

# TEST REPORT ADDENDUM - CONDUCTED



Test of: Actiontec Electronics Inc T3200M

to

To: FCC CFR 47 Part 15.407 & IC RSS-247 (DFS Bands)

Test Report Serial No.: ATEC14-U13\_Conducted Rev A

Note: this report is one of a set of five reports that together address the requirements of the above noted standards for certification purposes.

| Master Document Number | Addendum Reports                    |
|------------------------|-------------------------------------|
| ATEC14-U13_Master      | ATEC14-U13_Conducted                |
|                        | ATEC14-U13_Radiated                 |
|                        | ATEC14-U13_DFS                      |
|                        | ATEC14-U2 (FCC Part 15B & ICES_003) |

This report supersedes: NONE

Applicant: Actiontec Electronics Inc.  
760 N Mary Avenue  
Sunnyvale, California 94085  
USA

Product Function: Wireless 802.11ac Bonded VDSL2  
Modem Gateway with MoCA 2.0

Issue Date: 1st April 2016

## This Test Report is Issued Under the Authority of:

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**Title:** Actiontec Electronics Inc. T3200M  
**To:** FCC CFR 47 Part 15.407 & RSS-247  
**Serial #:** ATEC14-U13\_Conducted Rev A (DFS bands)  
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## 1. DOCUMENT HISTORY

| Document History |                            |                  |
|------------------|----------------------------|------------------|
| Revision         | Date                       | Comments         |
| Draft            |                            |                  |
| Rev A            | 1 <sup>st</sup> April 2016 | Initial release. |
| .                |                            |                  |
| .                |                            |                  |
| .                |                            |                  |
| .                |                            |                  |
| .                |                            |                  |

In the above table the latest report revision will replace all earlier versions.

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## 2. MEASUREMENT AND PRESENTATION OF TEST DATA

The measurement and graphical data presented in this test report was generated automatically using state-of-the-art technology creating an easy to read report structure. Numerical measurement data is separated from supporting graphical data (plots) through hyperlinks. Numerical measurement data can be reviewed without scrolling through numerous graphical pages to arrive at the next data matrix.

Plots have been relegated into the Appendix 'Graphical Data'.

Test and report automation was performed by [MiTest](#). [MiTest](#) is an automated test system developed by MiCOM Labs. [MiTest](#) is the first cloud based modular test system enabling end-to-end automation of regulatory compliance testing for conducted RF testing.



The MiCOM Labs "[MiTest](#)" Automated Test System" (Patent Pending)

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### **3. TEST SUMMARY**

List of Measurements

| Test Header                   | Result   | Data Link                 |
|-------------------------------|----------|---------------------------|
| Conducted                     |          |                           |
| (a) Peak Transmit Power       | Complies | <a href="#">View Data</a> |
| (a) 26 dB & 99% Bandwidth     | Complies | <a href="#">View Data</a> |
| (a)(5) Power Spectral Density | Complies | <a href="#">View Data</a> |

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## 4. TEST RESULTS

### 4.1. Peak Transmit Power

| Conducted Test Conditions for Maximum Conducted Output Power |                                |                            |             |
|--|--------------------------------|----------------------------|-------------|
| <b>Standard:</b>   | FCC CFR 47:15.407              | <b>Ambient Temp. (°C):</b> | 24.0 - 27.5 |
| <b>Test Heading:</b>   | Maximum Conducted Output Power | <b>Rel. Humidity (%):</b>  | 32 - 45     |
| <b>Standard Section(s):</b>                                  | 15.407 (a)                     | <b>Pressure (mBars):</b>   | 999 - 1001  |
| <b>Reference Document(s):</b>                                | See Normative References       |                            |             |

#### Test Procedure for Maximum Conducted Output Power Measurement

Method PM (Measurement using an RF average power meter). KDB 789033 defines a methodology using an average wideband power meter. Measurements were made while the EUT was operating in a continuous transmission mode (100% duty cycle) at the appropriate center frequency. All operational modes and frequency bands were measured independently and the resultant calculated. Where the device operated with multiple antenna ports i.e. MIMO device, each port was measured and reported separately. A summation ( $\Sigma$ ) of each antenna port output power is provided which includes any offset due to Duty Cycle Correction Factor (DCCF). Testing was performed under ambient conditions at nominal voltage.

Test configuration and setup used for the measurement was per the Conducted Test Set-up section specified in this document.

Supporting Information

Calculated Power = A + G + Y + 10 log (1/x) dBm

A = Total Power [ $10 \cdot \text{Log}_{10} (10^{a/10} + 10^{b/10} + 10^{c/10} + 10^{d/10})$ ]

G = Antenna Gain

Y = Beamforming Gain

x = Duty Cycle (average power measurements only)

#### Limits Maximum Conducted Output Power

##### Operating Frequency Band 5150-5250 MHz

15.407 (a)(1)

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

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(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

**Operating Frequency Band 5250-5350 and 5470 – 5725 MHz**

15. 407 (a)(2)

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

**Operating Frequency Band 5725 – 5850 MHz**

15. 407 (a)(3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

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**Maximum Conducted Power Limit(s)**

**Operating in Frequency Band 5250 - 5350 and 5470 – 5725 MHz**

15.407 (a)(2)

| Mode  | Frequency Range (MHz) | Maximum 26 dB Bandwidth (MHz) | 11 + 10 Log (B) (dBm) | Maximum Power Limit (dBm) |
|-------|-----------------------|-------------------------------|-----------------------|---------------------------|
| a     | 5250 – 5350           | 23.450                        | 24.701                | +24.0                     |
| HT-20 |                       | 23.447                        | 24.700                | +24.0                     |
| HT-40 |                       | 42.685                        | 27.303                | +24.0                     |
| ac-80 |                       | 83.768                        | 30.231                | +24.0                     |
| a     | 5470 – 5725           | 22.846                        | 24.588                | +24.0                     |
| HT-20 |                       | 23.547                        | 24.719                | +24.0                     |
| HT-40 |                       | 42.685                        | 27.303                | +24.0                     |
| ac-80 |                       | 83.768                        | 30.231                | +24.0                     |

Maximum Conducted Power Limit 5250 – 5350 and 5470 – 5725 MHz: +24 dBm (+30 dBm/EIRP, 6 dBi antenna).

**5250- 5350 MHz**

Antenna Gain 4.46 dBi

Beamforming Gain (5250 – 5350 MHz): 1.14 dB

Total Gain (5250 – 5350 MHz): Antenna Gain + Beamforming Gain = 4.46 + 1.14 = 6.00 dBi

Maximum conducted power (5250 – 5350 MHz) = +24.0 – (6.0 – 6.0) = +24.0 dBm

**5470- 5725 MHz**

Antenna Gain 4.40 dBi

Beamforming Gain (5470 – 5725 MHz): 1.40 dB

Total Gain (5470 – 5725 MHz): Antenna Gain + Beamforming Gain = 4.40 + 1.40 = 5.80 dBi

Maximum conducted power (5250 – 5350 MHz) = +24.0 – (5.8 – 6.0) = +24.0 dBm





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5250.00-5350.00MHz

**Equipment Configuration for Peak Transmit Power**

|                                |                |                                   |      |
|--------------------------------|----------------|-----------------------------------|------|
| <b>Variant:</b>                | 802.11a        | <b>Duty Cycle (%):</b>            | 99.0 |
| <b>Data Rate:</b>              | 6.00 MBit/s    | <b>Antenna Gain (dBi):</b>        | 4.46 |
| <b>Modulation:</b>             | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> | 1.14 |
| <b>TPC:</b>                    | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b> |                |                                   |      |

**Test Measurement Results**

| Test Frequency | Measured Conducted Output Power + DCCF (+0.04 dB) (dBm) |       |       |       | Calculated Total Power | Minimum 26 dB Bandwidth | Limit | Margin | EUT Power Setting |
|----------------|---|-------|-------|-------|------------------------|-------------------------|-------|--------|-------------------|
|                | Port(s)   |       |       |       |                        |                         |       |        |                   |
| MHz            | a   | b     | c     | d     | Σ Port(s) dBm          | MHz                     | dBm   | dB     |                   |
| 5260.0         | 17.18   | 17.61 | 17.75 | 17.14 | 23.45                  | 21.743                  | 24.00 | -0.55  | 17.00             |
| 5300.0         | 17.11   | 17.62 | 17.64 | 17.32 | 23.45                  | 21.643                  | 24.00 | -0.55  | 17.00             |
| 5320.0         | 16.98   | 17.35 | 17.75 | 17.46 | 23.42                  | 21.844                  | 24.00 | -0.58  | 17.00             |

**Traceability to Industry Recognized Test Methodologies**

|                          |                                  |
|--------------------------|----------------------------------|
| Work Instruction:        | WI-03 MEASURING RF SPECTRUM MASK |
| Measurement Uncertainty: | ±2.81 dB                         |

DCCF - Duty Cycle Correction Factor

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**Equipment Configuration for Peak Transmit Power**

|                                |                |                                   |      |
|--------------------------------|----------------|-----------------------------------|------|
| <b>Variant:</b>                | 802.11ac-80    | <b>Duty Cycle (%):</b>            | 93.0 |
| <b>Data Rate:</b>              | 29.30 MBit/s   | <b>Antenna Gain (dBi):</b>        | 4.46 |
| <b>Modulation:</b>             | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> | 1.14 |
| <b>TPC:</b>                    | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b> |                |                                   |      |

**Test Measurement Results**

| Test Frequency | Measured Conducted Output Power + DCCF (+0.32 dB) (dBm) |       |       |       | Calculated Total Power | Minimum 26 dB Bandwidth | Limit | Margin | EUT Power Setting |
|----------------|---|-------|-------|-------|------------------------|-------------------------|-------|--------|-------------------|
|                | Port(s)   |       |       |       |                        |                         |       |        |                   |
| MHz            | a   | b     | c     | d     | Σ Port(s) dBm          | MHz                     | dBm   | dB     |                   |
| 5290.0         | 17.55   | 18.01 | 18.01 | 17.89 | 23.88                  | 83.768                  | 24.00 | -0.12  | 17.00             |

**Traceability to Industry Recognized Test Methodologies**

|                          |                                  |
|--------------------------|----------------------------------|
| Work Instruction:        | WI-03 MEASURING RF SPECTRUM MASK |
| Measurement Uncertainty: |                                  |

DCCF - Duty Cycle Correction Factor

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**Equipment Configuration for Peak Transmit Power**

|                                |                |                                   |      |
|--------------------------------|----------------|-----------------------------------|------|
| <b>Variant:</b>                | 802.11n HT-20  | <b>Duty Cycle (%):</b>            | 98.0 |
| <b>Data Rate:</b>              | 6.50 MBit/s    | <b>Antenna Gain (dBi):</b>        | 4.46 |
| <b>Modulation:</b>             | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> | 1.14 |
| <b>TPC:</b>                    | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b> |                |                                   |      |

| <b>Test Measurement Results</b> |   |       |       |       |                        |                         |       |        |                   |
|---------------------------------|---|-------|-------|-------|------------------------|-------------------------|-------|--------|-------------------|
| Test Frequency                  | Measured Conducted Output Power + DCCF (+0.09 dB) (dBm) |       |       |       | Calculated Total Power | Minimum 26 dB Bandwidth | Limit | Margin | EUT Power Setting |
|                                 | Port(s)   |       |       |       |                        |                         |       |        |                   |
| MHz                             | a   | b     | c     | d     | Σ Port(s) dBm          | MHz                     | dBm   | dB     |                   |
| 5260.0                          | 16.81   | 17.10 | 17.17 | 17.04 | 23.05                  | 23.447                  | 24.00 | -0.95  | 17.00             |
| 5300.0                          | 17.07   | 17.17 | 17.49 | 17.20 | 23.25                  | 23.146                  | 24.00 | -0.75  | 17.00             |
| 5320.0                          | 16.96   | 17.17 | 17.50 | 17.33 | 23.26                  | 23.246                  | 24.00 | -0.74  | 17.00             |

| <b>Traceability to Industry Recognized Test Methodologies</b> |                                  |
|---|----------------------------------|
| Work Instruction:   | WI-03 MEASURING RF SPECTRUM MASK |
| Measurement Uncertainty:                                      | ±2.81 dB                         |

DCCF - Duty Cycle Correction Factor

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**Equipment Configuration for Peak Transmit Power**

|                                |                |                                   |      |
|--------------------------------|----------------|-----------------------------------|------|
| <b>Variant:</b>                | 802.11n HT-40  | <b>Duty Cycle (%):</b>            | 96.0 |
| <b>Data Rate:</b>              | 13.50 MBit/s   | <b>Antenna Gain (dBi):</b>        | 4.46 |
| <b>Modulation:</b>             | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> | 1.14 |
| <b>TPC:</b>                    | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b> |                |                                   |      |

**Test Measurement Results**

| Test Frequency | Measured Conducted Output Power + DCCF (+0.18 dB) (dBm) |       |       |       | Calculated Total Power | Minimum 26 dB Bandwidth | Limit | Margin | EUT Power Setting |
|----------------|---|-------|-------|-------|------------------------|-------------------------|-------|--------|-------------------|
|                | Port(s)   |       |       |       |                        |                         |       |        |                   |
| MHz            | a   | b     | c     | d     | Σ Port(s) dBm          | MHz                     | dBm   | dB     |                   |
| 5270.0         | 17.15   | 17.69 | 17.64 | 17.64 | 23.55                  | 42.685                  | 24.00 | -0.45  | 17.00             |
| 5310.0         | 17.15   | 17.52 | 17.72 | 17.35 | 23.46                  | 42.685                  | 24.00 | -0.54  | 17.00             |

**Traceability to Industry Recognized Test Methodologies**

|                                 |                                  |
|---------------------------------|----------------------------------|
| <b>Work Instruction:</b>        | WI-03 MEASURING RF SPECTRUM MASK |
| <b>Measurement Uncertainty:</b> | ±2.81 dB                         |

DCCF - Duty Cycle Correction Factor

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5470.00-5725.00MHz

**Equipment Configuration for Peak Transmit Power**

|                                |                |                                   |      |
|--------------------------------|----------------|-----------------------------------|------|
| <b>Variant:</b>                | 802.11a        | <b>Duty Cycle (%):</b>            | 99.0 |
| <b>Data Rate:</b>              | 6.00 MBit/s    | <b>Antenna Gain (dBi):</b>        | 4.40 |
| <b>Modulation:</b>             | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> | 1.40 |
| <b>TPC:</b>                    | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b> |                |                                   |      |

**Test Measurement Results**

| Test Frequency | Measured Conducted Output Power + DCCF (+0.04 dB) (dBm) |       |       |       | Calculated Total Power | Minimum 26 dB Bandwidth | Limit | Margin | EUT Power Setting |
|----------------|---|-------|-------|-------|------------------------|-------------------------|-------|--------|-------------------|
|                | Port(s)   |       |       |       |                        |                         |       |        |                   |
| MHz            | a   | b     | c     | d     | Σ Port(s) dBm          | MHz                     | dBm   | dB     |                   |
| 5500.0         | 16.77   | 17.18 | 17.06 | 16.71 | 22.96                  | 22.044                  | 24.00 | -1.04  | 16.00             |
| 5580.0         | 16.62   | 17.08 | 16.71 | 16.64 | 22.79                  | 21.743                  | 24.00 | -1.21  | 16.00             |
| 5720.0         | 16.44   | 16.81 | 17.32 | 16.57 | 22.82                  | 21.944                  | 24.00 | -1.18  | 16.00             |

**Traceability to Industry Recognized Test Methodologies**

|                                 |                                  |
|---------------------------------|----------------------------------|
| <b>Work Instruction:</b>        | WI-03 MEASURING RF SPECTRUM MASK |
| <b>Measurement Uncertainty:</b> | ±2.81 dB                         |

DCCF - Duty Cycle Correction Factor

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**Equipment Configuration for Peak Transmit Power**

|                                |                |                                   |      |
|--------------------------------|----------------|-----------------------------------|------|
| <b>Variant:</b>                | 802.11ac-80    | <b>Duty Cycle (%):</b>            | 93.0 |
| <b>Data Rate:</b>              | 29.30 MBit/s   | <b>Antenna Gain (dBi):</b>        | 4.40 |
| <b>Modulation:</b>             | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> | 1.40 |
| <b>TPC:</b>                    | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b> |                |                                   |      |

**Test Measurement Results**

| Test Frequency | Measured Conducted Output Power + DCCF (+0.32 dB) (dBm) |       |       |       | Calculated Total Power | Minimum 26 dB Bandwidth | Limit | Margin | EUT Power Setting |
|----------------|---|-------|-------|-------|------------------------|-------------------------|-------|--------|-------------------|
|                | Port(s)   |       |       |       |                        |                         |       |        |                   |
| MHz            | a   | b     | c     | d     | Σ Port(s) dBm          | MHz                     | dBm   | dB     |                   |
| 5530.0         | 17.02   | 17.37 | 17.07 | 16.70 | 23.06                  | 83.367                  | 24.00 | -0.94  | 16.00             |
| 5610.0         | 17.06   | 17.12 | 17.08 | 16.65 | 23.00                  | 83.768                  | 24.00 | -1.00  | 16.00             |
| 5690.0         | 16.98   | 17.32 | 16.78 | 16.55 | 22.93                  | 83.768                  | 24.00 | -1.07  | 16.00             |

**Traceability to Industry Recognized Test Methodologies**

|                                 |                                  |
|---------------------------------|----------------------------------|
| <b>Work Instruction:</b>        | WI-03 MEASURING RF SPECTRUM MASK |
| <b>Measurement Uncertainty:</b> | ±2.81 dB                         |

DCCF - Duty Cycle Correction Factor

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**Equipment Configuration for Peak Transmit Power**

|                                |                |                                   |      |
|--------------------------------|----------------|-----------------------------------|------|
| <b>Variants:</b>               | 802.11n HT-20  | <b>Duty Cycle (%):</b>            | 98.0 |
| <b>Data Rate:</b>              | 6.50 MBit/s    | <b>Antenna Gain (dBi):</b>        | 4.40 |
| <b>Modulation:</b>             | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> | 1.40 |
| <b>TPC:</b>                    | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b> |                |                                   |      |

| <b>Test Measurement Results</b> |   |       |       |       |                        |                         |       |        |                   |
|---------------------------------|---|-------|-------|-------|------------------------|-------------------------|-------|--------|-------------------|
| Test Frequency                  | Measured Conducted Output Power + DCCF (+0.09 dB) (dBm) |       |       |       | Calculated Total Power | Minimum 26 dB Bandwidth | Limit | Margin | EUT Power Setting |
|                                 | Port(s)   |       |       |       |                        |                         |       |        |                   |
| MHz                             | a   | b     | c     | d     | Σ Port(s) dBm          | MHz                     | dBm   | dB     |                   |
| 5500.0                          | 17.69   | 17.85 | 17.85 | 17.34 | 23.71                  | 23.447                  | 24.00 | -0.29  | 17.00             |
| 5580.0                          | 17.47   | 18.03 | 17.35 | 17.28 | 23.56                  | 23.547                  | 24.00 | -0.44  | 17.00             |
| 5720.0                          | 17.31   | 17.86 | 17.98 | 17.51 | 23.69                  | 23.547                  | 24.00 | -0.31  | 17.00             |

| <b>Traceability to Industry Recognized Test Methodologies</b> |                                  |
|---|----------------------------------|
| Work Instruction:   | WI-03 MEASURING RF SPECTRUM MASK |
| Measurement Uncertainty:                                      | ±2.81 dB                         |

DCCF - Duty Cycle Correction Factor

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**Equipment Configuration for Peak Transmit Power**

|                                |                |                                   |      |
|--------------------------------|----------------|-----------------------------------|------|
| <b>Variant:</b>                | 802.11n HT-40  | <b>Duty Cycle (%):</b>            | 96.0 |
| <b>Data Rate:</b>              | 13.50 MBit/s   | <b>Antenna Gain (dBi):</b>        | 4.40 |
| <b>Modulation:</b>             | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> | 1.40 |
| <b>TPC:</b>                    | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b> |                |                                   |      |

| <b>Test Measurement Results</b> |   |       |       |       |                        |                         |       |        |                   |
|---------------------------------|---|-------|-------|-------|------------------------|-------------------------|-------|--------|-------------------|
| Test Frequency                  | Measured Conducted Output Power + DCCF (+0.18 dB) (dBm) |       |       |       | Calculated Total Power | Minimum 26 dB Bandwidth | Limit | Margin | EUT Power Setting |
|                                 | Port(s)   |       |       |       |                        |                         |       |        |                   |
| MHz                             | a   | b     | c     | d     | Σ Port(s) dBm          | MHz                     | dBm   | dB     |                   |
| 5510.0                          | 17.03   | 17.29 | 17.14 | 16.57 | 23.03                  | 42.685                  | 24.00 | -0.97  | 16.00             |
| 5550.0                          | 16.88   | 17.23 | 17.03 | 16.68 | 22.98                  | 42.685                  | 24.00 | -1.02  | 16.00             |
| 5710.0                          | 17.04   | 17.53 | 17.47 | 17.08 | 23.30                  | 42.685                  | 24.00 | -0.70  | 16.00             |

| <b>Traceability to Industry Recognized Test Methodologies</b> |                                  |
|---|----------------------------------|
| Work Instruction:   | WI-03 MEASURING RF SPECTRUM MASK |
| Measurement Uncertainty:                                      | ±2.81 dB                         |

DCCF - Duty Cycle Correction Factor

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#### 4.2. 26 dB & 99% Bandwidth

| Conducted Test Conditions for 26 dB and 99% Bandwidth   |                          |                            |             |
|---|--------------------------|----------------------------|-------------|
| <b>Standard:</b>  | FCC CFR 47:15.407        | <b>Ambient Temp. (°C):</b> | 24.0 - 27.5 |
| <b>Test Heading:</b>  | 26 dB and 99 % Bandwidth | <b>Rel. Humidity (%):</b>  | 32 - 45     |
| <b>Standard Section(s):</b>   | 15.407 (a)               | <b>Pressure (mBars):</b>   | 999 - 1001  |
| <b>Reference Document(s):</b>   | See Normative References |                            |             |
| <b>Test Procedure for 26 dB and 99% Bandwidth Measurement</b><br>The bandwidth at 26 dB and 99 % is measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequency. The Resolution Bandwidth was set to approximately 1% of the emission bandwidth.<br>Testing was performed under ambient conditions at nominal voltage. Where the device operated with multiple antenna ports i.e. MIMO device, each port was measured and reported.<br><br>Test configuration and setup used for the measurement was per the Conducted Test Set-up section specified in this document. |                          |                            |             |

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5250.00-5350.00MHz

|   |
|---|
| <b>Equipment Configuration for 26 dB &amp; 99% Occupied Bandwidth</b> |
|---|

|                                |                |                                   |      |
|--------------------------------|----------------|-----------------------------------|------|
| <b>Variant:</b>                | 802.11a        | <b>Duty Cycle (%):</b>            | 99.0 |
| <b>Data Rate:</b>              | 6.00 MBit/s    | <b>Antenna Gain (dBi):</b>        | 4.46 |
| <b>Modulation:</b>             | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> | 1.14 |
| <b>TPC:</b>                    | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b> |                |                                   |      |

|                                 |
|---------------------------------|
| <b>Test Measurement Results</b> |
|---------------------------------|

| Test Frequency | Measured 26 dB Bandwidth (MHz) |                        |                        |                        | 26 dB Bandwidth (MHz) |        |  |  |
|----------------|--------------------------------|------------------------|------------------------|------------------------|-----------------------|--------|--|--|
|                | Port(s)                        |                        |                        |                        | Highest               | Lowest |  |  |
| MHz            | a                              | b                      | c                      | d                      |                       |        |  |  |
| 5260.0         | <a href="#">22.745</a>         | <a href="#">22.044</a> | <a href="#">21.743</a> | <a href="#">22.745</a> | 22.745                | 21.743 |  |  |
| 5300.0         | <a href="#">22.645</a>         | <a href="#">22.144</a> | <a href="#">21.643</a> | <a href="#">22.745</a> | 22.745                | 21.643 |  |  |
| 5320.0         | <a href="#">22.445</a>         | <a href="#">22.044</a> | <a href="#">21.844</a> | <a href="#">22.745</a> | 22.745                | 21.844 |  |  |

| Test Frequency | Measured 99% Bandwidth (MHz) |                        |                        |                        | 99% Bandwidth (MHz) |        |  |  |
|----------------|------------------------------|------------------------|------------------------|------------------------|---------------------|--------|--|--|
|                | Port(s)                      |                        |                        |                        | Highest             | Lowest |  |  |
| MHz            | a                            | b                      | c                      | d                      |                     |        |  |  |
| 5260.0         | <a href="#">16.834</a>       | <a href="#">16.733</a> | <a href="#">16.733</a> | <a href="#">16.834</a> | 16.834              | 16.733 |  |  |
| 5300.0         | <a href="#">16.834</a>       | <a href="#">16.733</a> | <a href="#">16.733</a> | <a href="#">16.834</a> | 16.834              | 16.733 |  |  |
| 5320.0         | <a href="#">16.834</a>       | <a href="#">16.733</a> | <a href="#">16.733</a> | <a href="#">16.834</a> | 16.834              | 16.733 |  |  |

|   |
|---|
| <b>Traceability to Industry Recognized Test Methodologies</b> |
|---|

|                          |                                  |
|--------------------------|----------------------------------|
| Work Instruction:        | WI-03 MEASURING RF SPECTRUM MASK |
| Measurement Uncertainty: | ±2.81 dB                         |

Note: click the links in the above matrix to view the graphical image (plot).

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**Equipment Configuration for 26 dB & 99% Occupied Bandwidth**

|                                |                |                                   |      |
|--------------------------------|----------------|-----------------------------------|------|
| <b>Variant:</b>                | 802.11ac-80    | <b>Duty Cycle (%):</b>            | 93.0 |
| <b>Data Rate:</b>              | 29.30 MBit/s   | <b>Antenna Gain (dBi):</b>        |      |
| <b>Modulation:</b>             | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> |      |
| <b>TPC:</b>                    | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b> |                |                                   |      |

**Test Measurement Results**

| Test Frequency | Measured 26 dB Bandwidth (MHz) |                        |                        |                        | 26 dB Bandwidth (MHz) |        |  |  |
|----------------|--------------------------------|------------------------|------------------------|------------------------|-----------------------|--------|--|--|
|                | Port(s)                        |                        |                        |                        | Highest               | Lowest |  |  |
| MHz            | a                              | b                      | c                      | d                      |                       |        |  |  |
| 5290.0         | <a href="#">84.168</a>         | <a href="#">83.768</a> | <a href="#">83.768</a> | <a href="#">84.168</a> | 84.168                | 83.768 |  |  |

| Test Frequency | Measured 99% Bandwidth (MHz) |                        |                        |                        | 99% Bandwidth (MHz) |        |  |  |
|----------------|------------------------------|------------------------|------------------------|------------------------|---------------------|--------|--|--|
|                | Port(s)                      |                        |                        |                        | Highest             | Lowest |  |  |
| MHz            | a                            | b                      | c                      | d                      |                     |        |  |  |
| 5290.0         | <a href="#">75.752</a>       | <a href="#">75.752</a> | <a href="#">75.752</a> | <a href="#">75.752</a> | 75.752              | 75.752 |  |  |

**Traceability to Industry Recognized Test Methodologies**

|                          |                                  |
|--------------------------|----------------------------------|
| Work Instruction:        | WI-03 MEASURING RF SPECTRUM MASK |
| Measurement Uncertainty: | ±2.81 dB                         |

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**Equipment Configuration for 26 dB & 99% Occupied Bandwidth**

|                                |                |                                   |      |
|--------------------------------|----------------|-----------------------------------|------|
| <b>Variant:</b>                | 802.11n HT-20  | <b>Duty Cycle (%):</b>            | 98.0 |
| <b>Data Rate:</b>              | 6.50 MBit/s    | <b>Antenna Gain (dBi):</b>        | 4.46 |
| <b>Modulation:</b>             | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> | 1.14 |
| <b>TPC:</b>                    | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b> |                |                                   |      |

**Test Measurement Results**

| Test Frequency | Measured 26 dB Bandwidth (MHz) |                        |                        |                        | 26 dB Bandwidth (MHz) |        |  |  |
|----------------|--------------------------------|------------------------|------------------------|------------------------|-----------------------|--------|--|--|
|                | Port(s)                        |                        |                        |                        | Highest               | Lowest |  |  |
| MHz            | a                              | b                      | c                      | d                      |                       |        |  |  |
| 5260.0         | <a href="#">23.447</a>         | <a href="#">23.647</a> | <a href="#">23.647</a> | <a href="#">23.747</a> | 23.747                | 23.447 |  |  |
| 5300.0         | <a href="#">23.547</a>         | <a href="#">23.146</a> | <a href="#">23.647</a> | <a href="#">23.647</a> | 23.647                | 23.146 |  |  |
| 5320.0         | <a href="#">23.848</a>         | <a href="#">23.246</a> | <a href="#">24.048</a> | <a href="#">23.647</a> | 24.048                | 23.246 |  |  |

| Test Frequency | Measured 99% Bandwidth (MHz) |                        |                        |                        | 99% Bandwidth (MHz) |        |  |  |
|----------------|------------------------------|------------------------|------------------------|------------------------|---------------------|--------|--|--|
|                | Port(s)                      |                        |                        |                        | Highest             | Lowest |  |  |
| MHz            | a                            | b                      | c                      | d                      |                     |        |  |  |
| 5260.0         | <a href="#">18.036</a>       | <a href="#">18.036</a> | <a href="#">18.036</a> | <a href="#">18.036</a> | 18.036              | 18.036 |  |  |
| 5300.0         | <a href="#">18.036</a>       | <a href="#">18.036</a> | <a href="#">18.036</a> | <a href="#">18.136</a> | 18.136              | 18.036 |  |  |
| 5320.0         | <a href="#">18.036</a>       | <a href="#">18.036</a> | <a href="#">18.036</a> | <a href="#">18.036</a> | 18.036              | 18.036 |  |  |

**Traceability to Industry Recognized Test Methodologies**

|                          |                                  |
|--------------------------|----------------------------------|
| Work Instruction:        | WI-03 MEASURING RF SPECTRUM MASK |
| Measurement Uncertainty: | ±2.81 dB                         |

Note: click the links in the above matrix to view the graphical image (plot).

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**Equipment Configuration for 26 dB & 99% Occupied Bandwidth**

|                                |                |                                   |      |
|--------------------------------|----------------|-----------------------------------|------|
| <b>Variant:</b>                | 802.11n HT-40  | <b>Duty Cycle (%):</b>            | 96.0 |
| <b>Data Rate:</b>              | 13.50 MBit/s   | <b>Antenna Gain (dBi):</b>        | 4.46 |
| <b>Modulation:</b>             | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> | 1.14 |
| <b>TPC:</b>                    | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b> |                |                                   |      |

**Test Measurement Results**

| Test Frequency | Measured 26 dB Bandwidth (MHz) |                        |                        |                        | 26 dB Bandwidth (MHz) |        |  |  |
|----------------|--------------------------------|------------------------|------------------------|------------------------|-----------------------|--------|--|--|
|                | Port(s)                        |                        |                        |                        | Highest               | Lowest |  |  |
| MHz            | a                              | b                      | c                      | d                      |                       |        |  |  |
| 5270.0         | <a href="#">42.685</a>         | <a href="#">42.685</a> | <a href="#">42.685</a> | <a href="#">42.685</a> | 42.685                | 42.685 |  |  |
| 5310.0         | <a href="#">42.886</a>         | <a href="#">42.685</a> | <a href="#">42.685</a> | <a href="#">42.886</a> | 42.886                | 42.685 |  |  |

| Test Frequency | Measured 99% Bandwidth (MHz) |                        |                        |                        | 99% Bandwidth (MHz) |        |  |  |
|----------------|------------------------------|------------------------|------------------------|------------------------|---------------------|--------|--|--|
|                | Port(s)                      |                        |                        |                        | Highest             | Lowest |  |  |
| MHz            | a                            | b                      | c                      | d                      |                     |        |  |  |
| 5270.0         | <a href="#">36.673</a>       | <a href="#">36.673</a> | <a href="#">36.673</a> | <a href="#">36.673</a> | 36.673              | 36.673 |  |  |
| 5310.0         | <a href="#">36.673</a>       | <a href="#">36.673</a> | <a href="#">36.673</a> | <a href="#">36.673</a> | 36.673              | 36.673 |  |  |

| Traceability to Industry Recognized Test Methodologies |                                  |
|--|----------------------------------|
| Work Instruction:                                      | WI-03 MEASURING RF SPECTRUM MASK |
| Measurement Uncertainty:                               | ±2.81 dB                         |

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5470.00-5725.00MHz

**Equipment Configuration for 26 dB & 99% Occupied Bandwidth**

|                                |                |                                   |      |
|--------------------------------|----------------|-----------------------------------|------|
| <b>Variant:</b>                | 802.11a        | <b>Duty Cycle (%):</b>            | 99.0 |
| <b>Data Rate:</b>              | 6.00 MBit/s    | <b>Antenna Gain (dBi):</b>        | 4.40 |
| <b>Modulation:</b>             | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> | 1.40 |
| <b>TPC:</b>                    | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b> |                |                                   |      |

**Test Measurement Results**

| Test Frequency | Measured 26 dB Bandwidth (MHz) |                        |                        |                        | 26 dB Bandwidth (MHz) |        |  |  |
|----------------|--------------------------------|------------------------|------------------------|------------------------|-----------------------|--------|--|--|
|                | Port(s)                        |                        |                        |                        | Highest               | Lowest |  |  |
| MHz            | a                              | b                      | c                      | d                      |                       |        |  |  |
| 5500.0         | <a href="#">22.445</a>         | <a href="#">22.144</a> | <a href="#">22.044</a> | <a href="#">22.846</a> | 22.846                | 22.044 |  |  |
| 5580.0         | <a href="#">22.745</a>         | <a href="#">22.144</a> | <a href="#">21.743</a> | <a href="#">22.745</a> | 22.745                | 21.743 |  |  |
| 5720.0         | <a href="#">22.345</a>         | <a href="#">22.345</a> | <a href="#">21.944</a> | <a href="#">22.745</a> | 22.745                | 21.944 |  |  |

| Test Frequency | Measured 99% Bandwidth (MHz) |                        |                        |                        | 99% Bandwidth (MHz) |        |  |  |
|----------------|------------------------------|------------------------|------------------------|------------------------|---------------------|--------|--|--|
|                | Port(s)                      |                        |                        |                        | Highest             | Lowest |  |  |
| MHz            | a                            | b                      | c                      | d                      |                     |        |  |  |
| 5500.0         | <a href="#">16.834</a>       | <a href="#">16.733</a> | <a href="#">16.733</a> | <a href="#">16.834</a> | 16.834              | 16.733 |  |  |
| 5580.0         | <a href="#">16.834</a>       | <a href="#">16.733</a> | <a href="#">16.733</a> | <a href="#">16.834</a> | 16.834              | 16.733 |  |  |
| 5720.0         | <a href="#">16.733</a>       | <a href="#">16.733</a> | <a href="#">16.733</a> | <a href="#">16.834</a> | 16.834              | 16.733 |  |  |

**Traceability to Industry Recognized Test Methodologies**

|                          |                                  |
|--------------------------|----------------------------------|
| Work Instruction:        | WI-03 MEASURING RF SPECTRUM MASK |
| Measurement Uncertainty: | ±2.81 dB                         |

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**Equipment Configuration for 26 dB & 99% Occupied Bandwidth**

|                                |                |                                   |      |
|--------------------------------|----------------|-----------------------------------|------|
| <b>Variant:</b>                | 802.11ac-80    | <b>Duty Cycle (%):</b>            | 93.0 |
| <b>Data Rate:</b>              | 29.30 MBit/s   | <b>Antenna Gain (dBi):</b>        | 4.40 |
| <b>Modulation:</b>             | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> | 1.40 |
| <b>TPC:</b>                    | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b> |                |                                   |      |

**Test Measurement Results**

| Test Frequency | Measured 26 dB Bandwidth (MHz) |                        |                        |                        | 26 dB Bandwidth (MHz) |        |  |  |
|----------------|--------------------------------|------------------------|------------------------|------------------------|-----------------------|--------|--|--|
|                | Port(s)                        |                        |                        |                        | Highest               | Lowest |  |  |
| MHz            | a                              | b                      | c                      | d                      | Highest               | Lowest |  |  |
| 5530.0         | <a href="#">83.367</a>         | <a href="#">83.768</a> | <a href="#">83.768</a> | <a href="#">83.768</a> | 83.768                | 83.367 |  |  |
| 5610.0         | <a href="#">83.768</a>         | <a href="#">83.768</a> | <a href="#">83.768</a> | <a href="#">84.168</a> | 84.168                | 83.768 |  |  |
| 5690.0         | <a href="#">83.768</a>         | <a href="#">83.768</a> | <a href="#">83.768</a> | <a href="#">83.768</a> | 83.768                | 83.768 |  |  |

| Test Frequency | Measured 99% Bandwidth (MHz) |                        |                        |                        | 99% Bandwidth (MHz) |        |  |  |
|----------------|------------------------------|------------------------|------------------------|------------------------|---------------------|--------|--|--|
|                | Port(s)                      |                        |                        |                        | Highest             | Lowest |  |  |
| MHz            | a                            | b                      | c                      | d                      | Highest             | Lowest |  |  |
| 5530.0         | <a href="#">75.752</a>       | <a href="#">75.752</a> | <a href="#">75.752</a> | <a href="#">75.752</a> | 75.752              | 75.752 |  |  |
| 5610.0         | <a href="#">75.752</a>       | <a href="#">75.752</a> | <a href="#">75.752</a> | <a href="#">75.752</a> | 75.752              | 75.752 |  |  |
| 5690.0         | <a href="#">75.752</a>       | <a href="#">75.752</a> | <a href="#">75.752</a> | <a href="#">75.752</a> | 75.752              | 75.752 |  |  |

**Traceability to Industry Recognized Test Methodologies**

|                          |                                  |
|--------------------------|----------------------------------|
| Work Instruction:        | WI-03 MEASURING RF SPECTRUM MASK |
| Measurement Uncertainty: | ±2.81 dB                         |

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**Equipment Configuration for 26 dB & 99% Occupied Bandwidth**

|                                |                |                                   |      |
|--------------------------------|----------------|-----------------------------------|------|
| <b>Variant:</b>                | 802.11n HT-20  | <b>Duty Cycle (%):</b>            | 98.0 |
| <b>Data Rate:</b>              | 6.50 MBit/s    | <b>Antenna Gain (dBi):</b>        | 4.40 |
| <b>Modulation:</b>             | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> | 1.40 |
| <b>TPC:</b>                    | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b> |                |                                   |      |

**Test Measurement Results**

| Test Frequency | Measured 26 dB Bandwidth (MHz) |                        |                        |                        | 26 dB Bandwidth (MHz) |        |  |  |
|----------------|--------------------------------|------------------------|------------------------|------------------------|-----------------------|--------|--|--|
|                | Port(s)                        |                        |                        |                        | Highest               | Lowest |  |  |
| MHz            | a                              | b                      | c                      | d                      |                       |        |  |  |
| 5500.0         | <a href="#">23.747</a>         | <a href="#">23.447</a> | <a href="#">23.848</a> | <a href="#">23.647</a> | 23.848                | 23.447 |  |  |
| 5580.0         | <a href="#">23.547</a>         | <a href="#">23.647</a> | <a href="#">23.647</a> | <a href="#">23.647</a> | 23.647                | 23.547 |  |  |
| 5720.0         | <a href="#">23.647</a>         | <a href="#">23.848</a> | <a href="#">23.547</a> | <a href="#">23.647</a> | 23.848                | 23.547 |  |  |

| Test Frequency | Measured 99% Bandwidth (MHz) |                        |                        |                        | 99% Bandwidth (MHz) |        |  |  |
|----------------|------------------------------|------------------------|------------------------|------------------------|---------------------|--------|--|--|
|                | Port(s)                      |                        |                        |                        | Highest             | Lowest |  |  |
| MHz            | a                            | b                      | c                      | d                      |                     |        |  |  |
| 5500.0         | <a href="#">18.136</a>       | <a href="#">18.036</a> | <a href="#">18.036</a> | <a href="#">18.136</a> | 18.136              | 18.036 |  |  |
| 5580.0         | <a href="#">18.136</a>       | <a href="#">18.036</a> | <a href="#">18.036</a> | <a href="#">18.136</a> | 18.136              | 18.036 |  |  |
| 5720.0         | <a href="#">18.136</a>       | <a href="#">18.036</a> | <a href="#">18.036</a> | <a href="#">18.136</a> | 18.136              | 18.036 |  |  |

**Traceability to Industry Recognized Test Methodologies**

|                          |                                  |
|--------------------------|----------------------------------|
| Work Instruction:        | WI-03 MEASURING RF SPECTRUM MASK |
| Measurement Uncertainty: | ±2.81 dB                         |

Note: click the links in the above matrix to view the graphical image (plot).

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**Title:** Actiontec Electronics Inc. T3200M  
**To:** FCC CFR 47 Part 15.407 & RSS-247  
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**Equipment Configuration for 26 dB & 99% Occupied Bandwidth**

|                                |                |                                   |      |
|--------------------------------|----------------|-----------------------------------|------|
| <b>Variant:</b>                | 802.11n HT-40  | <b>Duty Cycle (%):</b>            | 96.0 |
| <b>Data Rate:</b>              | 13.50 MBit/s   | <b>Antenna Gain (dBi):</b>        | 4.40 |
| <b>Modulation:</b>             | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> | 1.40 |
| <b>TPC:</b>                    | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b> |                |                                   |      |

**Test Measurement Results**

| Test Frequency | Measured 26 dB Bandwidth (MHz) |                        |                        |                        | 26 dB Bandwidth (MHz) |        |  |  |
|----------------|--------------------------------|------------------------|------------------------|------------------------|-----------------------|--------|--|--|
|                | Port(s)                        |                        |                        |                        | Highest               | Lowest |  |  |
| MHz            | a                              | b                      | c                      | d                      |                       |        |  |  |
| 5510.0         | <a href="#">42.886</a>         | <a href="#">42.886</a> | <a href="#">42.685</a> | <a href="#">42.886</a> | 42.886                | 42.685 |  |  |
| 5550.0         | <a href="#">43.086</a>         | <a href="#">42.685</a> | <a href="#">42.685</a> | <a href="#">42.685</a> | 43.086                | 42.685 |  |  |
| 5710.0         | <a href="#">43.086</a>         | <a href="#">42.886</a> | <a href="#">42.685</a> | <a href="#">43.287</a> | 43.287                | 42.685 |  |  |

| Test Frequency | Measured 99% Bandwidth (MHz) |                        |                        |                        | 99% Bandwidth (MHz) |        |  |  |
|----------------|------------------------------|------------------------|------------------------|------------------------|---------------------|--------|--|--|
|                | Port(s)                      |                        |                        |                        | Highest             | Lowest |  |  |
| MHz            | a                            | b                      | c                      | d                      |                     |        |  |  |
| 5510.0         | <a href="#">36.673</a>       | <a href="#">36.673</a> | <a href="#">36.673</a> | <a href="#">36.673</a> | 36.673              | 36.673 |  |  |
| 5550.0         | <a href="#">36.673</a>       | <a href="#">36.673</a> | <a href="#">36.673</a> | <a href="#">36.673</a> | 36.673              | 36.673 |  |  |
| 5710.0         | <a href="#">36.673</a>       | <a href="#">36.673</a> | <a href="#">36.673</a> | <a href="#">36.673</a> | 36.673              | 36.673 |  |  |

**Traceability to Industry Recognized Test Methodologies**

|                          |                                  |
|--------------------------|----------------------------------|
| Work Instruction:        | WI-03 MEASURING RF SPECTRUM MASK |
| Measurement Uncertainty: | ±2.81 dB                         |

Note: click the links in the above matrix to view the graphical image (plot).

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### 4.3. Power Spectral Density

| Conducted Test Conditions for Power Spectral Density |                          |                            |             |
|--|--------------------------|----------------------------|-------------|
| <b>Standard:</b>                                     | FCC CFR 47:15.407        | <b>Ambient Temp. (°C):</b> | 24.0 - 27.5 |
| <b>Test Heading:</b>                                 | Power Spectral Density   | <b>Rel. Humidity (%):</b>  | 32 - 45     |
| <b>Standard Section(s):</b>                          | 15.407 (a)               | <b>Pressure (mBars):</b>   | 999 - 1001  |
| <b>Reference Document(s):</b>                        | See Normative References |                            |             |

#### Test Procedure for Power Spectral Density

The in-band power spectral density was measured using the test technique specified in KDB 789033. A 1 MHz measurement bandwidth was implemented for the analyzer sweep. Once the sweep is complete the analyzer trace data is downloaded and used for post processing purposes.

Where the device operated with multiple antenna ports i.e. MIMO device, each port was measured separately. The Peak Power Spectral Density is the highest level found across the emission bandwidth. With multiple antenna port measurements the numerical analyzer data from each port is summed (à) and a link to this additional graphic is provided.

Test configuration and setup used for the measurement was per the Conducted Test Set-up section specified in this document.

Measure and sum the spectra across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The individual spectra are then summed mathematically in linear power units. Unlike in-band power measurements, in which the sum involves a single measured value (output power) from each output, measurements for compliance with PSD limits involve summing entire spectra across corresponding frequency bins on the various outputs. Consistency is maintained for any device with multiple transmitter outputs to be certain the individual outputs are all aligned with the same span and same number of points. In this instance, the linear power spectrum value within the first spectral bin of output 0 is summed with that in the first spectral bin of output 1, and the first spectral bin of output 2, and so on up to the Nth output to obtain the true value for the first frequency bin of the summed spectrum. The summed spectrum value for each frequency bin is computed in this fashion. These summed spectral values were post processed and the resulting numerical and graphical data presented.

NOTE: It may be observed that spectrum in some plots break the limit line however this in itself does NOT constitute a failure. In all cases a spectrum summation plot is provided in order to prove compliance. A failure occurs only after the summation of all spectrum plots have been summed and are found to be greater than the limit line.

#### Supporting Information

Calculated Power = A + 10 log (1/x) dBm

A = Total Power Spectral Density [ $10^{\text{a}/10} + 10^{\text{b}/10} + 10^{\text{c}/10} + 10^{\text{d}/10}$ ]

x = Duty Cycle

#### Limits Power Spectral Density

##### Operating Frequency Band 5150-5250 MHz

15.407 (a)(1)

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

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(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### **Operating Frequency Band 5250-5350 and 5470 – 5725 MHz**

##### **15. 407 (a)(2)**

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or  $11 \text{ dBm} + 10 \log B$ , where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### **Operating Frequency Band 5725 – 5850 MHz**

##### **15. 407 (a)(3)**

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

#### **Horizontal and Vertical Antenna Polarization**

The T3200M antennas are dual polarized i.e. 3 antennas operate horizontal the other 1 vertical polarization. For this reason the Power Spectral Density test does not compare all 4 antenna's to the limit but it measures the 3 horizontal and 1 vertical antennas separately.

As a result two separate sets of tests were performed;

- 1).. Horizontal 3 antenna chains
- 2).. Vertical single antenna chain

**NOTE:** Antenna chain power cannot be set on an individual basis



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5250.00-5350.00MHz

**Equipment Configuration for Power Spectral Density**

|                                |                |                                   |      |
|--------------------------------|----------------|-----------------------------------|------|
| <b>Variant:</b>                | 802.11a        | <b>Duty Cycle (%):</b>            | 99.0 |
| <b>Data Rate:</b>              | 6.00 MBit/s    | <b>Antenna Gain (dBi):</b>        | 4.46 |
| <b>Modulation:</b>             | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> | 1.14 |
| <b>TPC:</b>                    | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b> |                |                                   |      |

**Test Measurement Results**

| Test Frequency | Measured Power Spectral Density |                       |                       |    | Amplitude Summation + DCCF (+0.04 dB) | Limit   | Margin |
|----------------|---------------------------------|-----------------------|-----------------------|----|---------------------------------------|---------|--------|
|                | Port(s) (dBm/MHz)               |                       |                       |    |                                       |         |        |
| MHz            | a                               | b                     | c                     | d  | dBm/MHz                               | dBm/MHz | dB     |
| 5260.0         | <a href="#">5.873</a>           | <a href="#">6.330</a> | <a href="#">6.542</a> | -- | <a href="#">10.885</a>                | 11.0    | -0.1   |
| 5300.0         | <a href="#">5.678</a>           | <a href="#">6.553</a> | <a href="#">6.346</a> | -- | <a href="#">10.921</a>                | 11.0    | -0.1   |
| 5320.0         | <a href="#">5.609</a>           | <a href="#">6.095</a> | <a href="#">6.365</a> | -- | <a href="#">10.798</a>                | 11.0    | -0.2   |

**Traceability to Industry Recognized Test Methodologies**

|                          |                                  |
|--------------------------|----------------------------------|
| Work Instruction:        | WI-03 MEASURING RF SPECTRUM MASK |
| Measurement Uncertainty: | ±2.81 dB                         |

DCCF - Duty Cycle Correction Factor

Note: click the links in the above matrix to view the graphical image (plot).

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**Equipment Configuration for Power Spectral Density**

|                                |                |                                   |      |
|--------------------------------|----------------|-----------------------------------|------|
| <b>Variant:</b>                | 802.11a        | <b>Duty Cycle (%):</b>            | 99.0 |
| <b>Data Rate:</b>              | 6.00 MBit/s    | <b>Antenna Gain (dBi):</b>        | 4.46 |
| <b>Modulation:</b>             | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> | 1.14 |
| <b>TPC:</b>                    | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b> |                |                                   |      |

**Test Measurement Results**

| Test Frequency | Measured Power Spectral Density |    |    |                       | Amplitude Summation + DCCF (+0.04 dB) | Limit   | Margin |
|----------------|---------------------------------|----|----|-----------------------|---------------------------------------|---------|--------|
|                | Port(s) (dBm/MHz)               |    |    |                       |                                       |         |        |
| MHz            | a                               | b  | c  | d                     | dBm/MHz                               | dBm/MHz | dB     |
| 5260.0         | --                              | -- | -- | <a href="#">5.806</a> | <a href="#">5.850</a>                 | 11.0    | -5.2   |
| 5300.0         | --                              | -- | -- | <a href="#">5.968</a> | <a href="#">6.012</a>                 | 11.0    | -5.0   |
| 5320.0         | --                              | -- | -- | <a href="#">6.135</a> | <a href="#">6.179</a>                 | 11.0    | -4.8   |

**Traceability to Industry Recognized Test Methodologies**

|                          |                                  |
|--------------------------|----------------------------------|
| Work Instruction:        | WI-03 MEASURING RF SPECTRUM MASK |
| Measurement Uncertainty: | ±2.81 dB                         |

DCCF - Duty Cycle Correction Factor

Note: click the links in the above matrix to view the graphical image (plot).

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**Equipment Configuration for Power Spectral Density**

|                                |                |                                   |      |
|--------------------------------|----------------|-----------------------------------|------|
| <b>Variant:</b>                | 802.11ac-80    | <b>Duty Cycle (%):</b>            | 93.0 |
| <b>Data Rate:</b>              | 29.30 MBit/s   | <b>Antenna Gain (dBi):</b>        | 4.46 |
| <b>Modulation:</b>             | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> |      |
| <b>TPC:</b>                    | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b> |                |                                   |      |

**Test Measurement Results**

| Test Frequency | Measured Power Spectral Density |                       |                       |    | Amplitude Summation + DCCF (+0.32 dB) | Limit   | Margin |
|----------------|---------------------------------|-----------------------|-----------------------|----|---------------------------------------|---------|--------|
|                | Port(s) (dBm/MHz)               |                       |                       |    |                                       |         |        |
| MHz            | a                               | b                     | c                     | d  | dBm/MHz                               | dBm/MHz | dB     |
| 5290.0         | <a href="#">-0.594</a>          | <a href="#">0.270</a> | <a href="#">0.388</a> | -- | <a href="#">4.512</a>                 | 11.0    | -6.5   |

**Traceability to Industry Recognized Test Methodologies**

|                          |                                  |
|--------------------------|----------------------------------|
| Work Instruction:        | WI-03 MEASURING RF SPECTRUM MASK |
| Measurement Uncertainty: | ±2.81 dB                         |

DCCF - Duty Cycle Correction Factor

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**Equipment Configuration for Power Spectral Density**

|                                |                |                                   |      |
|--------------------------------|----------------|-----------------------------------|------|
| <b>Variant:</b>                | 802.11ac-80    | <b>Duty Cycle (%):</b>            | 93.0 |
| <b>Data Rate:</b>              | 29.30 MBit/s   | <b>Antenna Gain (dBi):</b>        | 4.46 |
| <b>Modulation:</b>             | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> |      |
| <b>TPC:</b>                    | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b> |                |                                   |      |

**Test Measurement Results**

| Test Frequency | Measured Power Spectral Density |    |    |                       | Amplitude Summation + DCCF (+0.32 dB) | Limit   | Margin |
|----------------|---------------------------------|----|----|-----------------------|---------------------------------------|---------|--------|
|                | Port(s) (dBm/MHz)               |    |    |                       |                                       |         |        |
| MHz            | a                               | b  | c  | d                     | dBm/MHz                               | dBm/MHz | dB     |
| 5290.0         | --                              | -- | -- | <a href="#">0.733</a> | <a href="#">1.048</a>                 | 11.0    | -10.0  |

**Traceability to Industry Recognized Test Methodologies**

|                          |                                  |
|--------------------------|----------------------------------|
| Work Instruction:        | WI-03 MEASURING RF SPECTRUM MASK |
| Measurement Uncertainty: | ±2.81 dB                         |

DCCF - Duty Cycle Correction Factor

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| Equipment Configuration for Power Spectral Density |                |                                   |      |
|--|----------------|-----------------------------------|------|
| <b>Variant:</b>                                    | 802.11n HT-20  | <b>Duty Cycle (%):</b>            | 98.0 |
| <b>Data Rate:</b>                                  | 6.50 MBit/s    | <b>Antenna Gain (dBi):</b>        | 4.46 |
| <b>Modulation:</b>                                 | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> | 1.14 |
| <b>TPC:</b>  | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b>                     |                |                                   |      |

| Test Measurement Results |                                 |                       |                       |    |                                       |         |        |
|--------------------------|---------------------------------|-----------------------|-----------------------|----|---------------------------------------|---------|--------|
| Test Frequency           | Measured Power Spectral Density |                       |                       |    | Amplitude Summation + DCCF (+0.09 dB) | Limit   | Margin |
|                          | Port(s) (dBm/MHz)               |                       |                       |    |                                       |         |        |
| MHz                      | a                               | b                     | c                     | d  | dBm/MHz                               | dBm/MHz | dB     |
| 5260.0                   | <a href="#">5.044</a>           | <a href="#">5.410</a> | <a href="#">5.535</a> | -- | <a href="#">10.077</a>                | 11.0    | -0.9   |
| 5300.0                   | <a href="#">5.091</a>           | <a href="#">5.418</a> | <a href="#">5.715</a> | -- | <a href="#">10.233</a>                | 11.0    | -0.7   |
| 5320.0                   | <a href="#">5.006</a>           | <a href="#">5.453</a> | <a href="#">5.821</a> | -- | <a href="#">10.127</a>                | 11.0    | -0.8   |

| Traceability to Industry Recognized Test Methodologies |                                  |
|--|----------------------------------|
| Work Instruction:                                      | WI-03 MEASURING RF SPECTRUM MASK |
| Measurement Uncertainty:                               | ±2.81 dB                         |

DCCF - Duty Cycle Correction Factor

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**Equipment Configuration for Power Spectral Density**

|                                |                |                                   |      |
|--------------------------------|----------------|-----------------------------------|------|
| <b>Variant:</b>                | 802.11n HT-20  | <b>Duty Cycle (%):</b>            | 98.0 |
| <b>Data Rate:</b>              | 6.50 MBit/s    | <b>Antenna Gain (dBi):</b>        | 4.46 |
| <b>Modulation:</b>             | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> | 1.14 |
| <b>TPC:</b>                    | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b> |                |                                   |      |

**Test Measurement Results**

| Test Frequency | Measured Power Spectral Density |    |    |                       | Amplitude Summation + DCCF (+0.09 dB) | Limit   | Margin |
|----------------|---------------------------------|----|----|-----------------------|---------------------------------------|---------|--------|
|                | Port(s) (dBm/MHz)               |    |    |                       |                                       |         |        |
| MHz            | a                               | b  | c  | d                     | dBm/MHz                               | dBm/MHz | dB     |
| 5260.0         | --                              | -- | -- | <a href="#">5.436</a> | <a href="#">5.524</a>                 | 11.0    | -5.5   |
| 5300.0         | --                              | -- | -- | <a href="#">5.552</a> | <a href="#">5.640</a>                 | 11.0    | -5.4   |
| 5320.0         | --                              | -- | -- | <a href="#">5.575</a> | <a href="#">5.663</a>                 | 11.0    | -5.3   |

**Traceability to Industry Recognized Test Methodologies**

|                          |                                  |
|--------------------------|----------------------------------|
| Work Instruction:        | WI-03 MEASURING RF SPECTRUM MASK |
| Measurement Uncertainty: | ±2.81 dB                         |

DCCF - Duty Cycle Correction Factor

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| Equipment Configuration for Power Spectral Density |                |                                   |      |
|--|----------------|-----------------------------------|------|
| <b>Variant:</b>                                    | 802.11n HT-40  | <b>Duty Cycle (%):</b>            | 96.0 |
| <b>Data Rate:</b>                                  | 13.50 MBit/s   | <b>Antenna Gain (dBi):</b>        | 4.46 |
| <b>Modulation:</b>                                 | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> | 1.14 |
| <b>TPC:</b>  | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b>                     |                |                                   |      |

| Test Measurement Results |                                 |                       |                       |    |                                       |         |        |
|--------------------------|---------------------------------|-----------------------|-----------------------|----|---------------------------------------|---------|--------|
| Test Frequency           | Measured Power Spectral Density |                       |                       |    | Amplitude Summation + DCCF (+0.18 dB) | Limit   | Margin |
|                          | Port(s) (dBm/MHz)               |                       |                       |    |                                       |         |        |
| MHz                      | a                               | b                     | c                     | d  | dBm/MHz                               | dBm/MHz | dB     |
| 5270.0                   | <a href="#">2.224</a>           | <a href="#">2.813</a> | <a href="#">2.818</a> | -- | <a href="#">7.346</a>                 | 11.0    | -3.6   |
| 5310.0                   | <a href="#">1.997</a>           | <a href="#">2.601</a> | <a href="#">2.679</a> | -- | <a href="#">7.140</a>                 | 11.0    | -3.8   |

| Traceability to Industry Recognized Test Methodologies |                                  |
|--|----------------------------------|
| Work Instruction:                                      | WI-03 MEASURING RF SPECTRUM MASK |
| Measurement Uncertainty:                               | ±2.81 dB                         |

DCCF - Duty Cycle Correction Factor

Note: click the links in the above matrix to view the graphical image (plot).

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**Equipment Configuration for Power Spectral Density**

|                                |                |                                   |      |
|--------------------------------|----------------|-----------------------------------|------|
| <b>Variant:</b>                | 802.11n HT-40  | <b>Duty Cycle (%):</b>            | 96.0 |
| <b>Data Rate:</b>              | 13.50 MBit/s   | <b>Antenna Gain (dBi):</b>        | 4.46 |
| <b>Modulation:</b>             | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> | 1.14 |
| <b>TPC:</b>                    | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b> |                |                                   |      |

**Test Measurement Results**

| Test Frequency | Measured Power Spectral Density |    |    |                       | Amplitude Summation + DCCF (+0.18 dB) | Limit   | Margin |
|----------------|---------------------------------|----|----|-----------------------|---------------------------------------|---------|--------|
|                | Port(s) (dBm/MHz)               |    |    |                       |                                       |         |        |
| MHz            | a                               | b  | c  | d                     | dBm/MHz                               | dBm/MHz | dB     |
| 5270.0         | --                              | -- | -- | <a href="#">3.005</a> | <a href="#">3.182</a>                 | 11.0    | -7.8   |
| 5310.0         | --                              | -- | -- | <a href="#">2.529</a> | <a href="#">2.706</a>                 | 11.0    | -8.3   |

**Traceability to Industry Recognized Test Methodologies**

|                          |                                  |
|--------------------------|----------------------------------|
| Work Instruction:        | WI-03 MEASURING RF SPECTRUM MASK |
| Measurement Uncertainty: | ±2.81 dB                         |

DCCF - Duty Cycle Correction Factor

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5470.00-5725.00MHz

**Equipment Configuration for Power Spectral Density**

|                                |                |                                   |      |
|--------------------------------|----------------|-----------------------------------|------|
| <b>Variant:</b>                | 802.11a        | <b>Duty Cycle (%):</b>            | 99.0 |
| <b>Data Rate:</b>              | 6.00 MBit/s    | <b>Antenna Gain (dBi):</b>        | 4.40 |
| <b>Modulation:</b>             | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> | 1.40 |
| <b>TPC:</b>                    | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b> |                |                                   |      |

**Test Measurement Results**

| Test Frequency | Measured Power Spectral Density |                       |                       |    | Amplitude Summation + DCCF (+0.04 dB) | Limit   | Margin |
|----------------|---------------------------------|-----------------------|-----------------------|----|---------------------------------------|---------|--------|
|                | Port(s) (dBm/MHz)               |                       |                       |    |                                       |         |        |
| MHz            | a                               | b                     | c                     | d  | dBm/MHz                               | dBm/MHz | dB     |
| 5500.0         | <a href="#">5.409</a>           | <a href="#">6.025</a> | <a href="#">5.713</a> | -- | <a href="#">10.344</a>                | 11.0    | -0.6   |
| 5580.0         | <a href="#">5.222</a>           | <a href="#">6.081</a> | <a href="#">5.455</a> | -- | <a href="#">10.193</a>                | 11.0    | -0.8   |
| 5720.0         | <a href="#">4.973</a>           | <a href="#">5.329</a> | <a href="#">5.946</a> | -- | <a href="#">10.131</a>                | 11.0    | -0.8   |

**Traceability to Industry Recognized Test Methodologies**

|                          |                                  |
|--------------------------|----------------------------------|
| Work Instruction:        | WI-03 MEASURING RF SPECTRUM MASK |
| Measurement Uncertainty: | ±2.81 dB                         |

DCCF - Duty Cycle Correction Factor

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**Equipment Configuration for Power Spectral Density**

|                                |                |                                   |      |
|--------------------------------|----------------|-----------------------------------|------|
| <b>Variant:</b>                | 802.11a        | <b>Duty Cycle (%):</b>            | 99.0 |
| <b>Data Rate:</b>              | 6.00 MBit/s    | <b>Antenna Gain (dBi):</b>        | 4.40 |
| <b>Modulation:</b>             | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> | 1.40 |
| <b>TPC:</b>                    | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b> |                |                                   |      |

**Test Measurement Results**

| Test Frequency | Measured Power Spectral Density |    |    |                       | Amplitude Summation + DCCF (+0.04 dB) | Limit   | Margin |
|----------------|---------------------------------|----|----|-----------------------|---------------------------------------|---------|--------|
|                | Port(s) (dBm/MHz)               |    |    |                       |                                       |         |        |
| MHz            | a                               | b  | c  | d                     | dBm/MHz                               | dBm/MHz | dB     |
| 5500.0         | --                              | -- | -- | <a href="#">5.380</a> | <a href="#">5.424</a>                 | 11.0    | -5.6   |
| 5580.0         | --                              | -- | -- | <a href="#">5.381</a> | <a href="#">5.425</a>                 | 11.0    | -5.6   |
| 5720.0         | --                              | -- | -- | <a href="#">5.178</a> | <a href="#">5.222</a>                 | 11.0    | -5.8   |

**Traceability to Industry Recognized Test Methodologies**

|                          |                                  |
|--------------------------|----------------------------------|
| Work Instruction:        | WI-03 MEASURING RF SPECTRUM MASK |
| Measurement Uncertainty: | ±2.81 dB                         |

DCCF - Duty Cycle Correction Factor

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| Equipment Configuration for Power Spectral Density |                |                                   |      |
|--|----------------|-----------------------------------|------|
| <b>Variant:</b>                                    | 802.11ac-80    | <b>Duty Cycle (%):</b>            | 93.0 |
| <b>Data Rate:</b>                                  | 29.30 MBit/s   | <b>Antenna Gain (dBi):</b>        | 4.40 |
| <b>Modulation:</b>                                 | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> | 1.40 |
| <b>TPC:</b>  | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b>                     |                |                                   |      |

| Test Measurement Results |                                 |                        |                        |    |                                       |         |        |
|--------------------------|---------------------------------|------------------------|------------------------|----|---------------------------------------|---------|--------|
| Test Frequency           | Measured Power Spectral Density |                        |                        |    | Amplitude Summation + DCCF (+0.32 dB) | Limit   | Margin |
|                          | Port(s) (dBm/MHz)               |                        |                        |    |                                       |         |        |
| MHz                      | a                               | b                      | c                      | d  | dBm/MHz                               | dBm/MHz | dB     |
| 5530.0                   | <a href="#">-1.181</a>          | <a href="#">-0.571</a> | <a href="#">-0.676</a> | -- | <a href="#">3.749</a>                 | 11.0    | -7.2   |
| 5610.0                   | <a href="#">-1.305</a>          | <a href="#">-0.621</a> | <a href="#">-1.327</a> | -- | <a href="#">3.607</a>                 | 11.0    | -7.4   |
| 5690.0                   | <a href="#">-1.118</a>          | <a href="#">-1.187</a> | <a href="#">-1.109</a> | -- | <a href="#">3.760</a>                 | 11.0    | -7.2   |

| Traceability to Industry Recognized Test Methodologies |                                  |
|--|----------------------------------|
| Work Instruction:                                      | WI-03 MEASURING RF SPECTRUM MASK |
| Measurement Uncertainty:                               | ±2.81 dB                         |

DCCF - Duty Cycle Correction Factor

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**Equipment Configuration for Power Spectral Density**

|                                |                |                                   |      |
|--------------------------------|----------------|-----------------------------------|------|
| <b>Variant:</b>                | 802.11ac-80    | <b>Duty Cycle (%):</b>            | 93.0 |
| <b>Data Rate:</b>              | 29.30 MBit/s   | <b>Antenna Gain (dBi):</b>        | 4.40 |
| <b>Modulation:</b>             | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> | 1.40 |
| <b>TPC:</b>                    | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b> |                |                                   |      |

**Test Measurement Results**

| Test Frequency | Measured Power Spectral Density |    |    |                        | Amplitude Summation + DCCF (+0.32 dB) | Limit   | Margin |
|----------------|---------------------------------|----|----|------------------------|---------------------------------------|---------|--------|
|                | Port(s) (dBm/MHz)               |    |    |                        |                                       |         |        |
| MHz            | a                               | b  | c  | d                      | dBm/MHz                               | dBm/MHz | dB     |
| 5530.0         | --                              | -- | -- | <a href="#">-1.051</a> | <a href="#">-0.736</a>                | 11.0    | -11.7  |
| 5610.0         | --                              | -- | -- | <a href="#">-1.120</a> | <a href="#">-0.805</a>                | 11.0    | -11.8  |
| 5690.0         | --                              | -- | -- | <a href="#">-1.422</a> | <a href="#">-1.107</a>                | 11.0    | -12.1  |

**Traceability to Industry Recognized Test Methodologies**

|                          |                                  |
|--------------------------|----------------------------------|
| Work Instruction:        | WI-03 MEASURING RF SPECTRUM MASK |
| Measurement Uncertainty: | ±2.81 dB                         |

DCCF - Duty Cycle Correction Factor

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| Equipment Configuration for Power Spectral Density |                |                                   |      |
|--|----------------|-----------------------------------|------|
| <b>Variant:</b>                                    | 802.11n HT-20  | <b>Duty Cycle (%):</b>            | 98.0 |
| <b>Data Rate:</b>                                  | 6.50 MBit/s    | <b>Antenna Gain (dBi):</b>        | 4.40 |
| <b>Modulation:</b>                                 | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> | 1.40 |
| <b>TPC:</b>  | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b>                     |                |                                   |      |

| Test Measurement Results |                                 |                       |                       |    |                                       |         |        |
|--------------------------|---------------------------------|-----------------------|-----------------------|----|---------------------------------------|---------|--------|
| Test Frequency           | Measured Power Spectral Density |                       |                       |    | Amplitude Summation + DCCF (+0.09 dB) | Limit   | Margin |
|                          | Port(s) (dBm/MHz)               |                       |                       |    |                                       |         |        |
| MHz                      | a                               | b                     | c                     | d  | dBm/MHz                               | dBm/MHz | dB     |
| 5500.0                   | <a href="#">5.852</a>           | <a href="#">6.066</a> | <a href="#">6.179</a> | -- | <a href="#">10.753</a>                | 11.0    | -0.2   |
| 5580.0                   | <a href="#">5.654</a>           | <a href="#">6.336</a> | <a href="#">6.032</a> | -- | <a href="#">10.679</a>                | 11.0    | -0.3   |
| 5720.0                   | <a href="#">5.427</a>           | <a href="#">6.263</a> | <a href="#">6.133</a> | -- | <a href="#">10.731</a>                | 11.0    | -0.2   |

| Traceability to Industry Recognized Test Methodologies |                                  |
|--|----------------------------------|
| Work Instruction:                                      | WI-03 MEASURING RF SPECTRUM MASK |
| Measurement Uncertainty:                               | ±2.81 dB                         |

DCCF - Duty Cycle Correction Factor

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**Equipment Configuration for Power Spectral Density**

|                                |                |                                   |      |
|--------------------------------|----------------|-----------------------------------|------|
| <b>Variant:</b>                | 802.11n HT-20  | <b>Duty Cycle (%):</b>            | 98.0 |
| <b>Data Rate:</b>              | 6.50 MBit/s    | <b>Antenna Gain (dBi):</b>        | 4.40 |
| <b>Modulation:</b>             | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> | 1.40 |
| <b>TPC:</b>                    | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b> |                |                                   |      |

**Test Measurement Results**

| Test Frequency | Measured Power Spectral Density |    |    |                       | Amplitude Summation + DCCF (+0.09 dB) | Limit   | Margin |
|----------------|---------------------------------|----|----|-----------------------|---------------------------------------|---------|--------|
|                | Port(s) (dBm/MHz)               |    |    |                       |                                       |         |        |
| MHz            | a                               | b  | c  | d                     | dBm/MHz                               | dBm/MHz | dB     |
| 5500.0         | --                              | -- | -- | <a href="#">5.648</a> | <a href="#">5.736</a>                 | 11.0    | -5.3   |
| 5580.0         | --                              | -- | -- | <a href="#">5.583</a> | <a href="#">5.671</a>                 | 11.0    | -5.3   |
| 5720.0         | --                              | -- | -- | <a href="#">5.655</a> | <a href="#">5.743</a>                 | 11.0    | -5.3   |

**Traceability to Industry Recognized Test Methodologies**

|                          |                                  |
|--------------------------|----------------------------------|
| Work Instruction:        | WI-03 MEASURING RF SPECTRUM MASK |
| Measurement Uncertainty: | ±2.81 dB                         |

DCCF - Duty Cycle Correction Factor

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**Equipment Configuration for Power Spectral Density**

|                                |                |                                   |      |
|--------------------------------|----------------|-----------------------------------|------|
| <b>Variant:</b>                | 802.11n HT-40  | <b>Duty Cycle (%):</b>            | 96.0 |
| <b>Data Rate:</b>              | 13.50 MBit/s   | <b>Antenna Gain (dBi):</b>        | 4.40 |
| <b>Modulation:</b>             | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> | 1.40 |
| <b>TPC:</b>                    | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b> |                |                                   |      |

**Test Measurement Results**

| Test Frequency | Measured Power Spectral Density |                       |                       |    | Amplitude Summation + DCCF (+0.18 dB) | Limit   | Margin |
|----------------|---------------------------------|-----------------------|-----------------------|----|---------------------------------------|---------|--------|
|                | Port(s) (dBm/MHz)               |                       |                       |    |                                       |         |        |
| MHz            | a                               | b                     | c                     | d  | dBm/MHz                               | dBm/MHz | dB     |
| 5510.0         | <a href="#">2.099</a>           | <a href="#">2.316</a> | <a href="#">2.322</a> | -- | <a href="#">6.886</a>                 | 11.0    | -4.1   |
| 5550.0         | <a href="#">1.826</a>           | <a href="#">2.201</a> | <a href="#">2.160</a> | -- | <a href="#">6.759</a>                 | 11.0    | -4.2   |
| 5710.0         | <a href="#">2.342</a>           | <a href="#">2.827</a> | <a href="#">2.853</a> | -- | <a href="#">7.238</a>                 | 11.0    | -3.7   |

**Traceability to Industry Recognized Test Methodologies**

|                          |                                  |
|--------------------------|----------------------------------|
| Work Instruction:        | WI-03 MEASURING RF SPECTRUM MASK |
| Measurement Uncertainty: | ±2.81 dB                         |

DCCF - Duty Cycle Correction Factor

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**Equipment Configuration for Power Spectral Density**

|                                |                |                                   |      |
|--------------------------------|----------------|-----------------------------------|------|
| <b>Variant:</b>                | 802.11n HT-40  | <b>Duty Cycle (%):</b>            | 96.0 |
| <b>Data Rate:</b>              | 13.50 MBit/s   | <b>Antenna Gain (dBi):</b>        | 4.40 |
| <b>Modulation:</b>             | OFDM           | <b>Beam Forming Gain (Y)(dB):</b> | 1.40 |
| <b>TPC:</b>                    | Not Applicable | <b>Tested By:</b>                 | CC   |
| <b>Engineering Test Notes:</b> |                |                                   |      |

**Test Measurement Results**

| Test Frequency | Measured Power Spectral Density |    |    |                       | Amplitude Summation + DCCF (+0.18 dB) | Limit   | Margin |
|----------------|---------------------------------|----|----|-----------------------|---------------------------------------|---------|--------|
|                | Port(s) (dBm/MHz)               |    |    |                       |                                       |         |        |
| MHz            | a                               | b  | c  | d                     | dBm/MHz                               | dBm/MHz | dB     |
| 5510.0         | --                              | -- | -- | <a href="#">1.700</a> | <a href="#">1.877</a>                 | 11.0    | -9.1   |
| 5550.0         | --                              | -- | -- | <a href="#">1.733</a> | <a href="#">1.910</a>                 | 11.0    | -9.1   |
| 5710.0         | --                              | -- | -- | <a href="#">2.688</a> | <a href="#">2.865</a>                 | 11.0    | -8.1   |

**Traceability to Industry Recognized Test Methodologies**

|                          |                                  |
|--------------------------|----------------------------------|
| Work Instruction:        | WI-03 MEASURING RF SPECTRUM MASK |
| Measurement Uncertainty: | ±2.81 dB                         |

DCCF - Duty Cycle Correction Factor

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## **A. APPENDIX - GRAPHICAL IMAGES**

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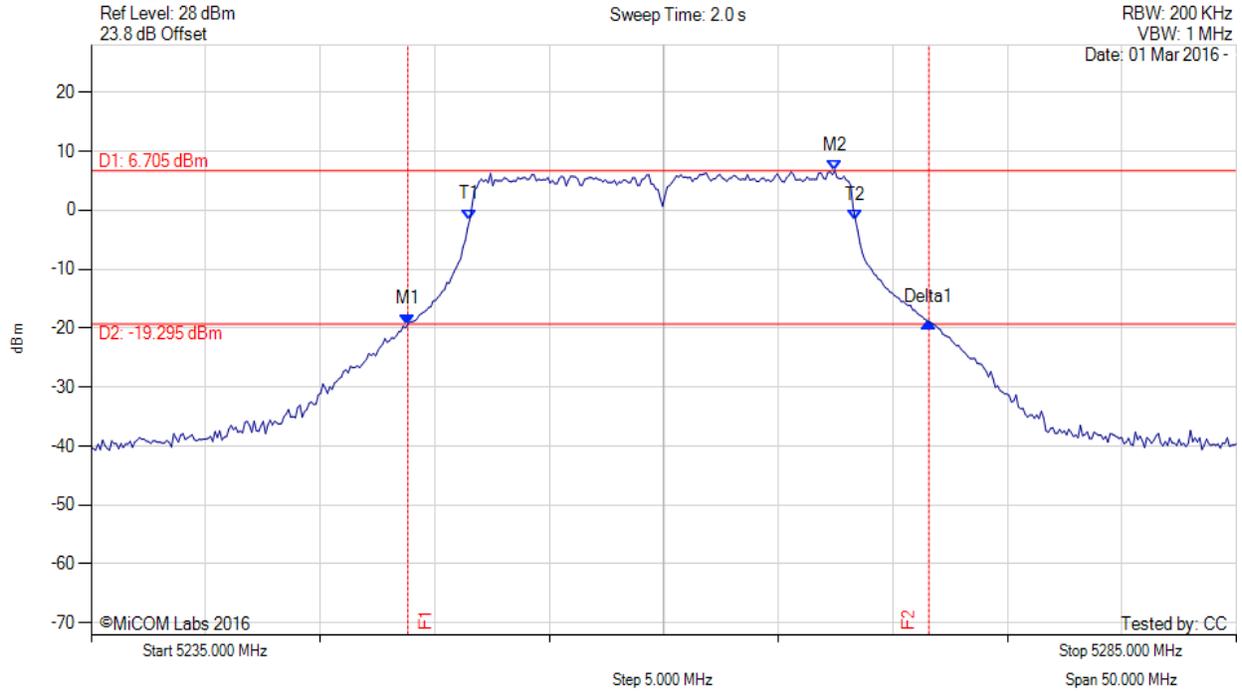


### A.1. 26 dB & 99% Bandwidth



#### 26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5260.00 MHz, Chain a, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5248.828 MHz : -19.356 dBm<br>M2 : 5267.465 MHz : 6.705 dBm<br>Delta1 : 22.745 MHz : 0.393 dB<br>T1 : 5251.533 MHz : -1.589 dBm<br>T2 : 5268.367 MHz : -1.626 dBm<br>OBW : 16.834 MHz | Measured 26 dB Bandwidth: 22.745 MHz<br>Measured 99% Bandwidth: 16.834 MHz |

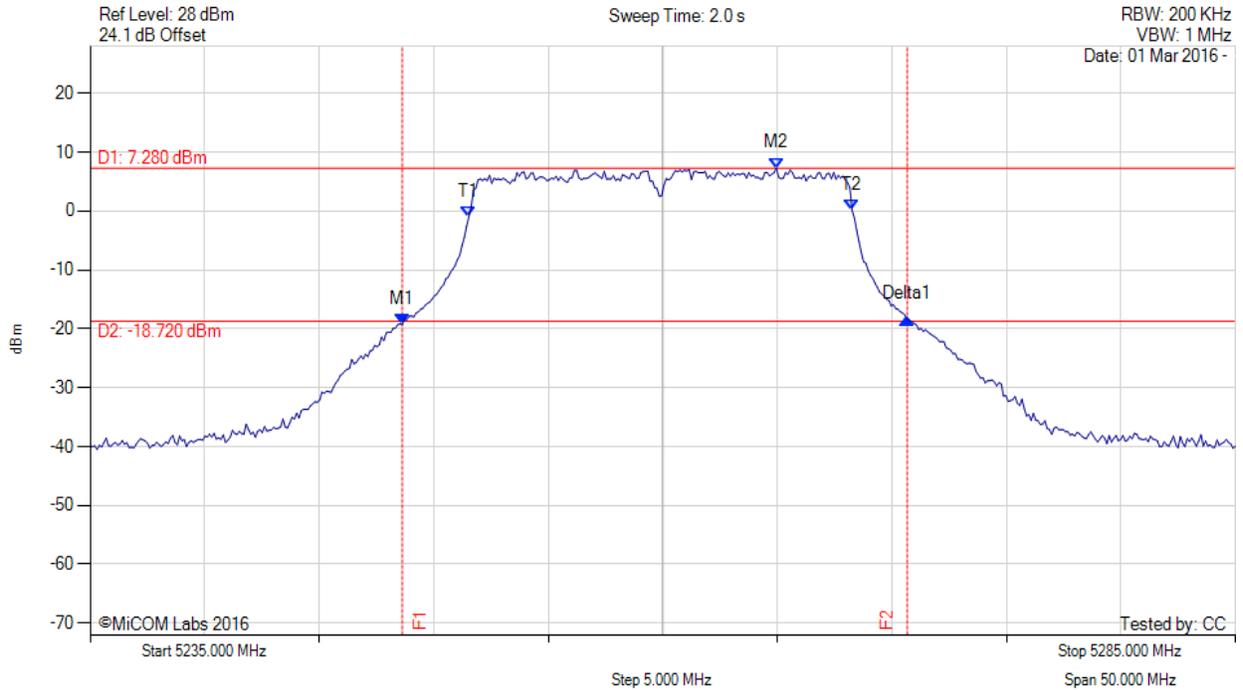
[back to matrix](#)

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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5260.00 MHz, Chain b, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude  | Test Results   |
|---|---|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5248.627 MHz : -19.264 dBm<br>M2 : 5264.960 MHz : 7.280 dBm<br>Delta1 : 22.044 MHz : 0.986 dB<br>T1 : 5251.533 MHz : -1.015 dBm<br>T2 : 5268.267 MHz : 0.121 dBm<br>OBW : 16.733 MHz | Measured 26 dB Bandwidth: 22.044 MHz<br>Measured 99% Bandwidth: 16.733 MHz |

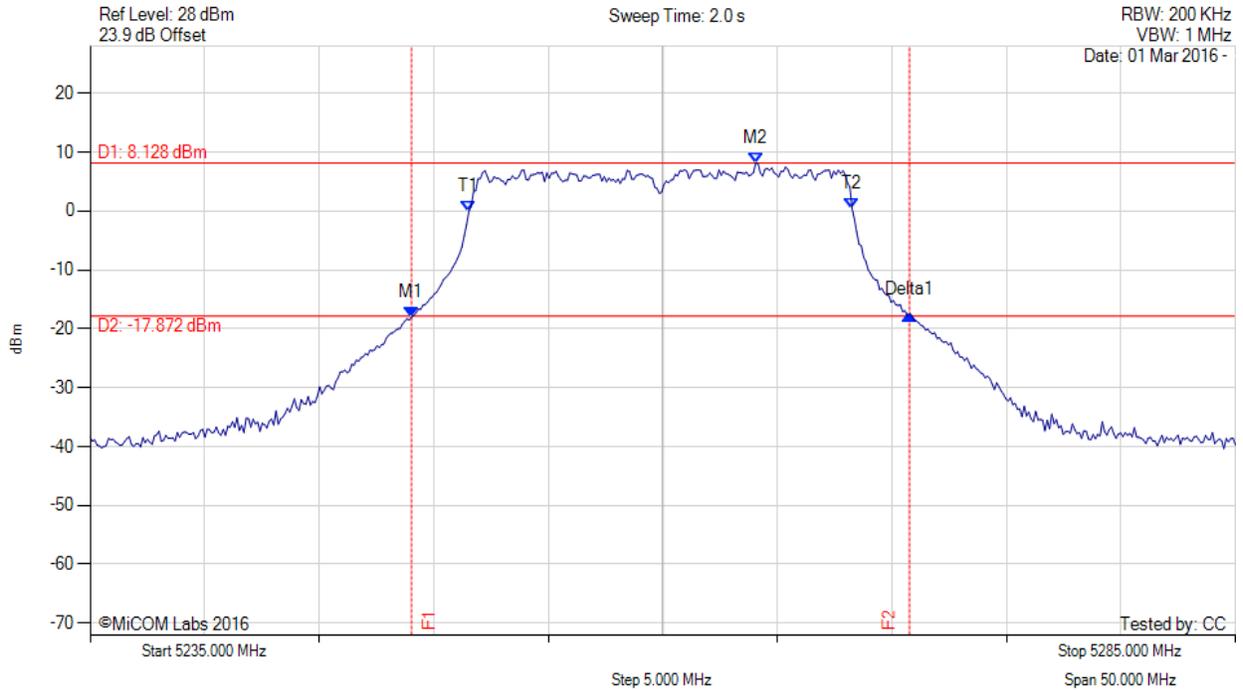
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5260.00 MHz, Chain c, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude  | Test Results   |
|---|---|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5249.028 MHz : -18.009 dBm<br>M2 : 5264.058 MHz : 8.128 dBm<br>Delta1 : 21.743 MHz : 0.470 dB<br>T1 : 5251.533 MHz : -0.121 dBm<br>T2 : 5268.267 MHz : 0.416 dBm<br>OBW : 16.733 MHz | Measured 26 dB Bandwidth: 21.743 MHz<br>Measured 99% Bandwidth: 16.733 MHz |

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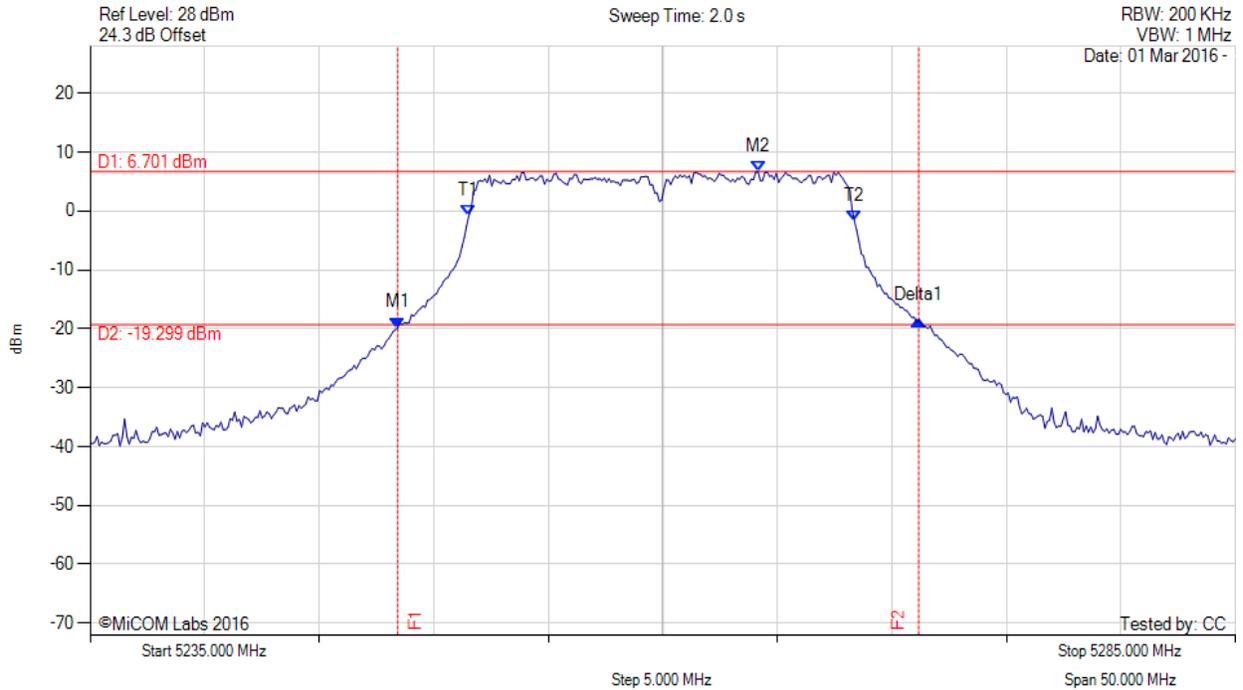
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26 dB & 99% BANDWIDTH



Variant: 802.11a, Channel: 5260.00 MHz, Chain d, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5248.427 MHz : -19.822 dBm<br>M2 : 5264.158 MHz : 6.701 dBm<br>Delta1 : 22.745 MHz : 1.261 dB<br>T1 : 5251.533 MHz : -0.814 dBm<br>T2 : 5268.367 MHz : -1.656 dBm<br>OBW : 16.834 MHz | Measured 26 dB Bandwidth: 22.745 MHz<br>Measured 99% Bandwidth: 16.834 MHz |

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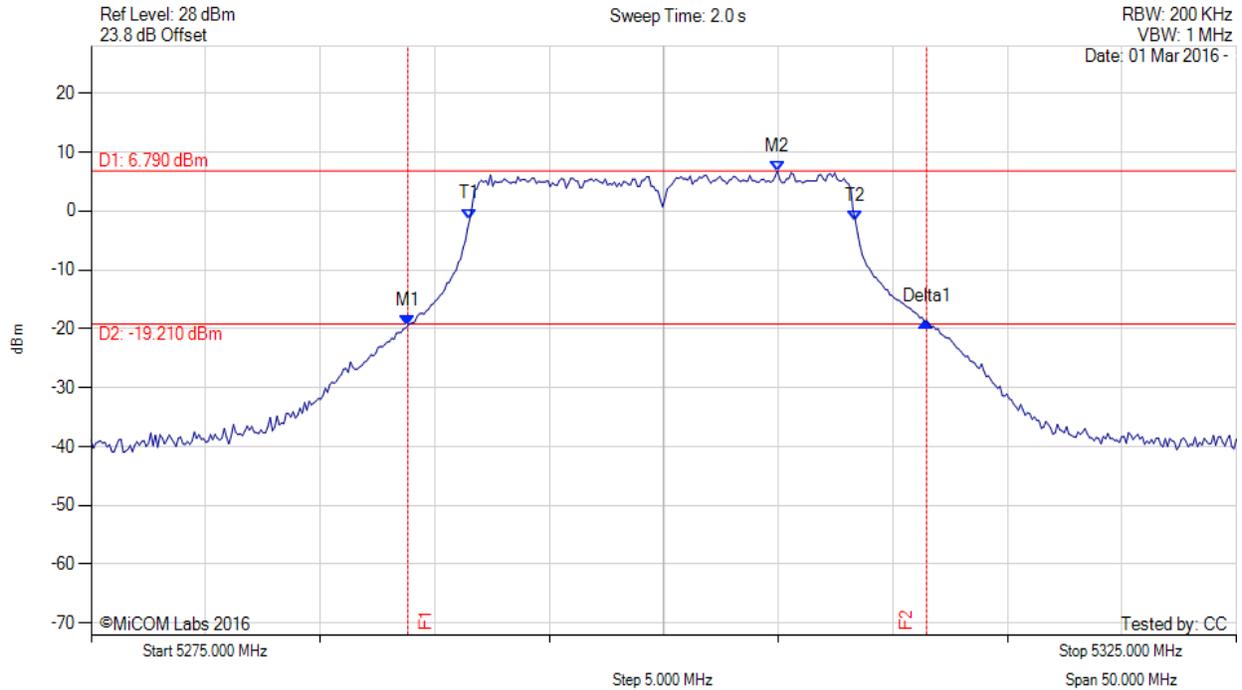
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5300.00 MHz, Chain a, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5288.828 MHz : -19.478 dBm<br>M2 : 5304.960 MHz : 6.790 dBm<br>Delta1 : 22.645 MHz : 0.759 dB<br>T1 : 5291.533 MHz : -1.361 dBm<br>T2 : 5308.367 MHz : -1.676 dBm<br>OBW : 16.834 MHz | Measured 26 dB Bandwidth: 22.645 MHz<br>Measured 99% Bandwidth: 16.834 MHz |

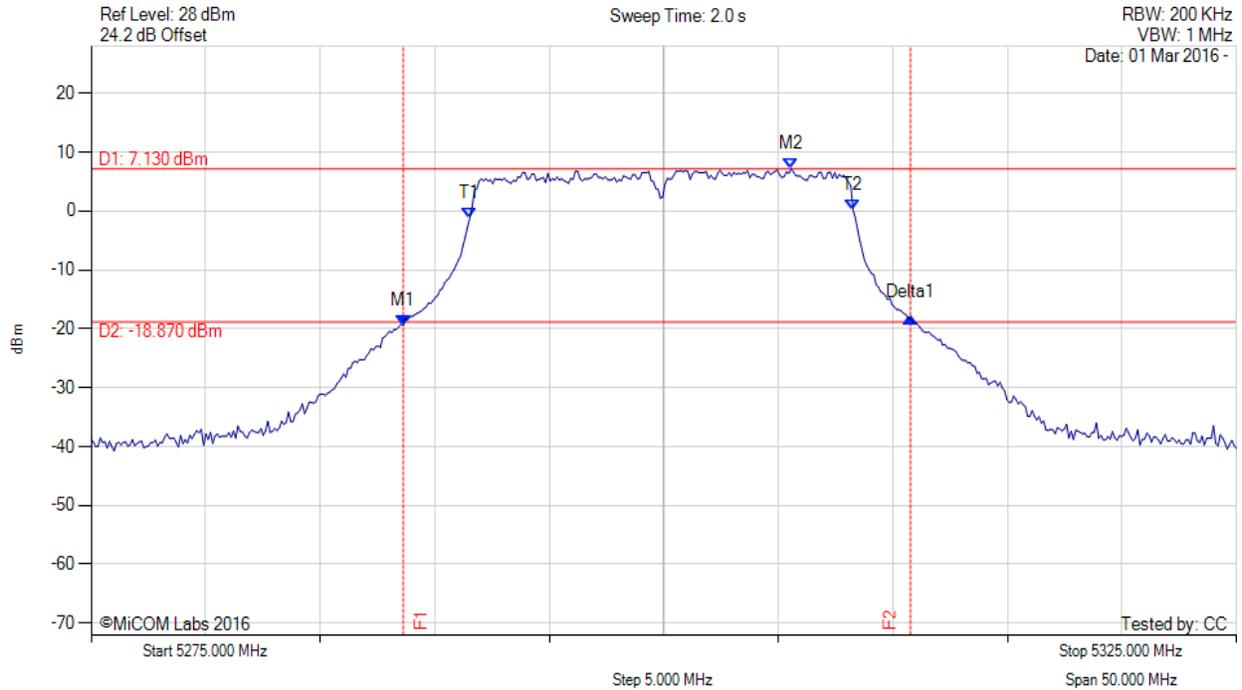
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5300.00 MHz, Chain b, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude  | Test Results   |
|---|---|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5288.627 MHz : -19.417 dBm<br>M2 : 5305.561 MHz : 7.130 dBm<br>Delta1 : 22.144 MHz : 1.289 dB<br>T1 : 5291.533 MHz : -1.196 dBm<br>T2 : 5308.267 MHz : 0.174 dBm<br>OBW : 16.733 MHz | Measured 26 dB Bandwidth: 22.144 MHz<br>Measured 99% Bandwidth: 16.733 MHz |

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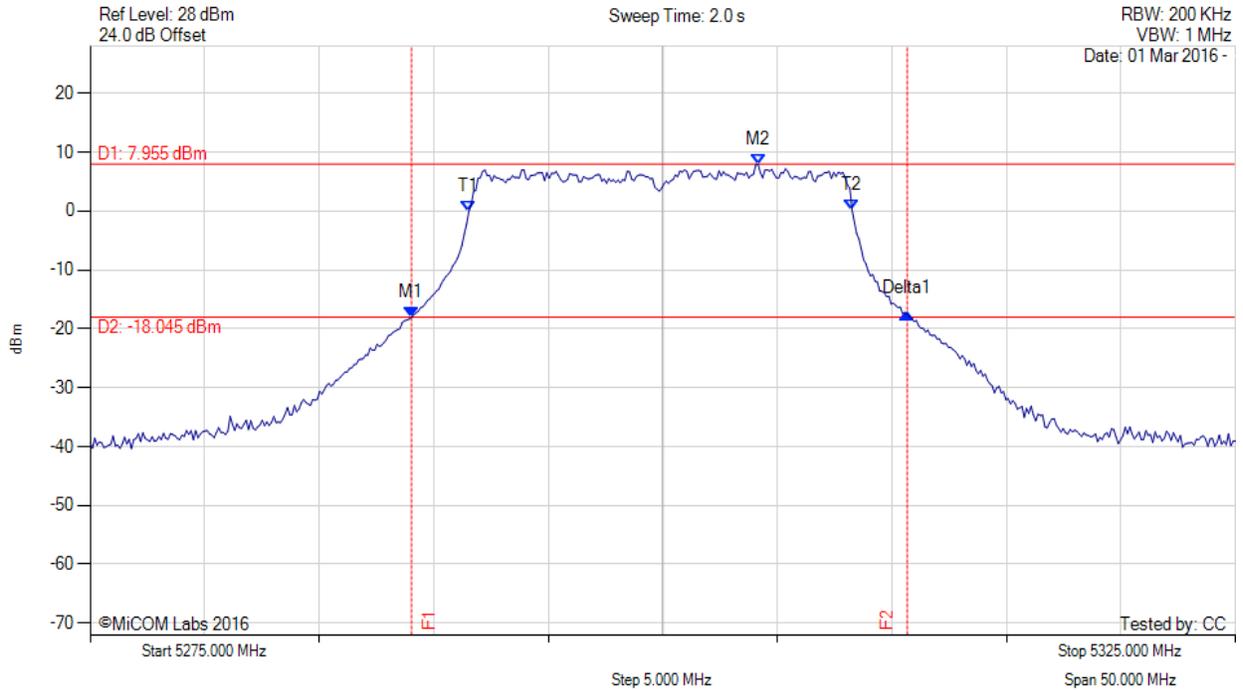
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26 dB & 99% BANDWIDTH



Variant: 802.11a, Channel: 5300.00 MHz, Chain c, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude  | Test Results   |
|---|---|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5289.028 MHz : -18.046 dBm<br>M2 : 5304.158 MHz : 7.955 dBm<br>Delta1 : 21.643 MHz : 0.602 dB<br>T1 : 5291.533 MHz : -0.090 dBm<br>T2 : 5308.267 MHz : 0.166 dBm<br>OBW : 16.733 MHz | Measured 26 dB Bandwidth: 21.643 MHz<br>Measured 99% Bandwidth: 16.733 MHz |

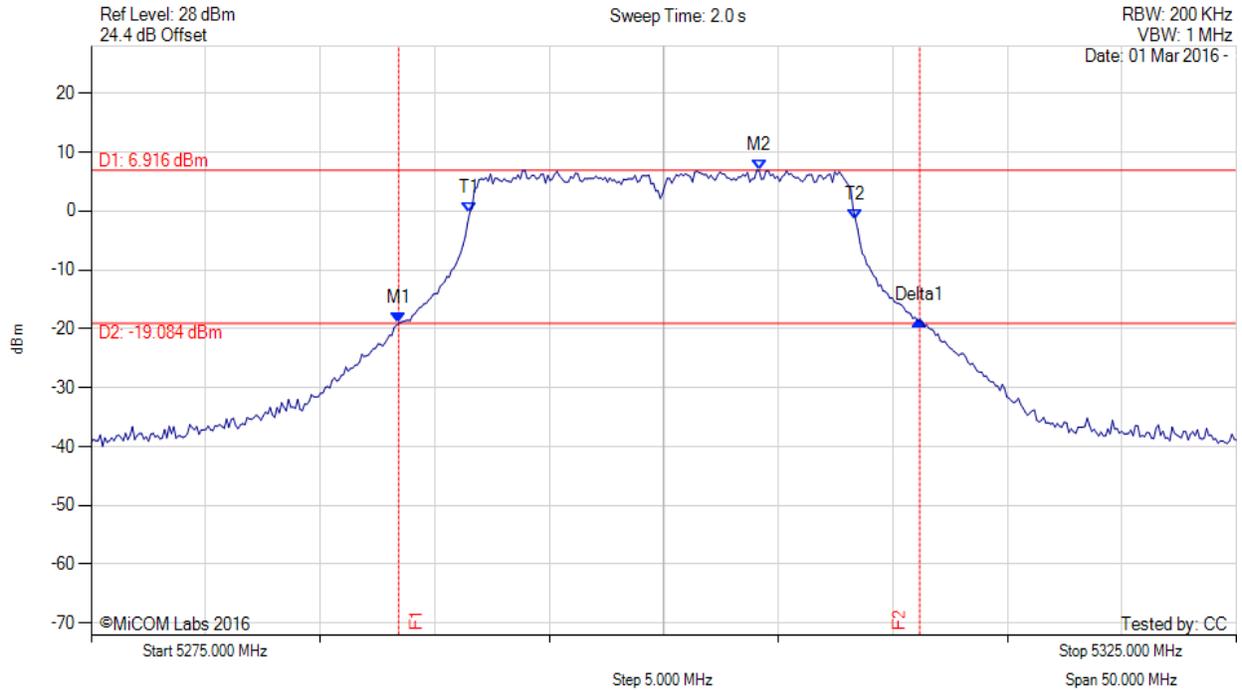
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5300.00 MHz, Chain d, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5288.427 MHz : -19.085 dBm<br>M2 : 5304.158 MHz : 6.916 dBm<br>Delta1 : 22.745 MHz : 0.454 dB<br>T1 : 5291.533 MHz : -0.265 dBm<br>T2 : 5308.367 MHz : -1.396 dBm<br>OBW : 16.834 MHz | Measured 26 dB Bandwidth: 22.745 MHz<br>Measured 99% Bandwidth: 16.834 MHz |

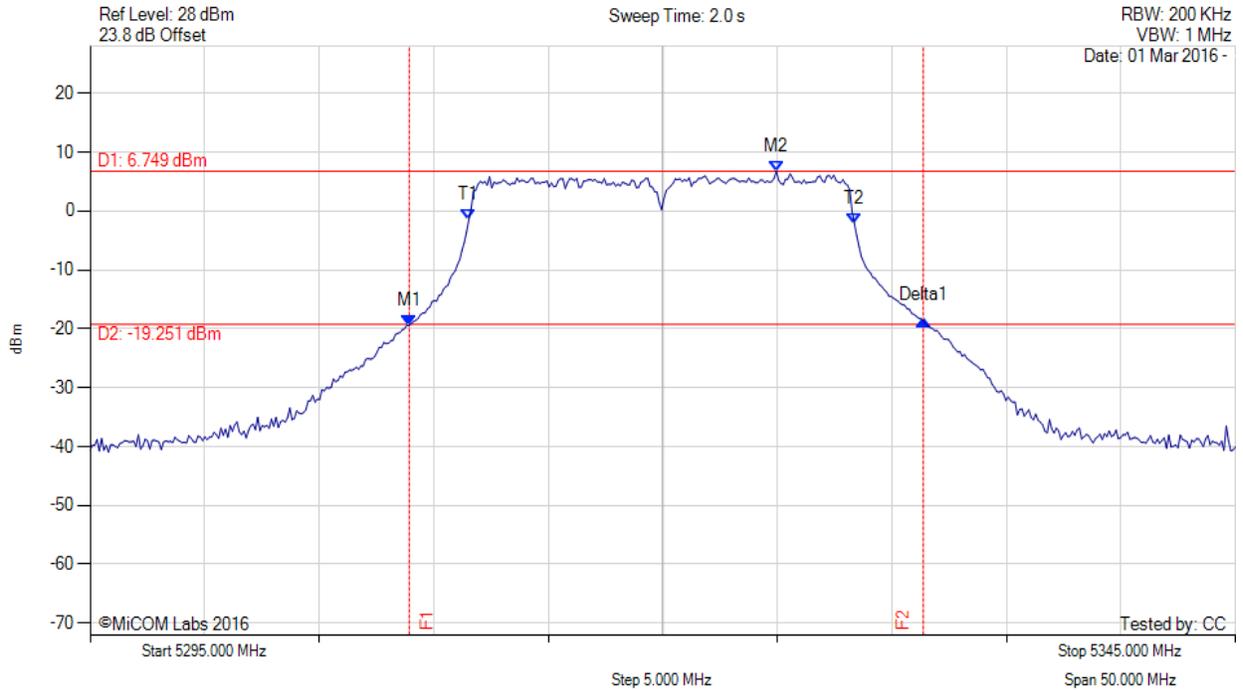
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5320.00 MHz, Chain a, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5308.928 MHz : -19.457 dBm<br>M2 : 5324.960 MHz : 6.749 dBm<br>Delta1 : 22.445 MHz : 0.846 dB<br>T1 : 5311.533 MHz : -1.510 dBm<br>T2 : 5328.367 MHz : -2.183 dBm<br>OBW : 16.834 MHz | Measured 26 dB Bandwidth: 22.445 MHz<br>Measured 99% Bandwidth: 16.834 MHz |

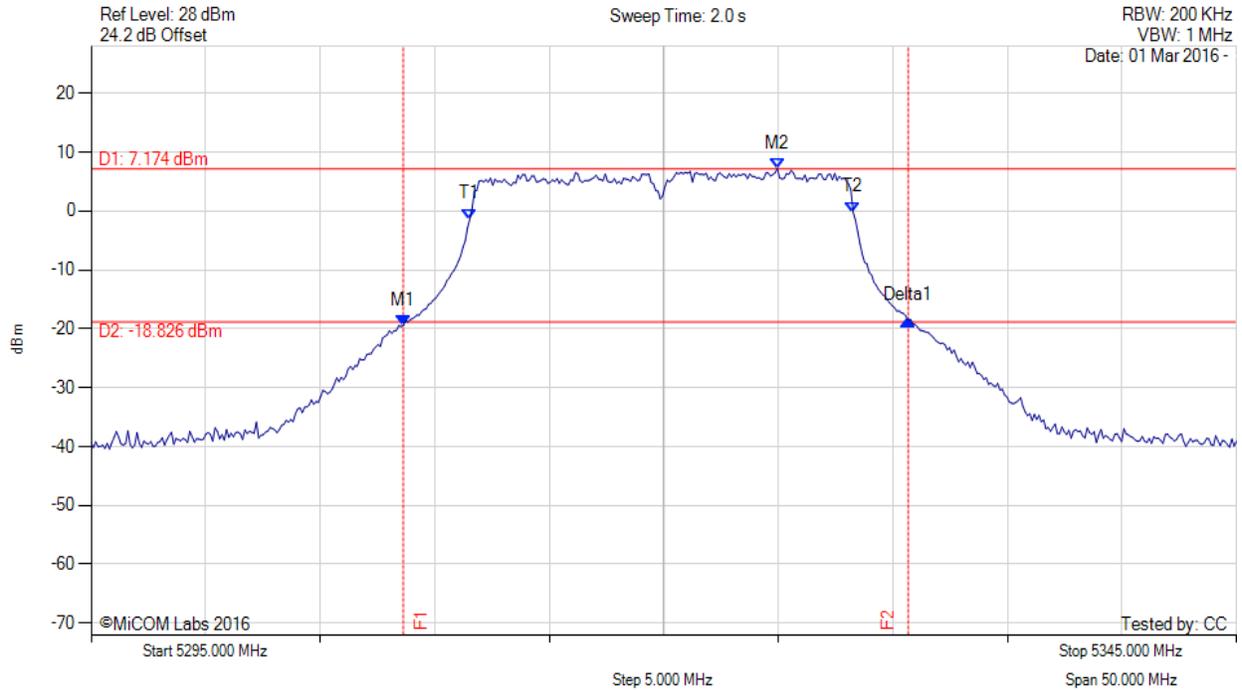
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5320.00 MHz, Chain b, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5308.627 MHz : -19.451 dBm<br>M2 : 5324.960 MHz : 7.174 dBm<br>Delta1 : 22.044 MHz : 0.897 dB<br>T1 : 5311.533 MHz : -1.361 dBm<br>T2 : 5328.267 MHz : -0.194 dBm<br>OBW : 16.733 MHz | Measured 26 dB Bandwidth: 22.044 MHz<br>Measured 99% Bandwidth: 16.733 MHz |

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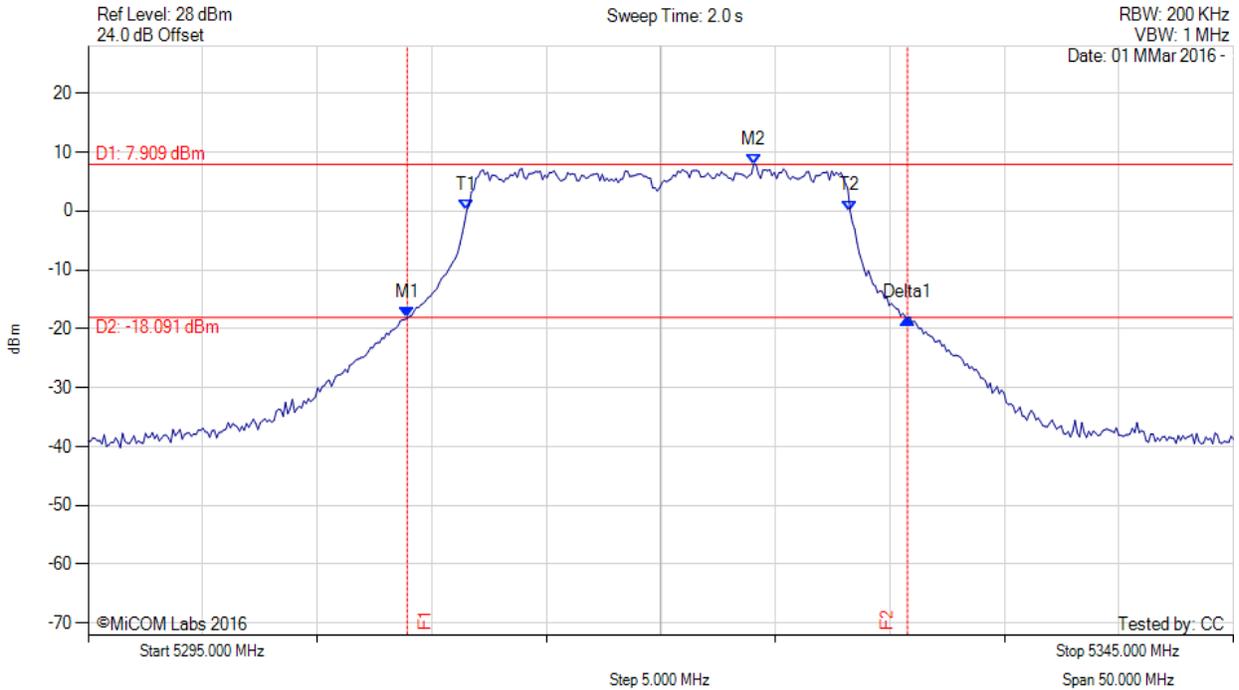
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26 dB & 99% BANDWIDTH



Variant: 802.11a, Channel: 5320.00 MHz, Chain c, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude  | Test Results   |
|---|---|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5308.928 MHz : -18.121 dBm<br>M2 : 5324.058 MHz : 7.909 dBm<br>Delta1 : 21.844 MHz : -0.057 dB<br>T1 : 5311.533 MHz : 0.142 dBm<br>T2 : 5328.267 MHz : 0.052 dBm<br>OBW : 16.733 MHz | Measured 26 dB Bandwidth: 21.844 MHz<br>Measured 99% Bandwidth: 16.733 MHz |

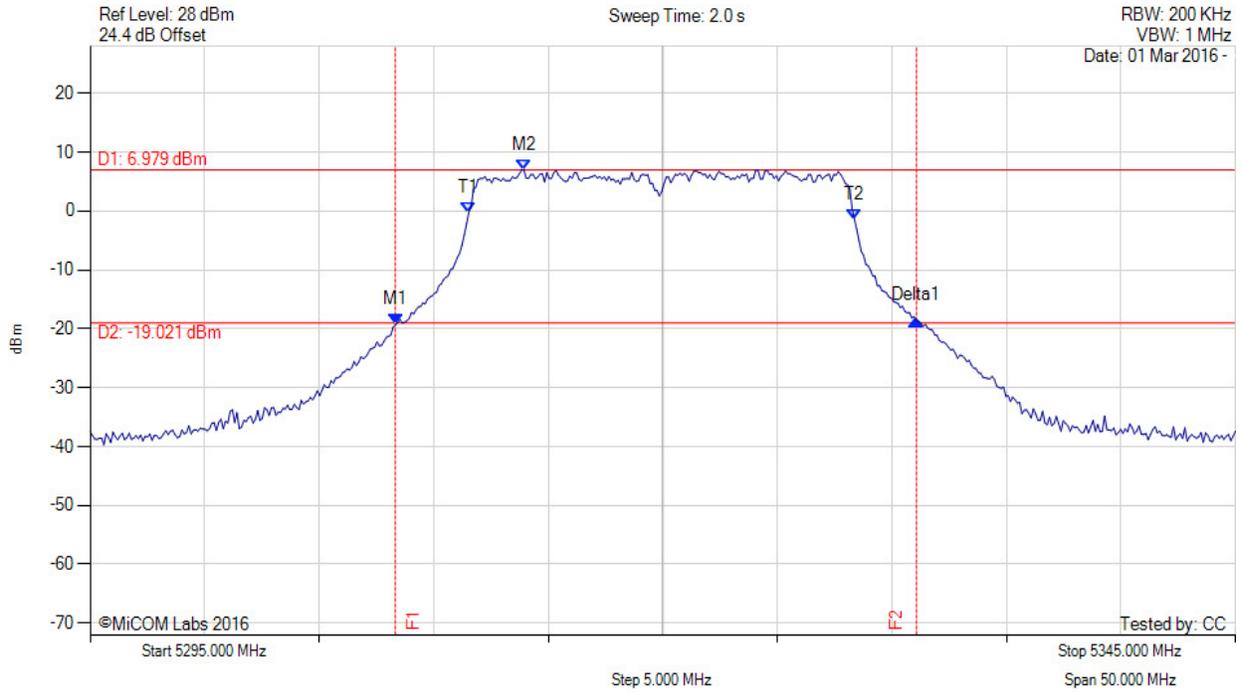
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5320.00 MHz, Chain d, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5308.327 MHz : -19.315 dBm<br>M2 : 5313.938 MHz : 6.979 dBm<br>Delta1 : 22.745 MHz : 0.712 dB<br>T1 : 5311.533 MHz : -0.210 dBm<br>T2 : 5328.367 MHz : -1.430 dBm<br>OBW : 16.834 MHz | Measured 26 dB Bandwidth: 22.745 MHz<br>Measured 99% Bandwidth: 16.834 MHz |

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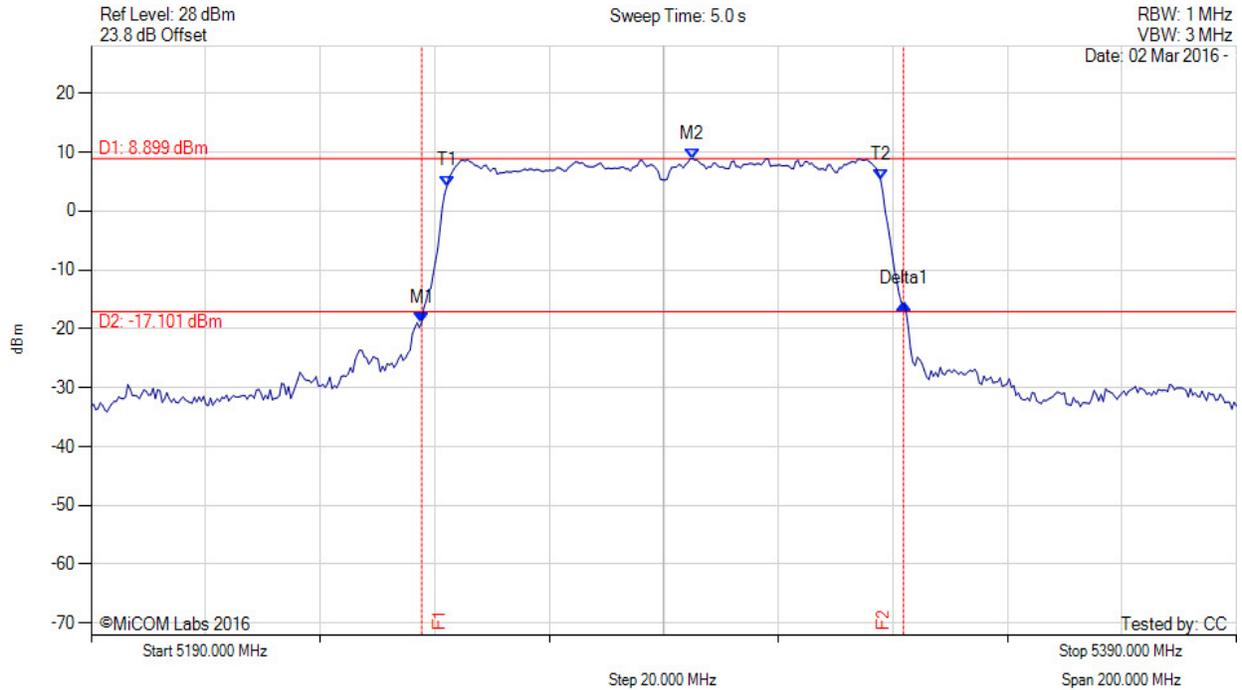
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26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5290.00 MHz, Chain a, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5247.715 MHz : -18.916 dBm<br>M2 : 5295.010 MHz : 8.899 dBm<br>Delta1 : 84.168 MHz : 3.134 dB<br>T1 : 5252.124 MHz : 4.244 dBm<br>T2 : 5327.876 MHz : 5.244 dBm<br>OBW : 75.752 MHz | Measured 26 dB Bandwidth: 84.168 MHz<br>Measured 99% Bandwidth: 75.752 MHz |

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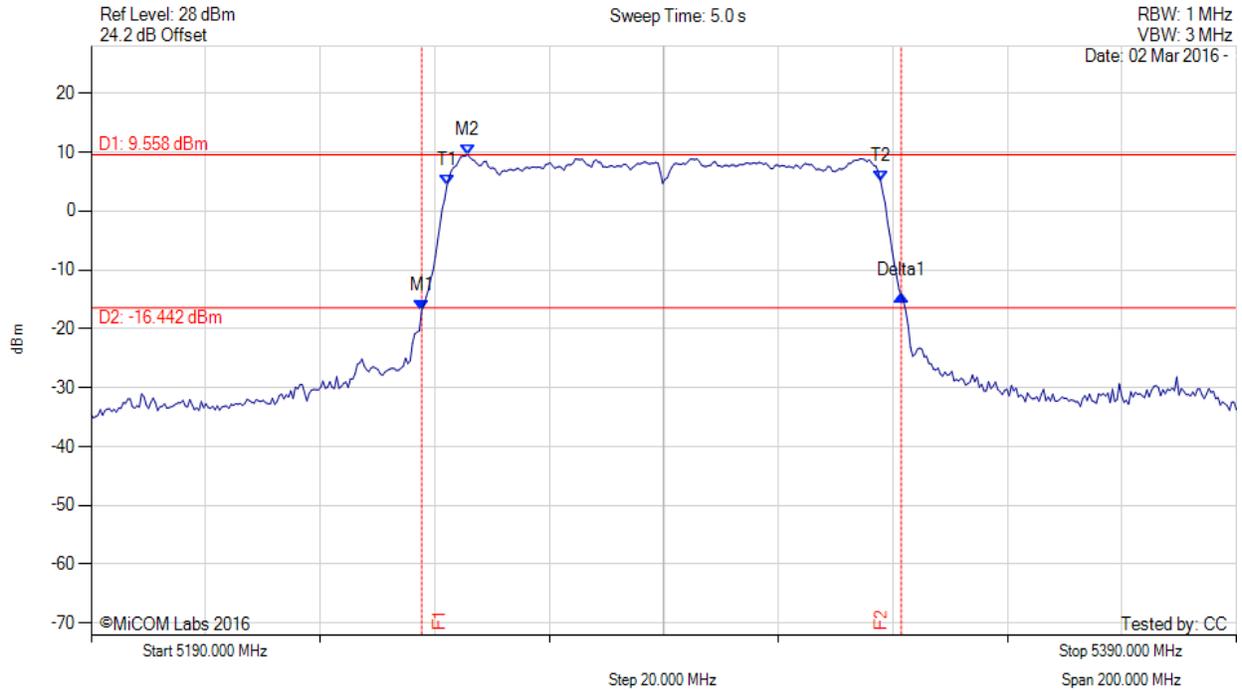
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26 dB & 99% BANDWIDTH



Variant: 802.11ac-80, Channel: 5290.00 MHz, Chain b, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5247.715 MHz : -16.903 dBm<br>M2 : 5255.731 MHz : 9.558 dBm<br>Delta1 : 83.768 MHz : 2.520 dB<br>T1 : 5252.124 MHz : 4.268 dBm<br>T2 : 5327.876 MHz : 5.067 dBm<br>OBW : 75.752 MHz | Measured 26 dB Bandwidth: 83.768 MHz<br>Measured 99% Bandwidth: 75.752 MHz |

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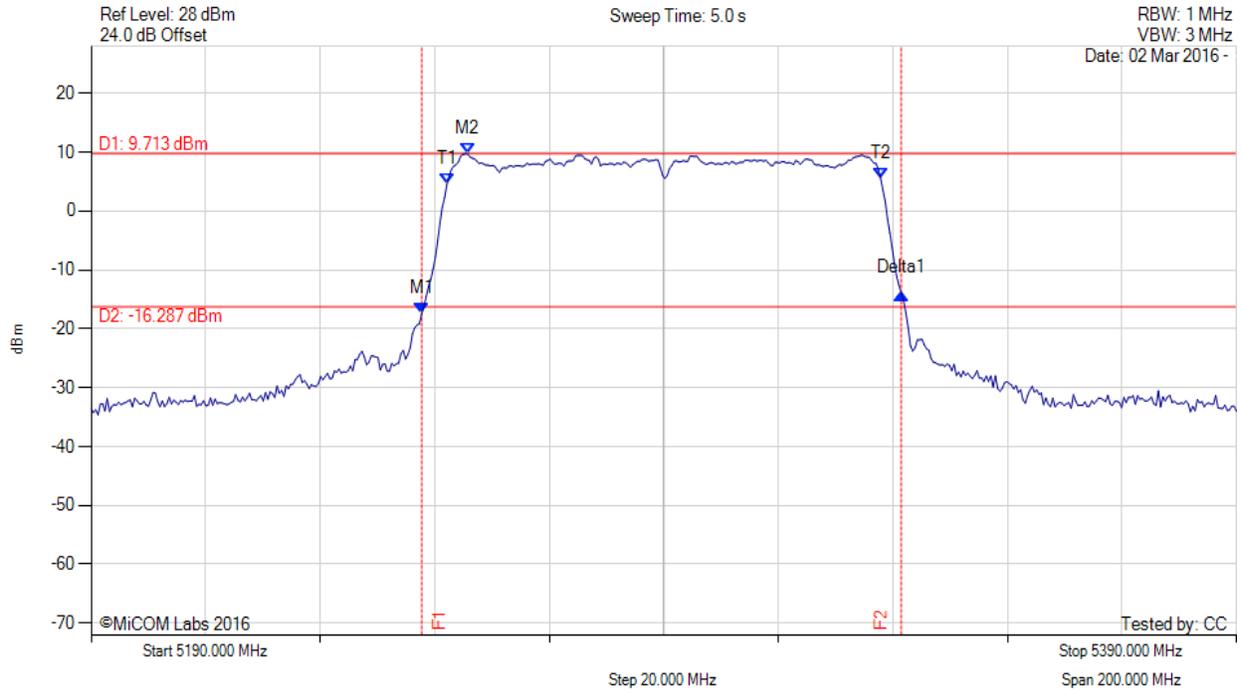
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26 dB & 99% BANDWIDTH



Variant: 802.11ac-80, Channel: 5290.00 MHz, Chain c, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5247.715 MHz : -17.460 dBm<br>M2 : 5255.731 MHz : 9.713 dBm<br>Delta1 : 83.768 MHz : 3.470 dB<br>T1 : 5252.124 MHz : 4.516 dBm<br>T2 : 5327.876 MHz : 5.529 dBm<br>OBW : 75.752 MHz | Measured 26 dB Bandwidth: 83.768 MHz<br>Measured 99% Bandwidth: 75.752 MHz |

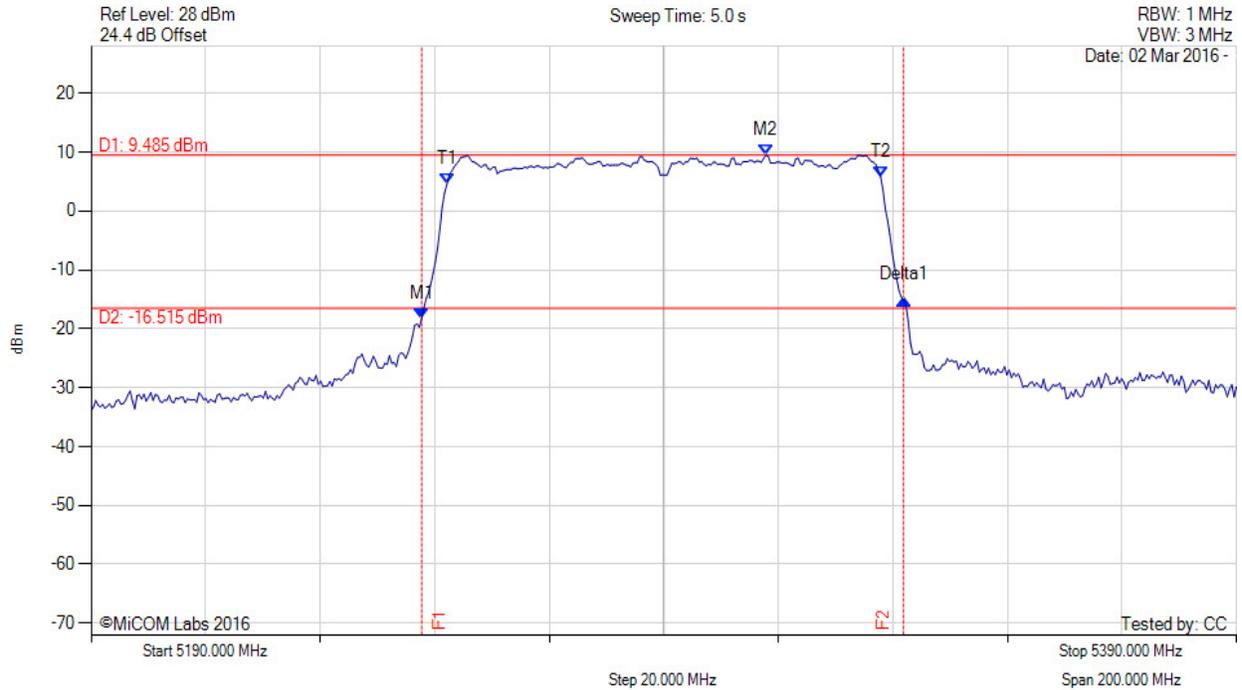
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26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5290.00 MHz, Chain d, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5247.715 MHz : -18.268 dBm<br>M2 : 5307.836 MHz : 9.485 dBm<br>Delta1 : 84.168 MHz : 3.156 dB<br>T1 : 5252.124 MHz : 4.524 dBm<br>T2 : 5327.876 MHz : 5.779 dBm<br>OBW : 75.752 MHz | Measured 26 dB Bandwidth: 84.168 MHz<br>Measured 99% Bandwidth: 75.752 MHz |

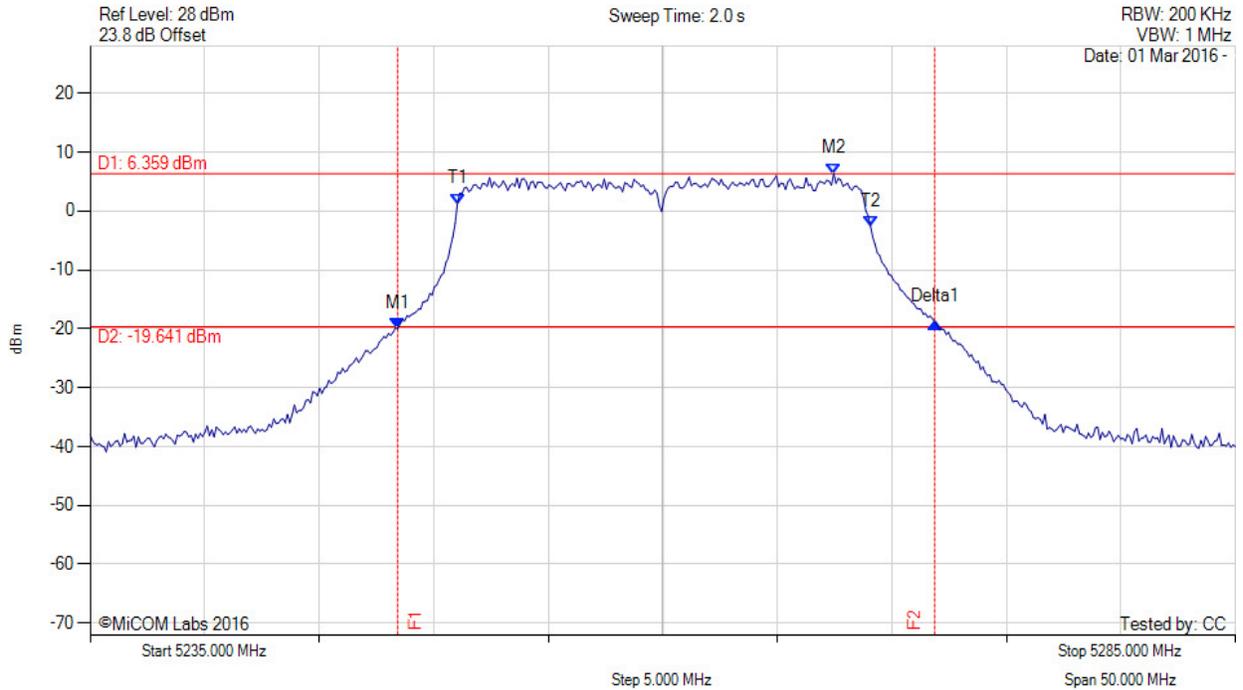
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5260.00 MHz, Chain a, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude  | Test Results   |
|---|---|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5248.427 MHz : -19.984 dBm<br>M2 : 5267.465 MHz : 6.359 dBm<br>Delta1 : 23.447 MHz : 1.106 dB<br>T1 : 5251.032 MHz : 1.211 dBm<br>T2 : 5269.068 MHz : -2.547 dBm<br>OBW : 18.036 MHz | Measured 26 dB Bandwidth: 23.447 MHz<br>Measured 99% Bandwidth: 18.036 MHz |

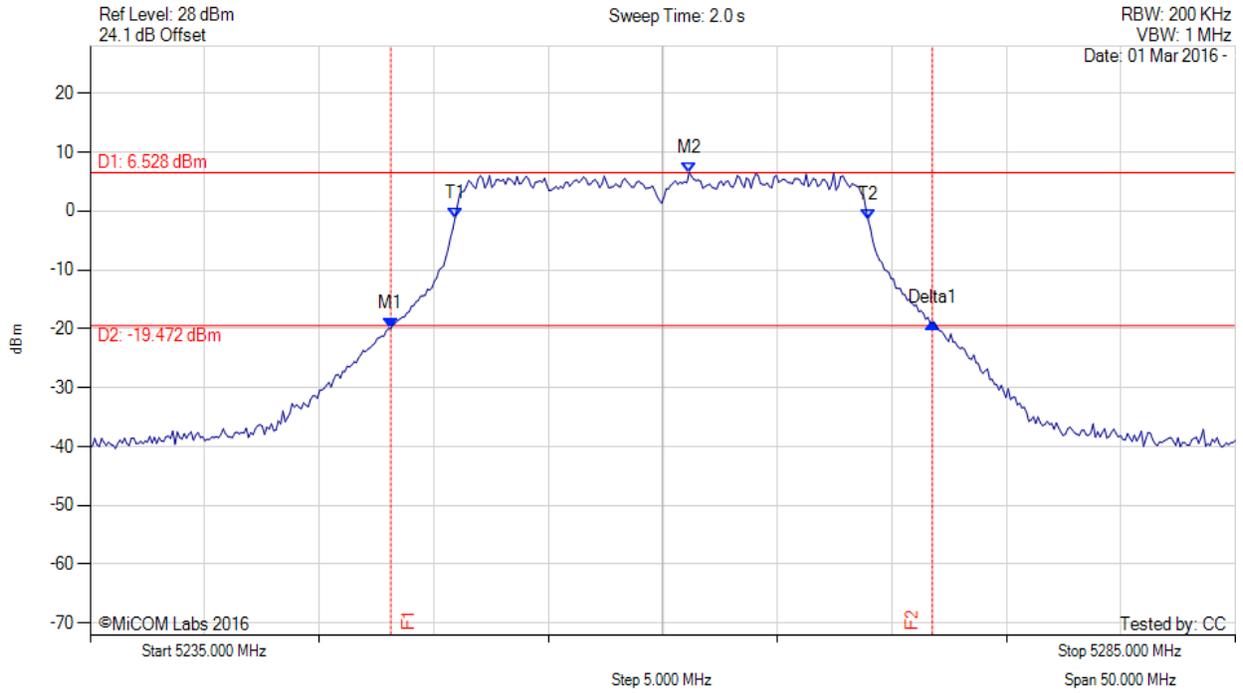
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5260.00 MHz, Chain b, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5248.126 MHz : -19.931 dBm<br>M2 : 5261.152 MHz : 6.528 dBm<br>Delta1 : 23.647 MHz : 1.023 dB<br>T1 : 5250.932 MHz : -1.152 dBm<br>T2 : 5268.968 MHz : -1.558 dBm<br>OBW : 18.036 MHz | Measured 26 dB Bandwidth: 23.647 MHz<br>Measured 99% Bandwidth: 18.036 MHz |

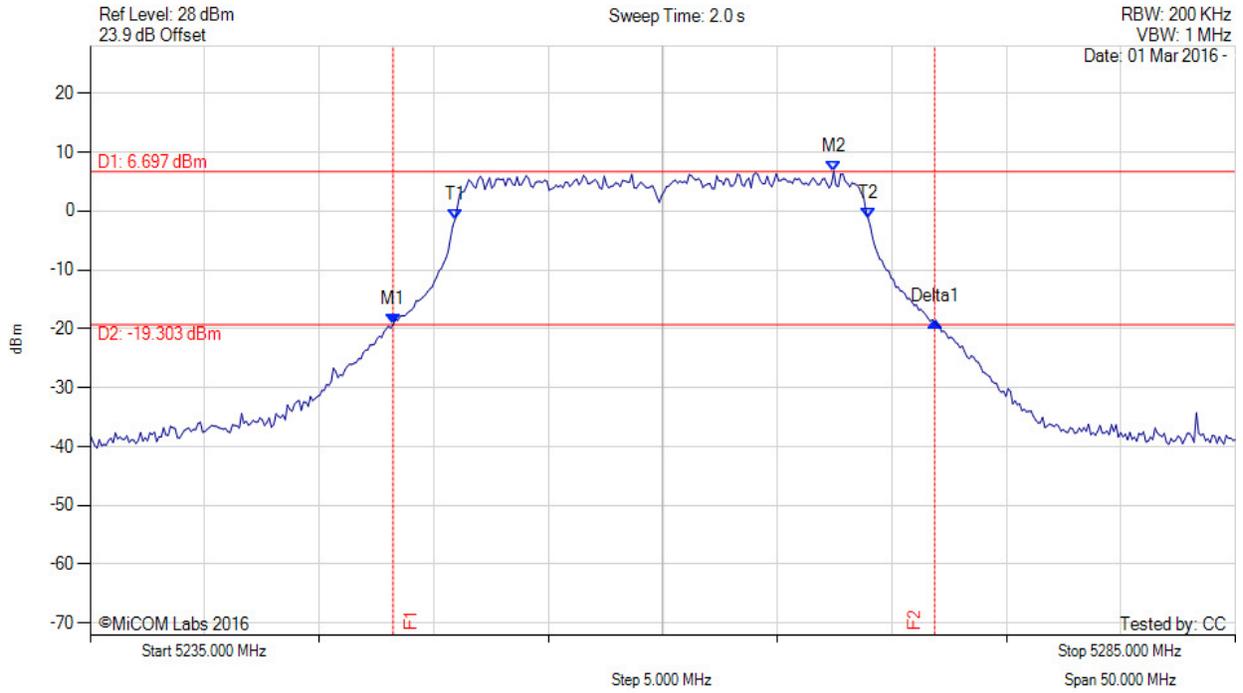
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5260.00 MHz, Chain c, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5248.226 MHz : -19.313 dBm<br>M2 : 5267.465 MHz : 6.697 dBm<br>Delta1 : 23.647 MHz : 0.470 dB<br>T1 : 5250.932 MHz : -1.404 dBm<br>T2 : 5268.968 MHz : -1.312 dBm<br>OBW : 18.036 MHz | Measured 26 dB Bandwidth: 23.647 MHz<br>Measured 99% Bandwidth: 18.036 MHz |

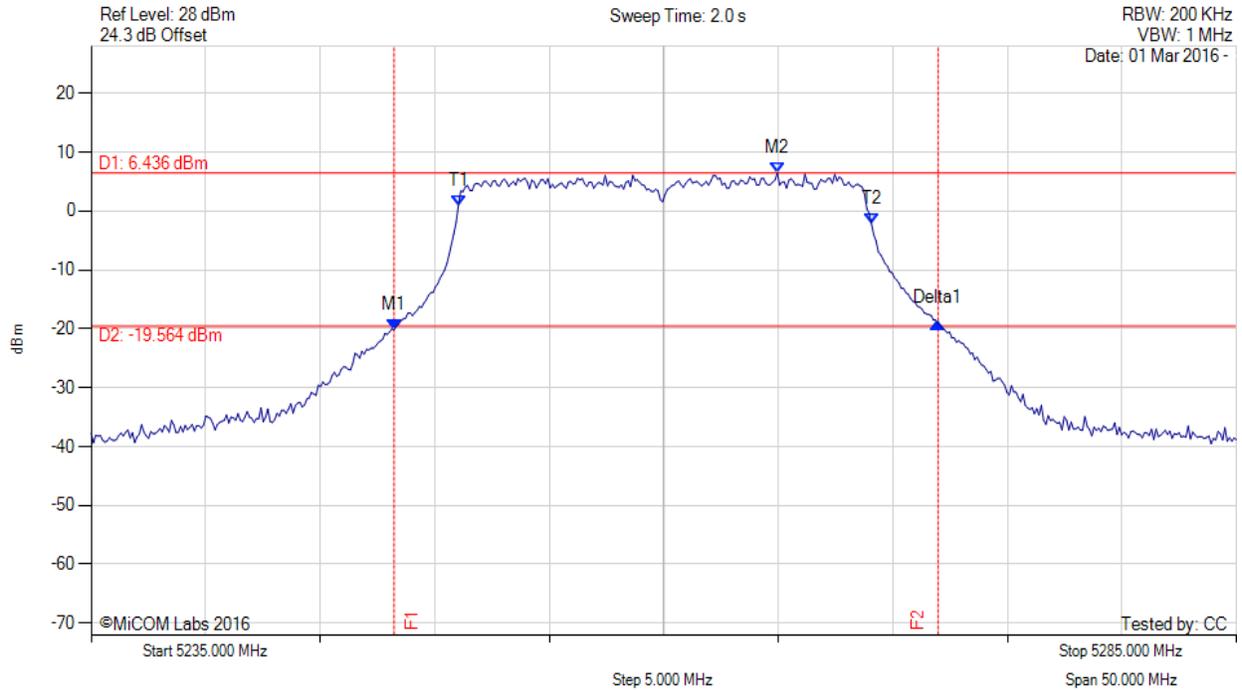
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5260.00 MHz, Chain d, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude  | Test Results   |
|---|---|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5248.226 MHz : -20.143 dBm<br>M2 : 5264.960 MHz : 6.436 dBm<br>Delta1 : 23.747 MHz : 1.096 dB<br>T1 : 5251.032 MHz : 0.933 dBm<br>T2 : 5269.068 MHz : -2.171 dBm<br>OBW : 18.036 MHz | Measured 26 dB Bandwidth: 23.747 MHz<br>Measured 99% Bandwidth: 18.036 MHz |

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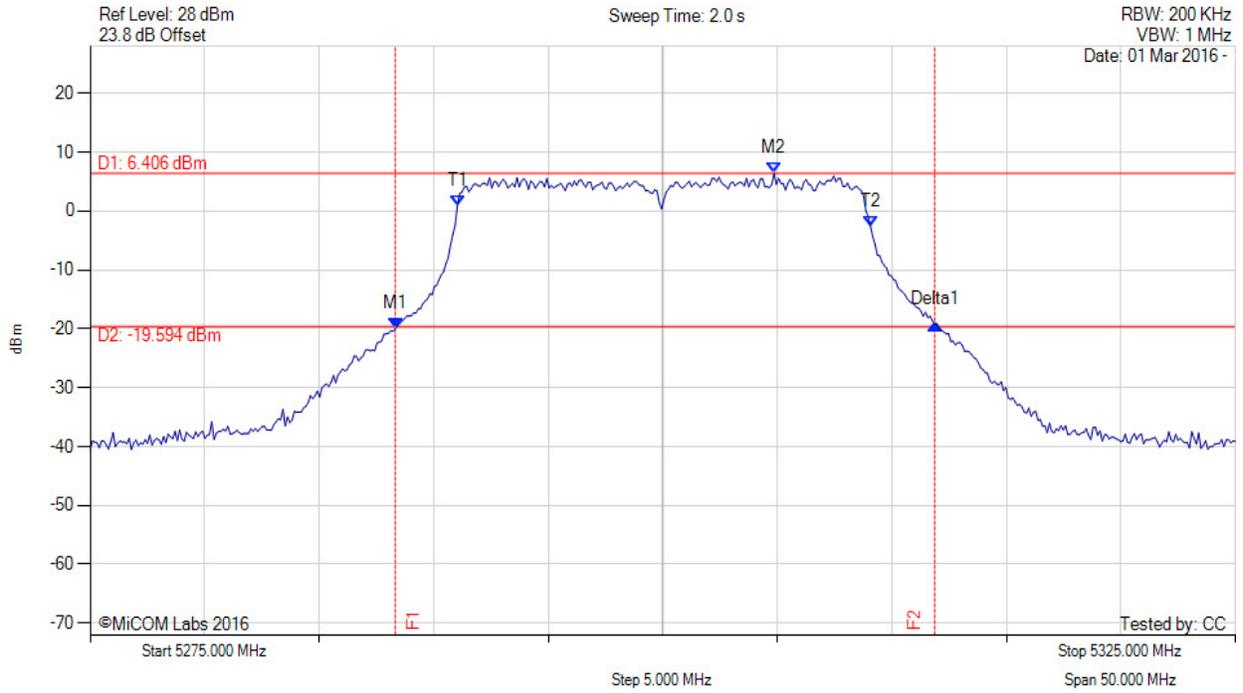
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5300.00 MHz, Chain a, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude  | Test Results   |
|---|---|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5288.327 MHz : -19.931 dBm<br>M2 : 5304.860 MHz : 6.406 dBm<br>Delta1 : 23.547 MHz : 0.657 dB<br>T1 : 5291.032 MHz : 0.868 dBm<br>T2 : 5309.068 MHz : -2.561 dBm<br>OBW : 18.036 MHz | Measured 26 dB Bandwidth: 23.547 MHz<br>Measured 99% Bandwidth: 18.036 MHz |

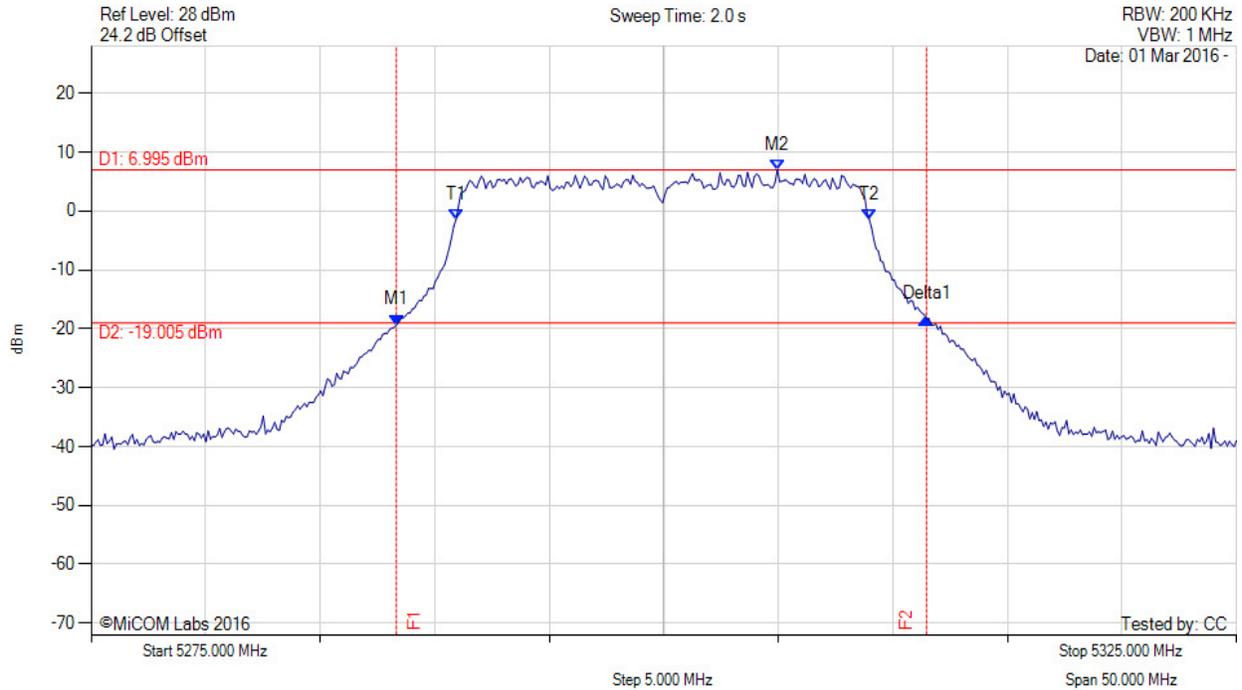
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5300.00 MHz, Chain b, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5288.327 MHz : -19.360 dBm<br>M2 : 5304.960 MHz : 6.995 dBm<br>Delta1 : 23.146 MHz : 1.029 dB<br>T1 : 5290.932 MHz : -1.420 dBm<br>T2 : 5308.968 MHz : -1.420 dBm<br>OBW : 18.036 MHz | Measured 26 dB Bandwidth: 23.146 MHz<br>Measured 99% Bandwidth: 18.036 MHz |

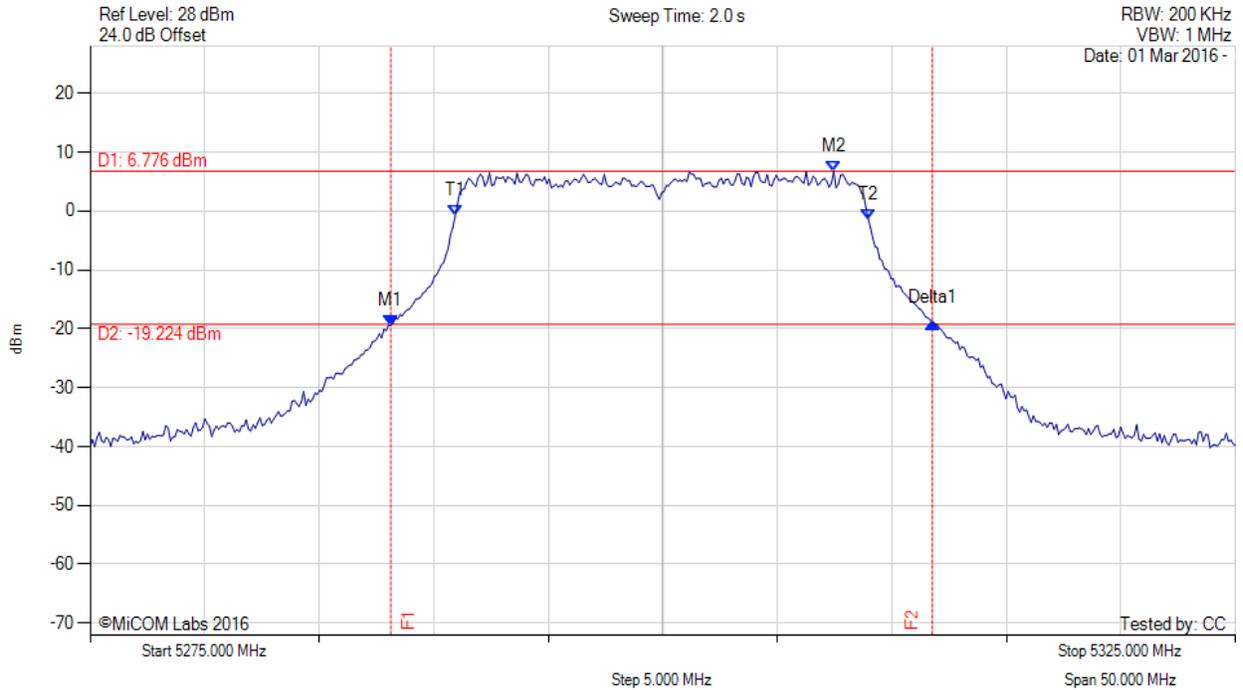
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5300.00 MHz, Chain c, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5288.126 MHz : -19.370 dBm<br>M2 : 5307.465 MHz : 6.776 dBm<br>Delta1 : 23.647 MHz : 0.423 dB<br>T1 : 5290.932 MHz : -0.875 dBm<br>T2 : 5308.968 MHz : -1.375 dBm<br>OBW : 18.036 MHz | Measured 26 dB Bandwidth: 23.647 MHz<br>Measured 99% Bandwidth: 18.036 MHz |

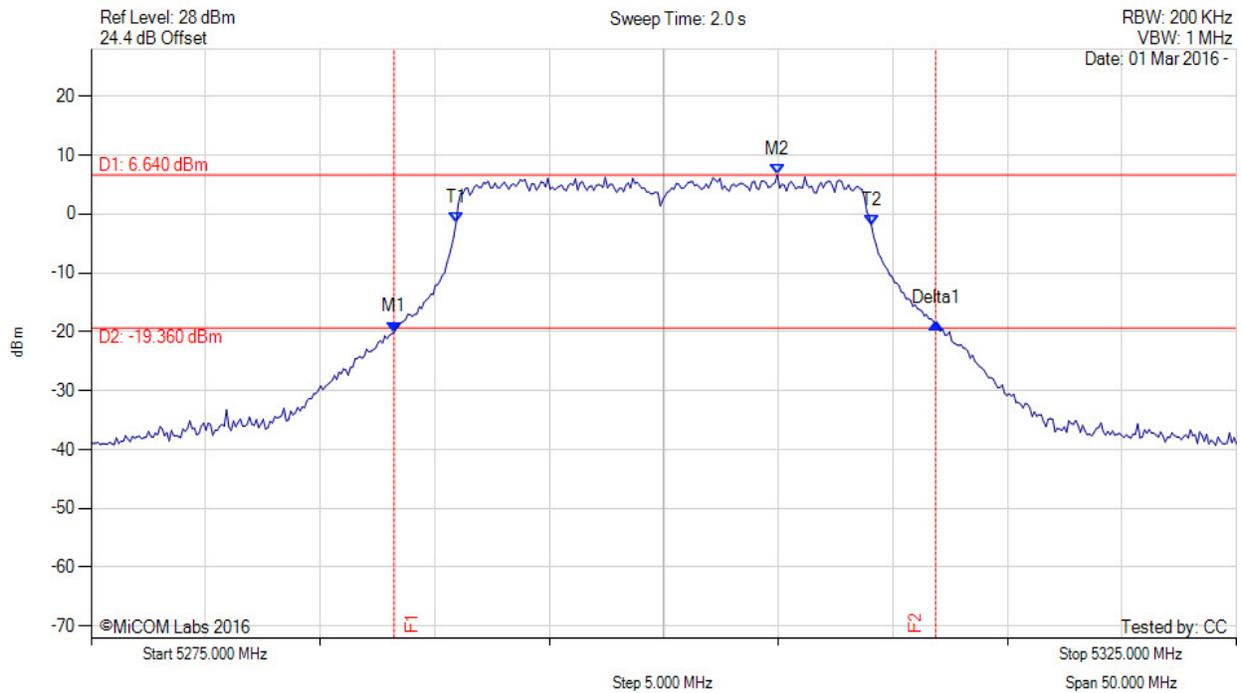
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5300.00 MHz, Chain d, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5288.226 MHz : -20.064 dBm<br>M2 : 5304.960 MHz : 6.640 dBm<br>Delta1 : 23.647 MHz : 1.596 dB<br>T1 : 5290.932 MHz : -1.479 dBm<br>T2 : 5309.068 MHz : -1.963 dBm<br>OBW : 18.136 MHz | Measured 26 dB Bandwidth: 23.647 MHz<br>Measured 99% Bandwidth: 18.136 MHz |

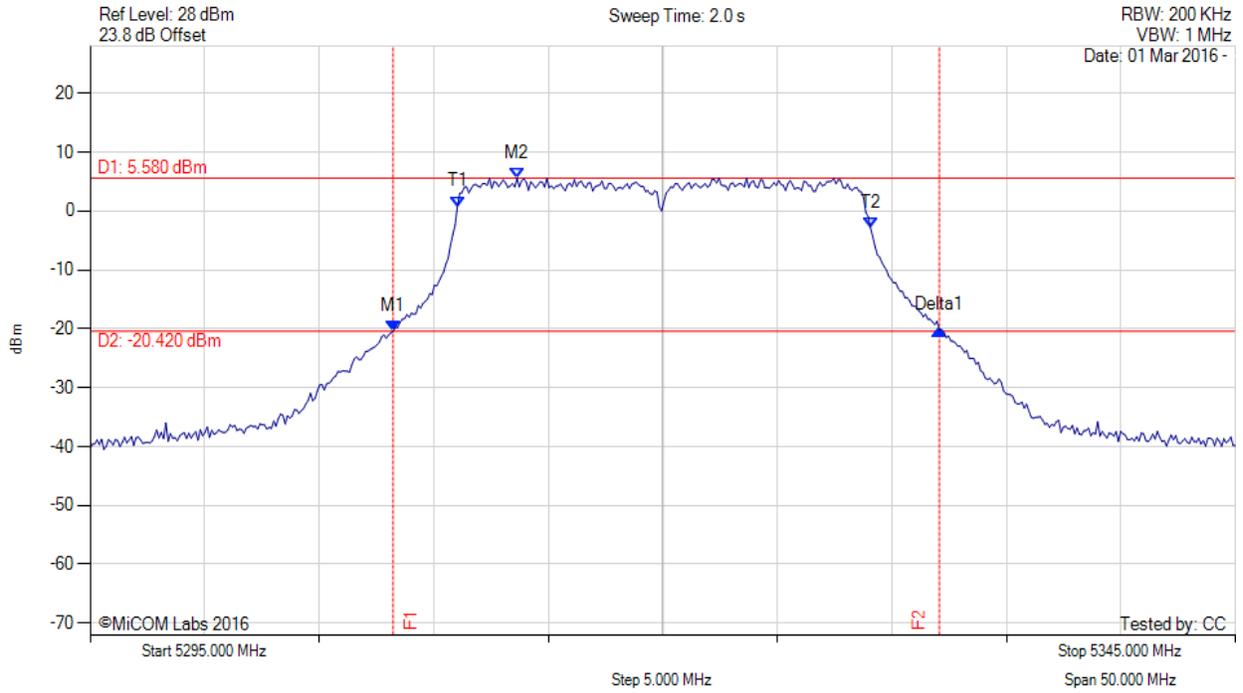
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5320.00 MHz, Chain a, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude  | Test Results   |
|---|---|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5308.226 MHz : -20.426 dBm<br>M2 : 5313.637 MHz : 5.580 dBm<br>Delta1 : 23.848 MHz : 0.199 dB<br>T1 : 5311.032 MHz : 0.734 dBm<br>T2 : 5329.068 MHz : -2.830 dBm<br>OBW : 18.036 MHz | Measured 26 dB Bandwidth: 23.848 MHz<br>Measured 99% Bandwidth: 18.036 MHz |

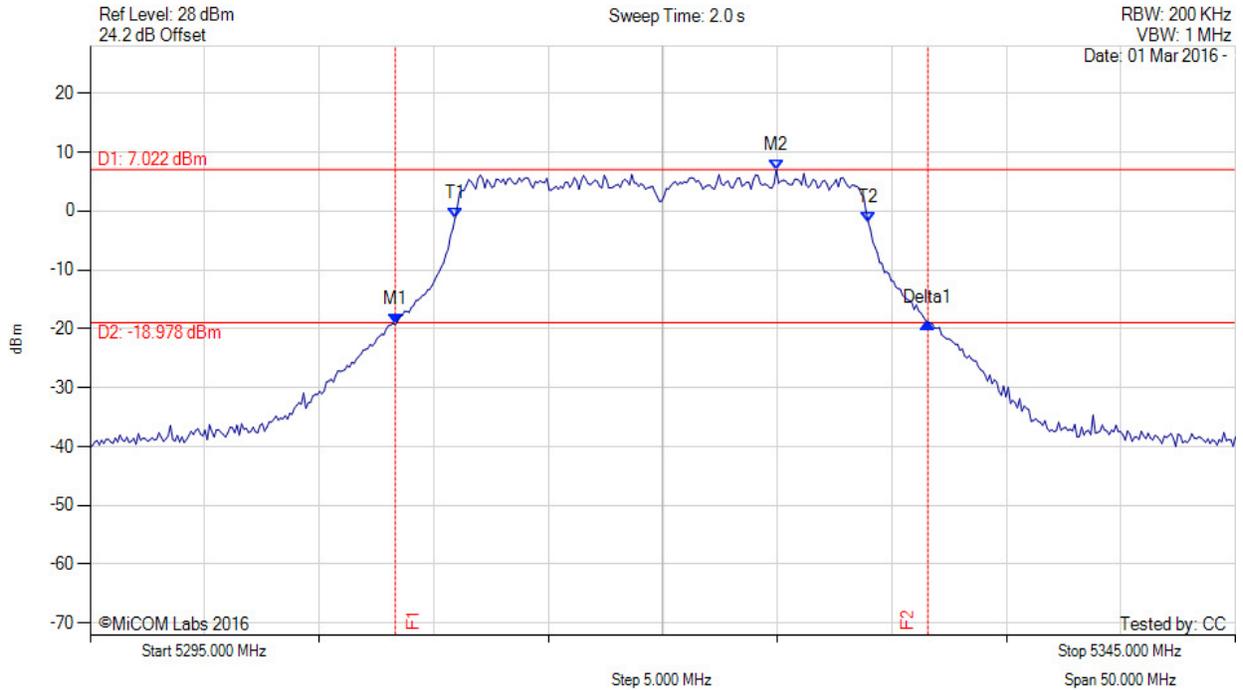
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5320.00 MHz, Chain b, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5308.327 MHz : -19.254 dBm<br>M2 : 5324.960 MHz : 7.022 dBm<br>Delta1 : 23.246 MHz : 0.344 dB<br>T1 : 5310.932 MHz : -1.172 dBm<br>T2 : 5328.968 MHz : -1.906 dBm<br>OBW : 18.036 MHz | Measured 26 dB Bandwidth: 23.246 MHz<br>Measured 99% Bandwidth: 18.036 MHz |

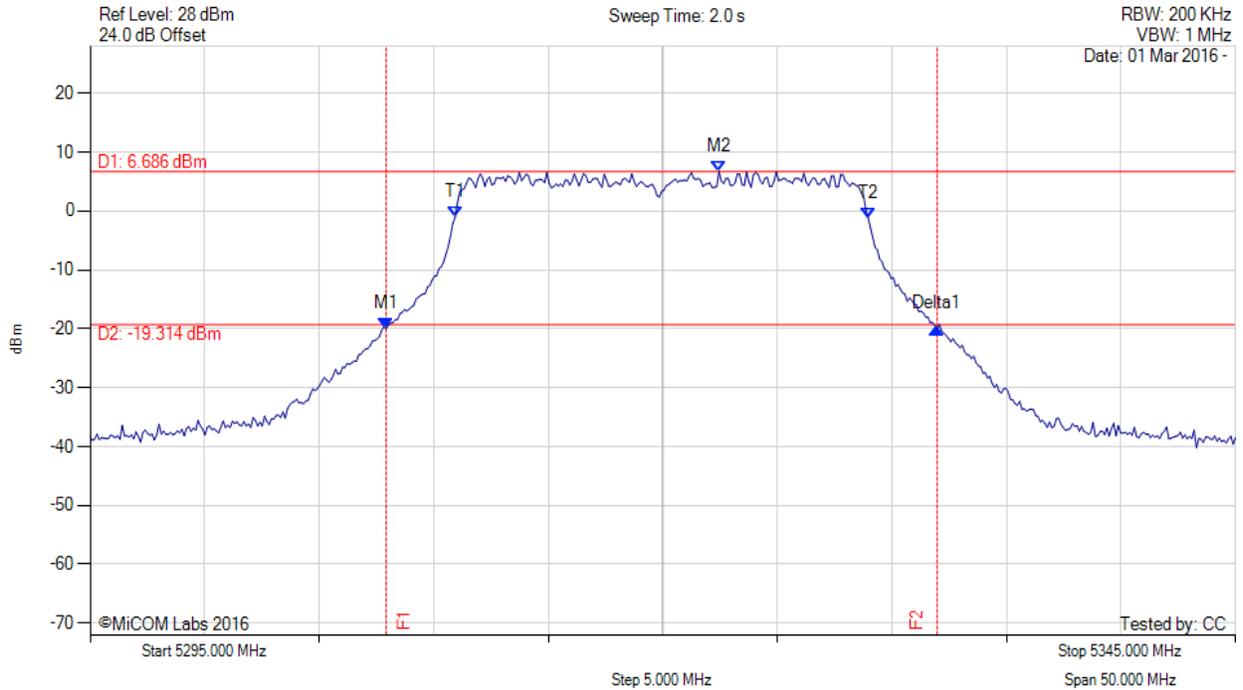
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5320.00 MHz, Chain c, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5307.926 MHz : -20.009 dBm<br>M2 : 5322.455 MHz : 6.686 dBm<br>Delta1 : 24.048 MHz : 0.033 dB<br>T1 : 5310.932 MHz : -1.032 dBm<br>T2 : 5328.968 MHz : -1.231 dBm<br>OBW : 18.036 MHz | Measured 26 dB Bandwidth: 24.048 MHz<br>Measured 99% Bandwidth: 18.036 MHz |

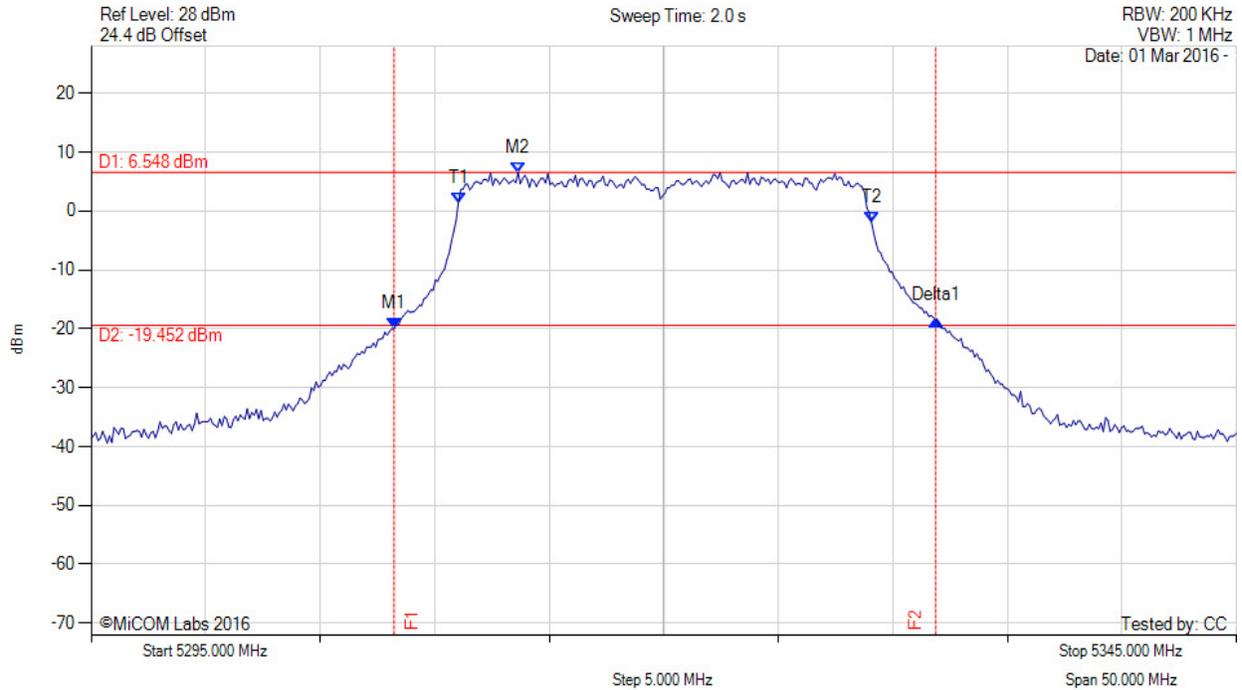
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5320.00 MHz, Chain d, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude  | Test Results   |
|---|---|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5308.226 MHz : -19.956 dBm<br>M2 : 5313.637 MHz : 6.548 dBm<br>Delta1 : 23.647 MHz : 1.495 dB<br>T1 : 5311.032 MHz : 1.431 dBm<br>T2 : 5329.068 MHz : -1.918 dBm<br>OBW : 18.036 MHz | Measured 26 dB Bandwidth: 23.647 MHz<br>Measured 99% Bandwidth: 18.036 MHz |

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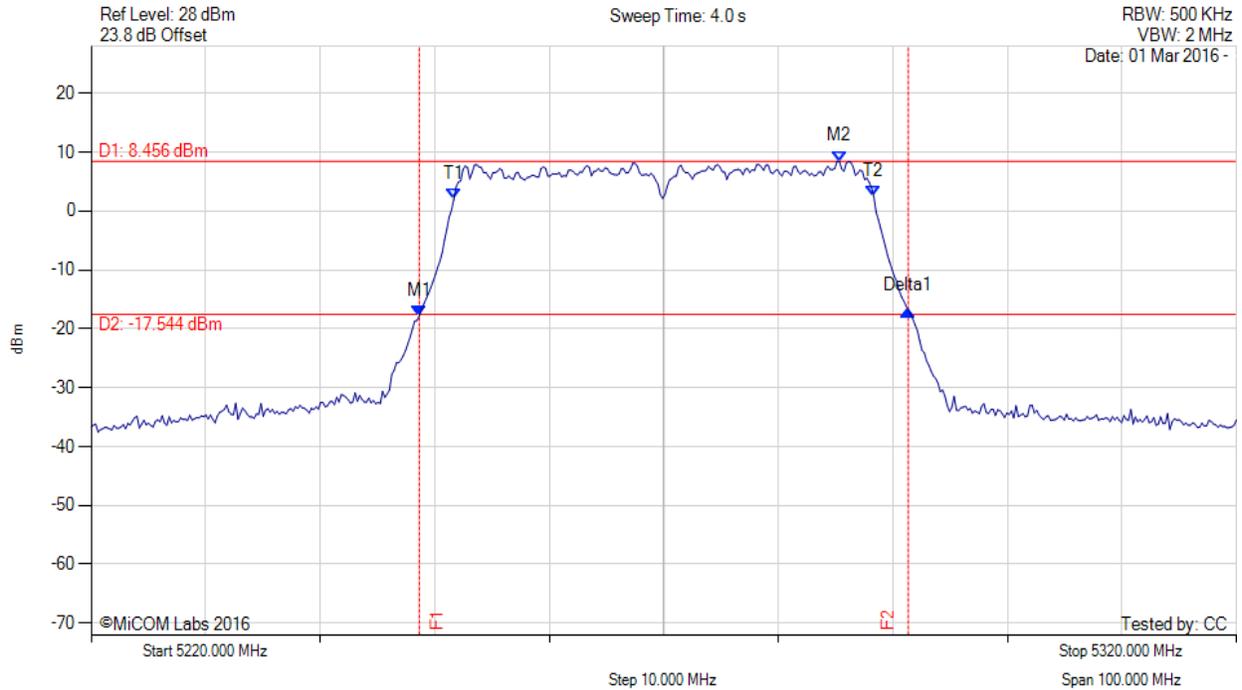
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5270.00 MHz, Chain a, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5248.657 MHz : -17.786 dBm<br>M2 : 5285.331 MHz : 8.456 dBm<br>Delta1 : 42.685 MHz : 0.970 dB<br>T1 : 5251.663 MHz : 1.940 dBm<br>T2 : 5288.337 MHz : 2.466 dBm<br>OBW : 36.673 MHz | Measured 26 dB Bandwidth: 42.685 MHz<br>Measured 99% Bandwidth: 36.673 MHz |

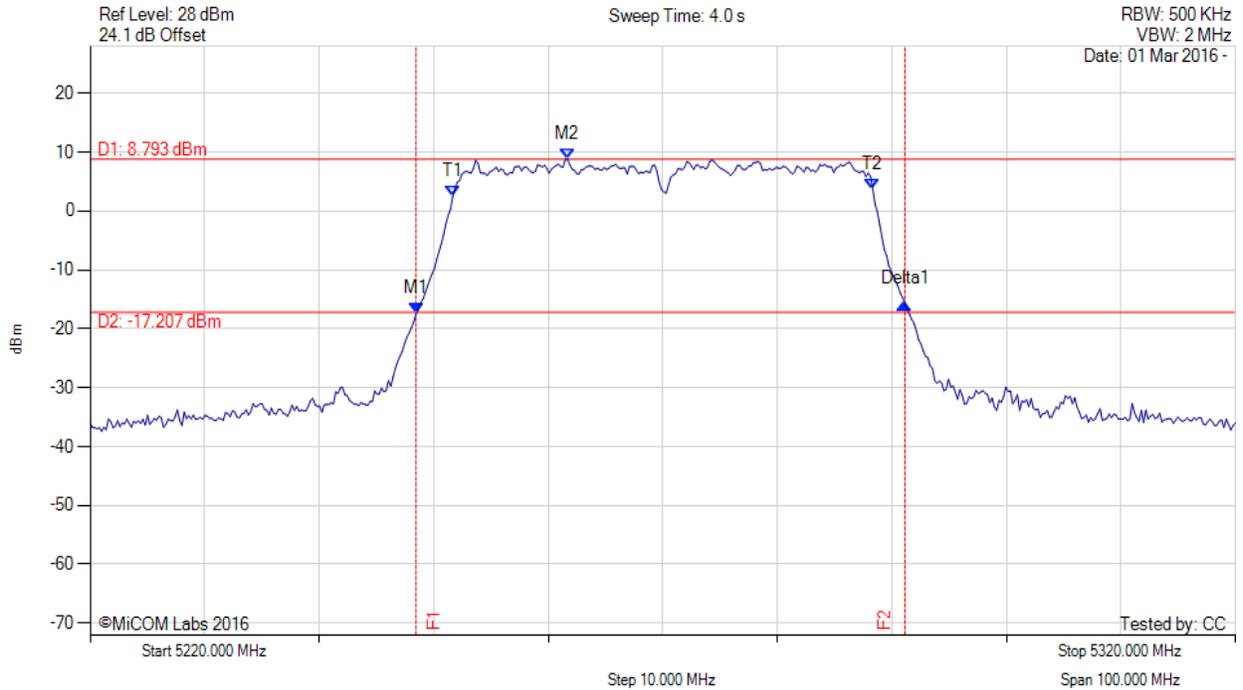
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5270.00 MHz, Chain b, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5248.457 MHz : -17.401 dBm<br>M2 : 5261.683 MHz : 8.793 dBm<br>Delta1 : 42.685 MHz : 1.688 dB<br>T1 : 5251.663 MHz : 2.474 dBm<br>T2 : 5288.337 MHz : 3.707 dBm<br>OBW : 36.673 MHz | Measured 26 dB Bandwidth: 42.685 MHz<br>Measured 99% Bandwidth: 36.673 MHz |

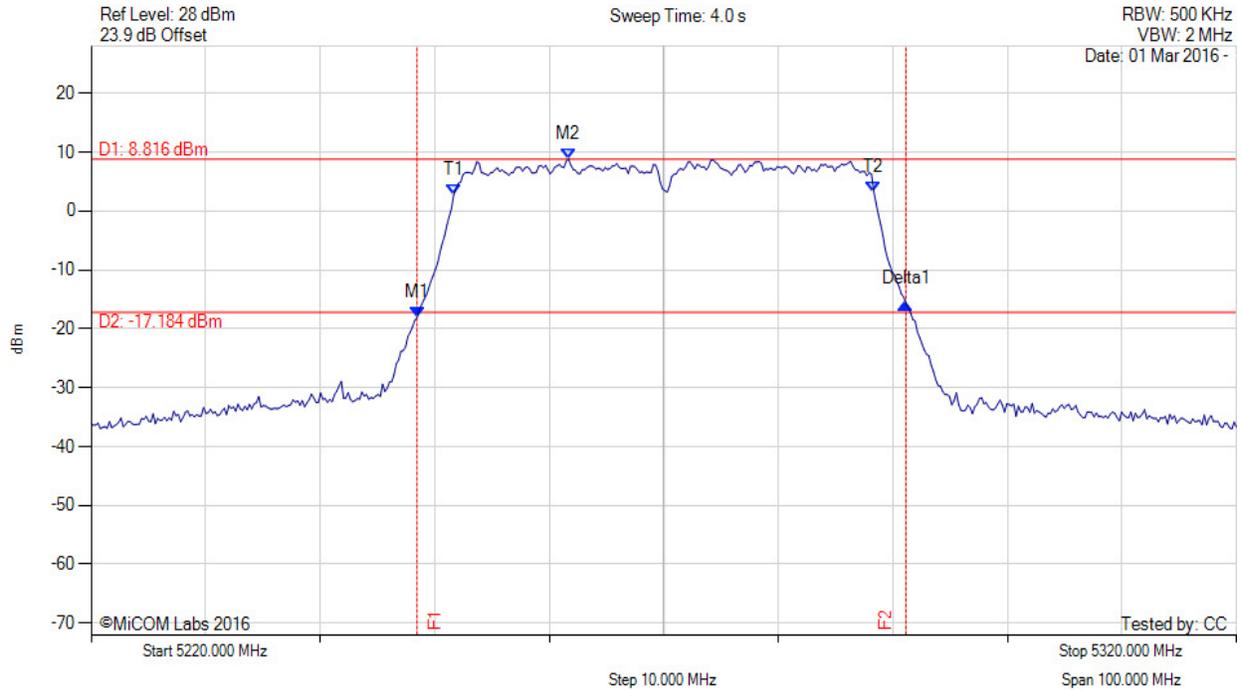
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5270.00 MHz, Chain c, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5248.457 MHz : -18.052 dBm<br>M2 : 5261.683 MHz : 8.816 dBm<br>Delta1 : 42.685 MHz : 2.268 dB<br>T1 : 5251.663 MHz : 2.786 dBm<br>T2 : 5288.337 MHz : 3.296 dBm<br>OBW : 36.673 MHz | Measured 26 dB Bandwidth: 42.685 MHz<br>Measured 99% Bandwidth: 36.673 MHz |

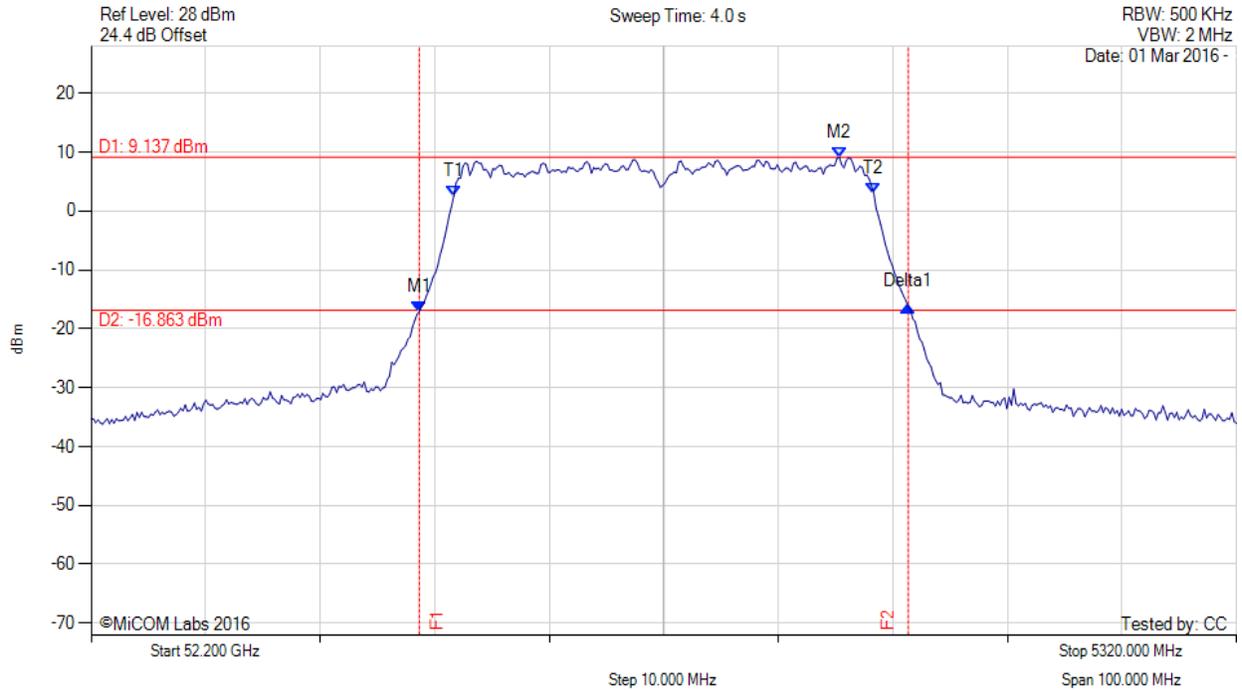
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5270.00 MHz, Chain d, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5248.657 MHz : -17.047 dBm<br>M2 : 5285.331 MHz : 9.137 dBm<br>Delta1 : 42.685 MHz : 0.830 dB<br>T1 : 5251.663 MHz : 2.542 dBm<br>T2 : 5288.337 MHz : 3.009 dBm<br>OBW : 36.673 MHz | Measured 26 dB Bandwidth: 42.685 MHz<br>Measured 99% Bandwidth: 36.673 MHz |

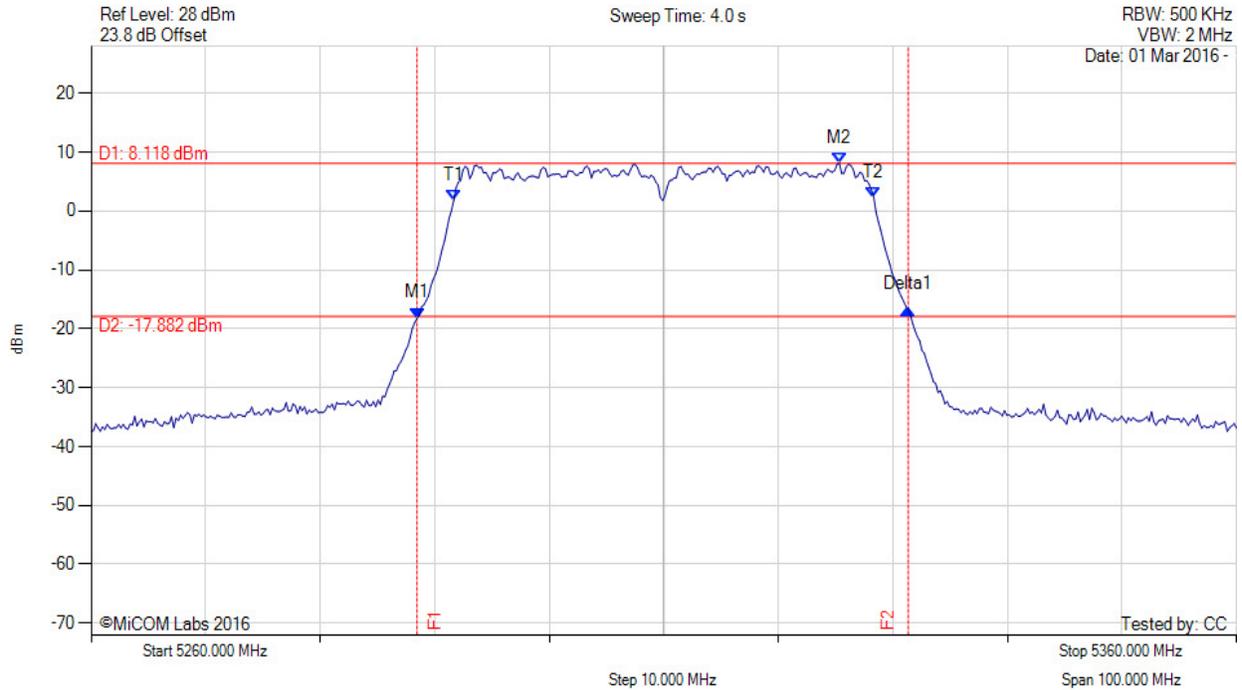
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5310.00 MHz, Chain a, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5288.457 MHz : -18.188 dBm<br>M2 : 5325.331 MHz : 8.118 dBm<br>Delta1 : 42.886 MHz : 1.550 dB<br>T1 : 5291.663 MHz : 1.799 dBm<br>T2 : 5328.337 MHz : 2.310 dBm<br>OBW : 36.673 MHz | Measured 26 dB Bandwidth: 42.886 MHz<br>Measured 99% Bandwidth: 36.673 MHz |

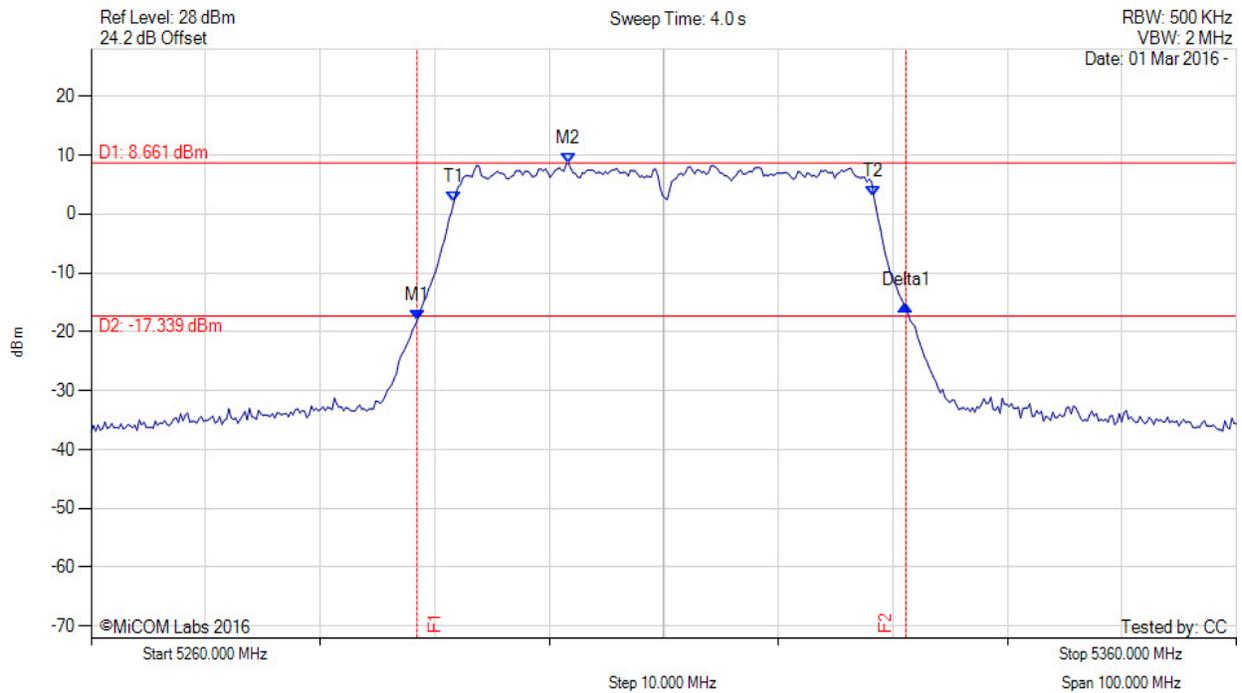
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5310.00 MHz, Chain b, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5288.457 MHz : -18.127 dBm<br>M2 : 5301.683 MHz : 8.661 dBm<br>Delta1 : 42.685 MHz : 2.597 dB<br>T1 : 5291.663 MHz : 1.944 dBm<br>T2 : 5328.337 MHz : 2.999 dBm<br>OBW : 36.673 MHz | Measured 26 dB Bandwidth: 42.685 MHz<br>Measured 99% Bandwidth: 36.673 MHz |

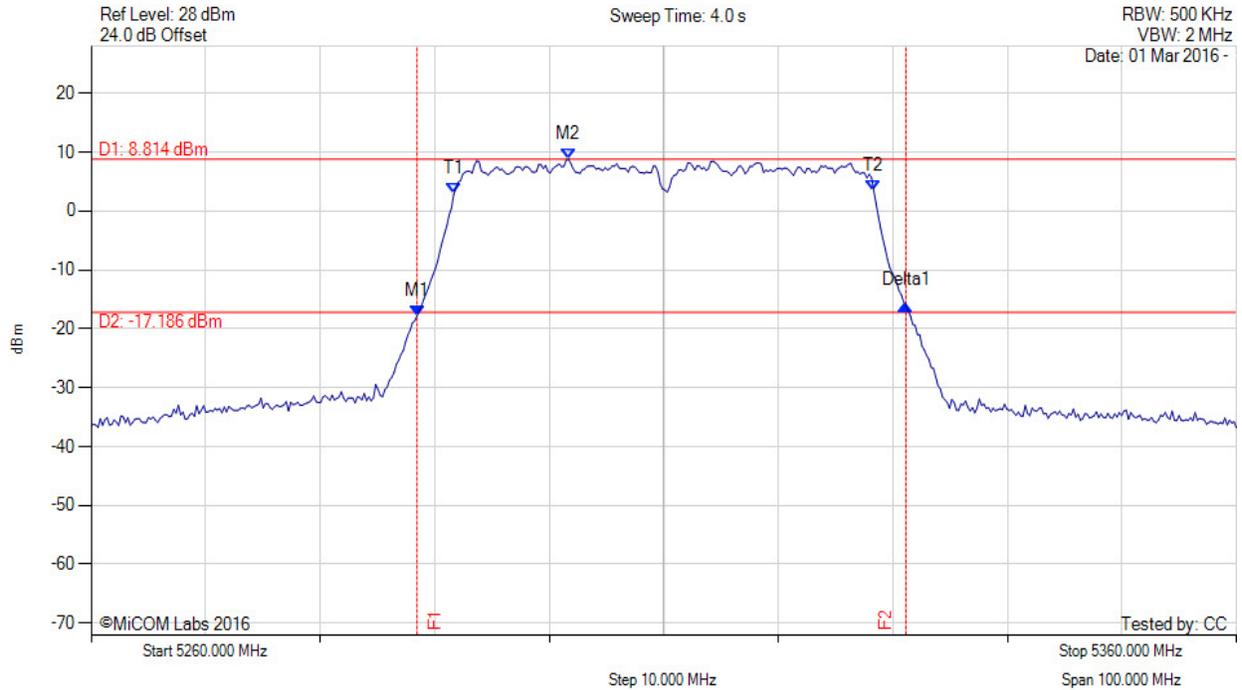
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5310.00 MHz, Chain c, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5288.457 MHz : -17.816 dBm<br>M2 : 5301.683 MHz : 8.814 dBm<br>Delta1 : 42.685 MHz : 1.790 dB<br>T1 : 5291.663 MHz : 2.867 dBm<br>T2 : 5328.337 MHz : 3.412 dBm<br>OBW : 36.673 MHz | Measured 26 dB Bandwidth: 42.685 MHz<br>Measured 99% Bandwidth: 36.673 MHz |

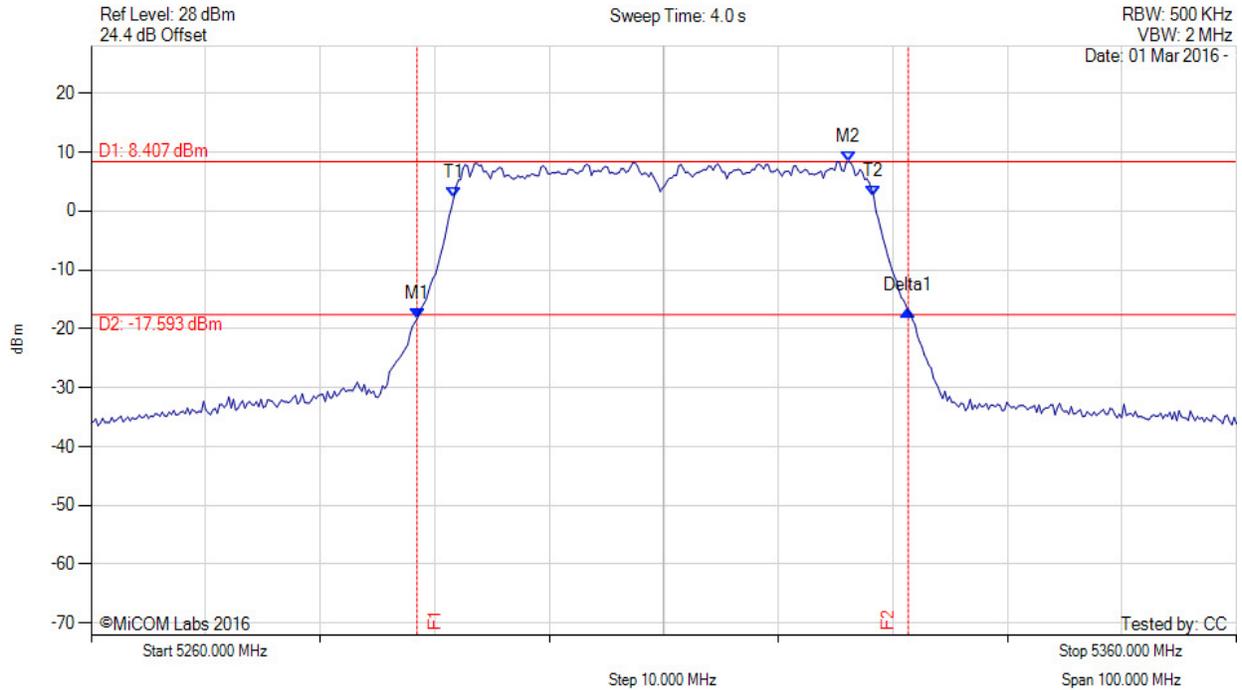
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5310.00 MHz, Chain d, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5288.457 MHz : -18.319 dBm<br>M2 : 5326.132 MHz : 8.407 dBm<br>Delta1 : 42.886 MHz : 1.365 dB<br>T1 : 5291.663 MHz : 2.259 dBm<br>T2 : 5328.337 MHz : 2.409 dBm<br>OBW : 36.673 MHz | Measured 26 dB Bandwidth: 42.886 MHz<br>Measured 99% Bandwidth: 36.673 MHz |

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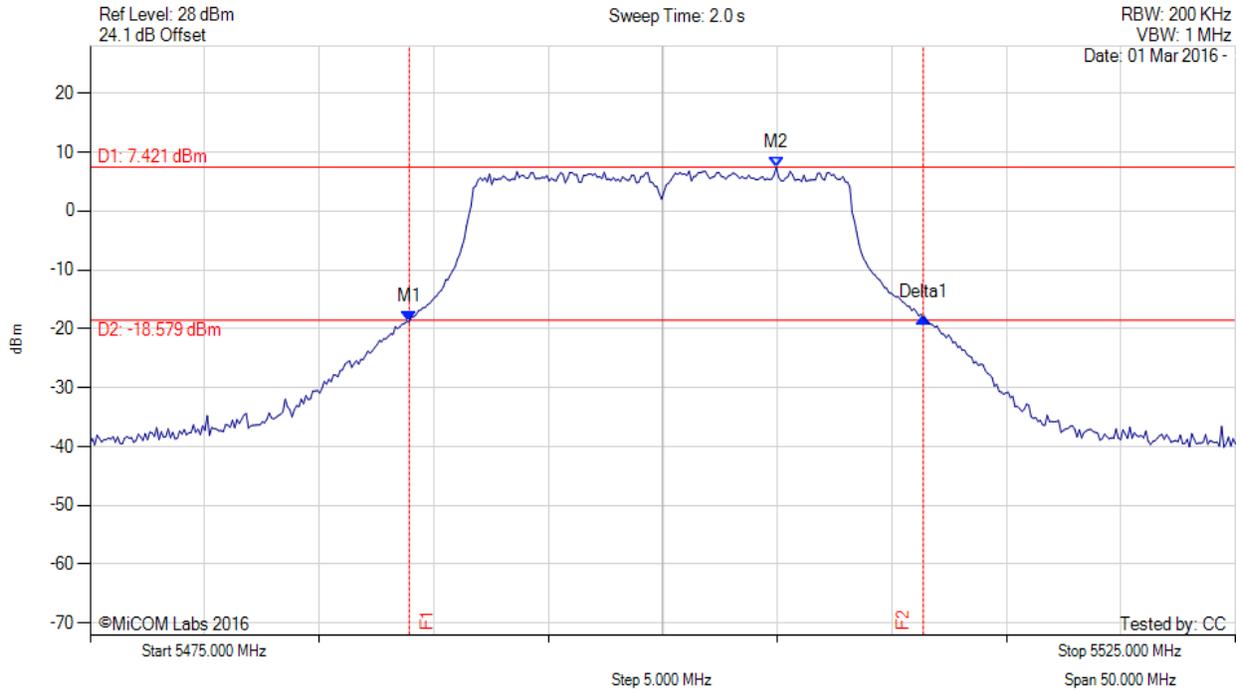
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5500.00 MHz, Chain a, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5488.928 MHz : -18.839 dBm<br>M2 : 5504.960 MHz : 7.421 dBm<br>Delta1 : 22.445 MHz : 0.748 dB<br>T1 : 0 Hz : 500.000 dBm<br>T2 : 0 Hz : 500.000 dBm<br>OBW : 16.834 MHz | Measured 26 dB Bandwidth: 22.445 MHz<br>Measured 99% Bandwidth: 16.834 MHz |

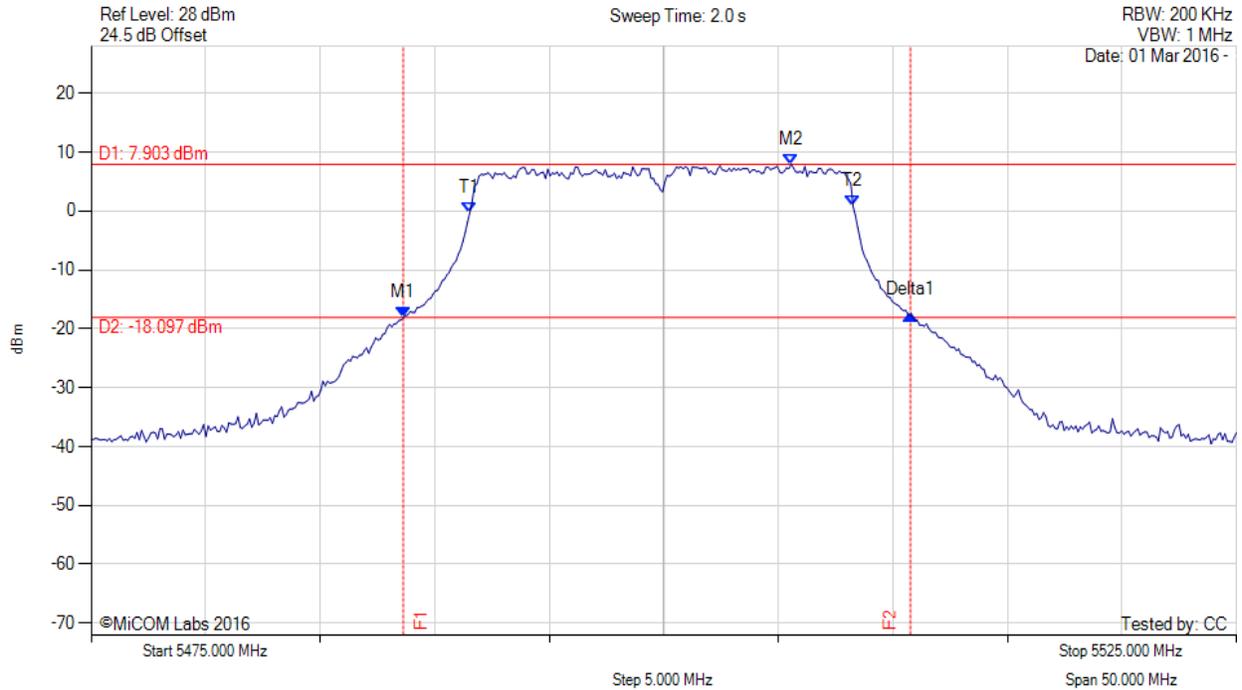
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5500.00 MHz, Chain b, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude  | Test Results   |
|---|---|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5488.627 MHz : -18.123 dBm<br>M2 : 5505.561 MHz : 7.903 dBm<br>Delta1 : 22.144 MHz : 0.569 dB<br>T1 : 5491.533 MHz : -0.293 dBm<br>T2 : 5508.267 MHz : 0.766 dBm<br>OBW : 16.733 MHz | Measured 26 dB Bandwidth: 22.144 MHz<br>Measured 99% Bandwidth: 16.733 MHz |

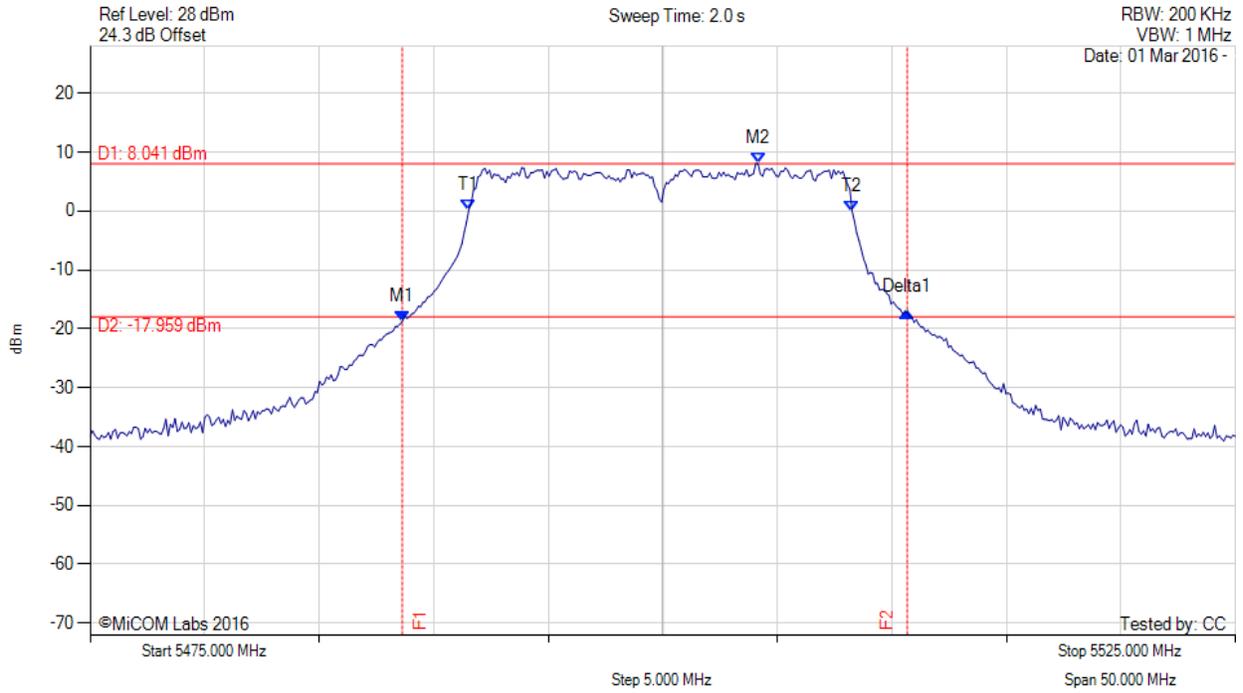
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5500.00 MHz, Chain c, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude  | Test Results   |
|---|---|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5488.627 MHz : -18.772 dBm<br>M2 : 5504.158 MHz : 8.041 dBm<br>Delta1 : 22.044 MHz : 1.560 dB<br>T1 : 5491.533 MHz : 0.211 dBm<br>T2 : 5508.267 MHz : -0.025 dBm<br>OBW : 16.733 MHz | Measured 26 dB Bandwidth: 22.044 MHz<br>Measured 99% Bandwidth: 16.733 MHz |

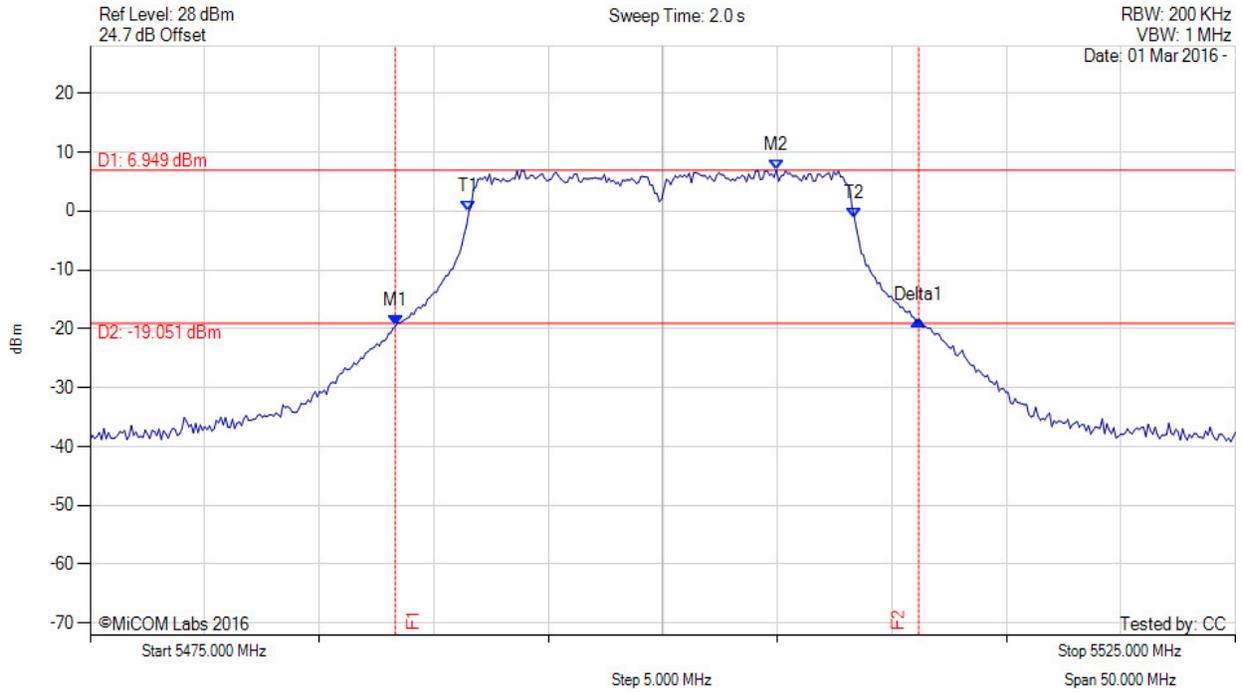
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5500.00 MHz, Chain d, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5488.327 MHz : -19.557 dBm<br>M2 : 5504.960 MHz : 6.949 dBm<br>Delta1 : 22.846 MHz : 1.033 dB<br>T1 : 5491.533 MHz : -0.129 dBm<br>T2 : 5508.367 MHz : -1.174 dBm<br>OBW : 16.834 MHz | Measured 26 dB Bandwidth: 22.846 MHz<br>Measured 99% Bandwidth: 16.834 MHz |

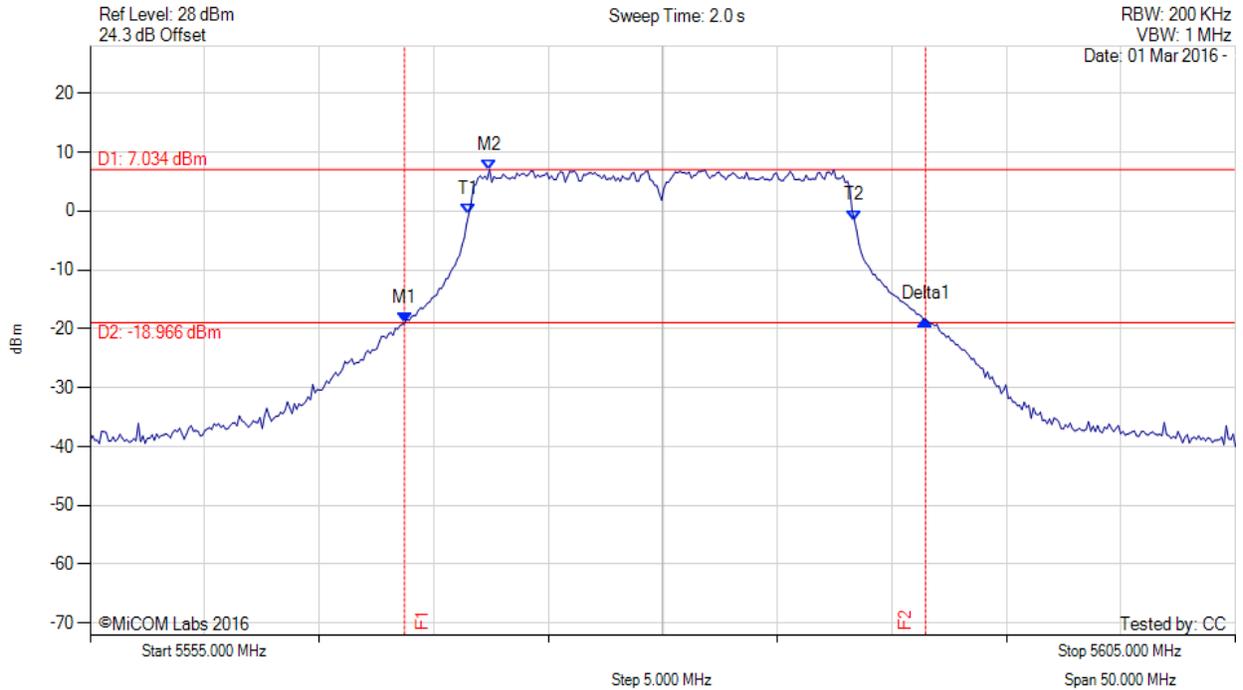
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5580.00 MHz, Chain a, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5568.727 MHz : -19.010 dBm<br>M2 : 5572.435 MHz : 7.034 dBm<br>Delta1 : 22.745 MHz : 0.592 dB<br>T1 : 5571.533 MHz : -0.552 dBm<br>T2 : 5588.367 MHz : -1.583 dBm<br>OBW : 16.834 MHz | Measured 26 dB Bandwidth: 22.745 MHz<br>Measured 99% Bandwidth: 16.834 MHz |

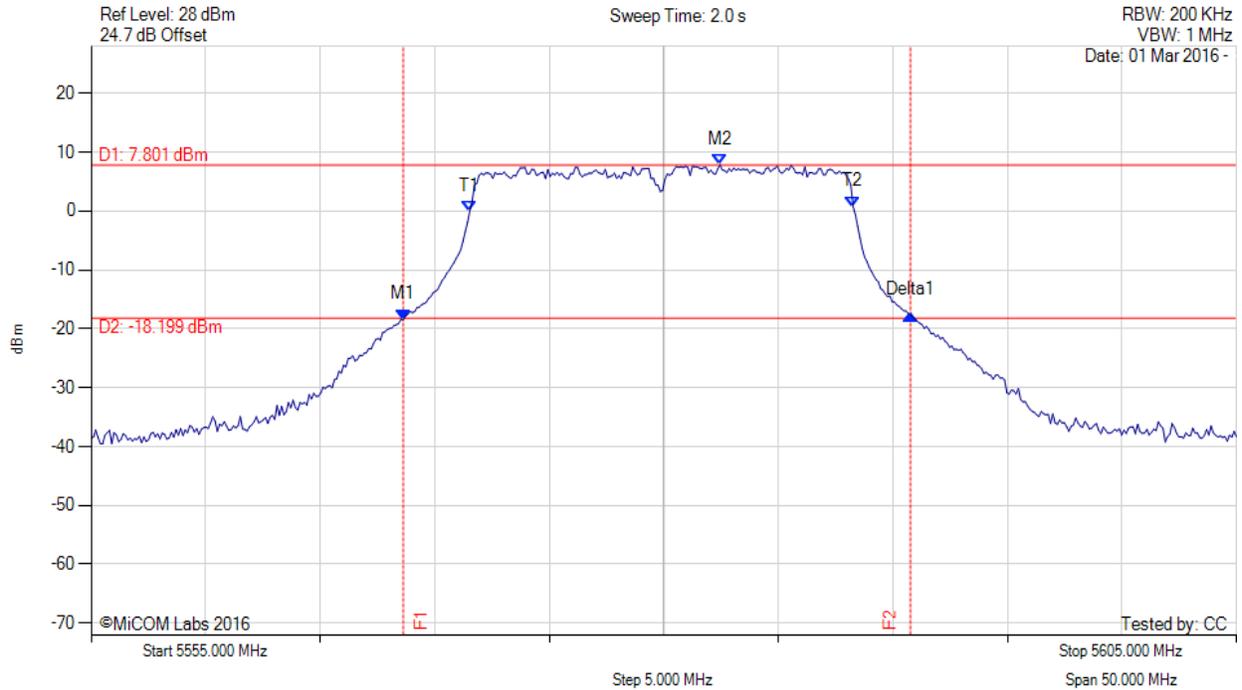
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5580.00 MHz, Chain b, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5568.627 MHz : -18.414 dBm<br>M2 : 5582.455 MHz : 7.801 dBm<br>Delta1 : 22.144 MHz : 0.858 dB<br>T1 : 5571.533 MHz : 0.022 dBm<br>T2 : 5588.267 MHz : 0.756 dBm<br>OBW : 16.733 MHz | Measured 26 dB Bandwidth: 22.144 MHz<br>Measured 99% Bandwidth: 16.733 MHz |

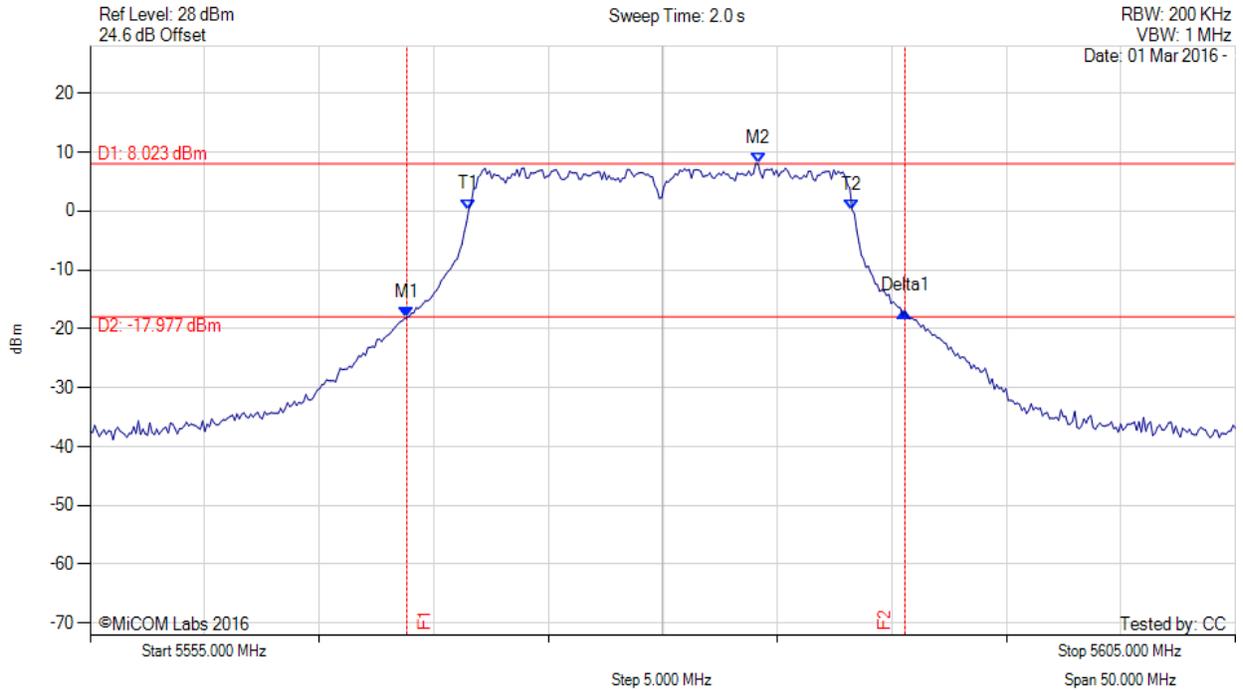
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5580.00 MHz, Chain c, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5568.828 MHz : -18.091 dBm<br>M2 : 5584.158 MHz : 8.023 dBm<br>Delta1 : 21.743 MHz : 1.070 dB<br>T1 : 5571.533 MHz : 0.274 dBm<br>T2 : 5588.267 MHz : 0.245 dBm<br>OBW : 16.733 MHz | Measured 26 dB Bandwidth: 21.743 MHz<br>Measured 99% Bandwidth: 16.733 MHz |

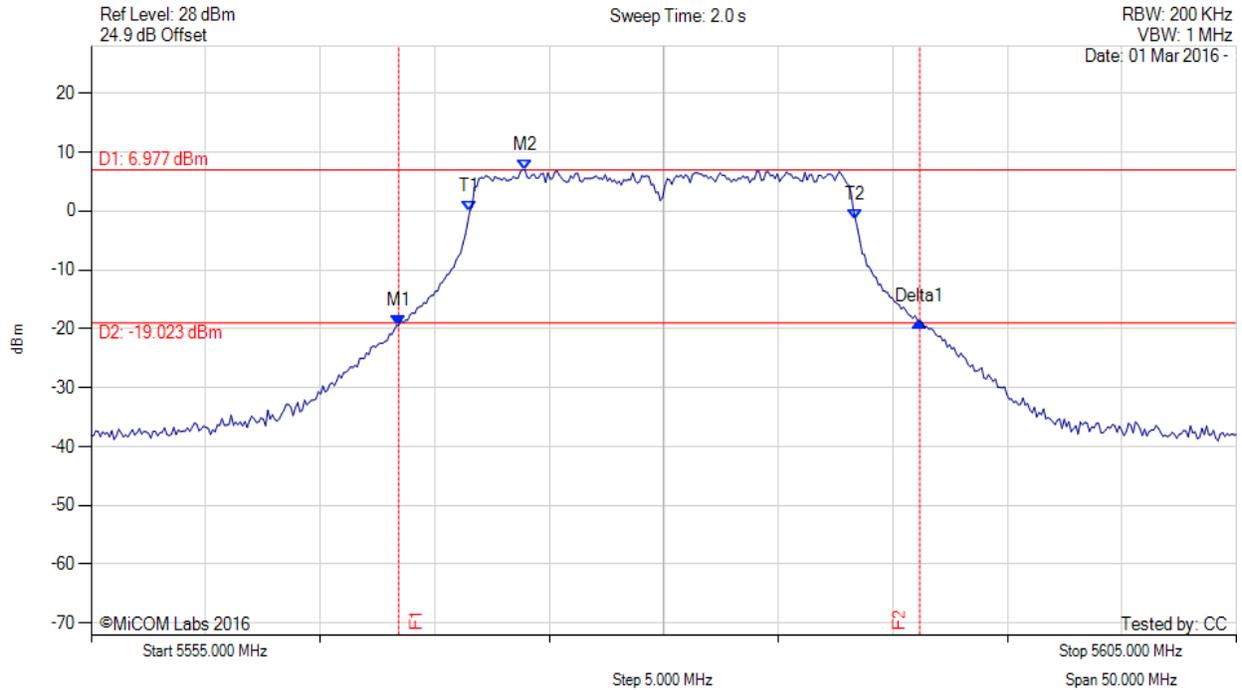
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26 dB & 99% BANDWIDTH

Variat: 802.11a, Channel: 5580.00 MHz, Chain d, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5568.427 MHz : -19.443 dBm<br>M2 : 5573.938 MHz : 6.977 dBm<br>Delta1 : 22.745 MHz : 0.748 dB<br>T1 : 5571.533 MHz : -0.056 dBm<br>T2 : 5588.367 MHz : -1.392 dBm<br>OBW : 16.834 MHz | Measured 26 dB Bandwidth: 22.745 MHz<br>Measured 99% Bandwidth: 16.834 MHz |

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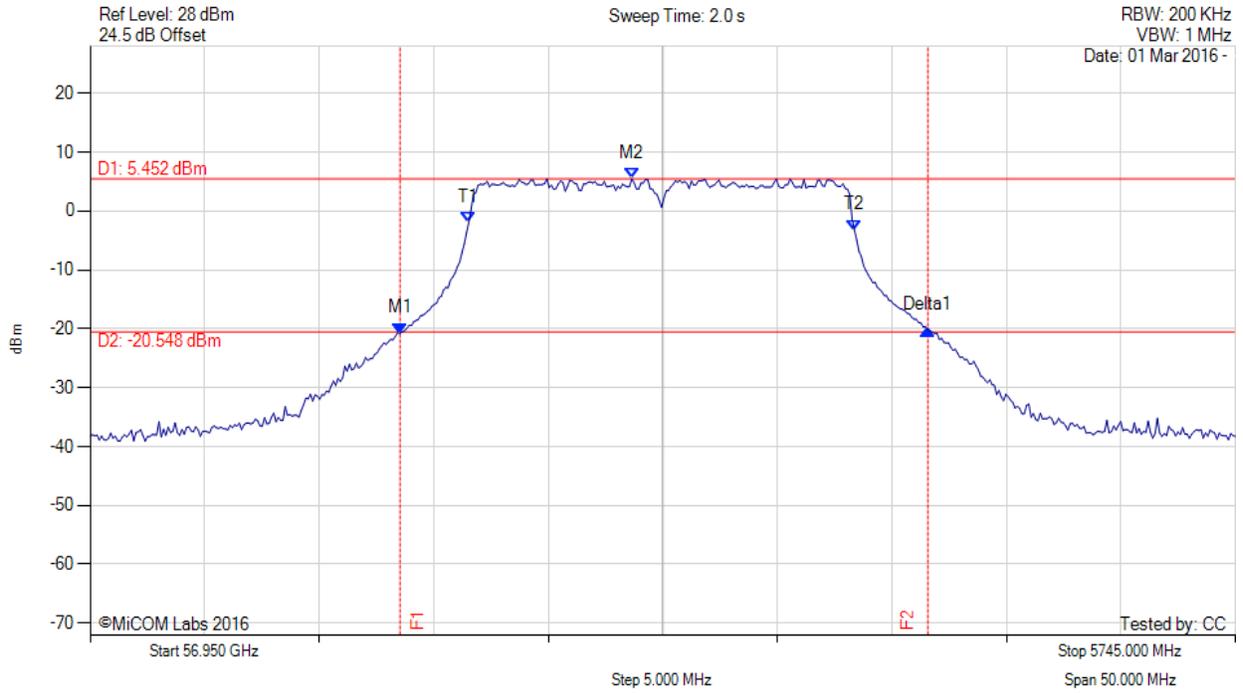
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5720.00 MHz, Chain a, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results                   |
|---|--|--------------------------------|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5708.527 MHz : -20.757 dBm<br>M2 : 5718.647 MHz : 5.452 dBm<br>Delta1 : 23.046 MHz : 0.641 dB<br>T1 : 5711.533 MHz : -1.920 dBm<br>T2 : 5728.367 MHz : -3.226 dBm<br>OBW : 16.834 MHz | Channel Frequency: 5720.00 MHz |

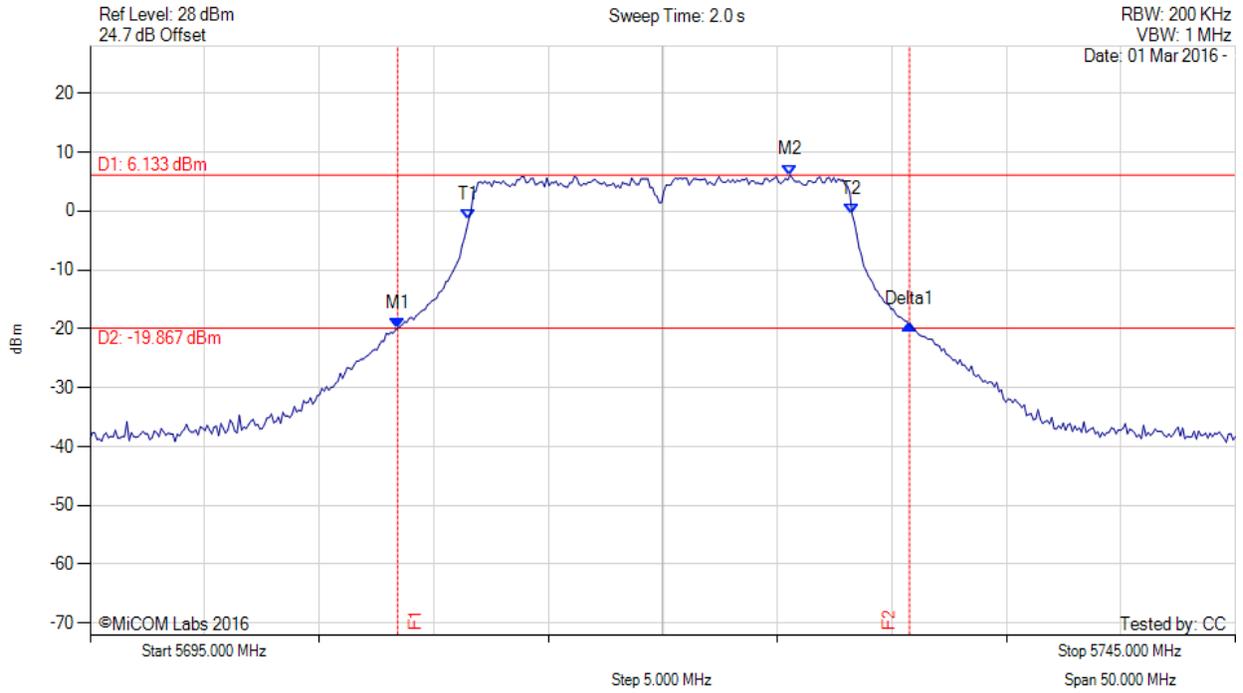
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5720.00 MHz, Chain b, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude                | Test Results  |
|---|---|---|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | ERROR!!! MULTIPLE TEST RESULTS MATCHES... | Measured 26 dB Bandwidth: 22.345 MHz<br>Measured 99% Bandwidth: 16.733 MHz<br>ERROR!!! MULTIPLE TEST RESULTS MATCHES... |

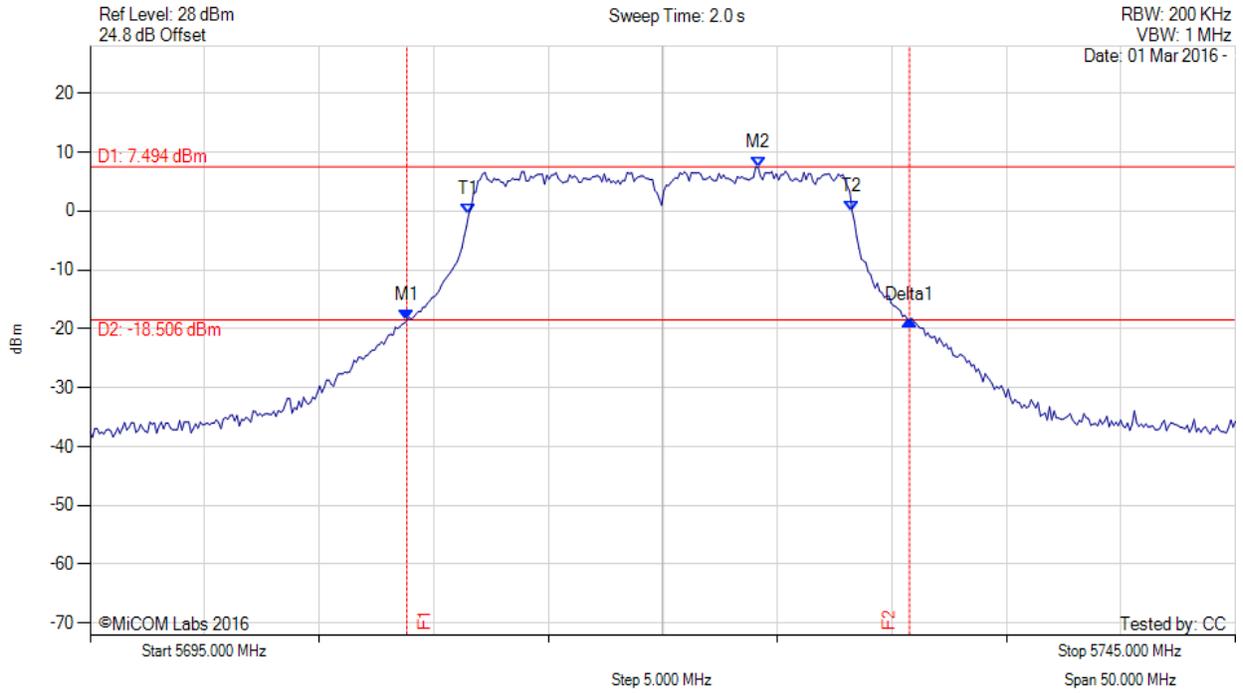
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5720.00 MHz, Chain c, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5708.828 MHz : -18.615 dBm<br>M2 : 5724.158 MHz : 7.494 dBm<br>Delta1 : 21.944 MHz : 0.010 dB<br>T1 : 5711.533 MHz : -0.468 dBm<br>T2 : 5728.267 MHz : -0.009 dBm<br>OBW : 16.733 MHz | Measured 26 dB Bandwidth: 21.944 MHz<br>Measured 99% Bandwidth: 16.733 MHz |

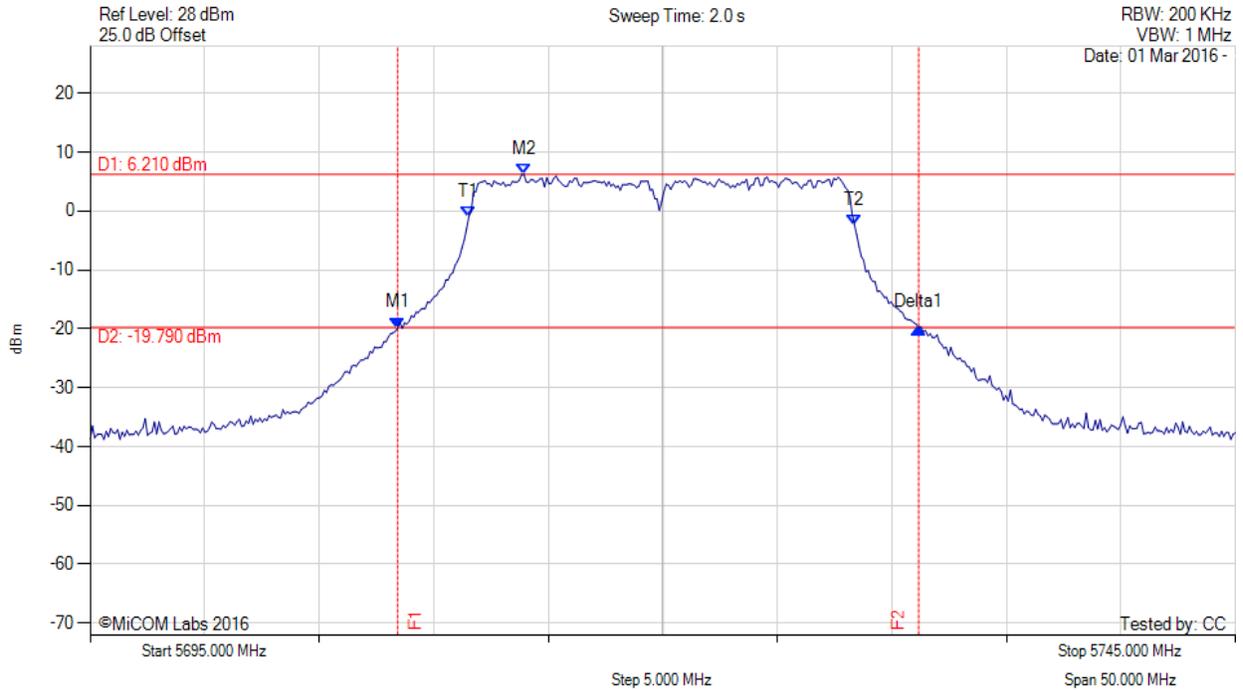
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5720.00 MHz, Chain d, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5708.427 MHz : -19.832 dBm<br>M2 : 5713.938 MHz : 6.210 dBm<br>Delta1 : 22.745 MHz : 0.004 dB<br>T1 : 5711.533 MHz : -1.005 dBm<br>T2 : 5728.367 MHz : -2.333 dBm<br>OBW : 16.834 MHz | Measured 26 dB Bandwidth: 22.745 MHz<br>Measured 99% Bandwidth: 16.834 MHz |

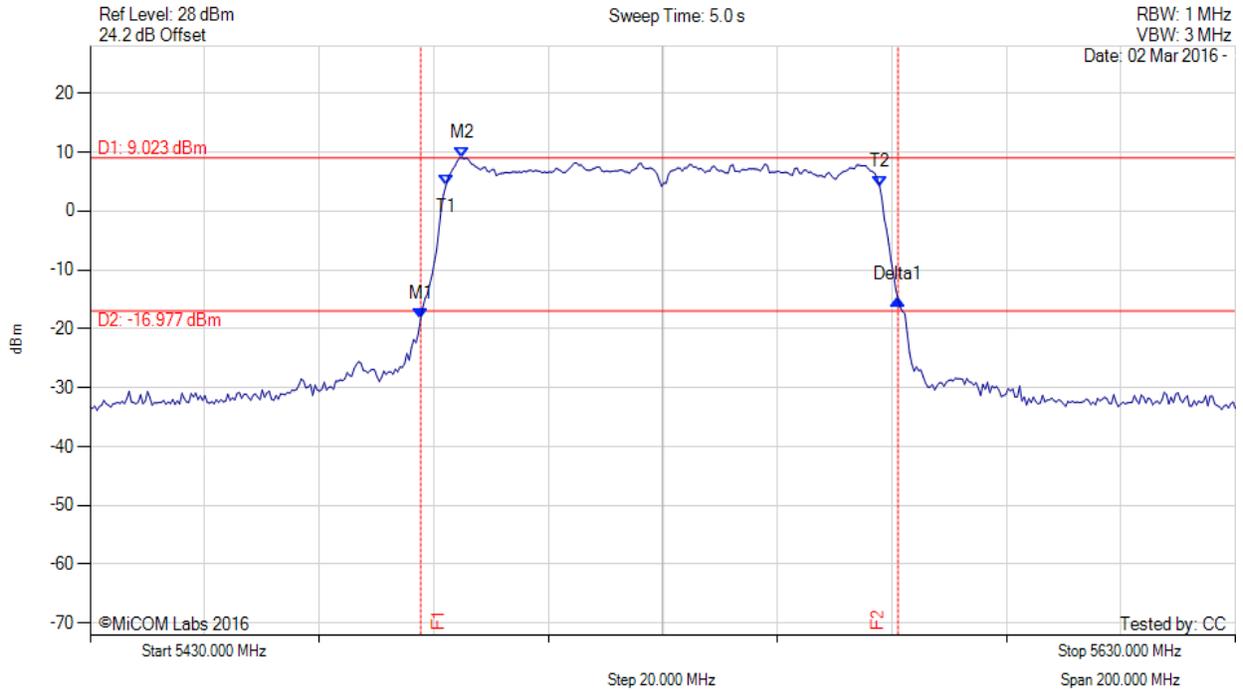
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26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5530.00 MHz, Chain a, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5487.715 MHz : -18.384 dBm<br>M2 : 5494.930 MHz : 9.023 dBm<br>Delta1 : 83.367 MHz : 3.339 dB<br>T1 : 5492.124 MHz : 4.297 dBm<br>T2 : 5567.876 MHz : 4.187 dBm<br>OBW : 75.752 MHz | Measured 26 dB Bandwidth: 83.367 MHz<br>Measured 99% Bandwidth: 75.752 MHz |

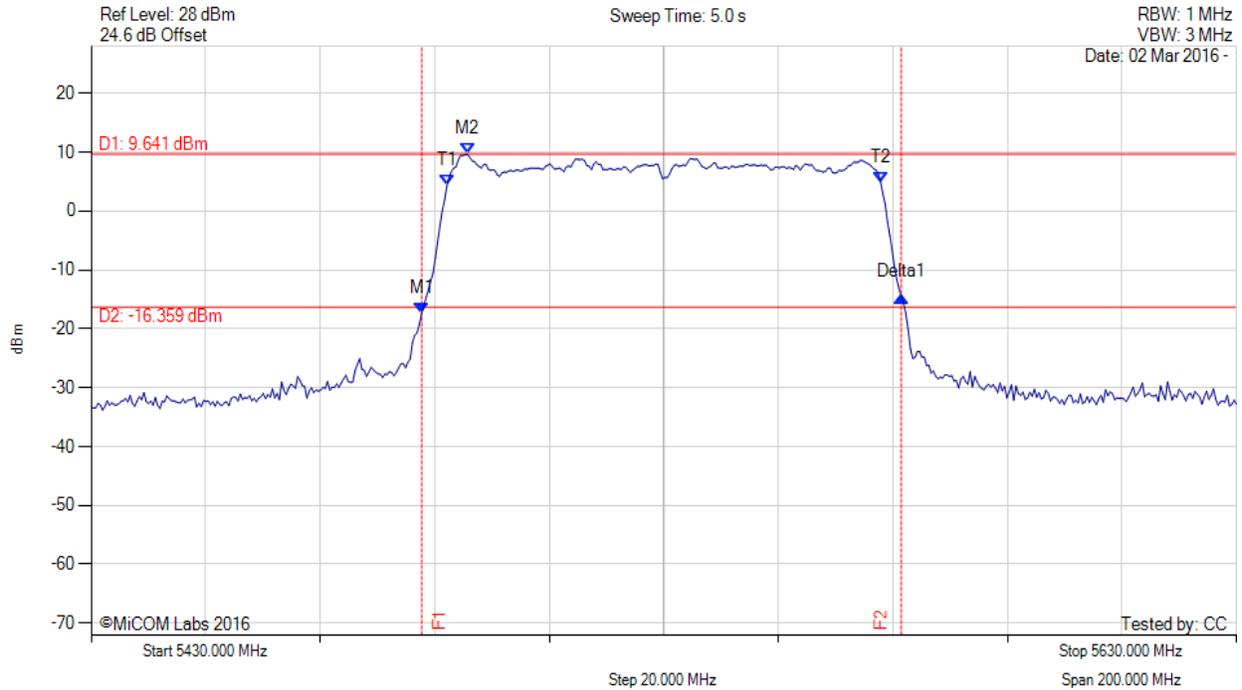
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26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5530.00 MHz, Chain b, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5487.715 MHz : -17.373 dBm<br>M2 : 5495.731 MHz : 9.641 dBm<br>Delta1 : 83.768 MHz : 2.835 dB<br>T1 : 5492.124 MHz : 4.272 dBm<br>T2 : 5567.876 MHz : 4.872 dBm<br>OBW : 75.752 MHz | Measured 26 dB Bandwidth: 83.768 MHz<br>Measured 99% Bandwidth: 75.752 MHz |

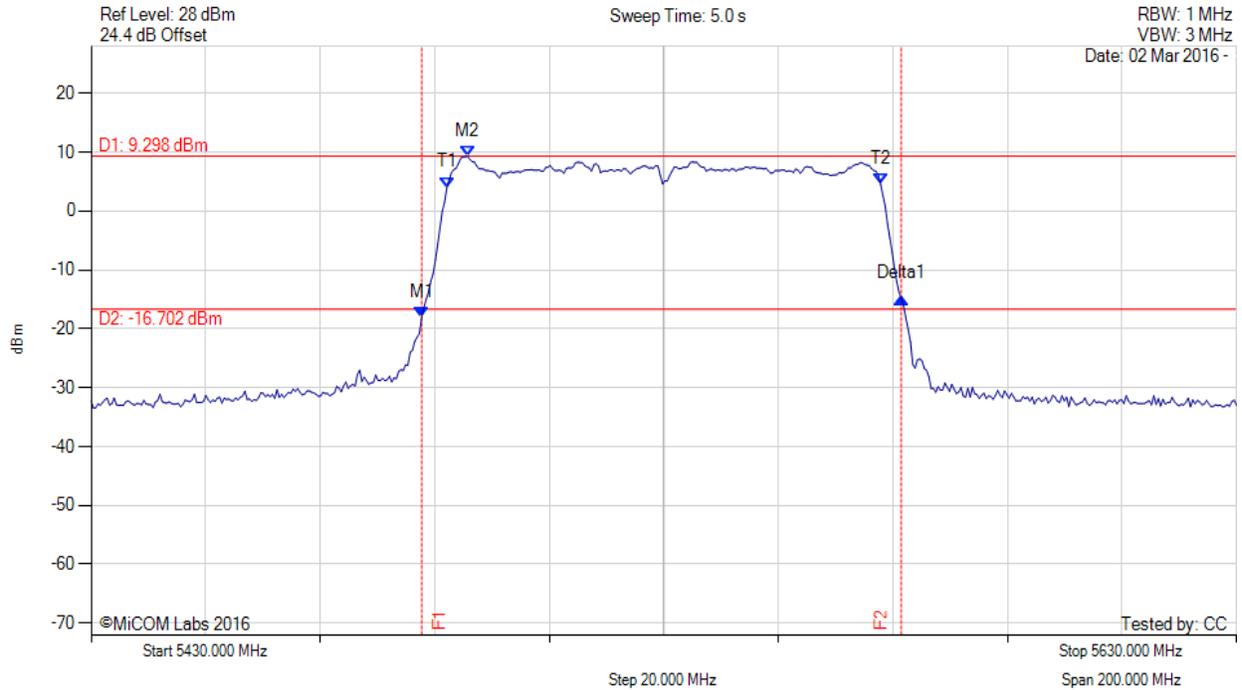
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26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5530.00 MHz, Chain c, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5487.715 MHz : -18.091 dBm<br>M2 : 5495.731 MHz : 9.298 dBm<br>Delta1 : 83.768 MHz : 3.272 dB<br>T1 : 5492.124 MHz : 4.022 dBm<br>T2 : 5567.876 MHz : 4.518 dBm<br>OBW : 75.752 MHz | Measured 26 dB Bandwidth: 83.768 MHz<br>Measured 99% Bandwidth: 75.752 MHz |

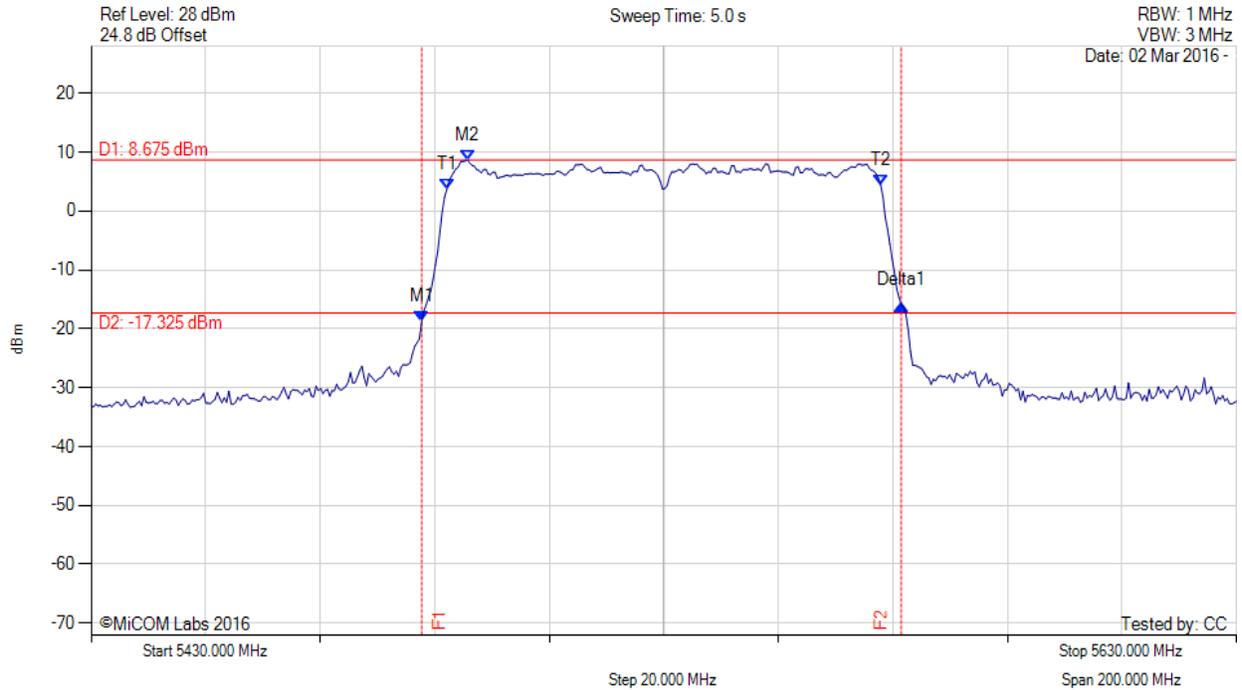
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26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5530.00 MHz, Chain d, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5487.715 MHz : -18.843 dBm<br>M2 : 5495.731 MHz : 8.675 dBm<br>Delta1 : 83.768 MHz : 2.825 dB<br>T1 : 5492.124 MHz : 3.729 dBm<br>T2 : 5567.876 MHz : 4.413 dBm<br>OBW : 75.752 MHz | Measured 26 dB Bandwidth: 83.768 MHz<br>Measured 99% Bandwidth: 75.752 MHz |

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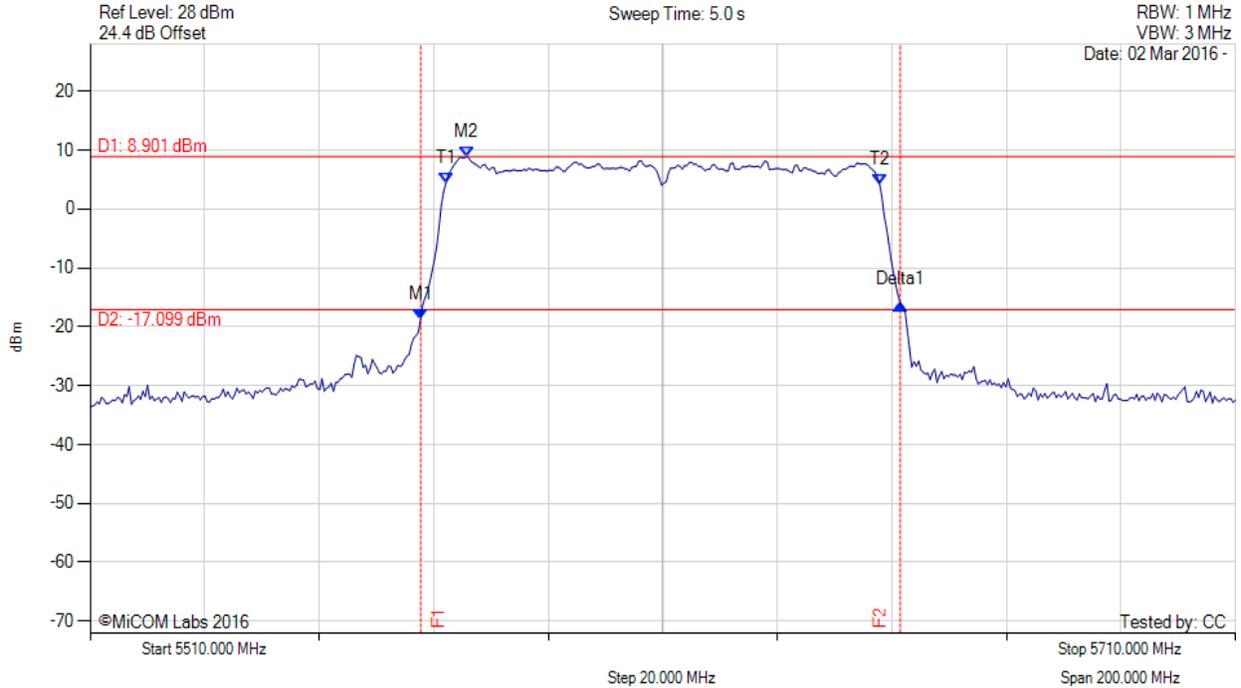
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26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5610.00 MHz, Chain a, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5567.715 MHz : -18.693 dBm<br>M2 : 5575.731 MHz : 8.901 dBm<br>Delta1 : 83.768 MHz : 2.556 dB<br>T1 : 5572.124 MHz : 4.354 dBm<br>T2 : 5647.876 MHz : 4.171 dBm<br>OBW : 75.752 MHz | Measured 26 dB Bandwidth: 83.768 MHz<br>Measured 99% Bandwidth: 75.752 MHz |

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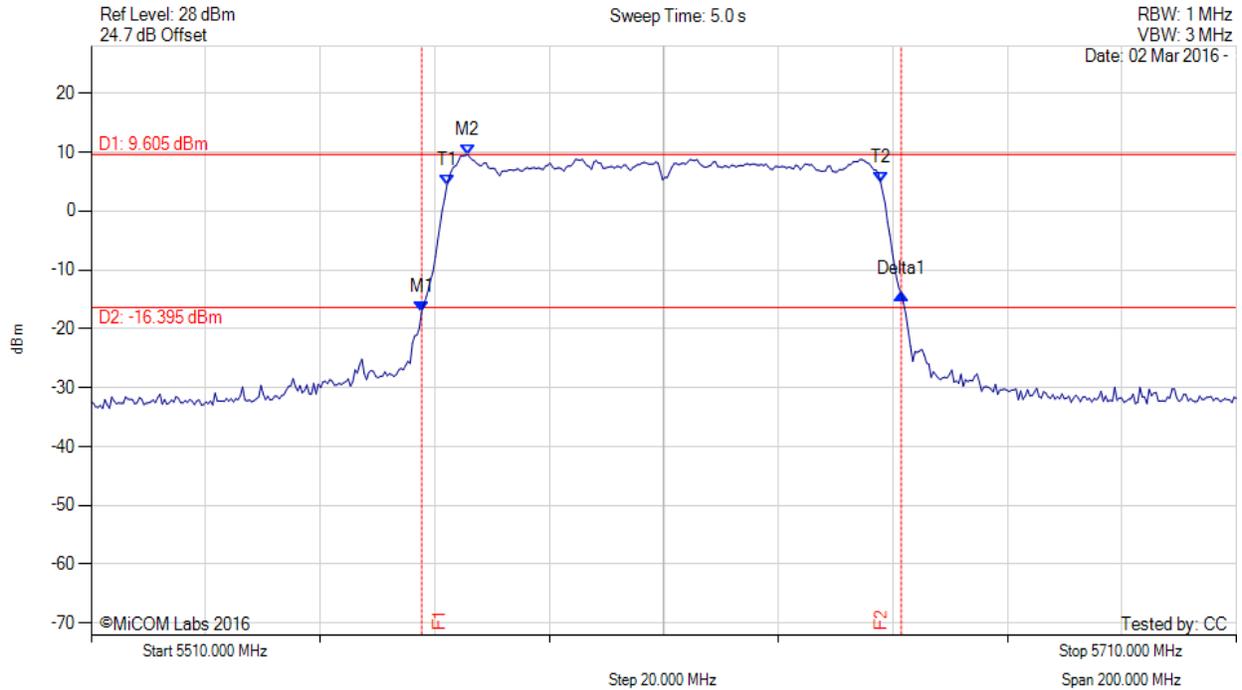
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26 dB & 99% BANDWIDTH



Variant: 802.11ac-80, Channel: 5610.00 MHz, Chain b, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5567.715 MHz : -17.104 dBm<br>M2 : 5575.731 MHz : 9.605 dBm<br>Delta1 : 83.768 MHz : 3.061 dB<br>T1 : 5572.124 MHz : 4.358 dBm<br>T2 : 5647.876 MHz : 4.830 dBm<br>OBW : 75.752 MHz | Measured 26 dB Bandwidth: 83.768 MHz<br>Measured 99% Bandwidth: 75.752 MHz |

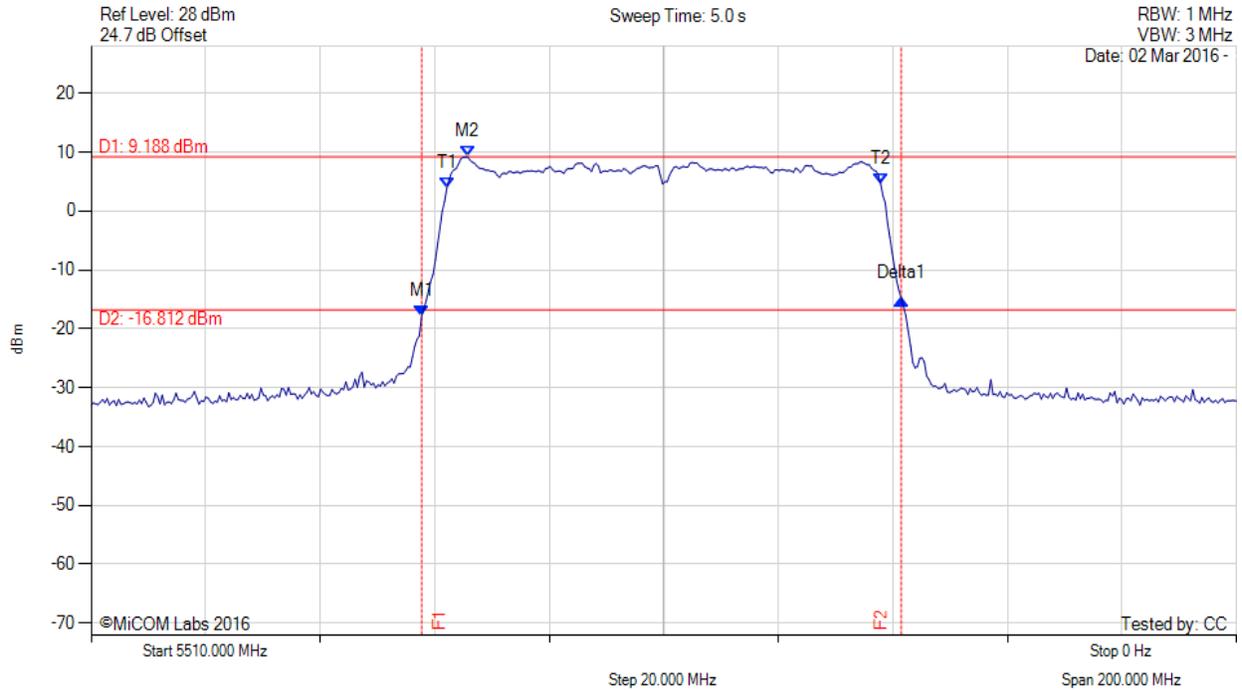
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26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5610.00 MHz, Chain c, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5567.715 MHz : -17.843 dBm<br>M2 : 5575.731 MHz : 9.188 dBm<br>Delta1 : 83.768 MHz : 2.941 dB<br>T1 : 5572.124 MHz : 3.959 dBm<br>T2 : 5647.876 MHz : 4.604 dBm<br>OBW : 75.752 MHz | Measured 26 dB Bandwidth: 83.768 MHz<br>Measured 99% Bandwidth: 75.752 MHz |

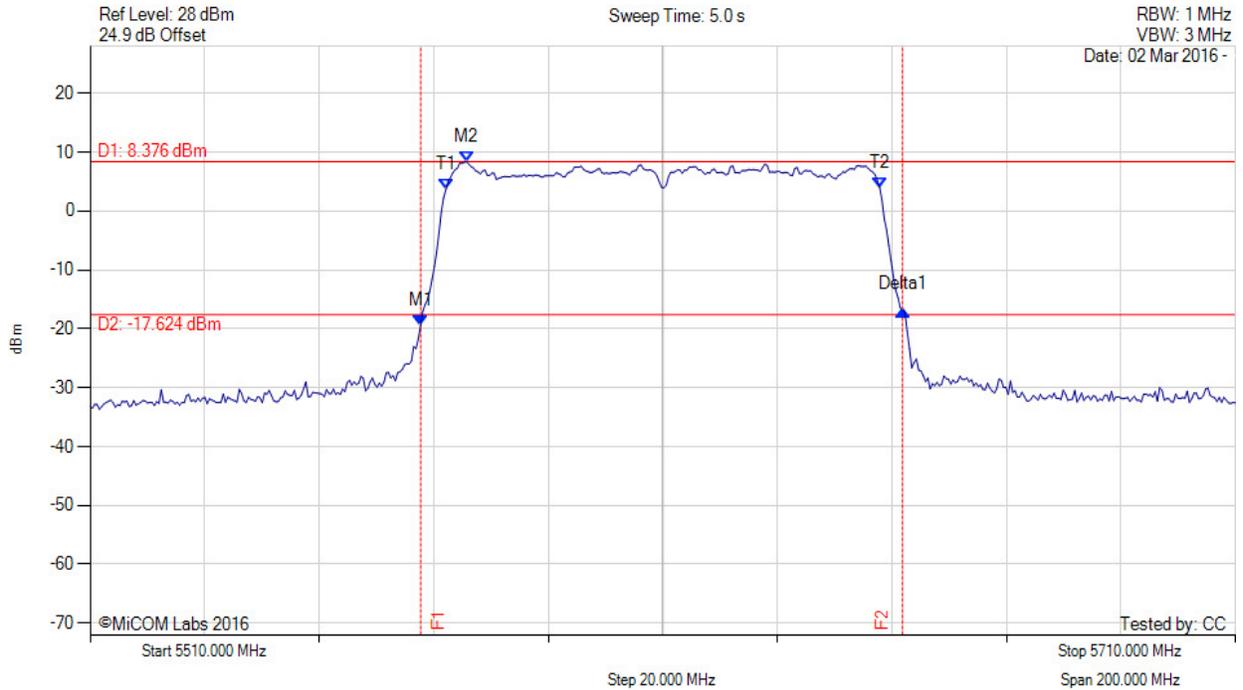
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26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5610.00 MHz, Chain d, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5567.715 MHz : -19.390 dBm<br>M2 : 5575.731 MHz : 8.376 dBm<br>Delta1 : 84.168 MHz : 2.619 dB<br>T1 : 5572.124 MHz : 3.644 dBm<br>T2 : 5647.876 MHz : 3.996 dBm<br>OBW : 75.752 MHz | Measured 26 dB Bandwidth: 84.168 MHz<br>Measured 99% Bandwidth: 75.752 MHz |

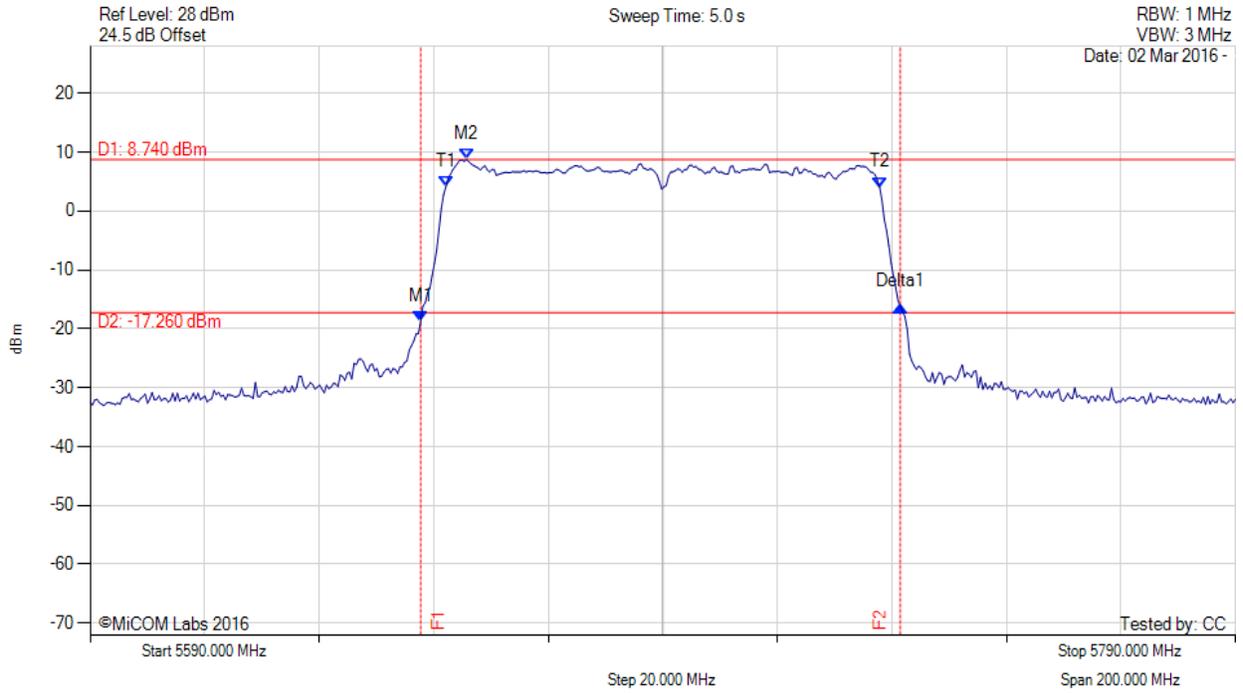
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26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5690.00 MHz, Chain a, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5647.715 MHz : -18.825 dBm<br>M2 : 5655.731 MHz : 8.740 dBm<br>Delta1 : 83.768 MHz : 2.617 dB<br>T1 : 5652.124 MHz : 4.122 dBm<br>T2 : 5727.876 MHz : 4.028 dBm<br>OBW : 75.752 MHz | Measured 26 dB Bandwidth: 83.768 MHz<br>Measured 99% Bandwidth: 75.752 MHz |

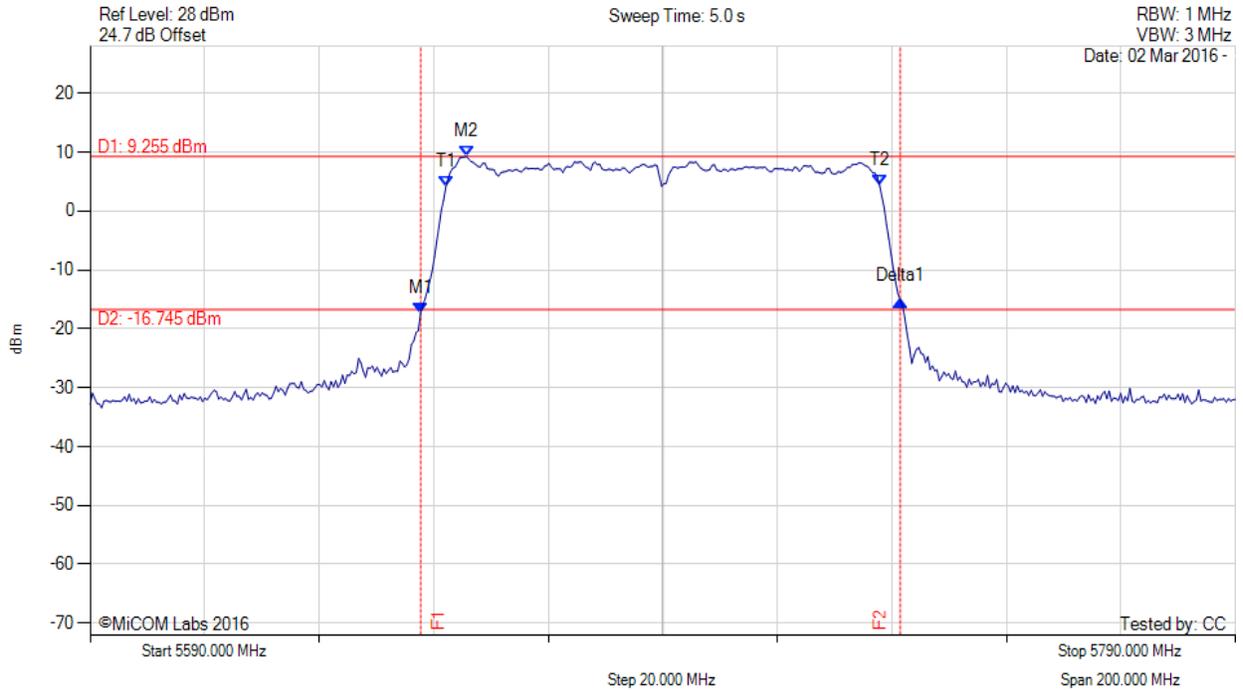
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26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5690.00 MHz, Chain b, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5647.715 MHz : -17.334 dBm<br>M2 : 5655.731 MHz : 9.255 dBm<br>Delta1 : 83.768 MHz : 2.109 dB<br>T1 : 5652.124 MHz : 4.154 dBm<br>T2 : 5727.876 MHz : 4.287 dBm<br>OBW : 75.752 MHz | Measured 26 dB Bandwidth: 83.768 MHz<br>Measured 99% Bandwidth: 75.752 MHz |

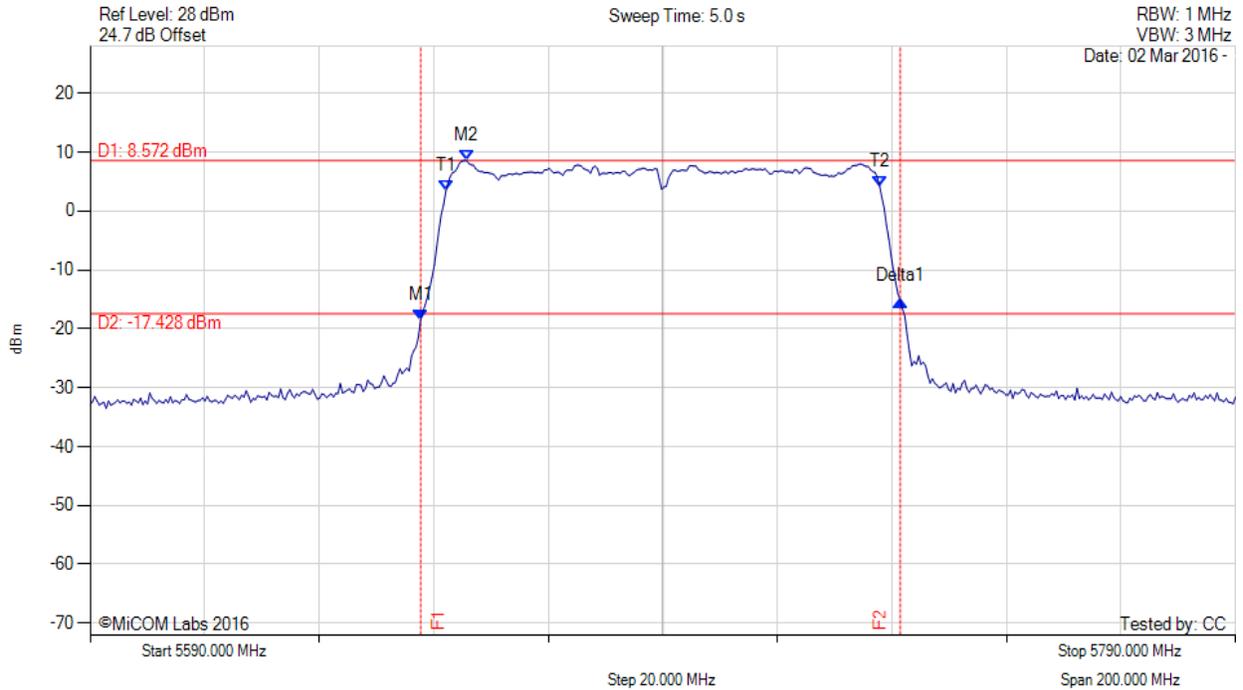
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26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5690.00 MHz, Chain c, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5647.715 MHz : -18.489 dBm<br>M2 : 5655.731 MHz : 8.572 dBm<br>Delta1 : 83.768 MHz : 3.274 dB<br>T1 : 5652.124 MHz : 3.406 dBm<br>T2 : 5727.876 MHz : 4.171 dBm<br>OBW : 75.752 MHz | Measured 26 dB Bandwidth: 83.768 MHz<br>Measured 99% Bandwidth: 75.752 MHz |

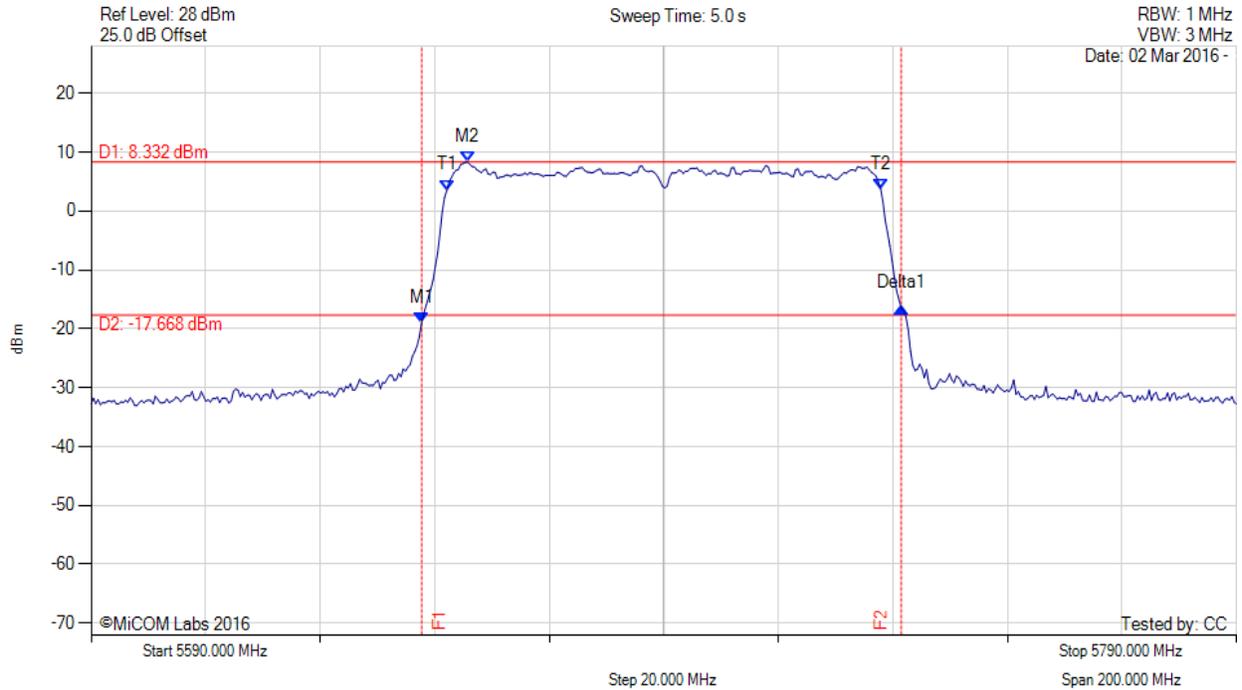
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26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5690.00 MHz, Chain d, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5647.715 MHz : -18.921 dBm<br>M2 : 5655.731 MHz : 8.332 dBm<br>Delta1 : 83.768 MHz : 2.390 dB<br>T1 : 5652.124 MHz : 3.556 dBm<br>T2 : 5727.876 MHz : 3.762 dBm<br>OBW : 75.752 MHz | Measured 26 dB Bandwidth: 83.768 MHz<br>Measured 99% Bandwidth: 75.752 MHz |

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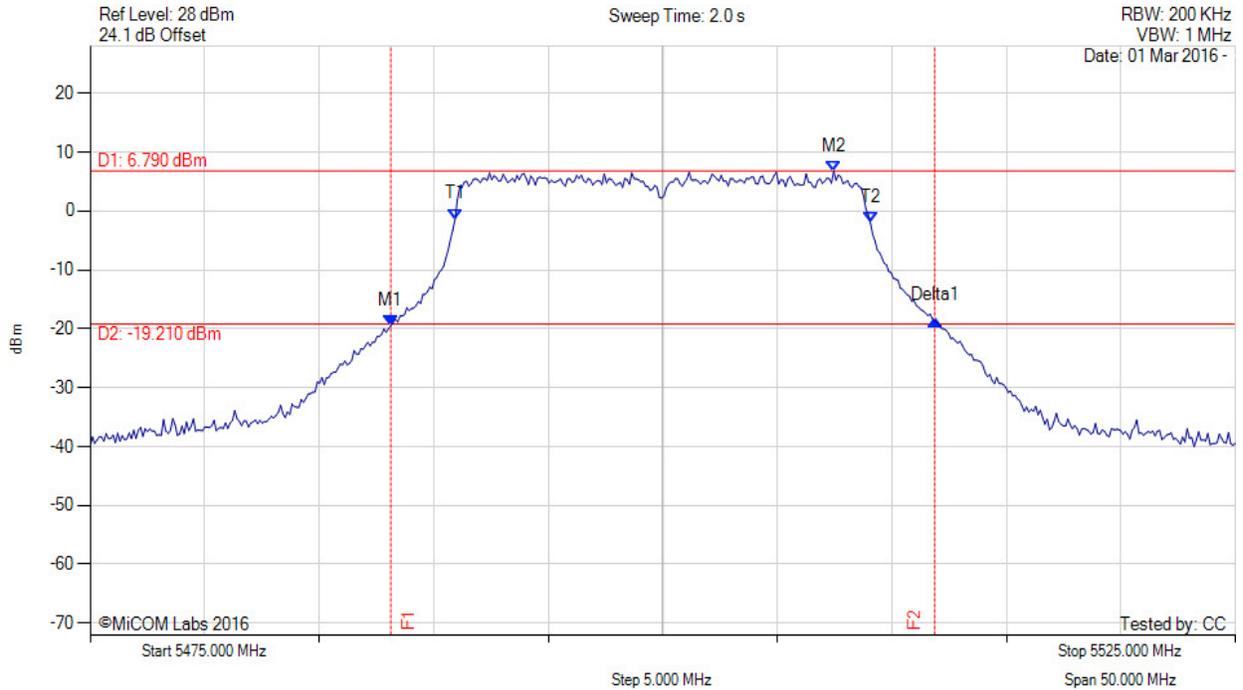
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5500.00 MHz, Chain a, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5488.126 MHz : -19.529 dBm<br>M2 : 5507.465 MHz : 6.790 dBm<br>Delta1 : 23.747 MHz : 0.895 dB<br>T1 : 5490.932 MHz : -1.357 dBm<br>T2 : 5509.068 MHz : -2.042 dBm<br>OBW : 18.136 MHz | Measured 26 dB Bandwidth: 23.747 MHz<br>Measured 99% Bandwidth: 18.136 MHz |

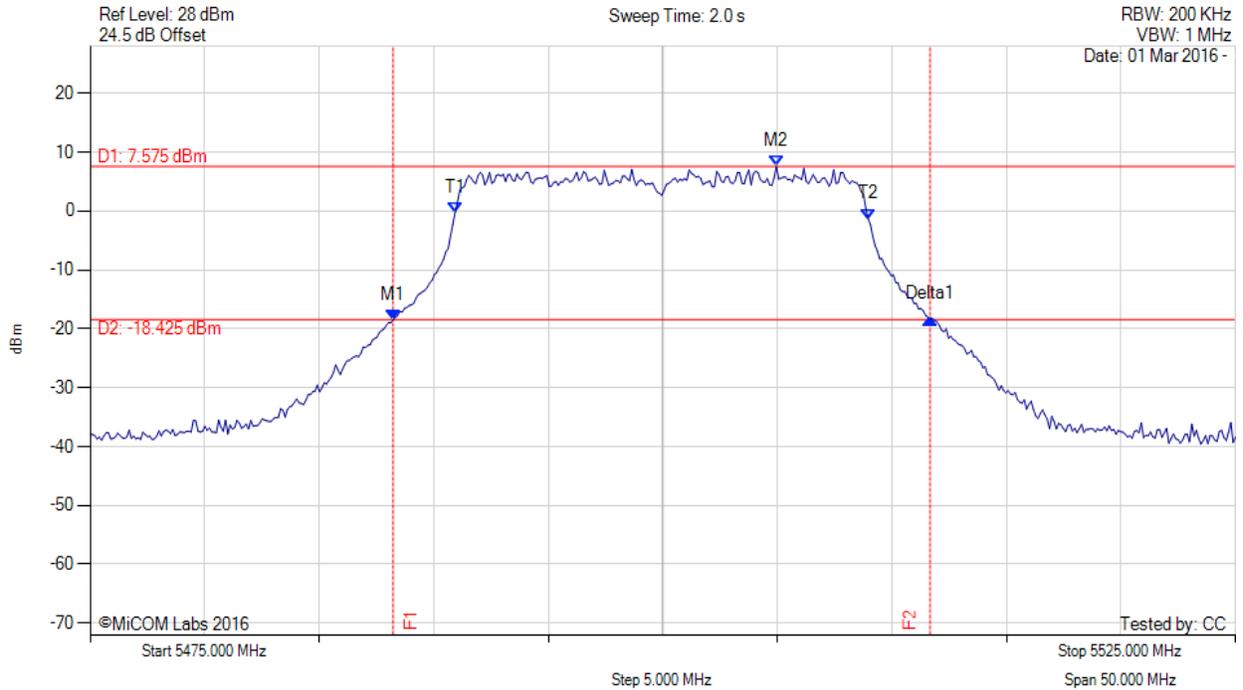
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5500.00 MHz, Chain b, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5488.226 MHz : -18.498 dBm<br>M2 : 5504.960 MHz : 7.575 dBm<br>Delta1 : 23.447 MHz : 0.116 dB<br>T1 : 5490.932 MHz : -0.277 dBm<br>T2 : 5508.968 MHz : -1.365 dBm<br>OBW : 18.036 MHz | Measured 26 dB Bandwidth: 23.447 MHz<br>Measured 99% Bandwidth: 18.036 MHz |

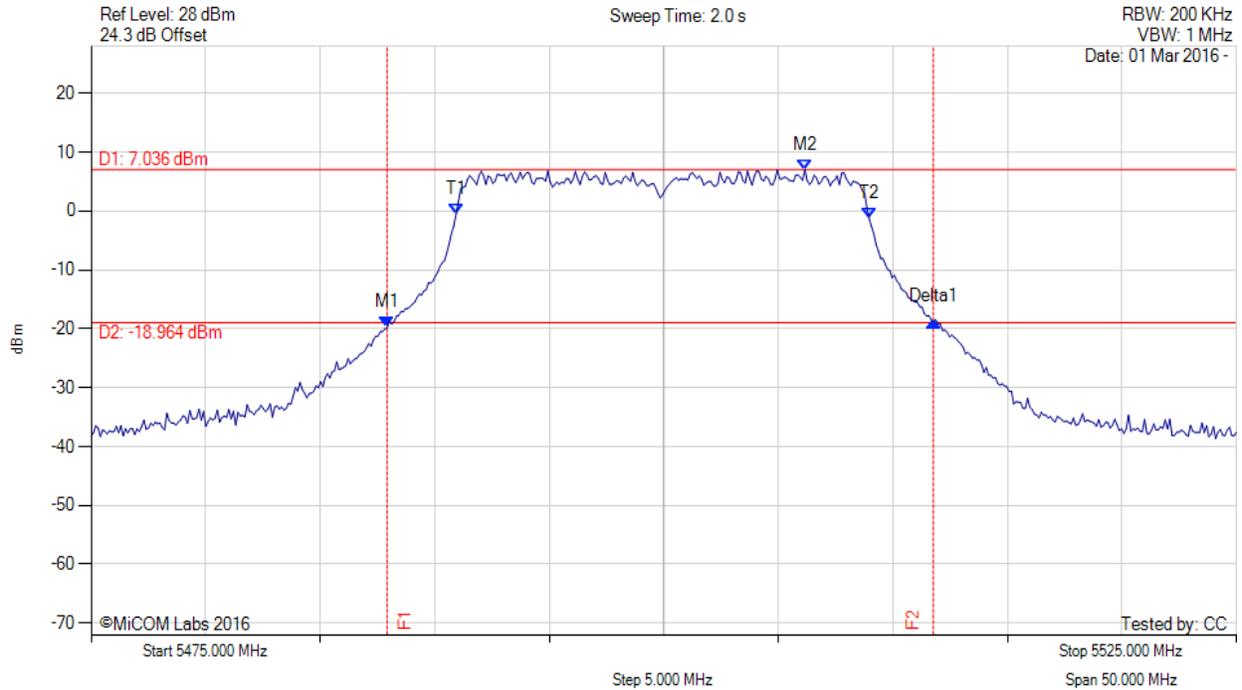
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5500.00 MHz, Chain c, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5487.926 MHz : -19.779 dBm<br>M2 : 5506.162 MHz : 7.036 dBm<br>Delta1 : 23.848 MHz : 1.060 dB<br>T1 : 5490.932 MHz : -0.531 dBm<br>T2 : 5508.968 MHz : -1.323 dBm<br>OBW : 18.036 MHz | Measured 26 dB Bandwidth: 23.848 MHz<br>Measured 99% Bandwidth: 18.036 MHz |

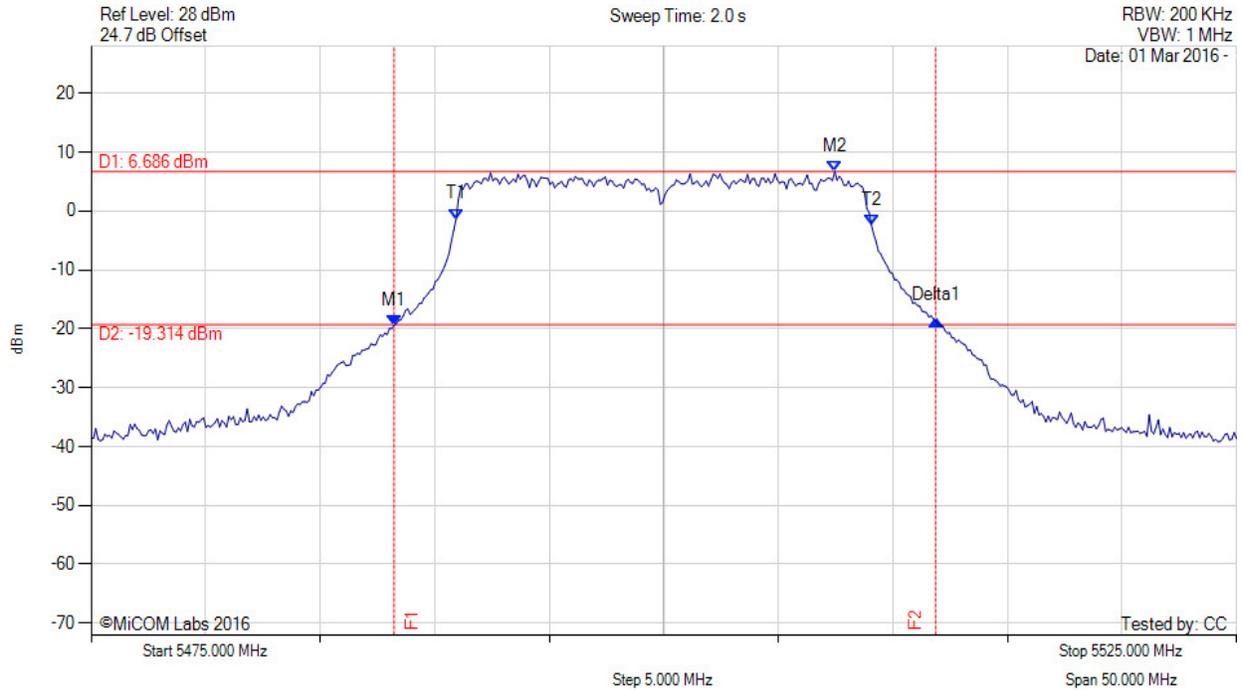
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5500.00 MHz, Chain d, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5488.226 MHz : -19.374 dBm<br>M2 : 5507.465 MHz : 6.686 dBm<br>Delta1 : 23.647 MHz : 0.740 dB<br>T1 : 5490.932 MHz : -1.355 dBm<br>T2 : 5509.068 MHz : -2.415 dBm<br>OBW : 18.136 MHz | Measured 26 dB Bandwidth: 23.647 MHz<br>Measured 99% Bandwidth: 18.136 MHz |

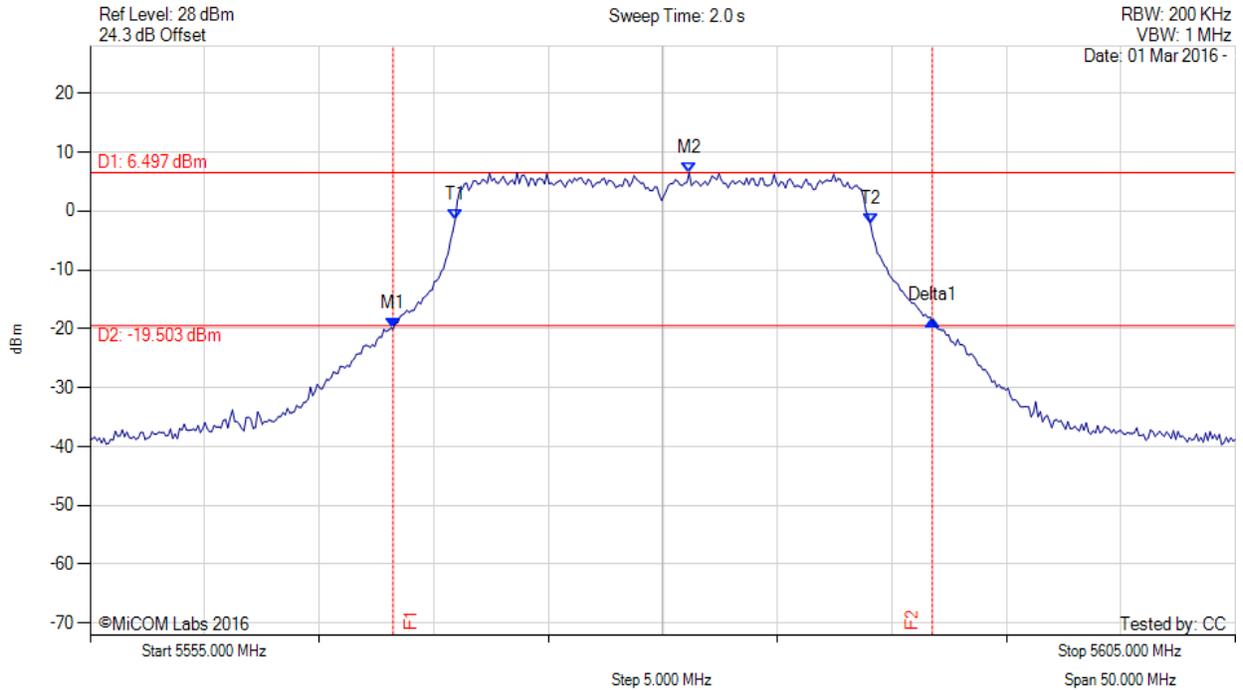
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5580.00 MHz, Chain a, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5568.226 MHz : -20.007 dBm<br>M2 : 5581.152 MHz : 6.497 dBm<br>Delta1 : 23.547 MHz : 1.397 dB<br>T1 : 5570.932 MHz : -1.575 dBm<br>T2 : 5589.068 MHz : -2.205 dBm<br>OBW : 18.136 MHz | Measured 26 dB Bandwidth: 23.547 MHz<br>Measured 99% Bandwidth: 18.136 MHz |

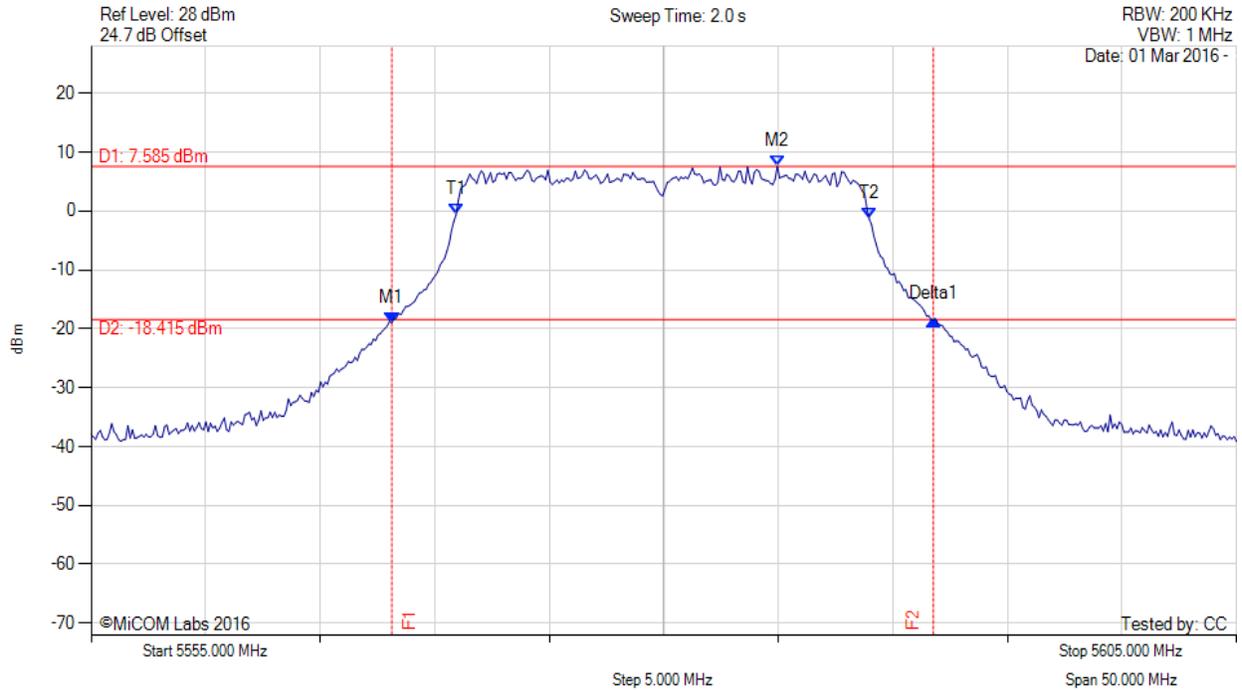
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5580.00 MHz, Chain b, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5568.126 MHz : -18.965 dBm<br>M2 : 5584.960 MHz : 7.585 dBm<br>Delta1 : 23.647 MHz : 0.533 dB<br>T1 : 5570.932 MHz : -0.623 dBm<br>T2 : 5588.968 MHz : -1.333 dBm<br>OBW : 18.036 MHz | Measured 26 dB Bandwidth: 23.647 MHz<br>Measured 99% Bandwidth: 18.036 MHz |

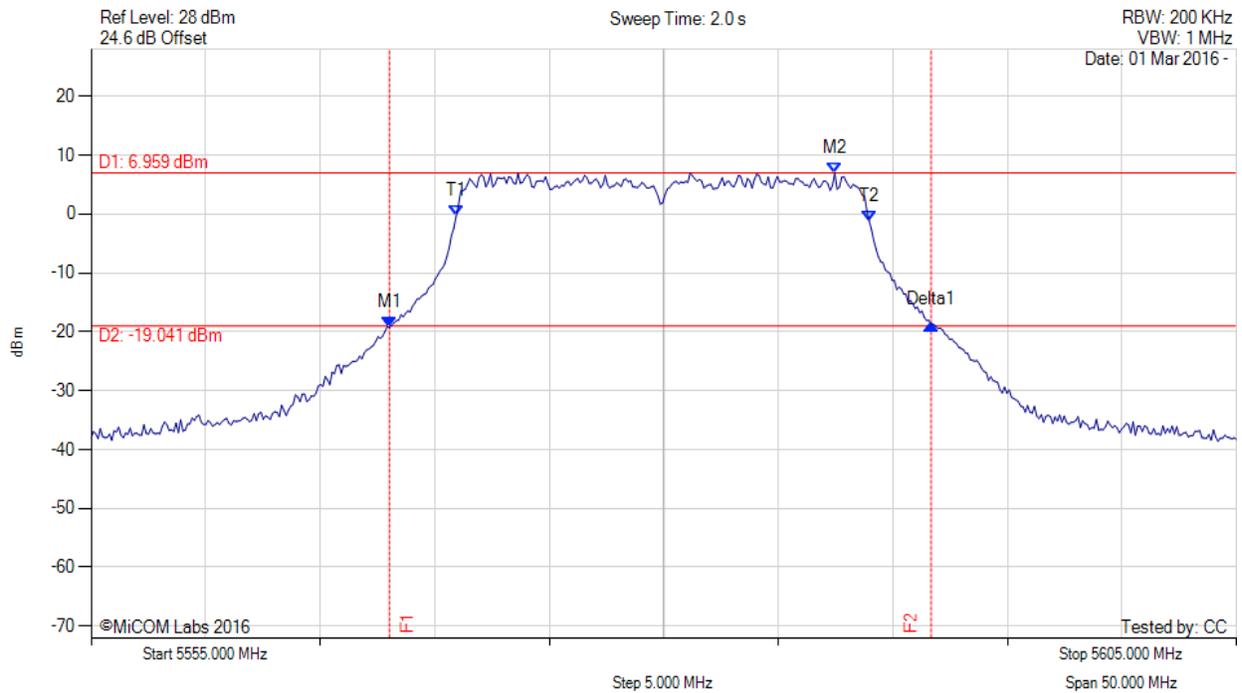
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5580.00 MHz, Chain c, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5568.026 MHz : -19.283 dBm<br>M2 : 5587.465 MHz : 6.959 dBm<br>Delta1 : 23.647 MHz : 0.596 dB<br>T1 : 5570.932 MHz : -0.393 dBm<br>T2 : 5588.968 MHz : -1.194 dBm<br>OBW : 18.036 MHz | Measured 26 dB Bandwidth: 23.647 MHz<br>Measured 99% Bandwidth: 18.036 MHz |

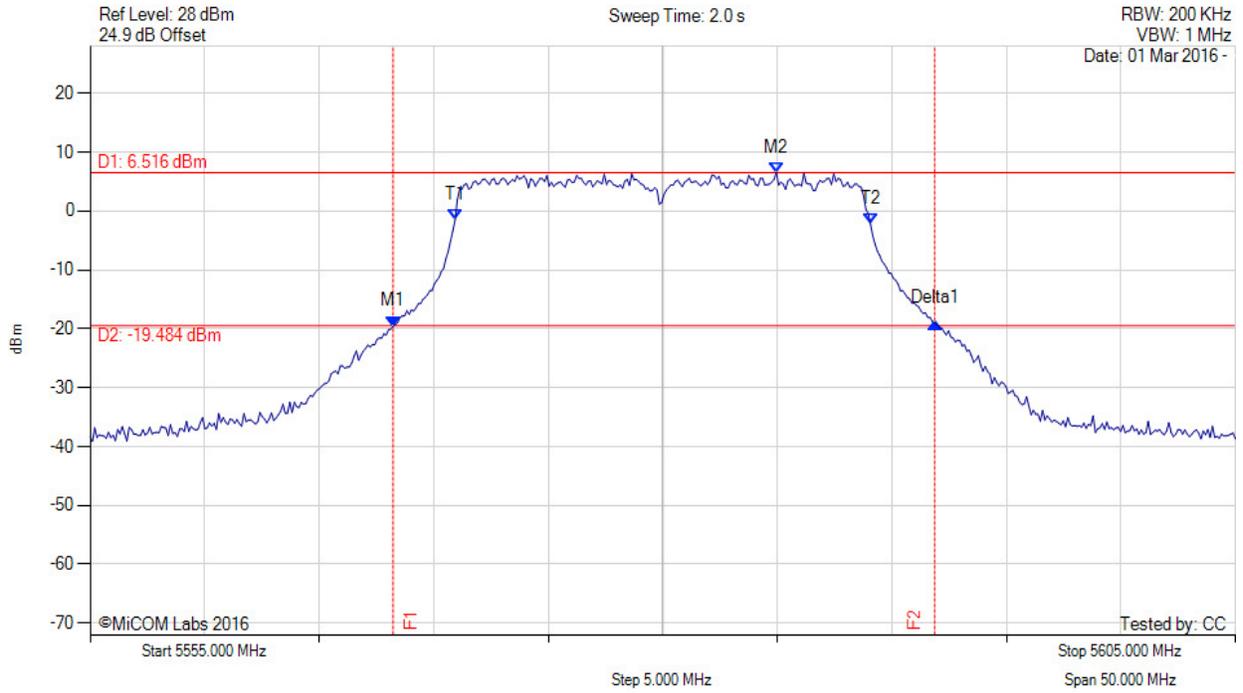
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5580.00 MHz, Chain d, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5568.226 MHz : -19.600 dBm<br>M2 : 5584.960 MHz : 6.516 dBm<br>Delta1 : 23.647 MHz : 0.610 dB<br>T1 : 5570.932 MHz : -1.516 dBm<br>T2 : 5589.068 MHz : -2.221 dBm<br>OBW : 18.136 MHz | Measured 26 dB Bandwidth: 23.647 MHz<br>Measured 99% Bandwidth: 18.136 MHz |

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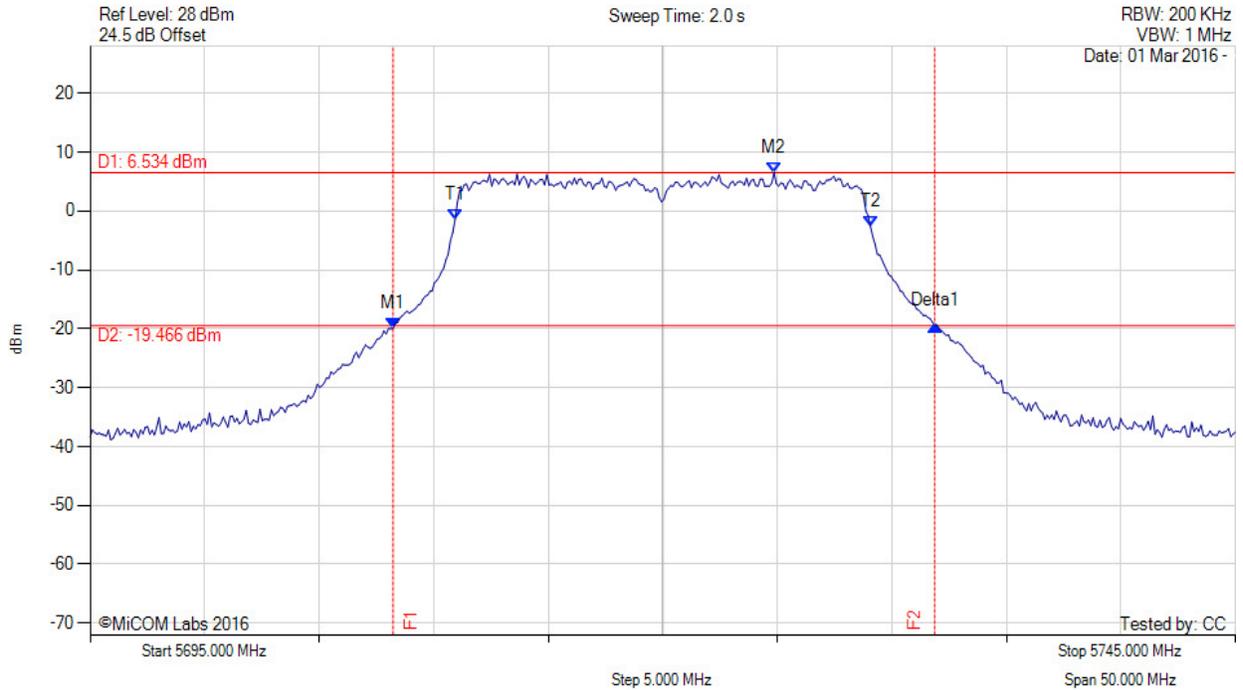
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5720.00 MHz, Chain a, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5708.226 MHz : -19.907 dBm<br>M2 : 5724.860 MHz : 6.534 dBm<br>Delta1 : 23.647 MHz : 0.492 dB<br>T1 : 5710.932 MHz : -1.457 dBm<br>T2 : 5729.068 MHz : -2.638 dBm<br>OBW : 18.136 MHz | Measured 26 dB Bandwidth: 23.647 MHz<br>Measured 99% Bandwidth: 18.136 MHz |

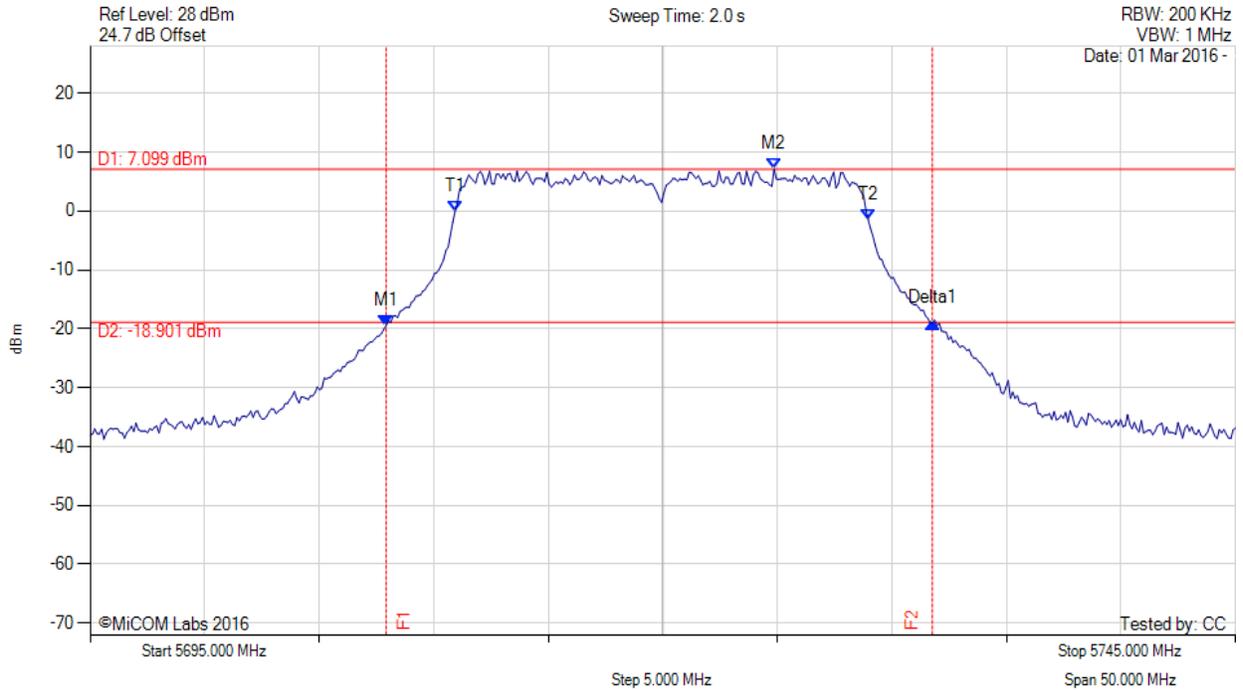
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5720.00 MHz, Chain b, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5707.926 MHz : -19.415 dBm<br>M2 : 5724.860 MHz : 7.099 dBm<br>Delta1 : 23.848 MHz : 0.390 dB<br>T1 : 5710.932 MHz : -0.005 dBm<br>T2 : 5728.968 MHz : -1.491 dBm<br>OBW : 18.036 MHz | Measured 26 dB Bandwidth: 23.848 MHz<br>Measured 99% Bandwidth: 18.036 MHz |

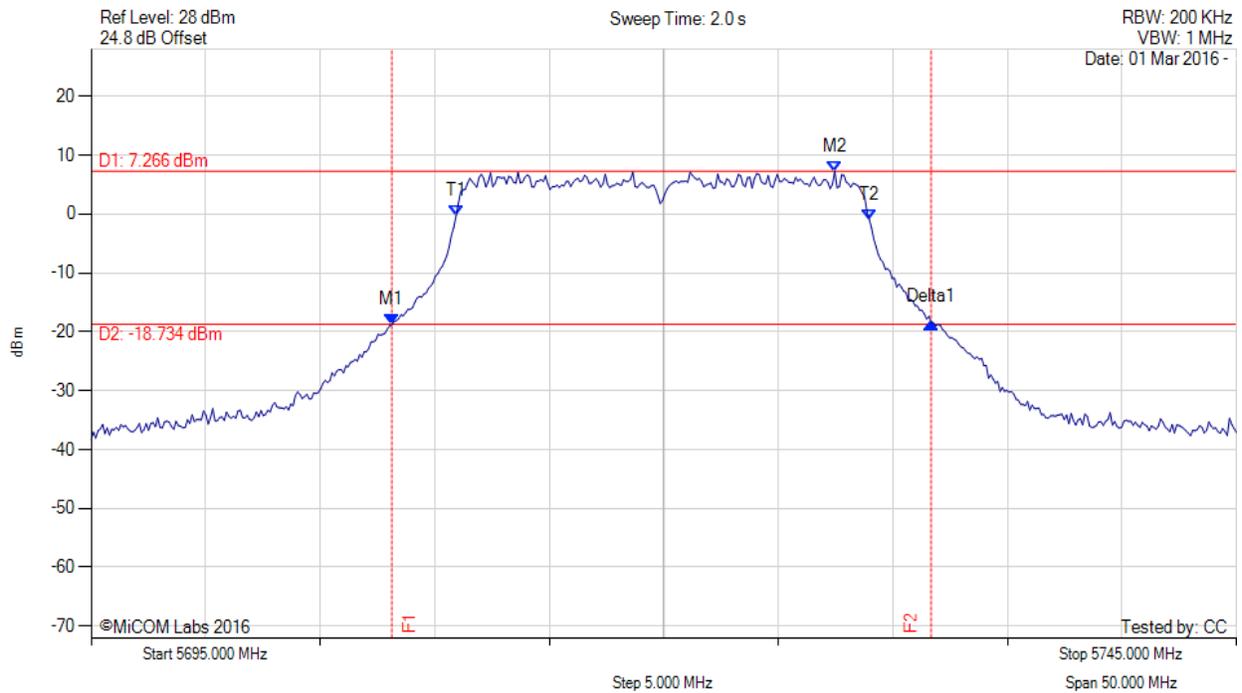
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5720.00 MHz, Chain c, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5708.126 MHz : -18.823 dBm<br>M2 : 5727.465 MHz : 7.266 dBm<br>Delta1 : 23.547 MHz : 0.417 dB<br>T1 : 5710.932 MHz : -0.302 dBm<br>T2 : 5728.968 MHz : -0.918 dBm<br>OBW : 18.036 MHz | Measured 26 dB Bandwidth: 23.547 MHz<br>Measured 99% Bandwidth: 18.036 MHz |

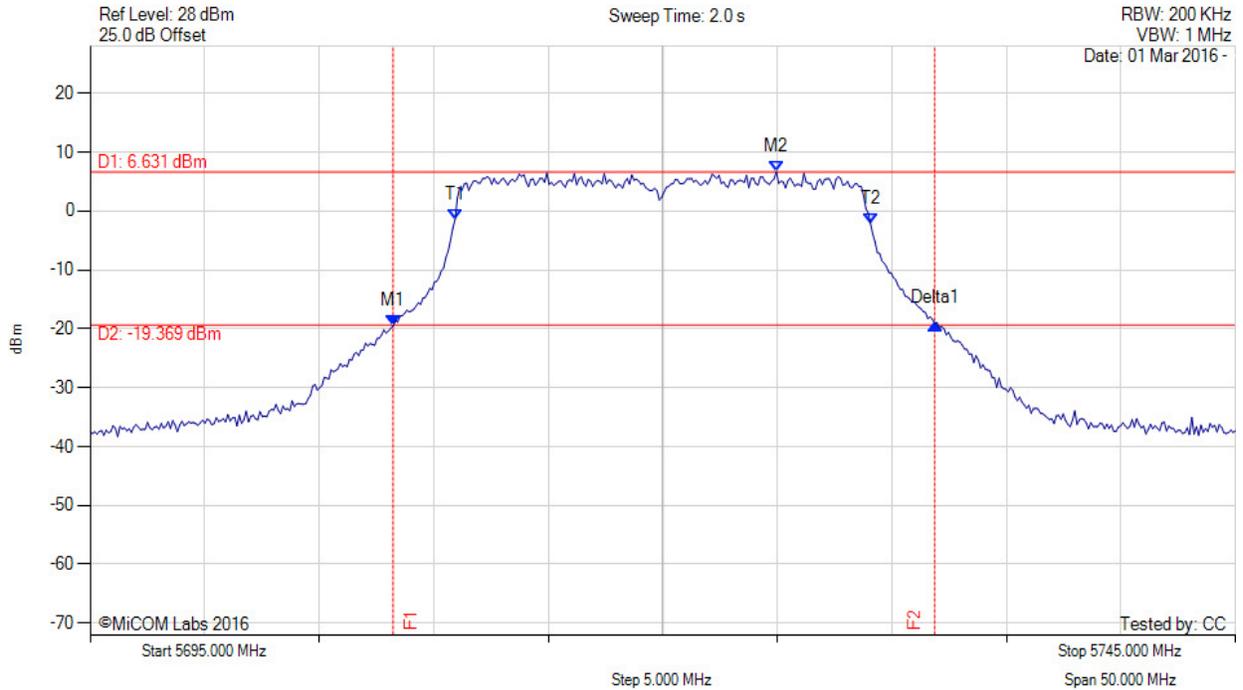
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5720.00 MHz, Chain d, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5708.226 MHz : -19.565 dBm<br>M2 : 5724.960 MHz : 6.631 dBm<br>Delta1 : 23.647 MHz : 0.458 dB<br>T1 : 5710.932 MHz : -1.408 dBm<br>T2 : 5729.068 MHz : -2.120 dBm<br>OBW : 18.136 MHz | Measured 26 dB Bandwidth: 23.647 MHz<br>Measured 99% Bandwidth: 18.136 MHz |

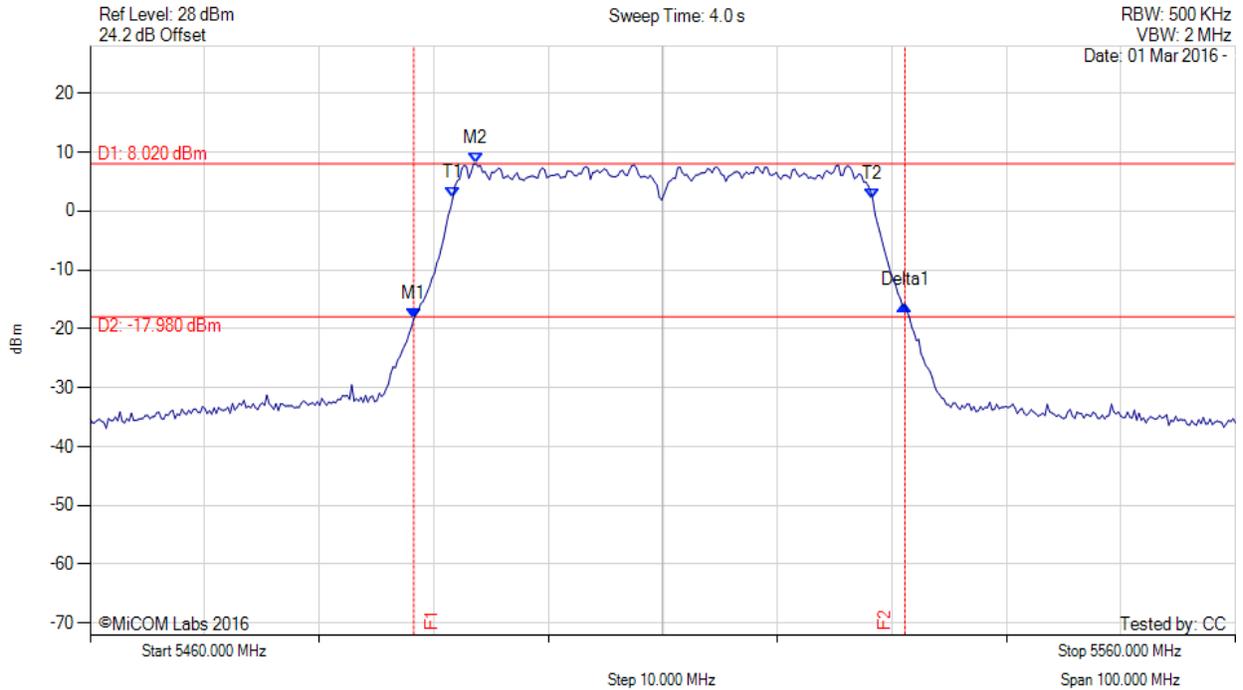
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5510.00 MHz, Chain a, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5488.257 MHz : -18.288 dBm<br>M2 : 5493.667 MHz : 8.020 dBm<br>Delta1 : 42.886 MHz : 2.304 dB<br>T1 : 5491.663 MHz : 2.190 dBm<br>T2 : 5528.337 MHz : 1.966 dBm<br>OBW : 36.673 MHz | Measured 26 dB Bandwidth: 42.886 MHz<br>Measured 99% Bandwidth: 36.673 MHz |

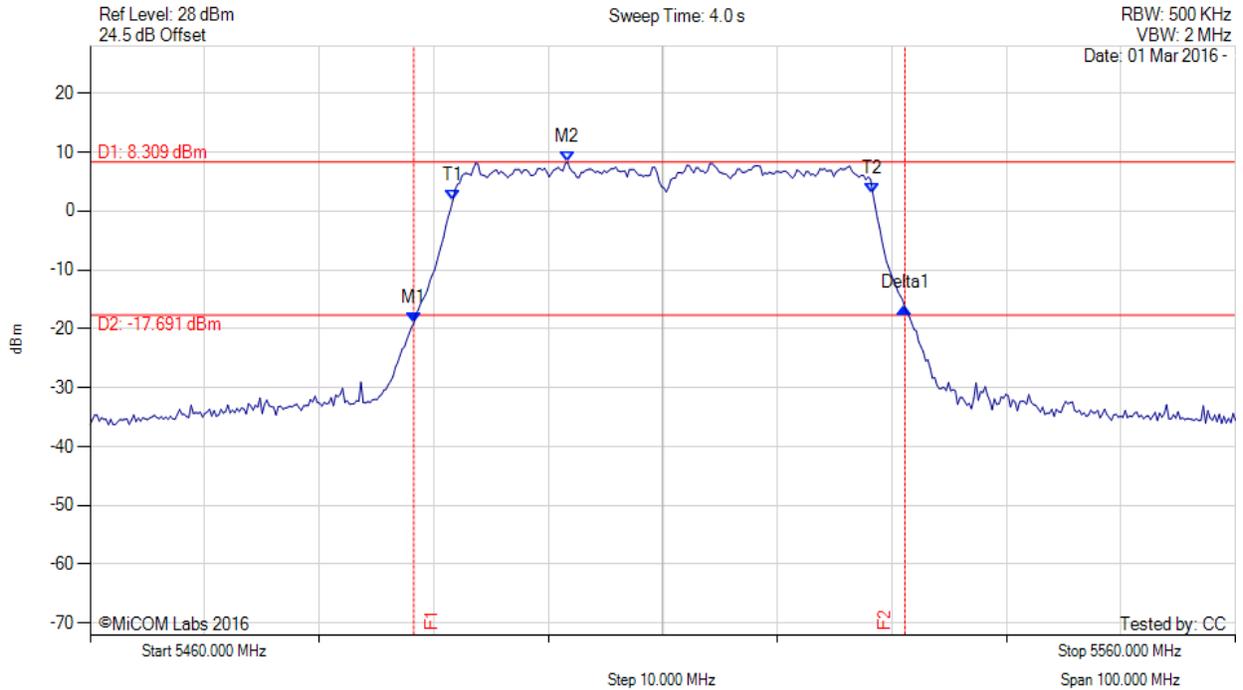
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5510.00 MHz, Chain b, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5488.257 MHz : -19.071 dBm<br>M2 : 5501.683 MHz : 8.309 dBm<br>Delta1 : 42.886 MHz : 2.587 dB<br>T1 : 5491.663 MHz : 1.771 dBm<br>T2 : 5528.337 MHz : 3.005 dBm<br>OBW : 36.673 MHz | Measured 26 dB Bandwidth: 42.886 MHz<br>Measured 99% Bandwidth: 36.673 MHz |

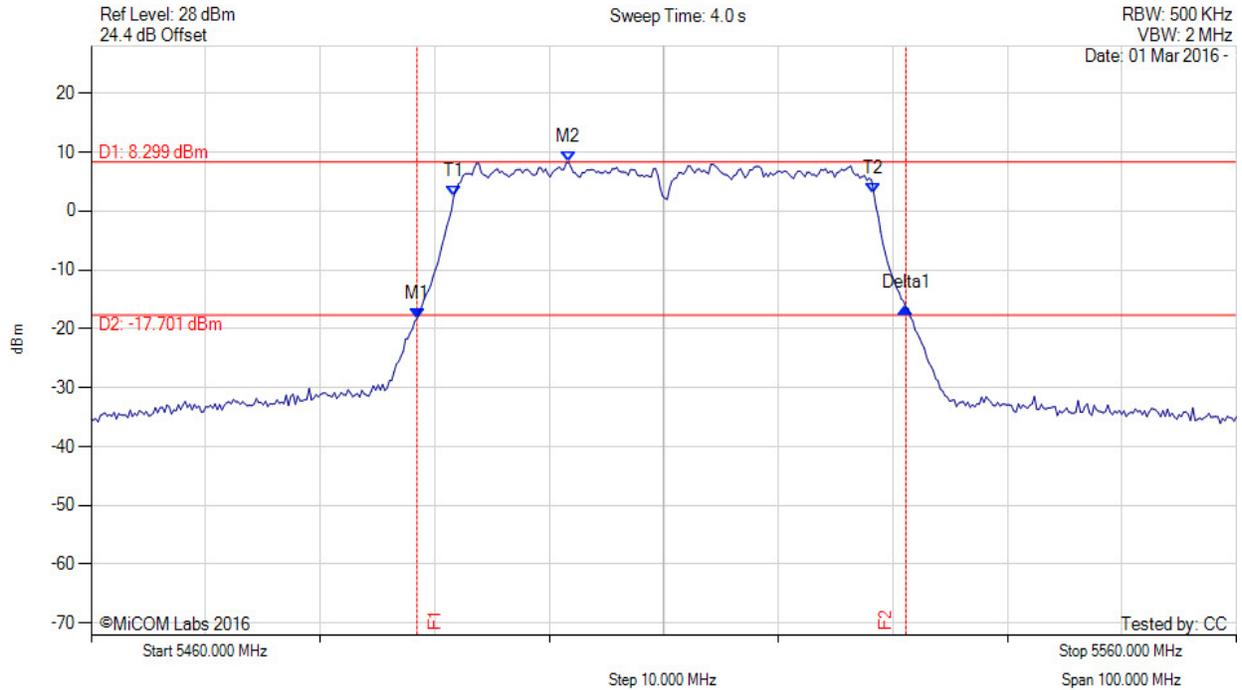
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5510.00 MHz, Chain c, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5488.457 MHz : -18.233 dBm<br>M2 : 5501.683 MHz : 8.299 dBm<br>Delta1 : 42.685 MHz : 1.788 dB<br>T1 : 5491.663 MHz : 2.535 dBm<br>T2 : 5528.337 MHz : 2.997 dBm<br>OBW : 36.673 MHz | Measured 26 dB Bandwidth: 42.685 MHz<br>Measured 99% Bandwidth: 36.673 MHz |

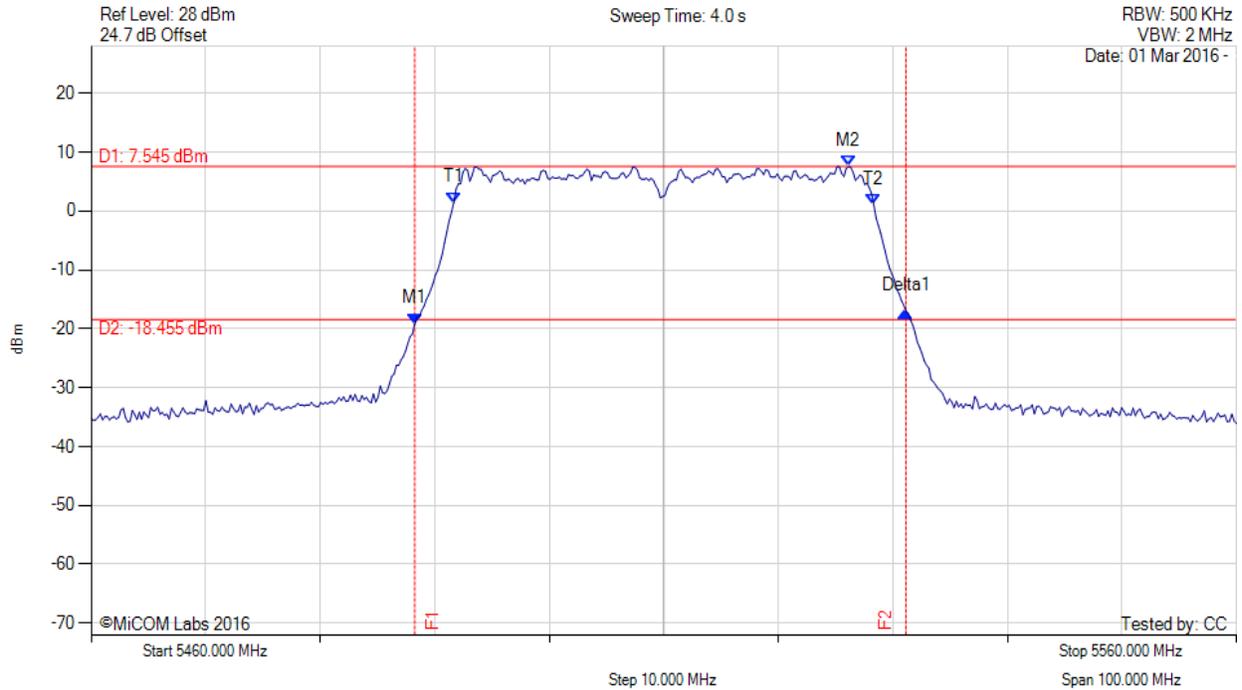
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5510.00 MHz, Chain d, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5488.257 MHz : -19.116 dBm<br>M2 : 5526.132 MHz : 7.545 dBm<br>Delta1 : 42.886 MHz : 2.091 dB<br>T1 : 5491.663 MHz : 1.437 dBm<br>T2 : 5528.337 MHz : 1.039 dBm<br>OBW : 36.673 MHz | Measured 26 dB Bandwidth: 42.886 MHz<br>Measured 99% Bandwidth: 36.673 MHz |

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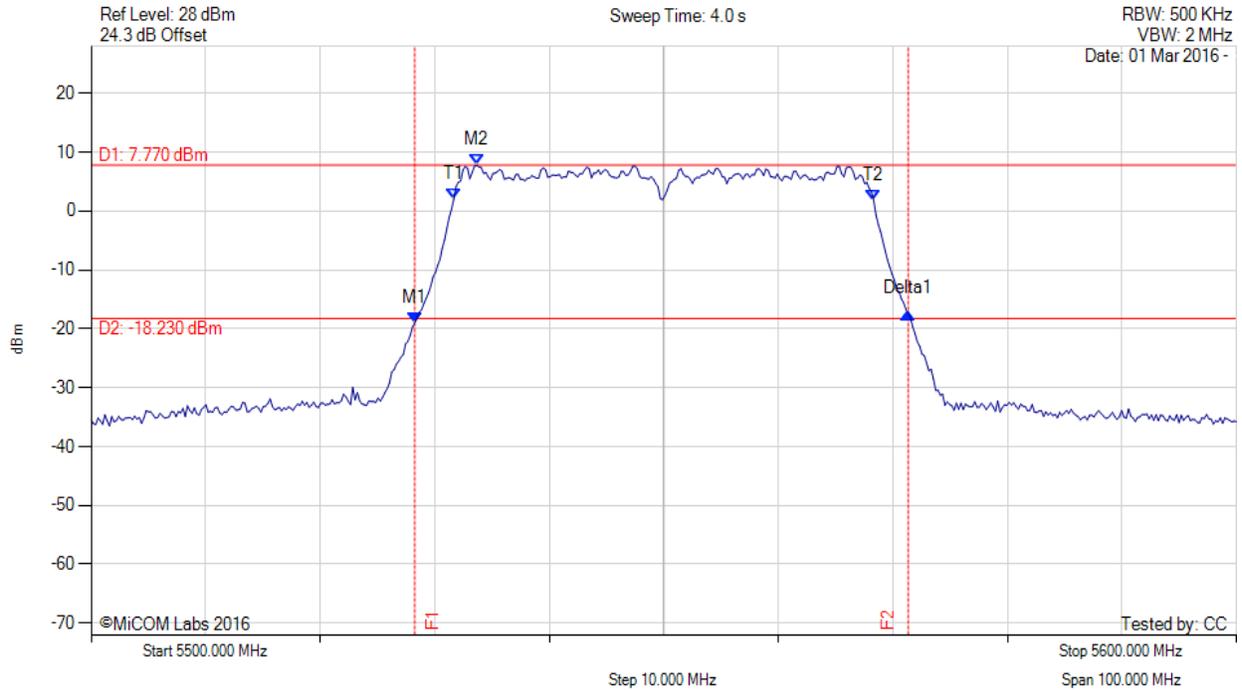
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5550.00 MHz, Chain a, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5528.257 MHz : -18.990 dBm<br>M2 : 5533.667 MHz : 7.770 dBm<br>Delta1 : 43.086 MHz : 1.666 dB<br>T1 : 5531.663 MHz : 1.997 dBm<br>T2 : 5568.337 MHz : 1.716 dBm<br>OBW : 36.673 MHz | Measured 26 dB Bandwidth: 43.086 MHz<br>Measured 99% Bandwidth: 36.673 MHz |

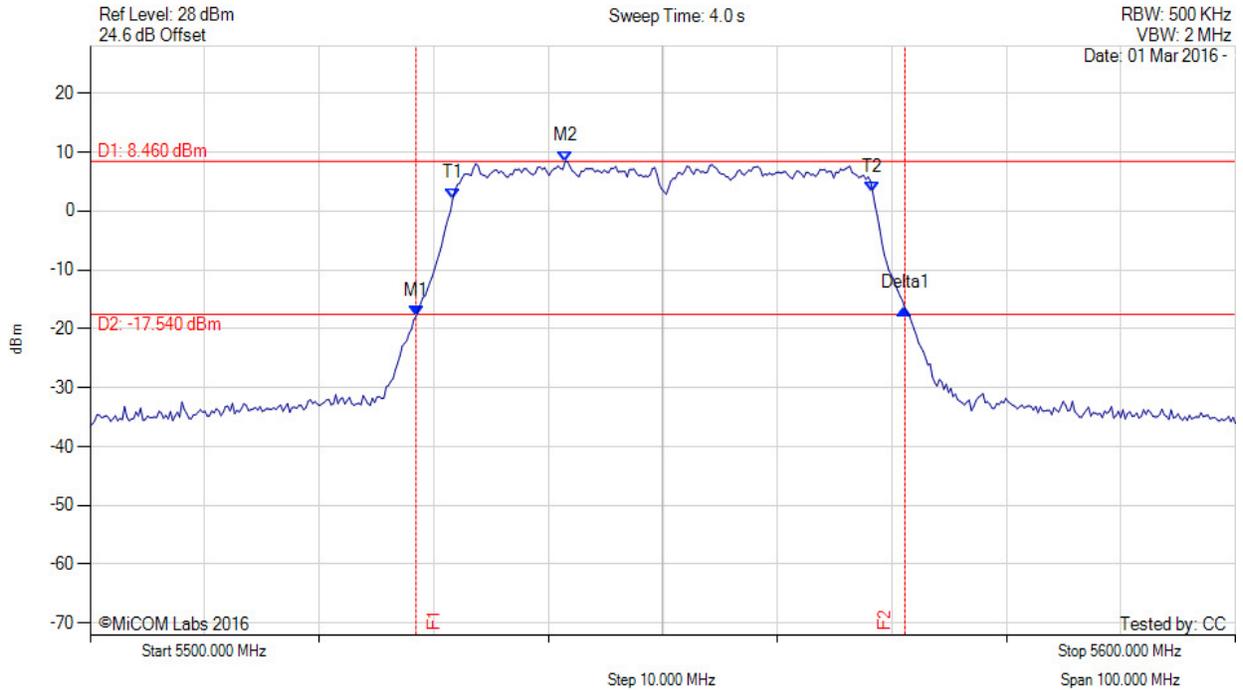
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5550.00 MHz, Chain b, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5528.457 MHz : -17.865 dBm<br>M2 : 5541.483 MHz : 8.460 dBm<br>Delta1 : 42.685 MHz : 1.314 dB<br>T1 : 5531.663 MHz : 2.145 dBm<br>T2 : 5568.337 MHz : 3.135 dBm<br>OBW : 36.673 MHz | Measured 26 dB Bandwidth: 42.685 MHz<br>Measured 99% Bandwidth: 36.673 MHz |

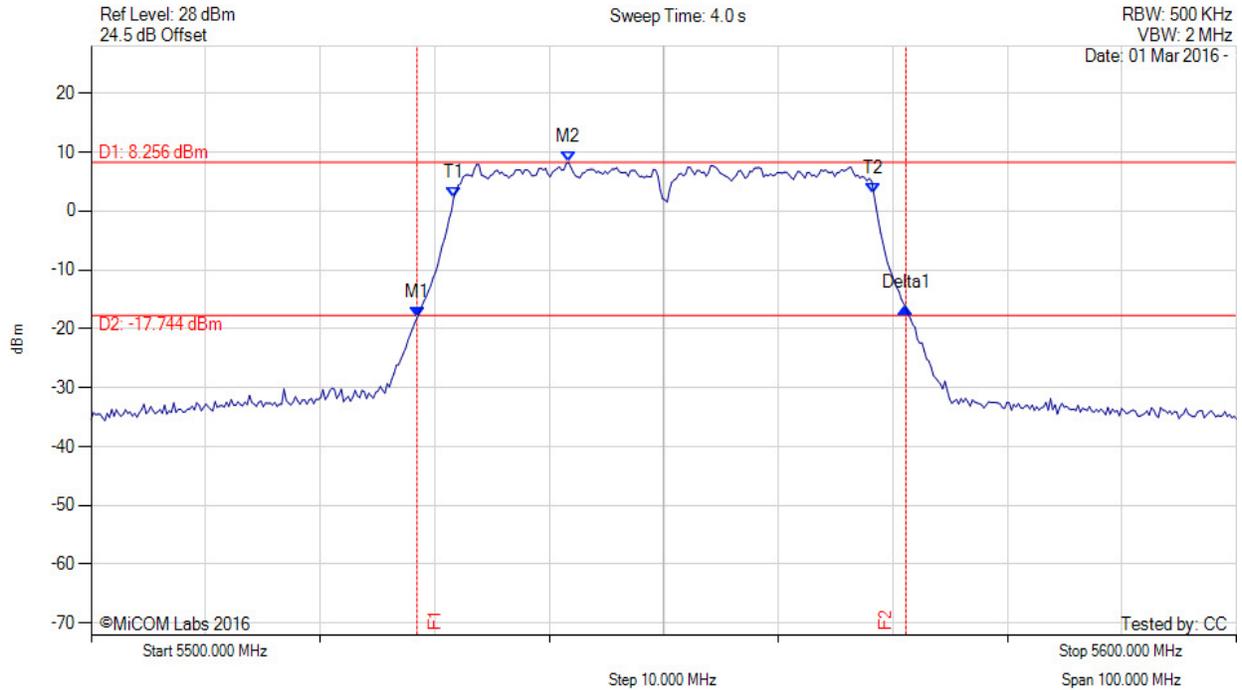
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5550.00 MHz, Chain c, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5528.457 MHz : -18.133 dBm<br>M2 : 5541.683 MHz : 8.256 dBm<br>Delta1 : 42.685 MHz : 1.773 dB<br>T1 : 5531.663 MHz : 2.340 dBm<br>T2 : 5568.337 MHz : 2.940 dBm<br>OBW : 36.673 MHz | Measured 26 dB Bandwidth: 42.685 MHz<br>Measured 99% Bandwidth: 36.673 MHz |

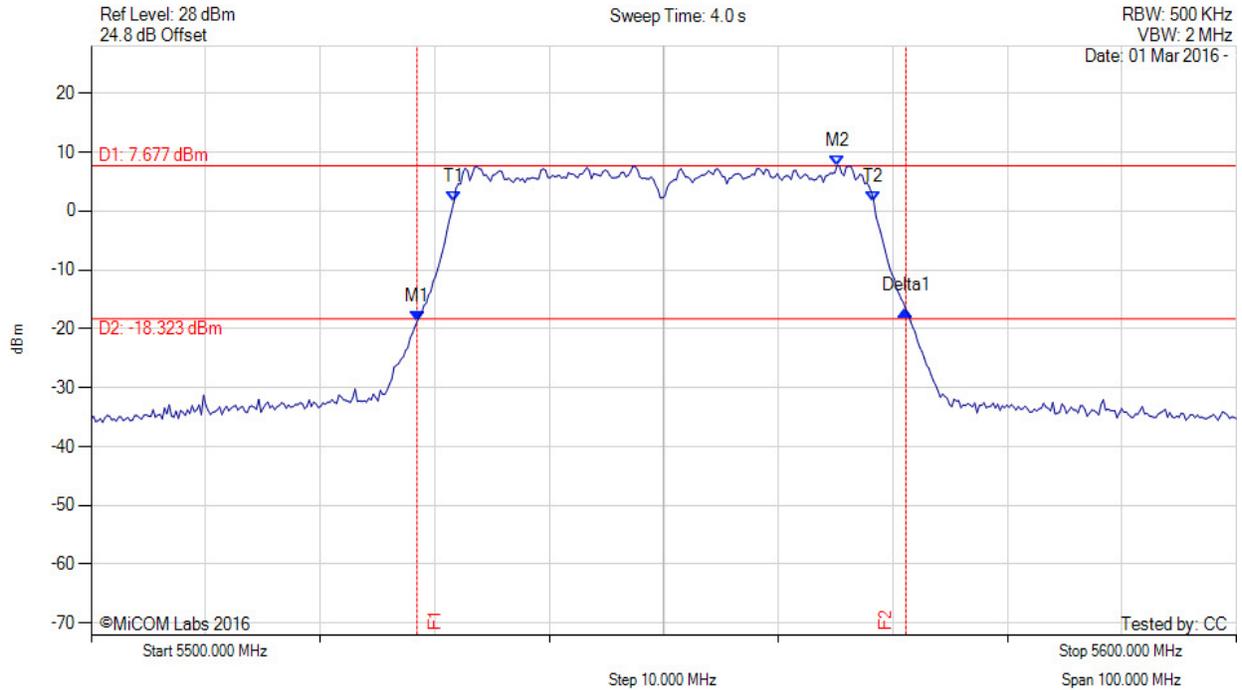
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5550.00 MHz, Chain d, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5528.457 MHz : -18.788 dBm<br>M2 : 5565.130 MHz : 7.677 dBm<br>Delta1 : 42.685 MHz : 1.928 dB<br>T1 : 5531.663 MHz : 1.468 dBm<br>T2 : 5568.337 MHz : 1.614 dBm<br>OBW : 36.673 MHz | Measured 26 dB Bandwidth: 42.685 MHz<br>Measured 99% Bandwidth: 36.673 MHz |

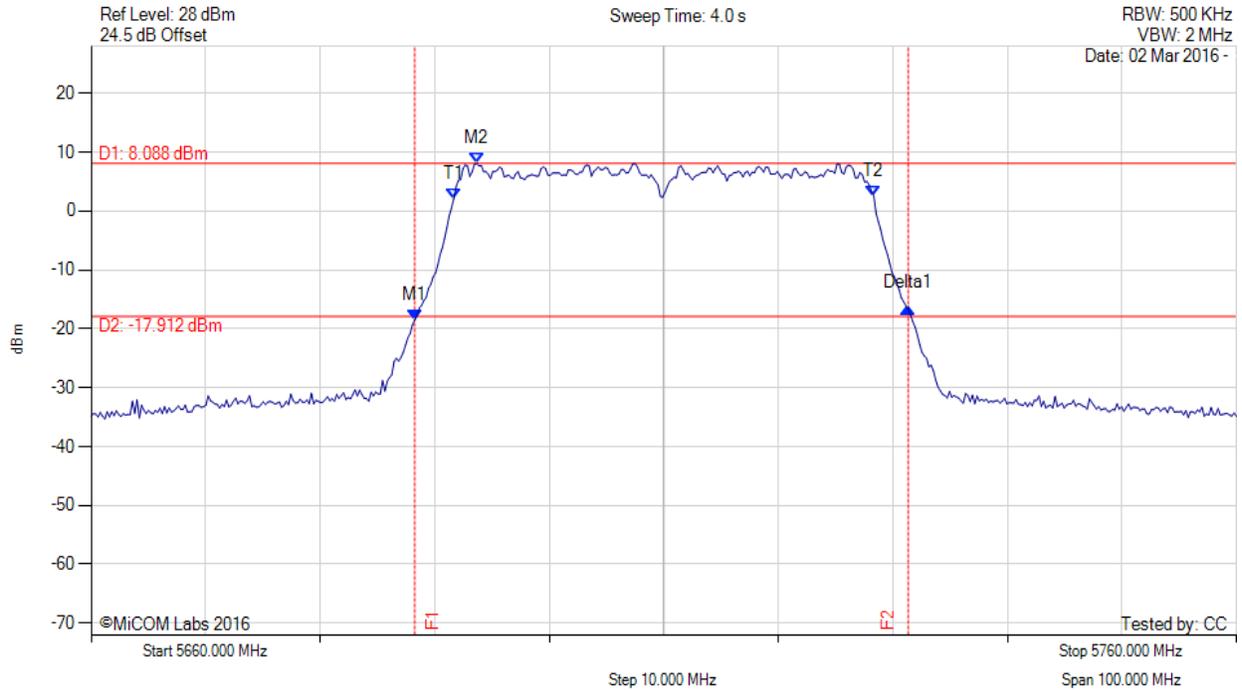
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5710.00 MHz, Chain a, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5688.257 MHz : -18.526 dBm<br>M2 : 5693.667 MHz : 8.088 dBm<br>Delta1 : 43.086 MHz : 2.011 dB<br>T1 : 5691.663 MHz : 2.094 dBm<br>T2 : 5728.337 MHz : 2.560 dBm<br>OBW : 36.673 MHz | Measured 26 dB Bandwidth: 43.086 MHz<br>Measured 99% Bandwidth: 36.673 MHz |

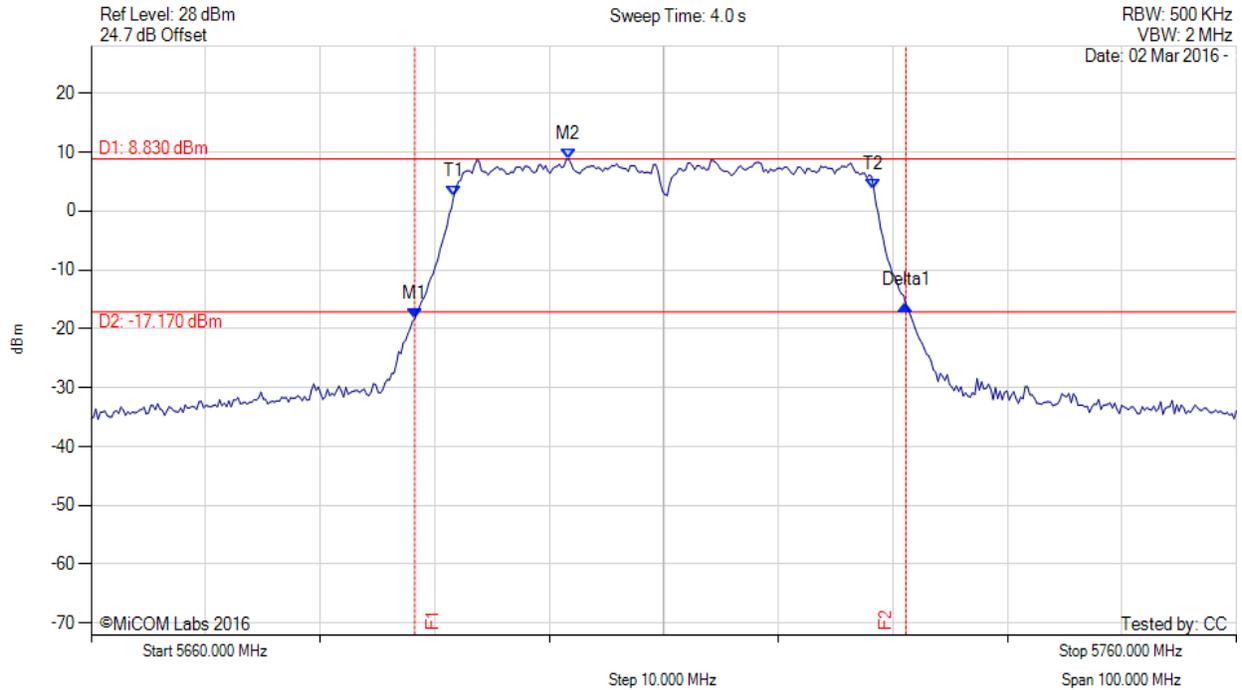
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5710.00 MHz, Chain b, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5688.257 MHz : -18.298 dBm<br>M2 : 5701.683 MHz : 8.830 dBm<br>Delta1 : 42.886 MHz : 2.237 dB<br>T1 : 5691.663 MHz : 2.592 dBm<br>T2 : 5728.337 MHz : 3.752 dBm<br>OBW : 36.673 MHz | Measured 26 dB Bandwidth: 42.886 MHz<br>Measured 99% Bandwidth: 36.673 MHz |

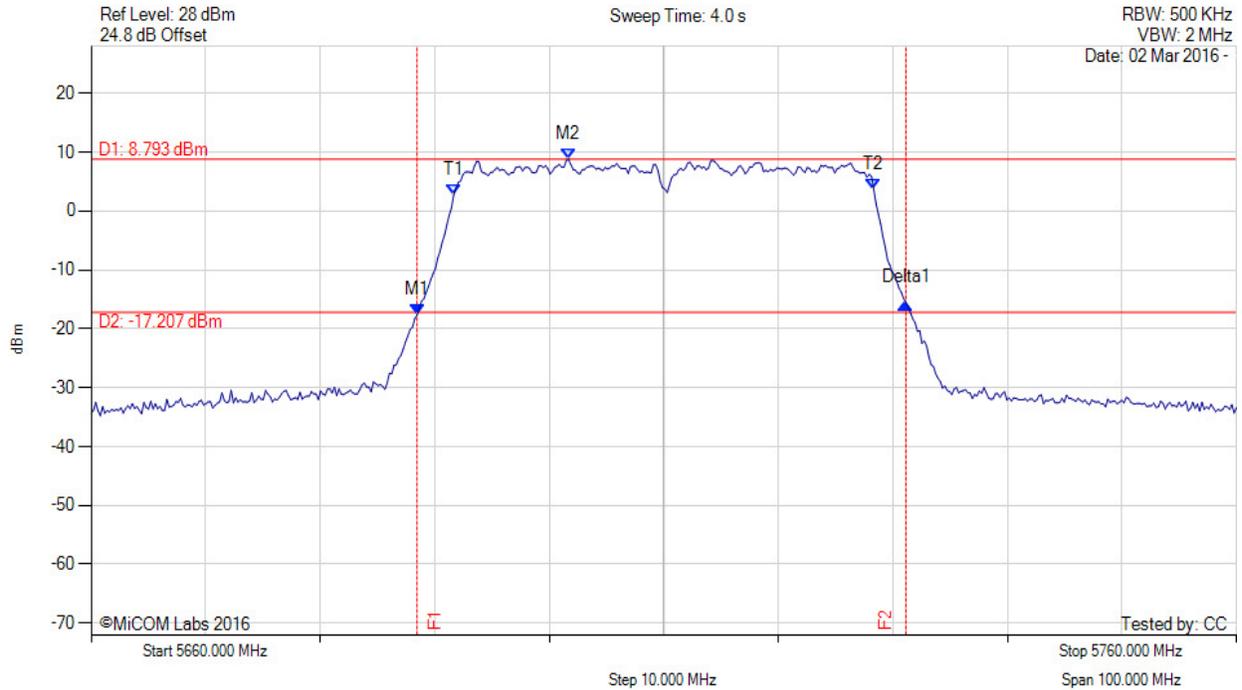
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5710.00 MHz, Chain c, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5688.457 MHz : -17.645 dBm<br>M2 : 5701.683 MHz : 8.793 dBm<br>Delta1 : 42.685 MHz : 2.024 dB<br>T1 : 5691.663 MHz : 2.773 dBm<br>T2 : 5728.337 MHz : 3.605 dBm<br>OBW : 36.673 MHz | Measured 26 dB Bandwidth: 42.685 MHz<br>Measured 99% Bandwidth: 36.673 MHz |

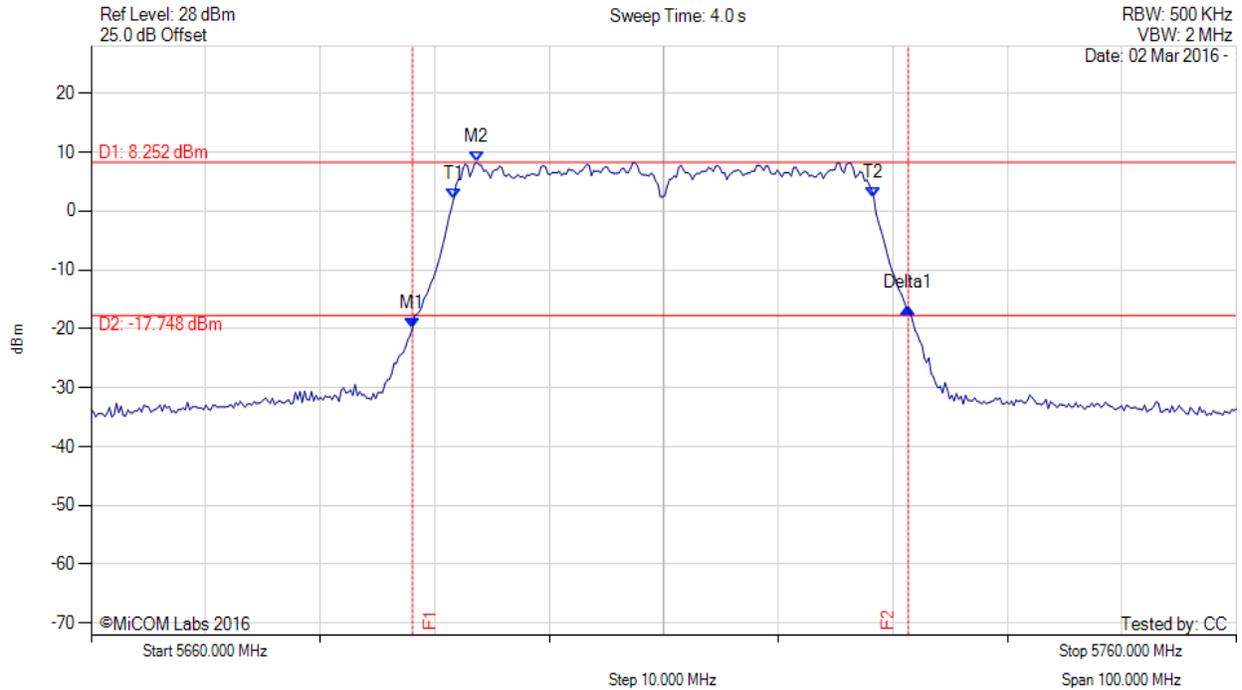
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5710.00 MHz, Chain d, Temp: 20, Voltage: 12 Vdc



| Analyzer Setup  | Marker:Frequency:Amplitude   | Test Results   |
|---|--|--|
| Detector = MAX PEAK<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAX HOLD | M1 : 5688.056 MHz : -19.921 dBm<br>M2 : 5693.667 MHz : 8.252 dBm<br>Delta1 : 43.287 MHz : 3.427 dB<br>T1 : 5691.663 MHz : 2.129 dBm<br>T2 : 5728.337 MHz : 2.275 dBm<br>OBW : 36.673 MHz | Measured 26 dB Bandwidth: 43.287 MHz<br>Measured 99% Bandwidth: 36.673 MHz |

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