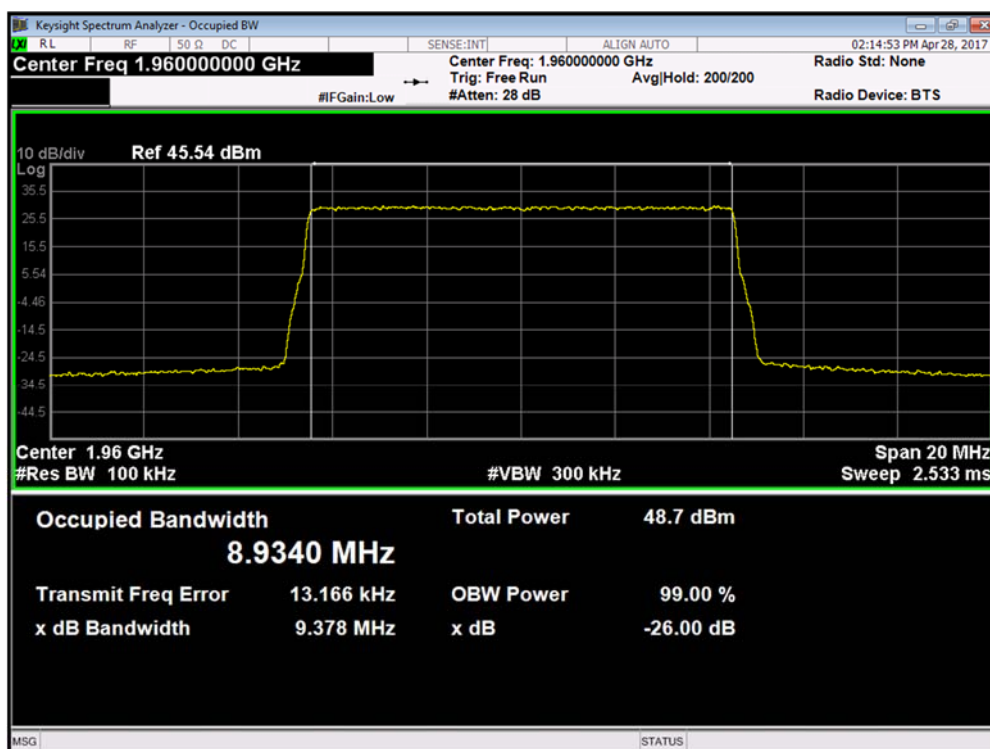


Product Service

### Channel Position M - 256QAM / Bandwidth 5.0 MHz



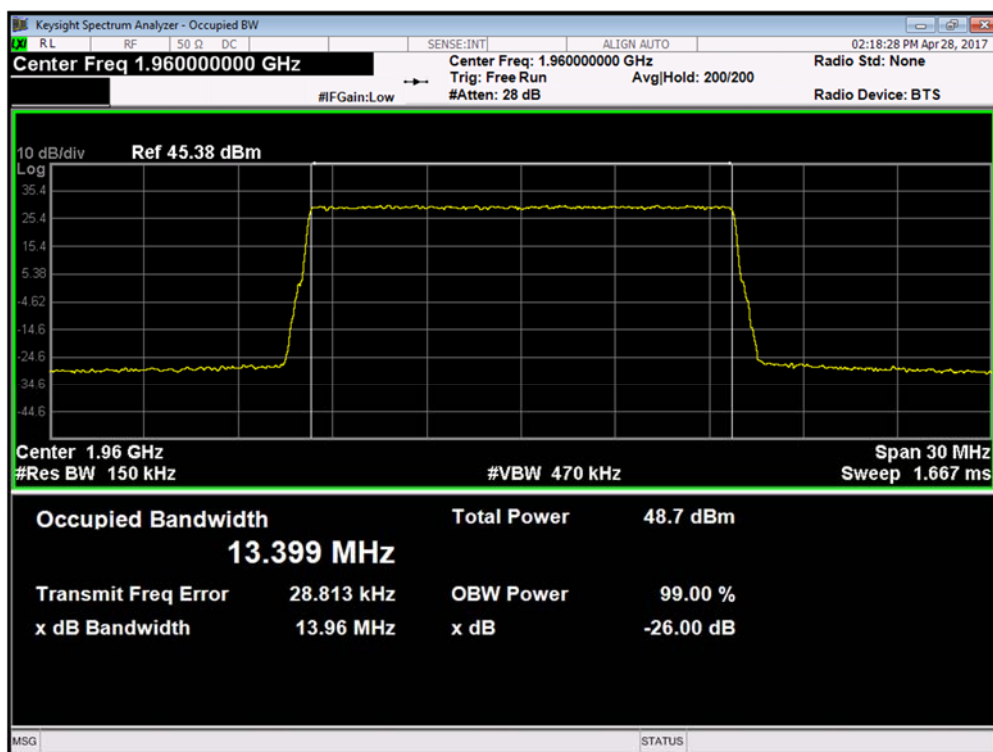
### Channel Position M - 256QAM / Bandwidth 10.0 MHz



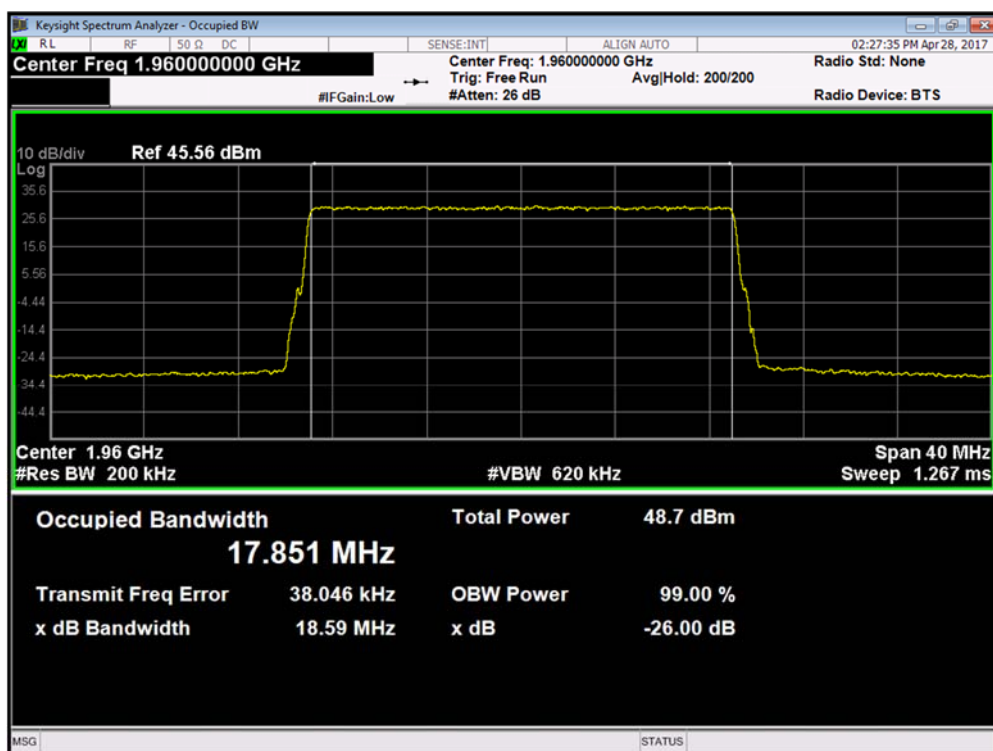


Product Service

### Channel Position M - 256QAM / Bandwidth 15.0 MHz



### Channel Position M - 256QAM / Bandwidth 20.0 MHz





Product Service

## **2.3 SPURIOUS EMISSION AT BAND EDGE**

### **2.3.1 Specification Reference**

FCC CFR 47 Part 2, Clause 2.1051  
FCC CFR 47 Part 24, Clause 24.238 (b)  
Industry Canada RSS-133, Clause 6.5

### **2.3.2 Equipment Under Test**

Radio 2219 B2, KRC 161 627/1, S/N: D825490218

### **2.3.3 Date of Test and Modification State**

26 April to 04 May 2017 - Modification State 0

### **2.3.4 Test Equipment Used**

The major items of test equipment used for the above tests are identified in Section 3.1.

### **2.3.5 Environmental Conditions**

|                     |               |
|---------------------|---------------|
| Ambient Temperature | 21.5 - 22.3°C |
| Relative Humidity   | 22.0 - 38.0%  |

### **2.3.6 Test Method**

The test was applied in accordance with the test method requirements of FCC Part 24 and Industry Canada RSS-133.

In accordance with FCC CFR 47 Part 24, Clause 24.238(b), the power of any emissions outside of the block edges shall be attenuated below the transmitter power (P) with the licensed band(s) of operation, measured in watts, by at least  $43 + 10 \log (P)$  dB. At least 1% of the emission bandwidth was used for the resolution bandwidths up to 1MHz away from the block edge.

For MIMO mode configurations, the limit was adjusted with a correction of -3.01dB  $[10\log(2)]$  by using the Measure and Add  $10\log(N)$  dB technique according to FCC KDB 662911 D01 Multiple Transmitter Output v02r01 accounting for simultaneous transmission from antennas port RF A to RF B.

As the FCC rules specify a RBW of 1MHz for measurements of emissions > 1MHz away from the band edges, the limit was adjusted with -13.01dB  $[10\log(50/1000)]$  to compensate for the reduce measurement bandwidth 50kHz. For MIMO mode, the limit of -29.02dBm was used for emission > 1MHz away from the band edges. For Non-MIMO mode, the limit of -26.01dBm was used for emission > 1MHz away from the band edges. Spectrum analyser detector was set as RMS.

The limits and RBW applied to the measurement of emissions in the 1MHz immediately outside and adjacent to the frequency block were shown in the test results for each test configuration.

The path loss measured and entered as a reference level offset. The EUT was set to transmit at its maximum rated output power in the configurations described in the tables below. The measurements were made at the bottom and top of the band with all channel bandwidth.

### 2.3.7 Test Results

Configuration G-SC

Maximum Output Power 43.0dBm per port

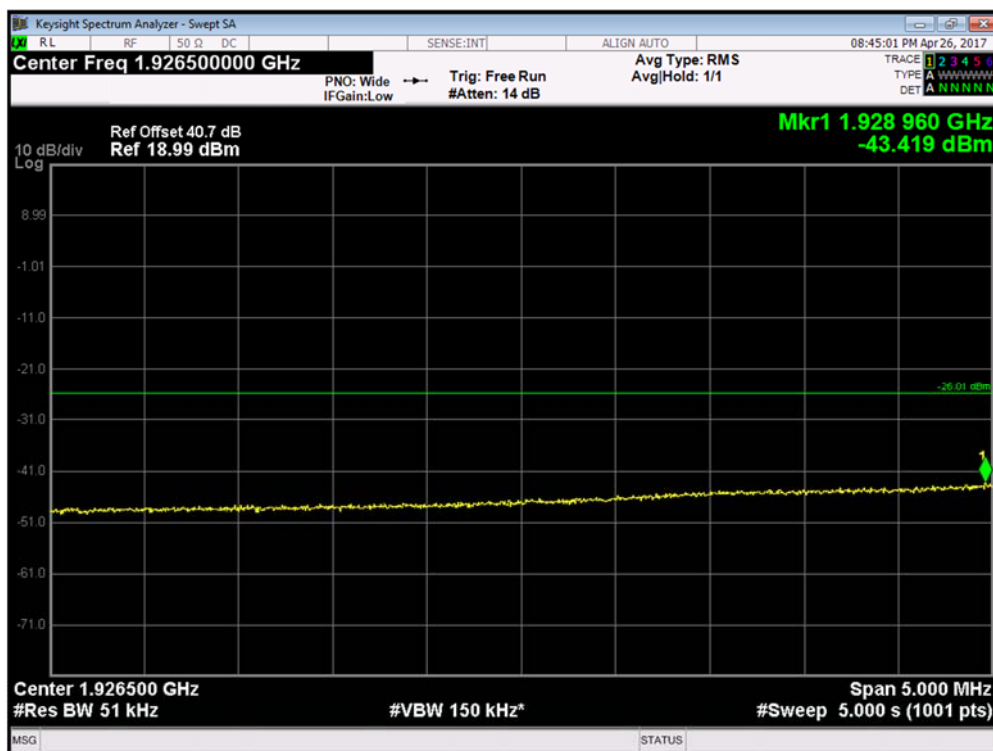
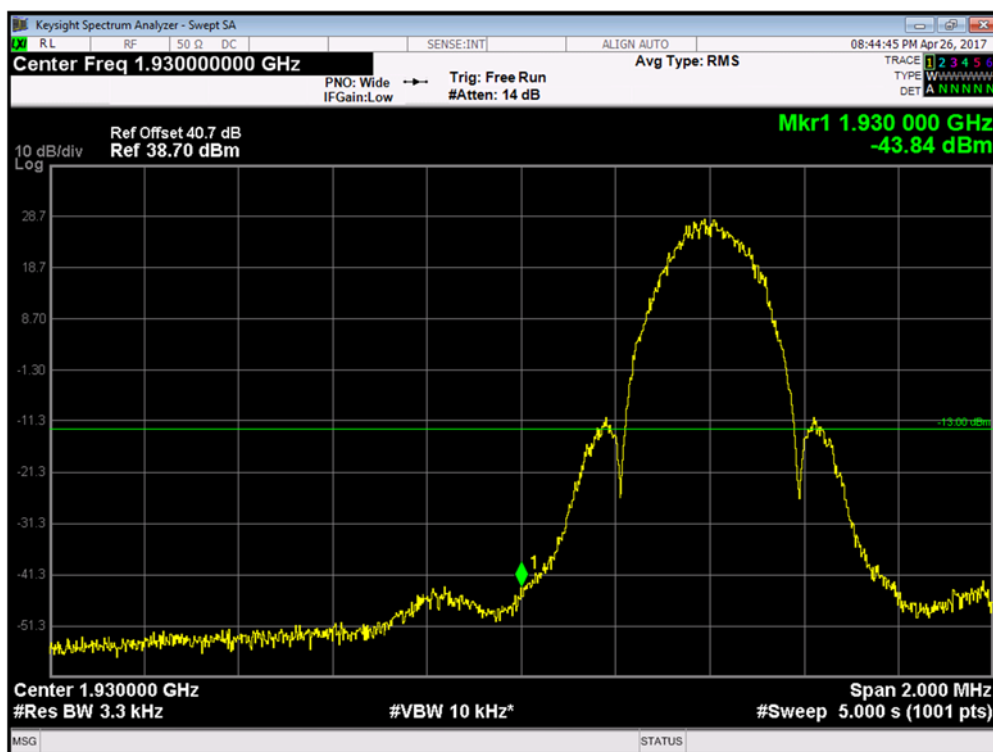
| Band Edge Frequency              | Channel Bandwidth | Edge Test with modulation GMSK Channel Frequencies | RBW (kHz) | Limit (dBm) |
|----------------------------------|-------------------|----------------------------------------------------|-----------|-------------|
| Channel Position B<br>1930.0 MHz | 250 kHz           | 1930.4MHz                                          | 3.3       | -13.00      |
| Channel Position T<br>1990.0 MHz | 250 kHz           | 1989.6MHz                                          | 3.3       | -13.00      |

Note: The channels shown in the table above are the minimum and maximum channels that can be used in the authorised frequency ranges to maintain compliance. Channels outside of the ranges shown in the above tables shall not be available to the end user.



Product Service

### Channel Position B – AQPSK





Product Service

### Channel Position T - AQPSK

