



**FCC CFR47 PART 22H, 24E, 27 AND 90S**

**CERTIFICATION TEST REPORT**

**FOR**

**TABLET DEVICE**

**MODEL NUMBER: A1652**

**FCC ID: BCGA1652**

**REPORT NUMBER: 14U19185-E13V3**

**ISSUE DATE: SEPTEMBER 14, 2015**

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**NVLAP LAB CODE 200065-0**

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Revision History

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| Rev. | Issue Date | Revisions                       | Revised By |
|------|------------|---------------------------------|------------|
| V1   | 09/03/2015 | Initial Review                  | M. Mekuria |
| V2   | 09/10/2015 | Addressed TCB Questions         | M. Mekuria |
| V3   | 09/14/2015 | Removed band 7 from Section 5.5 | T. Chu     |

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## 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** APPLE  
1 INFINITE LOOP  
CUPERTINO, CA 95014, U.S.A.

**EUT DESCRIPTION:** TABLET DEVICE

**MODEL:** A1652

**SERIAL NUMBER:** DLXQ2057GPD2 (CONDUCTED);  
DLXQ102WGP3 (RADIATED)

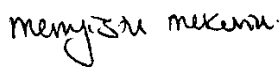
**DATE TESTED:** JULY 20 – AUGUST 13, 2015

| APPLICABLE STANDARDS                |              |
|-------------------------------------|--------------|
| STANDARD                            | TEST RESULTS |
| FCC CFR47 PART 22H, 24E, 27 and 90S | Pass         |

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

**Note:** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released For  
UL Verification Services Inc. By:



MENGISTU MEKURIA  
SENIOR ENGINEER  
UL VERIFICATION SERVICES INC.

Tested By:



TINA CHU  
LAB ENGINEER  
UL VERIFICATION SERVICES INC.

## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with TIA-603-D, FCC CFR 47 Part 2, FCC KDB 971168 D01 v02r02, Part 22, Part 24, Part 27 and Part 90.

## 3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA. Line conducted emissions are measured only at the 47173 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

| 47173 Benicia Street               | 47266 Benicia Street                          |
|------------------------------------|-----------------------------------------------|
| <input type="checkbox"/> Chamber A | <input type="checkbox"/> Chamber D            |
| <input type="checkbox"/> Chamber B | <input type="checkbox"/> Chamber E            |
| <input type="checkbox"/> Chamber C | <input type="checkbox"/> Chamber F            |
|                                    | <input checked="" type="checkbox"/> Chamber G |
|                                    | <input checked="" type="checkbox"/> Chamber H |

The above test sites and facilities are covered under FCC Test Firm Registration # 208313.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <http://ts.nist.gov/standards/scopes/2000650.htm>.

## 4. CALIBRATION AND UNCERTAINTY

### 4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

### 4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

$$\begin{aligned} \text{Field Strength (dBuV/m)} &= \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \\ &\text{Cable Loss (dB)} - \text{Preamplifier Gain (dB)} \\ 36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} &= 28.9 \text{ dBuV/m} \end{aligned}$$

### 4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

| PARAMETER                             | UNCERTAINTY |
|---------------------------------------|-------------|
| Conducted Disturbance, 0.15 to 30 MHz | ± 3.52 dB   |
| Radiated Disturbance, 30 to 1000 MHz  | ± 4.94 dB   |
| Radiated Disturbance, 1 to 6 GHz      | ± 3.86 dB   |
| Radiated Disturbance, 6 to 18 GHz     | ± 4.23 dB   |
| Radiated Disturbance, 18 to 26 GHz    | ± 5.30 dB   |
| Radiated Disturbance, 26 to 40 GHz    | ± 5.23 dB   |

Uncertainty figures are valid to a confidence level of 95%.

## 5. EQUIPMENT UNDER TEST

### 5.1. DESCRIPTION OF EUT

The EUT is a tablet with multimedia functions (music, application support, and video), Cellular GSM/GPRS/EGPRS/CDMA2000 1xRTT/1x Advanced/EVDO Rev.A/EVDO Rev.B /WCDMA /HSPA+/DC-HSDPA/LTE FDD & Carrier Aggregation/TDD/TD-SCDMA radio, IEEE 802.11a/b/g/n/ac radio and Bluetooth radio. The rechargeable battery is not user accessible

### 5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted and ERP / EIRP output powers as follows:

#### OUTPUT POWER FOR LTE BAND 2

| Part 24 / RSS 133 LTE Band 2 |                    |            |                     |       |                |       |
|------------------------------|--------------------|------------|---------------------|-------|----------------|-------|
| Bandwidth<br>(MHz)           | Frequency<br>Range | Modulation | Conducted (Average) |       | EIRP (Average) |       |
|                              |                    |            | dBm                 | mW    | dBm            | mW    |
| 1.4                          | 1850 - 1910        | QPSK       | 23.75               | 237.1 | 27.54          | 567.5 |
|                              |                    | 16QAM      | 22.79               | 190.1 | 26.51          | 447.7 |
| 3                            |                    | QPSK       | 23.72               | 235.5 | 26.71          | 468.8 |
|                              |                    | 16QAM      | 22.75               | 188.4 | 25.81          | 381.1 |
| 5                            |                    | QPSK       | 23.74               | 236.6 | 26.74          | 472.1 |
|                              |                    | 16QAM      | 22.76               | 188.8 | 25.74          | 375.0 |
| 10                           |                    | QPSK       | 23.67               | 232.8 | 26.55          | 451.9 |
|                              |                    | 16QAM      | 22.74               | 187.9 | 25.51          | 355.6 |
| 15                           |                    | QPSK       | 23.70               | 234.4 | 27.18          | 522.4 |
|                              |                    | 16QAM      | 22.77               | 189.2 | 26.21          | 417.8 |
| 20                           |                    | QPSK       | 23.75               | 237.1 | 26.25          | 421.7 |
|                              |                    | 16QAM      | 22.78               | 189.7 | 25.21          | 331.9 |

#### OUTPUT POWER FOR LTE BAND 4

| Part 27 / RSS 139 LTE Band 4 |                    |            |                     |       |               |       |
|------------------------------|--------------------|------------|---------------------|-------|---------------|-------|
| Bandwidth<br>(MHz)           | Frequency<br>Range | Modulation | Conducted (Average) |       | EIRP(Average) |       |
|                              |                    |            | dBm                 | mW    | dBm           | mW    |
| 1.4                          | 1710 - 1755        | QPSK       | 24.00               | 251.2 | 25.60         | 363.1 |
|                              |                    | 16QAM      | 23.02               | 200.4 | 24.61         | 289.1 |
| 3                            |                    | QPSK       | 23.97               | 249.5 | 25.53         | 357.3 |
|                              |                    | 16QAM      | 22.93               | 196.3 | 24.51         | 282.5 |
| 5                            |                    | QPSK       | 23.99               | 250.6 | 25.59         | 362.2 |
|                              |                    | 16QAM      | 22.92               | 195.9 | 24.61         | 289.1 |
| 10                           |                    | QPSK       | 23.97               | 249.5 | 25.98         | 396.3 |
|                              |                    | 16QAM      | 22.99               | 199.1 | 25.11         | 324.3 |
| 15                           |                    | QPSK       | 23.96               | 248.9 | 25.85         | 384.6 |
|                              |                    | 16QAM      | 23.03               | 200.9 | 24.91         | 309.7 |
| 20                           |                    | QPSK       | 23.99               | 250.6 | 25.54         | 358.1 |
|                              |                    | 16QAM      | 22.94               | 196.8 | 24.54         | 284.4 |

### OUTPUT POWER FOR LTE BAND 5

| Part 22 / RSS 132 LTE Band 5 |                    |            |                     |       |               |       |                |       |
|------------------------------|--------------------|------------|---------------------|-------|---------------|-------|----------------|-------|
| Bandwidth<br>(MHz)           | Frequency<br>Range | Modulation | Conducted (Average) |       | ERP (Average) |       | EIRP (Average) |       |
|                              |                    |            | dBm                 | mW    | dBm           | mW    | dBm            | mW    |
| 1.4                          | 824 - 849          | QPSK       | 24.48               | 280.5 | 21.24         | 133.0 | 23.39          | 218.3 |
|                              |                    | 16QAM      | 23.50               | 223.9 | 20.19         | 104.5 | 22.34          | 171.4 |
| 3                            |                    | QPSK       | 24.50               | 281.8 | 21.53         | 142.2 | 23.68          | 233.3 |
|                              |                    | 16QAM      | 23.49               | 223.4 | 20.52         | 112.7 | 22.67          | 184.9 |
| 5                            |                    | QPSK       | 24.45               | 278.6 | 22.19         | 165.6 | 24.34          | 271.6 |
|                              |                    | 16QAM      | 23.49               | 223.4 | 21.49         | 140.9 | 23.64          | 231.2 |
| 10                           |                    | QPSK       | 24.50               | 281.8 | 21.92         | 155.6 | 24.07          | 255.3 |
|                              |                    | 16QAM      | 23.50               | 223.9 | 21.02         | 126.5 | 23.17          | 207.5 |

### OUTPUT POWER FOR LTE BAND 13

| Part 27 / RSS 130 LTE Band 13 |                    |            |                     |       |               |       |                |       |
|-------------------------------|--------------------|------------|---------------------|-------|---------------|-------|----------------|-------|
| Bandwidth<br>(MHz)            | Frequency<br>Range | Modulation | Conducted (Average) |       | ERP (Average) |       | EIRP (Average) |       |
|                               |                    |            | dBm                 | mW    | dBm           | mW    | dBm            | mW    |
| 5                             | 777 - 787          | QPSK       | 23.99               | 250.6 | 20.83         | 121.1 | 22.98          | 198.6 |
|                               |                    | 16QAM      | 23.03               | 200.9 | 19.98         | 99.5  | 22.13          | 163.3 |
| 10                            |                    | QPSK       | 23.98               | 250.0 | 21.43         | 139.0 | 23.58          | 228.0 |
|                               |                    | 16QAM      | 22.95               | 197.2 | 20.53         | 113.0 | 22.68          | 185.4 |

### OUTPUT POWER FOR LTE BAND 17

| Part 27 / RSS 130 LTE Band 17 |                    |            |                     |       |               |      |                |       |
|-------------------------------|--------------------|------------|---------------------|-------|---------------|------|----------------|-------|
| Bandwidth<br>(MHz)            | Frequency<br>Range | Modulation | Conducted (Average) |       | ERP (Average) |      | EIRP (Average) |       |
|                               |                    |            | dBm                 | mW    | dBm           | mW   | dBm            | mW    |
| 5                             | 704-716            | QPSK       | 24.00               | 251.2 | 19.98         | 99.5 | 22.13          | 163.3 |
|                               |                    | 16QAM      | 23.07               | 202.8 | 19.18         | 82.8 | 21.33          | 135.8 |
| 10                            |                    | QPSK       | 23.98               | 250.0 | 19.89         | 97.5 | 22.04          | 160.0 |
|                               |                    | 16QAM      | 23.00               | 199.5 | 18.89         | 77.4 | 21.04          | 127.1 |

### OUTPUT POWER FOR LTE BAND 25

| Part 24 / RSS 133 LTE Band 25 |                 |            |                     |       |                |       |
|-------------------------------|-----------------|------------|---------------------|-------|----------------|-------|
| Bandwidth<br>(MHz)            | Frequency Range | Modulation | Conducted (Average) |       | EIRP (Average) |       |
|                               |                 |            | dBm                 | mW    | dBm            | mW    |
| 1.4                           | 1850 - 1915     | QPSK       | 23.75               | 237.1 | 25.62          | 364.8 |
|                               |                 | 16QAM      | 22.84               | 192.3 | 24.76          | 299.2 |
| 3                             |                 | QPSK       | 23.75               | 237.1 | 25.65          | 367.3 |
|                               |                 | 16QAM      | 22.68               | 185.4 | 24.76          | 299.2 |
| 5                             |                 | QPSK       | 23.71               | 235.0 | 25.89          | 388.2 |
|                               |                 | 16QAM      | 22.72               | 187.1 | 24.96          | 313.3 |
| 10                            |                 | QPSK       | 23.71               | 235.0 | 26.00          | 398.1 |
|                               |                 | 16QAM      | 22.80               | 190.5 | 24.96          | 313.3 |
| 15                            |                 | QPSK       | 23.74               | 236.6 | 26.11          | 408.3 |
|                               |                 | 16QAM      | 22.75               | 188.4 | 25.06          | 320.6 |
| 20                            |                 | QPSK       | 23.74               | 236.6 | 26.05          | 402.7 |
|                               |                 | 16QAM      | 22.74               | 187.9 | 25.01          | 317.0 |

### OUTPUT POWER FOR LTE BAND 26

| Part 90 LTE Band 26 |                    |            |                     |       |               |       |                |       |
|---------------------|--------------------|------------|---------------------|-------|---------------|-------|----------------|-------|
| Bandwidth<br>(MHz)  | Frequency<br>Range | Modulation | Conducted (Average) |       | ERP (Average) |       | EIRP (Average) |       |
|                     |                    |            | dBm                 | mW    | dBm           | mW    | dBm            | mW    |
| 1.4                 | 814-824            | QPSK       | 23.99               | 250.6 | 23.98         | 250.0 | 26.13          | 410.2 |
|                     |                    | 16QAM      | 23.07               | 202.8 | 23.00         | 199.5 | 25.15          | 327.3 |
| 3                   |                    | QPSK       | 23.99               | 250.6 | 24.03         | 252.9 | 26.18          | 415.0 |
|                     |                    | 16QAM      | 22.93               | 196.3 | 23.20         | 208.9 | 25.35          | 342.8 |
| 5                   |                    | QPSK       | 24.00               | 251.2 | 23.96         | 248.9 | 26.11          | 408.3 |
|                     |                    | 16QAM      | 22.92               | 195.9 | 23.00         | 199.5 | 25.15          | 327.3 |
| 10                  |                    | QPSK       | 23.94               | 247.7 | 23.17         | 207.5 | 25.32          | 340.4 |
|                     |                    | 16QAM      | 22.90               | 195.0 | 22.37         | 172.6 | 24.52          | 283.1 |

**OUTPUT POWER FOR LTE BAND 41**

| Part 27 LTE Band 41 |                 |            |                  |       |             |        |
|---------------------|-----------------|------------|------------------|-------|-------------|--------|
| Bandwidth (MHz)     | Frequency Range | Modulation | Conducted (Peak) |       | EIRP (Peak) |        |
|                     |                 |            | dBm              | mW    | dBm         | mW     |
| 5                   | 2496-2690       | QPSK       | 27.96            | 625.2 | 30.34       | 1081.4 |
|                     |                 | 16QAM      | 27.43            | 553.4 | 29.54       | 899.5  |
| 10                  |                 | QPSK       | 28.46            | 701.5 | 30.52       | 1127.2 |
|                     |                 | 16QAM      | 27.81            | 603.9 | 29.72       | 937.6  |
| 15                  |                 | QPSK       | 28.43            | 696.6 | 30.74       | 1185.8 |
|                     |                 | 16QAM      | 27.87            | 612.4 | 29.99       | 997.7  |
| 20                  |                 | QPSK       | 28.20            | 660.7 | 31.23       | 1327.4 |
|                     |                 | 16QAM      | 27.75            | 595.7 | 30.55       | 1135.0 |

### 5.3. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was software version 13B72, Baseband firmware 3.14.000.

The EUT is linked with CMW500 and Agilent 8960 Communication Test Sets.

### 5.4. MAXIMUM ANTENNA GAIN

Please see table below:

| LTE BANDS                    | Antenna Gain (dBi) |
|------------------------------|--------------------|
| LTE Band 2, 1850 – 1910 MHz  | 2.31               |
| LTE Band 4, 1710 – 1755 MHz  | 1.86               |
| LTE Band 5, 824 – 849 MHz    | -0.85              |
| LTE Band 13, 777 – 787 MHz   | -2.26              |
| LTE Band 17, 704 – 716 MHz   | -2.49              |
| LTE Band 25, 1850 – 1915 MHz | 2.31               |
| LTE Band 26, 814 – 824 MHz   | -1.18              |
| LTE Band 41, 2496 – 2690 MHz | 1.84               |

### 5.5. WORST-CASE CONFIGURATION AND MODE

The worst-case scenario for all measurements is based on the investigation results.

The device has LTE Bands of:

Band 2, Band 4, Band 5, Band 13, Band 17, Band 25, Band 26, and Band 41.

The RB Size was selected to measure for peak or average ERP and EIRP, which was based on the conducted power verification baseline data.

The fundamental of the EUT was investigated in three orthogonal orientations X/Y/Z, it was determined that X-flatbed orientation was worst-case orientation for cell bands without AC/DC adapter and headset; Y-landscape orientation was worst-case orientation for pcs bands without AC/DC adapter and headset; X-flatbed orientation was worst orientation for Band 41 without AC/DC adapter and headset.

## 5.6. DESCRIPTION OF TEST SETUP

### SUPPORT EQUIPMENT

| Support Equipment List |              |               |               |
|------------------------|--------------|---------------|---------------|
| Description            | Manufacturer | Model         | Serial Number |
| AC/DC adapter          | Dell         | Latitude D630 | N/A           |
| Laptop                 | Dell         | PA-1900-02D   | N/A           |
| DC power supply        | Lambda       | LA300         | LAAA301032676 |

### I/O CABLES (RF Conducted Test)

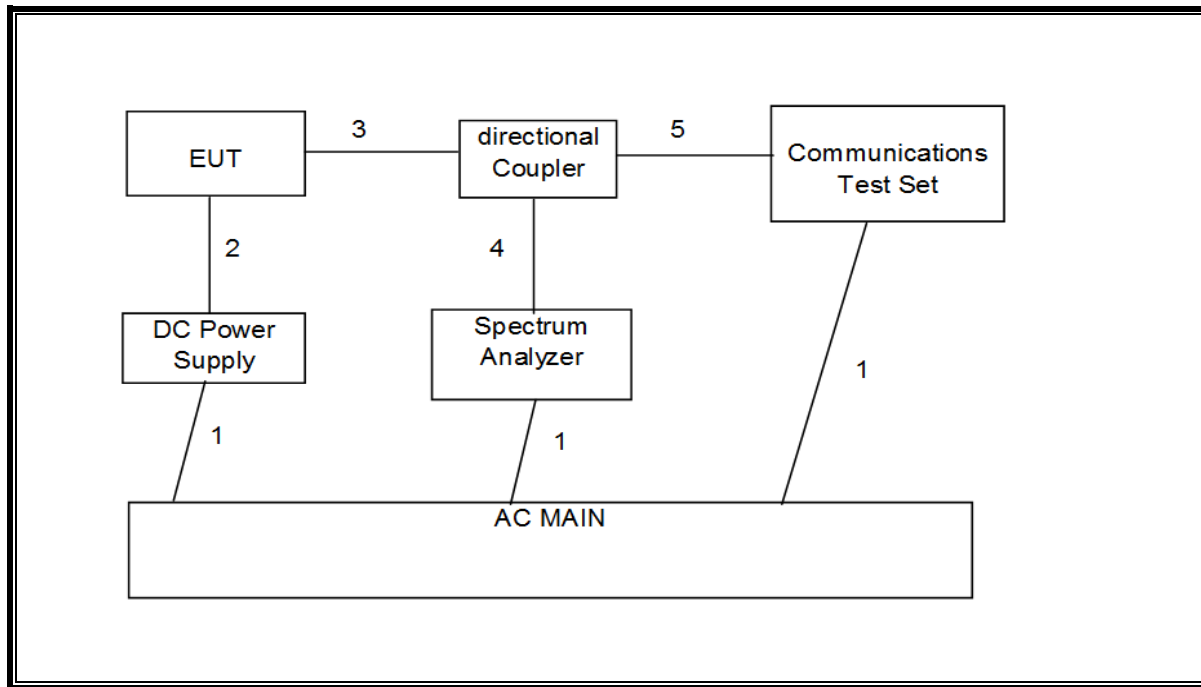
| I/O Cable List |           |                      |                        |             |                  |         |
|----------------|-----------|----------------------|------------------------|-------------|------------------|---------|
| Cable No       | Port      | # of identical ports | Connector Type         | Cable Type  | Cable Length (m) | Remarks |
| 1              | AC        | 1                    | US 115V                | Un-shielded | 2m               | N/A     |
| 2              | DC        | 1                    | DC                     | Un-shielded | 1.4m             | N/A     |
| 3              | RF In/Out | 1                    | EUT                    | Un-shielded | 0.1m             | N/A     |
| 4              | RF In/Out | 1                    | Barrel                 | N/A         | N/A              | N/A     |
| 5              | RF In/Out | 1                    | Communication Test Set | Un-shielded | 1m               | N/A     |

### I/O CABLES (RF Radiated Test)

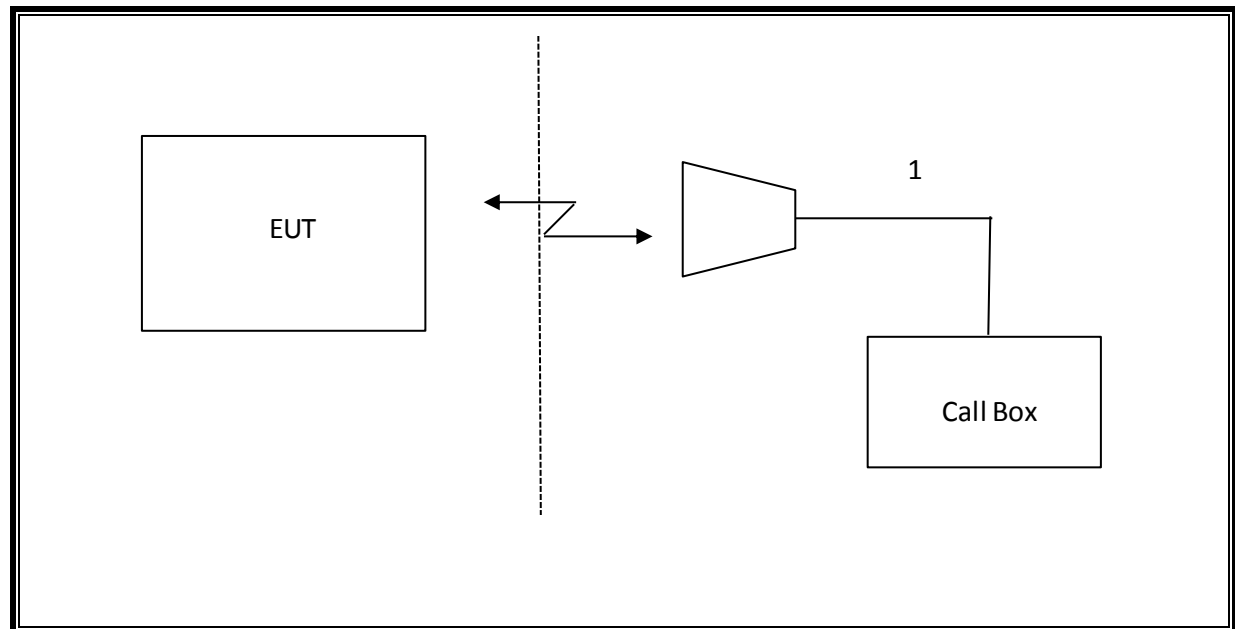
| Cable No | Port      | # of identical ports | Connector Type | Cable Type  | Cable Length (m) | Remarks |
|----------|-----------|----------------------|----------------|-------------|------------------|---------|
| 1        | RF In/Out | 1                    | Antenna        | Un-shielded | 5m               | NA      |

## SETUP DIAGRAM FOR TESTS

### CONDUCTED SETUP



### RADIATED SETUP



## 6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

| TEST EQUIPMENT LIST                                |                        |                        |         |          |
|----------------------------------------------------|------------------------|------------------------|---------|----------|
| Description                                        | Manufacturer           | Model                  | T No.   | Cal Due  |
| Spectrum Analyzer, PSA, 3Hz to 26.5GHz             | Keysight               | E4440A                 | T189    | 04/22/16 |
| Spectrum Analyzer, PSA, 3Hz to 44GHz               | Keysight               | E4446A                 | T177    | 03/07/16 |
| Wideband Communication Test Set, Call Box          | Rohde & Schwarz        | CMW500                 | T949    | 02/19/16 |
| Directional Coupler                                | Krytar                 | 152610                 | T923    | 06/10/16 |
| Directional Coupler, 10dB SMA, 0.5GHz to 26.5GHz   | Krytar                 | 152610                 | T922    | 06/10/16 |
| Power Meter, P-series single channel               | Keysight               | N1911A                 | T1244   | 04/02/16 |
| Power Sensor, P - series, 50MHz to 18GHz, Wideband | Keysight               | N1921A                 | T1226   | 05/06/16 |
| Chamber, Environmental                             | Cincinnati Sub Zero    | ZPHS-8-3.5-SCT/WC      | T754    | 09/30/15 |
| Wideband Communication Test Set, Call Box          | Rohde & Schwarz        | CMW500                 | T703    | 02/11/16 |
| Wireless Communications Test Set, 8960 Series 10   | Keysight               | E5515C                 | T211    | 11/25/15 |
| Spectrum Analyzer, PXA, 3Hz to 44GHz               | Keysight               | N9030A                 | T905    | 05/26/16 |
| Antenna, Horn 1-18GHz                              | ETS Lindgren           | 3117                   | T862    | 04/10/16 |
| Antenna, Broadband Hybrid, 30MHz to 2000MHz        | Sunol Sciences         | JB3                    | T899    | 04/30/16 |
| Amplifier, 10KHz to 1GHz, 32dB                     | Sonoma                 | 310N                   | T834    | 06/08/16 |
| Amplifier, 1 - 18GHz                               | Miteq                  | AFS42-00101800-25-S-42 | T491    | 04/25/16 |
| Wideband Communication Test Set, Call Box          | Rohde & Schwarz        | CMW500                 | T260    | 07/10/16 |
| Spectrum Analyzer, PXA, 3Hz to 44GHz               | Keysight               | N9030A                 | T906    | 06/11/16 |
| Antenna, Broadband Hybrid, 30MHz to 2000MHz        | Sunol Sciences         | JB3                    | T900    | 04/10/16 |
| Antenna, Horn 1-18GHz                              | ETS Lindgren           | 3117                   | T863    | 04/10/16 |
| Amplifier, 10KHz to 1GHz, 32dB                     | Sonoma                 | 310N                   | T835    | 06/09/16 |
| Amplifier, 1 - 18GHz                               | Miteq                  | AFS42-00101800-25-S-42 | 1818462 | 06/17/16 |
| Filter, Highpass 4.0GHz                            | Micro-Tronics          | HPM13351               | T1239   | 06/24/16 |
| Filter, HPF 1.2GHz                                 | Wainwright Instruments | WHKX1.2/15G-6ST        | T1182   | 04/24/16 |
| Filter, HPF 3.0GHz                                 | Micro-Tronics          | HPM17543               | T897    | 06/16/16 |

## 7. RF POWER OUTPUT VERIFICATION

### LTE Measurement Procedure:

All LTE bands conducted power peak and average are obtained from the CMW500 telecommunication test set.

The following tests were conducted according to the test requirements outlined in section 6.2 of the 3GPP TS36.101 specification.

UE Power Class: 3 (23 +/- 2dBm). The allowed Maximum Power Reduction (MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1 of the 3GPP TS36.101.

**Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3**

| Modulation | Channel bandwidth / Transmission bandwidth (RB) |         |       |        |        |        | MPR (dB) |
|------------|-------------------------------------------------|---------|-------|--------|--------|--------|----------|
|            | 1.4 MHz                                         | 3.0 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |          |
| QPSK       | > 5                                             | > 4     | > 8   | > 12   | > 16   | > 18   | ≤ 1      |
| 16 QAM     | ≤ 5                                             | ≤ 4     | ≤ 8   | ≤ 12   | ≤ 16   | ≤ 18   | ≤ 1      |
| 16 QAM     | > 5                                             | > 4     | > 8   | > 12   | > 16   | > 18   | ≤ 2      |

The allowed A-MPR values specified below in Table 6.2.4.-1 of 3GPP TS36.101 are in addition to the allowed MPR requirements. All the measurements below were performed with A-MPR disabled, by using Network Signaling Value of "NS\_01".3

**Table 6.2.4-1: Additional Maximum Power Reduction (A-MPR)**

| Network Signalling value | Requirements (sub-clause) | E-UTRA Band              | Channel bandwidth (MHz) | Resources Blocks ( $N_{RB}$ ) | A-MPR (dB)    |
|--------------------------|---------------------------|--------------------------|-------------------------|-------------------------------|---------------|
| NS_01                    | 6.6.2.1.1                 | Table 5.5-1              | 1.4, 3, 5, 10, 15, 20   | Table 5.6-1                   | NA            |
| NS_03                    | 6.6.2.2.1                 | 2, 4, 10, 23, 25, 35, 36 | 3                       | >5                            | ≤ 1           |
|                          |                           |                          | 5                       | >6                            | ≤ 1           |
|                          |                           |                          | 10                      | >6                            | ≤ 1           |
|                          |                           |                          | 15                      | >8                            | ≤ 1           |
|                          |                           |                          | 20                      | >10                           | ≤ 1           |
| NS_04                    | 6.6.2.2.2                 | 41                       | 5                       | >6                            | ≤ 1           |
|                          |                           |                          | 10, 15, 20              | See Table 6.2.4-4             |               |
| NS_05                    | 6.6.3.3.1                 | 1                        | 10,15,20                | ≥ 50                          | ≤ 1           |
| NS_06                    | 6.6.2.2.3                 | 12, 13, 14, 17           | 1.4, 3, 5, 10           | Table 5.6-1                   | n/a           |
| NS_07                    | 6.6.2.2.3                 | 13                       | 10                      | Table 6.2.4-2                 | Table 6.2.4-2 |
|                          | 6.6.3.3.2                 |                          |                         |                               |               |
| NS_08                    | 6.6.3.3.3                 | 19                       | 10, 15                  | > 44                          | ≤ 3           |
| NS_09                    | 6.6.3.3.4                 | 21                       | 10, 15                  | > 40                          | ≤ 1           |
|                          |                           |                          |                         | > 55                          | ≤ 2           |
| NS_10                    |                           | 20                       | 15, 20                  | Table 6.2.4-3                 | Table 6.2.4-3 |
| NS_11                    | 6.6.2.2.1                 | 23 <sup>1</sup>          | 1.4, 3, 5, 10           | Table 6.2.4-5                 | Table 6.2.4-5 |
| ..                       |                           |                          |                         |                               |               |
| NS_32                    | -                         | -                        | -                       | -                             | -             |

Note 1: Applies to the lower block of Band 23, i.e. a carrier placed in the 2000-2010 MHz region.

## 7.1. LTE BAND 2

### OUTPUT POWER FOR LTE BAND 2 (1.4MHz)

| Bandwidth | UL Channel | Frequency | Modulation | RB   | RB     | Average<br>(dBm) | Peak<br>(dBm) |
|-----------|------------|-----------|------------|------|--------|------------------|---------------|
|           |            |           |            | Size | Offset |                  |               |
| 1.4       | 18607      | 1850.7    | QPSK       | 1    | 0      | <b>23.75</b>     | <b>28.73</b>  |
|           |            |           |            | 1    | 2      | 23.70            | 28.57         |
|           |            |           |            | 1    | 5      | 23.74            | 28.63         |
|           |            |           |            | 3    | 0      | 23.73            | 28.70         |
|           |            |           |            | 3    | 1      | 23.72            | 28.68         |
|           |            |           |            | 3    | 2      | 23.70            | 28.73         |
|           |            |           | 16QAM      | 6    | 0      | 22.72            | 28.35         |
|           |            |           |            | 1    | 0      | 22.72            | 28.38         |
|           |            |           |            | 1    | 2      | 22.71            | 28.29         |
|           |            |           |            | 1    | 5      | 22.75            | 28.43         |
|           |            |           |            | 3    | 0      | 22.72            | 28.66         |
|           |            |           |            | 3    | 1      | 22.75            | 28.65         |
|           |            |           |            | 3    | 2      | 22.73            | <b>28.67</b>  |
|           |            |           |            | 6    | 0      | 21.69            | 28.43         |
| 1.4       | 18900      | 1880.0    | QPSK       | 1    | 0      | 23.68            | 27.75         |
|           |            |           |            | 1    | 2      | 23.65            | 27.72         |
|           |            |           |            | 1    | 5      | 23.72            | 27.79         |
|           |            |           |            | 3    | 0      | 23.71            | 28.08         |
|           |            |           |            | 3    | 1      | 23.69            | 27.97         |
|           |            |           |            | 3    | 2      | 23.69            | 28.00         |
|           |            |           | 16QAM      | 6    | 0      | 22.65            | 28.13         |
|           |            |           |            | 1    | 0      | 22.75            | 28.17         |
|           |            |           |            | 1    | 2      | 22.74            | 27.73         |
|           |            |           |            | 1    | 5      | 22.76            | 28.01         |
|           |            |           |            | 3    | 0      | 22.75            | 27.98         |
|           |            |           |            | 3    | 1      | 22.73            | 27.87         |
|           |            |           |            | 3    | 2      | 22.77            | 27.91         |
|           |            |           |            | 6    | 0      | 21.71            | 28.10         |
| 1.4       | 19193      | 1909.3    | QPSK       | 1    | 0      | 23.72            | 28.16         |
|           |            |           |            | 1    | 2      | 23.65            | 28.05         |
|           |            |           |            | 1    | 5      | 23.65            | 27.98         |
|           |            |           |            | 3    | 0      | 23.70            | 28.32         |
|           |            |           |            | 3    | 1      | 23.72            | 28.23         |
|           |            |           |            | 3    | 2      | 23.68            | 28.21         |
|           |            |           | 16QAM      | 6    | 0      | 22.68            | 28.24         |
|           |            |           |            | 1    | 0      | <b>22.79</b>     | 28.17         |
|           |            |           |            | 1    | 2      | 22.76            | 28.06         |
|           |            |           |            | 1    | 5      | 22.70            | 28.00         |
|           |            |           |            | 3    | 0      | 22.76            | 28.24         |
|           |            |           |            | 3    | 1      | 22.75            | 28.14         |
|           |            |           |            | 3    | 2      | 22.72            | 28.17         |
|           |            |           |            | 6    | 0      | 21.73            | 28.28         |

**OUTPUT POWER FOR LTE BAND 2 (3.0 MHz)**

| Bandwidth | UL Channel | Frequency | Modulation | RB   | RB     | Average (dBm) | Peak (dBm) |
|-----------|------------|-----------|------------|------|--------|---------------|------------|
|           |            |           |            | Size | Offset |               |            |
| 3.0       | 18615      | 1851.5    | QPSK       | 1    | 0      | 23.70         | 28.53      |
|           |            |           |            | 1    | 7      | 23.66         | 27.50      |
|           |            |           |            | 1    | 14     | 23.67         | 27.53      |
|           |            |           |            | 8    | 0      | 22.69         | 28.04      |
|           |            |           |            | 8    | 4      | 22.67         | 27.70      |
|           |            |           |            | 8    | 7      | 22.67         | 27.56      |
|           |            |           |            | 15   | 0      | 22.74         | 28.60      |
|           |            |           | 16QAM      | 1    | 0      | 22.70         | 27.22      |
|           |            |           |            | 1    | 7      | 22.69         | 27.24      |
|           |            |           |            | 1    | 14     | 22.70         | 27.53      |
|           |            |           |            | 8    | 0      | 21.68         | 27.46      |
|           |            |           |            | 8    | 4      | 21.65         | 27.48      |
|           |            |           |            | 8    | 7      | 21.76         | 27.53      |
|           |            |           |            | 15   | 0      | 21.77         | 28.50      |
| 3.0       | 18900      | 1880.0    | QPSK       | 1    | 0      | 23.67         | 27.60      |
|           |            |           |            | 1    | 7      | 23.68         | 27.69      |
|           |            |           |            | 1    | 14     | 23.66         | 27.91      |
|           |            |           |            | 8    | 0      | 22.67         | 27.83      |
|           |            |           |            | 8    | 4      | 22.69         | 27.88      |
|           |            |           |            | 8    | 7      | 22.70         | 27.90      |
|           |            |           |            | 15   | 0      | 22.72         | 28.05      |
|           |            |           | 16QAM      | 1    | 0      | 22.72         | 27.60      |
|           |            |           |            | 1    | 7      | 22.71         | 27.72      |
|           |            |           |            | 1    | 14     | 22.69         | 27.94      |
|           |            |           |            | 8    | 0      | 21.76         | 27.70      |
|           |            |           |            | 8    | 4      | 21.70         | 27.68      |
|           |            |           |            | 8    | 7      | 21.72         | 27.78      |
|           |            |           |            | 15   | 0      | 21.75         | 28.22      |
| 3.0       | 19185      | 1908.5    | QPSK       | 1    | 0      | 23.72         | 28.38      |
|           |            |           |            | 1    | 7      | 23.71         | 28.12      |
|           |            |           |            | 1    | 14     | 23.69         | 27.98      |
|           |            |           |            | 8    | 0      | 22.68         | 27.99      |
|           |            |           |            | 8    | 4      | 22.66         | 28.00      |
|           |            |           |            | 8    | 7      | 22.65         | 27.86      |
|           |            |           |            | 15   | 0      | 22.68         | 28.35      |
|           |            |           | 16QAM      | 1    | 0      | 22.75         | 28.37      |
|           |            |           |            | 1    | 7      | 22.65         | 28.10      |
|           |            |           |            | 1    | 14     | 22.75         | 28.01      |
|           |            |           |            | 8    | 0      | 21.69         | 27.79      |
|           |            |           |            | 8    | 4      | 21.67         | 27.73      |
|           |            |           |            | 8    | 7      | 21.69         | 27.80      |
|           |            |           |            | 15   | 0      | 21.77         | 28.41      |

**OUTPUT POWER FOR LTE BAND 2 (5.0 MHz)**

| Bandwidth | UL Channel | Frequency | Modulation | RB   | RB     | Average (dBm) | Peak(dBm)    |
|-----------|------------|-----------|------------|------|--------|---------------|--------------|
|           |            |           |            | Size | Offset |               |              |
| 5.0       | 18625      | 1852.5    | QPSK       | 1    | 0      | <b>23.74</b>  | 28.60        |
|           |            |           |            | 1    | 12     | 23.65         | 27.45        |
|           |            |           |            | 1    | 24     | 23.71         | 27.76        |
|           |            |           |            | 12   | 0      | 22.71         | 28.06        |
|           |            |           |            | 12   | 6      | 22.70         | 27.55        |
|           |            |           |            | 12   | 11     | 22.66         | 27.65        |
|           |            |           |            | 25   | 0      | 22.69         | 28.02        |
|           |            |           | 16QAM      | 1    | 0      | <b>22.76</b>  | 27.24        |
|           |            |           |            | 1    | 12     | 22.75         | 27.45        |
|           |            |           |            | 1    | 24     | 22.75         | 27.75        |
|           |            |           |            | 12   | 0      | 21.68         | 28.05        |
|           |            |           |            | 12   | 6      | 21.74         | 27.61        |
|           |            |           |            | 12   | 11     | 21.73         | 27.65        |
|           |            |           |            | 25   | 0      | 21.73         | 27.90        |
| 5.0       | 18900      | 1880.0    | QPSK       | 1    | 0      | 23.74         | <b>28.82</b> |
|           |            |           |            | 1    | 12     | 23.74         | 27.70        |
|           |            |           |            | 1    | 24     | 23.69         | 28.02        |
|           |            |           |            | 12   | 0      | 22.73         | 27.71        |
|           |            |           |            | 12   | 6      | 22.66         | 27.81        |
|           |            |           |            | 12   | 11     | 22.66         | 27.93        |
|           |            |           |            | 25   | 0      | 22.64         | 28.26        |
|           |            |           | 16QAM      | 1    | 0      | 22.73         | 27.45        |
|           |            |           |            | 1    | 12     | 22.75         | 27.73        |
|           |            |           |            | 1    | 24     | 22.71         | 28.05        |
|           |            |           |            | 12   | 0      | 21.72         | 27.68        |
|           |            |           |            | 12   | 6      | 21.75         | 27.79        |
|           |            |           |            | 12   | 11     | 21.73         | 27.90        |
|           |            |           |            | 25   | 0      | 21.75         | 28.21        |
| 5.0       | 19175      | 1907.5    | QPSK       | 1    | 0      | 23.67         | 28.39        |
|           |            |           |            | 1    | 12     | 23.66         | 28.28        |
|           |            |           |            | 1    | 24     | 23.72         | 28.02        |
|           |            |           |            | 12   | 0      | 22.63         | 27.98        |
|           |            |           |            | 12   | 6      | 22.75         | 27.92        |
|           |            |           |            | 12   | 11     | 22.67         | 27.93        |
|           |            |           |            | 25   | 0      | 22.72         | 28.29        |
|           |            |           | 16QAM      | 1    | 0      | 22.70         | 28.38        |
|           |            |           |            | 1    | 12     | 22.75         | 28.30        |
|           |            |           |            | 1    | 24     | 22.71         | 28.07        |
|           |            |           |            | 12   | 0      | 21.77         | 28.05        |
|           |            |           |            | 12   | 6      | 21.74         | 27.85        |
|           |            |           |            | 12   | 11     | 21.71         | 27.82        |
|           |            |           |            | 25   | 0      | 21.72         | <b>28.43</b> |

**OUTPUT POWER FOR LTE BAND 2 (10.0 MHz)**

| Bandwidth | UL Channel | Frequency | Modulation | RB   | RB     | Average (dBm) | Peak (dBm)   |
|-----------|------------|-----------|------------|------|--------|---------------|--------------|
|           |            |           |            | Size | Offset |               |              |
| 10.0      | 18650      | 1855.0    | QPSK       | 1    | 0      | <b>23.67</b>  | 27.40        |
|           |            |           |            | 1    | 24     | 23.66         | 27.66        |
|           |            |           |            | 1    | 49     | 23.67         | 28.17        |
|           |            |           |            | 25   | 0      | 22.75         | 27.67        |
|           |            |           |            | 25   | 12     | 22.74         | 27.78        |
|           |            |           |            | 25   | 24     | 22.71         | 27.94        |
|           |            |           |            | 50   | 0      | 22.70         | 28.13        |
|           |            |           | 16QAM      | 1    | 0      | 22.74         | 27.22        |
|           |            |           |            | 1    | 24     | 22.71         | 27.66        |
|           |            |           |            | 1    | 49     | 22.74         | 28.18        |
|           |            |           |            | 25   | 0      | 21.72         | 27.60        |
|           |            |           |            | 25   | 12     | 21.72         | 27.77        |
|           |            |           |            | 25   | 24     | 21.69         | 27.94        |
|           |            |           |            | 50   | 0      | 21.66         | 28.17        |
| 10.0      | 18900      | 1880.0    | QPSK       | 1    | 0      | 23.57         | 27.79        |
|           |            |           |            | 1    | 24     | 23.61         | 27.66        |
|           |            |           |            | 1    | 49     | 23.59         | 28.28        |
|           |            |           |            | 25   | 0      | 22.64         | 27.71        |
|           |            |           |            | 25   | 12     | 22.62         | 27.80        |
|           |            |           |            | 25   | 24     | 22.55         | 27.94        |
|           |            |           |            | 50   | 0      | 22.57         | 28.15        |
|           |            |           | 16QAM      | 1    | 0      | 22.69         | 27.35        |
|           |            |           |            | 1    | 24     | 22.72         | 27.67        |
|           |            |           |            | 1    | 49     | 22.69         | 28.31        |
|           |            |           |            | 25   | 0      | 21.74         | 27.59        |
|           |            |           |            | 25   | 12     | 21.74         | 27.76        |
|           |            |           |            | 25   | 24     | 21.66         | 28.04        |
|           |            |           |            | 50   | 0      | 21.74         | 28.01        |
| 10.0      | 19150      | 1905.0    | QPSK       | 1    | 0      | 23.57         | 28.07        |
|           |            |           |            | 1    | 24     | 23.57         | 28.25        |
|           |            |           |            | 1    | 49     | 23.58         | 28.03        |
|           |            |           |            | 25   | 0      | 22.67         | 28.03        |
|           |            |           |            | 25   | 12     | 22.68         | 28.19        |
|           |            |           |            | 25   | 24     | 22.70         | 27.93        |
|           |            |           |            | 50   | 0      | 22.66         | <b>28.39</b> |
|           |            |           | 16QAM      | 1    | 0      | <b>22.74</b>  | 28.09        |
|           |            |           |            | 1    | 24     | 22.70         | 28.15        |
|           |            |           |            | 1    | 49     | 22.66         | 28.09        |
|           |            |           |            | 25   | 0      | 21.74         | 28.08        |
|           |            |           |            | 25   | 12     | 21.74         | 27.99        |
|           |            |           |            | 25   | 24     | 21.70         | 28.00        |
|           |            |           |            | 50   | 0      | 21.68         | <b>28.46</b> |

**OUTPUT POWER FOR LTE BAND 2 (15.0 MHz)**

| Bandwidth | UL Channel | Frequency | Modulation | RB   | RB     | Average (dBm) | Peak (dBm)   |
|-----------|------------|-----------|------------|------|--------|---------------|--------------|
|           |            |           |            | Size | Offset |               |              |
| 15.0      | 18675      | 1857.5    | QPSK       | 1    | 0      | 23.66         | 28.49        |
|           |            |           |            | 1    | 37     | 23.68         | 27.95        |
|           |            |           |            | 1    | 74     | 23.68         | 27.78        |
|           |            |           |            | 36   | 0      | 22.74         | 27.77        |
|           |            |           |            | 36   | 16     | 22.66         | 27.94        |
|           |            |           |            | 36   | 35     | 22.69         | 27.97        |
|           |            |           |            | 75   | 0      | 22.68         | 28.25        |
|           |            |           | 16-QAM     | 1    | 0      | 22.71         | 27.22        |
|           |            |           |            | 1    | 37     | 22.67         | 27.96        |
|           |            |           |            | 1    | 74     | 22.74         | 27.82        |
|           |            |           |            | 36   | 0      | 21.73         | 27.73        |
|           |            |           |            | 36   | 16     | 21.72         | 27.95        |
|           |            |           |            | 36   | 35     | 21.74         | 27.98        |
|           |            |           |            | 75   | 0      | 21.73         | 28.22        |
| 15.0      | 18900      | 1880.0    | QPSK       | 1    | 0      | 23.68         | 28.49        |
|           |            |           |            | 1    | 37     | 23.65         | 27.68        |
|           |            |           |            | 1    | 74     | 23.65         | 28.29        |
|           |            |           |            | 36   | 0      | 22.78         | 28.40        |
|           |            |           |            | 36   | 16     | 22.68         | 27.78        |
|           |            |           |            | 36   | 35     | 22.71         | 28.05        |
|           |            |           |            | 75   | 0      | 22.71         | 28.28        |
|           |            |           | 16-QAM     | 1    | 0      | 22.75         | 27.12        |
|           |            |           |            | 1    | 37     | 22.71         | 27.70        |
|           |            |           |            | 1    | 74     | 22.71         | 28.31        |
|           |            |           |            | 36   | 0      | 21.77         | 28.26        |
|           |            |           |            | 36   | 16     | 21.73         | 27.80        |
|           |            |           |            | 36   | 35     | 21.76         | 28.03        |
|           |            |           |            | 75   | 0      | 21.74         | 28.19        |
| 15.0      | 19125      | 1902.5    | QPSK       | 1    | 0      | <b>23.70</b>  | 27.99        |
|           |            |           |            | 1    | 37     | 23.70         | 28.15        |
|           |            |           |            | 1    | 74     | 23.64         | 28.01        |
|           |            |           |            | 36   | 0      | 22.70         | 28.15        |
|           |            |           |            | 36   | 16     | 22.68         | 28.03        |
|           |            |           |            | 36   | 35     | 22.65         | 28.03        |
|           |            |           |            | 75   | 0      | 22.67         | <b>28.52</b> |
|           |            |           | 16-QAM     | 1    | 0      | <b>22.77</b>  | 27.98        |
|           |            |           |            | 1    | 37     | 22.69         | 28.11        |
|           |            |           |            | 1    | 74     | 22.66         | 28.06        |
|           |            |           |            | 36   | 0      | 21.67         | 28.12        |
|           |            |           |            | 36   | 16     | 21.74         | 28.02        |
|           |            |           |            | 36   | 35     | 21.72         | 28.03        |
|           |            |           |            | 75   | 0      | 21.72         | <b>28.37</b> |

**OUTPUT POWER FOR LTE BAND 2 (20.0 MHz)**

| Bandwidth | UL Channel | Frequency | Modulation | RB   | RB     | Average<br>(dBm) | Peak<br>(dBm) |
|-----------|------------|-----------|------------|------|--------|------------------|---------------|
|           |            |           |            | Size | Offset |                  |               |
| 20.0      | 18700      | 1860.0    | QPSK       | 1    | 0      | 23.72            | 28.51         |
|           |            |           |            | 1    | 49     | 23.68            | 28.10         |
|           |            |           |            | 1    | 99     | 23.72            | 28.50         |
|           |            |           |            | 50   | 0      | 22.70            | 27.85         |
|           |            |           |            | 50   | 24     | 22.66            | 27.98         |
|           |            |           |            | 50   | 49     | 22.72            | 27.86         |
|           |            |           |            | 100  | 0      | 22.74            | 28.04         |
|           |            |           | 16-QAM     | 1    | 0      | 22.75            | 28.42         |
|           |            |           |            | 1    | 49     | 22.69            | 28.10         |
|           |            |           |            | 1    | 99     | 22.72            | 27.46         |
|           |            |           |            | 50   | 0      | 21.75            | 27.83         |
|           |            |           |            | 50   | 24     | 21.77            | 27.95         |
|           |            |           |            | 50   | 49     | 21.76            | 27.93         |
|           |            |           |            | 100  | 0      | 21.73            | 28.02         |
| 20.0      | 18900      | 1880.0    | QPSK       | 1    | 0      | 23.75            | 28.46         |
|           |            |           |            | 1    | 49     | 23.72            | 27.70         |
|           |            |           |            | 1    | 99     | 23.68            | 28.26         |
|           |            |           |            | 50   | 0      | 22.76            | 28.45         |
|           |            |           |            | 50   | 24     | 22.71            | 27.79         |
|           |            |           |            | 50   | 49     | 22.73            | 28.05         |
|           |            |           |            | 100  | 0      | 22.68            | 28.14         |
|           |            |           | 16-QAM     | 1    | 0      | 22.77            | 27.80         |
|           |            |           |            | 1    | 49     | 22.73            | 27.71         |
|           |            |           |            | 1    | 99     | 22.67            | 28.30         |
|           |            |           |            | 50   | 0      | 21.70            | 28.33         |
|           |            |           |            | 50   | 24     | 21.76            | 27.85         |
|           |            |           |            | 50   | 49     | 21.72            | 28.09         |
|           |            |           |            | 100  | 0      | 21.73            | 28.15         |
| 20.0      | 19100      | 1900.0    | QPSK       | 1    | 0      | 23.74            | 28.21         |
|           |            |           |            | 1    | 49     | 23.72            | 27.96         |
|           |            |           |            | 1    | 99     | 23.69            | 27.94         |
|           |            |           |            | 50   | 0      | 22.71            | 28.07         |
|           |            |           |            | 50   | 24     | 22.72            | 28.11         |
|           |            |           |            | 50   | 49     | 22.73            | 28.13         |
|           |            |           |            | 100  | 0      | 22.74            | 28.56         |
|           |            |           | 16-QAM     | 1    | 0      | 22.78            | 28.18         |
|           |            |           |            | 1    | 49     | 22.76            | 27.94         |
|           |            |           |            | 1    | 99     | 22.68            | 27.99         |
|           |            |           |            | 50   | 0      | 21.74            | 28.11         |
|           |            |           |            | 50   | 24     | 21.71            | 28.14         |
|           |            |           |            | 50   | 49     | 21.75            | 28.15         |
|           |            |           |            | 100  | 0      | 21.76            | 28.41         |

## 7.2. LTE BAND 4

### OUTPUT POWER FOR LTE BAND 4 (1.4MHz)

| Bandwidth | UL Channel | Frequency | Modulation | RB   | RB     | Average (dBm) | Peak (dBm) |
|-----------|------------|-----------|------------|------|--------|---------------|------------|
|           |            |           |            | Size | Offset |               |            |
| 1.4       | 19957      | 1710.7    | QPSK       | 1    | 0      | 24.00         | 29.05      |
|           |            |           |            | 1    | 2      | 23.92         | 28.88      |
|           |            |           |            | 1    | 5      | 23.99         | 29.05      |
|           |            |           |            | 3    | 0      | 23.91         | 29.23      |
|           |            |           |            | 3    | 1      | 23.92         | 29.20      |
|           |            |           |            | 3    | 2      | 23.92         | 29.21      |
|           |            |           |            | 6    | 0      | 23.01         | 28.73      |
|           |            |           | 16QAM      | 1    | 0      | 23.02         | 28.90      |
|           |            |           |            | 1    | 2      | 22.99         | 28.85      |
|           |            |           |            | 1    | 5      | 23.00         | 28.87      |
|           |            |           |            | 3    | 0      | 23.01         | 29.28      |
|           |            |           |            | 3    | 1      | 22.95         | 29.12      |
|           |            |           |            | 3    | 2      | 22.97         | 29.12      |
|           |            |           |            | 6    | 0      | 22.04         | 28.75      |
| 1.4       | 20175      | 1732.5    | QPSK       | 1    | 0      | 23.95         | 29.11      |
|           |            |           |            | 1    | 2      | 23.88         | 28.90      |
|           |            |           |            | 1    | 5      | 23.93         | 29.07      |
|           |            |           |            | 3    | 0      | 23.91         | 29.31      |
|           |            |           |            | 3    | 1      | 23.97         | 29.21      |
|           |            |           |            | 3    | 2      | 23.98         | 29.24      |
|           |            |           |            | 6    | 0      | 22.94         | 28.72      |
|           |            |           | 16QAM      | 1    | 0      | 22.92         | 28.92      |
|           |            |           |            | 1    | 2      | 22.93         | 28.88      |
|           |            |           |            | 1    | 5      | 22.95         | 28.94      |
|           |            |           |            | 3    | 0      | 22.99         | 29.32      |
|           |            |           |            | 3    | 1      | 22.97         | 29.20      |
|           |            |           |            | 3    | 2      | 22.92         | 29.16      |
|           |            |           |            | 6    | 0      | 22.02         | 28.79      |
| 1.4       | 20393      | 1754.3    | QPSK       | 1    | 0      | 23.98         | 29.07      |
|           |            |           |            | 1    | 2      | 23.96         | 28.92      |
|           |            |           |            | 1    | 5      | 23.91         | 29.08      |
|           |            |           |            | 3    | 0      | 23.92         | 29.26      |
|           |            |           |            | 3    | 1      | 23.94         | 29.22      |
|           |            |           |            | 3    | 2      | 23.93         | 29.26      |
|           |            |           |            | 6    | 0      | 22.96         | 28.73      |
|           |            |           | 16QAM      | 1    | 0      | 22.94         | 28.93      |
|           |            |           |            | 1    | 2      | 22.96         | 28.86      |
|           |            |           |            | 1    | 5      | 22.96         | 28.90      |
|           |            |           |            | 3    | 0      | 22.91         | 29.22      |
|           |            |           |            | 3    | 1      | 22.94         | 29.12      |
|           |            |           |            | 3    | 2      | 22.96         | 29.15      |
|           |            |           |            | 6    | 0      | 22.03         | 28.68      |

**OUTPUT POWER FOR LTE BAND 4 (3.0 MHz)**

| Bandwidth | UL Channel | Frequency | Modulation | RB   | RB     | Average<br>(dBm) | Peak<br>(dBm) |
|-----------|------------|-----------|------------|------|--------|------------------|---------------|
|           |            |           |            | Size | Offset |                  |               |
| 3.0       | 19965      | 1711.5    | QPSK       | 1    | 0      | 23.96            | 29.03         |
|           |            |           |            | 1    | 7      | 23.88            | 28.79         |
|           |            |           |            | 1    | 14     | 23.91            | 29.00         |
|           |            |           |            | 8    | 0      | 23.04            | 28.45         |
|           |            |           |            | 8    | 4      | 22.99            | 28.32         |
|           |            |           |            | 8    | 7      | 23.04            | 28.44         |
|           |            |           |            | 15   | 0      | 23.05            | 28.78         |
|           |            |           | 16QAM      | 1    | 0      | 22.87            | 28.56         |
|           |            |           |            | 1    | 7      | 22.88            | 28.43         |
|           |            |           |            | 1    | 14     | 22.82            | 28.45         |
|           |            |           |            | 8    | 0      | 22.05            | 28.03         |
|           |            |           |            | 8    | 4      | 22.01            | 27.94         |
|           |            |           |            | 8    | 7      | 22.05            | 28.15         |
|           |            |           |            | 15   | 0      | 22.05            | 28.80         |
| 3.0       | 20175      | 1732.5    | QPSK       | 1    | 0      | 23.90            | 29.02         |
|           |            |           |            | 1    | 7      | 23.87            | 28.85         |
|           |            |           |            | 1    | 14     | 23.91            | 29.07         |
|           |            |           |            | 8    | 0      | 23.01            | 28.47         |
|           |            |           |            | 8    | 4      | 22.98            | 28.38         |
|           |            |           |            | 8    | 7      | 23.01            | 28.41         |
|           |            |           |            | 15   | 0      | 23.00            | 28.80         |
|           |            |           | 16QAM      | 1    | 0      | <b>22.93</b>     | 28.53         |
|           |            |           |            | 1    | 7      | 22.90            | 28.48         |
|           |            |           |            | 1    | 14     | 22.87            | 28.66         |
|           |            |           |            | 8    | 0      | 22.02            | 28.13         |
|           |            |           |            | 8    | 4      | 22.01            | 28.11         |
|           |            |           |            | 8    | 7      | 22.00            | 28.08         |
|           |            |           |            | 15   | 0      | 22.03            | <b>28.97</b>  |
| 3.0       | 20385      | 1753.5    | QPSK       | 1    | 0      | <b>23.97</b>     | 29.02         |
|           |            |           |            | 1    | 7      | 23.84            | 28.75         |
|           |            |           |            | 1    | 14     | 23.91            | <b>29.13</b>  |
|           |            |           |            | 8    | 0      | 22.95            | 28.53         |
|           |            |           |            | 8    | 4      | 22.92            | 28.34         |
|           |            |           |            | 8    | 7      | 22.89            | 28.36         |
|           |            |           |            | 15   | 0      | 22.84            | 28.66         |
|           |            |           | 16QAM      | 1    | 0      | 22.85            | 28.70         |
|           |            |           |            | 1    | 7      | 22.90            | 28.46         |
|           |            |           |            | 1    | 14     | 22.89            | 28.63         |
|           |            |           |            | 8    | 0      | 22.10            | 28.19         |
|           |            |           |            | 8    | 4      | 22.01            | 28.06         |
|           |            |           |            | 8    | 7      | 22.00            | 28.12         |
|           |            |           |            | 15   | 0      | 21.98            | 28.64         |

**OUTPUT POWER FOR LTE BAND 4 (5.0 MHz)**

| Bandwidth | UL Channel | Frequency | Mode  | RB   | RB     | Average<br>(dBm) | Peak<br>(dBm) |
|-----------|------------|-----------|-------|------|--------|------------------|---------------|
|           |            |           |       | Size | Offset |                  |               |
| 5.0       | 19975      | 1712.5    | QPSK  | 1    | 0      | 23.96            | 28.96         |
|           |            |           |       | 1    | 12     | 23.96            | 28.88         |
|           |            |           |       | 1    | 24     | 23.96            | 29.01         |
|           |            |           |       | 12   | 0      | 23.04            | 28.45         |
|           |            |           |       | 12   | 6      | 22.99            | 28.23         |
|           |            |           |       | 12   | 11     | 23.02            | 28.29         |
|           |            |           |       | 25   | 0      | 22.98            | 28.83         |
|           |            |           | 16QAM | 1    | 0      | 22.85            | 28.77         |
|           |            |           |       | 1    | 12     | 22.83            | 28.61         |
|           |            |           |       | 1    | 24     | 22.88            | 28.84         |
|           |            |           |       | 12   | 0      | 22.04            | 28.32         |
|           |            |           |       | 12   | 6      | 21.99            | 28.13         |
|           |            |           |       | 12   | 11     | 22.03            | 28.25         |
|           |            |           |       | 25   | 0      | 21.95            | 28.86         |
| 5.0       | 20175      | 1732.5    | QPSK  | 1    | 0      | 23.91            | 28.97         |
|           |            |           |       | 1    | 12     | 23.88            | 28.87         |
|           |            |           |       | 1    | 24     | 23.90            | 29.02         |
|           |            |           |       | 12   | 0      | 23.02            | 28.46         |
|           |            |           |       | 12   | 6      | 22.96            | 28.28         |
|           |            |           |       | 12   | 11     | 22.95            | 28.36         |
|           |            |           |       | 25   | 0      | 22.98            | 28.93         |
|           |            |           | 16QAM | 1    | 0      | 22.87            | 28.74         |
|           |            |           |       | 1    | 12     | 22.87            | 28.64         |
|           |            |           |       | 1    | 24     | 22.91            | 28.80         |
|           |            |           |       | 12   | 0      | 21.98            | 28.33         |
|           |            |           |       | 12   | 6      | 21.96            | 28.18         |
|           |            |           |       | 12   | 11     | 21.96            | 28.22         |
|           |            |           |       | 25   | 0      | 21.96            | 29.06         |
| 5.0       | 20375      | 1752.5    | QPSK  | 1    | 0      | 23.99            | 29.09         |
|           |            |           |       | 1    | 12     | 23.91            | 28.94         |
|           |            |           |       | 1    | 24     | 23.89            | 29.04         |
|           |            |           |       | 12   | 0      | 22.95            | 28.31         |
|           |            |           |       | 12   | 6      | 22.99            | 28.22         |
|           |            |           |       | 12   | 11     | 22.90            | 28.21         |
|           |            |           |       | 25   | 0      | 23.02            | 28.90         |
|           |            |           | 16QAM | 1    | 0      | 22.92            | 28.81         |
|           |            |           |       | 1    | 12     | 22.92            | 28.63         |
|           |            |           |       | 1    | 24     | 22.87            | 28.81         |
|           |            |           |       | 12   | 0      | 22.06            | 28.35         |
|           |            |           |       | 12   | 6      | 22.01            | 28.24         |
|           |            |           |       | 12   | 11     | 21.95            | 28.10         |
|           |            |           |       | 25   | 0      | 22.01            | 28.82         |

**OUTPUT POWER FOR LTE BAND 4 (10.0 MHz)**

| Bandwidth | UL Channel | Frequency | Mode  | RB   | RB     | Average<br>(dBm) | Peak<br>(dBm) |
|-----------|------------|-----------|-------|------|--------|------------------|---------------|
|           |            |           |       | Size | Offset |                  |               |
| 10.0      | 20000      | 1715.0    | QPSK  | 1    | 0      | 23.93            | 28.92         |
|           |            |           |       | 1    | 24     | 23.90            | 28.90         |
|           |            |           |       | 1    | 49     | 23.90            | 28.90         |
|           |            |           |       | 25   | 0      | 22.97            | 28.50         |
|           |            |           |       | 25   | 12     | 23.02            | 28.54         |
|           |            |           |       | 25   | 24     | 22.95            | 28.54         |
|           |            |           |       | 50   | 0      | 22.98            | 29.24         |
|           |            |           | 16QAM | 1    | 0      | 22.85            | 28.57         |
|           |            |           |       | 1    | 24     | 22.91            | 28.34         |
|           |            |           |       | 1    | 49     | 22.89            | 28.43         |
|           |            |           |       | 25   | 0      | 22.05            | 28.39         |
|           |            |           |       | 25   | 12     | 22.02            | 28.31         |
|           |            |           |       | 25   | 24     | 22.02            | 28.39         |
|           |            |           |       | 50   | 0      | 22.01            | 29.29         |
| 10.0      | 20175      | 1732.5    | QPSK  | 1    | 0      | 23.87            | 28.92         |
|           |            |           |       | 1    | 24     | 23.84            | 28.85         |
|           |            |           |       | 1    | 49     | 23.90            | 29.00         |
|           |            |           |       | 25   | 0      | 23.01            | 28.53         |
|           |            |           |       | 25   | 12     | 23.00            | 28.55         |
|           |            |           |       | 25   | 24     | 23.01            | 28.56         |
|           |            |           |       | 50   | 0      | 23.02            | 29.49         |
|           |            |           | 16QAM | 1    | 0      | 22.99            | 28.46         |
|           |            |           |       | 1    | 24     | 22.94            | 28.47         |
|           |            |           |       | 1    | 49     | 22.86            | 28.64         |
|           |            |           |       | 25   | 0      | 21.99            | 28.37         |
|           |            |           |       | 25   | 12     | 21.97            | 28.26         |
|           |            |           |       | 25   | 24     | 21.99            | 28.35         |
|           |            |           |       | 50   | 0      | 21.98            | 28.73         |
| 10.0      | 20350      | 1750.0    | QPSK  | 1    | 0      | 23.97            | 28.96         |
|           |            |           |       | 1    | 24     | 23.93            | 28.91         |
|           |            |           |       | 1    | 49     | 23.90            | 28.93         |
|           |            |           |       | 25   | 0      | 23.05            | 28.53         |
|           |            |           |       | 25   | 12     | 23.02            | 28.32         |
|           |            |           |       | 25   | 24     | 22.95            | 28.41         |
|           |            |           |       | 50   | 0      | 23.01            | 29.37         |
|           |            |           | 16QAM | 1    | 0      | 22.93            | 28.59         |
|           |            |           |       | 1    | 24     | 22.88            | 28.53         |
|           |            |           |       | 1    | 49     | 22.91            | 28.51         |
|           |            |           |       | 25   | 0      | 22.08            | 28.40         |
|           |            |           |       | 25   | 12     | 22.01            | 28.30         |
|           |            |           |       | 25   | 24     | 22.02            | 28.29         |
|           |            |           |       | 50   | 0      | 22.00            | 29.01         |

**OUTPUT POWER FOR LTE BAND 4 (15.0 MHz)**

| Bandwidth | UL Channel | Frequency | Mode   | RB   | RB     | Average<br>(dBm) | Peak<br>(dBm) |
|-----------|------------|-----------|--------|------|--------|------------------|---------------|
|           |            |           |        | Size | Offset |                  |               |
| 15.0      | 20025      | 1717.5    | QPSK   | 1    | 0      | <b>23.96</b>     | 28.99         |
|           |            |           |        | 1    | 37     | 23.91            | 28.86         |
|           |            |           |        | 1    | 74     | 23.82            | 28.86         |
|           |            |           |        | 36   | 0      | 22.94            | 28.62         |
|           |            |           |        | 36   | 16     | 23.03            | 28.40         |
|           |            |           |        | 36   | 35     | 22.97            | 28.44         |
|           |            |           |        | 75   | 0      | 23.01            | <b>29.34</b>  |
|           |            |           | 16-QAM | 1    | 0      | 22.88            | 28.51         |
|           |            |           |        | 1    | 37     | 22.91            | 28.32         |
|           |            |           |        | 1    | 74     | 22.92            | 28.36         |
|           |            |           |        | 36   | 0      | 22.08            | 28.50         |
|           |            |           |        | 36   | 16     | 22.03            | 28.31         |
|           |            |           |        | 36   | 35     | 22.03            | 28.38         |
|           |            |           |        | 75   | 0      | 22.02            | 28.95         |
| 15.0      | 20175      | 1732.5    | QPSK   | 1    | 0      | 23.83            | 28.90         |
|           |            |           |        | 1    | 37     | 23.83            | 28.82         |
|           |            |           |        | 1    | 74     | 23.82            | 28.89         |
|           |            |           |        | 36   | 0      | 22.97            | 28.48         |
|           |            |           |        | 36   | 16     | 22.94            | 28.42         |
|           |            |           |        | 36   | 35     | 22.99            | 28.42         |
|           |            |           |        | 75   | 0      | 23.00            | 29.27         |
|           |            |           | 16-QAM | 1    | 0      | 22.89            | 28.42         |
|           |            |           |        | 1    | 37     | 22.89            | 28.48         |
|           |            |           |        | 1    | 74     | 22.85            | 28.53         |
|           |            |           |        | 36   | 0      | 22.02            | 28.44         |
|           |            |           |        | 36   | 16     | 22.02            | 28.35         |
|           |            |           |        | 36   | 35     | 22.03            | 28.42         |
|           |            |           |        | 75   | 0      | 22.06            | 28.95         |
| 15.0      | 20325      | 1747.5    | QPSK   | 1    | 0      | 23.88            | 28.95         |
|           |            |           |        | 1    | 37     | 23.96            | 28.88         |
|           |            |           |        | 1    | 74     | 23.95            | 28.95         |
|           |            |           |        | 36   | 0      | 23.02            | 28.52         |
|           |            |           |        | 36   | 16     | 22.93            | 28.36         |
|           |            |           |        | 36   | 35     | 22.94            | 28.38         |
|           |            |           |        | 75   | 0      | 23.03            | 29.02         |
|           |            |           | 16-QAM | 1    | 0      | <b>23.03</b>     | 28.57         |
|           |            |           |        | 1    | 37     | 22.86            | 28.53         |
|           |            |           |        | 1    | 74     | 22.88            | 28.52         |
|           |            |           |        | 36   | 0      | 22.02            | 28.44         |
|           |            |           |        | 36   | 16     | 22.06            | 28.32         |
|           |            |           |        | 36   | 35     | 22.10            | 28.36         |
|           |            |           |        | 75   | 0      | 22.06            | <b>29.08</b>  |

**OUTPUT POWER FOR LTE BAND 4 (20.0 MHz)**

| Bandwidth | UL Channel | Frequency | Mode   | RB   | RB     | Average<br>(dBm) | Peak<br>(dBm) |
|-----------|------------|-----------|--------|------|--------|------------------|---------------|
|           |            |           |        | Size | Offset |                  |               |
| 20.0      | 20050      | 1720.0    | QPSK   | 1    | 0      | 23.97            | 29.10         |
|           |            |           |        | 1    | 49     | 23.94            | 29.00         |
|           |            |           |        | 1    | 99     | 23.95            | 29.02         |
|           |            |           |        | 50   | 0      | 22.99            | 28.65         |
|           |            |           |        | 50   | 24     | 22.98            | 28.54         |
|           |            |           |        | 50   | 49     | 22.94            | 28.53         |
|           |            |           |        | 100  | 0      | 22.93            | 28.63         |
|           |            |           | 16-QAM | 1    | 0      | 22.82            | 28.69         |
|           |            |           |        | 1    | 49     | 22.89            | 28.50         |
|           |            |           |        | 1    | 99     | 22.88            | 28.56         |
|           |            |           |        | 50   | 0      | 22.07            | 28.46         |
|           |            |           |        | 50   | 24     | 22.03            | 28.35         |
|           |            |           |        | 50   | 49     | 22.05            | 28.45         |
|           |            |           |        | 100  | 0      | 22.10            | 28.62         |
| 20.0      | 20175      | 1732.5    | QPSK   | 1    | 0      | 23.94            | 29.03         |
|           |            |           |        | 1    | 49     | 23.96            | 28.96         |
|           |            |           |        | 1    | 99     | 23.98            | 29.07         |
|           |            |           |        | 50   | 0      | 23.02            | 28.59         |
|           |            |           |        | 50   | 24     | 23.02            | 28.48         |
|           |            |           |        | 50   | 49     | 22.97            | 28.60         |
|           |            |           |        | 100  | 0      | 23.01            | 29.01         |
|           |            |           | 16-QAM | 1    | 0      | 22.91            | 28.60         |
|           |            |           |        | 1    | 49     | 22.89            | 28.50         |
|           |            |           |        | 1    | 99     | 22.86            | 28.79         |
|           |            |           |        | 50   | 0      | 21.96            | 28.39         |
|           |            |           |        | 50   | 24     | 21.96            | 28.34         |
|           |            |           |        | 50   | 49     | 21.98            | 28.42         |
|           |            |           |        | 100  | 0      | 22.08            | 28.63         |
| 20.0      | 20300      | 1745.0    | QPSK   | 1    | 0      | 23.99            | 29.14         |
|           |            |           |        | 1    | 49     | 23.95            | 29.03         |
|           |            |           |        | 1    | 99     | 23.94            | 29.08         |
|           |            |           |        | 50   | 0      | 22.99            | 28.53         |
|           |            |           |        | 50   | 24     | 22.99            | 28.37         |
|           |            |           |        | 50   | 49     | 22.96            | 28.49         |
|           |            |           |        | 100  | 0      | 23.03            | 28.86         |
|           |            |           | 16-QAM | 1    | 0      | 22.94            | 28.70         |
|           |            |           |        | 1    | 49     | 22.87            | 28.64         |
|           |            |           |        | 1    | 99     | 22.86            | 28.55         |
|           |            |           |        | 50   | 0      | 21.99            | 28.39         |
|           |            |           |        | 50   | 24     | 21.99            | 28.28         |
|           |            |           |        | 50   | 49     | 21.98            | 28.33         |
|           |            |           |        | 100  | 0      | 22.00            | 28.70         |

### 7.3. LTE BAND 5

#### OUTPUT POWER FOR LTE BAND 5 (1.4MHZz)

| Bandwidth | UL Channel | Frequency | Modulation | RB   | RB     | Average (dBm) | Peak (dBm) |
|-----------|------------|-----------|------------|------|--------|---------------|------------|
|           |            |           |            | Size | Offset |               |            |
| 1.4       | 20407      | 824.7     | QPSK       | 1    | 0      | 24.42         | 29.02      |
|           |            |           |            | 1    | 2      | 24.39         | 28.90      |
|           |            |           |            | 1    | 5      | 24.43         | 29.01      |
|           |            |           |            | 3    | 0      | 24.44         | 29.25      |
|           |            |           |            | 3    | 1      | 24.41         | 29.19      |
|           |            |           |            | 3    | 2      | 24.45         | 29.26      |
|           |            |           |            | 6    | 0      | 23.56         | 29.21      |
|           |            |           | 16QAM      | 1    | 0      | 23.45         | 29.46      |
|           |            |           |            | 1    | 2      | 23.41         | 29.40      |
|           |            |           |            | 1    | 5      | 23.46         | 29.52      |
|           |            |           |            | 3    | 0      | 23.49         | 29.67      |
|           |            |           |            | 3    | 1      | 23.47         | 29.62      |
|           |            |           |            | 3    | 2      | 23.43         | 29.62      |
|           |            |           |            | 6    | 0      | 22.51         | 29.20      |
| 1.4       | 20525      | 836.5     | QPSK       | 1    | 0      | 24.47         | 29.09      |
|           |            |           |            | 1    | 2      | 24.38         | 28.94      |
|           |            |           |            | 1    | 5      | 24.40         | 29.06      |
|           |            |           |            | 3    | 0      | 24.45         | 29.26      |
|           |            |           |            | 3    | 1      | 24.42         | 29.27      |
|           |            |           |            | 3    | 2      | 24.40         | 29.22      |
|           |            |           |            | 6    | 0      | 23.54         | 29.38      |
|           |            |           | 16QAM      | 1    | 0      | 23.50         | 29.32      |
|           |            |           |            | 1    | 2      | 23.42         | 29.25      |
|           |            |           |            | 1    | 5      | 23.47         | 29.41      |
|           |            |           |            | 3    | 0      | 23.48         | 29.84      |
|           |            |           |            | 3    | 1      | 23.43         | 29.72      |
|           |            |           |            | 3    | 2      | 23.46         | 29.72      |
|           |            |           |            | 6    | 0      | 22.59         | 29.16      |
| 1.4       | 20643      | 848.3     | QPSK       | 1    | 0      | 24.48         | 28.99      |
|           |            |           |            | 1    | 2      | 24.36         | 28.89      |
|           |            |           |            | 1    | 5      | 24.42         | 28.95      |
|           |            |           |            | 3    | 0      | 24.46         | 29.11      |
|           |            |           |            | 3    | 1      | 24.48         | 29.12      |
|           |            |           |            | 3    | 2      | 24.46         | 29.16      |
|           |            |           |            | 6    | 0      | 23.46         | 28.92      |
|           |            |           | 16QAM      | 1    | 0      | 23.48         | 28.96      |
|           |            |           |            | 1    | 2      | 23.37         | 29.05      |
|           |            |           |            | 1    | 5      | 23.40         | 29.02      |
|           |            |           |            | 3    | 0      | 23.47         | 29.16      |
|           |            |           |            | 3    | 1      | 23.43         | 29.15      |
|           |            |           |            | 3    | 2      | 23.44         | 29.17      |
|           |            |           |            | 6    | 0      | 22.57         | 28.94      |

**OUTPUT POWER FOR LTE BAND 5 (3.0 MHz)**

| Bandwidth | UL Channel | Frequency | Modulation | RB   | RB     | Average<br>(dBm) | Peak<br>(dBm) |
|-----------|------------|-----------|------------|------|--------|------------------|---------------|
|           |            |           |            | Size | Offset |                  |               |
| 3.0       | 20415      | 825.5     | QPSK       | 1    | 0      | 24.36            | 28.96         |
|           |            |           |            | 1    | 7      | 24.47            | 28.70         |
|           |            |           |            | 1    | 14     | 24.40            | 29.03         |
|           |            |           |            | 8    | 0      | 23.41            | 28.83         |
|           |            |           |            | 8    | 4      | 23.44            | 28.82         |
|           |            |           |            | 8    | 7      | 23.41            | 28.92         |
|           |            |           |            | 15   | 0      | 23.43            | 29.31         |
|           |            |           | 16QAM      | 1    | 0      | 23.47            | 29.10         |
|           |            |           |            | 1    | 7      | 23.42            | 28.95         |
|           |            |           |            | 1    | 14     | 23.43            | 29.21         |
|           |            |           |            | 8    | 0      | 22.50            | 28.61         |
|           |            |           |            | 8    | 4      | 22.48            | 28.55         |
|           |            |           |            | 8    | 7      | 22.58            | 28.65         |
|           |            |           |            | 15   | 0      | 22.46            | 29.23         |
| 3.0       | 20525      | 836.5     | QPSK       | 1    | 0      | 24.50            | 28.98         |
|           |            |           |            | 1    | 7      | 24.39            | 28.79         |
|           |            |           |            | 1    | 14     | 24.37            | 29.10         |
|           |            |           |            | 8    | 0      | 23.51            | 29.11         |
|           |            |           |            | 8    | 4      | 23.47            | 28.87         |
|           |            |           |            | 8    | 7      | 23.41            | 28.89         |
|           |            |           |            | 15   | 0      | 23.43            | 29.09         |
|           |            |           | 16QAM      | 1    | 0      | 23.49            | 29.14         |
|           |            |           |            | 1    | 7      | 23.42            | 28.86         |
|           |            |           |            | 1    | 14     | 23.40            | 29.26         |
|           |            |           |            | 8    | 0      | 22.53            | 28.73         |
|           |            |           |            | 8    | 4      | 22.49            | 28.66         |
|           |            |           |            | 8    | 7      | 22.52            | 28.73         |
|           |            |           |            | 15   | 0      | 22.47            | 29.19         |
| 3.0       | 20635      | 847.5     | QPSK       | 1    | 0      | 24.42            | 28.90         |
|           |            |           |            | 1    | 7      | 24.36            | 28.84         |
|           |            |           |            | 1    | 14     | 24.44            | 28.98         |
|           |            |           |            | 8    | 0      | 23.55            | 28.64         |
|           |            |           |            | 8    | 4      | 23.54            | 28.63         |
|           |            |           |            | 8    | 7      | 23.45            | 28.69         |
|           |            |           |            | 15   | 0      | 23.54            | 28.87         |
|           |            |           | 16QAM      | 1    | 0      | 23.45            | 28.92         |
|           |            |           |            | 1    | 7      | 23.47            | 28.88         |
|           |            |           |            | 1    | 14     | 23.46            | 28.99         |
|           |            |           |            | 8    | 0      | 22.47            | 28.43         |
|           |            |           |            | 8    | 4      | 22.43            | 28.37         |
|           |            |           |            | 8    | 7      | 22.44            | 28.49         |
|           |            |           |            | 15   | 0      | 22.49            | 28.89         |

**OUTPUT POWER FOR LTE BAND 5 (5.0 MHz)**

| Bandwidth | UL Channel | Frequency | Mode  | RB   | RB     | Average<br>(dBm) | Peak<br>(dBm) |
|-----------|------------|-----------|-------|------|--------|------------------|---------------|
|           |            |           |       | Size | Offset |                  |               |
| 5.0       | 20425      | 826.5     | QPSK  | 1    | 0      | 24.37            | 29.00         |
|           |            |           |       | 1    | 12     | 24.44            | 28.92         |
|           |            |           |       | 1    | 24     | 24.44            | 29.03         |
|           |            |           |       | 12   | 0      | 23.42            | 28.92         |
|           |            |           |       | 12   | 6      | 23.41            | 28.88         |
|           |            |           |       | 12   | 11     | 23.44            | 28.89         |
|           |            |           |       | 25   | 0      | 23.42            | 29.31         |
|           |            |           | 16QAM | 1    | 0      | 23.49            | 29.34         |
|           |            |           |       | 1    | 12     | 23.43            | 29.16         |
|           |            |           |       | 1    | 24     | 23.42            | 29.34         |
|           |            |           |       | 12   | 0      | 22.52            | 28.94         |
|           |            |           |       | 12   | 6      | 22.56            | 28.77         |
|           |            |           |       | 12   | 11     | 22.56            | 28.86         |
|           |            |           |       | 25   | 0      | 22.49            | 29.43         |
| 5.0       | 20525      | 836.5     | QPSK  | 1    | 0      | 24.35            | 28.87         |
|           |            |           |       | 1    | 12     | 24.35            | 28.87         |
|           |            |           |       | 1    | 24     | 24.40            | 29.16         |
|           |            |           |       | 12   | 0      | 23.47            | 28.85         |
|           |            |           |       | 12   | 6      | 23.45            | 28.86         |
|           |            |           |       | 12   | 11     | 23.41            | 28.86         |
|           |            |           |       | 25   | 0      | 23.40            | 29.51         |
|           |            |           | 16QAM | 1    | 0      | 23.46            | 29.31         |
|           |            |           |       | 1    | 12     | 23.48            | 29.14         |
|           |            |           |       | 1    | 24     | 23.41            | 29.46         |
|           |            |           |       | 12   | 0      | 22.50            | 28.86         |
|           |            |           |       | 12   | 6      | 22.49            | 28.77         |
|           |            |           |       | 12   | 11     | 22.50            | 28.93         |
|           |            |           |       | 25   | 0      | 22.42            | 29.61         |
| 5.0       | 20625      | 846.5     | QPSK  | 1    | 0      | 24.45            | 29.05         |
|           |            |           |       | 1    | 12     | 24.39            | 28.89         |
|           |            |           |       | 1    | 24     | 24.41            | 29.02         |
|           |            |           |       | 12   | 0      | 23.50            | 28.76         |
|           |            |           |       | 12   | 6      | 23.43            | 28.60         |
|           |            |           |       | 12   | 11     | 23.41            | 28.58         |
|           |            |           |       | 25   | 0      | 23.49            | 29.15         |
|           |            |           | 16QAM | 1    | 0      | 23.42            | 29.22         |
|           |            |           |       | 1    | 12     | 23.48            | 28.92         |
|           |            |           |       | 1    | 24     | 23.43            | 29.07         |
|           |            |           |       | 12   | 0      | 22.41            | 28.84         |
|           |            |           |       | 12   | 6      | 22.43            | 28.60         |
|           |            |           |       | 12   | 11     | 22.40            | 28.60         |
|           |            |           |       | 25   | 0      | 22.44            | 29.13         |

**OUTPUT POWER FOR LTE BAND 5 (10.0 MHz)**

| Bandwidth | UL Channel | Frequency | Mode  | RB   | RB     | Average<br>(dBm) | Peak<br>(dBm) |
|-----------|------------|-----------|-------|------|--------|------------------|---------------|
|           |            |           |       | Size | Offset |                  |               |
| 10.0      | 20450      | 829.0     | QPSK  | 1    | 0      | <b>24.50</b>     | 28.75         |
|           |            |           |       | 1    | 24     | 24.34            | 28.81         |
|           |            |           |       | 1    | 49     | 24.34            | 28.72         |
|           |            |           |       | 25   | 0      | 23.49            | 28.94         |
|           |            |           |       | 25   | 12     | 23.41            | 29.03         |
|           |            |           |       | 25   | 24     | 23.49            | 28.94         |
|           |            |           |       | 50   | 0      | 23.48            | 29.73         |
|           |            |           | 16QAM | 1    | 0      | <b>23.50</b>     | 29.04         |
|           |            |           |       | 1    | 24     | 23.47            | 29.05         |
|           |            |           |       | 1    | 49     | 23.44            | 28.77         |
|           |            |           |       | 25   | 0      | 22.50            | 28.74         |
|           |            |           |       | 25   | 12     | 22.52            | 28.82         |
|           |            |           |       | 25   | 24     | 22.50            | 28.71         |
|           |            |           |       | 50   | 0      | 22.49            | 28.94         |
| 10.0      | 20525      | 836.5     | QPSK  | 1    | 0      | 24.39            | 28.79         |
|           |            |           |       | 1    | 24     | 24.47            | 28.82         |
|           |            |           |       | 1    | 49     | 24.40            | 29.04         |
|           |            |           |       | 25   | 0      | 23.48            | 28.93         |
|           |            |           |       | 25   | 12     | 23.50            | 29.06         |
|           |            |           |       | 25   | 24     | 23.47            | 29.08         |
|           |            |           |       | 50   | 0      | 23.43            | 29.74         |
|           |            |           | 16QAM | 1    | 0      | 23.48            | 28.96         |
|           |            |           |       | 1    | 24     | 23.50            | 28.87         |
|           |            |           |       | 1    | 49     | 23.42            | 29.14         |
|           |            |           |       | 25   | 0      | 22.44            | 28.67         |
|           |            |           |       | 25   | 12     | 22.42            | 28.70         |
|           |            |           |       | 25   | 24     | 22.44            | 28.85         |
|           |            |           |       | 50   | 0      | 22.48            | 29.04         |
| 10.0      | 20600      | 844.0     | QPSK  | 1    | 0      | 24.41            | 28.93         |
|           |            |           |       | 1    | 24     | 24.34            | 28.92         |
|           |            |           |       | 1    | 49     | 24.35            | 28.81         |
|           |            |           |       | 25   | 0      | 23.40            | 29.09         |
|           |            |           |       | 25   | 12     | 23.40            | 28.95         |
|           |            |           |       | 25   | 24     | 23.42            | 28.96         |
|           |            |           |       | 50   | 0      | 23.43            | <b>29.77</b>  |
|           |            |           | 16QAM | 1    | 0      | 23.45            | 29.02         |
|           |            |           |       | 1    | 24     | 23.44            | 29.11         |
|           |            |           |       | 1    | 49     | 23.45            | 29.01         |
|           |            |           |       | 25   | 0      | 22.48            | 28.97         |
|           |            |           |       | 25   | 12     | 22.50            | 28.86         |
|           |            |           |       | 25   | 24     | 22.45            | 28.85         |
|           |            |           |       | 50   | 0      | 22.50            | <b>29.47</b>  |

## 7.4. LTE BAND 13

### OUTPUT POWER FOR LTE BAND 13 (5.0 MHz)

| Bandwidth | UL Channel | Frequency | Mode  | RB   | RB     | Average (dBm) | Peak (dBm)   |
|-----------|------------|-----------|-------|------|--------|---------------|--------------|
|           |            |           |       | Size | Offset |               |              |
| 5.0       | 23207      | 779.5     | QPSK  | 1    | 0      | <b>23.99</b>  | <b>28.89</b> |
|           |            |           |       | 1    | 12     | 23.90         | 28.78        |
|           |            |           |       | 1    | 24     | 23.91         | 28.85        |
|           |            |           |       | 12   | 0      | 22.93         | 28.27        |
|           |            |           |       | 12   | 6      | 22.94         | 28.23        |
|           |            |           |       | 12   | 11     | 22.92         | 28.24        |
|           |            |           |       | 25   | 0      | 22.96         | 28.86        |
|           |            |           | 16QAM | 1    | 0      | <b>23.03</b>  | 28.67        |
|           |            |           |       | 1    | 12     | 22.97         | 28.43        |
|           |            |           |       | 1    | 24     | 23.02         | 28.66        |
|           |            |           |       | 12   | 0      | 22.04         | 28.28        |
|           |            |           |       | 12   | 6      | 22.02         | 28.13        |
|           |            |           |       | 12   | 11     | 22.02         | 28.26        |
|           |            |           |       | 25   | 0      | 22.01         | 28.84        |
| 5.0       | 23230      | 782.0     | QPSK  | 1    | 0      | 23.89         | 28.77        |
|           |            |           |       | 1    | 12     | 23.85         | 28.73        |
|           |            |           |       | 1    | 24     | 23.85         | 28.81        |
|           |            |           |       | 12   | 0      | 22.91         | 28.27        |
|           |            |           |       | 12   | 6      | 22.89         | 28.20        |
|           |            |           |       | 12   | 11     | 22.91         | 28.25        |
|           |            |           |       | 25   | 0      | 22.84         | 28.68        |
|           |            |           | 16QAM | 1    | 0      | 22.98         | 28.53        |
|           |            |           |       | 1    | 12     | 22.96         | 28.42        |
|           |            |           |       | 1    | 24     | 22.99         | 28.63        |
|           |            |           |       | 12   | 0      | 22.01         | 28.24        |
|           |            |           |       | 12   | 6      | 22.02         | 28.19        |
|           |            |           |       | 12   | 11     | 22.04         | 28.16        |
|           |            |           |       | 25   | 0      | 22.03         | <b>28.99</b> |
| 5.0       | 23255      | 784.5     | QPSK  | 1    | 0      | 23.86         | 28.74        |
|           |            |           |       | 1    | 12     | 23.84         | 28.73        |
|           |            |           |       | 1    | 24     | 23.83         | 28.76        |
|           |            |           |       | 12   | 0      | 22.90         | 28.28        |
|           |            |           |       | 12   | 6      | 22.87         | 28.18        |
|           |            |           |       | 12   | 11     | 22.87         | 28.18        |
|           |            |           |       | 25   | 0      | 22.85         | 28.75        |
|           |            |           | 16QAM | 1    | 0      | 22.96         | 28.55        |
|           |            |           |       | 1    | 12     | 22.91         | 28.44        |
|           |            |           |       | 1    | 24     | 22.97         | 28.58        |
|           |            |           |       | 12   | 0      | 21.99         | 28.28        |
|           |            |           |       | 12   | 6      | 21.96         | 28.11        |
|           |            |           |       | 12   | 11     | 21.96         | 28.17        |
|           |            |           |       | 25   | 0      | 22.00         | 28.91        |

**OUTPUT POWER FOR LTE BAND 13 (10.0 MHz)**

| Bandwidth | UL Channel | Frequency | Mode  | RB   | RB     | Average<br>(dBm) | Peak<br>(dBm) |
|-----------|------------|-----------|-------|------|--------|------------------|---------------|
|           |            |           |       | Size | Offset |                  |               |
| 10.0      | 23230      | 782.0     | QPSK  | 1    | 0      | <b>23.98</b>     | 28.84         |
|           |            |           |       | 1    | 24     | 23.81            | 28.71         |
|           |            |           |       | 1    | 49     | 23.93            | 28.67         |
|           |            |           |       | 25   | 0      | 23.00            | 28.35         |
|           |            |           |       | 25   | 12     | 22.88            | 28.23         |
|           |            |           |       | 25   | 24     | 22.90            | 28.32         |
|           |            |           |       | 50   | 0      | 23.01            | <b>28.93</b>  |
|           |            |           | 16QAM | 1    | 0      | <b>22.95</b>     | 28.31         |
|           |            |           |       | 1    | 24     | 22.88            | 28.24         |
|           |            |           |       | 1    | 49     | 22.89            | 28.40         |
|           |            |           |       | 25   | 0      | 21.99            | 28.28         |
|           |            |           |       | 25   | 12     | 21.96            | 28.24         |
|           |            |           |       | 25   | 24     | 21.97            | 28.33         |
|           |            |           |       | 50   | 0      | 22.02            | <b>29.17</b>  |

## 7.5. LTE BAND 17

### OUTPUT POWER FOR LTE BAND 17 (5.0 MHz)

| Bandwidth | UL Channel | Frequency | Mode  | RB   | RB     | Average (dBm) | Peak (dBm) |
|-----------|------------|-----------|-------|------|--------|---------------|------------|
|           |            |           |       | Size | Offset |               |            |
| 5.0       | 23755      | 706.5     | QPSK  | 1    | 0      | 24.00         | 28.36      |
|           |            |           |       | 1    | 12     | 23.92         | 28.50      |
|           |            |           |       | 1    | 24     | 23.96         | 28.29      |
|           |            |           |       | 12   | 0      | 23.02         | 28.21      |
|           |            |           |       | 12   | 6      | 23.01         | 28.18      |
|           |            |           |       | 12   | 11     | 23.02         | 28.17      |
|           |            |           |       | 25   | 0      | 22.99         | 28.72      |
|           |            |           | 16QAM | 1    | 0      | 23.07         | 28.48      |
|           |            |           |       | 1    | 12     | 22.95         | 28.27      |
|           |            |           |       | 1    | 24     | 23.00         | 28.43      |
|           |            |           |       | 12   | 0      | 22.03         | 28.26      |
|           |            |           |       | 12   | 6      | 22.02         | 28.09      |
|           |            |           |       | 12   | 11     | 22.06         | 28.26      |
|           |            |           |       | 25   | 0      | 22.08         | 28.71      |
| 5.0       | 23790      | 710.0     | QPSK  | 1    | 0      | 23.94         | 28.42      |
|           |            |           |       | 1    | 12     | 23.87         | 28.31      |
|           |            |           |       | 1    | 24     | 23.97         | 27.89      |
|           |            |           |       | 12   | 0      | 23.03         | 28.29      |
|           |            |           |       | 12   | 6      | 22.81         | 27.98      |
|           |            |           |       | 12   | 11     | 23.02         | 27.92      |
|           |            |           |       | 25   | 0      | 22.87         | 28.66      |
|           |            |           | 16QAM | 1    | 0      | 22.94         | 28.36      |
|           |            |           |       | 1    | 12     | 22.95         | 28.32      |
|           |            |           |       | 1    | 24     | 22.89         | 27.97      |
|           |            |           |       | 12   | 0      | 22.01         | 28.36      |
|           |            |           |       | 12   | 6      | 22.00         | 28.03      |
|           |            |           |       | 12   | 11     | 22.01         | 28.02      |
|           |            |           |       | 25   | 0      | 21.99         | 28.26      |
| 5.0       | 23825      | 713.5     | QPSK  | 1    | 0      | 23.92         | 28.03      |
|           |            |           |       | 1    | 12     | 23.84         | 27.70      |
|           |            |           |       | 1    | 24     | 22.84         | 26.98      |
|           |            |           |       | 12   | 0      | 22.81         | 27.92      |
|           |            |           |       | 12   | 6      | 23.00         | 27.47      |
|           |            |           |       | 12   | 11     | 22.94         | 27.23      |
|           |            |           |       | 25   | 0      | 22.83         | 28.15      |
|           |            |           | 16QAM | 1    | 0      | 22.90         | 27.99      |
|           |            |           |       | 1    | 12     | 22.91         | 27.79      |
|           |            |           |       | 1    | 24     | 22.89         | 27.08      |
|           |            |           |       | 12   | 0      | 21.88         | 27.97      |
|           |            |           |       | 12   | 6      | 21.89         | 27.47      |
|           |            |           |       | 12   | 11     | 21.94         | 27.38      |
|           |            |           |       | 25   | 0      | 21.99         | 28.12      |

**OUTPUT POWER FOR LTE BAND 17 (10.0 MHz)**

| Bandwidth | UL Channel | Frequency | Mode  | RB   | RB     | Average<br>(dBm) | Peak<br>(dBm) |
|-----------|------------|-----------|-------|------|--------|------------------|---------------|
|           |            |           |       | Size | Offset |                  |               |
| 10.0      | 23780      | 709.0     | QPSK  | 1    | 0      | 23.92            | 28.60         |
|           |            |           |       | 1    | 24     | 23.86            | 28.36         |
|           |            |           |       | 1    | 49     | 23.96            | 27.76         |
|           |            |           |       | 25   | 0      | 23.01            | 28.34         |
|           |            |           |       | 25   | 12     | 22.95            | 28.24         |
|           |            |           |       | 25   | 24     | 22.82            | 28.11         |
|           |            |           |       | 50   | 0      | 22.96            | 28.55         |
|           |            |           | 16QAM | 1    | 0      | 22.93            | 28.26         |
|           |            |           |       | 1    | 24     | 22.88            | 28.19         |
|           |            |           |       | 1    | 49     | 22.93            | 27.87         |
|           |            |           |       | 25   | 0      | 22.00            | 28.24         |
|           |            |           |       | 25   | 12     | 22.00            | 28.18         |
|           |            |           |       | 25   | 24     | 22.08            | 28.12         |
|           |            |           |       | 50   | 0      | 22.01            | <b>28.90</b>  |
| 10.0      | 23790      | 710.0     | QPSK  | 1    | 0      | 23.89            | 28.43         |
|           |            |           |       | 1    | 24     | 23.86            | 28.30         |
|           |            |           |       | 1    | 49     | 23.92            | 27.43         |
|           |            |           |       | 25   | 0      | 22.99            | 28.30         |
|           |            |           |       | 25   | 12     | 22.87            | 28.20         |
|           |            |           |       | 25   | 24     | 22.89            | 27.90         |
|           |            |           |       | 50   | 0      | 22.93            | 28.64         |
|           |            |           | 16QAM | 1    | 0      | <b>23.00</b>     | 28.31         |
|           |            |           |       | 1    | 24     | 22.89            | 28.21         |
|           |            |           |       | 1    | 49     | 22.96            | 27.55         |
|           |            |           |       | 25   | 0      | 21.99            | 28.30         |
|           |            |           |       | 25   | 12     | 22.02            | 28.05         |
|           |            |           |       | 25   | 24     | 21.96            | 27.80         |
|           |            |           |       | 50   | 0      | 22.02            | 28.50         |
| 10.0      | 23800      | 711.0     | QPSK  | 1    | 0      | <b>23.98</b>     | 28.57         |
|           |            |           |       | 1    | 24     | 23.94            | 27.96         |
|           |            |           |       | 1    | 49     | 23.96            | 27.26         |
|           |            |           |       | 25   | 0      | 23.02            | 28.43         |
|           |            |           |       | 25   | 12     | 22.82            | 28.06         |
|           |            |           |       | 25   | 24     | 22.82            | 27.77         |
|           |            |           |       | 50   | 0      | 22.92            | <b>28.81</b>  |
|           |            |           | 16QAM | 1    | 0      | 22.94            | 28.26         |
|           |            |           |       | 1    | 24     | 22.86            | 27.98         |
|           |            |           |       | 1    | 49     | 22.97            | 27.32         |
|           |            |           |       | 25   | 0      | 22.01            | 28.27         |
|           |            |           |       | 25   | 12     | 22.02            | 28.12         |
|           |            |           |       | 25   | 24     | 21.93            | 27.79         |
|           |            |           |       | 50   | 0      | 21.95            | 28.39         |

## 7.6. LTE BAND 25

### OUTPUT POWER FOR LTE BAND 25 (1.4MHz)

| Bandwidth | UL Channel | Frequency | Modulation | RB   | RB     | Average (dBm) | Peak (dBm) |
|-----------|------------|-----------|------------|------|--------|---------------|------------|
|           |            |           |            | Size | Offset |               |            |
| 1.4       | 26047      | 1850.7    | QPSK       | 1    | 0      | 23.71         | 28.65      |
|           |            |           |            | 1    | 2      | 23.75         | 28.63      |
|           |            |           |            | 1    | 5      | 23.73         | 28.69      |
|           |            |           |            | 3    | 0      | 23.73         | 28.77      |
|           |            |           |            | 3    | 1      | 23.75         | 28.74      |
|           |            |           |            | 3    | 2      | 23.71         | 28.81      |
|           |            |           | 16QAM      | 6    | 0      | 22.68         | 28.38      |
|           |            |           |            | 1    | 0      | 22.73         | 28.41      |
|           |            |           |            | 1    | 2      | 22.69         | 28.36      |
|           |            |           |            | 1    | 5      | 22.70         | 28.42      |
|           |            |           |            | 3    | 0      | 22.74         | 28.72      |
|           |            |           |            | 3    | 1      | 22.70         | 28.71      |
|           |            |           |            | 3    | 2      | 22.72         | 28.62      |
|           |            |           |            | 6    | 0      | 21.76         | 28.51      |
| 1.4       | 26365      | 1882.5    | QPSK       | 1    | 0      | 23.72         | 28.13      |
|           |            |           |            | 1    | 2      | 23.75         | 28.07      |
|           |            |           |            | 1    | 5      | 23.73         | 28.15      |
|           |            |           |            | 3    | 0      | 23.71         | 28.34      |
|           |            |           |            | 3    | 1      | 23.71         | 28.30      |
|           |            |           |            | 3    | 2      | 23.74         | 28.31      |
|           |            |           | 16QAM      | 6    | 0      | 22.79         | 28.33      |
|           |            |           |            | 1    | 0      | 22.84         | 28.13      |
|           |            |           |            | 1    | 2      | 22.83         | 28.08      |
|           |            |           |            | 1    | 5      | 22.76         | 28.15      |
|           |            |           |            | 3    | 0      | 22.76         | 28.21      |
|           |            |           |            | 3    | 1      | 22.78         | 28.17      |
|           |            |           |            | 3    | 2      | 22.81         | 28.23      |
|           |            |           |            | 6    | 0      | 21.80         | 28.37      |
| 1.4       | 26683      | 1914.3    | QPSK       | 1    | 0      | 23.75         | 28.64      |
|           |            |           |            | 1    | 2      | 23.68         | 28.39      |
|           |            |           |            | 1    | 5      | 23.67         | 28.68      |
|           |            |           |            | 3    | 0      | 23.75         | 28.75      |
|           |            |           |            | 3    | 1      | 23.71         | 28.71      |
|           |            |           |            | 3    | 2      | 23.73         | 28.44      |
|           |            |           | 16QAM      | 6    | 0      | 22.62         | 27.90      |
|           |            |           |            | 1    | 0      | 22.71         | 28.38      |
|           |            |           |            | 1    | 2      | 22.71         | 28.25      |
|           |            |           |            | 1    | 5      | 22.74         | 28.44      |
|           |            |           |            | 3    | 0      | 22.71         | 28.70      |
|           |            |           |            | 3    | 1      | 22.67         | 27.99      |
|           |            |           |            | 3    | 2      | 22.70         | 27.91      |
|           |            |           |            | 6    | 0      | 21.80         | 28.17      |

**OUTPUT POWER FOR LTE BAND 25 (3.0 MHz)**

| Bandwidth | UL Channel | Frequency | Modulation | RB   | RB     | Average<br>(dBm) | Peak<br>(dBm) |
|-----------|------------|-----------|------------|------|--------|------------------|---------------|
|           |            |           |            | Size | Offset |                  |               |
| 3.0       | 26055      | 1851.5    | QPSK       | 1    | 0      | 23.65            | <b>28.63</b>  |
|           |            |           |            | 1    | 7      | 23.68            | 27.31         |
|           |            |           |            | 1    | 14     | 23.70            | 27.67         |
|           |            |           |            | 8    | 0      | 22.65            | 28.07         |
|           |            |           |            | 8    | 4      | 22.62            | 27.59         |
|           |            |           |            | 8    | 7      | 22.60            | 27.64         |
|           |            |           |            | 15   | 0      | 22.65            | 28.08         |
|           |            |           | 16QAM      | 1    | 0      | <b>22.68</b>     | 27.33         |
|           |            |           |            | 1    | 7      | 22.66            | 27.35         |
|           |            |           |            | 1    | 14     | 22.61            | 27.66         |
|           |            |           |            | 8    | 0      | 21.80            | 27.47         |
|           |            |           |            | 8    | 4      | 21.76            | 27.54         |
|           |            |           |            | 8    | 7      | 21.73            | 27.60         |
|           |            |           |            | 15   | 0      | 21.73            | 28.06         |
| 3.0       | 26365      | 1882.5    | QPSK       | 1    | 0      | <b>23.75</b>     | 28.00         |
|           |            |           |            | 1    | 7      | 23.70            | 28.01         |
|           |            |           |            | 1    | 14     | 23.68            | 28.23         |
|           |            |           |            | 8    | 0      | 22.75            | 28.06         |
|           |            |           |            | 8    | 4      | 22.69            | 28.03         |
|           |            |           |            | 8    | 7      | 22.67            | 28.01         |
|           |            |           |            | 15   | 0      | 22.68            | 28.37         |
|           |            |           | 16QAM      | 1    | 0      | 22.65            | 27.98         |
|           |            |           |            | 1    | 7      | 22.63            | 28.05         |
|           |            |           |            | 1    | 14     | 22.66            | <b>28.22</b>  |
|           |            |           |            | 8    | 0      | 21.78            | 27.92         |
|           |            |           |            | 8    | 4      | 21.79            | 27.86         |
|           |            |           |            | 8    | 7      | 21.84            | 27.96         |
|           |            |           |            | 15   | 0      | 21.85            | 28.17         |
| 3.0       | 26675      | 1913.5    | QPSK       | 1    | 0      | 23.62            | 27.57         |
|           |            |           |            | 1    | 7      | 23.63            | 27.24         |
|           |            |           |            | 1    | 14     | 23.69            | 28.46         |
|           |            |           |            | 8    | 0      | 22.58            | 27.57         |
|           |            |           |            | 8    | 4      | 22.58            | 27.48         |
|           |            |           |            | 8    | 7      | 22.61            | 27.51         |
|           |            |           |            | 15   | 0      | 22.59            | 27.93         |
|           |            |           | 16QAM      | 1    | 0      | 22.64            | 27.57         |
|           |            |           |            | 1    | 7      | 22.63            | 27.28         |
|           |            |           |            | 1    | 14     | 22.62            | 27.41         |
|           |            |           |            | 8    | 0      | 21.71            | 27.49         |
|           |            |           |            | 8    | 4      | 21.69            | 27.38         |
|           |            |           |            | 8    | 7      | 21.72            | 27.49         |
|           |            |           |            | 15   | 0      | 21.71            | 28.07         |

**OUTPUT POWER FOR LTE BAND 25 (5.0 MHz)**

| Bandwidth | UL Channel | Frequency | Mode  | RB   | RB     | Average (dBm) | Peak (dBm)   |
|-----------|------------|-----------|-------|------|--------|---------------|--------------|
|           |            |           |       | Size | Offset |               |              |
| 5.0       | 26065      | 1852.5    | QPSK  | 1    | 0      | 23.64         | <b>28.42</b> |
|           |            |           |       | 1    | 12     | 23.57         | 27.52        |
|           |            |           |       | 1    | 24     | 23.57         | 27.85        |
|           |            |           |       | 12   | 0      | 22.64         | 27.52        |
|           |            |           |       | 12   | 6      | 22.63         | 27.61        |
|           |            |           |       | 12   | 11     | 22.62         | 27.70        |
|           |            |           |       | 25   | 0      | 22.68         | 28.08        |
|           |            |           | 16QAM | 1    | 0      | 22.60         | 27.30        |
|           |            |           |       | 1    | 12     | 22.68         | 27.52        |
|           |            |           |       | 1    | 24     | 22.61         | 27.89        |
|           |            |           |       | 12   | 0      | 21.76         | 27.51        |
|           |            |           |       | 12   | 6      | 21.70         | 27.66        |
|           |            |           |       | 12   | 11     | 21.70         | 27.71        |
|           |            |           |       | 25   | 0      | 21.72         | 28.11        |
| 5.0       | 26365      | 1882.5    | QPSK  | 1    | 0      | <b>23.71</b>  | 27.88        |
|           |            |           |       | 1    | 12     | 23.71         | 28.01        |
|           |            |           |       | 1    | 24     | 23.66         | 28.38        |
|           |            |           |       | 12   | 0      | 22.76         | 27.97        |
|           |            |           |       | 12   | 6      | 22.68         | 27.94        |
|           |            |           |       | 12   | 11     | 22.66         | 28.05        |
|           |            |           |       | 25   | 0      | 22.68         | 28.39        |
|           |            |           | 16QAM | 1    | 0      | 22.70         | 27.89        |
|           |            |           |       | 1    | 12     | 22.60         | 28.04        |
|           |            |           |       | 1    | 24     | 22.61         | <b>28.39</b> |
|           |            |           |       | 12   | 0      | 21.79         | 27.99        |
|           |            |           |       | 12   | 6      | 21.83         | 27.95        |
|           |            |           |       | 12   | 11     | 21.79         | 27.96        |
|           |            |           |       | 25   | 0      | 21.84         | 28.19        |
| 5.0       | 26665      | 1912.5    | QPSK  | 1    | 0      | 23.65         | 27.93        |
|           |            |           |       | 1    | 12     | 23.70         | 27.42        |
|           |            |           |       | 1    | 24     | 23.65         | 28.20        |
|           |            |           |       | 12   | 0      | 22.58         | 27.73        |
|           |            |           |       | 12   | 6      | 22.64         | 27.56        |
|           |            |           |       | 12   | 11     | 22.58         | 27.50        |
|           |            |           |       | 25   | 0      | 22.70         | 28.07        |
|           |            |           | 16QAM | 1    | 0      | <b>22.72</b>  | 27.92        |
|           |            |           |       | 1    | 12     | 22.67         | 27.45        |
|           |            |           |       | 1    | 24     | 22.59         | 27.38        |
|           |            |           |       | 12   | 0      | 21.74         | 27.77        |
|           |            |           |       | 12   | 6      | 21.74         | 27.60        |
|           |            |           |       | 12   | 11     | 21.65         | 27.47        |
|           |            |           |       | 25   | 0      | 21.62         | 27.88        |

**OUTPUT POWER FOR LTE BAND 25 (10.0 MHz)**

| Bandwidth | UL Channel | Frequency | Mode  | RB   | RB     | Average<br>(dBm) | Peak<br>(dBm) |
|-----------|------------|-----------|-------|------|--------|------------------|---------------|
|           |            |           |       | Size | Offset |                  |               |
| 10.0      | 26090      | 1855.0    | QPSK  | 1    | 0      | 23.59            | 27.52         |
|           |            |           |       | 1    | 24     | 23.67            | 27.81         |
|           |            |           |       | 1    | 49     | 23.56            | 28.26         |
|           |            |           |       | 25   | 0      | 22.65            | 27.77         |
|           |            |           |       | 25   | 12     | 22.59            | 27.89         |
|           |            |           |       | 25   | 24     | 22.64            | 28.10         |
|           |            |           |       | 50   | 0      | 22.57            | 28.13         |
|           |            |           | 16QAM | 1    | 0      | 22.73            | 27.36         |
|           |            |           |       | 1    | 24     | 22.70            | 27.81         |
|           |            |           |       | 1    | 49     | 22.73            | 28.27         |
|           |            |           |       | 25   | 0      | 21.76            | 27.69         |
|           |            |           |       | 25   | 12     | 21.71            | 27.87         |
|           |            |           |       | 25   | 24     | 21.65            | 28.00         |
|           |            |           |       | 50   | 0      | 21.68            | 28.17         |
| 10.0      | 26365      | 1882.5    | QPSK  | 1    | 0      | 23.71            | 27.73         |
|           |            |           |       | 1    | 24     | 23.66            | 28.01         |
|           |            |           |       | 1    | 49     | 23.63            | 28.46         |
|           |            |           |       | 25   | 0      | 22.79            | 27.95         |
|           |            |           |       | 25   | 12     | 22.72            | 28.05         |
|           |            |           |       | 25   | 24     | 22.73            | 28.20         |
|           |            |           |       | 50   | 0      | 22.71            | 28.27         |
|           |            |           | 16QAM | 1    | 0      | 22.80            | 27.56         |
|           |            |           |       | 1    | 24     | 22.70            | 28.00         |
|           |            |           |       | 1    | 49     | 22.59            | 28.46         |
|           |            |           |       | 25   | 0      | 21.62            | 27.91         |
|           |            |           |       | 25   | 12     | 21.75            | 28.03         |
|           |            |           |       | 25   | 24     | 21.76            | 28.10         |
|           |            |           |       | 50   | 0      | 21.83            | 28.19         |
| 10.0      | 26640      | 1910.0    | QPSK  | 1    | 0      | 23.59            | 28.52         |
|           |            |           |       | 1    | 24     | 23.65            | 27.86         |
|           |            |           |       | 1    | 49     | 23.60            | 27.66         |
|           |            |           |       | 25   | 0      | 22.62            | 28.06         |
|           |            |           |       | 25   | 12     | 22.64            | 27.92         |
|           |            |           |       | 25   | 24     | 22.59            | 27.62         |
|           |            |           |       | 50   | 0      | 22.67            | 28.47         |
|           |            |           | 16QAM | 1    | 0      | 22.67            | 28.31         |
|           |            |           |       | 1    | 24     | 22.73            | 27.86         |
|           |            |           |       | 1    | 49     | 22.69            | 27.39         |
|           |            |           |       | 25   | 0      | 21.77            | 28.15         |
|           |            |           |       | 25   | 12     | 21.68            | 27.91         |
|           |            |           |       | 25   | 24     | 21.68            | 27.73         |
|           |            |           |       | 50   | 0      | 21.64            | 27.91         |

**OUTPUT POWER FOR LTE BAND 25 (15.0 MHz)**

| Bandwidth | UL Channel | Frequency | Mode   | RB   | RB     | Average<br>(dBm) | Peak<br>(dBm) |
|-----------|------------|-----------|--------|------|--------|------------------|---------------|
|           |            |           |        | Size | Offset |                  |               |
| 15.0      | 26115      | 1857.5    | QPSK   | 1    | 0      | 23.60            | 28.08         |
|           |            |           |        | 1    | 37     | 23.69            | 28.03         |
|           |            |           |        | 1    | 74     | 23.61            | 27.90         |
|           |            |           |        | 36   | 0      | 22.62            | 27.83         |
|           |            |           |        | 36   | 16     | 22.59            | 28.00         |
|           |            |           |        | 36   | 35     | 22.69            | 28.07         |
|           |            |           |        | 75   | 0      | 22.71            | 28.26         |
|           |            |           | 16-QAM | 1    | 0      | 22.67            | 27.33         |
|           |            |           |        | 1    | 37     | 22.70            | 28.05         |
|           |            |           |        | 1    | 74     | 22.74            | 27.96         |
|           |            |           |        | 36   | 0      | 21.75            | 27.81         |
|           |            |           |        | 36   | 16     | 21.73            | 28.02         |
|           |            |           |        | 36   | 35     | 21.72            | 28.03         |
|           |            |           |        | 75   | 0      | 21.82            | 28.28         |
| 15.0      | 26365      | 1882.5    | QPSK   | 1    | 0      | <b>23.74</b>     | <b>28.75</b>  |
|           |            |           |        | 1    | 37     | 23.70            | 28.01         |
|           |            |           |        | 1    | 74     | 3.00             | 28.41         |
|           |            |           |        | 36   | 0      | 22.81            | 27.87         |
|           |            |           |        | 36   | 16     | 22.73            | 28.02         |
|           |            |           |        | 36   | 35     | 22.65            | 28.11         |
|           |            |           |        | 75   | 0      | 22.80            | 28.47         |
|           |            |           | 16-QAM | 1    | 0      | <b>22.75</b>     | 27.38         |
|           |            |           |        | 1    | 37     | 22.68            | 28.05         |
|           |            |           |        | 1    | 74     | 22.67            | <b>28.41</b>  |
|           |            |           |        | 36   | 0      | 21.83            | 27.87         |
|           |            |           |        | 36   | 16     | 21.78            | 28.05         |
|           |            |           |        | 36   | 35     | 21.82            | 28.17         |
|           |            |           |        | 75   | 0      | 21.83            | 28.35         |
| 15.0      | 26615      | 1907.5    | QPSK   | 1    | 0      | 23.70            | 28.20         |
|           |            |           |        | 1    | 37     | 23.55            | 28.33         |
|           |            |           |        | 1    | 74     | 23.64            | 28.59         |
|           |            |           |        | 36   | 0      | 22.63            | 28.18         |
|           |            |           |        | 36   | 16     | 22.68            | 28.05         |
|           |            |           |        | 36   | 35     | 22.59            | 27.88         |
|           |            |           |        | 75   | 0      | 22.64            | 28.43         |
|           |            |           | 16-QAM | 1    | 0      | 22.57            | 28.17         |
|           |            |           |        | 1    | 37     | 22.70            | 28.15         |
|           |            |           |        | 1    | 74     | 22.68            | 27.29         |
|           |            |           |        | 36   | 0      | 21.78            | 28.22         |
|           |            |           |        | 36   | 16     | 21.72            | 27.97         |
|           |            |           |        | 36   | 35     | 21.68            | 27.91         |
|           |            |           |        | 75   | 0      | 21.81            | 28.38         |

**OUTPUT POWER FOR LTE BAND 25 (20.0 MHz)**

| Bandwidth | UL Channel | Frequency | Mode   | RB   | RB     | Average<br>(dBm) | Peak<br>(dBm) |
|-----------|------------|-----------|--------|------|--------|------------------|---------------|
|           |            |           |        | Size | Offset |                  |               |
| 20.0      | 26140      | 1860.0    | QPSK   | 1    | 0      | <b>23.74</b>     | 28.62         |
|           |            |           |        | 1    | 49     | 23.69            | 28.17         |
|           |            |           |        | 1    | 99     | 23.73            | <b>28.62</b>  |
|           |            |           |        | 50   | 0      | 22.68            | 27.89         |
|           |            |           |        | 50   | 24     | 22.66            | 28.03         |
|           |            |           |        | 50   | 49     | 22.67            | 27.95         |
|           |            |           |        | 100  | 0      | 22.70            | 27.99         |
|           |            |           | 16-QAM | 1    | 0      | 22.63            | 27.70         |
|           |            |           |        | 1    | 49     | 22.66            | 28.16         |
|           |            |           |        | 1    | 99     | 22.67            | 27.30         |
|           |            |           |        | 50   | 0      | 21.77            | 27.93         |
|           |            |           |        | 50   | 24     | 21.74            | 27.98         |
|           |            |           |        | 50   | 49     | 21.77            | 28.01         |
|           |            |           |        | 100  | 0      | 21.82            | 28.01         |
| 20.0      | 26365      | 1882.5    | QPSK   | 1    | 0      | 23.72            | 28.52         |
|           |            |           |        | 1    | 49     | 23.72            | 28.03         |
|           |            |           |        | 1    | 99     | 23.73            | 28.27         |
|           |            |           |        | 50   | 0      | 22.80            | 27.78         |
|           |            |           |        | 50   | 24     | 22.77            | 28.07         |
|           |            |           |        | 50   | 49     | 22.73            | 28.21         |
|           |            |           |        | 100  | 0      | 22.69            | 28.13         |
|           |            |           | 16-QAM | 1    | 0      | 22.65            | 28.32         |
|           |            |           |        | 1    | 49     | 22.60            | 28.03         |
|           |            |           |        | 1    | 99     | 22.68            | 28.29         |
|           |            |           |        | 50   | 0      | 21.79            | 27.78         |
|           |            |           |        | 50   | 24     | 21.76            | 28.09         |
|           |            |           |        | 50   | 49     | 21.81            | 28.23         |
|           |            |           |        | 100  | 0      | 21.80            | 28.27         |
| 20.0      | 26590      | 1905.0    | QPSK   | 1    | 0      | 23.74            | 28.01         |
|           |            |           |        | 1    | 49     | 23.67            | 28.41         |
|           |            |           |        | 1    | 99     | 23.73            | 28.53         |
|           |            |           |        | 50   | 0      | 22.77            | 28.28         |
|           |            |           |        | 50   | 24     | 22.69            | 28.10         |
|           |            |           |        | 50   | 49     | 22.61            | 28.05         |
|           |            |           |        | 100  | 0      | 22.64            | 28.59         |
|           |            |           | 16-QAM | 1    | 0      | <b>22.74</b>     | 28.00         |
|           |            |           |        | 1    | 49     | 22.66            | 28.30         |
|           |            |           |        | 1    | 99     | 22.66            | 27.51         |
|           |            |           |        | 50   | 0      | 21.77            | 28.36         |
|           |            |           |        | 50   | 24     | 21.71            | 28.12         |
|           |            |           |        | 50   | 49     | 21.62            | 28.05         |
|           |            |           |        | 100  | 0      | 21.78            | <b>28.72</b>  |

## 7.7. LTE BAND 26

### OUTPUT POWER FOR LTE BAND 26 (1.4 MHz)

| Bandwidth | UL Channel | Frequency | Modulation | RB<br>Size | RB<br>Offset | Average<br>(dBm) | Peak<br>(dBm) |
|-----------|------------|-----------|------------|------------|--------------|------------------|---------------|
| 1.4       | 26697      | 814.7     | QPSK       | 1          | 0            | <b>23.99</b>     | 28.48         |
|           |            |           |            | 1          | 2            | 23.92            | 28.60         |
|           |            |           |            | 1          | 5            | 23.89            | 28.72         |
|           |            |           |            | 3          | 0            | 23.82            | 28.71         |
|           |            |           |            | 3          | 1            | 23.93            | 28.76         |
|           |            |           |            | 3          | 2            | 23.92            | 28.88         |
|           |            |           | 16QAM      | 6          | 0            | 22.94            | 28.58         |
|           |            |           |            | 1          | 0            | 22.81            | 28.45         |
|           |            |           |            | 1          | 2            | 23.02            | 28.59         |
|           |            |           |            | 1          | 5            | 23.01            | 28.72         |
|           |            |           |            | 3          | 0            | 22.94            | 28.64         |
|           |            |           |            | 3          | 1            | 23.01            | 28.70         |
|           |            |           |            | 3          | 2            | 23.03            | 28.75         |
|           |            |           |            | 6          | 0            | 22.01            | 28.52         |
| 1.4       | 26740      | 819.0     | QPSK       | 1          | 0            | 23.99            | 28.89         |
|           |            |           |            | 1          | 2            | 23.93            | 28.80         |
|           |            |           |            | 1          | 5            | 23.94            | 28.85         |
|           |            |           |            | 3          | 0            | 23.99            | 29.05         |
|           |            |           |            | 3          | 1            | 23.91            | 29.05         |
|           |            |           |            | 3          | 2            | 23.92            | 29.06         |
|           |            |           | 16QAM      | 6          | 0            | 22.93            | 28.51         |
|           |            |           |            | 1          | 0            | <b>23.07</b>     | 28.61         |
|           |            |           |            | 1          | 2            | 23.03            | 28.53         |
|           |            |           |            | 1          | 5            | 23.06            | 28.78         |
|           |            |           |            | 3          | 0            | 23.03            | 29.07         |
|           |            |           |            | 3          | 1            | 23.01            | 29.00         |
|           |            |           |            | 3          | 2            | 23.04            | 29.00         |
|           |            |           |            | 6          | 0            | 22.00            | 28.62         |
| 1.4       | 26783      | 823.3     | QPSK       | 1          | 0            | 23.98            | 28.96         |
|           |            |           |            | 1          | 2            | 23.89            | 28.88         |
|           |            |           |            | 1          | 5            | 23.95            | 28.94         |
|           |            |           |            | 3          | 0            | 23.93            | <b>29.24</b>  |
|           |            |           |            | 3          | 1            | 23.95            | 29.20         |
|           |            |           |            | 3          | 2            | 23.96            | 29.19         |
|           |            |           | 16QAM      | 6          | 0            | 23.00            | 28.66         |
|           |            |           |            | 1          | 0            | 22.94            | 28.79         |
|           |            |           |            | 1          | 2            | 22.91            | 28.78         |
|           |            |           |            | 1          | 5            | 22.94            | 28.73         |
|           |            |           |            | 3          | 0            | 22.94            | <b>29.27</b>  |
|           |            |           |            | 3          | 1            | 22.92            | 29.15         |
|           |            |           |            | 3          | 2            | 22.95            | 29.14         |
|           |            |           |            | 6          | 0            | 22.01            | 28.79         |

**OUTPUT POWER FOR LTE BAND 26 (3.0 MHz)**

| Bandwidth | UL Channel | Frequency | Modulation | RB   | RB     | Average<br>(dBm) | Peak<br>(dBm) |
|-----------|------------|-----------|------------|------|--------|------------------|---------------|
|           |            |           |            | Size | Offset |                  |               |
| 3.0       | 26705      | 815.5     | QPSK       | 1    | 0      | <b>23.99</b>     | 28.97         |
|           |            |           |            | 1    | 7      | 23.86            | 28.66         |
|           |            |           |            | 1    | 14     | 23.93            | 28.97         |
|           |            |           |            | 8    | 0      | 23.02            | 28.37         |
|           |            |           |            | 8    | 4      | 22.97            | 28.29         |
|           |            |           |            | 8    | 7      | 22.98            | 28.33         |
|           |            |           |            | 15   | 0      | 23.01            | 28.79         |
|           |            |           | 16QAM      | 1    | 0      | 22.89            | 28.62         |
|           |            |           |            | 1    | 7      | 22.89            | 28.39         |
|           |            |           |            | 1    | 14     | 22.84            | 28.60         |
|           |            |           |            | 8    | 0      | 22.09            | 28.19         |
|           |            |           |            | 8    | 4      | 22.07            | 28.11         |
|           |            |           |            | 8    | 7      | 22.09            | 28.17         |
|           |            |           |            | 15   | 0      | 22.09            | 28.66         |
| 3.0       | 26740      | 819.0     | QPSK       | 1    | 0      | 23.92            | 29.00         |
|           |            |           |            | 1    | 7      | 23.90            | 28.77         |
|           |            |           |            | 1    | 14     | 23.95            | <b>29.00</b>  |
|           |            |           |            | 8    | 0      | 22.97            | 28.32         |
|           |            |           |            | 8    | 4      | 22.99            | 28.41         |
|           |            |           |            | 8    | 7      | 23.00            | 28.34         |
|           |            |           |            | 15   | 0      | 23.01            | 28.44         |
|           |            |           | 16QAM      | 1    | 0      | 22.86            | 28.55         |
|           |            |           |            | 1    | 7      | 22.85            | 28.30         |
|           |            |           |            | 1    | 14     | 22.82            | 28.63         |
|           |            |           |            | 8    | 0      | 22.06            | 28.11         |
|           |            |           |            | 8    | 4      | 22.06            | 28.08         |
|           |            |           |            | 8    | 7      | 22.08            | 28.15         |
|           |            |           |            | 15   | 0      | 22.02            | 28.73         |
| 3.0       | 26775      | 822.5     | QPSK       | 1    | 0      | 23.93            | 28.97         |
|           |            |           |            | 1    | 7      | 23.90            | 28.51         |
|           |            |           |            | 1    | 14     | 23.92            | 28.95         |
|           |            |           |            | 8    | 0      | 23.00            | 28.43         |
|           |            |           |            | 8    | 4      | 23.02            | 28.26         |
|           |            |           |            | 8    | 7      | 23.02            | 28.35         |
|           |            |           |            | 15   | 0      | 23.01            | 28.73         |
|           |            |           | 16QAM      | 1    | 0      | <b>22.93</b>     | 28.40         |
|           |            |           |            | 1    | 7      | 22.82            | 28.29         |
|           |            |           |            | 1    | 14     | 22.84            | 28.36         |
|           |            |           |            | 8    | 0      | 22.01            | 27.99         |
|           |            |           |            | 8    | 4      | 22.07            | 27.85         |
|           |            |           |            | 8    | 7      | 22.09            | 28.08         |
|           |            |           |            | 15   | 0      | 22.07            | <b>28.77</b>  |

**OUTPUT POWER FOR LTE BAND 26 (5.0 MH)**

| Bandwidth | UL Channel | Frequency | Modulation | RB   | RB     | Average<br>(dBm) | Peak<br>(dBm) |
|-----------|------------|-----------|------------|------|--------|------------------|---------------|
|           |            |           |            | Size | Offset |                  |               |
| 5.0       | 26715      | 816.5     | QPSK       | 1    | 0      | 23.90            | 28.51         |
|           |            |           |            | 1    | 12     | 23.97            | 28.83         |
|           |            |           |            | 1    | 24     | 23.97            | 28.92         |
|           |            |           |            | 12   | 0      | 22.97            | 28.37         |
|           |            |           |            | 12   | 6      | 23.02            | 28.31         |
|           |            |           |            | 12   | 11     | 23.00            | 28.25         |
|           |            |           |            | 25   | 0      | 22.91            | 28.62         |
|           |            |           | 16QAM      | 1    | 0      | <b>22.92</b>     | 28.45         |
|           |            |           |            | 1    | 12     | 22.85            | 28.54         |
|           |            |           |            | 1    | 24     | 22.82            | 28.76         |
|           |            |           |            | 12   | 0      | 22.04            | 28.32         |
|           |            |           |            | 12   | 6      | 22.06            | 28.23         |
|           |            |           |            | 12   | 11     | 22.07            | 28.29         |
|           |            |           |            | 25   | 0      | 21.97            | 28.99         |
| 5.0       | 26740      | 819.0     | QPSK       | 1    | 0      | <b>24.00</b>     | 28.90         |
|           |            |           |            | 1    | 12     | 23.95            | 28.80         |
|           |            |           |            | 1    | 24     | 23.95            | 28.95         |
|           |            |           |            | 12   | 0      | 22.98            | 28.32         |
|           |            |           |            | 12   | 6      | 22.97            | 28.21         |
|           |            |           |            | 12   | 11     | 22.94            | 28.24         |
|           |            |           |            | 25   | 0      | 22.97            | 28.77         |
|           |            |           | 16QAM      | 1    | 0      | 22.84            | 28.71         |
|           |            |           |            | 1    | 12     | 22.82            | 28.50         |
|           |            |           |            | 1    | 24     | 22.84            | 28.72         |
|           |            |           |            | 12   | 0      | 22.07            | 28.30         |
|           |            |           |            | 12   | 6      | 22.07            | 28.22         |
|           |            |           |            | 12   | 11     | 22.04            | 28.28         |
|           |            |           |            | 25   | 0      | 22.00            | 29.07         |
| 5.0       | 26765      | 821.5     | QPSK       | 1    | 0      | 23.97            | 28.93         |
|           |            |           |            | 1    | 12     | 23.93            | 28.79         |
|           |            |           |            | 1    | 24     | 23.98            | <b>29.03</b>  |
|           |            |           |            | 12   | 0      | 23.00            | 28.40         |
|           |            |           |            | 12   | 6      | 22.97            | 28.33         |
|           |            |           |            | 12   | 11     | 22.97            | 28.29         |
|           |            |           |            | 25   | 0      | 22.91            | 28.82         |
|           |            |           | 16QAM      | 1    | 0      | 22.81            | 28.68         |
|           |            |           |            | 1    | 12     | 22.80            | 28.34         |
|           |            |           |            | 1    | 24     | 22.83            | 28.83         |
|           |            |           |            | 12   | 0      | 22.08            | 28.40         |
|           |            |           |            | 12   | 6      | 22.06            | 28.26         |
|           |            |           |            | 12   | 11     | 22.05            | 28.29         |
|           |            |           |            | 25   | 0      | 21.98            | <b>29.07</b>  |

**OUTPUT POWER FOR LTE BAND 26 (10.0 MHz)**

| Bandwidth | UL Channel | Frequency | Mode  | RB   | RB     | Average<br>(dBm) | Peak<br>(dBm) |
|-----------|------------|-----------|-------|------|--------|------------------|---------------|
|           |            |           |       | Size | Offset |                  |               |
| 10.0      | 26740      | 819.0     | QPSK  | 1    | 0      | <b>23.94</b>     | 28.73         |
|           |            |           |       | 1    | 24     | 23.82            | 28.71         |
|           |            |           |       | 1    | 49     | 23.87            | 28.54         |
|           |            |           |       | 25   | 0      | 22.94            | 28.26         |
|           |            |           |       | 25   | 12     | 22.95            | 28.33         |
|           |            |           |       | 25   | 24     | 22.95            | 28.39         |
|           |            |           |       | 50   | 0      | 22.97            | <b>29.13</b>  |
|           |            |           | 16QAM | 1    | 0      | <b>22.90</b>     | 28.47         |
|           |            |           |       | 1    | 24     | 22.80            | 28.47         |
|           |            |           |       | 1    | 49     | 22.86            | 28.35         |
|           |            |           |       | 25   | 0      | 22.03            | 28.29         |
|           |            |           |       | 25   | 12     | 22.02            | 28.28         |
|           |            |           |       | 25   | 24     | 22.03            | 28.32         |
|           |            |           |       | 50   | 0      | 22.01            | <b>29.12</b>  |

## 7.8. LTE BAND 41

### OUTPUT POWER FOR LTE BAND 41 (5.0 MHz)

| Bandwidth | UL Channel | Frequency | Mode  | RB   | RB     | Average (dBm) | Peak (dBm)   |
|-----------|------------|-----------|-------|------|--------|---------------|--------------|
|           |            |           |       | Size | Offset |               |              |
| 5.0       | 39675      | 2498.5    | QPSK  | 1    | 0      | <b>22.30</b>  | 27.59        |
|           |            |           |       | 1    | 12     | 22.26         | 27.73        |
|           |            |           |       | 1    | 24     | 22.27         | 27.94        |
|           |            |           |       | 12   | 0      | 21.20         | 27.09        |
|           |            |           |       | 12   | 6      | 21.30         | 27.57        |
|           |            |           |       | 12   | 11     | 21.28         | 27.58        |
|           |            |           |       | 25   | 0      | 21.25         | 27.67        |
|           |            |           | 16QAM | 1    | 0      | 21.32         | 26.30        |
|           |            |           |       | 1    | 12     | 21.30         | 26.43        |
|           |            |           |       | 1    | 24     | 21.29         | 26.64        |
|           |            |           |       | 12   | 0      | 20.36         | 27.20        |
|           |            |           |       | 12   | 6      | 20.36         | 27.30        |
|           |            |           |       | 12   | 11     | 20.36         | 27.42        |
|           |            |           |       | 25   | 0      | 20.23         | <b>27.43</b> |
| 5.0       | 40620      | 2593.0    | QPSK  | 1    | 0      | 22.26         | 27.96        |
|           |            |           |       | 1    | 12     | 22.20         | 27.84        |
|           |            |           |       | 1    | 24     | 22.26         | 27.96        |
|           |            |           |       | 12   | 0      | 21.14         | 27.15        |
|           |            |           |       | 12   | 6      | 21.17         | 27.24        |
|           |            |           |       | 12   | 11     | 21.19         | 27.32        |
|           |            |           |       | 25   | 0      | 21.22         | 27.71        |
|           |            |           | 16QAM | 1    | 0      | 21.27         | 26.51        |
|           |            |           |       | 1    | 12     | 21.29         | 26.47        |
|           |            |           |       | 1    | 24     | 21.27         | 26.55        |
|           |            |           |       | 12   | 0      | 20.24         | 27.10        |
|           |            |           |       | 12   | 6      | 20.35         | 27.14        |
|           |            |           |       | 12   | 11     | 20.38         | 27.14        |
|           |            |           |       | 25   | 0      | 20.32         | 27.27        |
| 5.0       | 41565      | 2687.5    | QPSK  | 1    | 0      | 22.25         | 27.94        |
|           |            |           |       | 1    | 12     | 22.24         | 27.83        |
|           |            |           |       | 1    | 24     | 22.23         | 27.87        |
|           |            |           |       | 12   | 0      | 21.37         | 27.67        |
|           |            |           |       | 12   | 6      | 21.37         | 27.80        |
|           |            |           |       | 12   | 11     | 21.42         | 27.80        |
|           |            |           |       | 25   | 0      | 21.36         | <b>27.96</b> |
|           |            |           | 16QAM | 1    | 0      | <b>21.39</b>  | 26.41        |
|           |            |           |       | 1    | 12     | 21.38         | 26.36        |
|           |            |           |       | 1    | 24     | 21.37         | 26.38        |
|           |            |           |       | 12   | 0      | 20.31         | 27.05        |
|           |            |           |       | 12   | 6      | 20.33         | 27.09        |
|           |            |           |       | 12   | 11     | 20.33         | 27.05        |
|           |            |           |       | 25   | 0      | 20.34         | 27.36        |

**OUTPUT POWER FOR LTE BAND 41 (10.0 MHz)**

| Bandwidth | UL Channel | Frequency | Mode  | RB   | RB     | Average (dBm) | Peak (dBm)   |
|-----------|------------|-----------|-------|------|--------|---------------|--------------|
|           |            |           |       | Size | Offset |               |              |
| 10.0      | 39700      | 2501.0    | QPSK  | 1    | 0      | 22.25         | 27.95        |
|           |            |           |       | 1    | 24     | 22.28         | 28.29        |
|           |            |           |       | 1    | 49     | 22.23         | 28.16        |
|           |            |           |       | 25   | 0      | 21.20         | 27.49        |
|           |            |           |       | 25   | 12     | 21.21         | 27.60        |
|           |            |           |       | 25   | 24     | 21.26         | 27.61        |
|           |            |           |       | 50   | 0      | 21.21         | 27.59        |
|           |            |           | 16QAM | 1    | 0      | 21.29         | 27.28        |
|           |            |           |       | 1    | 24     | 21.29         | 27.47        |
|           |            |           |       | 1    | 49     | 21.21         | 27.04        |
|           |            |           |       | 25   | 0      | 20.22         | 27.66        |
|           |            |           |       | 25   | 12     | 20.28         | 27.24        |
|           |            |           |       | 25   | 24     | 20.25         | 27.21        |
|           |            |           |       | 50   | 0      | 20.30         | <b>27.81</b> |
| 10.0      | 40620      | 2593.0    | QPSK  | 1    | 0      | 22.25         | 28.40        |
|           |            |           |       | 1    | 24     | 22.17         | 28.34        |
|           |            |           |       | 1    | 49     | 22.27         | <b>28.46</b> |
|           |            |           |       | 25   | 0      | 21.19         | 27.64        |
|           |            |           |       | 25   | 12     | 21.20         | 27.66        |
|           |            |           |       | 25   | 24     | 21.17         | 27.78        |
|           |            |           |       | 50   | 0      | 21.15         | 27.66        |
|           |            |           | 16QAM | 1    | 0      | <b>21.31</b>  | 27.13        |
|           |            |           |       | 1    | 24     | 21.21         | 26.95        |
|           |            |           |       | 1    | 49     | 21.30         | 27.37        |
|           |            |           |       | 25   | 0      | 20.32         | 27.33        |
|           |            |           |       | 25   | 12     | 20.29         | 27.33        |
|           |            |           |       | 25   | 24     | 20.37         | 27.39        |
|           |            |           |       | 50   | 0      | 20.36         | 27.81        |
| 10.0      | 41540      | 2685.0    | QPSK  | 1    | 0      | <b>22.29</b>  | 28.22        |
|           |            |           |       | 1    | 24     | 22.26         | 28.17        |
|           |            |           |       | 1    | 49     | 22.24         | 28.13        |
|           |            |           |       | 25   | 0      | 21.35         | 27.95        |
|           |            |           |       | 25   | 12     | 21.30         | 27.76        |
|           |            |           |       | 25   | 24     | 21.34         | 27.99        |
|           |            |           |       | 50   | 0      | 21.29         | 27.92        |
|           |            |           | 16QAM | 1    | 0      | 21.24         | 26.95        |
|           |            |           |       | 1    | 24     | 21.28         | 26.90        |
|           |            |           |       | 1    | 49     | 21.31         | 27.00        |
|           |            |           |       | 25   | 0      | 20.26         | 27.41        |
|           |            |           |       | 25   | 12     | 20.27         | 27.38        |
|           |            |           |       | 25   | 24     | 20.29         | 27.41        |
|           |            |           |       | 50   | 0      | 20.31         | 27.76        |

**OUTPUT POWER FOR LTE BAND 41 (15.0 MHz)**

| Bandwidth | UL Channel | Frequency | Mode   | RB   | RB     | Average<br>(dBm) | Peak<br>(dBm) |
|-----------|------------|-----------|--------|------|--------|------------------|---------------|
|           |            |           |        | Size | Offset |                  |               |
| 15.0      | 39725      | 2503.5    | QPSK   | 1    | 0      | 22.24            | 28.02         |
|           |            |           |        | 1    | 37     | 22.16            | 28.20         |
|           |            |           |        | 1    | 74     | 22.14            | 27.82         |
|           |            |           |        | 36   | 0      | 21.23            | 27.84         |
|           |            |           |        | 36   | 16     | 21.26            | 27.90         |
|           |            |           |        | 36   | 35     | 21.17            | 27.72         |
|           |            |           |        | 75   | 0      | 21.23            | 27.68         |
|           |            |           | 16-QAM | 1    | 0      | 21.35            | 27.05         |
|           |            |           |        | 1    | 37     | 21.28            | 27.08         |
|           |            |           |        | 1    | 74     | 21.27            | 26.04         |
|           |            |           |        | 36   | 0      | 20.27            | 27.59         |
|           |            |           |        | 36   | 16     | 20.33            | 26.76         |
|           |            |           |        | 36   | 35     | 20.33            | 26.64         |
|           |            |           |        | 75   | 0      | 20.25            | 27.52         |
| 15.0      | 40620      | 2593.0    | QPSK   | 1    | 0      | 22.24            | 28.43         |
|           |            |           |        | 1    | 37     | 22.20            | 28.34         |
|           |            |           |        | 1    | 74     | 22.29            | 28.42         |
|           |            |           |        | 36   | 0      | 21.33            | 27.84         |
|           |            |           |        | 36   | 16     | 21.27            | 27.86         |
|           |            |           |        | 36   | 35     | 21.17            | 27.75         |
|           |            |           |        | 75   | 0      | 21.24            | 27.93         |
|           |            |           | 16-QAM | 1    | 0      | 21.27            | 27.08         |
|           |            |           |        | 1    | 37     | 21.28            | 27.01         |
|           |            |           |        | 1    | 74     | 21.25            | 26.96         |
|           |            |           |        | 36   | 0      | 20.28            | 27.34         |
|           |            |           |        | 36   | 16     | 20.42            | 27.27         |
|           |            |           |        | 36   | 35     | 20.36            | 27.31         |
|           |            |           |        | 75   | 0      | 20.32            | 27.83         |
| 15.0      | 41515      | 2682.5    | QPSK   | 1    | 0      | 22.30            | 28.26         |
|           |            |           |        | 1    | 37     | 22.30            | 28.23         |
|           |            |           |        | 1    | 74     | 22.07            | 28.17         |
|           |            |           |        | 36   | 0      | 21.34            | 28.23         |
|           |            |           |        | 36   | 16     | 21.34            | 28.07         |
|           |            |           |        | 36   | 35     | 21.41            | 28.19         |
|           |            |           |        | 75   | 0      | 21.39            | 28.10         |
|           |            |           | 16-QAM | 1    | 0      | 21.29            | 26.92         |
|           |            |           |        | 1    | 37     | 21.29            | 26.88         |
|           |            |           |        | 1    | 74     | 21.28            | 26.93         |
|           |            |           |        | 36   | 0      | 20.25            | 27.33         |
|           |            |           |        | 36   | 16     | 20.29            | 27.31         |
|           |            |           |        | 36   | 35     | 20.27            | 27.32         |
|           |            |           |        | 75   | 0      | 20.32            | 27.87         |

**OUTPUT POWER FOR LTE BAND 41 (20.0 MHz)**

| Bandwidth | UL Channel | Frequency | Mode   | RB   | RB     | Average (dBm) | Peak (dBm) |
|-----------|------------|-----------|--------|------|--------|---------------|------------|
|           |            |           |        | Size | Offset |               |            |
| 20.0      | 39750      | 2506.0    | QPSK   | 1    | 0      | 22.17         | 27.50      |
|           |            |           |        | 1    | 49     | 22.21         | 27.01      |
|           |            |           |        | 1    | 99     | 22.26         | 27.25      |
|           |            |           |        | 50   | 0      | 21.30         | 27.63      |
|           |            |           |        | 50   | 24     | 21.12         | 27.54      |
|           |            |           |        | 50   | 49     | 21.11         | 27.34      |
|           |            |           |        | 100  | 0      | 21.21         | 27.56      |
|           |            |           | 16-QAM | 1    | 0      | 21.39         | 27.15      |
|           |            |           |        | 1    | 49     | 21.36         | 26.49      |
|           |            |           |        | 1    | 99     | 21.34         | 26.42      |
|           |            |           |        | 50   | 0      | 20.30         | 27.58      |
|           |            |           |        | 50   | 24     | 20.37         | 26.64      |
|           |            |           |        | 50   | 49     | 20.33         | 26.39      |
|           |            |           |        | 100  | 0      | 20.28         | 27.39      |
| 20.0      | 40620      | 2593.0    | QPSK   | 1    | 0      | 22.29         | 27.70      |
|           |            |           |        | 1    | 49     | 22.17         | 27.56      |
|           |            |           |        | 1    | 99     | 22.15         | 27.66      |
|           |            |           |        | 50   | 0      | 21.24         | 27.88      |
|           |            |           |        | 50   | 24     | 21.31         | 27.90      |
|           |            |           |        | 50   | 49     | 21.17         | 27.99      |
|           |            |           |        | 100  | 0      | 21.17         | 27.98      |
|           |            |           | 16-QAM | 1    | 0      | 21.33         | 27.39      |
|           |            |           |        | 1    | 49     | 21.28         | 26.85      |
|           |            |           |        | 1    | 99     | 21.24         | 27.32      |
|           |            |           |        | 50   | 0      | 20.21         | 27.30      |
|           |            |           |        | 50   | 24     | 20.20         | 27.40      |
|           |            |           |        | 50   | 49     | 20.33         | 27.25      |
|           |            |           |        | 100  | 0      | 20.30         | 27.72      |
| 20.0      | 41490      | 2680.0    | QPSK   | 1    | 0      | 22.21         | 27.63      |
|           |            |           |        | 1    | 49     | 22.22         | 27.58      |
|           |            |           |        | 1    | 99     | 22.27         | 27.55      |
|           |            |           |        | 50   | 0      | 21.35         | 27.99      |
|           |            |           |        | 50   | 24     | 21.29         | 27.80      |
|           |            |           |        | 50   | 49     | 21.33         | 28.20      |
|           |            |           |        | 100  | 0      | 21.38         | 28.20      |
|           |            |           | 16-QAM | 1    | 0      | 21.31         | 27.12      |
|           |            |           |        | 1    | 49     | 21.22         | 26.46      |
|           |            |           |        | 1    | 99     | 21.20         | 27.16      |
|           |            |           |        | 50   | 0      | 20.21         | 27.26      |
|           |            |           |        | 50   | 24     | 20.28         | 27.31      |
|           |            |           |        | 50   | 49     | 20.26         | 27.34      |
|           |            |           |        | 100  | 0      | 20.31         | 27.75      |

## **8. CONDUCTED TEST RESULTS**

### **8.1. OCCUPIED BANDWIDTH**

#### **RULE PART(S)**

FCC: §2.1049

#### **LIMITS**

For reporting purposes only

#### **TEST PROCEDURE**

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at the low, middle and high channel in each band. The -26dB bandwidth was also measured and recorded.

#### **MODES TESTED**

- LTE Band 2
- LTE Band 4
- LTE Band 5
- LTE Band 13
- LTE Band 17
- LTE Band 25
- LTE Band 26
- LTE Band 41

#### **RESULTS**

| BAND       | MODE                   | RB SIZE/ RB<br>OFFSET | f (MHz) | 99% BW<br>(MHz) | - 26dB BW<br>(MHz) |
|------------|------------------------|-----------------------|---------|-----------------|--------------------|
| LTE BAND 2 | 1.4 MHz BAND<br>QPSK   | 6/0                   | 1880    | 1.0913          | 1.194              |
|            | 1.4 MHz BAND<br>16QAM  | 6/0                   | 1880    | 1.0755          | 1.124              |
|            | 3.0 MHz BAND<br>QPSK   | 15/0                  | 1880    | 2.6689          | 2.791              |
|            | 3.0 MHz BAND<br>16QAM  | 15/0                  | 1880    | 2.672           | 2.879              |
|            | 5.0 MHz BAND<br>QPSK   | 25/0                  | 1880    | 4.4129          | 4.605              |
|            | 5.0 MHz BAND<br>16QAM  | 25/0                  | 1880    | 4.3952          | 4.638              |
|            | 10.0 MHz BAND<br>QPSK  | 50/0                  | 1880    | 8.8119          | 9.226              |
|            | 10.0 MHz BAND<br>16QAM | 50/0                  | 1880    | 8.8671          | 9.175              |
|            | 15.0 MHz BAND<br>QPSK  | 75/0                  | 1880    | 13.2774         | 13.749             |
|            | 15.0 MHz BAND<br>16QAM | 75/0                  | 1880    | 13.2922         | 13.843             |
|            | 20.0 MHz BAND<br>QPSK  | 100/0                 | 1880    | 17.5814         | 18.352             |
|            | 20.0 MHz BAND<br>16QAM | 100/0                 | 1880    | <b>17.9219</b>  | <b>18.54</b>       |

| BAND       | MODE                | RB SIZE/ RB OFFSET | f (MHz) | 99% BW (MHz)   | - 26dB BW (MHz) |
|------------|---------------------|--------------------|---------|----------------|-----------------|
| LTE BAND 4 | 1.4 MHz BAND QPSK   | 6/0                | 1732.5  | 1.0775         | 1.221           |
|            | 1.4 MHz BAND 16QAM  | 6/0                | 1732.5  | 1.0791         | 1.198           |
|            | 3.0 MHz BAND QPSK   | 15/0               | 1732.5  | 2.6755         | 2.864           |
|            | 3.0 MHz BAND 16QAM  | 15/0               | 1732.5  | 2.6692         | 2.765           |
|            | 5.0 MHz BAND QPSK   | 25/0               | 1732.5  | 4.4326         | 4.728           |
|            | 5.0 MHz BAND 16QAM  | 25/0               | 1732.5  | 4.4509         | 4.865           |
|            | 10.0 MHz BAND QPSK  | 50/0               | 1732.5  | 8.875          | 9.233           |
|            | 10.0 MHz BAND 16QAM | 50/0               | 1732.5  | 8.8959         | 9.162           |
|            | 15.0 MHz BAND QPSK  | 75/0               | 1732.5  | 13.3445        | 13.777          |
|            | 15.0 MHz BAND 16QAM | 75/0               | 1732.5  | 13.3727        | 13.91           |
|            | 20.0 MHz BAND QPSK  | 100/0              | 1732.5  | 17.323         | 18.287          |
|            | 20.0 MHz BAND 16QAM | 100/0              | 1732.5  | <b>17.7648</b> | <b>18.369</b>   |

| BAND       | MODE                | RB SIZE/ RB OFFSET | f (MHz) | 99% BW (MHz)  | - 26dB BW (MHz) |
|------------|---------------------|--------------------|---------|---------------|-----------------|
| LTE BAND 5 | 1.4 MHz BAND QPSK   | 6/0                | 836.5   | 1.0825        | 1.217           |
|            | 1.4 MHz BAND 16QAM  | 6/0                | 836.5   | 1.0814        | 1.297           |
|            | 3.0 MHz BAND QPSK   | 15/0               | 836.5   | 2.6673        | 2.774           |
|            | 3.0 MHz BAND 16QAM  | 15/0               | 836.5   | 2.6574        | 2.802           |
|            | 5.0 MHz BAND QPSK   | 25/0               | 836.5   | 4.4286        | 4.676           |
|            | 5.0 MHz BAND 16QAM  | 25/0               | 836.5   | 4.4744        | 4.756           |
|            | 10.0 MHz BAND QPSK  | 50/0               | 836.5   | 8.879         | 9.218           |
|            | 10.0 MHz BAND 16QAM | 50/0               | 836.5   | <b>8.9514</b> | <b>9.442</b>    |

| BAND        | MODE                | RB SIZE/ RB OFFSET | f (MHz) | 99% BW (MHz)  | - 26dB BW (MHz) |
|-------------|---------------------|--------------------|---------|---------------|-----------------|
| LTE BAND 13 | 5.0 MHz BAND QPSK   | 25/0               | 782     | 4.4545        | 4.684           |
|             | 5.0 MHz BAND 16QAM  | 25/0               | 782     | 4.4467        | 4.695           |
|             | 10.0 MHz BAND QPSK  | 50/0               | 782     | <b>8.9238</b> | <b>9.326</b>    |
|             | 10.0 MHz BAND 16QAM | 50/0               | 782     | 8.848         | 9.171           |

| BAND        | MODE                | RB SIZE/ RB OFFSET | f (MHz) | 99% BW (MHz)  | - 26dB BW (MHz) |
|-------------|---------------------|--------------------|---------|---------------|-----------------|
| LTE BAND 17 | 5.0 MHz BAND QPSK   | 25/0               | 710     | 4.4754        | 4.794           |
|             | 5.0 MHz BAND 16QAM  | 25/0               | 710     | 4.4809        | 4.691           |
|             | 10.0 MHz BAND QPSK  | 50/0               | 710     | 8.8427        | <b>9.274</b>    |
|             | 10.0 MHz BAND 16QAM | 50/0               | 710     | <b>8.8521</b> | 9.154           |

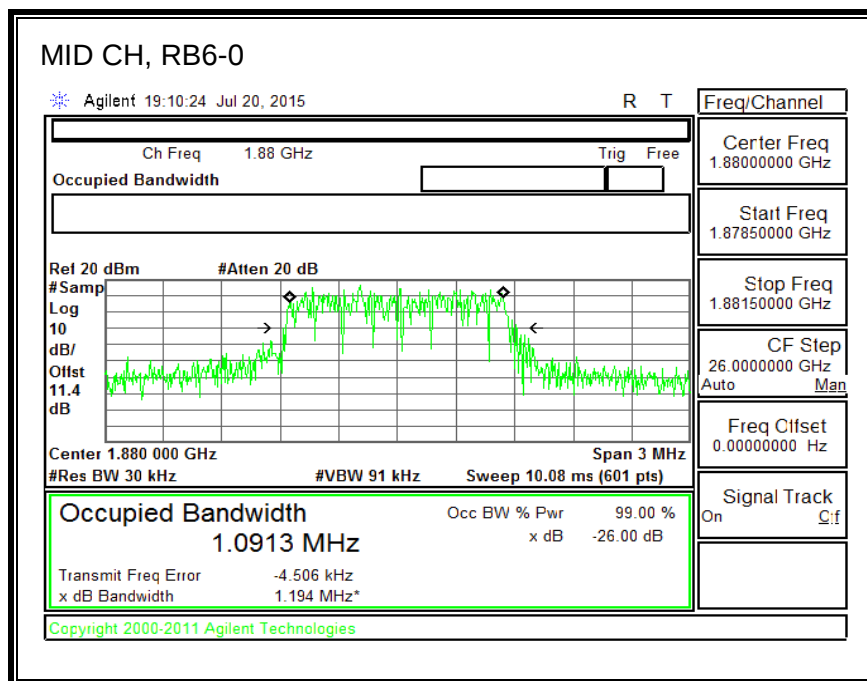
| BAND        | MODE                | RB SIZE/ RB OFFSET | f (MHz) | 99% BW (MHz)   | - 26dB BW (MHz) |
|-------------|---------------------|--------------------|---------|----------------|-----------------|
| LTE BAND 25 | 1.4 MHz BAND QPSK   | 6/0                | 1882.5  | 1.0713         | 1.26            |
|             | 1.4 MHz BAND 16QAM  | 6/0                | 1882.5  | 1.0791         | 1.242           |
|             | 3.0 MHz BAND QPSK   | 15/0               | 1882.5  | 2.6695         | 2.841           |
|             | 3.0 MHz BAND 16QAM  | 15/0               | 1882.5  | 2.661          | 2.896           |
|             | 5.0 MHz BAND QPSK   | 25/0               | 1882.5  | 4.4596         | 4.859           |
|             | 5.0 MHz BAND 16QAM  | 25/0               | 1882.5  | 4.4331         | 4.799           |
|             | 10.0 MHz BAND QPSK  | 50/0               | 1882.5  | 8.8743         | 9.205           |
|             | 10.0 MHz BAND 16QAM | 50/0               | 1882.5  | 8.6823         | 9.216           |
|             | 15.0 MHz BAND QPSK  | 75/0               | 1882.5  | 13.2804        | 13.769          |
|             | 15.0 MHz BAND 16QAM | 75/0               | 1882.5  | 13.249         | 14.032          |
|             | 20.0 MHz BAND QPSK  | 100/0              | 1882.5  | 17.6724        | <b>18.546</b>   |
|             | 20.0 MHz BAND 16QAM | 100/0              | 1882.5  | <b>17.6909</b> | 18.343          |

| BAND        | MODE                | RB SIZE/ RB OFFSET | f (MHz) | 99% BW (MHz)  | - 26dB BW (MHz) |
|-------------|---------------------|--------------------|---------|---------------|-----------------|
| LTE BAND 26 | 1.4 MHz BAND QPSK   | 6/0                | 819     | 1.0756        | 1.24            |
|             | 1.4 MHz BAND 16QAM  | 6/0                | 819     | 1.0756        | 1.198           |
|             | 3.0 MHz BAND QPSK   | 15/0               | 819     | 2.6823        | 2.777           |
|             | 3.0 MHz BAND 16QAM  | 15/0               | 819     | 2.6742        | 2.79            |
|             | 5.0 MHz BAND QPSK   | 25/0               | 819     | 4.4835        | 4.691           |
|             | 5.0 MHz BAND 16QAM  | 25/0               | 819     | 4.4713        | 4.599           |
|             | 10.0 MHz BAND QPSK  | 50/0               | 819     | 8.8608        | <b>9.426</b>    |
|             | 10.0 MHz BAND 16QAM | 50/0               | 819     | <b>8.8633</b> | 9.21            |

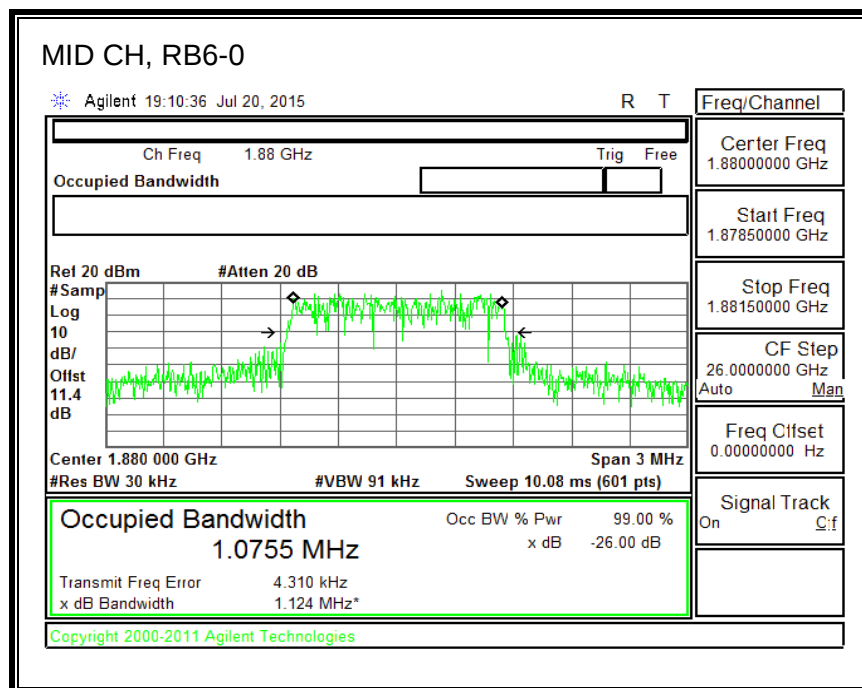
| BAND        | MODE                | RB SIZE/ RB OFFSET | f (MHz) | 99% BW (MHz)   | - 26dB BW (MHz) |
|-------------|---------------------|--------------------|---------|----------------|-----------------|
| LTE BAND 41 | 5.0 MHz BAND QPSK   | 25/0               | 2593    | 4.4578         | 4.813           |
|             | 5.0 MHz BAND 16QAM  | 25/0               | 2593    | 4.4254         | 4.661           |
|             | 10.0 MHz BAND QPSK  | 50/0               | 2593    | 8.8581         | 9.405           |
|             | 10.0 MHz BAND 16QAM | 50/0               | 2593    | 8.8867         | 9.298           |
|             | 15.0 MHz BAND QPSK  | 75/0               | 2593    | 13.3678        | 13.863          |
|             | 15.0 MHz BAND 16QAM | 75/0               | 2593    | 13.3161        | 13.970          |
|             | 20.0 MHz BAND QPSK  | 100/0              | 2593    | 17.8223        | 18.466          |
|             | 20.0 MHz BAND 16QAM | 100/0              | 2593    | <b>17.9182</b> | <b>18.497</b>   |

### 8.1.1. LTE BAND 2

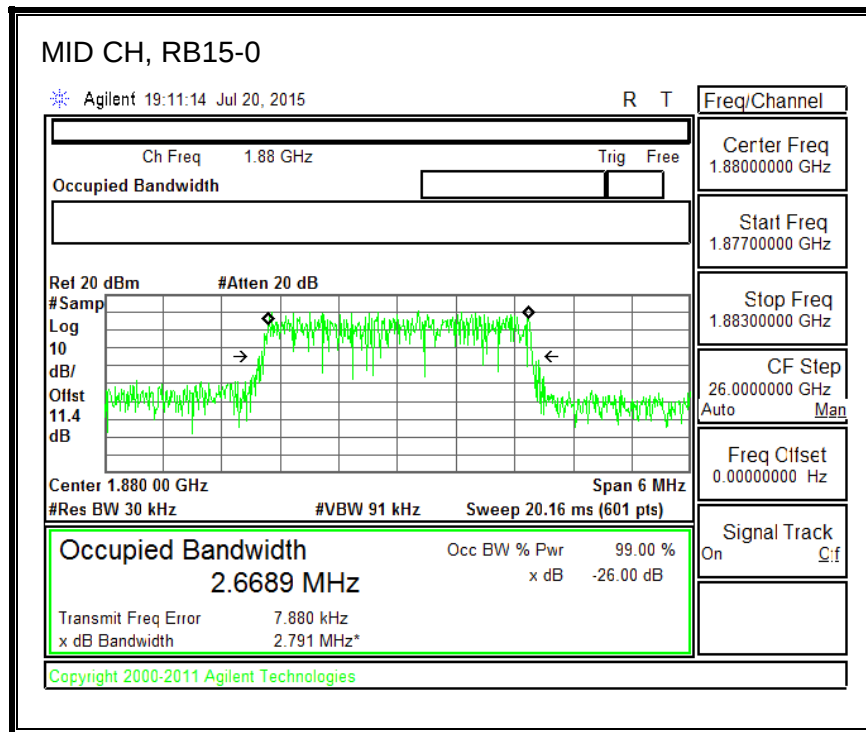
#### QPSK, (1.4 MHz BAND WIDTH)



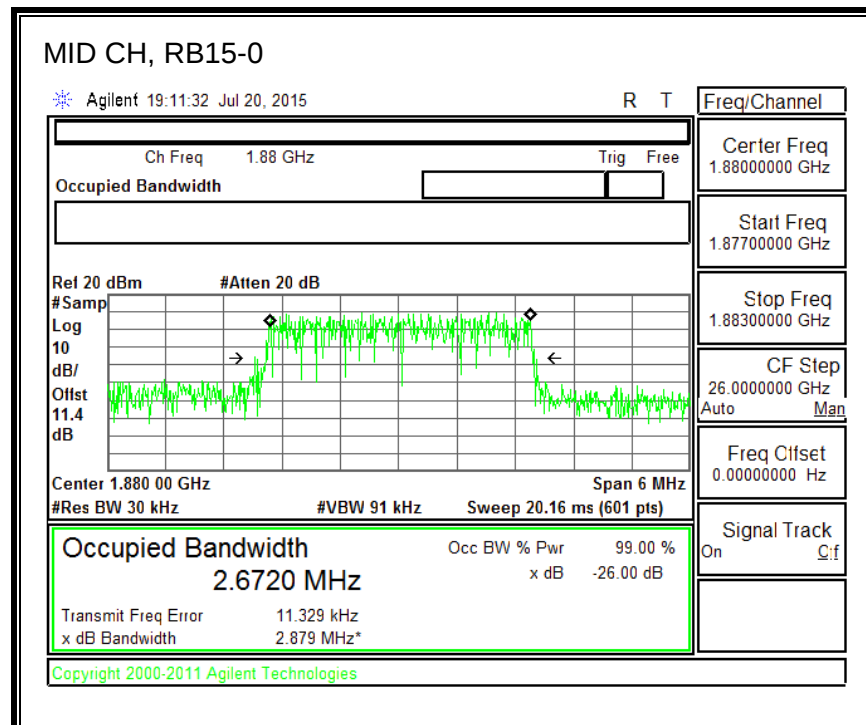
#### 16QAM, (1.4 MHz BAND WIDTH)



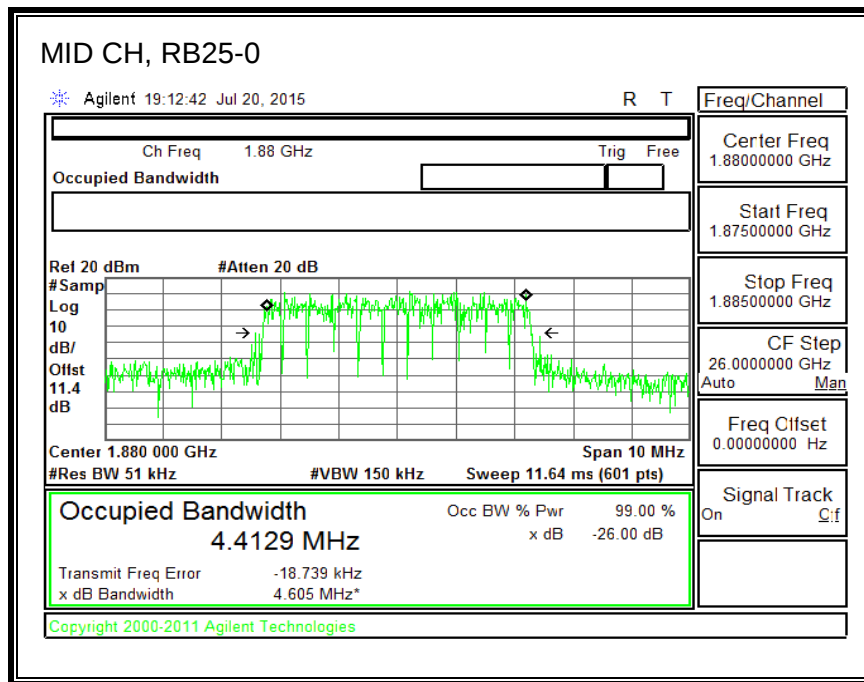
**QPSK, (3.0 MHz BAND WIDTH)**



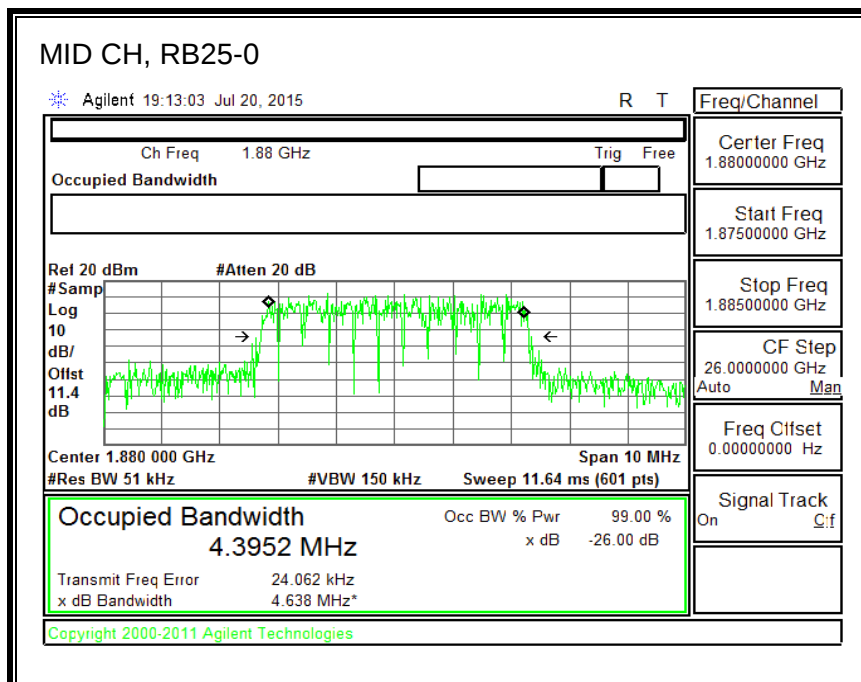
**16QAM, (3.0 MHz BAND WIDTH)**



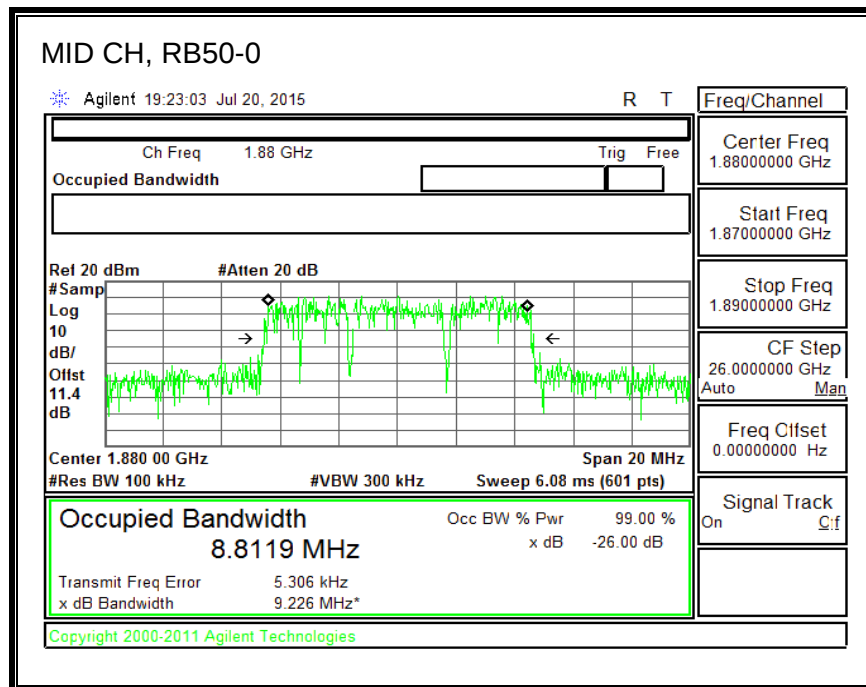
**QPSK, (5.0 MHz BAND WIDTH)**



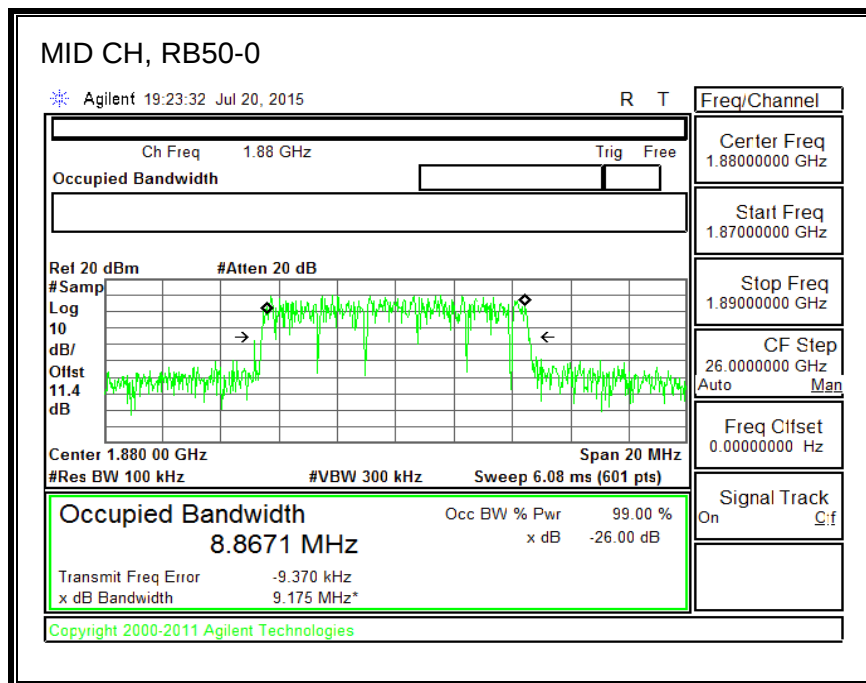
**16QAM, (5.0 MHz BAND WIDTH)**



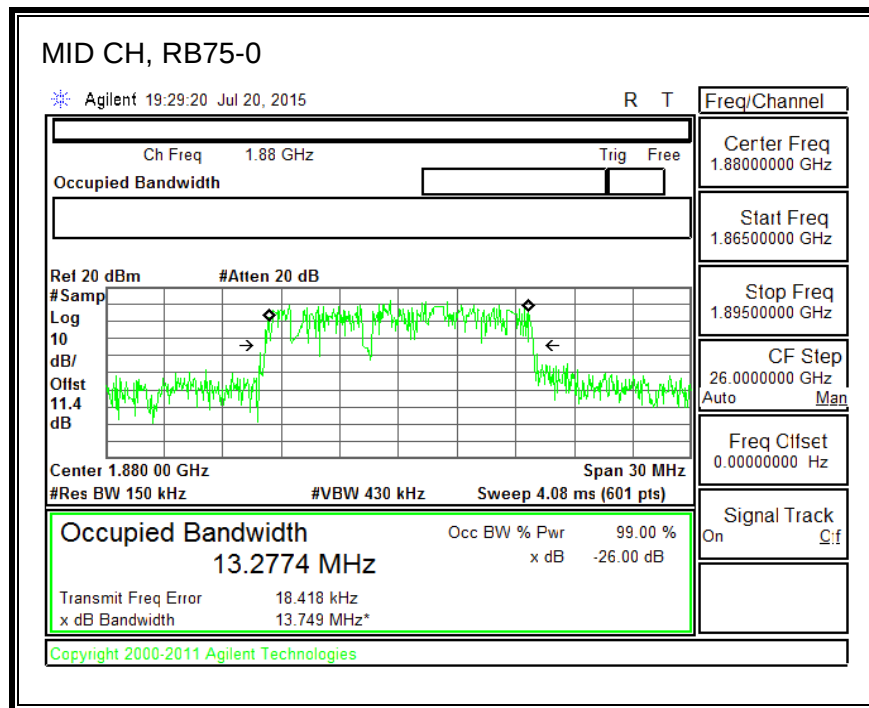
**QPSK, (10.0 MHz BAND WIDTH)**



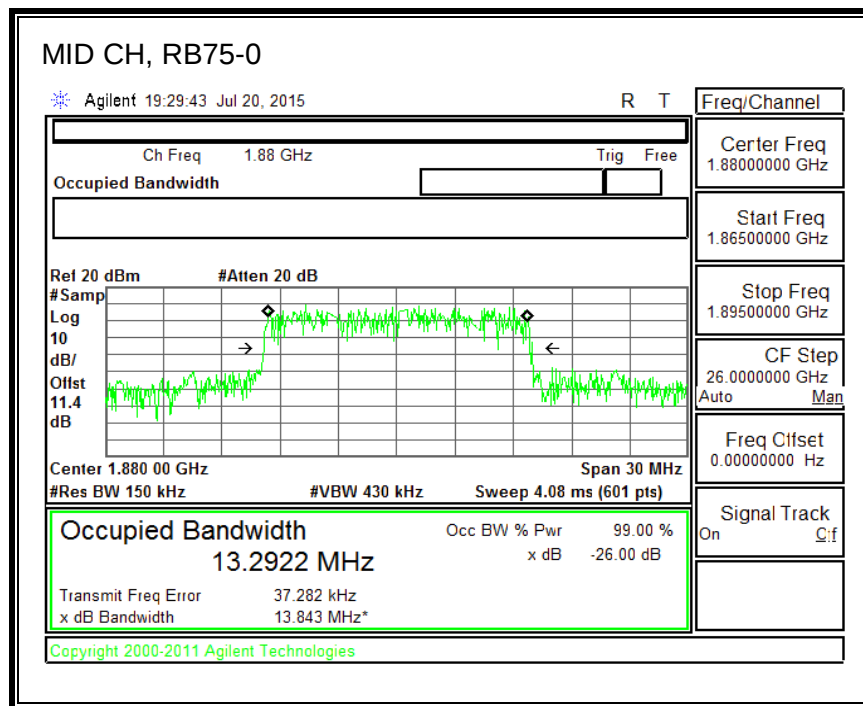
**16QAM, (10.0 MHz BAND WIDTH)**



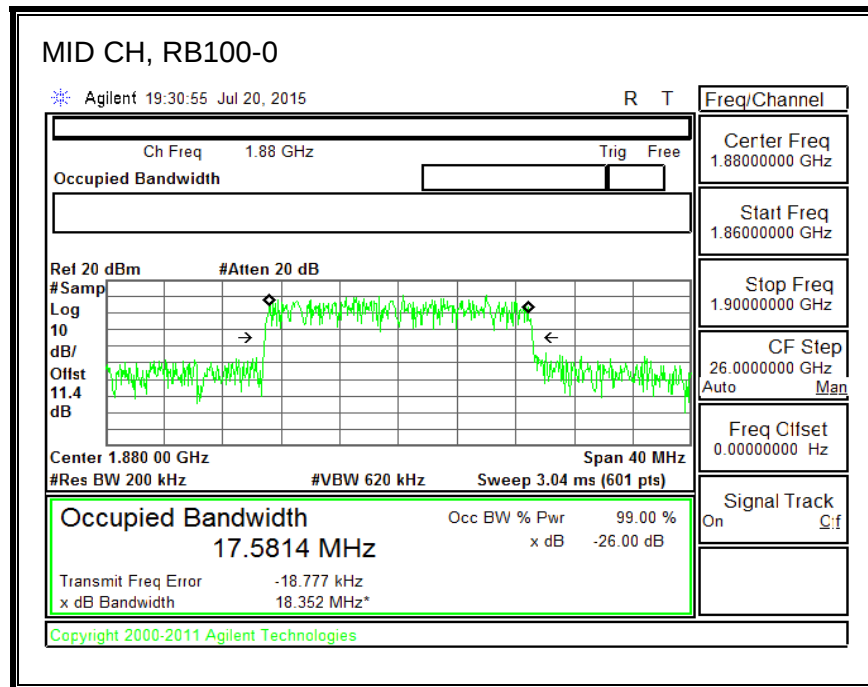
**QPSK, (15.0 MHz BAND WIDTH)**



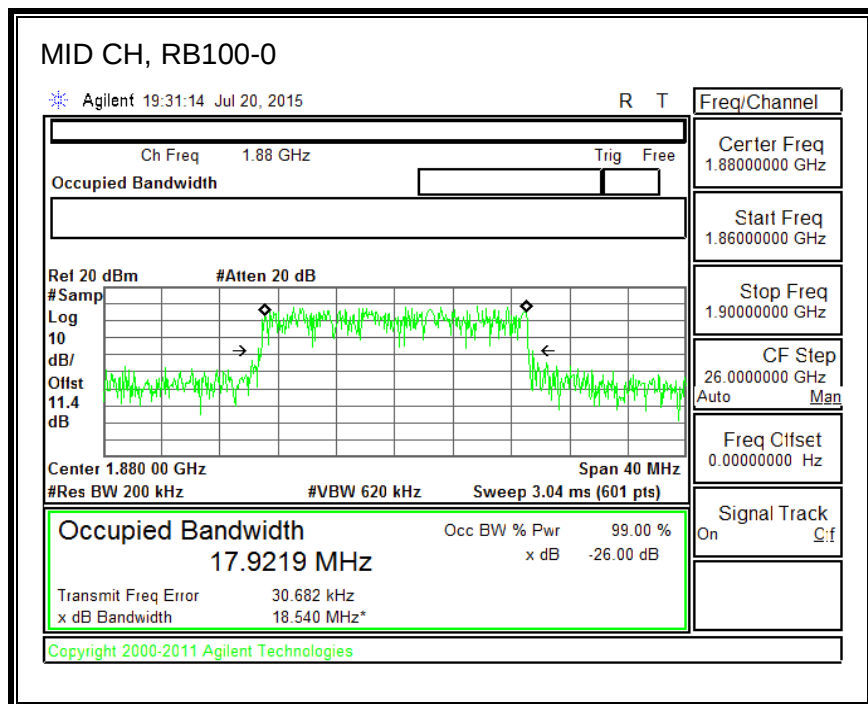
**16QAM, (15.0 MHz BAND WIDTH)**



**QPSK, (20.0 MHz BAND WIDTH)**

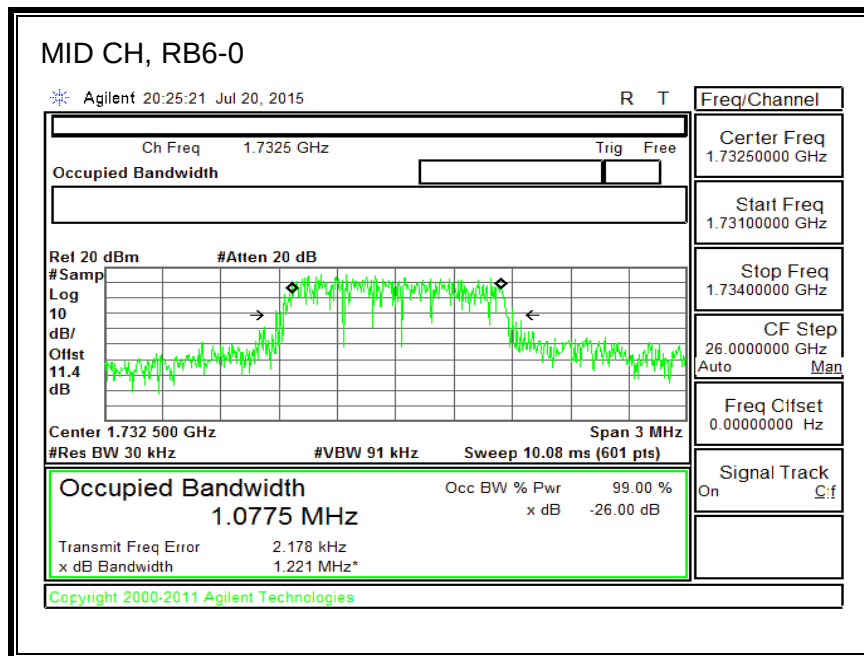


**16QAM, (20.0 MHz BAND WIDTH)**

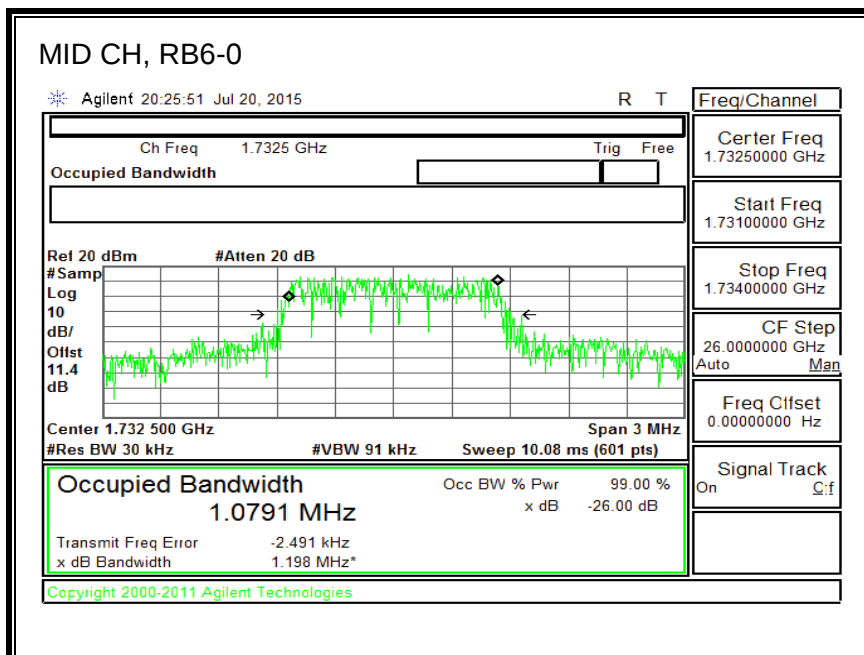


## 8.1.2. LTE BAND 4

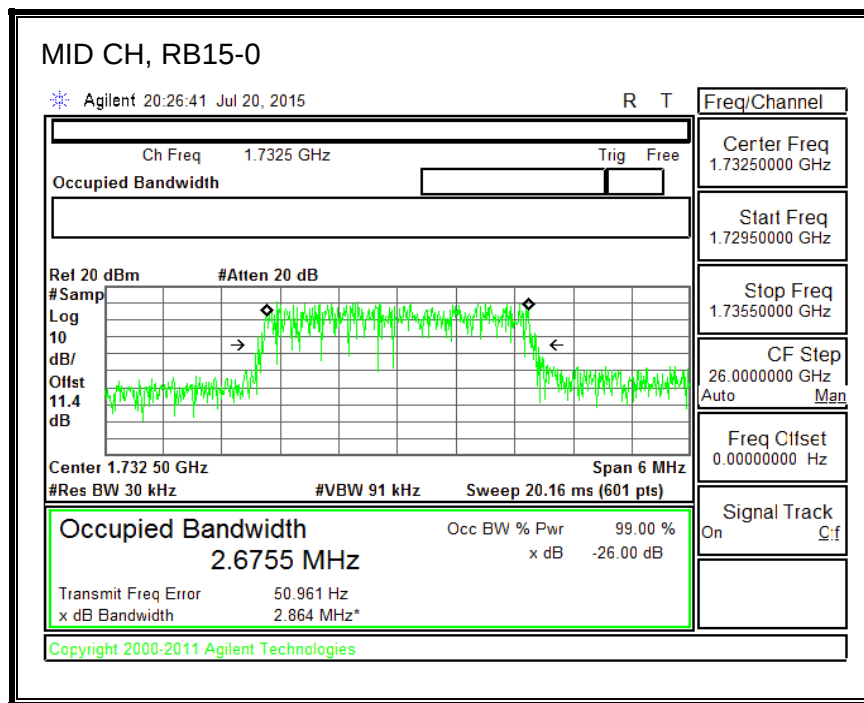
### QPSK, (1.4 MHz BAND WIDTH)



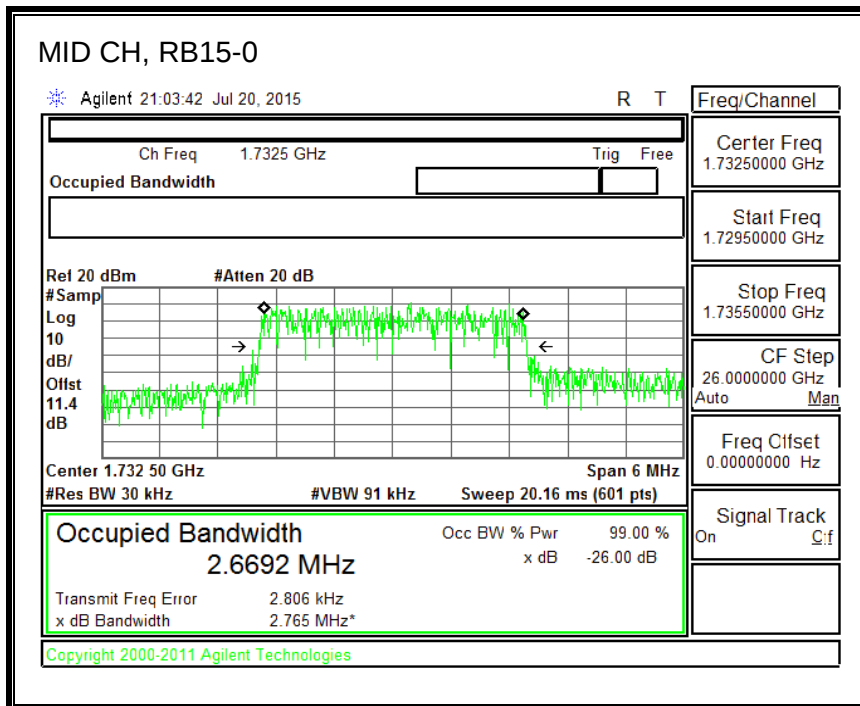
### 16QAM, (1.4 MHz BAND WIDTH)



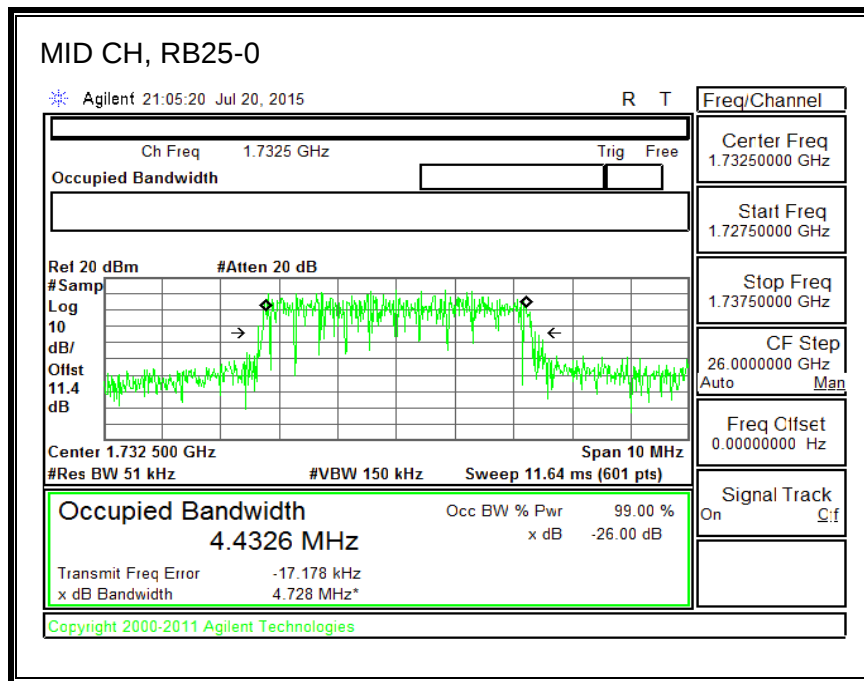
**QPSK, (3.0 MHz BAND WIDTH)**



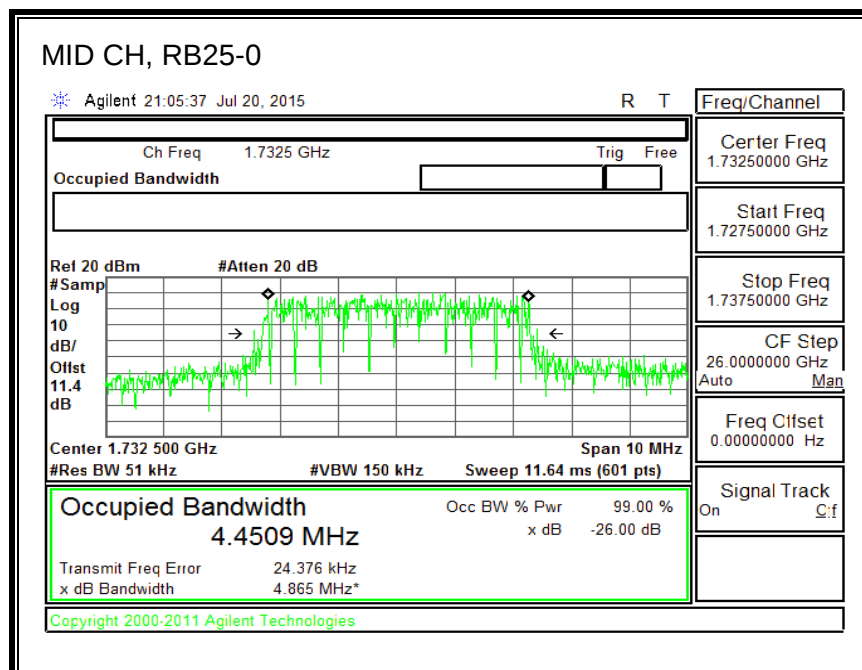
**16QAM, (3.0 MHz BAND WIDTH)**



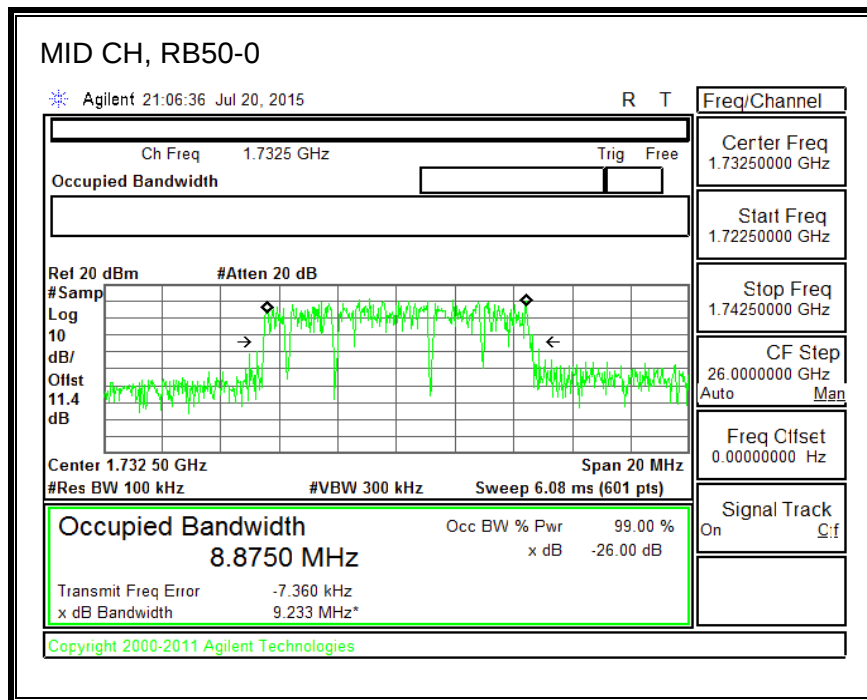
**QPSK, (5.0 MHz BAND WIDTH)**



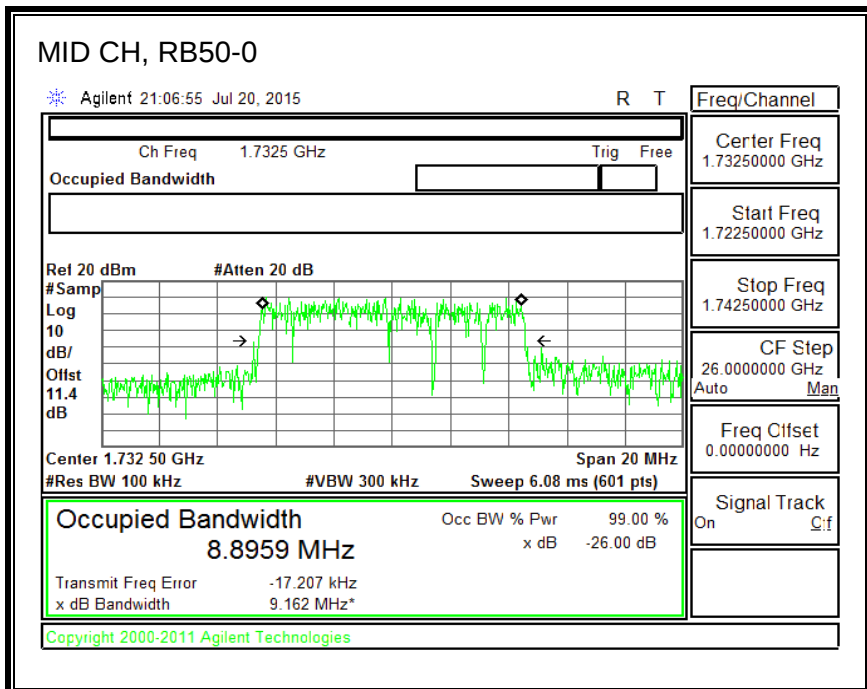
**16QAM, (5.0 MHz BAND WIDTH)**



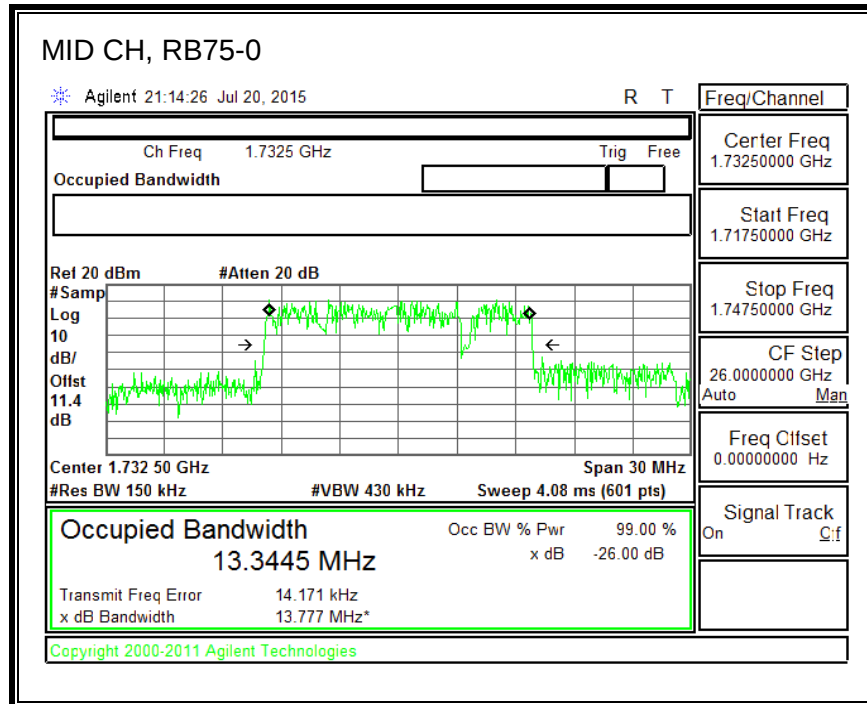
**QPSK, (10.0 MHz BAND WIDTH)**



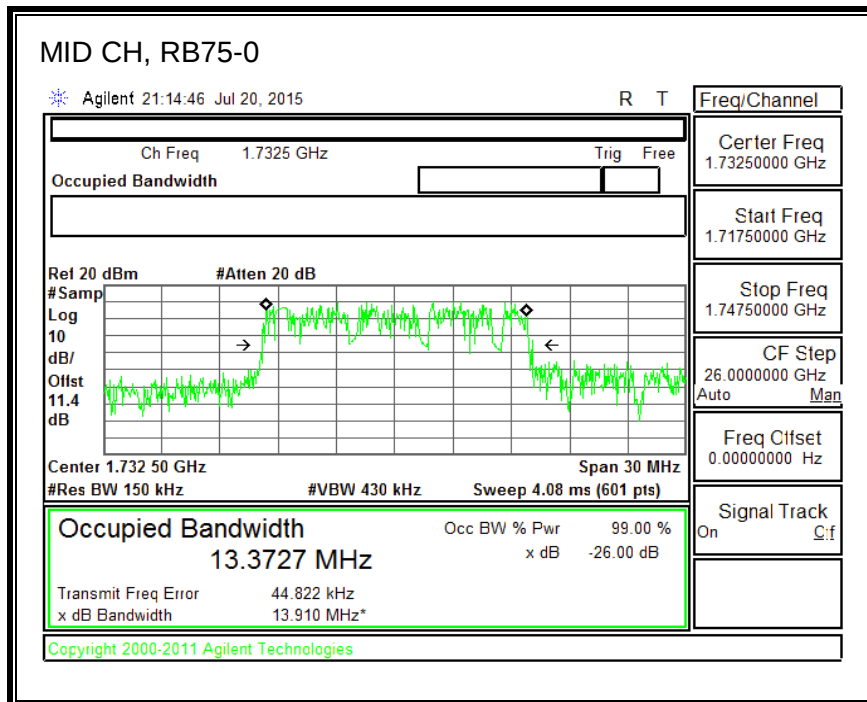
**16QAM, (10.0 MHz BAND WIDTH)**



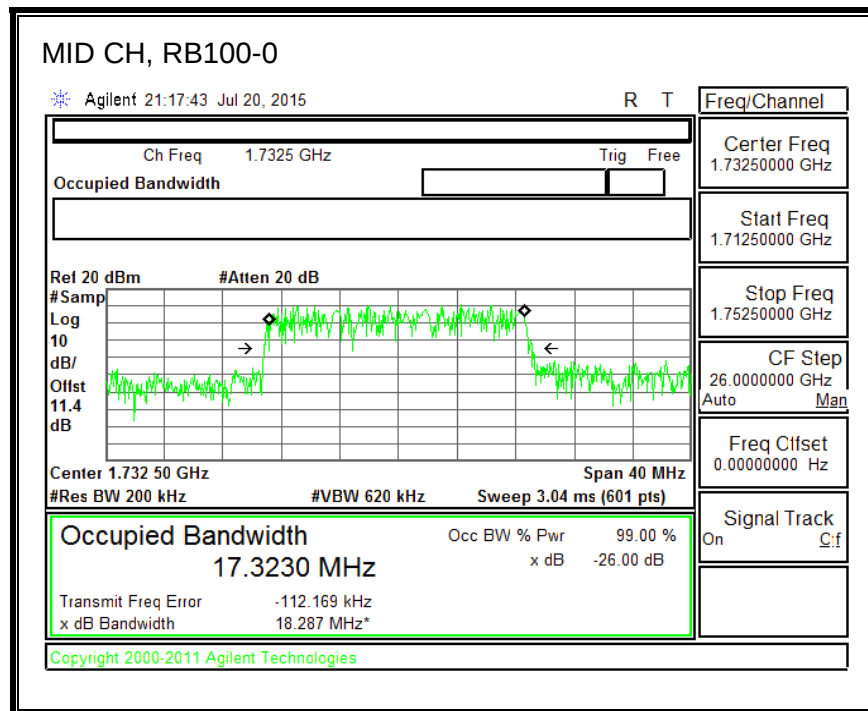
**QPSK, (15.0 MHz BAND WIDTH)**



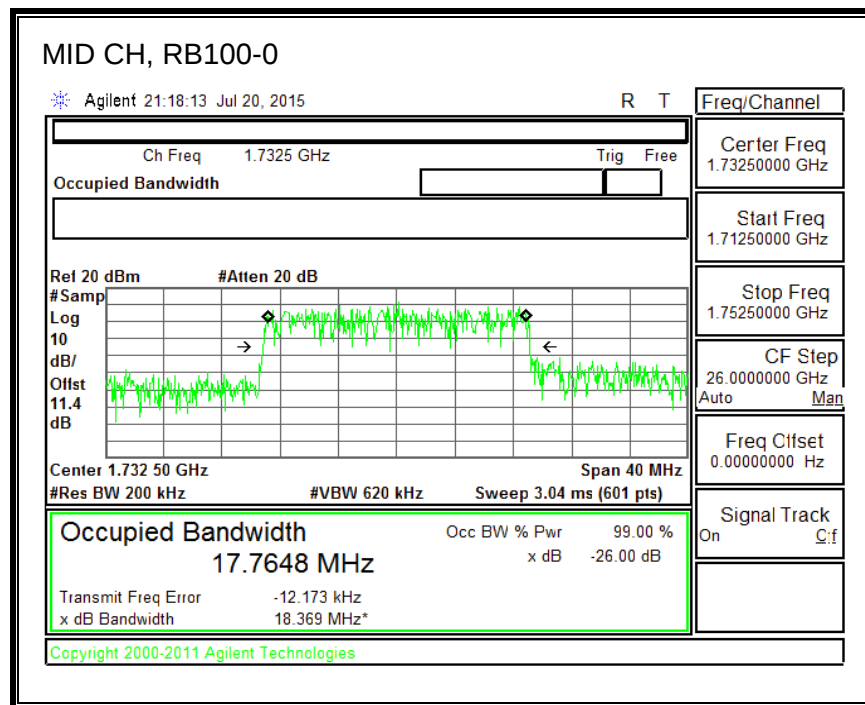
**16QAM, (15.0 MHz BAND WIDTH)**



**QPSK, (20.0 MHz BAND WIDTH)**

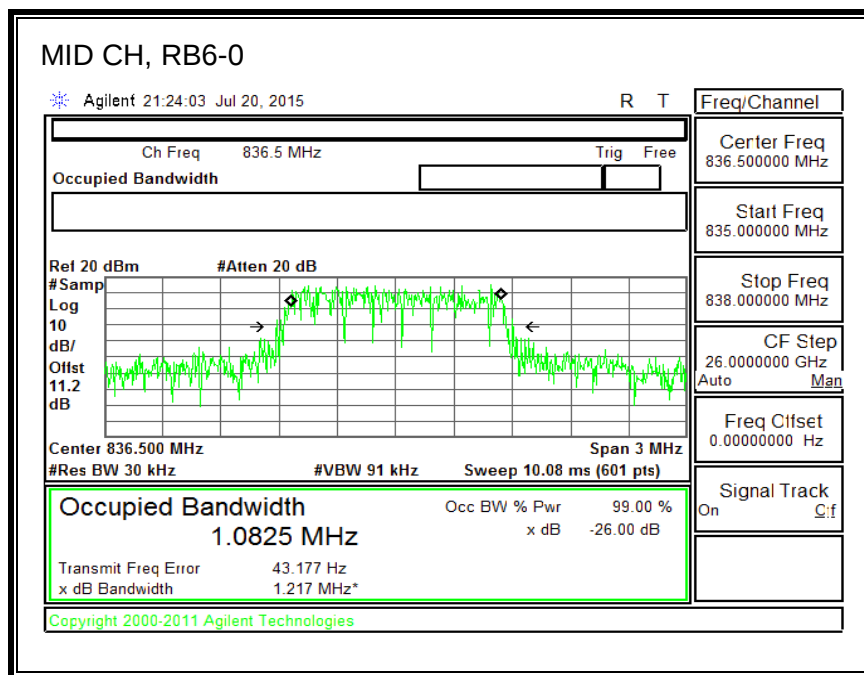


**16QAM, (20.0 MHz BAND WIDTH)**

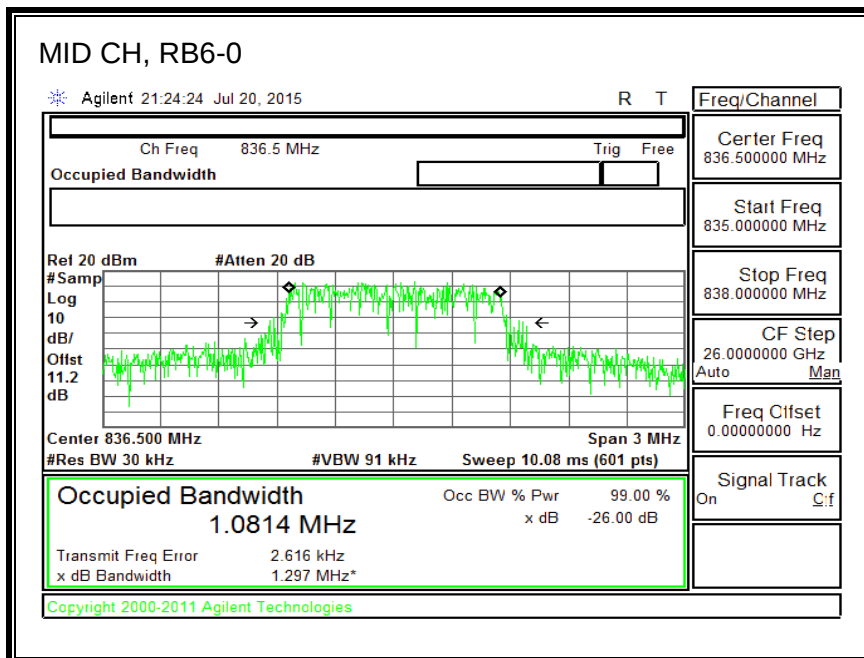


### 8.1.3. LTE BAND 5

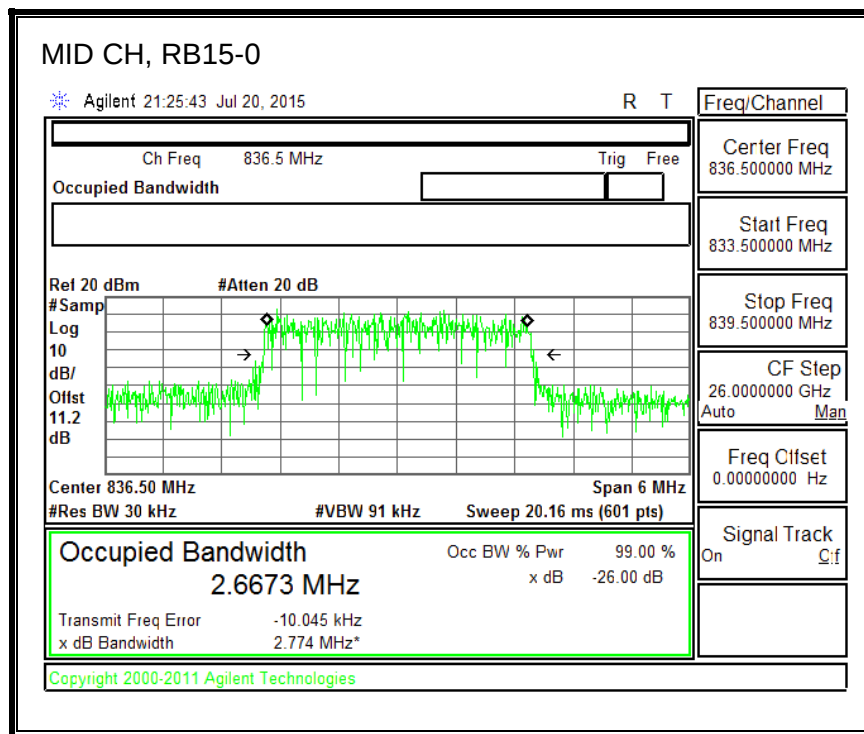
#### QPSK, (1.4 MHz BAND WIDTH)



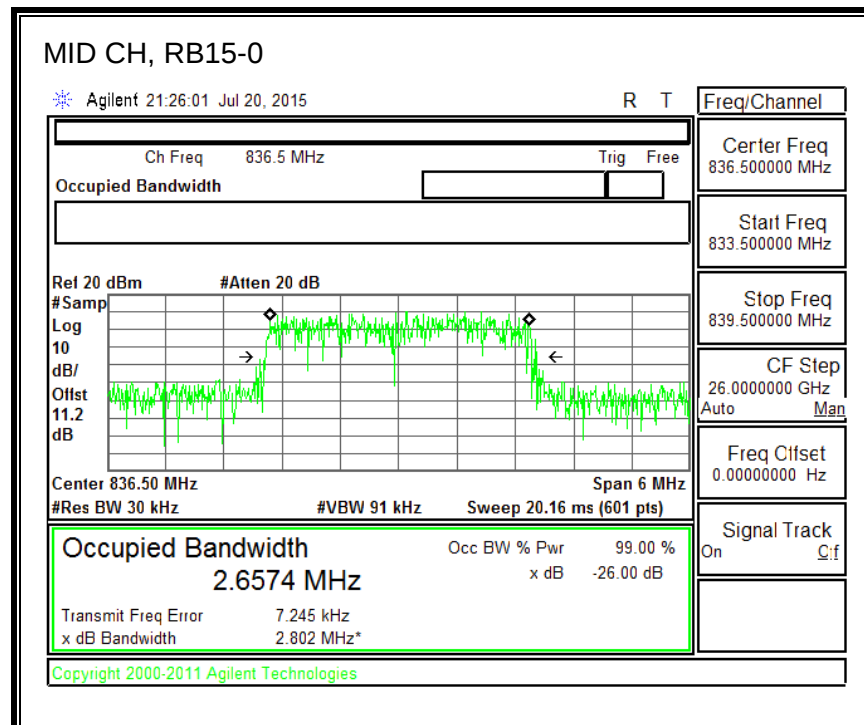
#### 16QAM, (1.4 MHz BAND WIDTH)



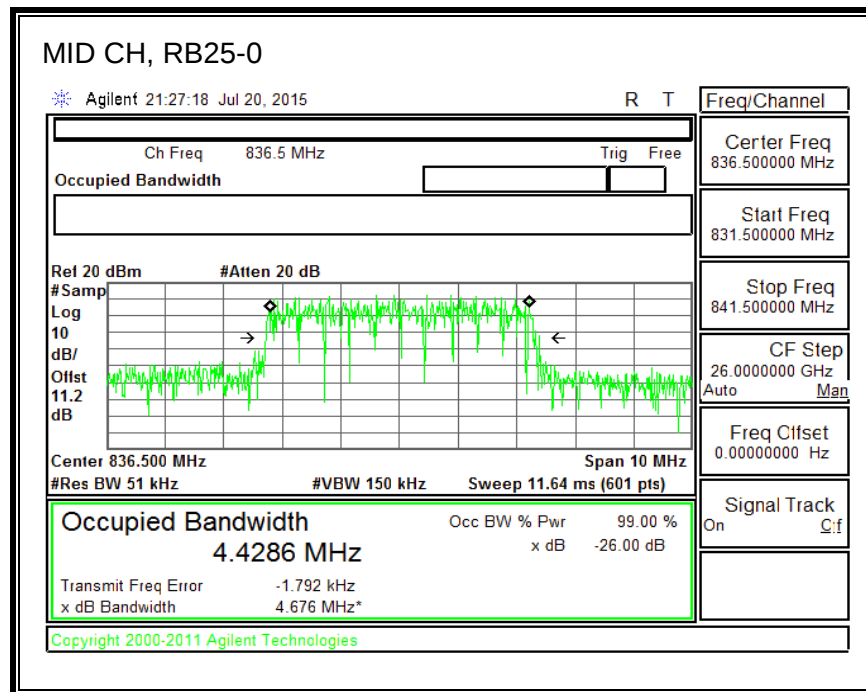
**QPSK, (3.0 MHz BAND WIDTH)**



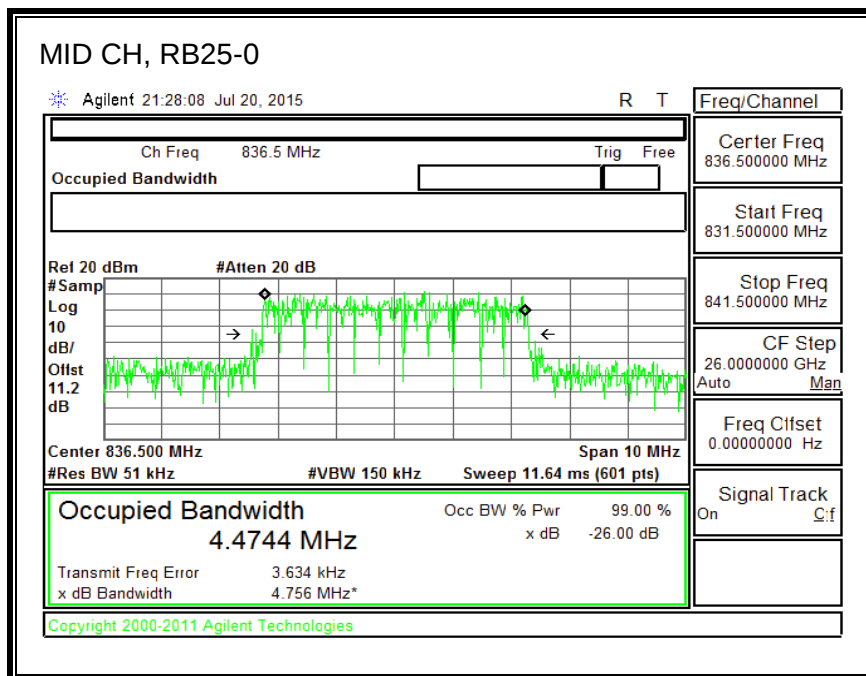
**16QAM, (3.0 MHz BAND WIDTH)**



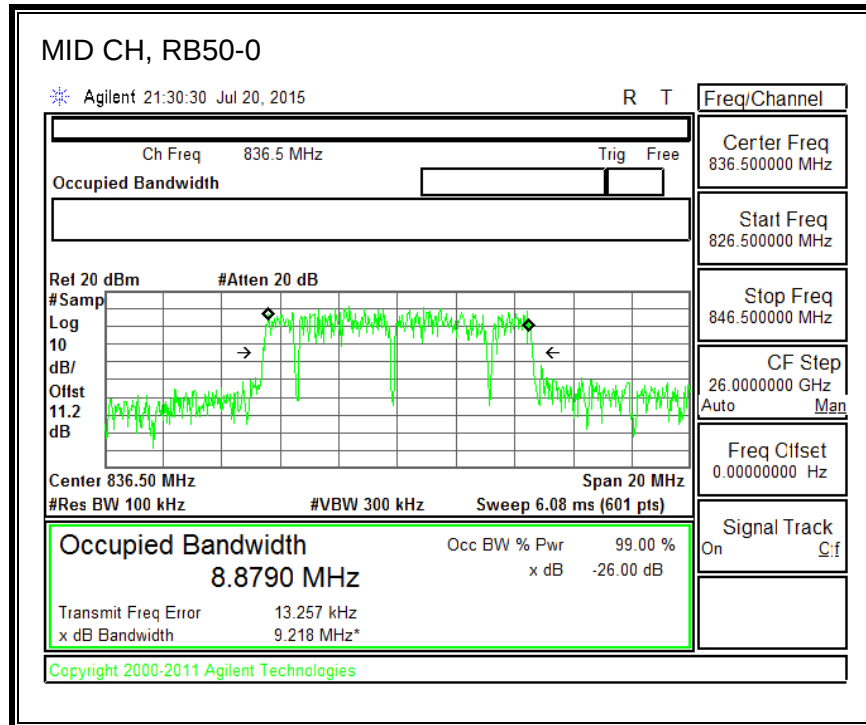
**QPSK, (5.0 MHz BAND WIDTH)**



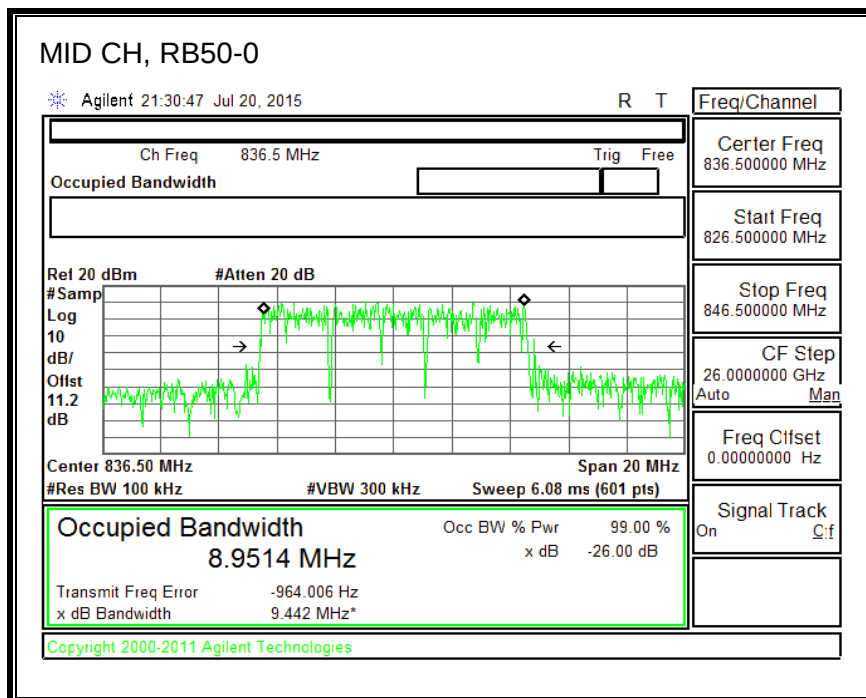
**16QAM, (5.0 MHz BAND WIDTH)**



**QPSK, (10.0 MHz BAND WIDTH)**

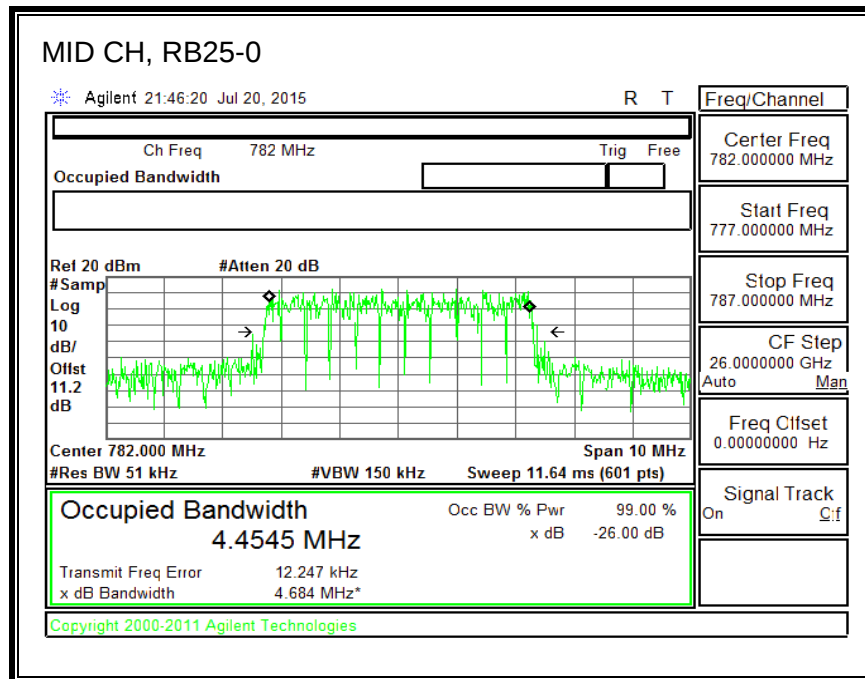


**16QAM, (10.0 MHz BAND WIDTH)**

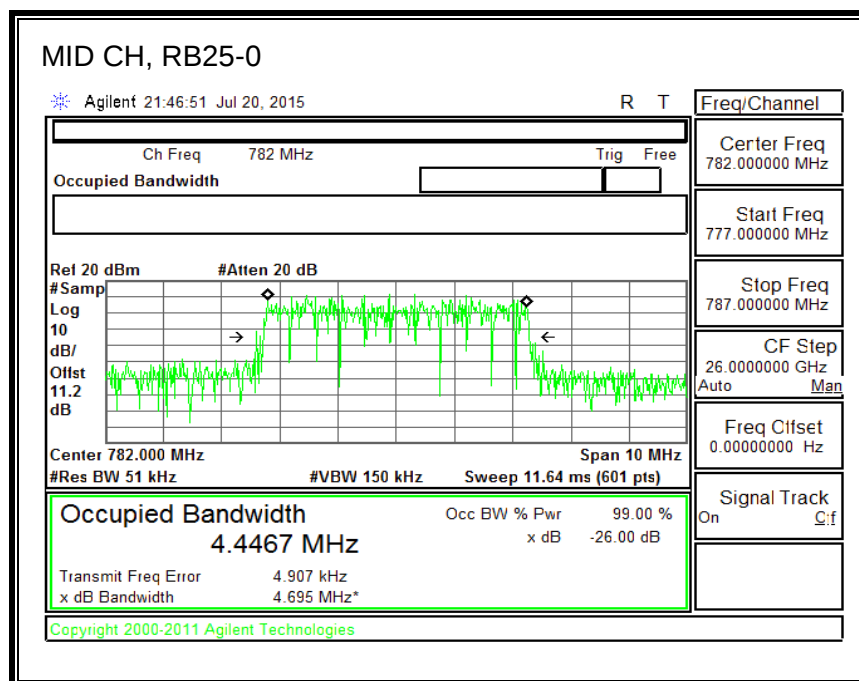


## 8.1.4. LTE BAND 13

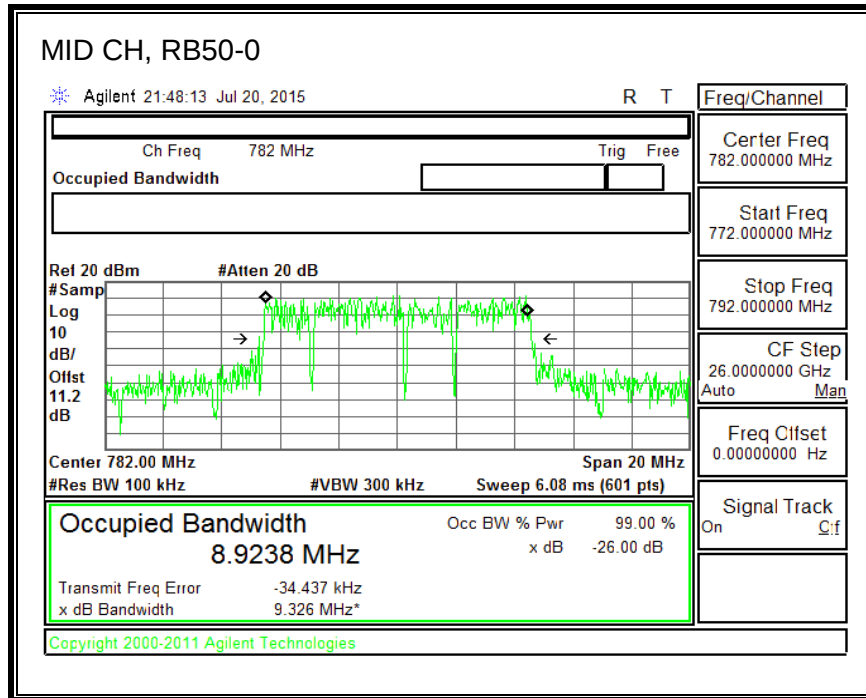
### QPSK, (5.0 MHz BAND WIDTH)



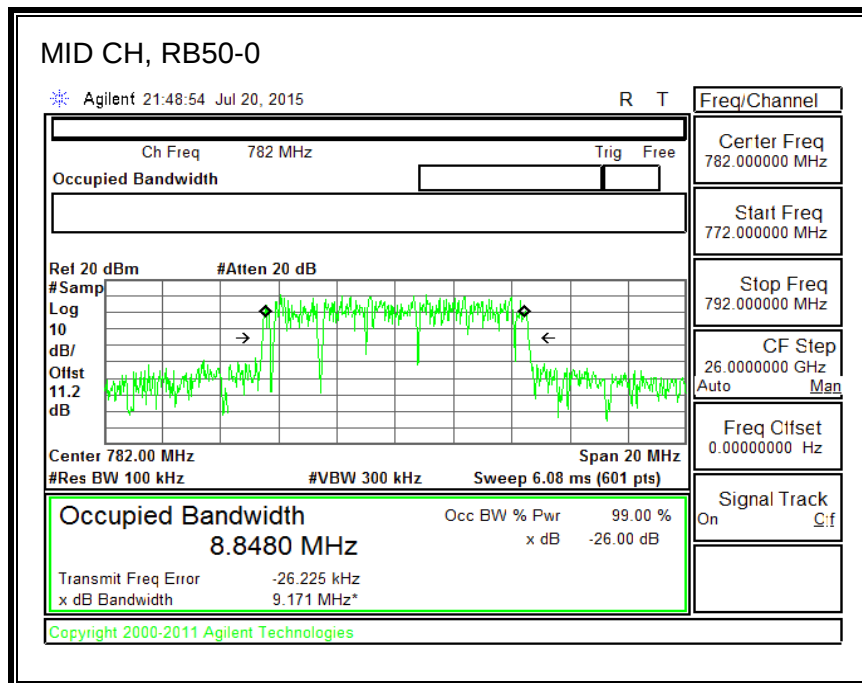
### 16QAM, (5.0 MHz BAND WIDTH)



**QPSK, (10.0 MHz BAND WIDTH)**

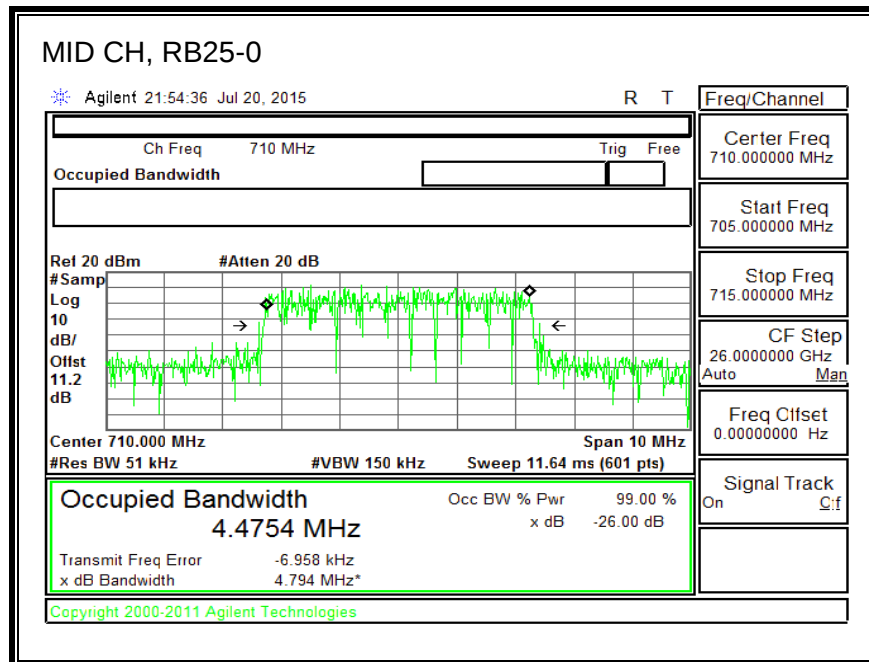


**16QAM, (10.0 MHz BAND WIDTH)**

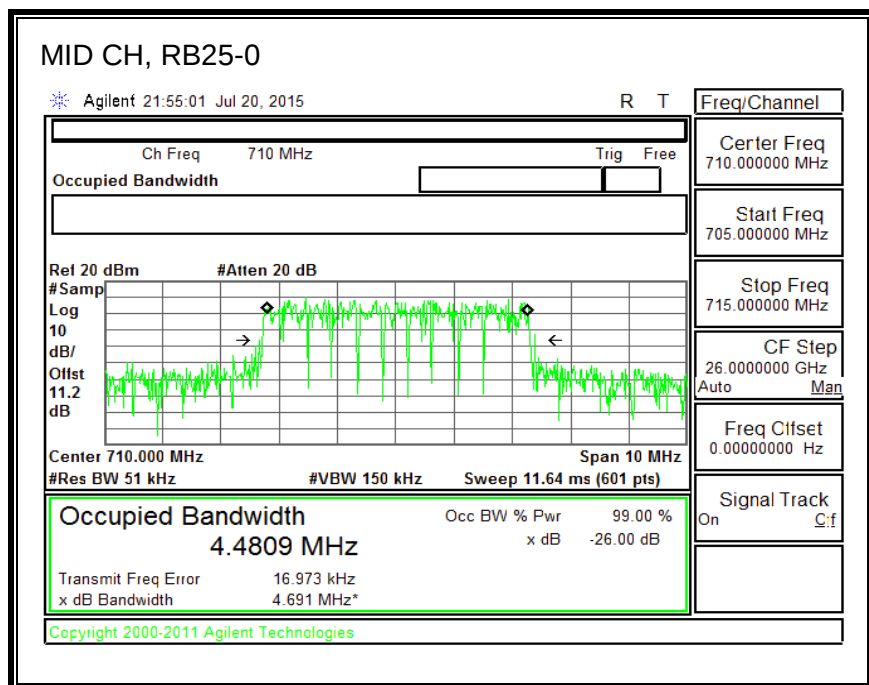


## 8.1.5. LTE BAND 17

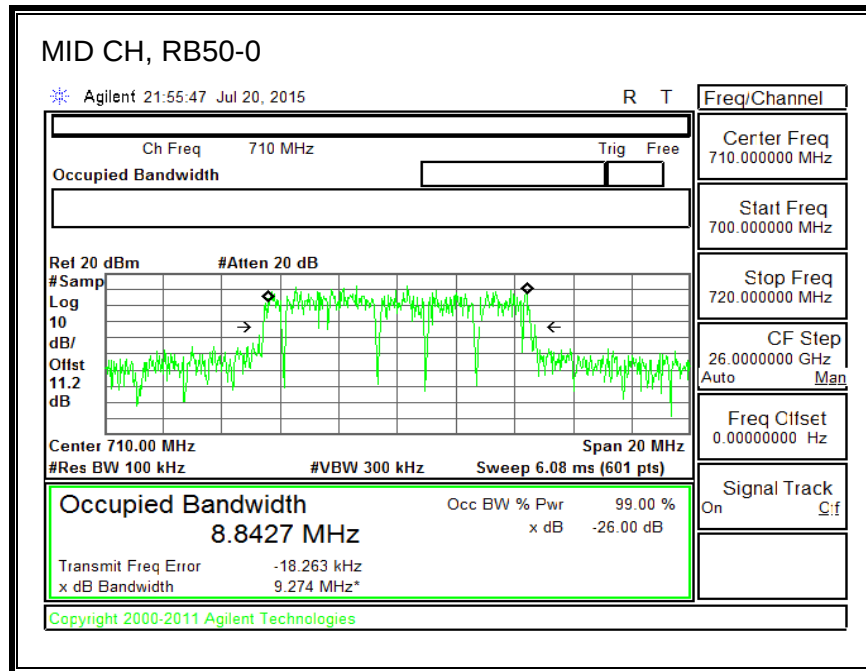
### QPSK, (5.0 MHz BAND WIDTH)



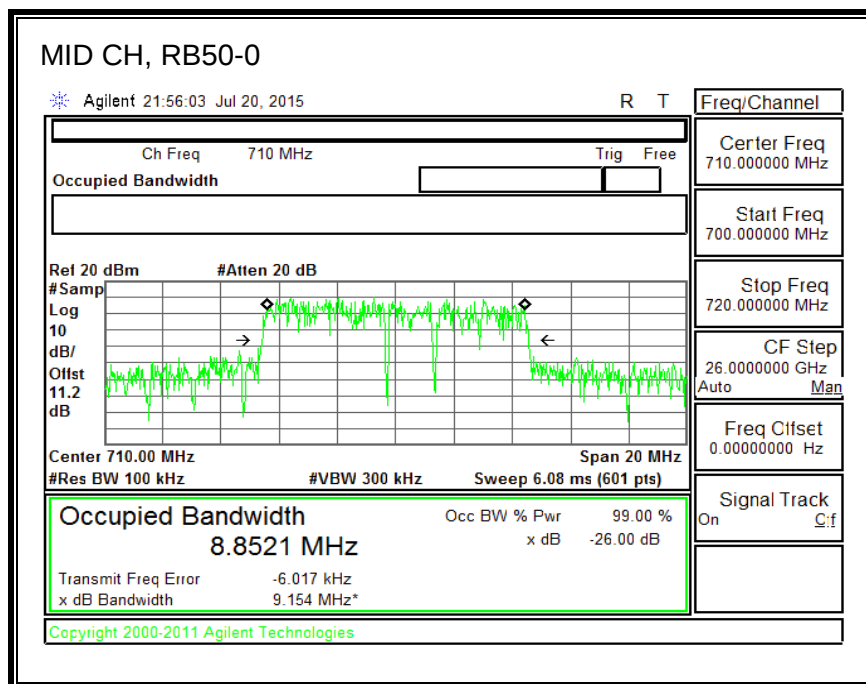
### 16QAM, (5.0 MHz BAND WIDTH)



**QPSK, (10.0 MHz BAND WIDTH)**

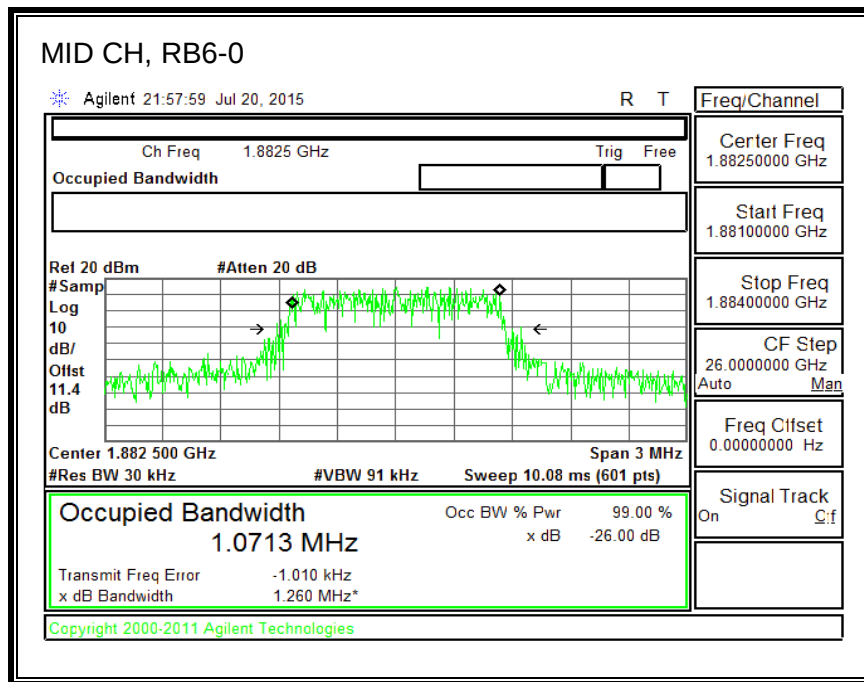


**16QAM, (10.0 MHz BAND WIDTH)**

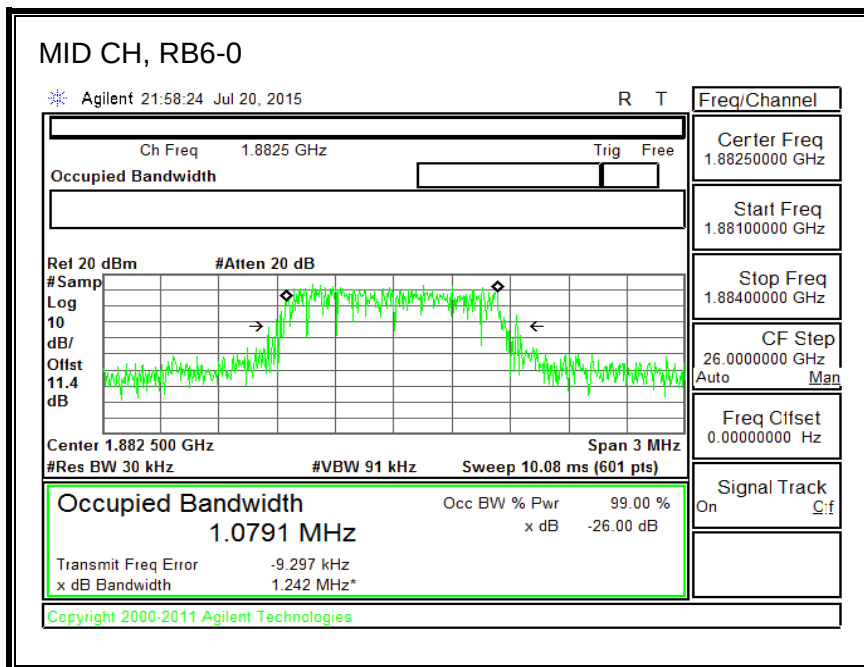


## 8.1.6. LTE BAND 25

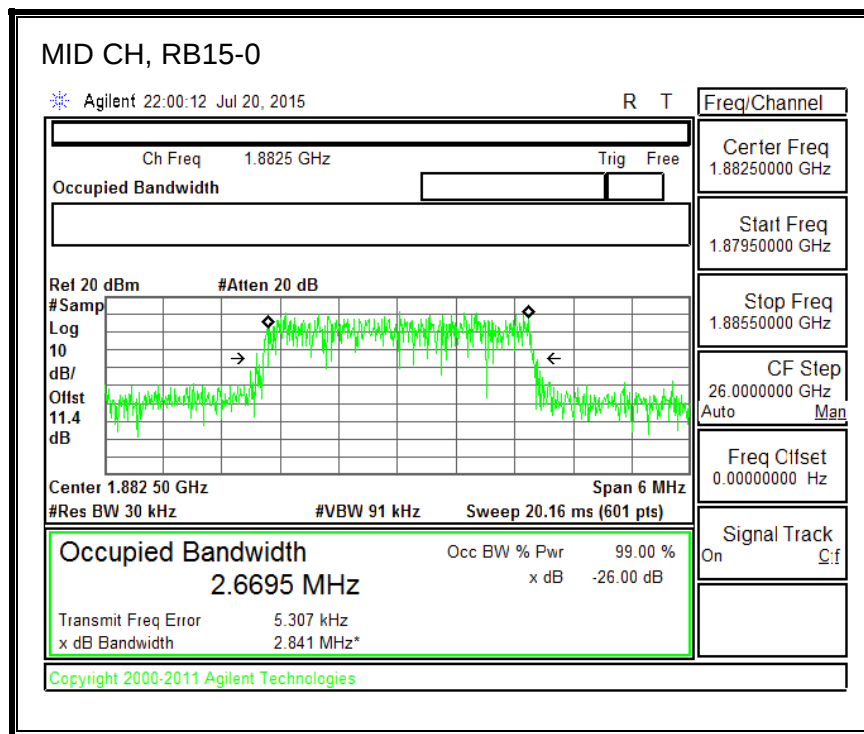
### QPSK, (1.4 MHz BAND WIDTH)



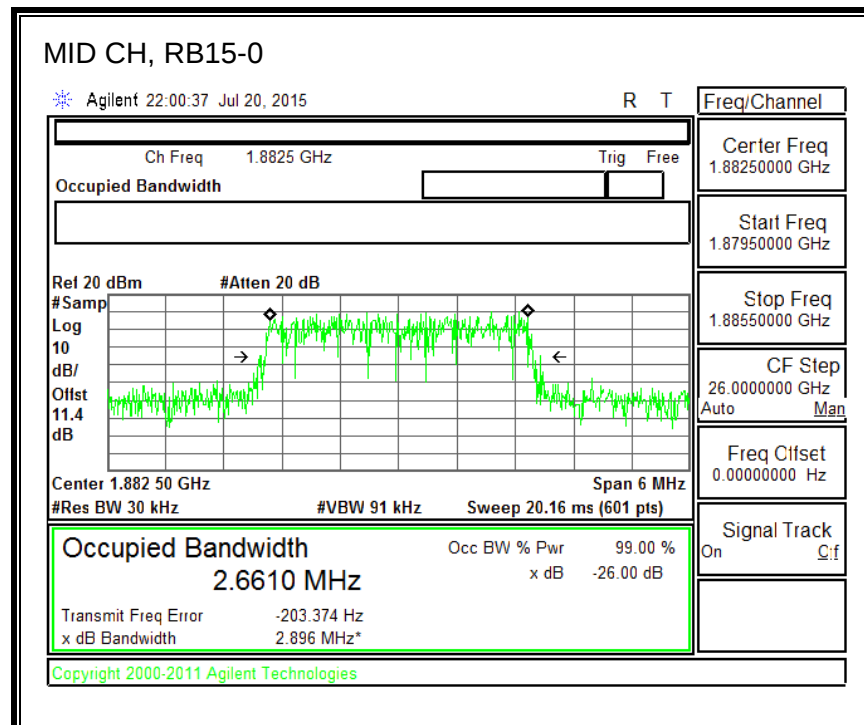
### 16QAM, (1.4 MHz BAND WIDTH)



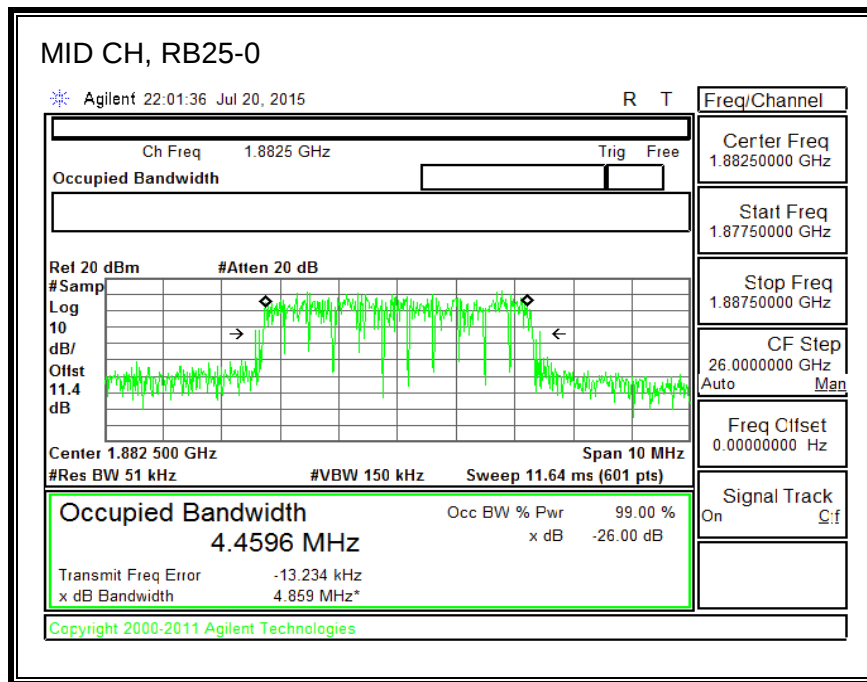
**QPSK, (3.0 MHz BAND WIDTH)**



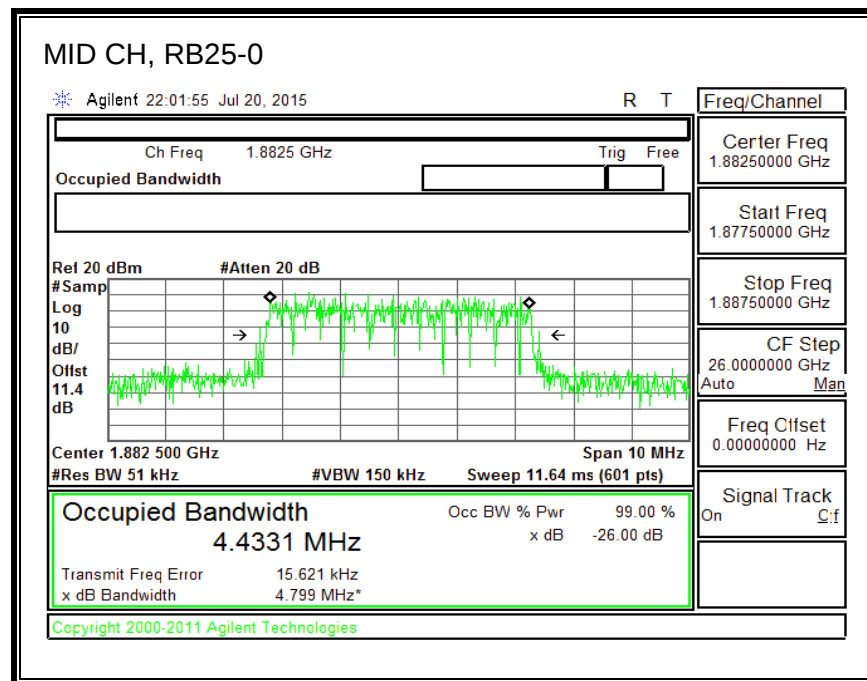
**16QAM, (3.0 MHz BAND WIDTH)**



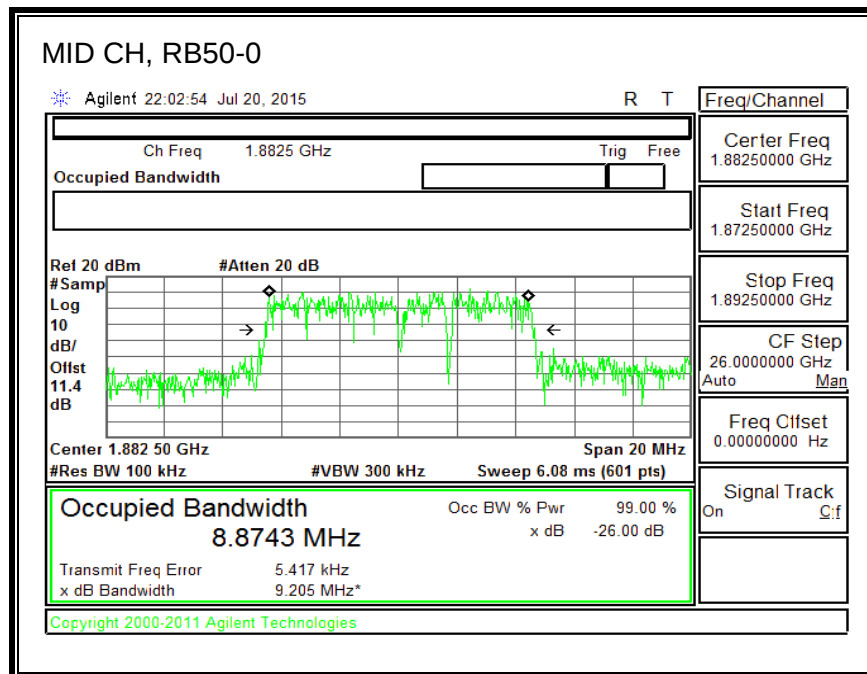
**QPSK, (5.0 MHz BAND WIDTH)**



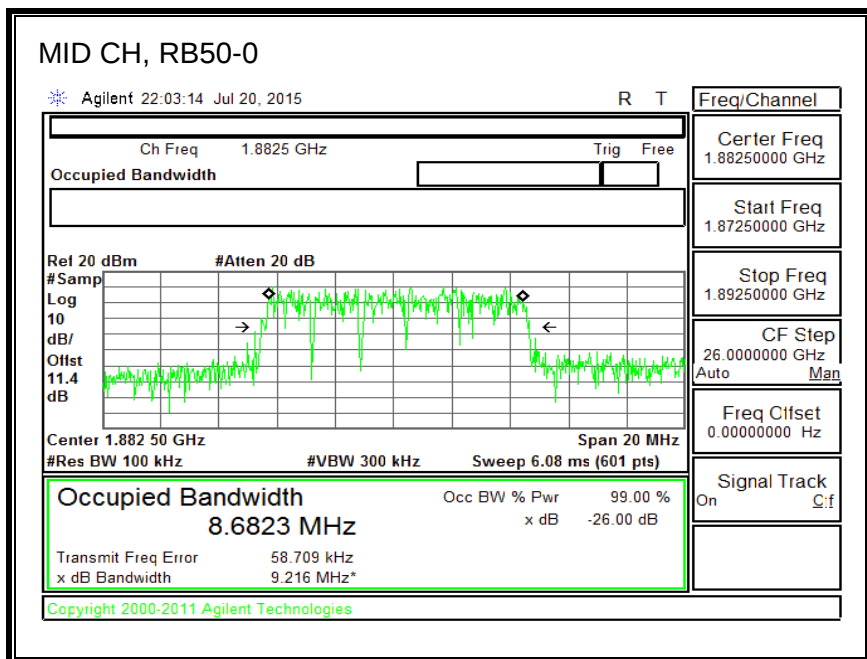
**16QAM, (5.0 MHz BAND WIDTH)**



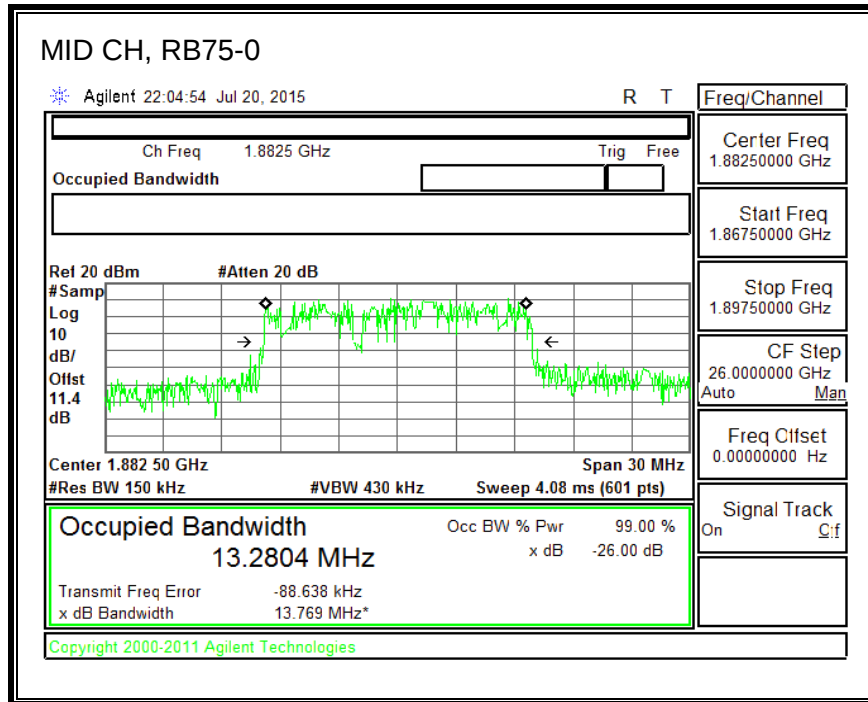
**QPSK, (10.0 MHz BAND WIDTH)**



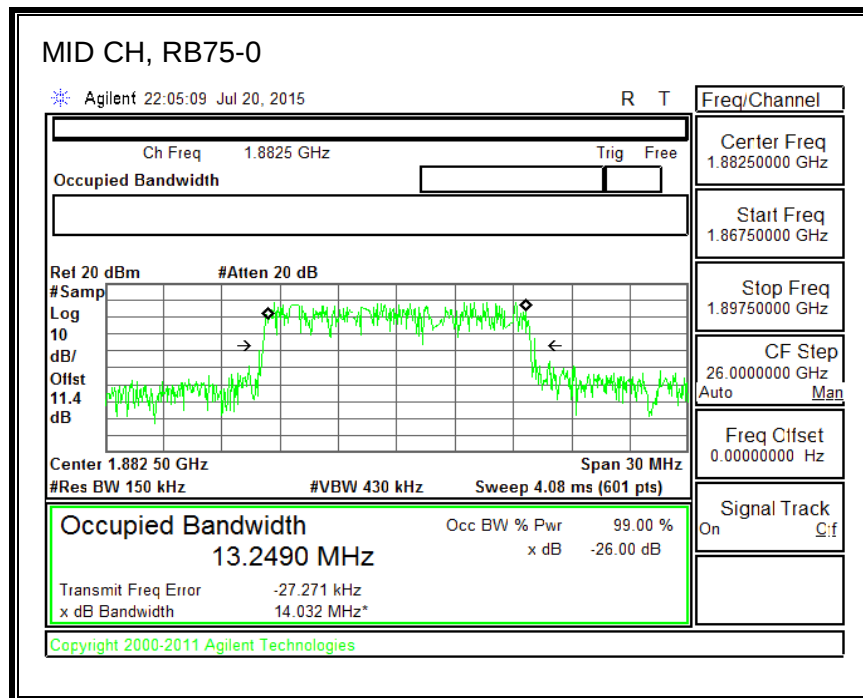
**16QAM, (10.0 MHz BAND WIDTH)**



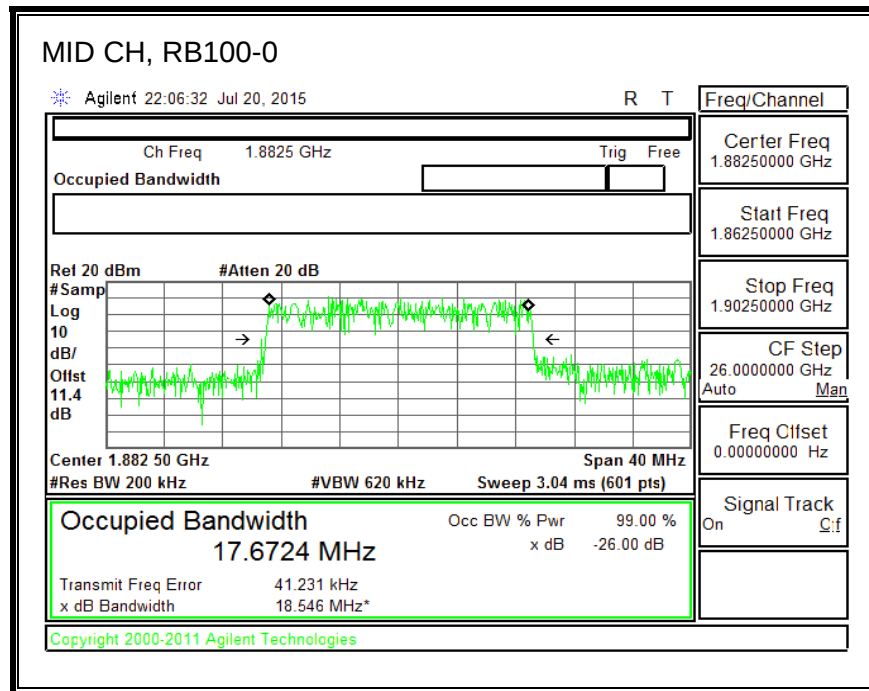
**QPSK, (15.0 MHz BAND WIDTH)**



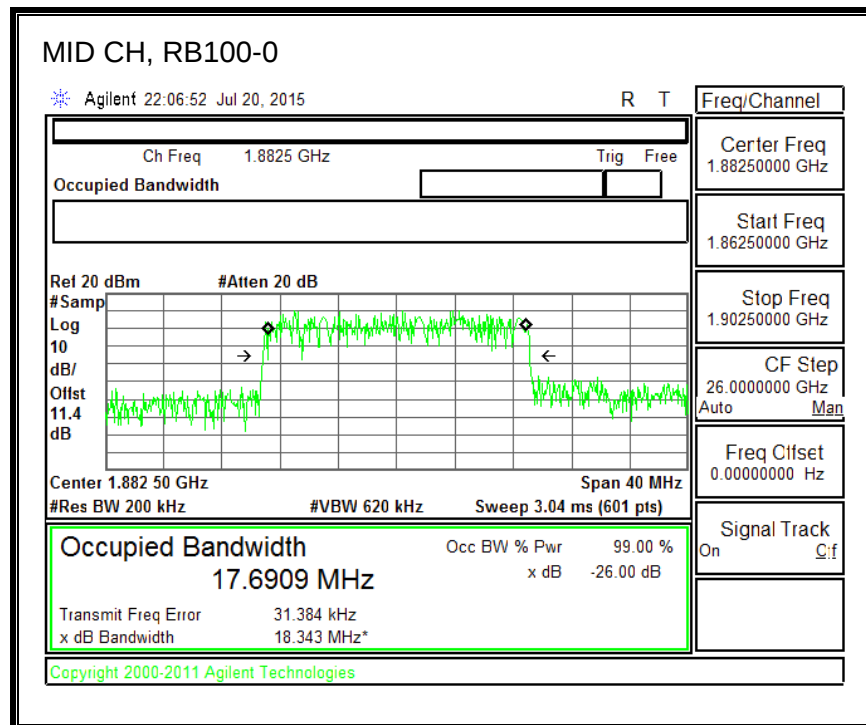
**16QAM, (15.0 MHz BAND WIDTH)**



**QPSK, (20.0 MHz BAND WIDTH)**

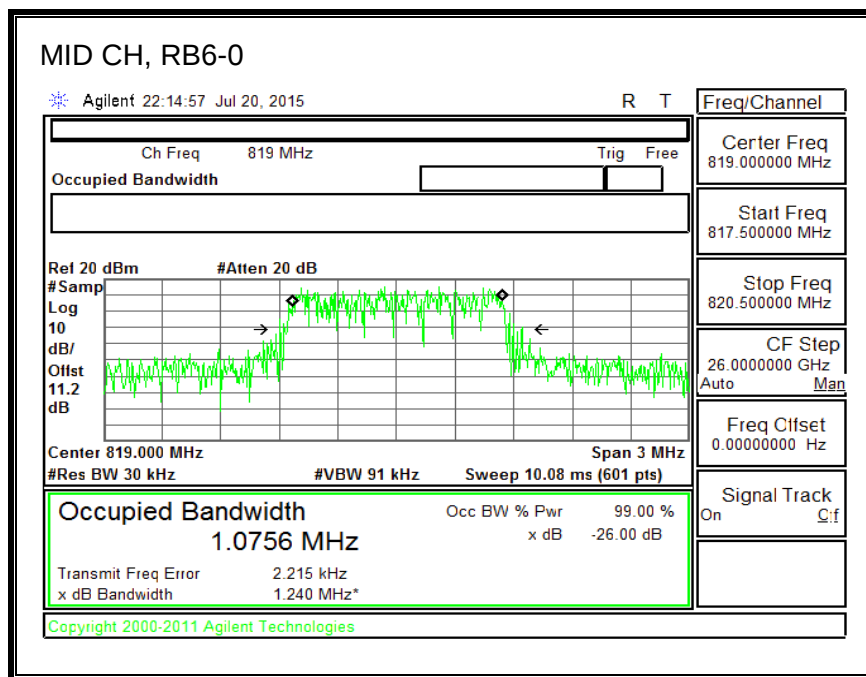
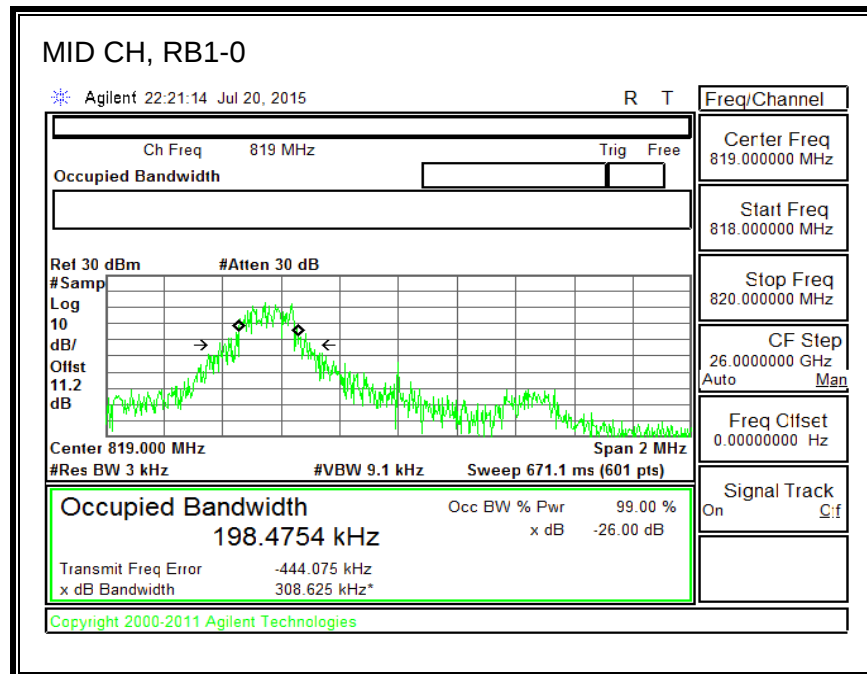


**16QAM, (20.0 MHz BAND WIDTH)**

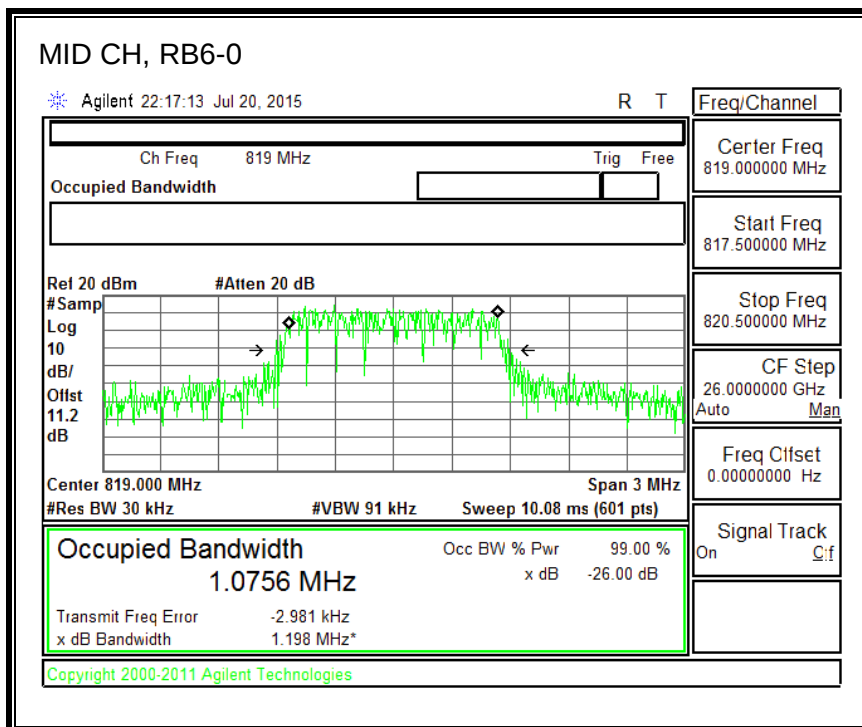
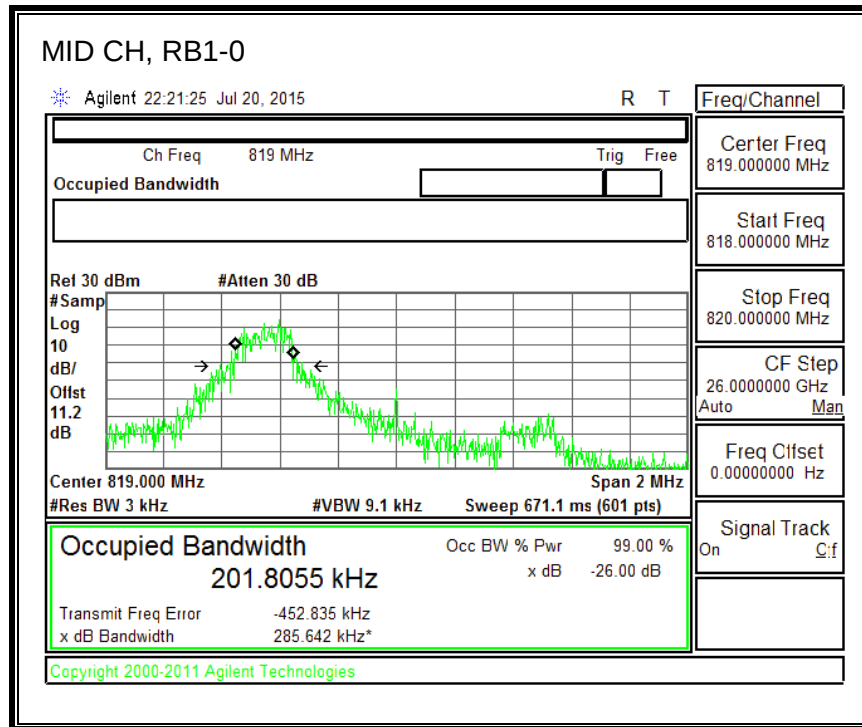


## 8.1.7. LTE BAND 26

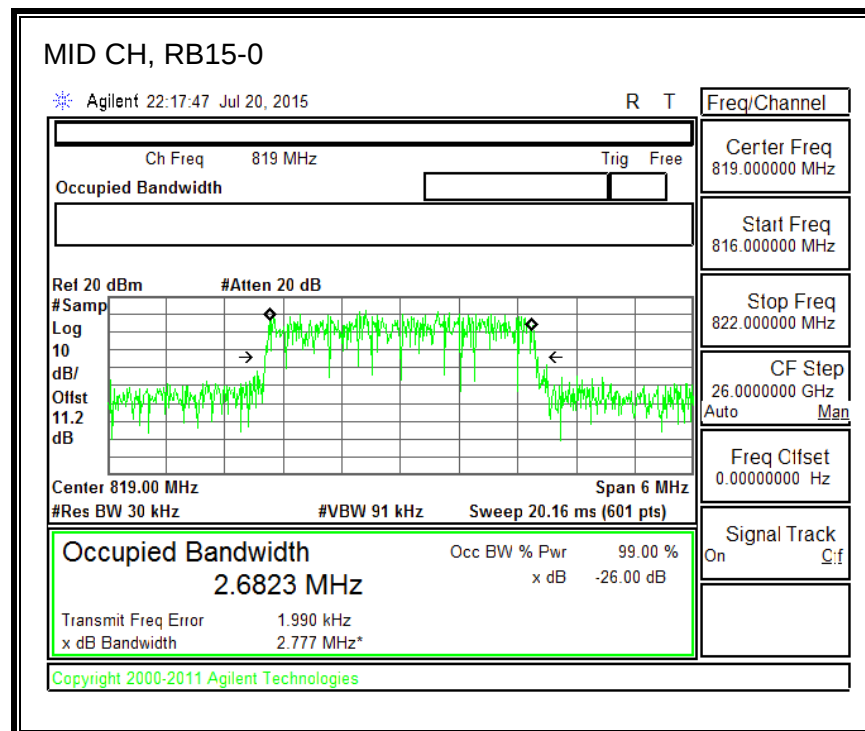
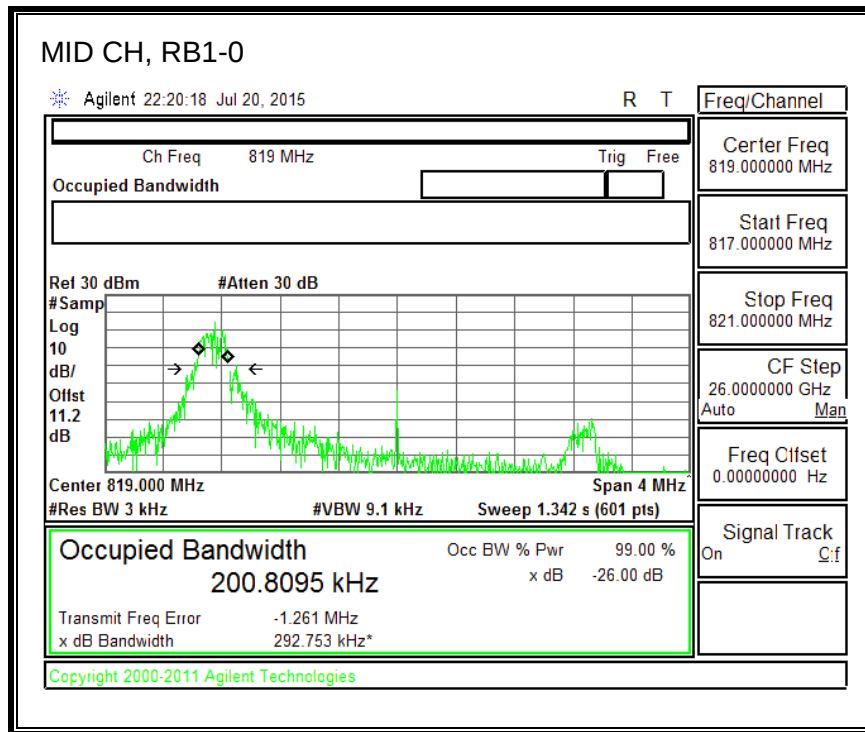
### QPSK, (1.4 MHz BAND WIDTH)



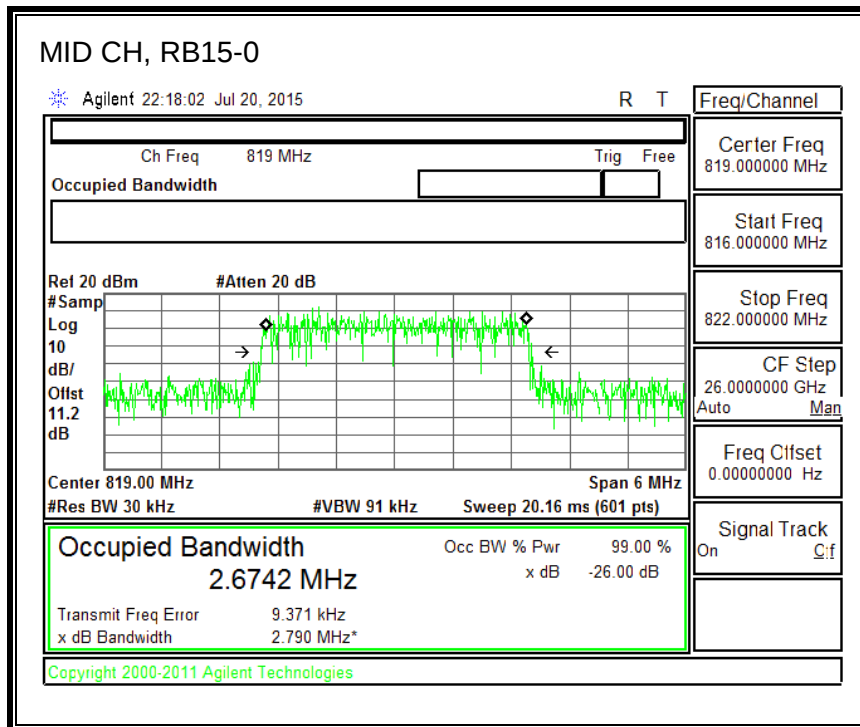
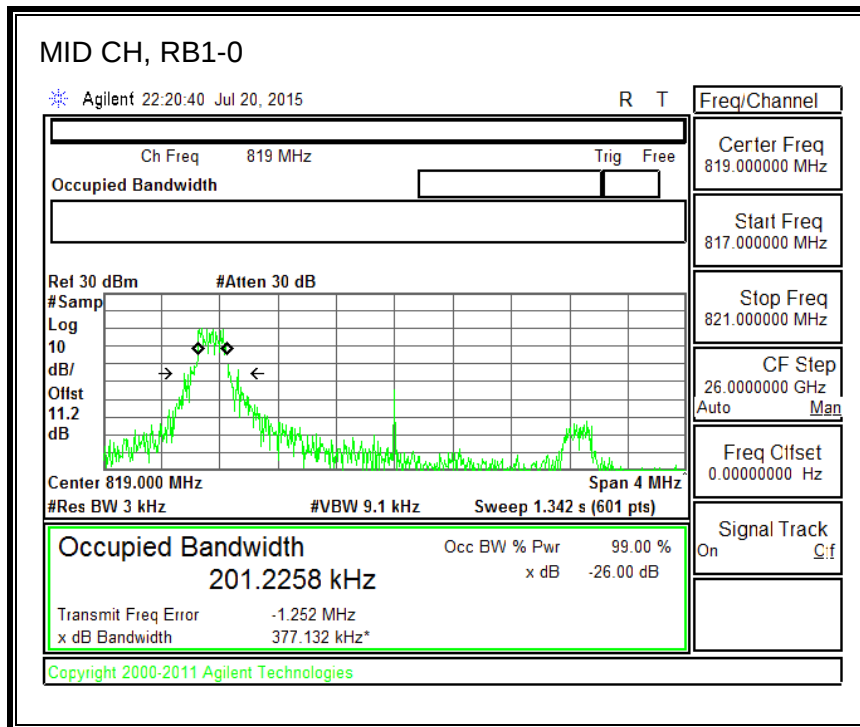
**16QAM, (1.4 MHz BAND WIDTH)**



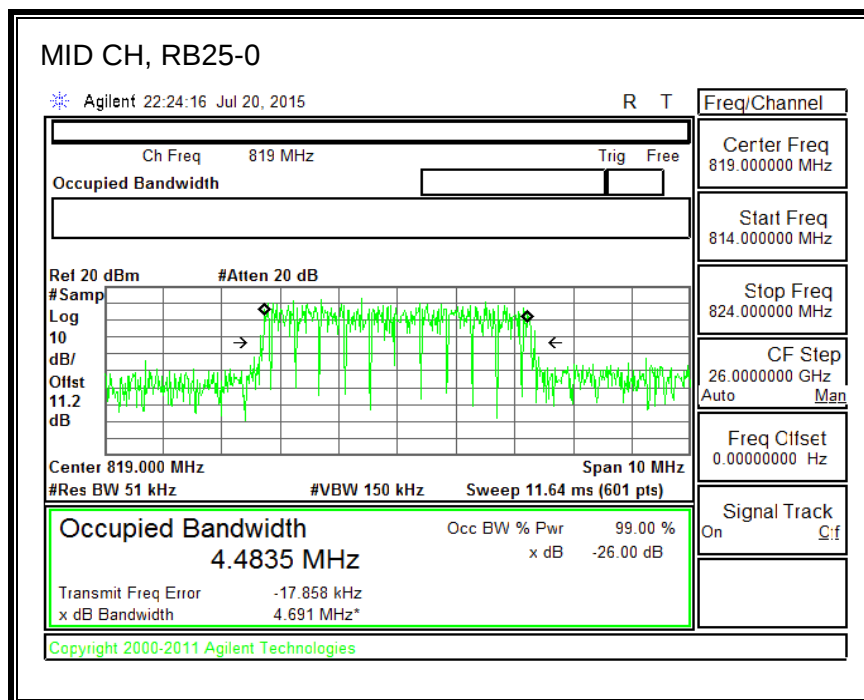
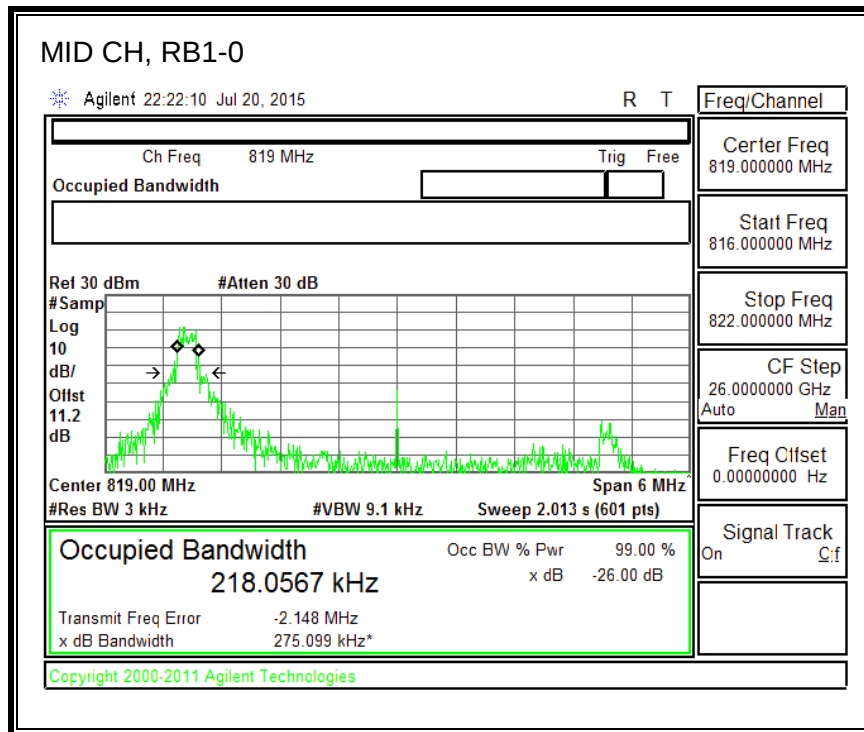
**QPSK, (3.0 MHz BAND WIDTH)**



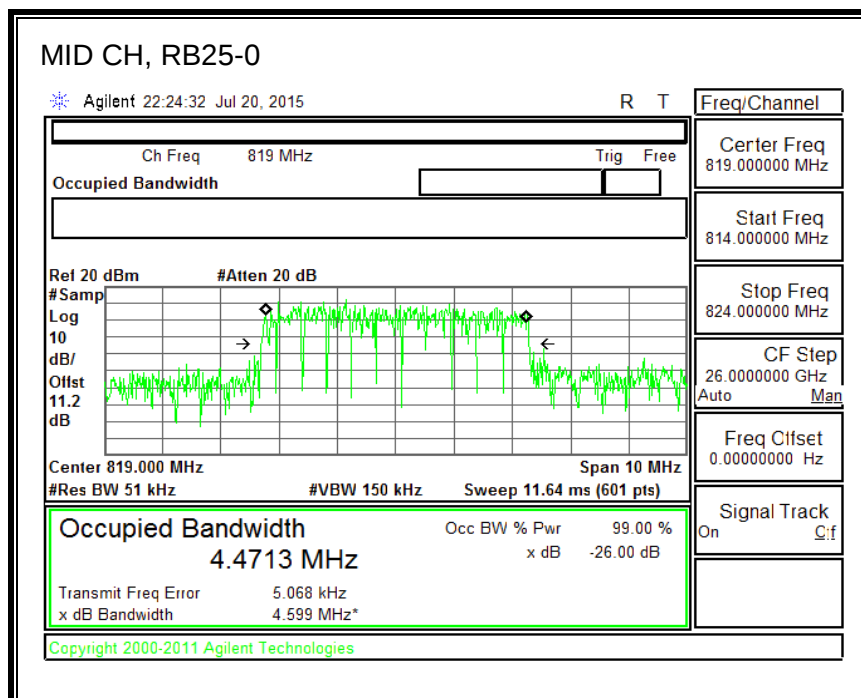
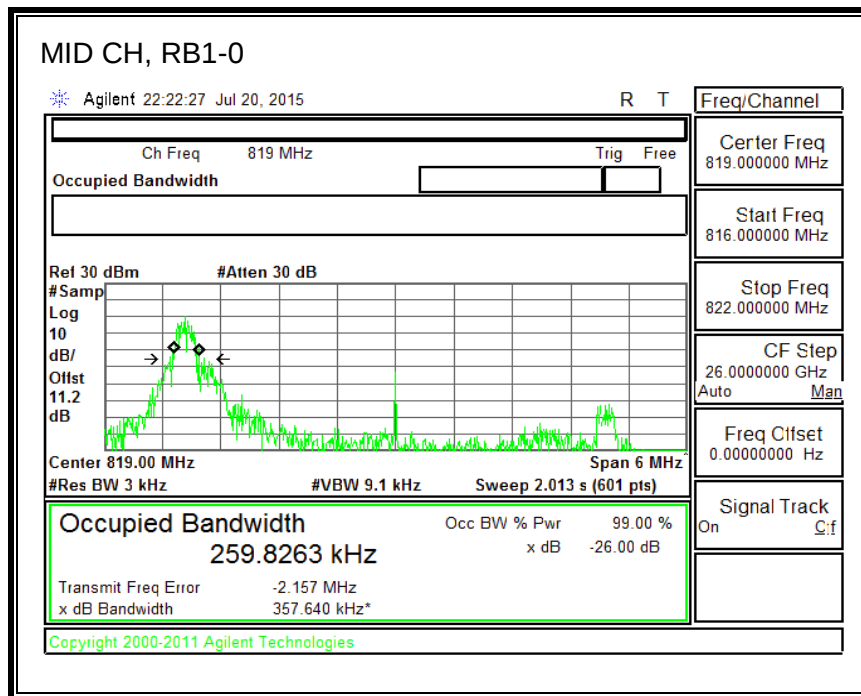
**16QAM, (3.0 MHz BAND WIDTH)**



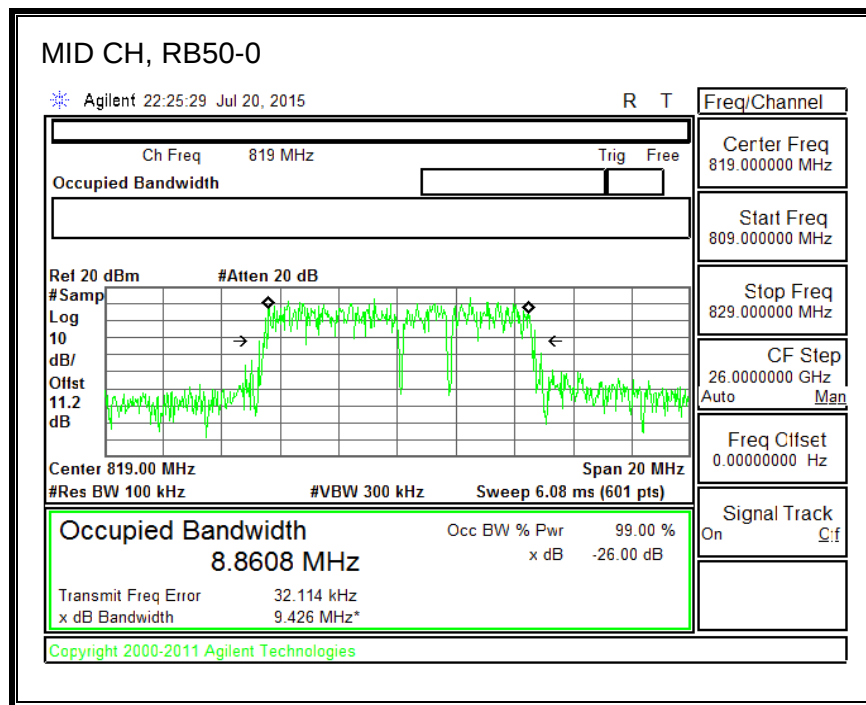
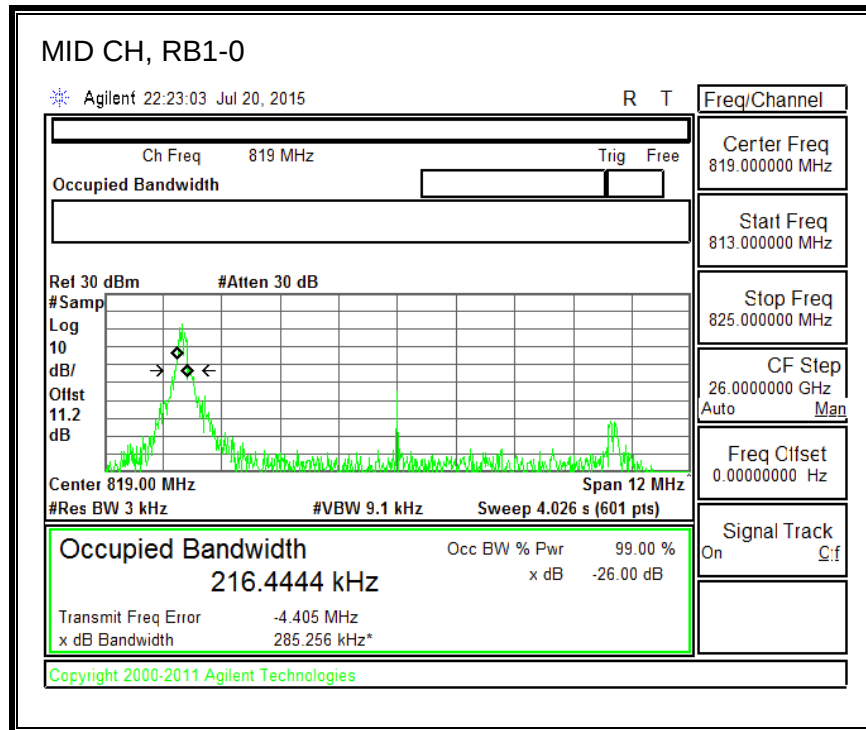
**QPSK, (5.0 MHz BAND WIDTH)**



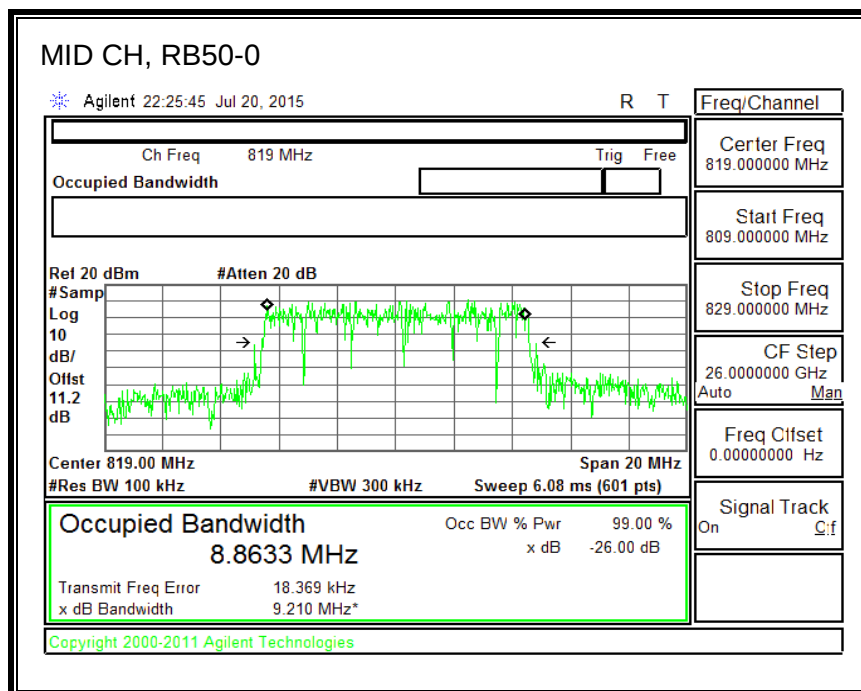
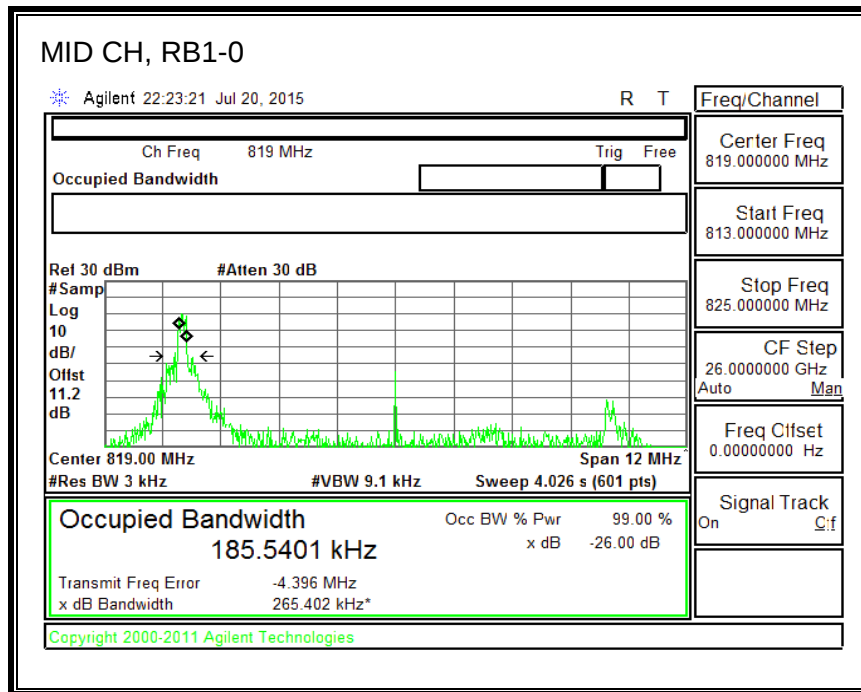
**16QAM, (5.0 MHz BAND WIDTH)**



**QPSK, (10.0 MHz BAND WIDTH)**

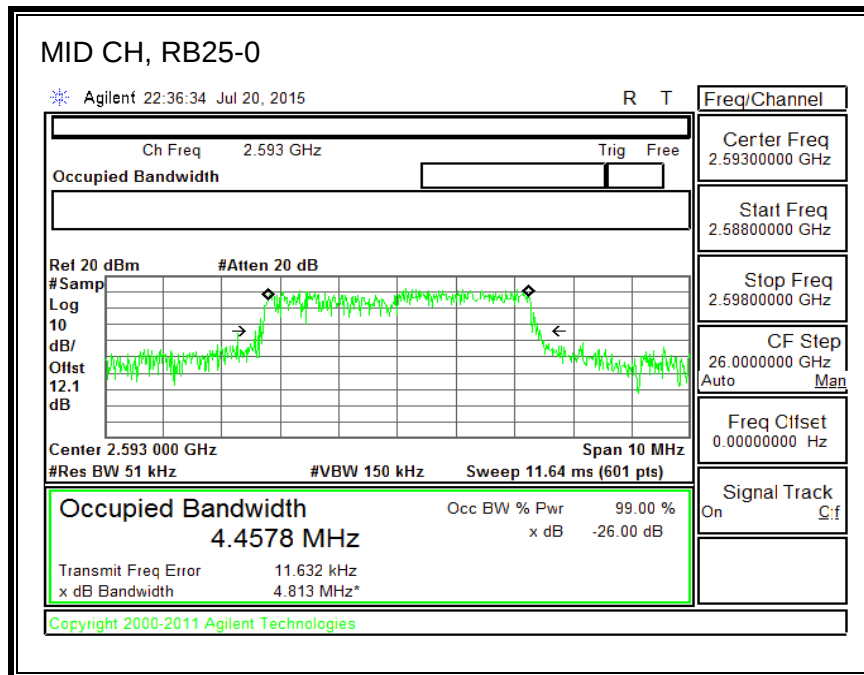


**16QAM, (10.0 MHz BAND WIDTH)**

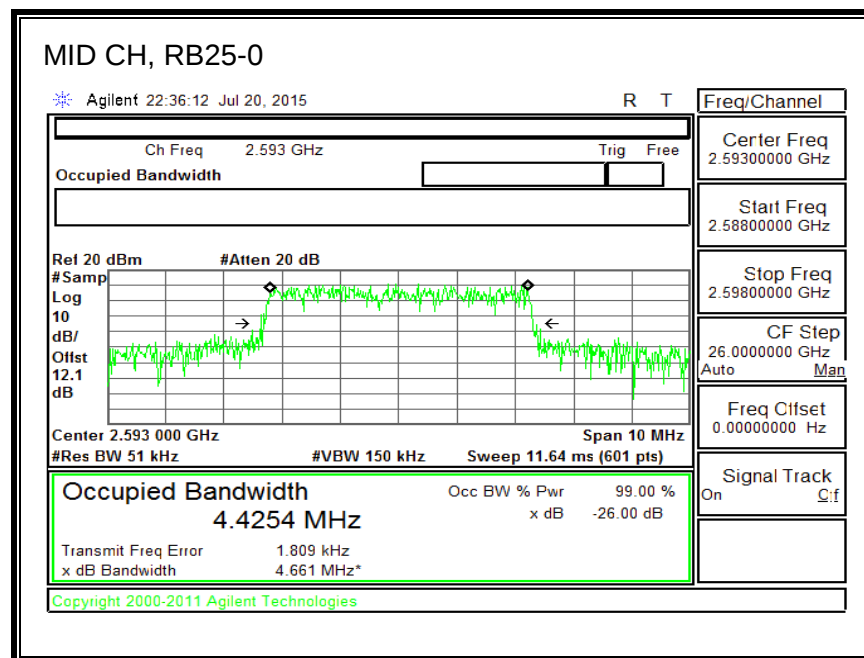


## 8.1.8. LTE BAND 41

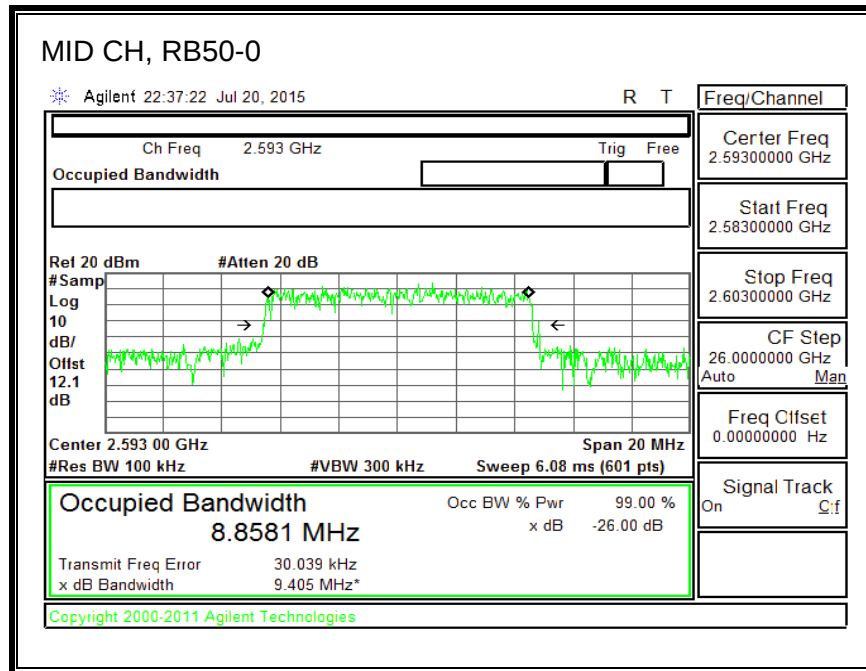
### QPSK, (5.0 MHz BAND WIDTH)



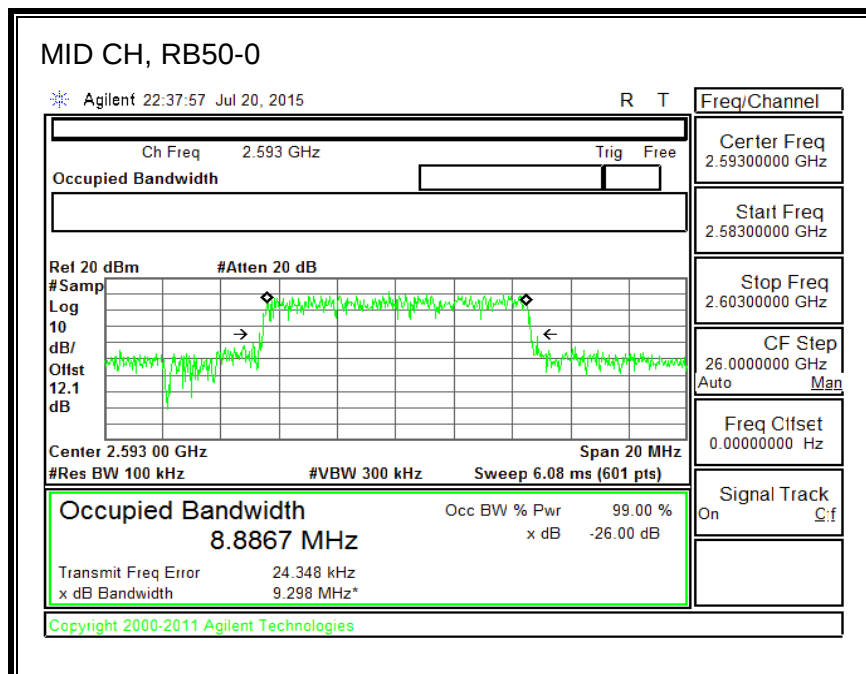
### 16QAM, (5.0 MHz BAND WIDTH)



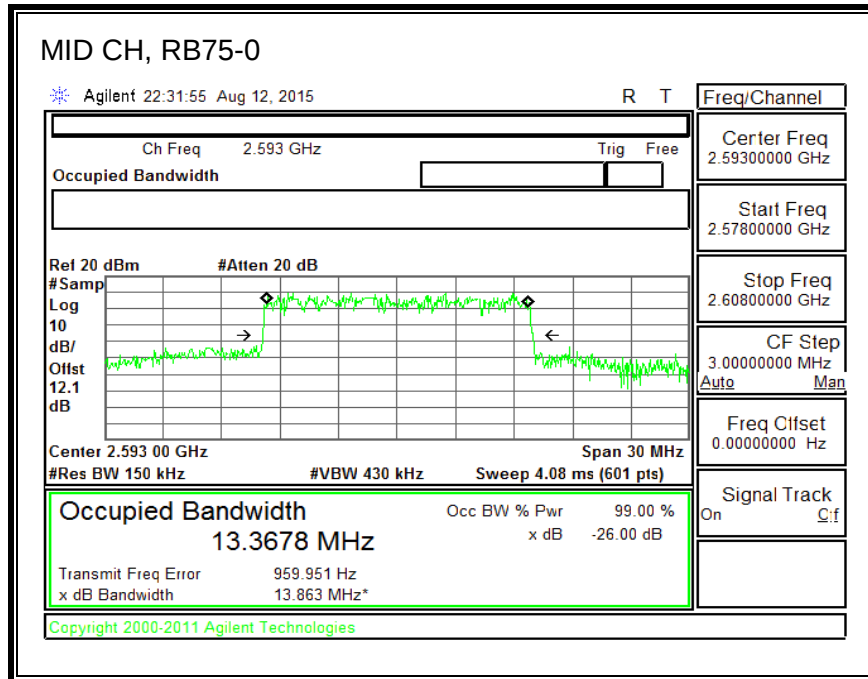
**QPSK, (10.0 MHz BAND WIDTH)**



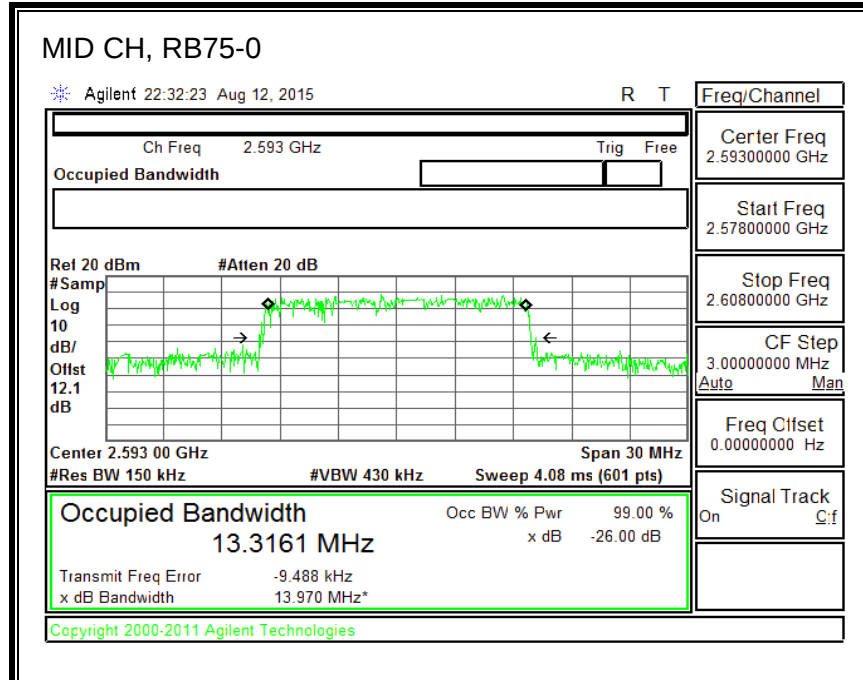
**16QAM, (10.0 MHz BAND WIDTH)**



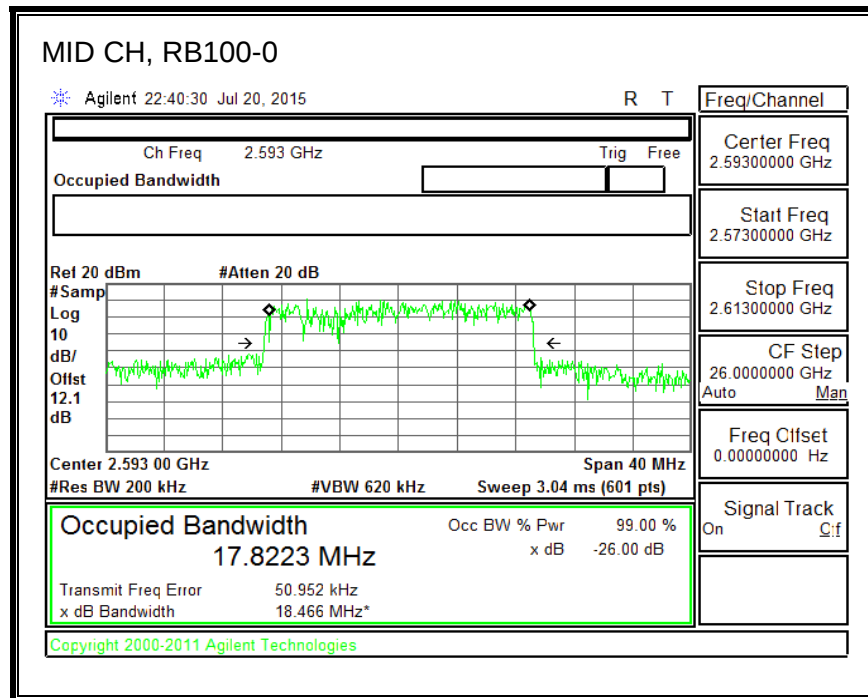
**QPSK, (15.0 MHz BAND WIDTH)**



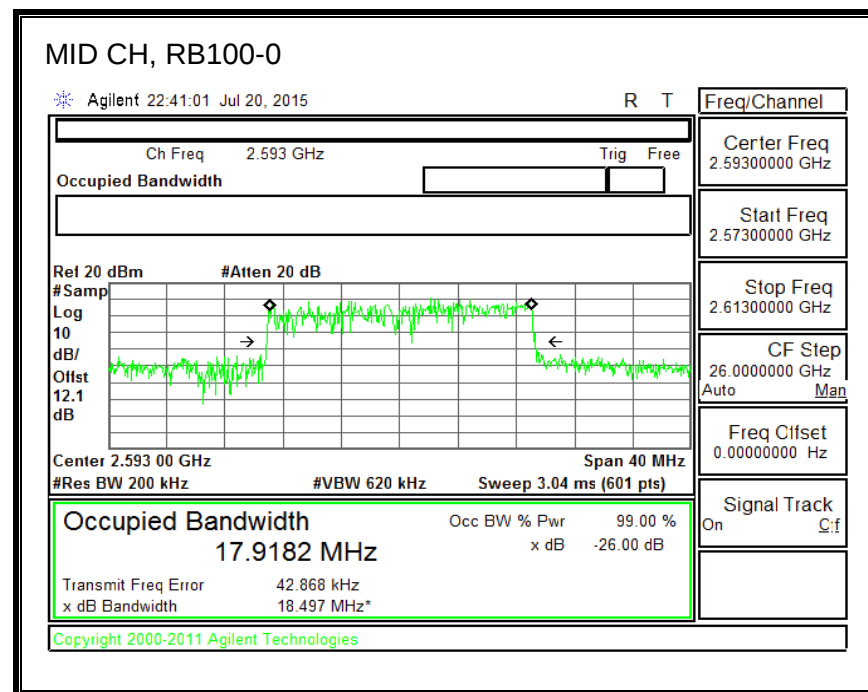
**16QAM, (15.0 MHz BAND WIDTH)**



**QPSK, (20.0 MHz BAND WIDTH)**



**16QAM, (20.0 MHz BAND WIDTH)**



## 8.2. BANEDGE AND EMISSION MASK

### RULE PART(S)

FCC: §2.1051, §22.901, §22.917, §24.238, §27.53, and §90.691

### LIMITS

FCC: §24.238, §27.53

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log (P)$  dB.

FCC: §90.210, and §90.691 (LTE BAND 26)

(a)(1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least  $116 \log_{10}(f/6.1)$  decibels or  $50 + 10 \log_{10}(P)$  decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

(a)(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least  $43 + 10 \log_{10}(P)$  decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz. (NOTE: Use 100 kHz reference bandwidth.)

FCC: §27.53

(c) On any frequency outside the 776–788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least  $43 + 10 \log (P)$  dB;

(1) On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least  $43 + 10 \log (P)$  dB;

(2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least  $43 + 10 \log (P)$  dB;

(4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than  $65 + 10 \log (P)$  dB in a 6.25 kHz band segment, for mobile and portable stations;

(5) Compliance with the provisions of paragraphs (c)(1) and (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed;

(6) Compliance with the provisions of paragraphs (c)(3) and (c)(4) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

FCC: §27.53 (LTE BAND 41)

(m)(6) Measurement procedure. Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed; for mobile digital stations, in the 1 megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed, except when the 1 megahertz band is 2495-2496 MHz, in which case a resolution bandwidth of at least one percent may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 megahertz or 1 percent of emission bandwidth, as specified; or 1 megahertz or 2 percent for mobile digital stations, except in the band 2495-2496 MHz). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. With respect to television operations, measurements must be made of the separate visual and aural operating powers at sufficiently frequent intervals to ensure compliance with the rules.

(m)(4) For mobile digital stations, the attenuation factor shall be not less than  $40 + 10 \log (P)$  dB on all frequencies between the channel edge and 5 megahertz from the channel edge,  $43 + 10 \log (P)$  dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and  $55 + 10 \log (P)$  dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than  $43 + 10 \log (P)$  dB on all frequencies between 2490.5 MHz and 2496 MHz and  $55 + 10 \log (P)$  dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees. Show citation box.

FCC: §90.210, and §90.691

(a)(1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least  $116 \log_{10}(f/6.1)$  decibels or  $50 + 10 \log_{10}(P)$  decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

(a)(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least  $43 + 10 \log_{10}(P)$  decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz. {NOTE: Use 100 kHz reference bandwidth.}

### **TEST PROCEDURE**

The transmitter output was connected to a CMW500 Test Set and configured to operate at maximum power. The band edge emissions were measured at the required operating frequencies in each band on the Spectrum Analyzer.

For each band edge measurement:

Set the spectrum analyzer span to include the block edge frequency (704, 716, 824, 849, 1710 and 1755, 1850 and 1910 MHz)

Set a marker to point the corresponding band edge frequency in each test case.

Set display line at -13 dBm

Set resolution bandwidth to at least 1% of emission bandwidth.

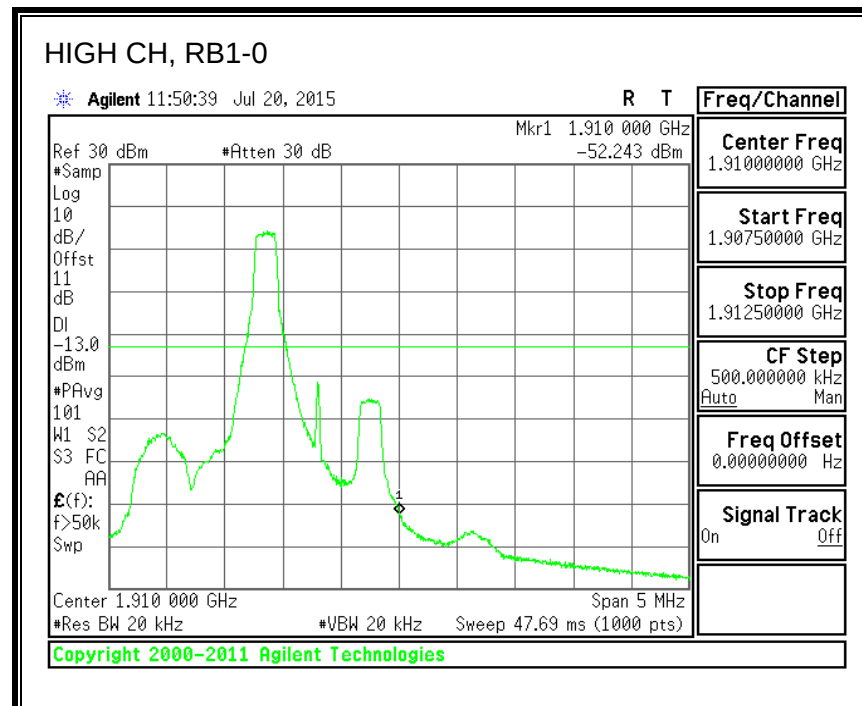
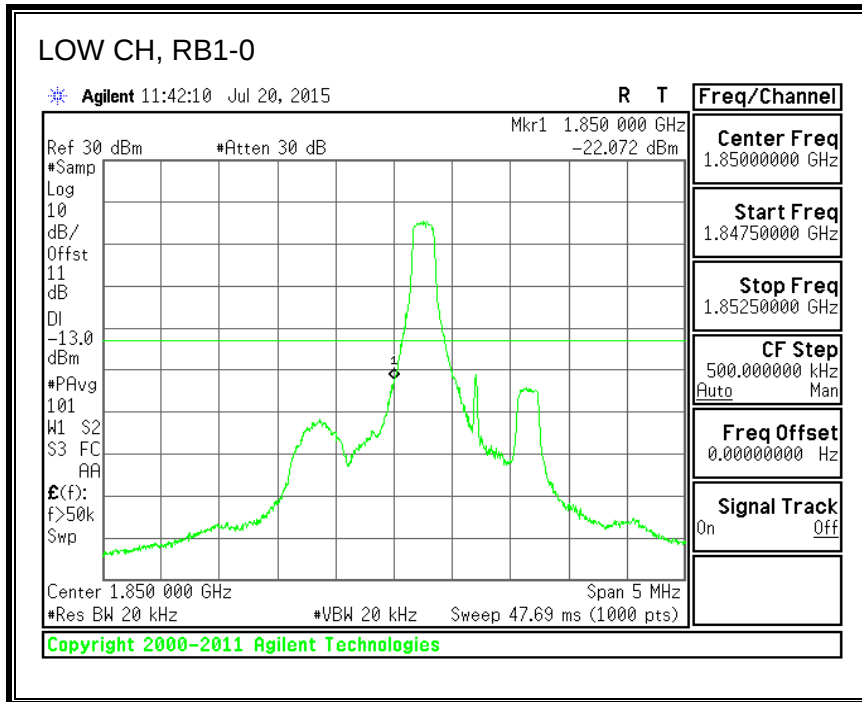
### **MODES TESTED**

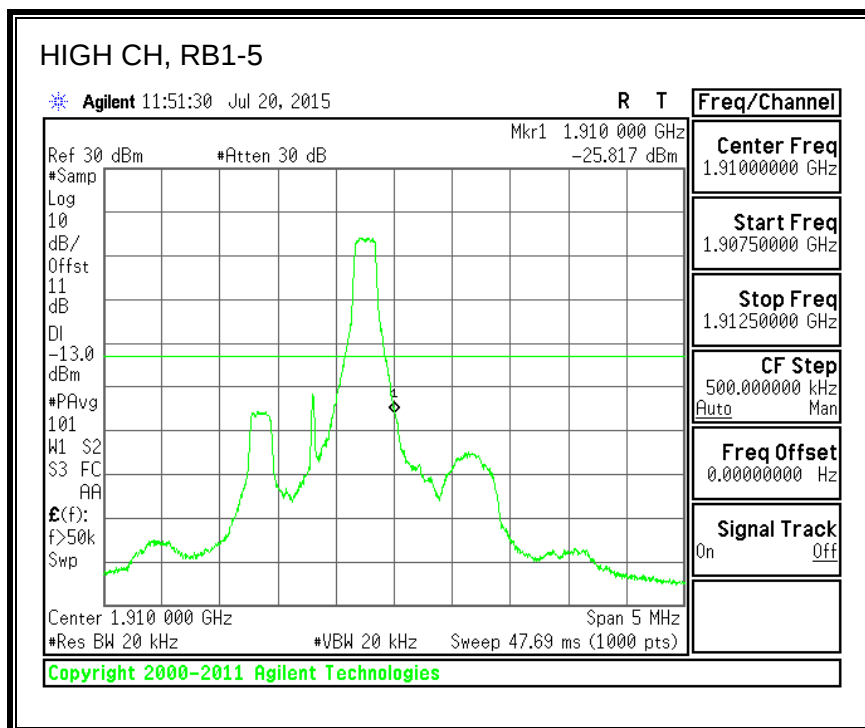
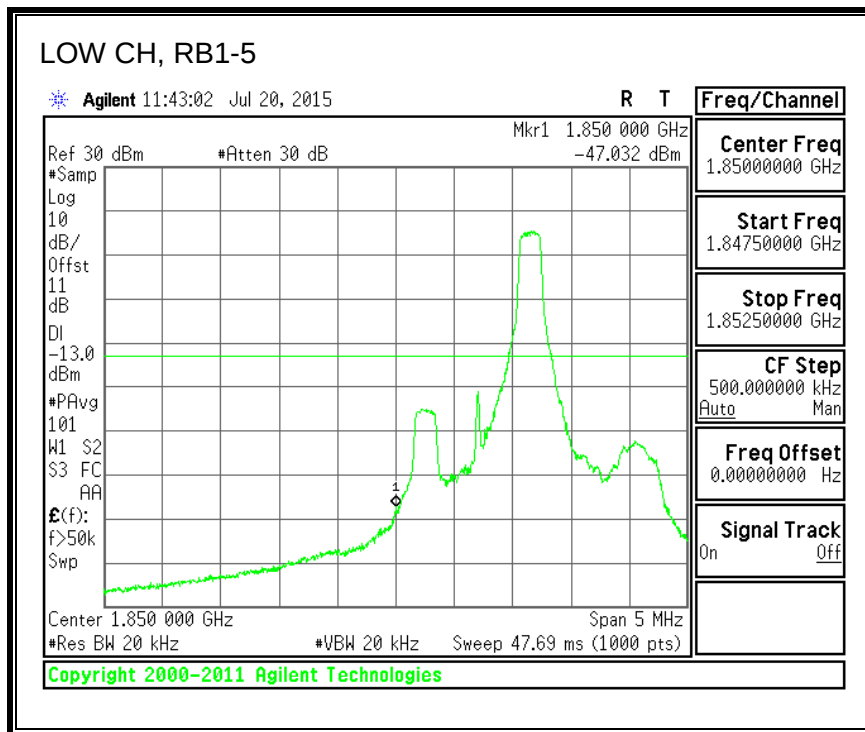
- LTE Band 2
- LTE Band 4
- LTE Band 5
- LTE Band 13
- LTE Band 17
- LTE Band 25
- LTE Band 26
- LTE Band 41

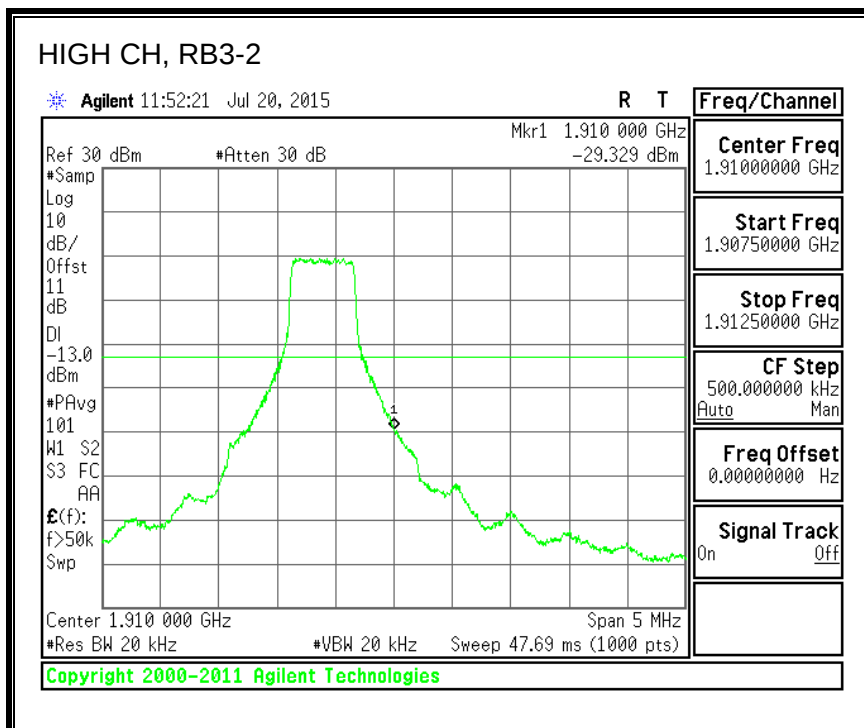
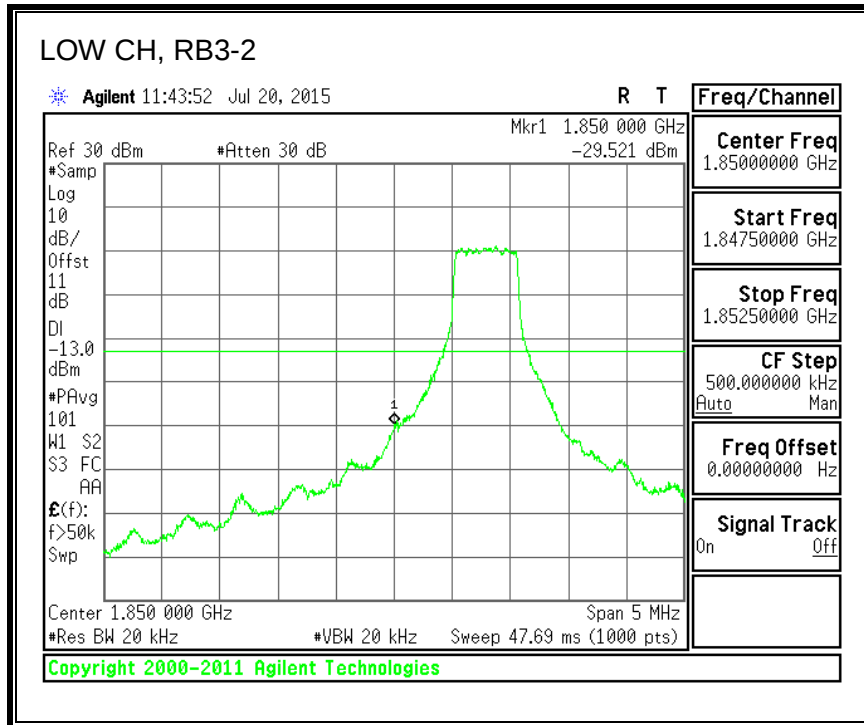
### **RESULTS**

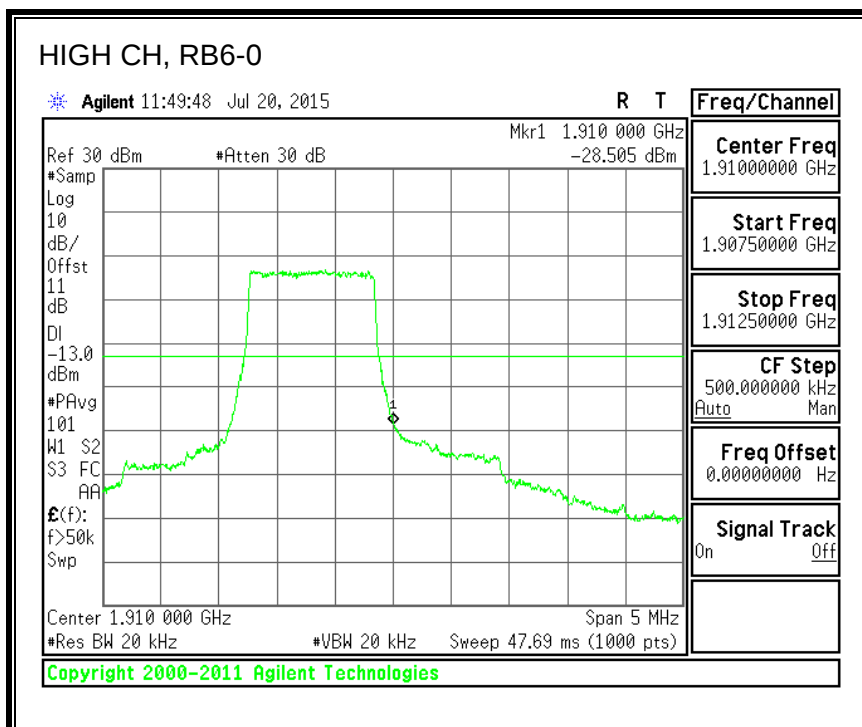
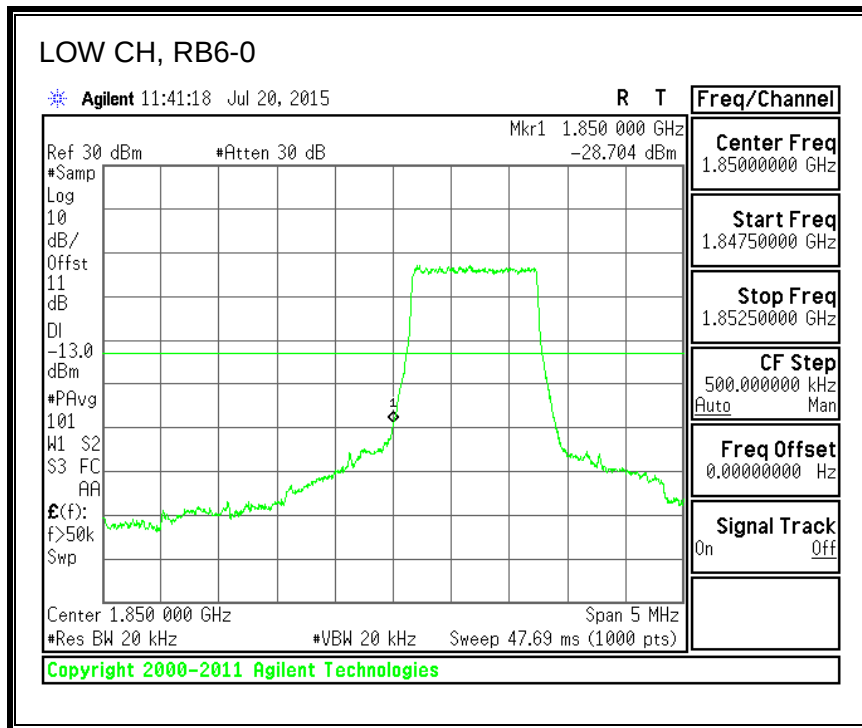
## 8.2.1. LTE BAND 2 BANDEDGE

### QPSK, (1.4 MHz BAND WIDTH)

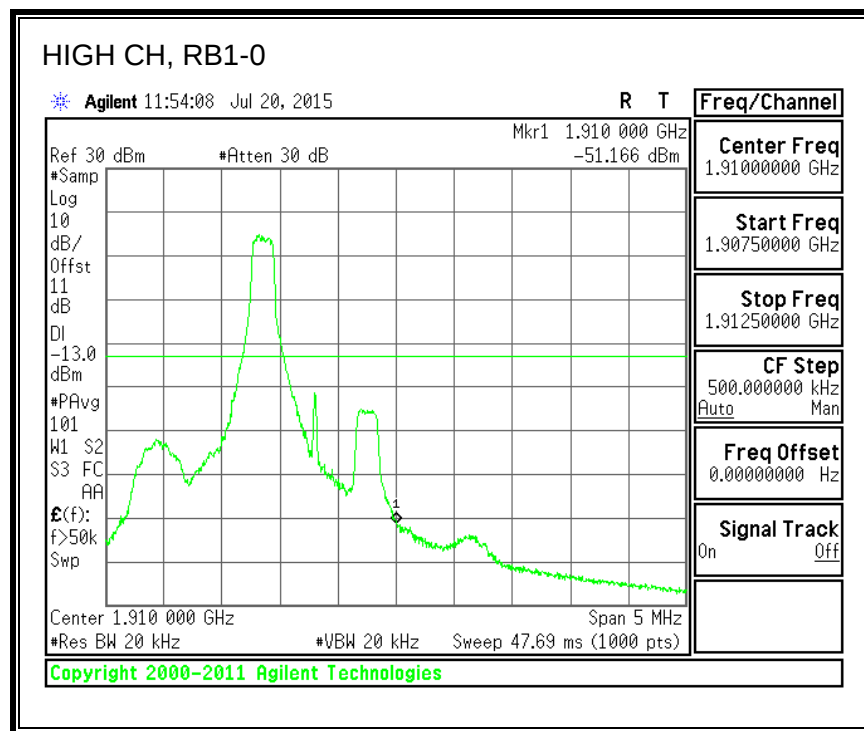
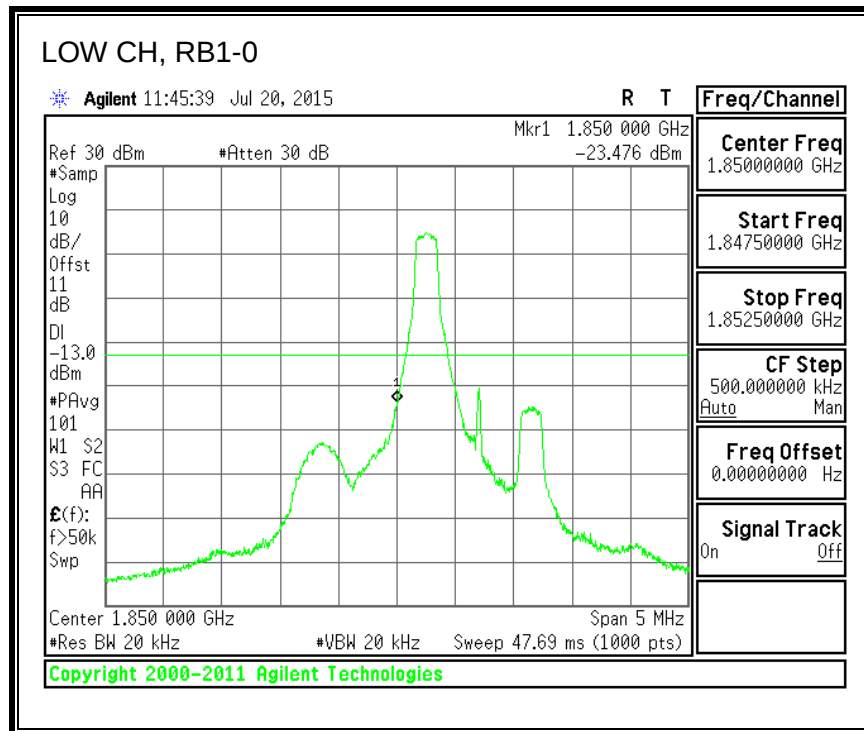


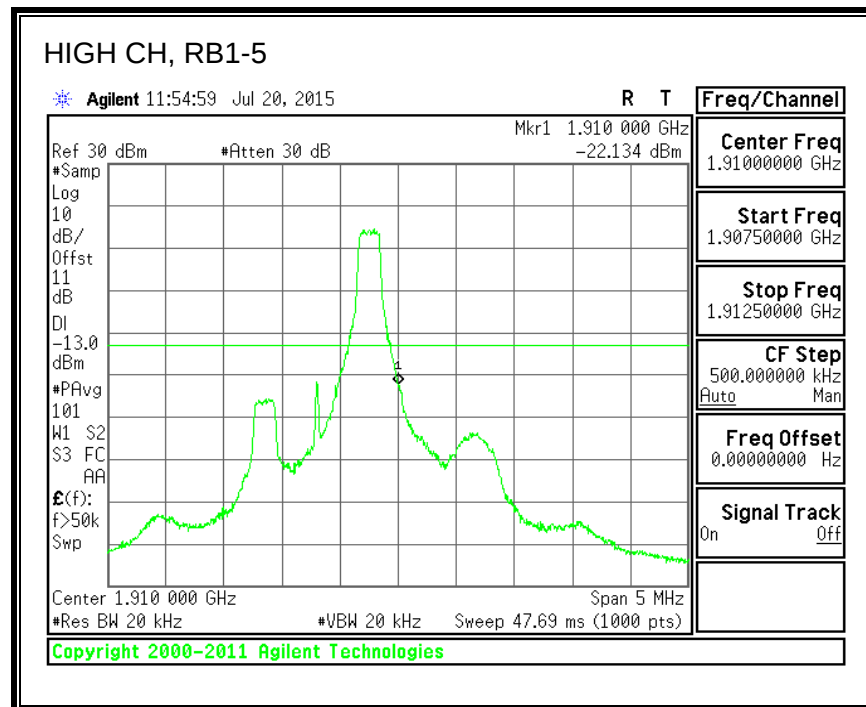
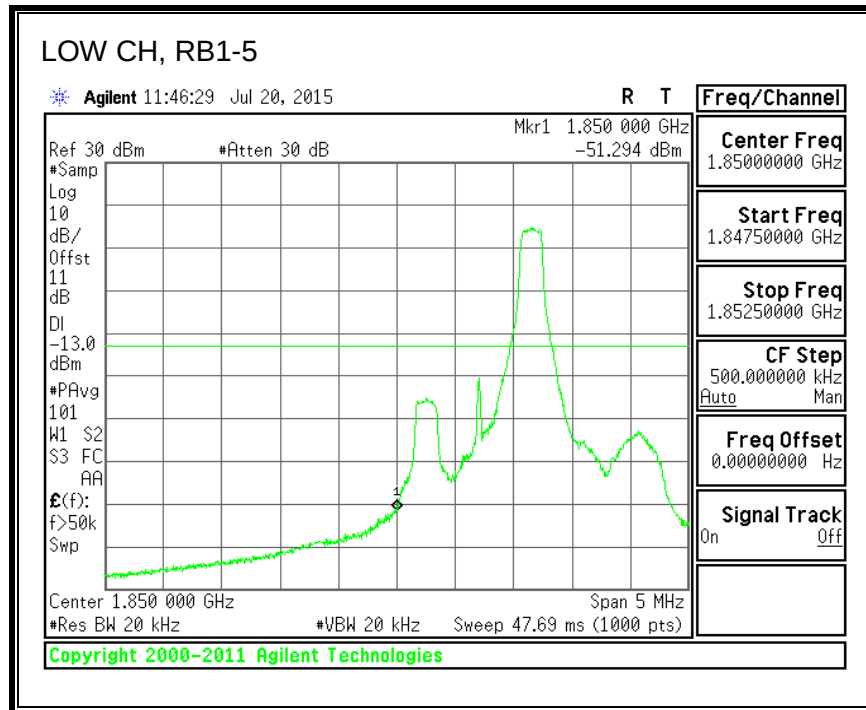


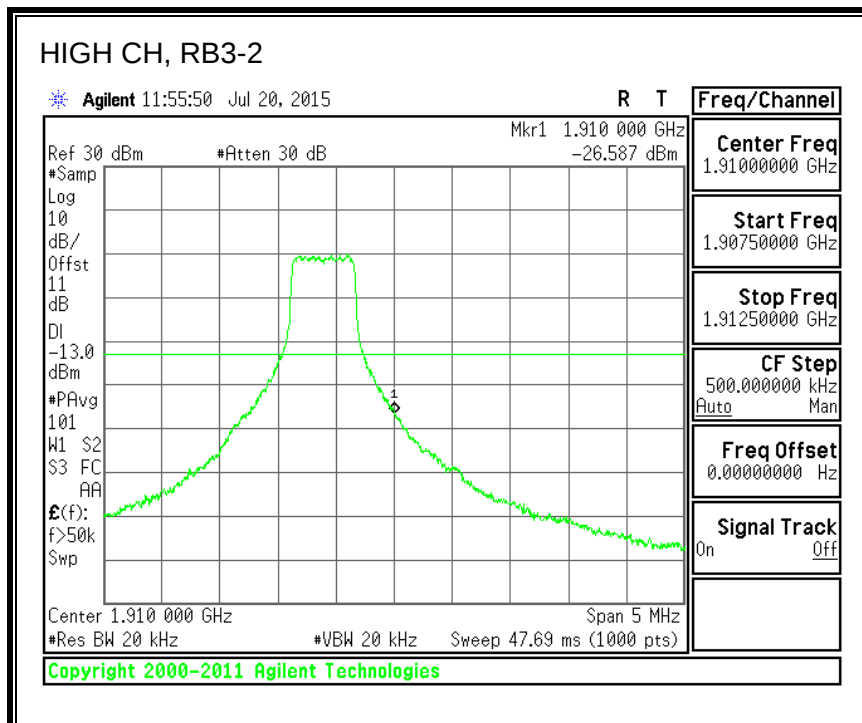
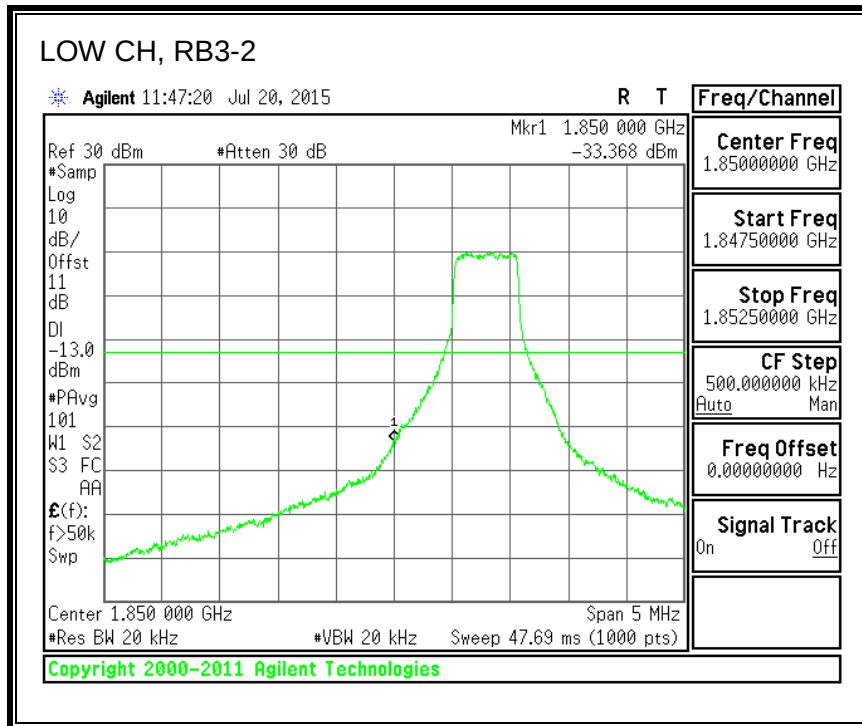


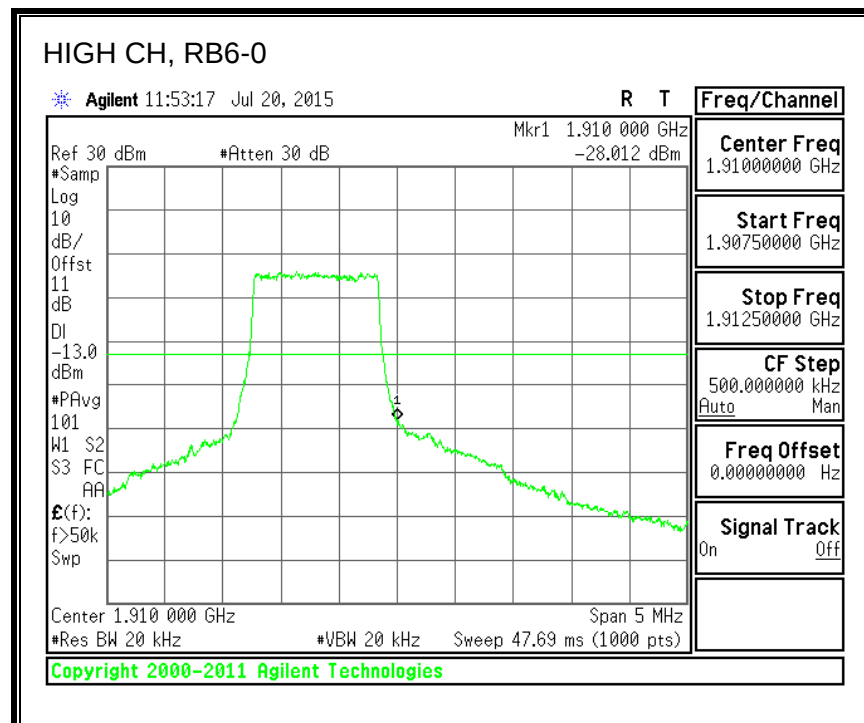
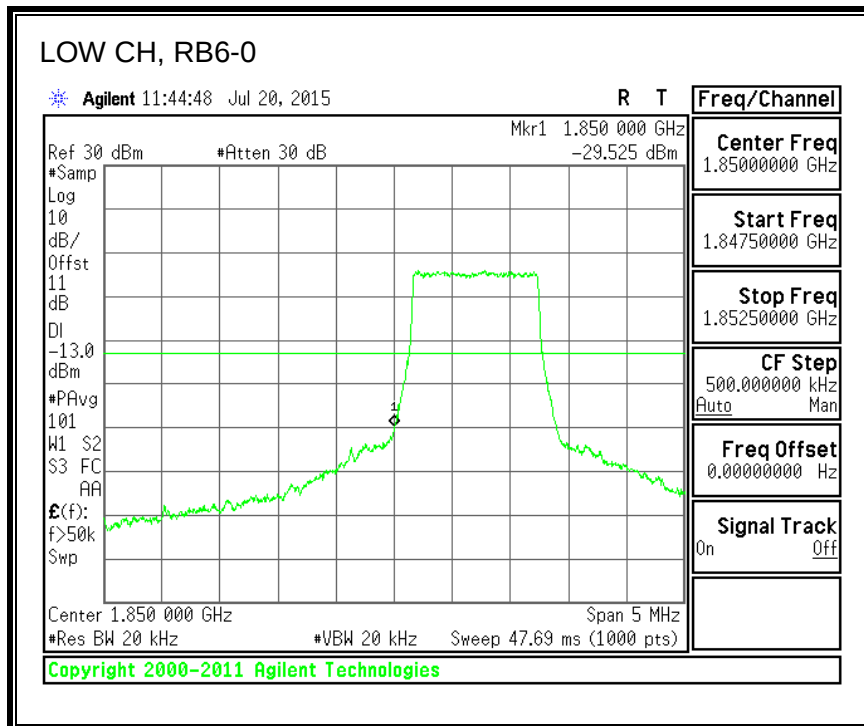


**16QAM, (1.4 MHz BAND WIDTH)**

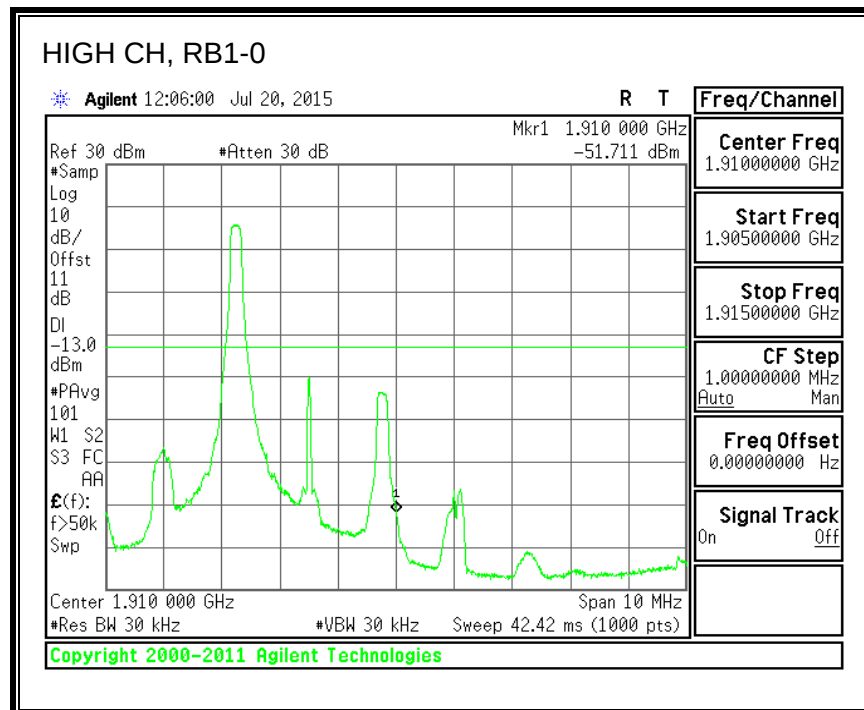
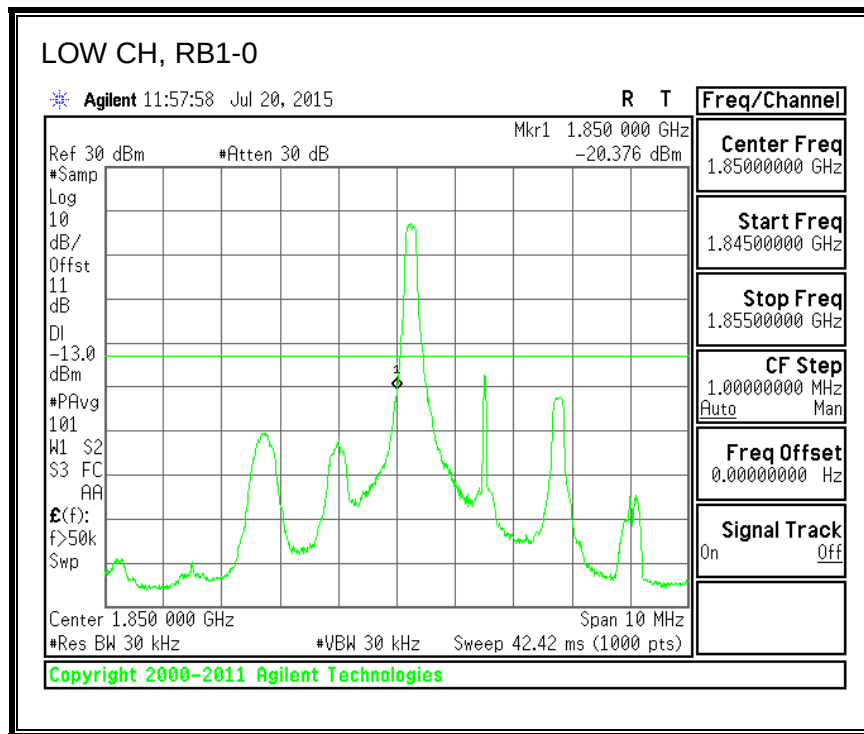


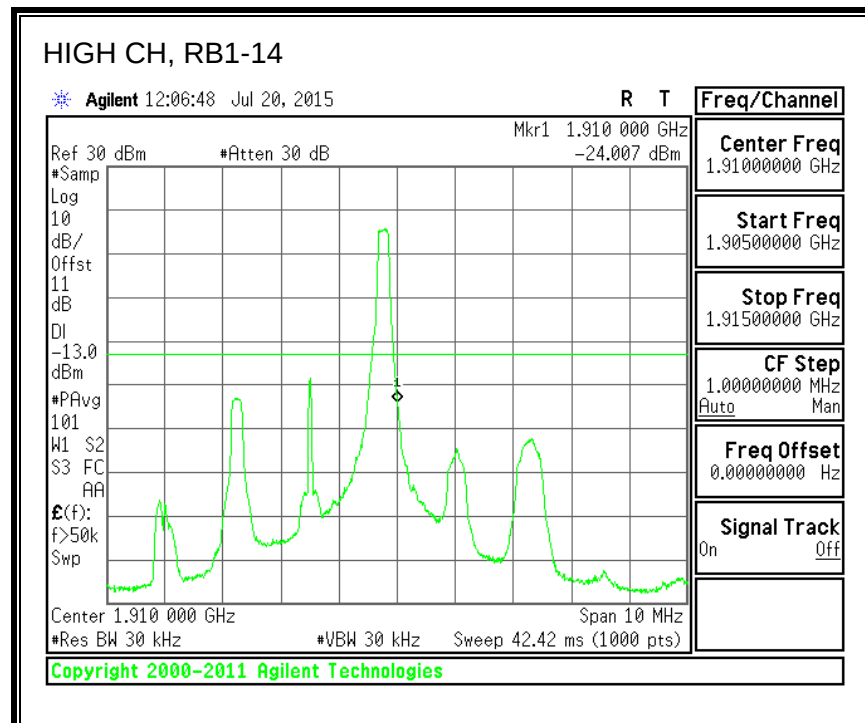
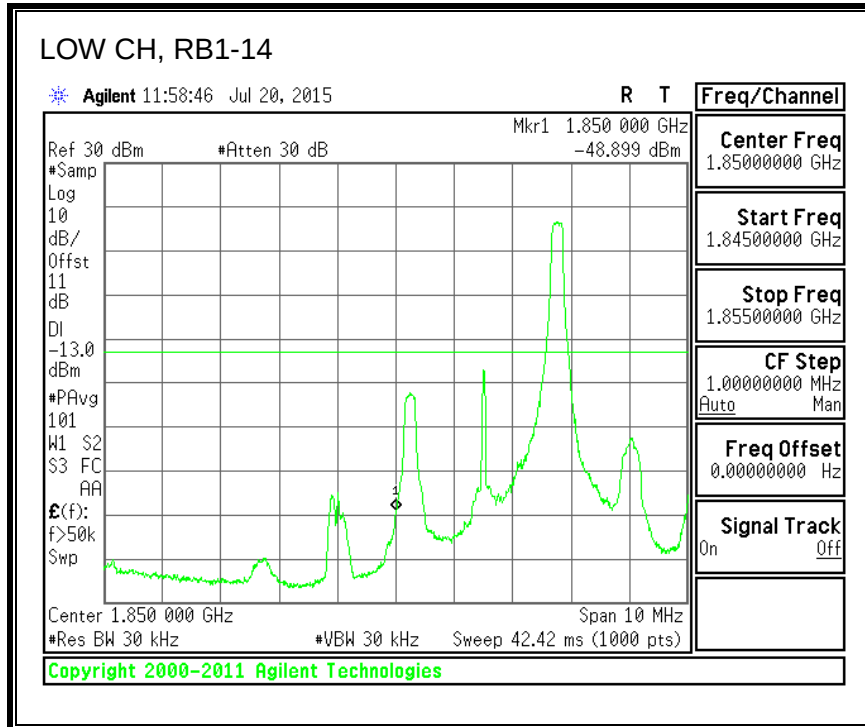


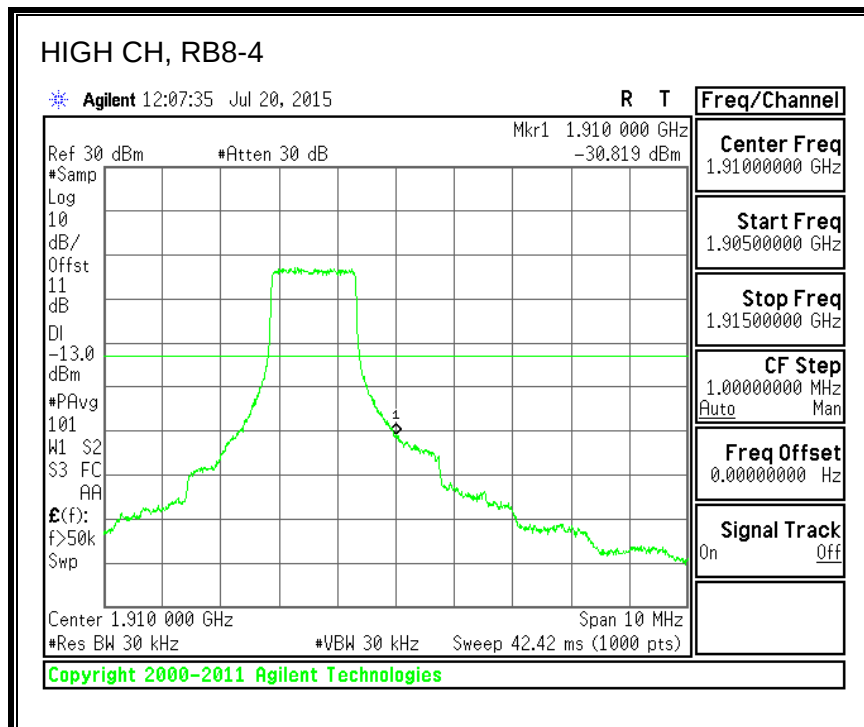
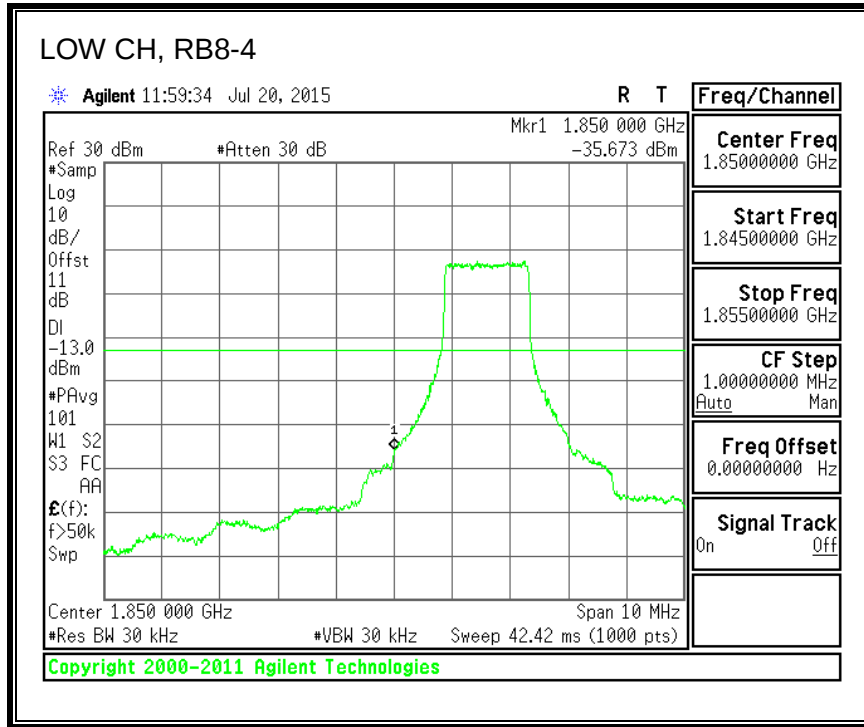


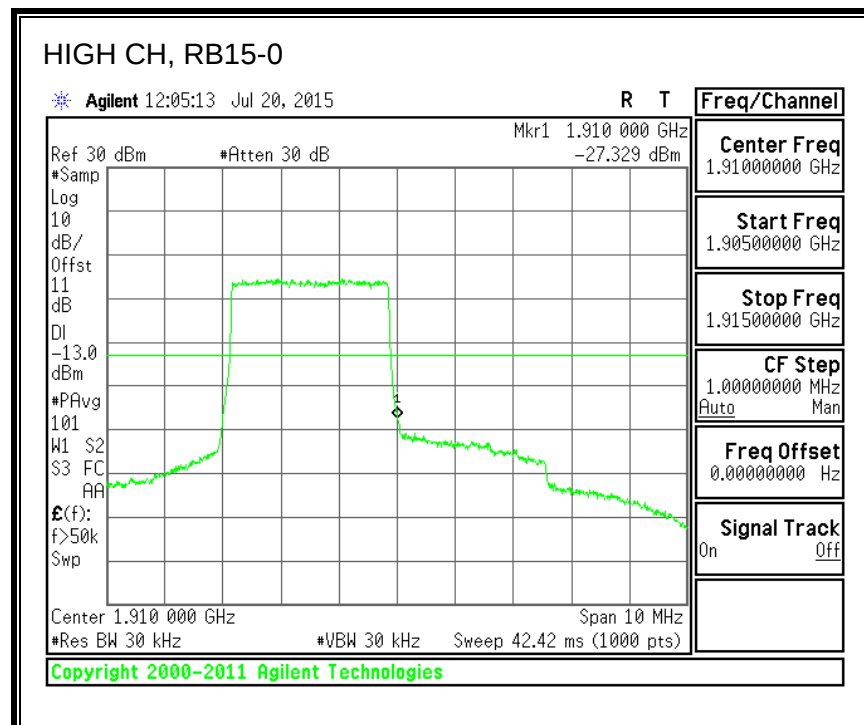
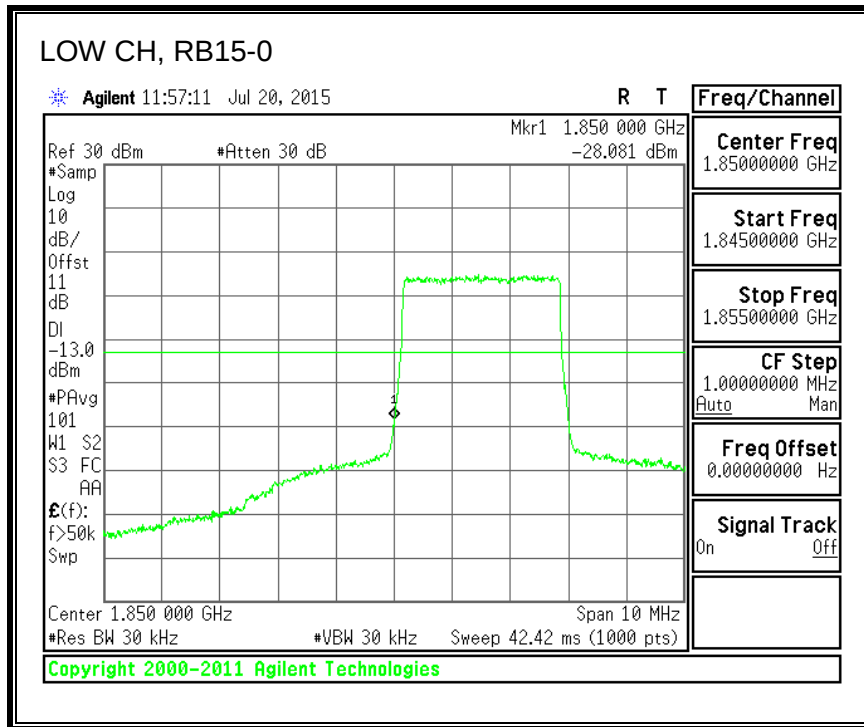


**QPSK, (3.0 MHz BAND WIDTH)**

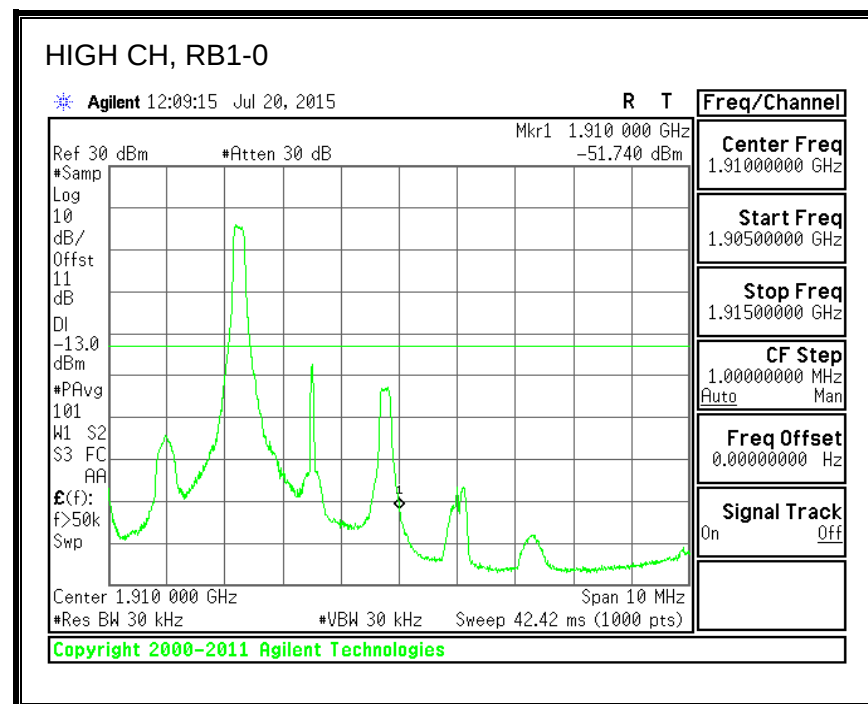
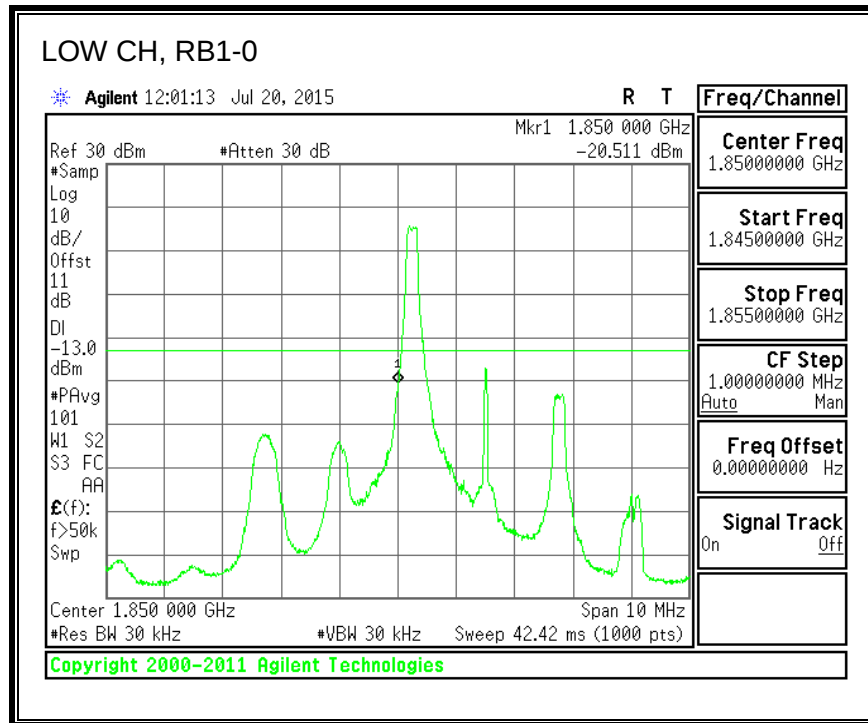


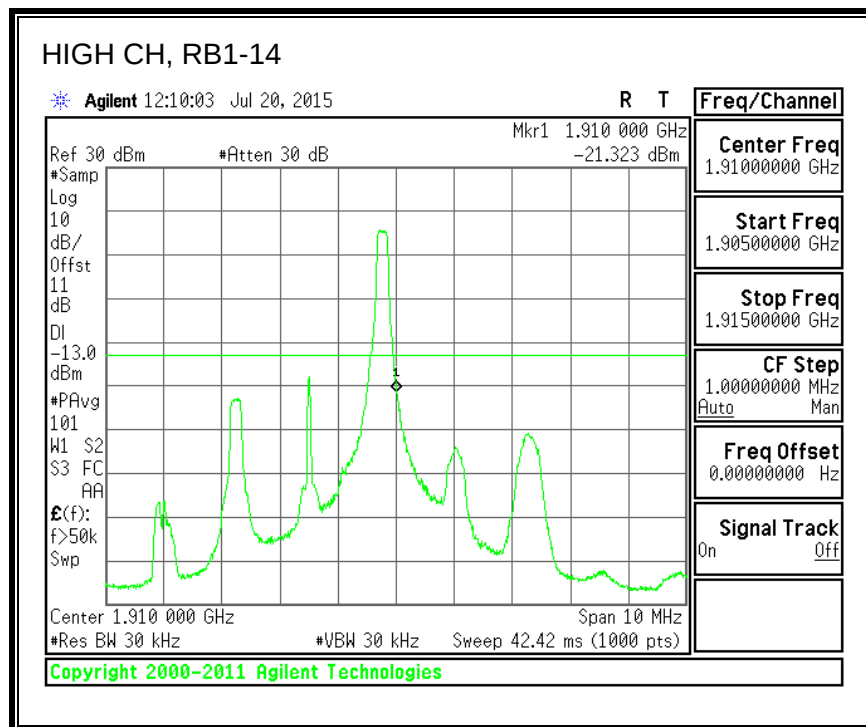
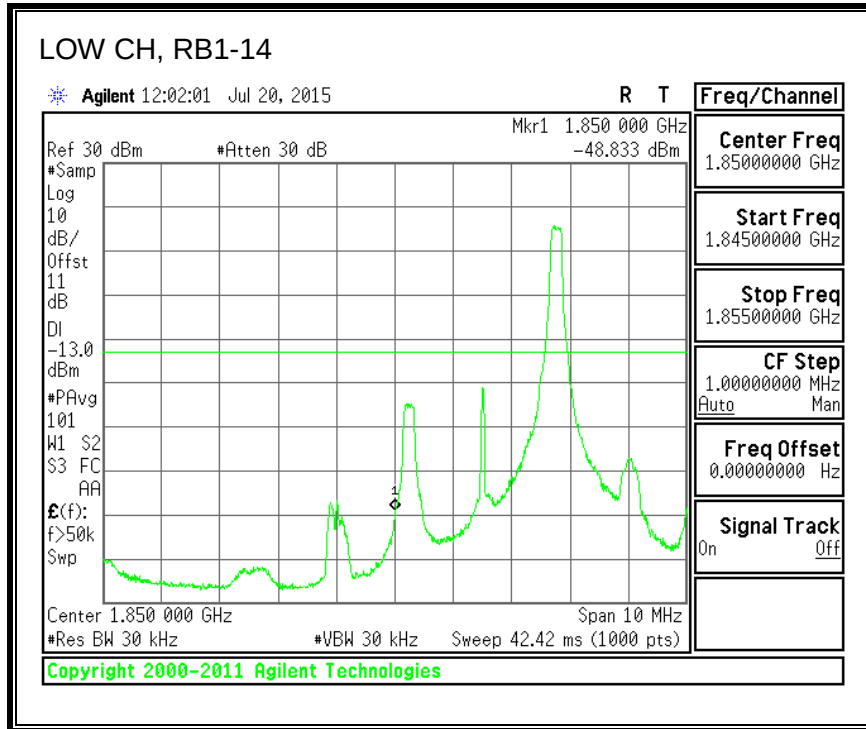


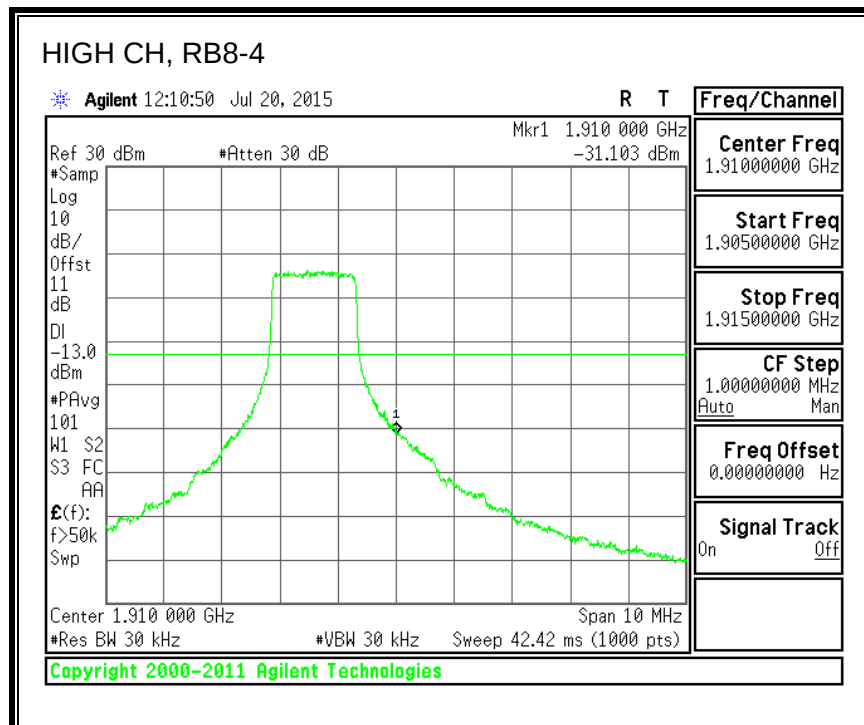
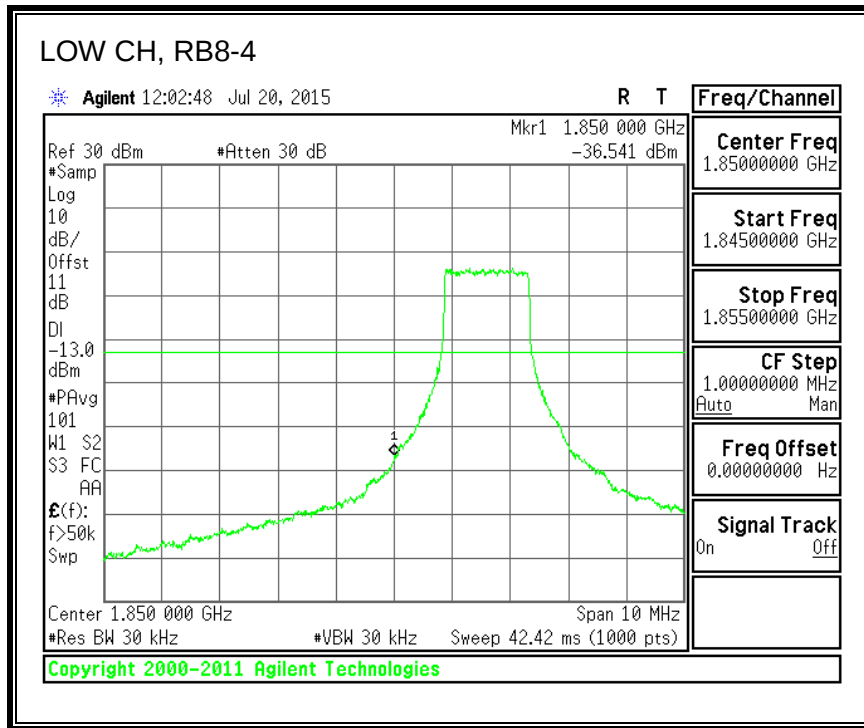


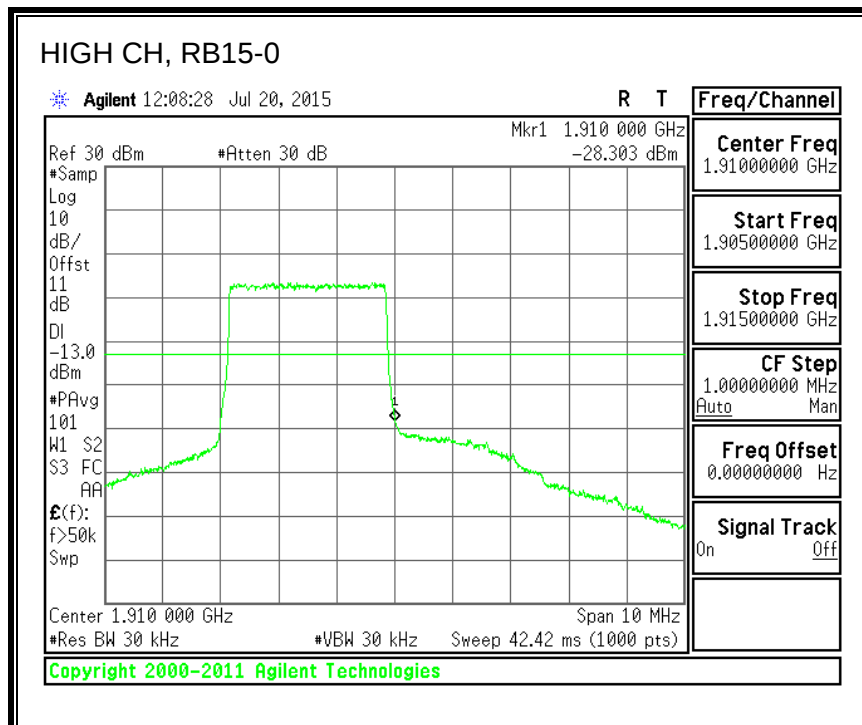
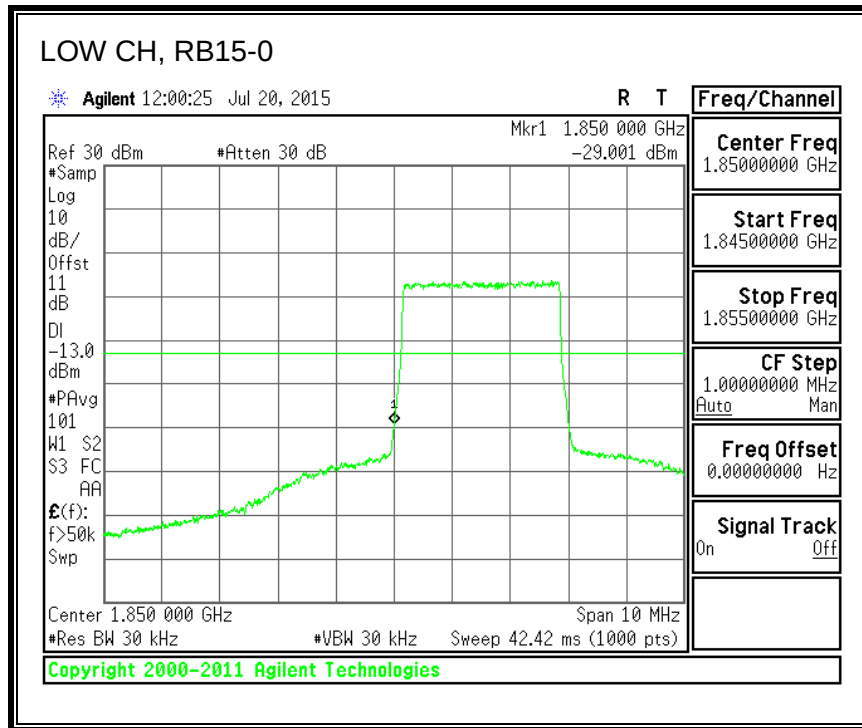


**16QAM, (3.0 MHz BAND WIDTH)**

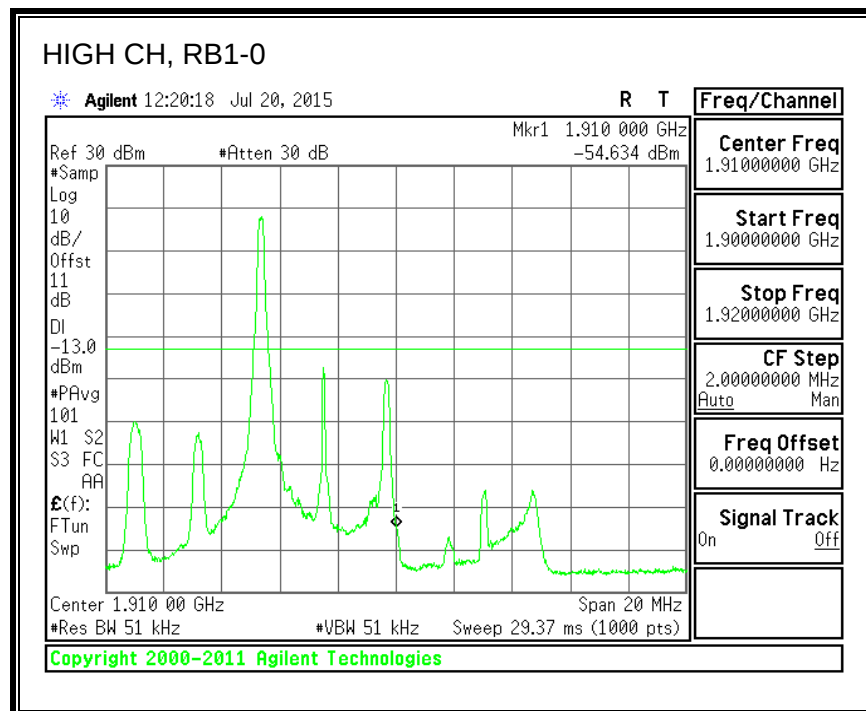
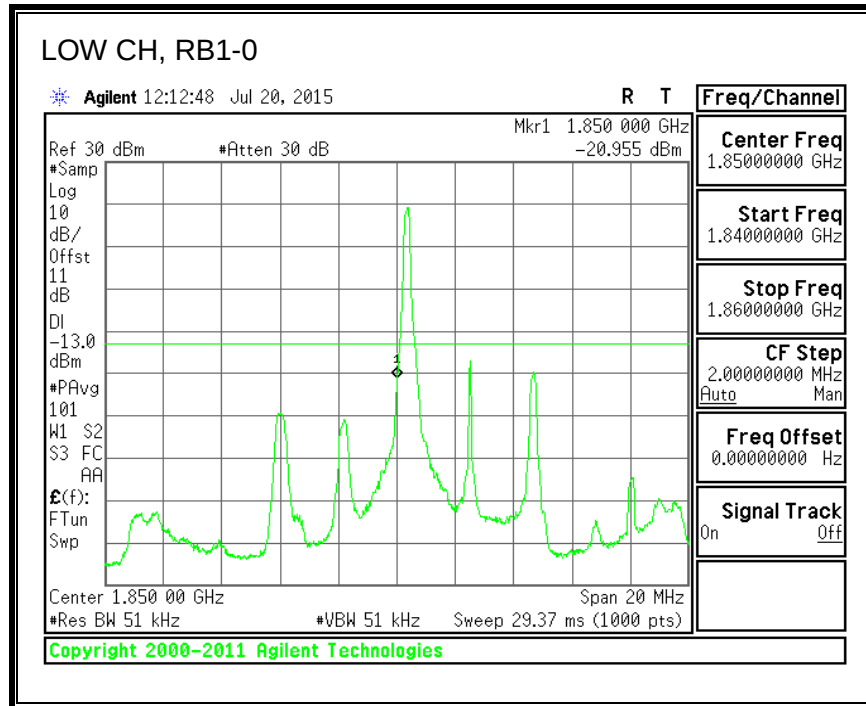


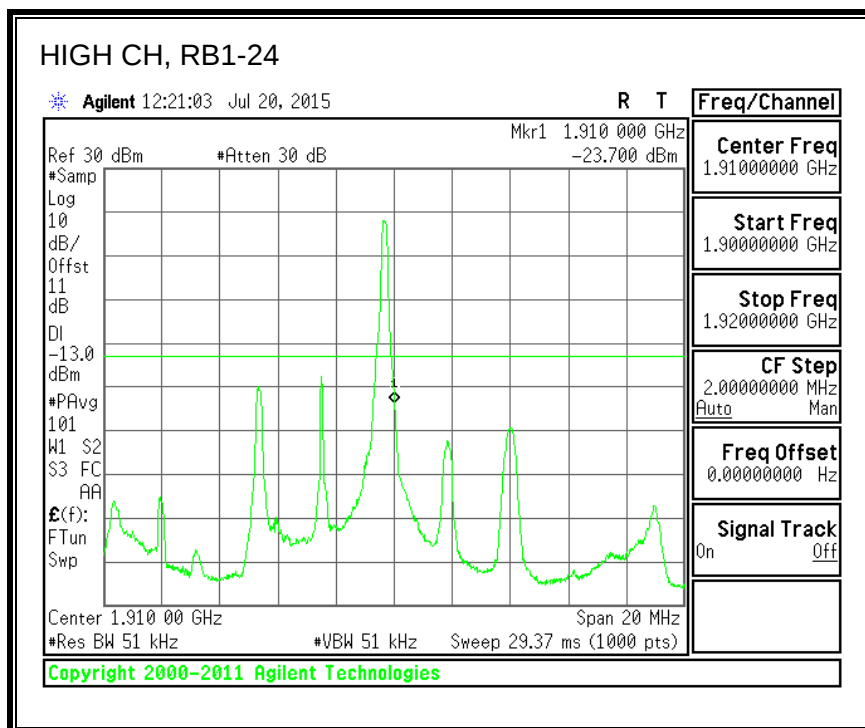
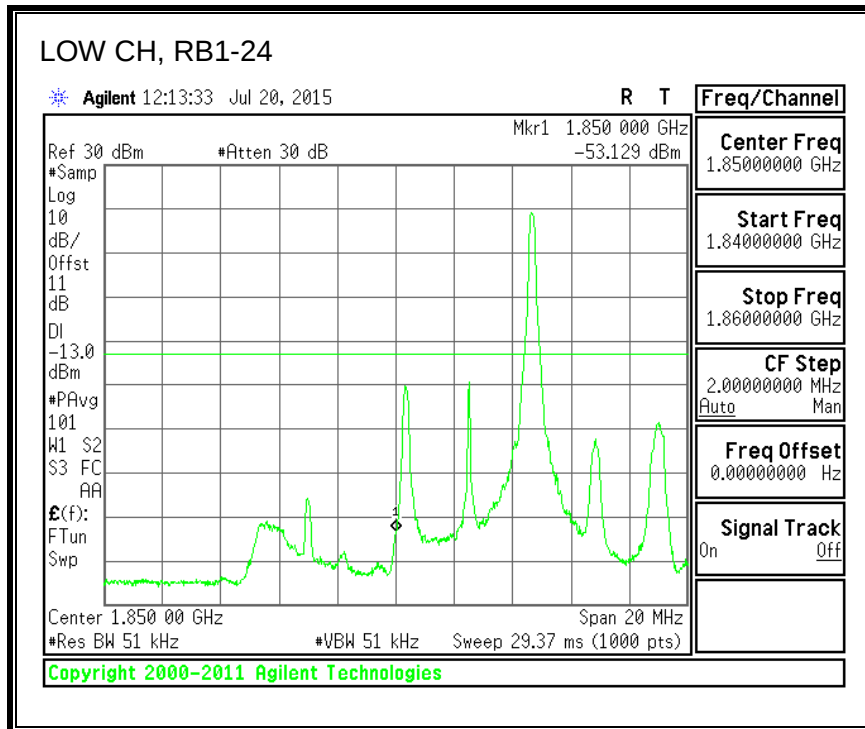


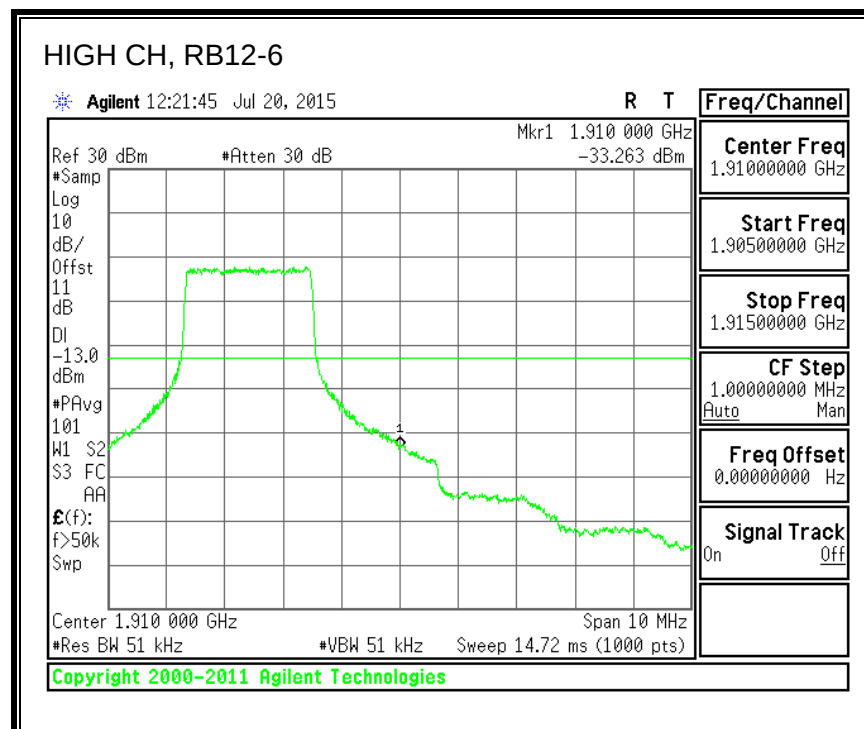
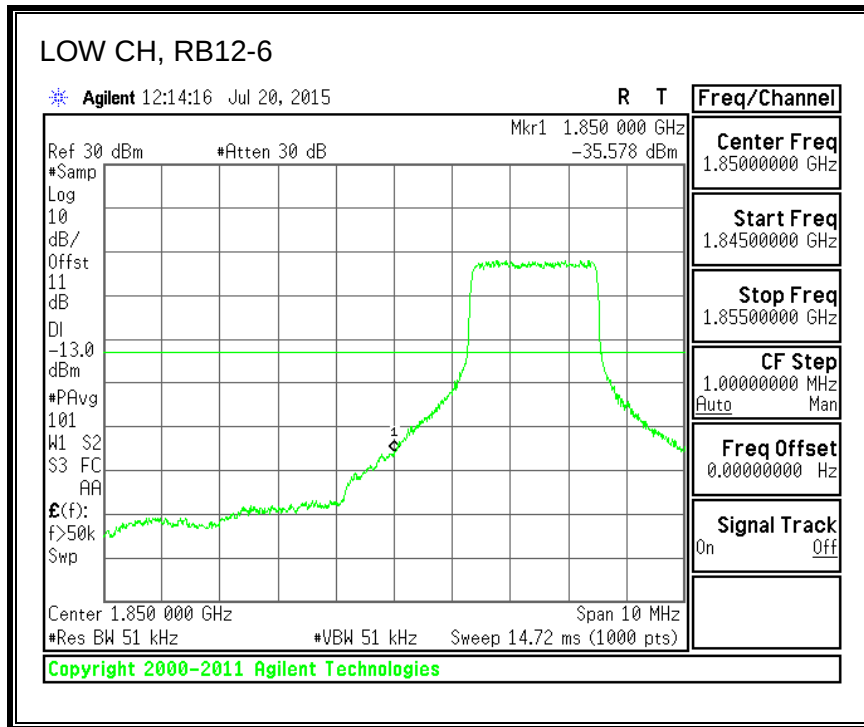


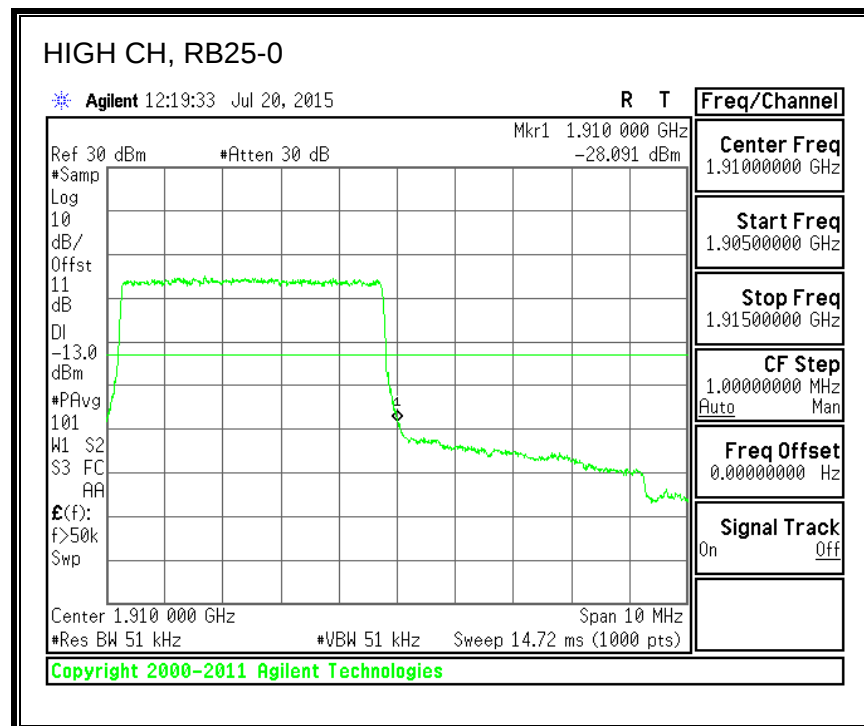
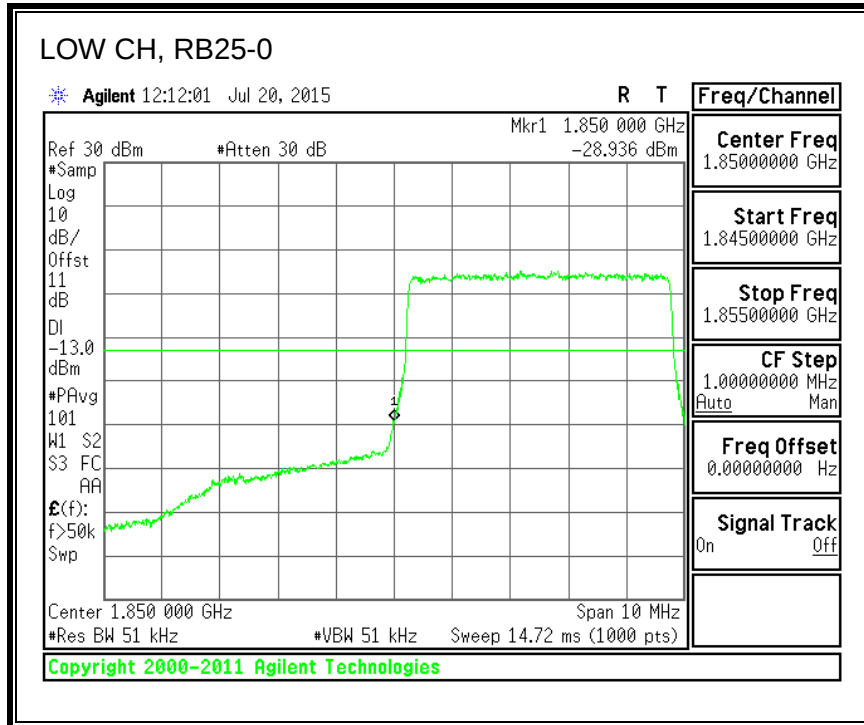


**QPSK, (5.0 MHz BAND WIDTH)**

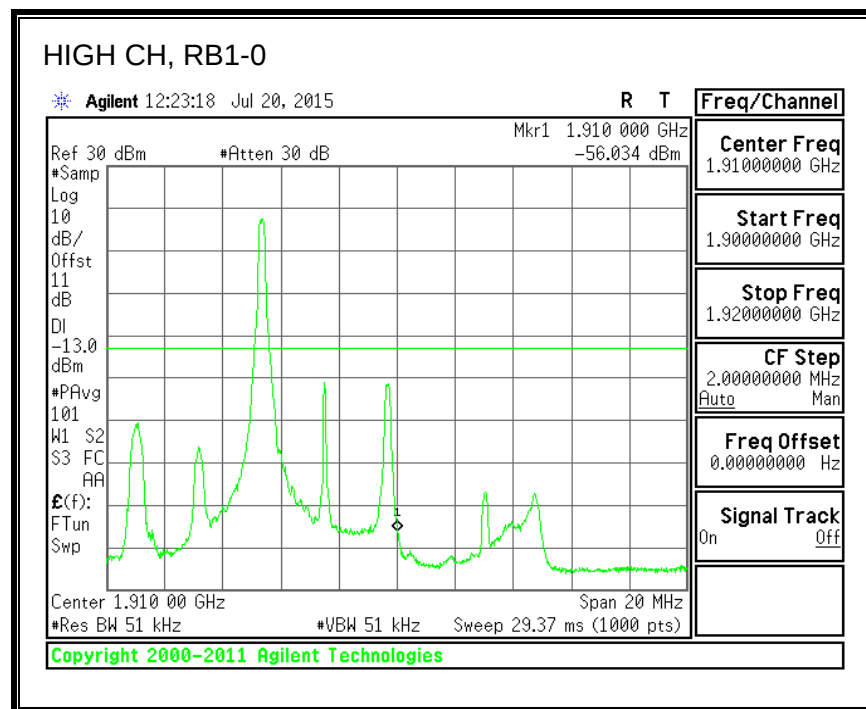
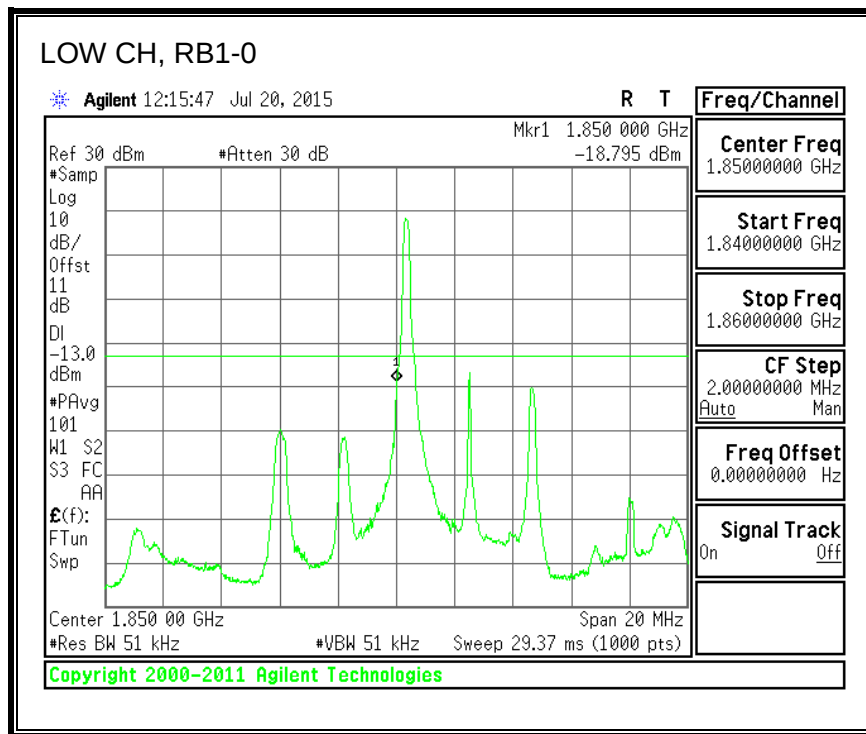


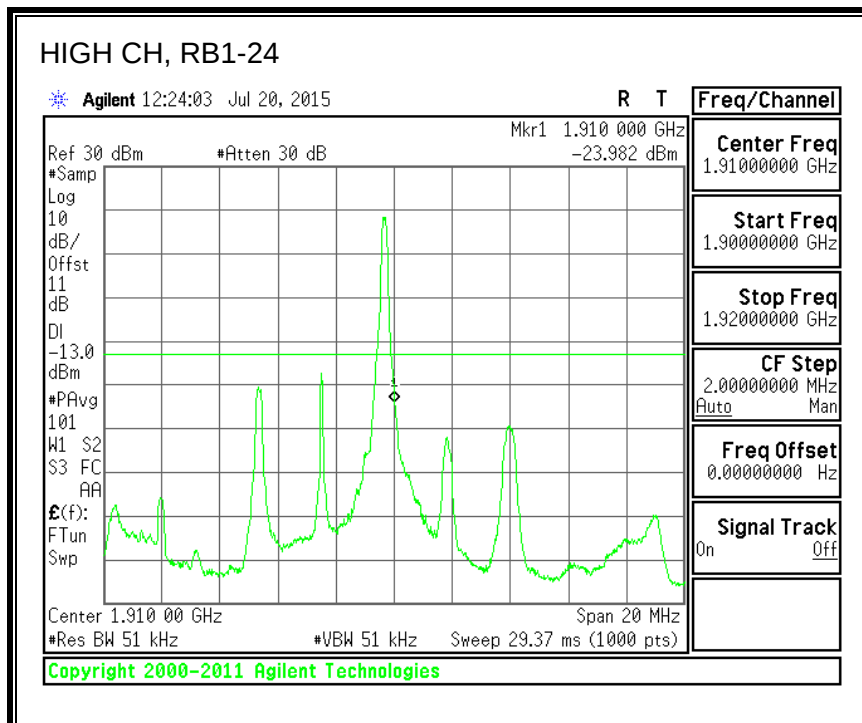
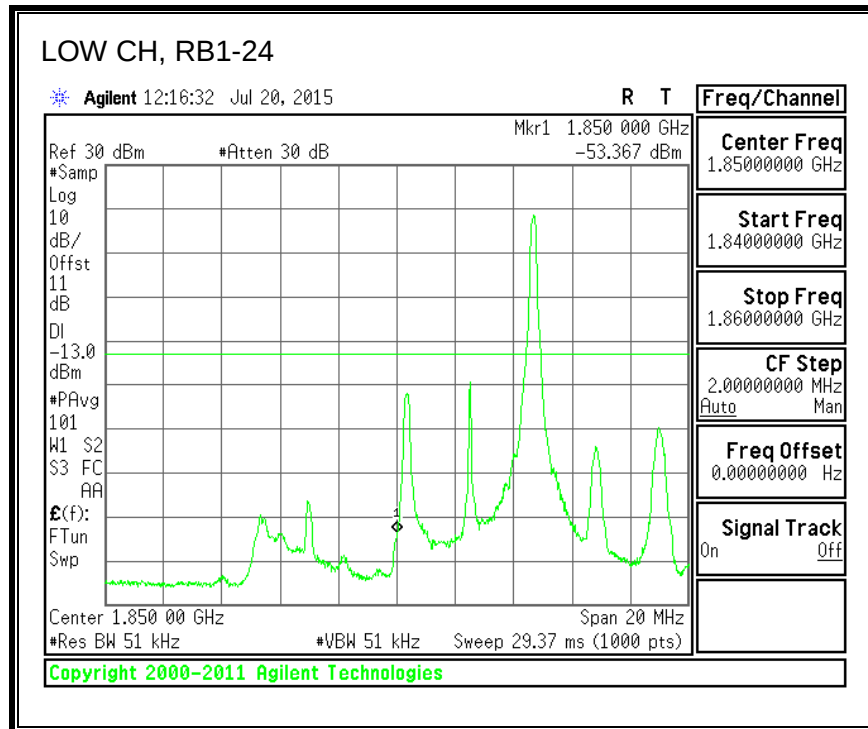


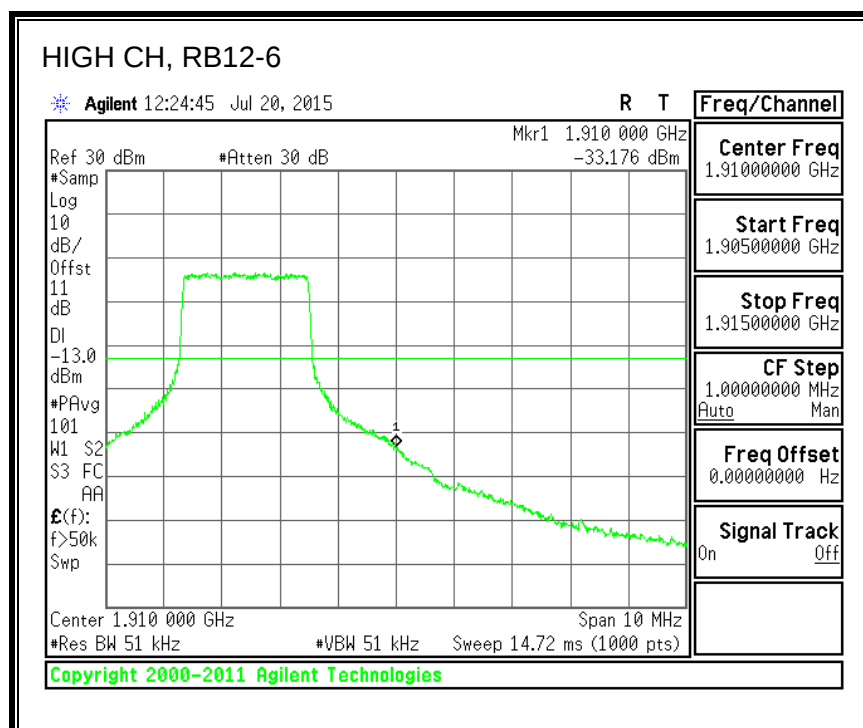
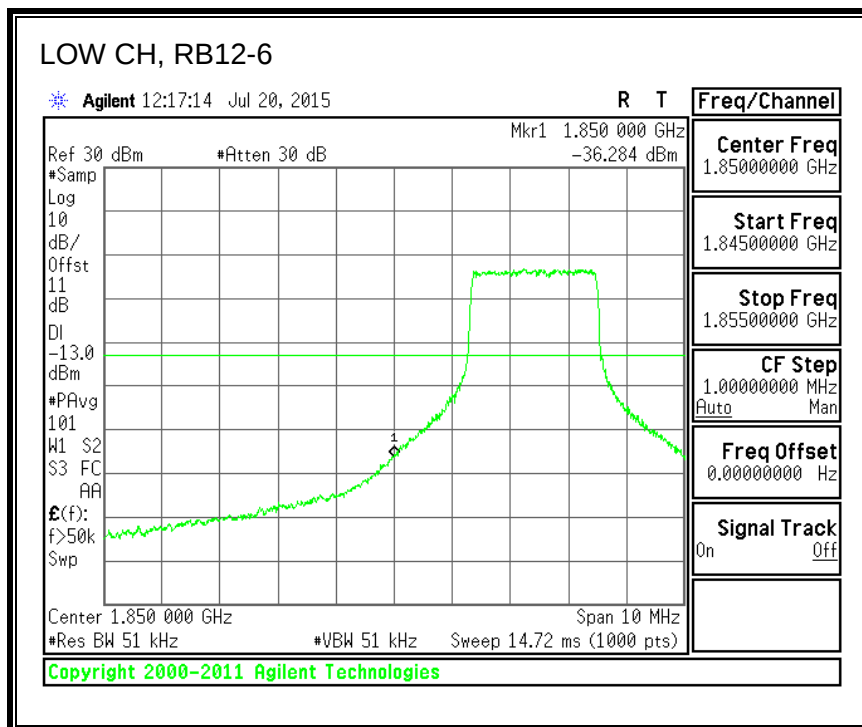


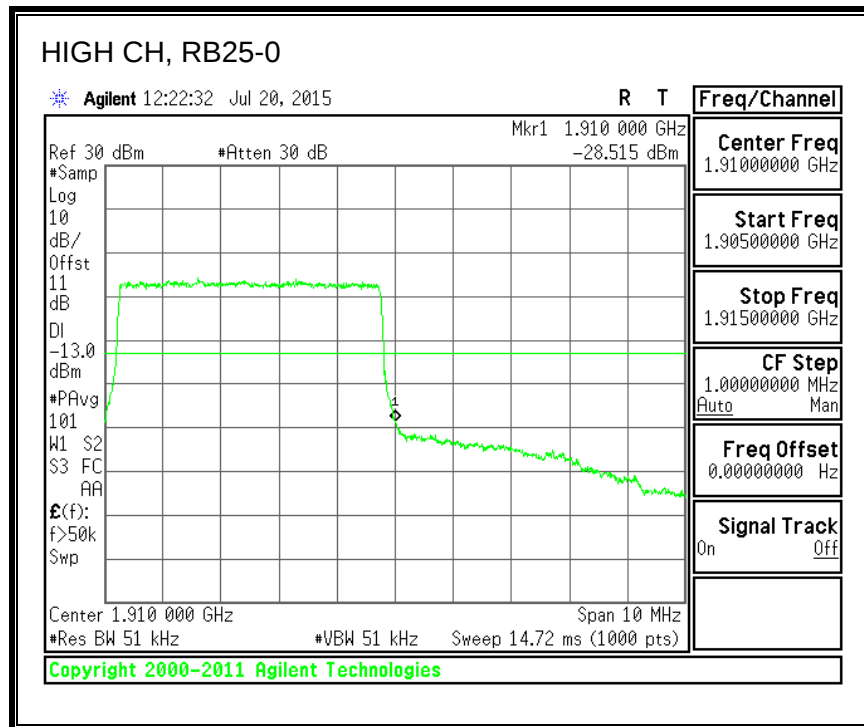
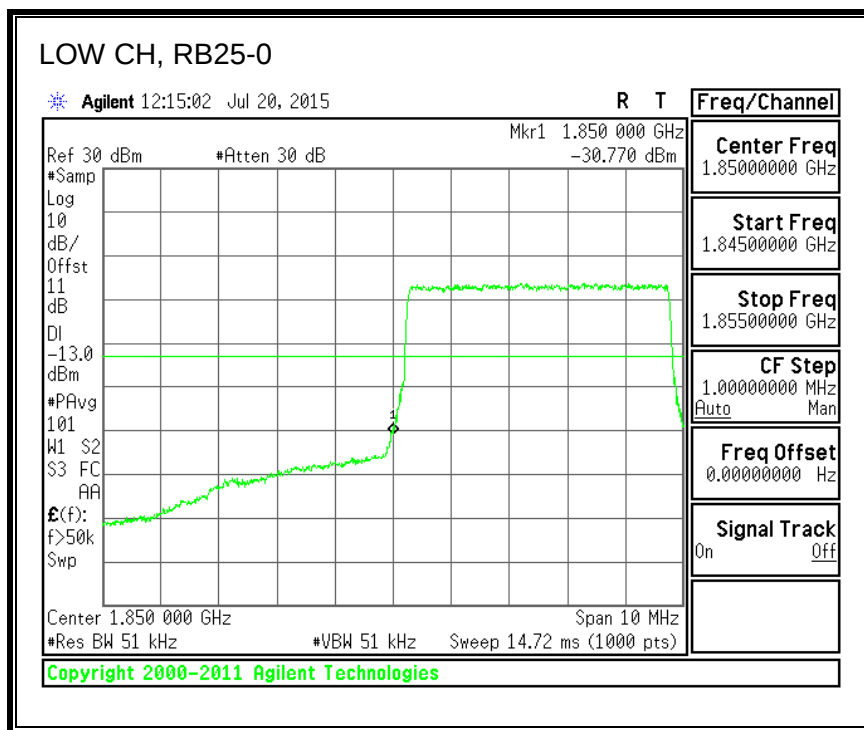


**16QAM, (5.0 MHz BAND WIDTH)**

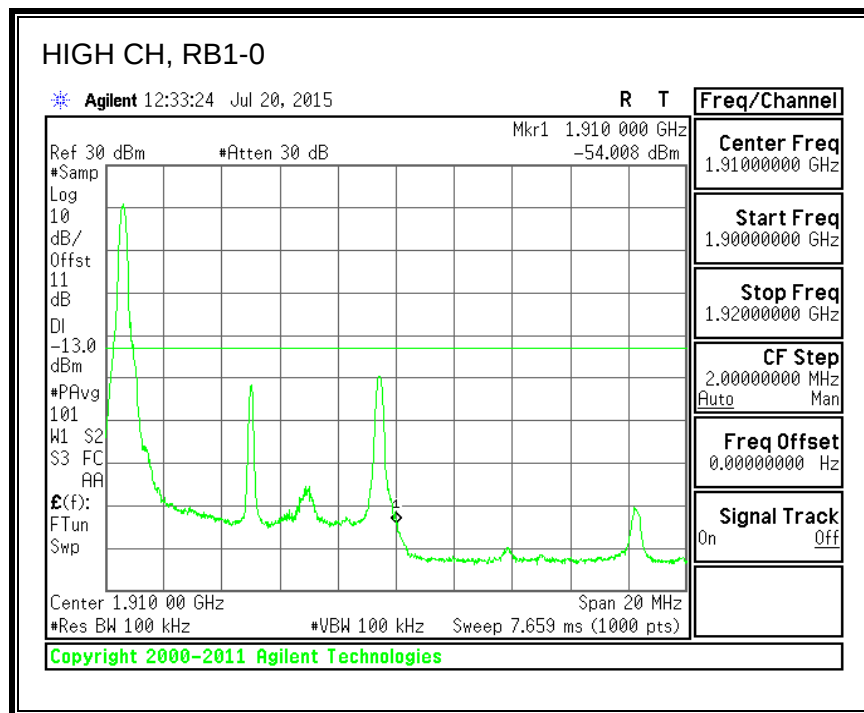
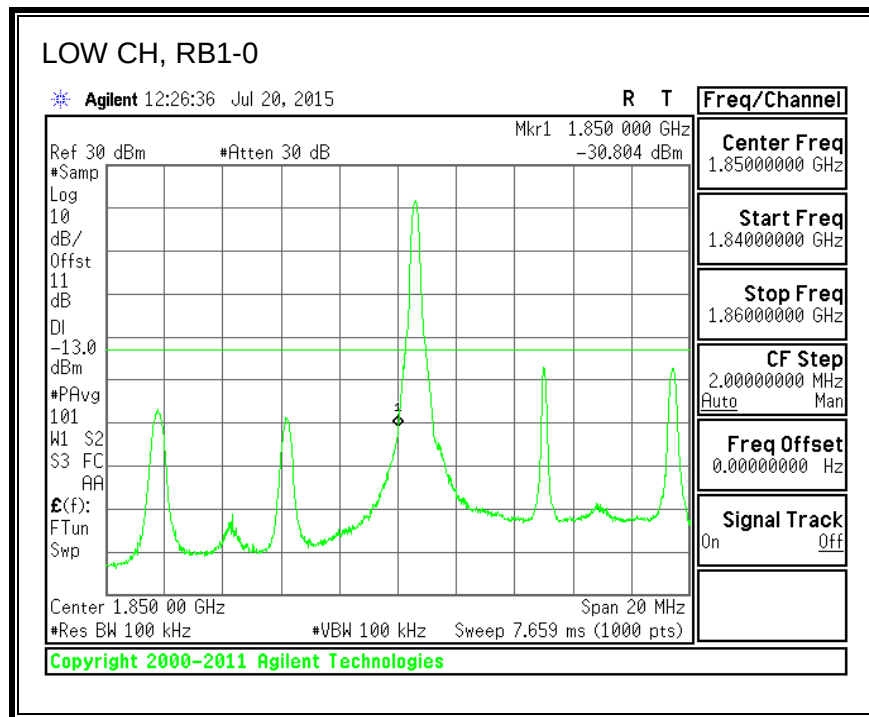


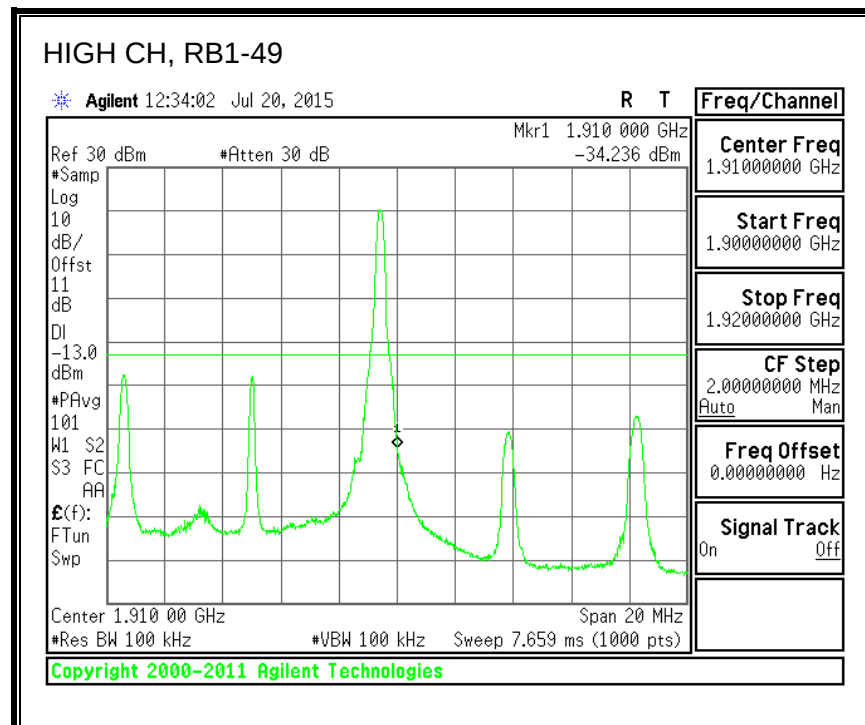
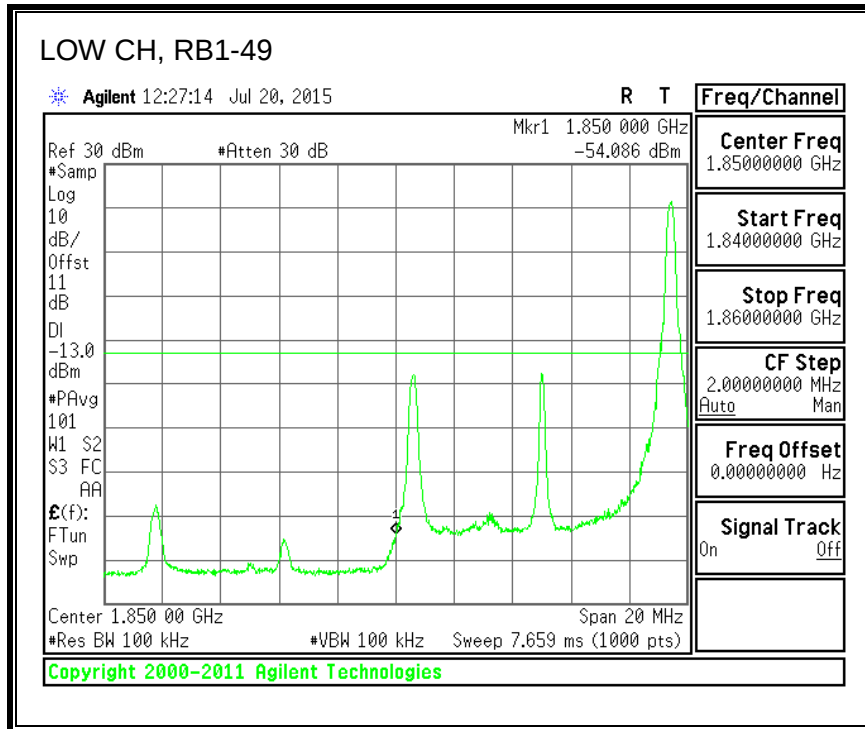


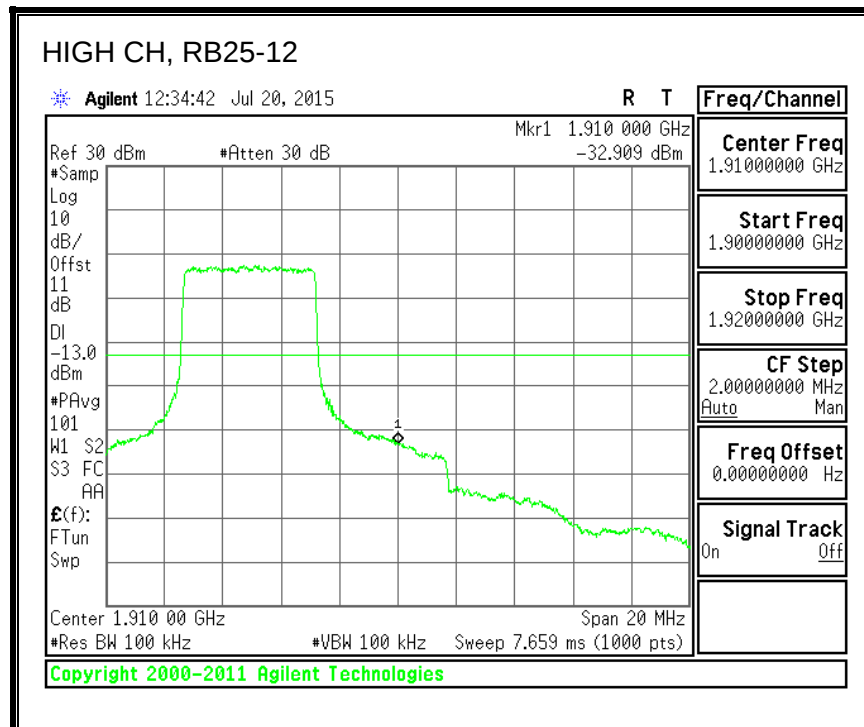
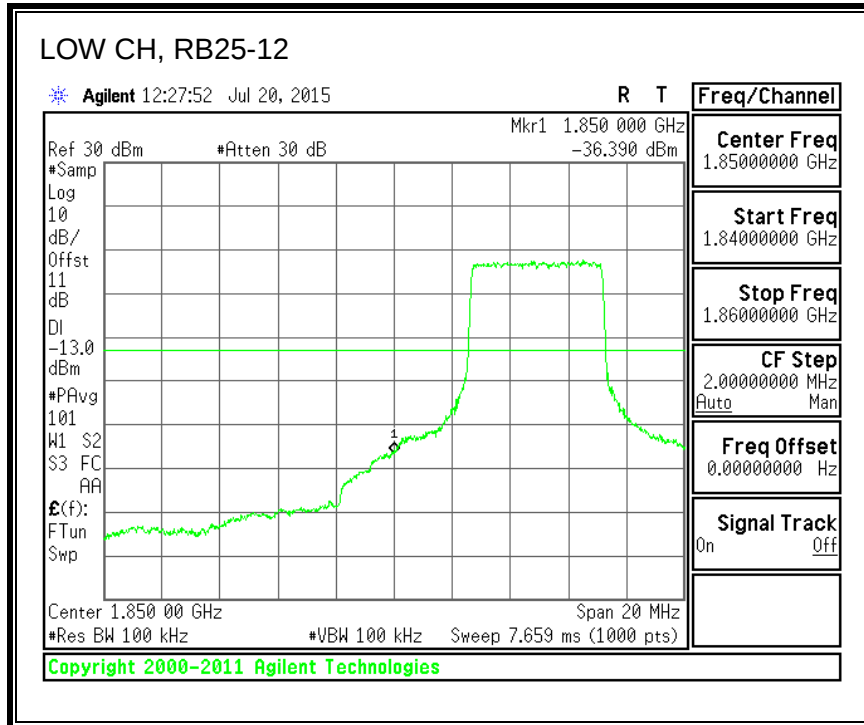


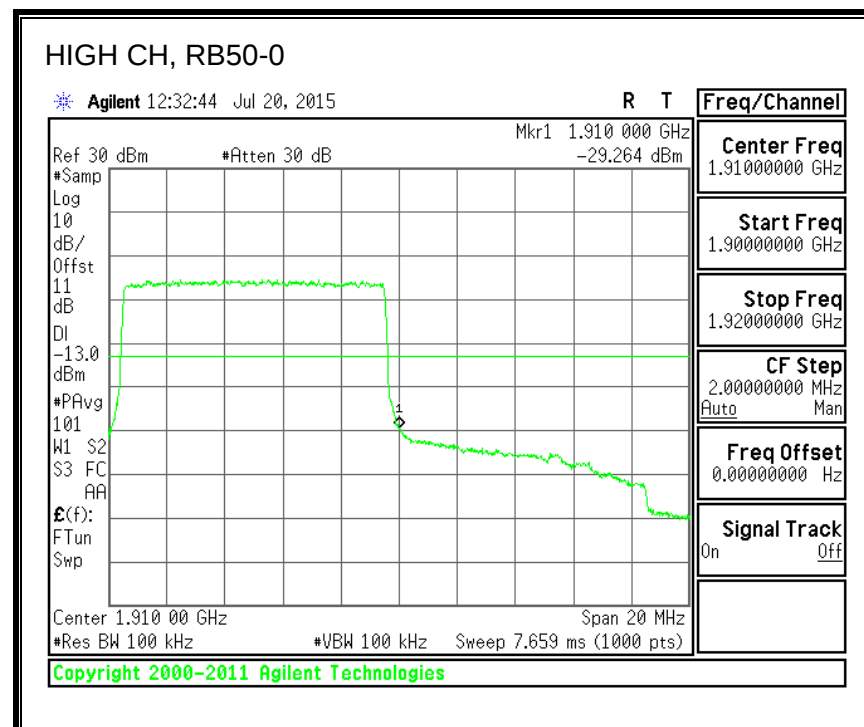
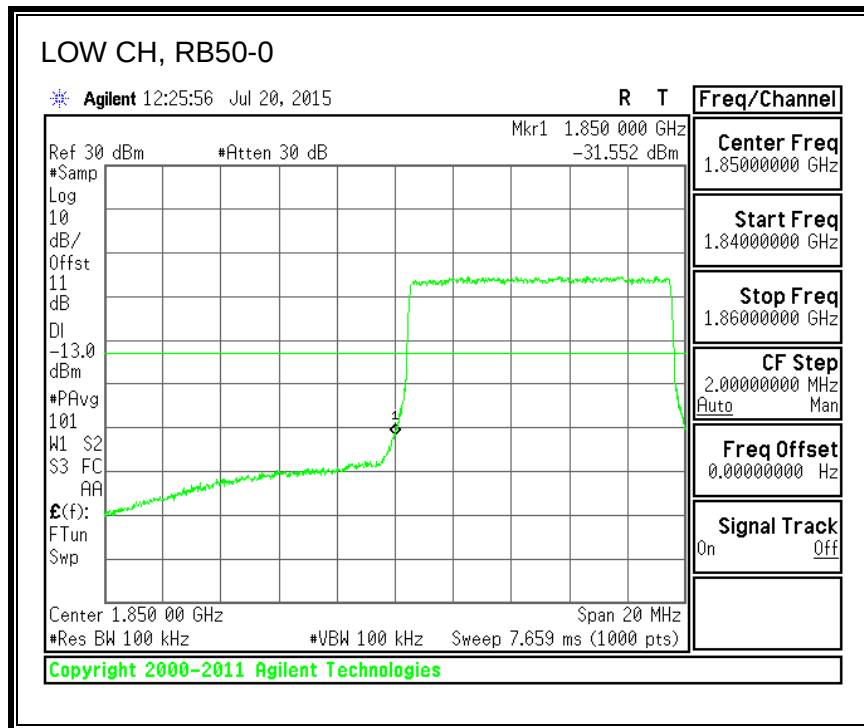


**QPSK, (10.0 MHz BAND WIDTH)**

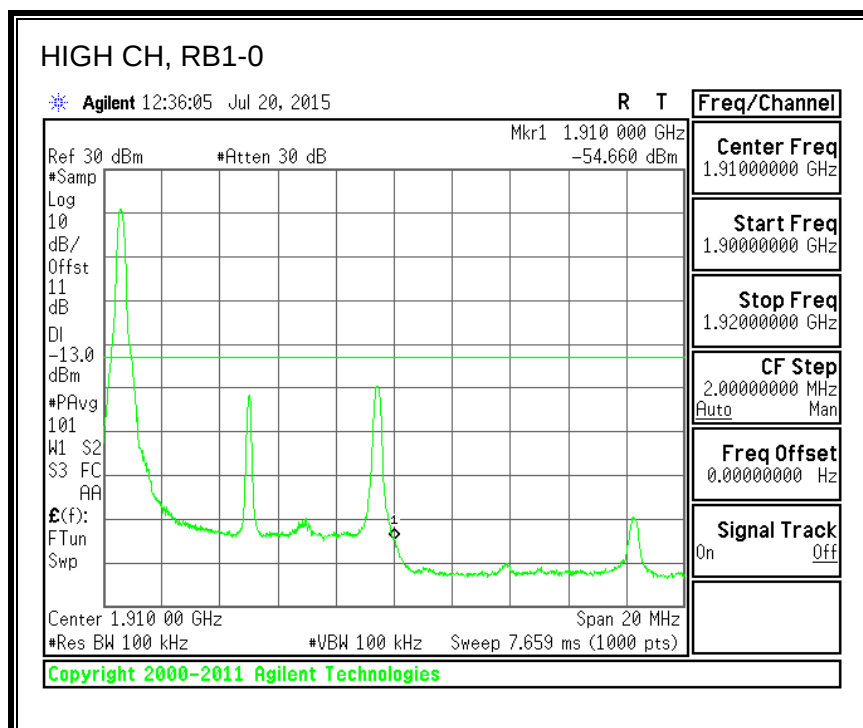
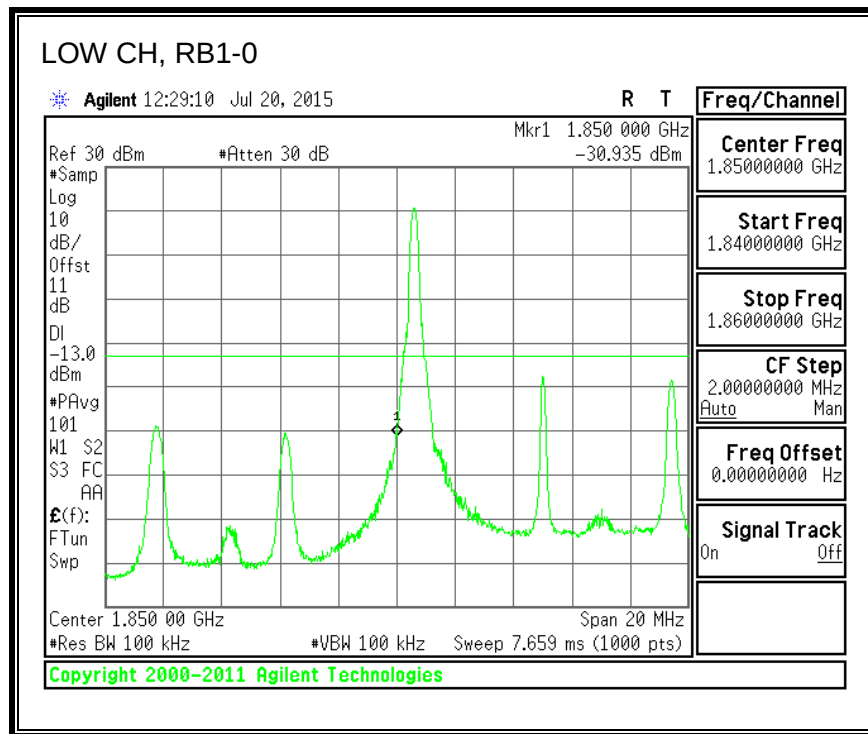


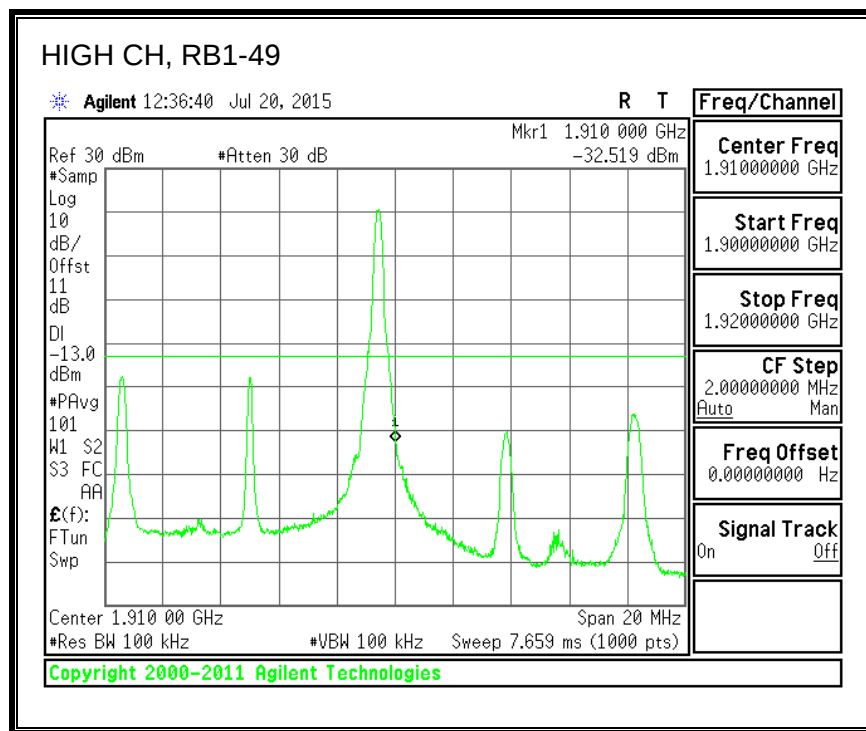
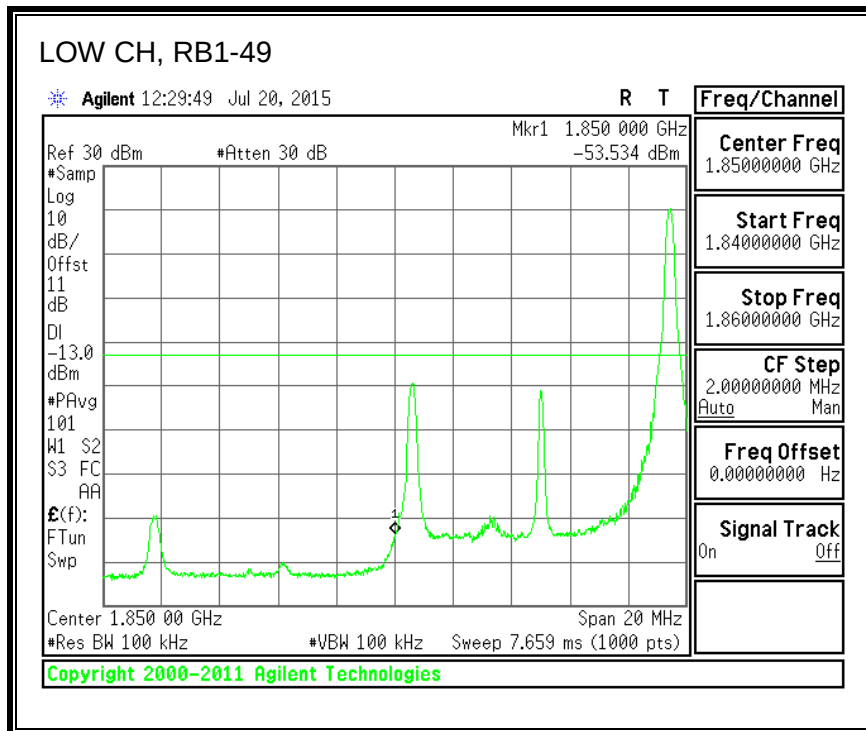


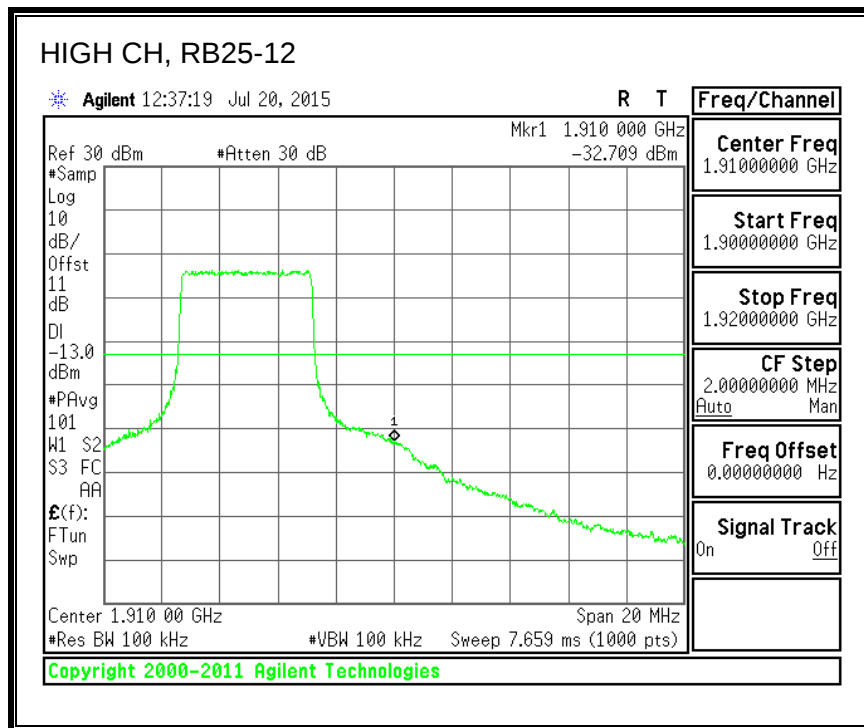
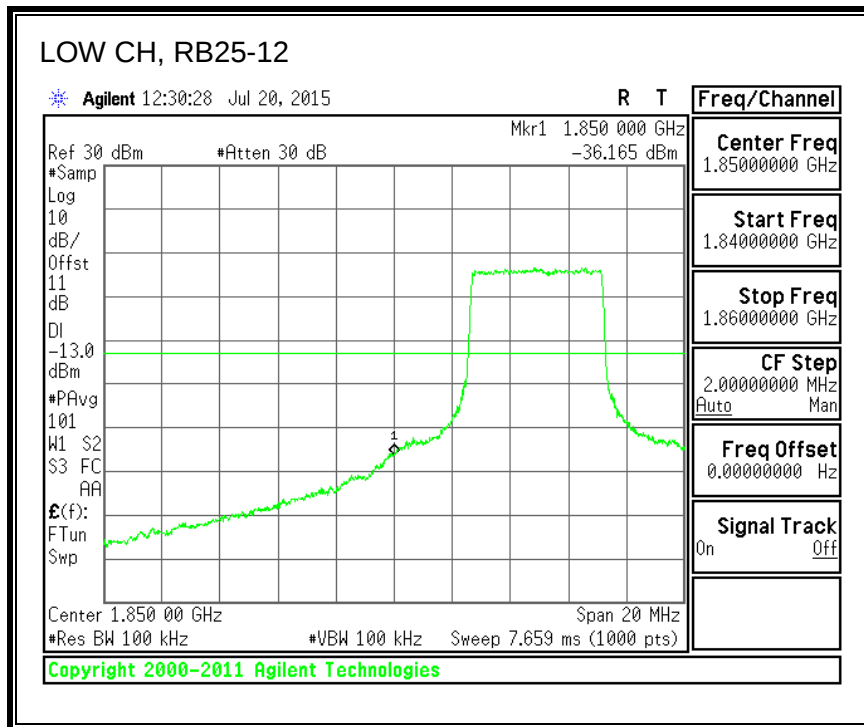


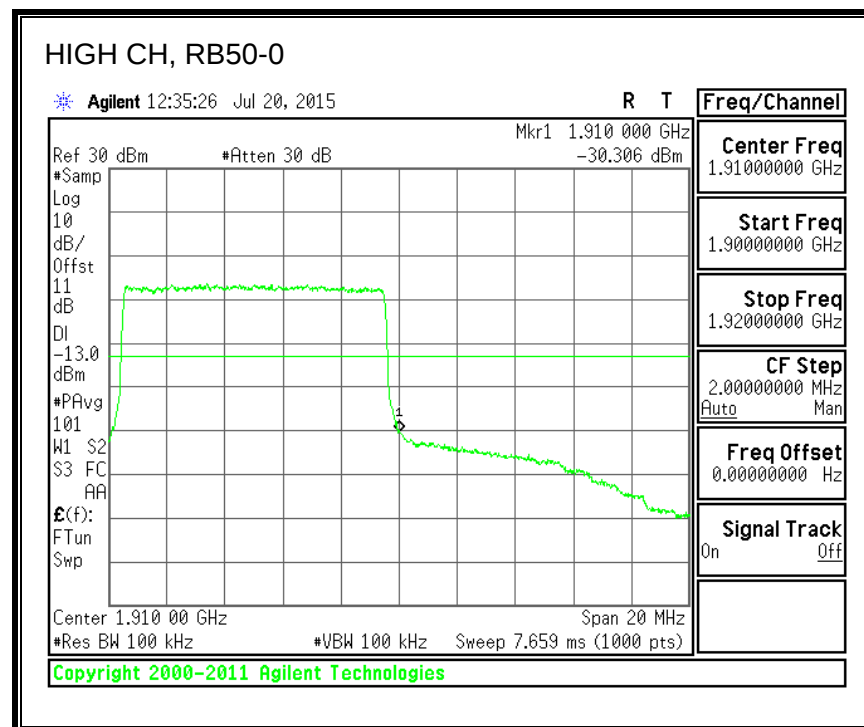
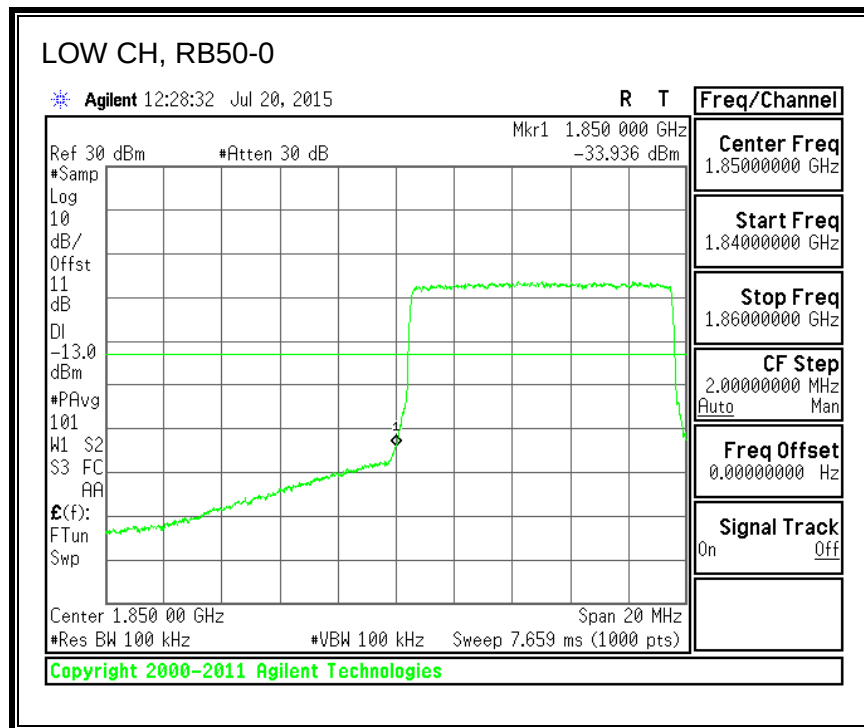


**16QAM, (10.0 MHz BAND WIDTH)**

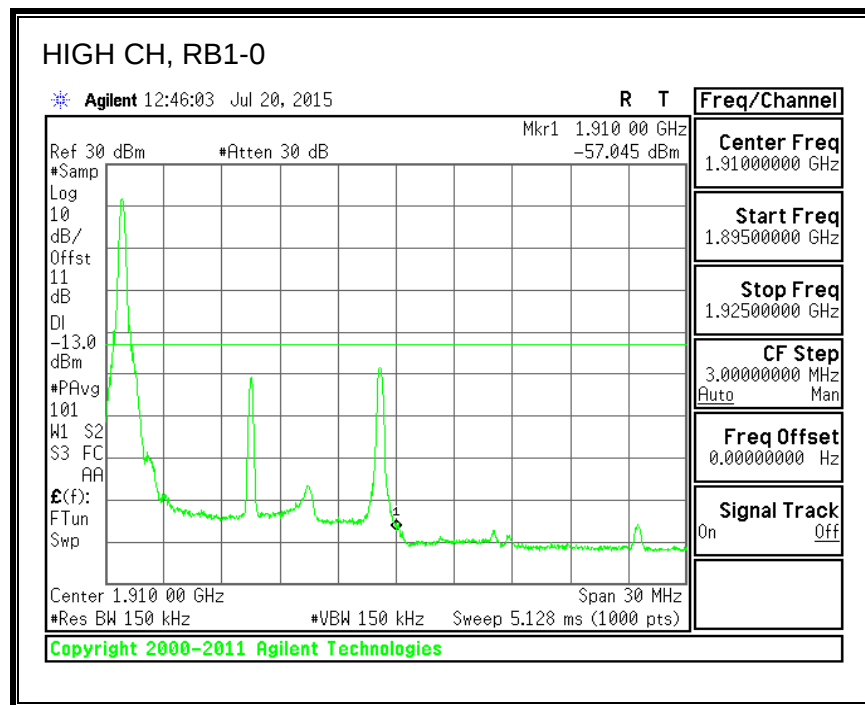
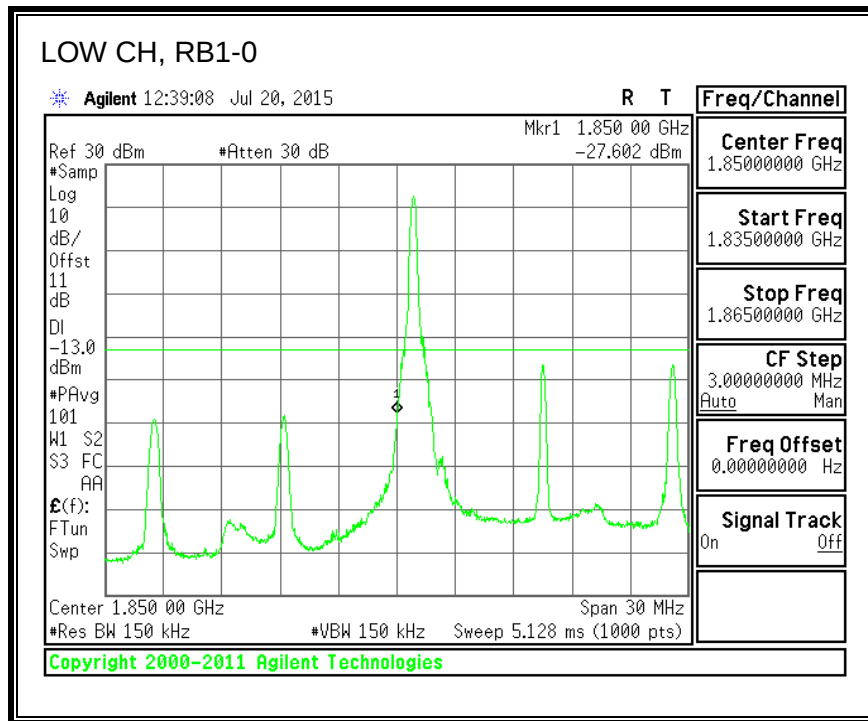


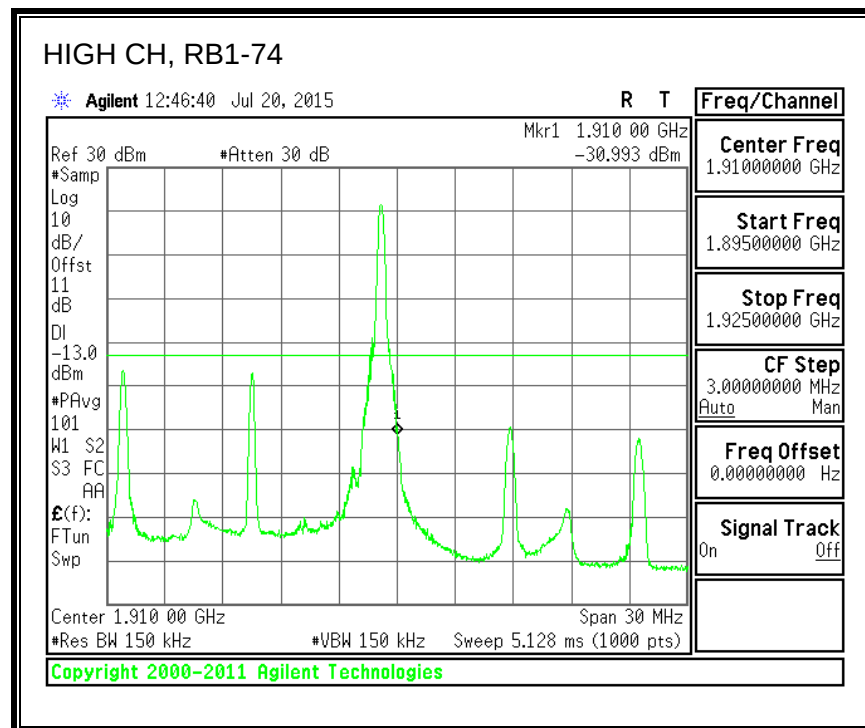
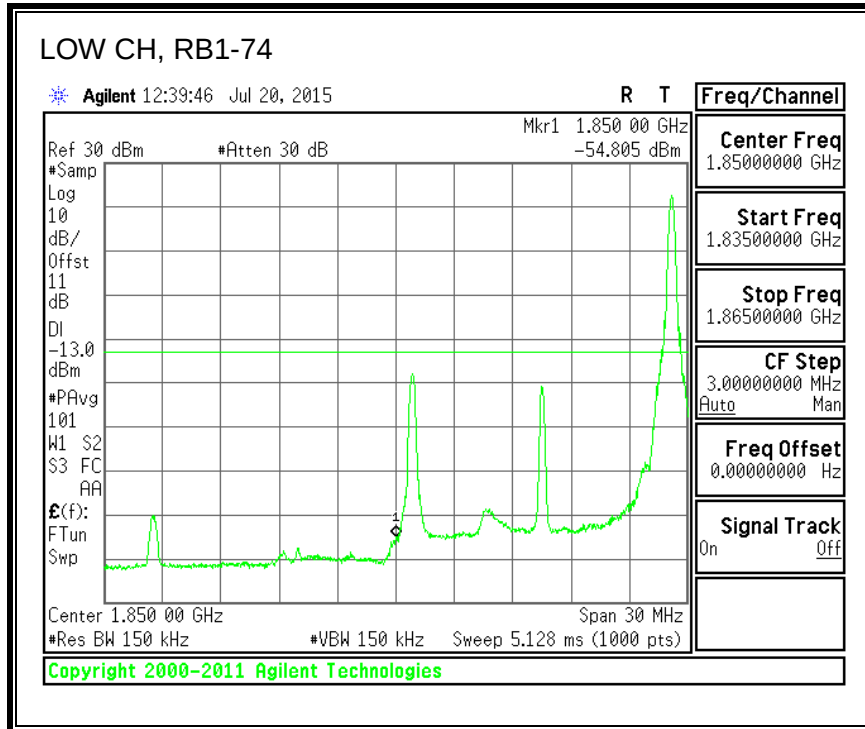


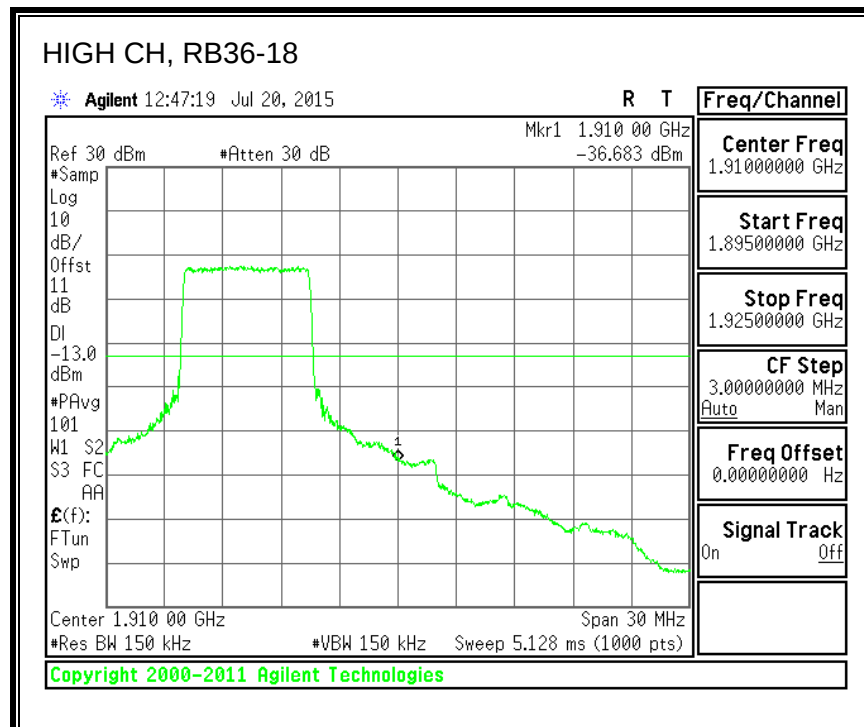
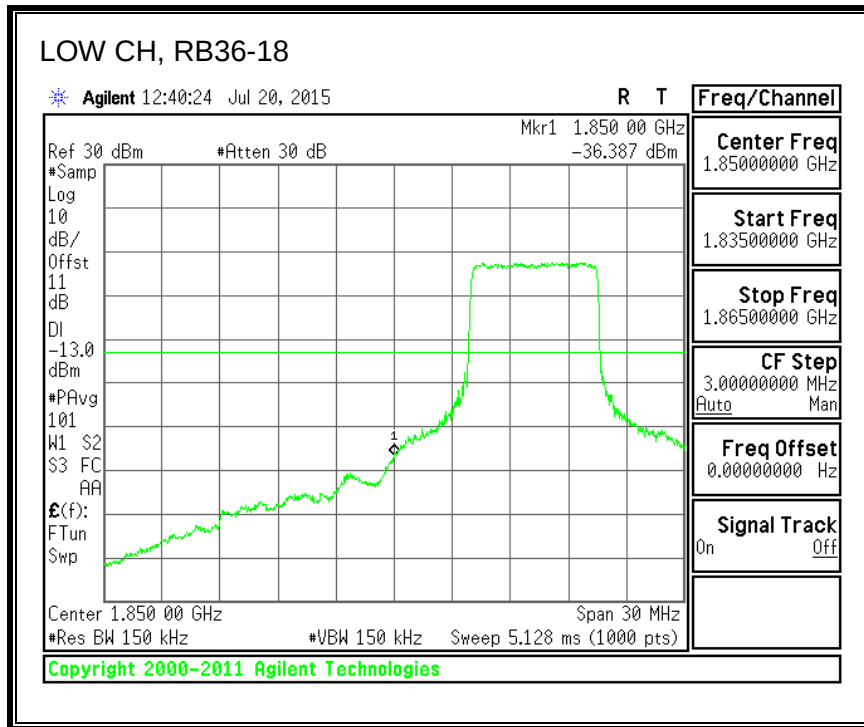


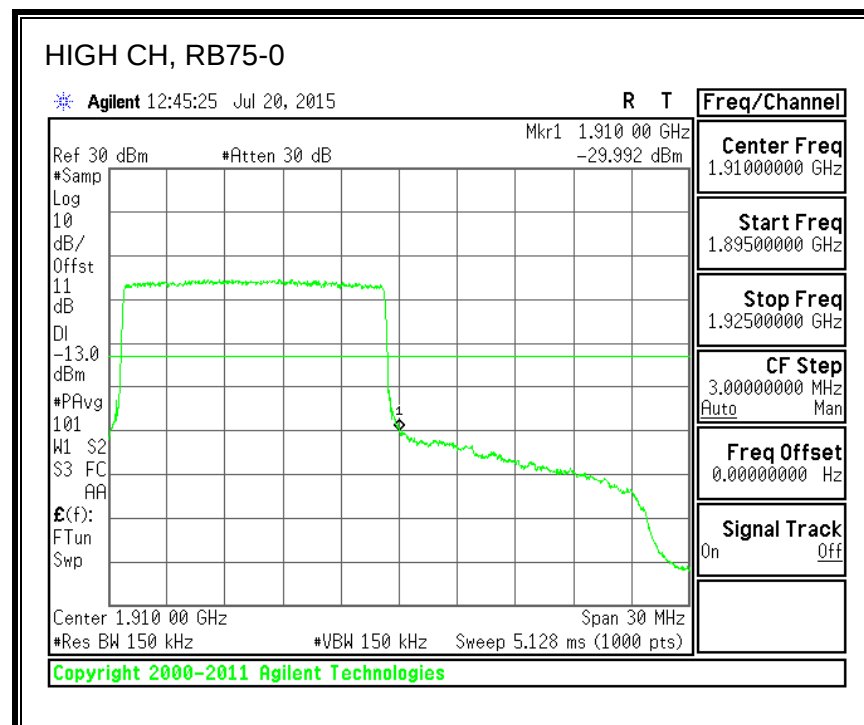
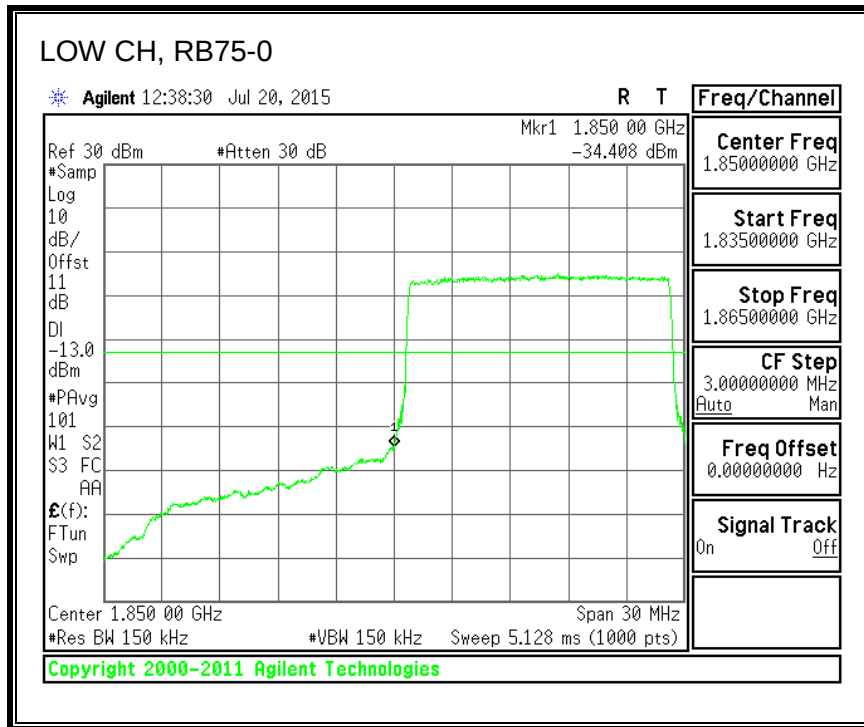


**QPSK, (15.0 MHz BAND WIDTH)**

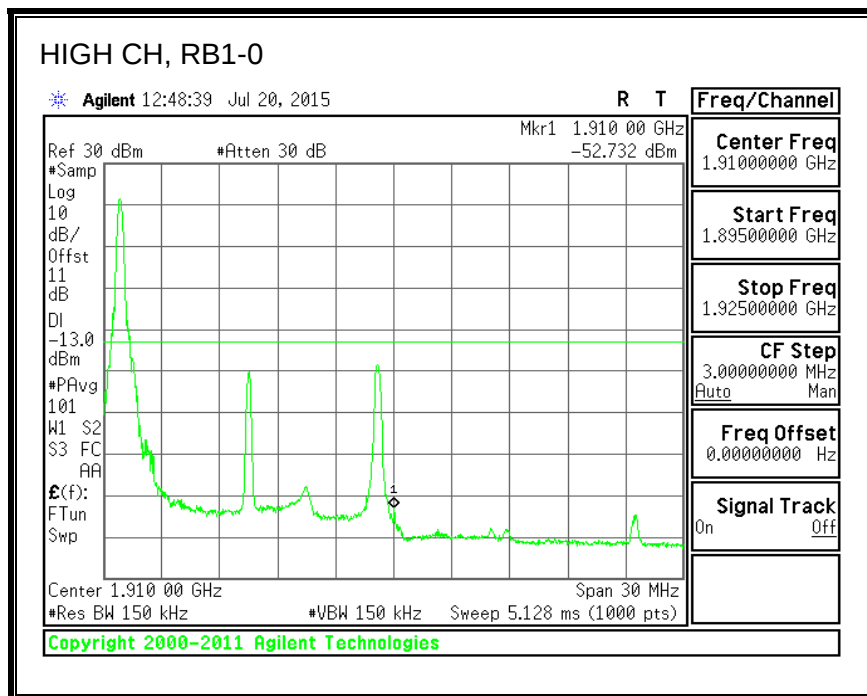
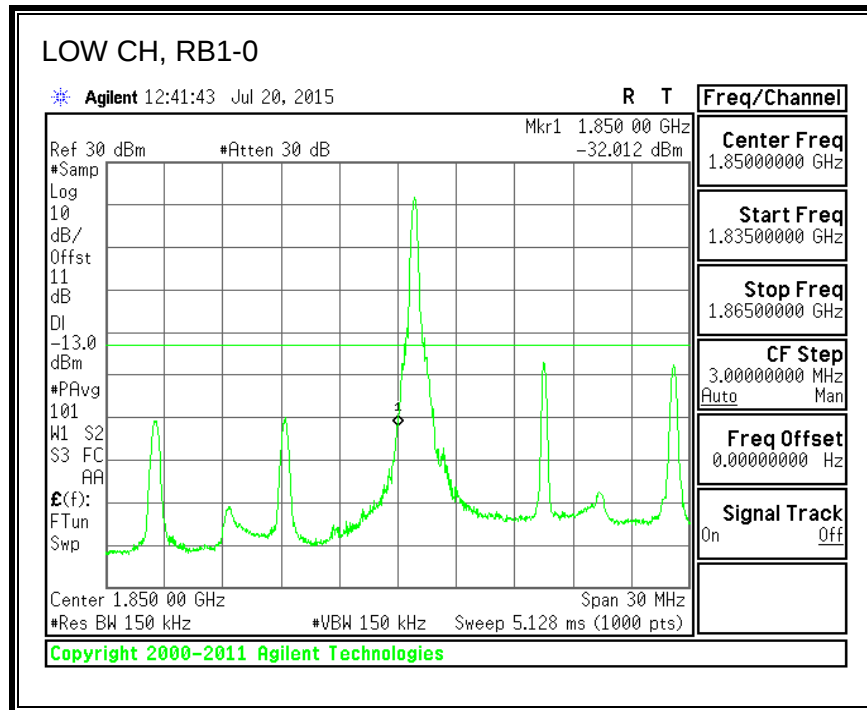


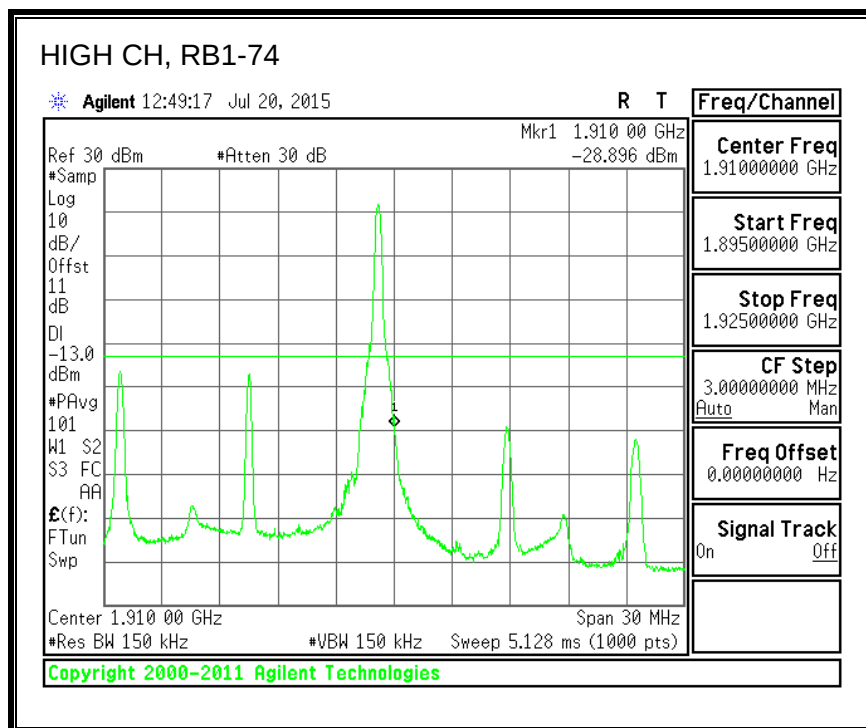
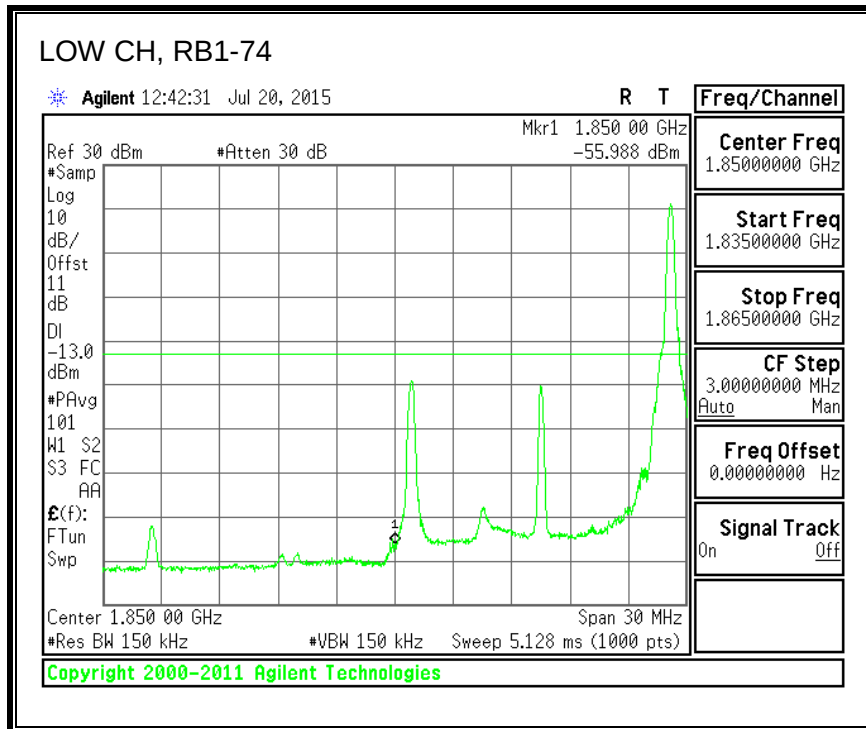


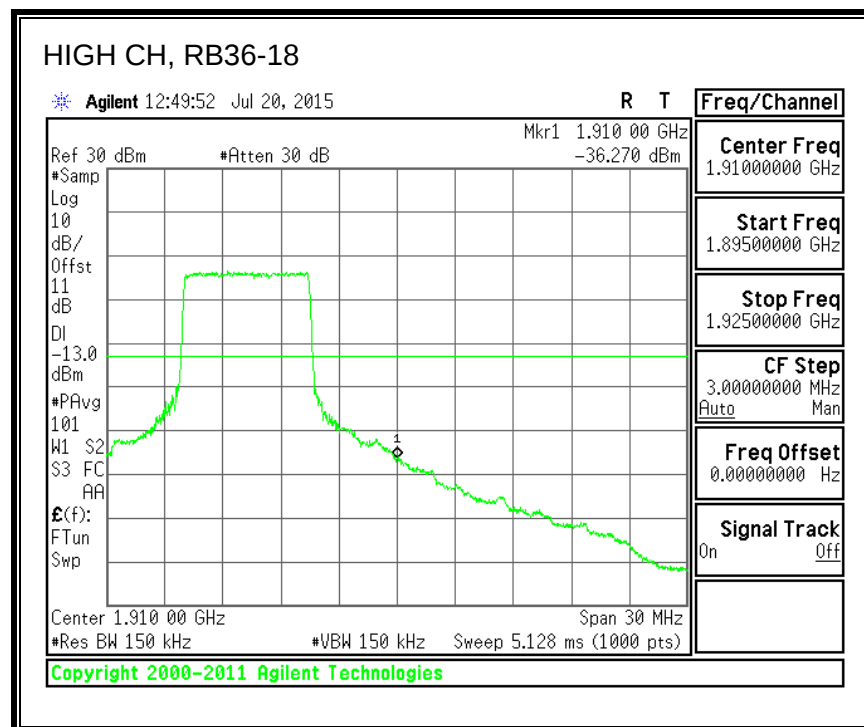
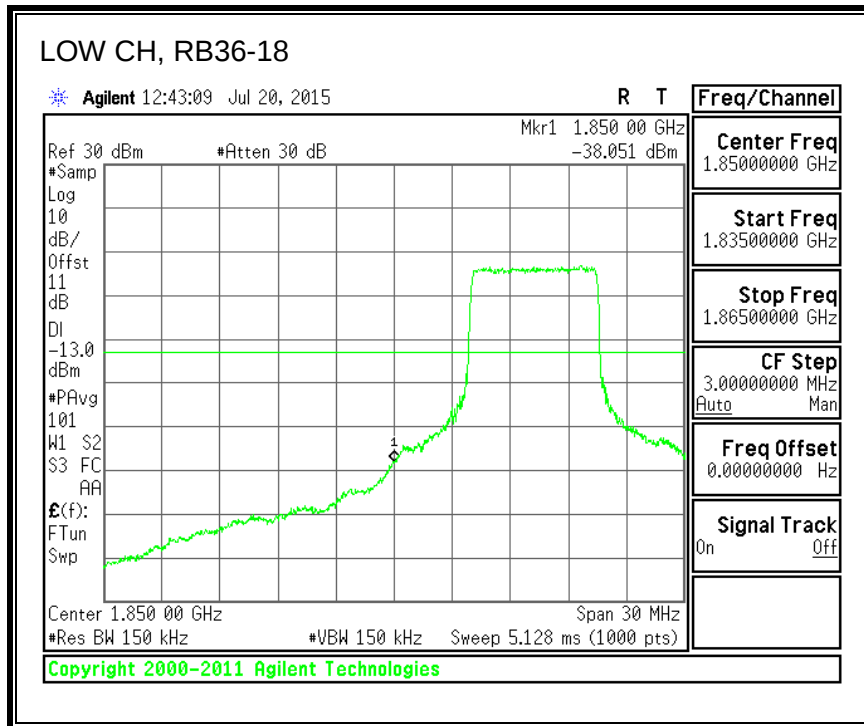


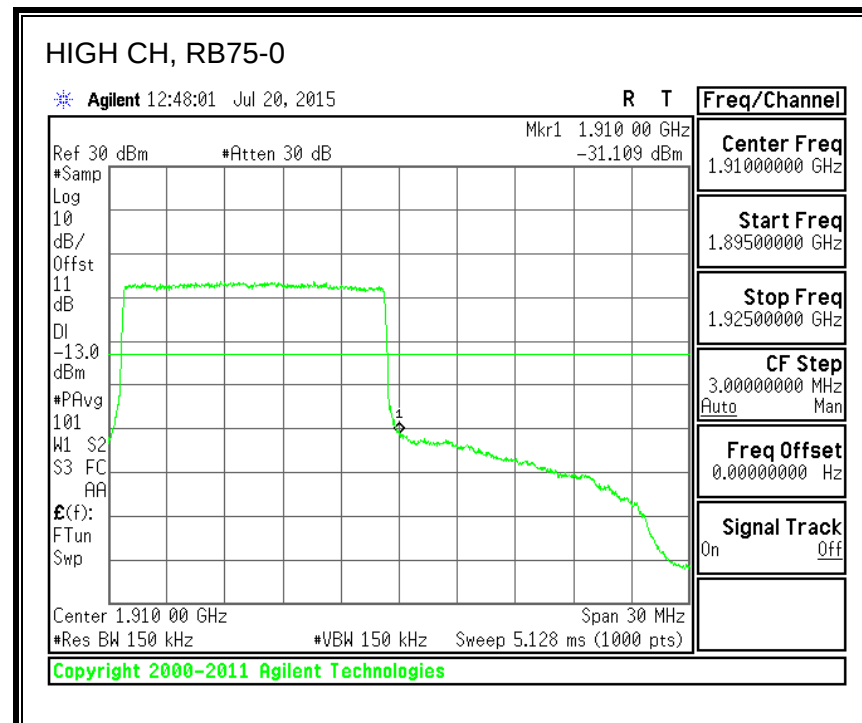
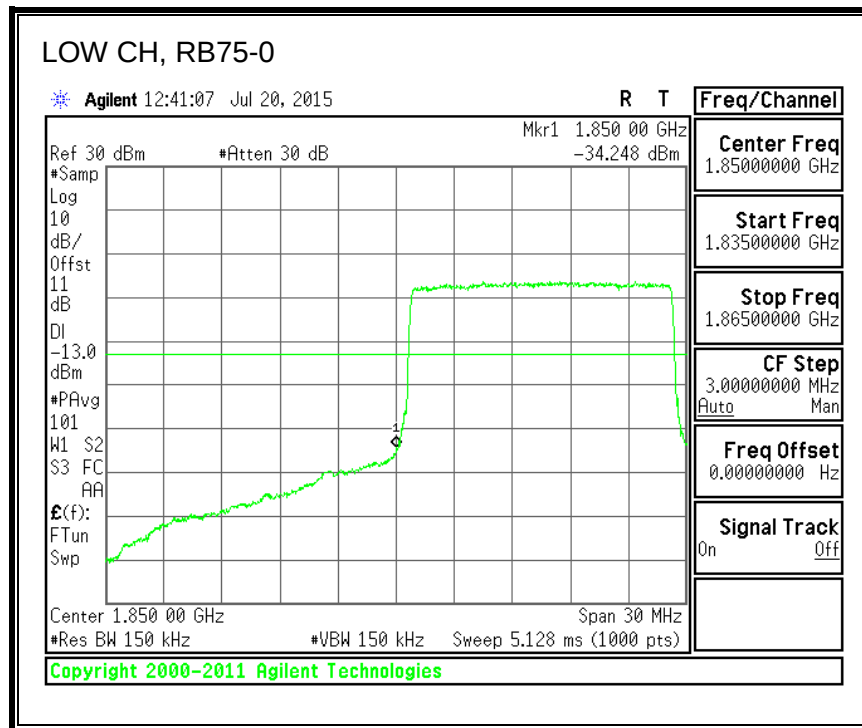


**16QAM, (15.0 MHz BAND WIDTH)**

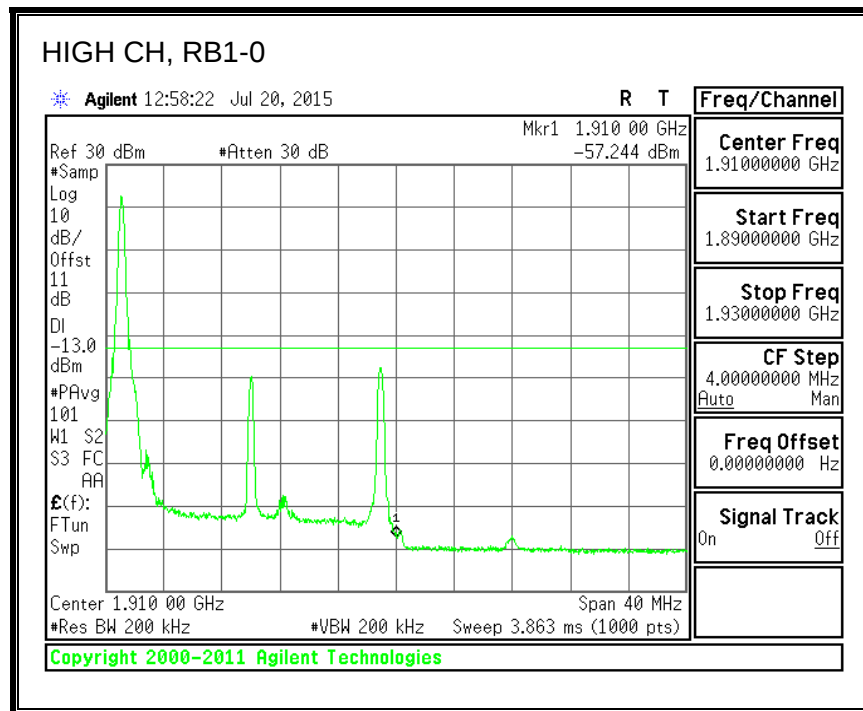
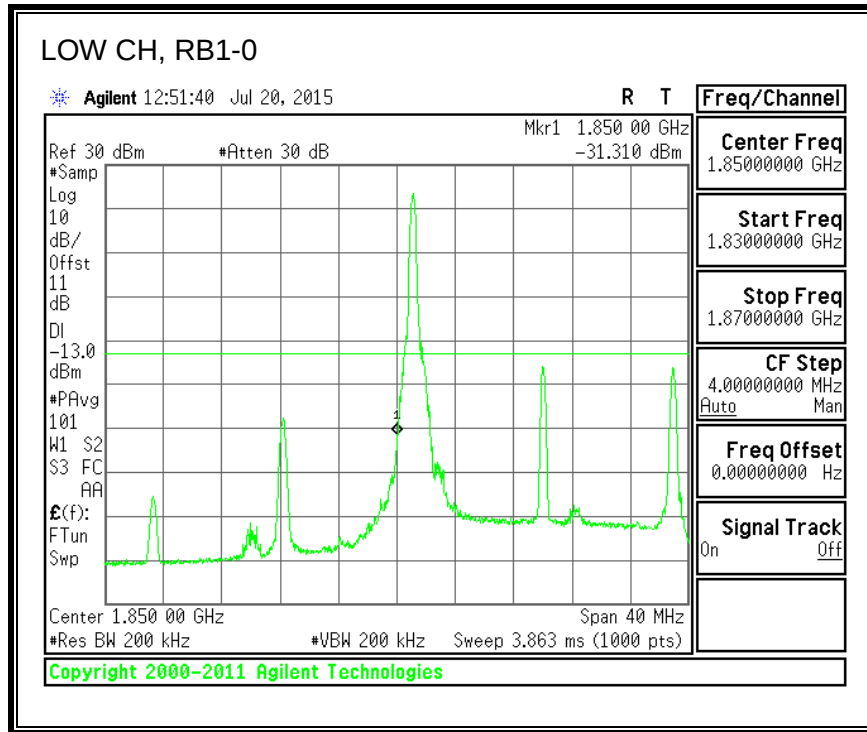


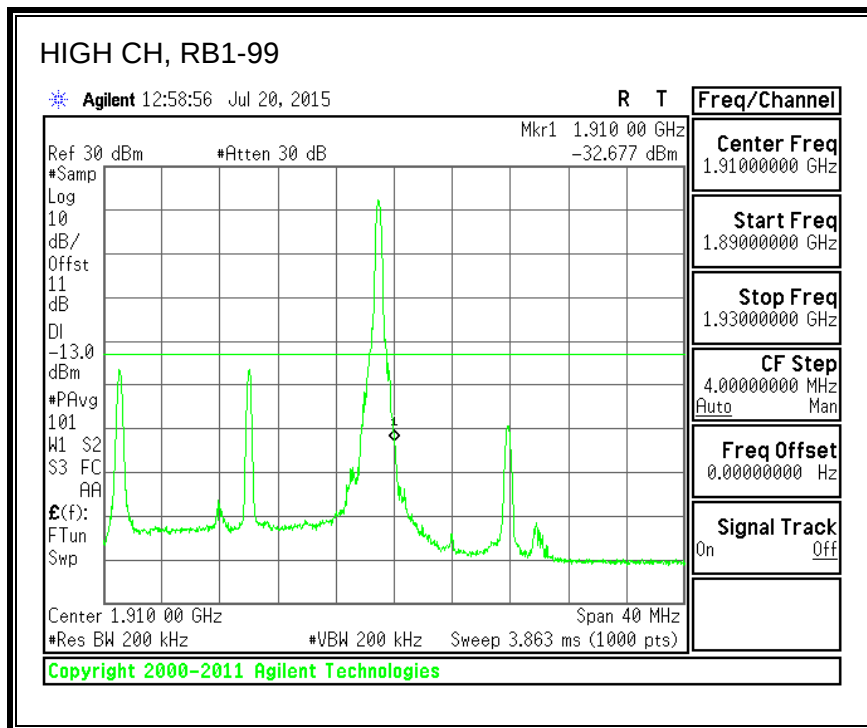
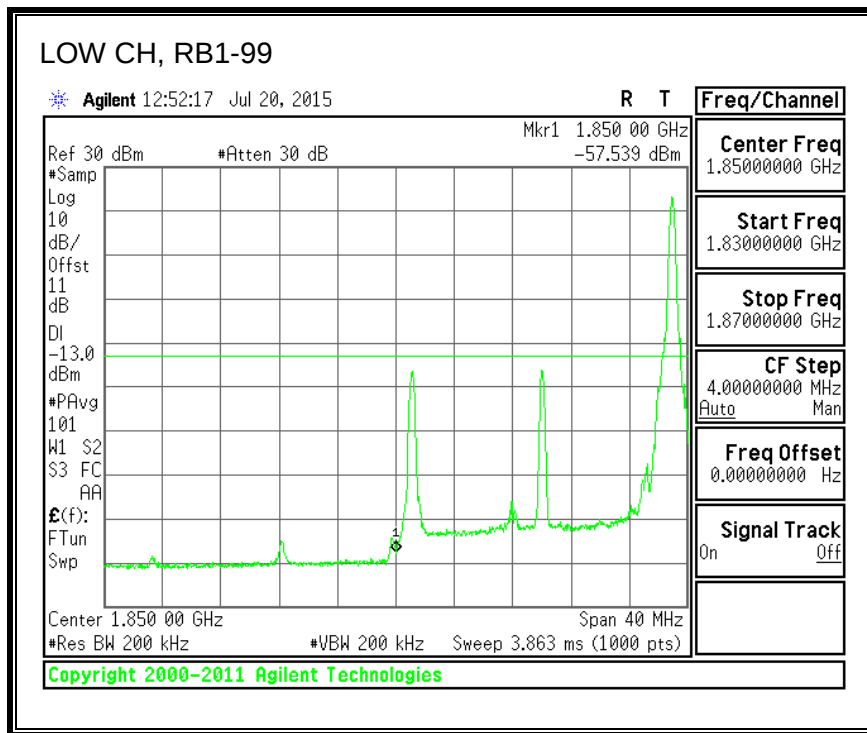


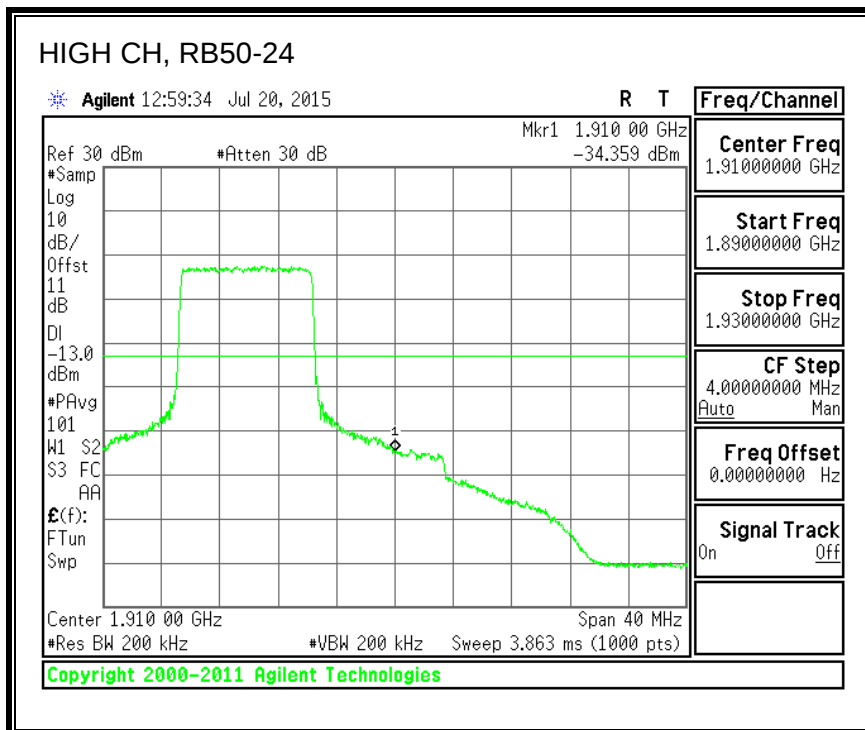
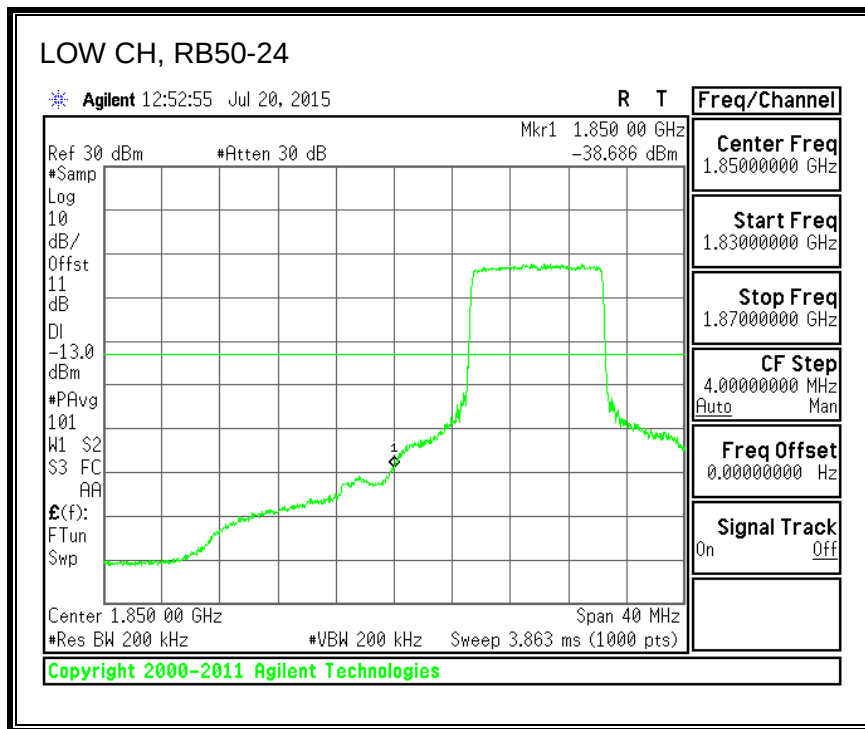


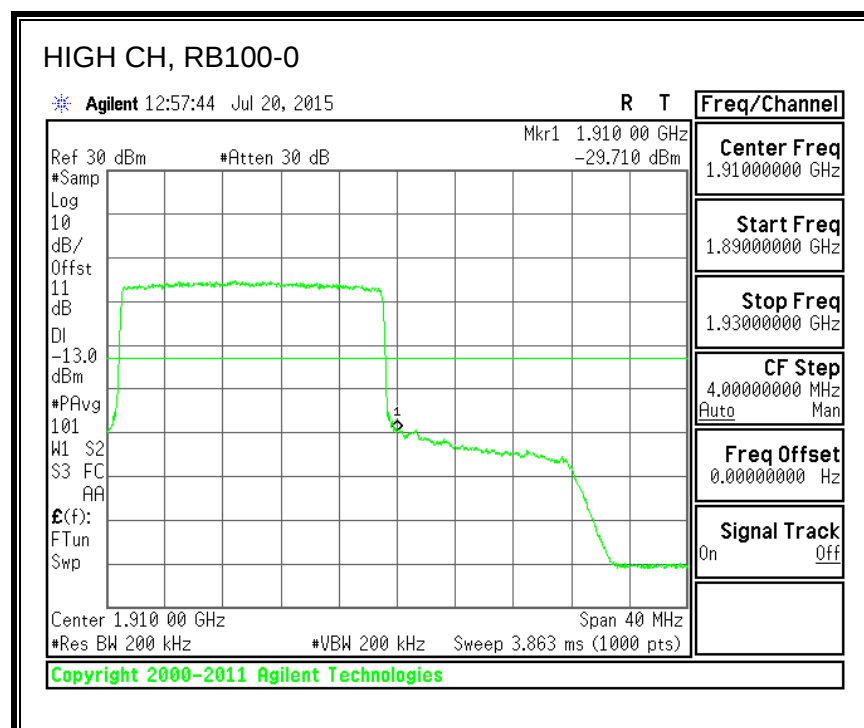
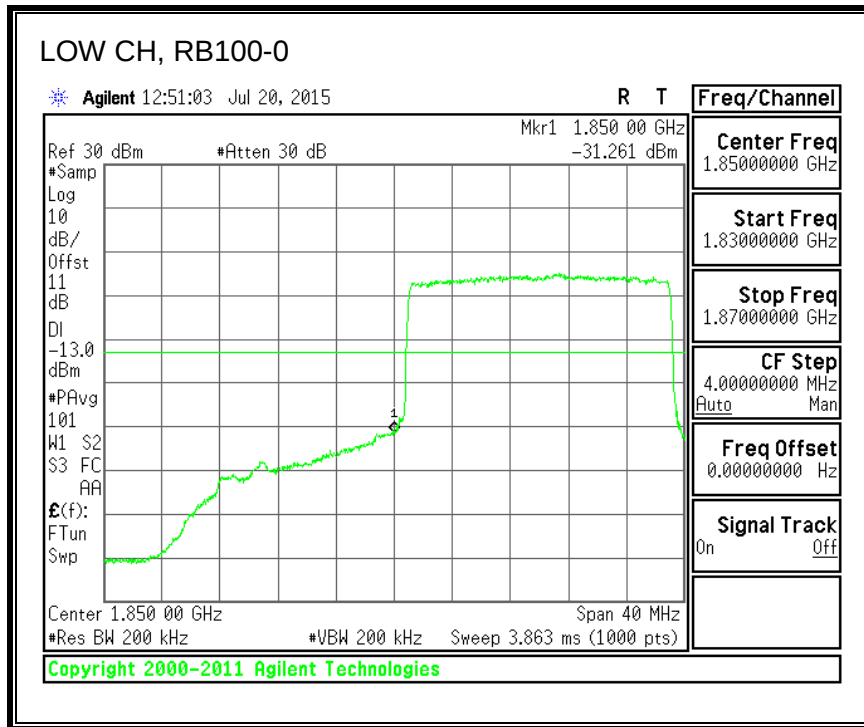


**QPSK, (20.0 MHz BAND WIDTH)**

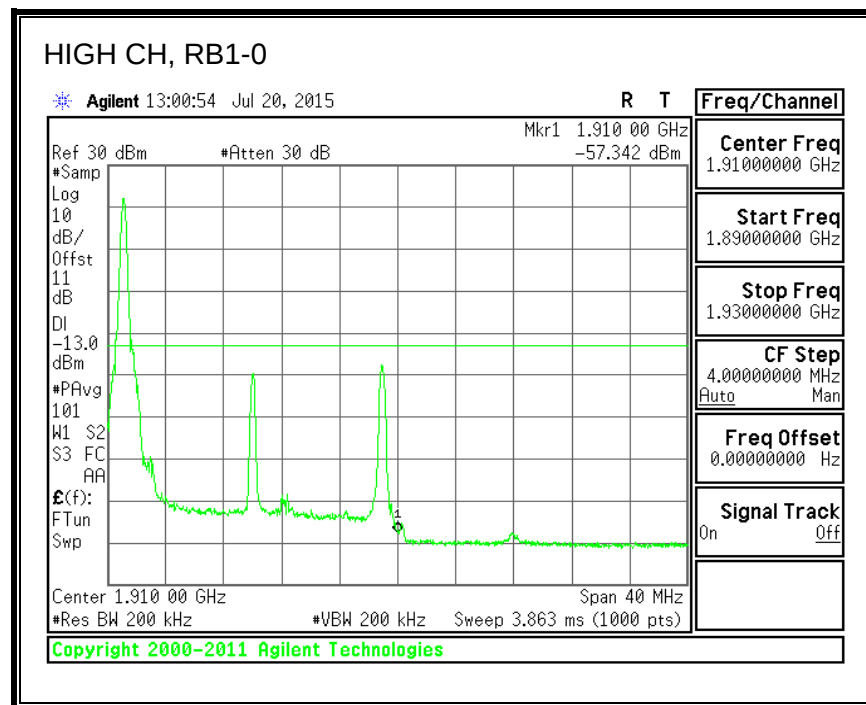
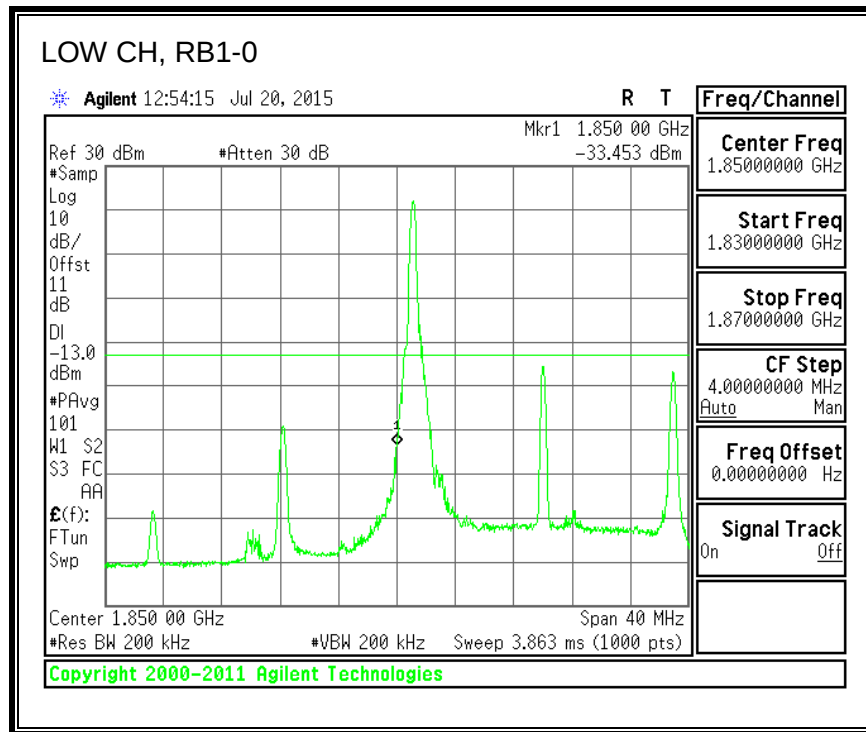


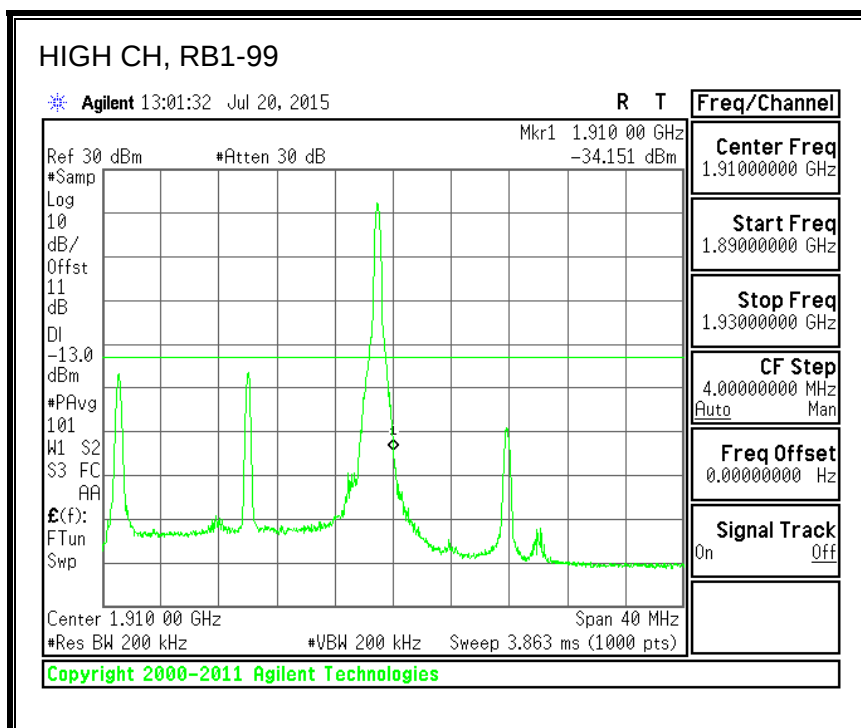
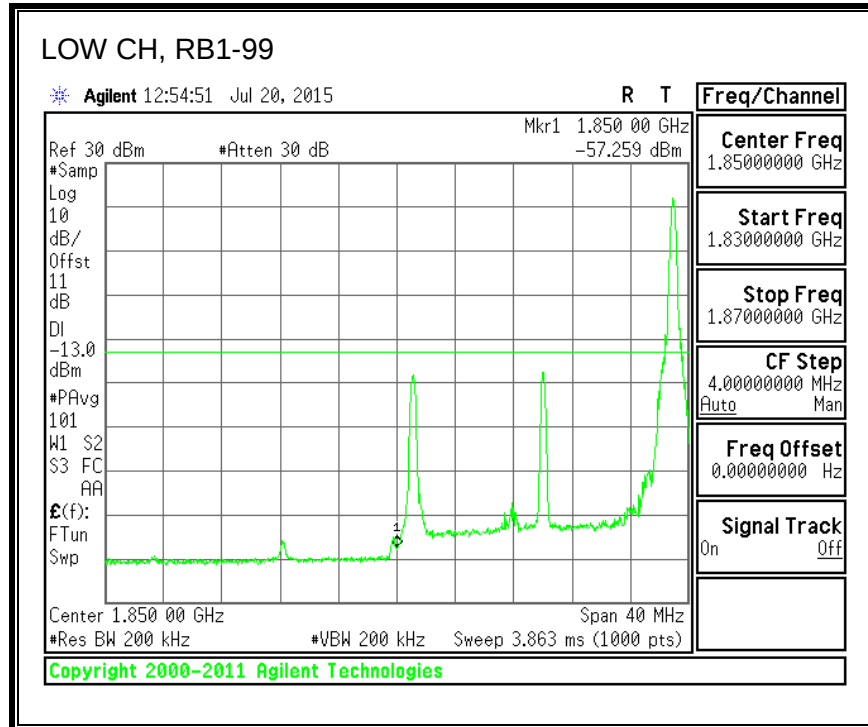


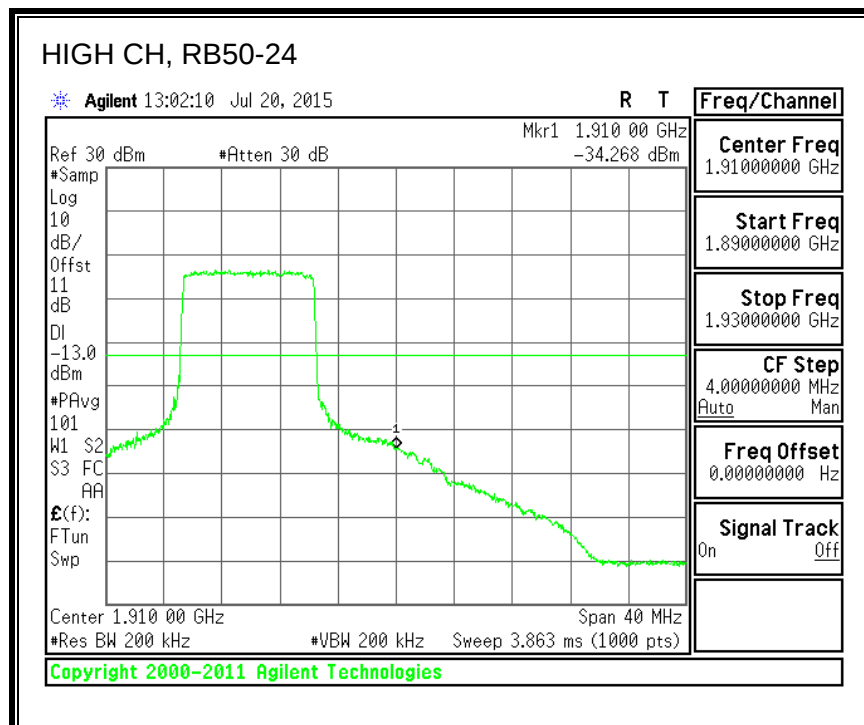
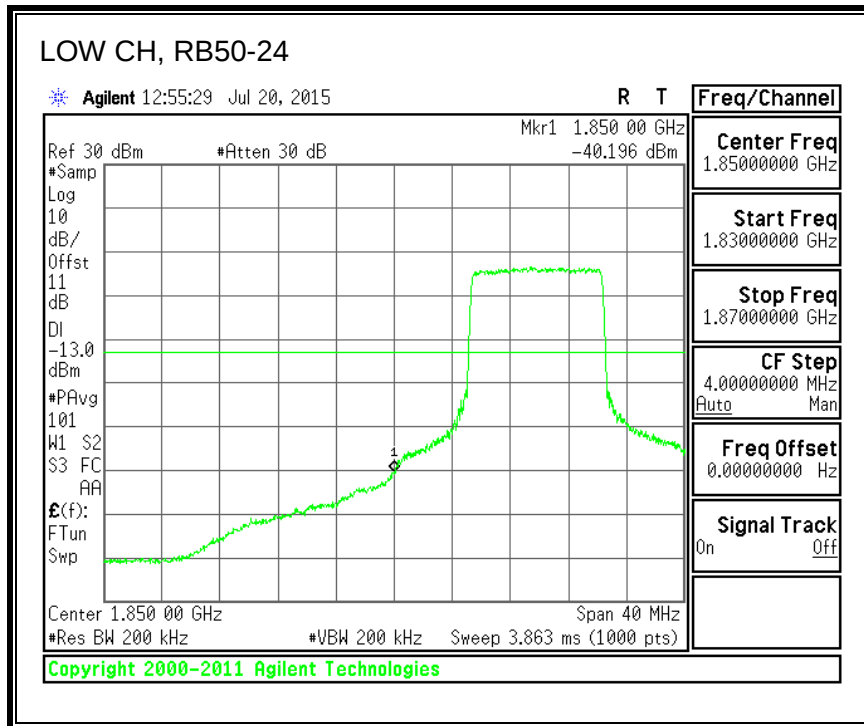


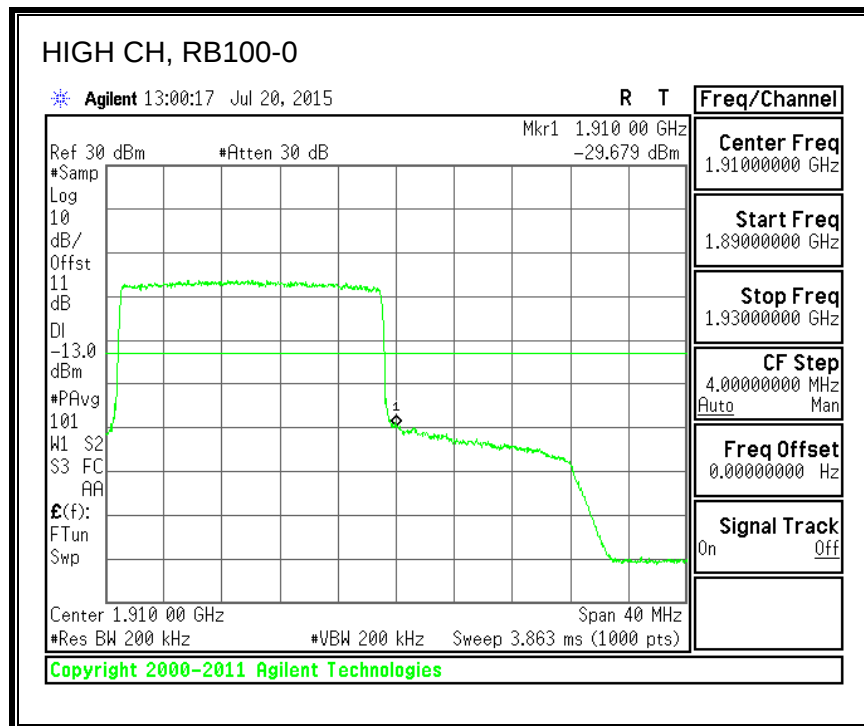
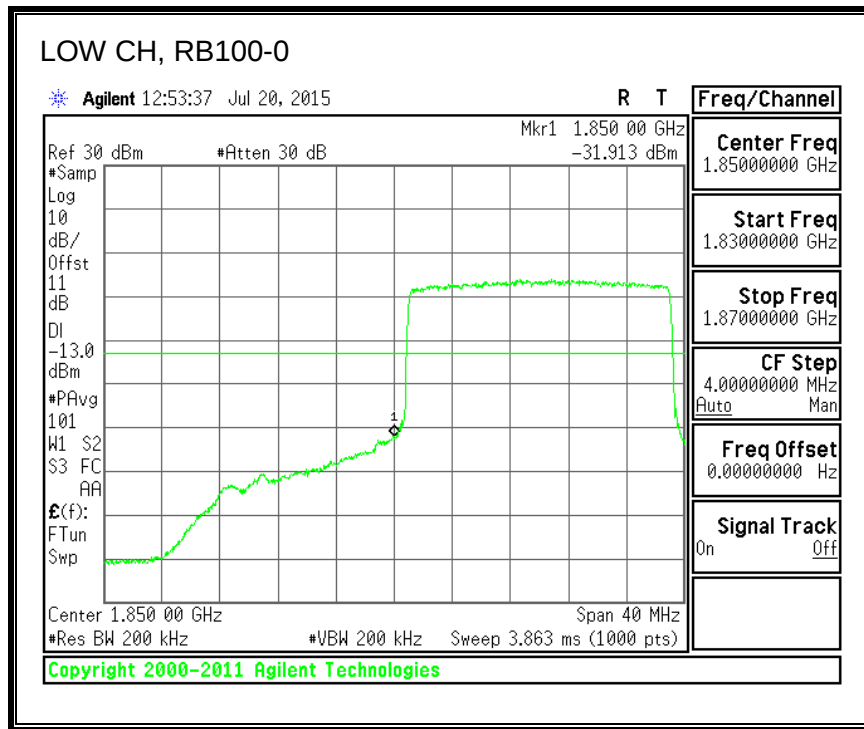


**16QAM, (20.0 MHz BAND WIDTH)**



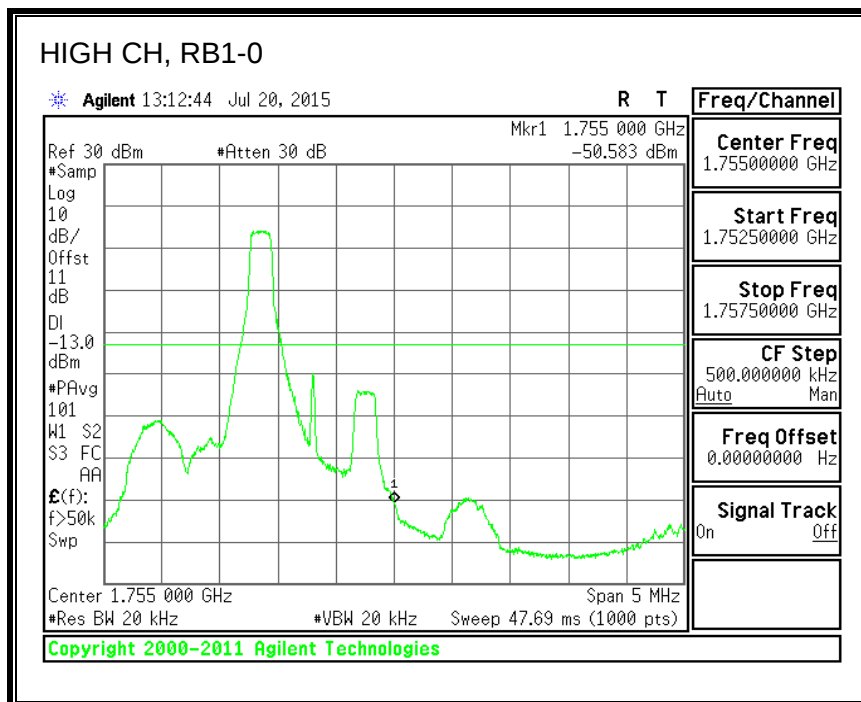
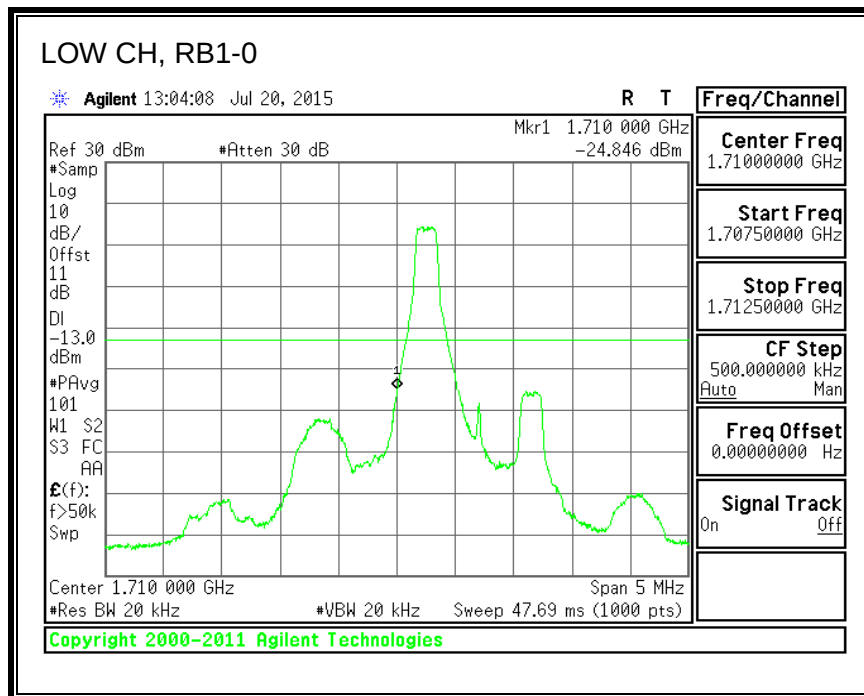


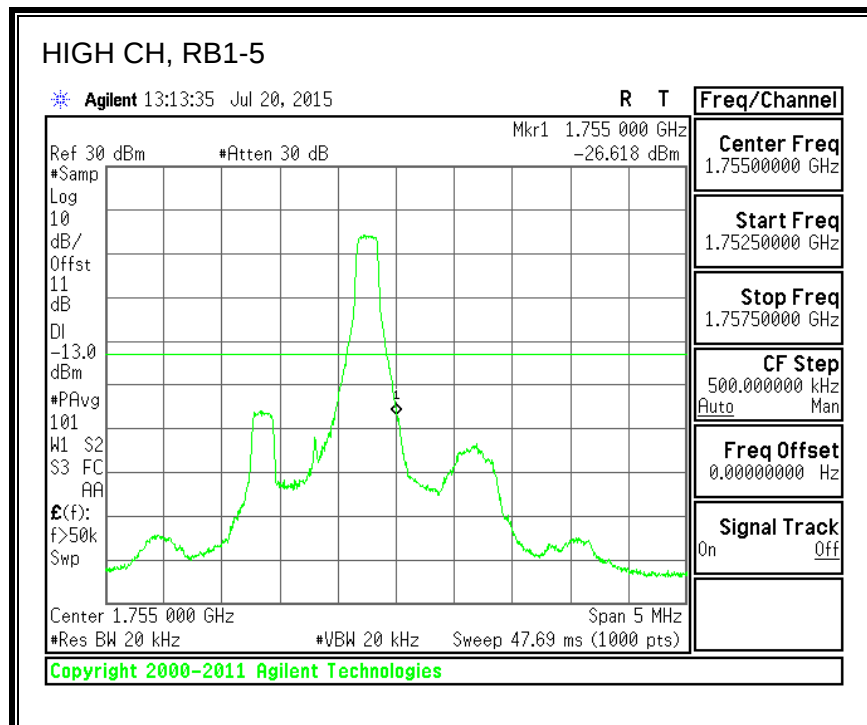
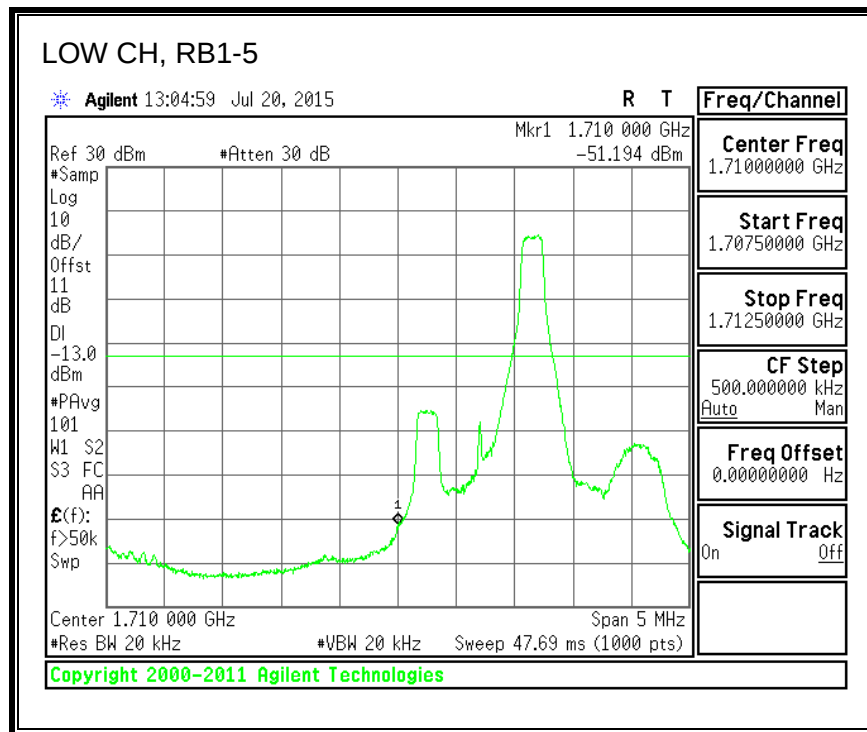


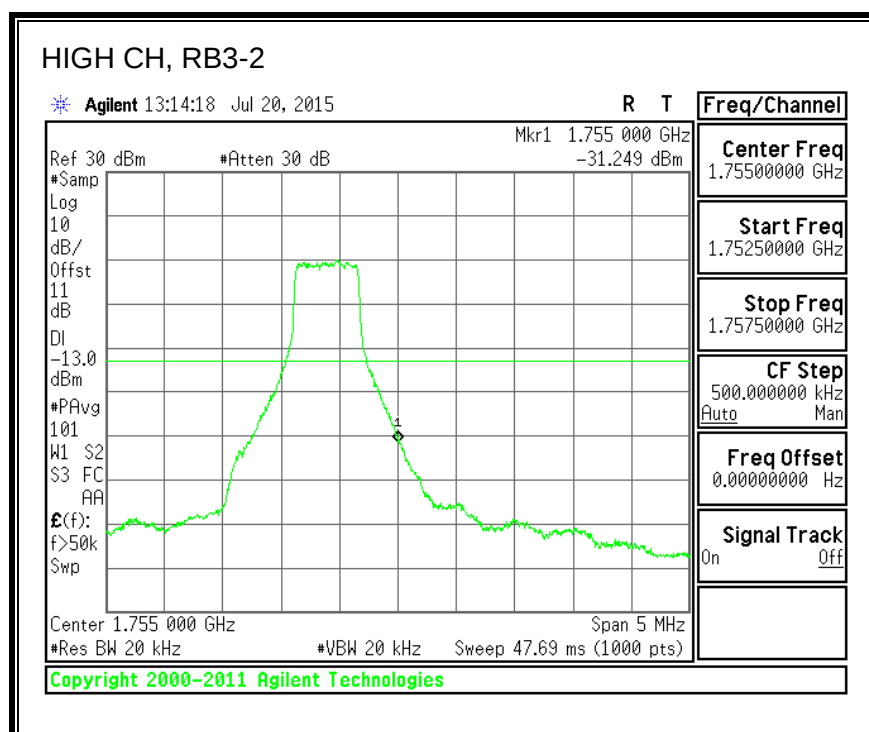
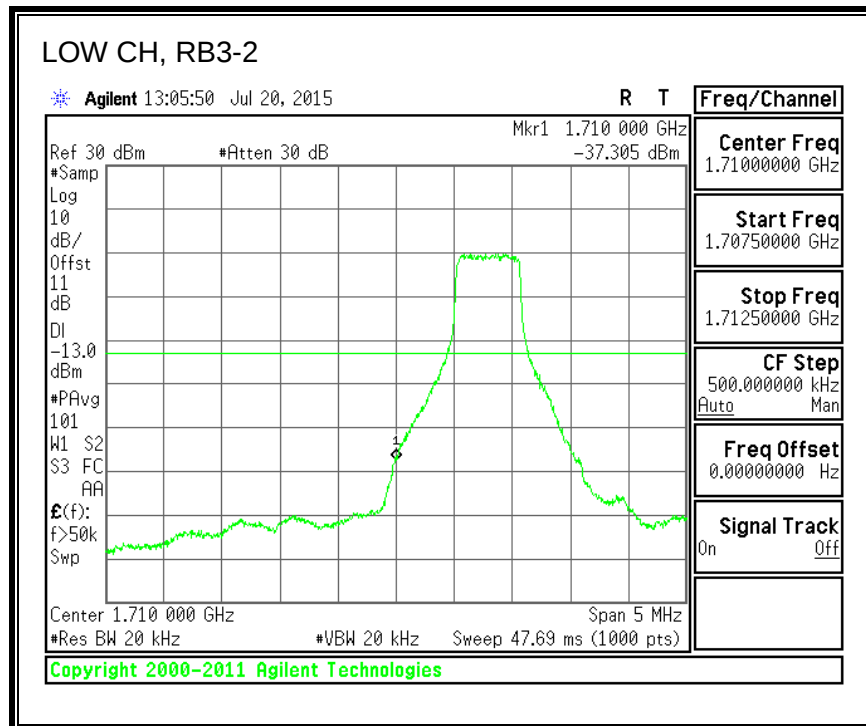


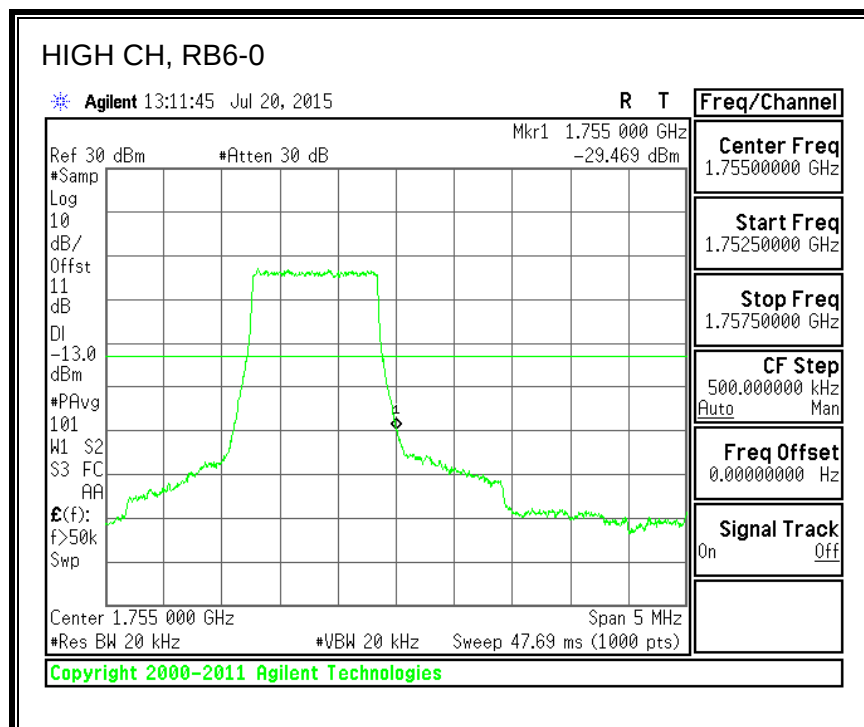
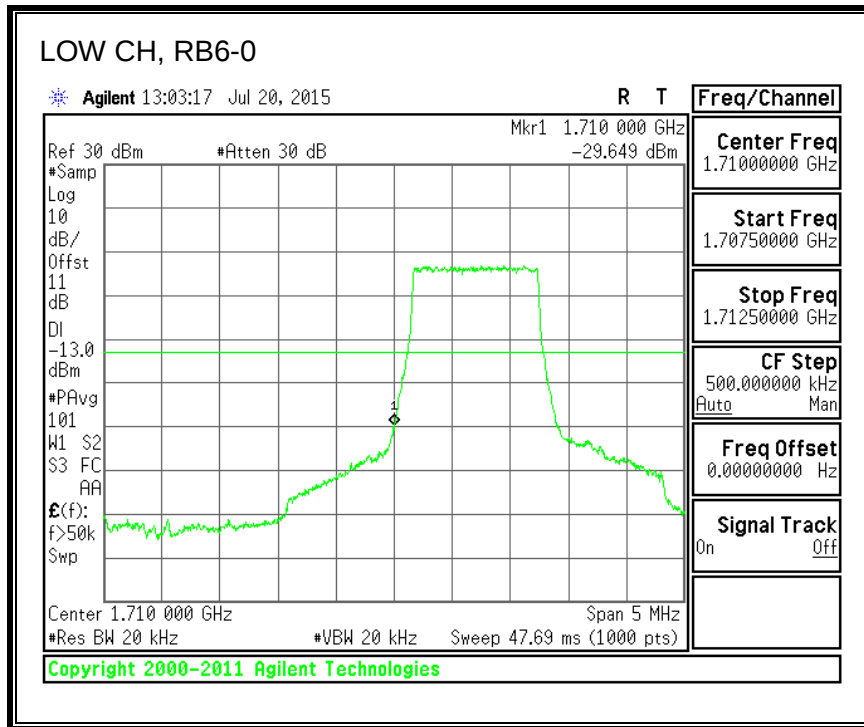
## 8.2.2. LTE BAND 4 BANDEDGE

### QPSK, (1.4 MHz BAND WIDTH)

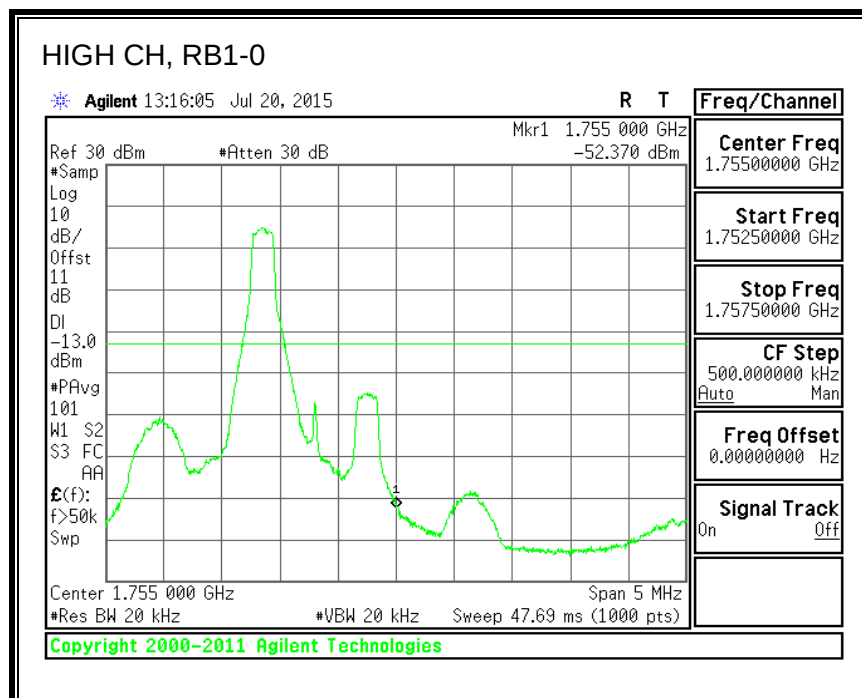
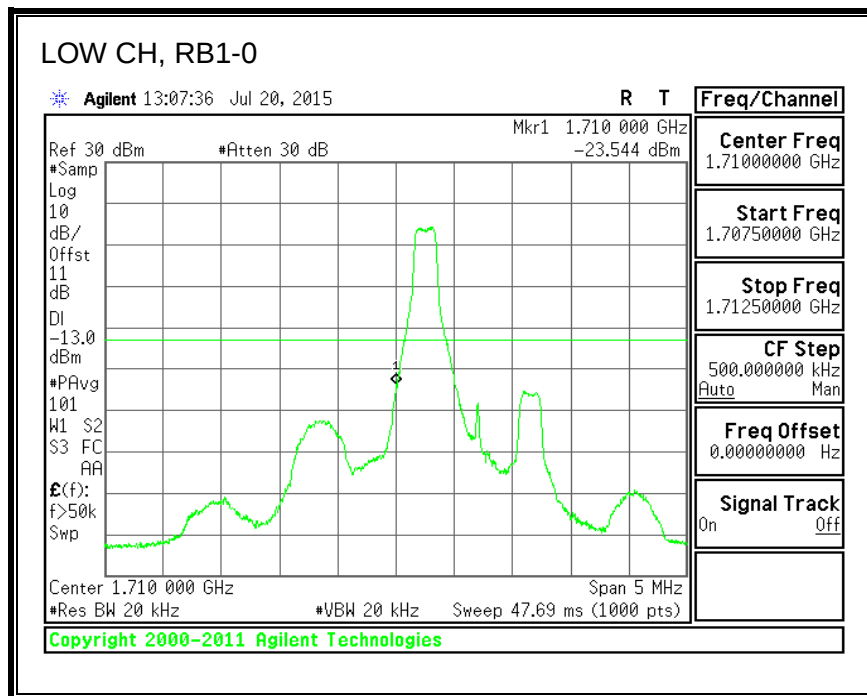


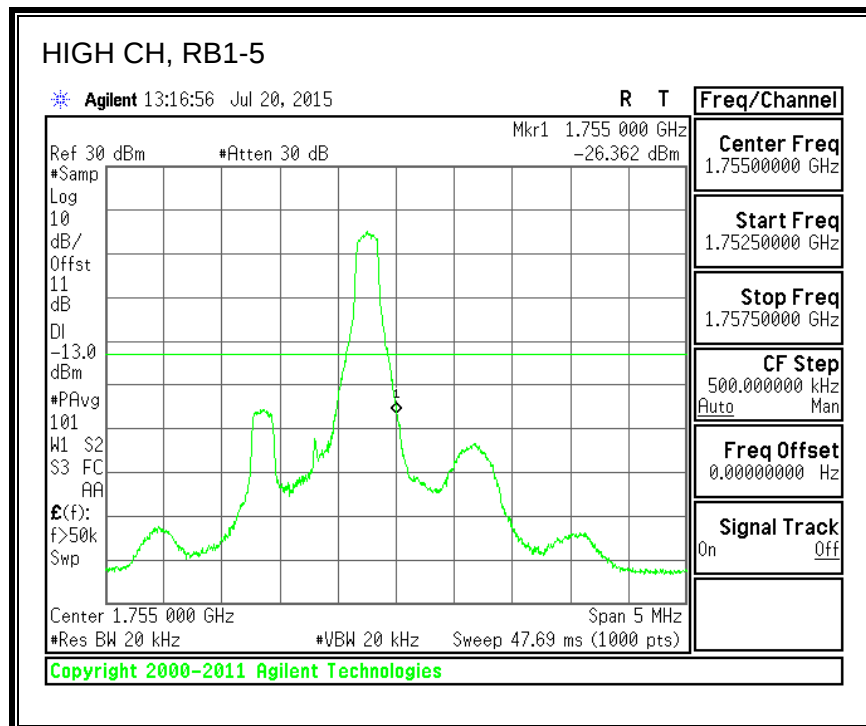
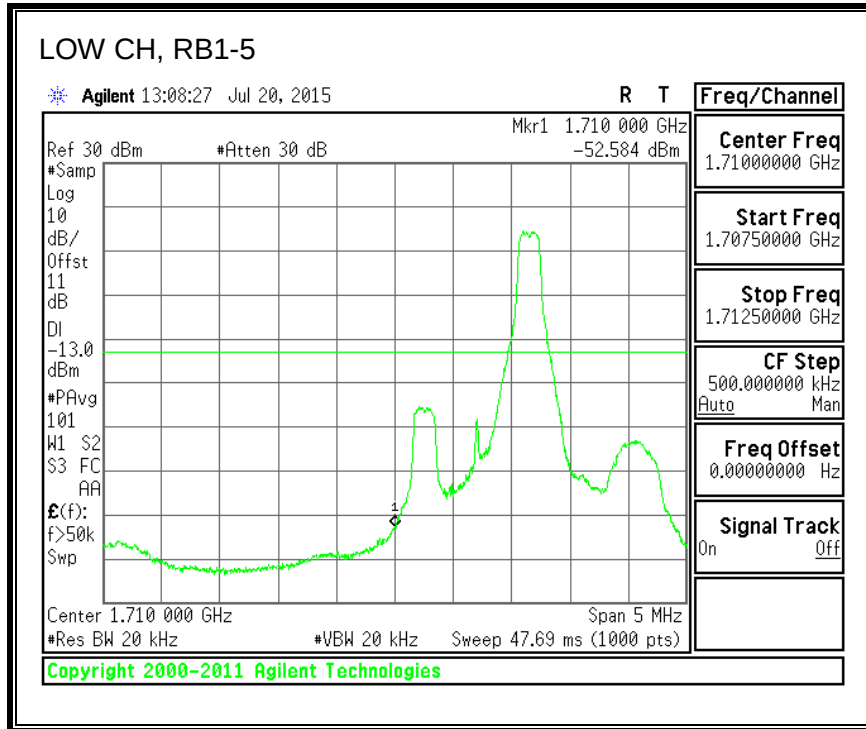


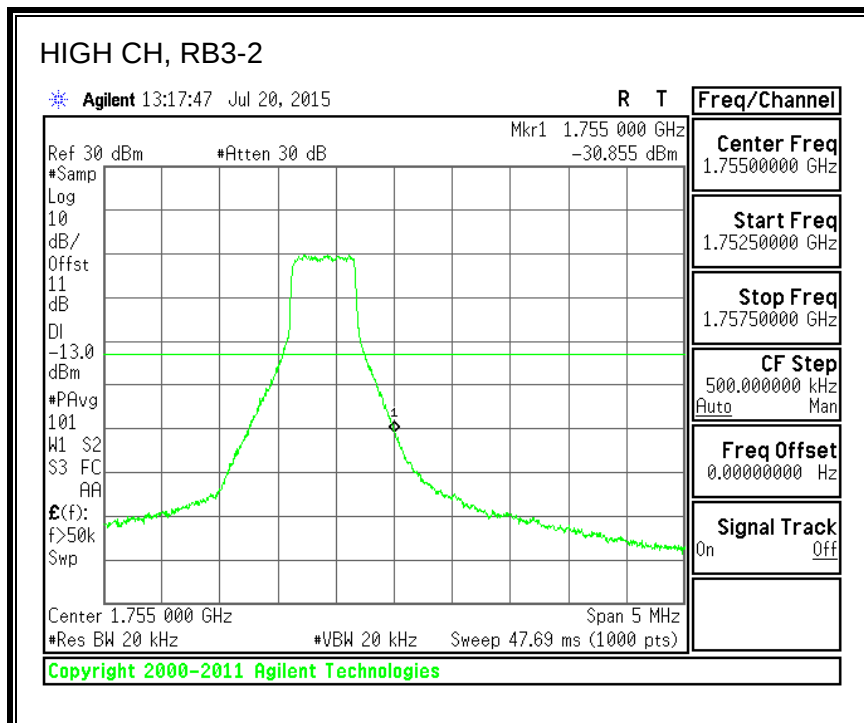
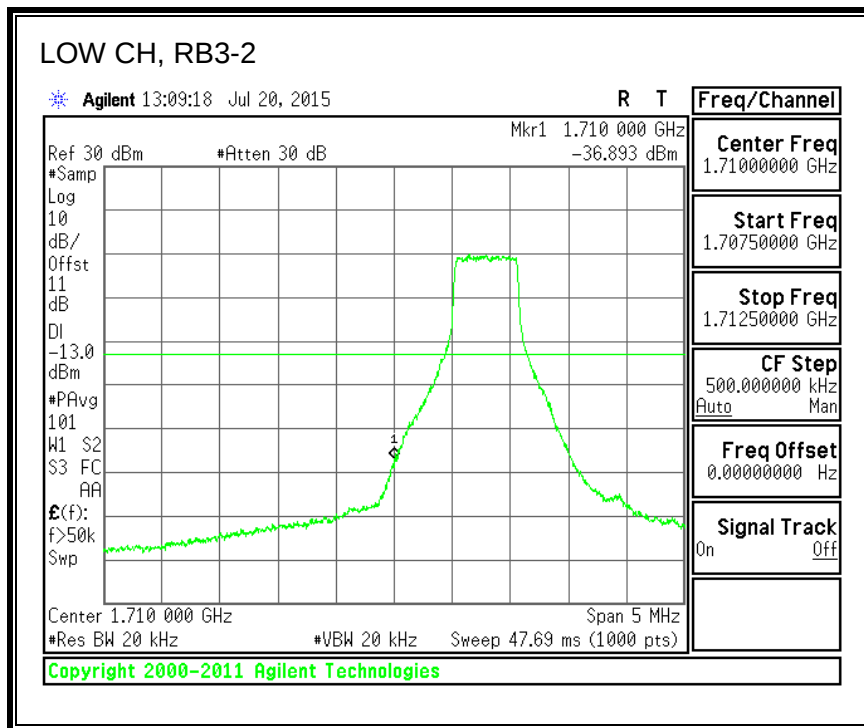


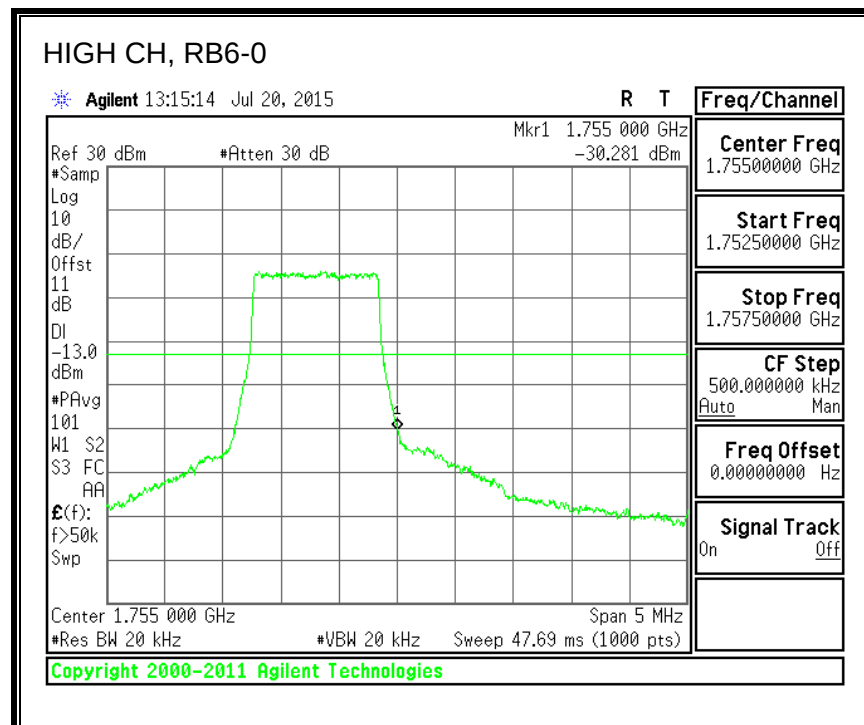
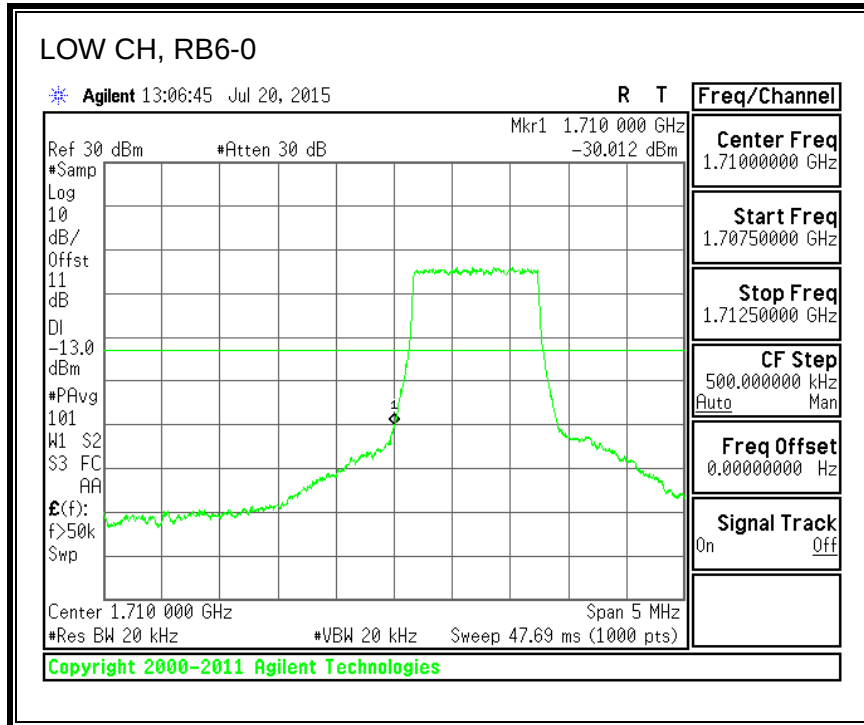


**16QAM, (1.4 MHz BAND WIDTH)**

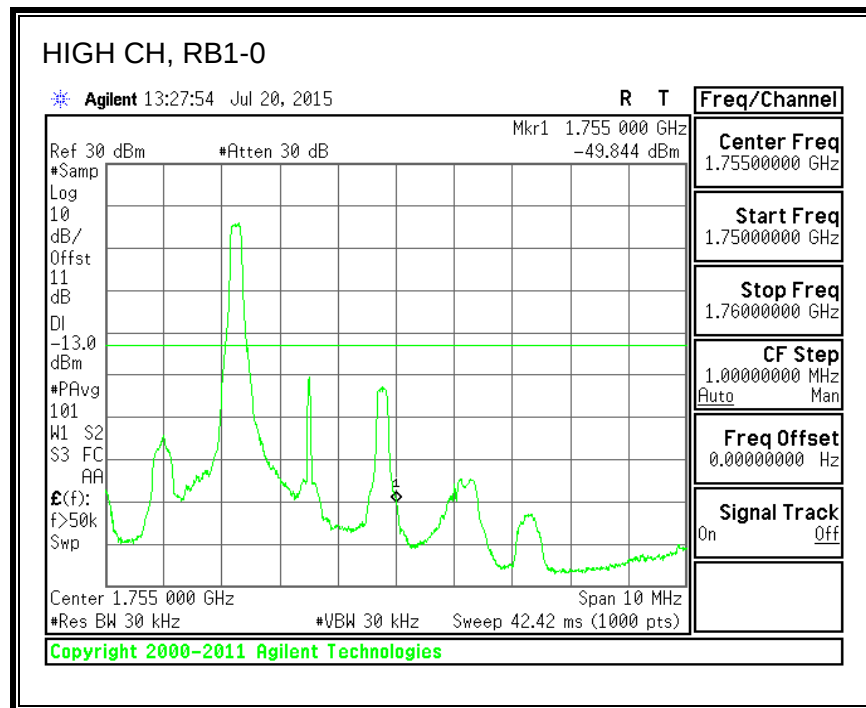
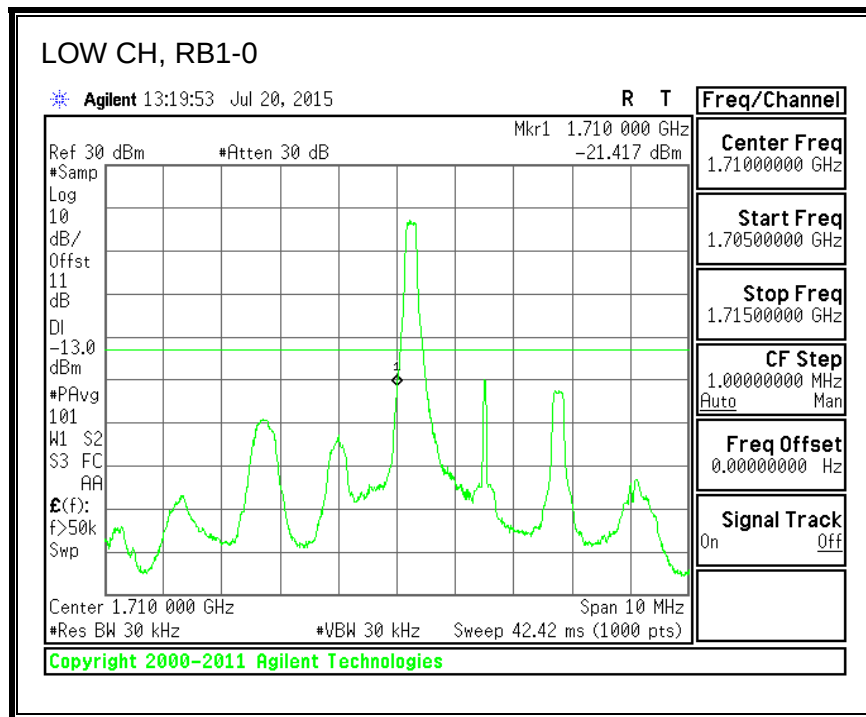


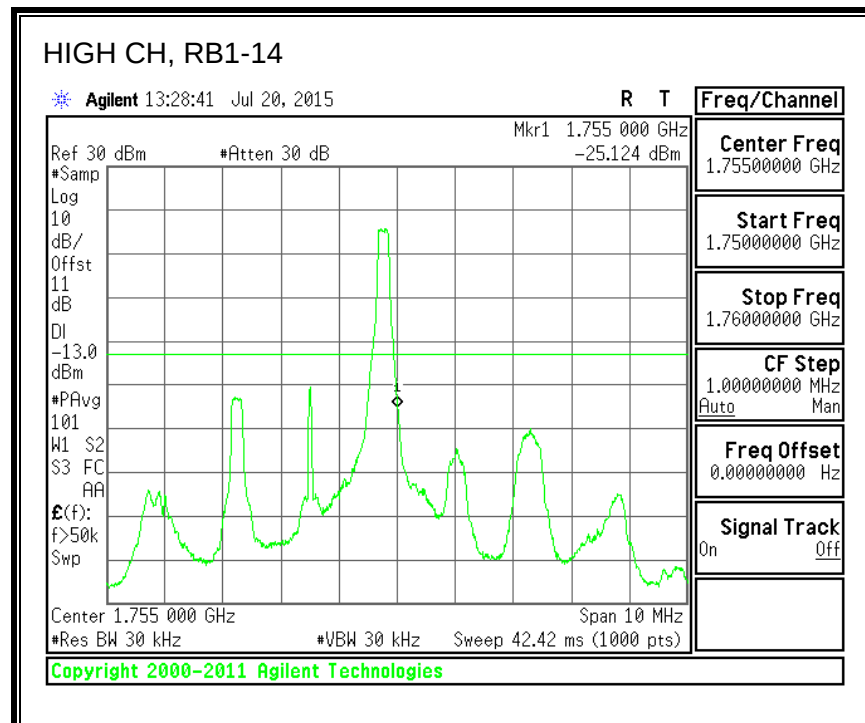
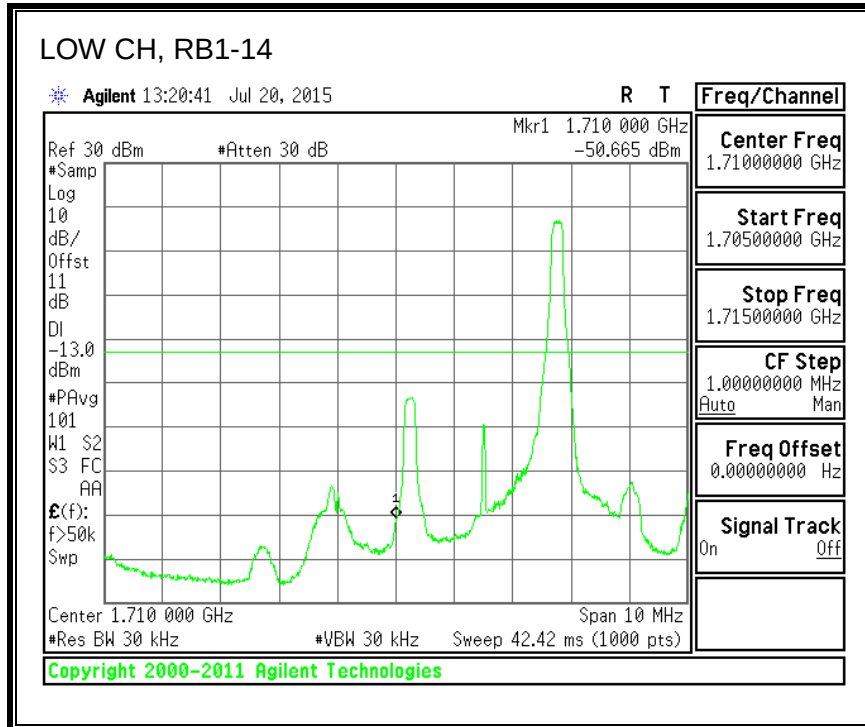


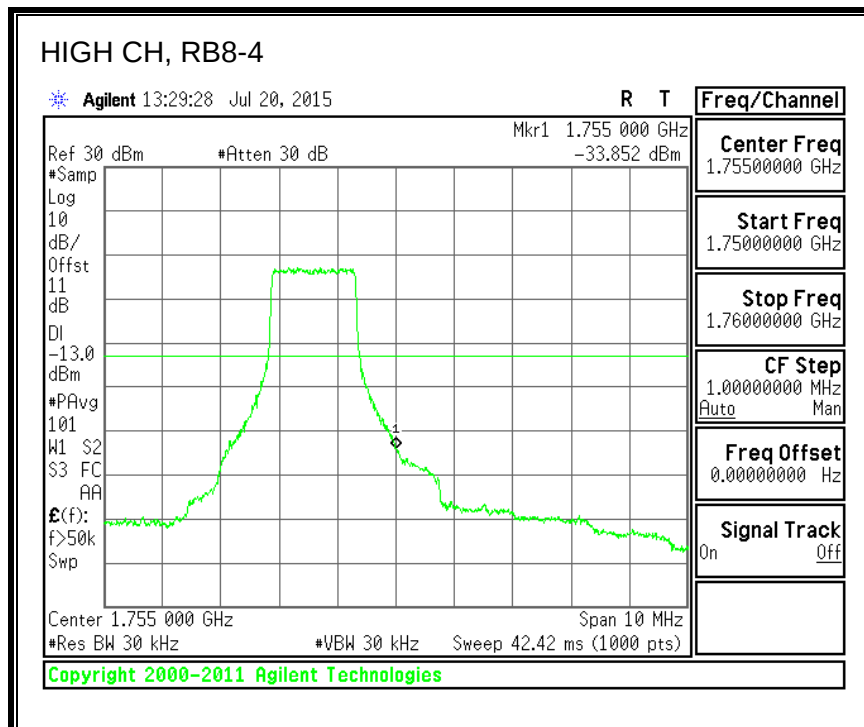
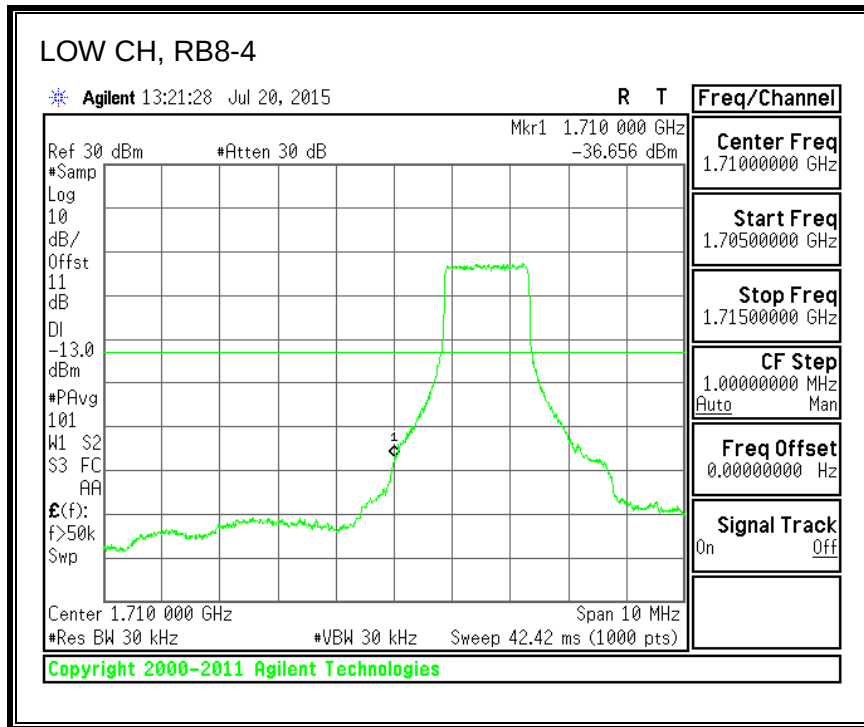


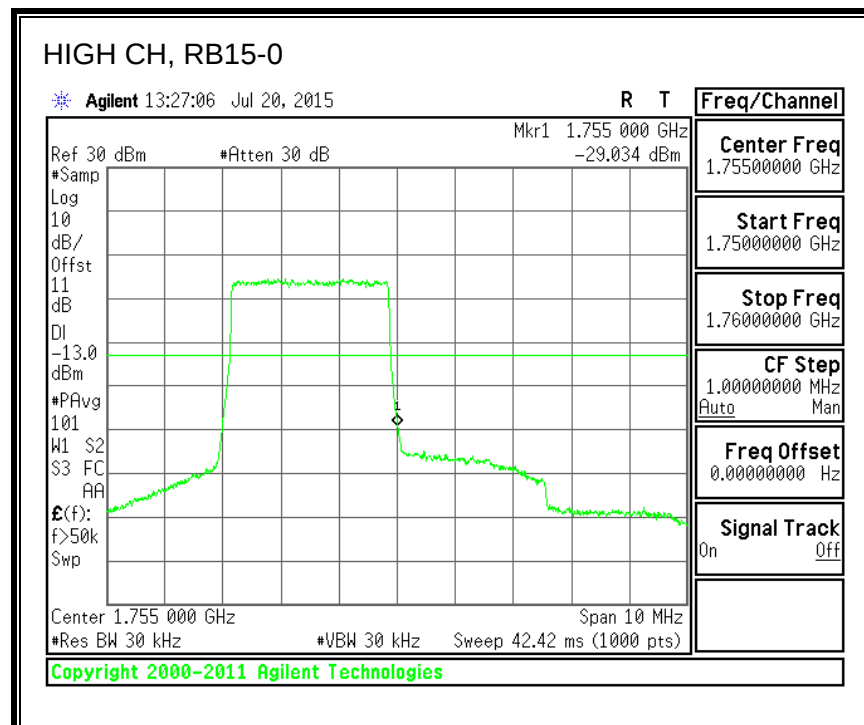
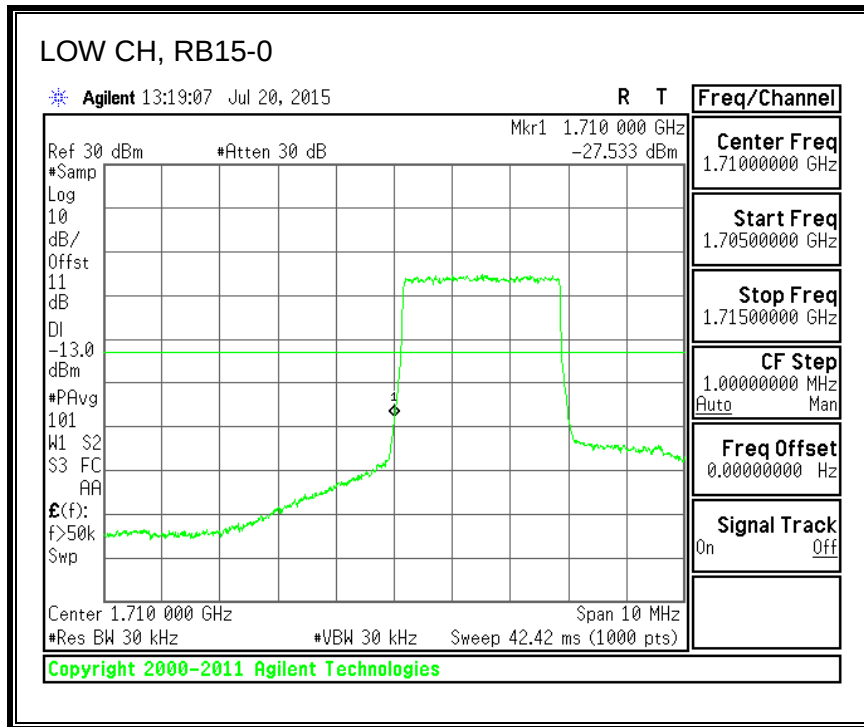


**QPSK, (3.0 MHz BAND WIDTH)**

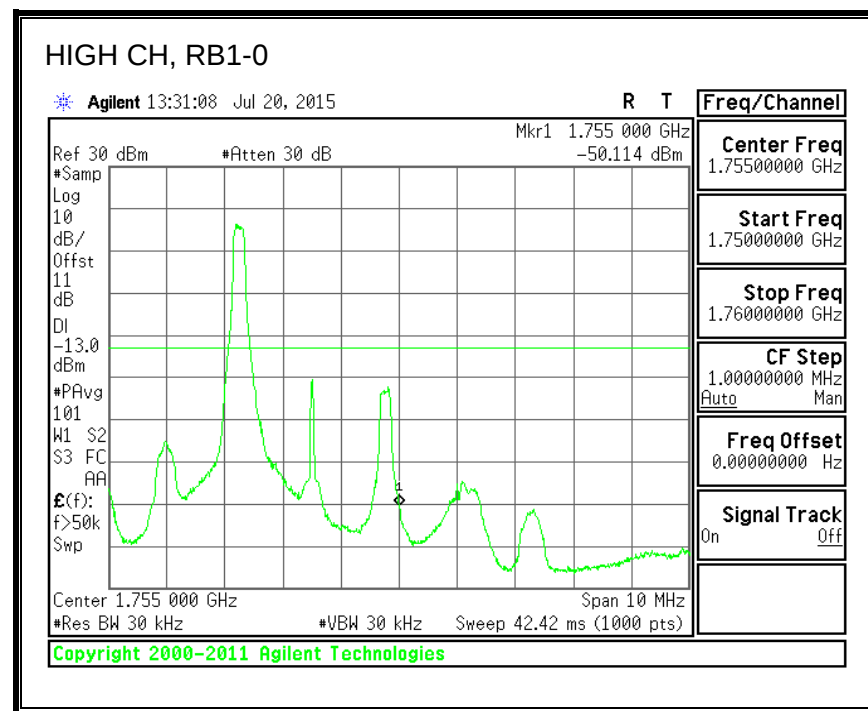
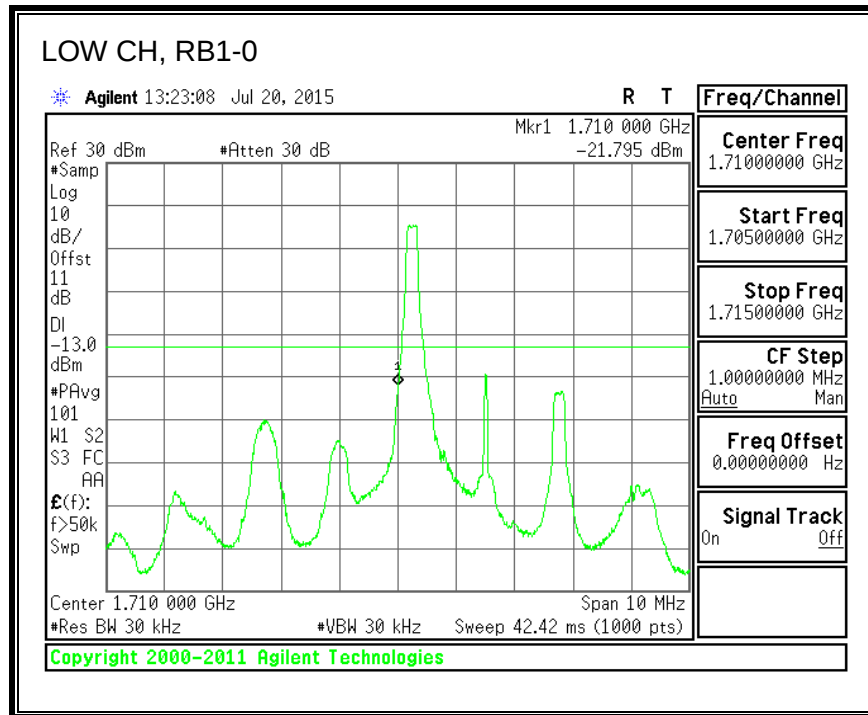


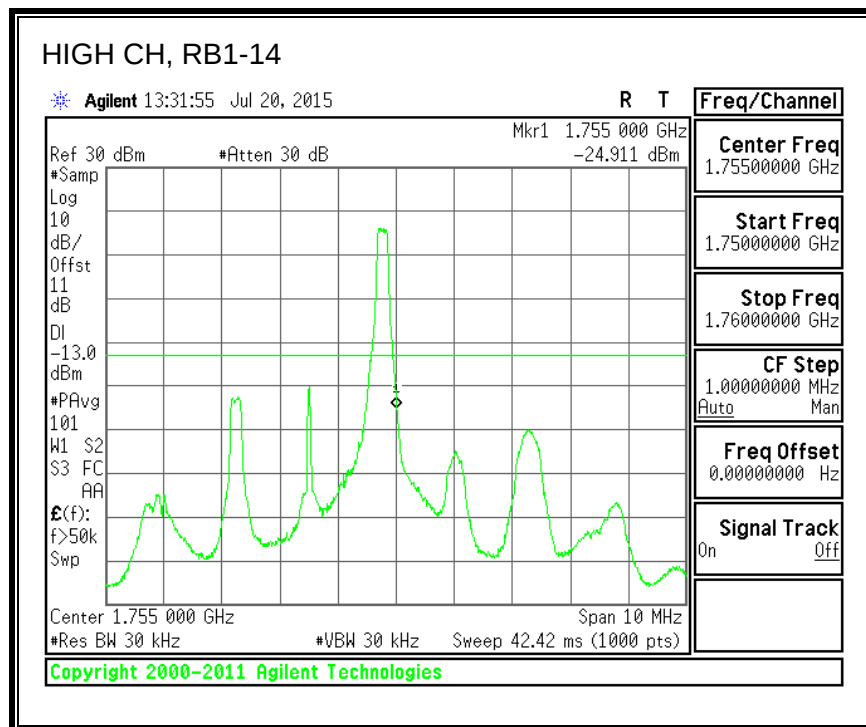
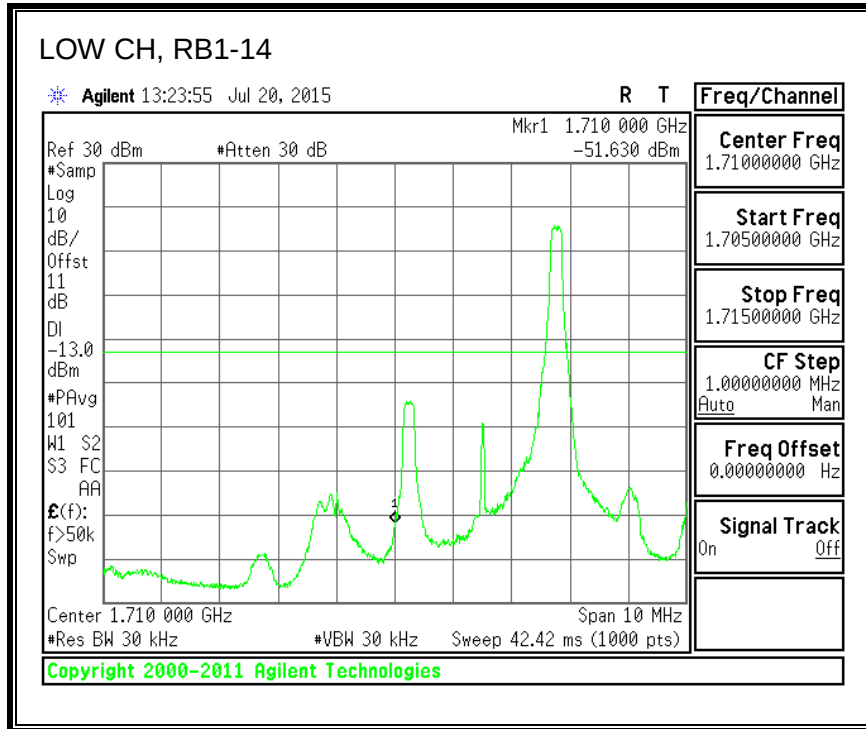


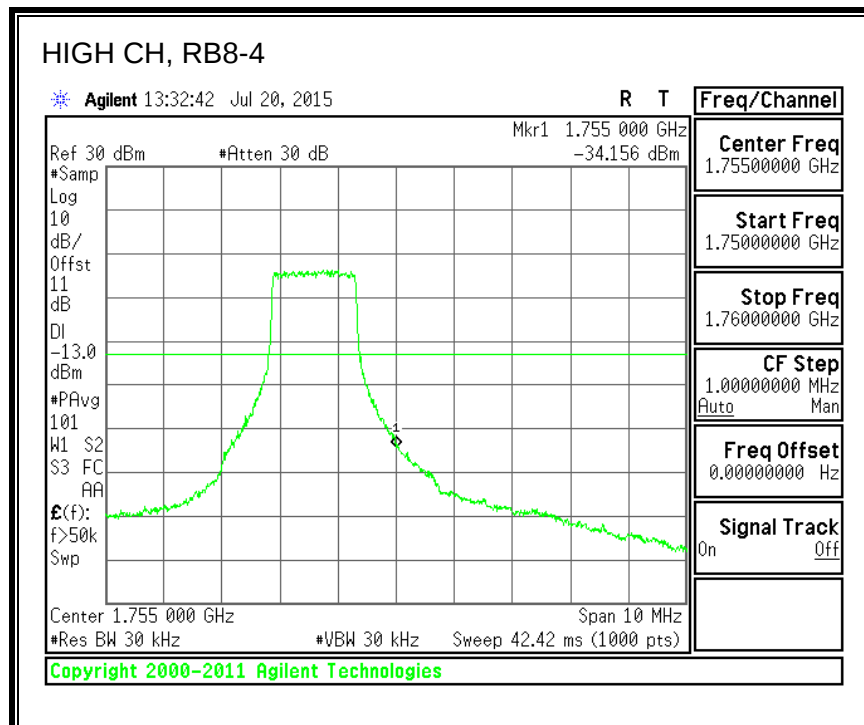
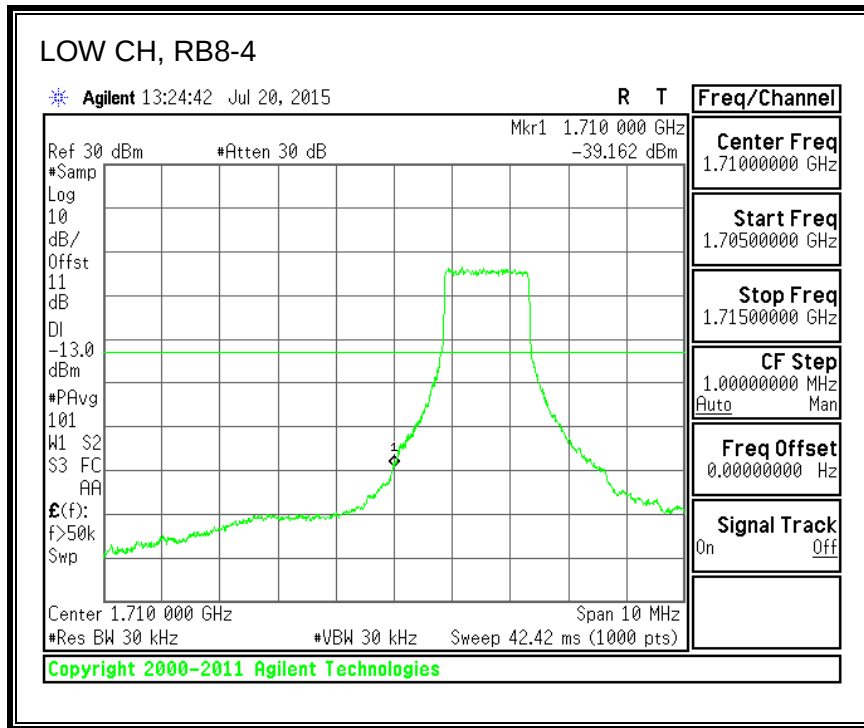


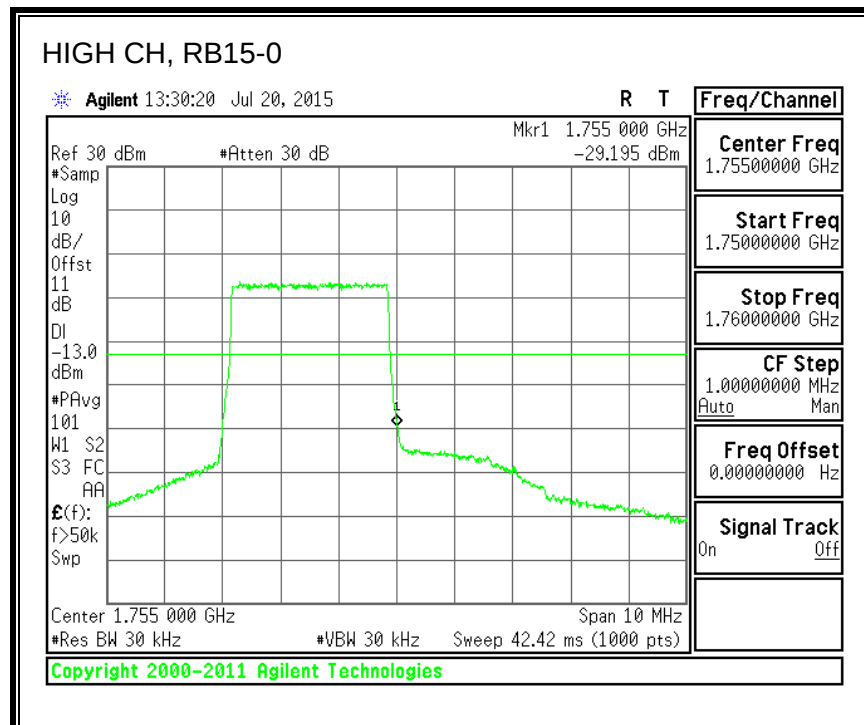
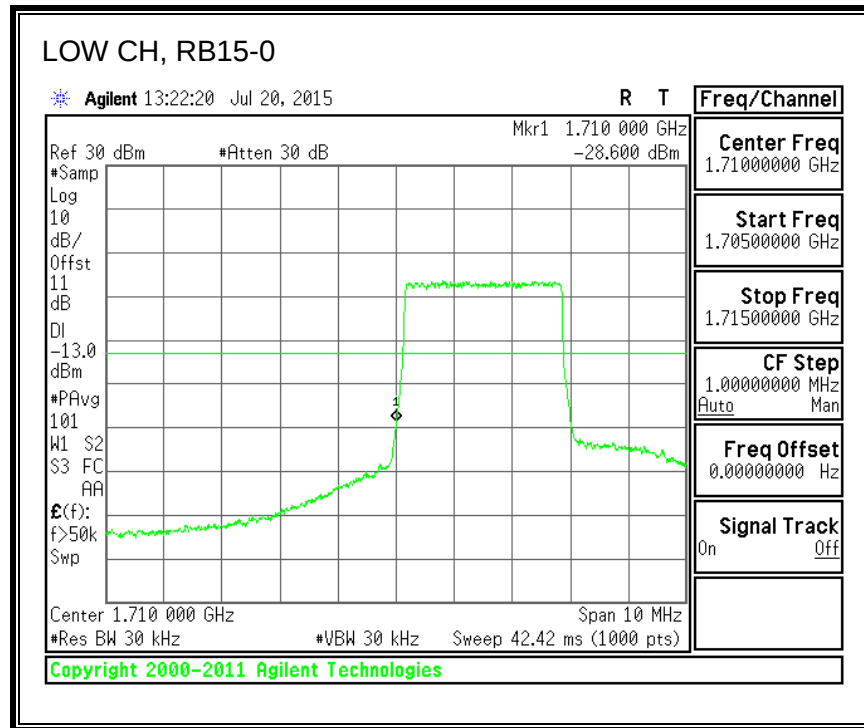


**16QAM, (3.0 MHz BAND WIDTH)**

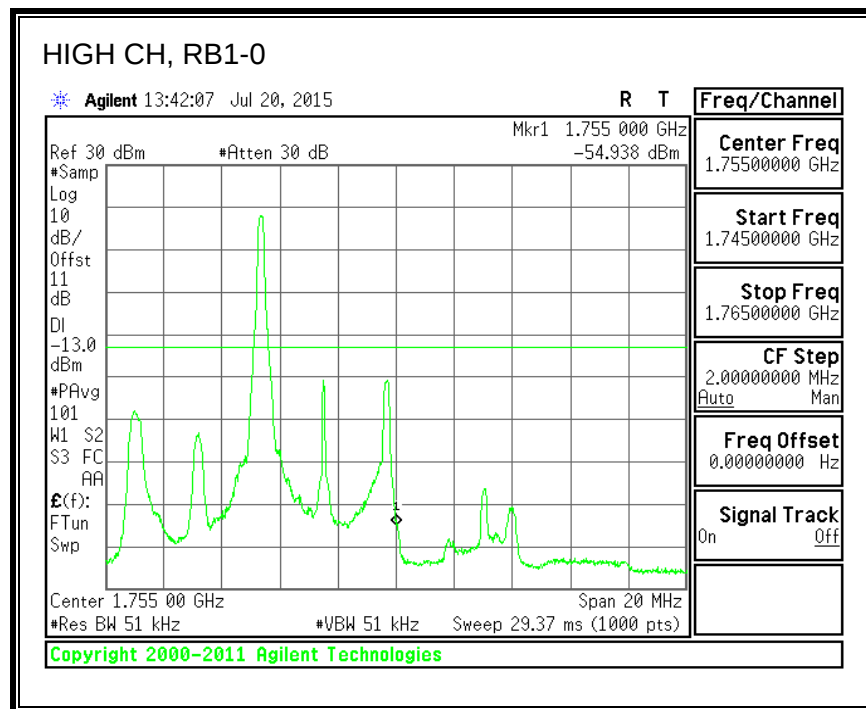
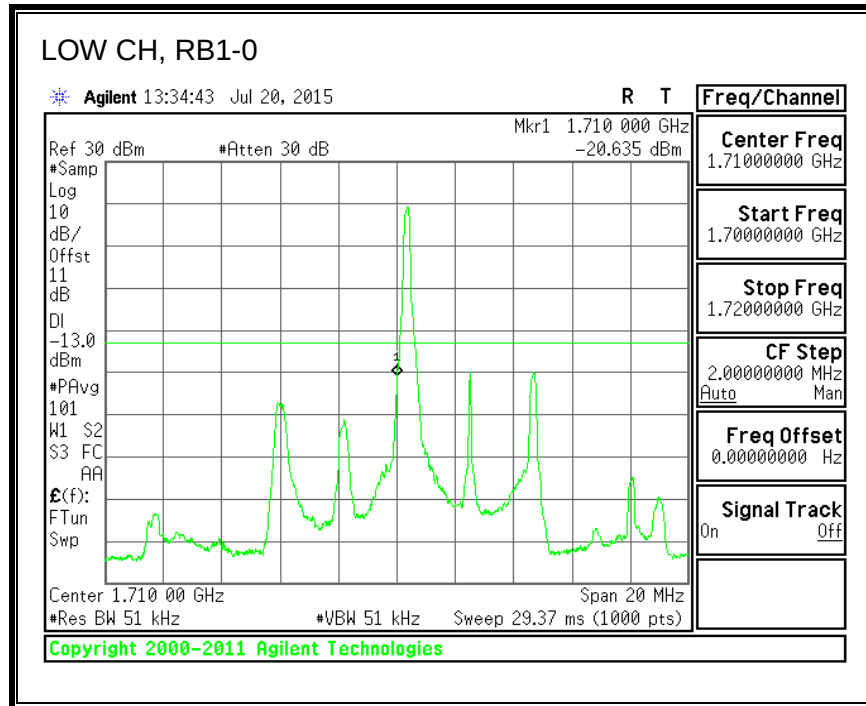


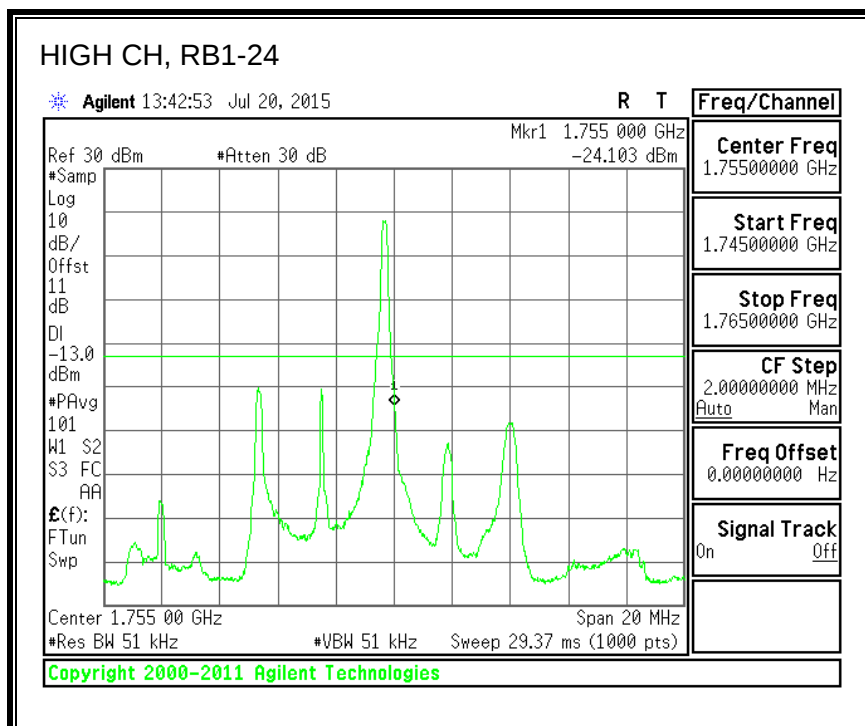
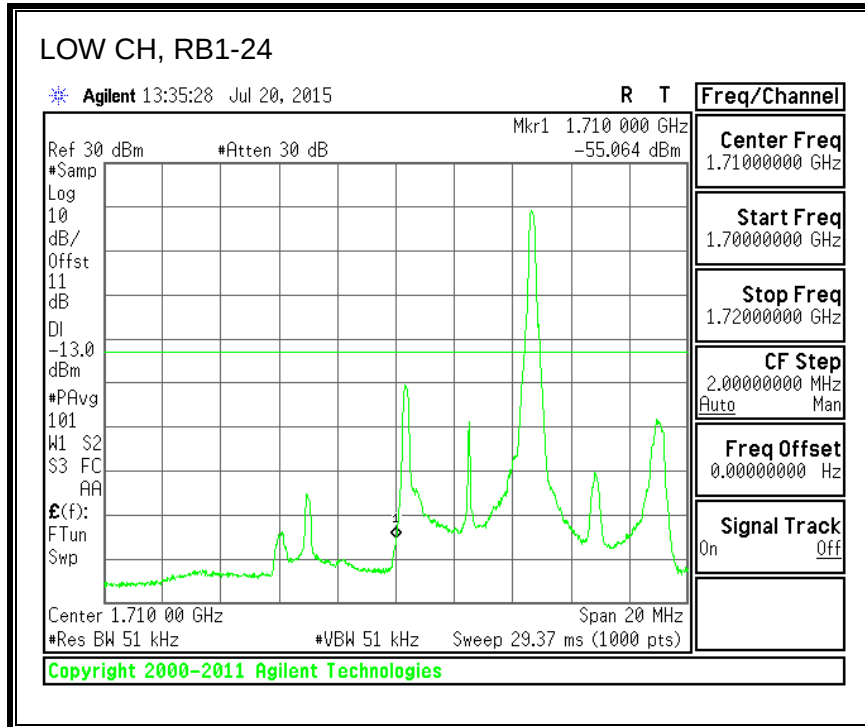


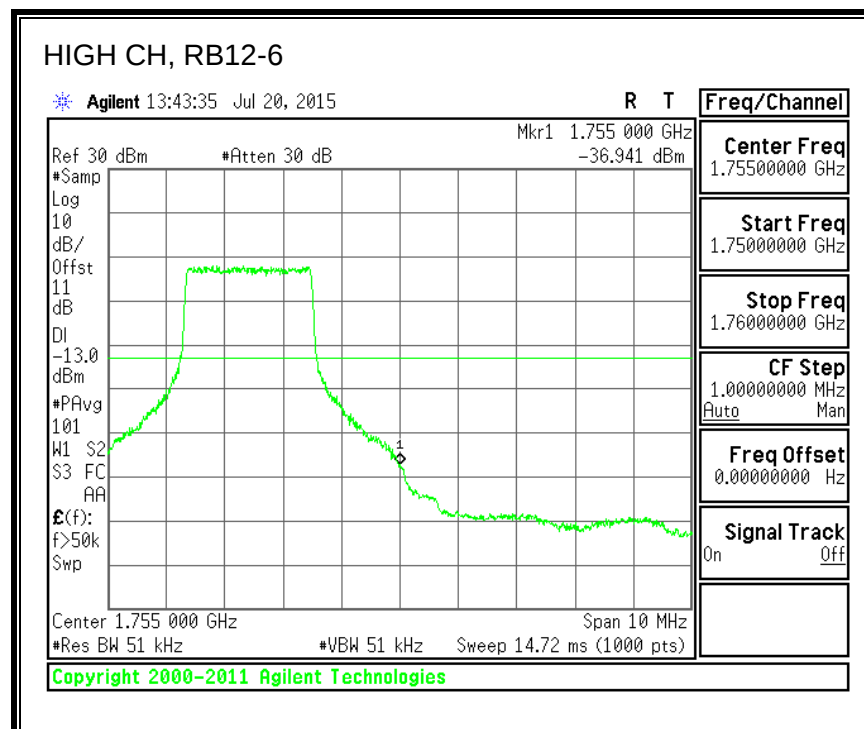
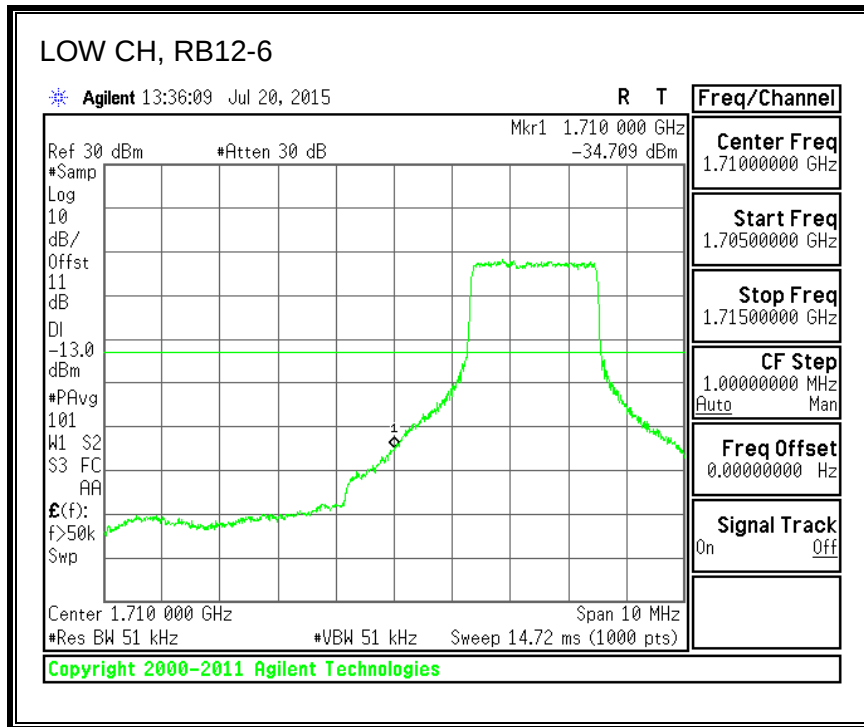


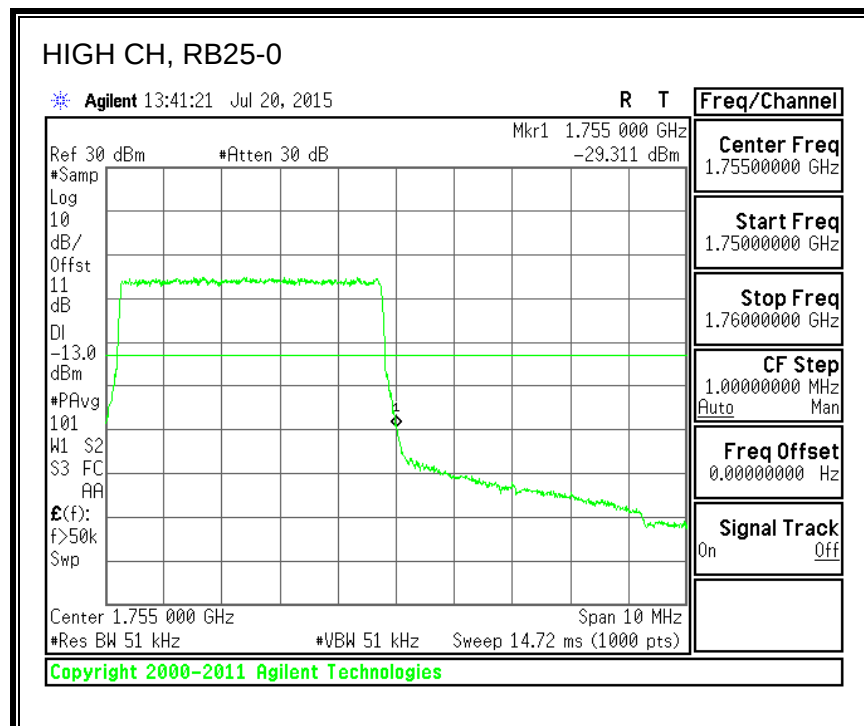
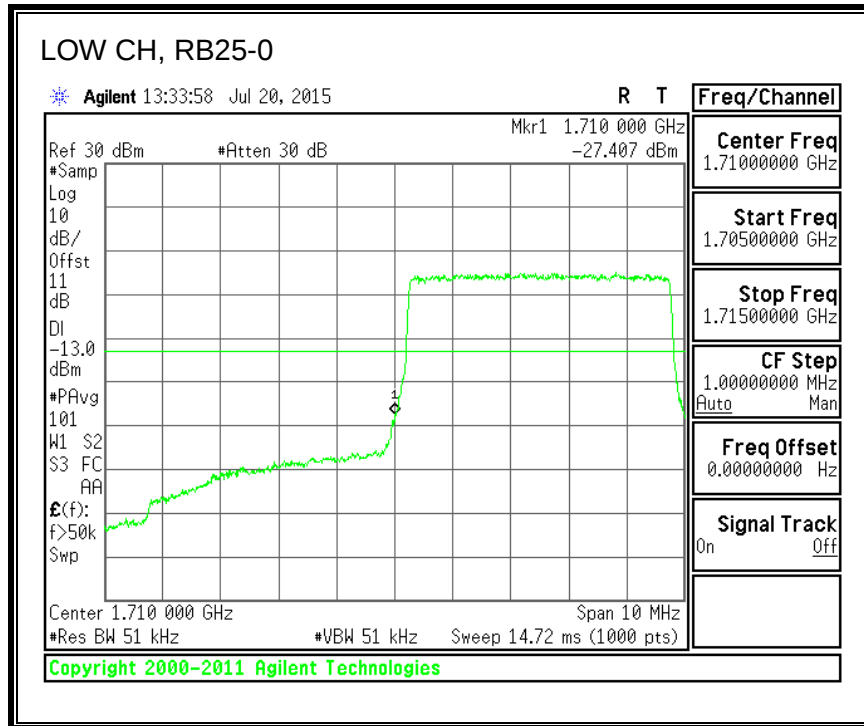


**QPSK, (5.0 MHz BAND WIDTH)**

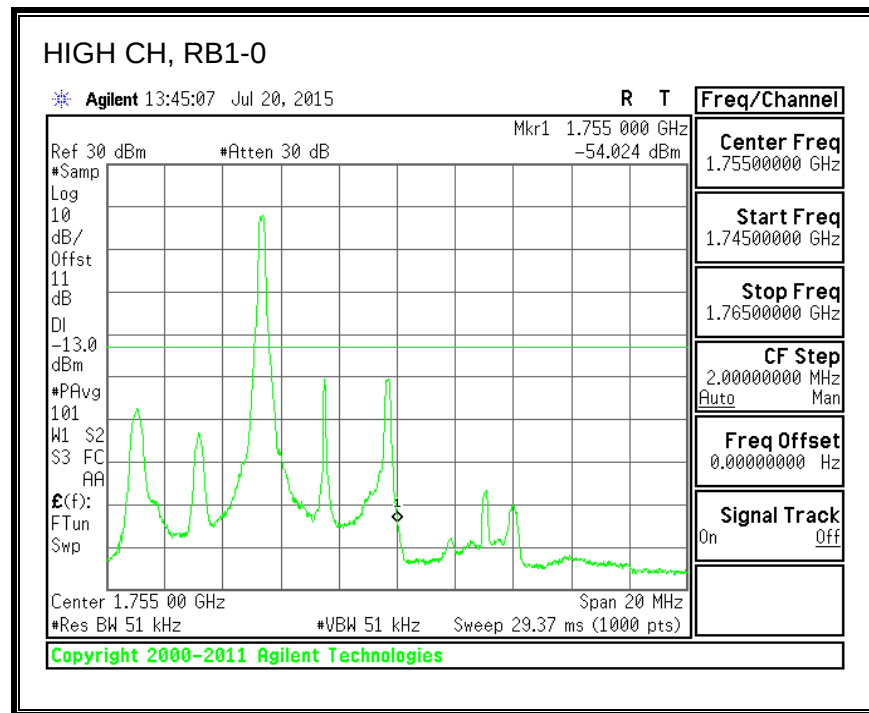
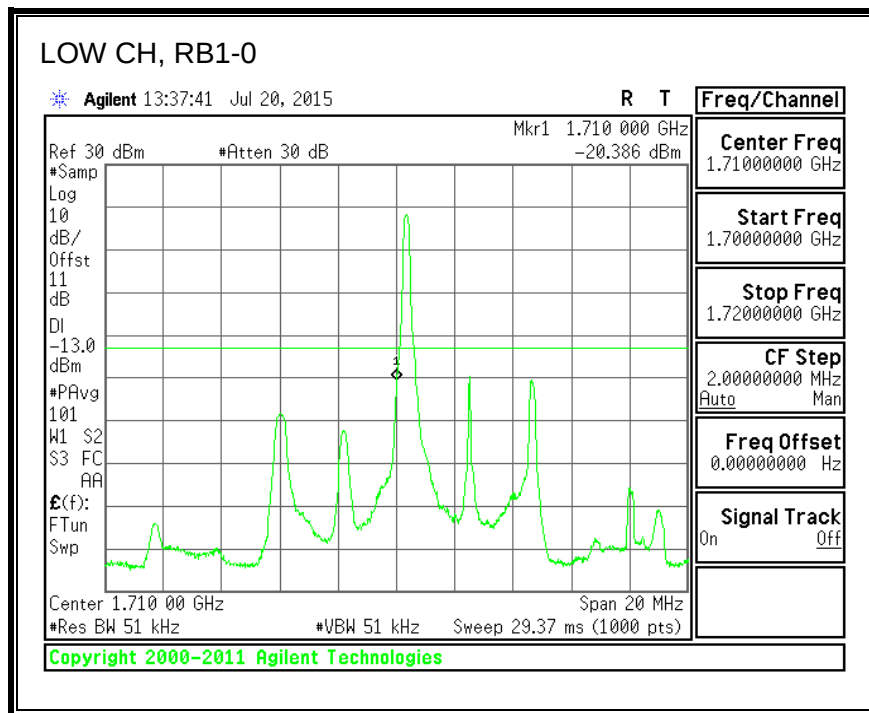


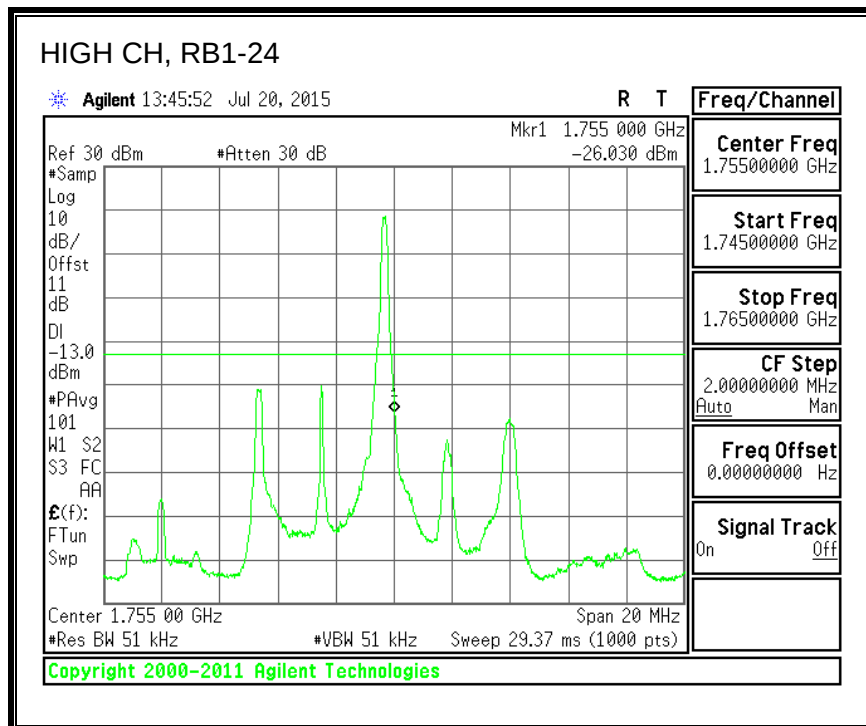
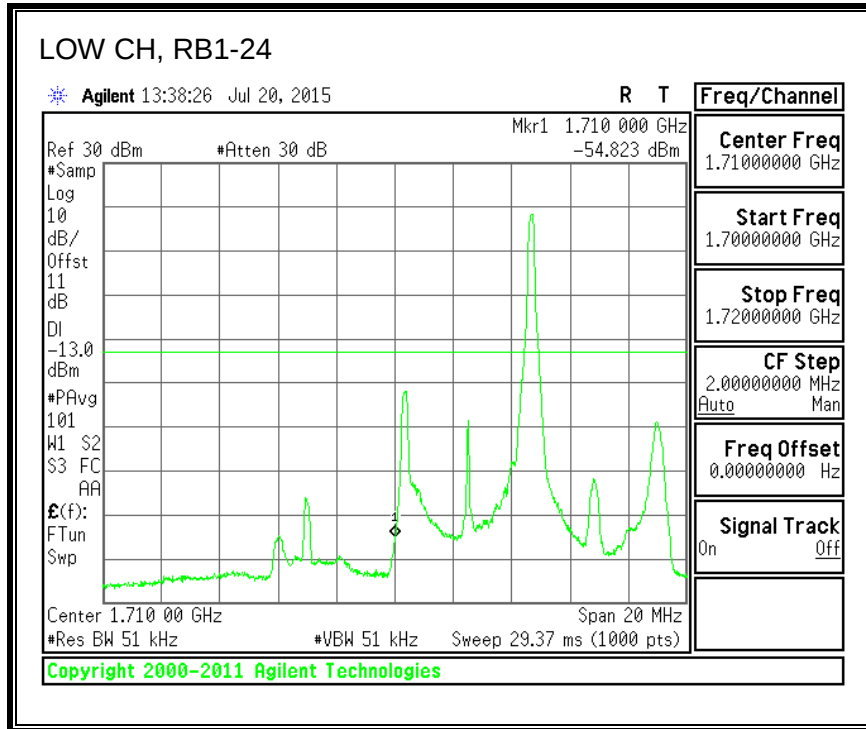


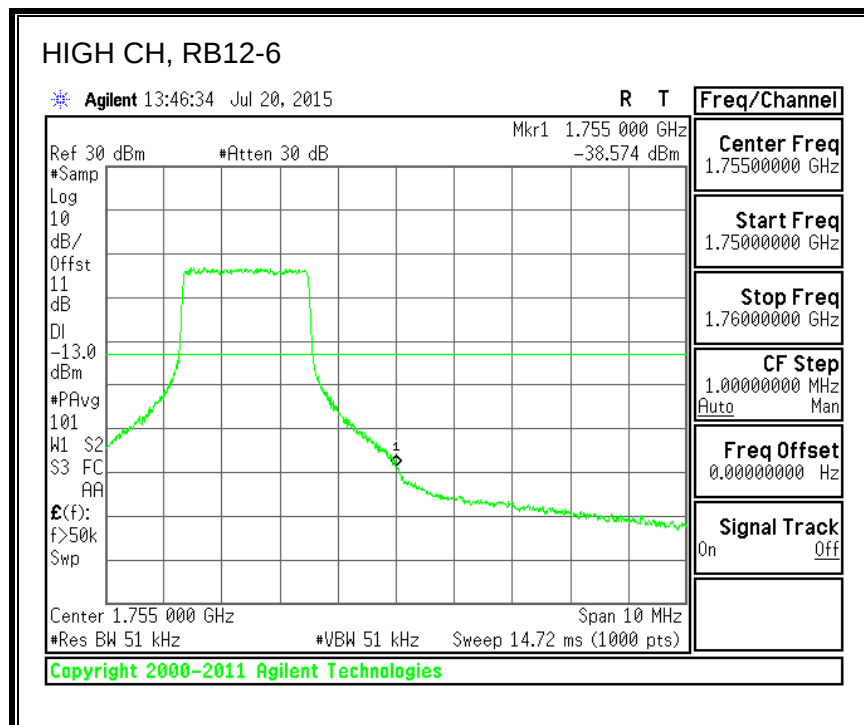
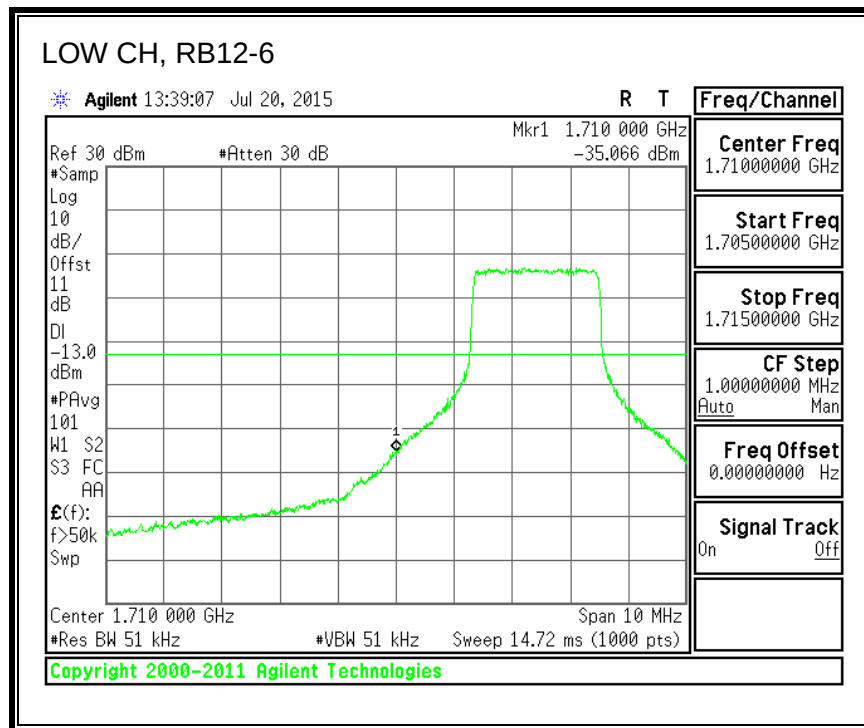




**16QAM, (5.0 MHz BAND WIDTH)**





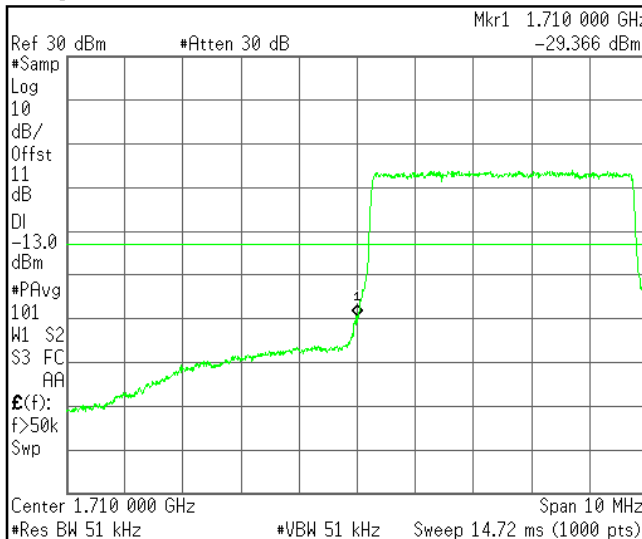


### LOW CH, RB25-0

Agilent 13:36:56 Jul 20, 2015

R T

Freq/Channel



Center Freq  
1.71000000 GHz

Start Freq  
1.70500000 GHz

Stop Freq  
1.71500000 GHz

CF Step  
1.00000000 MHz  
Auto Man

Freq Offset  
0.00000000 Hz

Signal Track  
On Off

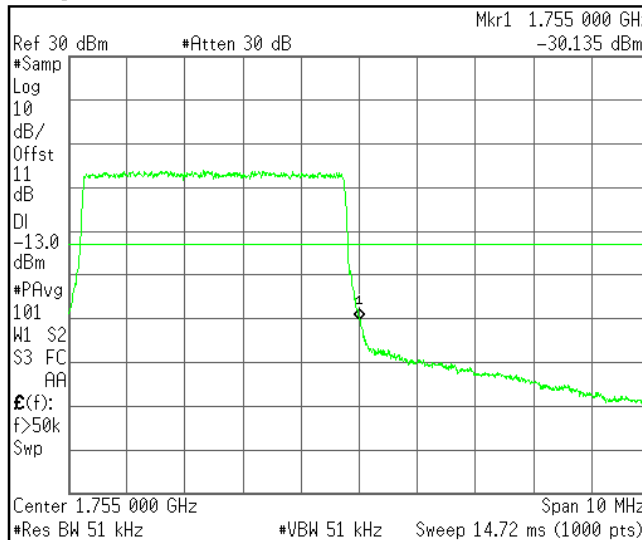
Copyright 2000-2011 Agilent Technologies

### HIGH CH, RB25-0

Agilent 13:44:22 Jul 20, 2015

R T

Freq/Channel



Center Freq  
1.75500000 GHz

Start Freq  
1.75000000 GHz

Stop Freq  
1.76000000 GHz

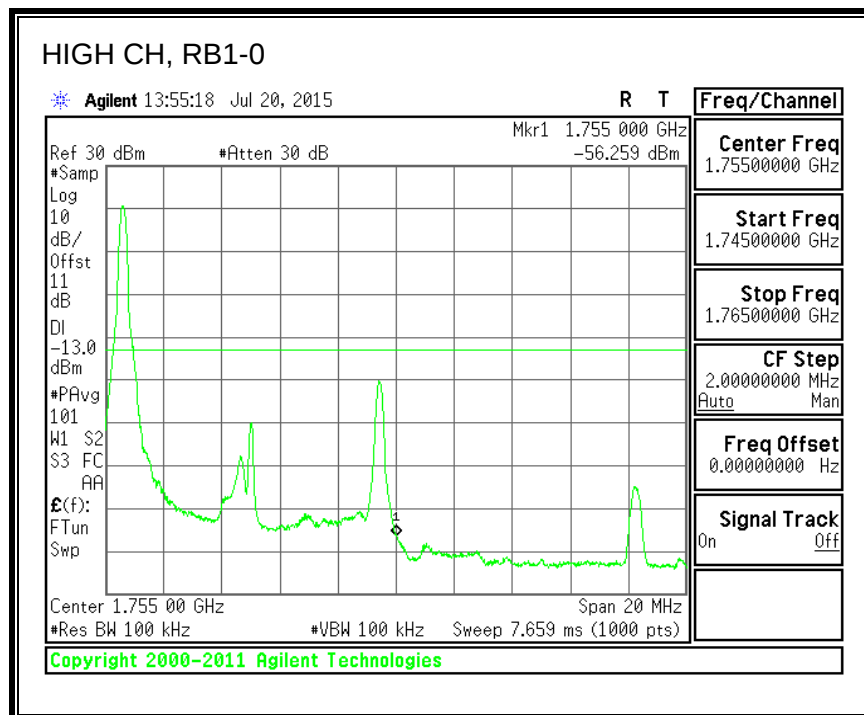
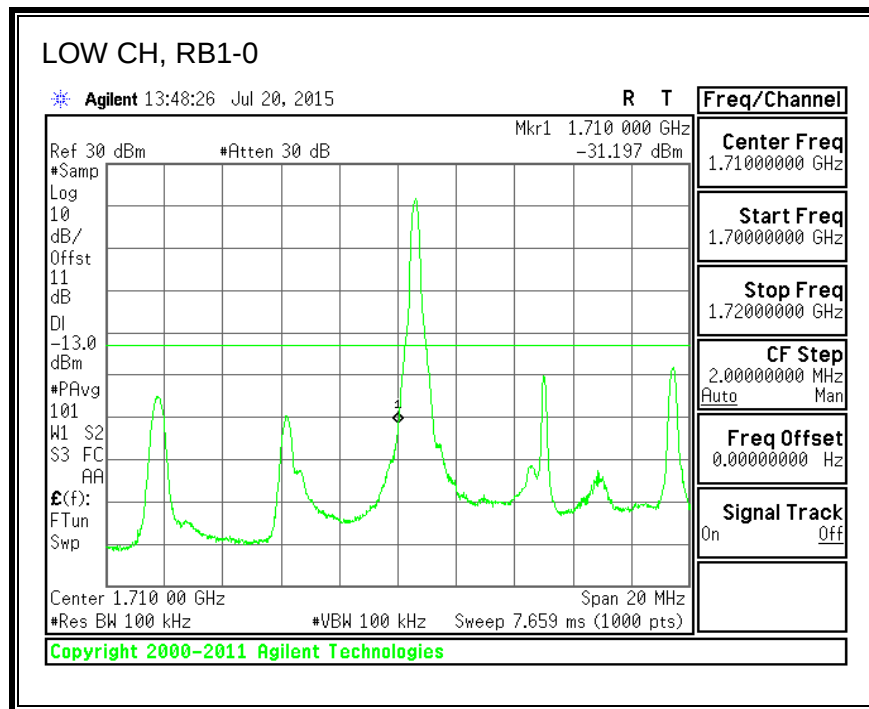
CF Step  
1.00000000 MHz  
Auto Man

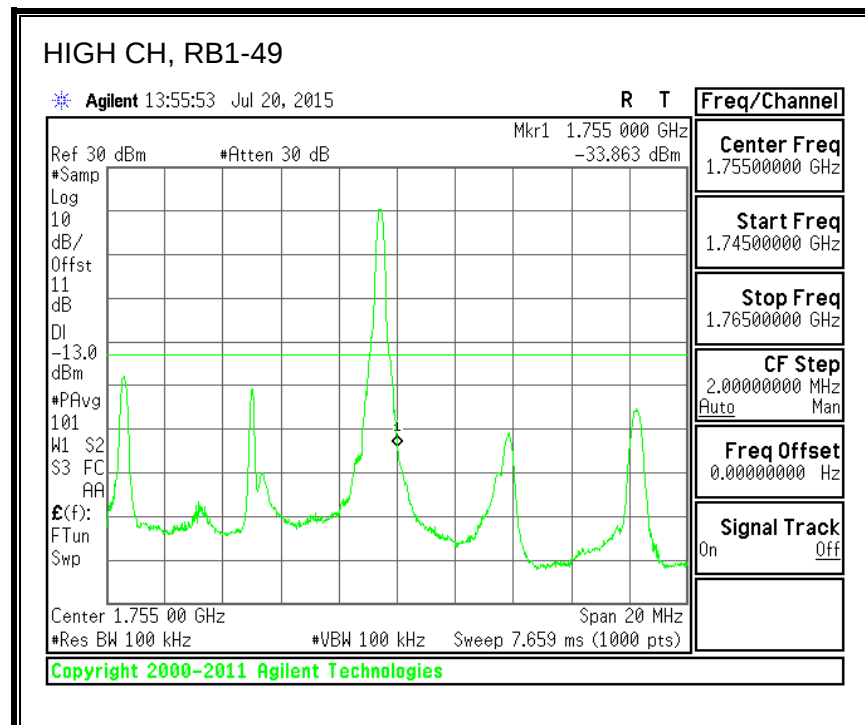
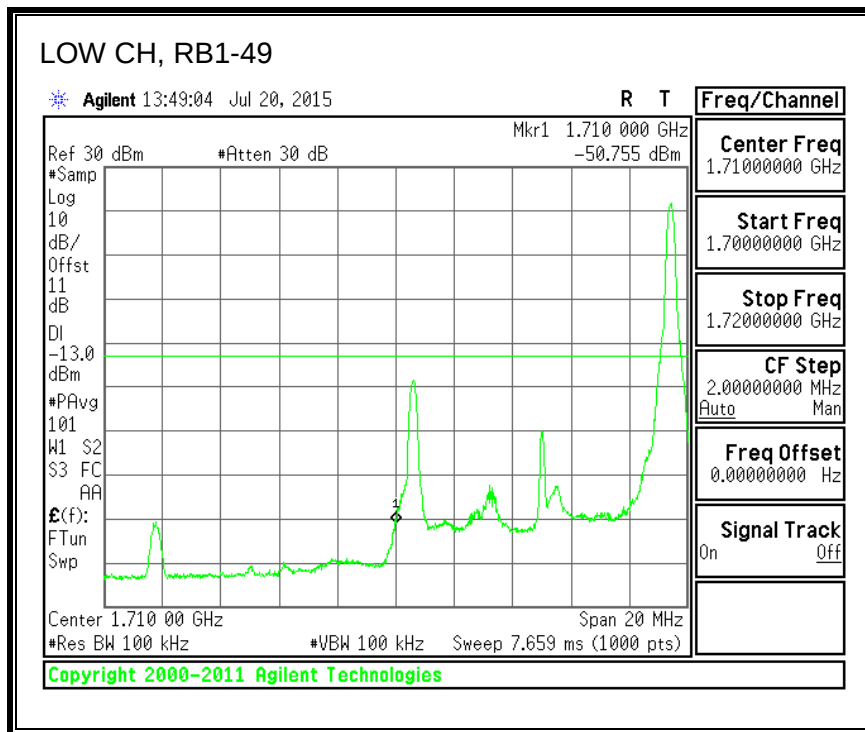
Freq Offset  
0.00000000 Hz

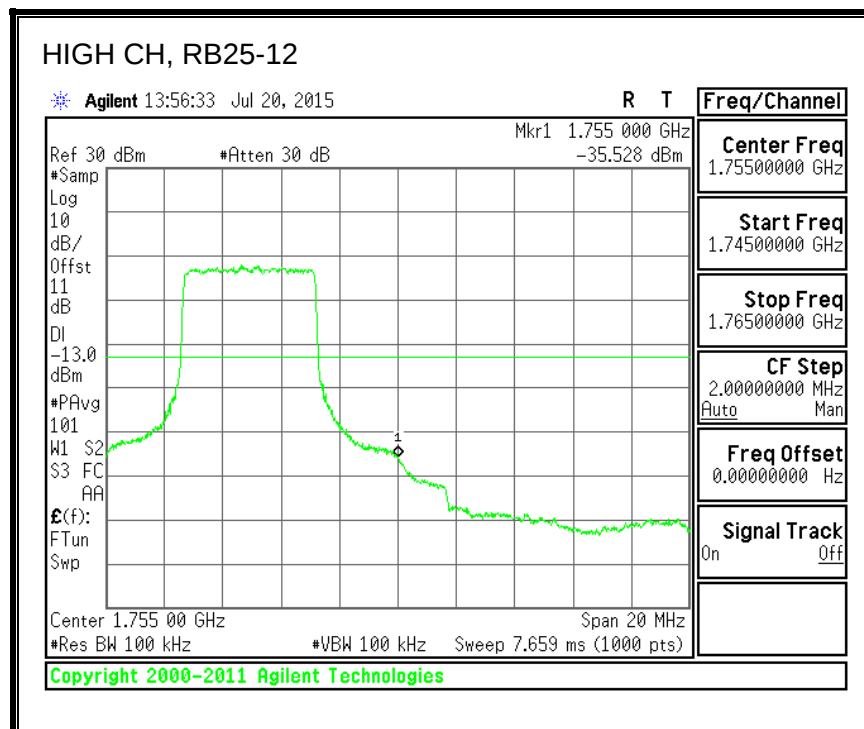
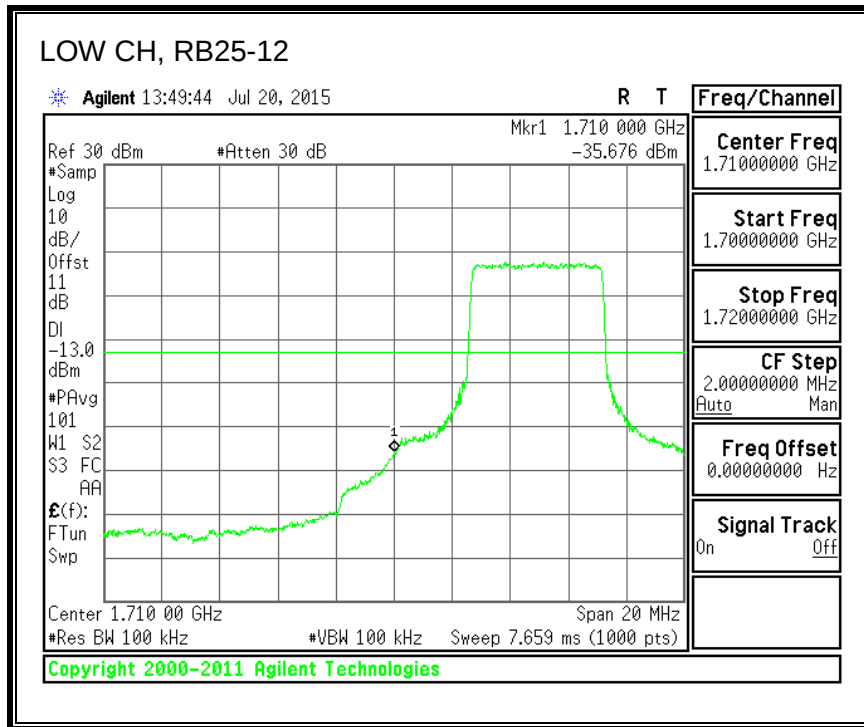
Signal Track  
On Off

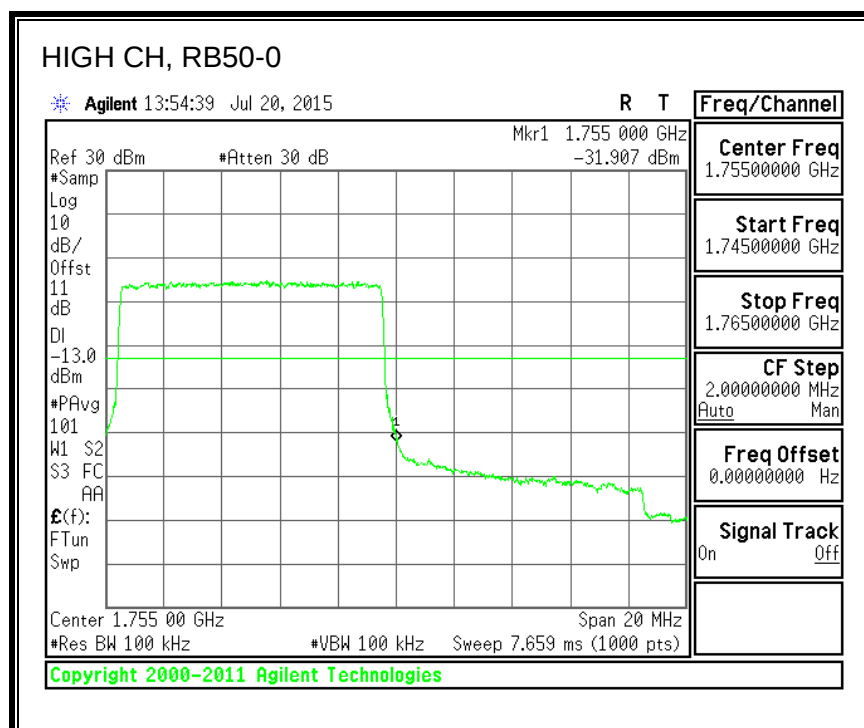
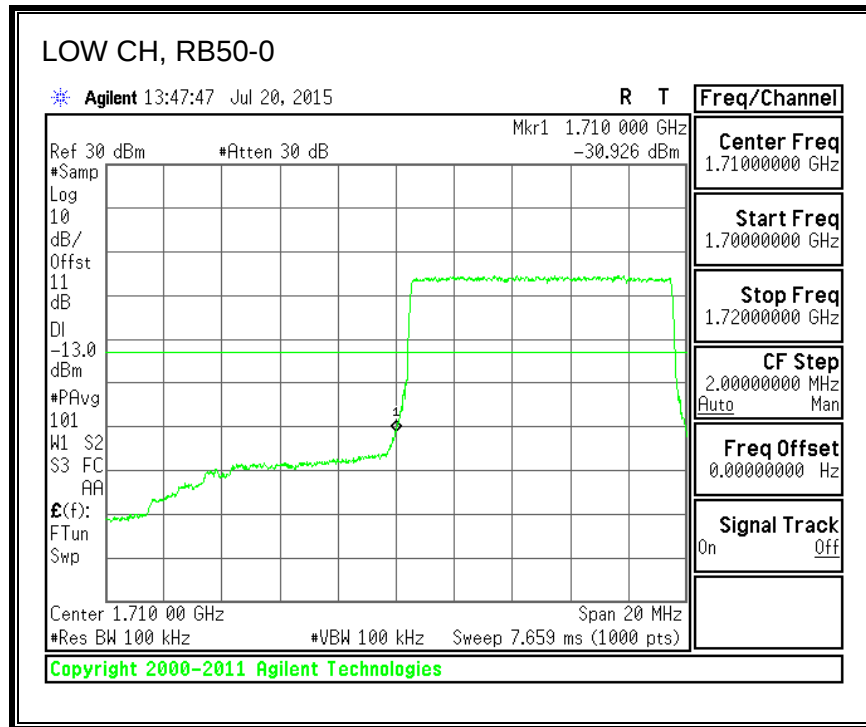
Copyright 2000-2011 Agilent Technologies

**QPSK, (10.0 MHz BAND WIDTH)**

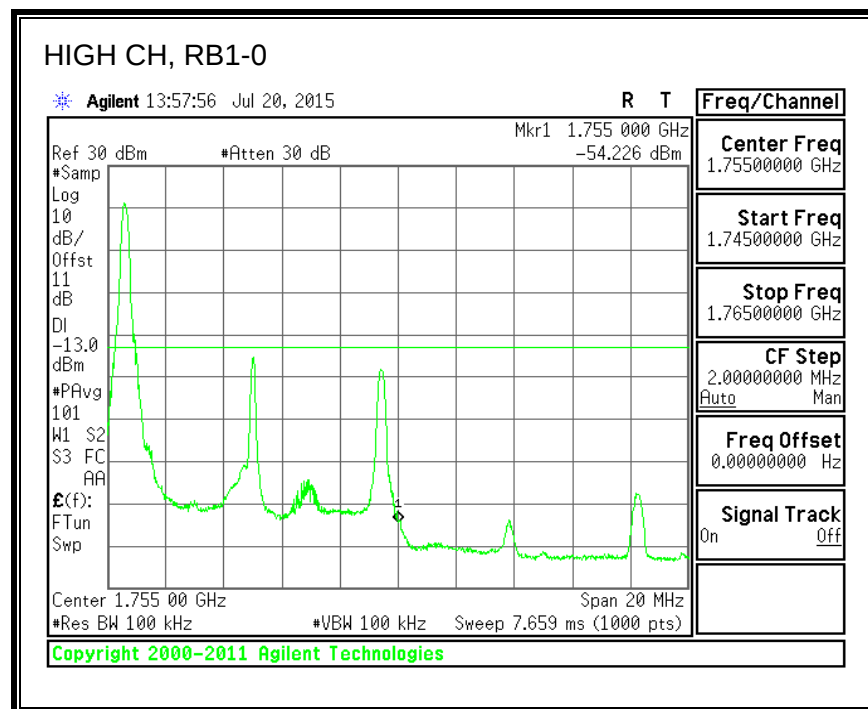
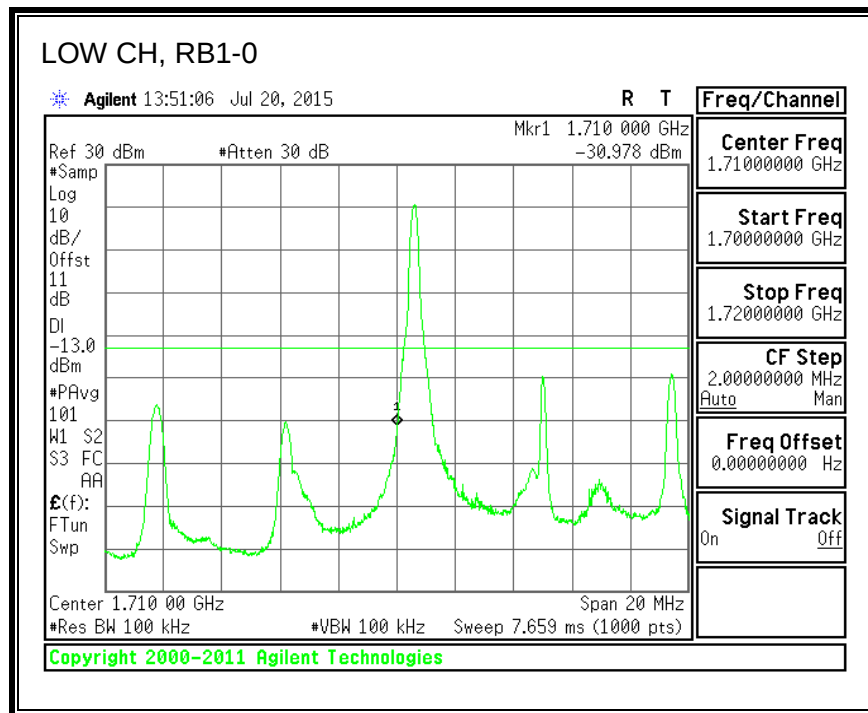


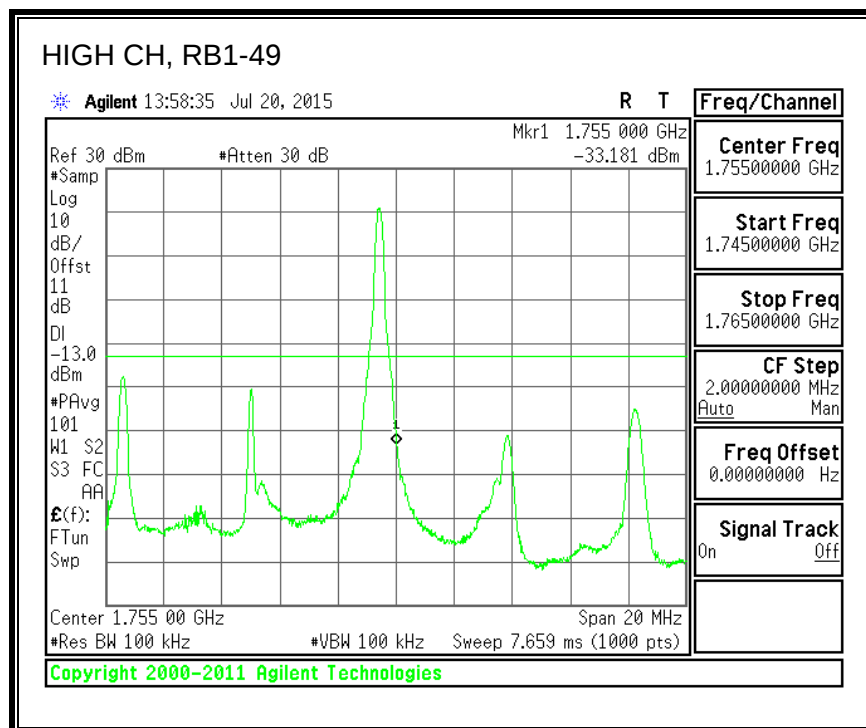
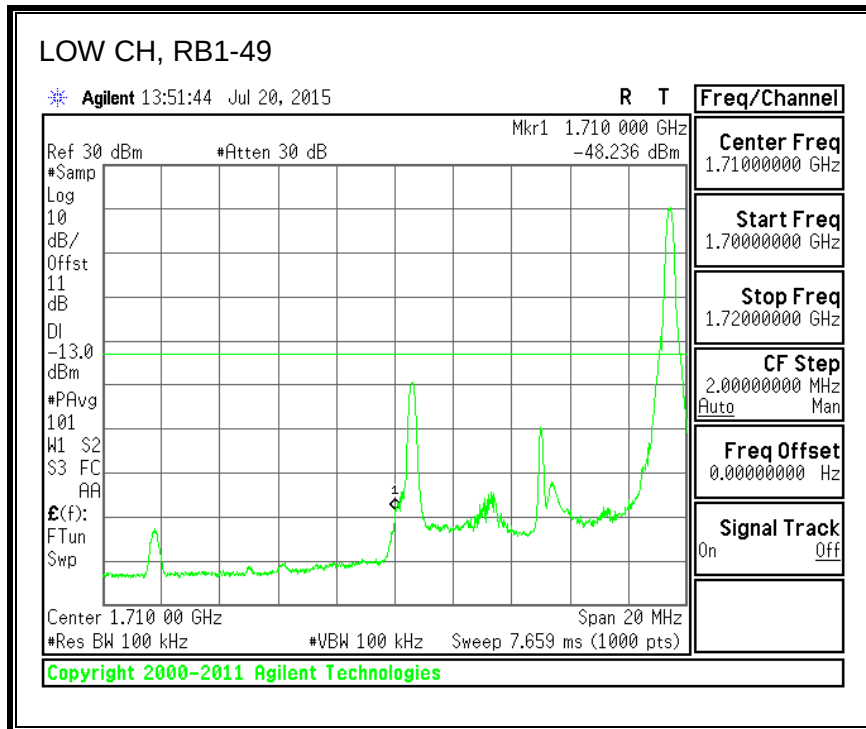


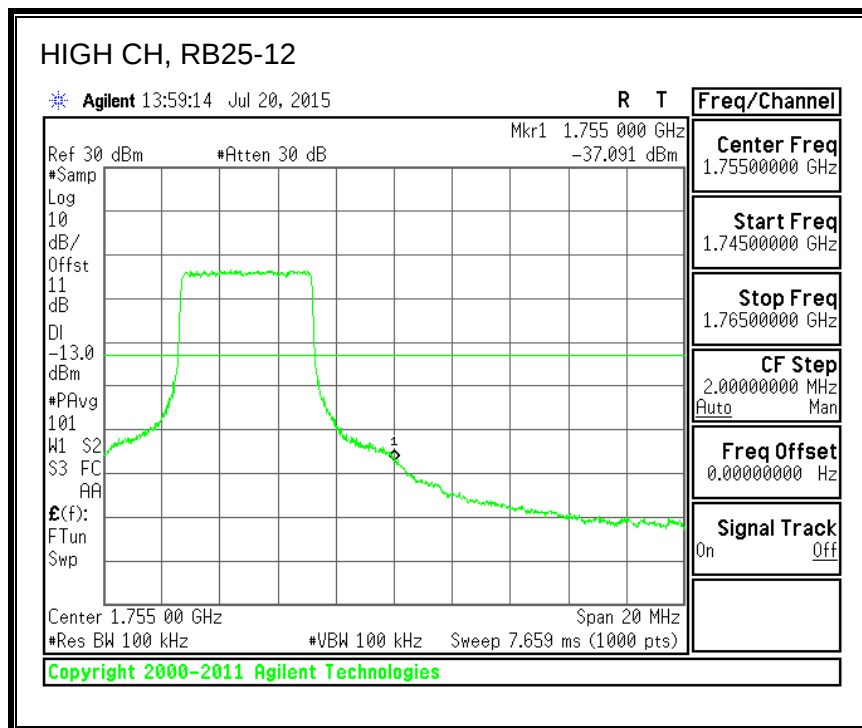
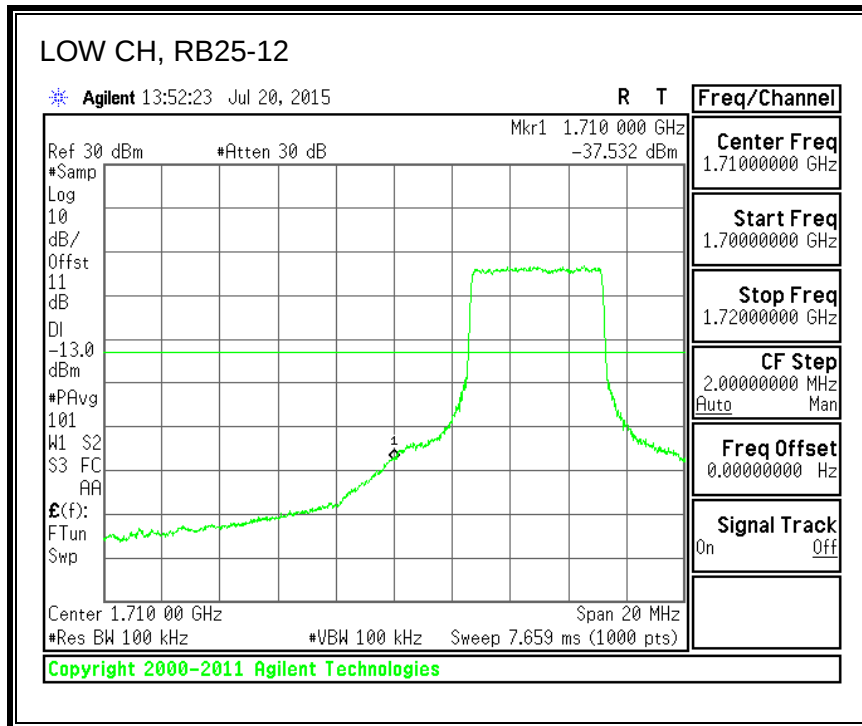


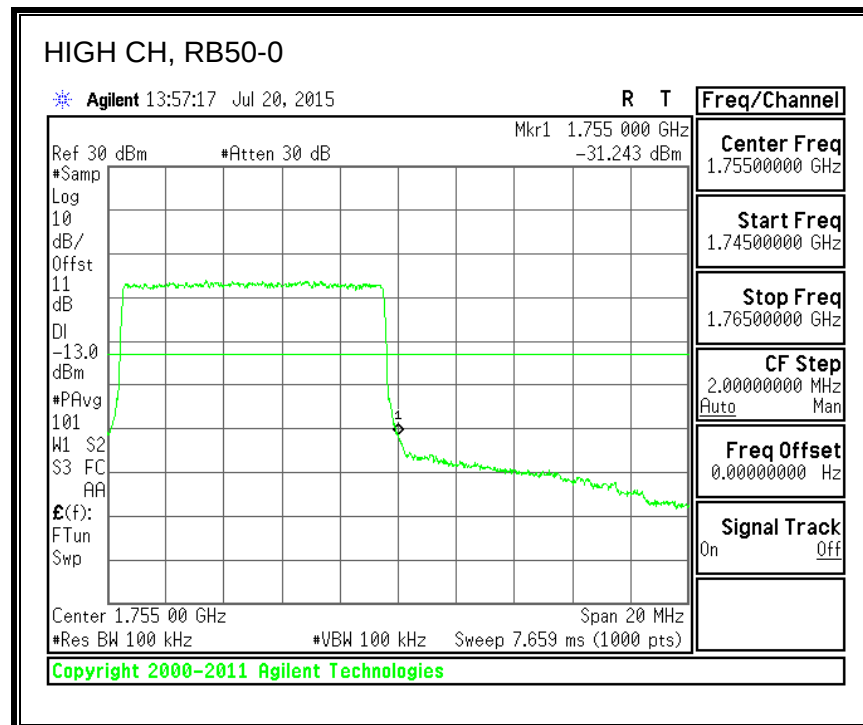
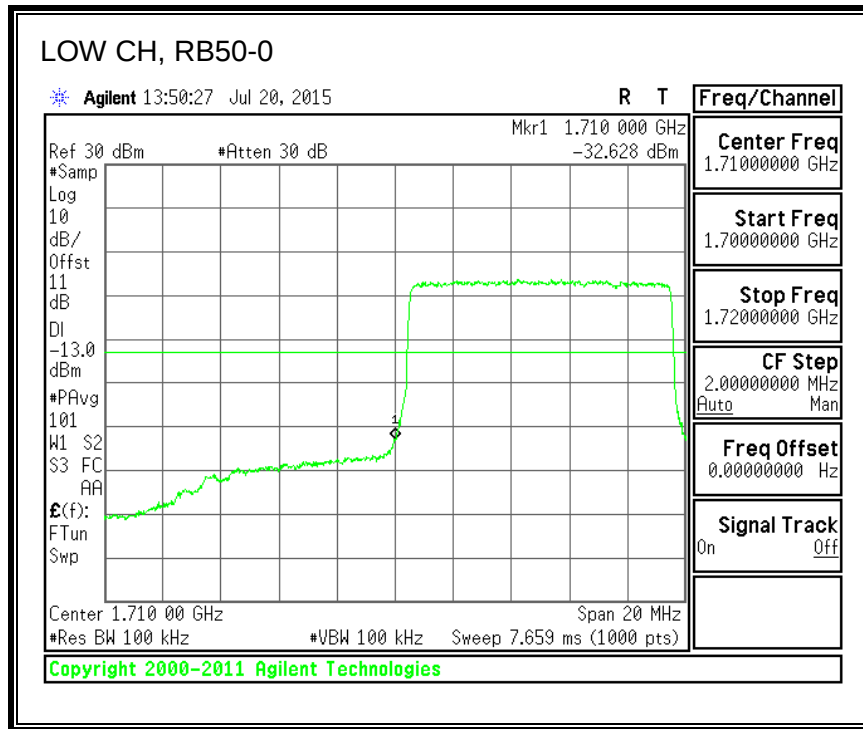


**16QAM, (10.0 MHz BAND WIDTH)**

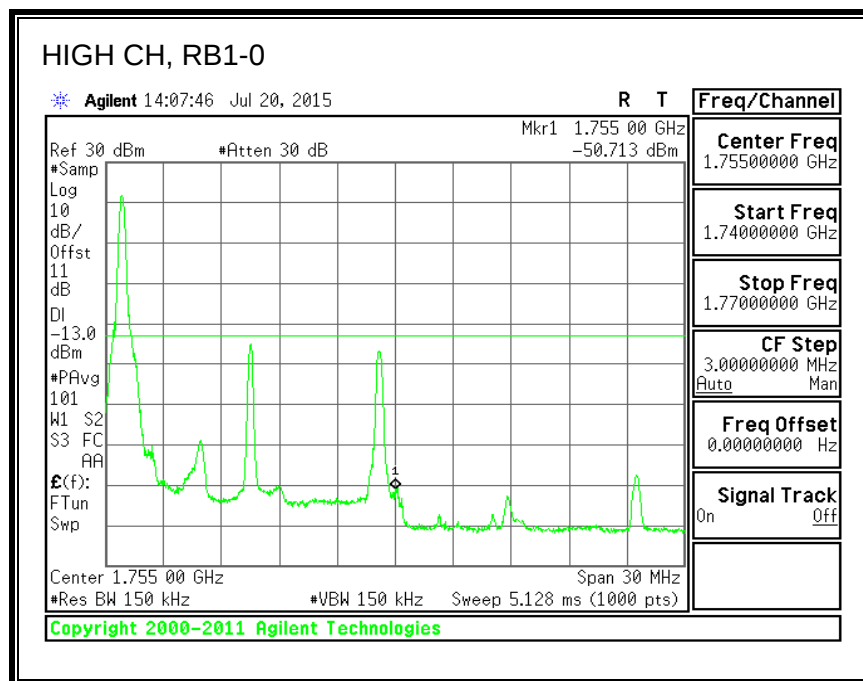
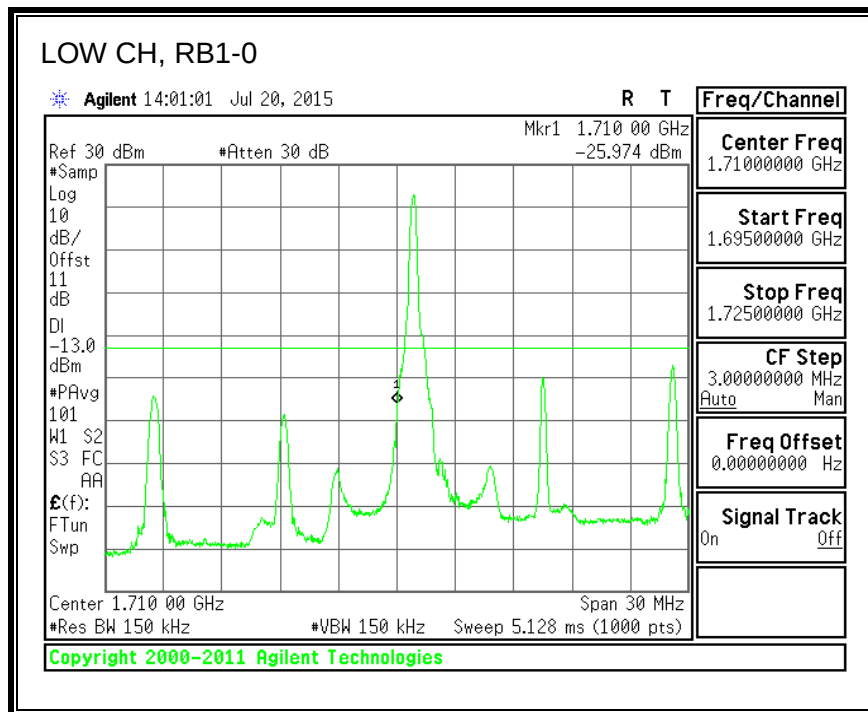


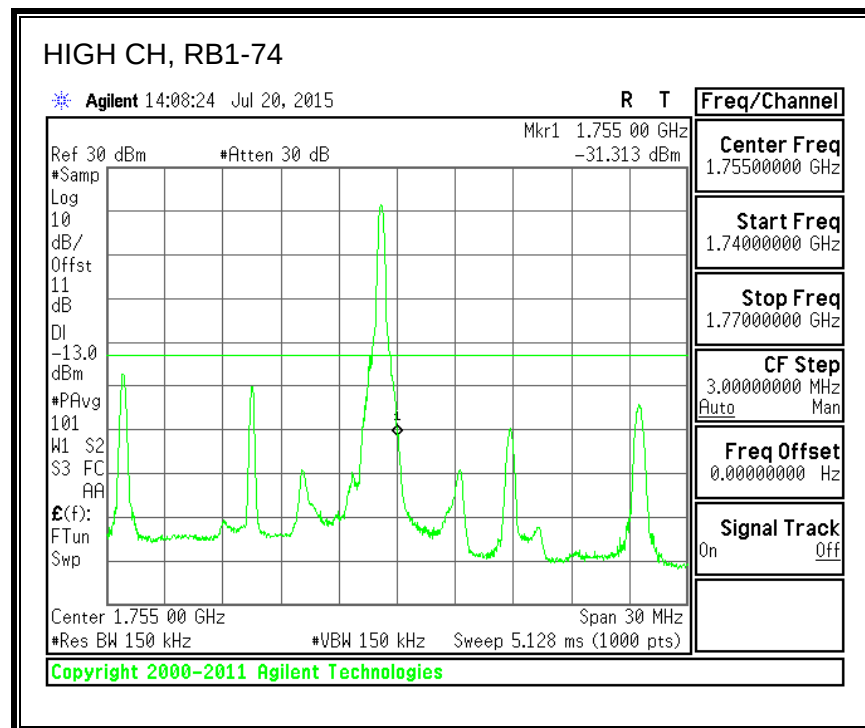
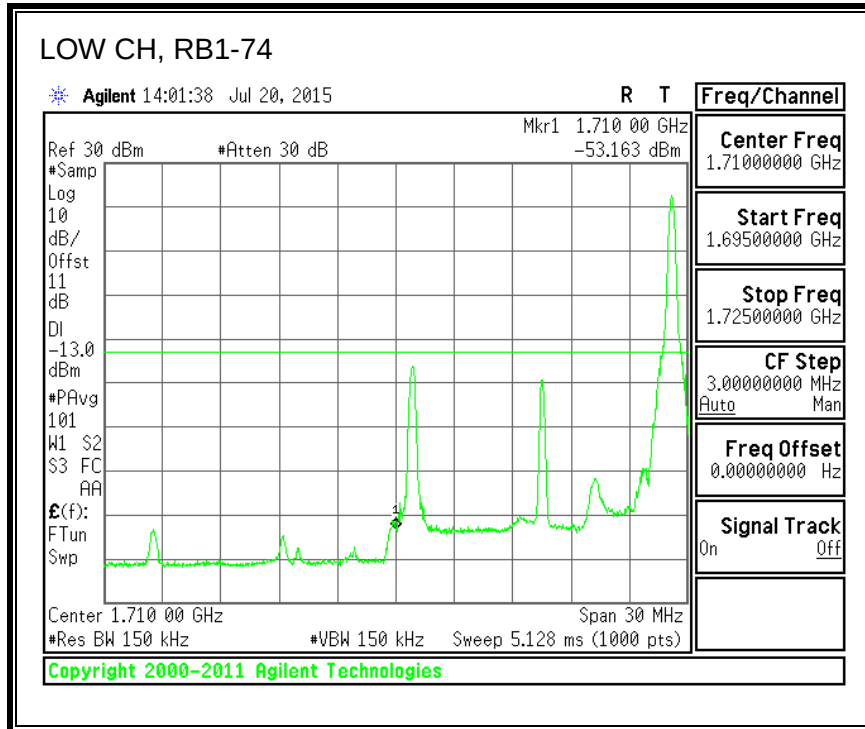


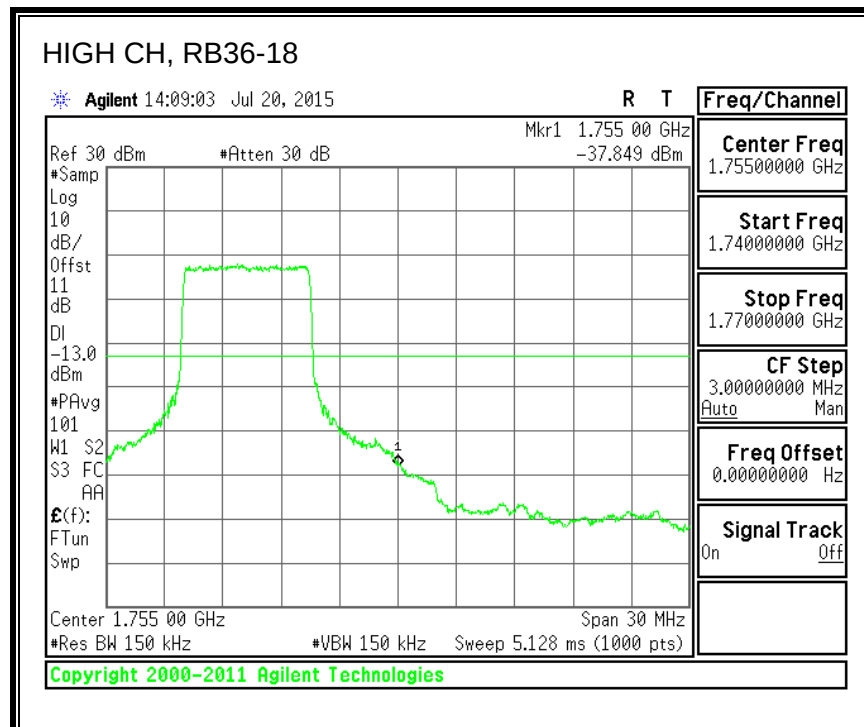
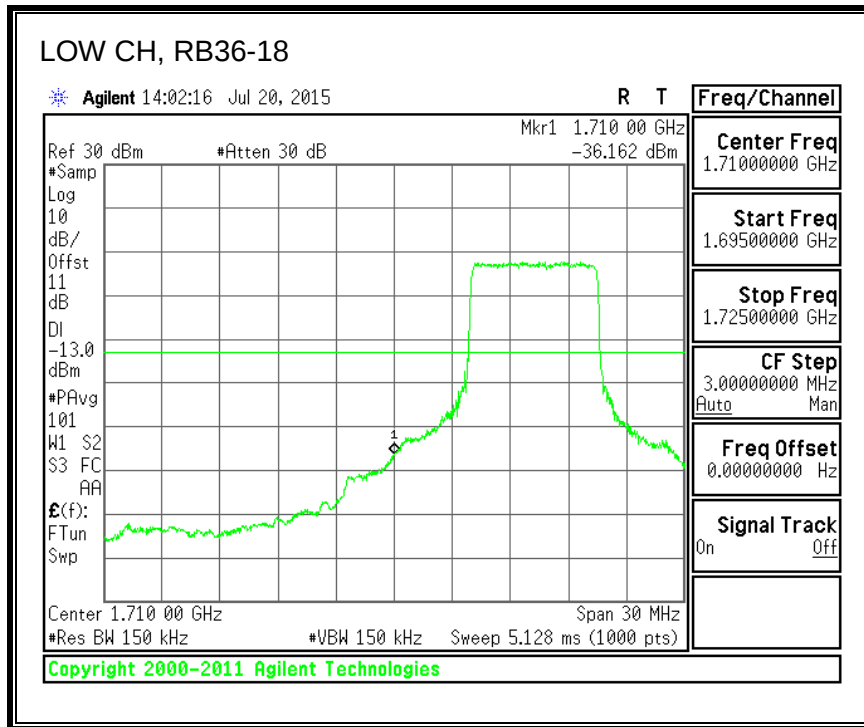


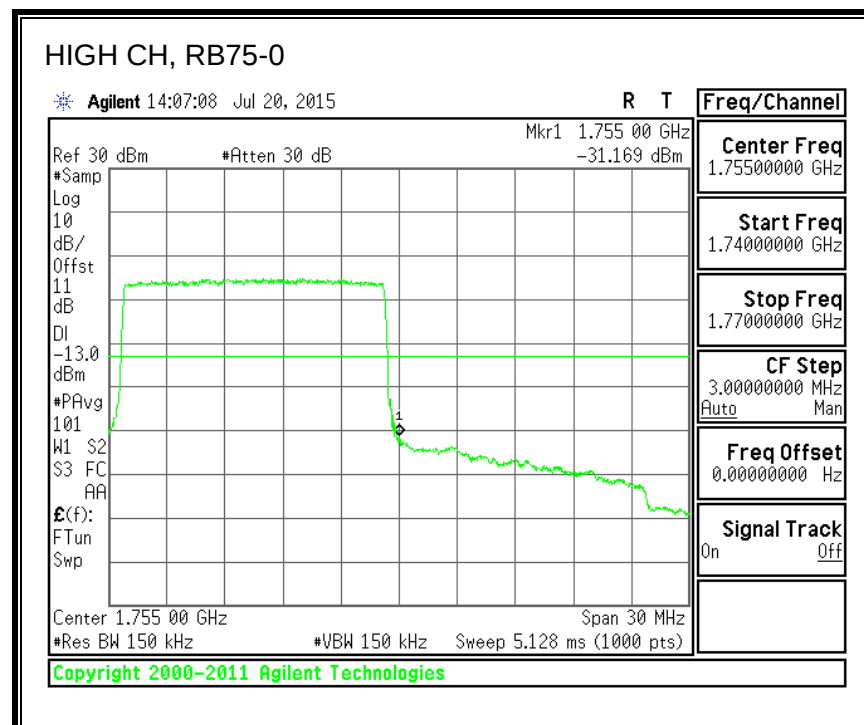
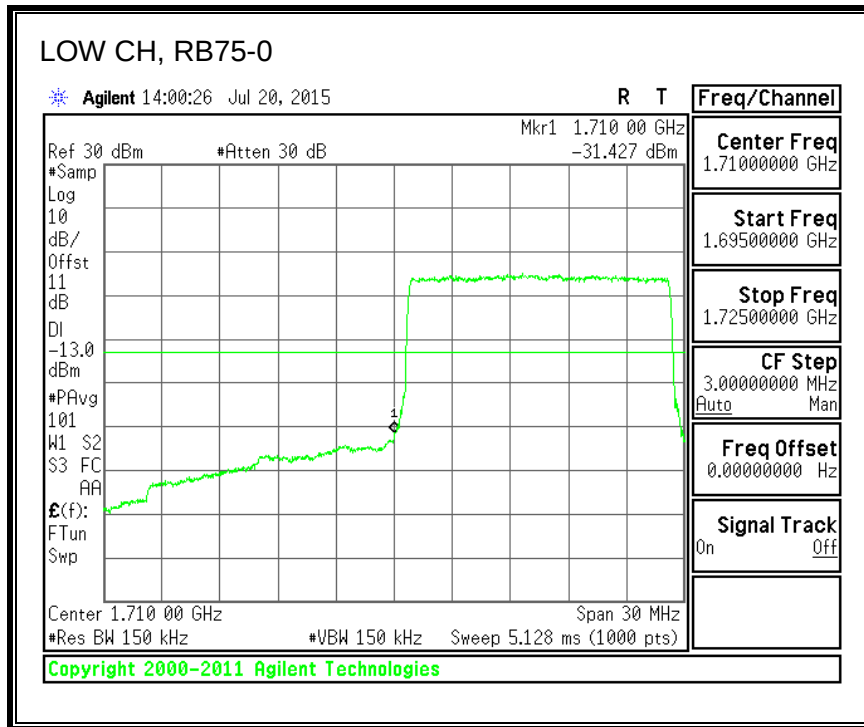


**QPSK, (15.0 MHz BAND WIDTH)**

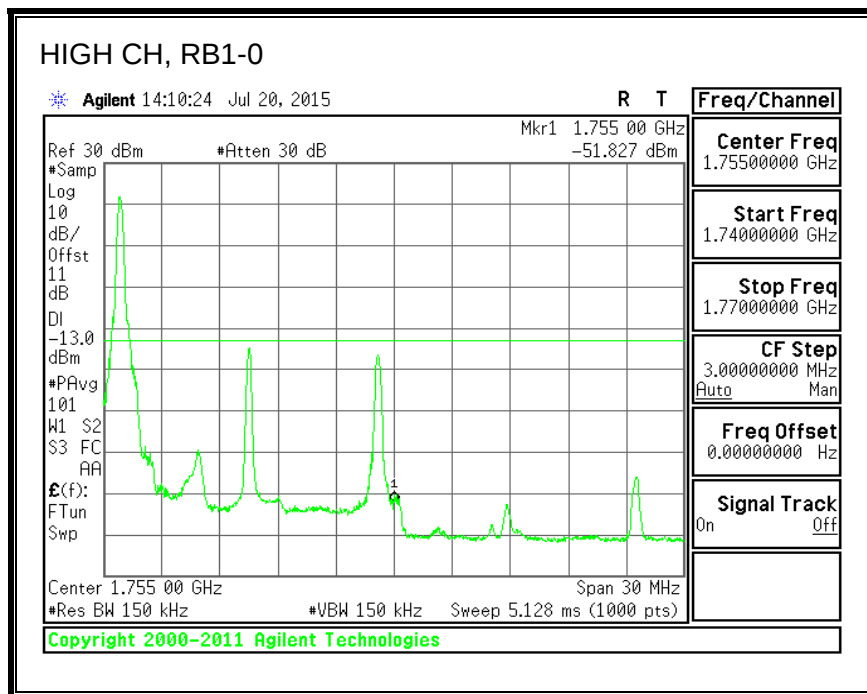
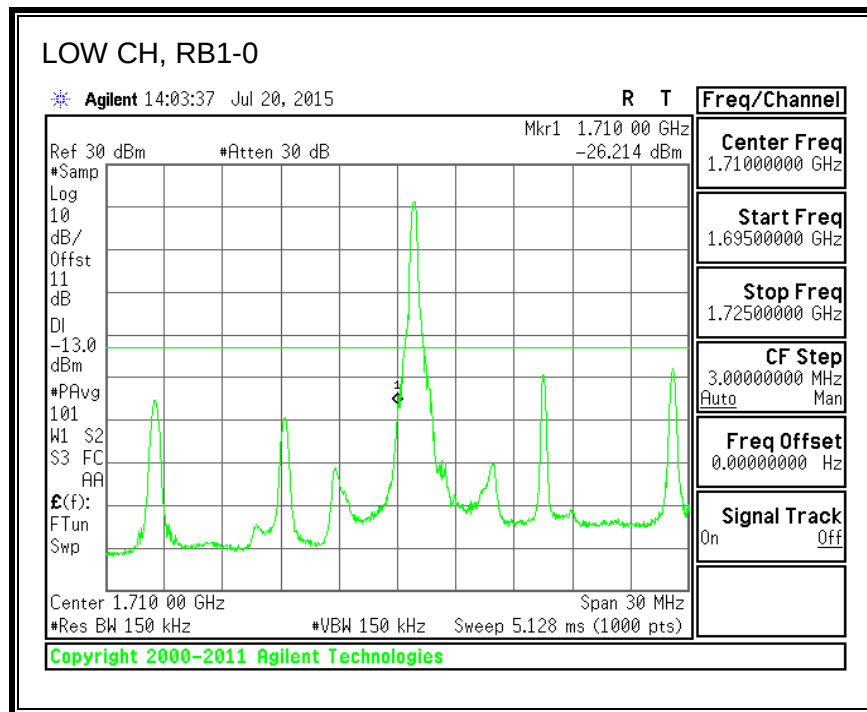


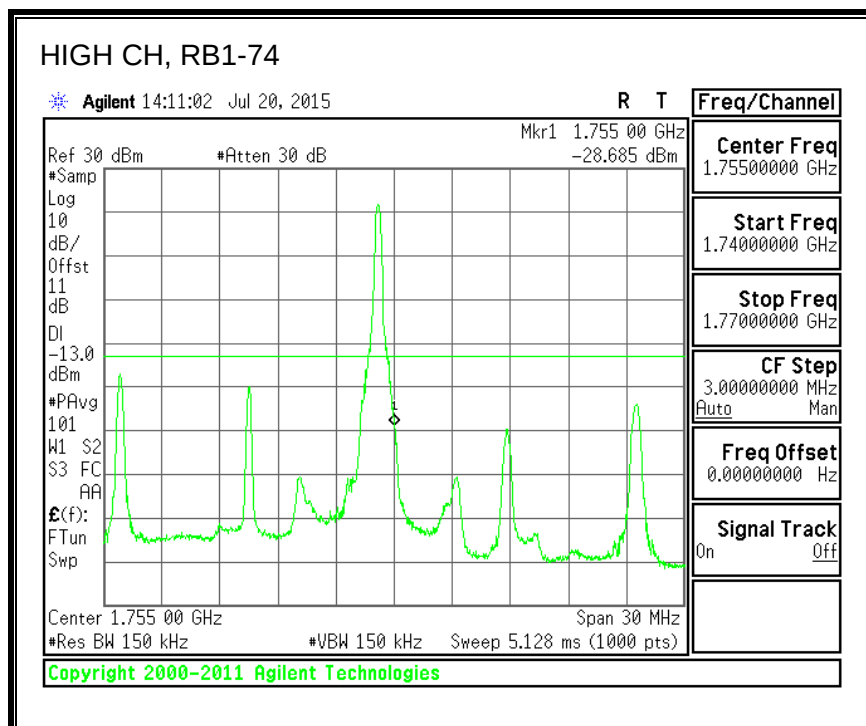
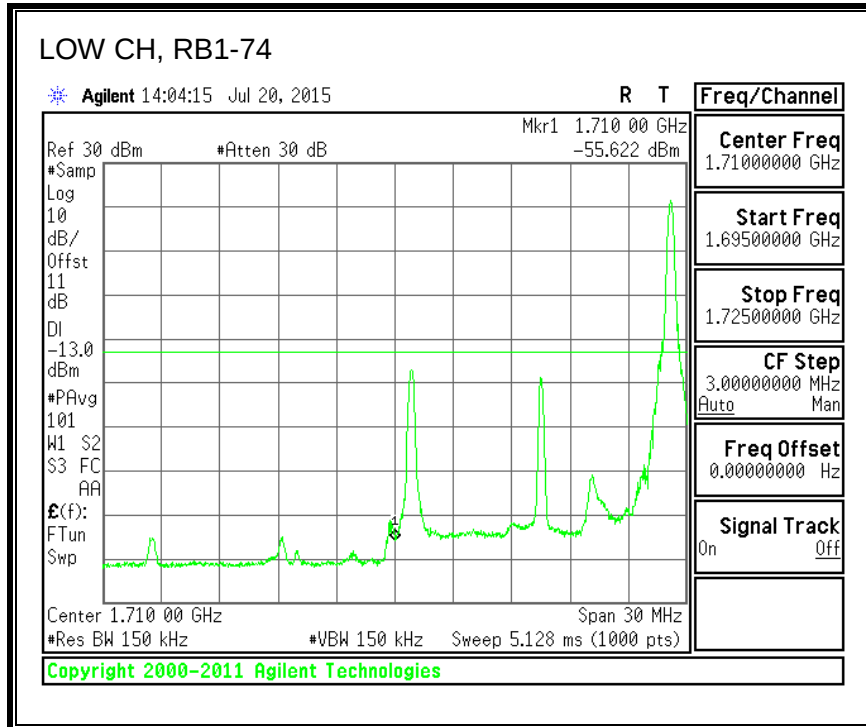


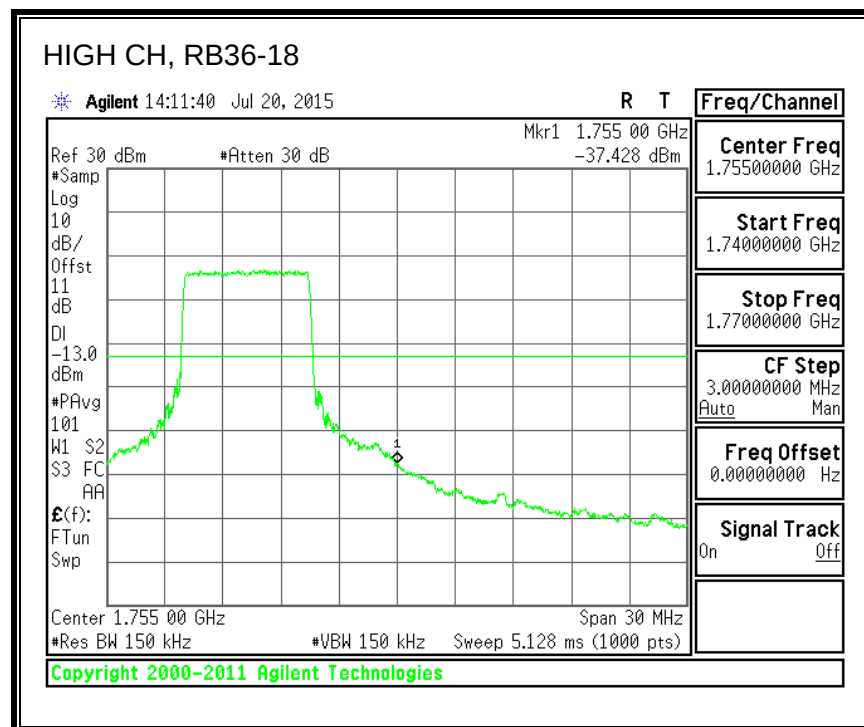
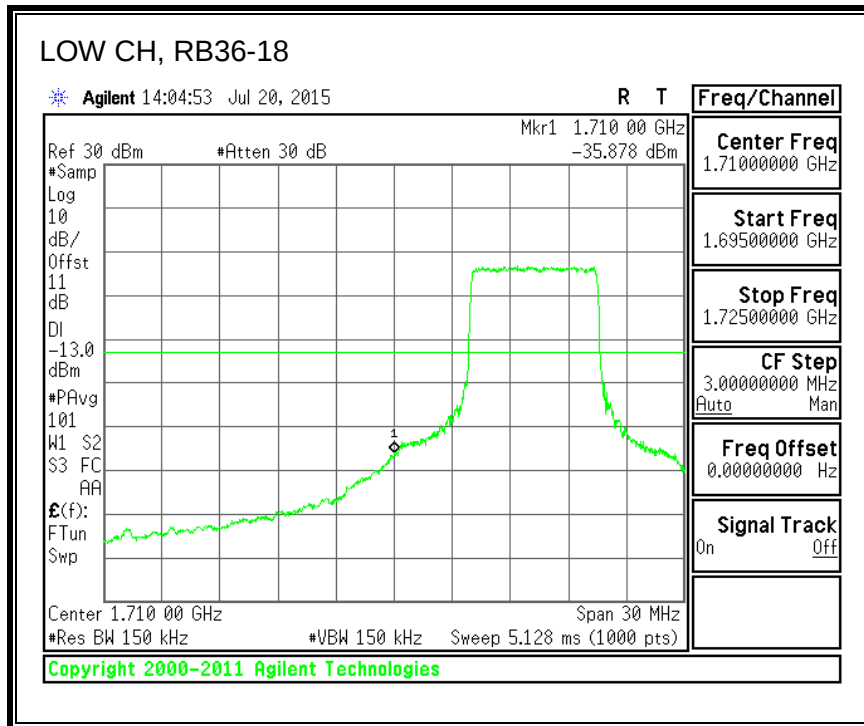


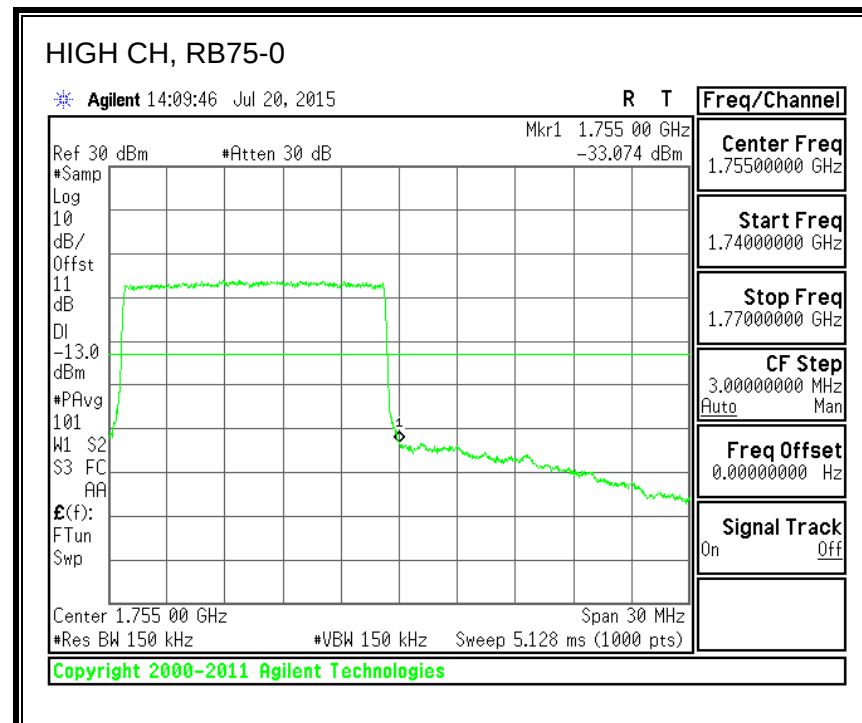
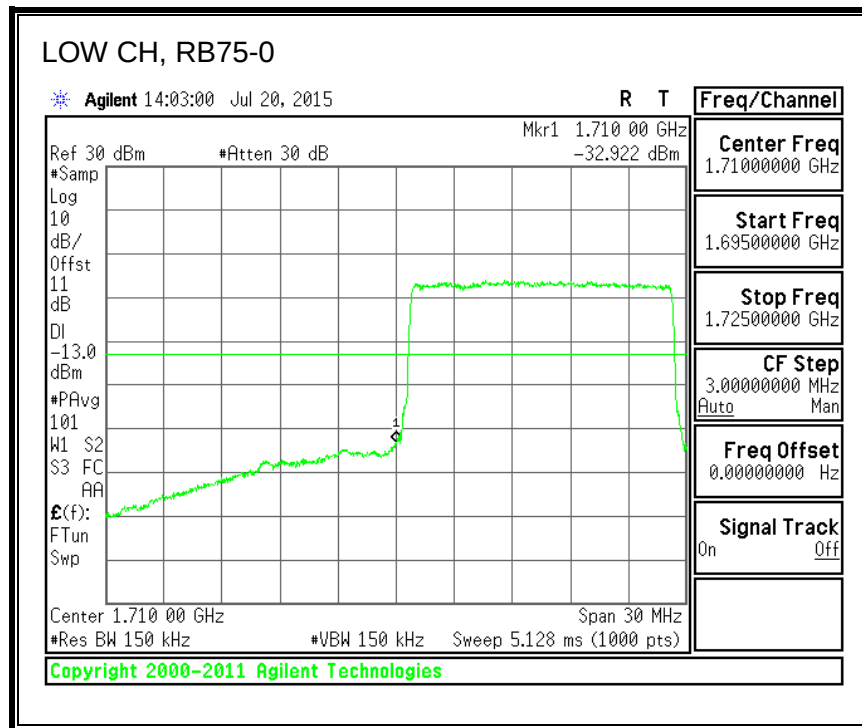


**16QAM, (15.0 MHz BAND WIDTH)**

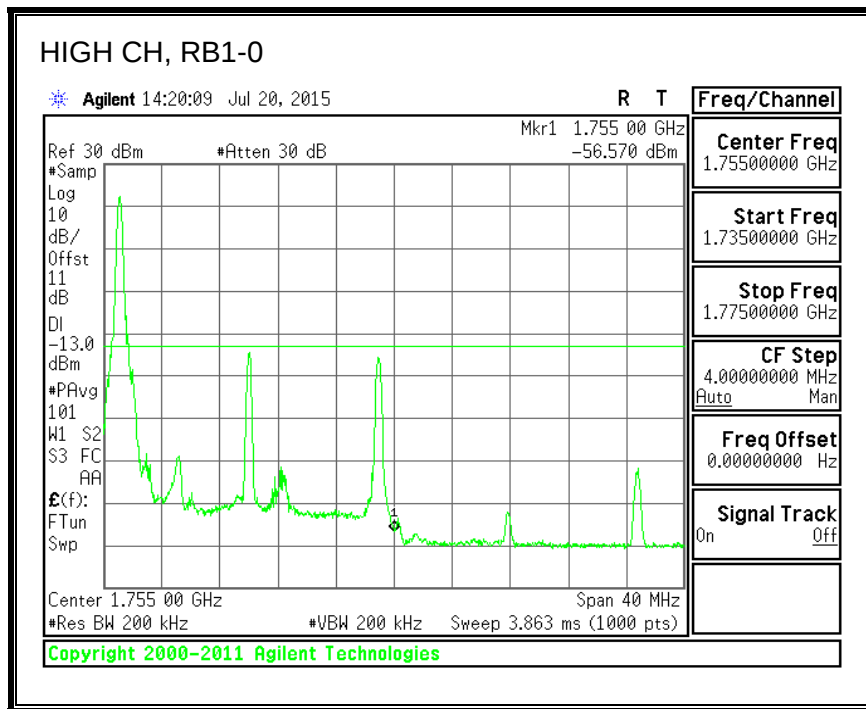
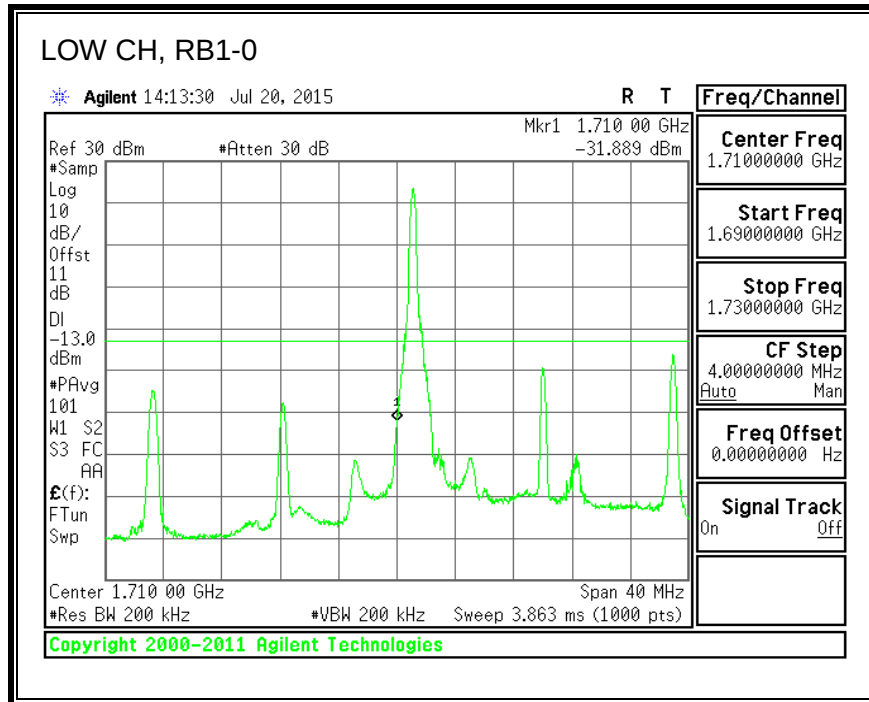


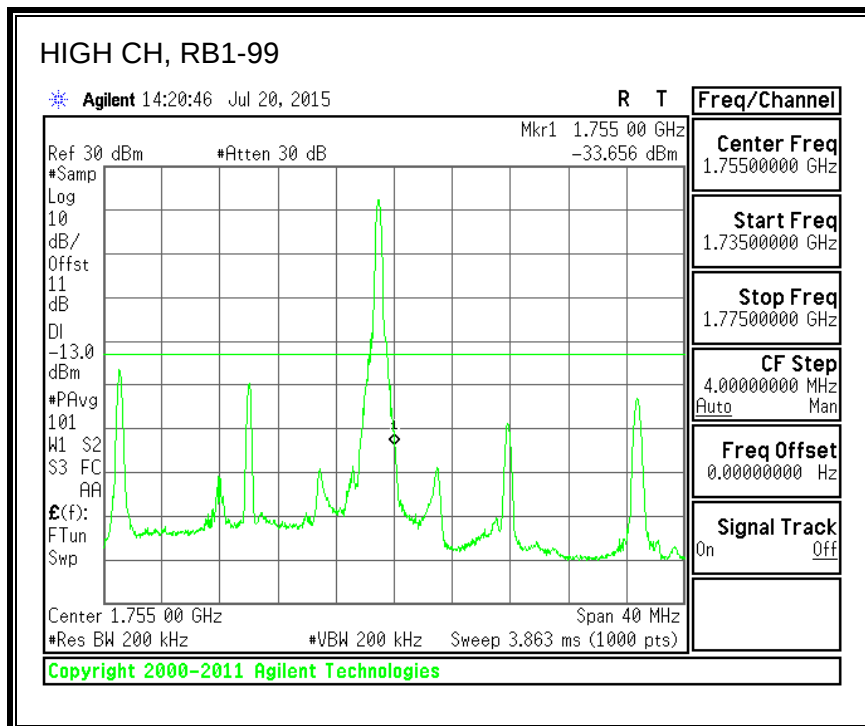
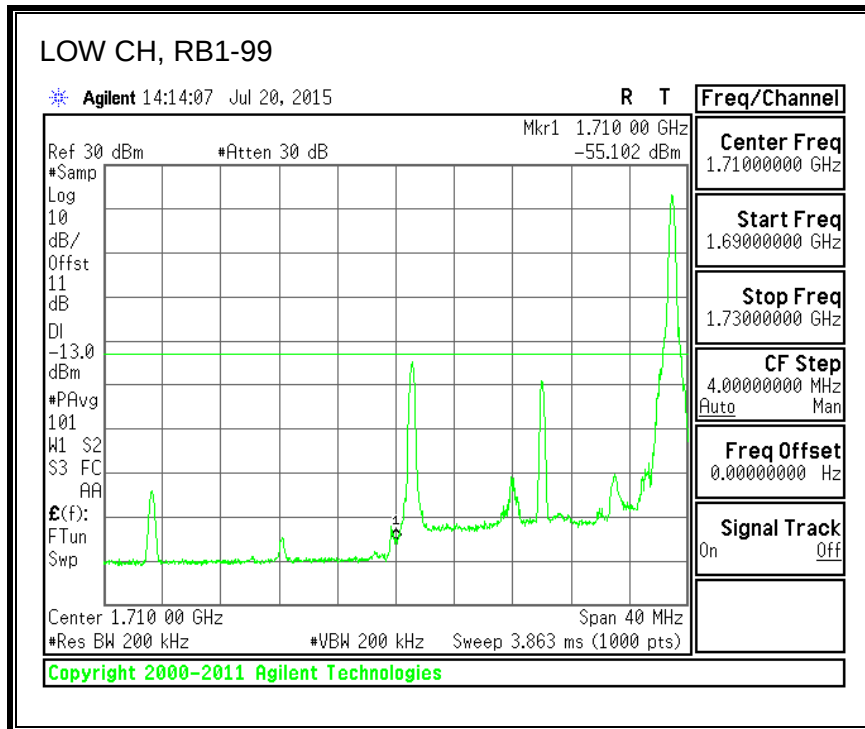


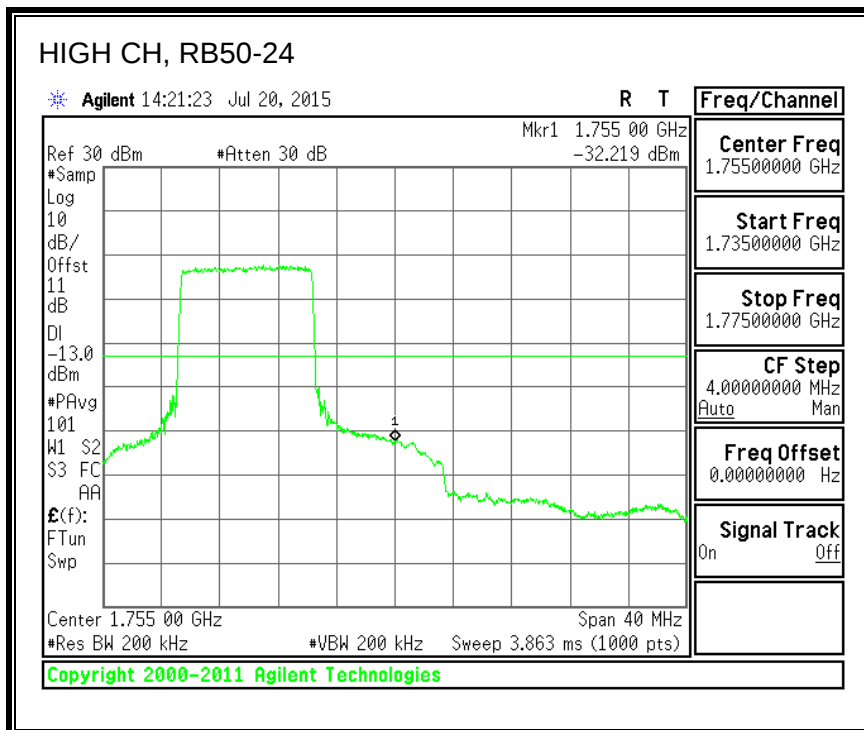
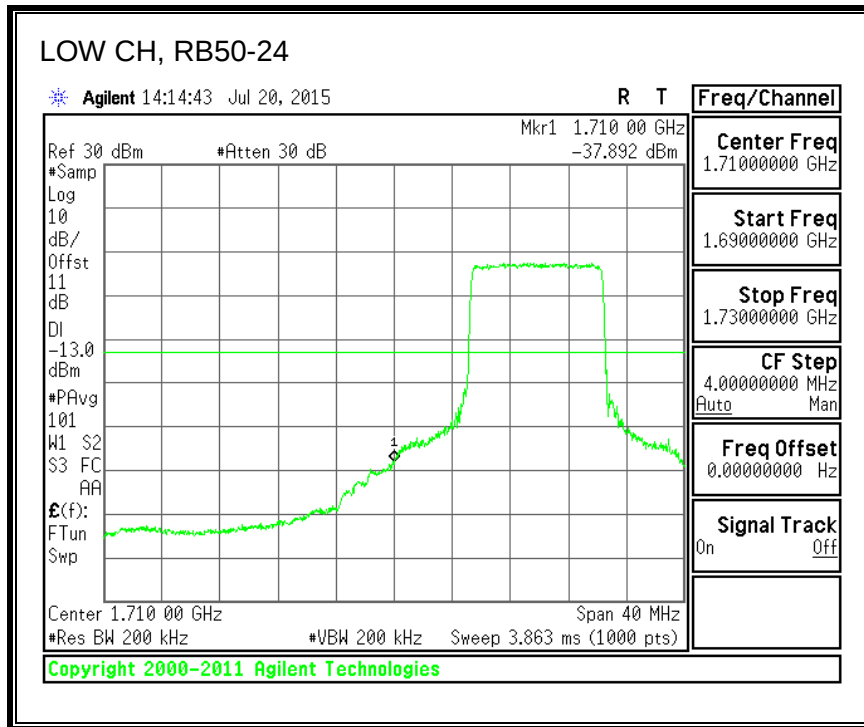


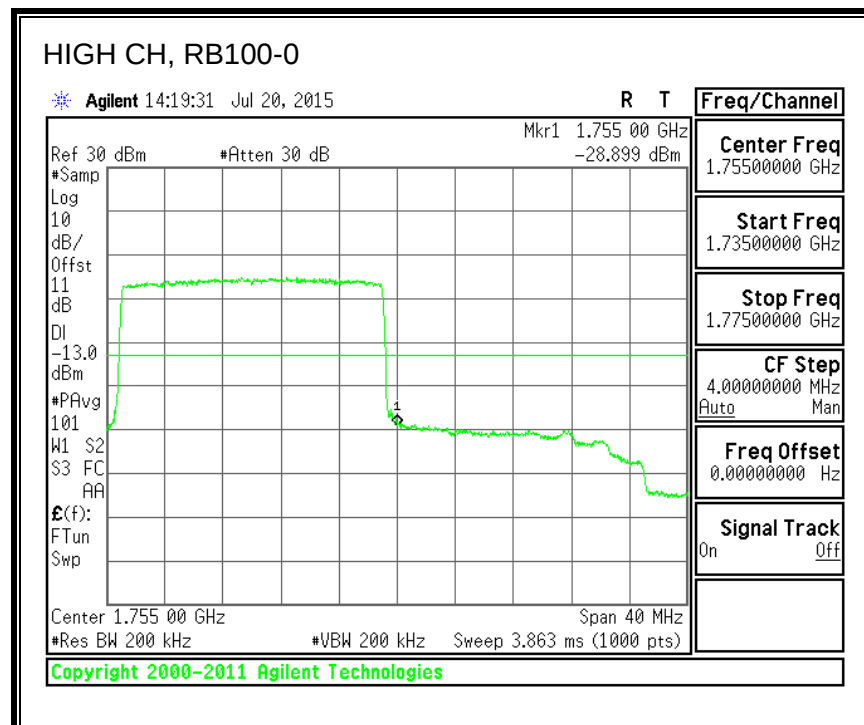
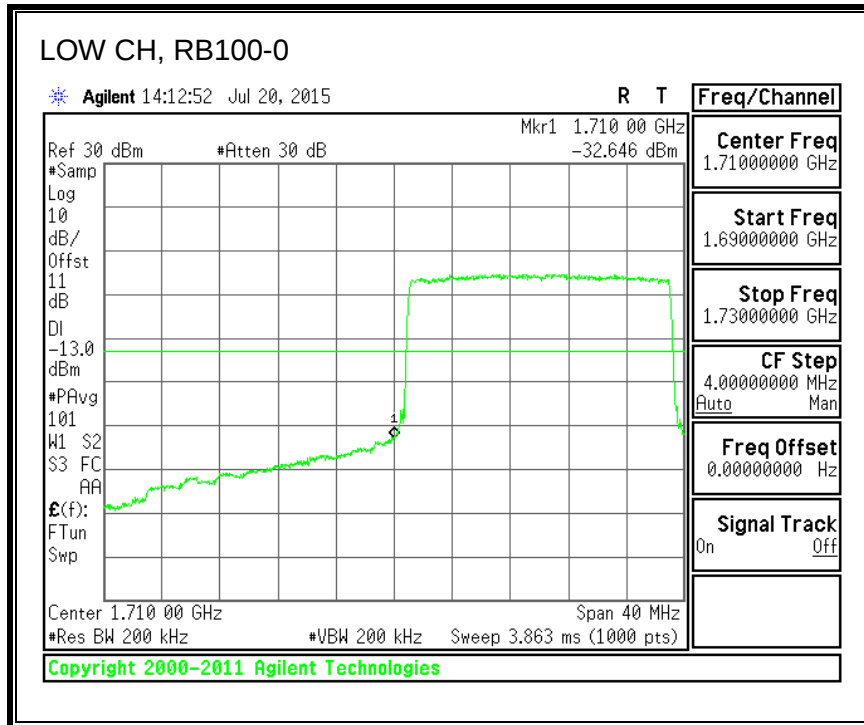


**QPSK, (20.0 MHz BAND WIDTH)**

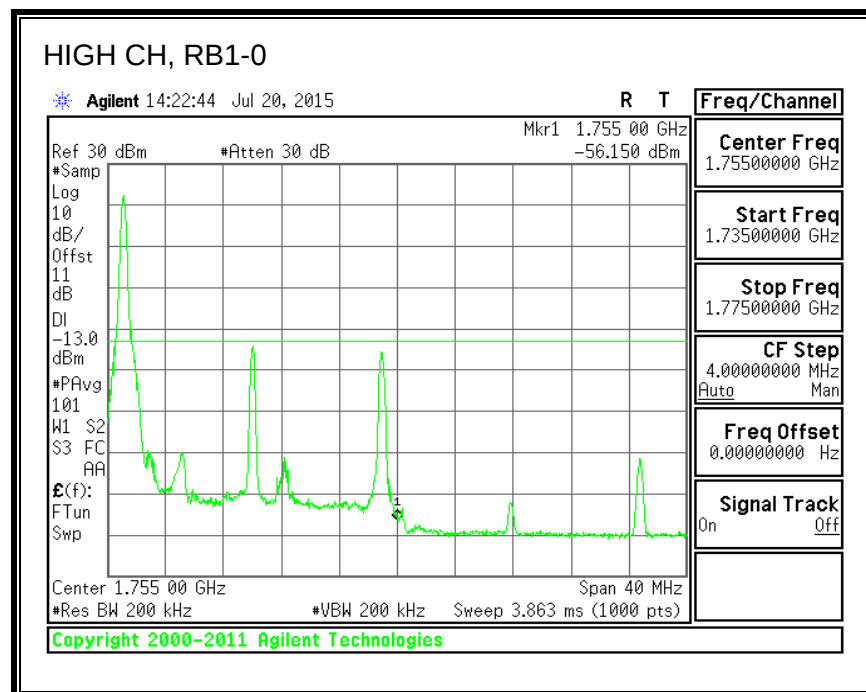
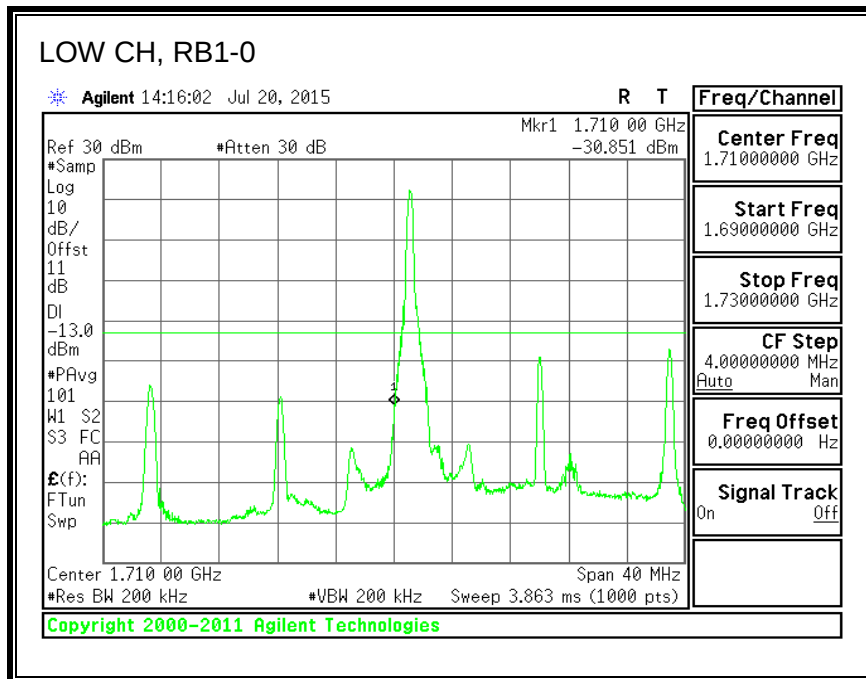


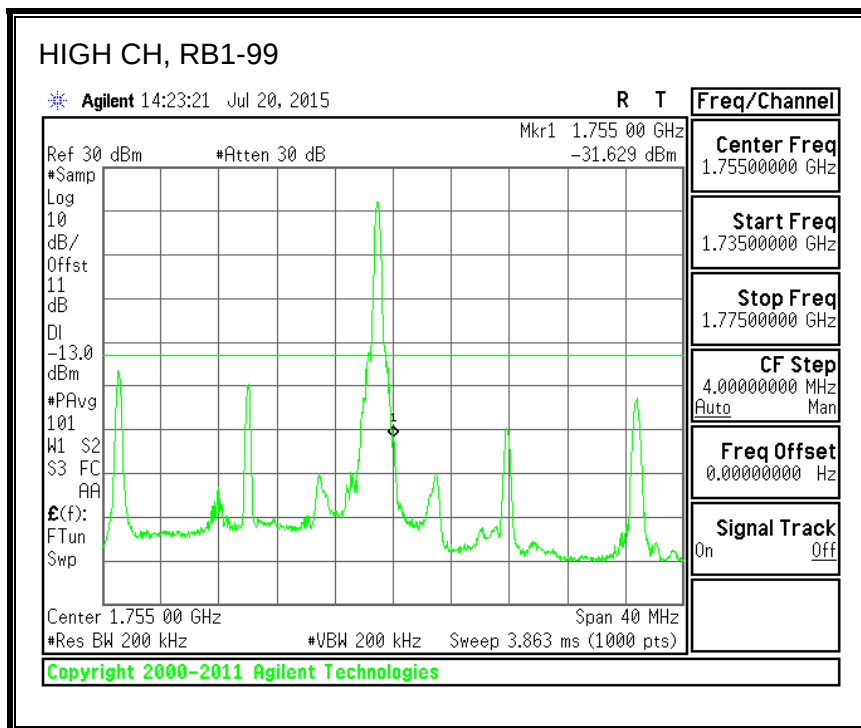
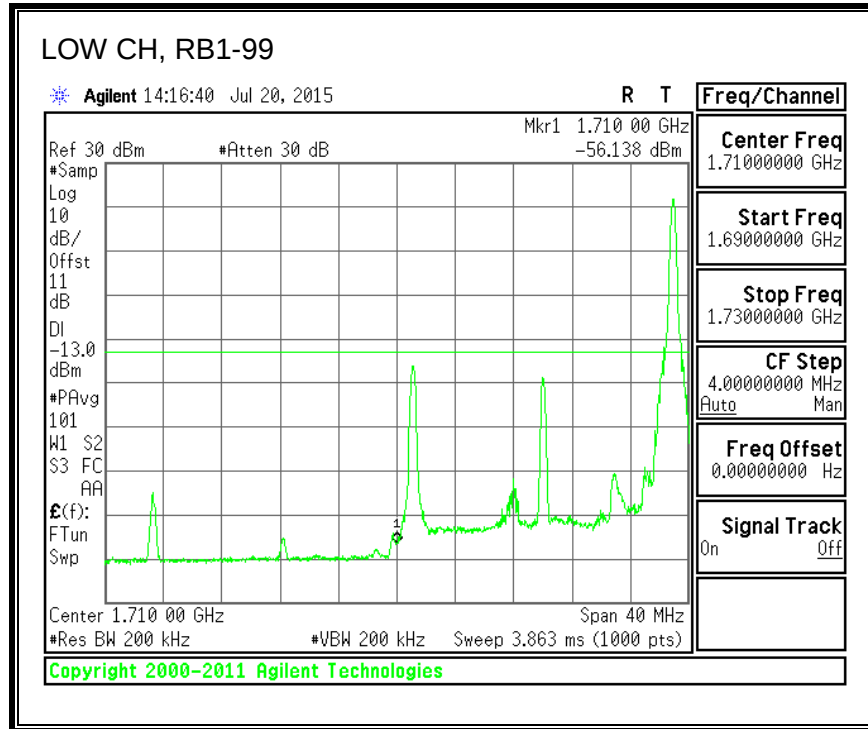


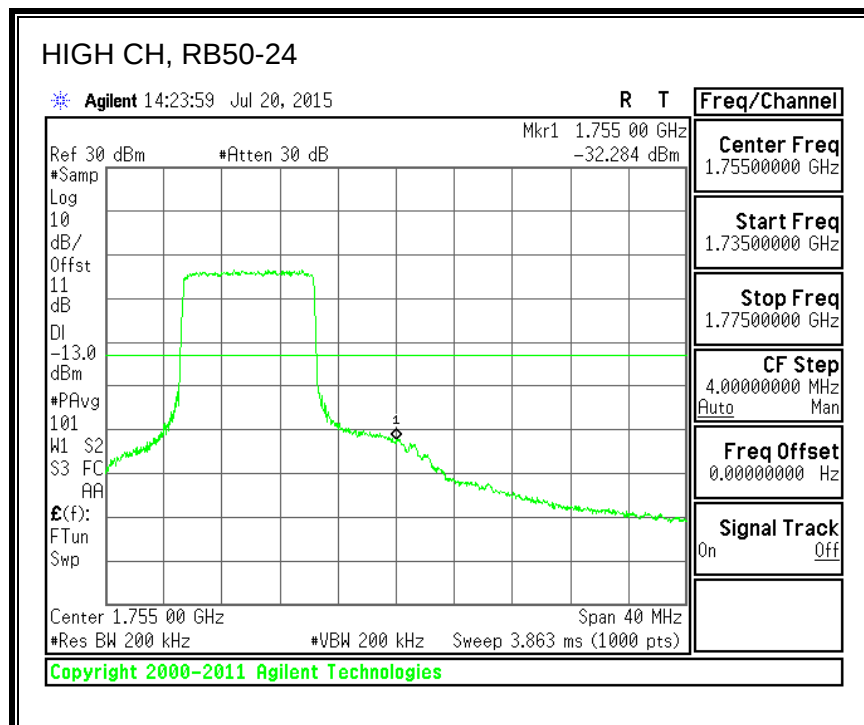
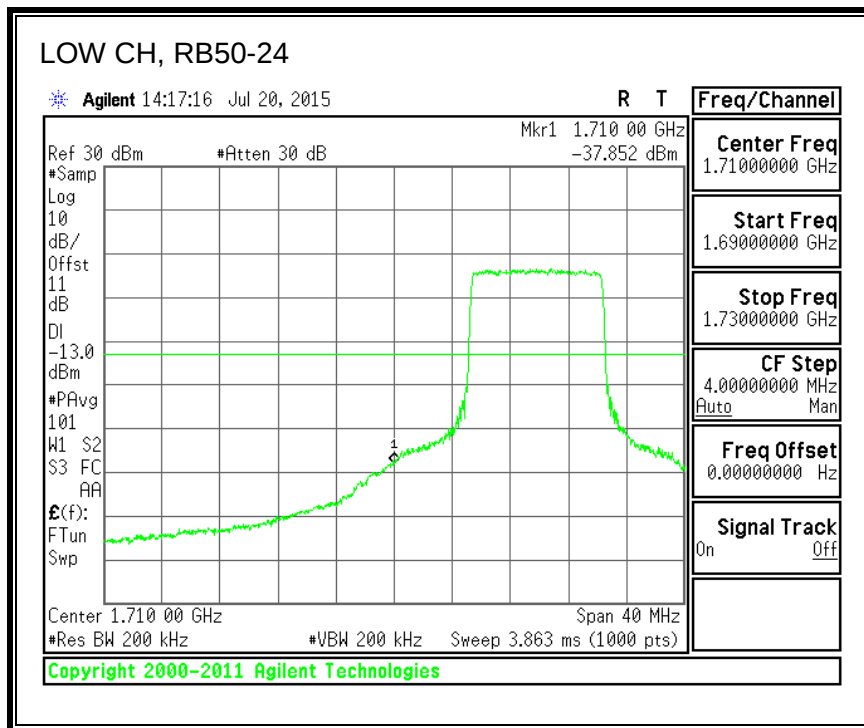


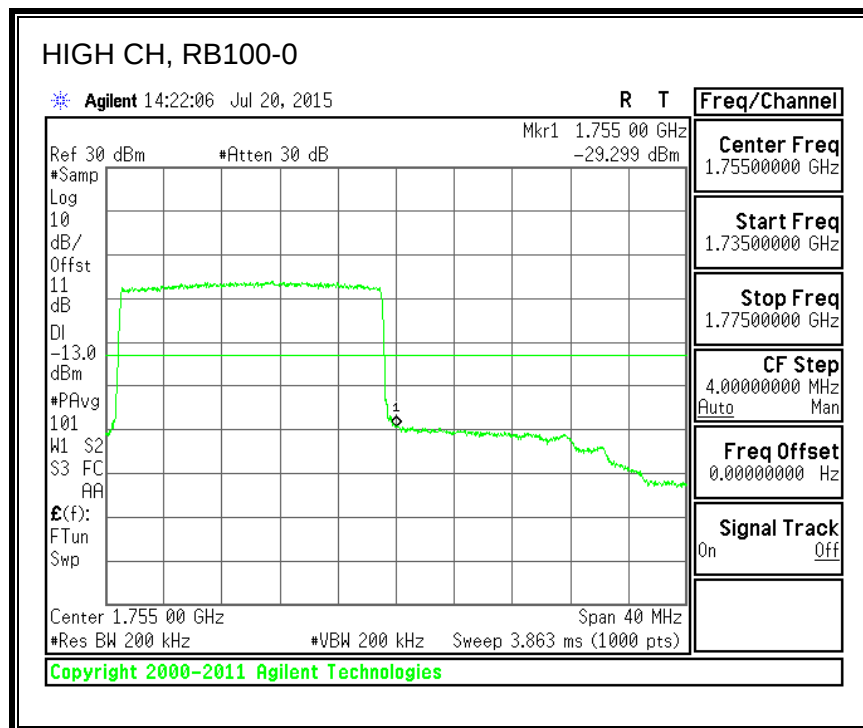
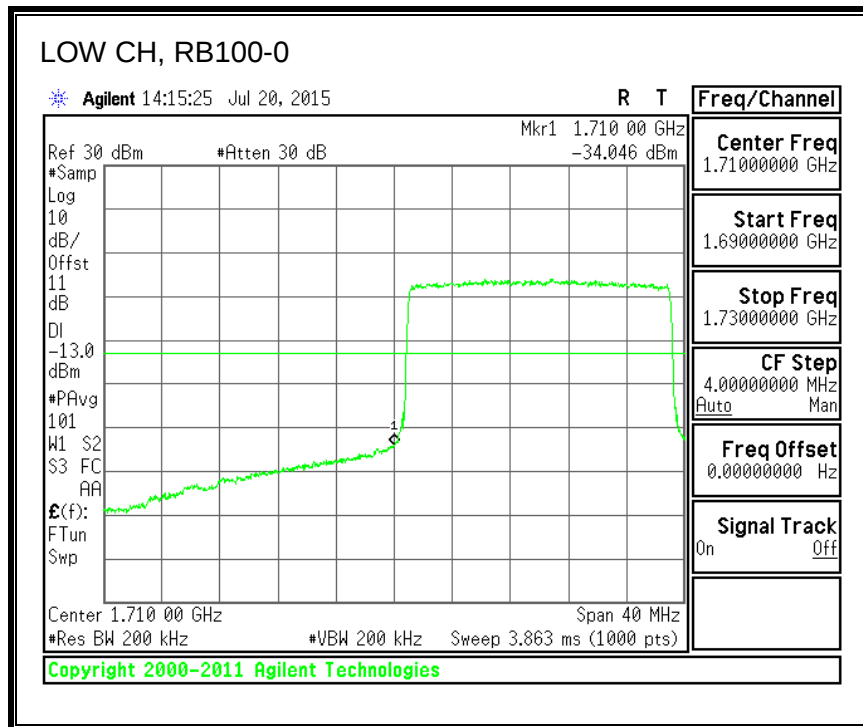


**16QAM, (20.0 MHz BAND WIDTH)**



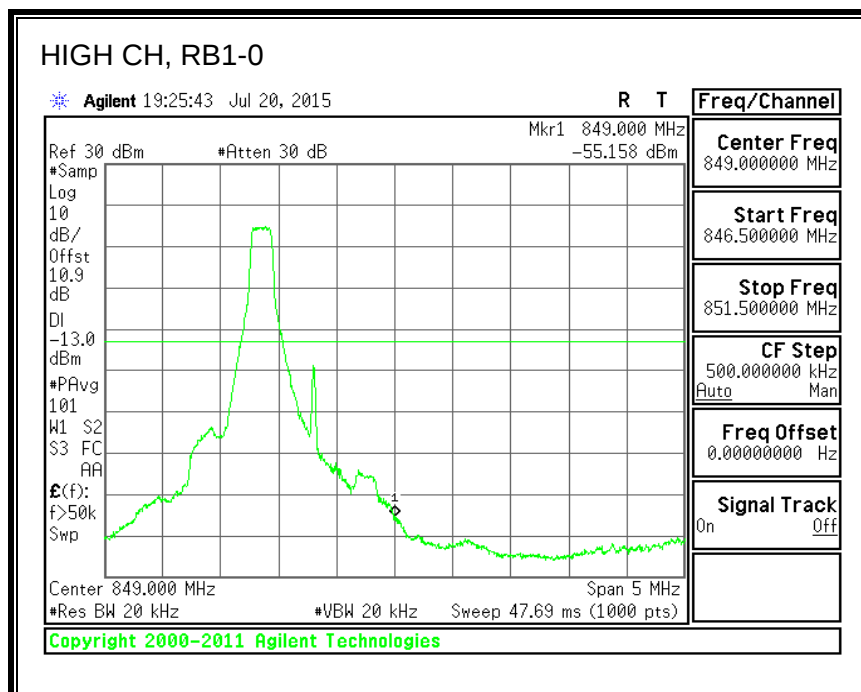
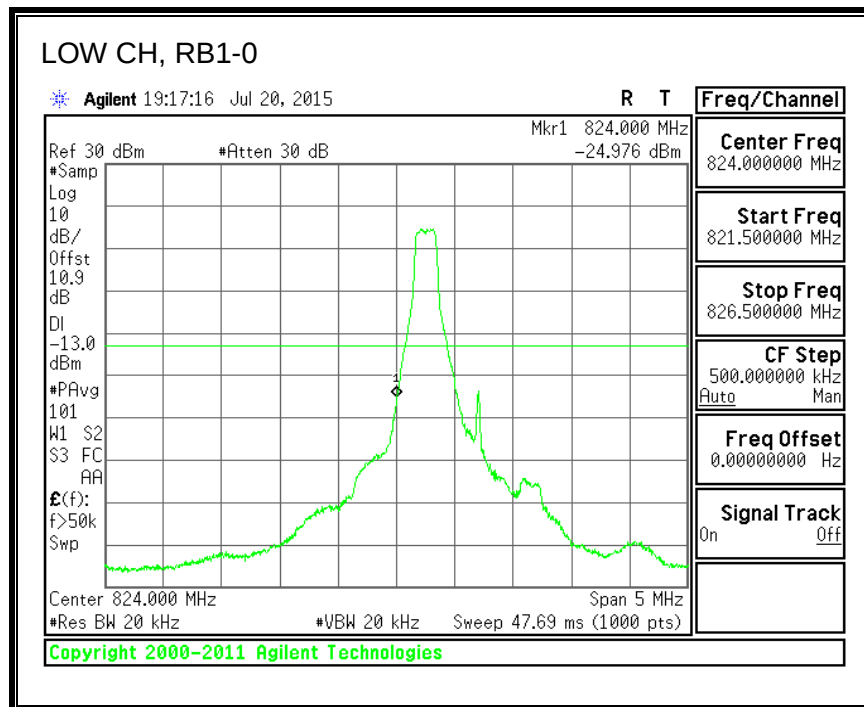


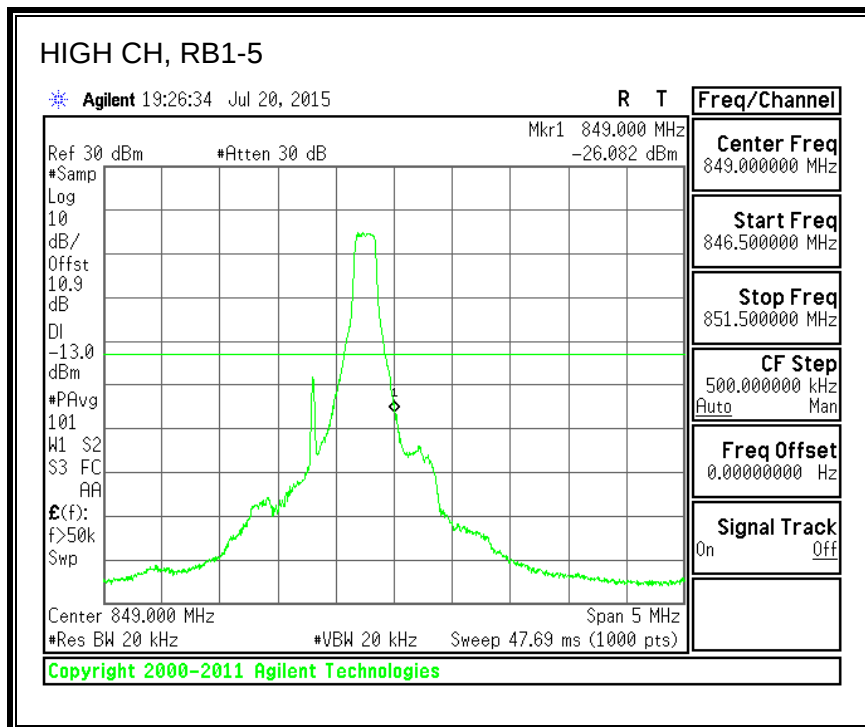
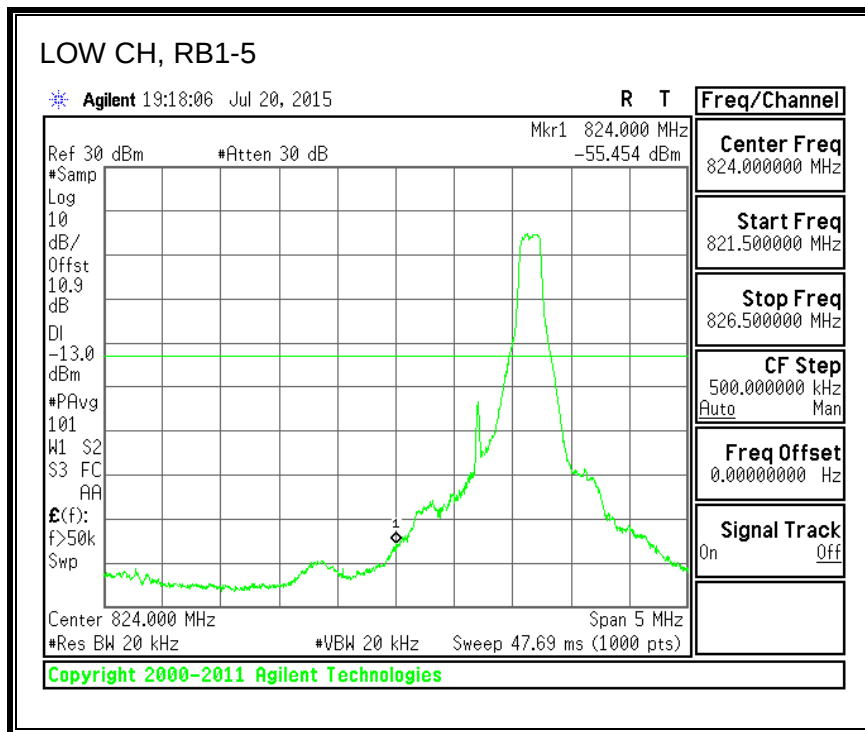


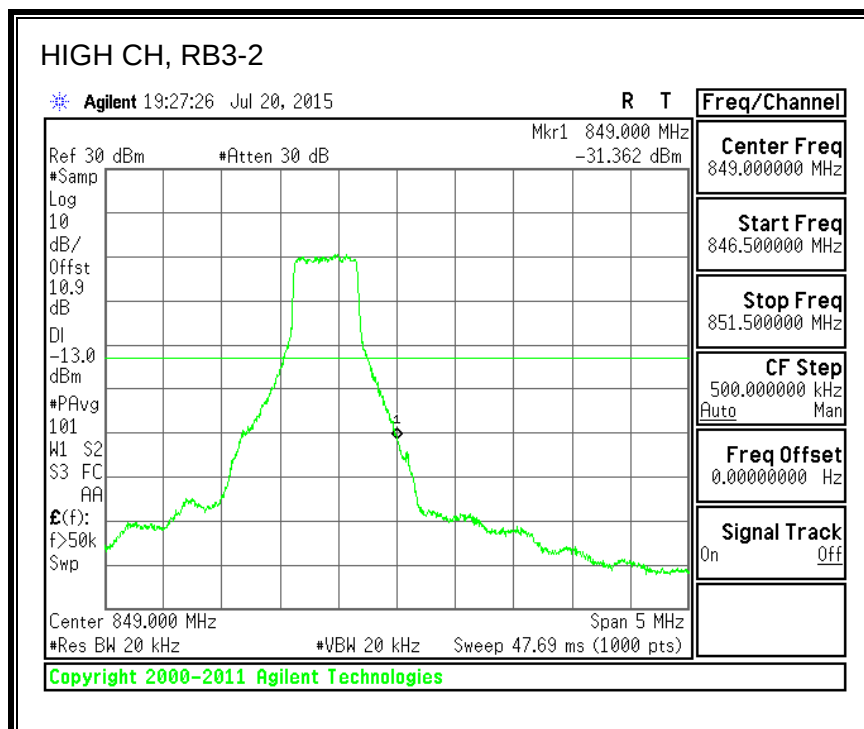
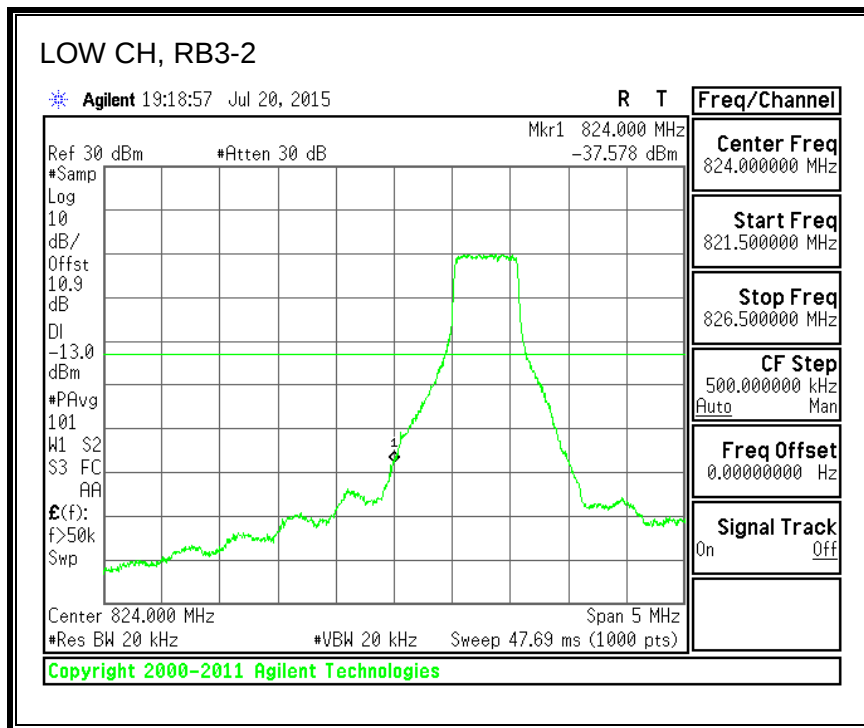


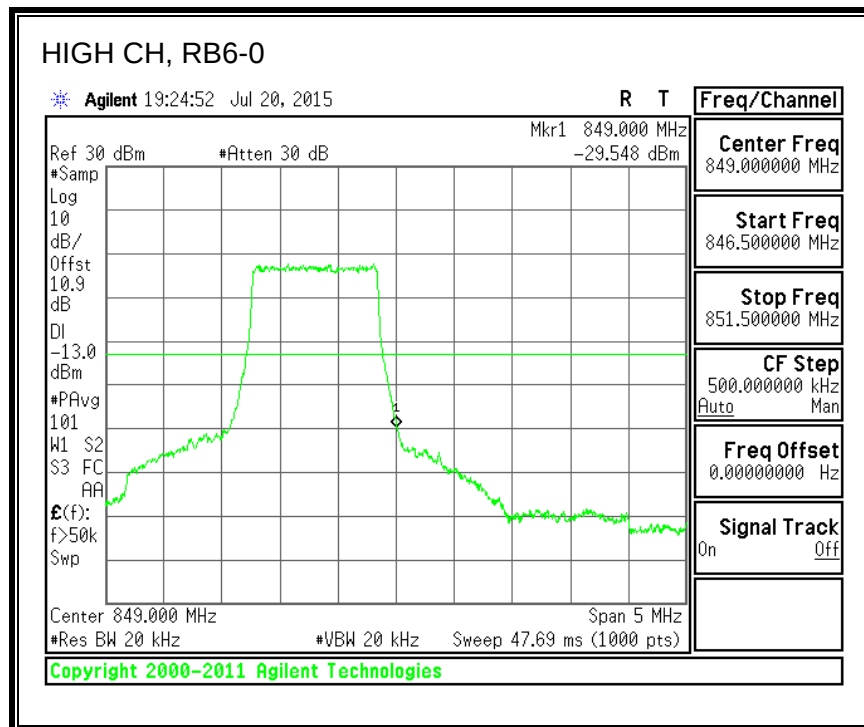
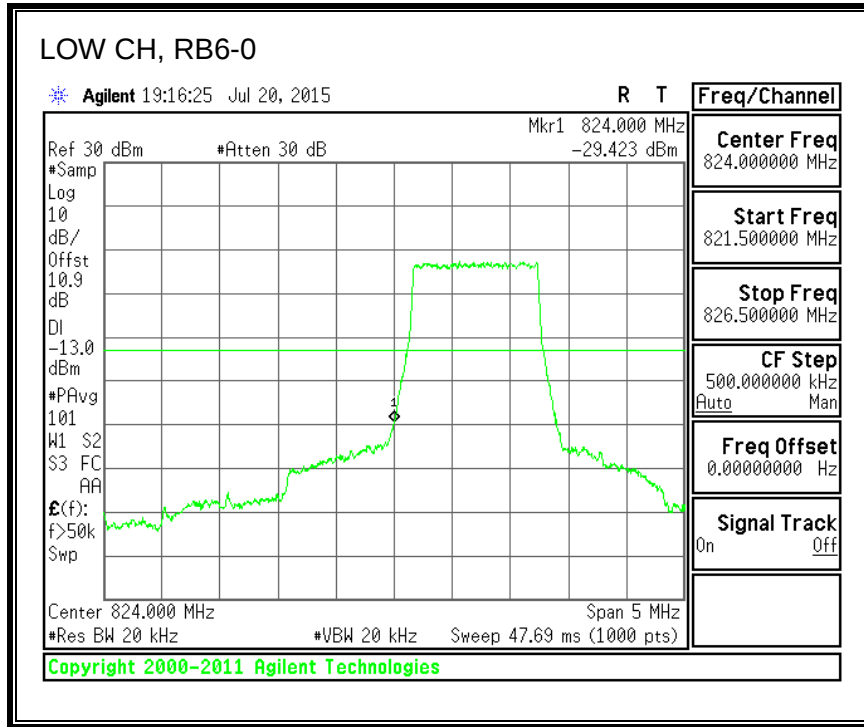
## 8.2.3. LTE BAND 5 BANDEDGE

### QPSK, (1.4 MHz BAND WIDTH)

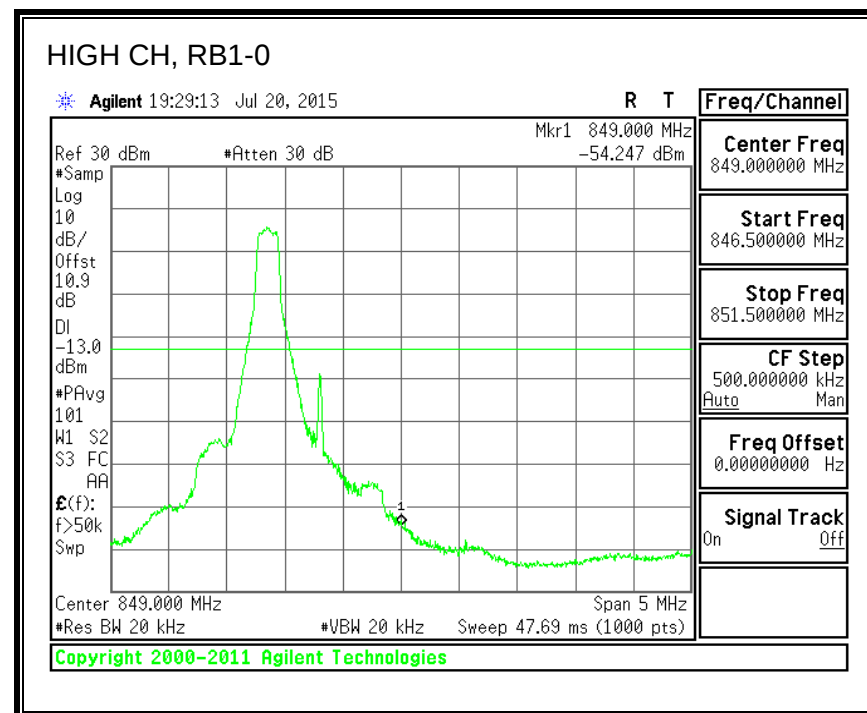
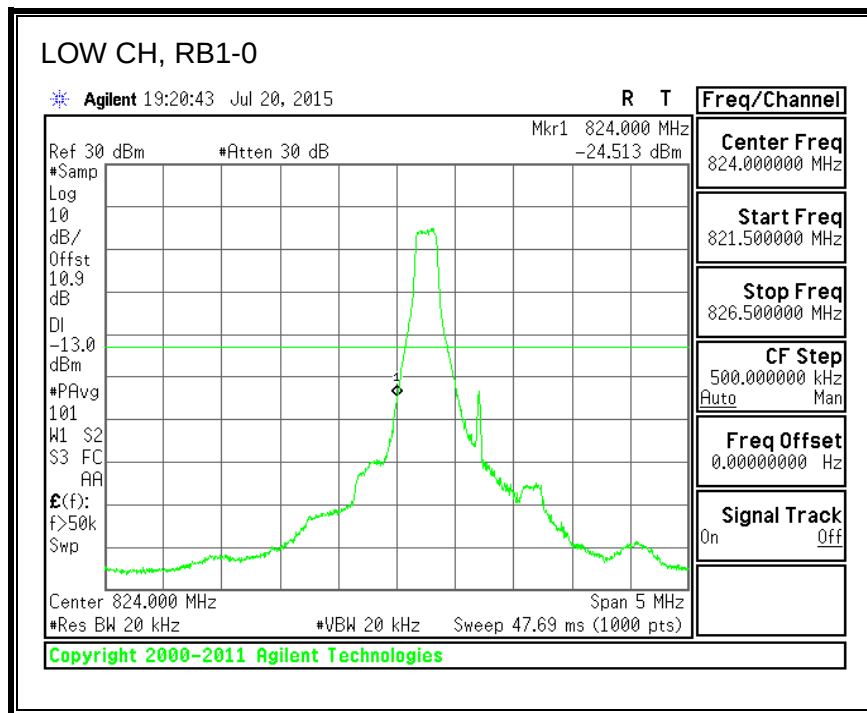


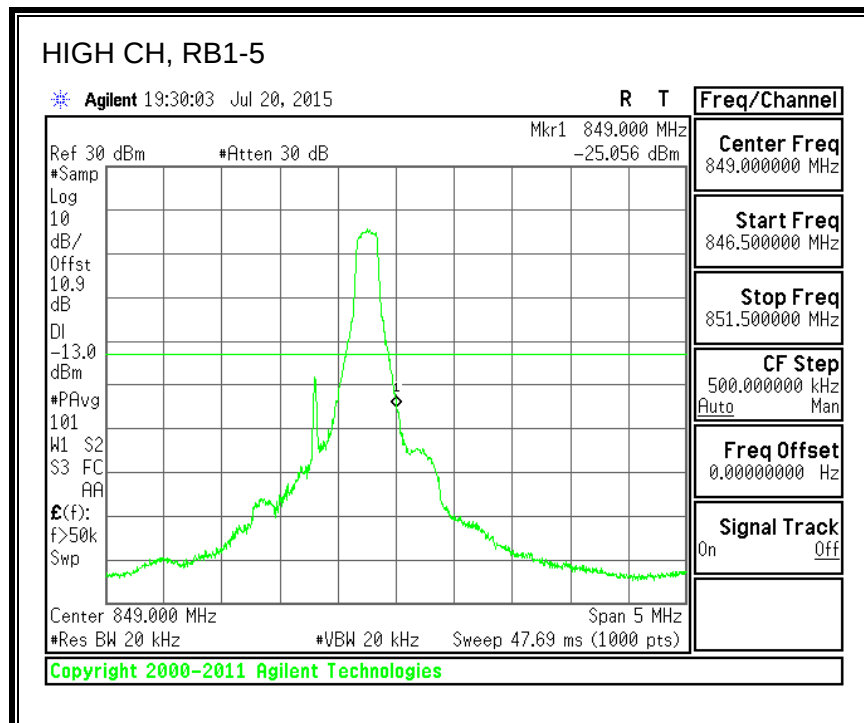
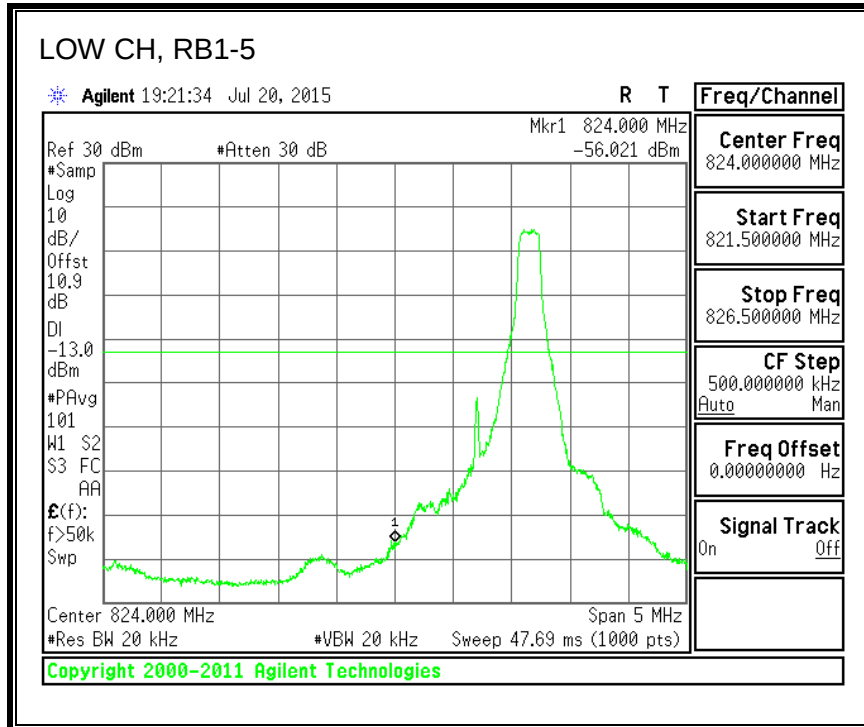


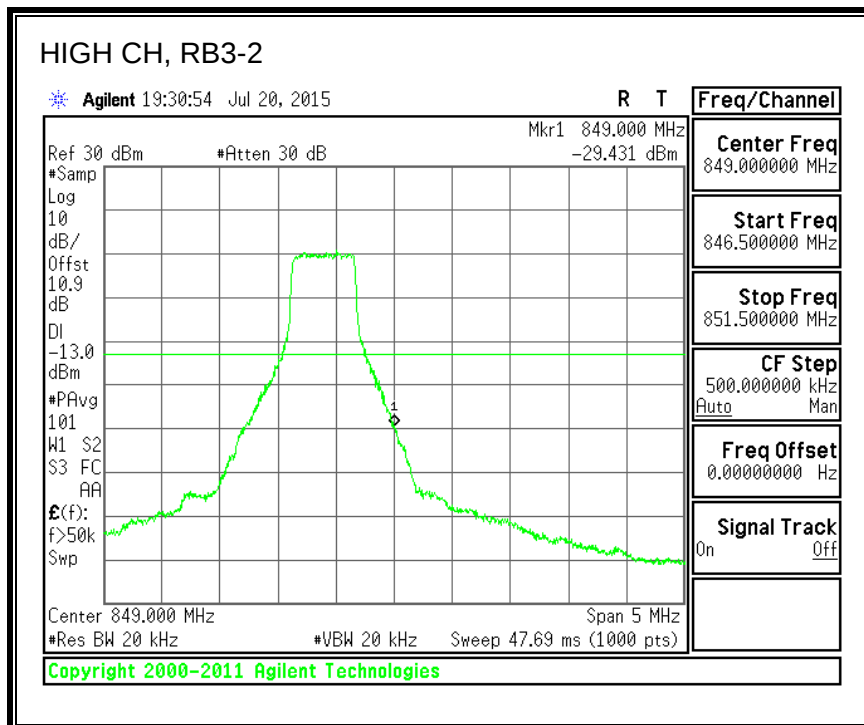
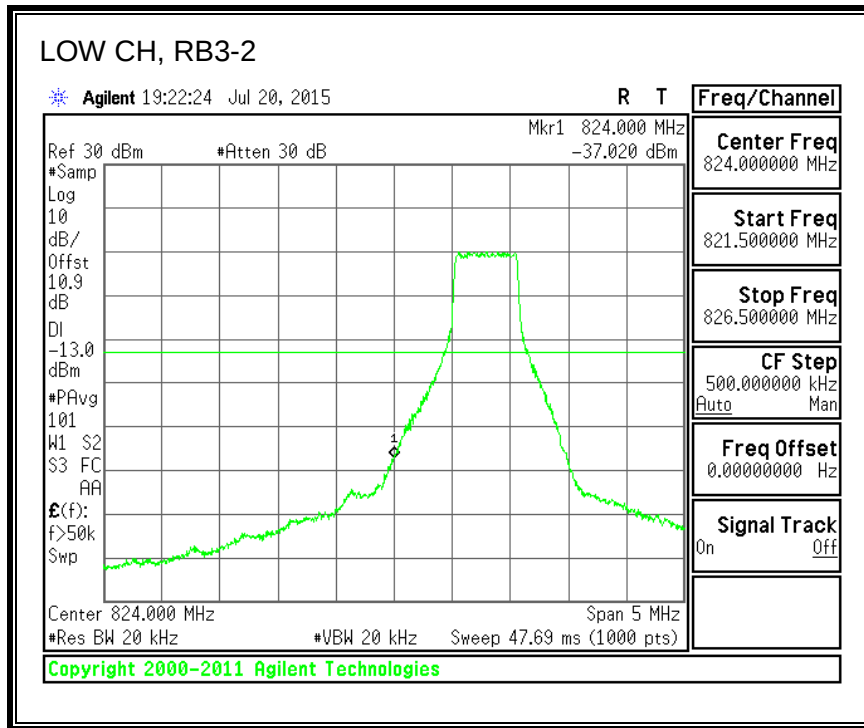


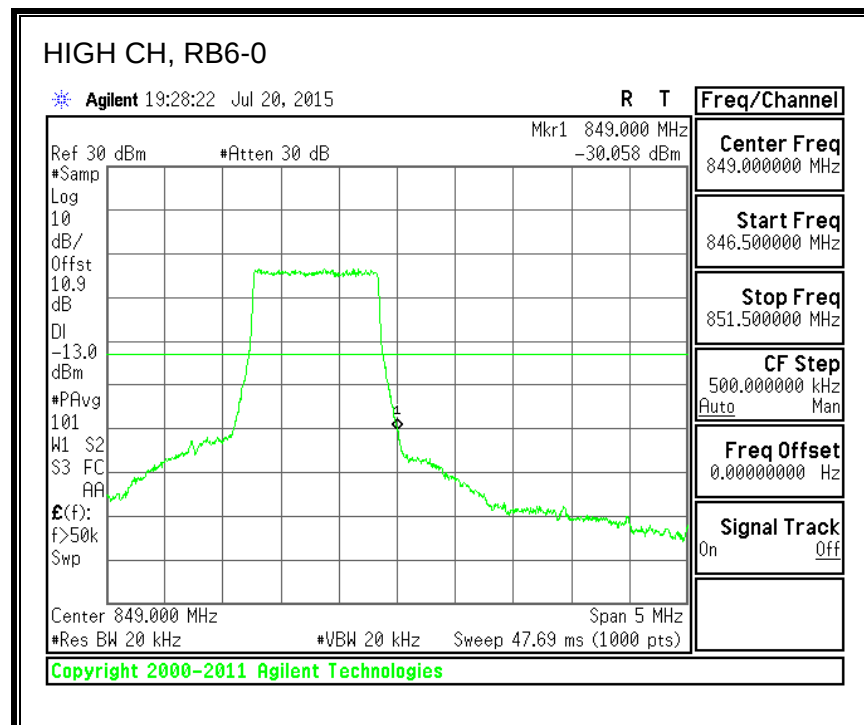
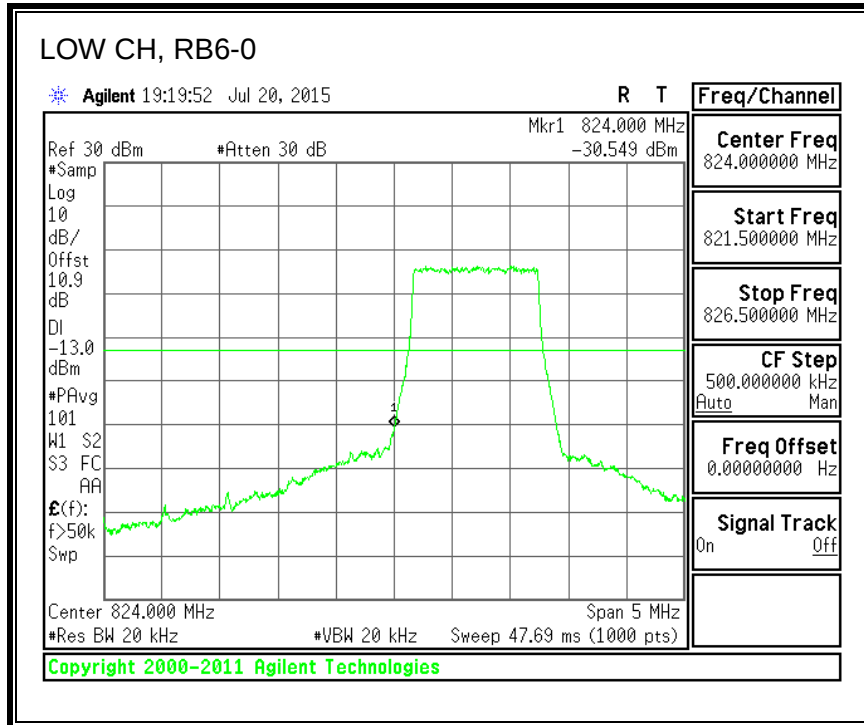


**16QAM, (1.4 MHz BAND WIDTH)**

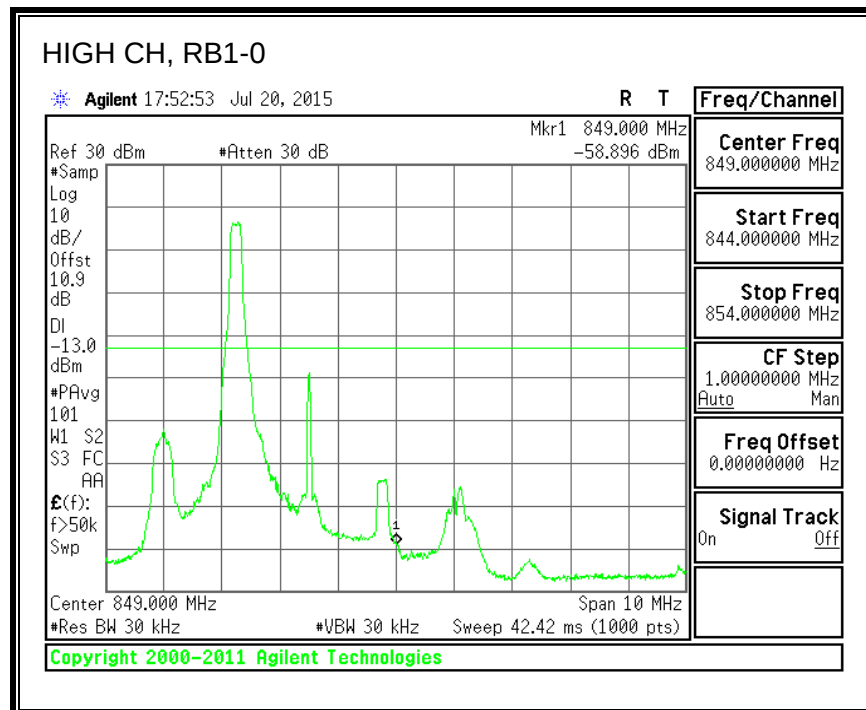
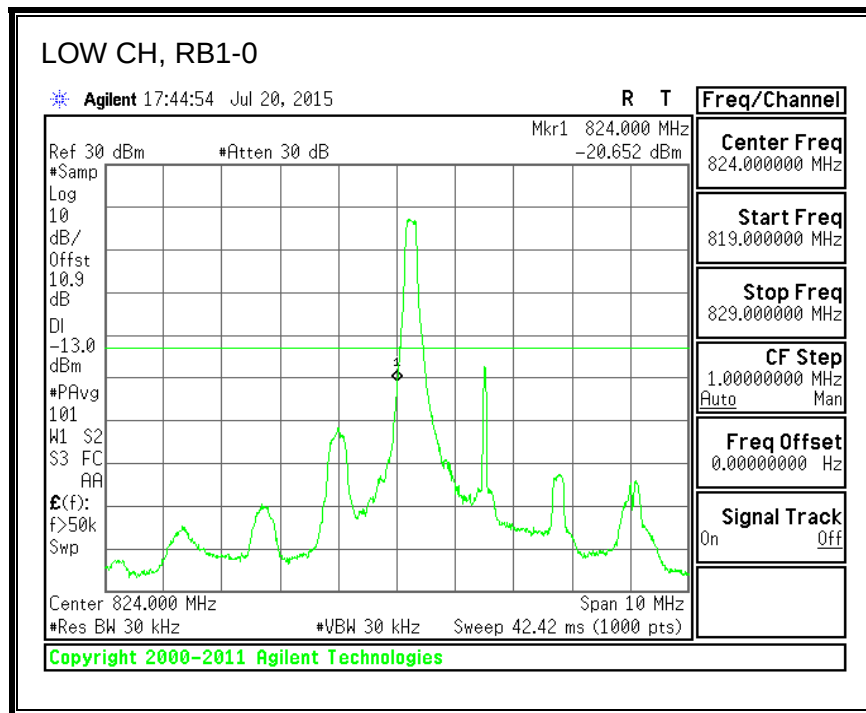


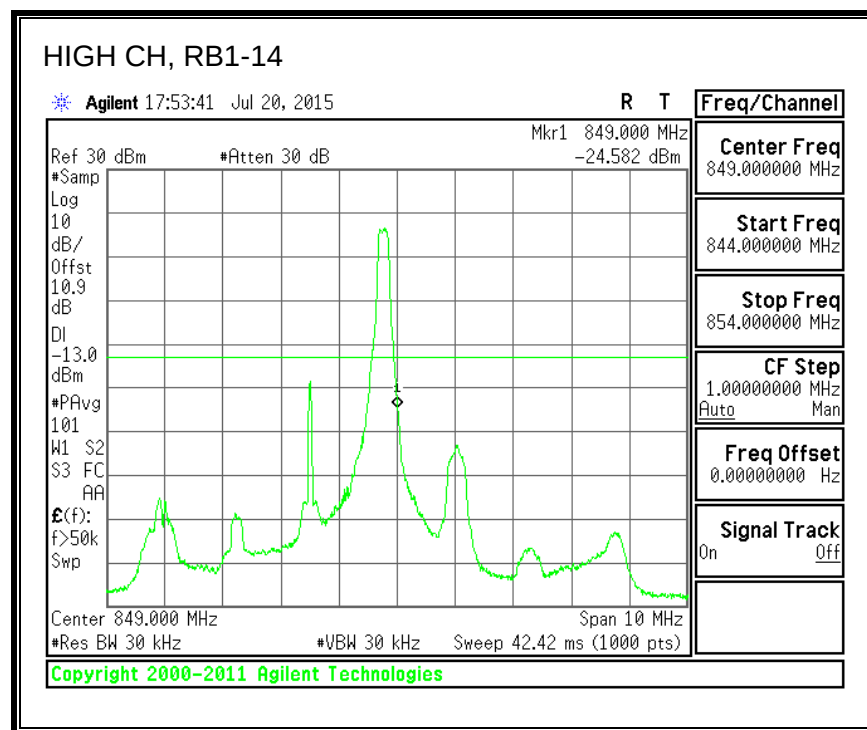
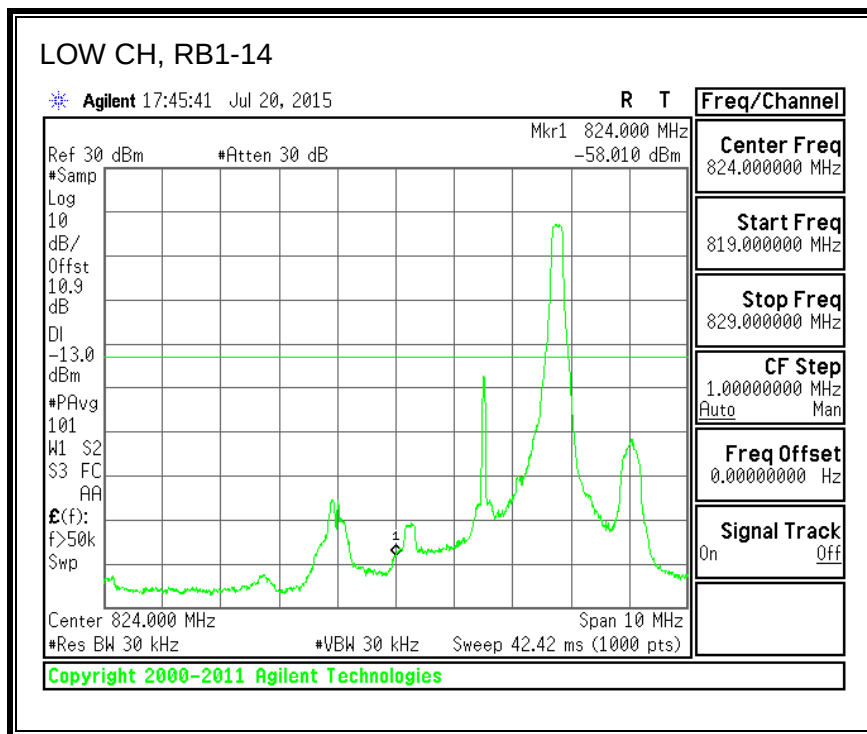


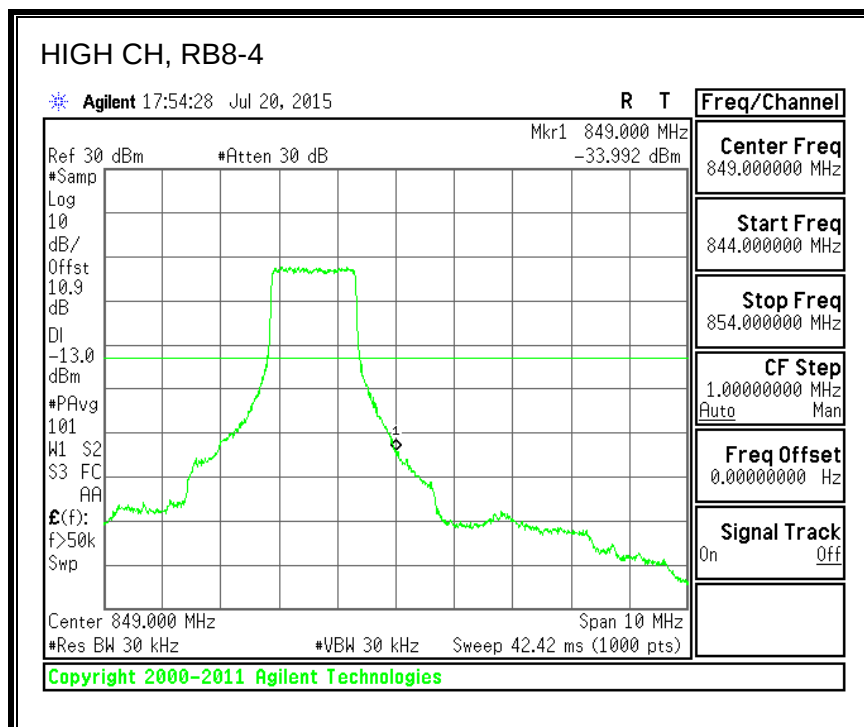
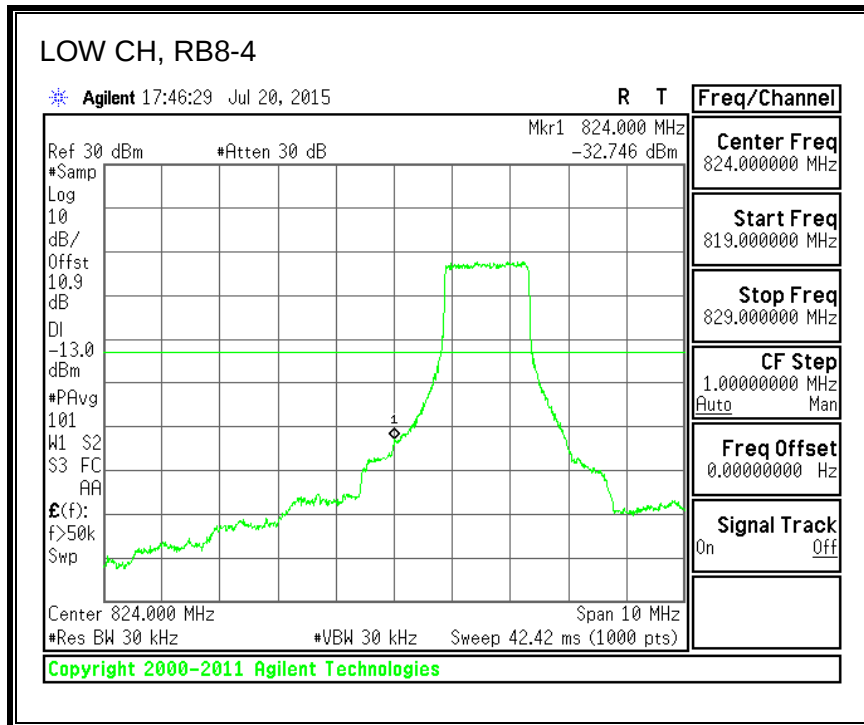


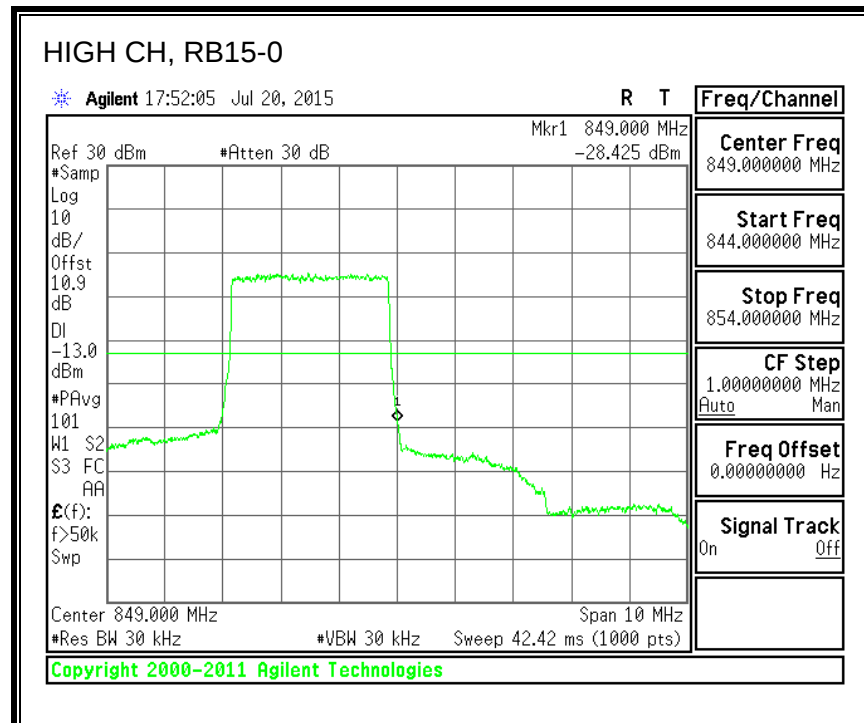
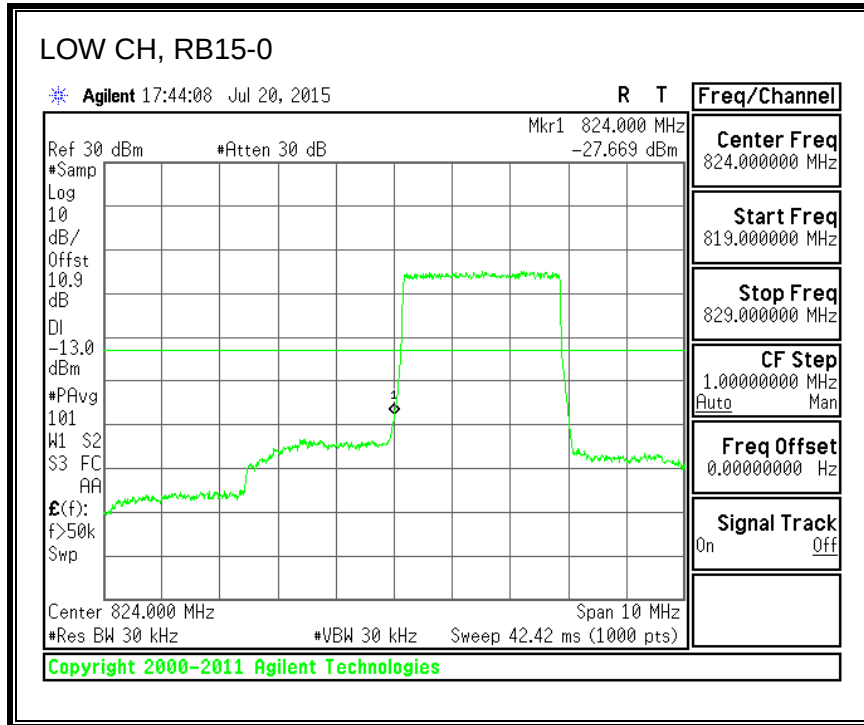


**QPSK, (3.0 MHz BAND WIDTH)**

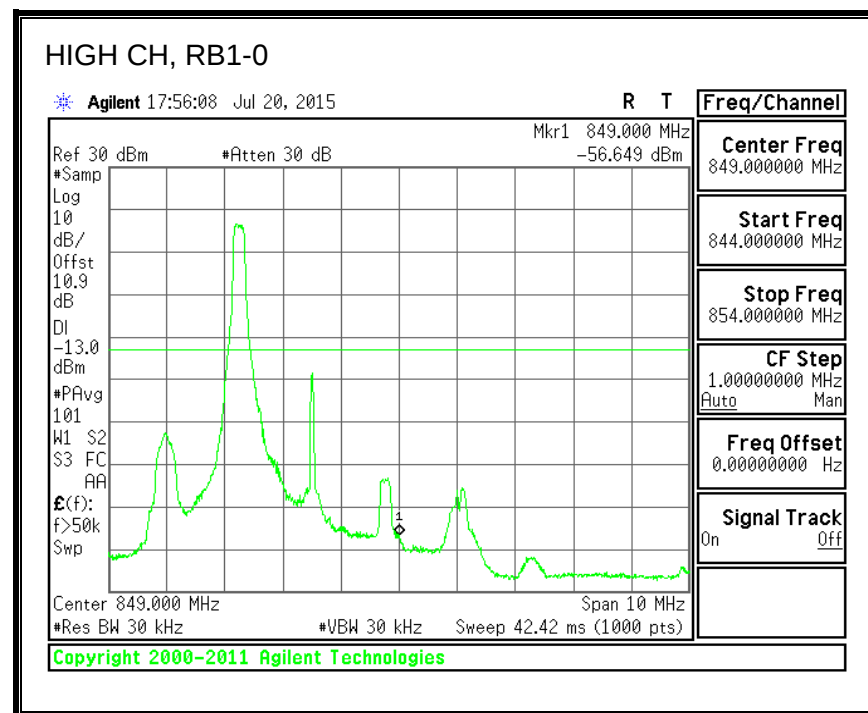
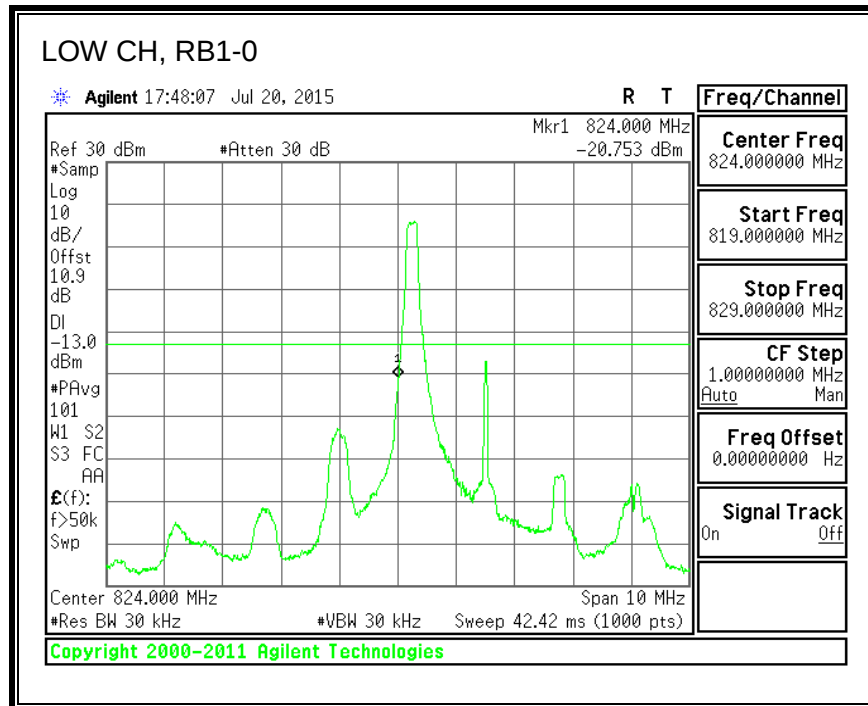


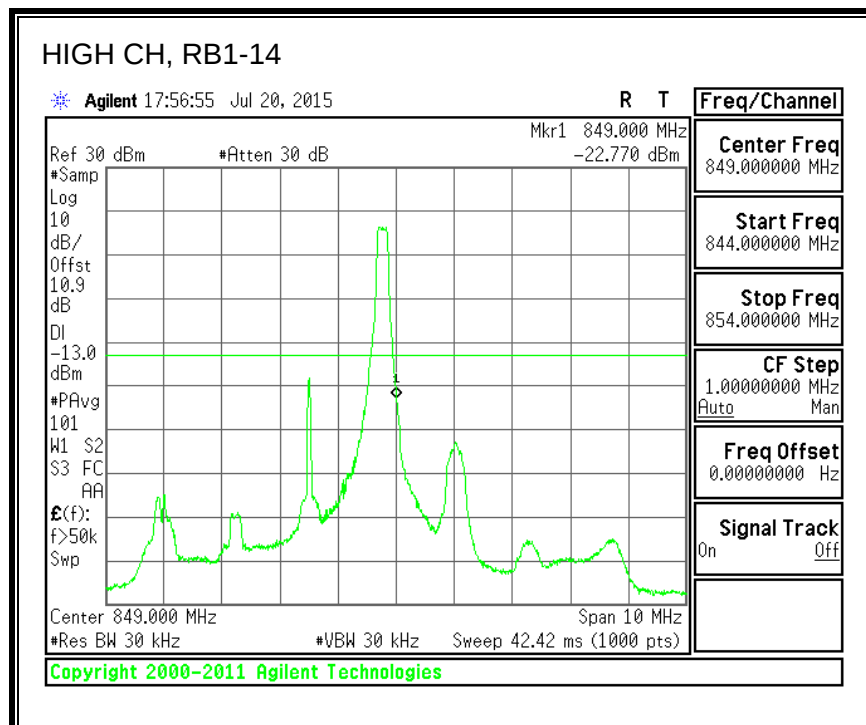
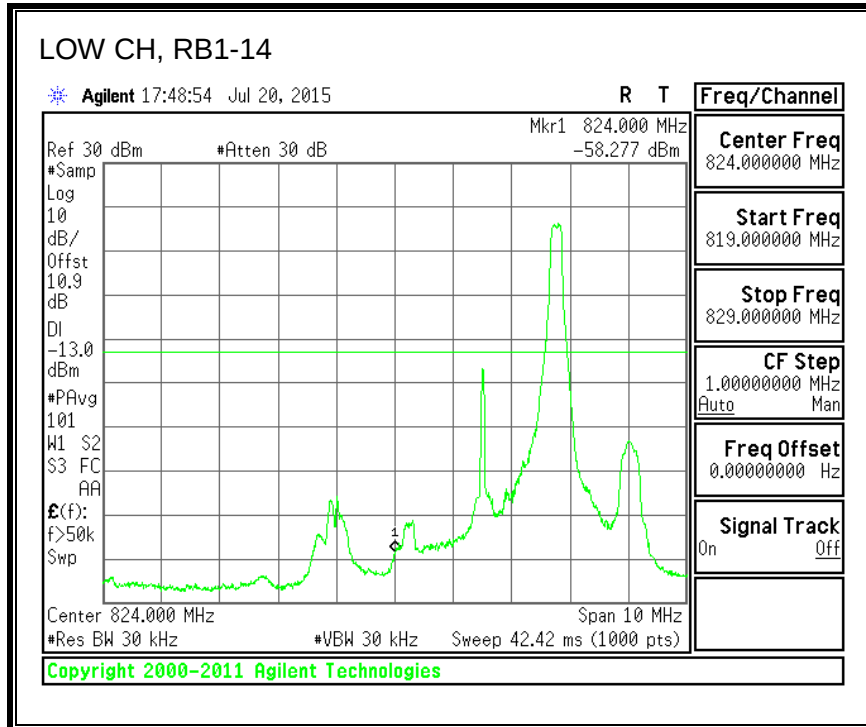


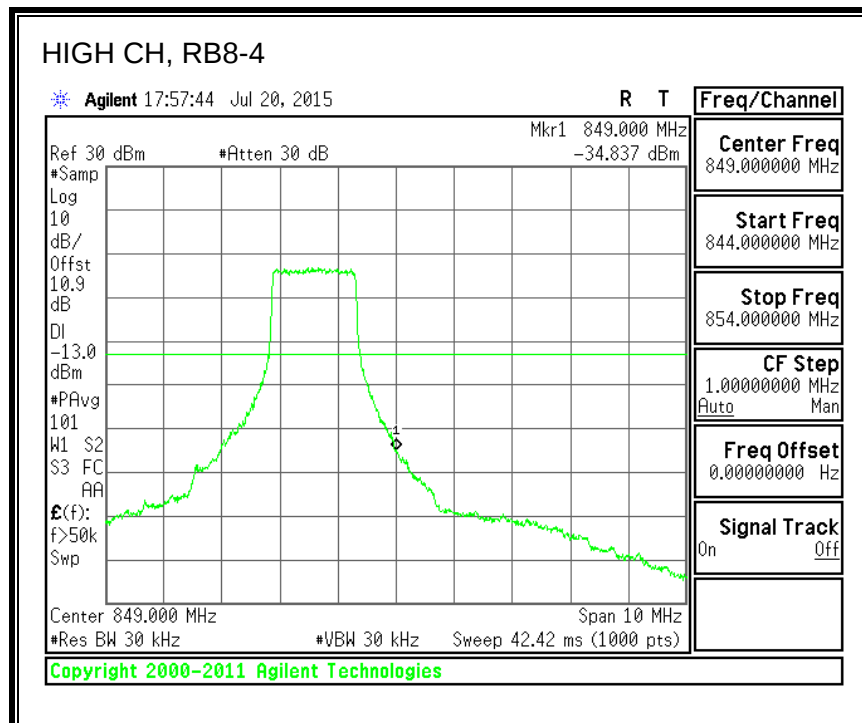
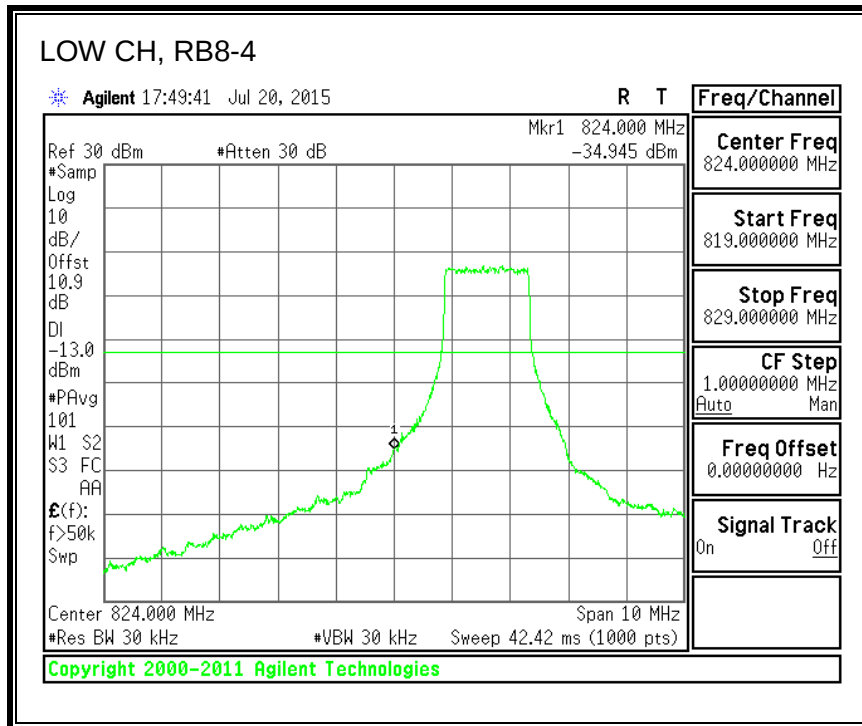


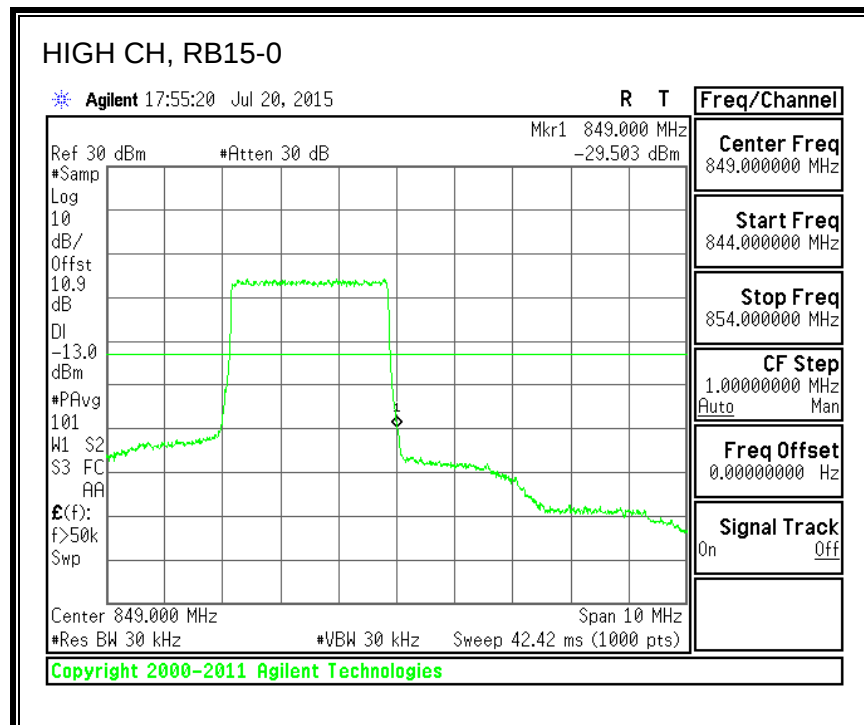
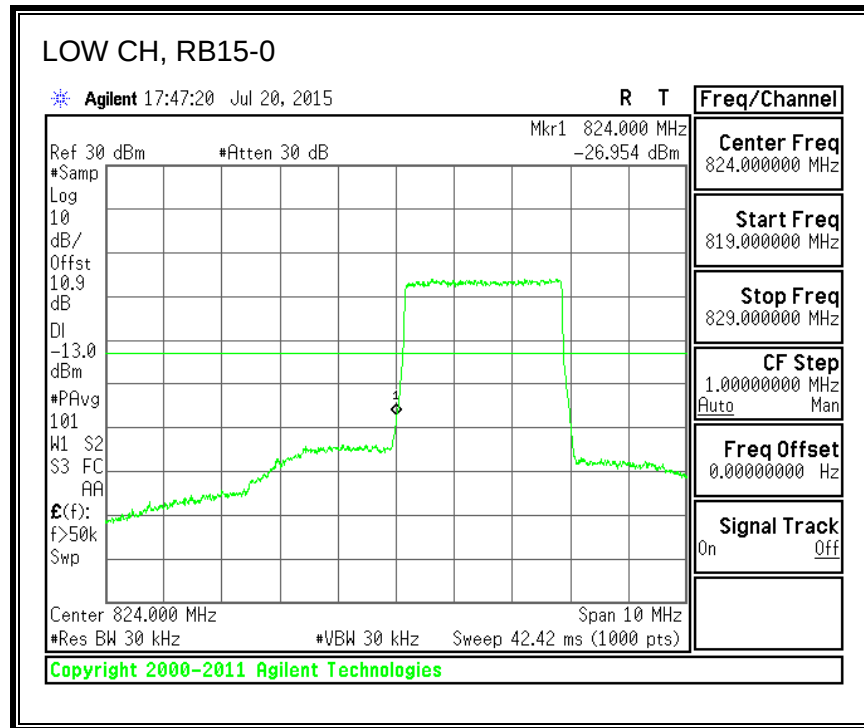


**16QAM, (3.0 MHz BAND WIDTH)**

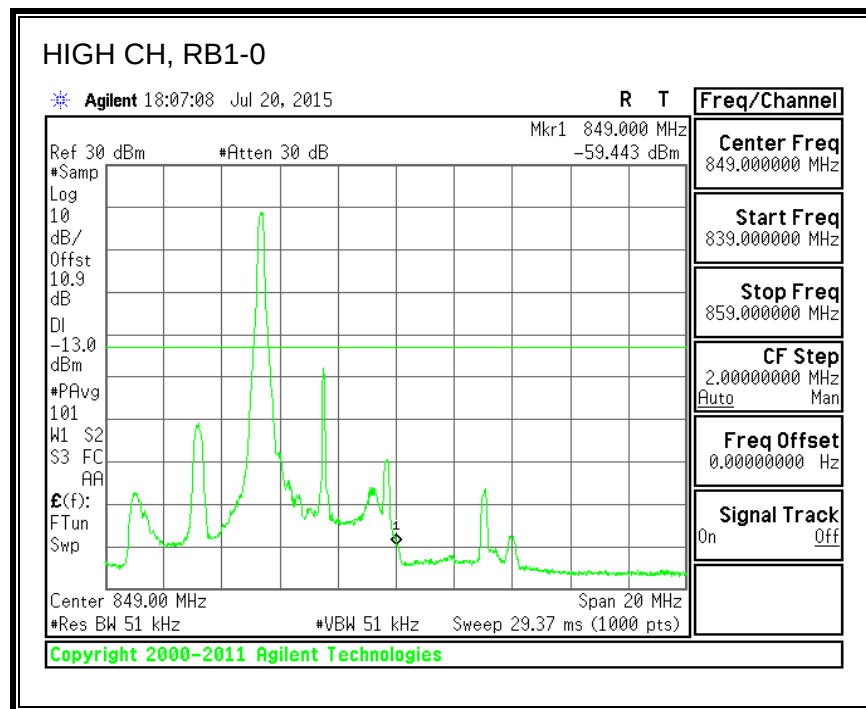
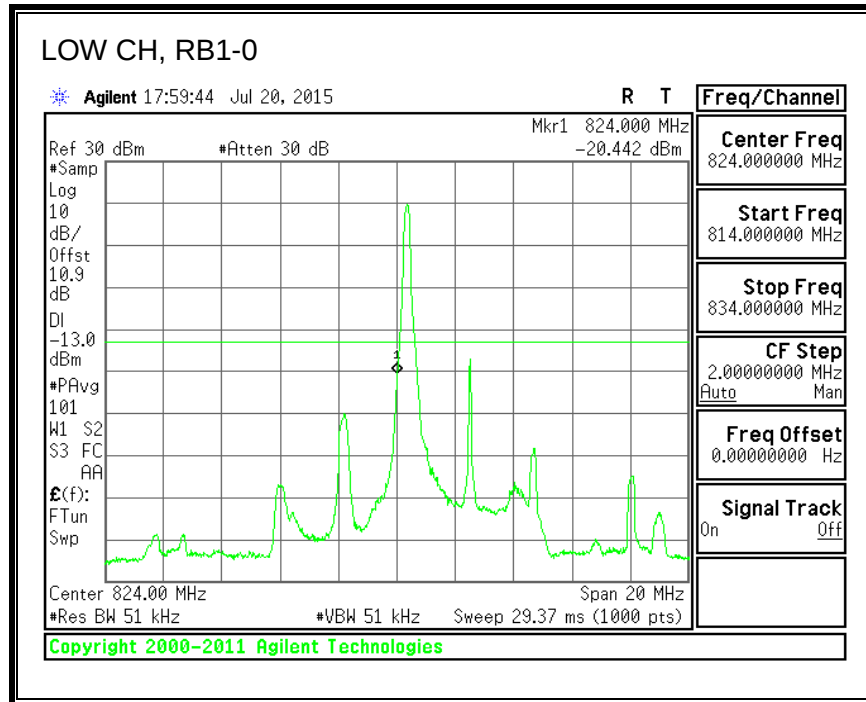


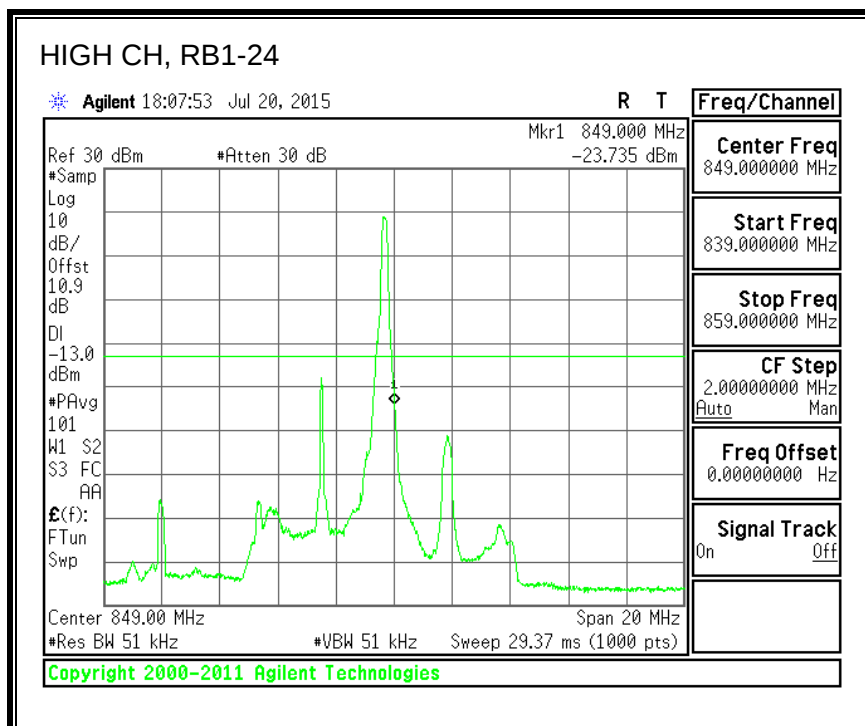
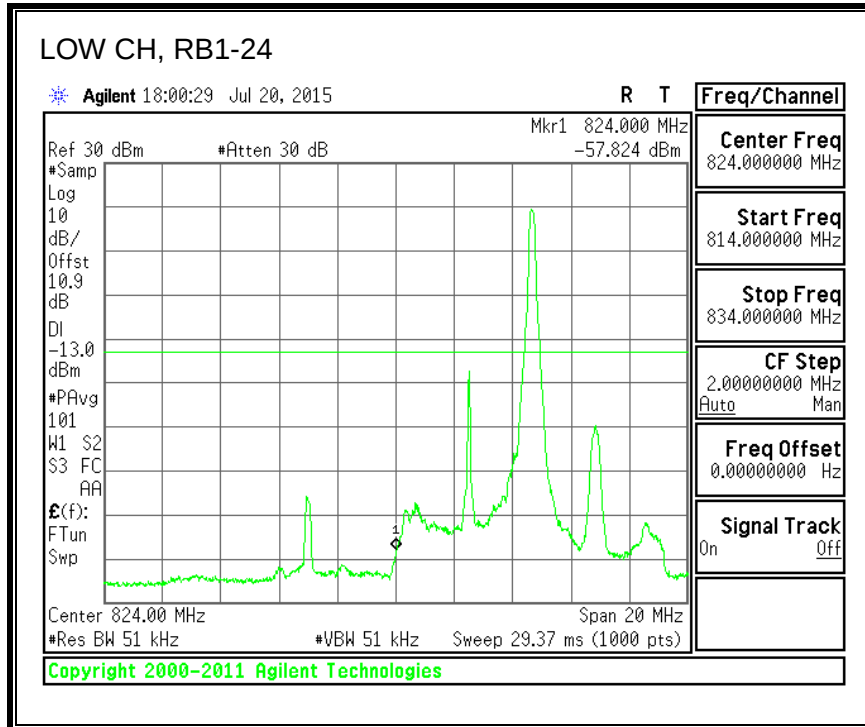


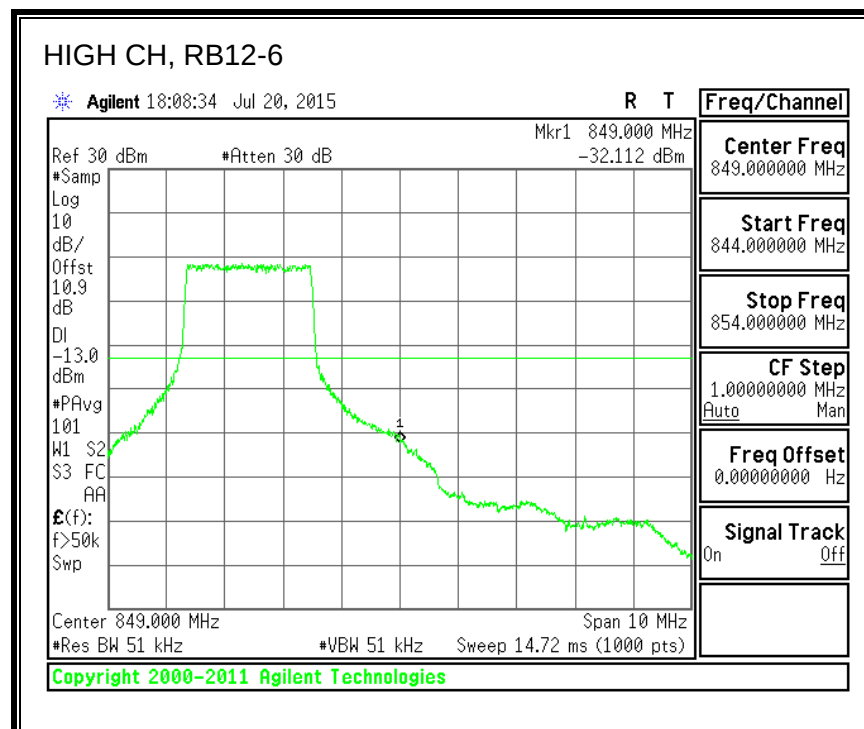
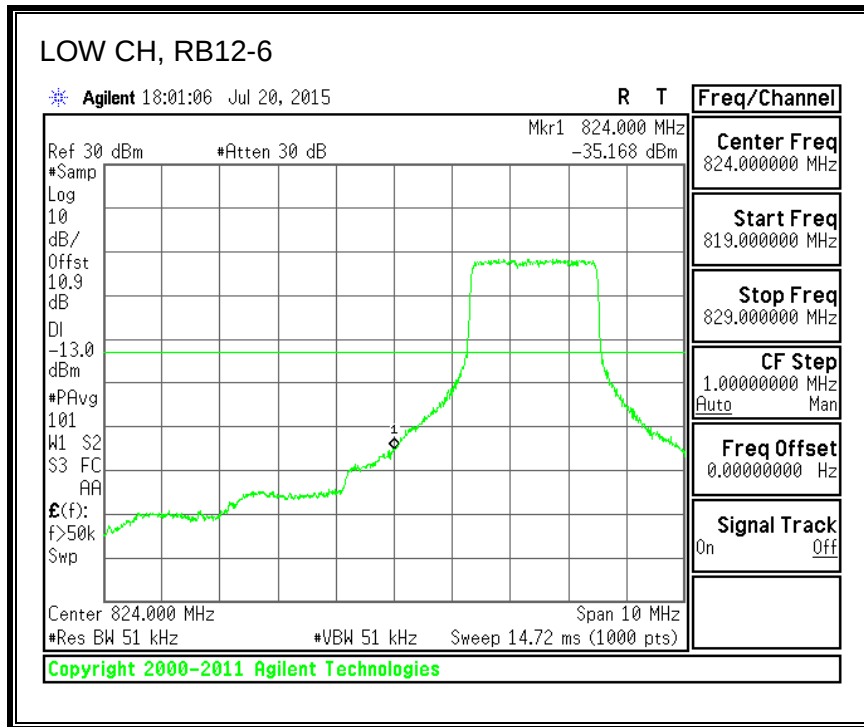


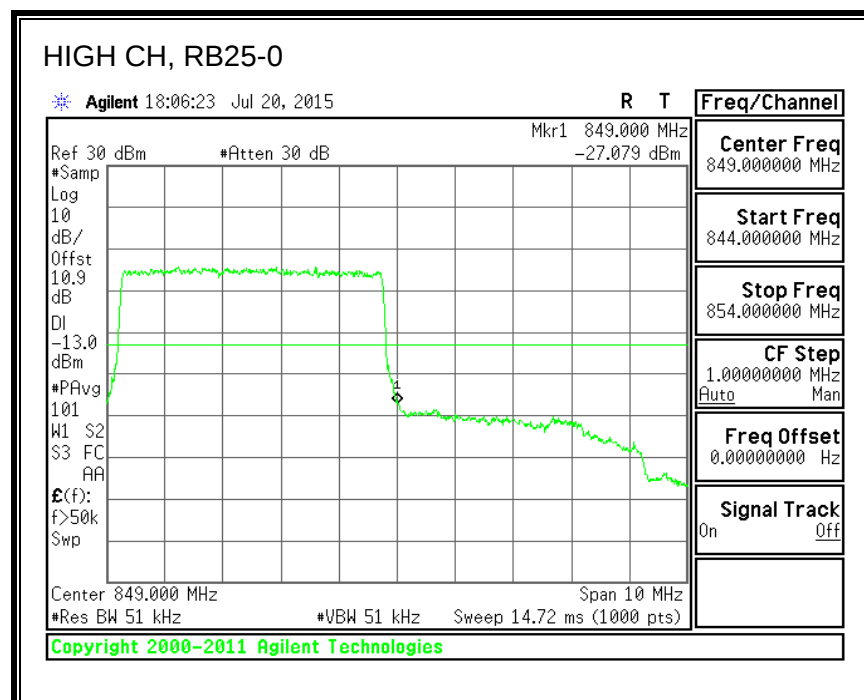
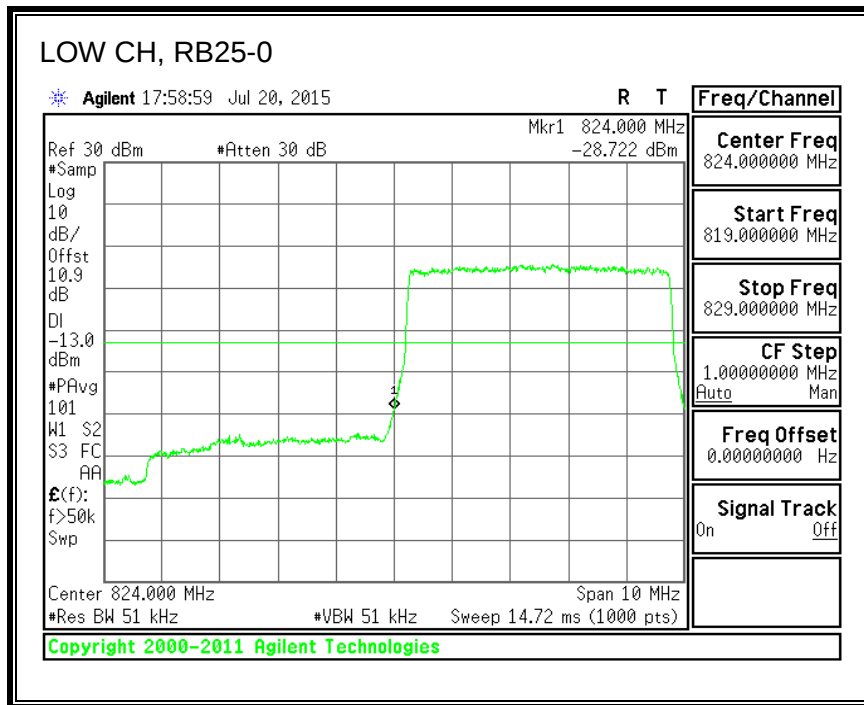


**QPSK, (5.0 MHz BAND WIDTH)**

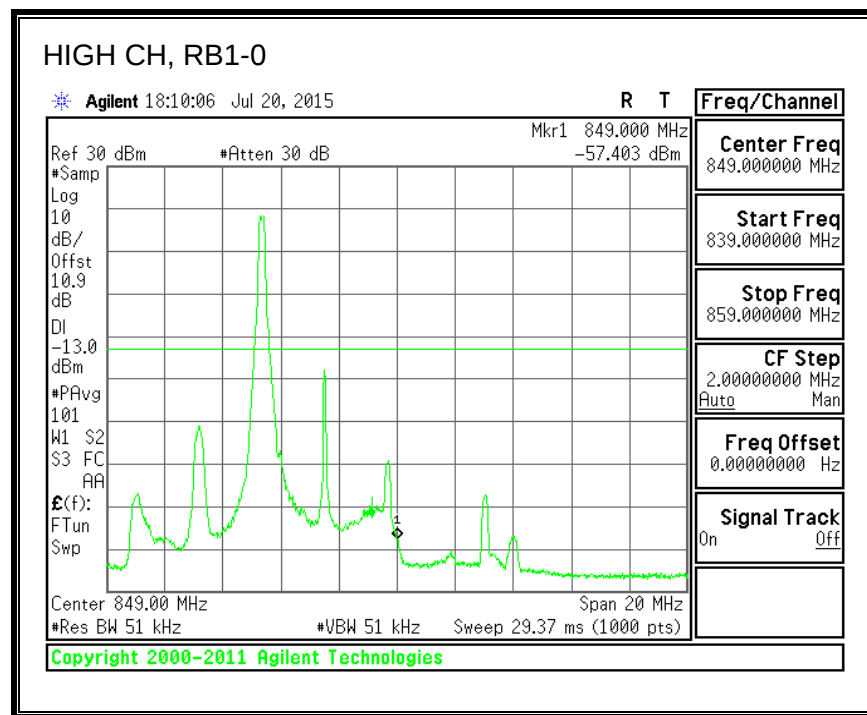
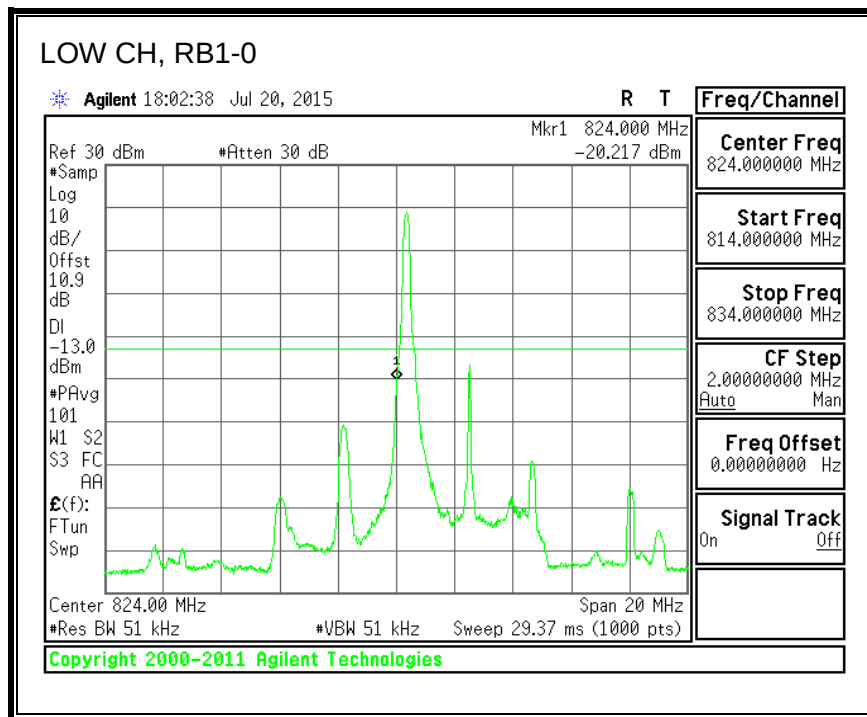


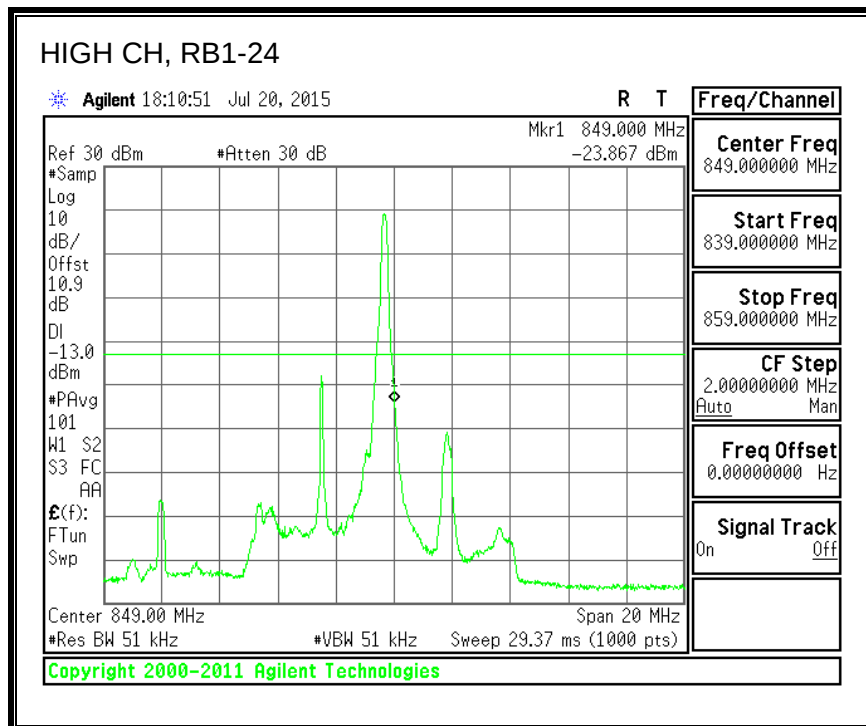
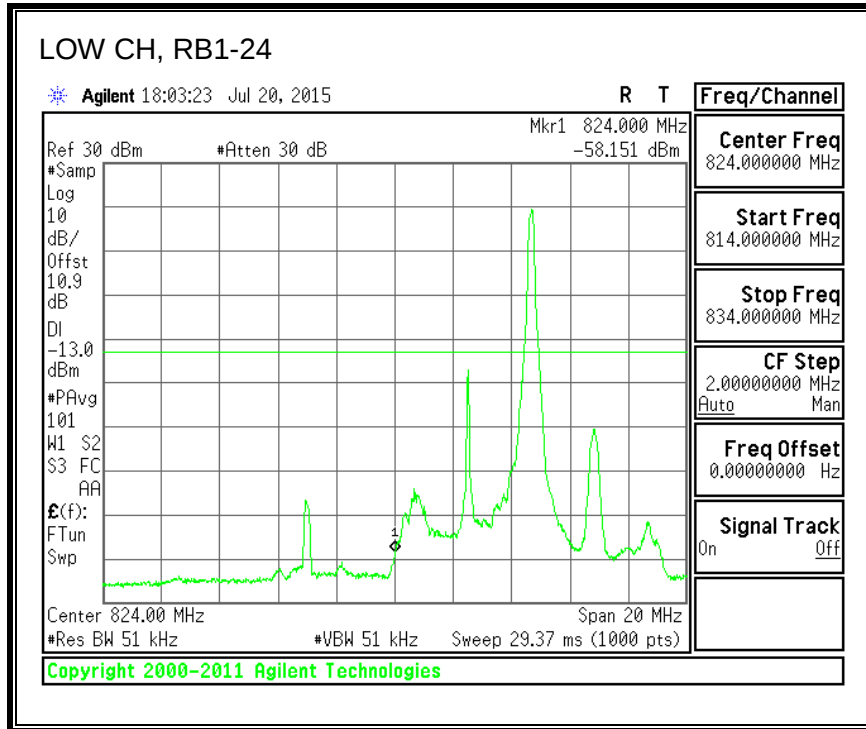


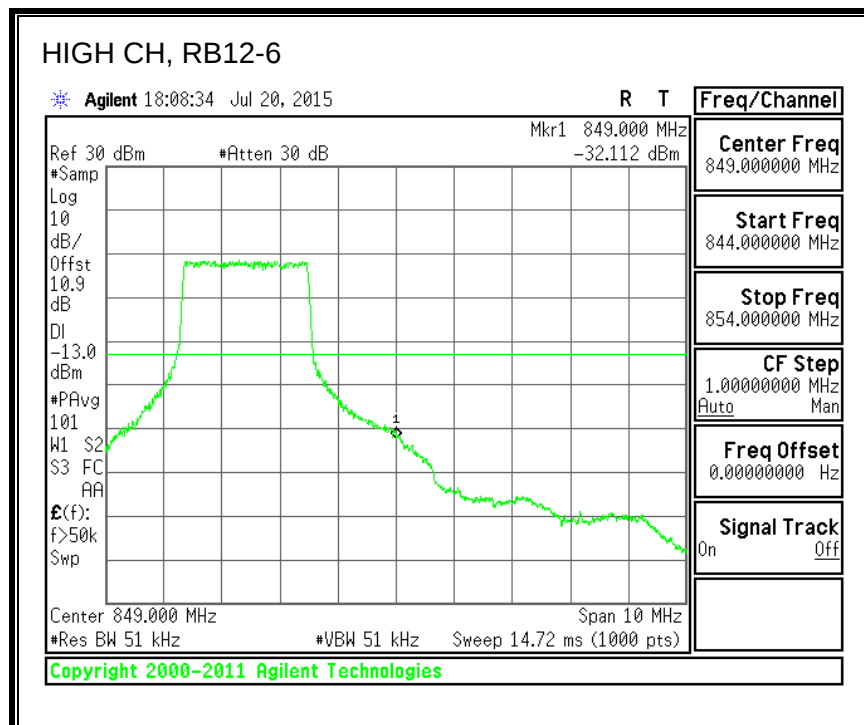
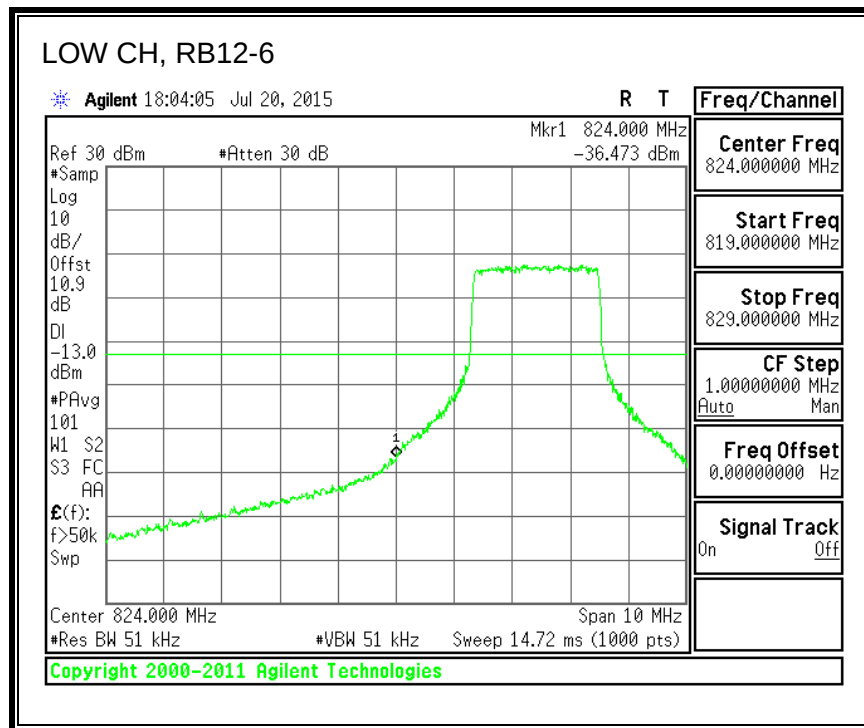


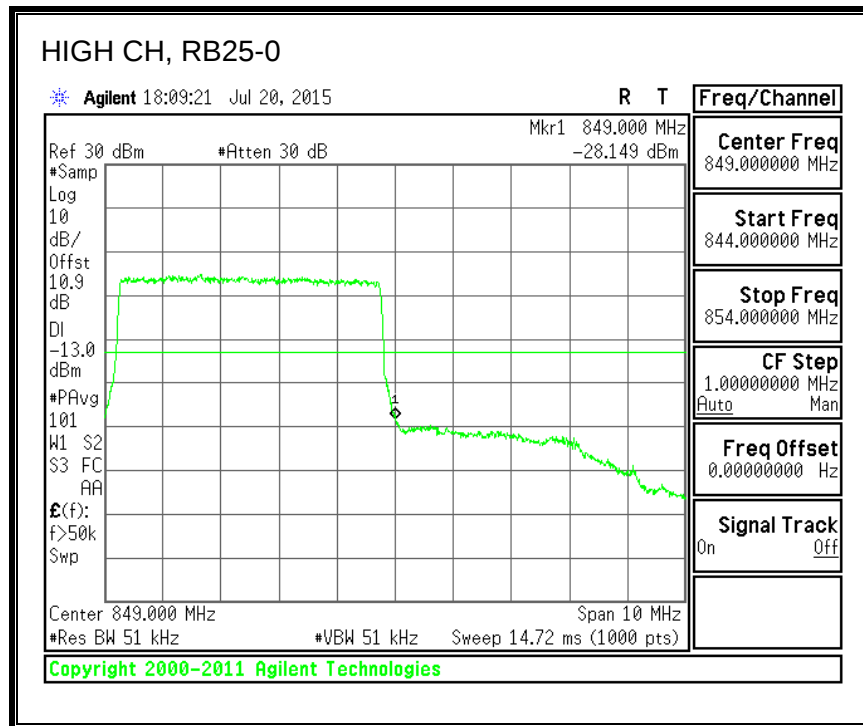
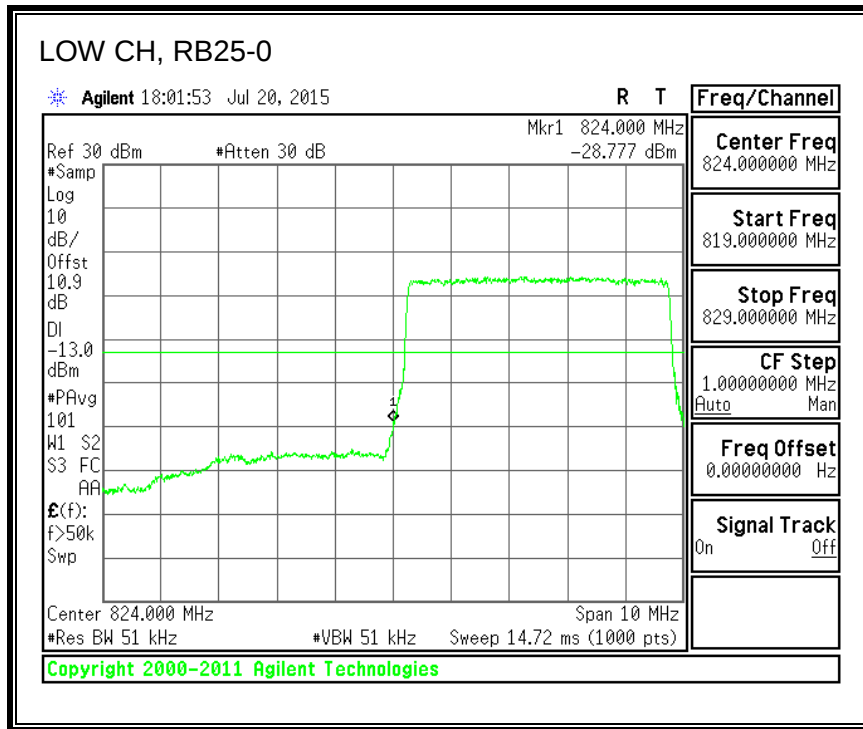


**16QAM, (5.0 MHz BAND WIDTH)**

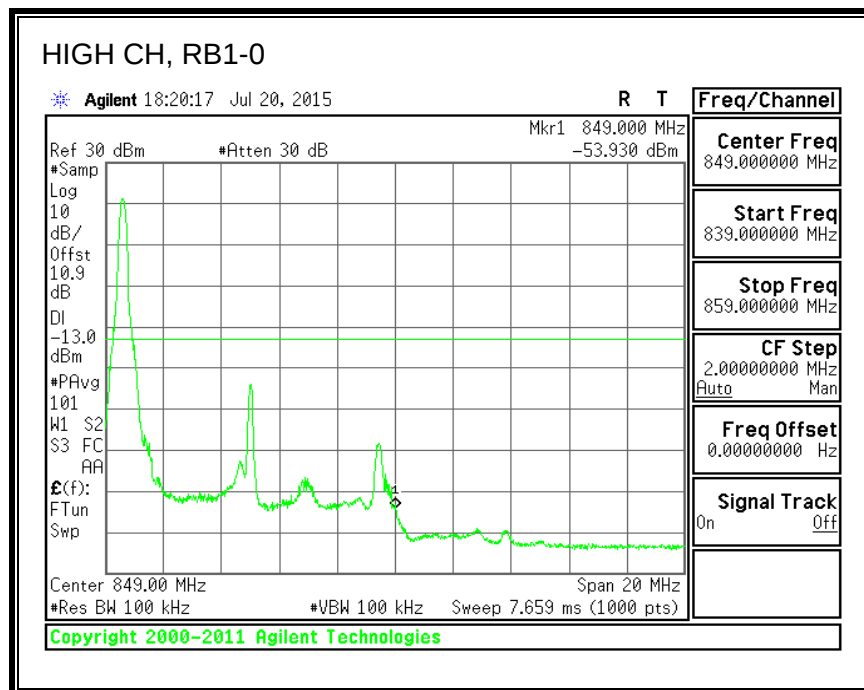
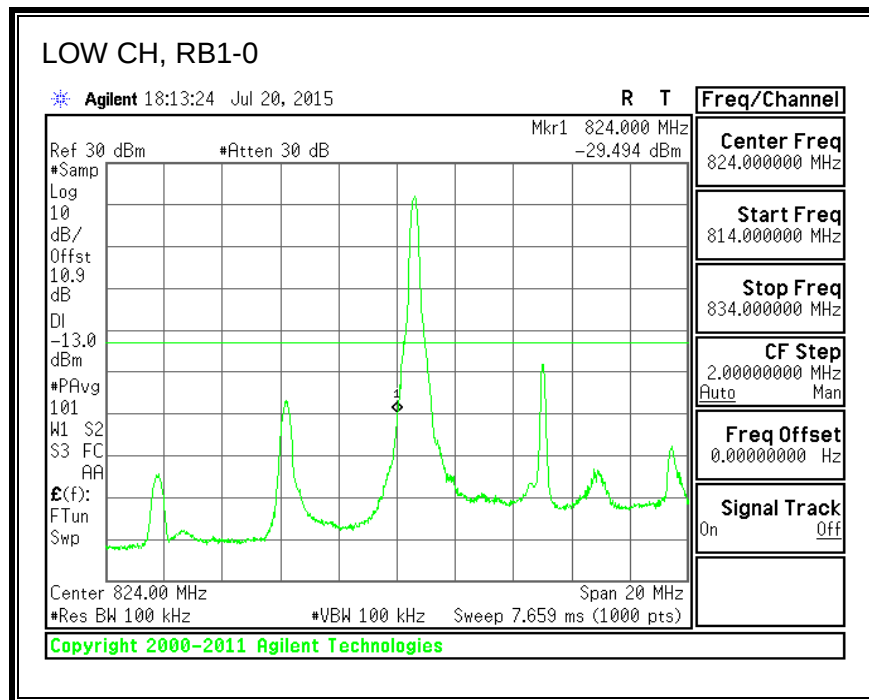


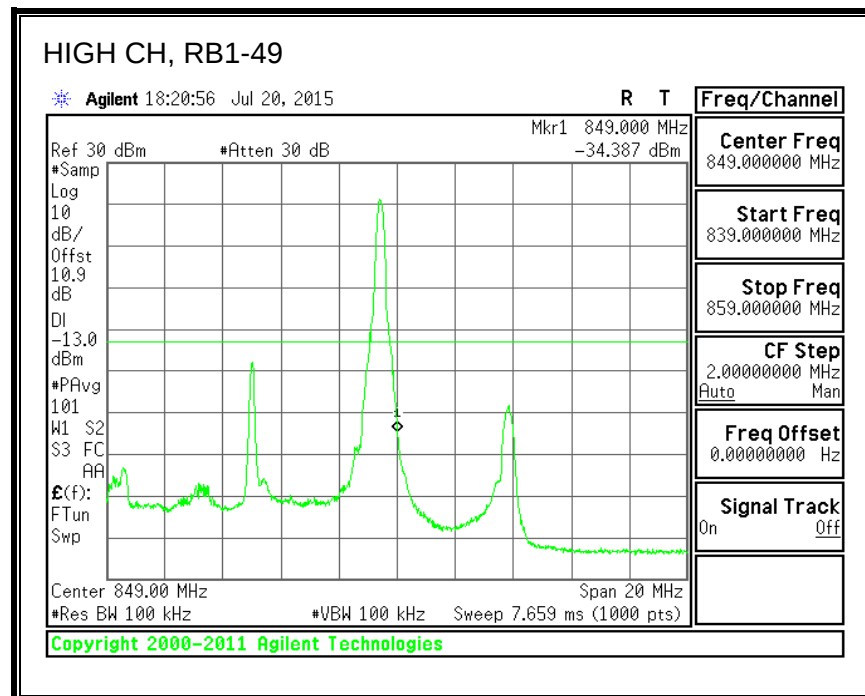
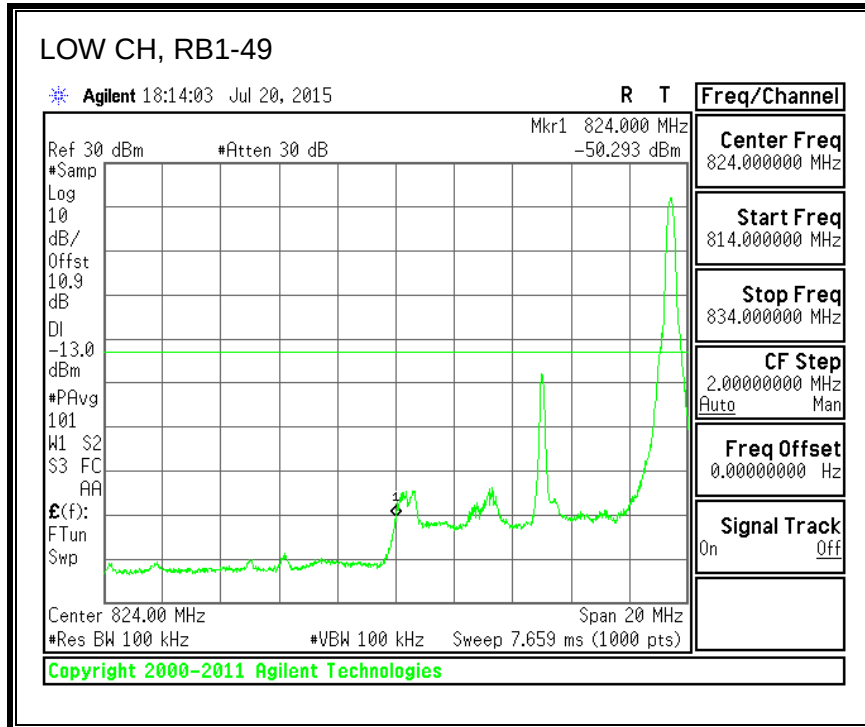


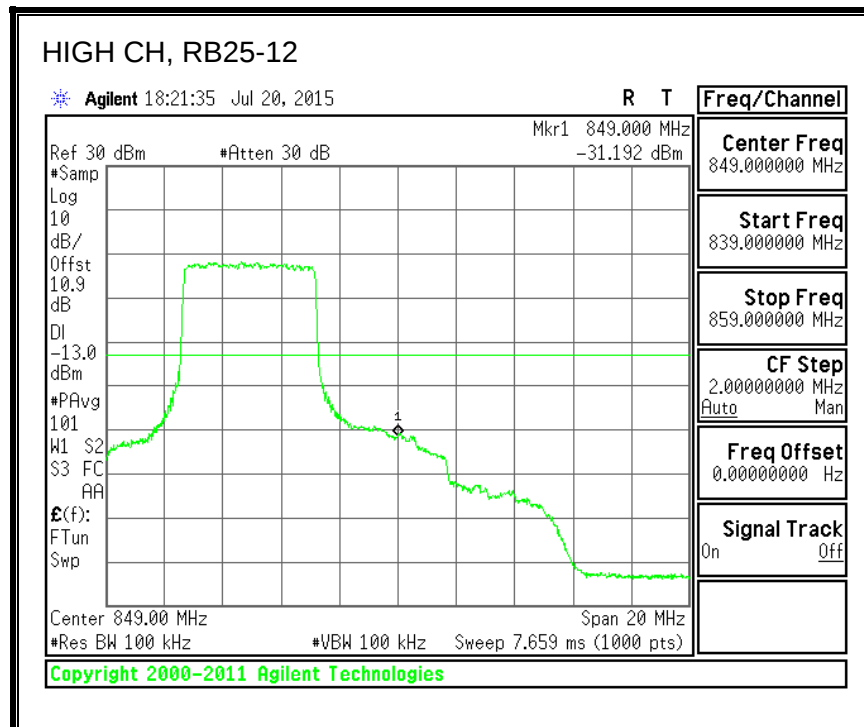
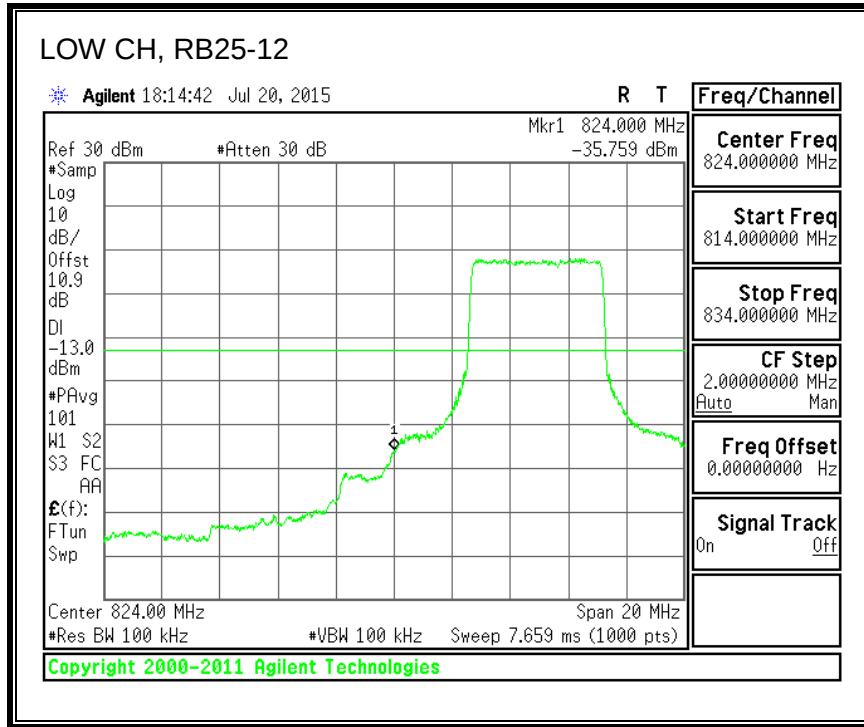


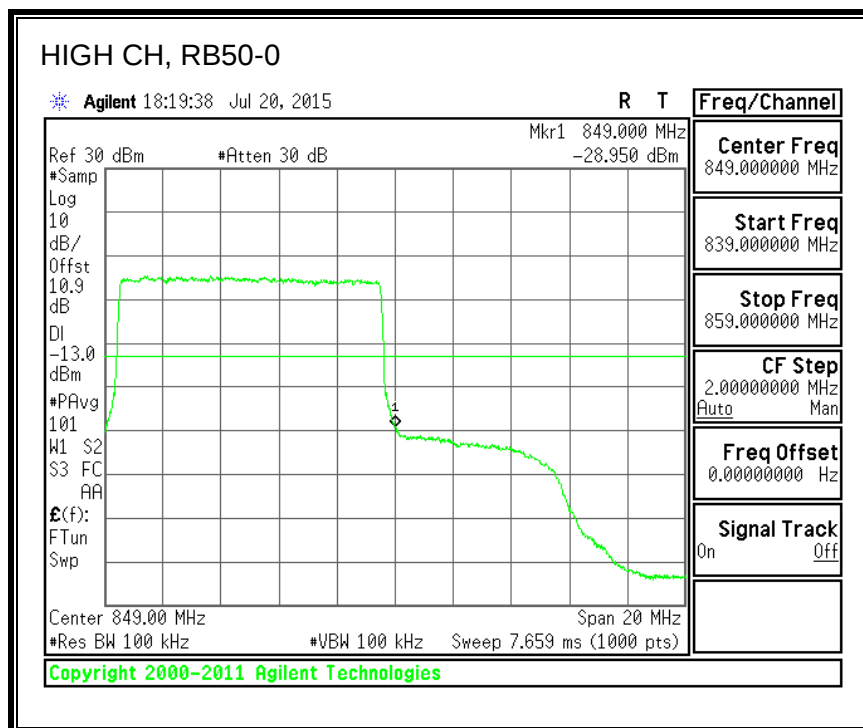
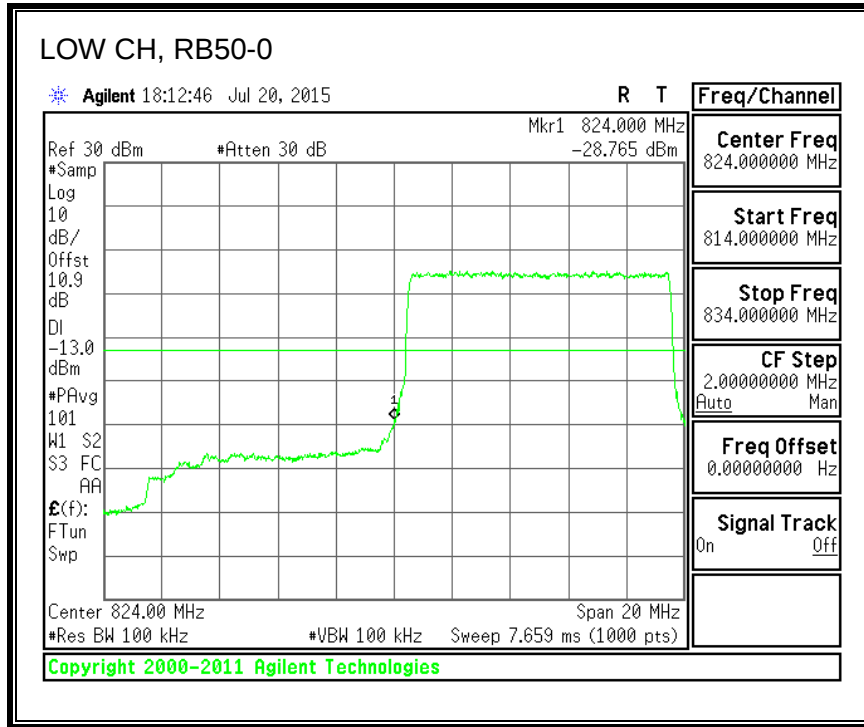


**QPSK, (10.0 MHz BAND WIDTH)**

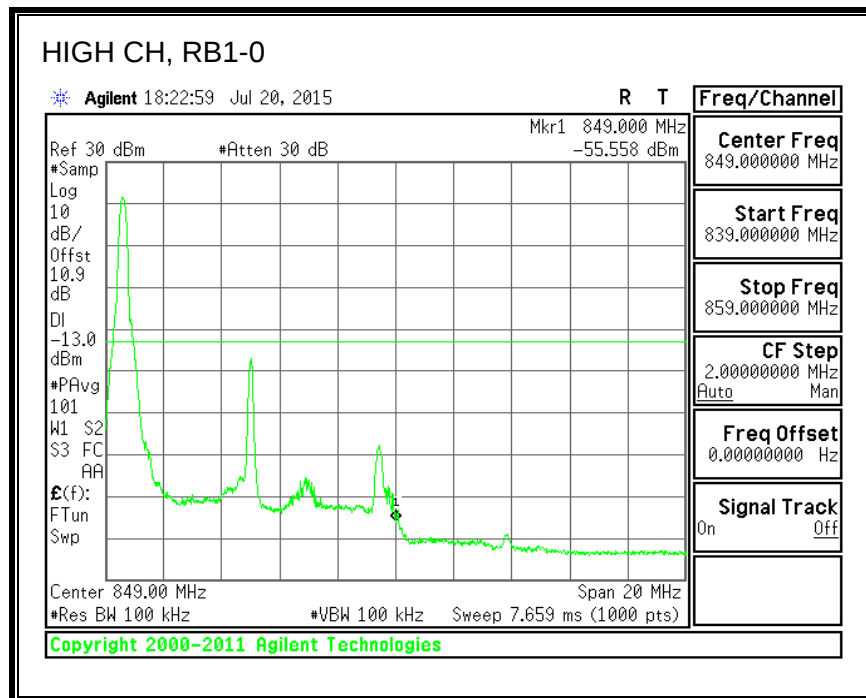
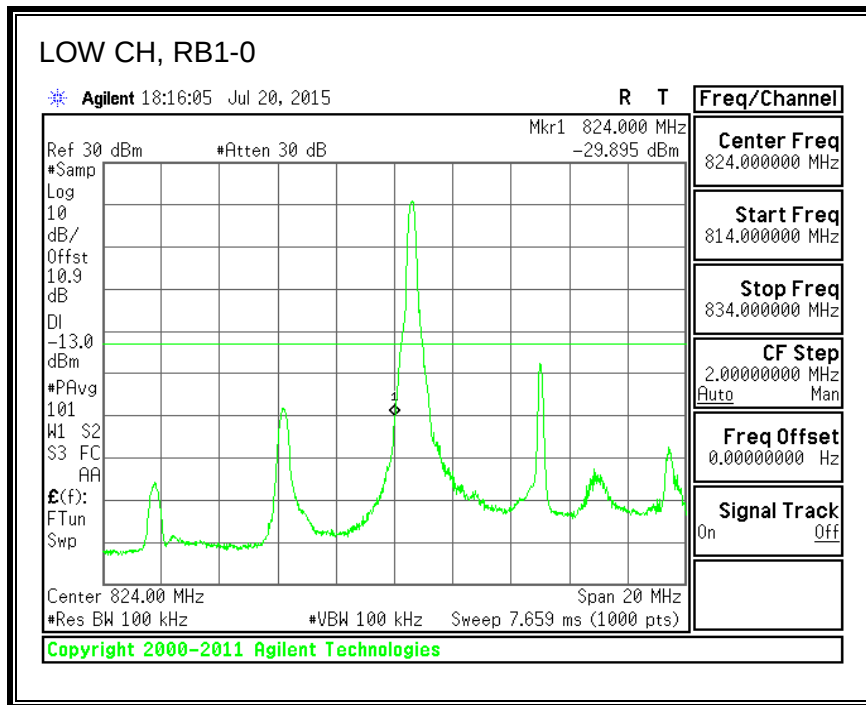


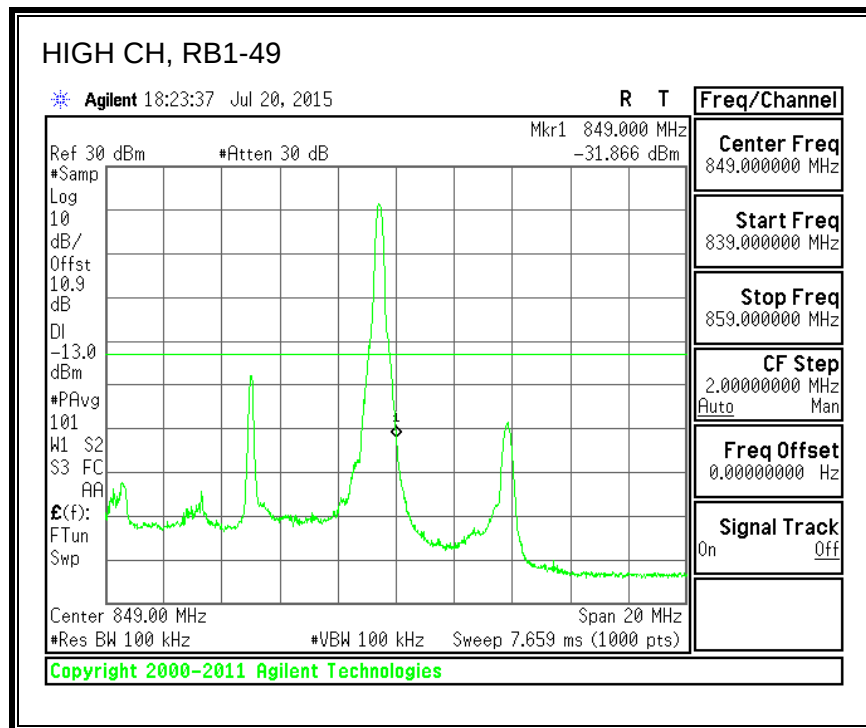
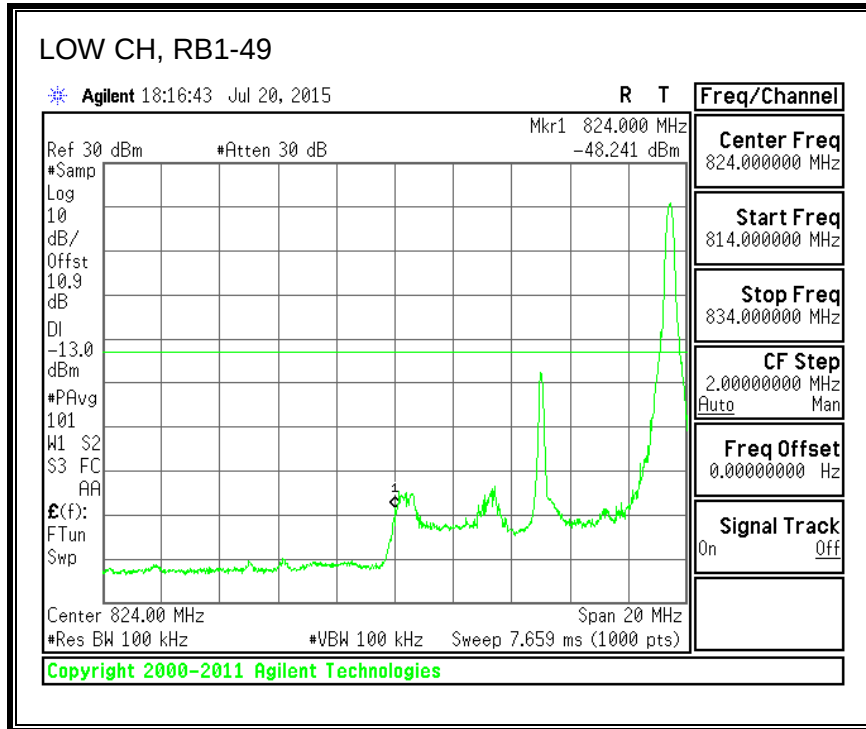


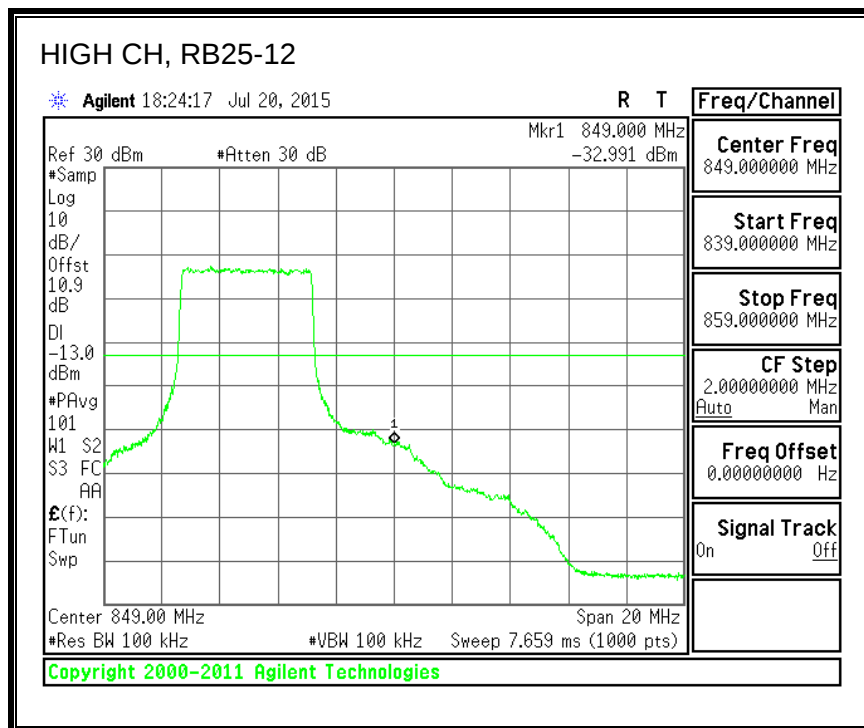
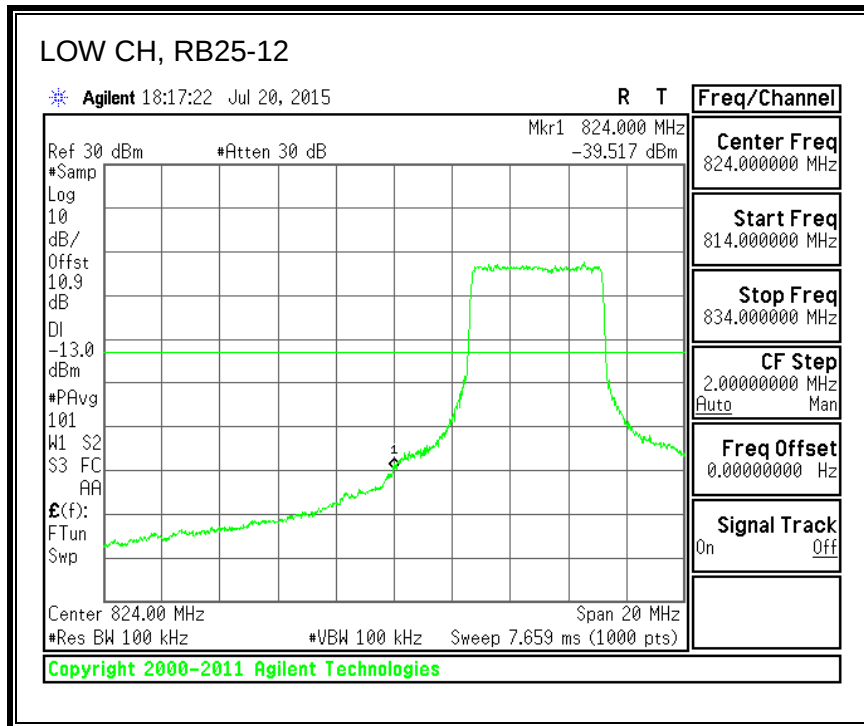


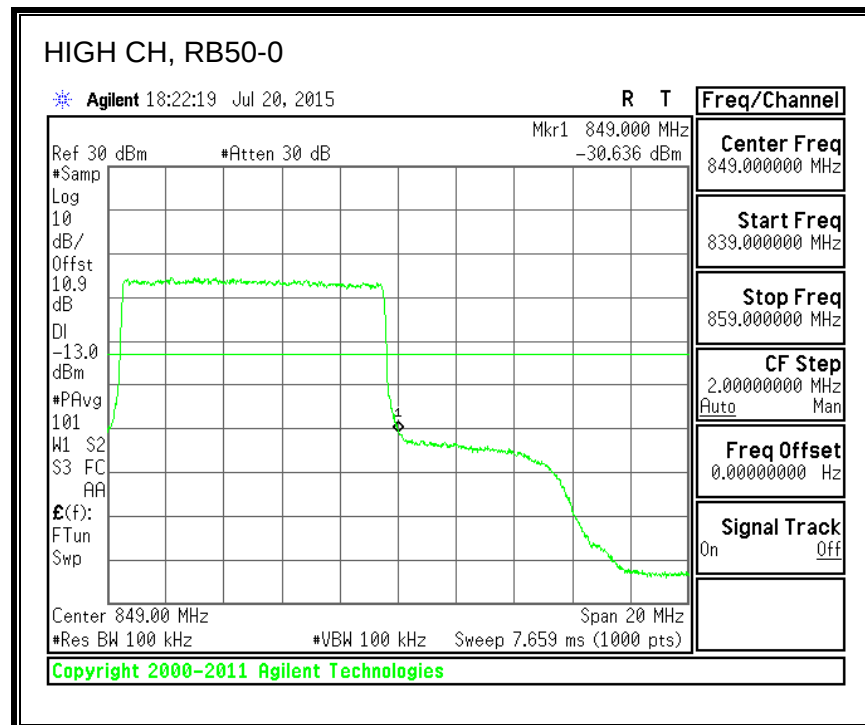
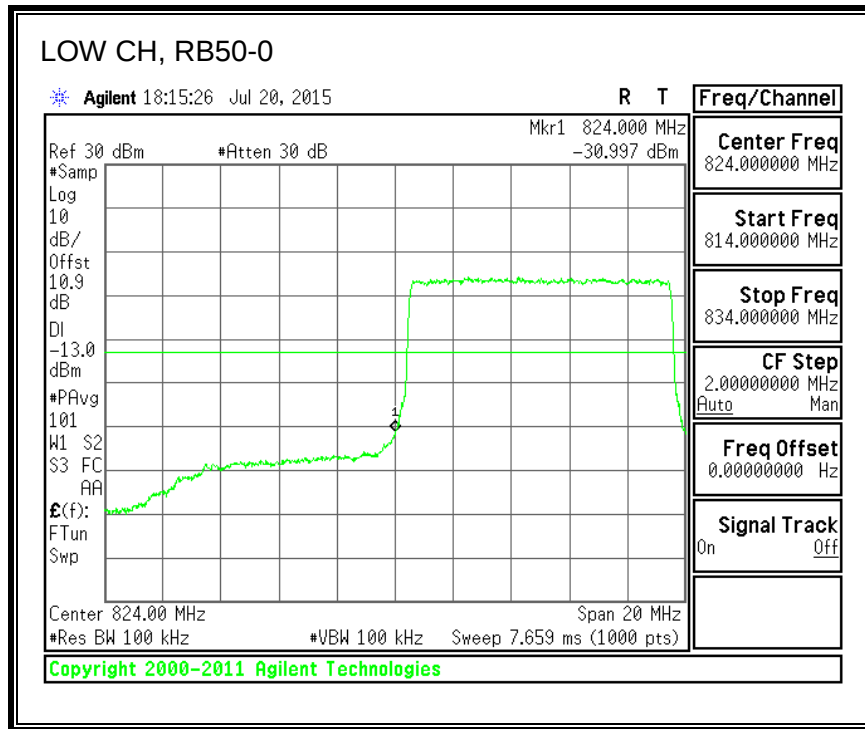


**16QAM, (10.0 MHz BAND WIDTH)**



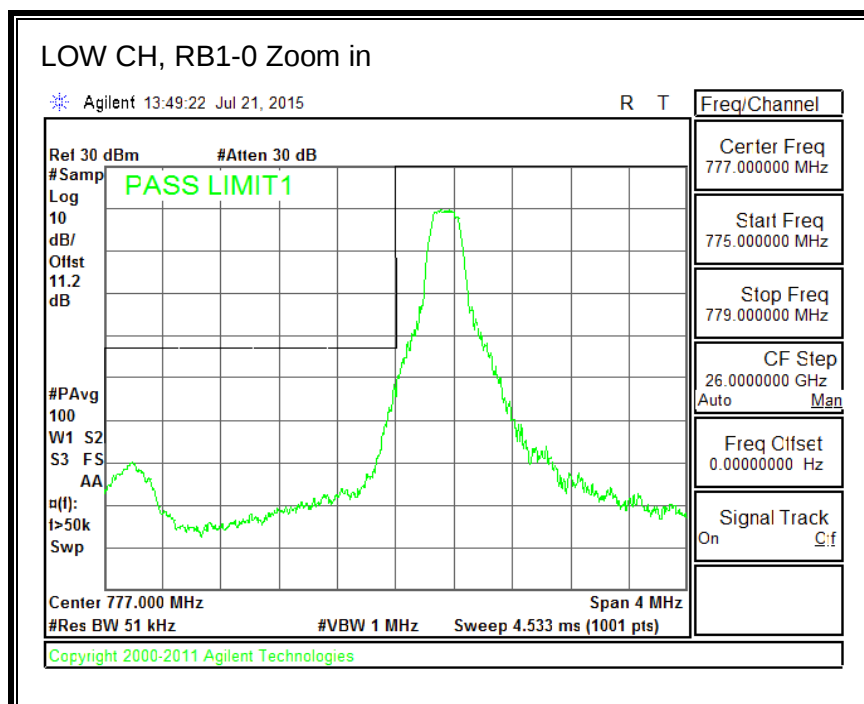
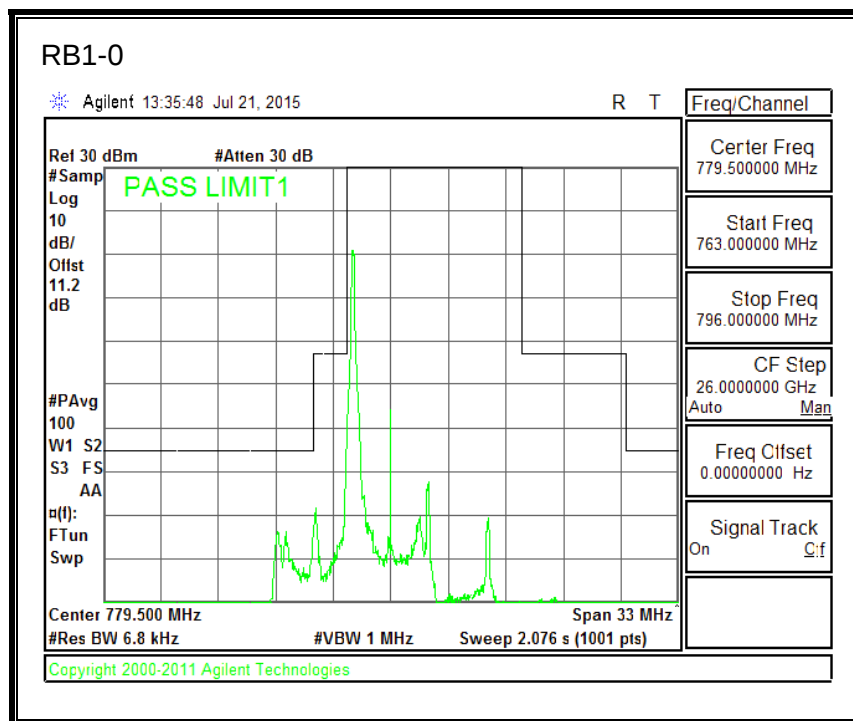


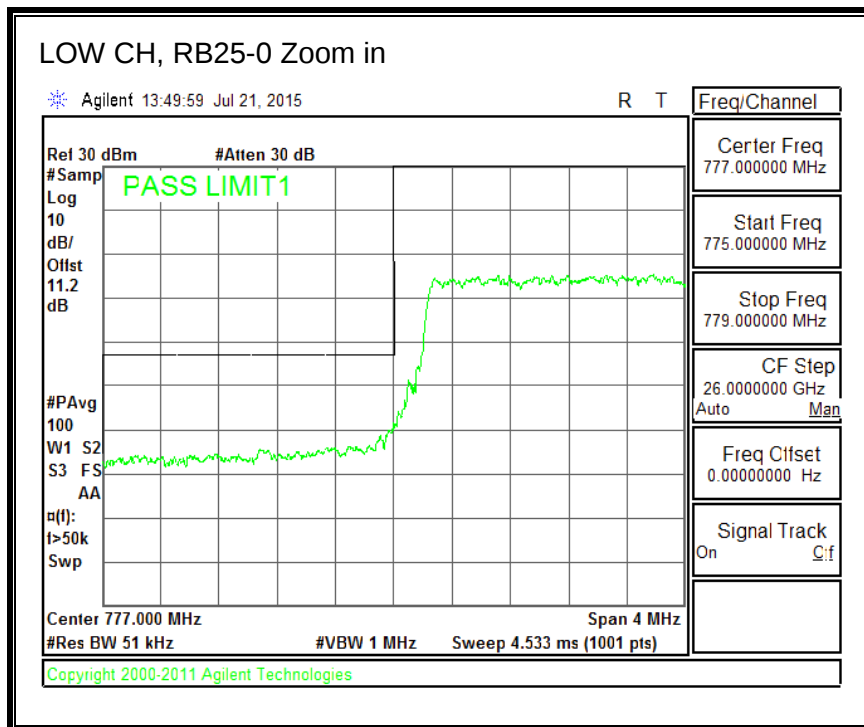
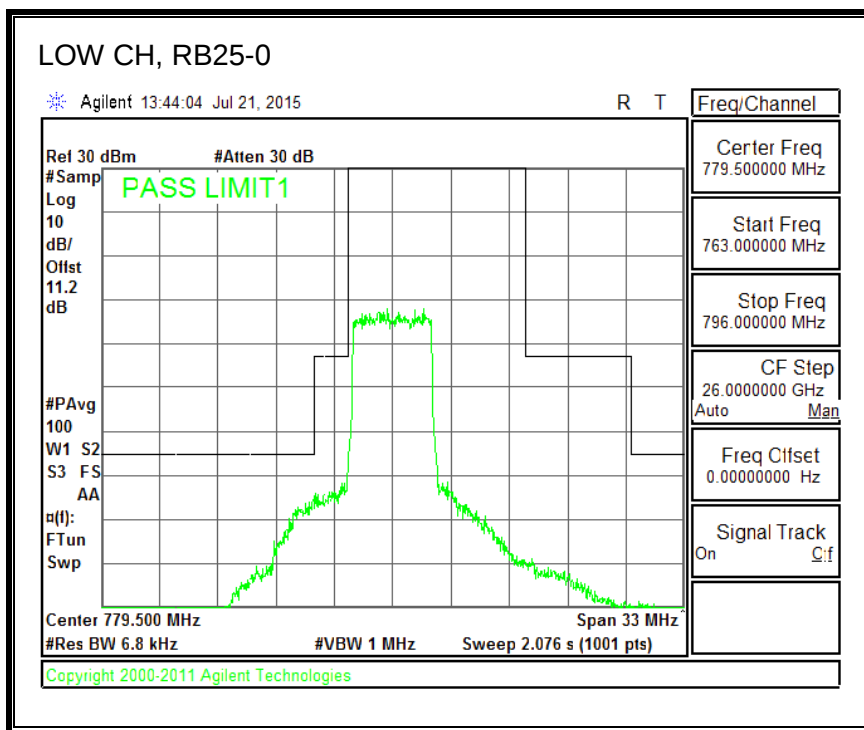


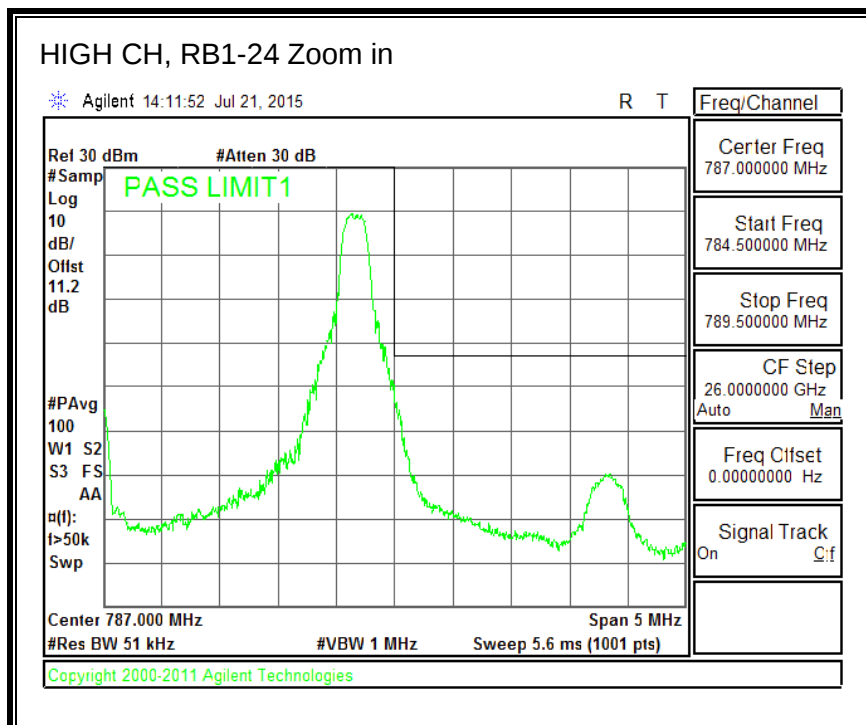
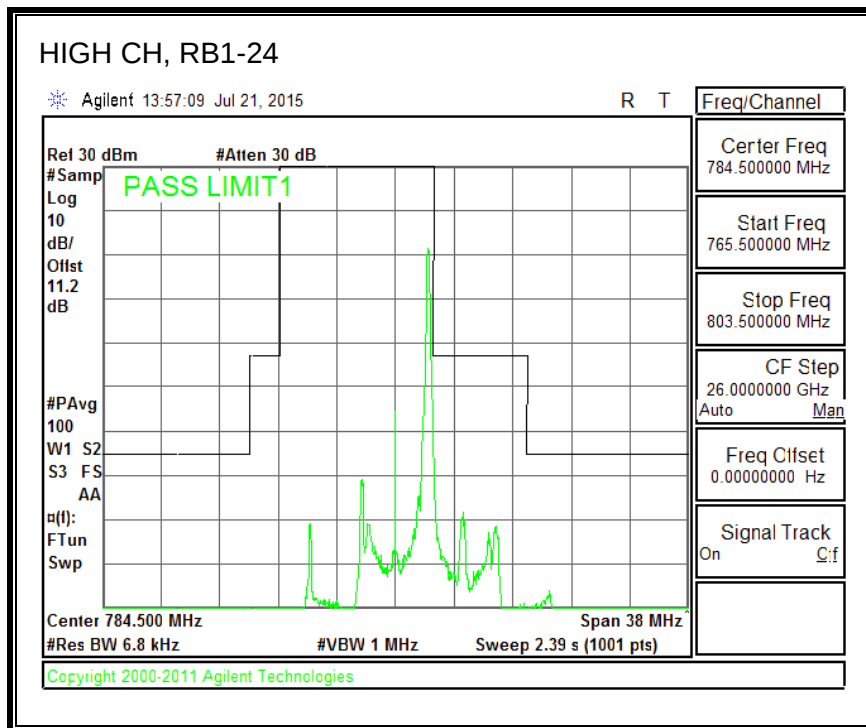


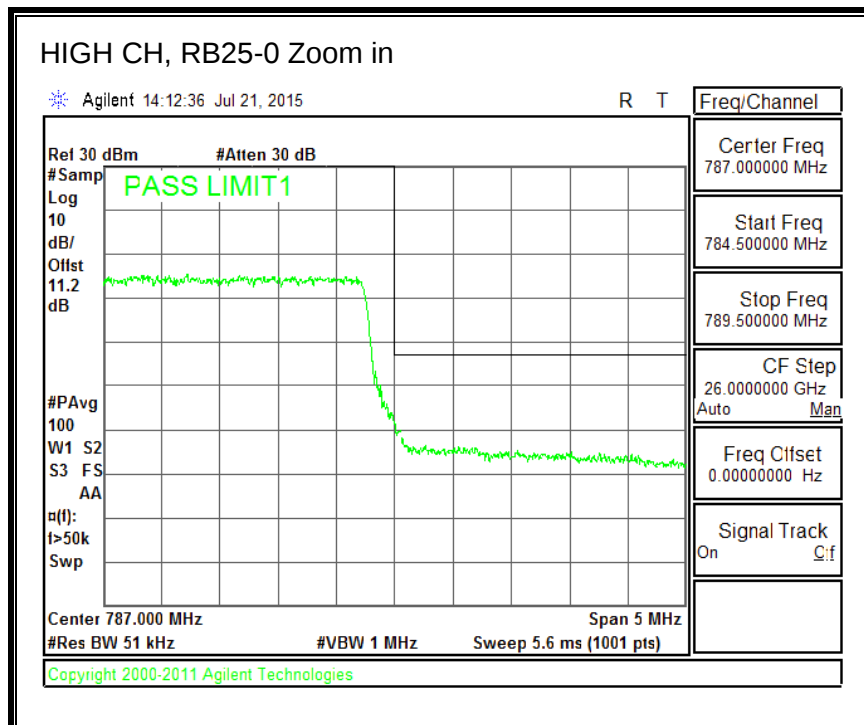
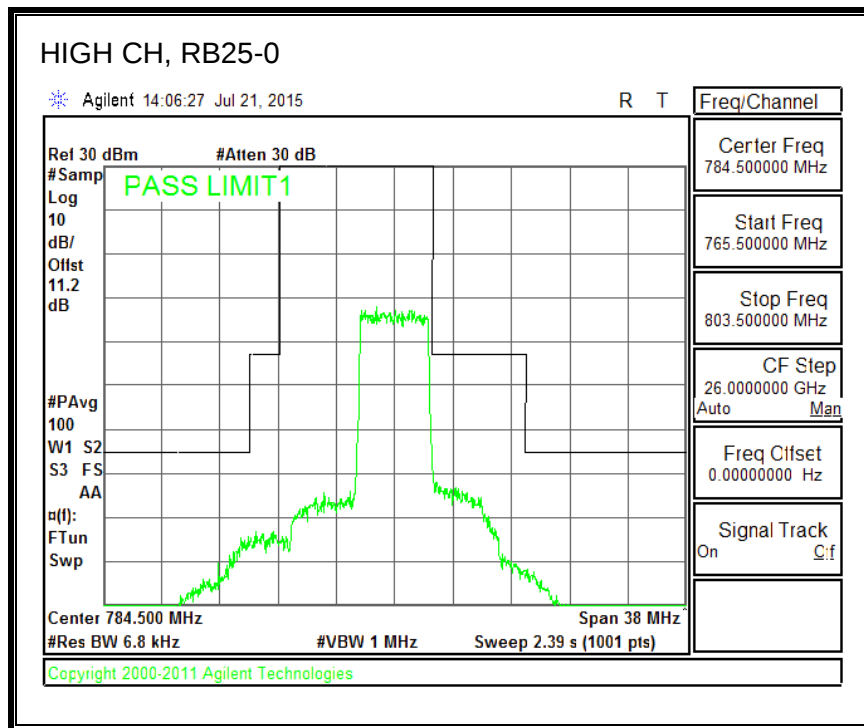
## 8.2.4. LTE BAND 13 EMISSION MASK

### QPSK, (5.0 MHz BAND WIDTH)

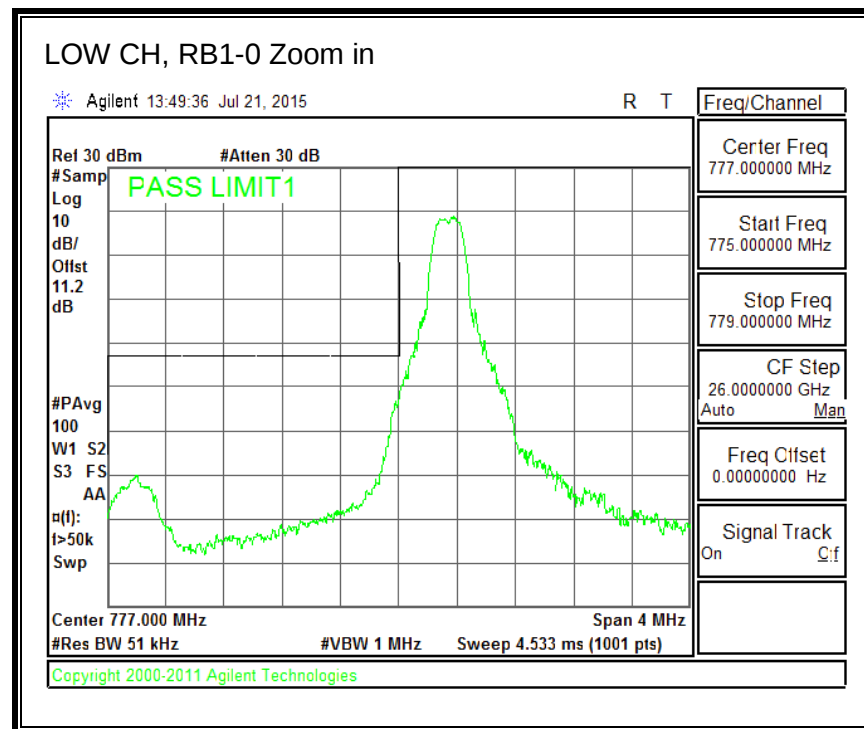
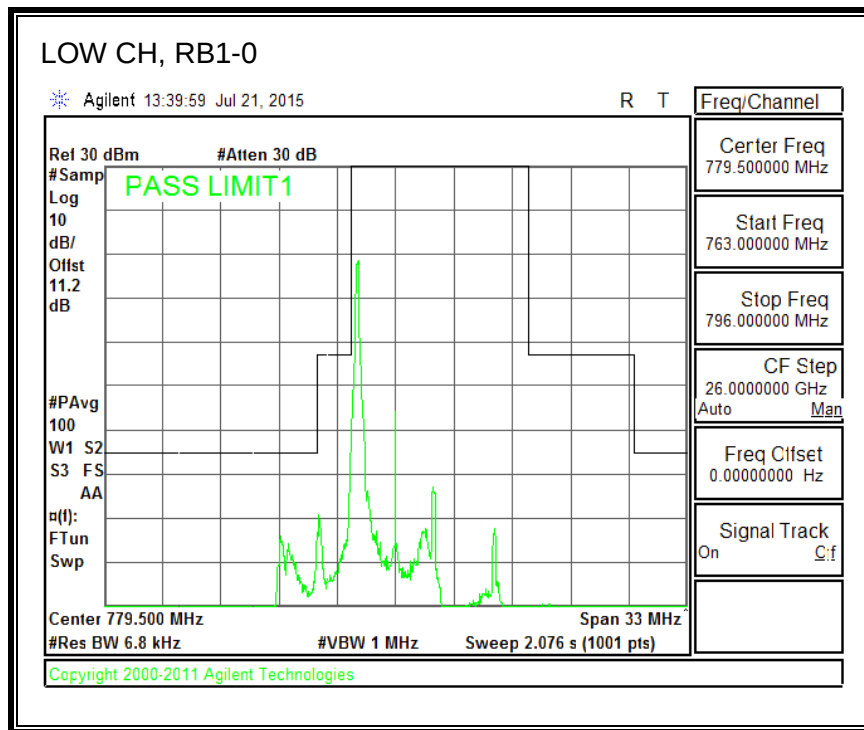


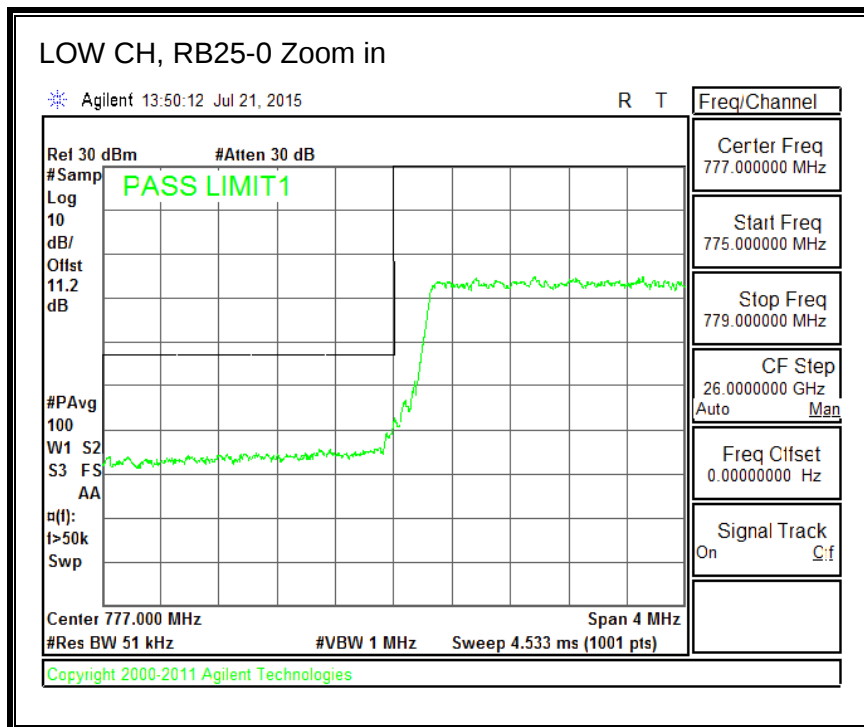
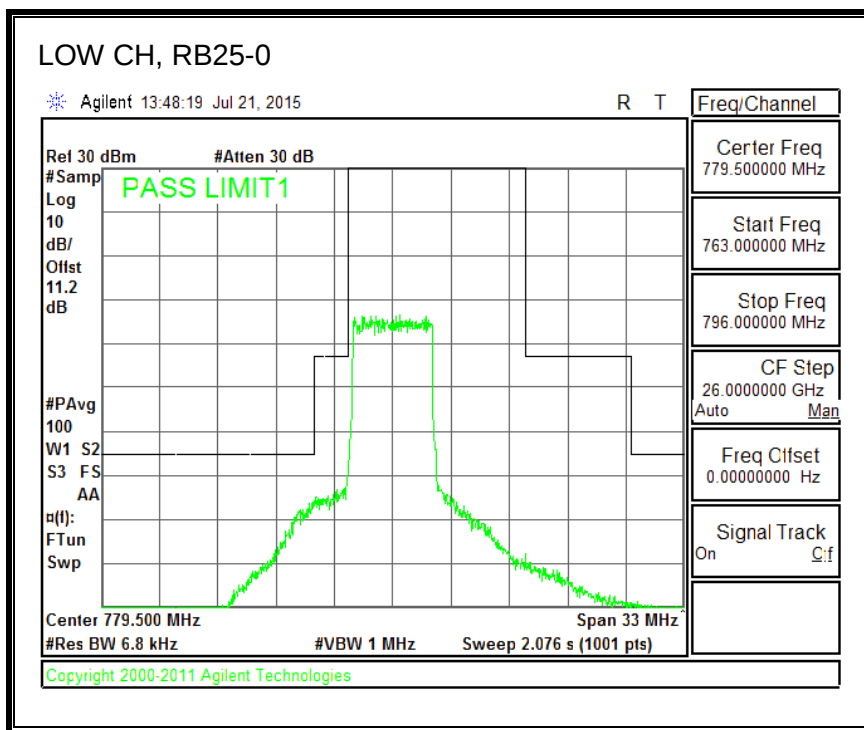


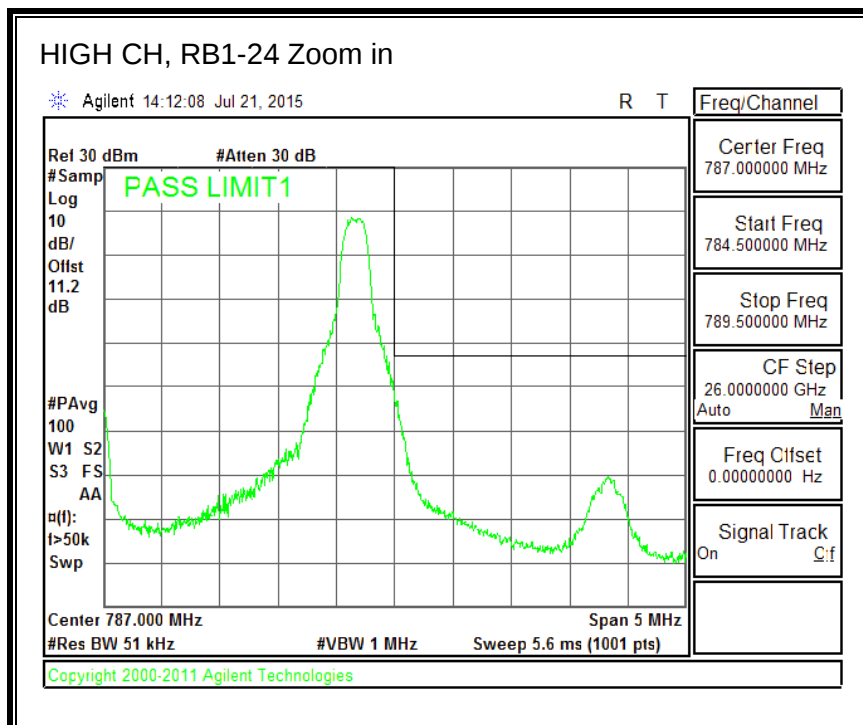
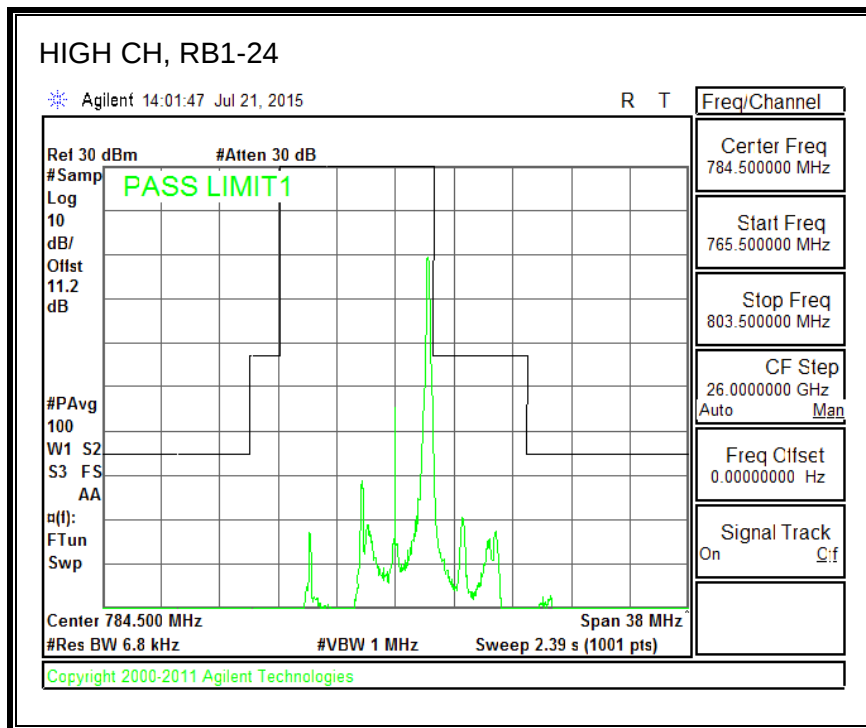


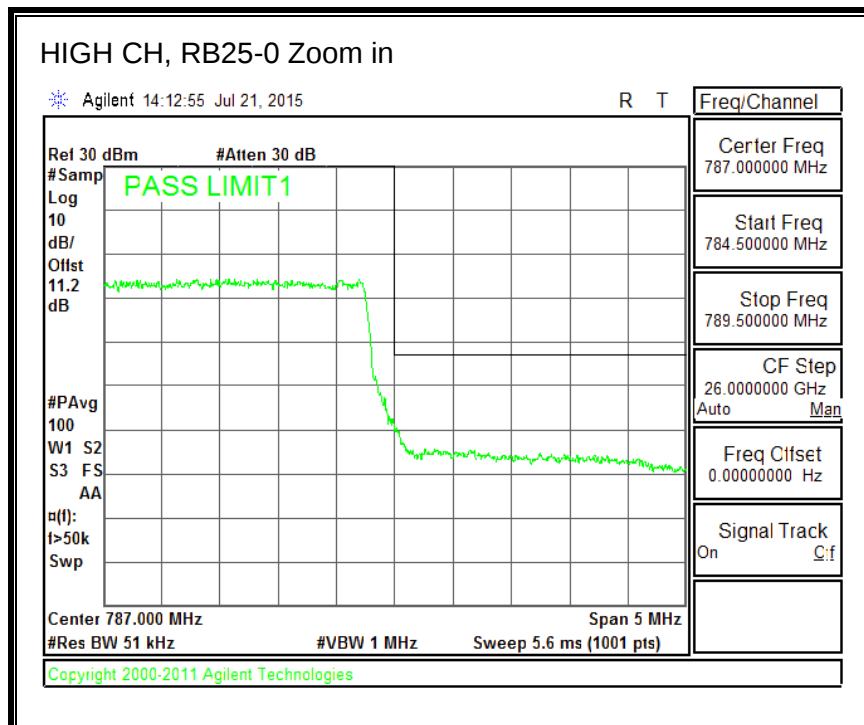
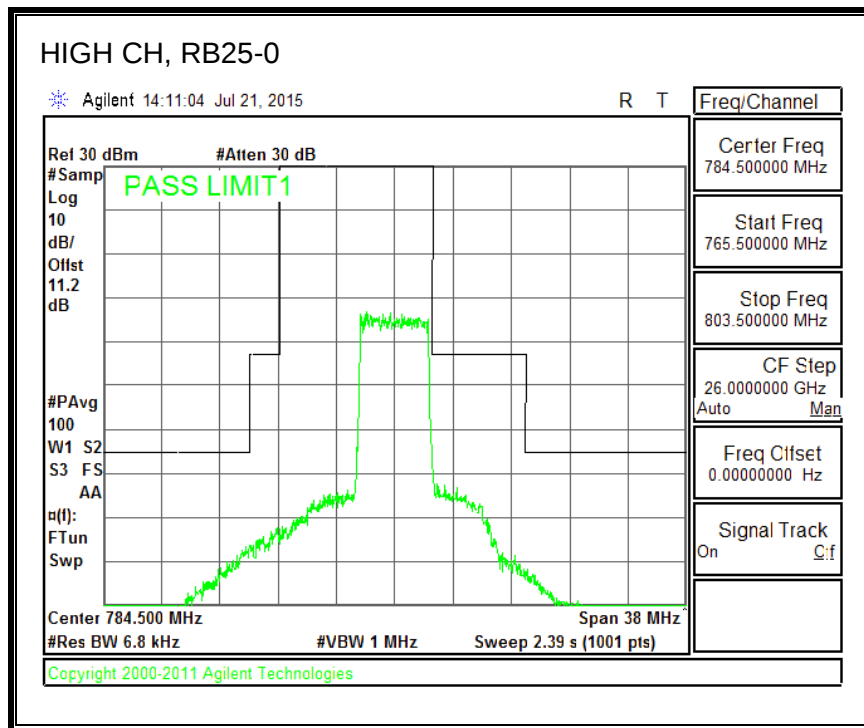


**16QAM, (5.0 MHz BAND WIDTH)**

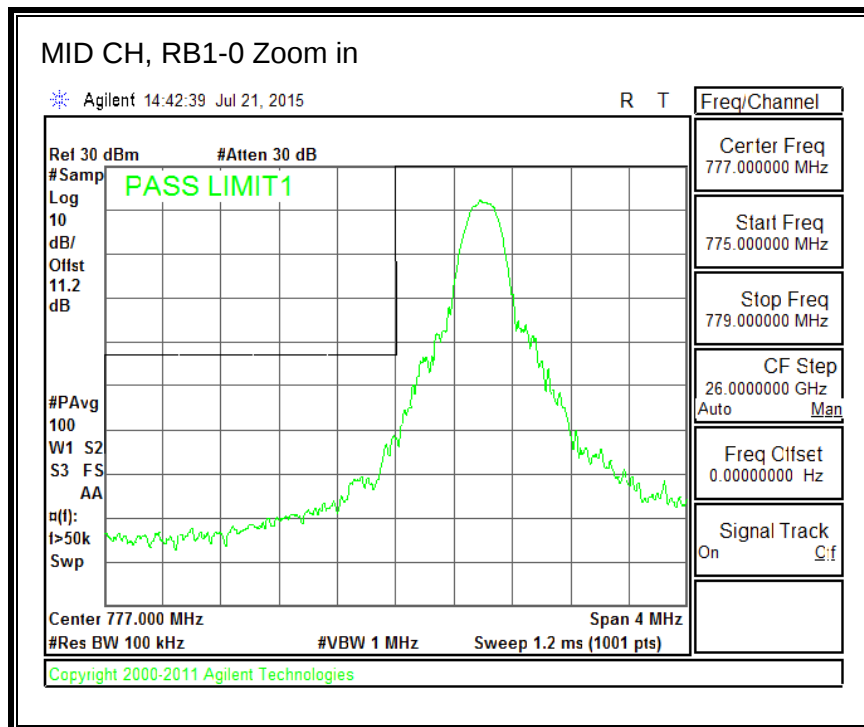
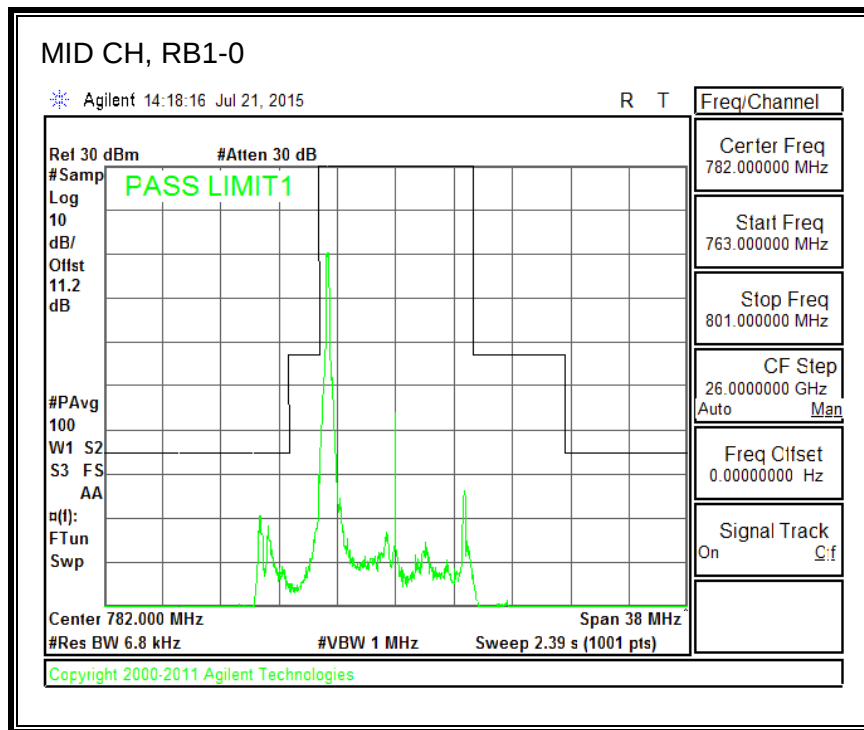


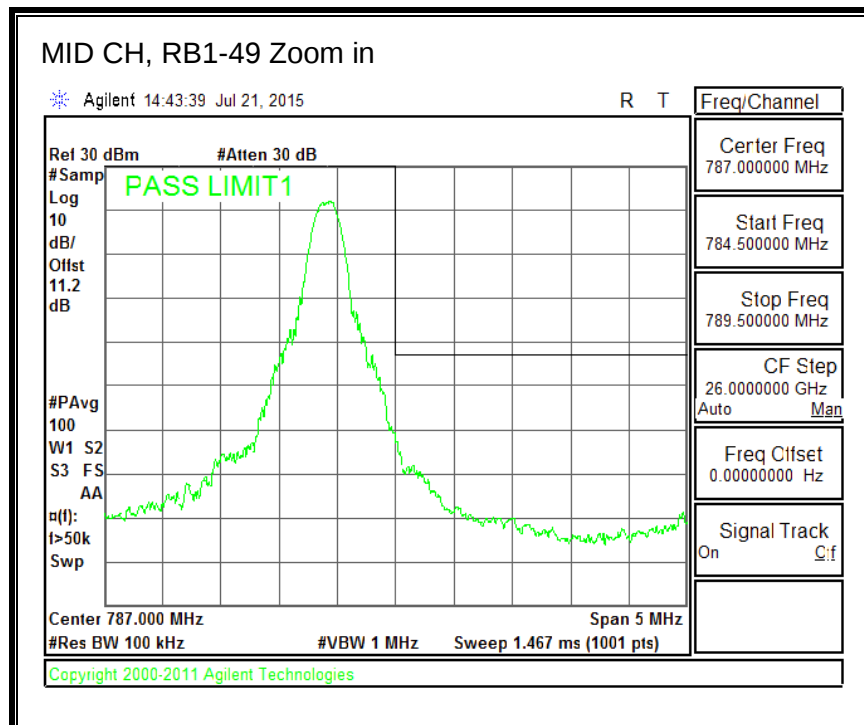
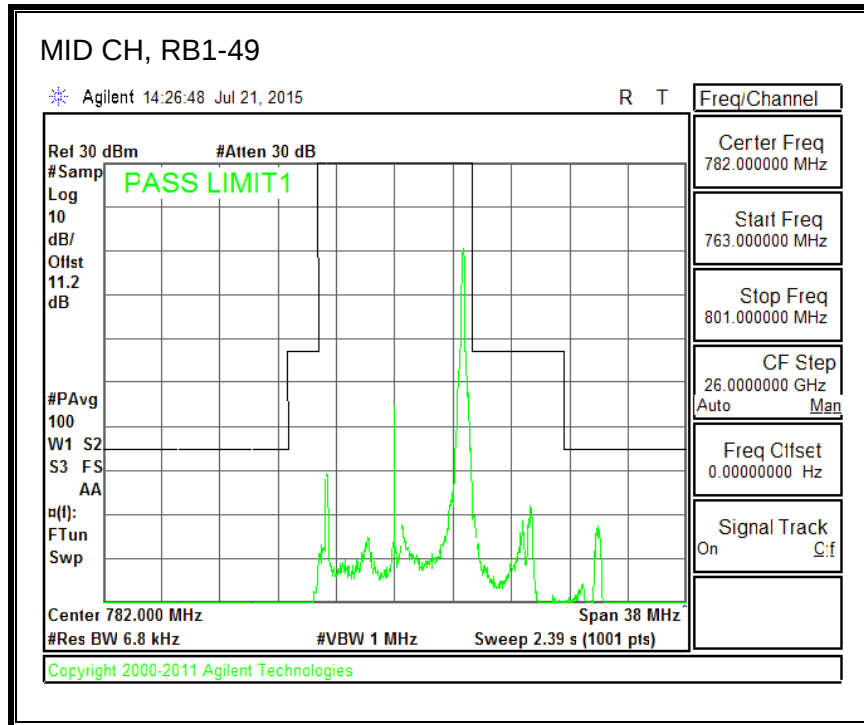


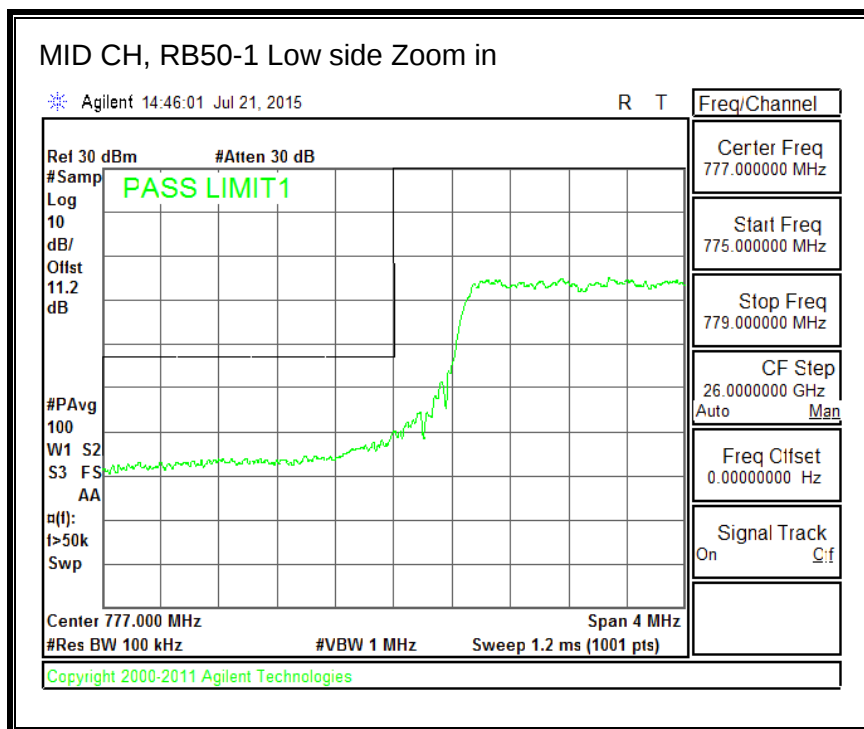
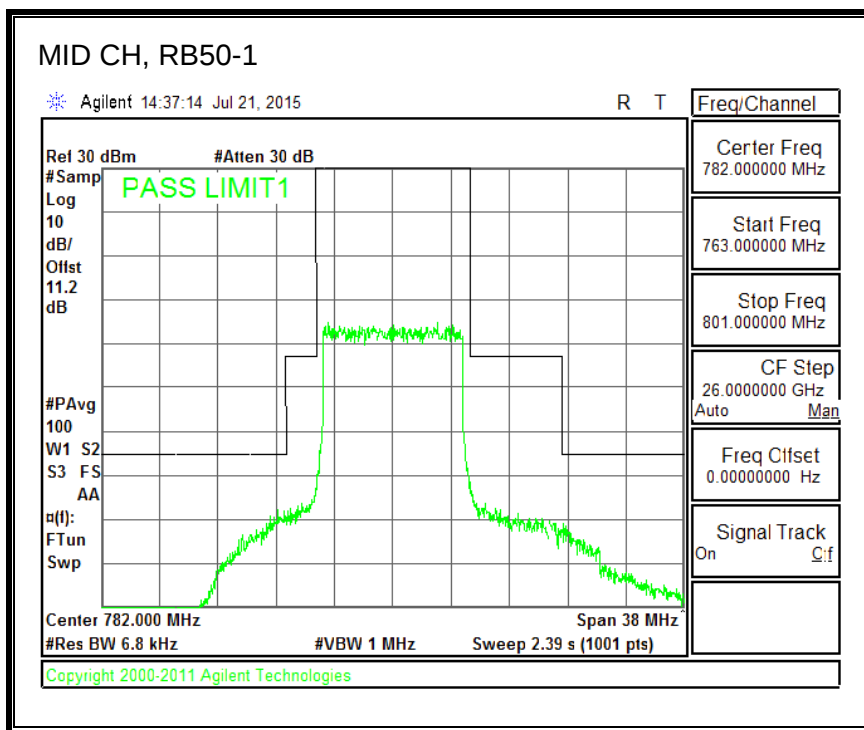


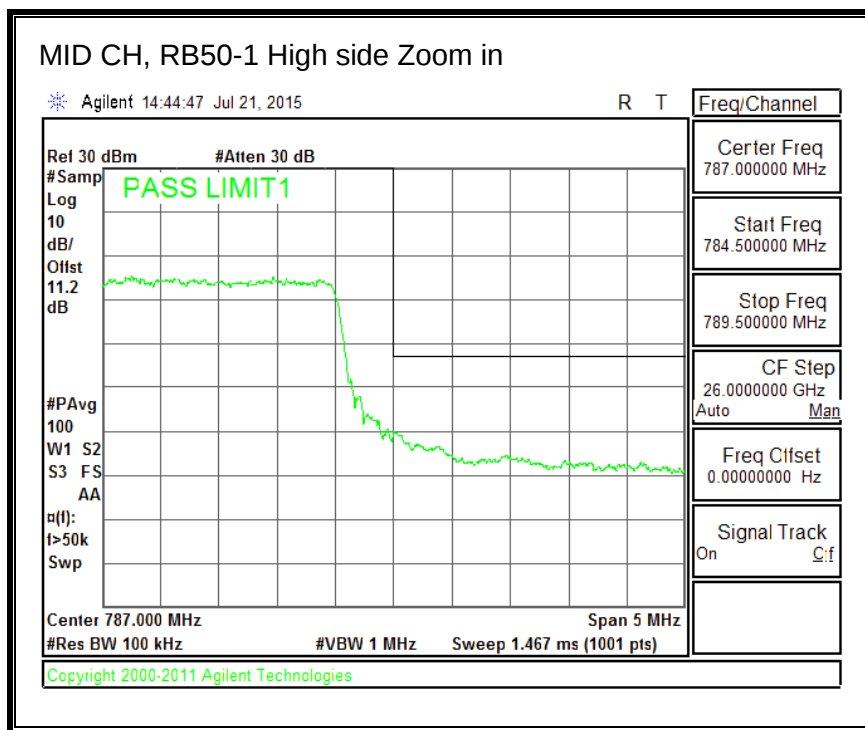


**QPSK, (10.0 MHz BAND WIDTH)**









**16QAM, (10.0 MHz BAND WIDTH)**

