



**FCC TEST REPORT and IC TEST REPORT**

**For**

**Module**

**Model: HL7548**

**Trade Name: AirPrime**

*Issued to*

**Sierra Wireless Inc.  
13811 Wireless Way  
Richmond, BC, V6V 3A4  
Canada**

*Issued by*

**Compliance Certification Services Inc.**

**No.11, Wugong 6th Rd., Wugu Dist.,  
New Taipei City 24891, Taiwan. (R.O.C.)**

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**[service@ccsrf.com](mailto:service@ccsrf.com)**

**Issued Date: January 22, 2015**



Testing Laboratory  
1309

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**Revision History**

| Rev. | Issue Date       | Revisions     | Effect Page | Revised By |
|------|------------------|---------------|-------------|------------|
| 00   | January 22, 2015 | Initial Issue | ALL         | Doris Chu  |



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# 1. TEST RESULT CERTIFICATION

**Applicant:** Sierra Wireless Inc.  
13811 Wireless Way  
Richmond, BC, V6V 3A4  
Canada

**Manufacturer:** Sierra Wireless Inc.  
13811 Wireless Way  
Richmond, BC, V6V 3A4  
Canada

**Equipment Under Test:** Module

**Trade Name:** AirPrime

**Model:** HL7548

**Date of Test:** January 15 ~ 16, 2015

| FCC PART 27, SUBPART C, L, FCC PART 2                           |   |
|---|---|
| OPERATING BAND: 704 - 716 MHZ                                   |   |
| STANDARD  | TEST TYPE AND LIMIT   |
| 2.1046<br>27.50(B)(10)<br>&<br>RSS-130 Issue 1 October 2013 4.4 | Maximum Peak Output Power Limit:<br>max. 3 watts e.r.p peak power |
| 2.1055<br>27.54<br>&<br>RSS-130 Issue 1 October 2013 4.3        | Frequency Stability   |
| 2.1049<br>27.53(g)<br>&<br>RSS-130 Issue 1 October 2013 4.3     | Occupied Bandwidth  |
| 27.50(d)(5)   | Peak to average ratio   |
| 27.53(g)  | Band Edge Measurements  |
| 2.1051<br>27.53(g)<br>&<br>RSS-130 Issue 1 October 2013 4.6     | Conducted Spurious Emissions                                      |
| 2.1053<br>27.53(g)<br>&<br>RSS-130 Issue 1 October 2013 4.6     | Radiated Spurious Emissions                                       |



| <b>OPERATING BAND: 1710~1755 MHZ</b>                             |   |
|--|---|
| <b>Standard</b>  | <b>TEST TYPE AND LIMIT</b>  |
| 2.1046<br>27.50(d)(4)<br>&<br>RSS-139 Issue 2 February 2009 6.4  | Maximum Peak Output Power Limit:<br>max. 1 watts e.i.r.p peak power<br>max. 5 watts for Band 17 |
| 2.1055<br>27.54<br>&<br>RSS-139 Issue 2 February 2009 6.3        | Frequency Stability   |
| 2.1049<br>27.53(h)<br>&<br>RSS-139 Issue 2 February 2009 2.3     | Occupied Bandwidth  |
| 27.50(d)(5)<br>&<br>RSS-139 Issue 2 February 2009 6.4            | Peak to average ratio   |
| 27.53(h)   | Band Edge Measurements  |
| 2.1051<br>27.53(h)<br>&<br>RSS-139 Issue 2 February 2009 6.5     | Conducted Spurious Emissions  |
| 2.1053<br>27.53(h)<br>&<br>RSS-139 Issue 2 February 2009 6.5 6.6 | Radiated Spurious Emissions   |

- Note:
1. The test result judgment is decided by the limit of test standard
  2. The information of measurement uncertainty is available upon the customer's request.



| <b>Deviation from Applicable Standard</b> |
|---|
| None                                      |

The above equipment has been tested by Compliance Certification Services Inc., and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

*Approved by*

*Reviewed by*

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Miller Lee  
Section Manager  
Compliance Certification Services Inc.

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Angel Cheng  
Section Manager  
Compliance Certification Services Inc.



## 2. EUT DESCRIPTION

|                              |   |                                   |
|------------------------------|---|-----------------------------------|
| <b>Product</b>               | Module                                  |                                   |
| <b>Model Number</b>          | HL7548                                  |                                   |
| <b>Model Discrepancy</b>     | N/A                                     |                                   |
| <b>Trade</b>                 | AirPrime                                |                                   |
| <b>Received Date</b>         | January 12, 2015                        |                                   |
| <b>Power Supply</b>          | DC 3.7V powered from Host device.       |                                   |
| <b>Modulation Technology</b> | LTE Band 4                              | QPSK, 16QAM                       |
|                              | LTE Band 17                             | QPSK, 16QAM                       |
| <b>Frequency Range</b>       | LTE Band 4<br>Channel Bandwidth: 5MHz   | 1712.5MHz ~1752.5MHz              |
|                              | LTE Band 4<br>Channel Bandwidth: 10MHz  | 1715.0MHz ~1750.0MHz              |
|                              | LTE Band 4<br>Channel Bandwidth: 20MHz  | 1720MHz ~1745MHz                  |
|                              | LTE Band 17<br>Channel Bandwidth: 5MHz  | 706.5MHz ~ 713.5MHz               |
|                              | LTE Band 17<br>Channel Bandwidth: 10MHz | 709MHz ~ 711MHz                   |
| <b>Maximum EIRP Power</b>    | LTE Band 4<br>Channel Bandwidth: 5MHz   | QPSK: 27.42dBm<br>16QAM: 27.79dBm |
|                              | LTE Band 4<br>Channel Bandwidth: 10MHz  | QPSK: 30.43dBm<br>16QAM: 24.69dBm |
|                              | LTE Band 4<br>Channel Bandwidth: 20MHz  | QPSK: 26.15dBm<br>16QAM: 23.37dBm |
|                              | LTE Band 17<br>Channel Bandwidth: 5MHz  | QPSK: 27.97dBm<br>16QAM: 28.31dBm |
|                              | LTE Band 17<br>Channel Bandwidth: 10MHz | QPSK: 25.97dBm<br>16QAM: 27.00dBm |
| <b>Category</b>              | LTE: 3                                  |                                   |
| <b>Antenna Specification</b> | LTE Dipole Antenna / Gain: 2 dBi        |                                   |

*Note: 1. The above EUT information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.*



### 3. TEST METHODOLOGY

#### 3.1 DESCRIPTION OF TEST TYPE

The EUT (model: HL7548) had been tested under operating condition.

Software used to control the EUT for staying in continuous transmitting mode was programmed.

#### LTE Band 4: 1710MHz ~ 1755MHz

Three channels had been tested for each channel bandwidth.

| Channel Bandwidth  | 5MHz    |                 | 10MHz   |                 | 20MHz   |                 |
|--------------------|---------|-----------------|---------|-----------------|---------|-----------------|
|                    | Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| Low channel (L)    | 19975   | 1712.5          | 20000   | 1715.0          | 20050   | 1720.00         |
| Middle channel (M) | 20175   | 1732.5          | 20175   | 1732.5          | 20175   | 1732.50         |
| High channel (H)   | 20375   | 1752.5          | 20350   | 1750.0          | 20300   | 1745.00         |

#### LTE Band 17: 2500 MHz ~ 2570 MHz

Three channels had been tested for each channel bandwidth.

| Channel Bandwidth  | 5MHz    |                | 10MHz   |                |
|--------------------|---------|----------------|---------|----------------|
|                    | Channel | Frequency(MHz) | Channel | Frequency(MHz) |
| Low channel (L)    | 23755   | 706.5          | 23780   | 709.0          |
| Middle channel (M) | 23790   | 710.0          | 23790   | 710.0          |
| High channel (H)   | 23825   | 713.5          | 23800   | 711.0          |

For Band 17

The field strength of spurious emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Z axis) and the worst case was recorded.

For Band 4

The field strength of spurious emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in lie-down position (X axis) and the worst case was recorded.





## 4. INSTRUMENT CALIBRATION

### 4.1 MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

### 4.2 MEASUREMENT EQUIPMENT USED

#### Equipment Used for Emissions Measurement

*Remark: Each piece of equipment is scheduled for calibration once a year.*

| Conducted Emissions Test Site   |               |           |               |                 |
|---------------------------------|---------------|-----------|---------------|-----------------|
| Name of Equipment               | Manufacturer  | Model     | Serial Number | Calibration Due |
| Spectrum Analyzer               | Agilent       | E4446A    | US42510252    | 11/23/2015      |
| Thermostatic/Hrgrosatic Chamber | TAICHY        | MHG-150LF | 930619        | 10/07/2015      |
| AC Power Source                 | EXTECH        | 6205      | 1140845       | N.C.R           |
| DC Power Supply                 | ABM           | 8301HD    | D011531       | N.C.R           |
| Power Meter                     | Anritsu       | ML2495A   | 1012009       | 06/03/2015      |
| Power Sensor                    | Anritsu       | MA2411A   | 0917072       | 06/03/2015      |
| Spectrum Analyzer               | ROHDE&SCHWARZ | FSV40     | 101073        | 07/09/2015      |

| 3M Semi Anechoic Chamber |                    |         |               |                 |
|--------------------------|--------------------|---------|---------------|-----------------|
| Name of Equipment        | Manufacturer       | Model   | Serial Number | Calibration Due |
| Spectrum Analyzer        | Agilent            | E4446A  | US42510268    | 01/24/2015      |
| EMI Test Receiver        | R&S                | ESCI    | 100064        | 05/30/2015      |
| Bilog Antenna            | Sunol Sciences     | JB3     | A030105       | 08/19/2015      |
| Horn Antenna             | EMCO               | 3117    | 00055165      | 02/04/2015      |
| Turn Table               | CCS                | CC-T-1F | N/A           | N.C.R           |
| Antenna Tower            | CCS                | CC-A-1F | N/A           | N.C.R           |
| Controller               | CCS                | CC-C-1F | N/A           | N.C.R           |
| Test S/W                 | EZ-EMC (CCS-3A1RE) |         |               |                 |



### 4.3 MEASUREMENT UNCERTAINTY

| PARAMETER                             | UNCERTAINTY |
|---------------------------------------|-------------|
| 3M Semi Anechoic Chamber / 30M~200M   | +/- 4.0138  |
| 3M Semi Anechoic Chamber / 200M~1000M | +/- 3.9483  |
| 3M Semi Anechoic Chamber / 1G~8G      | +/- 2.5975  |
| 3M Semi Anechoic Chamber / 8G~18G     | +/- 2.6112  |
| 3M Semi Anechoic Chamber / 18G~26G    | +/- 2.7389  |
| 3M Semi Anechoic Chamber / 26G~40G    | +/- 2.9683  |

**Remark:** This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of  $k=2$ .



## **5. FACILITIES AND ACCREDITATIONS**

### **5.1 FACILITIES**

All measurement facilities used to collect the measurement data are located at

No.199, Chunghsen Road, Hsintien City, Taipei Hsien, Taiwan, R.O.C.  
Tel: 886-2-2217-0894 / Fax: 886-2-2217-1029

No.11, Wugong 6th Rd., Wugu Dist., New Taipei City 24891, Taiwan. (R.O.C.)  
Tel: 886-2-2299-9720 / Fax: 886-2-2298-4045

No.81-1, Lane 210, Bade 2nd Rd., Luchu Hsiang, Taoyuan Hsien 338, Taiwan  
Tel: 886-3-324-0332 / Fax: 886-3-324-5235

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

### **5.2 EQUIPMENT**

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.




Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."



### 5.3 TABLE OF ACCREDITATIONS AND LISTINGS

| Country | Agency          | Scope of Accreditation   | Logo  |
|---------|-----------------|--|---|
| USA     | FCC             | 3M Semi Anechoic Chamber (FCC MRA: TW1039) to perform FCC Part 15 measurements   | <br>FCC MRA: TW1039          |
| Taiwan  | TAF             | LP0002, RTTE01, FCC Method-47 CFR Part 15 Subpart C, D, E, RSS-210, RSS-310<br>IDA TS SRD, AS/NZS 4268, AS/NZS 4771, TS 12.1 & 12.2, ETSI EN 300 440-1, ETSI EN 300 440-2, ETSI EN 300 328, ETSI EN 300 220-1, ETSI EN 300 220-2, ETSI EN 301 893, ETSI EN 301 489-1/3/7/17<br>FCC OET Bulletin 65 + Supplement C,<br>EN 50360, EN 50361, EN 50371, RSS 102, EN 50383, EN 50385, EN 50392, IEC 62209, CNS 14958-1, CNS 14959<br>FCC Method -47 CFR Part 15 Subpart B<br>IEC / EN 61000-3-2, IEC / EN 61000-3-3,<br>IEC / EN 61000-4-2/3/4/5/6/8/11 |                              |
| Canada  | Industry Canada | 3M Semi Anechoic Chamber (IC 2324G-1 / IC 2324G-2) to perform  | <br>IC 2324G-1<br>IC 2324G-2 |

\* No part of this report may be used to claim or imply product endorsement by A2LA or any agency of the US Government.



## 6. SETUP OF EQUIPMENT UNDER TEST

### 6.1 SETUP CONFIGURATION OF EUT

See test photographs attached in Appendix I for the actual connections between EUT and support equipment.

### 6.2 SUPPORT EQUIPMENT

| No. | Device Type                           | Brand   | Model   | Series No. | FCC ID | Data Cable | Power Cord |
|-----|---------------------------------------|---------|---------|------------|--------|------------|------------|
| 1.  | Radio Communication Analyzer (Remote) | Anritsu | MT8820C | 6200938900 | N/A    | N/A        | N/A        |

**Remark:**

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.



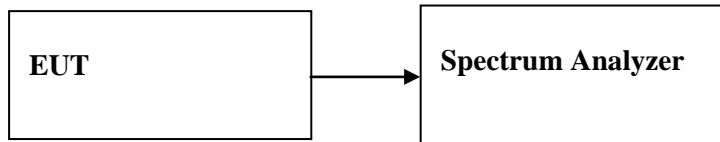
## 7. FCC PART 27 REQUIREMENTS & INDUSTRY CANADA RSS-130

### 7.199% BANDWIDTH

#### LIMIT

None; for reporting purposes only.

#### Test Configuration



#### TEST PROCEDURE

The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the 99 % bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled.

#### TEST RESULTS

*No non-compliance noted.*



**Test Data For FCC**

**LTE Band 17**

**CHANNEL BANDWIDTH: 5MHz / QPSK**

| Channel | FREQUENCY<br>(MHz) | Occupied bandwidth<br>(MHz) |
|---------|--------------------|-----------------------------|
| Low     | 706.5              | 4.5385                      |
| Mid     | 710.0              | 4.4917                      |
| High    | 713.5              | 4.5183                      |

**CHANNEL BANDWIDTH: 5MHz / 16QAM**

| Channel | FREQUENCY<br>(MHz) | Occupied bandwidth<br>(MHz) |
|---------|--------------------|-----------------------------|
| Low     | 706.5              | 4.5240                      |
| Mid     | 710.0              | 4.4839                      |
| High    | 713.5              | 4.5196                      |

**CHANNEL BANDWIDTH: 10MHz / QPSK**

| Channel | FREQUENCY<br>(MHz) | Occupied bandwidth<br>(MHz) |
|---------|--------------------|-----------------------------|
| Low     | 709.0              | 8.8993                      |
| Mid     | 710.0              | 8.8949                      |
| High    | 711.0              | 8.8906                      |

**CHANNEL BANDWIDTH: 10MHz / 16QAM**

| Channel | FREQUENCY<br>(MHz) | Occupied bandwidth<br>(MHz) |
|---------|--------------------|-----------------------------|
| Low     | 709.0              | 8.8908                      |
| Mid     | 710.0              | 8.8841                      |
| High    | 711.0              | 8.8746                      |



**LTE Band 4**

**CHANNEL BANDWIDTH: 5MHz / QPSK**

| Channel | FREQUENCY<br>(MHz) | Occupied bandwidth<br>(MHz) |
|---------|--------------------|-----------------------------|
| Low     | 1712.5             | 4.5127                      |
| Mid     | 1732.5             | 4.5057                      |
| High    | 1752.5             | 4.5196                      |

**CHANNEL BANDWIDTH: 5MHz / 16QAM**

| Channel | FREQUENCY<br>(MHz) | Occupied bandwidth<br>(MHz) |
|---------|--------------------|-----------------------------|
| Low     | 1712.5             | 4.5091                      |
| Mid     | 1732.5             | 4.5056                      |
| High    | 1752.5             | 4.5098                      |

**CHANNEL BANDWIDTH: 10MHz / QPSK**

| Channel | FREQUENCY<br>(MHz) | Occupied bandwidth<br>(MHz) |
|---------|--------------------|-----------------------------|
| Low     | 1715.0             | 8.9523                      |
| Mid     | 1732.5             | 8.9401                      |
| High    | 1750.0             | 8.9734                      |

**CHANNEL BANDWIDTH: 10MHz / 16QAM**

| Channel | FREQUENCY<br>(MHz) | Occupied bandwidth<br>(MHz) |
|---------|--------------------|-----------------------------|
| Low     | 1715.0             | 8.9643                      |
| Mid     | 1732.5             | 8.9394                      |
| High    | 1750.0             | 8.9313                      |





**CHANNEL BANDWIDTH: 20MHz / QPSK**

| <b>Channel</b> | <b>FREQUENCY<br/>(MHz)</b> | <b>Occupied bandwidth<br/>(MHz)</b> |
|----------------|----------------------------|-------------------------------------|
| Low            | 1720.00                    | 17.8896                             |
| Mid            | 1732.50                    | 17.8365                             |
| High           | 1745.00                    | 17.8344                             |

**CHANNEL BANDWIDTH: 20MHz / 16QAM**

| <b>Channel</b> | <b>FREQUENCY<br/>(MHz)</b> | <b>Occupied bandwidth<br/>(MHz)</b> |
|----------------|----------------------------|-------------------------------------|
| Low            | 1720.00                    | 17.8630                             |
| Mid            | 1732.50                    | 17.8172                             |
| High           | 1745.00                    | 17.8738                             |



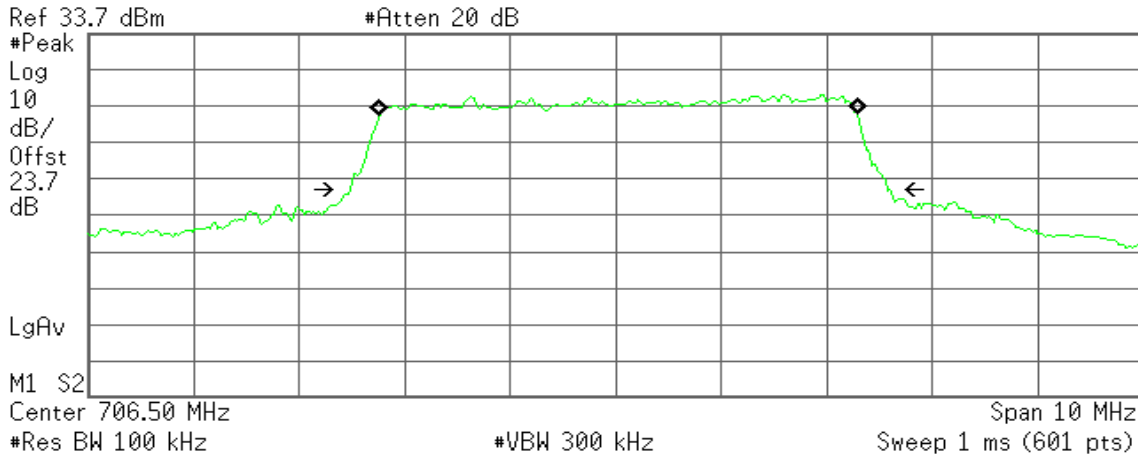
**LTE Band 17**

**CHANNEL BANDWIDTH: 5MHz / QPSK**

**CH Low**

Agilent

R T



**Occupied Bandwidth**  
**4.5385 MHz**

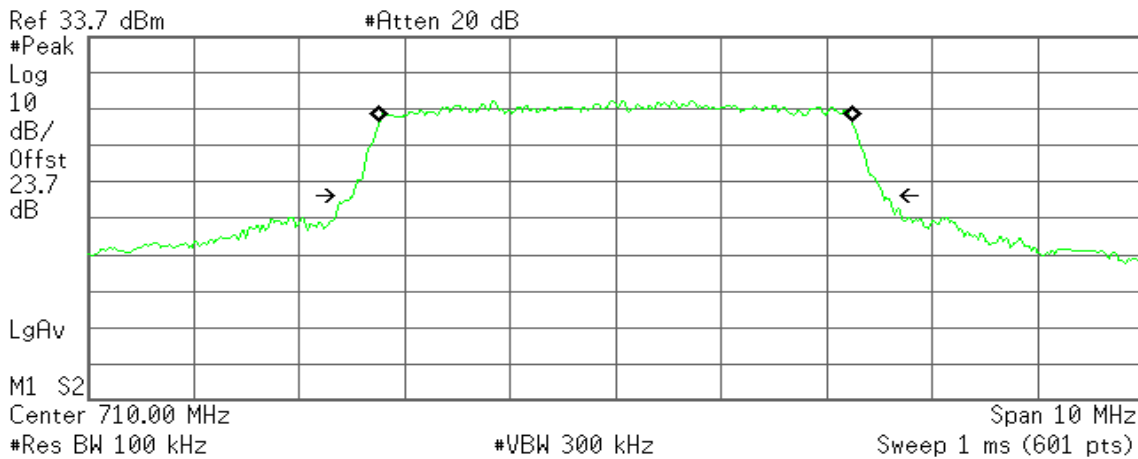
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 23.267 kHz  
**x dB Bandwidth** 5.101 MHz

**CH Mid**

Agilent

R T



**Occupied Bandwidth**  
**4.4917 MHz**

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

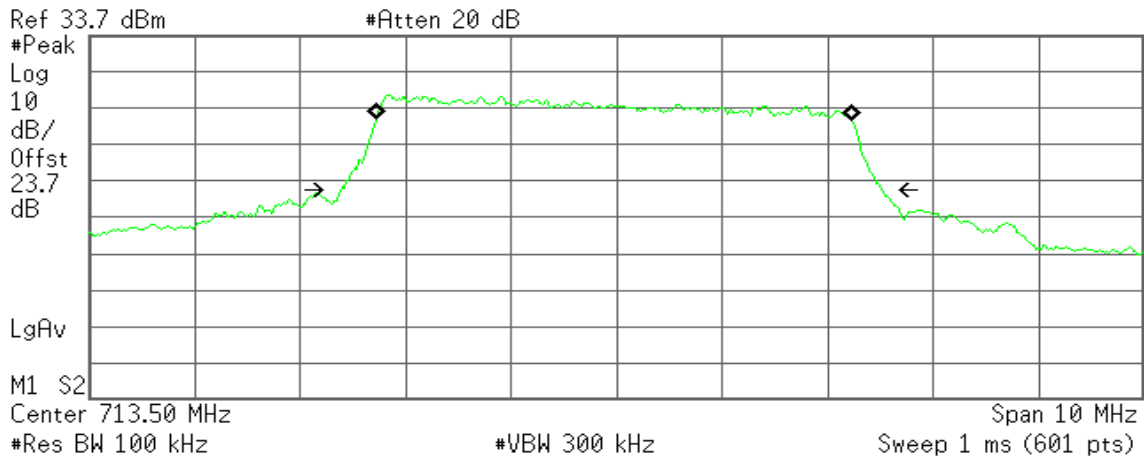
**Transmit Freq Error** 3.811 kHz  
**x dB Bandwidth** 5.036 MHz



**CH High**

Agilent

R T



**Occupied Bandwidth**  
4.5183 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -25.385 kHz  
**x dB Bandwidth** 5.138 MHz

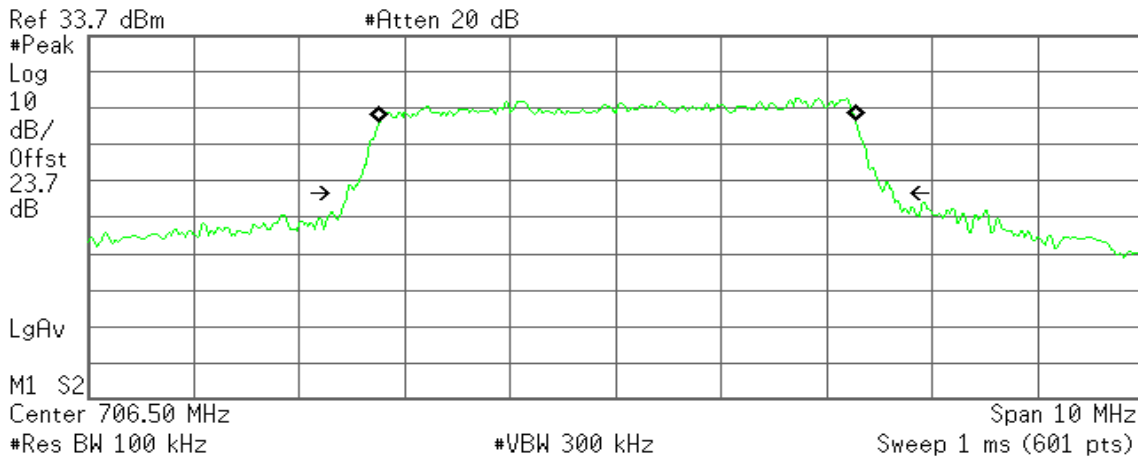


**CHANNEL BANDWIDTH: 5MHz / 16QAM**

**CH Low**

Agilent

R T



**Occupied Bandwidth**  
4.5240 MHz

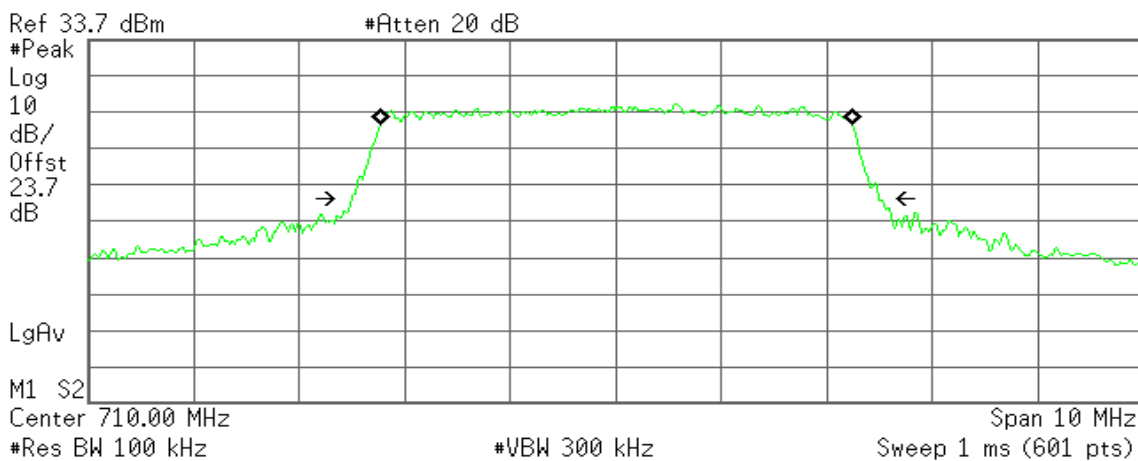
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 16.943 kHz  
**x dB Bandwidth** 5.176 MHz

**CH Mid**

Agilent

R T



**Occupied Bandwidth**  
4.4839 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

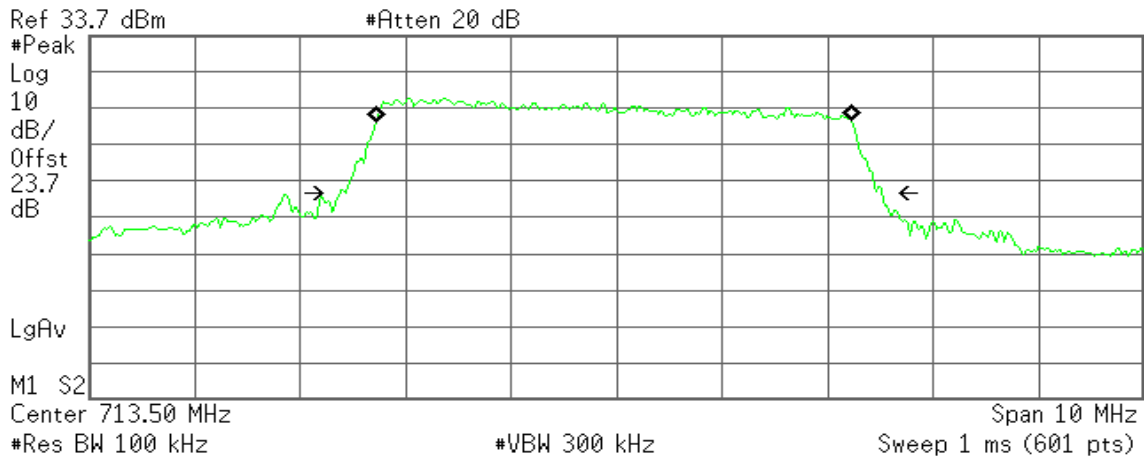
**Transmit Freq Error** 4.078 kHz  
**x dB Bandwidth** 5.008 MHz



**CH High**

Agilent

R T



**Occupied Bandwidth**  
4.5196 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -28.223 kHz  
**x dB Bandwidth** 5.147 MHz

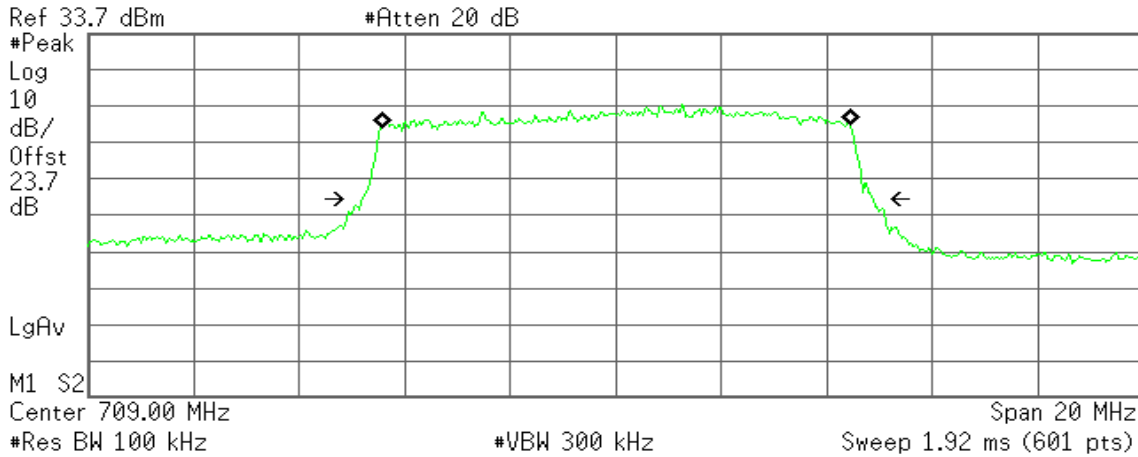


**CHANNEL BANDWIDTH: 10MHz / QPSK**

**CH Low**

Agilent

R T



**Occupied Bandwidth**  
**8.8993 MHz**

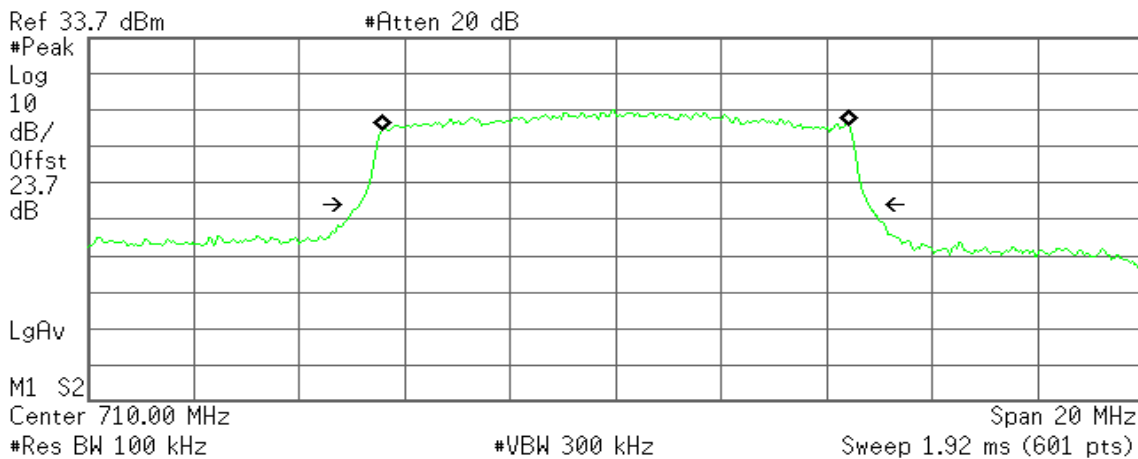
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 7.710 kHz  
**x dB Bandwidth** 9.712 MHz

**CH Mid**

Agilent

R T



**Occupied Bandwidth**  
**8.8949 MHz**

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

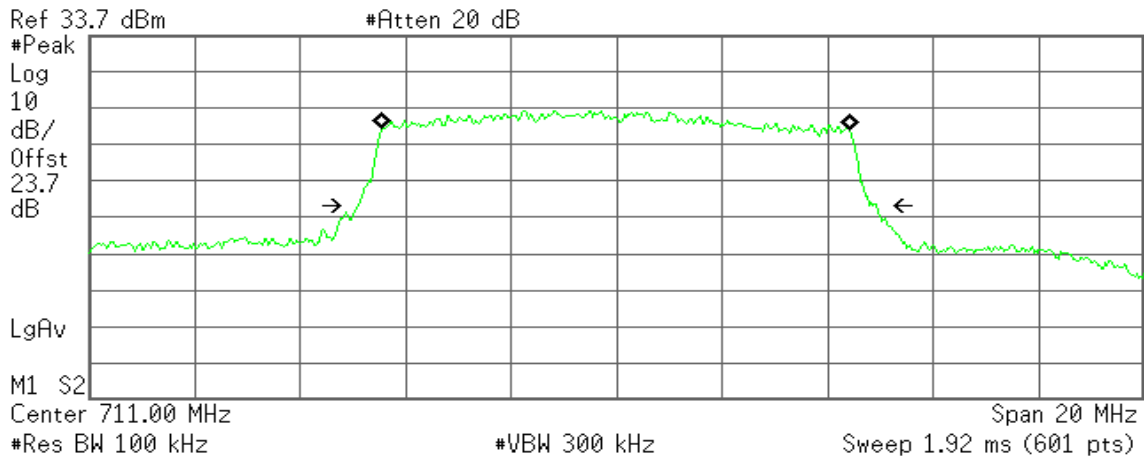
**Transmit Freq Error** -1.301 kHz  
**x dB Bandwidth** 9.671 MHz



**CH High**

Agilent

R T



**Occupied Bandwidth**  
8.8906 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -17.421 kHz  
**x dB Bandwidth** 9.832 MHz

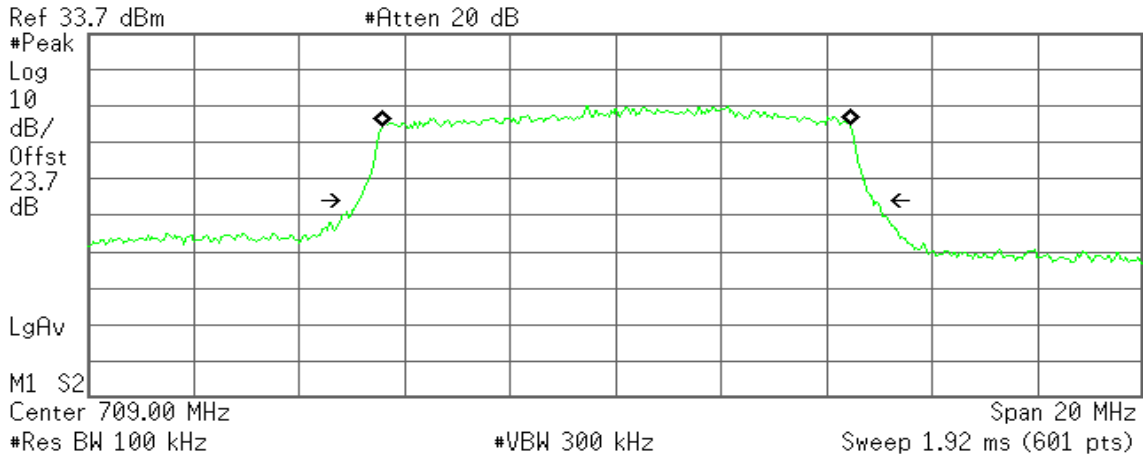


**CHANNEL BANDWIDTH: 10MHz / 16QAM**

**CH Low**

Agilent

R T



**Occupied Bandwidth**  
**8.8908 MHz**

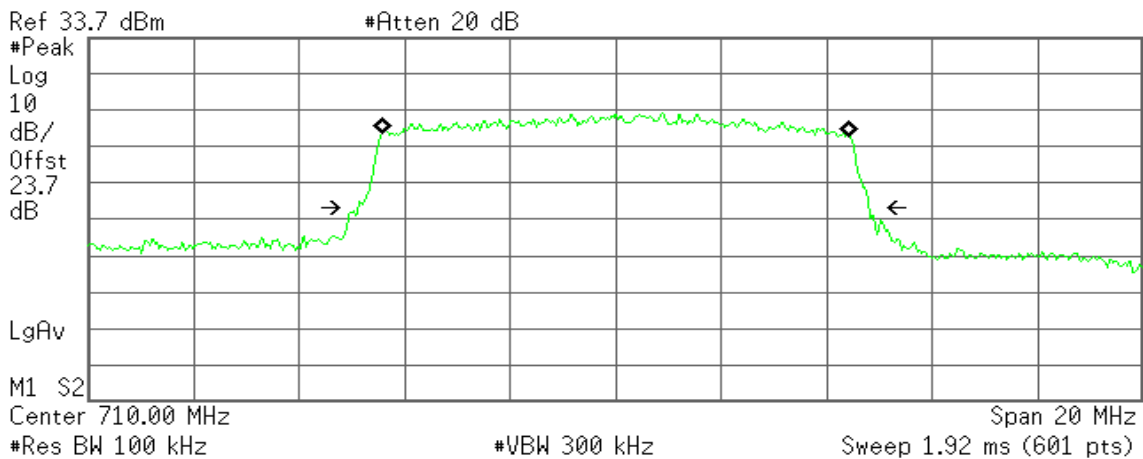
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 6.479 kHz  
**x dB Bandwidth** 9.771 MHz

**CH Mid**

Agilent

R T



**Occupied Bandwidth**  
**8.8841 MHz**

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -879.212 Hz  
**x dB Bandwidth** 9.710 MHz

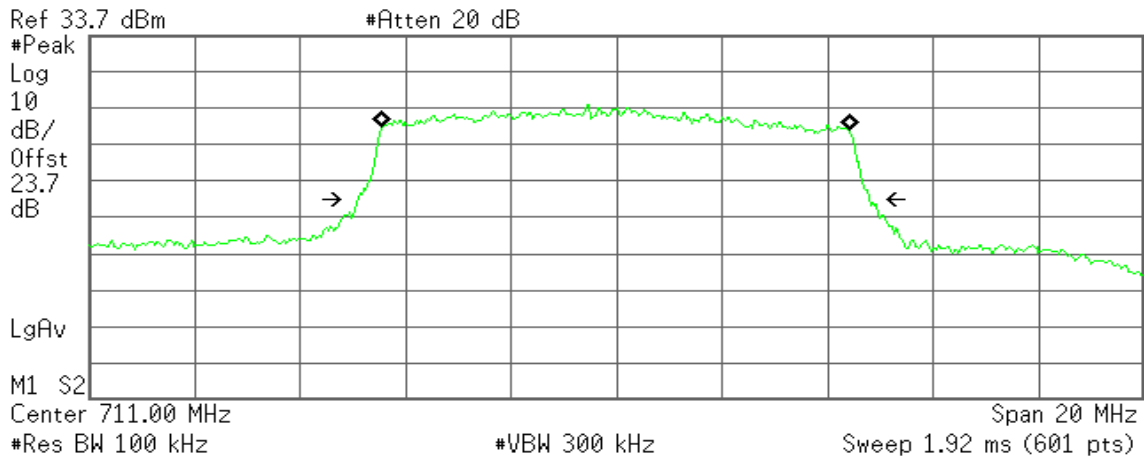




**CH High**

Agilent

R T



**Occupied Bandwidth**  
8.8746 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -19.648 kHz  
**x dB Bandwidth** 9.712 MHz



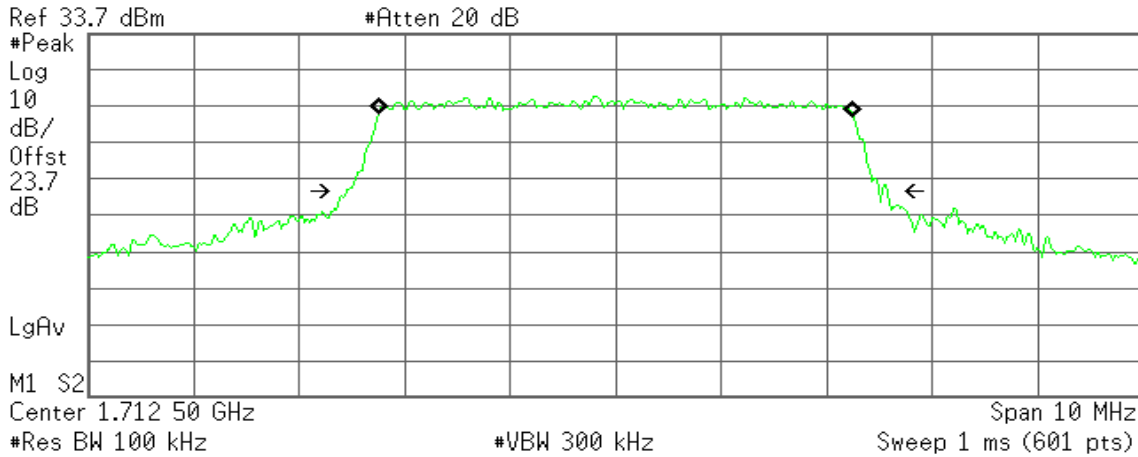
**LTE Band 4**

**CHANNEL BANDWIDTH: 5MHz / QPSK**

**CH Low**

Agilent

R T



**Occupied Bandwidth**  
**4.5127 MHz**

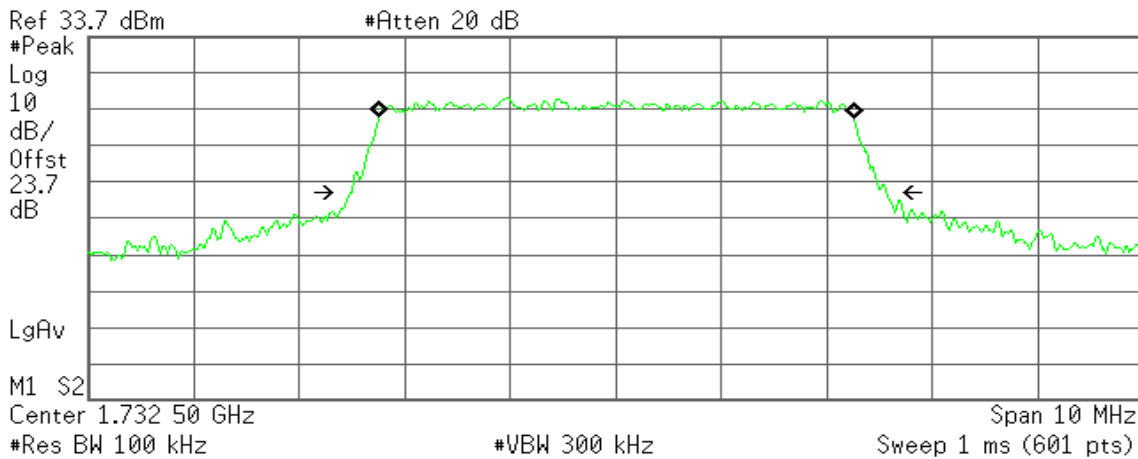
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 1.147 kHz  
**x dB Bandwidth** 5.133 MHz

**CH Mid**

Agilent

R T



**Occupied Bandwidth**  
**4.5057 MHz**

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

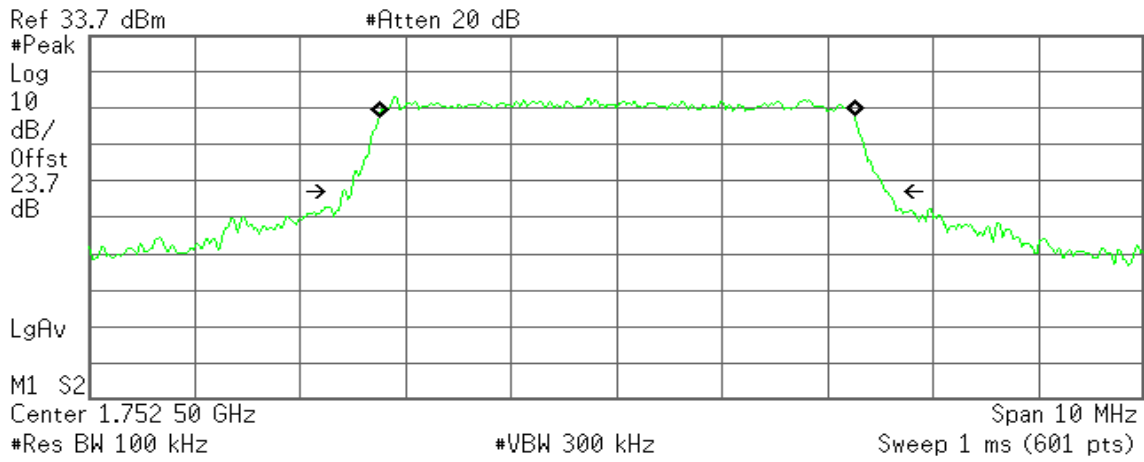
**Transmit Freq Error** 8.983 kHz  
**x dB Bandwidth** 5.087 MHz



**CH High**

Agilent

R T



**Occupied Bandwidth**  
4.5196 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 1.594 kHz  
**x dB Bandwidth** 5.171 MHz

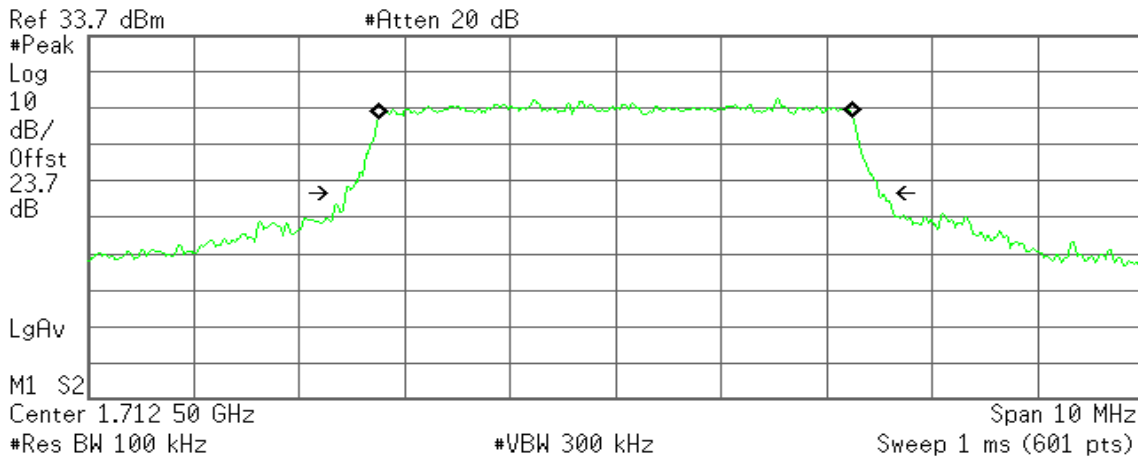


**CHANNEL BANDWIDTH: 5MHz / 16QAM**

**CH Low**

Agilent

R T



**Occupied Bandwidth**  
**4.5091 MHz**

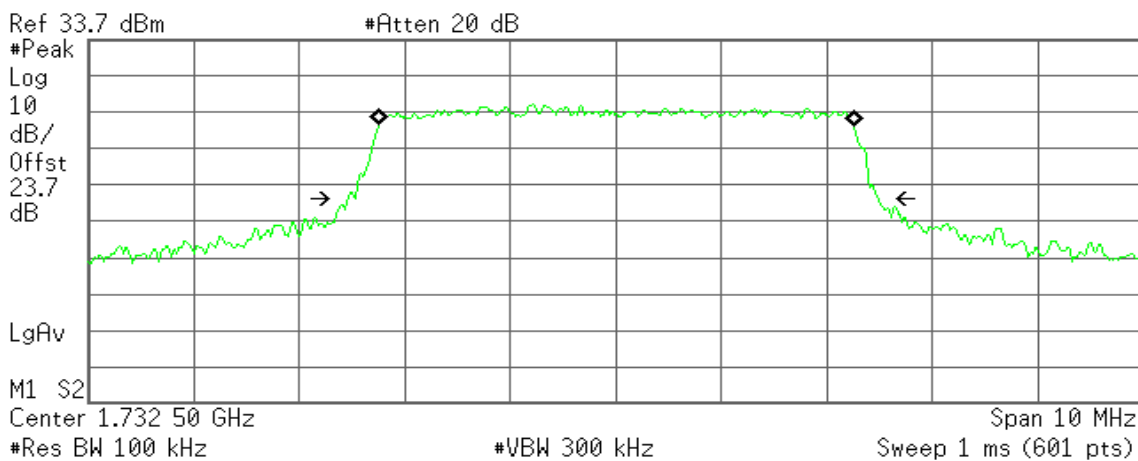
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 1.053 kHz  
**x dB Bandwidth** 5.060 MHz

**CH Mid**

Agilent

R T



**Occupied Bandwidth**  
**4.5056 MHz**

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

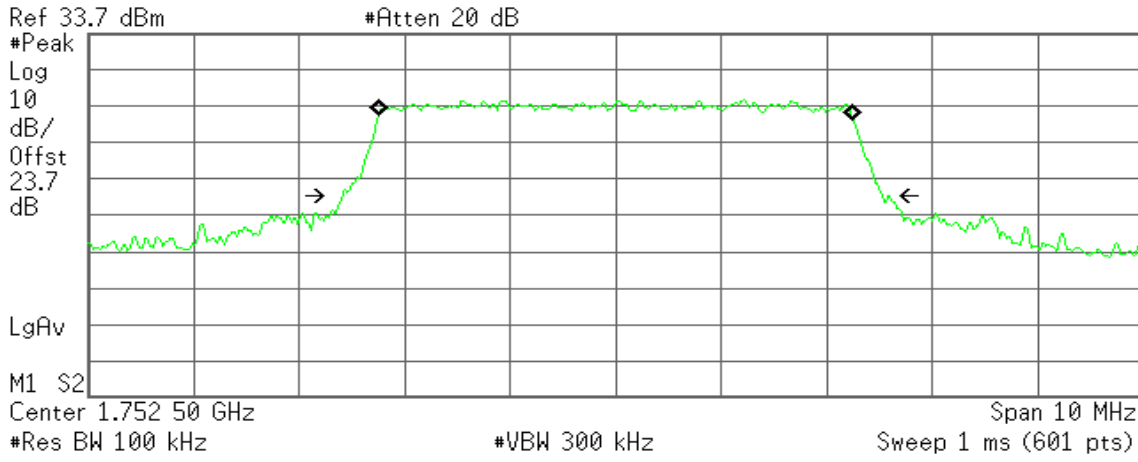
**Transmit Freq Error** 6.492 kHz  
**x dB Bandwidth** 5.035 MHz



**CH High**

Agilent

R T



**Occupied Bandwidth**  
4.5098 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 1.211 kHz  
**x dB Bandwidth** 5.124 MHz

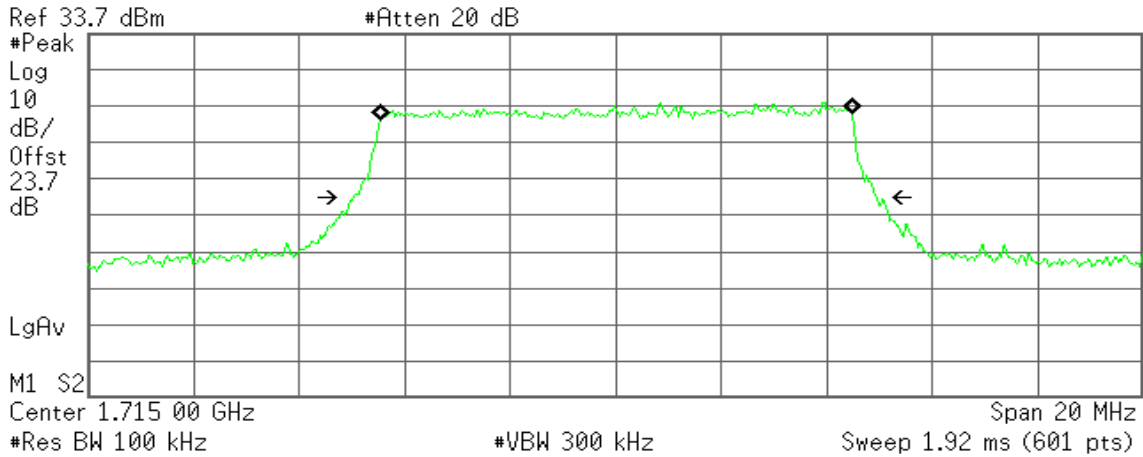


**CHANNEL BANDWIDTH: 10MHz / QPSK**

**CH Low**

Agilent

R T



**Occupied Bandwidth**  
**8.9523 MHz**

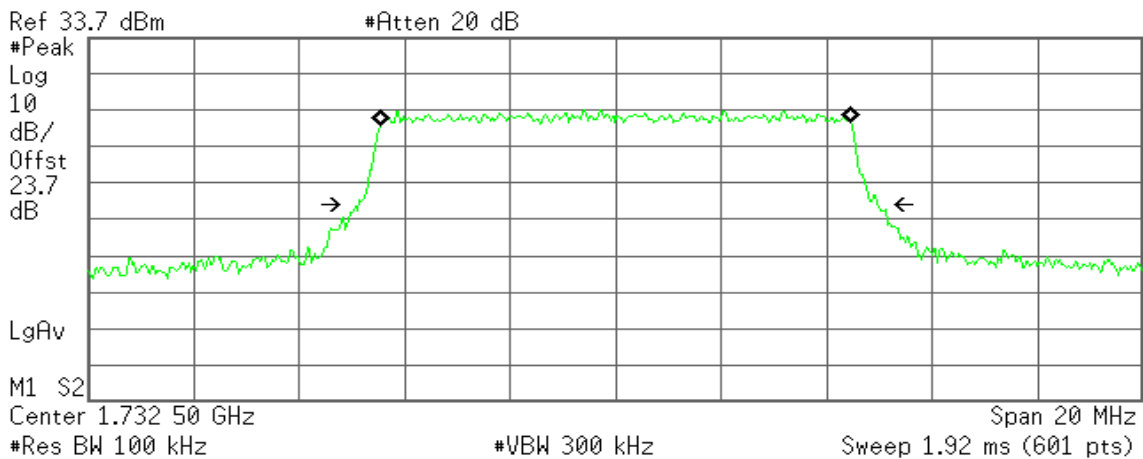
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 10.196 kHz  
**x dB Bandwidth** 9.915 MHz

**CH Mid**

Agilent

R T



**Occupied Bandwidth**  
**8.9401 MHz**

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

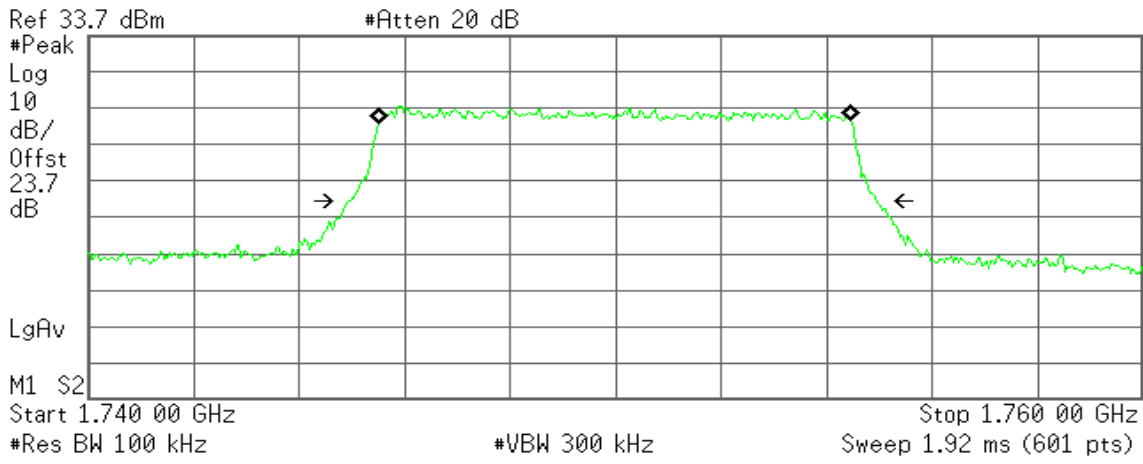
**Transmit Freq Error** 1.734 kHz  
**x dB Bandwidth** 9.849 MHz



**CH High**

Agilent

R T



**Occupied Bandwidth**  
8.9734 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -9.264 kHz  
**x dB Bandwidth** 9.989 MHz

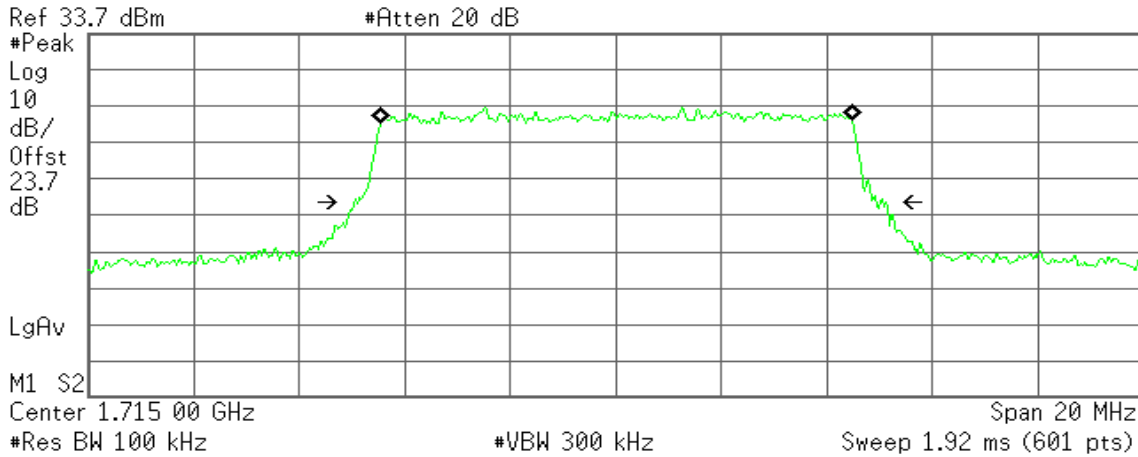


**CHANNEL BANDWIDTH: 10MHz / 16QAM**

**CH Low**

Agilent

R T



**Occupied Bandwidth**  
**8.9643 MHz**

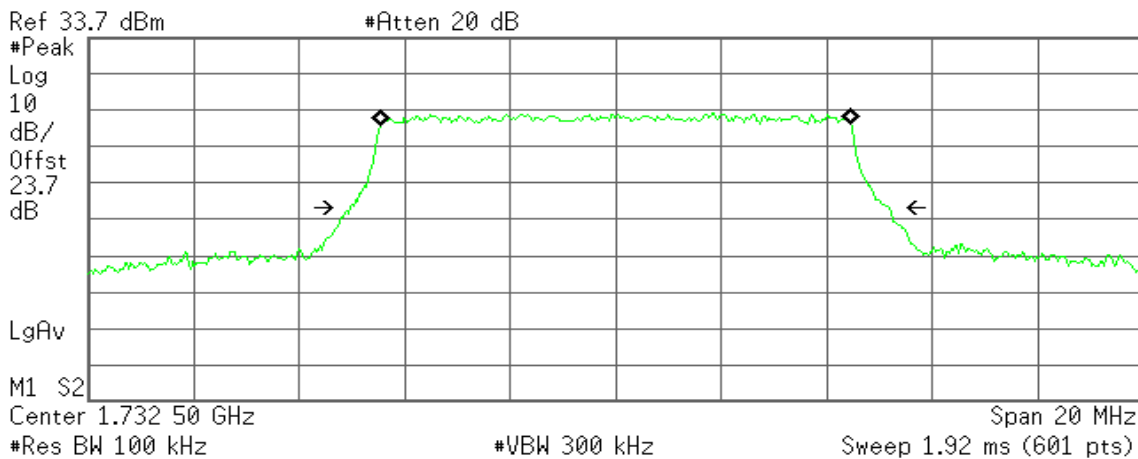
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 16.738 kHz  
**x dB Bandwidth** 10.101 MHz

**CH Mid**

Agilent

R T



**Occupied Bandwidth**  
**8.9394 MHz**

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 1.409 kHz  
**x dB Bandwidth** 10.253 MHz

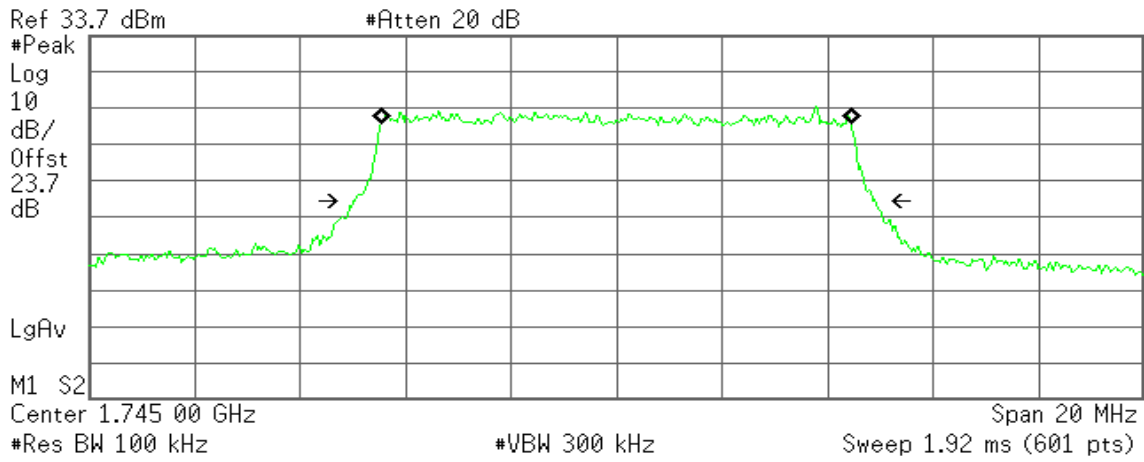




**CH High**

Agilent

R T



**Occupied Bandwidth**  
8.9313 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -12.736 kHz  
**x dB Bandwidth** 9.873 MHz

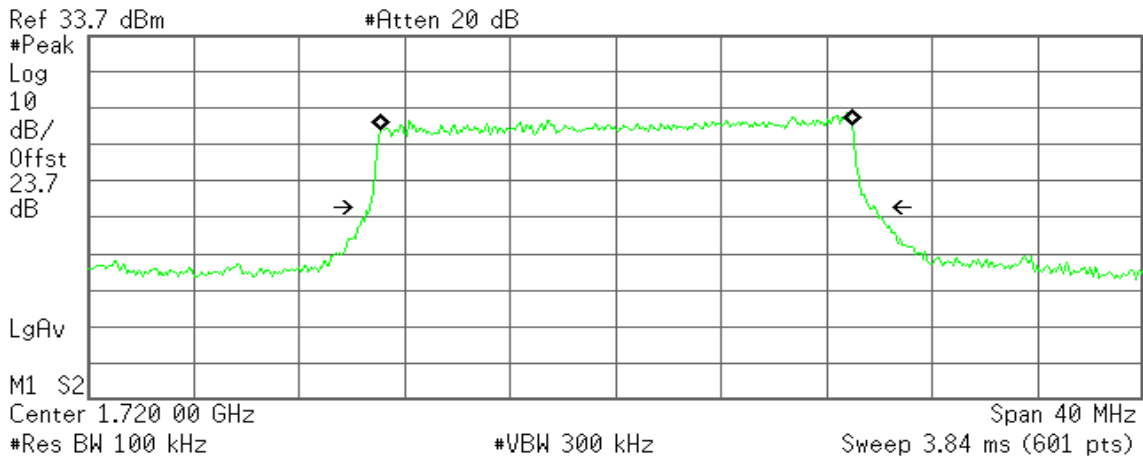


**CHANNEL BANDWIDTH: 20MHz / QPSK**

**CH Low**

Agilent

R T



**Occupied Bandwidth**  
**17.8896 MHz**

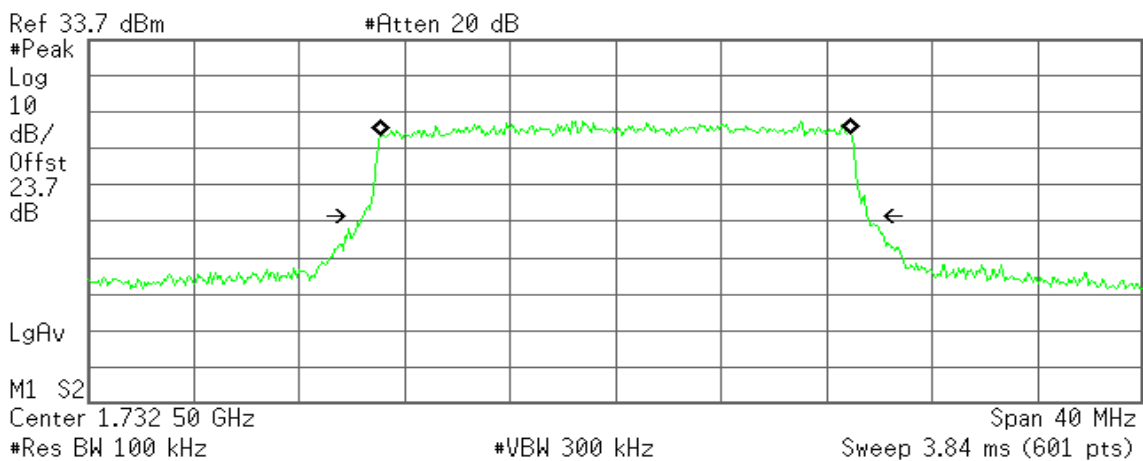
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 38.093 kHz  
**x dB Bandwidth** 19.189 MHz

**CH Mid**

Agilent

R T



**Occupied Bandwidth**  
**17.8365 MHz**

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

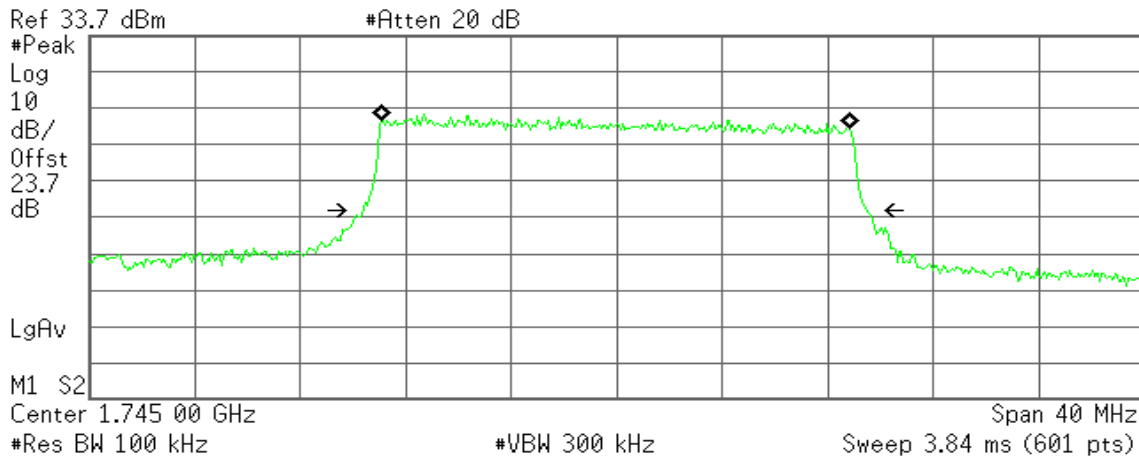
**Transmit Freq Error** 12.397 kHz  
**x dB Bandwidth** 19.132 MHz



**CH High**

Agilent

R T



**Occupied Bandwidth**  
**17.8344 MHz**

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -33.449 kHz  
**x dB Bandwidth** 19.134 MHz

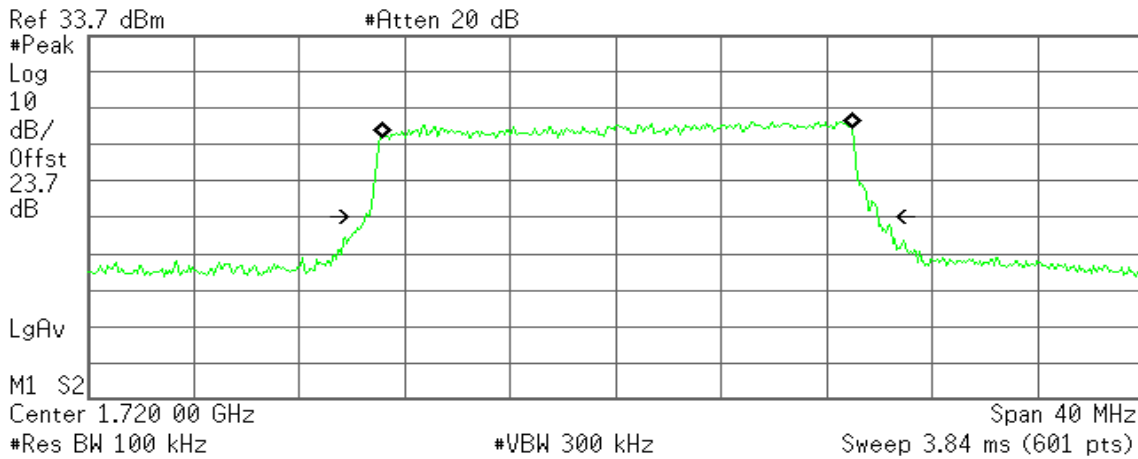


**CHANNEL BANDWIDTH: 20MHz / 16QAM**

**CH Low**

Agilent

R T



**Occupied Bandwidth**  
**17.8630 MHz**

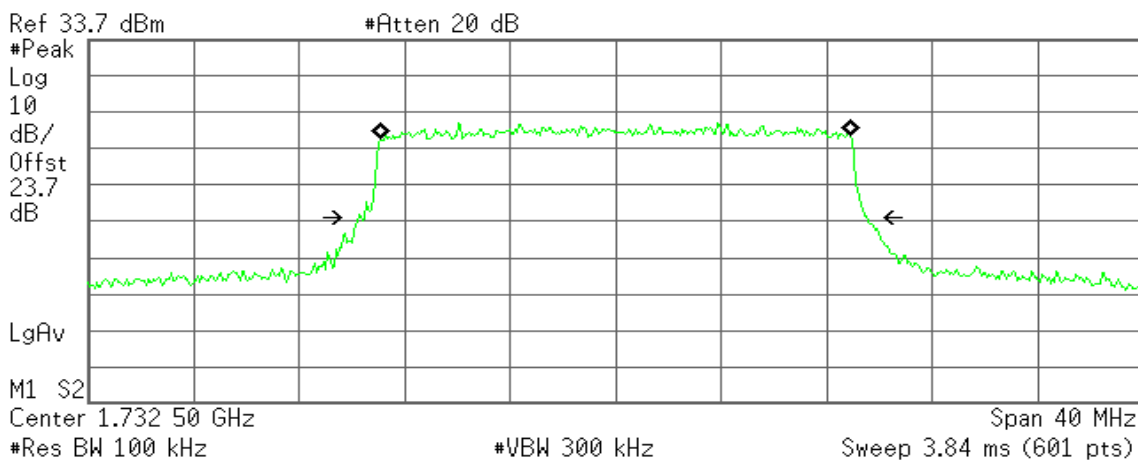
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 52.165 kHz  
**x dB Bandwidth** 19.471 MHz

**CH Mid**

Agilent

R T



**Occupied Bandwidth**  
**17.8172 MHz**

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

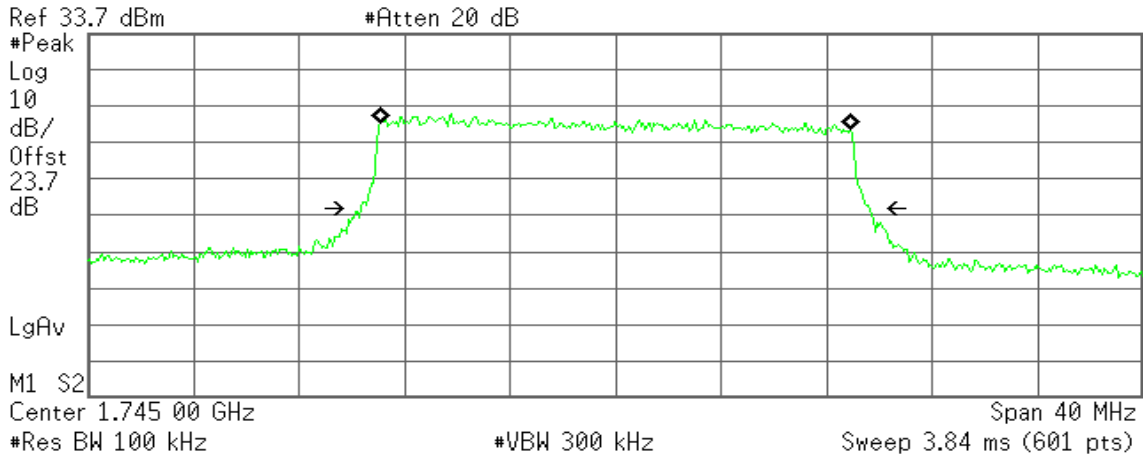
**Transmit Freq Error** 4.837 kHz  
**x dB Bandwidth** 19.317 MHz



**CH High**

\* Agilent

R T



**Occupied Bandwidth**  
17.8738 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -20.166 kHz  
**x dB Bandwidth** 19.322 MHz



**Test Data For IC**

**LTE Band 17**

**CHANNEL BANDWIDTH: 5MHz / QPSK**

| Channel | FREQUENCY<br>(MHz) | Occupied bandwidth<br>(MHz) |
|---------|--------------------|-----------------------------|
| Low     | 706.5              | 4.5132                      |
| Mid     | 710.0              | 4.4830                      |
| High    | 713.5              | 4.5058                      |

**CHANNEL BANDWIDTH: 5MHz / 16QAM**

| Channel | FREQUENCY<br>(MHz) | Occupied bandwidth<br>(MHz) |
|---------|--------------------|-----------------------------|
| Low     | 706.5              | 4.5236                      |
| Mid     | 710.0              | 4.4756                      |
| High    | 713.5              | 4.5221                      |

**CHANNEL BANDWIDTH: 10MHz / QPSK**

| Channel | FREQUENCY<br>(MHz) | Occupied bandwidth<br>(MHz) |
|---------|--------------------|-----------------------------|
| Low     | 709.0              | 8.8736                      |
| Mid     | 710.0              | 8.8529                      |
| High    | 711.0              | 8.8700                      |

**CHANNEL BANDWIDTH: 10MHz / 16QAM**

| Channel | FREQUENCY<br>(MHz) | Occupied bandwidth<br>(MHz) |
|---------|--------------------|-----------------------------|
| Low     | 709.0              | 8.8853                      |
| Mid     | 710.0              | 8.8720                      |
| High    | 711.0              | 8.8693                      |



**LTE Band 4**

**CHANNEL BANDWIDTH: 5MHz / QPSK**

| Channel | FREQUENCY<br>(MHz) | Occupied bandwidth<br>(MHz) |
|---------|--------------------|-----------------------------|
| Low     | 1712.5             | 4.5096                      |
| Mid     | 1732.5             | 4.4959                      |
| High    | 1752.5             | 4.4921                      |

**CHANNEL BANDWIDTH: 5MHz / 16QAM**

| Channel | FREQUENCY<br>(MHz) | Occupied bandwidth<br>(MHz) |
|---------|--------------------|-----------------------------|
| Low     | 1712.5             | 4.5002                      |
| Mid     | 1732.5             | 4.5049                      |
| High    | 1752.5             | 4.5031                      |

**CHANNEL BANDWIDTH: 10MHz / QPSK**

| Channel | FREQUENCY<br>(MHz) | Occupied bandwidth<br>(MHz) |
|---------|--------------------|-----------------------------|
| Low     | 1715.0             | 8.9226                      |
| Mid     | 1732.5             | 8.9261                      |
| High    | 1750.0             | 8.9236                      |

**CHANNEL BANDWIDTH: 10MHz / 16QAM**

| Channel | FREQUENCY<br>(MHz) | Occupied bandwidth<br>(MHz) |
|---------|--------------------|-----------------------------|
| Low     | 1715.0             | 8.9173                      |
| Mid     | 1732.5             | 8.9276                      |
| High    | 1750.0             | 8.9151                      |



**CHANNEL BANDWIDTH: 20MHz / QPSK**

| <b>Channel</b> | <b>FREQUENCY<br/>(MHz)</b> | <b>Occupied bandwidth<br/>(MHz)</b> |
|----------------|----------------------------|-------------------------------------|
| Low            | 1720.00                    | 17.8073                             |
| Mid            | 1732.50                    | 17.7971                             |
| High           | 1745.00                    | 17.8364                             |

**CHANNEL BANDWIDTH: 20MHz / 16QAM**

| <b>Channel</b> | <b>FREQUENCY<br/>(MHz)</b> | <b>Occupied bandwidth<br/>(MHz)</b> |
|----------------|----------------------------|-------------------------------------|
| Low            | 1720.00                    | 17.8132                             |
| Mid            | 1732.50                    | 17.8129                             |
| High           | 1745.00                    | 17.8123                             |





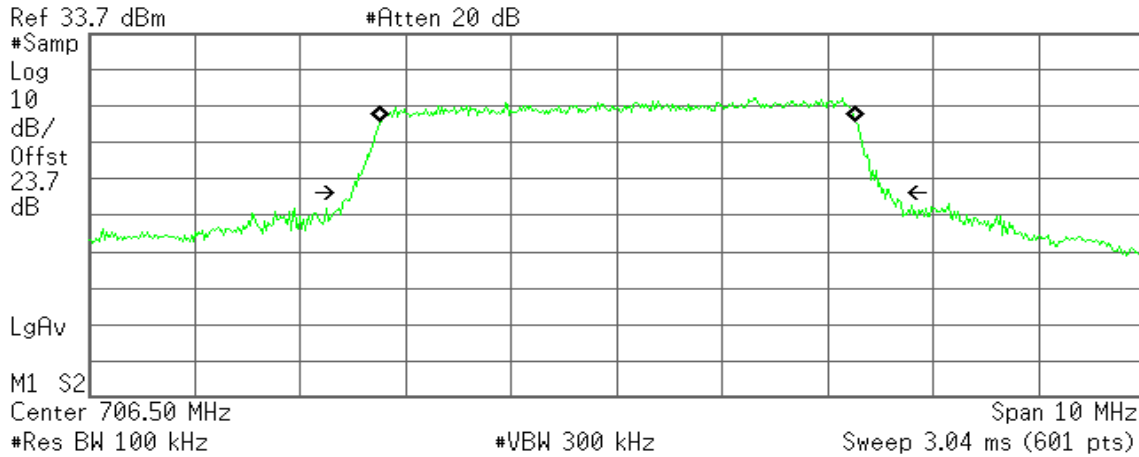
**LTE Band 17**

**CHANNEL BANDWIDTH: 5MHz / QPSK**

**CH Low**

Agilent

R T



**Occupied Bandwidth**  
4.5132 MHz

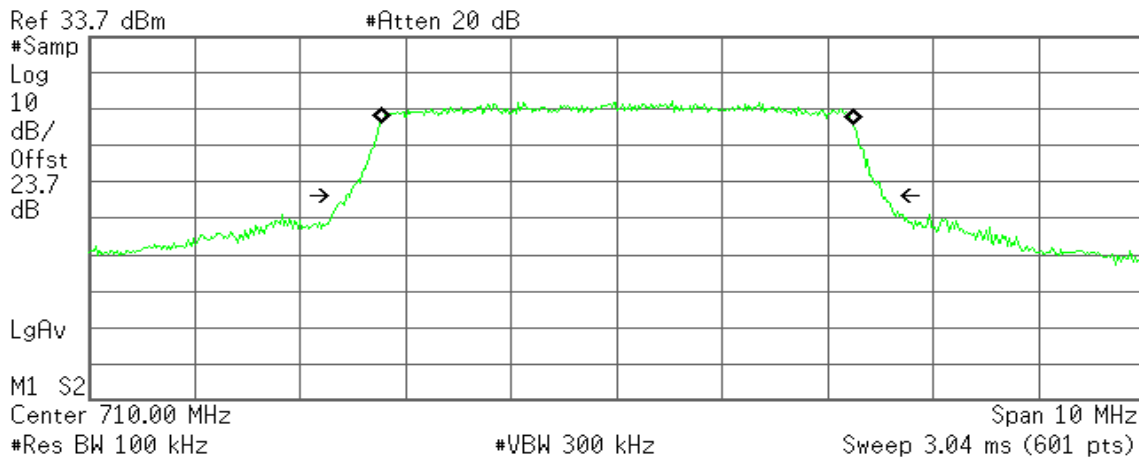
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 12.146 kHz  
**x dB Bandwidth** 5.102 MHz\*

**CH Mid**

Agilent

R T



**Occupied Bandwidth**  
4.4830 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

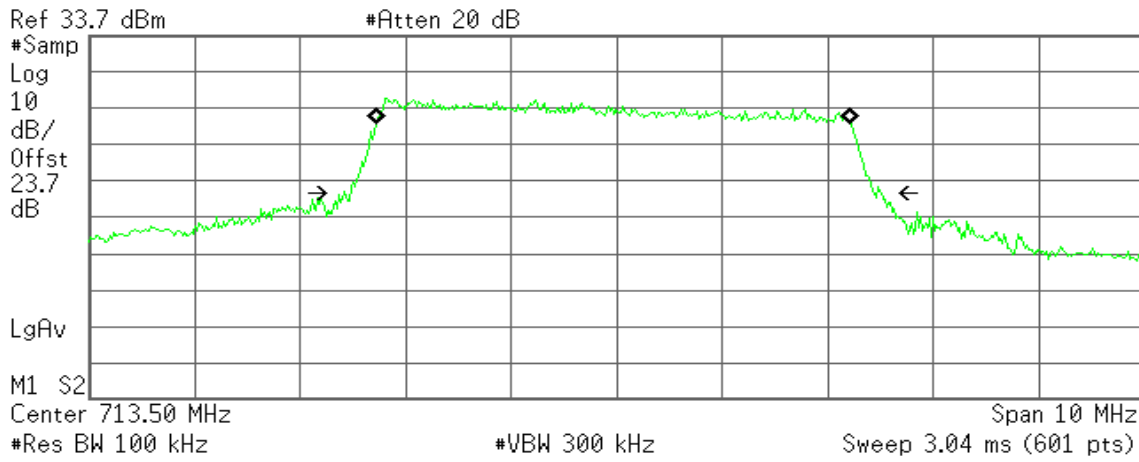
**Transmit Freq Error** 773.876 Hz  
**x dB Bandwidth** 5.091 MHz\*



**CH High**

Agilent

R T



**Occupied Bandwidth**  
4.5058 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -29.797 kHz  
**x dB Bandwidth** 5.101 MHz\*

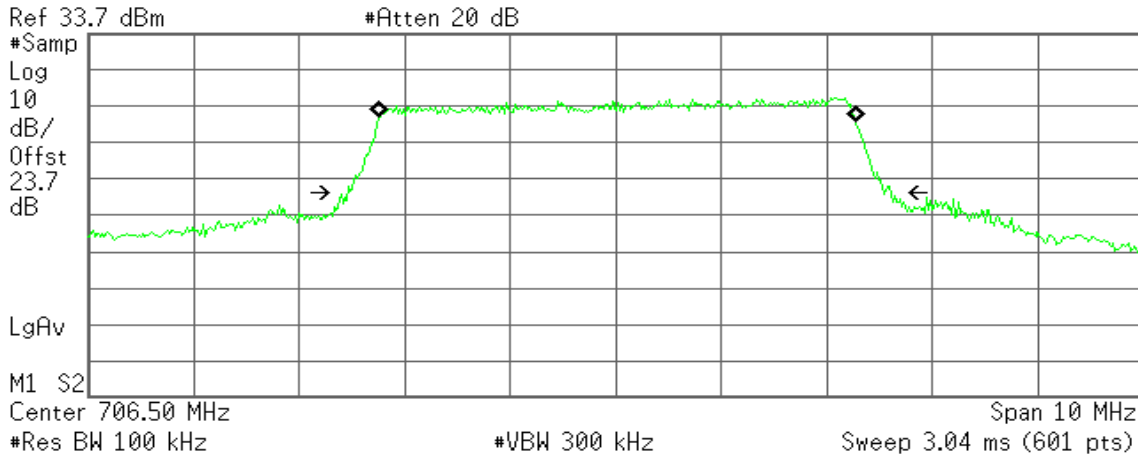


**CHANNEL BANDWIDTH: 5MHz / 16QAM**

**CH Low**

Agilent

R T



**Occupied Bandwidth**  
4.5236 MHz

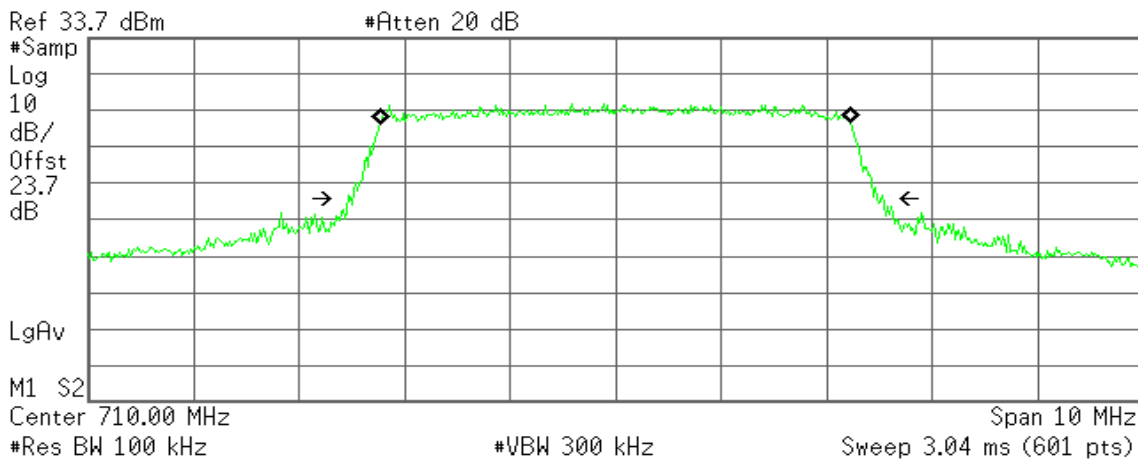
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 15.815 kHz  
**x dB Bandwidth** 5.155 MHz\*

**CH Mid**

Agilent

R T



**Occupied Bandwidth**  
4.4756 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

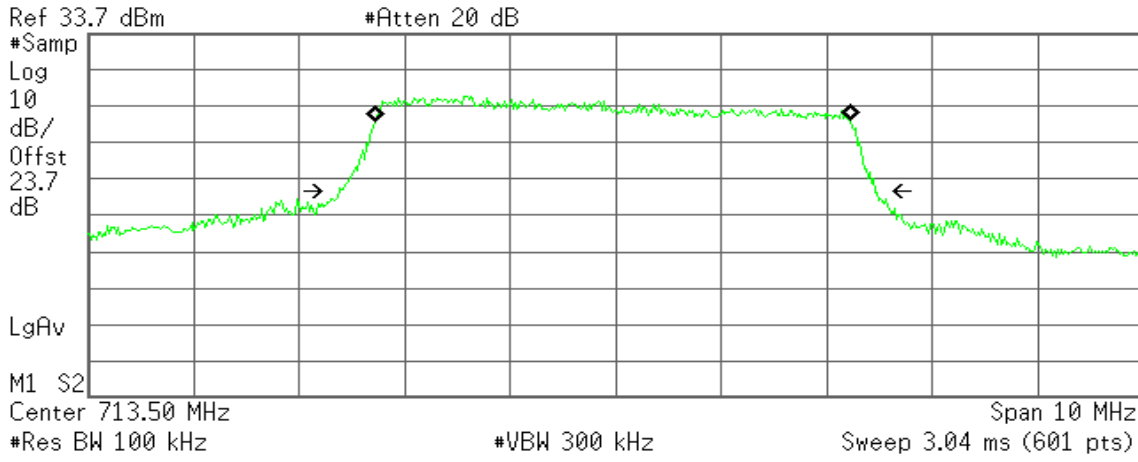
**Transmit Freq Error** -2.414 kHz  
**x dB Bandwidth** 5.078 MHz\*



**CH High**

Agilent

R T



**Occupied Bandwidth**  
4.5221 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -26.730 kHz  
**x dB Bandwidth** 5.087 MHz\*

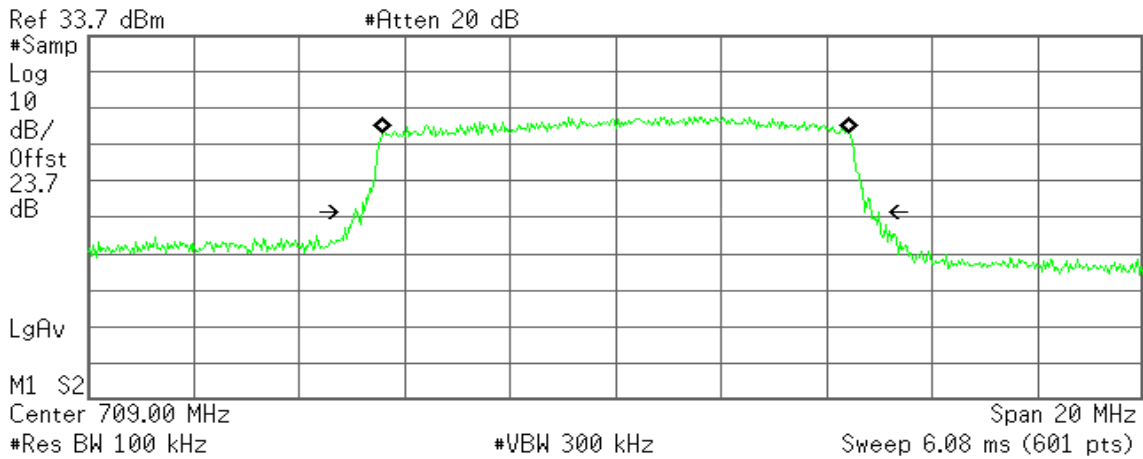


**CHANNEL BANDWIDTH: 10MHz / QPSK**

**CH Low**

Agilent

R T



**Occupied Bandwidth**  
8.8736 MHz

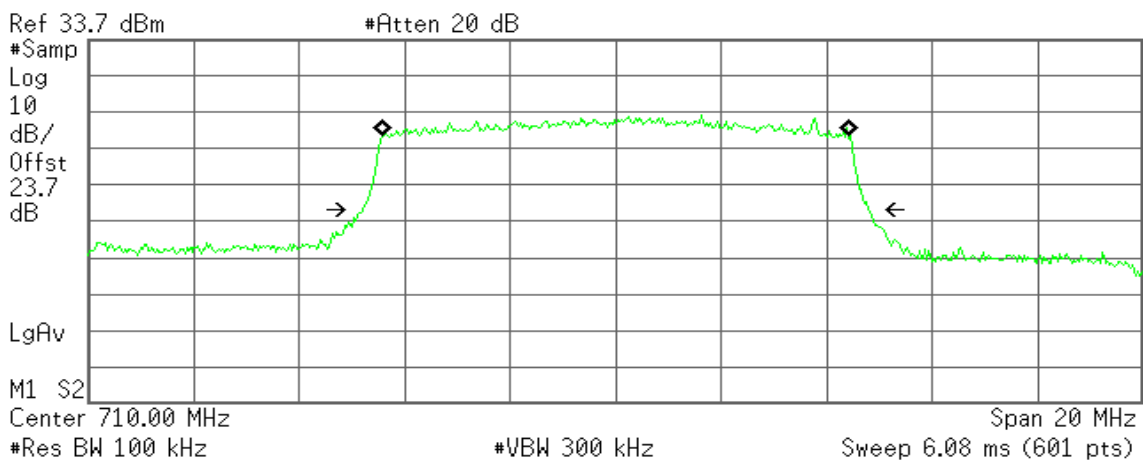
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 5.327 kHz  
**x dB Bandwidth** 9.803 MHz\*

**CH Mid**

Agilent

R T



**Occupied Bandwidth**  
8.8529 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

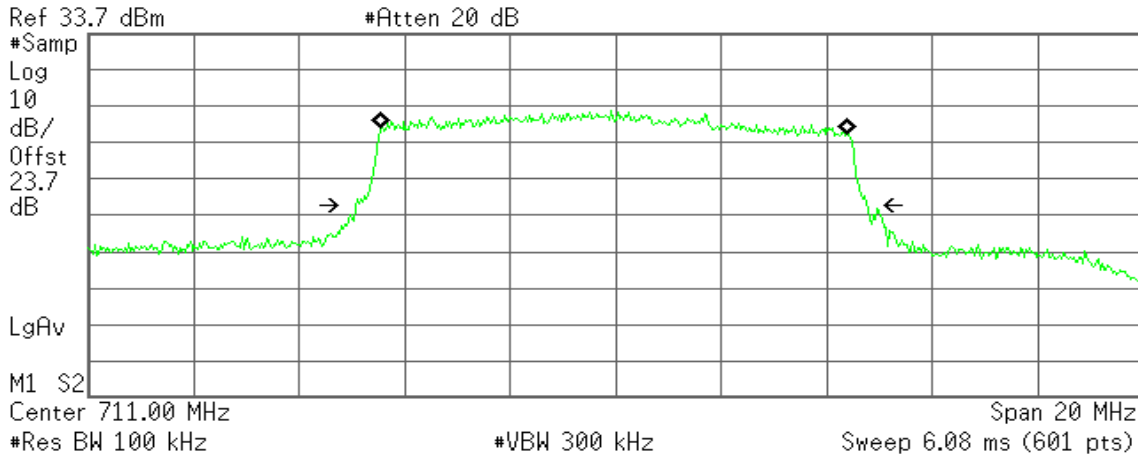
**Transmit Freq Error** 269.060 Hz  
**x dB Bandwidth** 9.609 MHz\*



**CH High**

Agilent

R T



**Occupied Bandwidth**  
**8.8700 MHz**

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -20.251 kHz  
**x dB Bandwidth** 9.702 MHz\*

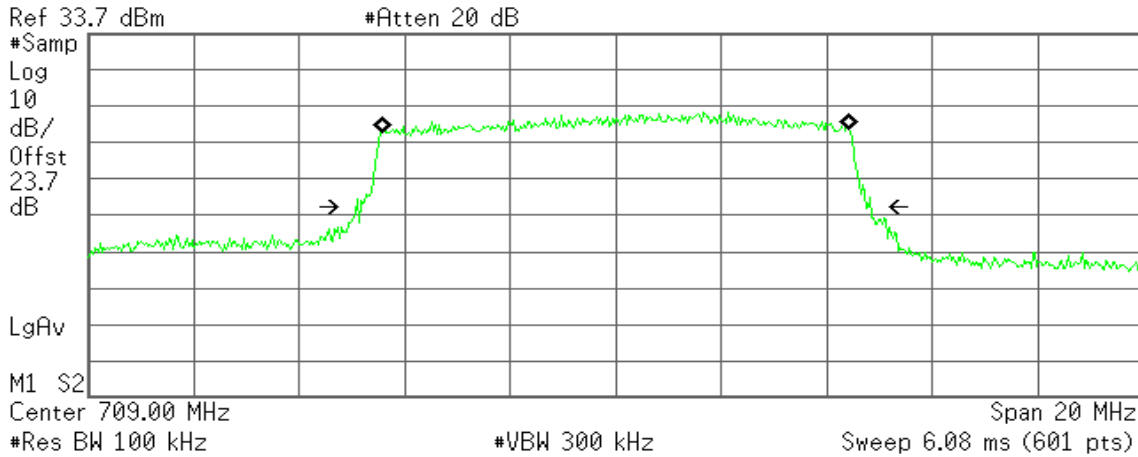


**CHANNEL BANDWIDTH: 10MHz / 16QAM**

**CH Low**

Agilent

R T



**Occupied Bandwidth**  
8.8853 MHz

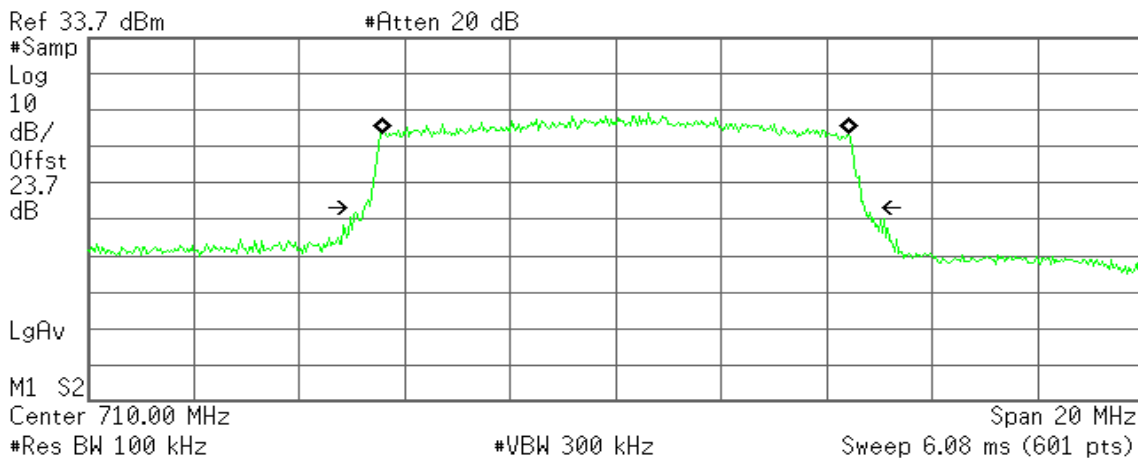
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 1.166 kHz  
**x dB Bandwidth** 9.773 MHz\*

**CH Mid**

Agilent

R T



**Occupied Bandwidth**  
8.8720 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

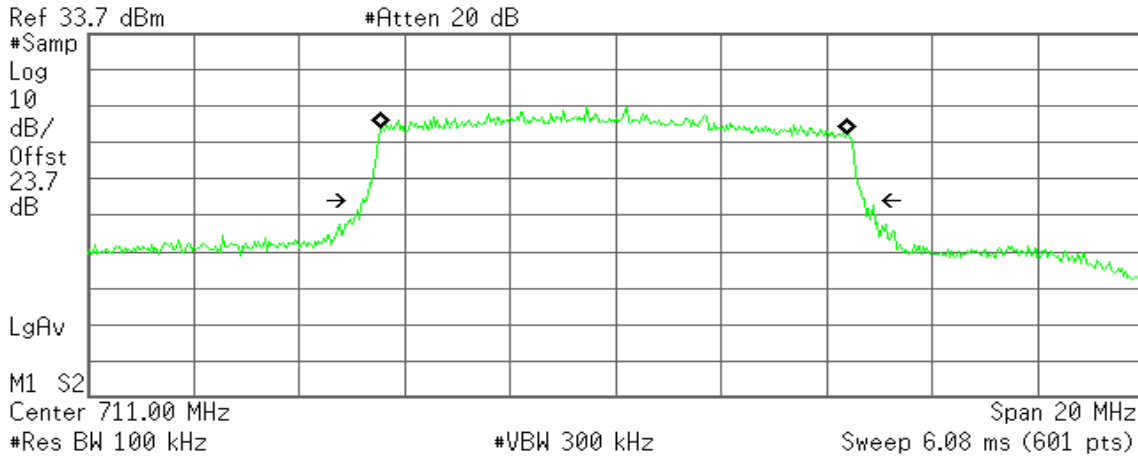
**Transmit Freq Error** -8.894 kHz  
**x dB Bandwidth** 9.507 MHz\*



**CH High**

Agilent

R T



**Occupied Bandwidth**  
8.8693 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -19.434 kHz  
**x dB Bandwidth** 9.538 MHz\*





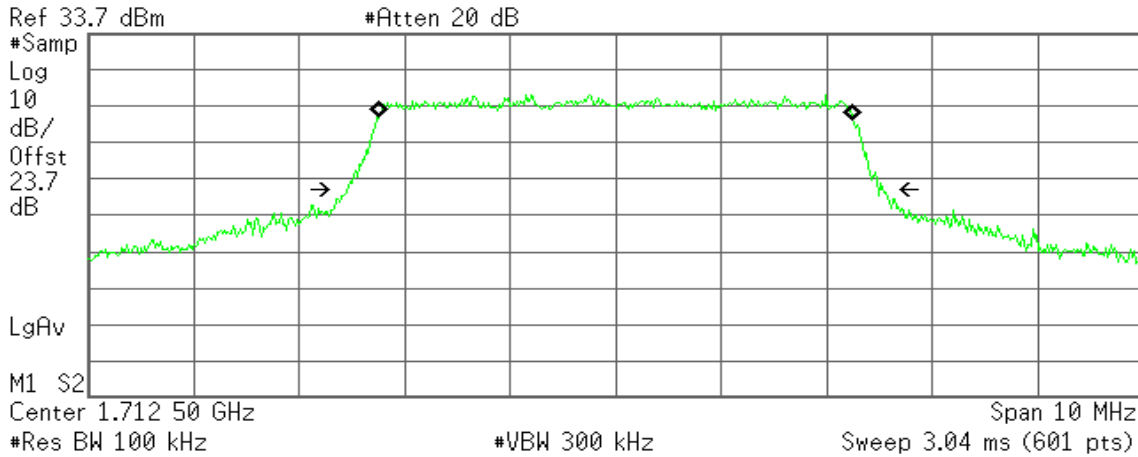
**LTE Band 4**

**CHANNEL BANDWIDTH: 5MHz / QPSK**

**CH Low**

Agilent

R T



**Occupied Bandwidth**  
4.5096 MHz

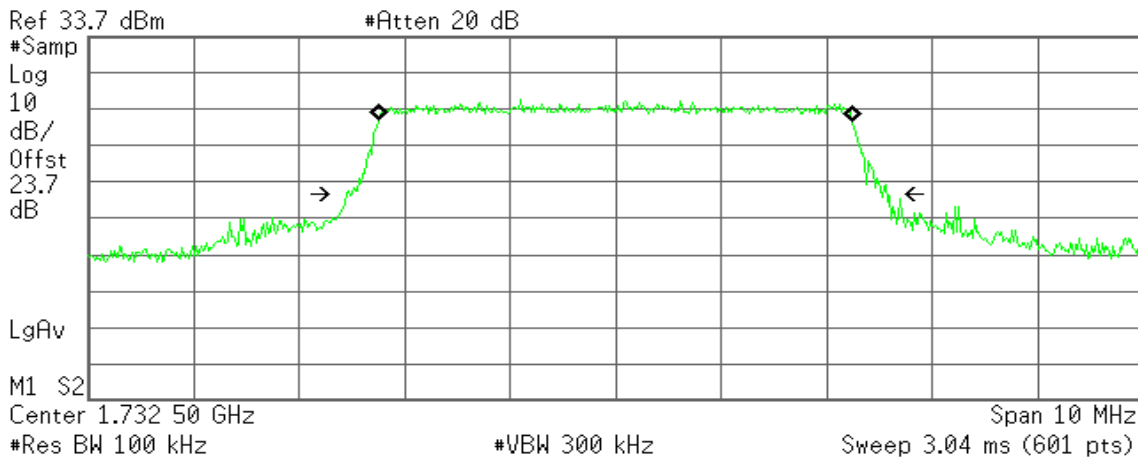
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -1.513 kHz  
**x dB Bandwidth** 5.078 MHz\*

**CH Mid**

Agilent

R T



**Occupied Bandwidth**  
4.4959 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

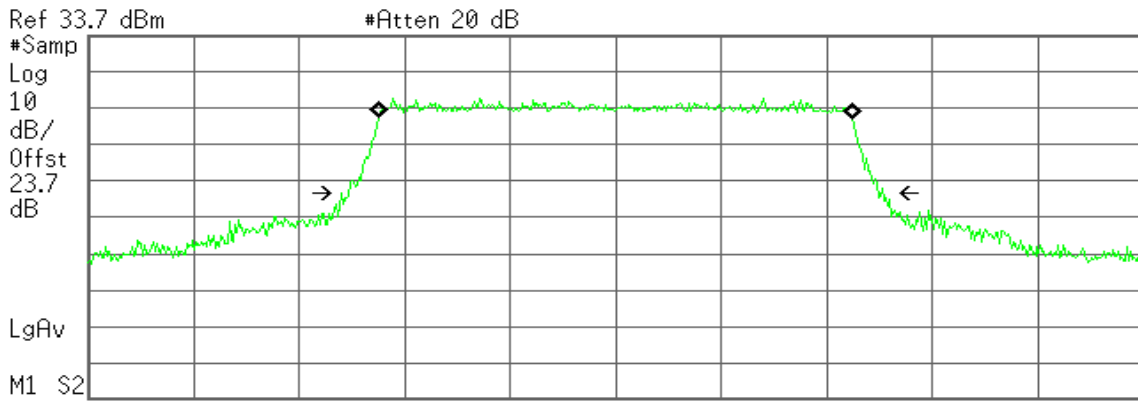
**Transmit Freq Error** -506.593 Hz  
**x dB Bandwidth** 5.131 MHz\*



**CH High**

Agilent

R T



Center 1.752 50 GHz Span 10 MHz  
 #Res BW 100 kHz #VBW 300 kHz Sweep 3.04 ms (601 pts)

**Occupied Bandwidth**  
**4.4921 MHz**

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -2.667 kHz  
**x dB Bandwidth** 5.072 MHz\*

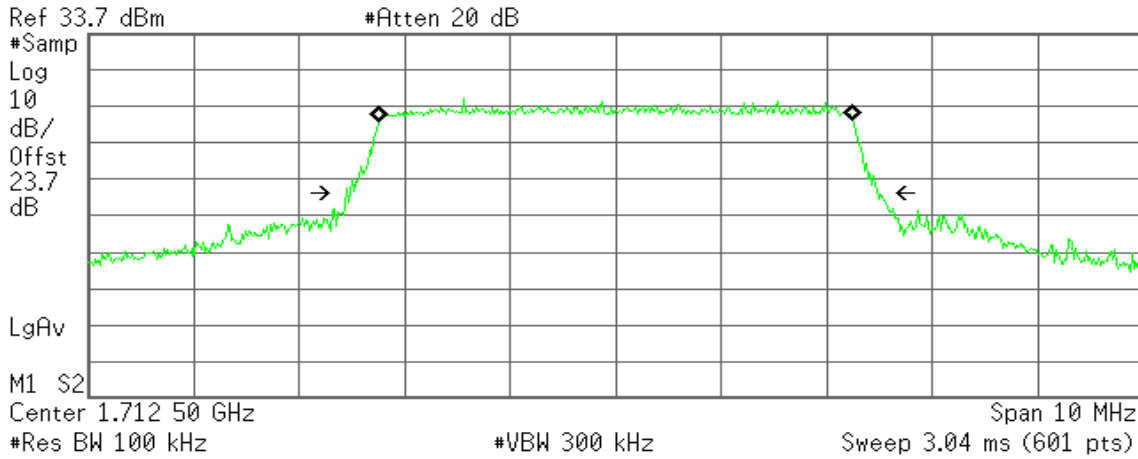


**CHANNEL BANDWIDTH: 5MHz / 16QAM**

**CH Low**

Agilent

R T



**Occupied Bandwidth**  
4.5002 MHz

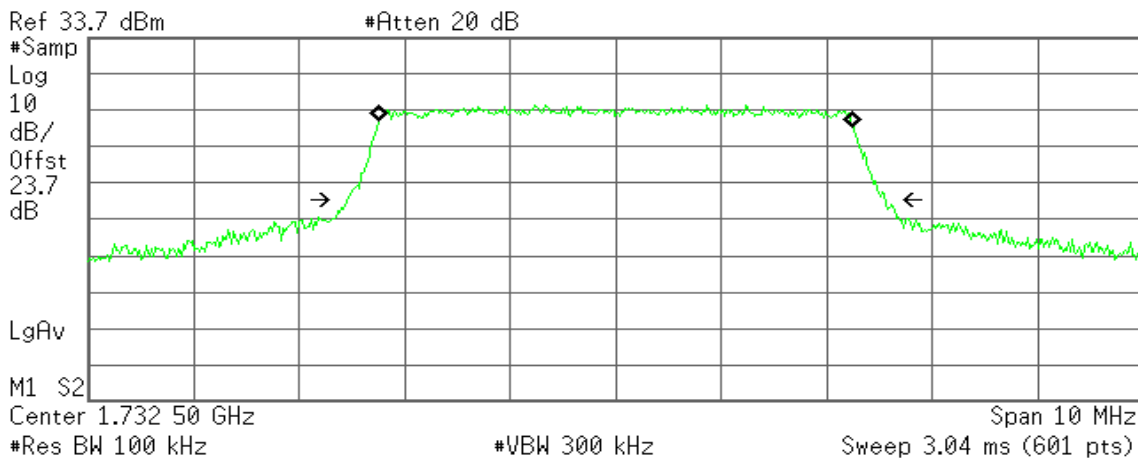
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 3.598 kHz  
**x dB Bandwidth** 5.051 MHz\*

**CH Mid**

Agilent

R T



**Occupied Bandwidth**  
4.5049 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

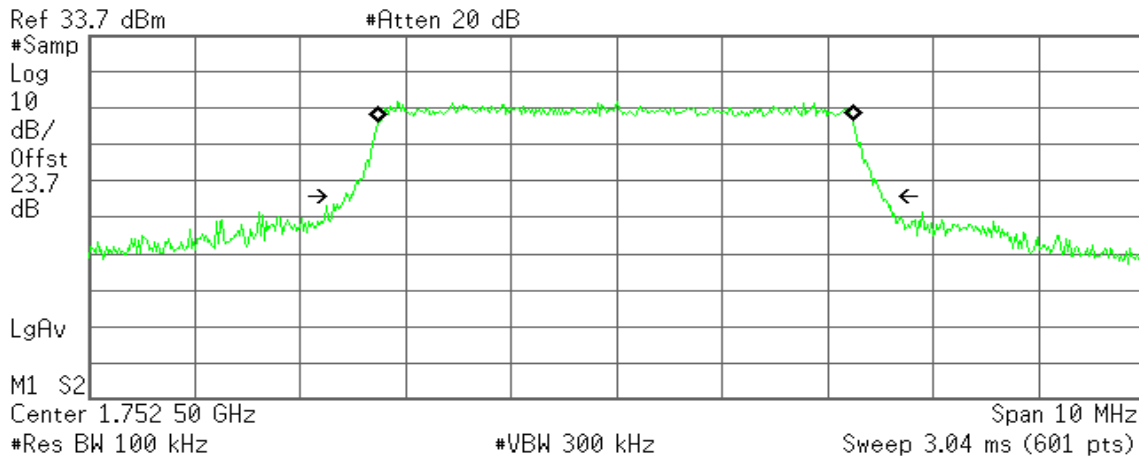
**Transmit Freq Error** -177.296 Hz  
**x dB Bandwidth** 5.106 MHz\*



**CH High**

Agilent

R T



**Occupied Bandwidth**  
4.5031 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -7.648 kHz  
**x dB Bandwidth** 5.093 MHz\*

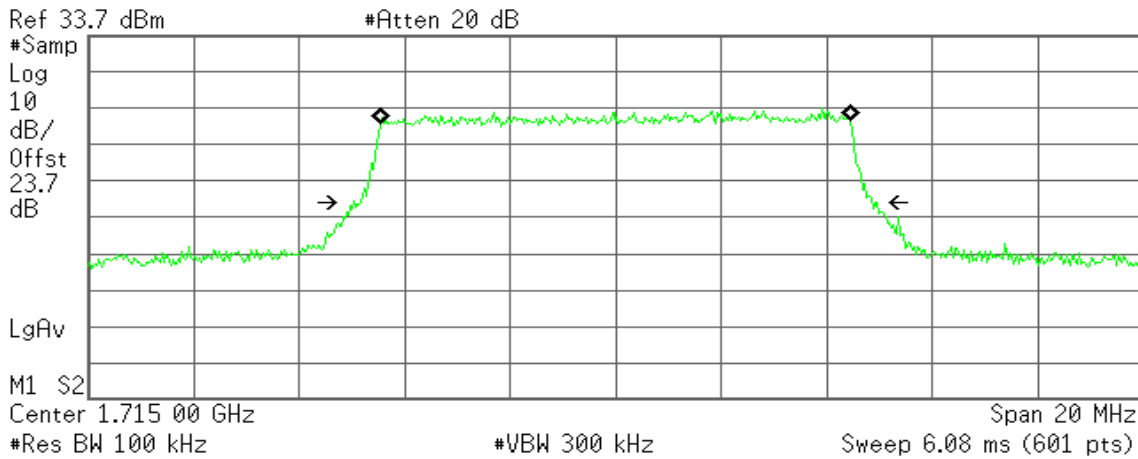


**CHANNEL BANDWIDTH: 10MHz / QPSK**

**CH Low**

Agilent

R T



**Occupied Bandwidth**  
8.9226 MHz

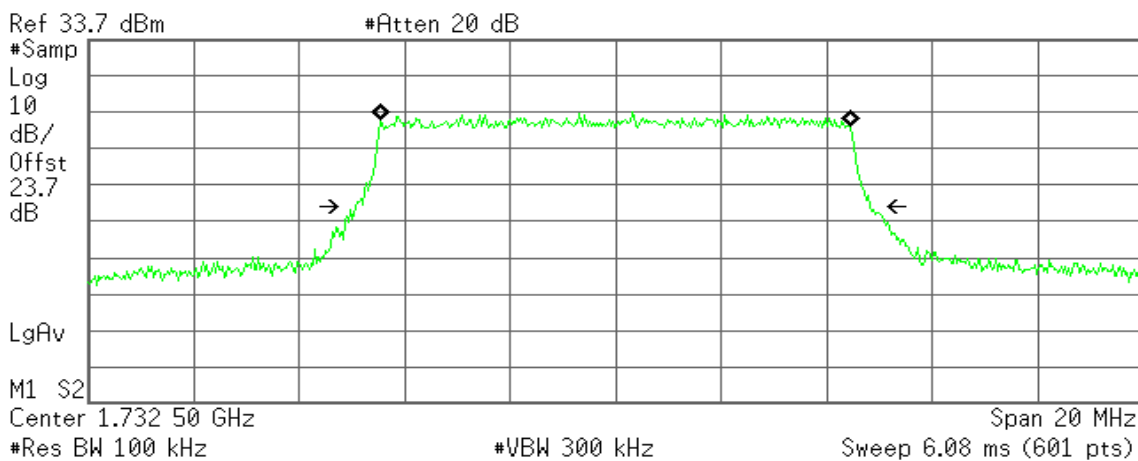
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -106.281 Hz  
**x dB Bandwidth** 9.850 MHz\*

**CH Mid**

Agilent

R T



**Occupied Bandwidth**  
8.9261 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

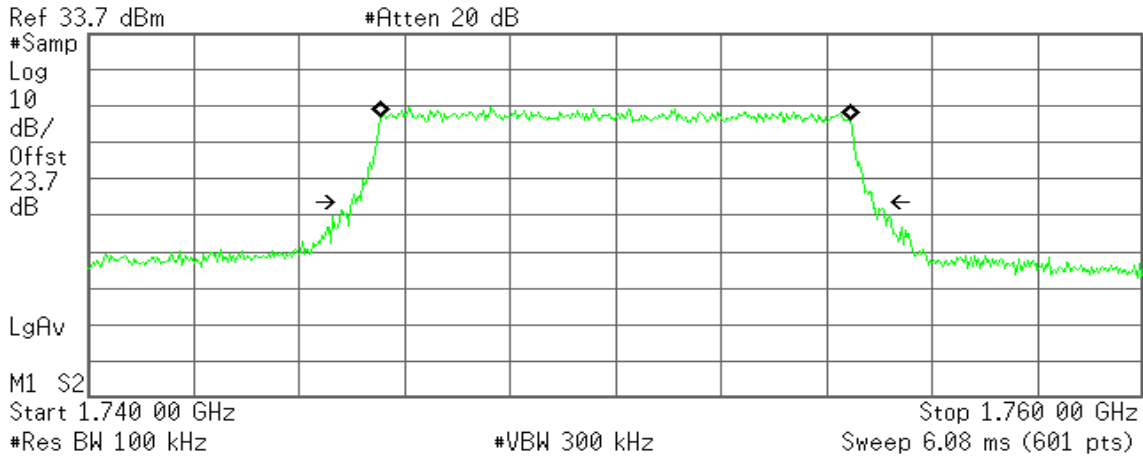
**Transmit Freq Error** -5.306 kHz  
**x dB Bandwidth** 9.768 MHz\*



**CH High**

Agilent

R T



**Occupied Bandwidth**  
8.9236 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -5.532 kHz  
**x dB Bandwidth** 9.889 MHz\*

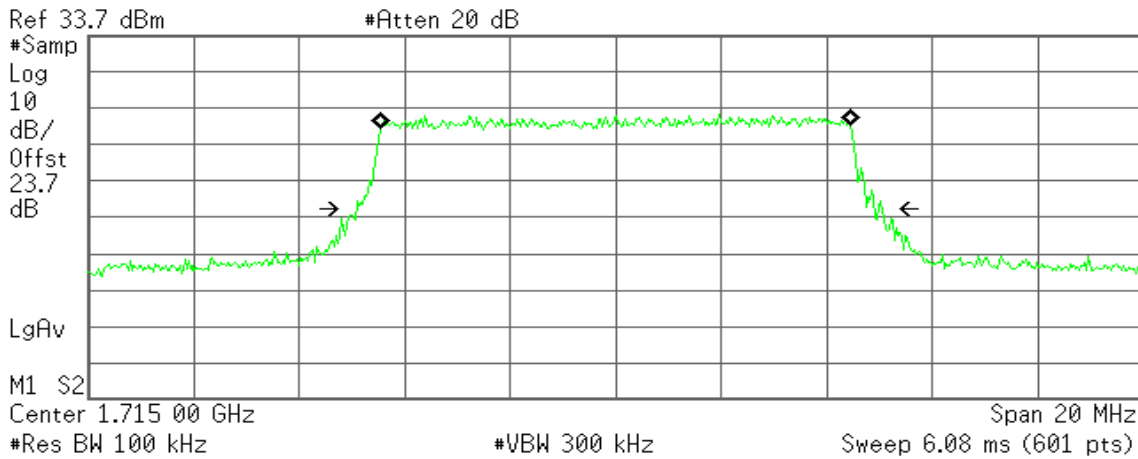


**CHANNEL BANDWIDTH: 10MHz / 16QAM**

**CH Low**

Agilent

R T



**Occupied Bandwidth**  
**8.9173 MHz**

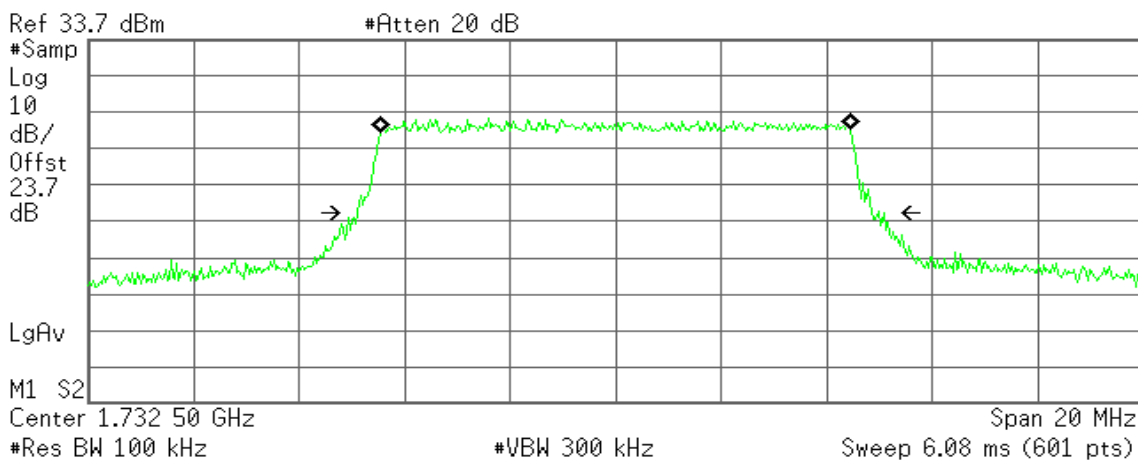
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 6.901 kHz  
**x dB Bandwidth** 9.981 MHz\*

**CH Mid**

Agilent

R T



**Occupied Bandwidth**  
**8.9276 MHz**

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

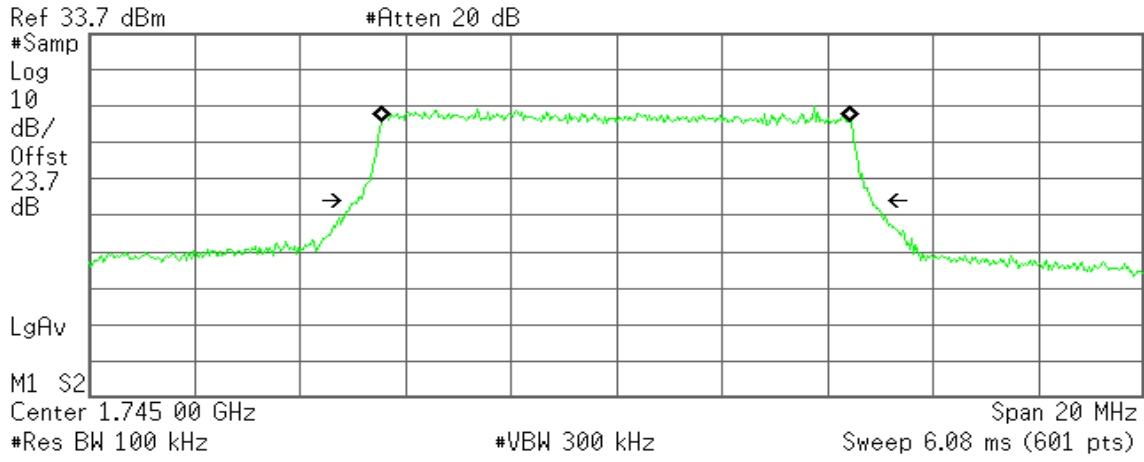
**Transmit Freq Error** 1.083 kHz  
**x dB Bandwidth** 10.010 MHz\*



**CH High**

Agilent

R T



**Occupied Bandwidth**  
8.9151 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -10.340 kHz  
**x dB Bandwidth** 9.764 MHz\*



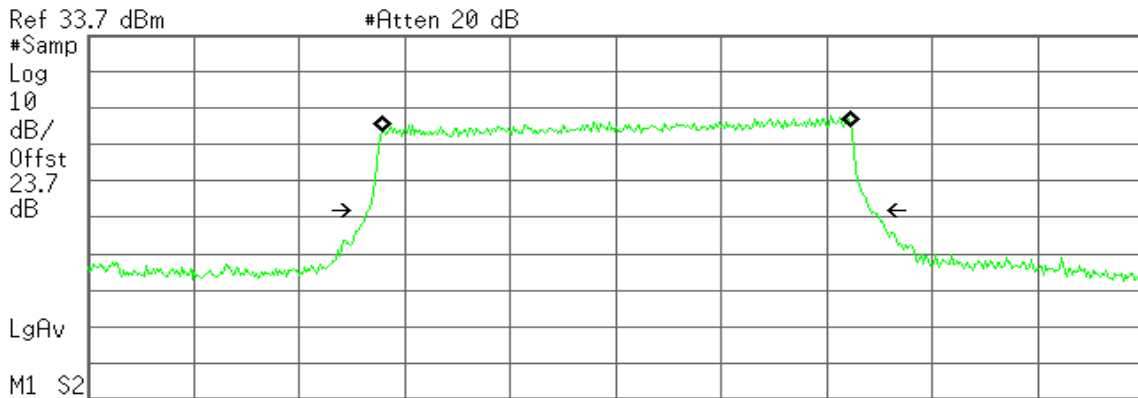


**CHANNEL BANDWIDTH: 20MHz / QPSK**

**CH Low**

Agilent

R T



Center 1.720 00 GHz Span 40 MHz  
 #Res BW 100 kHz #VBW 300 kHz Sweep 12.12 ms (601 pts)

**Occupied Bandwidth**  
**17.8073 MHz**

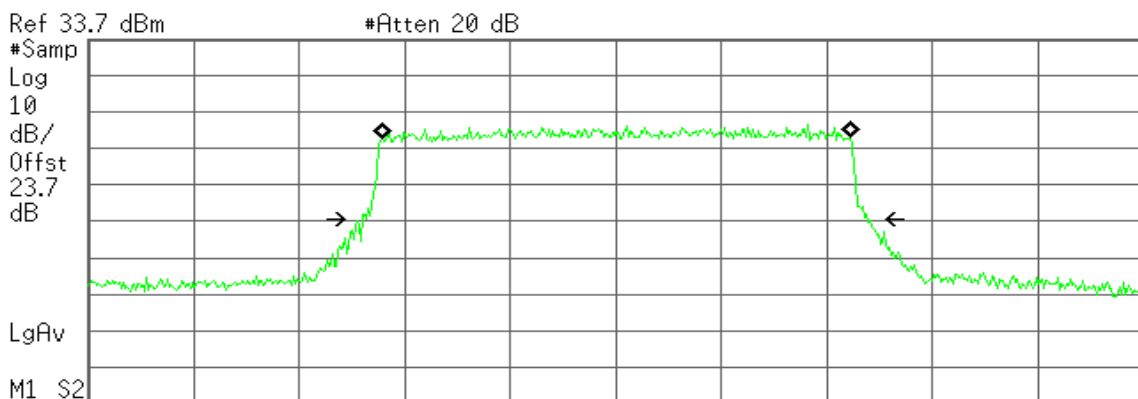
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 38.670 kHz  
**x dB Bandwidth** 19.093 MHz\*

**CH Mid**

Agilent

R T



Center 1.732 50 GHz Span 40 MHz  
 #Res BW 100 kHz #VBW 300 kHz Sweep 12.12 ms (601 pts)

**Occupied Bandwidth**  
**17.7971 MHz**

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

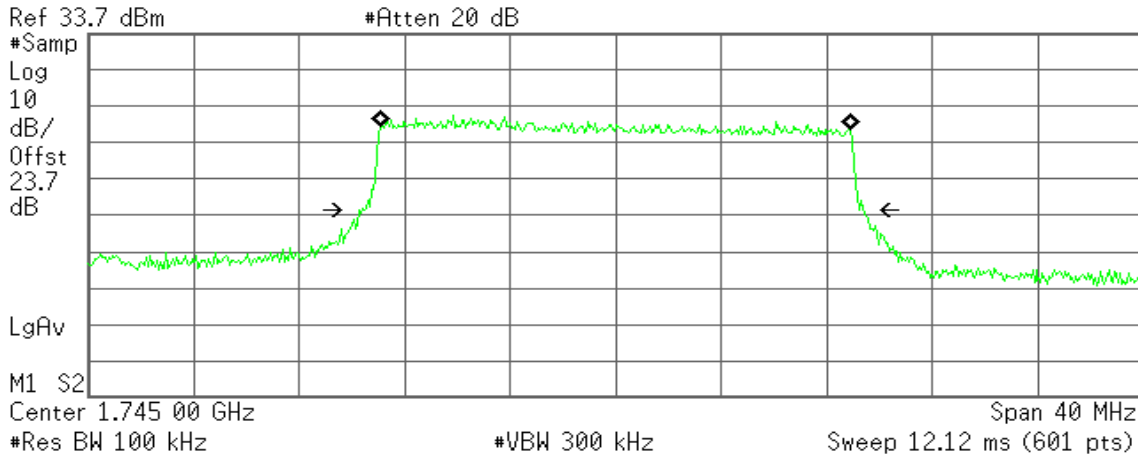
**Transmit Freq Error** 7.264 kHz  
**x dB Bandwidth** 19.208 MHz\*



**CH High**

Agilent

R T



**Occupied Bandwidth**  
17.8364 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -16.794 kHz  
**x dB Bandwidth** 19.153 MHz\*

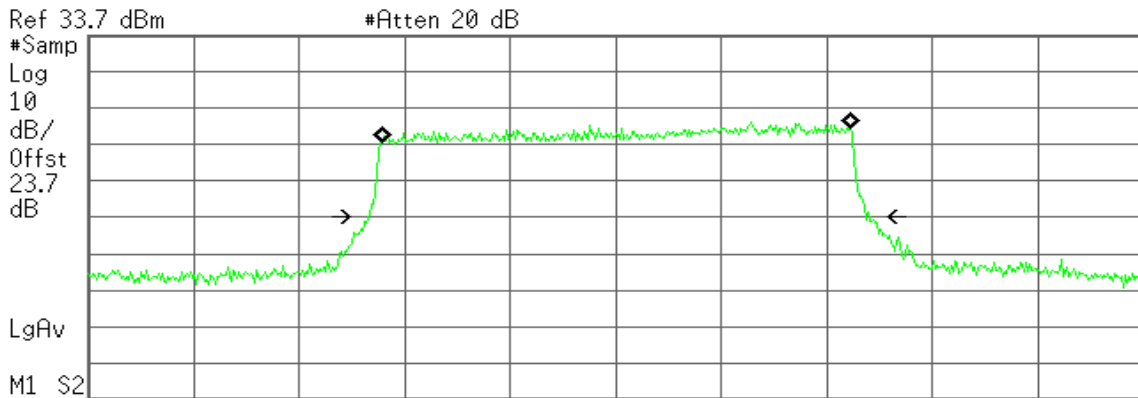


**CHANNEL BANDWIDTH: 20MHz / 16QAM**

**CH Low**

Agilent

R T



**Occupied Bandwidth**  
**17.8132 MHz**

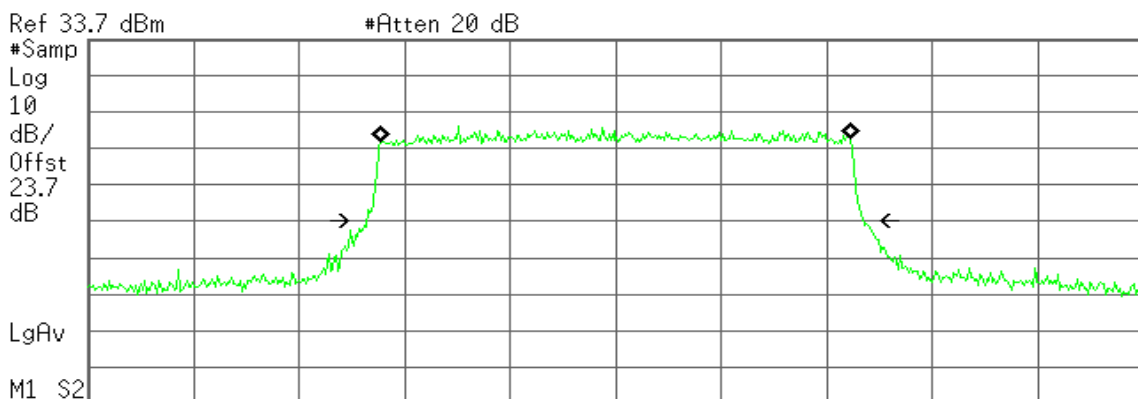
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 38.813 kHz  
**x dB Bandwidth** 19.043 MHz\*

**CH Mid**

Agilent

R T



**Occupied Bandwidth**  
**17.8129 MHz**

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

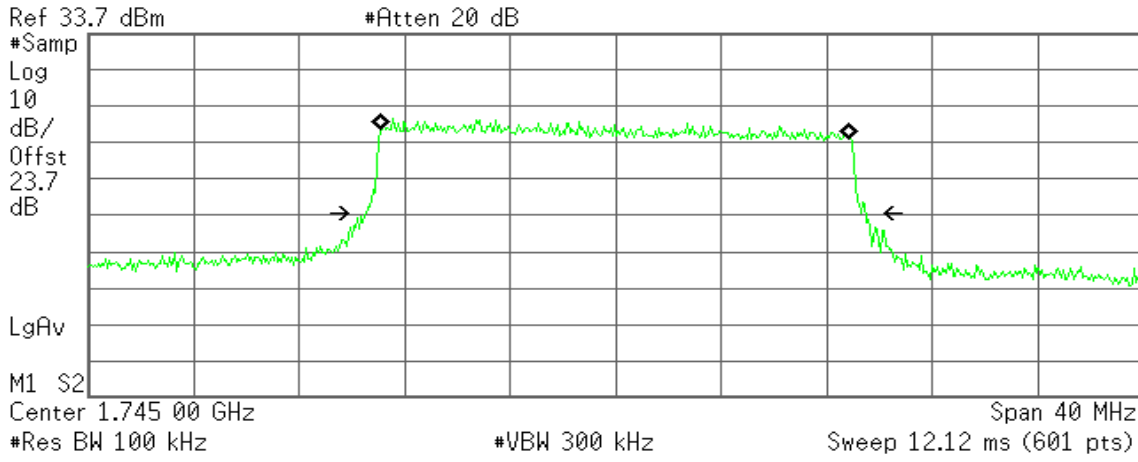
**Transmit Freq Error** -3.035 kHz  
**x dB Bandwidth** 18.863 MHz\*



**CH High**

Agilent

R T



**Occupied Bandwidth**  
**17.8123 MHz**

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -16.776 kHz  
**x dB Bandwidth** 18.973 MHz\*



## 7.2 OUTPUT POWER MEASUREMENT

### LIMITS

Fixed, mobile, and portable (hand-held) stations operating in the 1710–1755 MHz band are limited to 1 watt EIRP.

Portable stations (hand-held devices) operating in the 698–746 MHz band are limited to 3 watts ERP

Operating in the Frequency Bands 698-756 MHz shall not exceed 5 watts for portable equipment or for indoor fixed subscriber equipment

### TEST PROCEDURES

#### **EIRP / ERP MEASUREMENT:**

1. The EUT was set up for the maximum power with LTE link data modulation. The power was measured with Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high operational frequency range). RWB and VBW is 10MHz for LTE.
2. E.I.R.P power measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.
3. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value” of step a. Record the power level of S.G d.  $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$
4.  $E.R.P = E.I.R.P - 2.15 \text{ dB}$

#### **CONDUCTED POWER MEASUREMENT:**

1. The EUT was set up for the maximum power with LTE link data modulation and link up with simulator.
2. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

**TEST RESULTS****LTE Band 17****Channel Bandwidth: 5MHz**

| <b>Conducted Output Power (QPSK 1 RB ALLOCATED AT THE LOWER EDGE)</b> |                |                     |            |
|---|----------------|---------------------|------------|
| <b>Frequency (MHz)</b>  | <b>Channel</b> | <b>Output Power</b> |            |
|   |                | <b>(dBm)</b>        | <b>(W)</b> |
| 706.5   | 23755          | 22.65               | 0.18408    |
| 710.0   | 23790          | 22.78               | 0.18967    |
| 713.5   | 23825          | 22.69               | 0.18578    |

| <b>Conducted Output Power (QPSK 1 RB ALLOCATED AT THE UPPER EDGE)</b> |                |                     |            |
|---|----------------|---------------------|------------|
| <b>Frequency (MHz)</b>  | <b>Channel</b> | <b>Output Power</b> |            |
|   |                | <b>(dBm)</b>        | <b>(W)</b> |
| 706.5   | 23755          | 22.62               | 0.18281    |
| 710.0   | 23790          | 22.46               | 0.17620    |
| 713.5   | 23825          | 22.55               | 0.17989    |

| <b>Conducted Output Power (QPSK 50% RB ALLOCATION CENTERED)</b> |                |                     |            |
|---|----------------|---------------------|------------|
| <b>Frequency (MHz)</b>  | <b>Channel</b> | <b>Output Power</b> |            |
|   |                | <b>(dBm)</b>        | <b>(W)</b> |
| 706.5   | 23755          | 21.59               | 0.14421    |
| 710.0   | 23790          | 21.64               | 0.14588    |
| 713.5   | 23825          | 21.55               | 0.14289    |

| <b>Conducted Output Power (QPSK 100% RB ALLOCATION)</b> |                |                     |            |
|---|----------------|---------------------|------------|
| <b>Frequency (MHz)</b>                                  | <b>Channel</b> | <b>Output Power</b> |            |
|   |                | <b>(dBm)</b>        | <b>(W)</b> |
| 706.5   | 23755          | 21.64               | 0.14588    |
| 710.0   | 23790          | 21.66               | 0.14655    |
| 713.5   | 23825          | 21.72               | 0.14859    |

**Remarks:**

1. Output Power (dBm) = Raw Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Power Splitter Loss (dB) + Cable Loss (dB) + 20dB Attenuator.
3. The value in bold is the worst.



**Channel Bandwidth: 5MHz**

| <b>Conducted Output Power (16QAM 1 RB ALLOCATED AT THE LOWER EDGE)</b> |                |                     |            |
|--|----------------|---------------------|------------|
| <b>Frequency (MHz)</b>   | <b>Channel</b> | <b>Output Power</b> |            |
|  |                | <b>(dBm)</b>        | <b>(W)</b> |
| 706.5  | 23755          | 21.79               | 0.15101    |
| 710.0  | 23790          | 21.87               | 0.15382    |
| 713.5  | 23825          | 21.92               | 0.15560    |

| <b>Conducted Output Power (16QAM 1 RB ALLOCATED AT THE UPPER EDGE)</b> |                |                     |            |
|--|----------------|---------------------|------------|
| <b>Frequency (MHz)</b>   | <b>Channel</b> | <b>Output Power</b> |            |
|  |                | <b>(dBm)</b>        | <b>(W)</b> |
| 706.5  | 23755          | 21.79               | 0.15101    |
| 710.0  | 23790          | 21.74               | 0.14928    |
| 713.5  | 23825          | 21.97               | 0.15740    |

| <b>Conducted Output Power (16QAM 50% RB ALLOCATION CENTERED)</b> |                |                     |            |
|--|----------------|---------------------|------------|
| <b>Frequency (MHz)</b>   | <b>Channel</b> | <b>Output Power</b> |            |
|  |                | <b>(dBm)</b>        | <b>(W)</b> |
| 706.5  | 23755          | 20.79               | 0.11995    |
| 710.0  | 23790          | 20.51               | 0.11246    |
| 713.5  | 23825          | 20.74               | 0.11858    |

| <b>Conducted Output Power (16QAM 100% RB ALLOCATION)</b> |                |                     |            |
|--|----------------|---------------------|------------|
| <b>Frequency (MHz)</b>                                   | <b>Channel</b> | <b>Output Power</b> |            |
|  |                | <b>(dBm)</b>        | <b>(W)</b> |
| 706.5  | 23755          | 21.22               | 0.13243    |
| 710.0  | 23790          | 21.16               | 0.13062    |
| 713.5  | 23825          | 21.69               | 0.14757    |

**Remarks:**

1. Output Power (dBm) = Raw Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Power Splitter Loss (dB) + Cable Loss (dB) + 20dB Attenuator.
3. The value in bold is the worst.



## LTE Band 17

### Channel Bandwidth: 10MHz

| Conducted Output Power (QPSK 1 RB ALLOCATED AT THE LOWER EDGE) |         |              |         |
|--|---------|--------------|---------|
| Frequency (MHz)  | Channel | Output Power |         |
|  |         | (dBm)        | (W)     |
| 709.0  | 23780   | 22.72        | 0.18707 |
| 710.0  | 23790   | 22.65        | 0.18408 |
| 711.0  | 23800   | 22.61        | 0.18239 |

| Conducted Output Power (QPSK 1 RB ALLOCATED AT THE UPPER EDGE) |         |              |         |
|--|---------|--------------|---------|
| Frequency (MHz)  | Channel | Output Power |         |
|  |         | (dBm)        | (W)     |
| 709.0  | 23780   | 22.31        | 0.17022 |
| 710.0  | 23790   | 22.37        | 0.17258 |
| 711.0  | 23800   | 22.48        | 0.17701 |

| Conducted Output Power (QPSK 50% RB ALLOCATION CENTERED) |         |              |         |
|--|---------|--------------|---------|
| Frequency (MHz)  | Channel | Output Power |         |
|  |         | (dBm)        | (W)     |
| 709.0  | 23780   | 21.78        | 0.15066 |
| 710.0  | 23790   | 21.65        | 0.14622 |
| 711.0  | 23800   | 21.60        | 0.14454 |

| Conducted Output Power (QPSK 100% RB ALLOCATION) |         |              |         |
|--|---------|--------------|---------|
| Frequency (MHz)                                  | Channel | Output Power |         |
|  |         | (dBm)        | (W)     |
| 709.0  | 23780   | 21.60        | 0.14454 |
| 710.0  | 23790   | 21.69        | 0.14757 |
| 711.0  | 23800   | 21.59        | 0.14421 |

**Remarks:**

1. Output Power (dBm) = Raw Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Power Splitter Loss (dB) + Cable Loss (dB) + 20dB Attenuator.
3. The value in bold is the worst.





**Channel Bandwidth: 10MHz**

| <b>Conducted Output Power (16QAM 1 RB ALLOCATED AT THE LOWER EDGE)</b> |                |                     |            |
|--|----------------|---------------------|------------|
| <b>Frequency (MHz)</b>   | <b>Channel</b> | <b>Output Power</b> |            |
|  |                | <b>(dBm)</b>        | <b>(W)</b> |
| 709.0  | 23780          | 21.89               | 0.15453    |
| 710.0  | 23790          | 22.06               | 0.16069    |
| 711.0  | 23800          | 22.21               | 0.16634    |

| <b>Conducted Output Power (16QAM 1 RB ALLOCATED AT THE UPPER EDGE)</b> |                |                     |            |
|--|----------------|---------------------|------------|
| <b>Frequency (MHz)</b>   | <b>Channel</b> | <b>Output Power</b> |            |
|  |                | <b>(dBm)</b>        | <b>(W)</b> |
| 709.0  | 23780          | 21.94               | 0.15631    |
| 710.0  | 23790          | 21.87               | 0.15382    |
| 711.0  | 23800          | 22.06               | 0.16069    |

| <b>Conducted Output Power (16QAM 50% RB ALLOCATION CENTERED)</b> |                |                     |            |
|--|----------------|---------------------|------------|
| <b>Frequency (MHz)</b>   | <b>Channel</b> | <b>Output Power</b> |            |
|  |                | <b>(dBm)</b>        | <b>(W)</b> |
| 709.0  | 23780          | 20.65               | 0.11614    |
| 710.0  | 23790          | 20.55               | 0.11350    |
| 711.0  | 23800          | 20.63               | 0.11561    |

| <b>Conducted Output Power (16QAM 100% RB ALLOCATION)</b> |                |                     |            |
|--|----------------|---------------------|------------|
| <b>Frequency (MHz)</b>                                   | <b>Channel</b> | <b>Output Power</b> |            |
|  |                | <b>(dBm)</b>        | <b>(W)</b> |
| 709.0  | 23780          | 21.11               | 0.12912    |
| 710.0  | 23790          | 21.22               | 0.13243    |
| 711.0  | 23800          | 21.04               | 0.12706    |

**Remarks:**

1. Output Power (dBm) = Raw Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Power Splitter Loss (dB) + Cable Loss (dB) + 20dB Attenuator.
3. The value in bold is the worst.

**LTE Band 4****Channel Bandwidth: 5MHz**

| <b>Conducted Output Power (QPSK 1 RB ALLOCATED AT THE LOWER EDGE)</b> |                |                     |            |
|---|----------------|---------------------|------------|
| <b>Frequency (MHz)</b>  | <b>Channel</b> | <b>Output Power</b> |            |
|   |                | <b>(dBm)</b>        | <b>(W)</b> |
| 1712.5  | 19975          | 22.63               | 0.18323    |
| 1732.5  | 20175          | 22.78               | 0.18967    |
| 1752.5  | 20375          | 22.89               | 0.19454    |

| <b>Conducted Output Power (QPSK 1 RB ALLOCATED AT THE UPPER EDGE)</b> |                |                     |            |
|---|----------------|---------------------|------------|
| <b>Frequency (MHz)</b>  | <b>Channel</b> | <b>Output Power</b> |            |
|   |                | <b>(dBm)</b>        | <b>(W)</b> |
| 1712.5  | 19975          | 22.72               | 0.18707    |
| 1732.5  | 20175          | 22.56               | 0.18030    |
| 1752.5  | 20375          | 22.77               | 0.18923    |

| <b>Conducted Output Power (QPSK 50% RB ALLOCATION CENTERED)</b> |                |                     |            |
|---|----------------|---------------------|------------|
| <b>Frequency (MHz)</b>  | <b>Channel</b> | <b>Output Power</b> |            |
|   |                | <b>(dBm)</b>        | <b>(W)</b> |
| 1712.5  | 19975          | 22.06               | 0.16069    |
| 1732.5  | 20175          | 22.09               | 0.16181    |
| 1752.5  | 20375          | 22.40               | 0.17378    |

| <b>Conducted Output Power (QPSK 100% RB ALLOCATION)</b> |                |                     |            |
|---|----------------|---------------------|------------|
| <b>Frequency (MHz)</b>                                  | <b>Channel</b> | <b>Output Power</b> |            |
|   |                | <b>(dBm)</b>        | <b>(W)</b> |
| 1712.5  | 19975          | 22.15               | 0.16406    |
| 1732.5  | 20175          | 22.03               | 0.15959    |
| 1752.5  | 20375          | 22.32               | 0.17061    |

**Remarks:**

1. Output Power (dBm) = Raw Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Power Splitter Loss (dB) + Cable Loss (dB) + 20dB Attenuator.
3. The value in bold is the worst.



**Channel Bandwidth: 5MHz**

| <b>Conducted Output Power (16QAM 1 RB ALLOCATED AT THE LOWER EDGE)</b> |                |                     |            |
|--|----------------|---------------------|------------|
| <b>Frequency (MHz)</b>   | <b>Channel</b> | <b>Output Power</b> |            |
|  |                | <b>(dBm)</b>        | <b>(W)</b> |
| 1712.5   | 19975          | 22.48               | 0.17701    |
| 1732.5   | 20175          | 22.68               | 0.18535    |
| 1752.5   | 20375          | 22.74               | 0.18793    |

| <b>Conducted Output Power (16QAM 1 RB ALLOCATED AT THE UPPER EDGE)</b> |                |                     |            |
|--|----------------|---------------------|------------|
| <b>Frequency (MHz)</b>   | <b>Channel</b> | <b>Output Power</b> |            |
|  |                | <b>(dBm)</b>        | <b>(W)</b> |
| 1712.5   | 19975          | 22.41               | 0.17418    |
| 1732.5   | 20175          | 22.22               | 0.16672    |
| 1752.5   | 20375          | 22.81               | 0.19099    |

| <b>Conducted Output Power (16QAM 50% RB ALLOCATION CENTERED)</b> |                |                     |            |
|--|----------------|---------------------|------------|
| <b>Frequency (MHz)</b>   | <b>Channel</b> | <b>Output Power</b> |            |
|  |                | <b>(dBm)</b>        | <b>(W)</b> |
| 1712.5   | 19975          | 21.03               | 0.12677    |
| 1732.5   | 20175          | 21.16               | 0.13062    |
| 1752.5   | 20375          | 21.44               | 0.13932    |

| <b>Conducted Output Power (16QAM 100% RB ALLOCATION)</b> |                |                     |            |
|--|----------------|---------------------|------------|
| <b>Frequency (MHz)</b>                                   | <b>Channel</b> | <b>Output Power</b> |            |
|  |                | <b>(dBm)</b>        | <b>(W)</b> |
| 1712.5   | 19975          | 21.63               | 0.14555    |
| 1732.5   | 20175          | 21.58               | 0.14388    |
| 1752.5   | 20375          | 21.64               | 0.14588    |

**Remarks:**

1. Output Power (dBm) = Raw Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Power Splitter Loss (dB) + Cable Loss (dB) + 20dB Attenuator.
3. The value in bold is the worst.



## LTE Band 4

### Channel Bandwidth: 10MHz

| Conducted Output Power (QPSK 1 RB ALLOCATED AT THE LOWER EDGE) |         |              |         |
|--|---------|--------------|---------|
| Frequency (MHz)  | Channel | Output Power |         |
|  |         | (dBm)        | (W)     |
| 1715.0   | 20000   | 22.98        | 0.19861 |
| 1732.5   | 20175   | 22.83        | 0.19187 |
| 1750.0   | 20350   | 23.02        | 0.20045 |

| Conducted Output Power (QPSK 1 RB ALLOCATED AT THE UPPER EDGE) |         |              |         |
|--|---------|--------------|---------|
| Frequency (MHz)  | Channel | Output Power |         |
|  |         | (dBm)        | (W)     |
| 1715.0   | 20000   | 22.68        | 0.18535 |
| 1732.5   | 20175   | 22.64        | 0.18365 |
| 1750.0   | 20350   | 22.87        | 0.19364 |

| Conducted Output Power (QPSK 50% RB ALLOCATION CENTERED) |         |              |         |
|--|---------|--------------|---------|
| Frequency (MHz)  | Channel | Output Power |         |
|  |         | (dBm)        | (W)     |
| 1715.0   | 20000   | 22.30        | 0.16982 |
| 1732.5   | 20175   | 22.19        | 0.16558 |
| 1750.0   | 20350   | 22.38        | 0.17298 |

| Conducted Output Power (QPSK 100% RB ALLOCATION) |         |              |         |
|--|---------|--------------|---------|
| Frequency (MHz)                                  | Channel | Output Power |         |
|  |         | (dBm)        | (W)     |
| 1715.0   | 20000   | 22.26        | 0.16827 |
| 1732.5   | 20175   | 22.32        | 0.17061 |
| 1750.0   | 20350   | 22.44        | 0.17539 |

**Remarks:**

1. Output Power (dBm) = Raw Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Power Splitter Loss (dB) + Cable Loss (dB) + 20dB Attenuator.
3. The value in bold is the worst.



**Channel Bandwidth: 10MHz**

| <b>Conducted Output Power (16QAM RB ALLOCATED AT THE LOWER EDGE)</b> |                |                     |            |
|--|----------------|---------------------|------------|
| <b>Frequency (MHz)</b>   | <b>Channel</b> | <b>Output Power</b> |            |
|  |                | <b>(dBm)</b>        | <b>(W)</b> |
| 1715.0   | 20000          | 22.71               | 0.18664    |
| 1732.5   | 20175          | 22.77               | 0.18923    |
| 1750.0   | 20350          | 22.85               | 0.19275    |

| <b>Conducted Output Power (16QAM RB ALLOCATED AT THE UPPER EDGE)</b> |                |                     |            |
|--|----------------|---------------------|------------|
| <b>Frequency (MHz)</b>   | <b>Channel</b> | <b>Output Power</b> |            |
|  |                | <b>(dBm)</b>        | <b>(W)</b> |
| 1715.0   | 20000          | 21.92               | 0.15560    |
| 1732.5   | 20175          | 22.31               | 0.17022    |
| 1750.0   | 20350          | 22.78               | 0.18967    |

| <b>Conducted Output Power (16QAM 50% RB ALLOCATION CENTERED)</b> |                |                     |            |
|--|----------------|---------------------|------------|
| <b>Frequency (MHz)</b>   | <b>Channel</b> | <b>Output Power</b> |            |
|  |                | <b>(dBm)</b>        | <b>(W)</b> |
| 1715.0   | 20000          | 21.18               | 0.13122    |
| 1732.5   | 20175          | 21.16               | 0.13062    |
| 1750.0   | 20350          | 21.39               | 0.13772    |

| <b>Conducted Output Power (16QAM 100% RB ALLOCATION)</b> |                |                     |            |
|--|----------------|---------------------|------------|
| <b>Frequency (MHz)</b>                                   | <b>Channel</b> | <b>Output Power</b> |            |
|  |                | <b>(dBm)</b>        | <b>(W)</b> |
| 1715.0   | 20000          | 21.79               | 0.15101    |
| 1732.5   | 20175          | 21.74               | 0.14928    |
| 1750.0   | 20350          | 21.91               | 0.15524    |

**Remarks:**

1. Output Power (dBm) = Raw Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Power Splitter Loss (dB) + Cable Loss (dB) + 20dB Attenuator.
3. The value in bold is the worst.



## LTE Band 4

### Channel Bandwidth: 20MHz

| Conducted Output Power (QPSK 1 RB ALLOCATED AT THE LOWER EDGE) |         |              |         |
|--|---------|--------------|---------|
| Frequency (MHz)  | Channel | Output Power |         |
|  |         | (dBm)        | (W)     |
| 1720.00  | 20050   | 22.96        | 0.19770 |
| 1732.50  | 20175   | 22.91        | 0.19543 |
| 1745.00  | 20300   | 23.03        | 0.20091 |

| Conducted Output Power (QPSK 1 RB ALLOCATED AT THE UPPER EDGE) |         |              |         |
|--|---------|--------------|---------|
| Frequency (MHz)  | Channel | Output Power |         |
|  |         | (dBm)        | (W)     |
| 1720.00  | 20050   | 22.38        | 0.17298 |
| 1732.50  | 20175   | 22.49        | 0.17742 |
| 1745.00  | 20300   | 22.54        | 0.17947 |

| Conducted Output Power (QPSK 50% RB ALLOCATION CENTERED) |         |              |         |
|--|---------|--------------|---------|
| Frequency (MHz)  | Channel | Output Power |         |
|  |         | (dBm)        | (W)     |
| 1720.00  | 20050   | 22.20        | 0.16596 |
| 1732.50  | 20175   | 22.23        | 0.16711 |
| 1745.00  | 20300   | 22.31        | 0.17022 |

| Conducted Output Power (QPSK 100% RB ALLOCATION) |         |              |         |
|--|---------|--------------|---------|
| Frequency (MHz)                                  | Channel | Output Power |         |
|  |         | (dBm)        | (W)     |
| 1720.00  | 20050   | 22.25        | 0.16788 |
| 1732.50  | 20175   | 22.31        | 0.17022 |
| 1745.00  | 20300   | 22.45        | 0.17579 |

**Remarks:**

1. Output Power (dBm) = Raw Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Power Splitter Loss (dB) + Cable Loss (dB) + 20dB Attenuator.
3. The value in bold is the worst.



**Channel Bandwidth: 20MHz**

| <b>Conducted Output Power (16QAM 1 RB ALLOCATED AT THE LOWER EDGE)</b> |                |                     |            |
|--|----------------|---------------------|------------|
| <b>Frequency (MHz)</b>   | <b>Channel</b> | <b>Output Power</b> |            |
|  |                | <b>(dBm)</b>        | <b>(W)</b> |
| 1720.00  | 20050          | 22.89               | 0.19454    |
| 1732.50  | 20175          | 22.73               | 0.18750    |
| 1745.00  | 20300          | 22.81               | 0.19099    |

| <b>Conducted Output Power (16QAM 1 RB ALLOCATED AT THE UPPER EDGE)</b> |                |                     |            |
|--|----------------|---------------------|------------|
| <b>Frequency (MHz)</b>   | <b>Channel</b> | <b>Output Power</b> |            |
|  |                | <b>(dBm)</b>        | <b>(W)</b> |
| 1720.00  | 20050          | 22.03               | 0.15959    |
| 1732.50  | 20175          | 22.43               | 0.17498    |
| 1745.00  | 20300          | 22.35               | 0.17179    |

| <b>Conducted Output Power (16QAM 50% RB ALLOCATION CENTERED)</b> |                |                     |            |
|--|----------------|---------------------|------------|
| <b>Frequency (MHz)</b>   | <b>Channel</b> | <b>Output Power</b> |            |
|  |                | <b>(dBm)</b>        | <b>(W)</b> |
| 1720.00  | 20050          | 21.24               | 0.13305    |
| 1732.50  | 20175          | 21.16               | 0.13062    |
| 1745.00  | 20300          | 21.34               | 0.13614    |

| <b>Conducted Output Power (16QAM 100% RB ALLOCATION)</b> |                |                     |            |
|--|----------------|---------------------|------------|
| <b>Frequency (MHz)</b>                                   | <b>Channel</b> | <b>Output Power</b> |            |
|  |                | <b>(dBm)</b>        | <b>(W)</b> |
| 1720.00  | 20050          | 21.80               | 0.15136    |
| 1732.50  | 20175          | 21.81               | 0.15171    |
| 1745.00  | 20300          | 21.93               | 0.15596    |

**Remarks:**

1. Output Power (dBm) = Raw Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Power Splitter Loss (dB) + Cable Loss (dB) + 20dB Attenuator.
3. The value in bold is the worst.



## EIRP POWER

### LTE Band 17

#### Channel Bandwidth: 5MHz / QPSK

| Channel | Frequency (MHz) | Antenna Pol. | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) |
|---------|-----------------|--------------|------------|-----------------|----------------|----------------------|-------------|-------------|
| 23755   | 708.5000        | V            | 24.78      | 3.14            | 6.31           | 27.95                | 38.45       | -10.50      |
|         | 707.7500        | H            | 15.82      | 3.14            | 6.31           | 18.99                | 38.45       | -19.46      |
| 23790   | 711.5000        | V            | 23.88      | 3.15            | 6.34           | 27.07                | 38.45       | -11.38      |
|         | 710.4500        | H            | 15.5       | 3.14            | 6.32           | 18.68                | 38.45       | -19.77      |
| 23825   | 712.2500        | V            | 24.77      | 3.15            | 6.35           | <b>27.97</b>         | 38.45       | -10.48      |
|         | 712.1000        | H            | 16.09      | 3.15            | 6.35           | 19.29                | 38.45       | -19.16      |

#### Channel Bandwidth: 5MHz / 16QAM

| Channel | Frequency (MHz) | Antenna Pol. | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) |
|---------|-----------------|--------------|------------|-----------------|----------------|----------------------|-------------|-------------|
| 23755   | 708.5000        | V            | 25.14      | 3.14            | 6.31           | <b>28.31</b>         | 38.45       | -10.14      |
|         | 707.6000        | H            | 16.56      | 3.14            | 6.31           | 19.73                | 38.45       | -18.72      |
| 23790   | 711.2000        | V            | 24.62      | 3.15            | 6.34           | 27.81                | 38.45       | -10.64      |
|         | 710.6000        | H            | 16.43      | 3.14            | 6.33           | 19.62                | 38.45       | -18.83      |
| 23825   | 712.2500        | V            | 25         | 3.15            | 6.35           | 28.20                | 38.45       | -10.25      |
|         | 711.9500        | H            | 16.28      | 3.15            | 6.35           | 19.48                | 38.45       | -18.97      |





**Channel Bandwidth: 10MHz / QPSK**

| Channel | Frequency (MHz) | Antenna Pol. | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) |
|---------|-----------------|--------------|------------|-----------------|----------------|----------------------|-------------|-------------|
| 23780   | 711.5000        | V            | 22.78      | 3.15            | 6.34           | <b>25.97</b>         | 38.45       | -12.48      |
|         | 711.3500        | H            | 14.21      | 3.15            | 6.34           | 17.40                | 38.45       | -21.05      |
| 23790   | 709.8500        | V            | 22.36      | 3.14            | 6.31           | 25.53                | 38.45       | -12.92      |
|         | 710.1500        | H            | 13.67      | 3.14            | 6.32           | 16.85                | 38.45       | -21.60      |
| 23800   | 708.8000        | V            | 22.47      | 3.14            | 6.3            | 25.63                | 38.45       | -12.82      |
|         | 708.5000        | H            | 13.84      | 3.14            | 6.31           | 17.01                | 38.45       | -21.44      |

**Channel Bandwidth: 10MHz / 16QAM**

| Channel | Frequency (MHz) | Antenna Pol. | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) |
|---------|-----------------|--------------|------------|-----------------|----------------|----------------------|-------------|-------------|
| 23780   | 708.8000        | V            | 23.43      | 3.14            | 6.3            | 26.59                | 38.45       | -11.86      |
|         | 709.4000        | H            | 14.95      | 3.14            | 6.31           | 18.12                | 38.45       | -20.33      |
| 23790   | 709.7000        | V            | 23.83      | 3.14            | 6.31           | <b>27.00</b>         | 38.45       | -11.45      |
|         | 710.1500        | H            | 15.04      | 3.14            | 6.32           | 18.22                | 38.45       | -20.23      |
| 23800   | 710.4500        | V            | 23.65      | 3.14            | 6.32           | 26.83                | 38.45       | -11.62      |
|         | 710.9000        | H            | 15.29      | 3.14            | 6.33           | 18.48                | 38.45       | -19.97      |

**Remark:**

1. Output Power (dBm) = Raw Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = S.G Level + Gain of Substitution horn + TX cable loss.
3. The value in bold is the worst.



### LTE Band 4

#### Channel Bandwidth: 5MHz / QPSK

| Channel | Frequency (MHz) | Antenna Pol. | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) |
|---------|-----------------|--------------|------------|-----------------|----------------|----------------------|-------------|-------------|
| 19975   | 1714.400        | V            | 20.23      | 5.14            | 5.91           | 21.00                | 33.00       | -12.00      |
|         | 1711.000        | H            | 26.31      | 5.13            | 5.92           | 27.10                | 33.00       | -5.90       |
| 20175   | 1733.900        | V            | 19.88      | 5.17            | 5.88           | 20.59                | 33.00       | -12.41      |
|         | 1730.800        | H            | 26.71      | 5.17            | 5.88           | <b>27.42</b>         | 33.00       | -5.58       |
| 20375   | 1750.900        | V            | 20.13      | 5.2             | 5.85           | 20.78                | 33.00       | -12.22      |
|         | 1751.100        | H            | 26.6       | 5.2             | 5.85           | 27.25                | 33.00       | -5.75       |

#### Channel Bandwidth: 5MHz / 16QAM

| Channel | Frequency (MHz) | Antenna Pol. | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) |
|---------|-----------------|--------------|------------|-----------------|----------------|----------------------|-------------|-------------|
| 19975   | 1713.600        | V            | 20.62      | 5.13            | 5.92           | 21.41                | 33.00       | -11.59      |
|         | 1713.500        | H            | 27         | 5.13            | 5.92           | <b>27.79</b>         | 33.00       | -5.21       |
| 20175   | 1732.700        | V            | 20.74      | 5.17            | 5.88           | 21.45                | 33.00       | -11.55      |
|         | 1734.300        | H            | 26.86      | 5.17            | 5.88           | 27.57                | 33.00       | -5.43       |
| 20375   | 1753.400        | V            | 20.79      | 5.21            | 5.84           | 21.42                | 33.00       | -11.58      |
|         | 1751.100        | H            | 27.12      | 5.2             | 5.85           | 27.77                | 33.00       | -5.23       |



**Channel Bandwidth: 10MHz / QPSK**

| Channel | Frequency (MHz) | Antenna Pol. | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) |
|---------|-----------------|--------------|------------|-----------------|----------------|----------------------|-------------|-------------|
| 20000   | 1710.600        | V            | 23.18      | 5.13            | 5.92           | 23.97                | 33.00       | -9.03       |
|         | 1710.800        | H            | 29.16      | 5.13            | 5.92           | 29.95                | 33.00       | -3.05       |
| 20175   | 1728.000        | V            | 23.44      | 5.16            | 5.89           | 24.17                | 33.00       | -8.83       |
|         | 1728.200        | H            | 29.06      | 5.16            | 5.89           | 29.79                | 33.00       | -3.21       |
| 20350   | 1745.100        | V            | 23.67      | 5.19            | 5.86           | 24.34                | 33.00       | -8.66       |
|         | 1745.900        | H            | 29.76      | 5.19            | 5.86           | <b>30.43</b>         | 33.00       | -2.57       |

**Channel Bandwidth: 10MHz / 16QAM**

| Channel | Frequency (MHz) | Antenna Pol. | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) |
|---------|-----------------|--------------|------------|-----------------|----------------|----------------------|-------------|-------------|
| 20000   | 1717.700        | V            | 19.4       | 5.14            | 5.91           | 20.17                | 33.00       | -12.83      |
|         | 1712.600        | H            | 22.04      | 5.13            | 5.92           | 22.83                | 33.00       | -10.17      |
| 20175   | 1735.500        | V            | 19.02      | 5.17            | 5.88           | 19.73                | 33.00       | -13.27      |
|         | 1735.000        | H            | 23.98      | 5.17            | 5.88           | <b>24.69</b>         | 33.00       | -8.31       |
| 20350   | 1746.600        | V            | 19.74      | 5.19            | 5.86           | 20.41                | 33.00       | -12.59      |
|         | 1752.500        | H            | 22.33      | 5.2             | 5.85           | 22.98                | 33.00       | -10.02      |



**Channel Bandwidth: 20MHz / QPSK**

| Channel | Frequency (MHz) | Antenna Pol. | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) |
|---------|-----------------|--------------|------------|-----------------|----------------|----------------------|-------------|-------------|
| 20050   | 1727.200        | V            | 18.93      | 5.16            | 5.89           | 19.66                | 33.00       | -13.34      |
|         | 1726.900        | H            | 25.42      | 5.16            | 5.89           | <b>26.15</b>         | 33.00       | -6.85       |
| 20175   | 1736.800        | V            | 17.88      | 5.18            | 5.87           | 18.57                | 33.00       | -14.43      |
|         | 1732.600        | H            | 23.56      | 5.17            | 5.88           | 24.27                | 33.00       | -8.73       |
| 20300   | 1737.400        | V            | 18.29      | 5.18            | 5.87           | 18.98                | 33.00       | -14.02      |
|         | 1737.200        | H            | 25.09      | 5.18            | 5.87           | 25.78                | 33.00       | -7.22       |

**Channel Bandwidth: 20MHz / 16QAM**

| Channel | Frequency (MHz) | Antenna Pol. | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) |
|---------|-----------------|--------------|------------|-----------------|----------------|----------------------|-------------|-------------|
| 20050   | 1726.600        | V            | 18.2       | 5.16            | 5.89           | 18.93                | 33.00       | -14.07      |
|         | 1719.700        | H            | 18.45      | 5.15            | 5.9            | 19.20                | 33.00       | -13.80      |
| 20175   | 1736.000        | V            | 17.66      | 5.17            | 5.88           | 18.37                | 33.00       | -14.63      |
|         | 1732.500        | H            | 20.37      | 5.17            | 5.88           | 21.08                | 33.00       | -11.92      |
| 20300   | 1739.800        | V            | 17.9       | 5.18            | 5.87           | 18.59                | 33.00       | -14.41      |
|         | 1738.600        | H            | 22.68      | 5.18            | 5.87           | <b>23.37</b>         | 33.00       | -9.63       |

**Remark:**

1. Output Power (dBm) = Raw Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = S.G Level + Gain of Substitution horn + TX cable loss.
3. The value in bold is the worst.



## 7.3 FREQUENCY STABILITY MEASUREMENT

### LIMIT

According to the FCC part 27.54 shall be tested the frequency stability. The rule is defined that "The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation. The test extreme voltage is according to the 2.1055(d)(1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment and the extreme temperature rule is comply with the 1055(a)(1)  $-30^{\circ}\text{C}$   $\sim 50^{\circ}\text{C}$ . According to the RSS-139 Issue 2 February 2009, The frequency stability shall be sufficient to ensure that the emission bandwidth stays within the operating frequency block when tested to the temperature and supply voltage variations specified in RSS-Gen.

According to the RSS-130 Issue 1 October 2013,, The frequency offset shall be measured according to the procedure described in RSS-Gen and recorded.

### TEST PROCEDURE

1. Because of the measure the carrier frequency under the condition of the AFC lock, it shall be used the mobile station in the LTE link mode. This is accomplished with the use of the communication simulator station. The oven room could control the temperatures and humidity.
2. Power must be removed when changing from one temperature to another or one voltage to another voltage. Power warm up is at least 15 min and power applied should perform before recording frequency error.
3. Laptop pc is connected the external power supply to control the AC input power. The various Volts from the minimum 126.5 Volts to 93.5 Volts. Each step shall be record the frequency error rate.
4. The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the  $\pm 0.5^{\circ}\text{C}$  during the measurement testing.
5. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

*NOTE: The frequency error was recorded frequency error from the communication simulator.*



### TEST RESULTS

#### **FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT:**

##### **LTE Band 17**

| <b>Reference Frequency: LTE Band 17 710 MHz @ 20°C</b> |                              |                   |            |                    |            |            |
|--|------------------------------|-------------------|------------|--------------------|------------|------------|
| <b>Limit: ± 2.5 ppm = 1775Hz</b>                       |                              |                   |            |                    |            |            |
| Power Supply Vdc                                       | Environment Temperature (°C) | 5M Frequency (Hz) | Delta (Hz) | 10M Frequency (Hz) | Delta (Hz) | Limit (Hz) |
| 3.7  | 50                           | 709999988         | -24        | 709999997          | 6          | 1775       |
| 3.7  | 40                           | 709999995         | -17        | 709999995          | 4          |            |
| 3.7  | 30                           | 709999994         | -18        | 709999978          | -13        |            |
| 3.7  | 20                           | 710000012         | 0          | 709999991          | 0          |            |
| 3.7  | 10                           | 709999992         | -20        | 709999998          | 7          |            |
| 3.7  | 0                            | 709999996         | -16        | 709999993          | 2          |            |
| 3.7  | -10                          | 709999994         | -18        | 709999992          | 1          |            |
| 3.7  | -20                          | 709999989         | -23        | 709999995          | 4          |            |
| 3.7  | -30                          | 710000010         | -2         | 709999989          | -2         |            |

##### **LTE Band 4**

| <b>Reference Frequency: LTE Band 4 1732.5 MHz @ 20°C</b> |                              |                   |            |                    |            |                    |            |            |
|--|------------------------------|-------------------|------------|--------------------|------------|--------------------|------------|------------|
| <b>Limit: ± 2.5 ppm = 4331Hz</b>                         |                              |                   |            |                    |            |                    |            |            |
| Power Supply Vdc   | Environment Temperature (°C) | 5M Frequency (Hz) | Delta (Hz) | 10M Frequency (Hz) | Delta (Hz) | 20M Frequency (Hz) | Delta (Hz) | Limit (Hz) |
| 3.7  | 50                           | 173249989         | -15        | 173249991          | -18        | 173249995          | -9         | 4331       |
| 3.7  | 40                           | 173249985         | -19        | 173249997          | -12        | 173249996          | -8         |            |
| 3.7  | 30                           | 173249996         | -8         | 173249995          | -14        | 173249999          | -5         |            |
| 3.7  | 20                           | 173250004         | 0          | 173250009          | 0          | 173250004          | 0          |            |
| 3.7  | 10                           | 173249996         | -8         | 173249991          | -18        | 173249995          | -9         |            |
| 3.7  | 0                            | 173249989         | -15        | 173249994          | -15        | 173249979          | -25        |            |
| 3.7  | -10                          | 173249995         | -9         | 173249975          | -34        | 173249998          | -6         |            |
| 3.7  | -20                          | 173249995         | -9         | 173249998          | -11        | 173249998          | -6         |            |
| 3.7  | -30                          | 173249991         | -13        | 173249989          | -20        | 173249997          | -7         |            |



**FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT:**

**LTE Band 17**

| Reference Frequency: LTE Band 17 1710 MHz @ 20°C |                              |                   |            |                    |            |            |
|--|------------------------------|-------------------|------------|--------------------|------------|------------|
| Limit: ± 2.5 ppm = 1775Hz                        |                              |                   |            |                    |            |            |
| Power Supply Vdc                                 | Environment Temperature (°C) | 5M Frequency (Hz) | Delta (Hz) | 10M Frequency (Hz) | Delta (Hz) | Limit (Hz) |
| 4.07   | 20                           | 710000005         | -7         | 710000010          | 19         | 1775       |
| 3.7  |                              | 710000012         | 0          | 709999991          | 0          |            |
| 3.145  |                              | 709999991         | -21        | 709999992          | 1          |            |

**LTE Band 4**

| Reference Frequency: LTE Band 4 1732.5 MHz @ 20°C |                              |                   |            |                    |            |                    |            |            |
|---|------------------------------|-------------------|------------|--------------------|------------|--------------------|------------|------------|
| Limit: ± 2.5 ppm = 4331Hz                         |                              |                   |            |                    |            |                    |            |            |
| Power Supply Vdc                                  | Environment Temperature (°C) | 5M Frequency (Hz) | Delta (Hz) | 10M Frequency (Hz) | Delta (Hz) | 20M Frequency (Hz) | Delta (Hz) | Limit (Hz) |
| 4.07  | 20                           | 173250005         | 1          | 173250011          | 2          | 173250005          | 1          | 4331       |
| 3.7   |                              | 173250004         | 0          | 173250009          | 0          | 173250004          | 0          |            |
| 3.145   |                              | 173250009         | 5          | 173250006          | -3         | 173250010          | 6          |            |



## **7.4 OCCUPIED BANDWIDTH MEASUREMENT**

### **LIMITS**

The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 % of the total mean power of a given emission.

### **TEST PROCEDURES**

1. The EUT makes a phone call to the communication simulator. The power was measured with Spectrum Analyzer. All measurements were done at 3 channels. (low, middle and high operational frequency range.)
2. The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
3. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.





## **TEST RESULTS FOR FCC**

### **LTE Band 17**

#### **CHANNEL BANDWIDTH: 5MHz / QPSK**

| <b>Channel</b> | <b>FREQUENCY<br/>(MHz)</b> | <b>Occupied bandwidth<br/>(MHz)</b> |
|----------------|----------------------------|-------------------------------------|
| Low            | 706.5                      | 4.5385                              |
| Mid            | 710.0                      | 4.4917                              |
| High           | 713.5                      | 4.5183                              |

#### **CHANNEL BANDWIDTH: 5MHz / 16QAM**

| <b>Channel</b> | <b>FREQUENCY<br/>(MHz)</b> | <b>Occupied bandwidth<br/>(MHz)</b> |
|----------------|----------------------------|-------------------------------------|
| Low            | 706.5                      | 4.5240                              |
| Mid            | 710.0                      | 4.4839                              |
| High           | 713.5                      | 4.5196                              |

#### **CHANNEL BANDWIDTH: 10MHz / QPSK**

| <b>Channel</b> | <b>FREQUENCY<br/>(MHz)</b> | <b>Occupied bandwidth<br/>(MHz)</b> |
|----------------|----------------------------|-------------------------------------|
| Low            | 709.0                      | 8.8993                              |
| Mid            | 710.0                      | 8.8949                              |
| High           | 711.0                      | 8.8906                              |

#### **CHANNEL BANDWIDTH: 10MHz / 16QAM**

| <b>Channel</b> | <b>FREQUENCY<br/>(MHz)</b> | <b>Occupied bandwidth<br/>(MHz)</b> |
|----------------|----------------------------|-------------------------------------|
| Low            | 709.0                      | 8.8908                              |
| Mid            | 710.0                      | 8.8841                              |
| High           | 711.0                      | 8.8746                              |



## LTE Band 4

### CHANNEL BANDWIDTH: 5MHz / QPSK

| Channel | FREQUENCY<br>(MHz) | Occupied bandwidth<br>(MHz) |
|---------|--------------------|-----------------------------|
| Low     | 1712.5             | 4.5127                      |
| Mid     | 1732.5             | 4.5057                      |
| High    | 1752.5             | 4.5196                      |

### CHANNEL BANDWIDTH: 5MHz / 16QAM

| Channel | FREQUENCY<br>(MHz) | Occupied bandwidth<br>(MHz) |
|---------|--------------------|-----------------------------|
| Low     | 1712.5             | 4.5091                      |
| Mid     | 1732.5             | 4.5056                      |
| High    | 1752.5             | 4.5098                      |

### CHANNEL BANDWIDTH: 10MHz / QPSK

| Channel | FREQUENCY<br>(MHz) | Occupied bandwidth<br>(MHz) |
|---------|--------------------|-----------------------------|
| Low     | 1715.0             | 8.9523                      |
| Mid     | 1732.5             | 8.9401                      |
| High    | 1750.0             | 8.9734                      |

### CHANNEL BANDWIDTH: 10MHz / 16QAM

| Channel | FREQUENCY<br>(MHz) | Occupied bandwidth<br>(MHz) |
|---------|--------------------|-----------------------------|
| Low     | 1715.0             | 8.9643                      |
| Mid     | 1732.5             | 8.9394                      |
| High    | 1750.0             | 8.9313                      |



**CHANNEL BANDWIDTH: 20MHz / QPSK**

| <b>Channel</b> | <b>FREQUENCY<br/>(MHz)</b> | <b>Occupied bandwidth<br/>(MHz)</b> |
|----------------|----------------------------|-------------------------------------|
| Low            | 20050                      | 17.8896                             |
| Mid            | 20170                      | 17.8365                             |
| High           | 20300                      | 17.8344                             |

**CHANNEL BANDWIDTH: 20MHz / 16QAM**

| <b>Channel</b> | <b>FREQUENCY<br/>(MHz)</b> | <b>Occupied bandwidth<br/>(MHz)</b> |
|----------------|----------------------------|-------------------------------------|
| Low            | 20050                      | 17.8630                             |
| Mid            | 20170                      | 17.8172                             |
| High           | 20300                      | 17.8738                             |



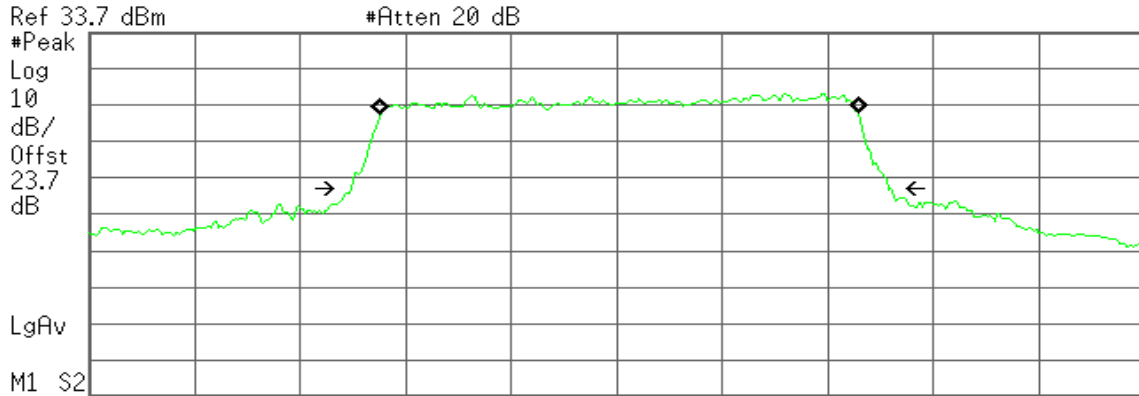
### LTE Band 17

CHANNEL BANDWIDTH: 5MHz / QPSK

CH Low

Agilent

R T



Center 706.50 MHz Span 10 MHz

#Res BW 100 kHz #VBW 300 kHz Sweep 1 ms (601 pts)

Occupied Bandwidth  
4.5385 MHz

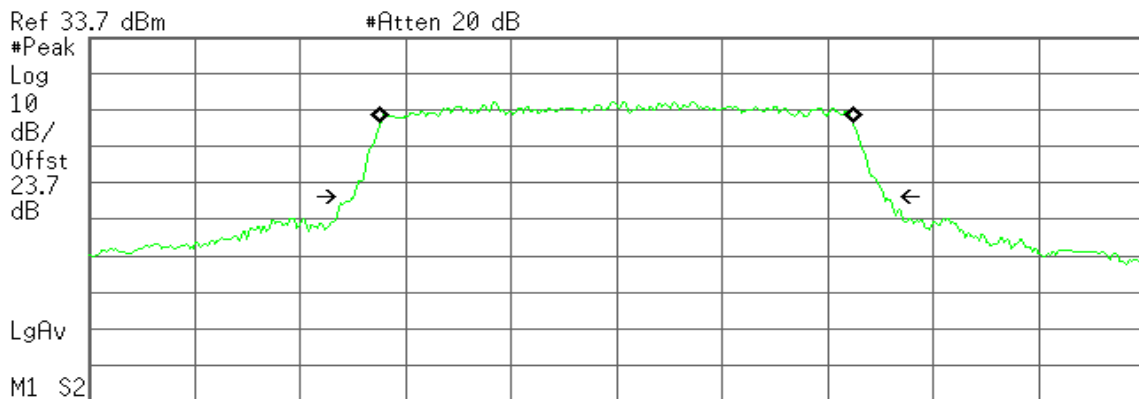
Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 23.267 kHz  
x dB Bandwidth 5.101 MHz

### CH Mid

Agilent

R T



Center 710.00 MHz Span 10 MHz

#Res BW 100 kHz #VBW 300 kHz Sweep 1 ms (601 pts)

Occupied Bandwidth  
4.4917 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

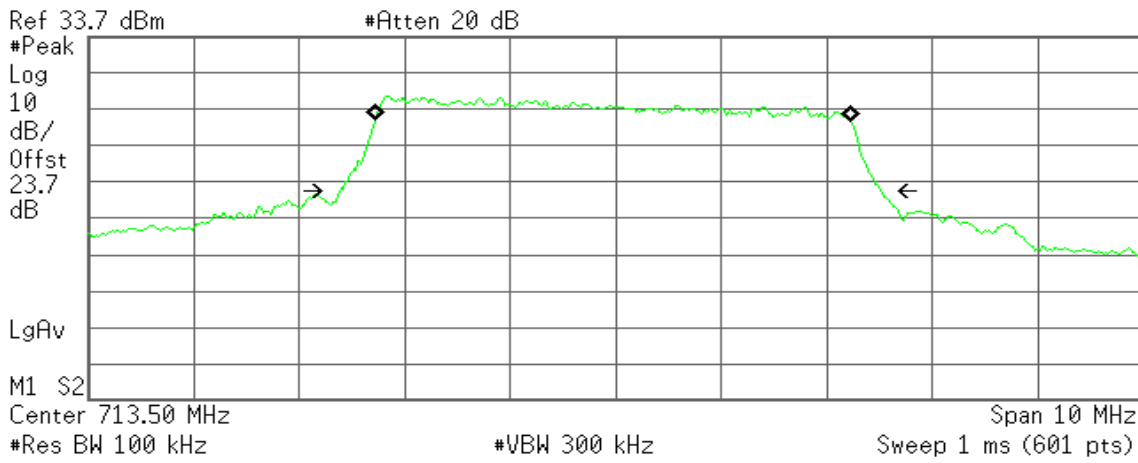
Transmit Freq Error 3.811 kHz  
x dB Bandwidth 5.036 MHz



### CH High

Agilent

R T



Occupied Bandwidth  
4.5183 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error -25.385 kHz  
x dB Bandwidth 5.138 MHz

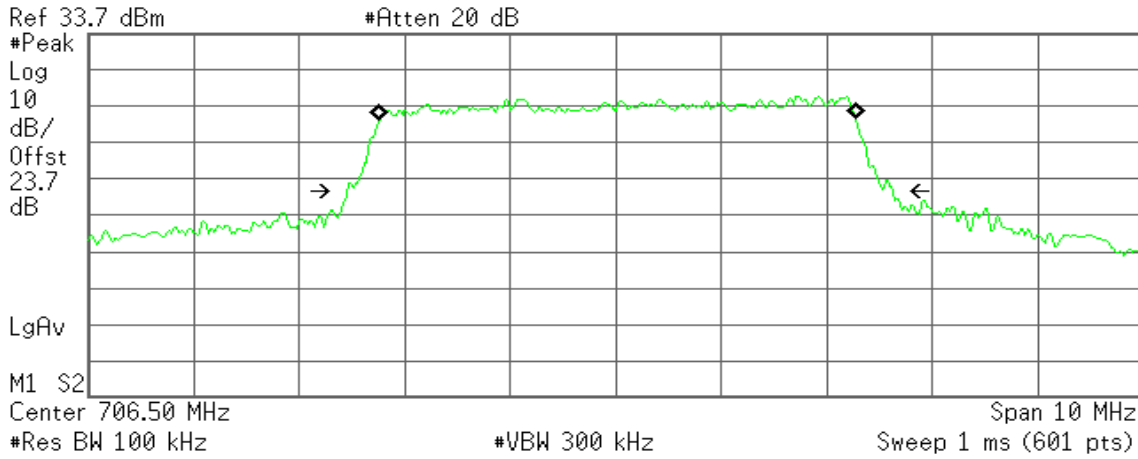


### CHANNEL BANDWIDTH: 5MHz / 16QAM

#### CH Low

Agilent

R T



Occupied Bandwidth  
4.5240 MHz

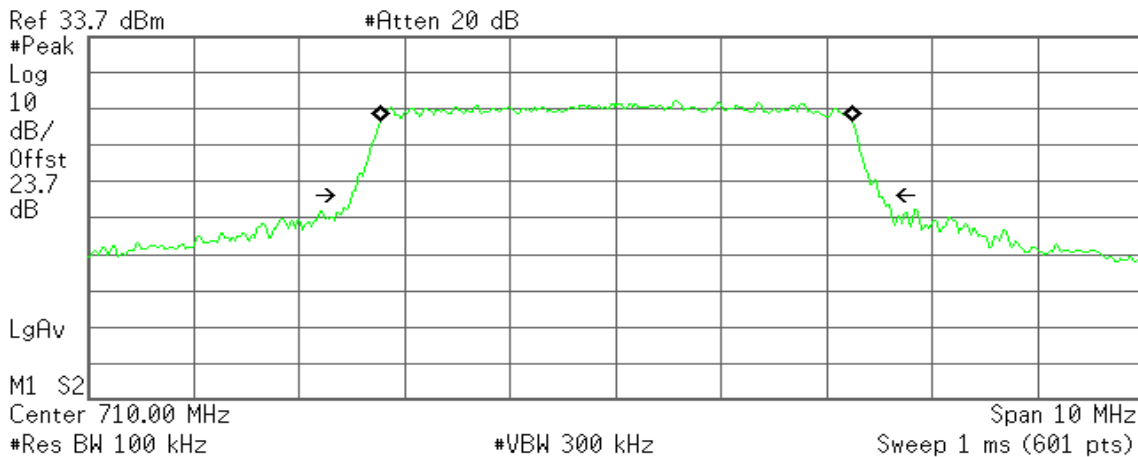
Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 16.943 kHz  
x dB Bandwidth 5.176 MHz

#### CH Mid

Agilent

R T



Occupied Bandwidth  
4.4839 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

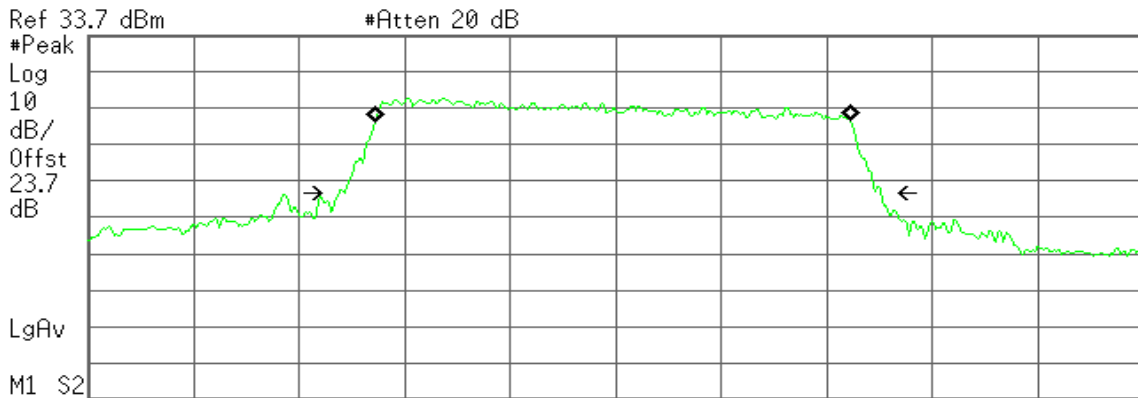
Transmit Freq Error 4.078 kHz  
x dB Bandwidth 5.008 MHz



### CH High

Agilent

R T



Center 713.50 MHz Span 10 MHz  
#Res BW 100 kHz #VBW 300 kHz Sweep 1 ms (601 pts)

**Occupied Bandwidth**  
4.5196 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -28.223 kHz  
**x dB Bandwidth** 5.147 MHz

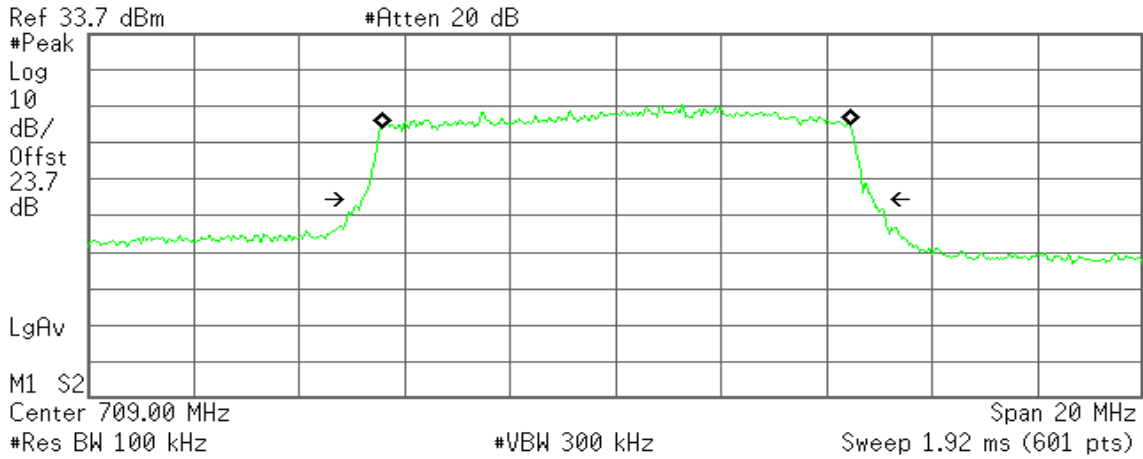


### CHANNEL BANDWIDTH: 10MHz / QPSK

#### CH Low

Agilent

R T



Occupied Bandwidth  
8.8993 MHz

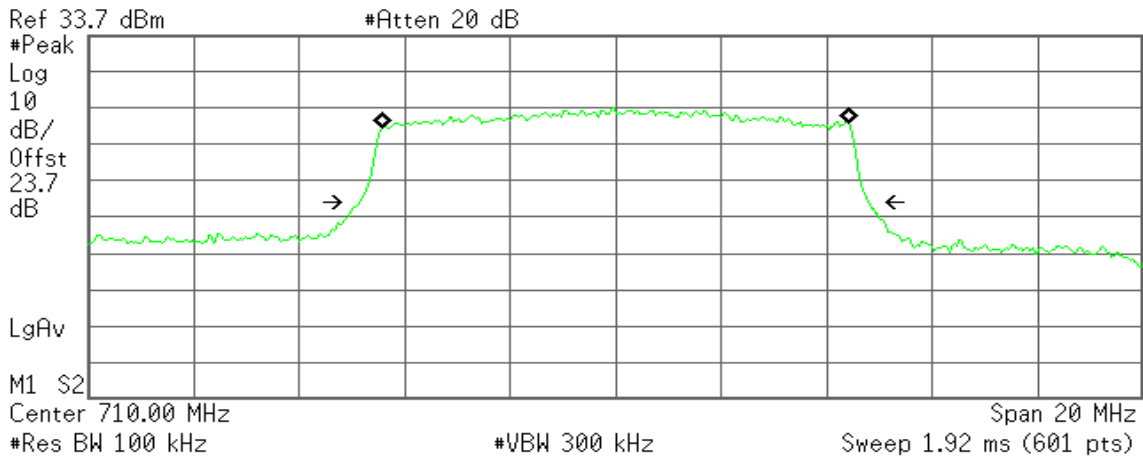
Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 7.710 kHz  
x dB Bandwidth 9.712 MHz

#### CH Mid

Agilent

R T



Occupied Bandwidth  
8.8949 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error -1.301 kHz  
x dB Bandwidth 9.671 MHz

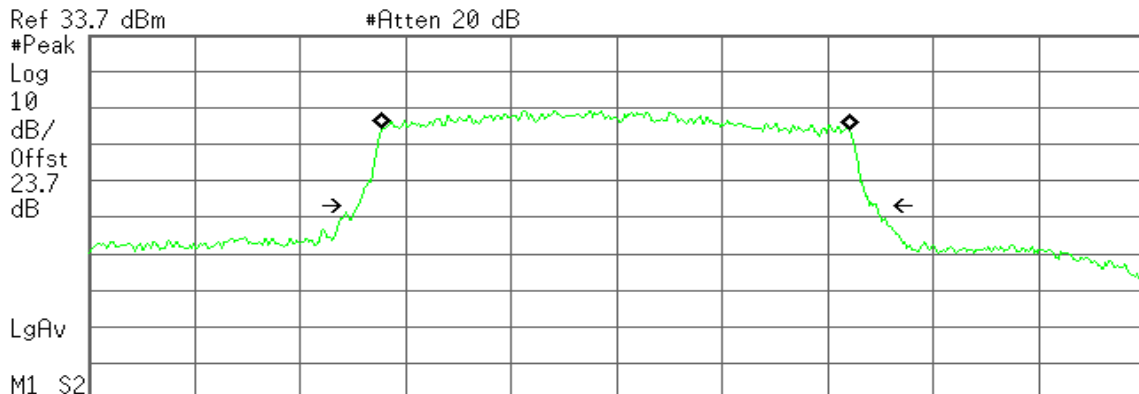




### CH High

Agilent

R T



Center 711.00 MHz Span 20 MHz  
#Res BW 100 kHz #VBW 300 kHz Sweep 1.92 ms (601 pts)

**Occupied Bandwidth**  
**8.8906 MHz**

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -17.421 kHz  
**x dB Bandwidth** 9.832 MHz

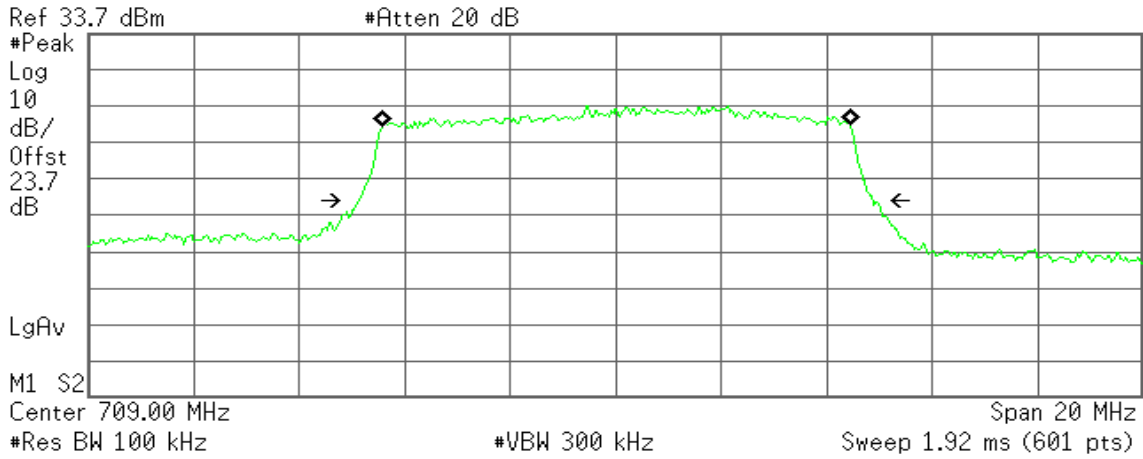


### CHANNEL BANDWIDTH: 10MHz / 16QAM

#### CH Low

Agilent

R T



Occupied Bandwidth  
8.8908 MHz

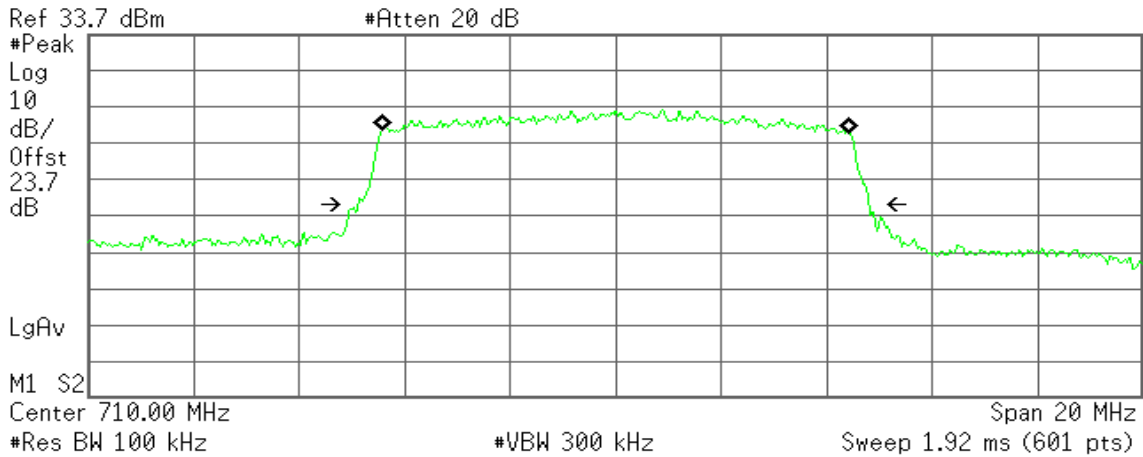
Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 6.479 kHz  
x dB Bandwidth 9.771 MHz

#### CH Mid

Agilent

R T



Occupied Bandwidth  
8.8841 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

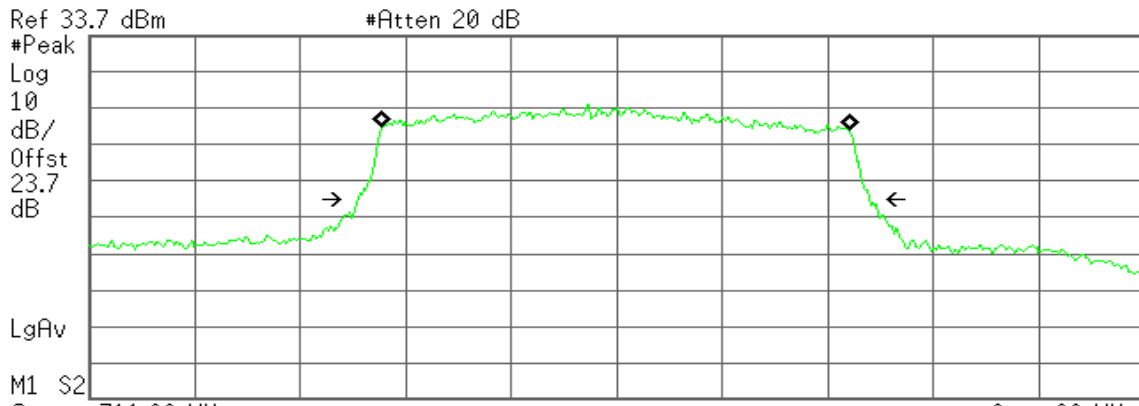
Transmit Freq Error -879.212 Hz  
x dB Bandwidth 9.710 MHz



### CH High

Agilent

R T



Ref 33.7 dBm #Atten 20 dB  
Center 711.00 MHz Span 20 MHz  
#Res BW 100 kHz #VBW 300 kHz Sweep 1.92 ms (601 pts)

Occupied Bandwidth  
8.8746 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error -19.648 kHz  
x dB Bandwidth 9.712 MHz



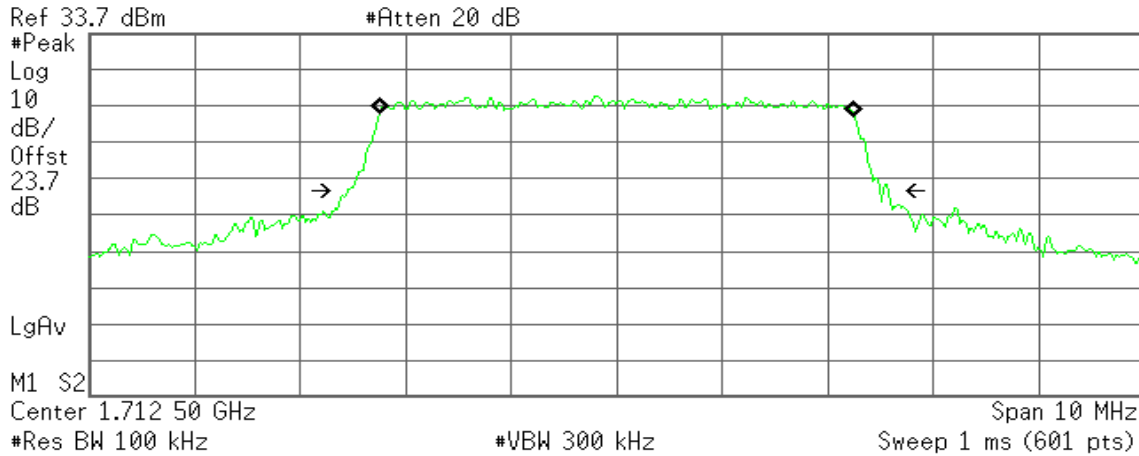
### LTE Band 4

CHANNEL BANDWIDTH: 5MHz / QPSK

#### CH Low

Agilent

R T



Occupied Bandwidth  
4.5127 MHz

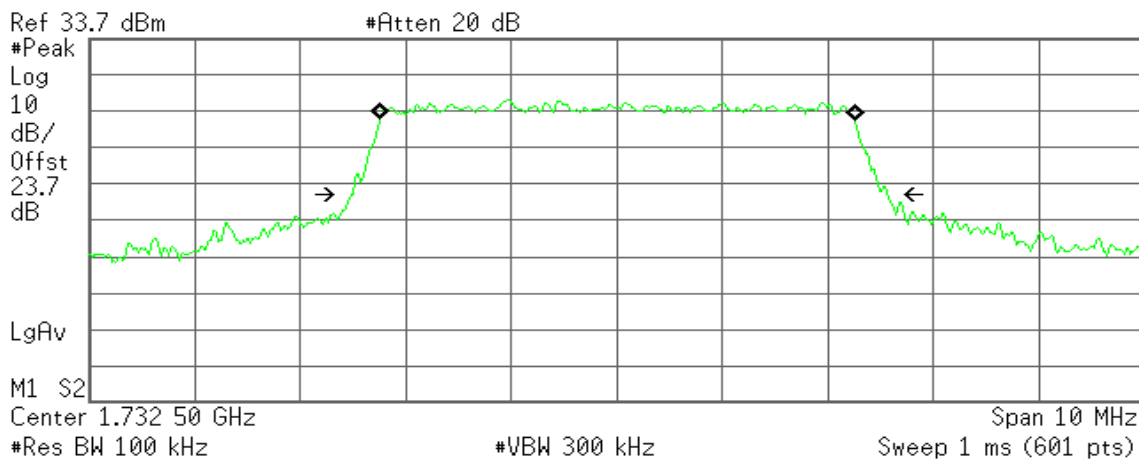
Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 1.147 kHz  
x dB Bandwidth 5.133 MHz

#### CH Mid

Agilent

R T



Occupied Bandwidth  
4.5057 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

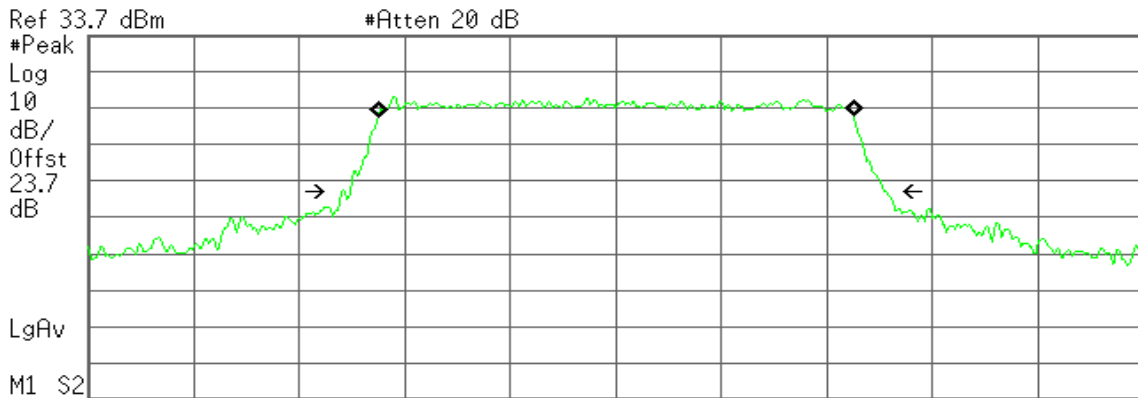
Transmit Freq Error 8.983 kHz  
x dB Bandwidth 5.087 MHz



### CH High

Agilent

R T



Center 1.752 50 GHz Span 10 MHz  
#Res BW 100 kHz #VBW 300 kHz Sweep 1 ms (601 pts)

**Occupied Bandwidth**  
4.5196 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 1.594 kHz  
**x dB Bandwidth** 5.171 MHz

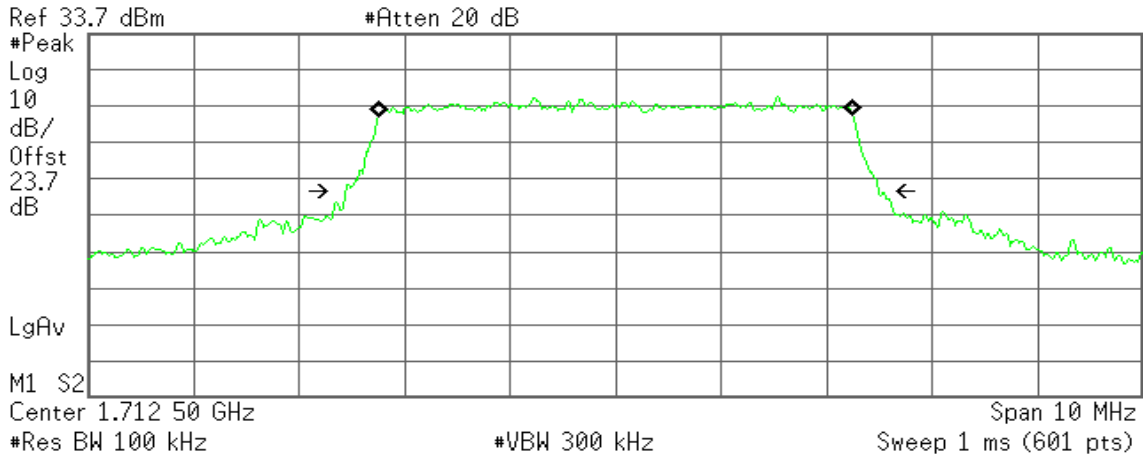


### CHANNEL BANDWIDTH: 5MHz / 16QAM

#### CH Low

Agilent

R T



Occupied Bandwidth  
4.5091 MHz

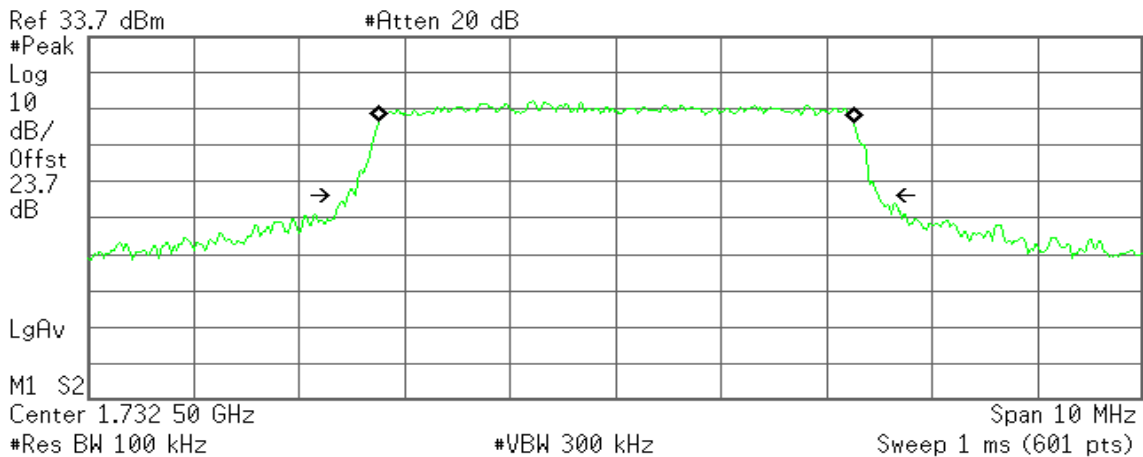
Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 1.053 kHz  
x dB Bandwidth 5.060 MHz

#### CH Mid

Agilent

R T



Occupied Bandwidth  
4.5056 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

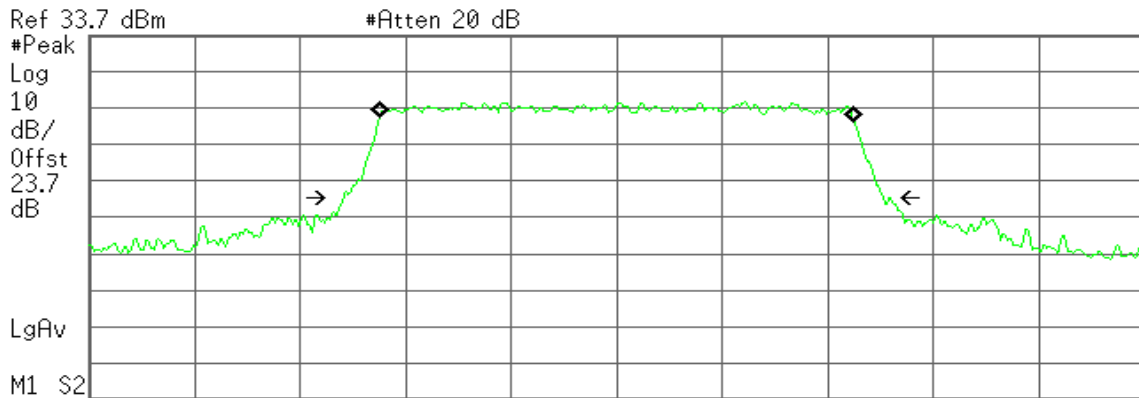
Transmit Freq Error 6.492 kHz  
x dB Bandwidth 5.035 MHz



### CH High

Agilent

R T



Center 1.752 50 GHz Span 10 MHz  
#Res BW 100 kHz #VBW 300 kHz Sweep 1 ms (601 pts)

**Occupied Bandwidth**  
4.5098 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 1.211 kHz  
**x dB Bandwidth** 5.124 MHz

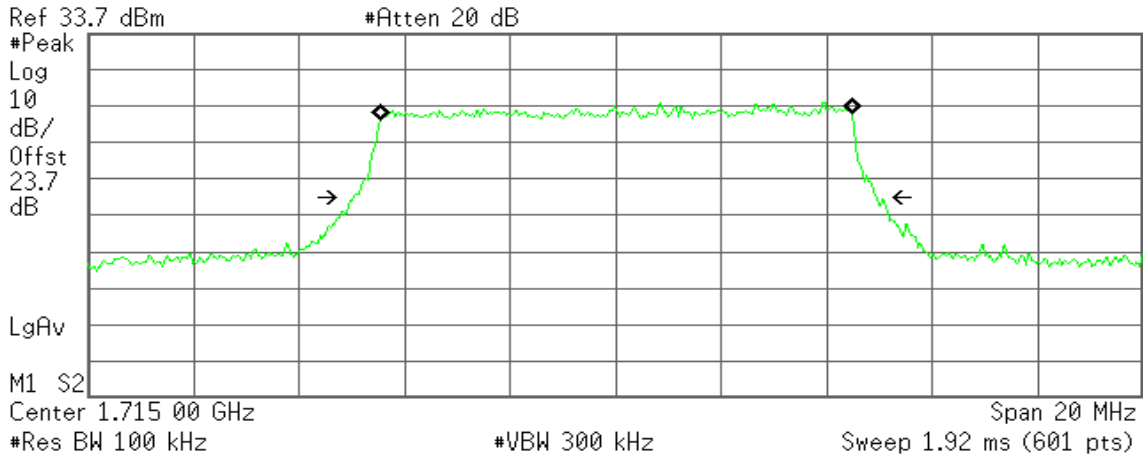


### CHANNEL BANDWIDTH: 10MHz / QPSK

#### CH Low

Agilent

R T



Occupied Bandwidth  
8.9523 MHz

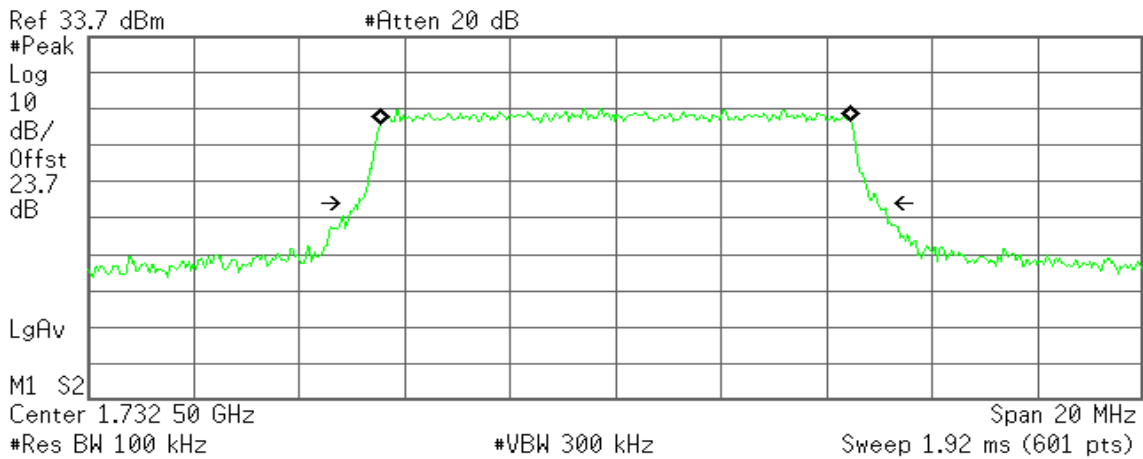
Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 10.196 kHz  
x dB Bandwidth 9.915 MHz

#### CH Mid

Agilent

R T



Occupied Bandwidth  
8.9401 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 1.734 kHz  
x dB Bandwidth 9.849 MHz

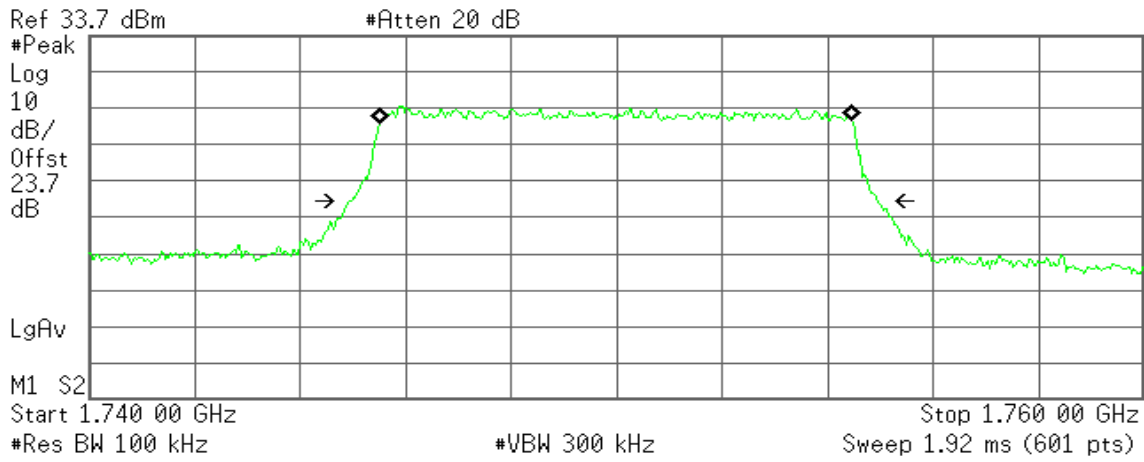




### CH High

Agilent

R T



**Occupied Bandwidth**  
8.9734 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -9.264 kHz  
**x dB Bandwidth** 9.989 MHz

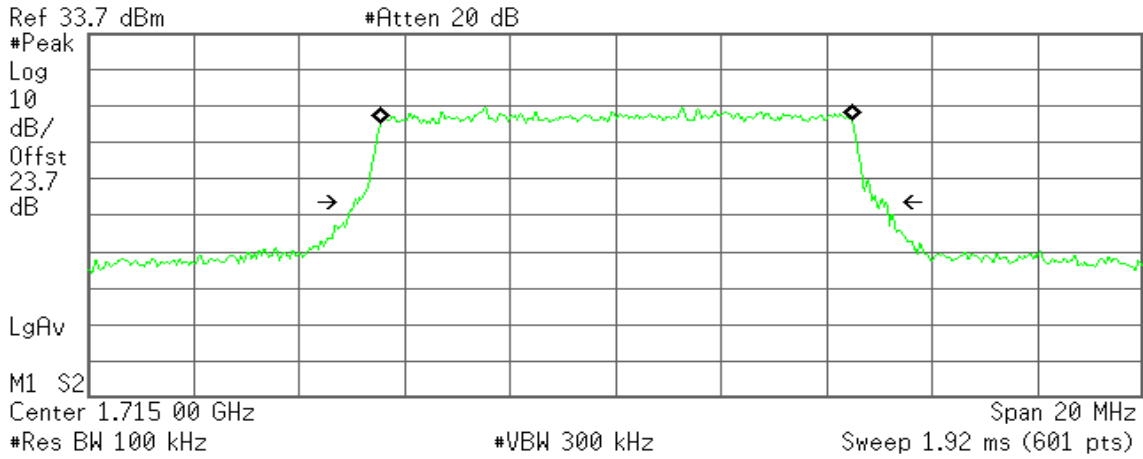


### CHANNEL BANDWIDTH: 10MHz / 16QAM

#### CH Low

Agilent

R T



Occupied Bandwidth  
8.9643 MHz

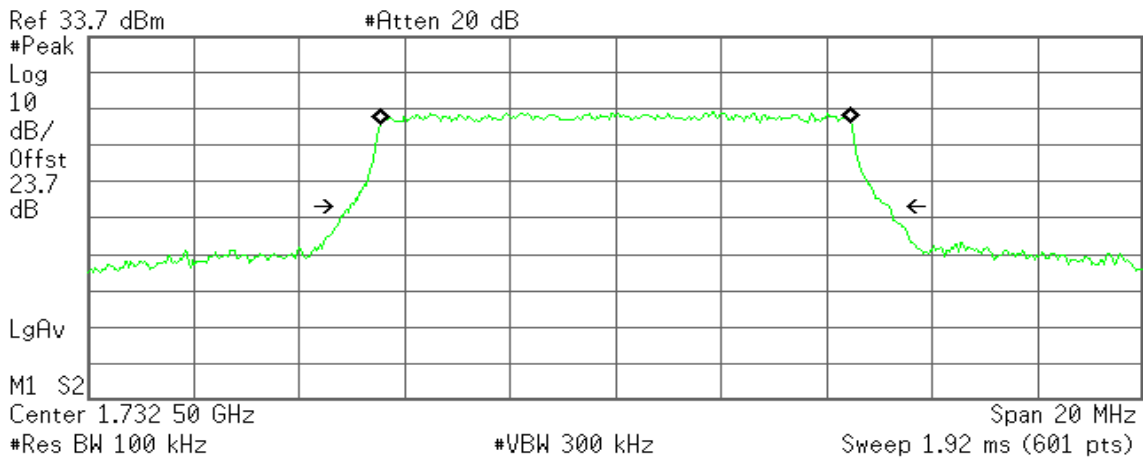
Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 16.738 kHz  
x dB Bandwidth 10.101 MHz

#### CH Mid

Agilent

R T



Occupied Bandwidth  
8.9394 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

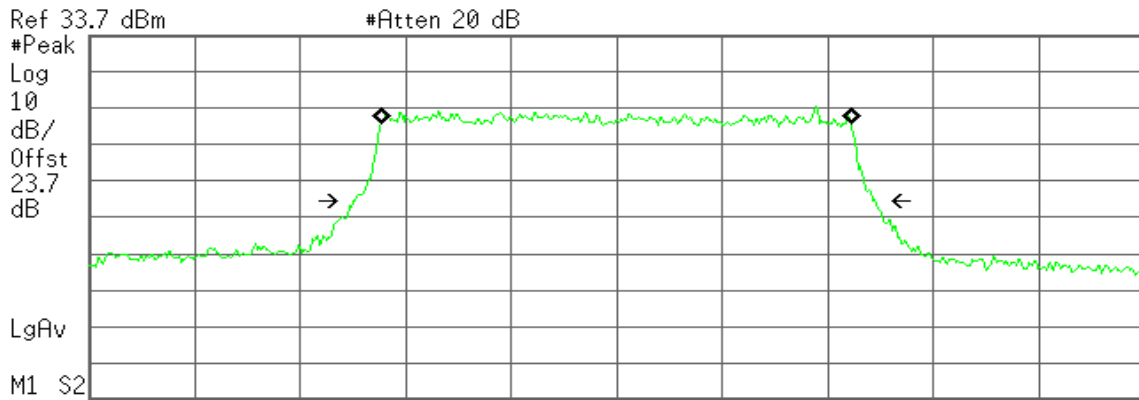
Transmit Freq Error 1.409 kHz  
x dB Bandwidth 10.253 MHz



### CH High

Agilent

R T



Center 1.745 00 GHz Span 20 MHz  
#Res BW 100 kHz #VBW 300 kHz Sweep 1.92 ms (601 pts)

**Occupied Bandwidth**  
8.9313 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -12.736 kHz  
**x dB Bandwidth** 9.873 MHz

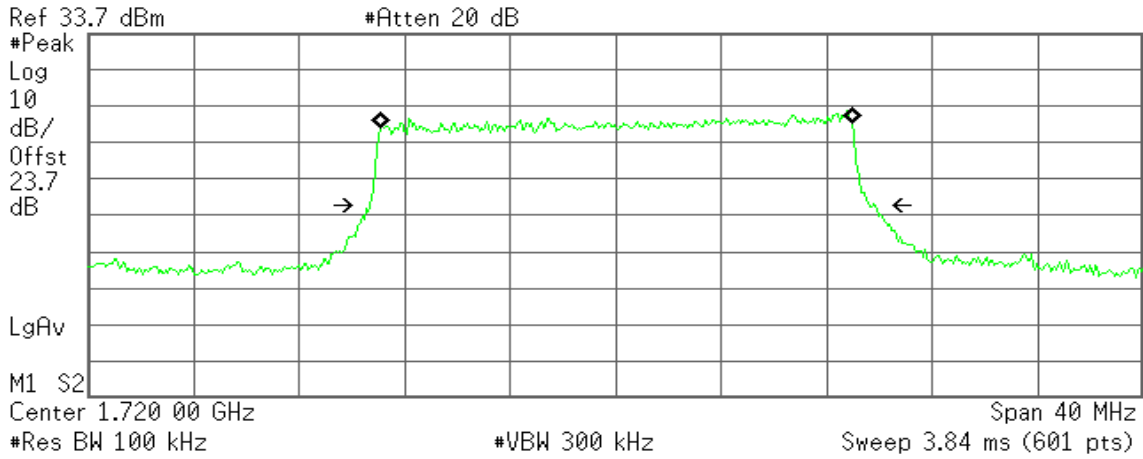


### CHANNEL BANDWIDTH: 20MHz / QPSK

#### CH Low

Agilent

R T



**Occupied Bandwidth**  
17.8896 MHz

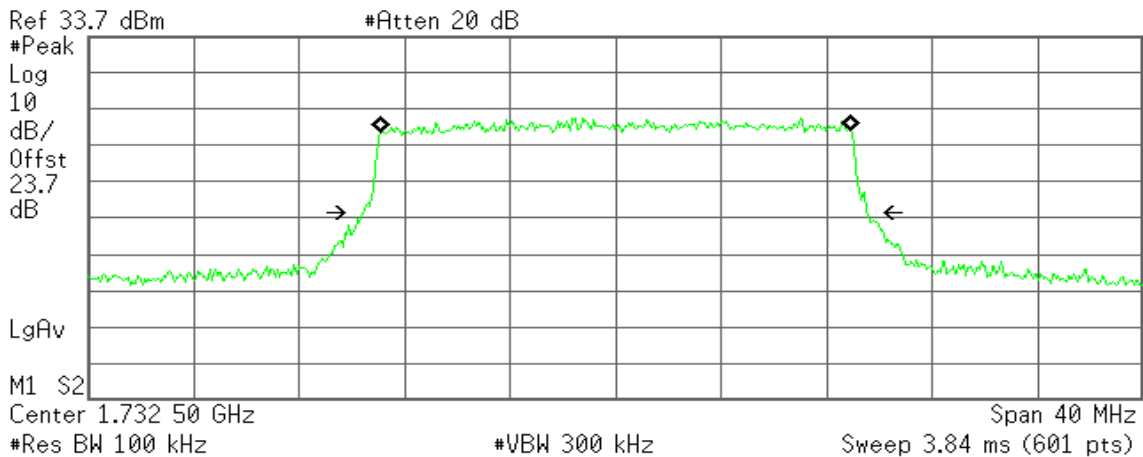
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 38.093 kHz  
**x dB Bandwidth** 19.189 MHz

#### CH Mid

Agilent

R T



**Occupied Bandwidth**  
17.8365 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

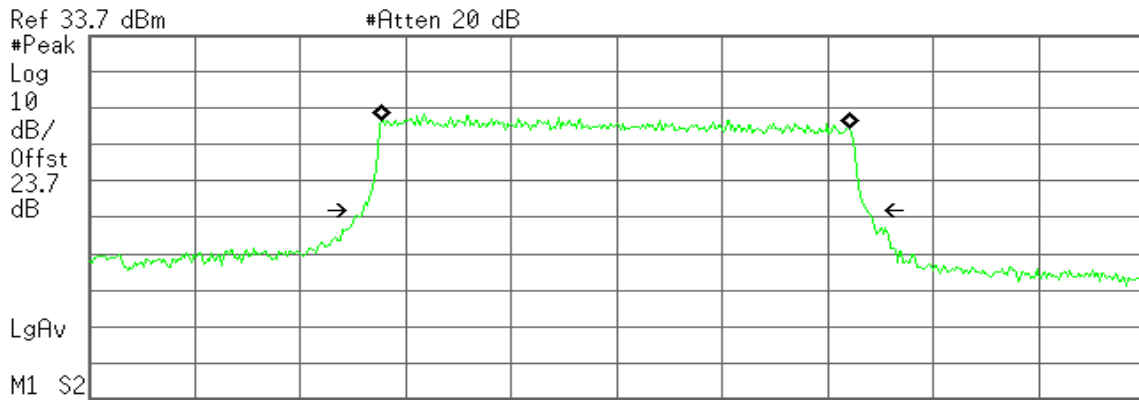
**Transmit Freq Error** 12.397 kHz  
**x dB Bandwidth** 19.132 MHz



### CH High

Agilent

R T



Center 1.745 00 GHz Span 40 MHz  
#Res BW 100 kHz #VBW 300 kHz Sweep 3.84 ms (601 pts)

Occupied Bandwidth

17.8344 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error -33.449 kHz  
x dB Bandwidth 19.134 MHz

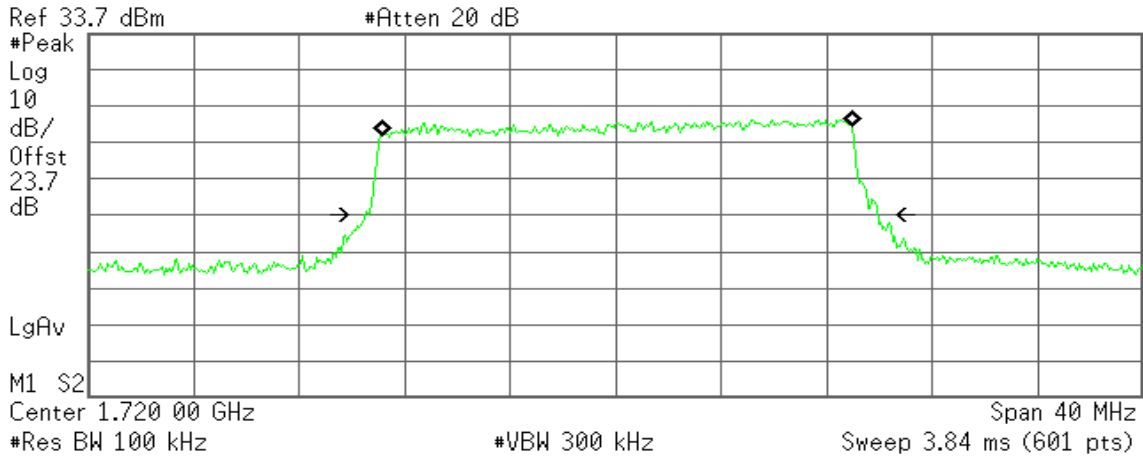


### CHANNEL BANDWIDTH: 20MHz / 16QAM

#### CH Low

Agilent

R T



Occupied Bandwidth  
17.8630 MHz

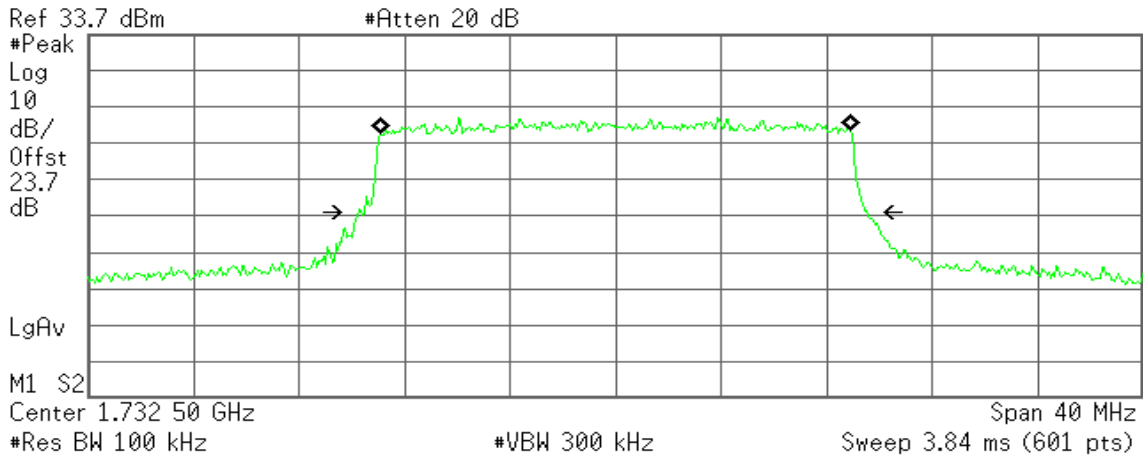
Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 52.165 kHz  
x dB Bandwidth 19.471 MHz

#### CH Mid

Agilent

R T



Occupied Bandwidth  
17.8172 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

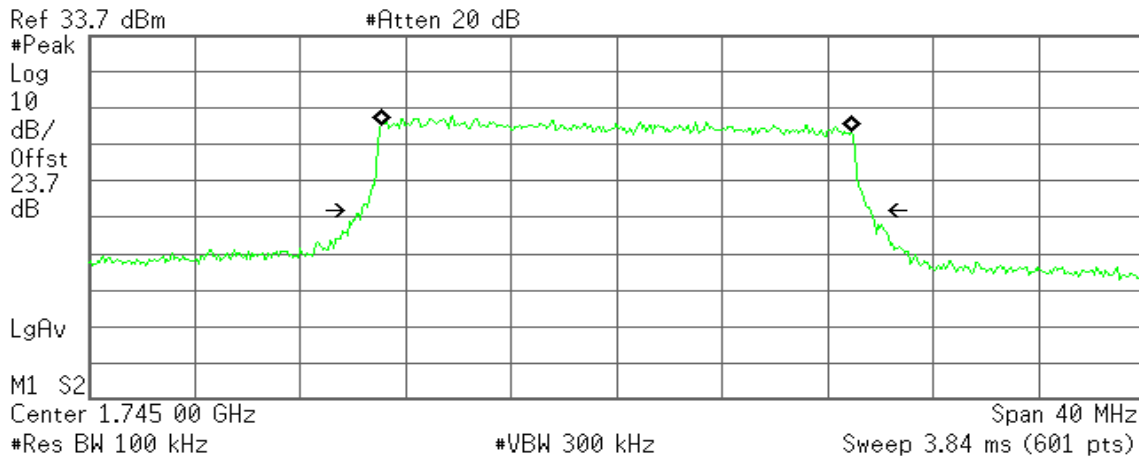
Transmit Freq Error 4.837 kHz  
x dB Bandwidth 19.317 MHz



### CH High

Agilent

R T



**Occupied Bandwidth**  
**17.8738 MHz**

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -20.166 kHz  
**x dB Bandwidth** 19.322 MHz



**TEST RESULTS FOR IC**

**LTE Band 17**

**CHANNEL BANDWIDTH: 5MHz / QPSK**

| <b>Channel</b> | <b>FREQUENCY<br/>(MHz)</b> | <b>Occupied bandwidth<br/>(MHz)</b> |
|----------------|----------------------------|-------------------------------------|
| Low            | 706.5                      | 4.5132                              |
| Mid            | 710.0                      | 4.4830                              |
| High           | 713.5                      | 4.5058                              |

**CHANNEL BANDWIDTH: 5MHz / 16QAM**

| <b>Channel</b> | <b>FREQUENCY<br/>(MHz)</b> | <b>Occupied bandwidth<br/>(MHz)</b> |
|----------------|----------------------------|-------------------------------------|
| Low            | 706.5                      | 4.5236                              |
| Mid            | 710.0                      | 4.4756                              |
| High           | 713.5                      | 4.5221                              |

**CHANNEL BANDWIDTH: 10MHz / QPSK**

| <b>Channel</b> | <b>FREQUENCY<br/>(MHz)</b> | <b>Occupied bandwidth<br/>(MHz)</b> |
|----------------|----------------------------|-------------------------------------|
| Low            | 709.0                      | 8.8736                              |
| Mid            | 710.0                      | 8.8529                              |
| High           | 711.0                      | 8.8700                              |

**CHANNEL BANDWIDTH: 10MHz / 16QAM**

| <b>Channel</b> | <b>FREQUENCY<br/>(MHz)</b> | <b>Occupied bandwidth<br/>(MHz)</b> |
|----------------|----------------------------|-------------------------------------|
| Low            | 709.0                      | 8.8853                              |
| Mid            | 710.0                      | 8.8720                              |
| High           | 711.0                      | 8.8693                              |





## LTE Band 4

### CHANNEL BANDWIDTH: 5MHz / QPSK

| Channel | FREQUENCY<br>(MHz) | Occupied bandwidth<br>(MHz) |
|---------|--------------------|-----------------------------|
| Low     | 1712.5             | 4.5096                      |
| Mid     | 1732.5             | 4.4959                      |
| High    | 1752.5             | 4.4921                      |

### CHANNEL BANDWIDTH: 5MHz / 16QAM

| Channel | FREQUENCY<br>(MHz) | Occupied bandwidth<br>(MHz) |
|---------|--------------------|-----------------------------|
| Low     | 1712.5             | 4.5002                      |
| Mid     | 1732.5             | 4.5049                      |
| High    | 1752.5             | 4.5031                      |

### CHANNEL BANDWIDTH: 10MHz / QPSK

| Channel | FREQUENCY<br>(MHz) | Occupied bandwidth<br>(MHz) |
|---------|--------------------|-----------------------------|
| Low     | 1715.0             | 8.9226                      |
| Mid     | 1732.5             | 8.9261                      |
| High    | 1750.0             | 8.9236                      |

### CHANNEL BANDWIDTH: 10MHz / 16QAM

| Channel | FREQUENCY<br>(MHz) | Occupied bandwidth<br>(MHz) |
|---------|--------------------|-----------------------------|
| Low     | 1715.0             | 8.9173                      |
| Mid     | 1732.5             | 8.9276                      |
| High    | 1750.0             | 8.9151                      |



**CHANNEL BANDWIDTH: 20MHz / QPSK**

| <b>Channel</b> | <b>FREQUENCY<br/>(MHz)</b> | <b>Occupied bandwidth<br/>(MHz)</b> |
|----------------|----------------------------|-------------------------------------|
| Low            | 20050                      | 17.8073                             |
| Mid            | 20170                      | 17.7971                             |
| High           | 20300                      | 17.8364                             |

**CHANNEL BANDWIDTH: 20MHz / 16QAM**

| <b>Channel</b> | <b>FREQUENCY<br/>(MHz)</b> | <b>Occupied bandwidth<br/>(MHz)</b> |
|----------------|----------------------------|-------------------------------------|
| Low            | 20050                      | 17.8132                             |
| Mid            | 20170                      | 17.8129                             |
| High           | 20300                      | 17.8123                             |



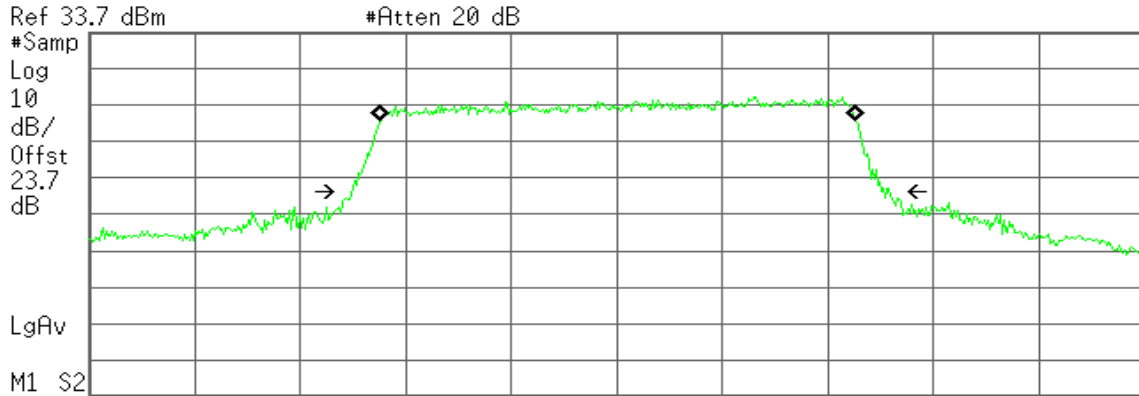
### LTE Band 17

CHANNEL BANDWIDTH: 5MHz / QPSK

CH Low

Agilent

R T



Center 706.50 MHz Span 10 MHz  
 #Res BW 100 kHz #VBW 300 kHz Sweep 3.04 ms (601 pts)

**Occupied Bandwidth**  
**4.5132 MHz**

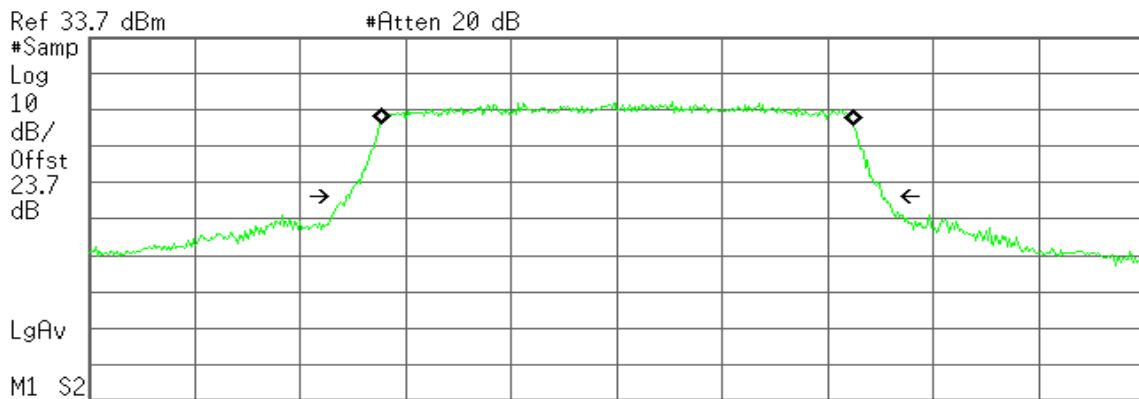
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 12.146 kHz  
**x dB Bandwidth** 5.102 MHz\*

### CH Mid

Agilent

R T



Center 710.00 MHz Span 10 MHz  
 #Res BW 100 kHz #VBW 300 kHz Sweep 3.04 ms (601 pts)

**Occupied Bandwidth**  
**4.4830 MHz**

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

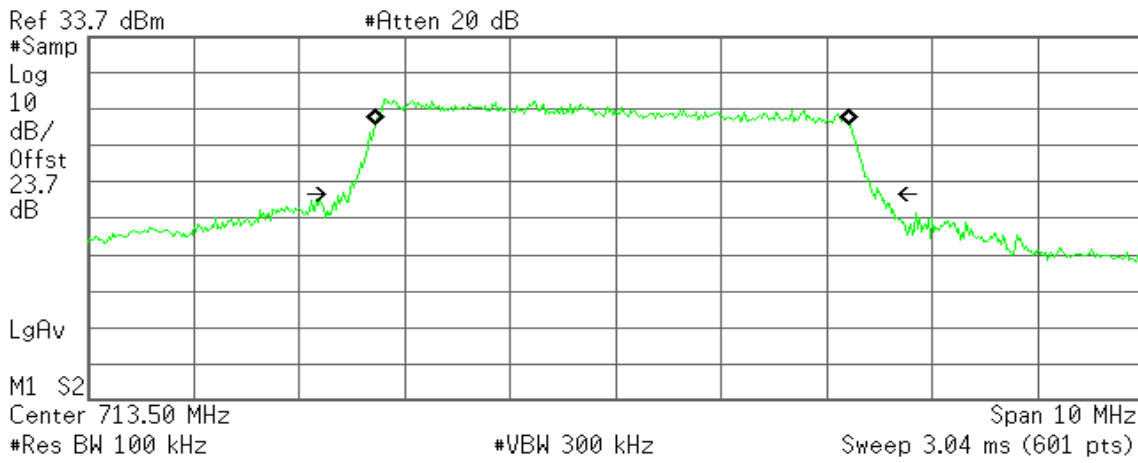
**Transmit Freq Error** 773.876 Hz  
**x dB Bandwidth** 5.091 MHz\*



### CH High

Agilent

R T



**Occupied Bandwidth**  
4.5058 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -29.797 kHz  
**x dB Bandwidth** 5.101 MHz\*

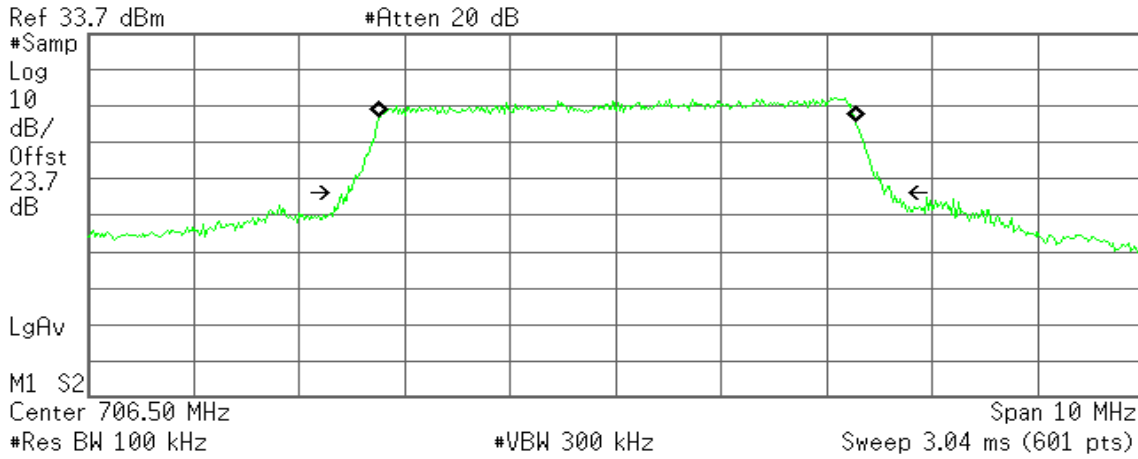


### CHANNEL BANDWIDTH: 5MHz / 16QAM

#### CH Low

Agilent

R T



Occupied Bandwidth  
4.5236 MHz

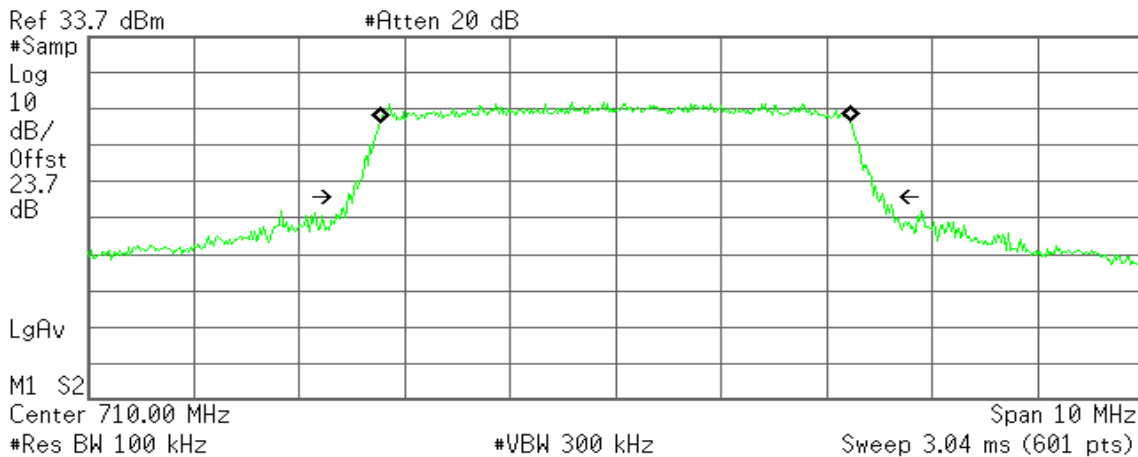
Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 15.815 kHz  
x dB Bandwidth 5.155 MHz\*

#### CH Mid

Agilent

R T



Occupied Bandwidth  
4.4756 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

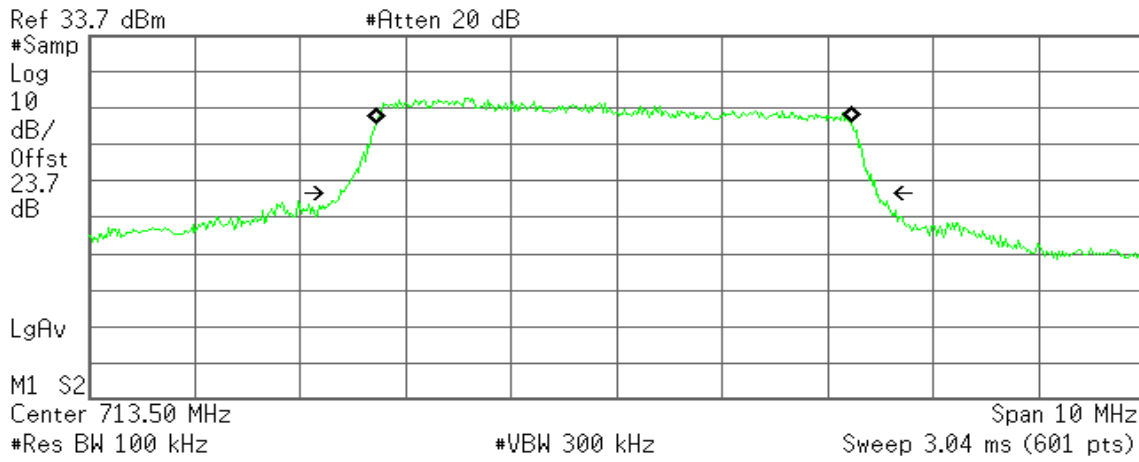
Transmit Freq Error -2.414 kHz  
x dB Bandwidth 5.078 MHz\*



### CH High

Agilent

R T



**Occupied Bandwidth**  
4.5221 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -26.730 kHz  
**x dB Bandwidth** 5.087 MHz\*

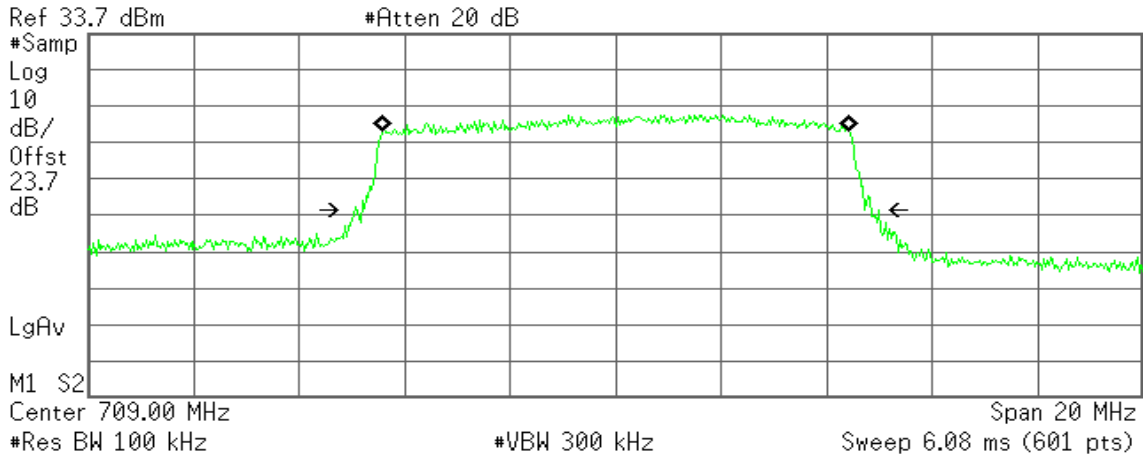


### CHANNEL BANDWIDTH: 10MHz / QPSK

#### CH Low

Agilent

R T



Occupied Bandwidth  
8.8736 MHz

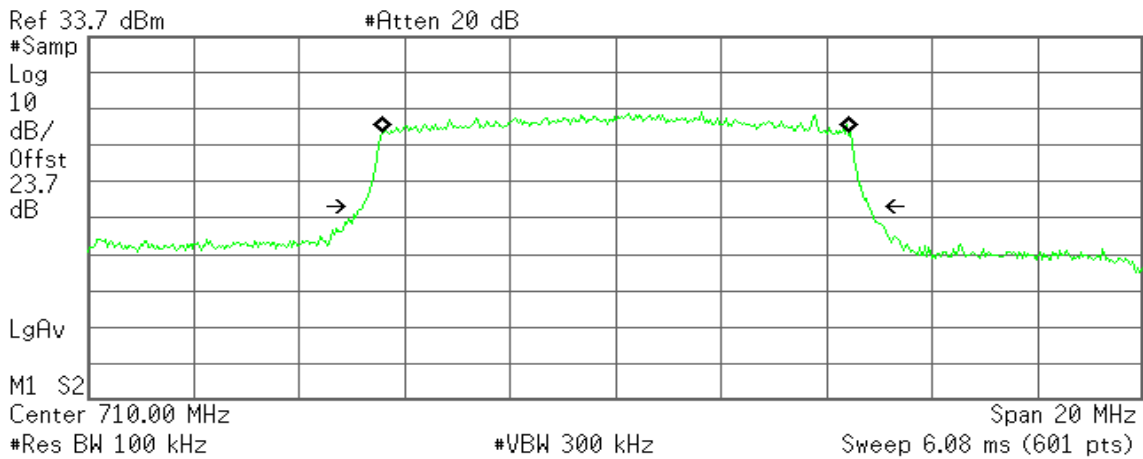
Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 5.327 kHz  
x dB Bandwidth 9.803 MHz\*

#### CH Mid

Agilent

R T



Occupied Bandwidth  
8.8529 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

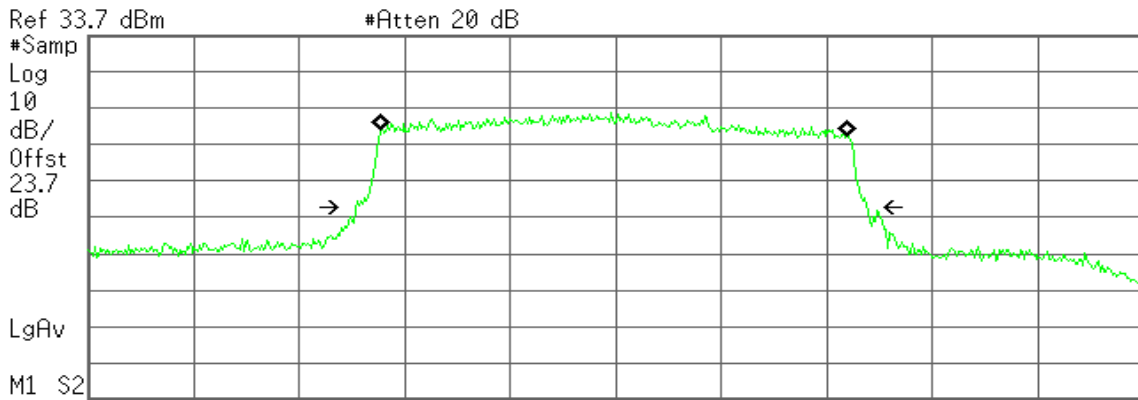
Transmit Freq Error 269.060 Hz  
x dB Bandwidth 9.609 MHz\*



### CH High

Agilent

R T



Center 711.00 MHz Span 20 MHz  
#Res BW 100 kHz #VBW 300 kHz Sweep 6.08 ms (601 pts)

**Occupied Bandwidth**  
**8.8700 MHz**

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -20.251 kHz  
**x dB Bandwidth** 9.702 MHz\*



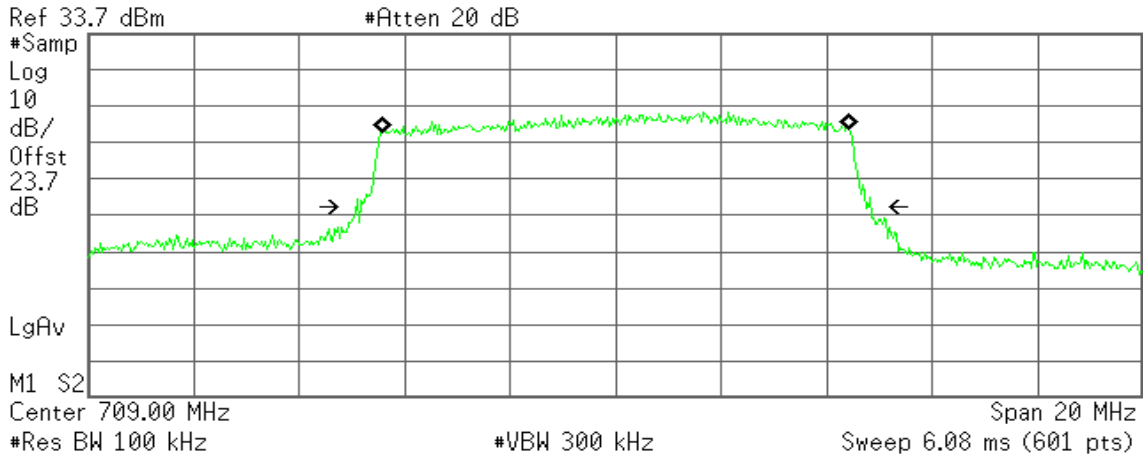


### CHANNEL BANDWIDTH: 10MHz / 16QAM

#### CH Low

Agilent

R T



Occupied Bandwidth  
8.8853 MHz

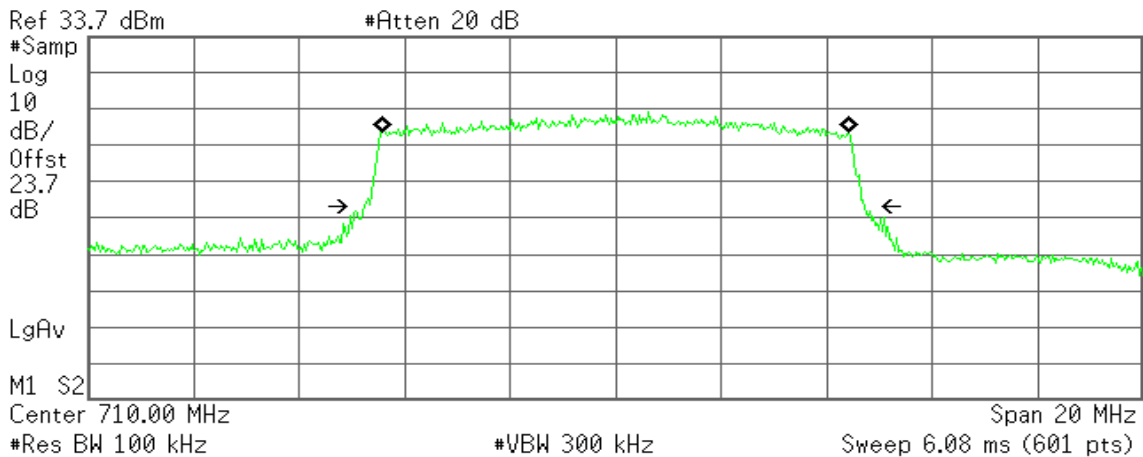
Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 1.166 kHz  
x dB Bandwidth 9.773 MHz\*

#### CH Mid

Agilent

R T



Occupied Bandwidth  
8.8720 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

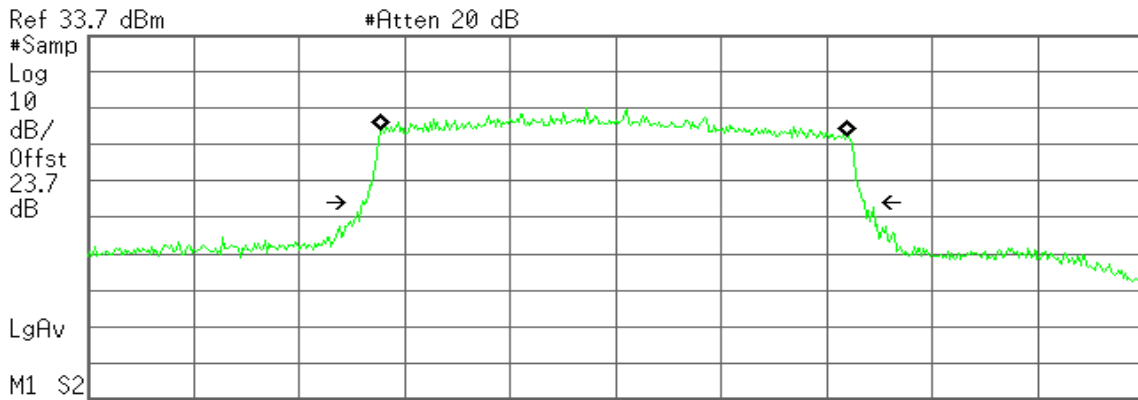
Transmit Freq Error -8.894 kHz  
x dB Bandwidth 9.507 MHz\*



### CH High

Agilent

R T



Occupied Bandwidth  
8.8693 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error -19.434 kHz  
x dB Bandwidth 9.538 MHz\*



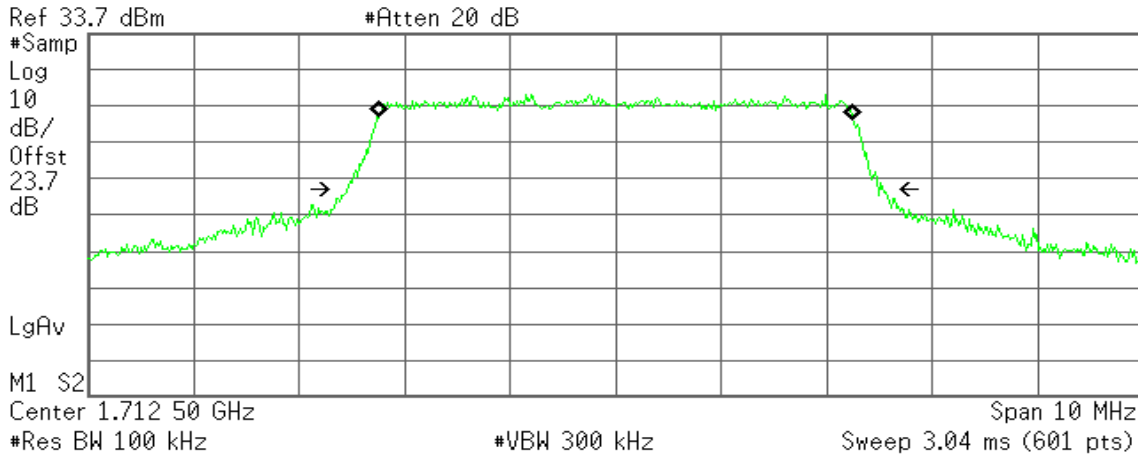
### LTE Band 4

CHANNEL BANDWIDTH: 5MHz / QPSK

#### CH Low

Agilent

R T



Occupied Bandwidth  
4.5096 MHz

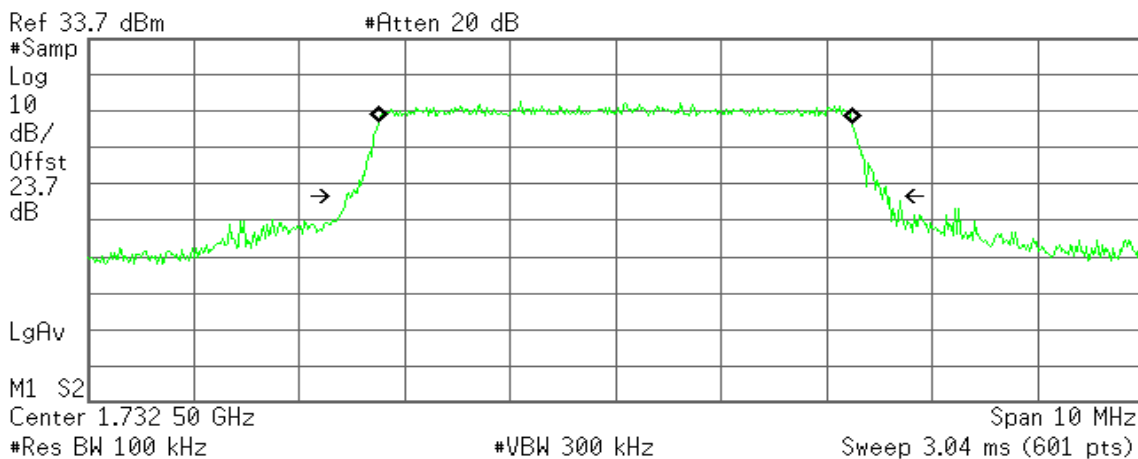
Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error -1.513 kHz  
x dB Bandwidth 5.078 MHz\*

#### CH Mid

Agilent

R T



Occupied Bandwidth  
4.4959 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

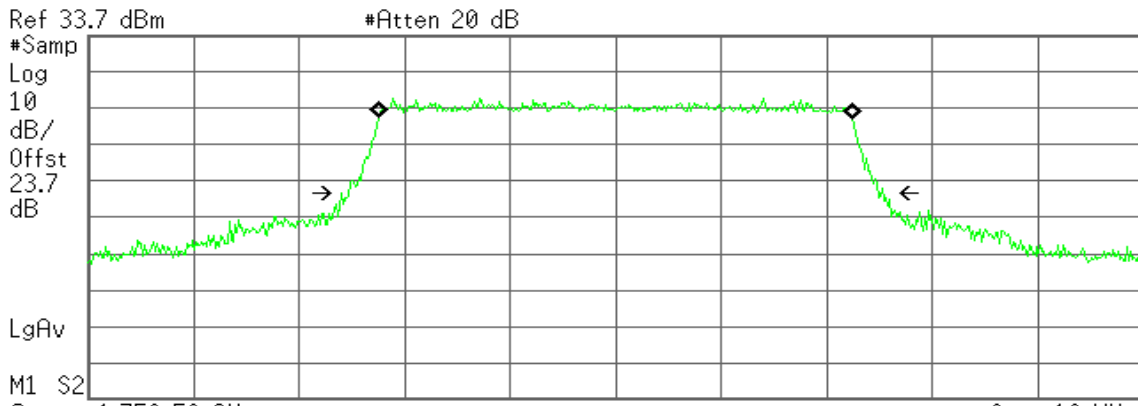
Transmit Freq Error -506.593 Hz  
x dB Bandwidth 5.131 MHz\*



### CH High

Agilent

R T



Center 1.752 50 GHz Span 10 MHz  
#Res BW 100 kHz #VBW 300 kHz Sweep 3.04 ms (601 pts)

**Occupied Bandwidth**  
**4.4921 MHz**

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -2.667 kHz  
**x dB Bandwidth** 5.072 MHz\*

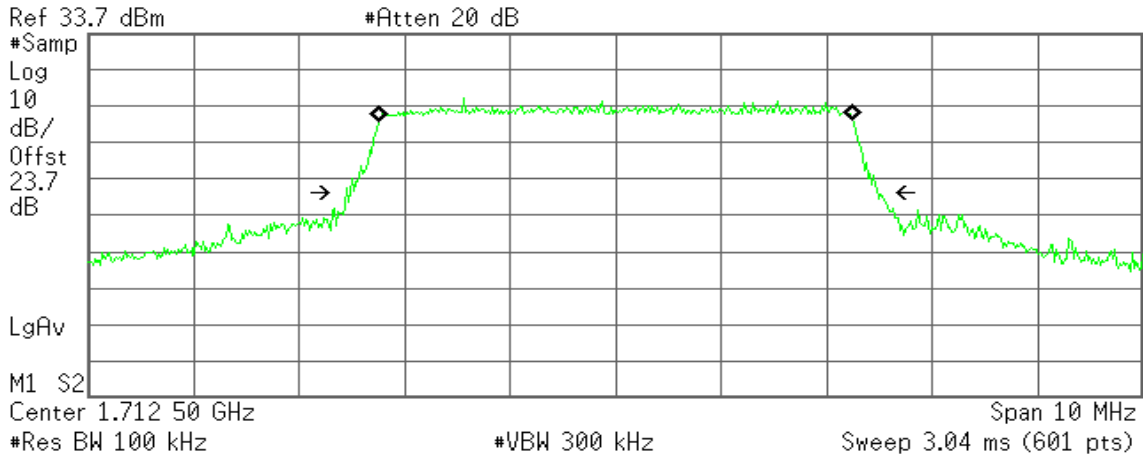


### CHANNEL BANDWIDTH: 5MHz / 16QAM

#### CH Low

Agilent

R T



Occupied Bandwidth  
4.5002 MHz

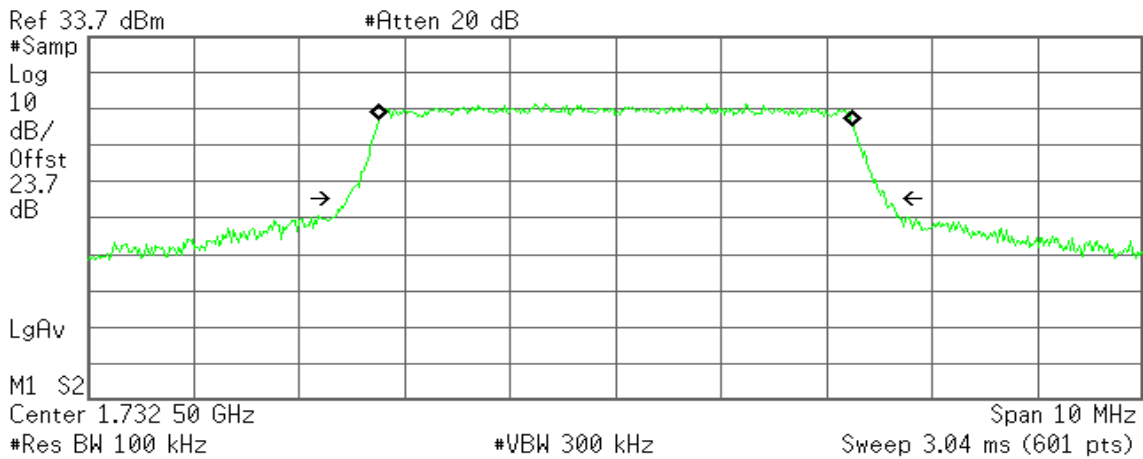
Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 3.598 kHz  
x dB Bandwidth 5.051 MHz\*

#### CH Mid

Agilent

R T



Occupied Bandwidth  
4.5049 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

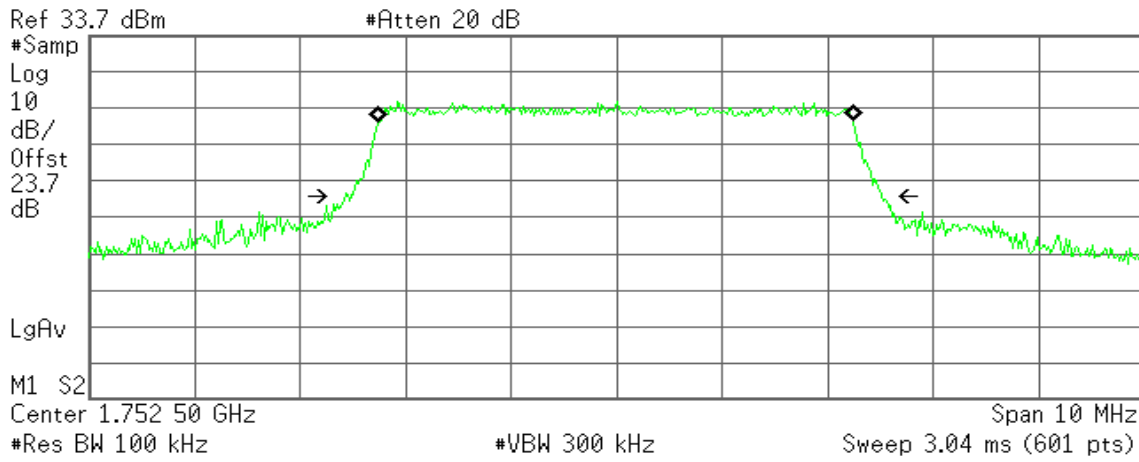
Transmit Freq Error -177.296 Hz  
x dB Bandwidth 5.106 MHz\*



### CH High

Agilent

R T



**Occupied Bandwidth**  
4.5031 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -7.648 kHz  
**x dB Bandwidth** 5.093 MHz\*

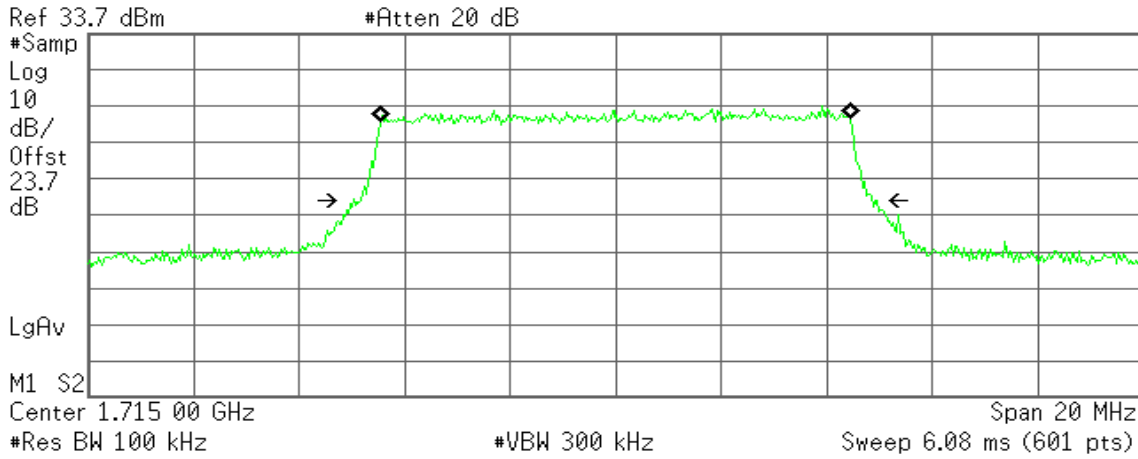


### CHANNEL BANDWIDTH: 10MHz / QPSK

#### CH Low

Agilent

R T



Occupied Bandwidth  
8.9226 MHz

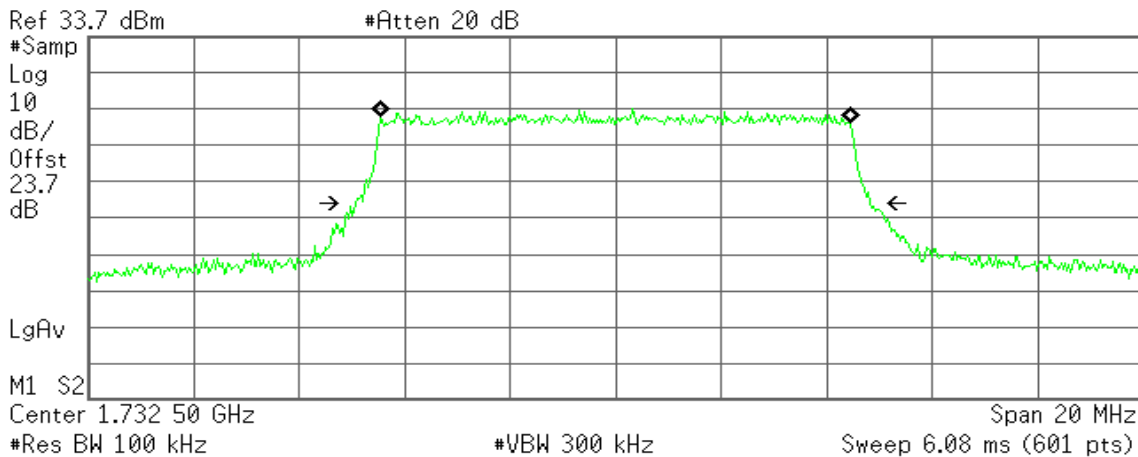
Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error -106.281 Hz  
x dB Bandwidth 9.850 MHz\*

#### CH Mid

Agilent

R T



Occupied Bandwidth  
8.9261 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

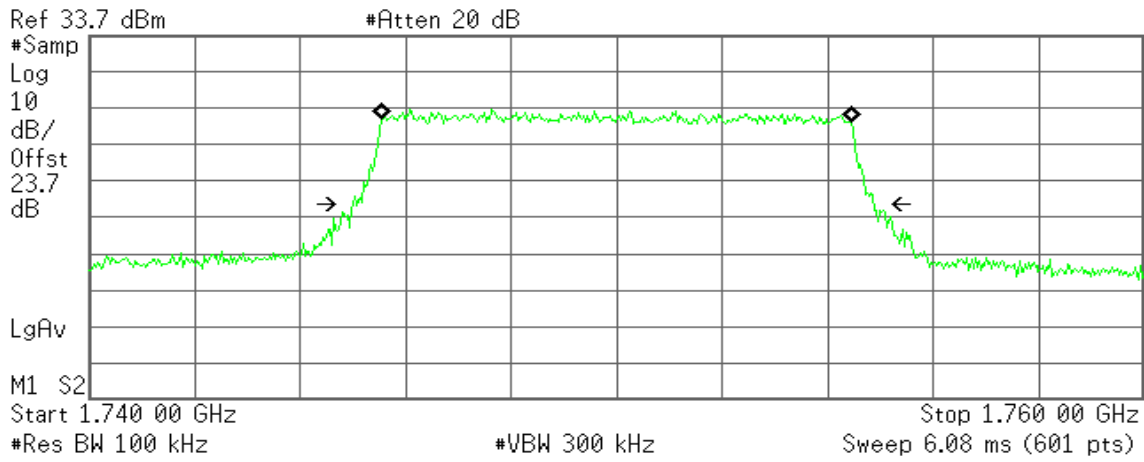
Transmit Freq Error -5.306 kHz  
x dB Bandwidth 9.768 MHz\*



### CH High

Agilent

R T



Occupied Bandwidth  
8.9236 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error -5.532 kHz  
x dB Bandwidth 9.889 MHz\*



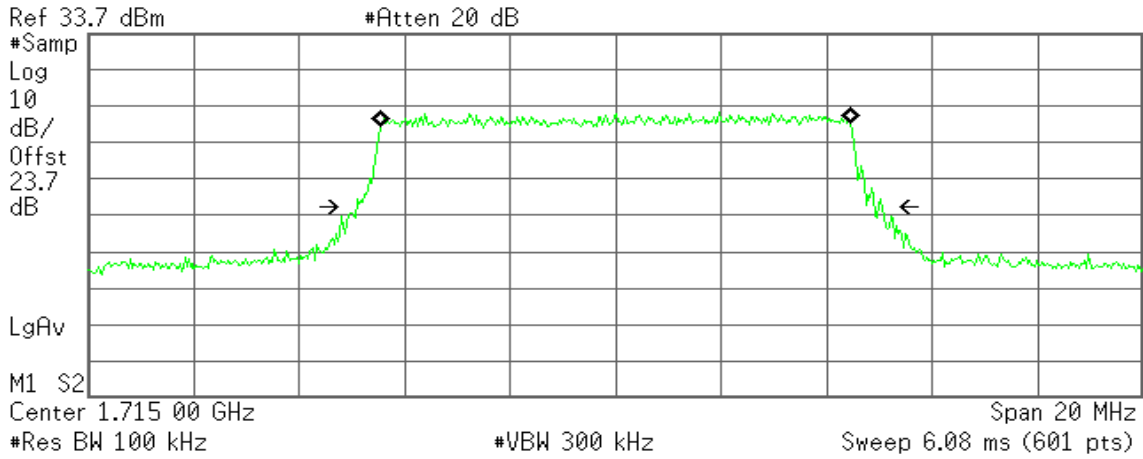


### CHANNEL BANDWIDTH: 10MHz / 16QAM

#### CH Low

Agilent

R T



**Occupied Bandwidth**  
8.9173 MHz

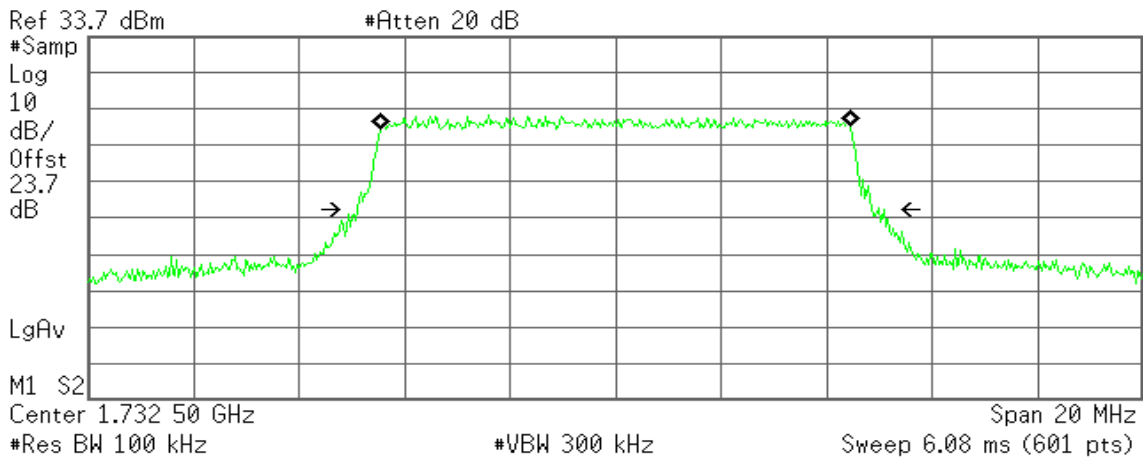
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 6.901 kHz  
**x dB Bandwidth** 9.981 MHz\*

#### CH Mid

Agilent

R T



**Occupied Bandwidth**  
8.9276 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

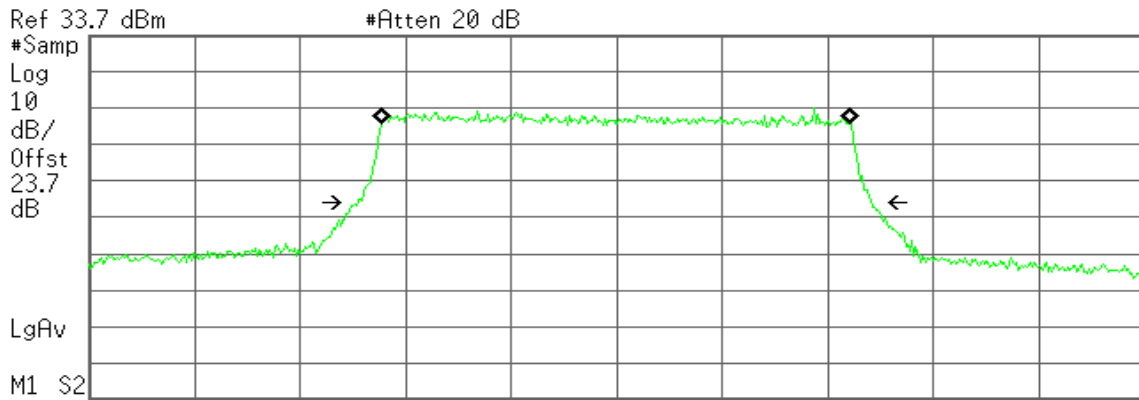
**Transmit Freq Error** 1.083 kHz  
**x dB Bandwidth** 10.010 MHz\*



### CH High

Agilent

R T



Ref 33.7 dBm #Atten 20 dB  
#Samp 10  
Log dB/Offst 23.7 dB  
LgAv  
M1 S2  
Center 1.745 00 GHz Span 20 MHz  
#Res BW 100 kHz #VBW 300 kHz Sweep 6.08 ms (601 pts)

**Occupied Bandwidth**  
8.9151 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -10.340 kHz  
**x dB Bandwidth** 9.764 MHz\*

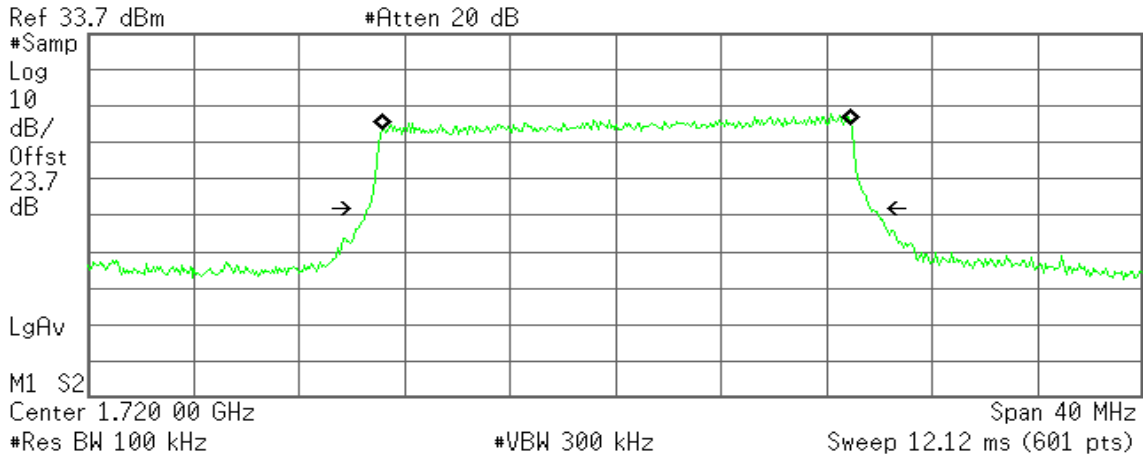


### CHANNEL BANDWIDTH: 20MHz / QPSK

#### CH Low

Agilent

R T



Occupied Bandwidth  
17.8073 MHz

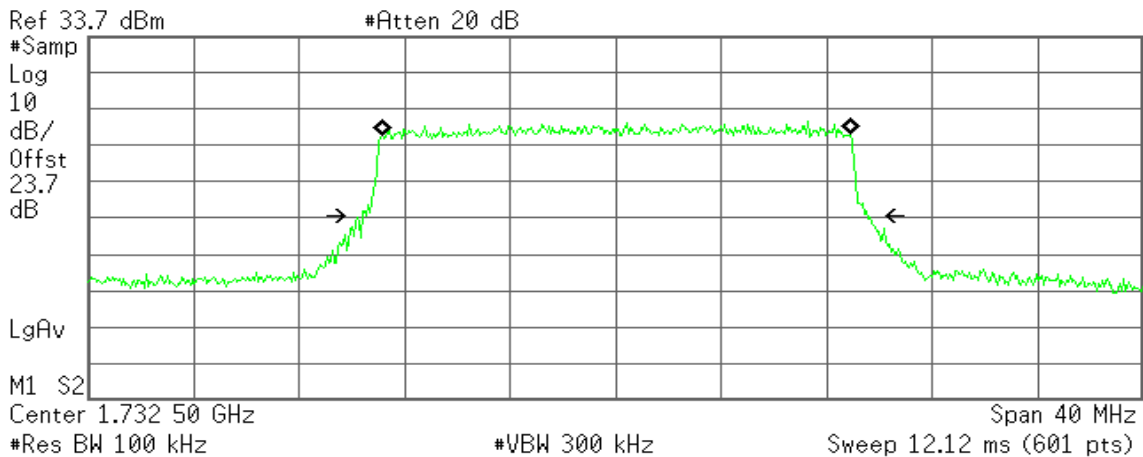
Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 38.670 kHz  
x dB Bandwidth 19.093 MHz\*

#### CH Mid

Agilent

R T



Occupied Bandwidth  
17.7971 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

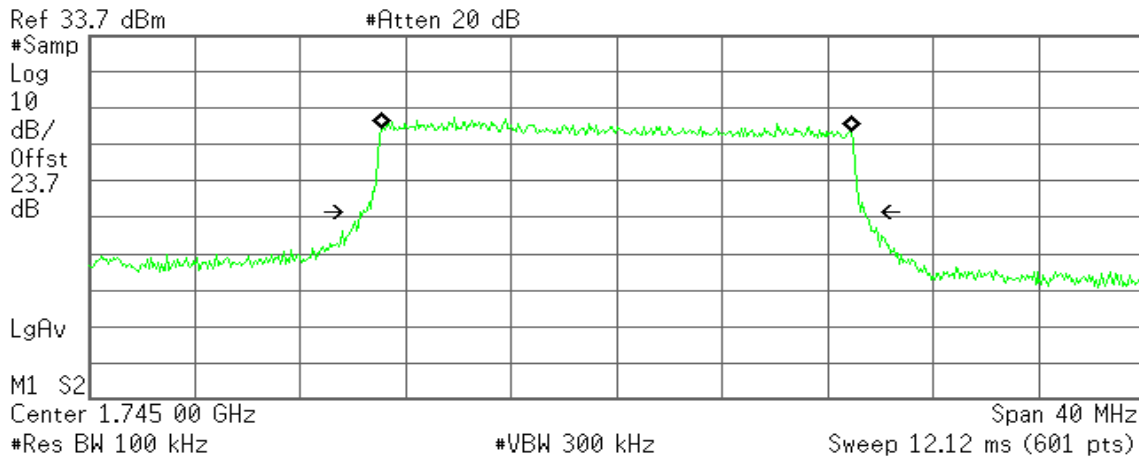
Transmit Freq Error 7.264 kHz  
x dB Bandwidth 19.208 MHz\*



### CH High

Agilent

R T



**Occupied Bandwidth**  
17.8364 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -16.794 kHz  
**x dB Bandwidth** 19.153 MHz\*

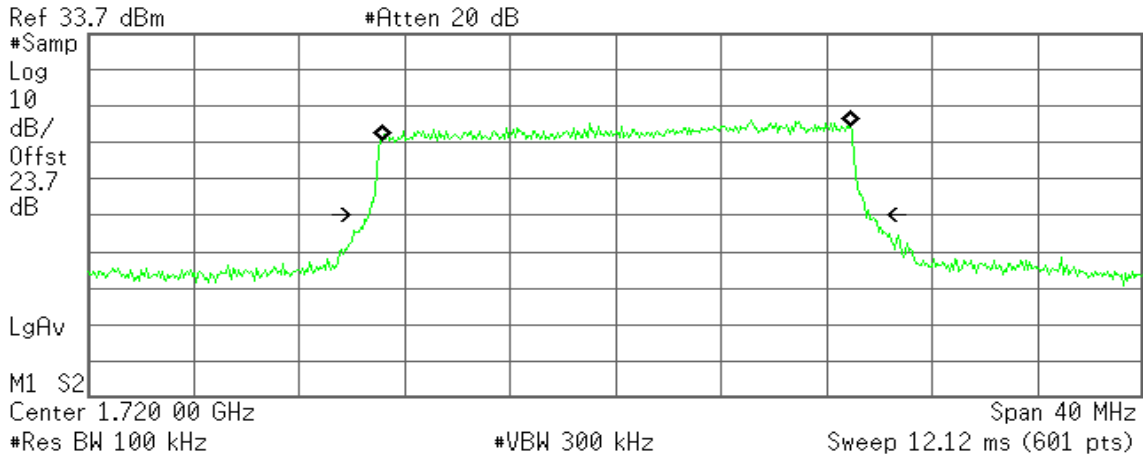


### CHANNEL BANDWIDTH: 20MHz / 16QAM

#### CH Low

Agilent

R T



**Occupied Bandwidth**  
17.8132 MHz

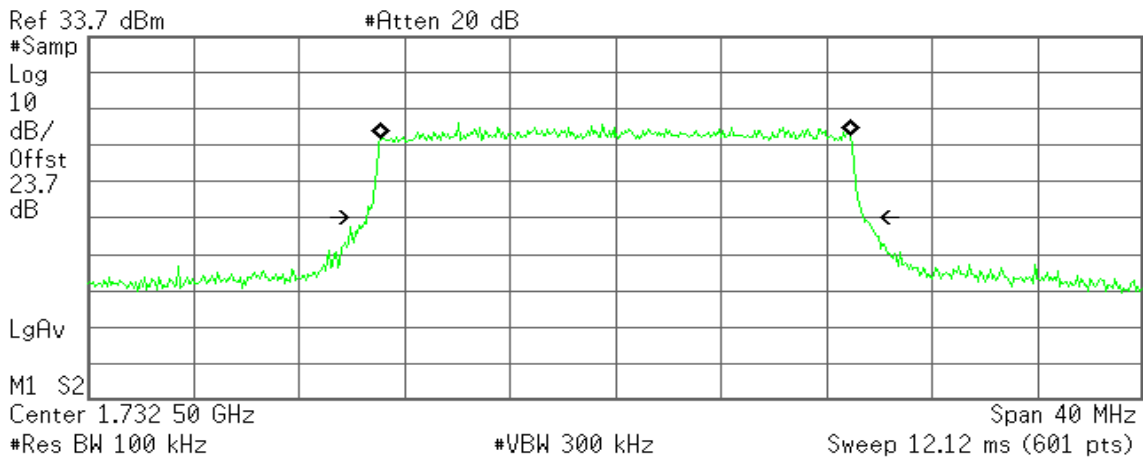
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 38.813 kHz  
**x dB Bandwidth** 19.043 MHz\*

#### CH Mid

Agilent

R T



**Occupied Bandwidth**  
17.8129 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

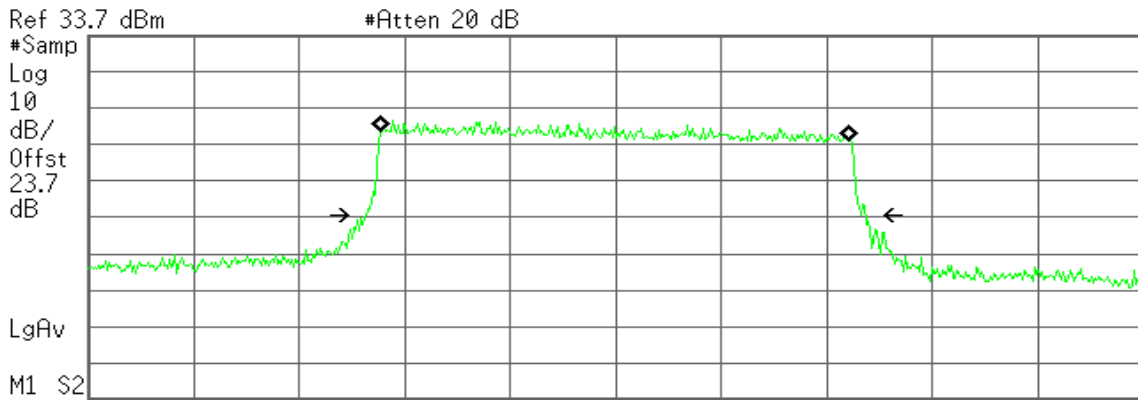
**Transmit Freq Error** -3.035 kHz  
**x dB Bandwidth** 18.863 MHz\*



### CH High

Agilent

R T



Center 1.745 00 GHz Span 40 MHz  
 #Res BW 100 kHz #VBW 300 kHz Sweep 12.12 ms (601 pts)

Occupied Bandwidth

17.8123 MHz

Occ BW % Pwr 99.00 %  
 x dB -26.00 dB

Transmit Freq Error -16.776 kHz  
 x dB Bandwidth 18.973 MHz\*



## **7.5BAND EDGE MEASUREMENT**

### **LIMIT**

For operations in the 698–746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least  $43 + 10 \log (P)$  dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed. For operations in the 1710–1755 MHz and 2110–2155 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least  $43 + 10 \log_{10}(P)$  dB. The limit of emission equal to  $-13\text{dBm}$ . 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.

### **TEST PROCEDURES**

1. The EUT was set up for the maximum peak power with LTE link data modulation. The power was measured with Spectrum Analyzer. All measurements were done at 2 channels (low and high operational frequency range.).
2. The band edge measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer. This splitter loss and cable loss are the worst loss 7.2 dB in the transmitted path track.
3. The center frequency of spectrum is the band edge frequency and span is 1 MHz. RB of the spectrum is 50kHz and VB of the spectrum is 200kHz.
4. Record the max trace plot into the test report.

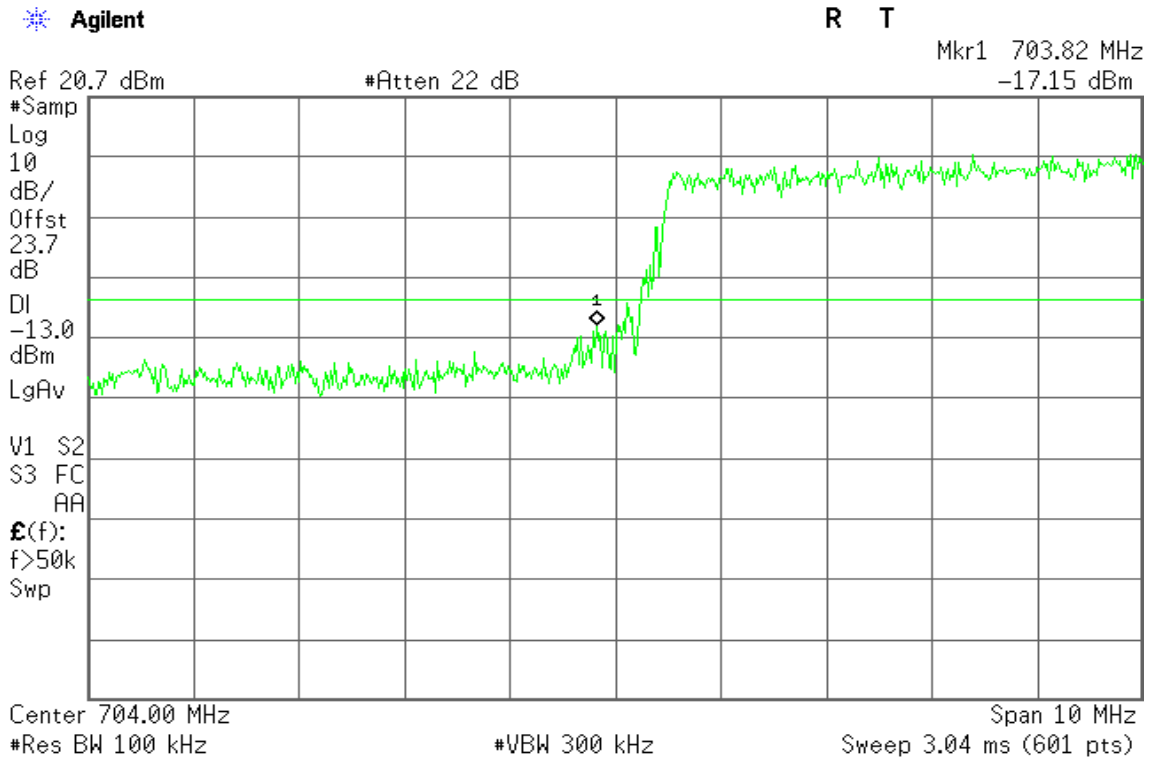


**TEST RESULTS:**

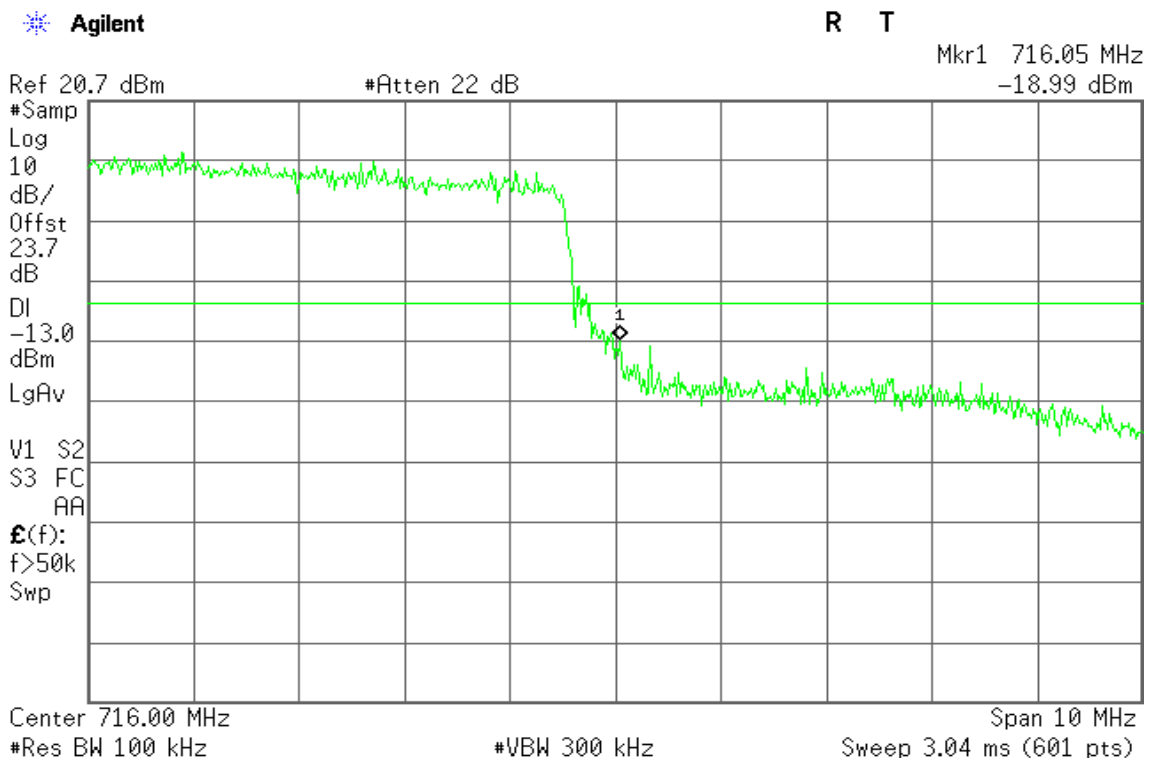
**LTE Band 17**

**CHANNEL BANDWIDTH: 10MHz / QPSK / FULL RB ALLOCATED**

**LOWER BAND EDGE**



**HIGHER BAND EDGE**



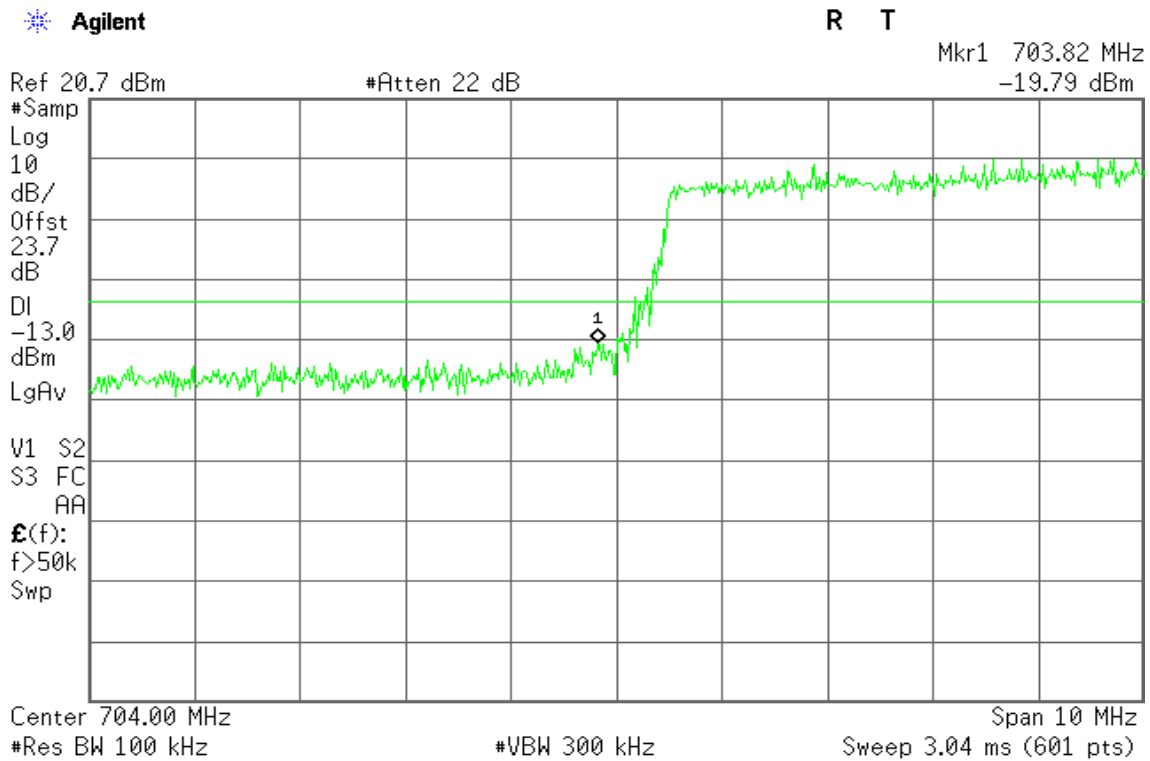




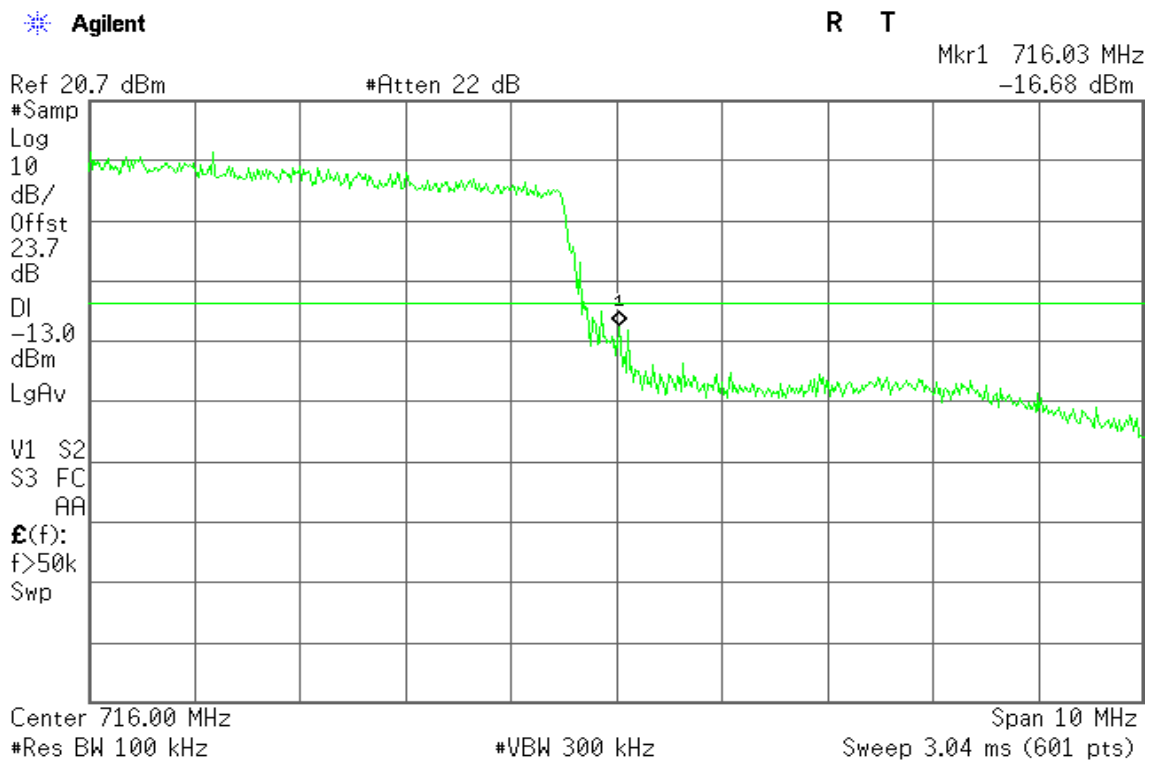
### LTE Band 17

CHANNEL BANDWIDTH: 10MHz / 16QAM / FULL RB ALLOCATED

### LOWER BAND EDGE



### HIGHER BAND EDGE

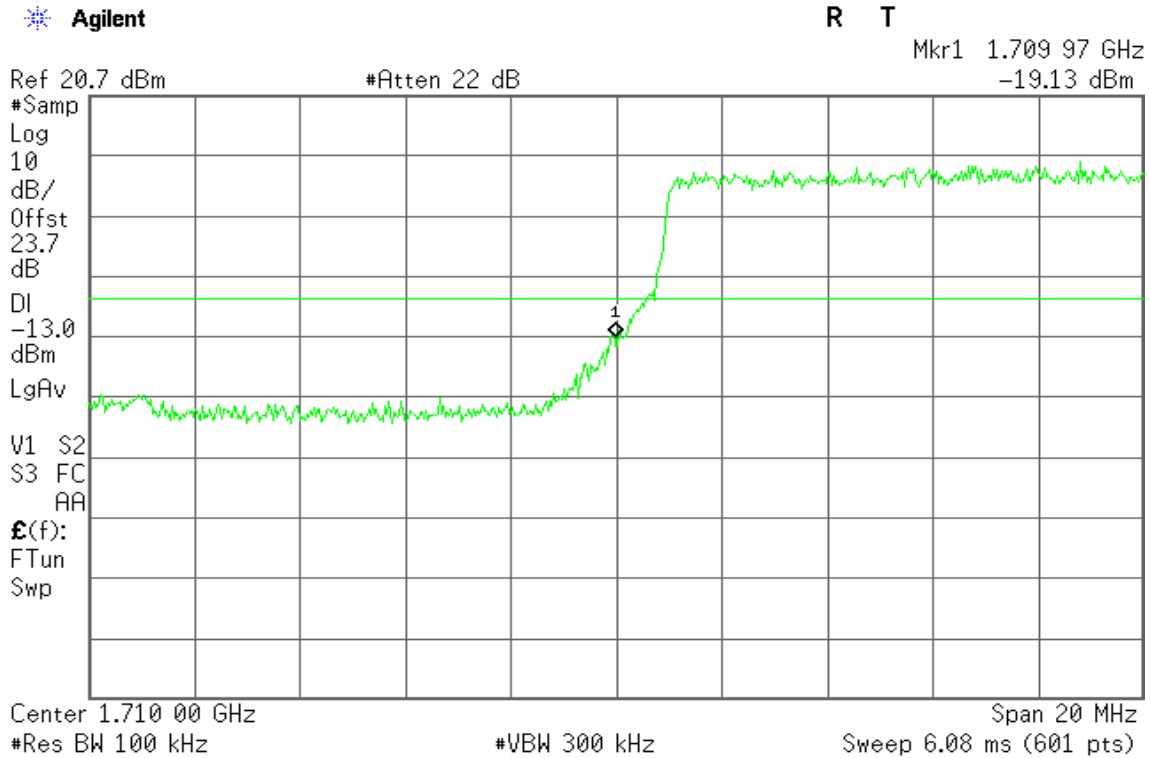




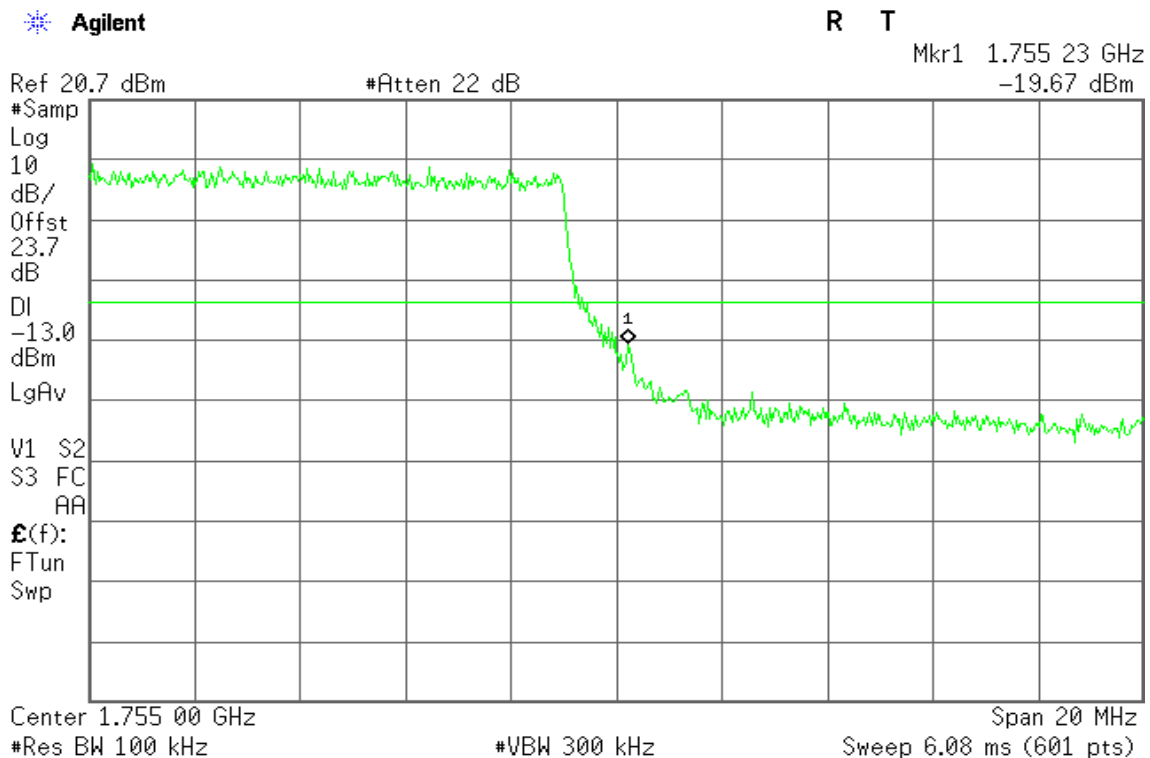
### LTE Band 4

CHANNEL BANDWIDTH: 20MHz / QPSK / FULL RB ALLOCATION

### LOWER BAND EDGE



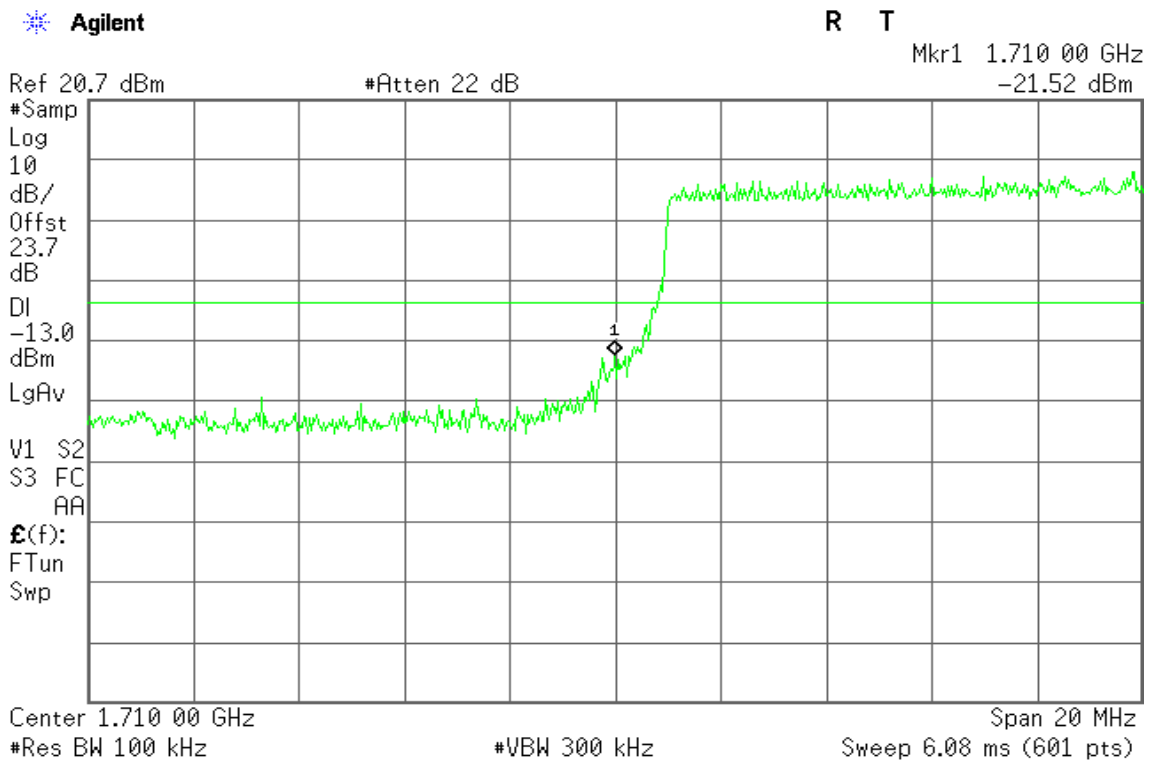
### HIGHER BAND EDGE



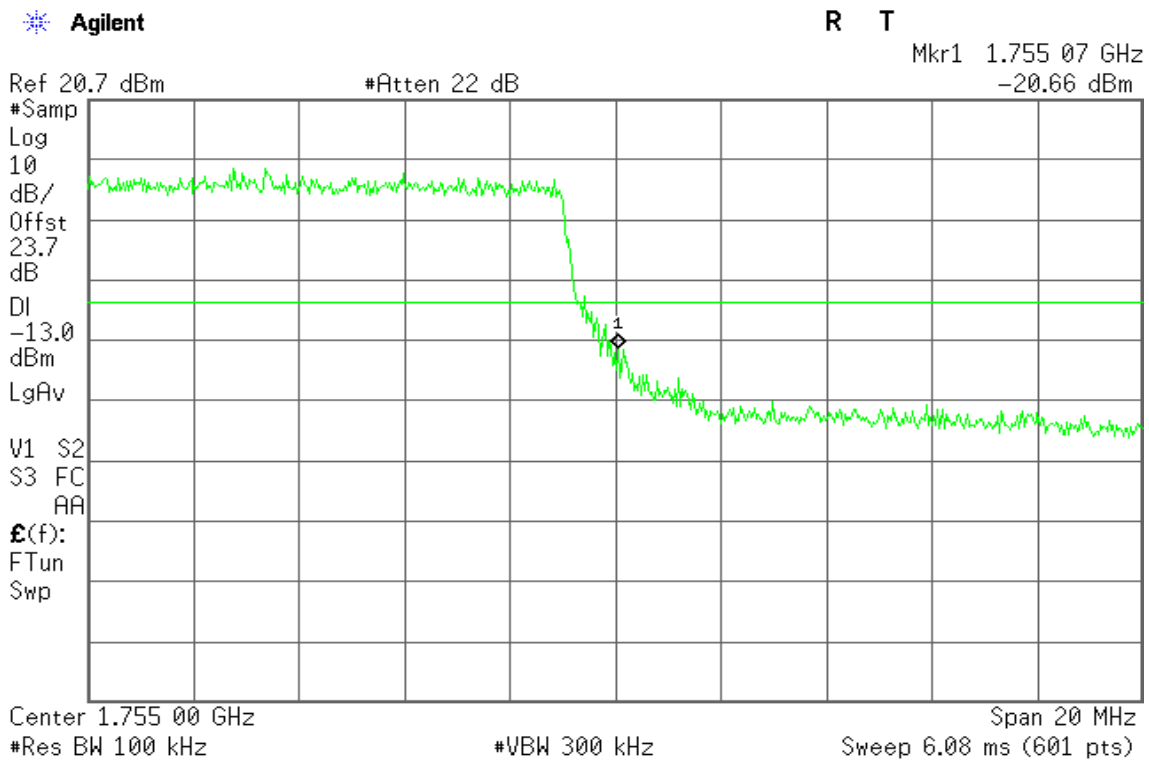


### CHANNEL BANDWIDTH: 20MHz / 16QAM / FULL RB ALLOCATION

#### LOWER BAND EDGE



#### HIGHER BAND EDGE





## **7.6 CONDUCTED SPURIOUS EMISSIONS**

### **LIMITS**

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least  $43 + 10 \log_{10}(P)$  dB. The limit of emission equal to  $-13\text{dBm}$

### **TEST PROCEDURES**

1. The EUT was set up for the maximum peak power with LTE link data modulation. The power was measured with Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high operational frequency range.).
2. The conducted spurious emission used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
3. When the spectrum scanned from 30MHz to 3GHz, it shall be connected to the band reject filter attenuated the carried frequency. The spectrum set RB=1MHz, VB=3MHz.
4. When the spectrum scanned from 3GHz to 20GHz, it shall be connected to the high pass filter attenuated the carried frequency. The spectrum set RB=1MHz, VB=3MHz.

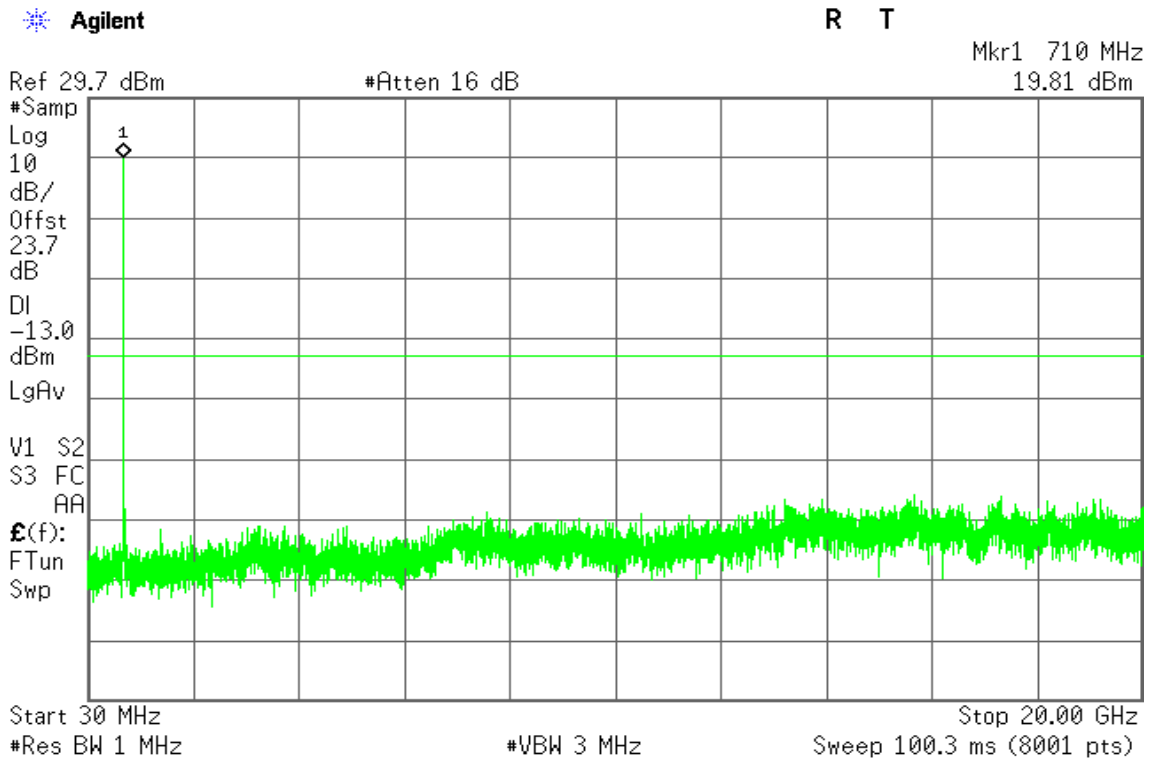


# TEST RESULTS

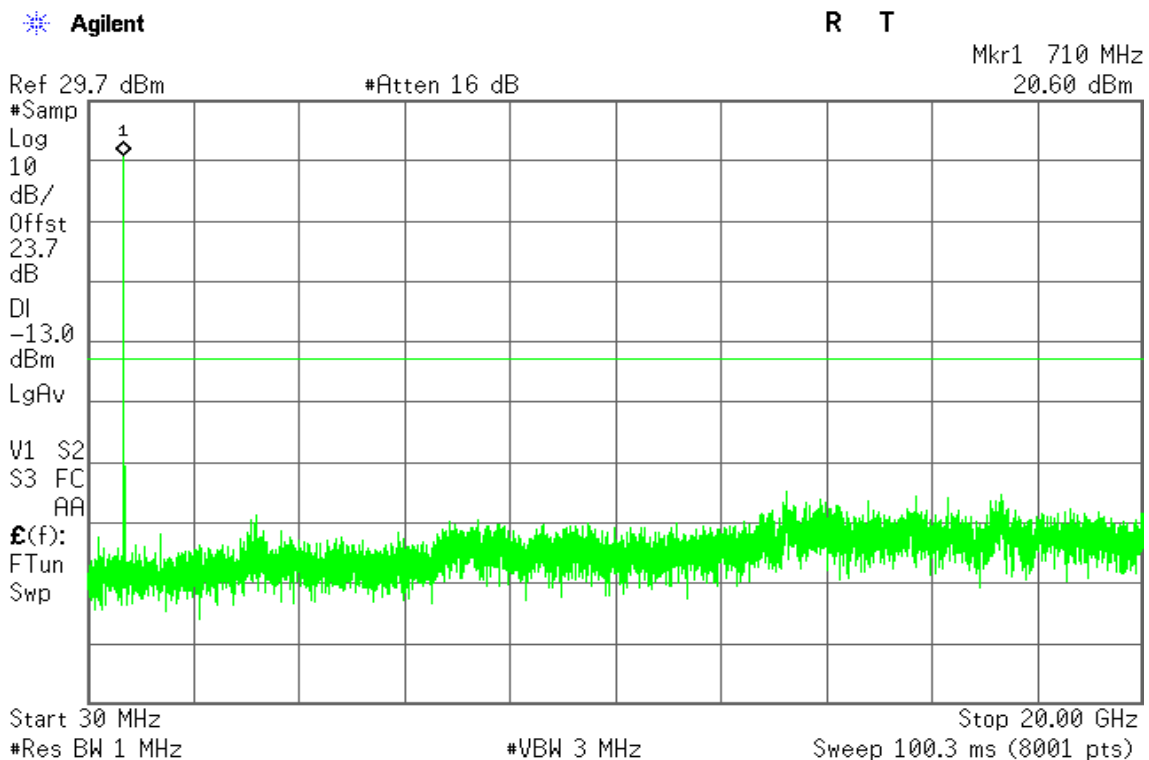
## LTE Band 17

CHANNEL BANDWIDTH: 5MHz / QPSK

CH Low



CH Mid



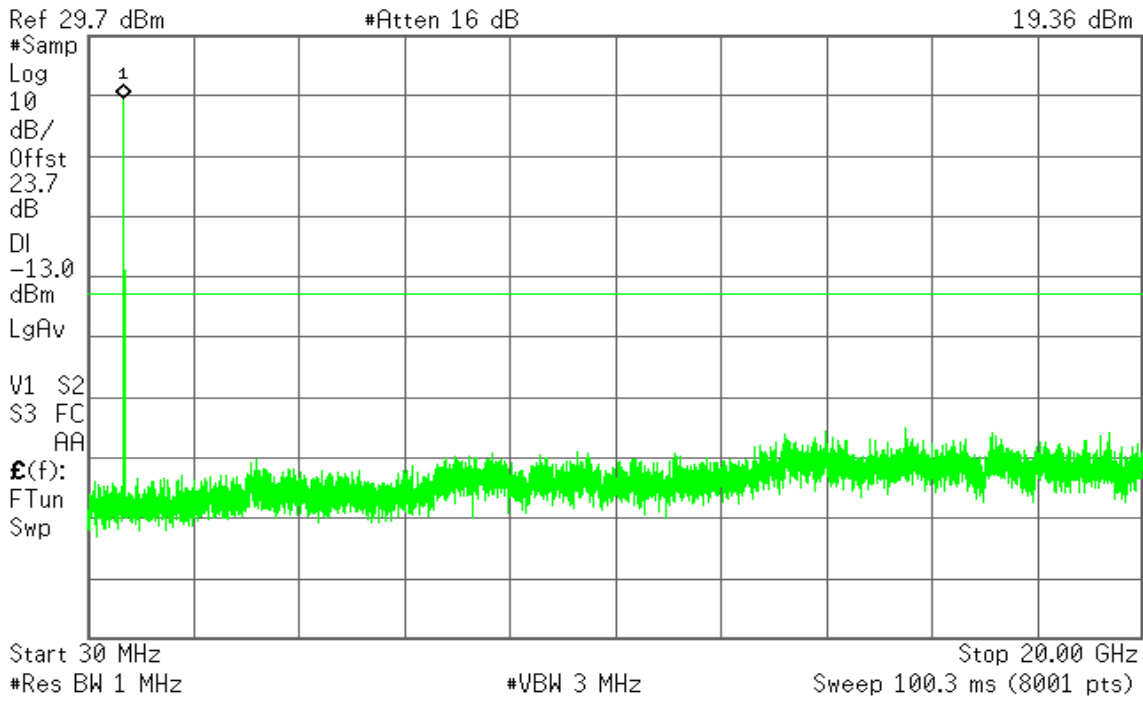


### CH High

Agilent

R T

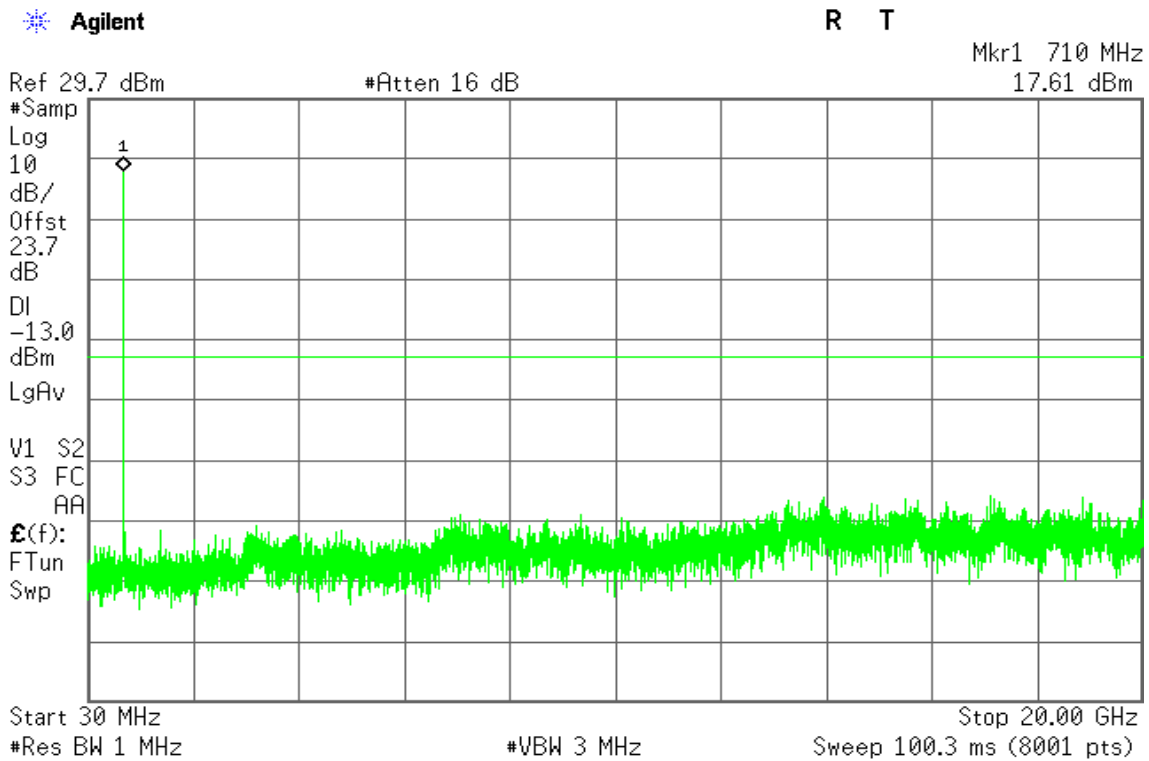
Mkr1 710 MHz  
19.36 dBm



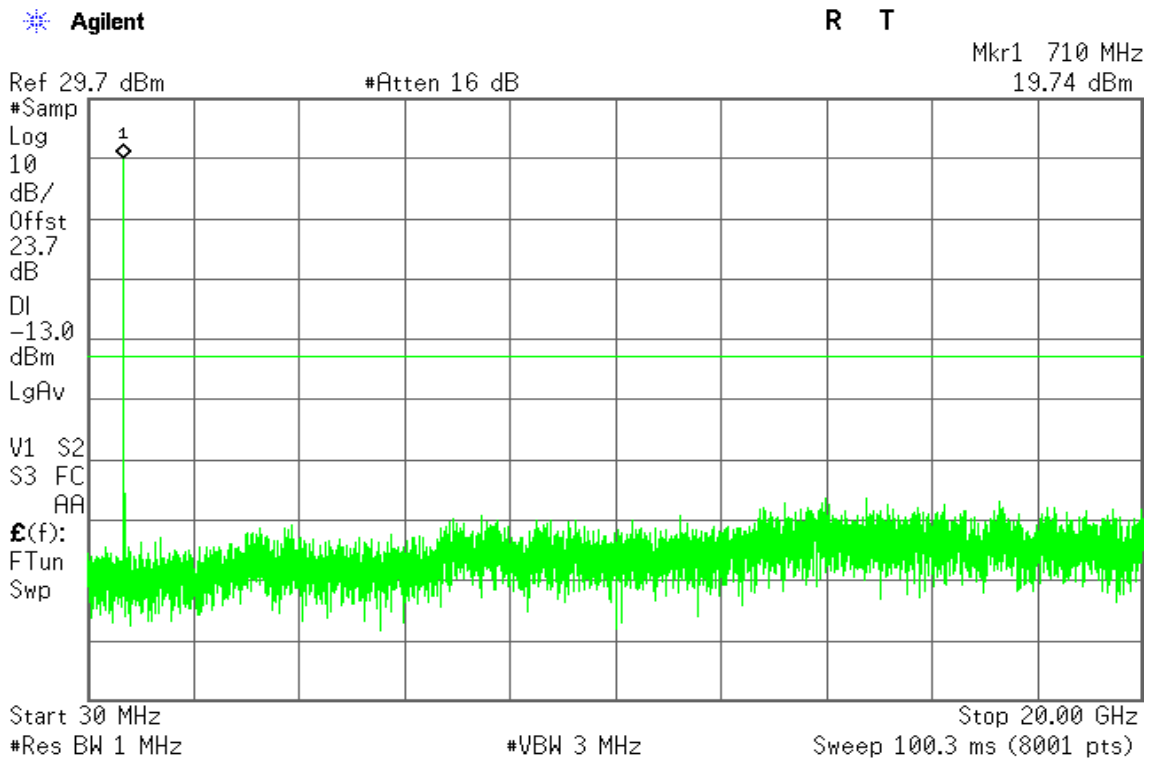


### CHANNEL BANDWIDTH: 5MHz / 16QAM

#### CH Low



#### CH Mid



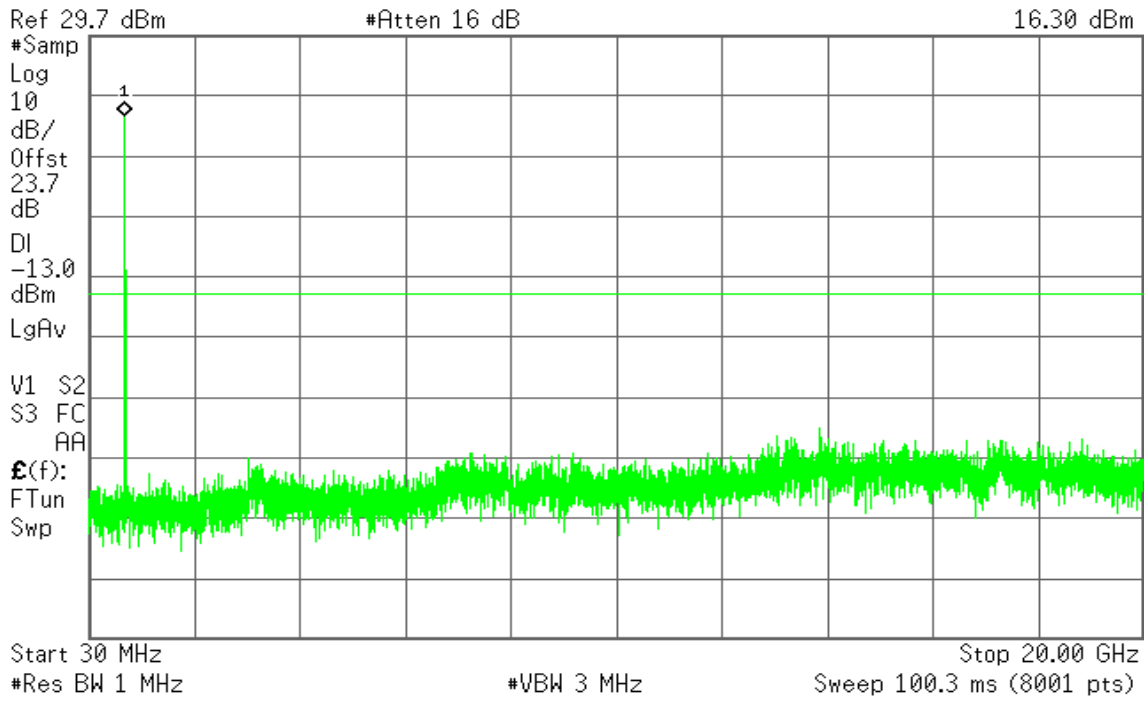


### CH High

Agilent

R T

Mkr1 710 MHz  
16.30 dBm

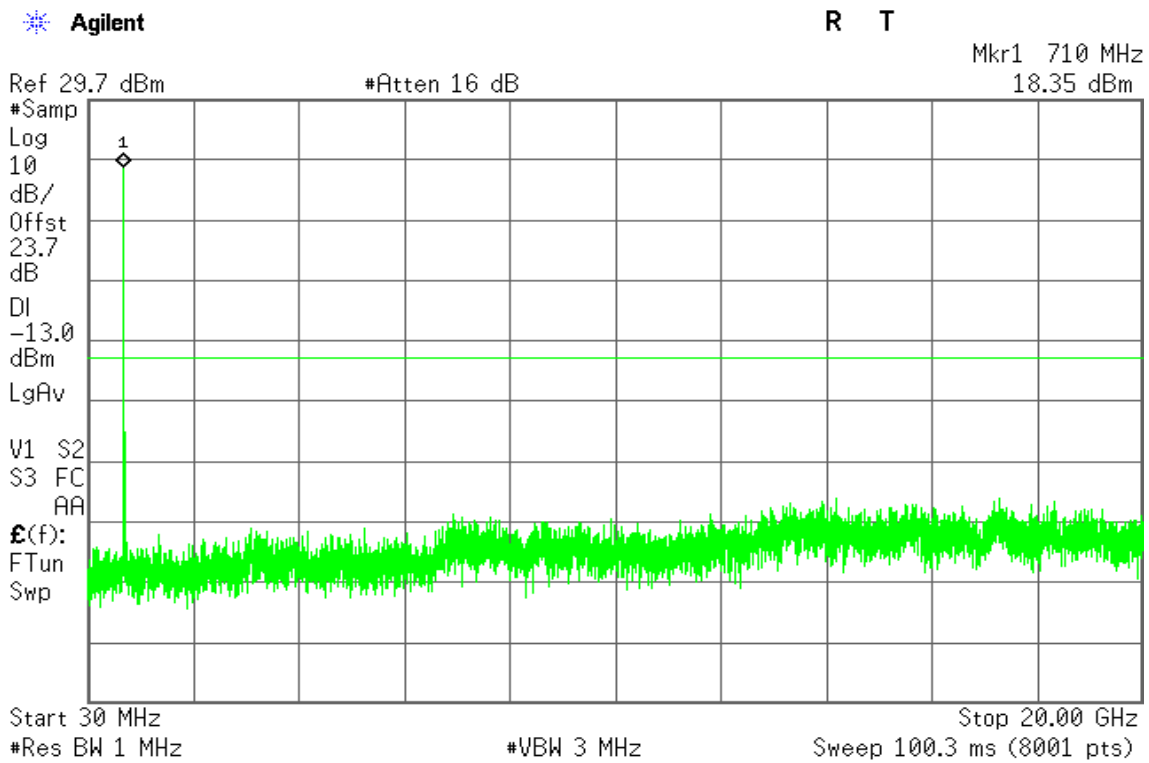




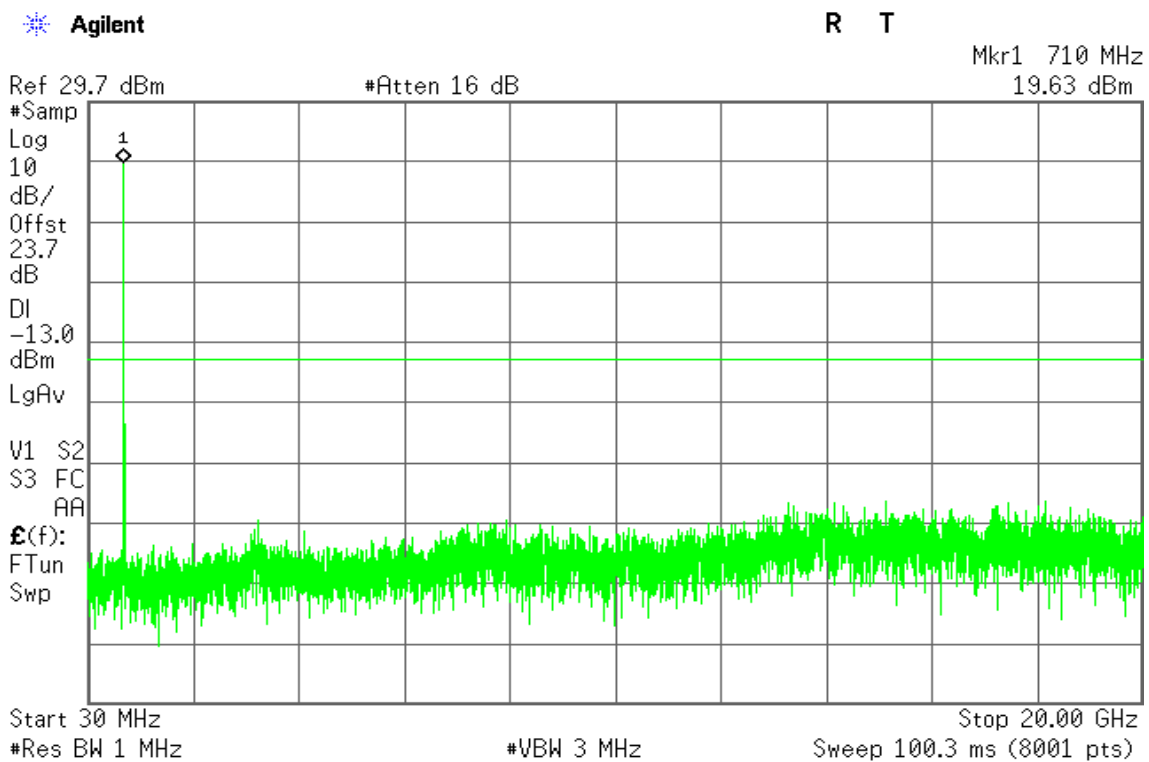


### CHANNEL BANDWIDTH: 10MHz / QPSK

#### CH Low



#### CH Mid



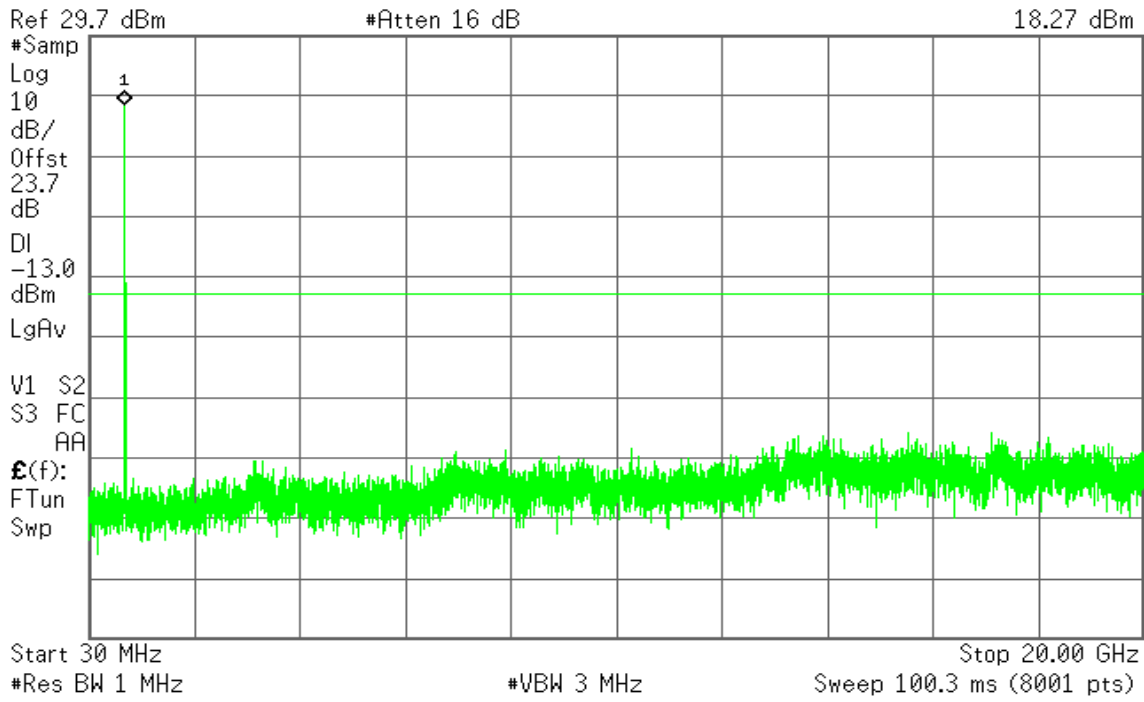


### CH High

Agilent

R T

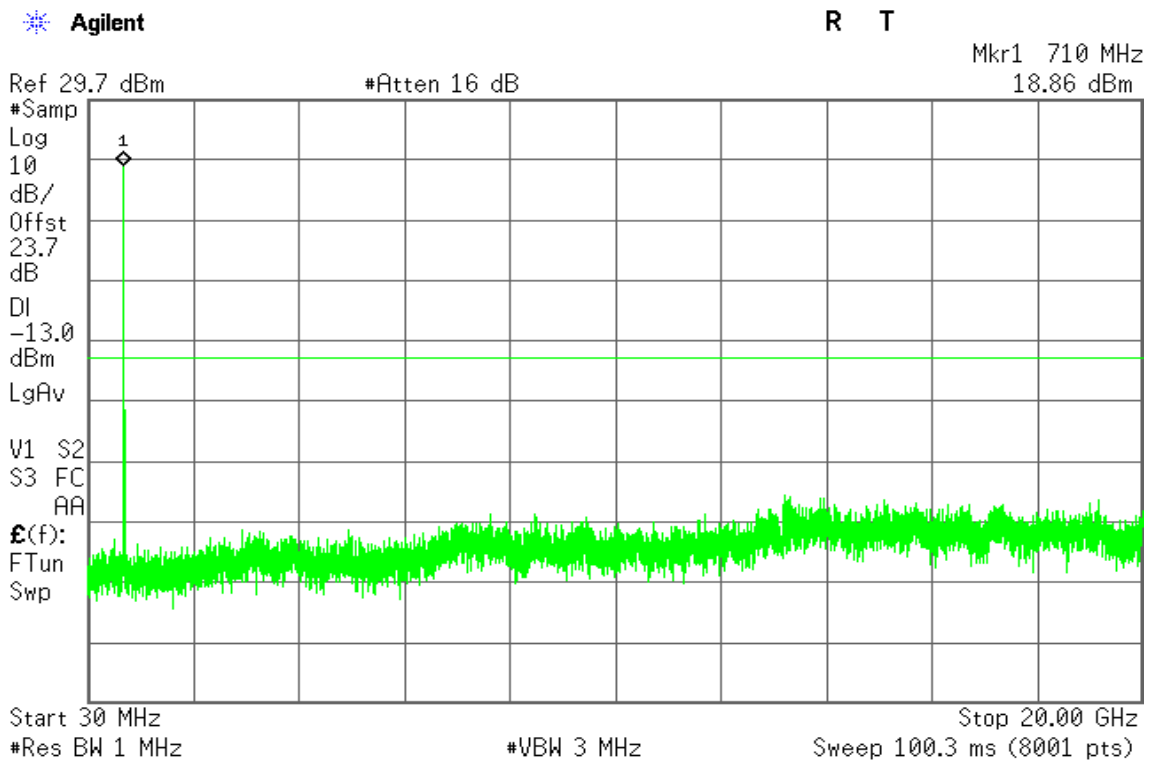
Mkr1 710 MHz  
18.27 dBm



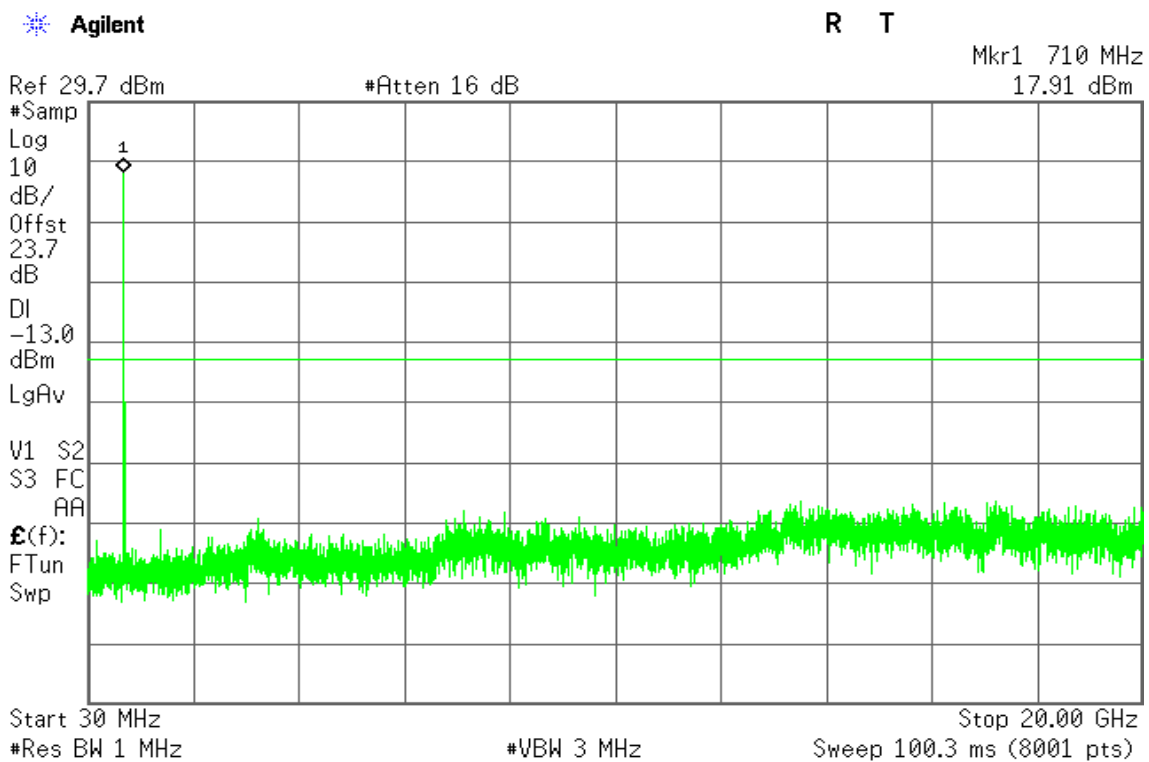


### CHANNEL BANDWIDTH: 10MHz / 16QAM

#### CH Low



#### CH Mid



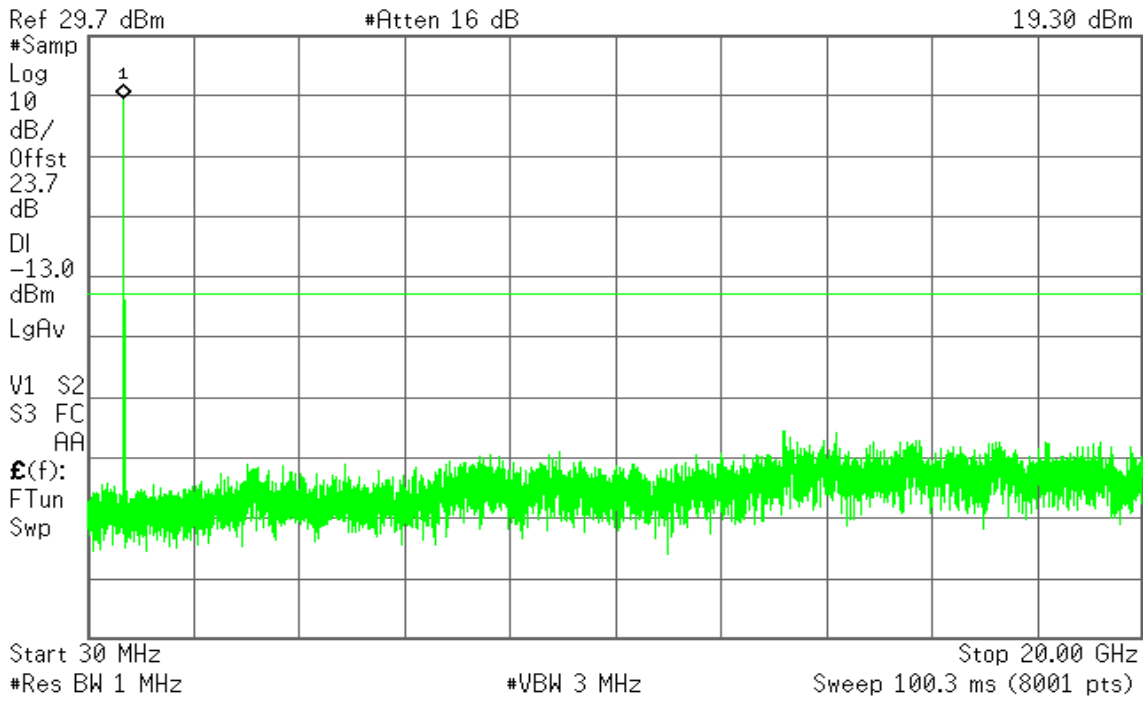


### CH High

Agilent

R T

Mkr1 710 MHz  
19.30 dBm

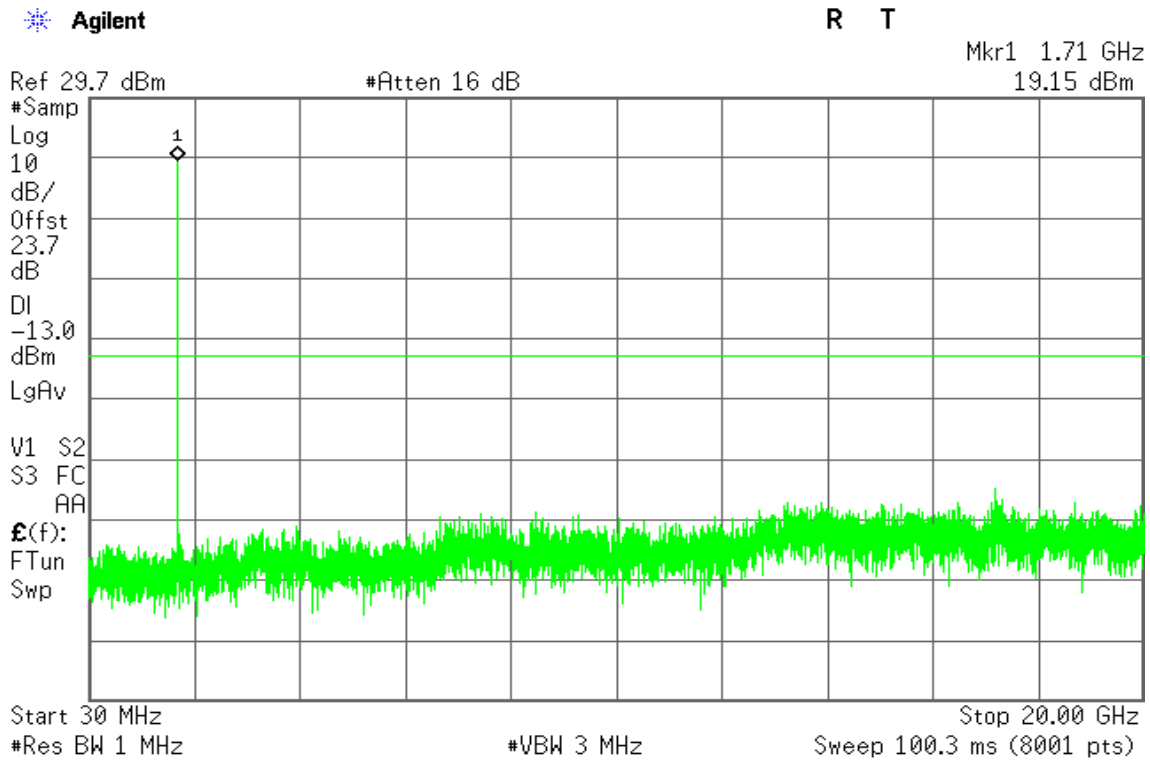




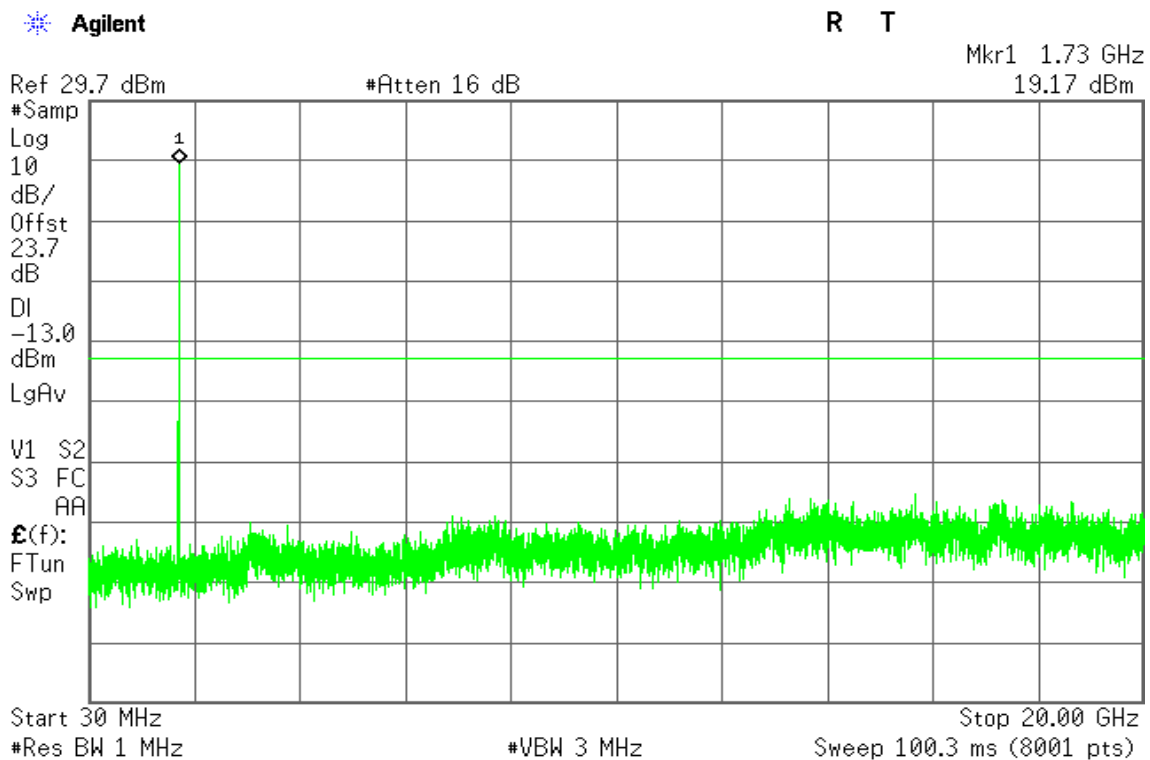
### LTE Band 4

CHANNEL BANDWIDTH: 5MHz / QPSK

#### CH Low



#### CH Mid



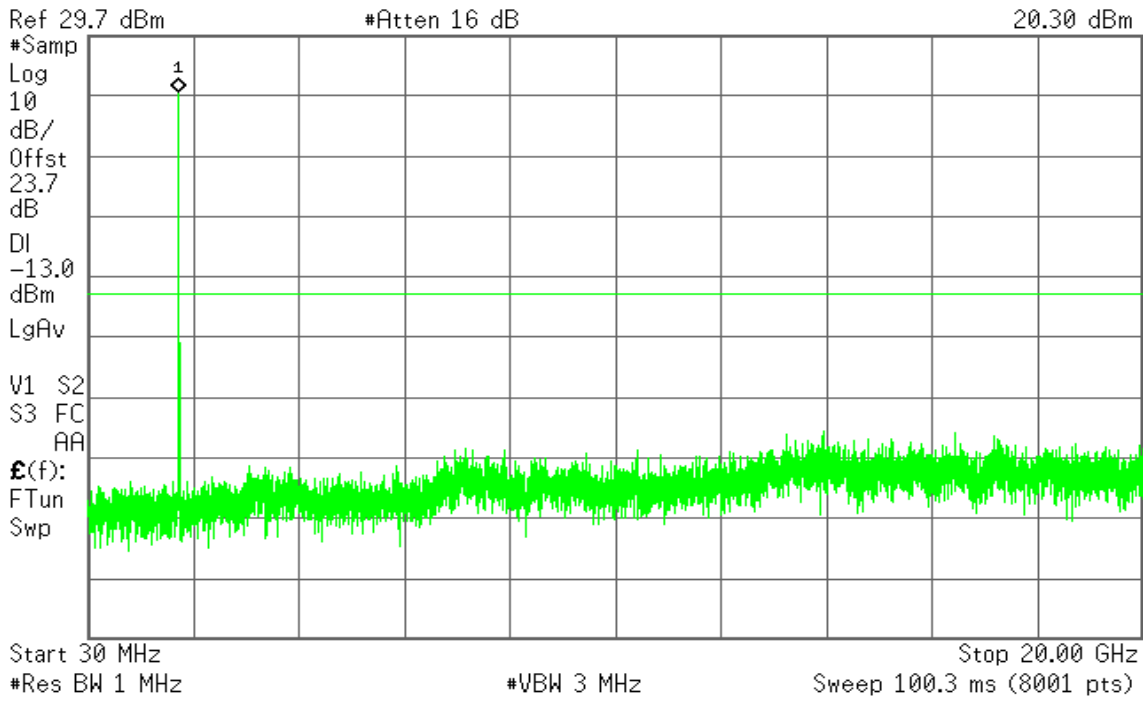


### CH High

Agilent

R T

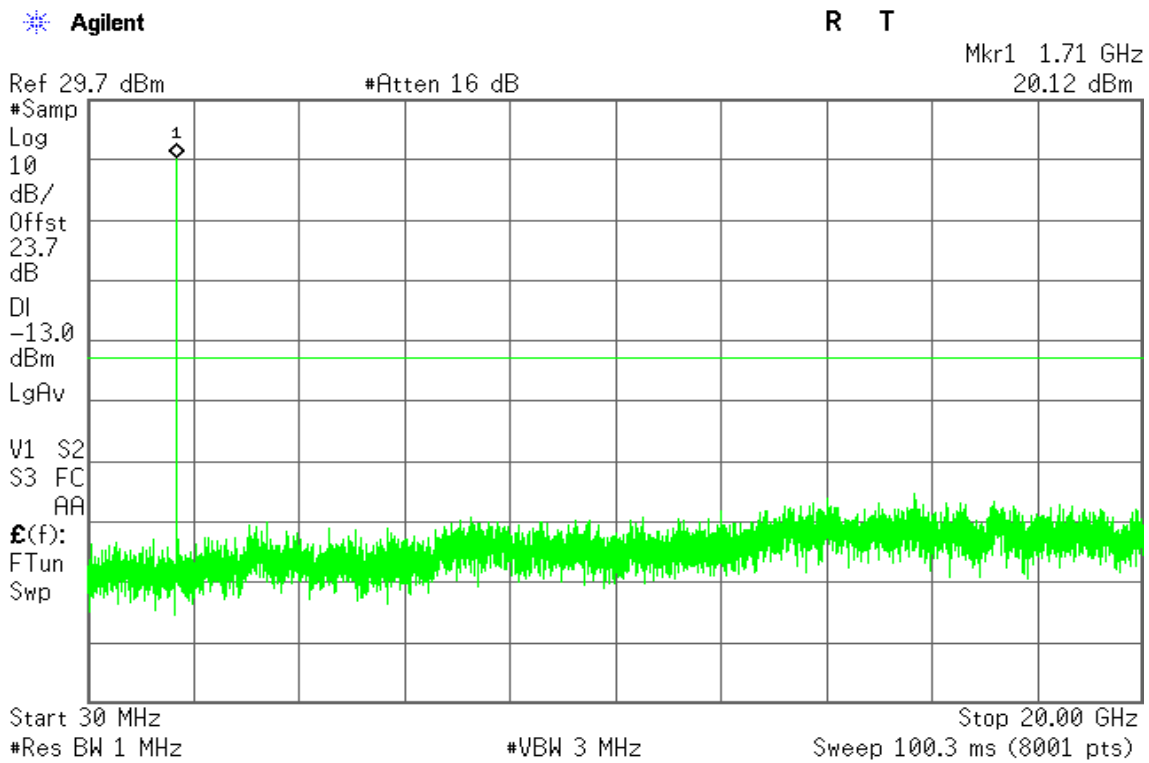
Mkr1 1.75 GHz  
20.30 dBm



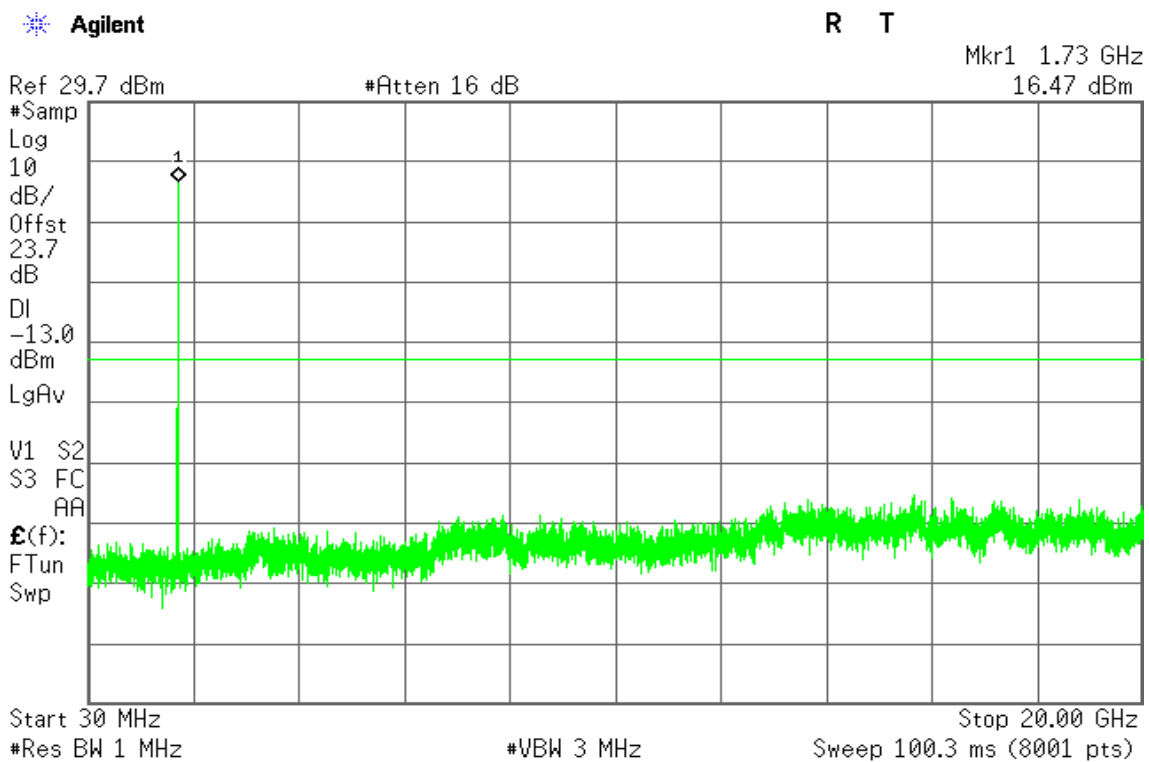


### CHANNEL BANDWIDTH: 5MHz / 16QAM

#### CH Low



#### CH Mid



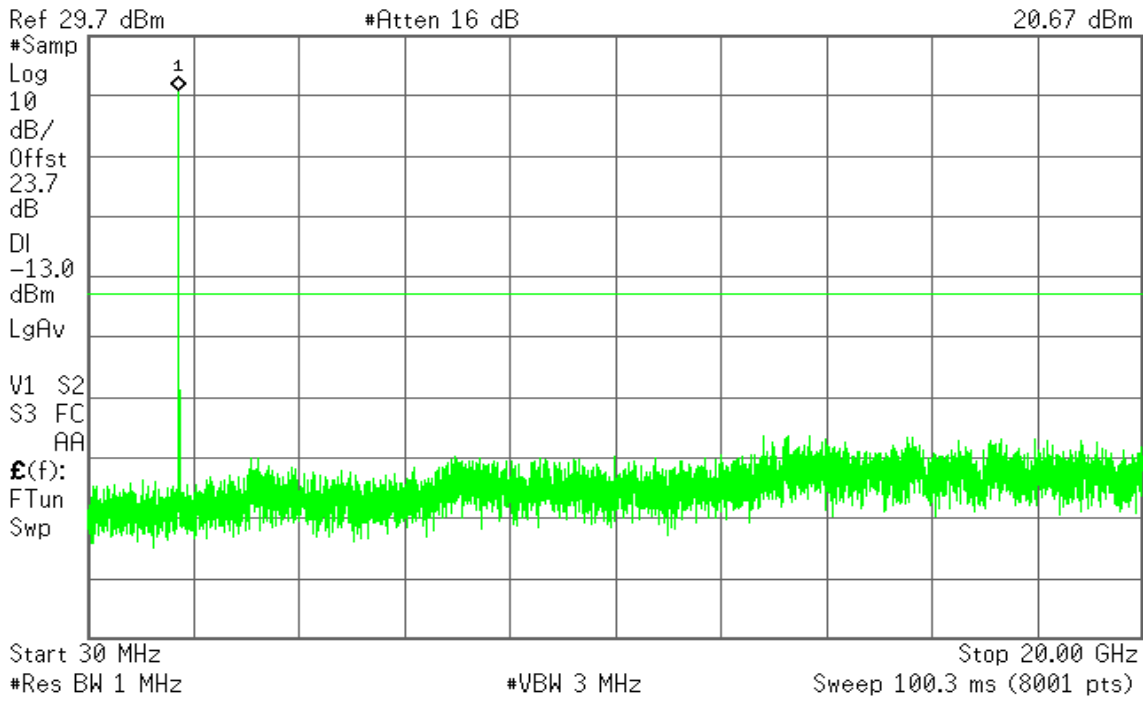


### CH High

Agilent

R T

Mkr1 1.75 GHz  
20.67 dBm

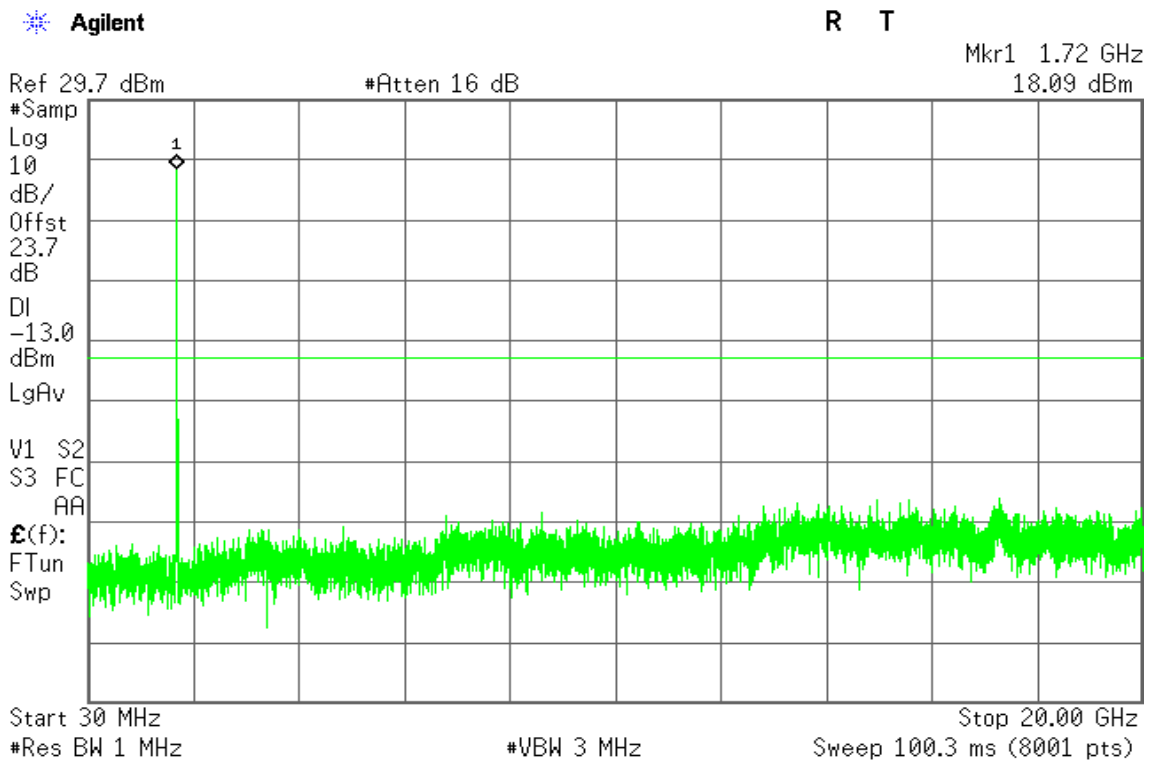




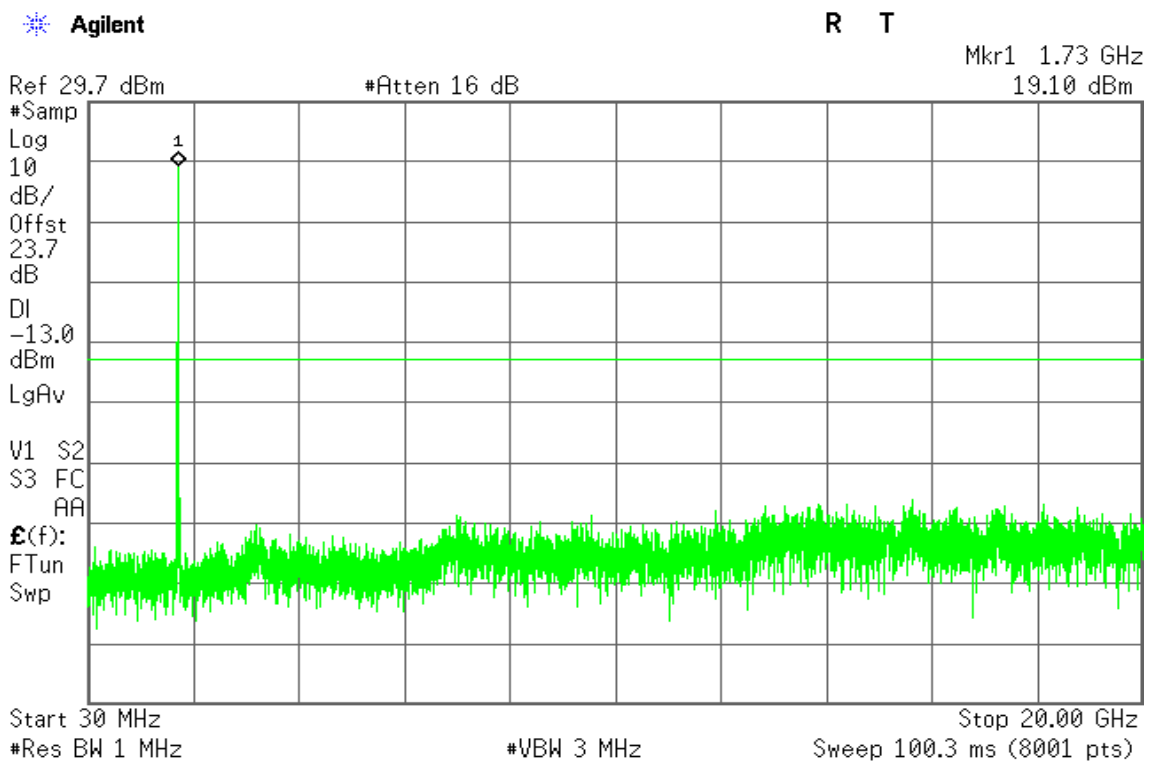


### CHANNEL BANDWIDTH: 10MHz / QPSK

#### CH Low



#### CH Mid



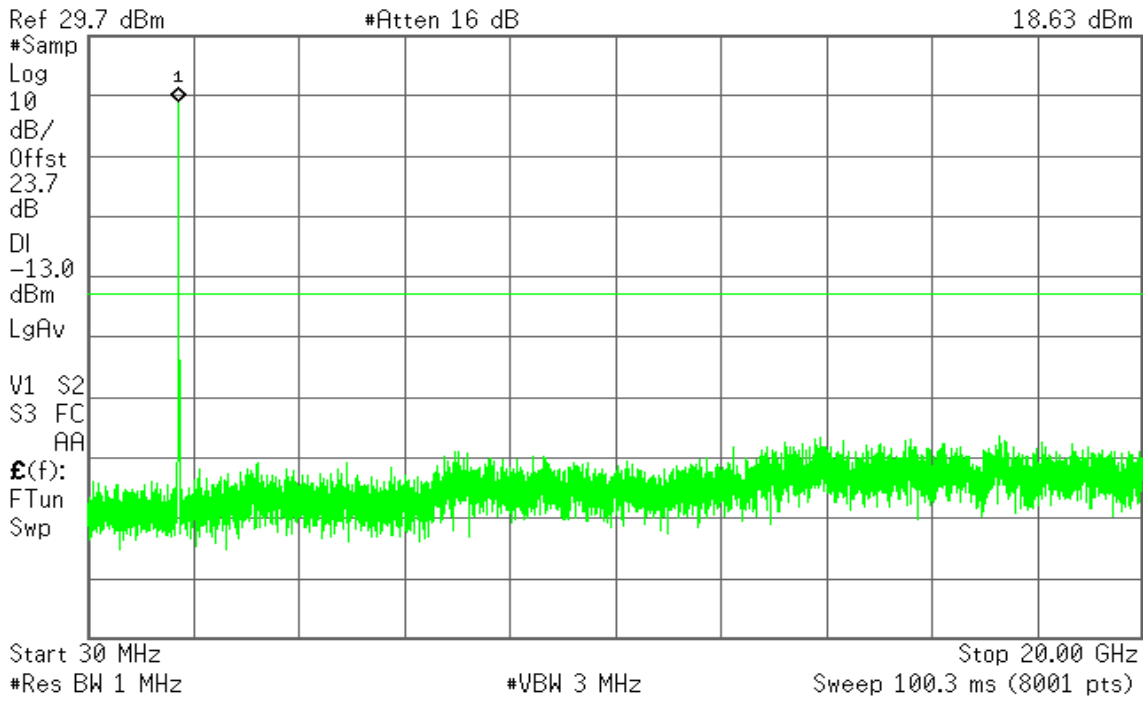


### CH High

Agilent

R T

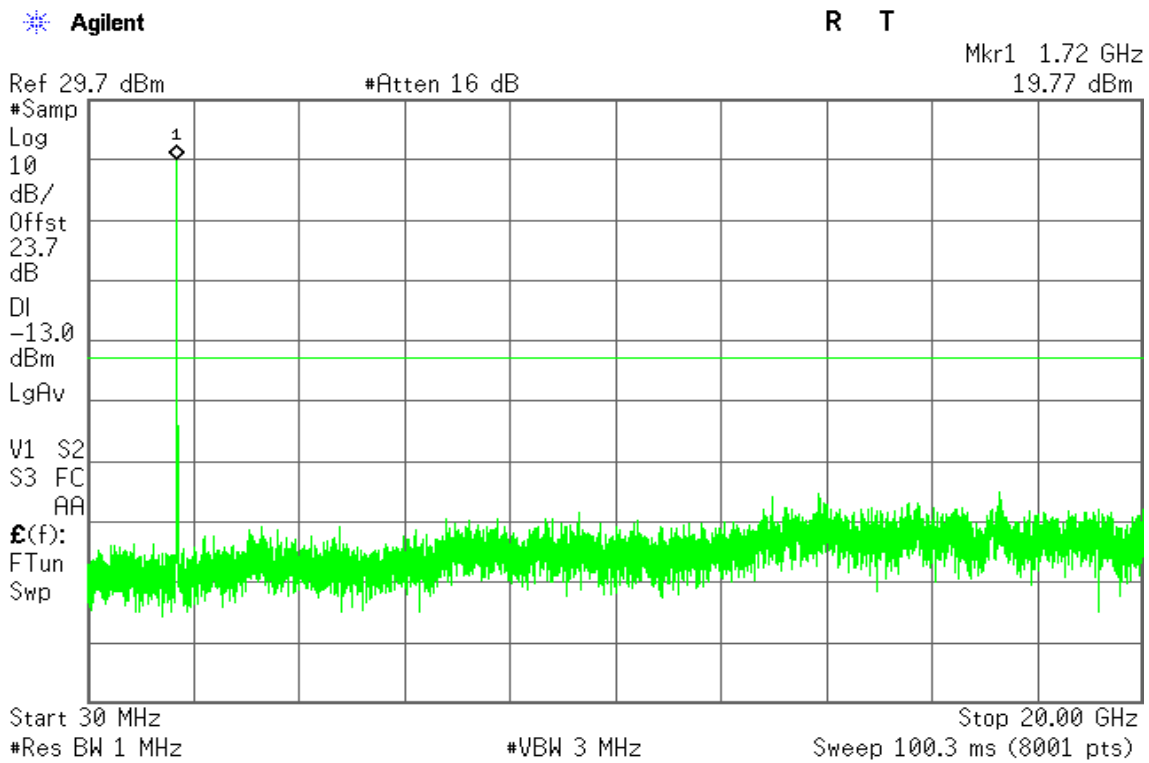
Mkr1 1.75 GHz  
18.63 dBm



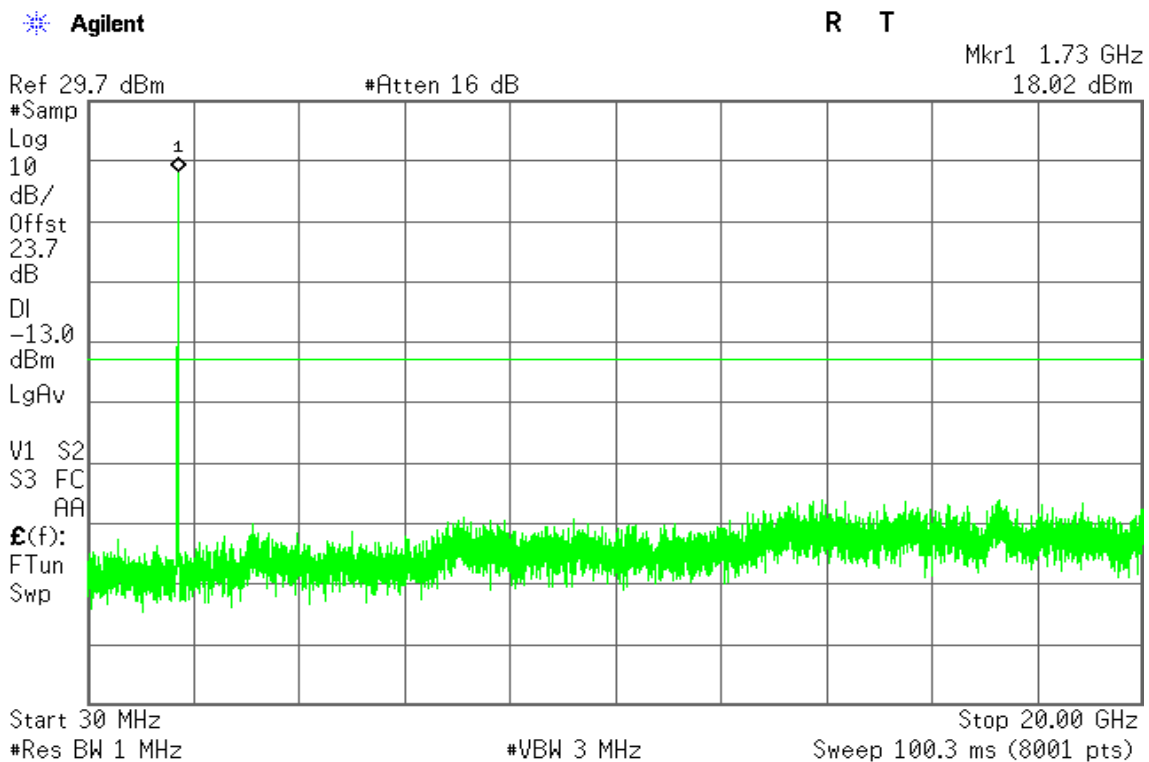


### CHANNEL BANDWIDTH: 10MHz / 16QAM

#### CH Low



#### CH Mid



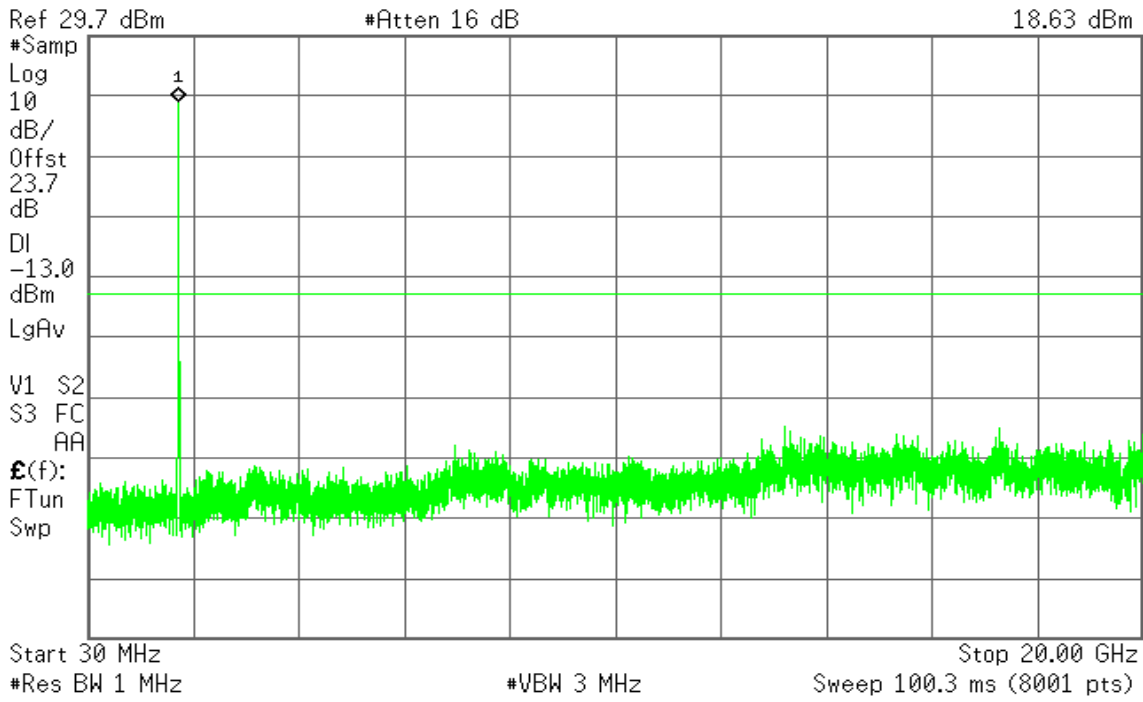


### CH High

Agilent

R T

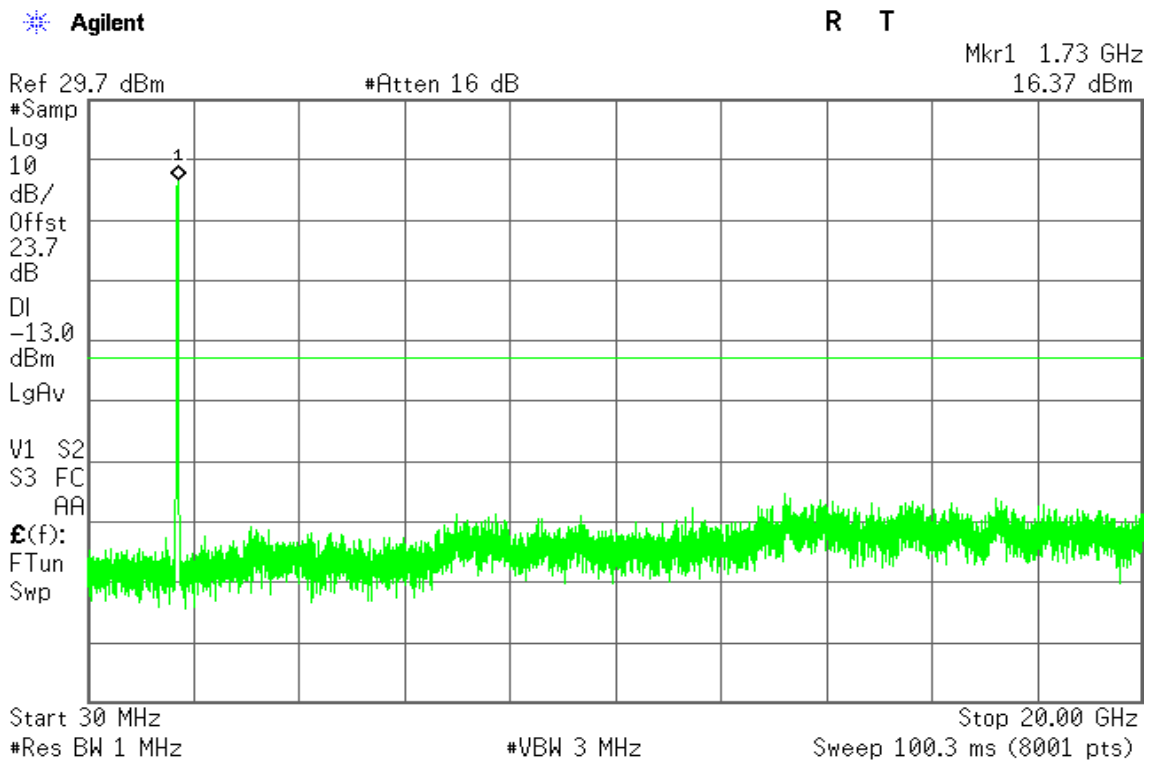
Mkr1 1.75 GHz  
18.63 dBm



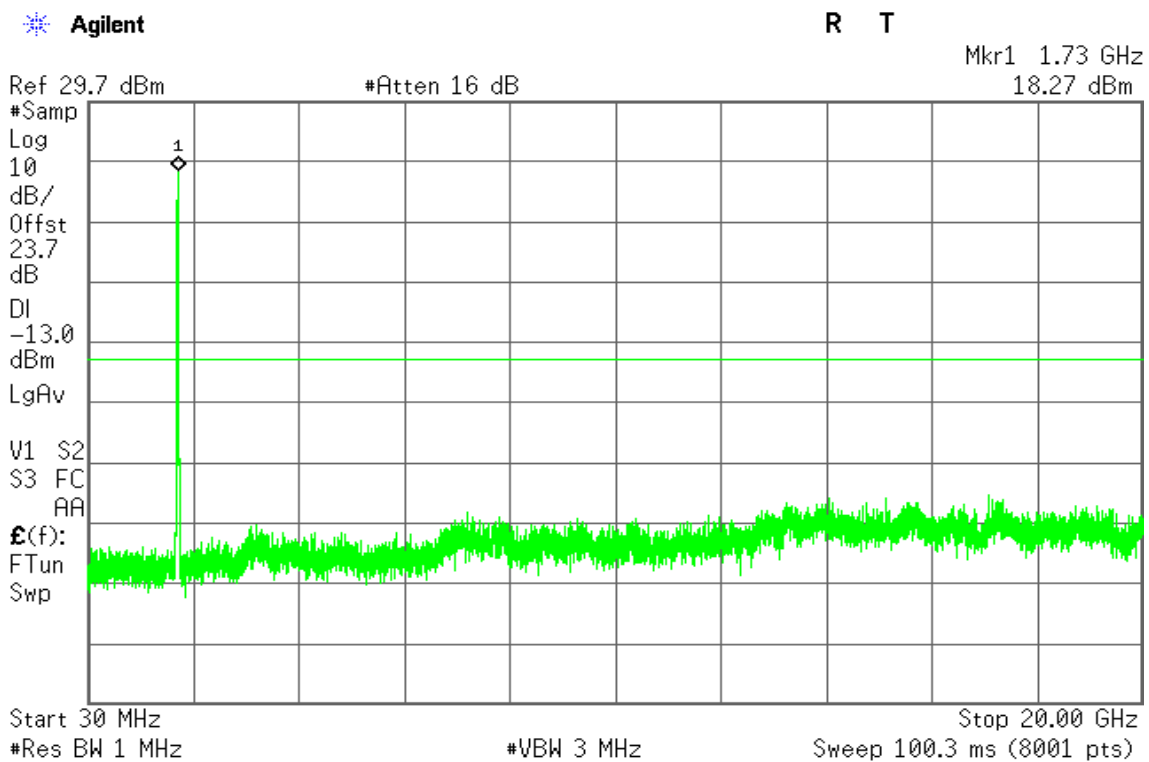


### CHANNEL BANDWIDTH: 20MHz / QPSK

#### CH Low



#### CH Mid



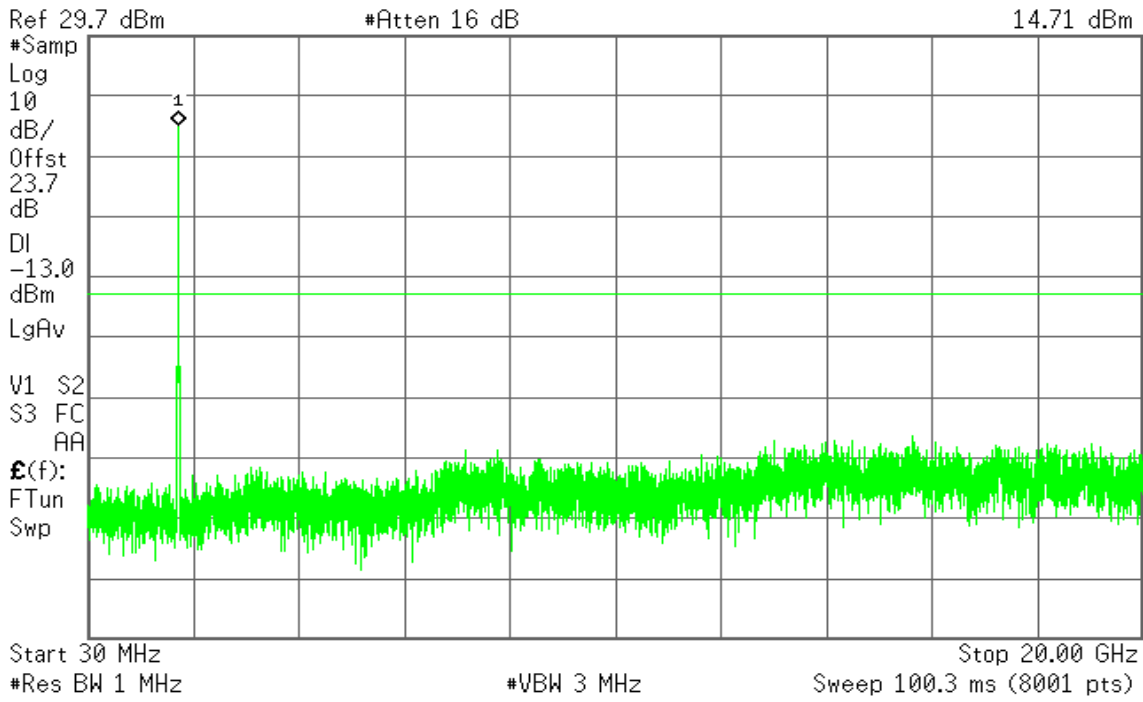


### CH High

Agilent

R T

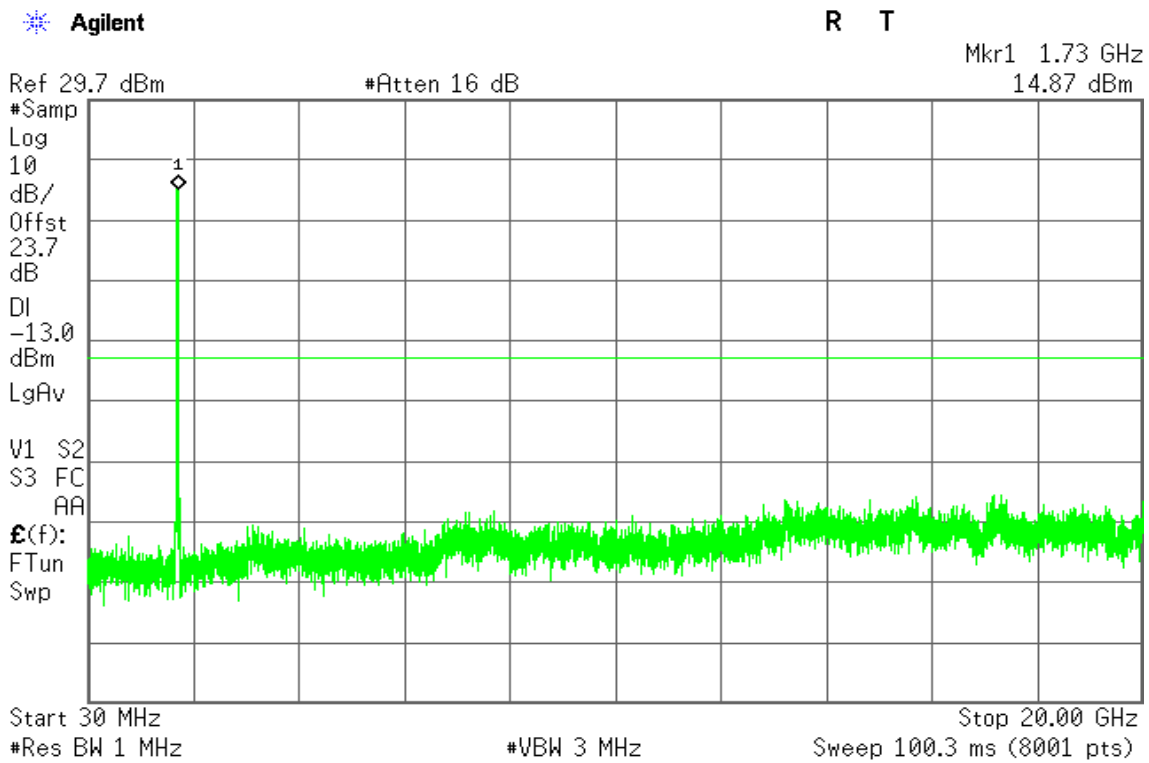
Mkr1 1.74 GHz  
14.71 dBm



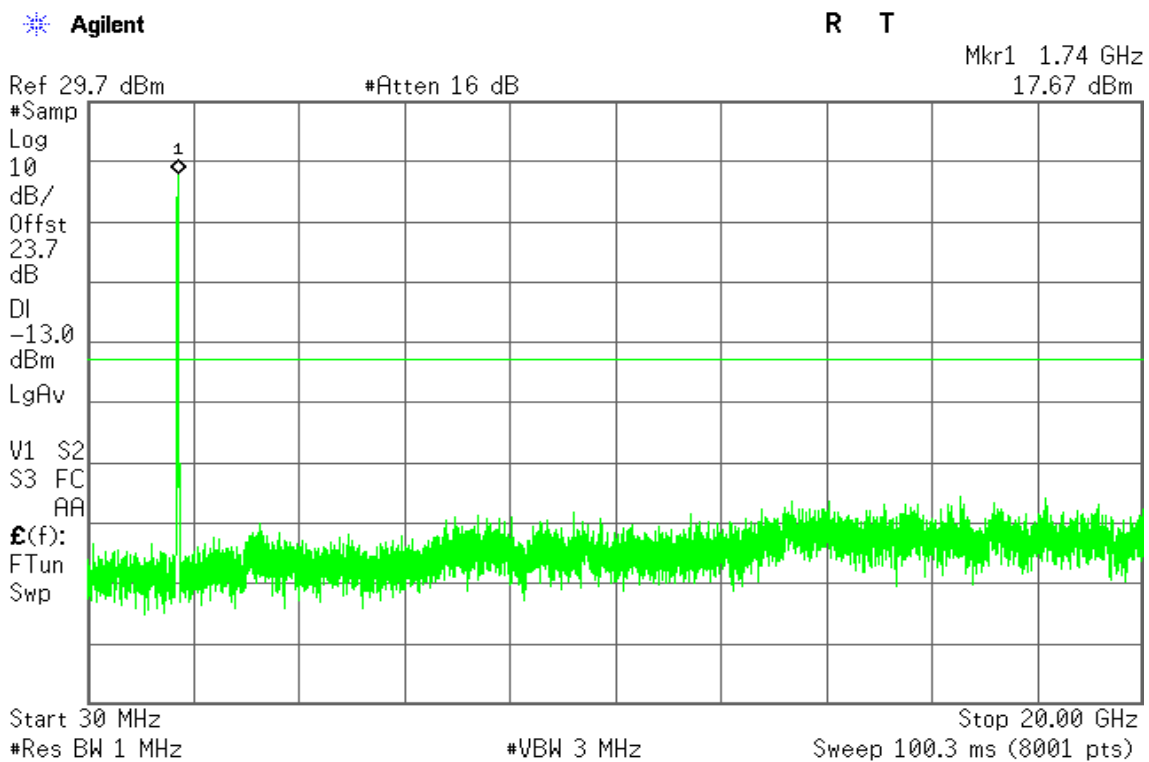


### CHANNEL BANDWIDTH: 20MHz / 16QAM

#### CH Low



#### CH Mid



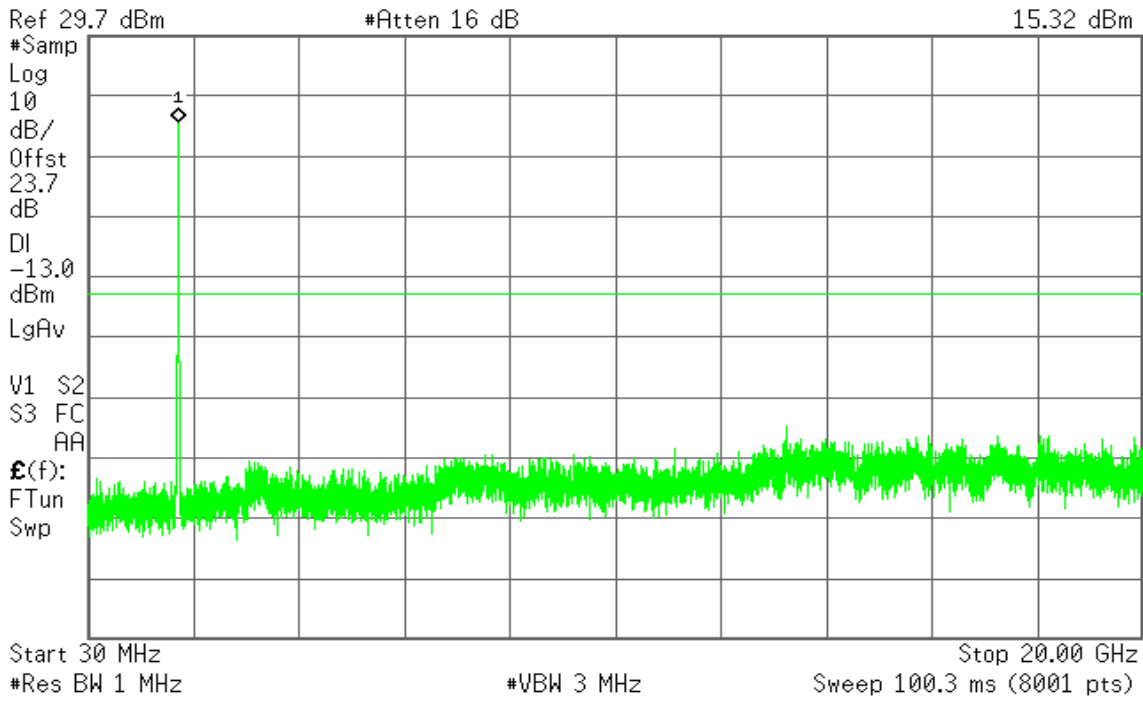


### CH High

Agilent

R T

Mkr1 1.74 GHz  
15.32 dBm







## 7.7 RADIATED EMISSION MEASUREMENT

### LIMITS

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least  $43 + 10 \log_{10}(P)$  dB. The limit of emission equal to  $-13$  dBm

So the limit of emission is the same absolute specified line.

| Limits | EQUIVALENT FIELD STRENGTH AT 3m<br>(dBuV/m) (NOTE) |
|--------|--|
| -13    | 82.22  |

**NOTE:** The following formula is used to convert the equipment radiated power to field strength.

$$E = [1000000\sqrt{(30P)}] / 3 \text{ uV/m, where P is Watts}$$

### TEST PROCEDURES

1. The EUT was placed on the top of a rotating table 0.8 meters above the ground. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the receiving antenna, which was mounted on antenna tower and its position at 0.8 m above the ground.
3. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading and recorded the value.
4. Repeat step 1 ~ 3 for horizontal polarization.

**NOTE:** The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.



**TEST RESULTS**

**Below 1GHz**

**LTE Band 17 / CHANNEL BANDWIDTH: 5MHz / QPSK**

**Operation Mode:** Tx / Low channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 53.2800         | -49.86     | 0.83            | -3.94          | -54.63               | -13.00      | -41.63      | V                          |
| 112.4500        | -54.55     | 1.22            | -1.8           | -57.57               | -13.00      | -44.57      | V                          |
| 274.4400        | -70.47     | 1.99            | 5.19           | -67.27               | -13.00      | -54.27      | V                          |
| 412.1800        | -74.59     | 2.45            | 5.89           | -71.15               | -13.00      | -58.15      | V                          |
| 540.2200        | -75.29     | 2.78            | 6.26           | -71.81               | -13.00      | -58.81      | V                          |
| 596.4800        | -77.05     | 2.9             | 6.33           | -73.62               | -13.00      | -60.62      | V                          |
| 79.4700         | -56.46     | 1.04            | -0.26          | -57.76               | -13.00      | -44.76      | H                          |
| 147.3700        | -54.64     | 1.42            | 0.44           | -55.62               | -13.00      | -42.62      | H                          |
| 193.9300        | -56.9      | 1.62            | 3.58           | -54.94               | -13.00      | -41.94      | H                          |
| 279.2900        | -62.79     | 2               | 5.29           | -59.50               | -13.00      | -46.50      | H                          |
| 344.2800        | -69.98     | 2.19            | 5.8            | -66.37               | -13.00      | -53.37      | H                          |
| 418.9700        | -70.5      | 2.46            | 5.82           | -67.14               | -13.00      | -54.14      | H                          |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / Middle channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 53.2800         | -48.63     | 0.83            | -3.94          | -53.40               | -13.00      | -40.40      | V                          |
| 112.4500        | -54.89     | 1.22            | -1.8           | -57.91               | -13.00      | -44.91      | V                          |
| 240.4900        | -72.78     | 1.81            | 5.34           | -69.25               | -13.00      | -56.25      | V                          |
| 349.1300        | -73.49     | 2.22            | 5.8            | -69.91               | -13.00      | -56.91      | V                          |
| 418.9700        | -73.36     | 2.46            | 5.82           | -70.00               | -13.00      | -57.00      | V                          |
| 595.5100        | -76.26     | 2.9             | 6.31           | -72.85               | -13.00      | -59.85      | V                          |
| 79.4700         | -55.96     | 1.04            | -0.26          | -57.26               | -13.00      | -44.26      | H                          |
| 193.9300        | -57.41     | 1.62            | 3.58           | -55.45               | -13.00      | -42.45      | H                          |
| 279.2900        | -63.78     | 2               | 5.29           | -60.49               | -13.00      | -47.49      | H                          |
| 418.0000        | -70.04     | 2.46            | 5.83           | -66.67               | -13.00      | -53.67      | H                          |
| 540.2200        | -72.93     | 2.78            | 6.26           | -69.45               | -13.00      | -56.45      | H                          |
| 597.4500        | -74.07     | 2.9             | 6.35           | -70.62               | -13.00      | -57.62      | H                          |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / High channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 53.2800         | -50.31     | 0.83            | -3.94          | -55.08               | -13.00      | -42.08      | V                          |
| 112.4500        | -54.06     | 1.22            | -1.8           | -57.08               | -13.00      | -44.08      | V                          |
| 279.2900        | -70.81     | 2               | 5.29           | -67.52               | -13.00      | -54.52      | V                          |
| 418.9700        | -74.24     | 2.46            | 5.82           | -70.88               | -13.00      | -57.88      | V                          |
| 540.2200        | -75.51     | 2.78            | 6.26           | -72.03               | -13.00      | -59.03      | V                          |
| 597.4500        | -76.09     | 2.9             | 6.35           | -72.64               | -13.00      | -59.64      | V                          |
| 112.4500        | -54.4      | 1.22            | -1.8           | -57.42               | -13.00      | -44.42      | H                          |
| 193.9300        | -57.01     | 1.62            | 3.58           | -55.05               | -13.00      | -42.05      | H                          |
| 279.2900        | -63.06     | 2               | 5.29           | -59.77               | -13.00      | -46.77      | H                          |
| 349.1300        | -69.19     | 2.22            | 5.8            | -65.61               | -13.00      | -52.61      | H                          |
| 418.9700        | -70.63     | 2.46            | 5.82           | -67.27               | -13.00      | -54.27      | H                          |
| 540.2200        | -72.81     | 2.78            | 6.26           | -69.33               | -13.00      | -56.33      | H                          |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

**LTE Band 17 / CHANNEL BANDWIDTH: 5MHz / 16QAM**

**Operation Mode:** Tx / Low channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 53.2800         | -49.55     | 0.83            | -3.94          | -54.32               | -13.00      | -41.32      | V                          |
| 112.4500        | -54.67     | 1.22            | -1.8           | -57.69               | -13.00      | -44.69      | V                          |
| 279.2900        | -70.61     | 2               | 5.29           | -67.32               | -13.00      | -54.32      | V                          |
| 418.9700        | -73.61     | 2.46            | 5.82           | -70.25               | -13.00      | -57.25      | V                          |
| 540.2200        | -75.26     | 2.78            | 6.26           | -71.78               | -13.00      | -58.78      | V                          |
| 598.4200        | -76.71     | 2.9             | 6.37           | -73.24               | -13.00      | -60.24      | V                          |
| 79.4700         | -56.6      | 1.04            | -0.26          | -57.90               | -13.00      | -44.90      | H                          |
| 147.3700        | -54.12     | 1.42            | 0.44           | -55.10               | -13.00      | -42.10      | H                          |
| 193.9300        | -57.03     | 1.62            | 3.58           | -55.07               | -13.00      | -42.07      | H                          |
| 279.2900        | -62.95     | 2               | 5.29           | -59.66               | -13.00      | -46.66      | H                          |
| 418.9700        | -69.51     | 2.46            | 5.82           | -66.15               | -13.00      | -53.15      | H                          |
| 540.2200        | -71.59     | 2.78            | 6.26           | -68.11               | -13.00      | -55.11      | H                          |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / Middle channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 53.2800         | -48.5      | 0.83            | -3.94          | -53.27               | -13.00      | -40.27      | V                          |
| 112.4500        | -55        | 1.22            | -1.8           | -58.02               | -13.00      | -45.02      | V                          |
| 279.2900        | -70.73     | 2               | 5.29           | -67.44               | -13.00      | -54.44      | V                          |
| 343.3100        | -73.19     | 2.19            | 5.8            | -69.58               | -13.00      | -56.58      | V                          |
| 418.9700        | -74.93     | 2.46            | 5.82           | -71.57               | -13.00      | -58.57      | V                          |
| 540.2200        | -74.87     | 2.78            | 6.26           | -71.39               | -13.00      | -58.39      | V                          |
| 79.4700         | -55.23     | 1.04            | -0.26          | -56.53               | -13.00      | -43.53      | H                          |
| 193.9300        | -57.05     | 1.62            | 3.58           | -55.09               | -13.00      | -42.09      | H                          |
| 275.4100        | -64.64     | 1.99            | 5.21           | -61.42               | -13.00      | -48.42      | H                          |
| 413.1500        | -68.44     | 2.45            | 5.88           | -65.01               | -13.00      | -52.01      | H                          |
| 540.2200        | -71.83     | 2.78            | 6.26           | -68.35               | -13.00      | -55.35      | H                          |
| 594.5400        | -74.29     | 2.89            | 6.29           | -70.89               | -13.00      | -57.89      | H                          |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / High channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 53.2800         | -48.29     | 0.83            | -3.94          | -53.06               | -13.00      | -40.06      | V                          |
| 112.4500        | -54.43     | 1.22            | -1.8           | -57.45               | -13.00      | -44.45      | V                          |
| 244.3700        | -71.57     | 1.82            | 5.47           | -67.92               | -13.00      | -54.92      | V                          |
| 418.9700        | -73.95     | 2.46            | 5.82           | -70.59               | -13.00      | -57.59      | V                          |
| 540.2200        | -75.67     | 2.78            | 6.26           | -72.19               | -13.00      | -59.19      | V                          |
| 597.4500        | -75.85     | 2.9             | 6.35           | -72.40               | -13.00      | -59.40      | V                          |
| 79.4700         | -55.54     | 1.04            | -0.26          | -56.84               | -13.00      | -43.84      | H                          |
| 147.3700        | -53.69     | 1.42            | 0.44           | -54.67               | -13.00      | -41.67      | H                          |
| 193.9300        | -57.53     | 1.62            | 3.58           | -55.57               | -13.00      | -42.57      | H                          |
| 275.4100        | -62.38     | 1.99            | 5.21           | -59.16               | -13.00      | -46.16      | H                          |
| 418.9700        | -68.75     | 2.46            | 5.82           | -65.39               | -13.00      | -52.39      | H                          |
| 540.2200        | -71.66     | 2.78            | 6.26           | -68.18               | -13.00      | -55.18      | H                          |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**LTE Band 17 / CHANNEL BANDWIDTH: 10MHz / QPSK**

**Operation Mode:** Tx / Low channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 53.2800         | -49.69     | 0.83            | -3.94          | -54.46               | -13.00      | -41.46      | V                          |
| 112.4500        | -54.06     | 1.22            | -1.8           | -57.08               | -13.00      | -44.08      | V                          |
| 244.3700        | -71.31     | 1.82            | 5.47           | -67.66               | -13.00      | -54.66      | V                          |
| 274.4400        | -70.12     | 1.99            | 5.19           | -66.92               | -13.00      | -53.92      | V                          |
| 418.9700        | -73.26     | 2.46            | 5.82           | -69.90               | -13.00      | -56.90      | V                          |
| 540.2200        | -75.2      | 2.78            | 6.26           | -71.72               | -13.00      | -58.72      | V                          |
| 79.4700         | -56.36     | 1.04            | -0.26          | -57.66               | -13.00      | -44.66      | H                          |
| 147.3700        | -54.34     | 1.42            | 0.44           | -55.32               | -13.00      | -42.32      | H                          |
| 193.9300        | -56.8      | 1.62            | 3.58           | -54.84               | -13.00      | -41.84      | H                          |
| 344.2800        | -70.55     | 2.19            | 5.8            | -66.94               | -13.00      | -53.94      | H                          |
| 418.0000        | -67.21     | 2.46            | 5.83           | -63.84               | -13.00      | -50.84      | H                          |
| 540.2200        | -73.09     | 2.78            | 6.26           | -69.61               | -13.00      | -56.61      | H                          |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*





**Operation Mode:** Tx / Middle channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 53.2800         | -48.9      | 0.83            | -3.94          | -53.67               | -13.00      | -40.67      | V                          |
| 112.4500        | -55.02     | 1.22            | -1.8           | -58.04               | -13.00      | -45.04      | V                          |
| 163.8600        | -72.08     | 1.51            | 1.83           | -71.76               | -13.00      | -58.76      | V                          |
| 276.3800        | -71.52     | 1.99            | 5.23           | -68.28               | -13.00      | -55.28      | V                          |
| 413.1500        | -72.88     | 2.45            | 5.88           | -69.45               | -13.00      | -56.45      | V                          |
| 540.2200        | -74.62     | 2.78            | 6.26           | -71.14               | -13.00      | -58.14      | V                          |
| 79.4700         | -55.69     | 1.04            | -0.26          | -56.99               | -13.00      | -43.99      | H                          |
| 147.3700        | -53.98     | 1.42            | 0.44           | -54.96               | -13.00      | -41.96      | H                          |
| 193.9300        | -56.99     | 1.62            | 3.58           | -55.03               | -13.00      | -42.03      | H                          |
| 275.4100        | -64.24     | 1.99            | 5.21           | -61.02               | -13.00      | -48.02      | H                          |
| 418.9700        | -69.95     | 2.46            | 5.82           | -66.59               | -13.00      | -53.59      | H                          |
| 540.2200        | -71.41     | 2.78            | 6.26           | -67.93               | -13.00      | -54.93      | H                          |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / High channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 53.2800         | -50.53     | 0.83            | -3.94          | -55.30               | -13.00      | -42.30      | V                          |
| 112.4500        | -53.84     | 1.22            | -1.8           | -56.86               | -13.00      | -43.86      | V                          |
| 187.1400        | -69.49     | 1.62            | 3.89           | -67.22               | -13.00      | -54.22      | V                          |
| 349.1300        | -74.58     | 2.22            | 5.8            | -71.00               | -13.00      | -58.00      | V                          |
| 418.9700        | -73.99     | 2.46            | 5.82           | -70.63               | -13.00      | -57.63      | V                          |
| 540.2200        | -74.73     | 2.78            | 6.26           | -71.25               | -13.00      | -58.25      | V                          |
| 79.4700         | -56.84     | 1.04            | -0.26          | -58.14               | -13.00      | -45.14      | H                          |
| 147.3700        | -53.43     | 1.42            | 0.44           | -54.41               | -13.00      | -41.41      | H                          |
| 193.9300        | -57.05     | 1.62            | 3.58           | -55.09               | -13.00      | -42.09      | H                          |
| 278.3200        | -65.68     | 2               | 5.27           | -62.41               | -13.00      | -49.41      | H                          |
| 416.0600        | -69.76     | 2.46            | 5.85           | -66.37               | -13.00      | -53.37      | H                          |
| 540.2200        | -72.27     | 2.78            | 6.26           | -68.79               | -13.00      | -55.79      | H                          |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**LTE Band 17 / CHANNEL BANDWIDTH: 10MHz / 16QAM**

**Operation Mode:** Tx / Low channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 53.2800         | -48.42     | 0.83            | -3.94          | -53.19               | -13.00      | -40.19      | V                          |
| 79.4700         | -55.38     | 1.04            | -0.26          | -56.68               | -13.00      | -43.68      | V                          |
| 147.3700        | -62.22     | 1.42            | 0.44           | -63.20               | -13.00      | -50.20      | V                          |
| 240.4900        | -70.88     | 1.81            | 5.34           | -67.35               | -13.00      | -54.35      | V                          |
| 418.0000        | -73.32     | 2.46            | 5.83           | -69.95               | -13.00      | -56.95      | V                          |
| 540.2200        | -74.45     | 2.78            | 6.26           | -70.97               | -13.00      | -57.97      | V                          |
|                 |            |                 |                |                      |             |             |                            |
| 112.4500        | -52.4      | 1.22            | -1.8           | -55.42               | -13.00      | -42.42      | H                          |
| 193.9300        | -56.36     | 1.62            | 3.58           | -54.40               | -13.00      | -41.40      | H                          |
| 230.7900        | -61.25     | 1.8             | 5.4            | -57.65               | -13.00      | -44.65      | H                          |
| 279.2900        | -64.91     | 2               | 5.29           | -61.62               | -13.00      | -48.62      | H                          |
| 418.9700        | -67.95     | 2.46            | 5.82           | -64.59               | -13.00      | -51.59      | H                          |
| 540.2200        | -71.65     | 2.78            | 6.26           | -68.17               | -13.00      | -55.17      | H                          |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / Middle channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 53.2800         | -49.29     | 0.83            | -3.94          | -54.06               | -13.00      | -41.06      | V                          |
| 112.4500        | -54.47     | 1.22            | -1.8           | -57.49               | -13.00      | -44.49      | V                          |
| 275.4100        | -70.37     | 1.99            | 5.21           | -67.15               | -13.00      | -54.15      | V                          |
| 418.9700        | -73.21     | 2.46            | 5.82           | -69.85               | -13.00      | -56.85      | V                          |
| 540.2200        | -75.12     | 2.78            | 6.26           | -71.64               | -13.00      | -58.64      | V                          |
| 594.5400        | -76.07     | 2.89            | 6.29           | -72.67               | -13.00      | -59.67      | V                          |
| 79.4700         | -53.53     | 1.04            | -0.26          | -54.83               | -13.00      | -41.83      | H                          |
| 147.3700        | -52.56     | 1.42            | 0.44           | -53.54               | -13.00      | -40.54      | H                          |
| 193.9300        | -54.74     | 1.62            | 3.58           | -52.78               | -13.00      | -39.78      | H                          |
| 237.5800        | -61.92     | 1.81            | 5.36           | -58.37               | -13.00      | -45.37      | H                          |
| 296.7500        | -68.02     | 2.07            | 5.53           | -64.56               | -13.00      | -51.56      | H                          |
| 418.9700        | -67.67     | 2.46            | 5.82           | -64.31               | -13.00      | -51.31      | H                          |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / High channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 53.2800         | -50.49     | 0.83            | -3.94          | -55.26               | -13.00      | -42.26      | V                          |
| 112.4500        | -54.53     | 1.22            | -1.8           | -57.55               | -13.00      | -44.55      | V                          |
| 278.3200        | -70.66     | 2               | 5.27           | -67.39               | -13.00      | -54.39      | V                          |
| 349.1300        | -75.29     | 2.22            | 5.8            | -71.71               | -13.00      | -58.71      | V                          |
| 418.9700        | -72        | 2.46            | 5.82           | -68.64               | -13.00      | -55.64      | V                          |
| 597.4500        | -74.22     | 2.9             | 6.35           | -70.77               | -13.00      | -57.77      | V                          |
| 112.4500        | -50.63     | 1.22            | -1.8           | -53.65               | -13.00      | -40.65      | H                          |
| 193.9300        | -53.81     | 1.62            | 3.58           | -51.85               | -13.00      | -38.85      | H                          |
| 237.5800        | -61.11     | 1.81            | 5.36           | -57.56               | -13.00      | -44.56      | H                          |
| 349.1300        | -66.92     | 2.22            | 5.8            | -63.34               | -13.00      | -50.34      | H                          |
| 418.0000        | -67.08     | 2.46            | 5.83           | -63.71               | -13.00      | -50.71      | H                          |
| 540.2200        | -69.85     | 2.78            | 6.26           | -66.37               | -13.00      | -53.37      | H                          |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**LTE Band 4 / CHANNEL BANDWIDTH: 5MHz / QPSK**

**Operation Mode:** Tx / Low channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 53.2800         | -50.25     | 0.83            | -3.94          | -55.02               | -13.00      | -42.02      | V                          |
| 114.3900        | -62.16     | 1.24            | -1.88          | -65.28               | -13.00      | -52.28      | V                          |
| 257.9500        | -69.94     | 1.89            | 5.61           | -66.22               | -13.00      | -53.22      | V                          |
| 343.3100        | -74.06     | 2.19            | 5.8            | -70.45               | -13.00      | -57.45      | V                          |
| 418.9700        | -72.75     | 2.46            | 5.82           | -69.39               | -13.00      | -56.39      | V                          |
| 599.3900        | -75.53     | 2.9             | 6.39           | -72.04               | -13.00      | -59.04      | V                          |
| 79.4700         | -55.68     | 1.04            | -0.26          | -56.98               | -13.00      | -43.98      | H                          |
| 147.3700        | -54.45     | 1.42            | 0.44           | -55.43               | -13.00      | -42.43      | H                          |
| 193.9300        | -55.9      | 1.62            | 3.58           | -53.94               | -13.00      | -40.94      | H                          |
| 279.2900        | -64.49     | 2               | 5.29           | -61.20               | -13.00      | -48.20      | H                          |
| 348.1600        | -68.12     | 2.22            | 5.8            | -64.54               | -13.00      | -51.54      | H                          |
| 481.0500        | -75.34     | 2.64            | 5.52           | -72.46               | -13.00      | -59.46      | H                          |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / Middle channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 79.4700         | -54.93     | 1.04            | -0.26          | -56.23               | -13.00      | -43.23      | V                          |
| 147.3700        | -63.91     | 1.42            | 0.44           | -64.89               | -13.00      | -51.89      | V                          |
| 257.9500        | -70.73     | 1.89            | 5.61           | -67.01               | -13.00      | -54.01      | V                          |
| 349.1300        | -73.61     | 2.22            | 5.8            | -70.03               | -13.00      | -57.03      | V                          |
| 418.0000        | -73.24     | 2.46            | 5.83           | -69.87               | -13.00      | -56.87      | V                          |
| 540.2200        | -75.21     | 2.78            | 6.26           | -71.73               | -13.00      | -58.73      | V                          |
| 42.6100         | -47.07     | 0.74            | -10.34         | -58.15               | -13.00      | -45.15      | H                          |
| 79.4700         | -55.04     | 1.04            | -0.26          | -56.34               | -13.00      | -43.34      | H                          |
| 147.3700        | -54.38     | 1.42            | 0.44           | -55.36               | -13.00      | -42.36      | H                          |
| 193.9300        | -55.41     | 1.62            | 3.58           | -53.45               | -13.00      | -40.45      | H                          |
| 349.1300        | -71.34     | 2.22            | 5.8            | -67.76               | -13.00      | -54.76      | H                          |
| 413.1500        | -69.87     | 2.45            | 5.88           | -66.44               | -13.00      | -53.44      | H                          |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the ackground noise floor.*



**Operation Mode:** Tx / High channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 79.4700         | -54.27     | 1.04            | -0.26          | -55.57               | -13.00      | -42.57      | V                          |
| 147.3700        | -62.18     | 1.42            | 0.44           | -63.16               | -13.00      | -50.16      | V                          |
| 257.9500        | -71.19     | 1.89            | 5.61           | -67.47               | -13.00      | -54.47      | V                          |
| 294.8100        | -76.99     | 2.06            | 5.5            | -73.55               | -13.00      | -60.55      | V                          |
| 418.9700        | -73.36     | 2.46            | 5.82           | -70.00               | -13.00      | -57.00      | V                          |
| 540.2200        | -75.3      | 2.78            | 6.26           | -71.82               | -13.00      | -58.82      | V                          |
| 79.4700         | -55.66     | 1.04            | -0.26          | -56.96               | -13.00      | -43.96      | H                          |
| 147.3700        | -54.47     | 1.42            | 0.44           | -55.45               | -13.00      | -42.45      | H                          |
| 193.9300        | -56.05     | 1.62            | 3.58           | -54.09               | -13.00      | -41.09      | H                          |
| 279.2900        | -64.01     | 2               | 5.29           | -60.72               | -13.00      | -47.72      | H                          |
| 344.2800        | -71.47     | 2.19            | 5.8            | -67.86               | -13.00      | -54.86      | H                          |
| 418.9700        | -67.4      | 2.46            | 5.82           | -64.04               | -13.00      | -51.04      | H                          |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**LTE Band 4 / CHANNEL BANDWIDTH: 5MHz / 16QAM**

**Operation Mode:** Tx / Low channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 55.2200         | -57.29     | 0.84            | -3.37          | -61.50               | -13.00      | -48.50      | V                          |
| 79.4700         | -60.83     | 1.04            | -0.26          | -62.13               | -13.00      | -49.13      | V                          |
| 112.4500        | -60.22     | 1.22            | -1.8           | -63.24               | -13.00      | -50.24      | V                          |
| 147.3700        | -66.18     | 1.42            | 0.44           | -67.16               | -13.00      | -54.16      | V                          |
| 257.9500        | -73.37     | 1.89            | 5.61           | -69.65               | -13.00      | -56.65      | V                          |
| 276.3800        | -71.67     | 1.99            | 5.23           | -68.43               | -13.00      | -55.43      | V                          |
| 79.4700         | -53.86     | 1.04            | -0.26          | -55.16               | -13.00      | -42.16      | H                          |
| 147.3700        | -53.99     | 1.42            | 0.44           | -54.97               | -13.00      | -41.97      | H                          |
| 193.9300        | -55.22     | 1.62            | 3.58           | -53.26               | -13.00      | -40.26      | H                          |
| 274.4400        | -62.16     | 1.99            | 5.19           | -58.96               | -13.00      | -45.96      | H                          |
| 343.3100        | -70.84     | 2.19            | 5.8            | -67.23               | -13.00      | -54.23      | H                          |
| 418.9700        | -68.29     | 2.46            | 5.82           | -64.93               | -13.00      | -51.93      | H                          |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / Middle channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 55.2200         | -56.39     | 0.84            | -3.37          | -60.60               | -13.00      | -47.60      | V                          |
| 114.3900        | -63.84     | 1.24            | -1.88          | -66.96               | -13.00      | -53.96      | V                          |
| 209.4500        | -73.5      | 1.68            | 5.45           | -69.73               | -13.00      | -56.73      | V                          |
| 276.3800        | -71.9      | 1.99            | 5.23           | -68.66               | -13.00      | -55.66      | V                          |
| 418.9700        | -78.47     | 2.46            | 5.82           | -75.11               | -13.00      | -62.11      | V                          |
| 540.2200        | -76.37     | 2.78            | 6.26           | -72.89               | -13.00      | -59.89      | V                          |
| 594.5400        | -79.93     | 2.89            | 6.29           | -76.53               | -13.00      | -63.53      | V                          |
| 79.4700         | -58.11     | 1.04            | -0.26          | -59.41               | -13.00      | -46.41      | H                          |
| 147.3700        | -56.29     | 1.42            | 0.44           | -57.27               | -13.00      | -44.27      | H                          |
| 193.9300        | -63.42     | 1.62            | 3.58           | -61.46               | -13.00      | -48.46      | H                          |
| 250.1900        | -71.54     | 1.84            | 5.68           | -67.70               | -13.00      | -54.70      | H                          |
| 344.2800        | -74.27     | 2.19            | 5.8            | -70.66               | -13.00      | -57.66      | H                          |
| 418.9700        | -69.68     | 2.46            | 5.82           | -66.32               | -13.00      | -53.32      | H                          |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the ackground noise floor.*



**Operation Mode:** Tx / High channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 55.2200         | -57.29     | 0.84            | -3.37          | -61.50               | -13.00      | -48.50      | V                          |
| 112.4500        | -59.64     | 1.22            | -1.8           | -62.66               | -13.00      | -49.66      | V                          |
| 147.3700        | -66.23     | 1.42            | 0.44           | -67.21               | -13.00      | -54.21      | V                          |
| 206.5400        | -73.79     | 1.67            | 4.7            | -70.76               | -13.00      | -57.76      | V                          |
| 275.4100        | -68.54     | 1.99            | 5.21           | -65.32               | -13.00      | -52.32      | V                          |
| 413.1500        | -78.96     | 2.45            | 5.88           | -75.53               | -13.00      | -62.53      | V                          |
| 77.5300         | -64.02     | 1.02            | -0.6           | -65.64               | -13.00      | -52.64      | H                          |
| 147.3700        | -57.21     | 1.42            | 0.44           | -58.19               | -13.00      | -45.19      | H                          |
| 193.9300        | -64.39     | 1.62            | 3.58           | -62.43               | -13.00      | -49.43      | H                          |
| 276.3800        | -73.95     | 1.99            | 5.23           | -70.71               | -13.00      | -57.71      | H                          |
| 345.2500        | -73.03     | 2.2             | 5.8            | -69.43               | -13.00      | -56.43      | H                          |
| 418.9700        | -69.98     | 2.46            | 5.82           | -66.62               | -13.00      | -53.62      | H                          |
| 540.2200        | -76.99     | 2.78            | 6.26           | -73.51               | -13.00      | -60.51      | H                          |

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.



**LTE Band 4 / CHANNEL BANDWIDTH: 10MHz / QPSK**

**Operation Mode:** Tx / Low channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 51.3400         | -47.93     | 0.81            | -4.51          | -53.25               | -13.00      | -40.25      | V                          |
| 77.5300         | -55.65     | 1.02            | -0.6           | -57.27               | -13.00      | -44.27      | V                          |
| 257.9500        | -70.22     | 1.89            | 5.61           | -66.50               | -13.00      | -53.50      | V                          |
| 349.1300        | -74.96     | 2.22            | 5.8            | -71.38               | -13.00      | -58.38      | V                          |
| 418.9700        | -72.74     | 2.46            | 5.82           | -69.38               | -13.00      | -56.38      | V                          |
| 597.4500        | -74.12     | 2.9             | 6.35           | -70.67               | -13.00      | -57.67      | V                          |
| 42.6100         | -46.77     | 0.74            | -10.34         | -57.85               | -13.00      | -44.85      | H                          |
| 79.4700         | -55.17     | 1.04            | -0.26          | -56.47               | -13.00      | -43.47      | H                          |
| 147.3700        | -54.28     | 1.42            | 0.44           | -55.26               | -13.00      | -42.26      | H                          |
| 193.9300        | -55.96     | 1.62            | 3.58           | -54.00               | -13.00      | -41.00      | H                          |
| 279.2900        | -62.69     | 2               | 5.29           | -59.40               | -13.00      | -46.40      | H                          |
| 349.1300        | -69.91     | 2.22            | 5.8            | -66.33               | -13.00      | -53.33      | H                          |
| 418.9700        | -68.54     | 2.46            | 5.82           | -65.18               | -13.00      | -52.18      | H                          |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / Middle channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 53.2800         | -49.3      | 0.83            | -3.94          | -54.07               | -13.00      | -41.07      | V                          |
| 112.4500        | -57.01     | 1.22            | -1.8           | -60.03               | -13.00      | -47.03      | V                          |
| 206.5400        | -69.74     | 1.67            | 4.7            | -66.71               | -13.00      | -53.71      | V                          |
| 279.2900        | -69.61     | 2               | 5.29           | -66.32               | -13.00      | -53.32      | V                          |
| 349.1300        | -73.94     | 2.22            | 5.8            | -70.36               | -13.00      | -57.36      | V                          |
| 418.0000        | -72.81     | 2.46            | 5.83           | -69.44               | -13.00      | -56.44      | V                          |
| 79.4700         | -55.06     | 1.04            | -0.26          | -56.36               | -13.00      | -43.36      | H                          |
| 147.3700        | -54.3      | 1.42            | 0.44           | -55.28               | -13.00      | -42.28      | H                          |
| 193.9300        | -56.05     | 1.62            | 3.58           | -54.09               | -13.00      | -41.09      | H                          |
| 274.4400        | -64.07     | 1.99            | 5.19           | -60.87               | -13.00      | -47.87      | H                          |
| 413.1500        | -69.3      | 2.45            | 5.88           | -65.87               | -13.00      | -52.87      | H                          |
| 481.0500        | -75.72     | 2.64            | 5.52           | -72.84               | -13.00      | -59.84      | H                          |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / High channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 53.2800         | -49.57     | 0.83            | -3.94          | -54.34               | -13.00      | -41.34      | V                          |
| 79.4700         | -56.25     | 1.04            | -0.26          | -57.55               | -13.00      | -44.55      | V                          |
| 209.4500        | -71.08     | 1.68            | 5.45           | -67.31               | -13.00      | -54.31      | V                          |
| 257.9500        | -70.87     | 1.89            | 5.61           | -67.15               | -13.00      | -54.15      | V                          |
| 418.9700        | -72.49     | 2.46            | 5.82           | -69.13               | -13.00      | -56.13      | V                          |
| 540.2200        | -75.21     | 2.78            | 6.26           | -71.73               | -13.00      | -58.73      | V                          |
| 597.4500        | -74.57     | 2.9             | 6.35           | -71.12               | -13.00      | -58.12      | V                          |
| 79.4700         | -54.82     | 1.04            | -0.26          | -56.12               | -13.00      | -43.12      | H                          |
| 147.3700        | -54.28     | 1.42            | 0.44           | -55.26               | -13.00      | -42.26      | H                          |
| 193.9300        | -55.94     | 1.62            | 3.58           | -53.98               | -13.00      | -40.98      | H                          |
| 274.4400        | -64.22     | 1.99            | 5.19           | -61.02               | -13.00      | -48.02      | H                          |
| 349.1300        | -69.7      | 2.22            | 5.8            | -66.12               | -13.00      | -53.12      | H                          |
| 418.9700        | -68.59     | 2.46            | 5.82           | -65.23               | -13.00      | -52.23      | H                          |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**LTE Band 4 / CHANNEL BANDWIDTH: 10MHz / 16QAM**

**Operation Mode:** Tx / Low channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 53.2800         | -49.39     | 0.83            | -3.94          | -54.16               | -13.00      | -41.16      | V                          |
| 79.4700         | -55.65     | 1.04            | -0.26          | -56.95               | -13.00      | -43.95      | V                          |
| 149.3100        | -67.82     | 1.42            | 0.62           | -68.62               | -13.00      | -55.62      | V                          |
| 257.9500        | -69.66     | 1.89            | 5.61           | -65.94               | -13.00      | -52.94      | V                          |
| 413.1500        | -73.97     | 2.45            | 5.88           | -70.54               | -13.00      | -57.54      | V                          |
| 482.9900        | -77.62     | 2.65            | 5.58           | -74.69               | -13.00      | -61.69      | V                          |
| 540.2200        | -75.42     | 2.78            | 6.26           | -71.94               | -13.00      | -58.94      | V                          |
| 79.4700         | -58.79     | 1.04            | -0.26          | -60.09               | -13.00      | -47.09      | H                          |
| 147.3700        | -56.68     | 1.42            | 0.44           | -57.66               | -13.00      | -44.66      | H                          |
| 193.9300        | -64.27     | 1.62            | 3.58           | -62.31               | -13.00      | -49.31      | H                          |
| 239.5200        | -71.24     | 1.81            | 5.35           | -67.70               | -13.00      | -54.70      | H                          |
| 274.4400        | -73.3      | 1.99            | 5.19           | -70.10               | -13.00      | -57.10      | H                          |
| 346.2200        | -73.2      | 2.21            | 5.8            | -69.61               | -13.00      | -56.61      | H                          |
| 413.1500        | -68.91     | 2.45            | 5.88           | -65.48               | -13.00      | -52.48      | H                          |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / Middle channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 55.2200         | -51.42     | 0.84            | -3.37          | -55.63               | -13.00      | -42.63      | V                          |
| 147.3700        | -62.3      | 1.42            | 0.44           | -63.28               | -13.00      | -50.28      | V                          |
| 257.9500        | -69.55     | 1.89            | 5.61           | -65.83               | -13.00      | -52.83      | V                          |
| 349.1300        | -74.54     | 2.22            | 5.8            | -70.96               | -13.00      | -57.96      | V                          |
| 485.9000        | -77.23     | 2.65            | 5.66           | -74.22               | -13.00      | -61.22      | V                          |
| 687.6600        | -78.1      | 3.12            | 6.5            | -74.72               | -13.00      | -61.72      | V                          |
| 44.5500         | -56.98     | 0.76            | -8.84          | -66.58               | -13.00      | -53.58      | H                          |
| 79.4700         | -61.05     | 1.04            | -0.26          | -62.35               | -13.00      | -49.35      | H                          |
| 147.3700        | -56.74     | 1.42            | 0.44           | -57.72               | -13.00      | -44.72      | H                          |
| 193.9300        | -64.03     | 1.62            | 3.58           | -62.07               | -13.00      | -49.07      | H                          |
| 245.3400        | -70.9      | 1.82            | 5.5            | -67.22               | -13.00      | -54.22      | H                          |
| 413.1500        | -69.45     | 2.45            | 5.88           | -66.02               | -13.00      | -53.02      | H                          |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*





**Operation Mode:** Tx / High channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 79.4700         | -59.34     | 1.04            | -0.26          | -60.64               | -13.00      | -47.64      | V                          |
| 112.4500        | -60.2      | 1.22            | -1.8           | -63.22               | -13.00      | -50.22      | V                          |
| 257.9500        | -72.8      | 1.89            | 5.61           | -69.08               | -13.00      | -56.08      | V                          |
| 275.4100        | -70.57     | 1.99            | 5.21           | -67.35               | -13.00      | -54.35      | V                          |
| 483.9600        | -79.94     | 2.65            | 5.6            | -76.99               | -13.00      | -63.99      | V                          |
| 540.2200        | -75.04     | 2.78            | 6.26           | -71.56               | -13.00      | -58.56      | V                          |
| 79.4700         | -59.58     | 1.04            | -0.26          | -60.88               | -13.00      | -47.88      | H                          |
| 139.6100        | -55.51     | 1.39            | -0.28          | -57.18               | -13.00      | -44.18      | H                          |
| 193.9300        | -64.71     | 1.62            | 3.58           | -62.75               | -13.00      | -49.75      | H                          |
| 274.4400        | -73.03     | 1.99            | 5.19           | -69.83               | -13.00      | -56.83      | H                          |
| 349.1300        | -70.02     | 2.22            | 5.8            | -66.44               | -13.00      | -53.44      | H                          |
| 412.1800        | -69.46     | 2.45            | 5.89           | -66.02               | -13.00      | -53.02      | H                          |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**LTE Band 4 / CHANNEL BANDWIDTH: 20MHz / QPSK**

**Operation Mode:** Tx / Low channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 53.2800         | -49.57     | 0.83            | -3.94          | -54.34               | -13.00      | -41.34      | V                          |
| 112.4500        | -59.03     | 1.22            | -1.8           | -62.05               | -13.00      | -49.05      | V                          |
| 209.4500        | -71.08     | 1.68            | 5.45           | -67.31               | -13.00      | -54.31      | V                          |
| 418.9700        | -72.49     | 2.46            | 5.82           | -69.13               | -13.00      | -56.13      | V                          |
| 690.5700        | -78.25     | 3.13            | 6.49           | -74.89               | -13.00      | -61.89      | V                          |
| 756.5300        | -71.67     | 3.21            | 6.23           | -68.65               | -13.00      | -55.65      | V                          |
| 79.4700         | -54.08     | 1.04            | -0.26          | -55.38               | -13.00      | -42.38      | H                          |
| 147.3700        | -53.63     | 1.42            | 0.44           | -54.61               | -13.00      | -41.61      | H                          |
| 193.9300        | -55.06     | 1.62            | 3.58           | -53.10               | -13.00      | -40.10      | H                          |
| 275.4100        | -61.22     | 1.99            | 5.21           | -58.00               | -13.00      | -45.00      | H                          |
| 296.7500        | -69.88     | 2.07            | 5.53           | -66.42               | -13.00      | -53.42      | H                          |
| 413.1500        | -69.32     | 2.45            | 5.88           | -65.89               | -13.00      | -52.89      | H                          |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / Middle channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 53.2800         | -49.79     | 0.83            | -3.94          | -54.56               | -13.00      | -41.56      | V                          |
| 112.4500        | -58.95     | 1.22            | -1.8           | -61.97               | -13.00      | -48.97      | V                          |
| 149.3100        | -65.85     | 1.42            | 0.62           | -66.65               | -13.00      | -53.65      | V                          |
| 257.9500        | -69.82     | 1.89            | 5.61           | -66.10               | -13.00      | -53.10      | V                          |
| 278.3200        | -70.47     | 2               | 5.27           | -67.20               | -13.00      | -54.20      | V                          |
| 413.1500        | -73.57     | 2.45            | 5.88           | -70.14               | -13.00      | -57.14      | V                          |
| 593.5700        | -73.49     | 2.89            | 6.27           | -70.11               | -13.00      | -57.11      | V                          |
| 79.4700         | -54.63     | 1.04            | -0.26          | -55.93               | -13.00      | -42.93      | H                          |
| 147.3700        | -54.04     | 1.42            | 0.44           | -55.02               | -13.00      | -42.02      | H                          |
| 193.9300        | -56.03     | 1.62            | 3.58           | -54.07               | -13.00      | -41.07      | H                          |
| 275.4100        | -62.9      | 1.99            | 5.21           | -59.68               | -13.00      | -46.68      | H                          |
| 349.1300        | -71.24     | 2.22            | 5.8            | -67.66               | -13.00      | -54.66      | H                          |
| 418.9700        | -68.68     | 2.46            | 5.82           | -65.32               | -13.00      | -52.32      | H                          |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / High channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 53.2800         | -48.5      | 0.83            | -3.94          | -53.27               | -13.00      | -40.27      | V                          |
| 112.4500        | -58.82     | 1.22            | -1.8           | -61.84               | -13.00      | -48.84      | V                          |
| 207.5100        | -71.05     | 1.67            | 4.95           | -67.77               | -13.00      | -54.77      | V                          |
| 290.9300        | -76.7      | 2.03            | 5.43           | -73.30               | -13.00      | -60.30      | V                          |
| 413.1500        | -72.8      | 2.45            | 5.88           | -69.37               | -13.00      | -56.37      | V                          |
| 594.5400        | -76.45     | 2.89            | 6.29           | -73.05               | -13.00      | -60.05      | V                          |
| 42.6100         | -47.67     | 0.74            | -10.34         | -58.75               | -13.00      | -45.75      | H                          |
| 79.4700         | -53.72     | 1.04            | -0.26          | -55.02               | -13.00      | -42.02      | H                          |
| 147.3700        | -54.22     | 1.42            | 0.44           | -55.20               | -13.00      | -42.20      | H                          |
| 193.9300        | -55.58     | 1.62            | 3.58           | -53.62               | -13.00      | -40.62      | H                          |
| 275.4100        | -62.97     | 1.99            | 5.21           | -59.75               | -13.00      | -46.75      | H                          |
| 349.1300        | -69.37     | 2.22            | 5.8            | -65.79               | -13.00      | -52.79      | H                          |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**LTE Band 4 / CHANNEL BANDWIDTH: 20MHz / 16QAM**

**Operation Mode:** Tx / Low channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 55.2200         | -55.44     | 0.84            | -3.37          | -59.65               | -13.00      | -46.65      | V                          |
| 79.4700         | -61.13     | 1.04            | -0.26          | -62.43               | -13.00      | -49.43      | V                          |
| 112.4500        | -59.94     | 1.22            | -1.8           | -62.96               | -13.00      | -49.96      | V                          |
| 207.5100        | -75.52     | 1.67            | 4.95           | -72.24               | -13.00      | -59.24      | V                          |
| 276.3800        | -71.33     | 1.99            | 5.23           | -68.09               | -13.00      | -55.09      | V                          |
| 411.2100        | -80.21     | 2.45            | 5.9            | -76.76               | -13.00      | -63.76      | V                          |
| 79.4700         | -54.42     | 1.04            | -0.26          | -55.72               | -13.00      | -42.72      | H                          |
| 147.3700        | -54.89     | 1.42            | 0.44           | -55.87               | -13.00      | -42.87      | H                          |
| 193.9300        | -56.25     | 1.62            | 3.58           | -54.29               | -13.00      | -41.29      | H                          |
| 226.9100        | -63.94     | 1.79            | 5.37           | -60.36               | -13.00      | -47.36      | H                          |
| 296.7500        | -68.93     | 2.07            | 5.53           | -65.47               | -13.00      | -52.47      | H                          |
| 418.9700        | -67.77     | 2.46            | 5.82           | -64.41               | -13.00      | -51.41      | H                          |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / Middle channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 79.4700         | -58.91     | 1.04            | -0.26          | -60.21               | -13.00      | -47.21      | V                          |
| 112.4500        | -60.9      | 1.22            | -1.8           | -63.92               | -13.00      | -50.92      | V                          |
| 147.3700        | -66.88     | 1.42            | 0.44           | -67.86               | -13.00      | -54.86      | V                          |
| 193.9300        | -74.26     | 1.62            | 3.58           | -72.30               | -13.00      | -59.30      | V                          |
| 276.3800        | -72.16     | 1.99            | 5.23           | -68.92               | -13.00      | -55.92      | V                          |
| 418.9700        | -80.64     | 2.46            | 5.82           | -77.28               | -13.00      | -64.28      | V                          |
| 540.2200        | -76.11     | 2.78            | 6.26           | -72.63               | -13.00      | -59.63      | V                          |
| 79.4700         | -58.35     | 1.04            | -0.26          | -59.65               | -13.00      | -46.65      | H                          |
| 147.3700        | -56.61     | 1.42            | 0.44           | -57.59               | -13.00      | -44.59      | H                          |
| 193.9300        | -63.96     | 1.62            | 3.58           | -62.00               | -13.00      | -49.00      | H                          |
| 239.5200        | -71.39     | 1.81            | 5.35           | -67.85               | -13.00      | -54.85      | H                          |
| 349.1300        | -71.05     | 2.22            | 5.8            | -67.47               | -13.00      | -54.47      | H                          |
| 418.9700        | -68.34     | 2.46            | 5.82           | -64.98               | -13.00      | -51.98      | H                          |

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.



**Operation Mode:** Tx / High channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 55.2200         | -56.76     | 0.84            | -3.37          | -60.97               | -13.00      | -47.97      | V                          |
| 112.4500        | -59.64     | 1.22            | -1.8           | -62.66               | -13.00      | -49.66      | V                          |
| 206.5400        | -72.32     | 1.67            | 4.7            | -69.29               | -13.00      | -56.29      | V                          |
| 279.2900        | -72.54     | 2               | 5.29           | -69.25               | -13.00      | -56.25      | V                          |
| 300.6300        | -80.59     | 2.1             | 5.61           | -77.08               | -13.00      | -64.08      | V                          |
| 540.2200        | -75.39     | 2.78            | 6.26           | -71.91               | -13.00      | -58.91      | V                          |
| 79.4700         | -60.12     | 1.04            | -0.26          | -61.42               | -13.00      | -48.42      | H                          |
| 147.3700        | -57.41     | 1.42            | 0.44           | -58.39               | -13.00      | -45.39      | H                          |
| 193.9300        | -64.23     | 1.62            | 3.58           | -62.27               | -13.00      | -49.27      | H                          |
| 239.5200        | -71.46     | 1.81            | 5.35           | -67.92               | -13.00      | -54.92      | H                          |
| 296.7500        | -76.6      | 2.07            | 5.53           | -73.14               | -13.00      | -60.14      | H                          |
| 346.2200        | -71.68     | 2.21            | 5.8            | -68.09               | -13.00      | -55.09      | H                          |
| 418.9700        | -69.55     | 2.46            | 5.82           | -66.19               | -13.00      | -53.19      | H                          |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Above 1GHz**

**LTE Band 17 / CHANNEL BANDWIDTH: 5MHz / QPSK**

**Operation Mode:** Tx / Low channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 1413.000        | -41.75     | 4.67            | 5.67           | -40.75               | -13.00      | -27.75      | V                          |
| 2400.000        | -46.99     | 6.18            | 5.96           | -47.21               | -13.00      | -34.21      | V                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
| 1798.000        | -50.81     | 5.29            | 5.76           | -50.34               | -13.00      | -37.34      | H                          |
| 2946.000        | -45.37     | 7.09            | 7.26           | -45.20               | -13.00      | -32.20      | H                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*





**Operation Mode:** Tx / Middle channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 1420.000        | -44.32     | 4.68            | 5.72           | -43.28               | -13.00      | -30.28      | V                          |
| 2470.000        | -46.32     | 6.3             | 6.06           | -46.56               | -13.00      | -33.56      | V                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
| 1798.000        | -50.13     | 5.29            | 5.76           | -49.66               | -13.00      | -36.66      | H                          |
| 2960.000        | -45.2      | 7.07            | 7.3            | -44.97               | -13.00      | -31.97      | H                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / High channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 1427.000        | -42.85     | 4.7             | 5.77           | -41.78               | -13.00      | -28.78      | V                          |
| 2400.000        | -47.48     | 6.18            | 5.96           | -47.70               | -13.00      | -34.70      | V                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
| 1427.000        | -53.57     | 4.7             | 5.77           | -52.50               | -13.00      | -39.50      | H                          |
| 2974.000        | -45.67     | 7.05            | 7.33           | -45.39               | -13.00      | -32.39      | H                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**LTE Band 17 / CHANNEL BANDWIDTH: 5MHz / 16QAM**

**Operation Mode:** Tx / Low channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 1413.000        | -40.58     | 4.67            | 5.67           | -39.58               | -13.00      | -26.58      | V                          |
| 2533.000        | -47.34     | 6.4             | 6.19           | -47.55               | -13.00      | -34.55      | V                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
| 1952.000        | -50.39     | 5.59            | 5.49           | -50.49               | -13.00      | -37.49      | H                          |
| 2393.000        | -47.27     | 6.17            | 5.95           | -47.49               | -13.00      | -34.49      | H                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / Middle channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 1420.000        | -43.94     | 4.68            | 5.72           | -42.90               | -13.00      | -29.90      | V                          |
| 2393.000        | -46.4      | 6.17            | 5.95           | -46.62               | -13.00      | -33.62      | V                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
| 2393.000        | -49.14     | 6.17            | 5.95           | -49.36               | -13.00      | -36.36      | H                          |
| 2960.000        | -45.48     | 7.07            | 7.3            | -45.25               | -13.00      | -32.25      | H                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / High channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 1427.000        | -42.24     | 4.7             | 5.77           | -41.17               | -13.00      | -28.17      | V                          |
| 2379.000        | -47.14     | 6.16            | 5.93           | -47.37               | -13.00      | -34.37      | V                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
| 1791.000        | -51.03     | 5.27            | 5.78           | -50.52               | -13.00      | -37.52      | H                          |
| 2974.000        | -45.49     | 7.05            | 7.33           | -45.21               | -13.00      | -32.21      | H                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**LTE Band 17 / CHANNEL BANDWIDTH: 10MHz / QPSK**

**Operation Mode:** Tx / Low channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 1420.000        | -45.78     | 4.68            | 5.72           | -44.74               | -13.00      | -31.74      | V                          |
| 2386.000        | -46.42     | 6.16            | 5.94           | -46.64               | -13.00      | -33.64      | V                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
| 2953.000        | -44.86     | 7.08            | 7.28           | -44.66               | -13.00      | -31.66      | H                          |
| 5032.000        | -51.61     | 9.42            | 10.61          | -50.42               | -13.00      | -37.42      | H                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / Middle channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 1420.000        | -45.66     | 4.68            | 5.72           | -44.62               | -13.00      | -31.62      | V                          |
| 2386.000        | -46.45     | 6.16            | 5.94           | -46.67               | -13.00      | -33.67      | V                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
| 1784.000        | -51.99     | 5.26            | 5.79           | -51.46               | -13.00      | -38.46      | H                          |
| 2960.000        | -45        | 7.07            | 7.3            | -44.77               | -13.00      | -31.77      | H                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / High channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 1420.000        | -44.47     | 4.68            | 5.72           | -43.43               | -13.00      | -30.43      | V                          |
| 2526.000        | -47.41     | 6.39            | 6.17           | -47.63               | -13.00      | -34.63      | V                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
| 1798.000        | -52.16     | 5.29            | 5.76           | -51.69               | -13.00      | -38.69      | H                          |
| 2967.000        | -44.69     | 7.06            | 7.31           | -44.44               | -13.00      | -31.44      | H                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*





**LTE Band 17 / CHANNEL BANDWIDTH: 10MHz / 16QAM**

**Operation Mode:** Tx / Low channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 1420.000        | -43.98     | 4.68            | 5.72           | -42.94               | -13.00      | -29.94      | V                          |
| 2400.000        | -46.08     | 6.18            | 5.96           | -46.30               | -13.00      | -33.30      | V                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
| 1945.000        | -49.73     | 5.57            | 5.5            | -49.80               | -13.00      | -36.80      | H                          |
| 2953.000        | -45.72     | 7.08            | 7.28           | -45.52               | -13.00      | -32.52      | H                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / Middle channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 1420.000        | -45.49     | 4.68            | 5.72           | -44.45               | -13.00      | -31.45      | V                          |
| 3751.000        | -45        | 8.23            | 9.15           | -44.08               | -13.00      | -31.08      | V                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
| 2393.000        | -48.24     | 6.17            | 5.95           | -48.46               | -13.00      | -35.46      | H                          |
| 2960.000        | -45.23     | 7.07            | 7.3            | -45.00               | -13.00      | -32.00      | H                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / High channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 1420.000        | -44.62     | 4.68            | 5.72           | -43.58               | -13.00      | -30.58      | V                          |
| 2540.000        | -46.04     | 6.41            | 6.2            | -46.25               | -13.00      | -33.25      | V                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
| 1945.000        | -50.73     | 5.57            | 5.5            | -50.80               | -13.00      | -37.80      | H                          |
| 2967.000        | -44.98     | 7.06            | 7.31           | -44.73               | -13.00      | -31.73      | H                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**LTE Band 4 / CHANNEL BANDWIDTH: 5MHz / QPSK**

**Operation Mode:** Tx / Low channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 2561.000        | -53.8      | 6.44            | 6.26           | -53.98               | -13.00      | -40.98      | V                          |
| 4458.000        | -50.05     | 8.8             | 9.77           | -49.08               | -13.00      | -36.08      | V                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
| 2491.000        | -45.71     | 6.33            | 6.09           | -45.95               | -13.00      | -32.95      | H                          |
| 3429.000        | -47.98     | 7.66            | 8.69           | -46.95               | -13.00      | -33.95      | H                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / Middle channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 2526.000        | -51.14     | 6.39            | 6.17           | -51.36               | -13.00      | -38.36      | V                          |
| 5214.000        | -50.81     | 9.57            | 10.69          | -49.69               | -13.00      | -36.69      | V                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
| 3464.000        | -53.69     | 7.76            | 8.79           | -52.66               | -13.00      | -39.66      | H                          |
| 6103.000        | -50.39     | 10.64           | 10.98          | -50.05               | -13.00      | -37.05      | H                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / High channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 2981.000        | -54        | 7.04            | 7.35           | -53.69               | -13.00      | -40.69      | V                          |
| 4983.000        | -48.61     | 9.38            | 10.57          | -47.42               | -13.00      | -34.42      | V                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
| 3506.000        | -51.53     | 7.88            | 8.91           | -50.50               | -13.00      | -37.50      | H                          |
| 5095.000        | -52.33     | 9.45            | 10.64          | -51.14               | -13.00      | -38.14      | H                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**LTE Band 4 / CHANNEL BANDWIDTH: 5MHz / 16QAM**

**Operation Mode:** Tx / Low channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 2540.000        | -50.05     | 6.41            | 6.2            | -50.26               | -13.00      | -37.26      | V                          |
| 4479.000        | -50.15     | 8.85            | 9.78           | -49.22               | -13.00      | -36.22      | V                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
| 3422.000        | -43.1      | 7.64            | 8.67           | -42.07               | -13.00      | -29.07      | H                          |
| 4437.000        | -50.64     | 8.74            | 9.75           | -49.63               | -13.00      | -36.63      | H                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / Middle channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 2505.000        | -50.88     | 6.36            | 6.11           | -51.13               | -13.00      | -38.13      | V                          |
| 4808.000        | -53.26     | 9.32            | 10.29          | -52.29               | -13.00      | -39.29      | V                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
| 2988.000        | -54.53     | 7.03            | 7.37           | -54.19               | -13.00      | -41.19      | H                          |
| 4444.000        | -52.94     | 8.76            | 9.76           | -51.94               | -13.00      | -38.94      | H                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*





**Operation Mode:** Tx / High channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 2491.000        | -38.97     | 6.33            | 6.09           | -39.21               | -13.00      | -26.21      | V                          |
| 3877.000        | -50.99     | 8.36            | 9.28           | -50.07               | -13.00      | -37.07      | V                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
| 3506.000        | -51.86     | 7.88            | 8.91           | -50.83               | -13.00      | -37.83      | H                          |
| 5081.000        | -52.54     | 9.44            | 10.63          | -51.35               | -13.00      | -38.35      | H                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**LTE Band 4 / CHANNEL BANDWIDTH: 10MHz / QPSK**

**Operation Mode:** Tx / Low channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 2526.000        | -49.69     | 6.39            | 6.17           | -49.91               | -13.00      | -36.91      | V                          |
| 4983.000        | -49.92     | 9.38            | 10.57          | -48.73               | -13.00      | -35.73      | V                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
| 3436.000        | -50.88     | 7.68            | 8.71           | -49.85               | -13.00      | -36.85      | H                          |
| 5963.000        | -50.82     | 10.67           | 10.89          | -50.60               | -13.00      | -37.60      | H                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / Middle channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 2533.000        | -52.01     | 6.4             | 6.19           | -52.22               | -13.00      | -39.22      | V                          |
| 3884.000        | -53.99     | 8.37            | 9.28           | -53.08               | -13.00      | -40.08      | V                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
| 2995.000        | -53.1      | 7.02            | 7.39           | -52.73               | -13.00      | -39.73      | H                          |
| 5179.000        | -52.32     | 9.54            | 10.67          | -51.19               | -13.00      | -38.19      | H                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / High channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 2547.000        | -50.42     | 6.42            | 6.22           | -50.62               | -13.00      | -37.62      | V                          |
| 4976.000        | -48.33     | 9.37            | 10.56          | -47.14               | -13.00      | -34.14      | V                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
| 2841.000        | -53.01     | 6.95            | 6.99           | -52.97               | -13.00      | -39.97      | H                          |
| 4990.000        | -53.02     | 9.39            | 10.58          | -51.83               | -13.00      | -38.83      | H                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**LTE Band 4 / CHANNEL BANDWIDTH: 10MHz / 16QAM**

**Operation Mode:** Tx / Low channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 2687.000        | -51.08     | 6.7             | 6.59           | -51.19               | -13.00      | -38.19      | V                          |
| 4493.000        | -51.25     | 8.89            | 9.79           | -50.35               | -13.00      | -37.35      | V                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
| 3429.000        | -49.55     | 7.66            | 8.69           | -48.52               | -13.00      | -35.52      | H                          |
| 5172.000        | -52.1      | 9.53            | 10.67          | -50.96               | -13.00      | -37.96      | H                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / Middle channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 2680.000        | -52.81     | 6.68            | 6.57           | -52.92               | -13.00      | -39.92      | V                          |
| 4465.000        | -52.43     | 8.82            | 9.77           | -51.48               | -13.00      | -38.48      | V                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
| 2974.000        | -53.5      | 7.05            | 7.33           | -53.22               | -13.00      | -40.22      | H                          |
| 4395.000        | -52.06     | 8.64            | 9.72           | -50.98               | -13.00      | -37.98      | H                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / High channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 2547.000        | -50.97     | 6.42            | 6.22           | -51.17               | -13.00      | -38.17      | V                          |
| 4990.000        | -52        | 9.39            | 10.58          | -50.81               | -13.00      | -37.81      | V                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
| 3744.000        | -53.67     | 8.23            | 9.14           | -52.76               | -13.00      | -39.76      | H                          |
| 5417.000        | -51.96     | 9.84            | 10.77          | -51.03               | -13.00      | -38.03      | H                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**LTE Band 4 / CHANNEL BANDWIDTH: 20MHz / QPSK**

**Operation Mode:** Tx / Low channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 2540.000        | -49.85     | 6.41            | 6.2            | -50.06               | -13.00      | -37.06      | V                          |
| 4458.000        | -51.4      | 8.8             | 9.77           | -50.43               | -13.00      | -37.43      | V                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
| 3443.000        | -52.48     | 7.7             | 8.73           | -51.45               | -13.00      | -38.45      | H                          |
| 7013.000        | -46.26     | 11.58           | 11.92          | -45.92               | -13.00      | -32.92      | H                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*





**Operation Mode:** Tx / Middle channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 2533.000        | -51.16     | 6.4             | 6.19           | -51.37               | -13.00      | -38.37      | V                          |
| 3877.000        | -51.72     | 8.36            | 9.28           | -50.80               | -13.00      | -37.80      | V                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
| 2974.000        | -53.42     | 7.05            | 7.33           | -53.14               | -13.00      | -40.14      | H                          |
| 4808.000        | -52.82     | 9.32            | 10.29          | -51.85               | -13.00      | -38.85      | H                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / High channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 2533.000        | -48.76     | 6.4             | 6.19           | -48.97               | -13.00      | -35.97      | V                          |
| 4983.000        | -51.49     | 9.38            | 10.57          | -50.30               | -13.00      | -37.30      | V                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
| 2995.000        | -54.57     | 7.02            | 7.39           | -54.20               | -13.00      | -41.20      | H                          |
| 5417.000        | -52.84     | 9.84            | 10.77          | -51.91               | -13.00      | -38.91      | H                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
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**LTE Band 4 / CHANNEL BANDWIDTH: 20MHz / 16QAM**

**Operation Mode:** Tx / Low channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 3443.000        | -53.4      | 7.7             | 8.73           | -52.37               | -13.00      | -39.37      | V                          |
| 5396.000        | -51.61     | 9.81            | 10.76          | -50.66               | -13.00      | -37.66      | V                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
| 2533.000        | -53.45     | 6.4             | 6.19           | -53.66               | -13.00      | -40.66      | H                          |
| 4997.000        | -51.07     | 9.41            | 10.6           | -49.88               | -13.00      | -36.88      | H                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / Middle channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 2967.000        | -51.23     | 7.06            | 7.31           | -50.98               | -13.00      | -37.98      | V                          |
| 4465.000        | -51.16     | 8.82            | 9.77           | -50.21               | -13.00      | -37.21      | V                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
| 2995.000        | -53.31     | 7.02            | 7.39           | -52.94               | -13.00      | -39.94      | H                          |
| 4493.000        | -51.68     | 8.89            | 9.79           | -50.78               | -13.00      | -37.78      | H                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*



**Operation Mode:** Tx / High channel      **Test Date:** January 16, 2015  
**Temperature:** 26°C      **Tested by:** David Shu  
**Humidity:** 60% RH      **Polarity:** Ver. / Hor.

| Frequency (MHz) | S.G. (dBm) | Cable loss (dB) | Ant.Gain (dBi) | Emission level (dBm) | Limit (dBm) | Margin (dB) | Antenna Polarization (V/H) |
|-----------------|------------|-----------------|----------------|----------------------|-------------|-------------|----------------------------|
| 2547.000        | -49.48     | 6.42            | 6.22           | -49.68               | -13.00      | -36.68      | V                          |
| 4458.000        | -49.8      | 8.8             | 9.77           | -48.83               | -13.00      | -35.83      | V                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
| 2981.000        | -54.55     | 7.04            | 7.35           | -54.24               | -13.00      | -41.24      | H                          |
| 5130.000        | -52.11     | 9.48            | 10.65          | -50.94               | -13.00      | -37.94      | H                          |
| N/A             |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |
|                 |            |                 |                |                      |             |             |                            |

**Remark:**

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.*